HVR-S270J/S270U/S270N/S270E/ S270P/S270C

SERVICE MANUAL

Ver. 1.2 2008.07
Revision History

Revised-1

Replace the previously issued SERVICE MANUAL 9-852-267-11 with this manual.

US Model
Canadian Model
AEP Model
E Model
Chinese Model
Japanese Model

R MECHANISM (MDX-R201)

Photo: HVR-S270U

Link

- Addition of “60i/50i SEL” Menu

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

DV Digital Video Cassette Mini DV Digital Video Cassette

DIGITAL HD VIDEO CAMERA RECORDER

SONY®

HVR-S270J/S270U/S270N/S270E/S270P/S270C
9-852-267-12

Sony EMCS Co.

2008G0500-1

Published by Kohda TEC

These specifications are extracted from instruction manual of HVR-S270E/S270P.

ENGLISH | JAPANESE

Self Diagnosis Supported model

HDV HDV 1080i

DVCAM™

PROGRESSIVE

MEMORY STICK ™

SPECIFICATIONS

System

Video recording system (HDV)
2 rotary heads, Helical scanning system
Video recording system (DVCAM (DV))
2 rotary heads, Helical scanning system
Still image recording system
Exif Ver. 2.2*
Audio recording system (HDV)
Rotary heads,
MPEG-1 Audio Layer-2 (2-channel)
MPEG-2 Audio Layer-2 (4-channel)
Quantization: 16 bits
Fs48kHz (stereo)
transfer rate: 384 kbps
Audio recording system (DVCAM (DV))
Rotary heads, PCM system
Quantization: 12 bits
Fs32kHz (channel 1/2, channel 3/4 stereo)
Quantization: 16 bits
Fs48kHz (channel 1/2 stereo)
Video signal
PAL color, CCIR standards
1080/50i specification
Usable cassette
Standard size DV cassette with the mark printed
Standard size DVCAM cassette with the DVCAM mark printed
Mini DV cassette with the Mini DV mark printed
Mini DVCAM cassette with the DVCAM mark printed
Tape speed (HDV)
Approx. 18.812 mm/s
Tape speed (DVCAM)
Approx. 28.218 mm/s
Tape speed (DV SP)
Approx. 18.812 mm/s
Recording/playback time (HDV)
276 min (using a PHDV-276DM cassette)
63 min (using a PHDVM-63DM cassette)
Recording/playback time (DVCAM)
184 min (using a PHDV-276DM cassette)
41 min (using a PHDVM-63DM cassette)
Recording/playback time (DV SP)
276 min (using a PHDV-276DM cassette)
63 min (using a PHDVM-63DM cassette)
Fast forward/rewind time
Approx. 2 min (using a PHDV-276DM cassette and rechargeable battery pack)
Approx. 2 min (using a PHDV-276DM cassette and AC Adaptor)
Viewfinder
Electric viewfinder (color, black and white)
Picture
1.1 cm (0.45 type, aspect ratio 16:9)
Total dot number
1 226 880 (approx. 852 × 3[RGB] × 480)
Image device
6.0 mm (1/3 type) 3CMOS sensor
Recording Pixels (HDV/DV16:9 still recording):
Max. 1.20 Mega (1 440 × 810) pixels**
Gross: Approx. 1 120 000 pixels
Effective (movie, 16:9):
1 037 000 pixels
Effective (movie, 4:3):
778 000 pixels
Effective (still, 16:9):
1 037 000 pixels
Effective (still, 4:3):
778 000 pixels
Lens
Carl Zeiss Vario-Sonnar T*
12 × (Optical), Approx. 18 × (Digital, when [D.EXTENDER] is set to [ON])
Focal length
f=4.4 - 52.8 mm (3/16 - 2 1/8 in.)
When converted to a 35 mm still camera
32.0 - 384 mm (1 5/16 - 15 1/8 in.) (16:9),
39.5 - 474 mm (1 9/16 - 18 3/4 in.) (4:3)
F1.6 - 2.0
Filter diameter: 72 mm (2 7/8 in.)
Color temperature
[AUTO]
[ONE PUSH AF]
[INDOOR] (3 200K)
[OUTDOOR] (5 800K±7 offset levels)
[MANU WB TEMP] (2 300K - 15 000K in 100K steps)
Minimum illumination
1.5 lx (lux) (Fixed Shutter Speed 1/25, auto gain, auto iris) (F 1.6)

* "Exif" is a file format for still images, established by the JEITA (Japan Electronics and Information Technology Industries Association). Files in this format can have additional information such as your camcorder's setting information at the time of recording.
**Still image resolution is obtained by the unique pixel array of Sony's ClearVid CMOS Sensor and image processing system (new Enhanced Imaging Processor).

Output connectors

VIDEO OUT jack
BNC connector × 1
Video signal: 1 Vp-p, 75 Ω (ohms)
S VIDEO jack
S connector × 1
Luminance signal: 1 Vp-p, 75 Ω (ohms)
Chrominance signal: 0.3 Vp-p (burst signal), 75 Ω (ohms)
AUDIO OUT jack
RCA connector × 2
Audio signal: -10 dBu (at load impedance 47 kΩ (kilohms)), Output impedance with less than 2.2 kΩ (kilohms)
(0 dBu=0.775 Vrms)
TC OUT jack
BNC connector × 1
2.2 Vp-p, 600 Ω (ohms) / 1.2 Vp-p, 75 Ω (ohms)
COMPONENT OUT jack
BNC connector × 3
Y: 1 Vp-p, 75Ω (ohms), PB/PR, CB/CR: +/- 350 mV, 75 Ω (ohms)
HD/SD SDI OUT jack
BNC type × 1
SD-SDI: SD-SDI format, SMPTE259M-C (270Mbps)
HD-SDI: HD-SDI format, SMPTE292M

Input/Output connectors

LANC jack
Stereo mini-minijack (Ø 2.5 mm)
AUDIO INPUT1 (L)/AUDIO INPUT2 (R)/AUDIO INPUT3/AUDIO INPUT4 jack
XLR 3-pin, female,
-48 dBu: 3kΩ (kilohms)
+4 dBu: 10kΩ (kilohms)
(0 dBu=0.775 Vrms)
PHONES jack
Stereo-minijack (Ø 3.5 mm)
DC OUT 12V connector
4-pin, male, 12 V
LIGHT connector
2-pin, max. 35 W
LENS jack
12-pin connector
HDV/DV jack
i.LINK interface (IEEE 1394, 6-pin connector S100)
DC IN 12V connector
XLR 4-pin, female, 11 V - 17 V

LCD screen

Picture
8.0 cm (3.2 type, aspect ratio 16:9)
Total dot number
921 600 (1 920 × 480)

General

Power requirements
DC 14.4 V (battery pack)
DC 12 V (11 V - 17 V) (AC Adaptor)
Average power consumption*
During camera recording using the viewfinder with normal brightness:
HDV recording 12.2 W
DVCAM (DV) recording 11.7 W
During camera recording using the viewfinder and Memory Recording Unit (HVR-MRC1) with normal brightness:
HDV recording 14.9 W
DVCAM (DV) recording 14.4 W
Operating temperature
0 °C to 40 °C (32 °F to 104 °F)
Storage temperature
-20 °C to + 60 °C (-4 °F to + 140 °F)
Dimensions (approx.)
305 × 277 × 505 mm
(11 1/8 × 11 × 20 in.) (w/h/d)
including the projecting parts with Carl Zeiss lens (VCL-412BWS) and lens hood with lens cover
305 × 277 × 510 mm
(11 1/8 × 11 × 20 1/8 in.) (w/h/d)
including the projecting parts with Carl Zeiss lens (VCL-412BWS), lens hood with lens cover and battery pack (BP-GL65)
Mass (approx.)
4.0 kg (8 lb 12 oz) camera body only
5.2 kg (11 lb 7 oz) including Carl Zeiss lens (VCL-412BWS)
6.3 kg (13 lb 15 oz) including battery pack (BP-GL95), cassette (PHDV-276DM), Carl Zeiss lens (VCL-412BWS), lens hood with lens cover and microphone (ECM-XM1)

* When the microphone (ECM-XM1) is used

Design and specifications are subject to change without notice.

These specifications are extracted from instruction manual of HVR-S270U/S270N.

ENGLISH | JAPANESE

Self Diagnosis Supported model

HDV HDV 1080i

DVCAM™

PROGRESSIVE

MEMORY STICK ™

SPECIFICATIONS

System

Video recording system (HDV)
2 rotary heads, Helical scanning system
Video recording system (DVCAM (DV))
2 rotary heads, Helical scanning system
Still image recording system
Exif Ver. 2.2*
Audio recording system (HDV)
Rotary heads,
MPEG-1 Audio Layer-2 (2-channel)
MPEG-2 Audio Layer-2 (4-channel)
Quantization: 16 bits
Fs48kHz (stereo)
transfer rate: 384 kbps
Audio recording system (DVCAM (DV))
Rotary heads, PCM system
Quantization: 12 bits
Fs32kHz (channel 1/2, channel 3/4 stereo)
Quantization: 16 bits
Fs48kHz (channel 1/2 stereo)
Video signal
NTSC color, EIA standards
1080/60i specification
Usable cassette
Standard size DV cassette with the DV mark printed
Standard size DVCAM cassette with the DVCAM mark printed
Mini DV cassette with the Mini DV mark printed
Mini DVCAM cassette with the DVCAM mark printed
Tape speed (HDV)
Approx. 18.812 mm/s
Tape speed (DVCAM)
Approx. 28.218 mm/s
Tape speed (DV SP)
Approx. 18.812 mm/s

Recording/playback time (HDV)
276 min (using a PHDV-276DM cassette)
63 min (using a PHDVM-63DM cassette)
Recording/playback time (DVCAM)
184 min (using a PHDV-276DM cassette)
41 min (using a PHDVM-63DM cassette)
Recording/playback time (DV SP)
276 min (using a PHDV-276DM cassette)
63 min (using a PHDVM-63DM cassette)
Fast forward/rewind time
Approx. 2 min (using a PHDV-276DM cassette and rechargeable battery pack)
Approx. 2 min (using a PHDV-276DM cassette and AC Adaptor)
Viewfinder
Electric viewfinder (color, black and white)
Picture 1.1 cm (0.45 type, aspect ratio 16:9)
Total dot number
1 226 880 (approx. 852 × 3[RGB] × 480)
Image device
6.0 mm (1/3 type) 3CMOS sensor
Recording Pixels (HDV/DV16:9 still recording):
Max. 1.20 Mega (1 440 × 810) pixels**
Gross: Approx. 1 120 000 pixels
Effective (movie, 16:9):
1 037 000 pixels
Effective (movie, 4:3):
778 000 pixels
Effective (still, 16:9):
1 037 000 pixels
Effective (still, 4:3):
778 000 pixels
Lens
Carl Zeiss Vario-Sonnar T*
12 × (Optical), Approx. 18 × (Digital, when [D.EXTENDER] is set to [ON])
Focal length
f=4.4 - 52.8 mm (3/16 - 2 1/8 in.)
When converted to a 35 mm still camera
32.0 - 384 mm (1 5/16 - 15 1/8 in.) (16:9),
39.5 - 474 mm (1 9/16 ~ 18 3/4 in.) (4:3)
F1.6 - 2.0
Filter diameter: 72 mm (2 7/8 in.)
Color temperature
[AUTO]
[ONE PUSH AF]
[INDOOR] (3 200K)
[OUTDOOR] (5 800K±7 offset levels)
[MANU WB TEMP] (2 300K - 15 000K in 100K steps)
Minimum illumination
1.5 lx (lux) (Fixed Shutter Speed 1/30, auto gain, auto iris) (F 1.6)

* "Exif" is a file format for still images, established by the JEITA (Japan Electronics and Information Technology Industries Association). Files in this format can have additional information such as your camcorder's setting information at the time of recording.
**Still image resolution is obtained by the unique pixel array of Sony's ClearVid CMOS Sensor and image processing system (new Enhanced Imaging Processor).

Output connectors

VIDEO OUT jack
BNC connector × 1
Video signal: 1 Vp-p, 75 Ω (ohms)
S VIDEO jack
S connector × 1
Luminance signal: 1 Vp-p, 75 Ω (ohms)
Chrominance signal: 0.286 Vp-p (burst signal), 75 Ω (ohms)
AUDIO OUT jack
RCA connector × 2
Audio signal: -10 dBu (at load impedance 47 kΩ (kilohms)), Output impedance with less than 2.2 kΩ (kilohms)
(0 dBu=0.775 Vrms)
TC OUT jack
BNC connector × 1
2.2 Vp-p, 600 Ω (ohms) / 1.2 Vp-p, 75 Ω (ohms)
COMPONENT OUT jack
BNC connector × 3
Y: 1 Vp-p, 75Ω (ohms), PB/PR, CB/CR: +/- 350 mV, 75 Ω (ohms)
HD/SD SDI OUT jack
BNC type × 1
SD-SDI: SD-SDI format, SMPTE259M-C (270Mbps)
HD-SDI: HD-SDI format, SMPTE292M

Input/Output connectors

LANC jack
Stereo mini-minijack (Ø 2.5 mm)
AUDIO INPUT1 (L)/AUDIO INPUT2 (R)/AUDIO INPUT3/AUDIO INPUT4 jack
XLR 3-pin, female,
-48 dBu: 3kΩ (kilohms)
+4 dBu: 10kΩ (kilohms)
(0 dBu=0.775 Vrms)
PHONES jack
Stereo-minijack (Ø3.5 mm)
DC OUT 12V connector
4-pin, male, 12 V
LIGHT connector
2-pin, max. 35 W
LENS jack
12-pin connector
HDV/DV jack
i.LINK interface (IEEE 1394, 6-pin connector S100)
DC IN 12V connector
XLR 4-pin, female, 11 V - 17 V

LCD screen

Picture
8.0 cm (3.2 type, aspect ratio 16:9)
Total dot number
921 600 (1 920 × 480)

General

Power requirements
DC 14.4 V (battery pack)
DC 12 V (11 V - 17 V) (AC Adaptor)
Average power consumption*
During camera recording using the viewfinder with normal brightness:
HDV recording 12.5 W
DVCAM (DV) recording 11.9 W
During camera recording using the viewfinder and Memory Recording Unit (HVR-MRC1) with normal brightness:
HDV recording 15.1 W
DVCAM (DV) recording 14.6 W
Operating temperature
0 °C to 40 °C (32 °F to 104 °F)
Storage temperature
-20 °C to + 60 °C (-4 °F to + 140 °F)
Dimensions (approx.)
305 × 277 × 505 mm (11 1/8 × 11 × 20 in.) (w/h/d) including the projecting parts with Carl Zeiss lens (VCL-412BWS) and lens hood with lens cover
305 × 277 × 510 mm (11 1/8 × 11 × 20 1/8 in.) (w/h/d) including the projecting parts with Carl Zeiss lens (VCL-412BWS), lens hood with lens cover and battery pack (BP-GL65)
Mass (approx.)
4.0 kg (8 lb 12 oz) camera body only
5.2 kg (11 lb 7 oz) including Carl Zeiss lens (VCL-412BWS)
6.3 kg (13 lb 15 oz) including battery pack (BP-GL95), cassette (PHDV-276DM), Carl Zeiss lens (VCL-412BWS), lens hood with lens cover and microphone (ECM-XM1)

* When the microphone (ECM-XM1) is used

Design and specifications are subject to change without notice.

自己診断搭載機種 HDV HDV 1080i DVCAM PROGRESSIVE MEMORY STICK

概略仕様

システム

録画方式（HDV）	回転2ヘッドヘリカルスキャン
録画方式（DVCAM（DV））	回転2ヘッドヘリカルスキャン
静止画記録方式	Exif Ver.2.2*
録音方式（HDV）	回転ヘッド MPEG-1 Audio Layer2（2チャンネル） MPEG-2 Audio Layer2（4チャンネル） 16ビット、Fs48kHz（ステレオ） 転送レート 384kbps
録音方式（DVCAM（DV））	回転ヘッド、PCMシステム 12ビット Fs32kHz （チャンネル1/2、チャンネル3/4　ステレオ） 16ビット Fs48kHz （チャンネル1/2　ステレオ）
映像信号	NTSCカラー、EIA標準方式 1080/60i方式
使用可能カセット	DV のついたスタンダードDVカセット DVCAM のついたスタンダードDVCAMカセット Mini DV マークのついたミニDVカセット DVCAM マークのついたミニDVCAMカセット
テープ速度（HDV）	約18.812mm/秒
テープ速度（DVCAM）	約28.218mm/秒
テープ速度（DV SP）	約18.812mm/秒
録画／再生時間（HDV）	276分（PHDV-276DM使用時） 63分（PHDVM-63DM使用時）
録画／再生時間（DVCAM）	184分（PHDV-276DM使用時） 41分（PHDVM-63DM使用時）
録画／再生時間（DV SP）	276分（PHDV-276DM使用時） 63分（PHDVM-63DM使用時）
早送り、巻き戻し時間	バッテリー使用時： 約2分（PHDV-276DM使用時） ACアダプター使用時： 約2分（PHDV-276DM使用時）
ファインダー	電子ファインダー：カラー、モノクロ 画面サイズ：1.1cm（0.45型、アスペクト比16：9） 総ドット数：1 226 880ドット （852 x 3[RGB] x 480相当）
撮像素子	6.0mm（1/3型）3CMOSセンサー 総画素数：約112万画素 静止画記録画素数：最大120万画素相当**（1 440×810）（HDV/DV 16：9記録時） 動画時有効画素数（16：9）： 約104万画素 動画時有効画素数（4：3）： 約78万画素 静止画時有効画素数（16：9）： 約104万画素 静止画時有効画素数（4：3）： 約78万画素
ズームレンズ	カール ツァイス　バリオゾナーT* 12倍（光学）、約18倍（デジタル、デジタルエクステンダー[ON]時） f=4.4～52.8mm 35mmカメラ換算 32.0～384mm（16：9） （4：3では39.5～474mm） F1.6～2.0 フィルター径72mm
色温度切り換え	[AUTO] [ONE PUSH AF] [INDOOR]（3 200K） [OUTDOOR]（5 800K±7段階） [MANU WB TEMP]（2 300K - 15 000K, 100K刻み）
最低被写体照度	1.5 lx（ルクス）（シャッタースピード固定　1/30秒、オートゲイン、オートアイリス）（F1.6）

* （社）電子情報技術産業協会（JEITA）にて制定された、撮影情報などの付帯情報を追加することができる静止画用のファイルフォーマット。

** ソニー独自のクリアビットCMOSセンサーの画素配列と画像処理システム新エンハンスドイメージングプロセッサーにより、静止画は表記の記録サイズを実現しています。

出力端子

VIDEO OUT端子	BNCコネクタ×1 映像：1Vp-p、75Ω
S VIDEO端子	S端子×1 Y出力　1Vp-p、75Ω C出力　0.286Vp-p（バースト）、75Ω
AUDIO端子	RCA端子×2 音声：-10dBu（47kΩ負荷時）、出力インピーダンス2.2kΩ以下 （0dBu=0.775Vrms）
TC OUT端子	BNCコネクタ×1 2.2Vp-p、600Ω/1.2Vp-p、75Ω
COMPONENT OUT端子	BNCコネクタ×3 Y：1Vp-p、75Ω PB/PR、CB/CR：±350mV、75Ω
HD/SD SDI OUT端子	BNCコネクタ×1 SD-SDI: SD-SDIフォーマット SMPTE259M-C（270Mbps） HD-SDI: HD-SDIフォーマット SMPTE292M

入/出力端子

LANC端子	ステレオミニミニジャック （ø 2.5mm）
AUDIO INPUT1（L）/AUDIO INPUT2（R）/AUDIO INPUT3/AUDIO INPUT4端子	XLR3ピン、凹 -48dBu：3kΩ +4dBu：10kΩ （0dBu=0.775Vrms）
PHONES端子	ステレオミニジャック （φ3.5mm）
DC OUT 12V端子	4ピンコネクタ、凸、12V
LIGHT端子	2ピンコネクタ、最大35W
LENS端子	12ピンコネクタ
HDV/DV端子	i.LINK（IEEE1394　6ピンコネクタ　S100）
DC IN 12V端子	XLR4ピン、凹、11～17V

液晶画面

画面サイズ	8.0cm（3.2型、アスペクト比16：9）
総ドット数	921 600ドット 横1 920×縦480

電源部、その他

電源電圧	バッテリー端子入力 14.4V DC端子入力 12V（11V～17V）
消費電力*	ファインダー使用時、明るさ標準： HDV記録時 12.5W DVCAM（DV）記録時 11.9W ファインダー、メモリーレコーディングユニット（HVR-MRC1）使用時、明るさ標準： HDV記録時 15.1W DVCAM（DV）記録時 14.6W
動作温度	0℃～40℃
保存温度	−20℃～+60℃
外形寸法	305×277×505mm （幅×高さ×奥行き）（突起部含む、レンズ（VCL-412BWS）、レンズカバー付きフード　装着状態） 305×277×510mm （幅×高さ×奥行き）（突起部含む、レンズ（VCL-412BWS）、レンズカバー付きフード、バッテリー（BP-GL65）装着状態）
本体質量	約4.0kg（本体のみ） 約5.2kg（レンズ（VCL-412BWS）含む）
撮影時総質量	約6.3kg （バッテリー（BP-GL95）、テープ（PHDV-276DM）、レンズ（VCL-412BWS）、レンズカバー付きフード、マイク（ECM-XM1）含む）

*マイク（ECM-XM1）使用時

本機の仕様および外観は、改良のため予告なく変更することがありますが、ご了承ください。

Model information table

Model	HVR-S270J	HVR-S270U	HVR-S270N	HVR-S270E	HVR-S270P	HVR-S270C
Destination	J	US, CND	E	AEP	E	CH
Color system	NTSC	NTSC	NTSC	PAL	PAL	PAL

- Abbreviation
  AR : Argentine model
  AUS : Australian model
  BR : Brazilian model
  CH : Chinese model
  CND : Canadian model
  EE : East European model
  HK : Hong Kong model
  J : Japanese model
  JE : Tourist model
  KR : Korea model
  NE : North European model

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

Unleaded solder

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

注意
電池の交換は，正しく行わないと破裂する恐れがあります。電池を交換する場合には必ず同じ型名の電池又は同等品と交換してください。

サービス，点検時には次のことにご注意下さい。

1. 注意事項をお守りください。
   サービスのとき特に注意を要する個所については，キャビネット，シャーシ，部品などにラベルや捺印で注意事項を表示しています。これらの注意書き及び取扱説明書等の注意事項を必ずお守り下さい。
2. 指定部品のご使用を
   セットの部品は難燃性や耐電圧など安全上の特性を持ったものとなっています。従って交換部品は，使用されていたものと同じ特性の部品を使用して下さい。特に回路図，部品表に⚠印で指定されている安全上重要な部品は必ず指定のものをご使用下さい。
3. 部品の取付けや配線の引きまわしはもとどおりに
   安全上，チューブやテープなどの絶縁材料を使用したり，プリント基板から浮かして取付けた部品があります。また内部配線は引きまわしやクランパによって発熱部品や高圧部品に接近しないよう配慮されていますので，これらは必ずもとどおりにして下さい。
4. サービス後は安全点検を
   サービスのために取外したネジ，部品，配線がもとどおりになっているか，またサービスした個所の周辺を劣化させてしまったところがないかなどを点検し，安全性が確保されていることを確認して下さい。
5. チップ部品交換時の注意
   - 取外した部品は再使用しないで下さい。
   - タンタルコンデンサのマイナス側は熱に弱いため交換時は注意して下さい。
6. フレキシブルプリント基板の取扱いについて
   - コテ先温度を270℃前後にして行なって下さい。
   - 同一パターンに何度もコテ先を当てないで下さい。（3回以内）
   - パターンに力が加わらないよう注意して下さい。
7. 無鉛半田について
   無鉛半田を使用している基板には，無鉛（Lead Free）を意味するレッドフリーマークがプリントされています。
   （注意：基板サイズによっては，無鉛半田を使用していてもレッドフリーマークがプリントされていないものがあります）
   ：レッドフリーマーク
   無鉛半田には，以下の特性があります。
   - 融点が従来の半田よりも約40℃高い。
     従来の半田こてをそのまま使用することは可能ですが，少し長めにこてを当てる必要があります。
     温度調節機能のついた半田こてを使用する場合，約350℃に設定して下さい。
     注意：半田こてを長く当てすぎると，基板のパターン（銅箔）がはがれてしまうことがありますので，注意して下さい。
   - 粘性が強い
     従来の半田よりも粘性が強いため，IC端子などが半田ブリッジしないように注意して下さい。
   - 従来の半田と混ぜて使用可能
     無鉛半田には無鉛半田を追加するのが最適ですが，従来の半田を追加しても構いません。

1. SERVICE NOTE

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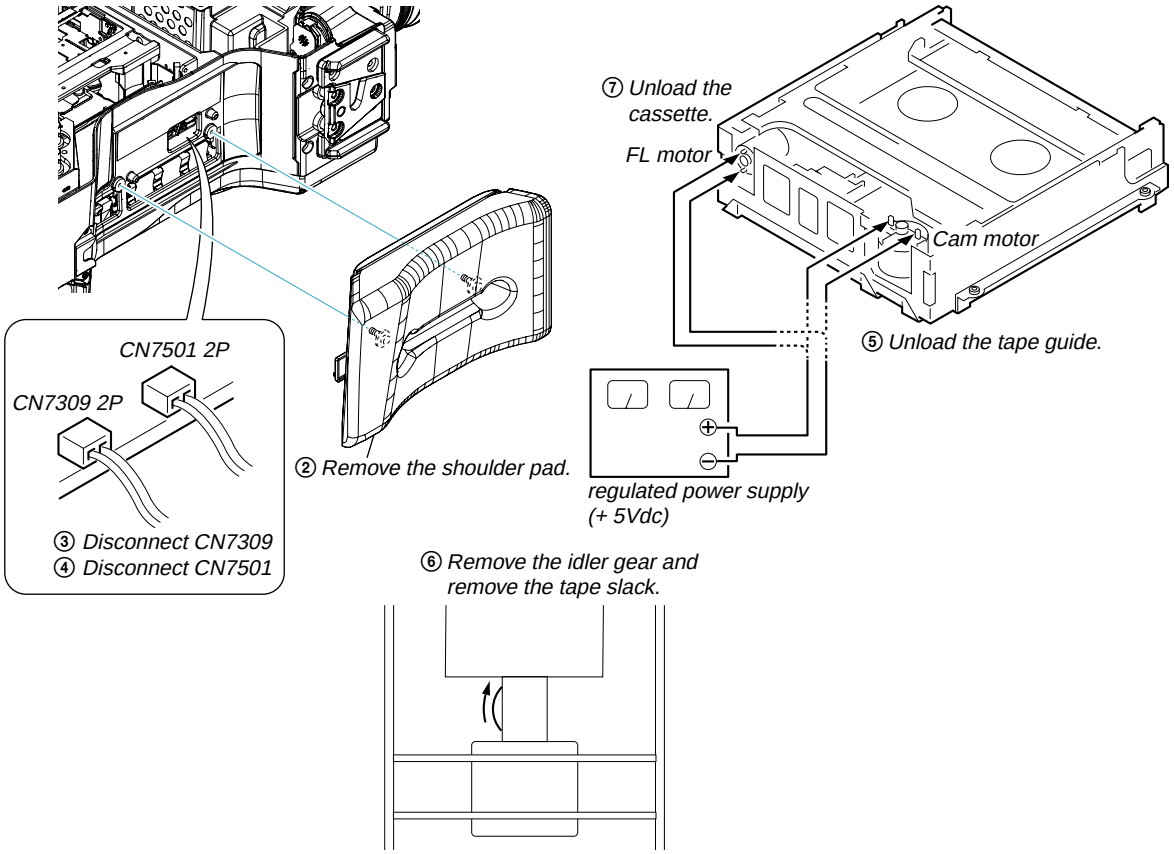
1-1. POWER SUPPLY DURING REPAIRS

Use the AC adaptor (AC-550, AC-DN2, AC-DN10), or make up the DC cable and use the regulated power supply.
(Refer to “1-1-2. How to make the DC cable” on page 6-6.)

1-2. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

① Refer to “2. DISASSEMBLY” to remove the cabinet (L) block.
② Remove the shoulder pad.
③ Remove the CN7309 (2P) of NN-006 board.
④ Remove the CN7501 (2P) of NN-006 board.
⑤ Supply +5 V from the regulated power supply to the cam motor and unload the tape guide.
⑥ Rotate the idler gear by your finger to the clockwise and remove the tape slack.
⑦ Supply +5 V from the regulated power supply to the FL motor (Cassette motor) and unload the cassette.



1-3. SETTING THE “FORCED POWER ON” MODE

It is possible to turn on power by adjustment remote commander (RM-95 or NEW LANC JIG).
Operate the VTR function using the adjustment remote commander.

1-3-1. Setting the “Forced Camera Power ON” Mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: A, address: 10, set data: 01 and press the “PAUSE (Write) ” button of the adjustment remote commander.

1-3-2. Setting the “Forced VTR Power ON” Mode

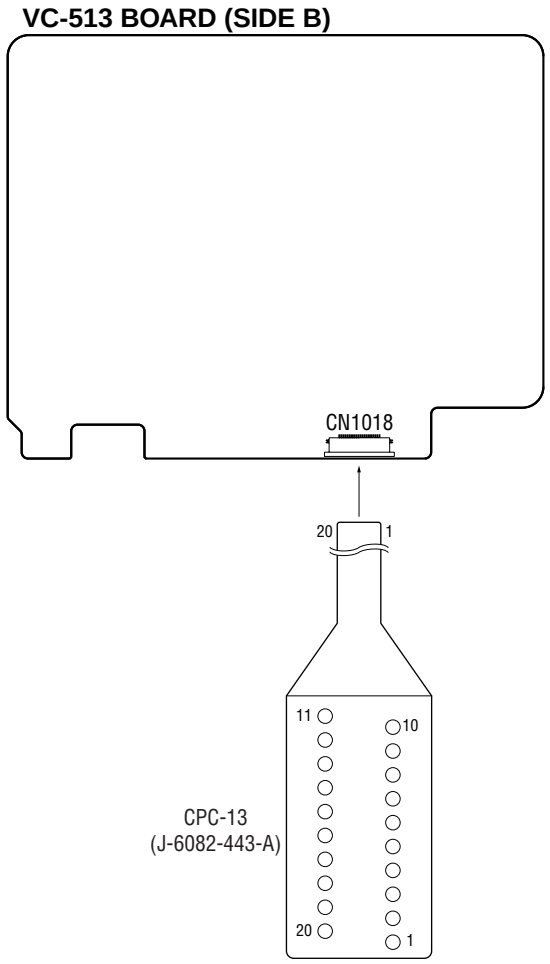
1) Select page: 0, address: 01, and set data: 01.
2) Select page: A, address: 10, set data: 02 and press the “PAUSE (Write) ” button of the adjustment remote commander.

1-3-3. Exiting the “Forced Power ON” Mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: A, address: 10, set data: 00 and press the “PAUSE (Write) ” button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

1-4. USING SERVICE JIG

Connect the CPC-13 jig (J-6082-443-A) to the CN1018 on the VC-513 board.



Pin No.	Signal Name	Pin No.	Signal Name
1 (20)	REG_GND	11 (10)	EEP_SO_C
2 (19)	RF_MON	12 (9)	EEP_SO_S
3 (18)	REG_GND	13 (8)	EEP_SCK_C
4 (17)	SWP	14 (7)	EEP_SCK_S
5 (16)	FRRV	15 (6)	D_2.8V
6 (15)	REG_GND	16 (5)	MD2_C
7 (14)	REG_GND	17 (4)	MD2
8 (13)	REG_GND	18 (3)	XCS_MC_FLASH_C
9 (12)	EEP_SI_C	19 (2)	XCS_MC_FLASH
10 (11)	EEP_SI_S	20 (1)	XSYS_RST

Note: The pin number in ( ) is test terminal number of CN1018 on the VC-513 board.

1-5. SELF-DIAGNOSIS FUNCTION

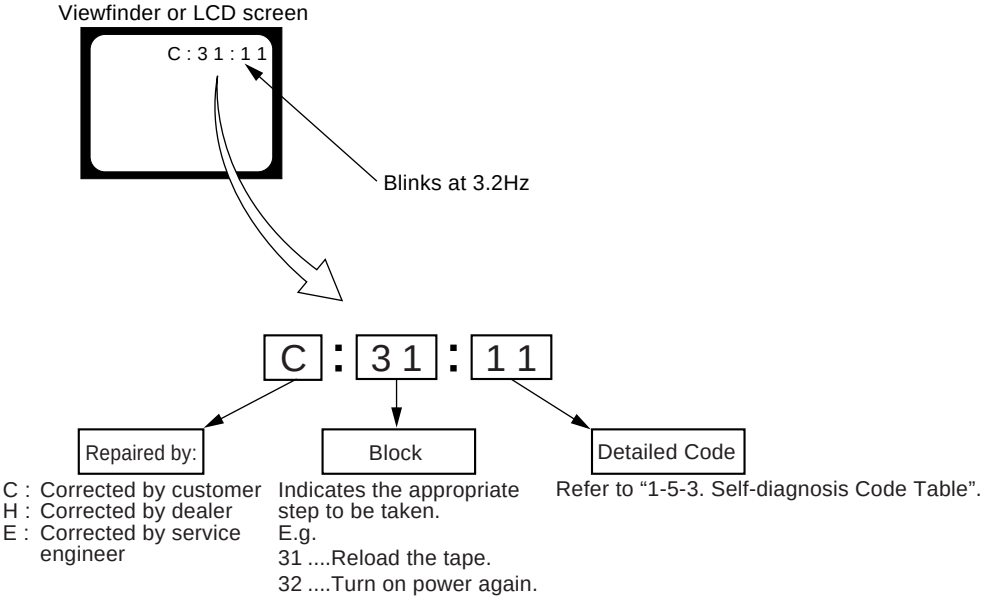
1-5-1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder or LCD screen what to do.

Details of the self-diagnosis functions are provided in the Instruction manual.

1-5-2. Self-diagnosis Display

When problems occur while the unit is operating, the counter of the viewfinder or LCD screen shows a 4-digit display consisting of an alphabet and numbers, which blinks at 3.2 Hz. This 5-character display indicates the “repaired by:”, “block” in which the problem occurred, and “detailed code” of the problem.



1-5-3. Self-diagnosis Code Table

Self-diagnosis Code					Symptom/State	Correction
Repaired by:	Block Function		Detailed Code			
C	2	1	0	0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2	2	0	0	Video head is dirty.	Clean with the optional cleaning cassette.
C	3	1	1	0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	1	1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	2	0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	1	S reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	2	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	3	S reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	4	T reel and S reel FG short fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	5	Reel motor fault	Load the tape again, and perform operations from the beginning.
C	3	1	3	0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3	1	4	0	FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3	1	4	2	FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3	1	7	0	Cassette compartment motor LOAD fault	Load the tape again, and perform operations from the beginning.
C	3	1	7	1	Cassette compartment motor UNLOARD fault	Load the tape again, and perform operations from the beginning.
C	3	1	7	2	Retry fault when catching one's finger in cassette compartment.	Load the tape again, and perform operations from the beginning.
C	3	1	9	7	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Load the tape again, and perform operations from the beginning.
C	3	1	9	8	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Load the tape again, and perform operations from the beginning.
C	3	1	9	9	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Load the tape again, and perform operations from the beginning.
C	3	2	1	0	LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	1	1	UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	1	S reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	2	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	3	S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	4	T reel and S reel FG short fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	5	Reel motor fault	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3	0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	0	FG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	2	FG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
C	3 2	6 0	Difficult to adjust focus (Cannot initialize focus.)	Remove the battery or power cable, connect, and perform operations from the beginning. If it does not recover, inspect the focus MR sensor of lens drive block (Pin ㉒, ㉔ of CN1003 on the LG-005 board). If not faulty, inspect the focus motor drive circuit (IC2001 on the LG-005 board).
C	3 2	6 F	Bayonet mount fault	Remove the lens block, battery or power cable, connect, and perform oprations from the beginning. If it does not recover, inspect the cathode of D1001 to D1005 on the LG-005 board (ten places).
C	3 2	7 0	Cassette compartment motor LOAD fault	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	7 1	Cassette compartment motor UNLOARD fault	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	7 2	Retry fault when catching one's finger in cassette compartment.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	9 7	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	9 8	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	9 9	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Remove the battery or power cable, connect, and perform operations from the beginning.
E	2 0	0 0	EEPROM data are rewritten.	Make EEPROM data correct value.
E	6 1	1 0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the zoom MR sensor of lens drive block (Pin ⑫, ⑭ of CN1001 on the LG-005 board) when zooming is performed when the zoom switch is operated and the zoom motor drive circuit (IC2001 on the LG-005 board) when zooming is not performed.
E	6 1	1 1	Focus lens initializing failure and zoom lens initializing failure occur simultaneously.	Check both C: 32: 60 and E: 61: 10 of the self-diagnosis code.
E	6 1	3 0	Reset position detect error when stepper iris is initialized.	Set the ZOOM switch to the "MANUAL" and set the T (telephoto) end with ZOOM manual ring, then turn the power ON. After turning the power ON, check the whether the iris operates seeing the wing in the lens or hearing the operation sound. Inspect the iris drive motor of lens drive block (Pin ⑱ to ㉑ of CN1001 on the LG-005 board), when the iris does not operate. Inspect the iris reset sensor of lens drive block (Pin ⑮ to ⑰ of CN1001 on the LG-005 board), when the iris operate.
E	6 2	0 0	Steadyshot function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE8501 on the GY-005 board) peripheral circuits.
E	6 2	0 1	Steadyshot function does not work well. (With yaw angular velocity sensor output stopped.)	Inspect yaw angular velocity sensor (SE8502 on the GY-005 board) peripheral circuits.
E	6 2	0 2	Abnormality of IC for steadyshot.	Inspect the steadyshot circuit (IC4003 on the LG-005 board). If it does not recover, replace the LG-005 board. (Note) If an error occurs again, replace the lens block.
E	6 2	0 3	IC for steadyshot and micro controller communication abnormality among.	Inspect the steadyshot circuit (IC4003 on the LG-005 board).
E	6 2	1 0	Shift lens initializing failure	Inspect the EEPROM (IC6005 on the LG-005 board). If it does not recover, replace the LG-005 board. (Note) If an error occurs again, replace the lens block.
E	6 2	1 1	Shift lens overheating (Pitch)	Inspect the IC4003 and peripheral circuits on the LG-005 board. If it does not recover, replace the LG-005 board. (Note) If an error occurs again, replace the lens block.

Note: When replacing the LG-005 board, remove the EEPROM (IC6005) from the LG-005 board that is going to be repaired. Install the removed EEPROM (IC6005) to the replaced LG-005 board.

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
E	6 2	1 2	Shift lens overheating (Yaw)	Inspect the IC4003 and peripheral circuits on the LG-005 board. If it does not recover, replace the LG-005 board. (Note) If an error occurs again, replace the lens block.
E	6 2	2 0	Abnormality of thermister	Check the connection of flexible flat cable and connectors between the lens drive block and LG-005 board. If it does not recover, replace the LG-005 board. (Note) If an error occurs again, replace the lens block.

Note: When replacing the LG-005 board, remove the EEPROM (IC6005) from the LG-005 board that is going to be repaired. Install the removed EEPROM (IC6005) to the replaced LG-005 board.

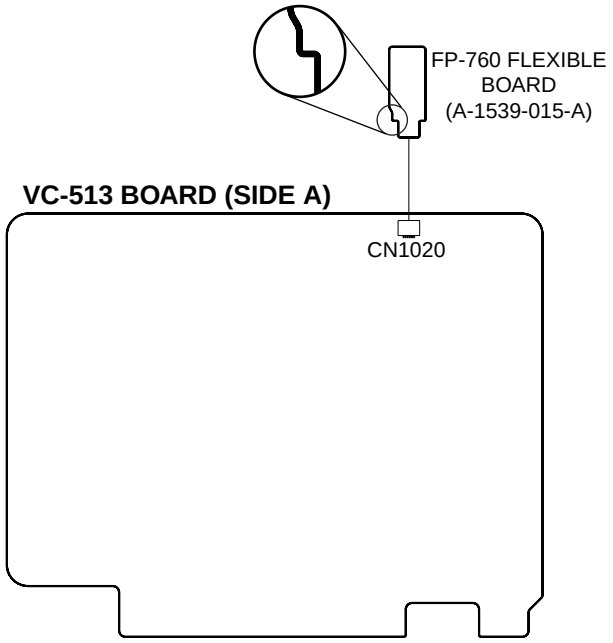
1-6. ADDITION OF “60i/50i SEL” MENU

It is possible to add the “60i/50i SEL” menu by adjustment remote commander (RM-95 or NEW LANC JIG) and FP-760 flexible board (A-1539-015-A).

Note: When FP-760 flexible board (A-1539-015-A) is removed, “60i/50i SEL” menu is not displayed. Use FP-760 flexible board while connected with CN1020 on the VC-513 board.

Method:

① Connect the FP-760 flexible board to the CN1020 on the VC-513 board.
② Select page: 0, address: 01, and set data: 01.
③ Select page: A, address: 99, set data: 01 and press the “PAUSE (Write) ” button of the adjustment remote commander.
④ Select page: 0, address: 01, and set data: 00.
⑤ Check that “60i/50i SEL” is displayed in the “OTHERS” of the “MENU” on the LCD screen.



LCD screen

1. SERVICE NOTE

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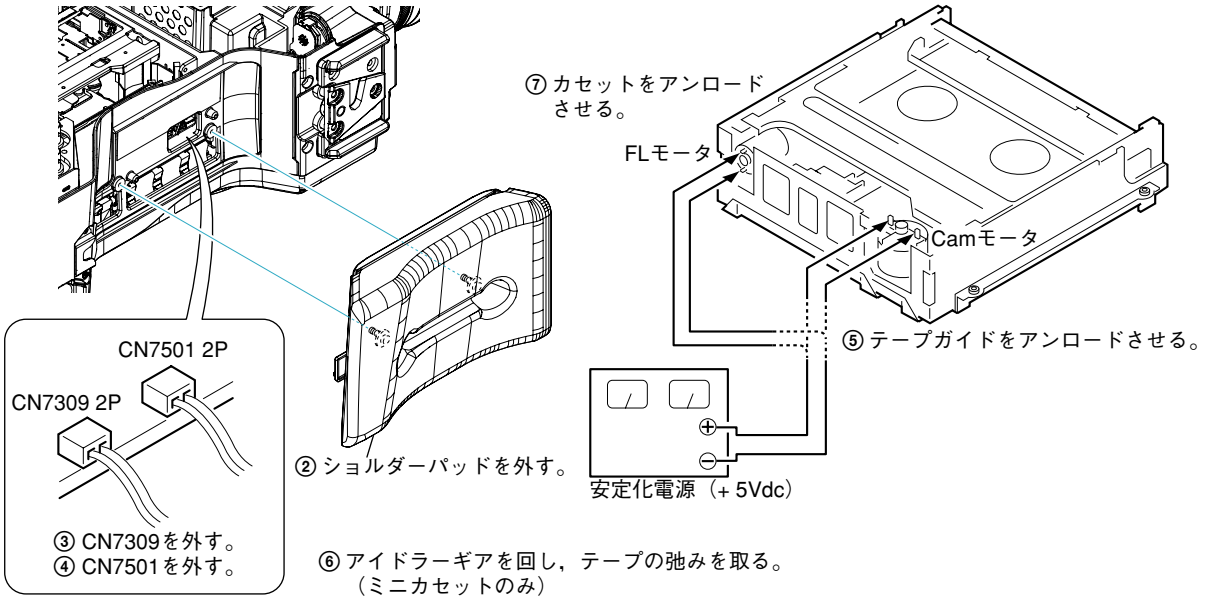
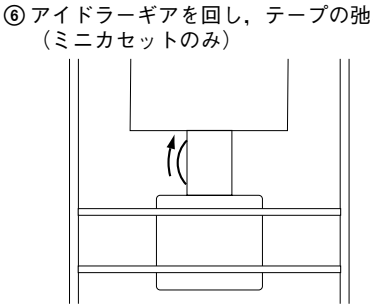
1-1. 修理時の電源供給について

DC入力端子を使用する。（ACアダプタ（AC-550，AC-DN2，AC-DN10）を使用する。）
またはDCケーブルを作成して安定化電源を使用してください。
（6-6ページ「1-1-2. How to make the DC cable」参照）

1-2. イジェクトしない時のカセット取出し方法（強制イジェクト）

① 「2. DISASSEMBLY」を参照し，キャビネット（L）ブロックを外す。
② ショルダーパッドを外す。
③ NN-006基板のCN7309（2P）を外す。
④ NN-006基板のCN7501（2P）を外す。
⑤ 安定化電源より+5Vをカムモータに加え，テープガイドをアンローディングさせる。
⑥ アイドラーギアを時計方向に回し，テープの弛みを取る。（ミニカセットのみ）
⑦ 安定化電源より+5VをFLモータ（カセットモータ）に加え，カセットをアンローディングさせる。





1-3. 強制電源ONモードの設定

調整リモコン（RM-95またはNEW LANC JIG）を使用して，電源を入れることが出来ます。
VTR操作は調整リモコンで行えます。

1-3-1. 強制カメラ電源ONモードの設定

1) ページ：0，アドレス：01にデータ：01をセット。
2) ページ：A，アドレス：10にデータ：01をセットしPAUSE（Write）ボタンを押す。

1-3-2. 強制VTR電源ONモードの設定

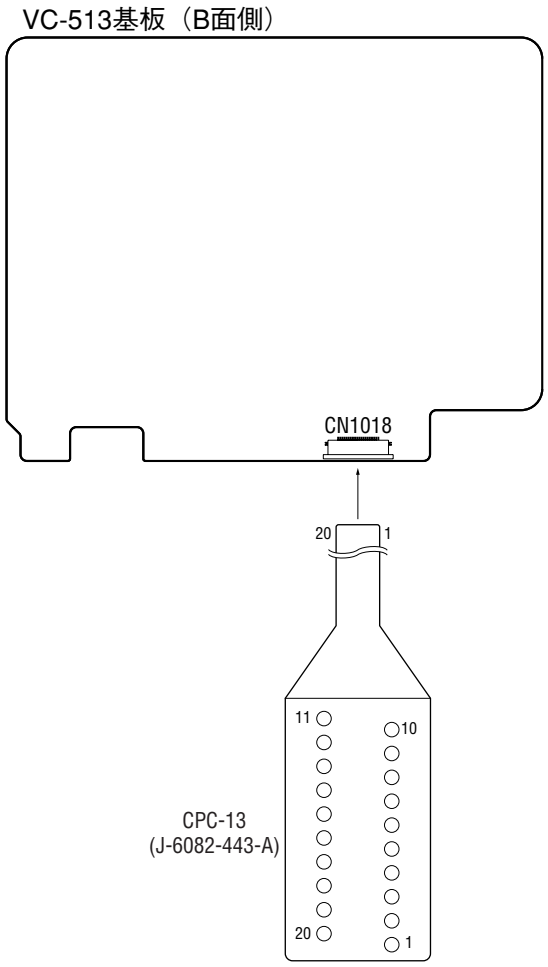
1) ページ：0，アドレス：01にデータ：01をセット。
2) ページ：A，アドレス：10にデータ：02をセットしPAUSE（Write）ボタンを押す。

1-3-3. 強制電源ONモードの解除

1) ページ：0，アドレス：01にデータ：01をセット。
2) ページ：A，アドレス：10にデータ：00をセットしPAUSE（Write）ボタンを押す。
3) ページ：0，アドレス：01にデータ：00をセット。

1-4. 使用サービス治具

CPC-13治具（J-6082-443-A）をVC-513基板CN1018に接続します。



端子番号	信号名称	端子番号	信号名称
1 (20)	REG_GND	11 (10)	EEP_SO_C
2 (19)	RF_MON	12 (9)	EEP_SO_S
3 (18)	REG_GND	13 (8)	EEP_SCK_C
4 (17)	SWP	14 (7)	EEP_SCK_S
5 (16)	FRRV	15 (6)	D_2.8V
6 (15)	REG_GND	16 (5)	MD2_C
7 (14)	REG_GND	17 (4)	MD2
8 (13)	REG_GND	18 (3)	XCS_MC_FLASH_C
9 (12)	EEP_SI_C	19 (2)	XCS_MC_FLASH
10 (11)	EEP_SI_S	20 (1)	XSYS_RST

注意：( )内の端子番号は，VC-513基板CN1018のテスト端子番号です。

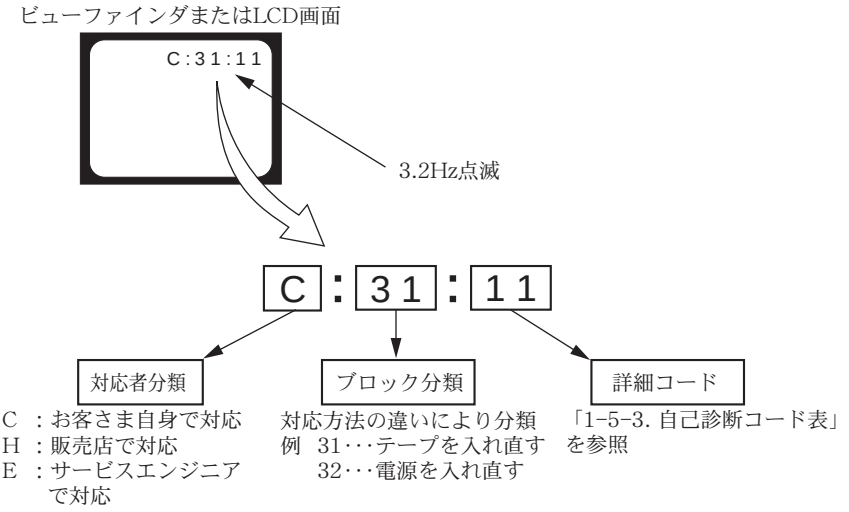
1-5. 自己診断機能

1-5-1. 自己診断機能について

本機の動作に不具合が生じたとき，自己診断機能が働き，ビューファインダまたはLCD画面に，どう処置したらよいか判断できる表示を行います。自己診断機能については取扱説明書にも掲載されています。

1-5-2. 自己診断表示

本機の動作に不具合が生じたとき，ビューファインダまたはLCD画面のカウンタ表示部分がアルファベットと数字の4桁表示になり，3.2Hzで点滅します。この5文字の表示によって対応者分類および不具合の生じたブロックの分類，不具合の詳細コードを示します。



1-5-3. 自己診断コード表

自己診断コード			症状／状態	対応／方法
対応者	ブロック機能	詳細コード		
C	2 1	0 0	結露している	カセットを取り出して，約1時間してからもう一度入れ直す。
C	2 2	0 0	ビデオヘッドが汚れている	別売のクリーニングカセットできれいにする。
C	3 1	1 0	LOAD方向，ローディング所定時間内終了せず	テープを入れ直し，再度操作し直す。
C	3 1	1 1	UNLOAD方向，ローディング所定時間内終了せず	テープを入れ直し，再度操作し直す。
C	3 1	2 0	UNLOAD時，Tリール側テープ弛み	テープを入れ直し，再度操作し直す。
C	3 1	2 1	UNLOAD時，Sリール側テープ弛み	テープを入れ直し，再度操作し直す。
C	3 1	2 2	Tリール異常	テープを入れ直し，再度操作し直す。
C	3 1	2 3	Sリール異常	テープを入れ直し，再度操作し直す。
C	3 1	2 4	TリールおよびSリールFGショート異常	テープを入れ直し，再度操作し直す。
C	3 1	2 5	リールモータ異常	テープを入れ直し，再度操作し直す。
C	3 1	3 0	キャプスタン起動時FG異常	テープを入れ直し，再度操作し直す。
C	3 1	4 0	ドラム起動時FG異常	テープを入れ直し，再度操作し直す。
C	3 1	4 2	ドラム定常時FG異常	テープを入れ直し，再度操作し直す。
C	3 1	7 0	カセコンモータLOAD異常	テープを入れ直し，再度操作し直す。
C	3 1	7 1	カセコンモータUNLOAD異常	テープを入れ直し，再度操作し直す。
C	3 1	7 2	カセコン指はさみリトライ異常	テープを入れ直し，再度操作し直す。
C	3 1	9 7	ベクタ異常（センサ類の異常で現実に有り得ないセット状態と判断）	テープを入れ直し，再度操作し直す。
C	3 1	9 8	ベクタ異常（センサ類の異常で現実に有り得ないセット状態と判断）	テープを入れ直し，再度操作し直す。
C	3 1	9 9	ベクタ異常（センサ類の異常で現実に有り得ないセット状態と判断）	テープを入れ直し，再度操作し直す。
C	3 2	1 0	LOAD方向，ローディング所定時間内終了せず	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	1 1	UNLOAD方向，ローディング所定時間内終了せず	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	2 0	UNLOAD時，Tリール側テープ弛み	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	2 1	UNLOAD時，Sリール側テープ弛み	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	2 2	Tリール異常	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	2 3	Sリール異常	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	2 4	TリールおよびSリールFGショート異常	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	2 5	リールモータ異常	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	3 0	キャプスタン起動時FG異常	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	4 0	ドラム起動時FG異常	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	4 2	ドラム定常時FG異常	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	6 0	フォーカスが合いにくい（フォーカスの初期化ができない）	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。復帰しない場合,レンズドライブブロックのフォーカスMRセンサ(LG-005基板CN1003 ㉒, ㉔ ピン)を点検。問題がなければフォーカスモータドライブ回路(LG-005基板IC2001)を点検。

自己診断コード			症状／状態	対応／方法
対応者	ブロック機能	詳細コード		
C	3 2	6 F	バヨネットマウント異常	レンズブロック,バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。復帰しない場合,LG-005基板D1001～D1005のカソード(10箇所)を点検。
C	3 2	7 0	カセコンモータLOAD異常	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	7 1	カセコンモータUNLOAD異常	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	7 2	カセコン指はさみリトライ異常	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	9 7	ベクタ異常（センサ類の異常で現実に有り得ないセット状態と判断）	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	9 8	ベクタ異常（センサ類の異常で現実に有り得ないセット状態と判断）	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
C	3 2	9 9	ベクタ異常（センサ類の異常で現実に有り得ないセット状態と判断）	バッテリまたは電源ケーブルを外して付け直し,再度操作し直す。
E	2 0	0 0	EEPROMが書き換えられている	EEPROMのデータを元の値に戻す。
E	6 1	1 0	ズーム動作の異常(ズームレンズの初期化ができない)	ズームレバーを操作した時,ズーム動作をすればレンズドライブブロックのズームMRセンサ(LG-005基板CN1001 ⑫, ⑭ピン)を点検。ズーム動作をしなければズームモータドライブ回路(LG-005基板IC2001)を点検。
E	6 1	1 1	フォーカスレンズ初期化異常,ズームレンズ初期化異常の同時発生	自己診断コードC: 32: 60とE: 61: 10の両方を点検。
E	6 1	3 0	ステッパアイリス初期化時リセット位置検出エラー	ZOOM スイッチを“MANUAL”にし,ズームマニュアルリングでT(telephoto)端にした後,電源を投入する。電源投入後,レンズ内の羽を見るか,または動作音を聞いてアイリスが動作しているか確認する。アイリスが動作しない場合は,レンズドライブブロックのアイリスモータドライブ(LG-005基板CN1001 ⑱～㉑ピン)を点検。アイリスが動作する場合は,レンズドライブブロックのアイリスリセットセンサ(LG-005基板CN1001 ⑮～⑰ピン)を点検。
E	6 2	0 0	手振れ補正が効きにくい(PITCH角速度センサ出力張り付き)	PITCH角速度センサ(GY-005基板SE8501)周辺回路を点検。
E	6 2	0 1	手振れ補正が効きにくい(YAW角速度センサ出力張り付き)	YAW角速度センサ(GY-005基板SE8502)周辺回路を点検。
E	6 2	0 2	手振れ補正用ICの異常	手振れ補正回路(LG-005基板IC4003)を点検。復帰しない場合,LG-005基板を交換する。(注意) エラーが再度発生する場合は,レンズブロックを交換する。
E	6 2	0 3	手振れ補正用ICとマイクロコントローラとの通信異常	手振れ補正回路(LG-005基板IC4003)を点検。
E	6 2	1 0	シフトレンズ初期化異常	EEPROM(LG-005基板IC6005)を点検。復帰しない場合,LG-005基板を交換する。(注意) エラーが再度発生する場合は,レンズブロックを交換する。
E	6 2	1 1	シフトレンズオーバーヒート(PITCH)	LG-005基板のIC4003および周辺回路を点検。復帰しない場合,LG-005基板を交換する。(注意) エラーが再度発生する場合は,レンズブロックを交換する。

注意 ： LG-005基板を交換する場合は，修理するLG-005基板からEEPROM(IC6005)を取り外す。取り外したEEPROM(IC6005)は取り替えたLG-005基板に取り付ける。

自己診断コード			症状／状態	対応／方法
対応者	ブロック 機能	詳細 コード		
E	6 2	1 2	シフトレンズオーバーヒート (YAW)	LG-005基板のIC4003および周辺回路を点検。復帰しない場合, LG-005基板を交換する。(注意) エラーが再度発生する場合は, レンズブロックを交換する。
E	6 2	2 0	サーミスタの異常	レンズドライブブロックとLG-005基板間の各フレキシブルフラットケーブルとコネクタの接続を確認する。復帰しない場合, LG-005基板を交換する。(注意) エラーが再度発生する場合は, レンズブロックを交換する。

注意 ：LG-005基板を交換する場合は，修理するLG-005基板からEEPROM（IC6005）を取り外す。取り外したEEPROM（IC6005）は取り替えたLG-005基板に取り付ける。

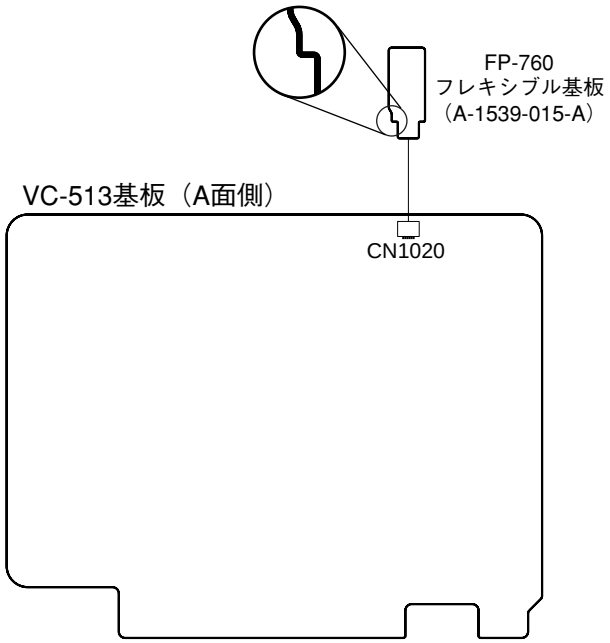
1-6. “60i/50i切替”メニューの追加

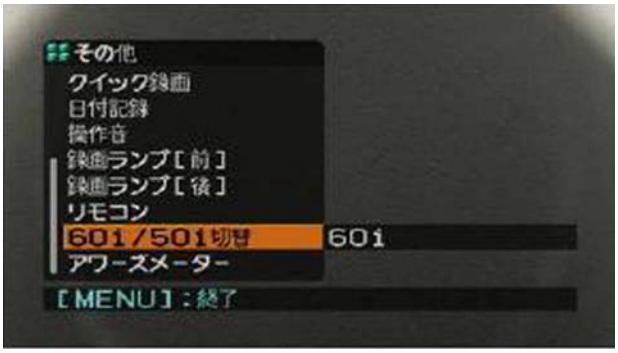
調整リモコン（RM-95またはNEW LANC JIG）とFP-760フレキシブル基板（A-1539-015-A）を使用して，“60i/50i切替”メニューを追加することができます。

注意 ： FP-760フレキシブル基板(A-1539-015-A)を外すと“60i/50i切替”メニューは表示されません。FP-760フレキシブル基板はVC-513基板のCN1020に接続したまま使用してください。

方法：

① VC-513基板のCN1020にFP-760フレキシブル基板を接続する。
② ページ：0，アドレス：01にデータ：01をセット。
③ ページ：A，アドレス：99にデータ：01をセットしPAUSE（Write）ボタンを押す。
④ ページ：0，アドレス：01にデータ：00をセット。
⑤ LCD画面で“MENU”の“その他”に“60i/50i切替”が表示されることを確認する。





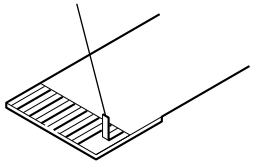
LCD画面

2. DISASSEMBLY

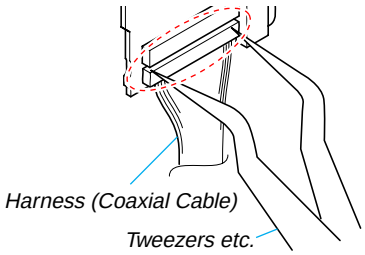
NOTE FOR REPAIR

- Make sure that the flat cable and flexible board are not cracked of bent at the terminal. Do not insert the cable insufficiently nor crookedly.
- When remove a connector, don't pull at wire of connector. It is possible that a wire is snapped.
- When installing a connector, don't press down at wire of connector. It is possible that a wire is snapped.

Cut and remove the part of gilt which comes off at the point. (Be careful or some pieces of gilt may be left inside)

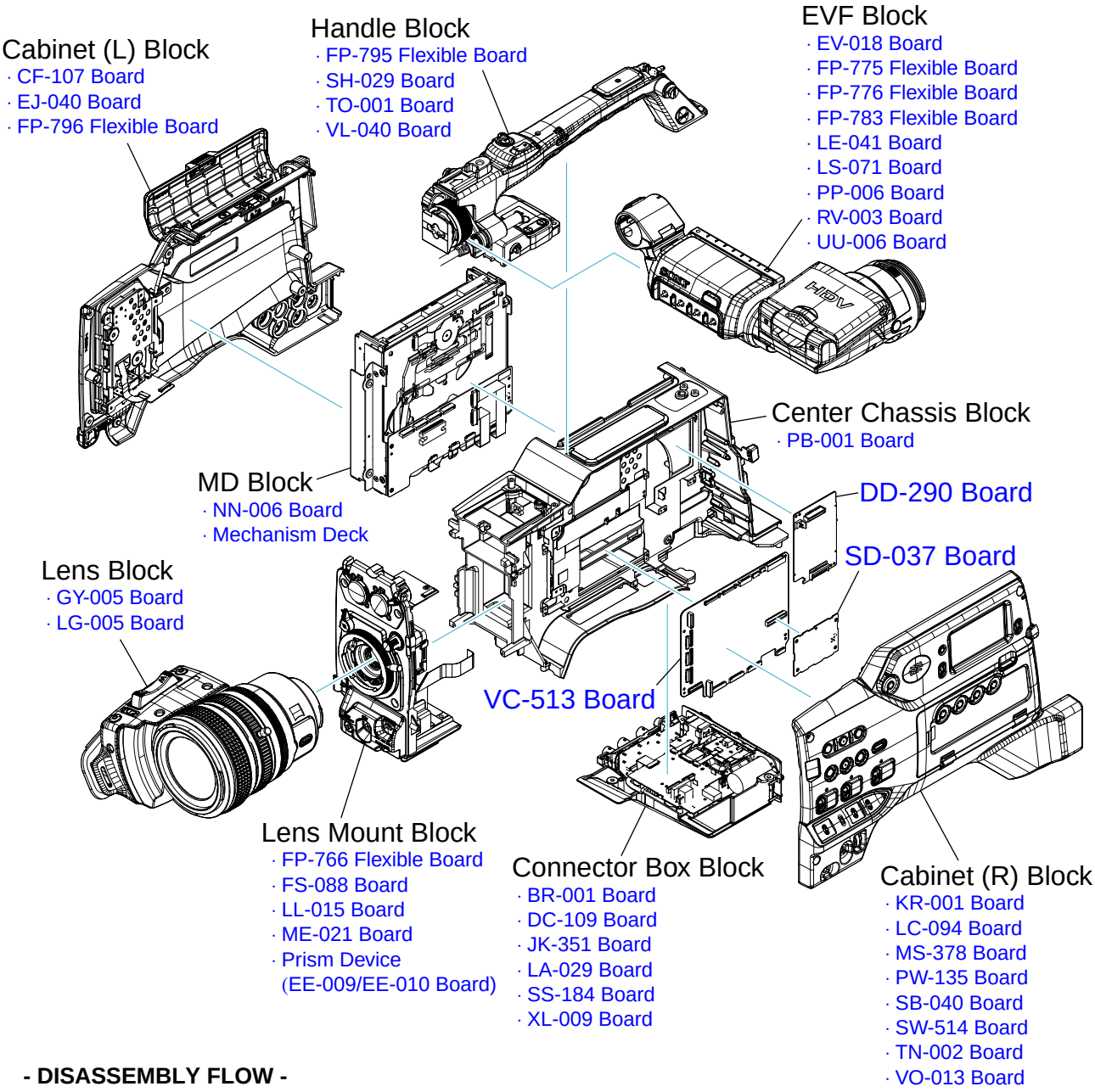


NOTE FOR DISCONNECTING THE HARNESS (COAXIAL CABLE)



When disconnecting the harness (coaxial cable), do not pull the harness part but pull off the connector body with tweezers etc.

2-1. IDENTIFYING PARTS



- DISASSEMBLY FLOW -

- 2-2-1. OVERALL SECTION-1
  - Lens Block
  - EVF Block
  - Handle Block
- 2-2-2. EVF MAIN SECTION
  - EV-018 Board
- 2-2-3. EVF MIRROR TUBE SECTION
  - EVF Panel Block
  - Control Switch Block
  - LCD Panel Block
- 2-2-4. OVERALL SECTION-2
  - Cabinet (L) Block
  - MD Block
- 2-2-5. MD BLOCK SECTION
  - NN-006 Board
  - Mechanism Deck
- 2-2-6. OVERALL SECTION-3
  - Cabinet (R) Block
  - Lens Mount Block
- 2-2-7. OVERALL SECTION-4
  - SD-037 Board
  - Connector Box Block
- 2-2-8. MAIN BOARD SECTION
  - VC-513 Board
  - DD-290 Board

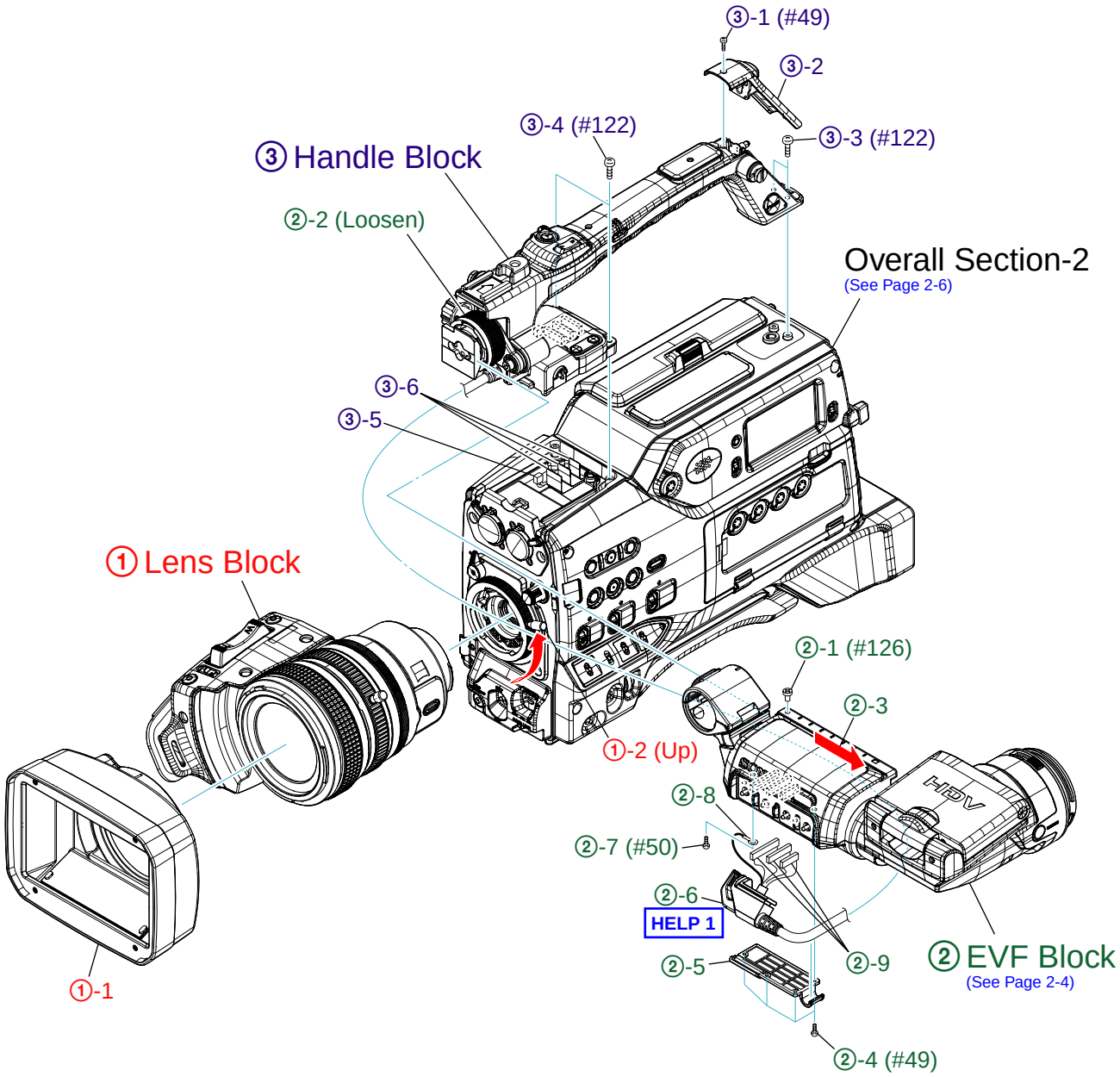
2-2. DISASSEMBLY

EXPLODED VIEW HARDWARE LIST

2-2-1. OVERALL SECTION-1

Follow the disassembly in the numerical order given.

① Lens Block (①-1 to ①-2)
② EVF Block (②-1 to ②-9)
③ Handle Block (③-1 to ③-6)

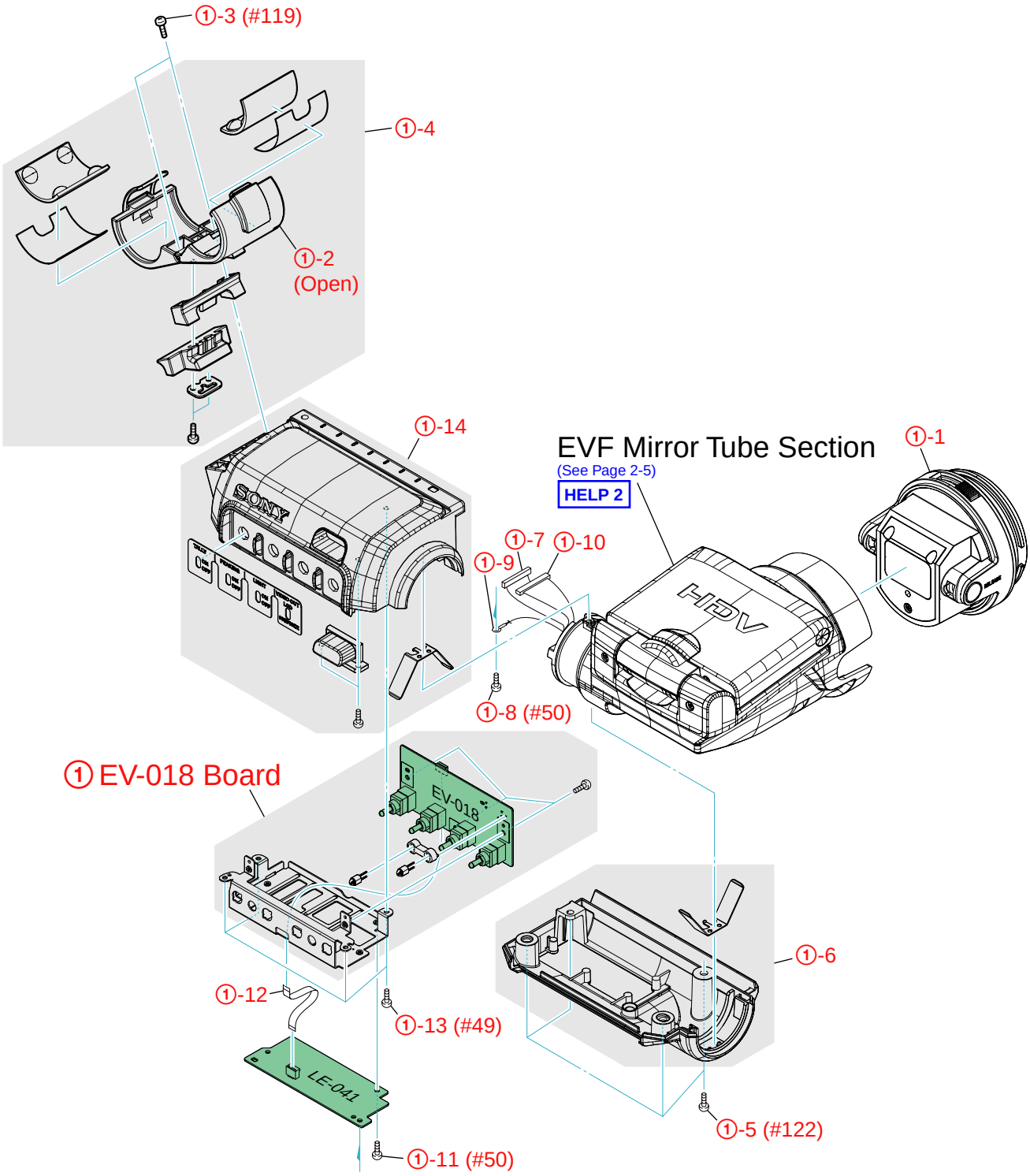


2-2-2. EVF MAIN SECTION

Follow the disassembly in the numerical order given.

① EV-018 Board (①-1 to ①-14)

EXPLODED VIEW HARDWARE LIST

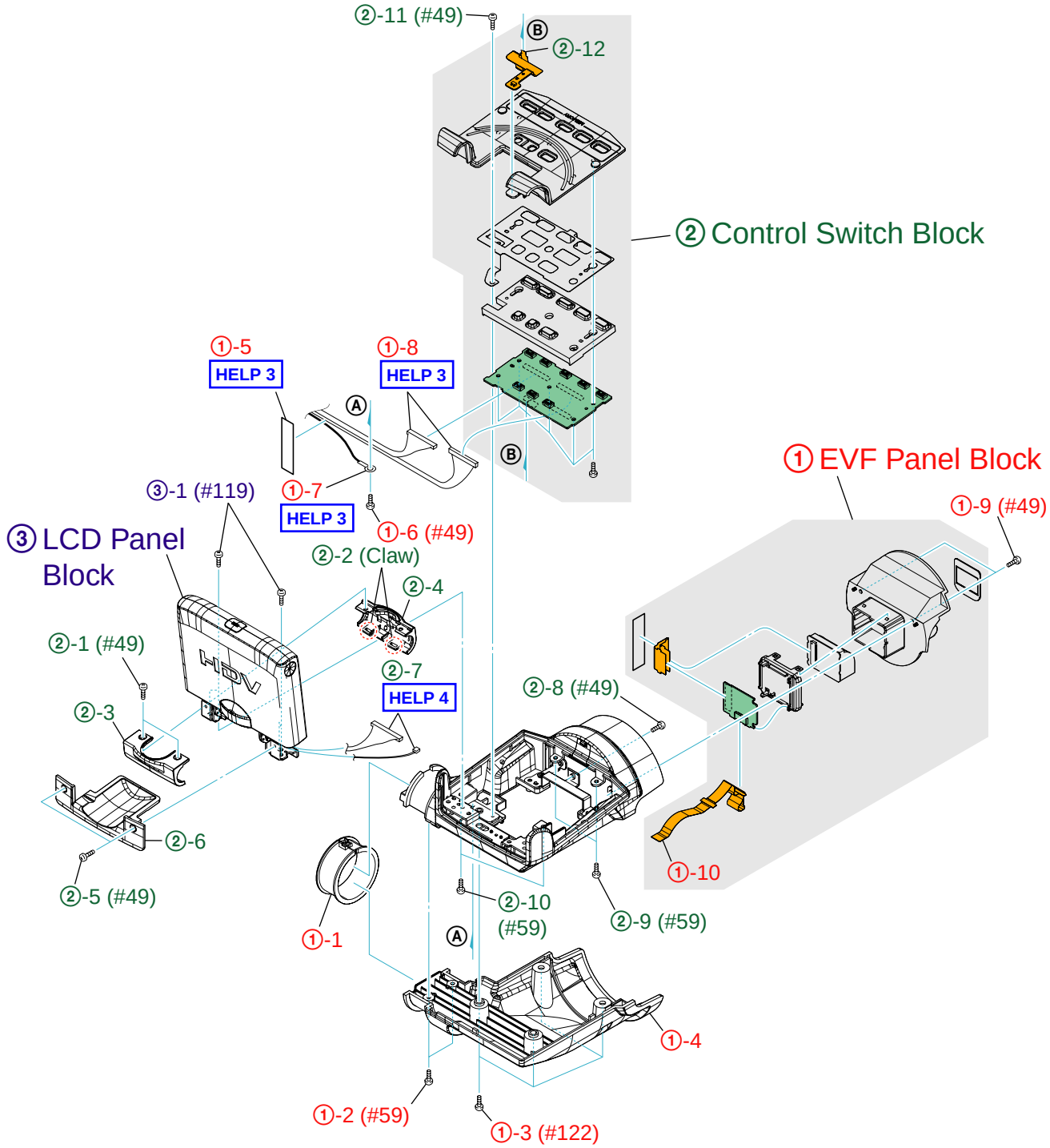


2-2-3. EVF MIRROR TUBE SECTION

Follow the disassembly in the numerical order given.

① EVF Panel Block (①-1 to ①-10)
② Control Switch Block (②-1 to ②-12)
③ LCD Panel Block (③-1)

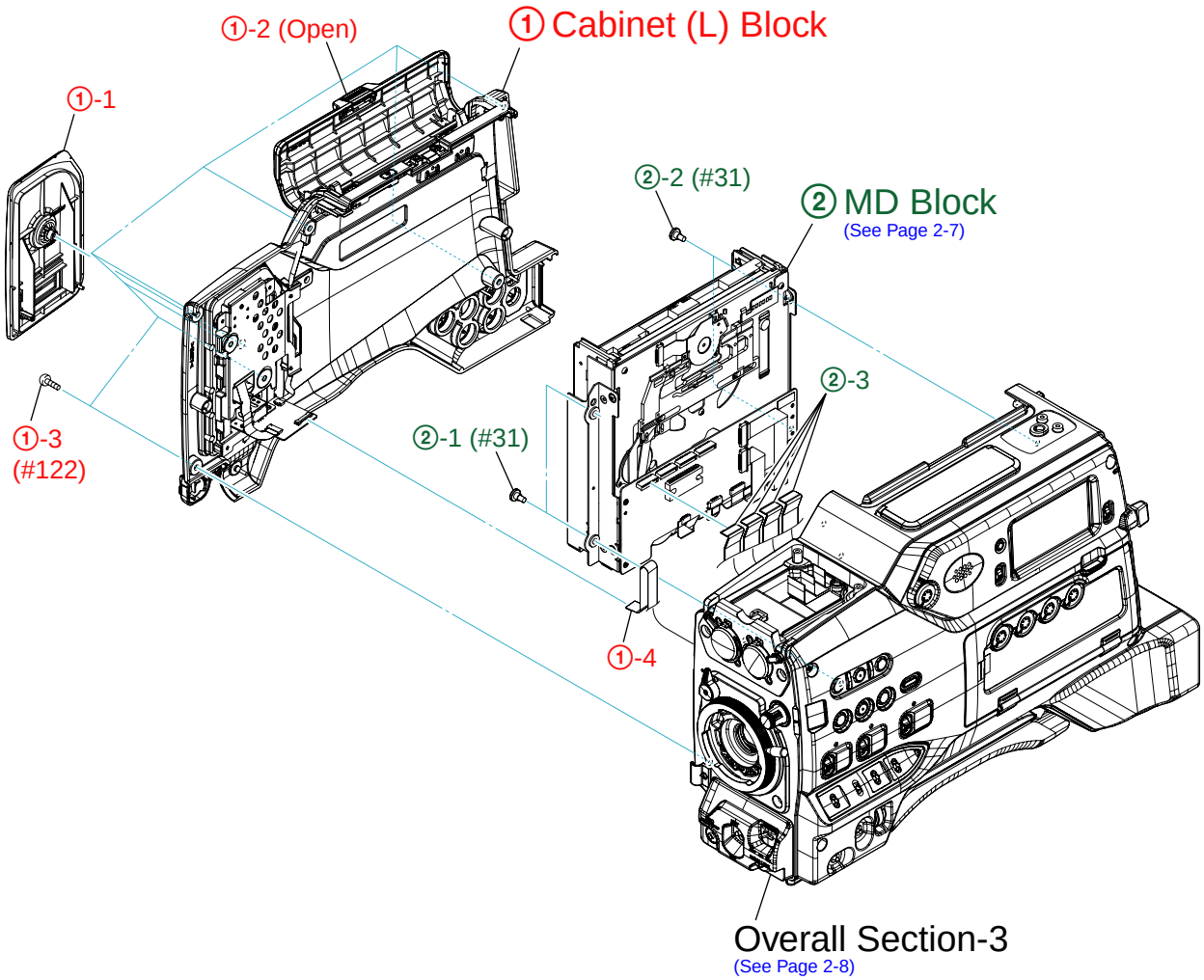
EXPLODED VIEW HARDWARE LIST



2-2-4. OVERALL SECTION-2

Follow the disassembly in the numerical order given.
① Cabinet (L) Block (①-1 to ①-4)
② MD Block (②-1 to ②-3)

EXPLODED VIEW HARDWARE LIST



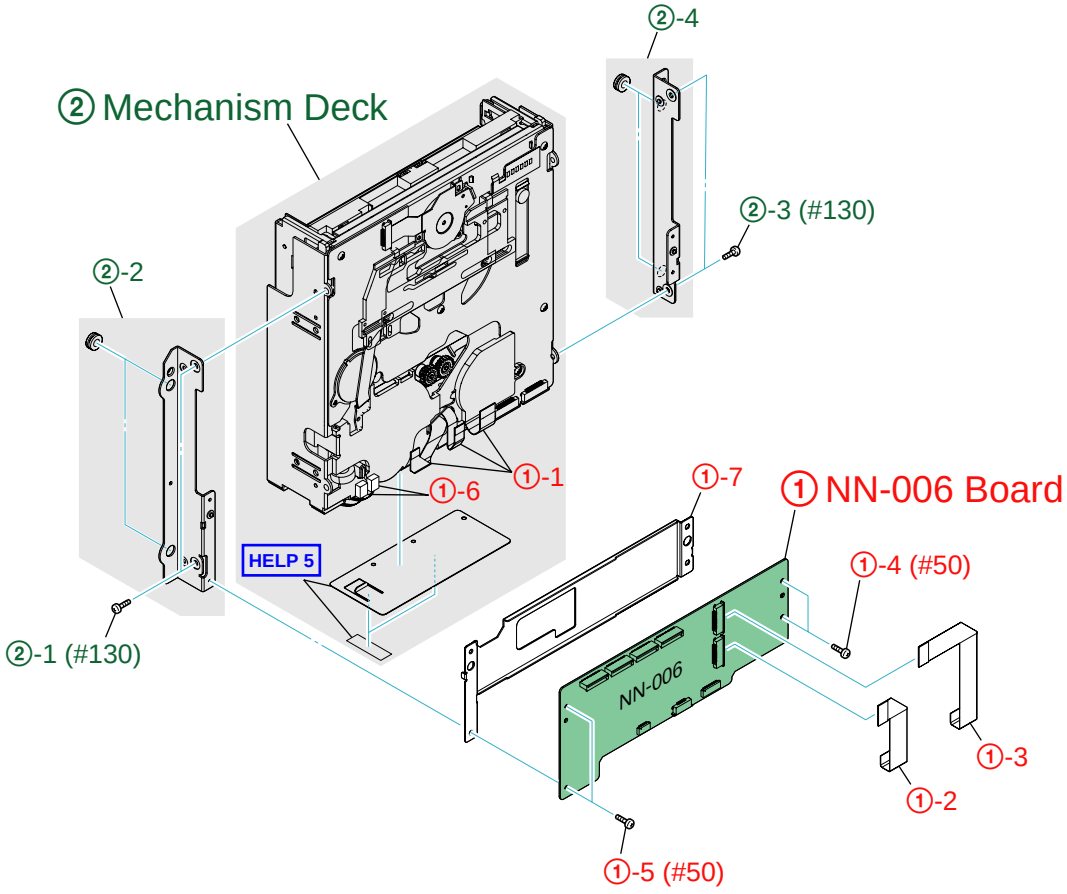
2-2-5. MD BLOCK SECTION

Follow the disassembly in the numerical order given.

① NN-006 Board (①-1 to ①-7)

② Mechanism Deck (②-1 to ②-4)

EXPLODED VIEW HARDWARE LIST



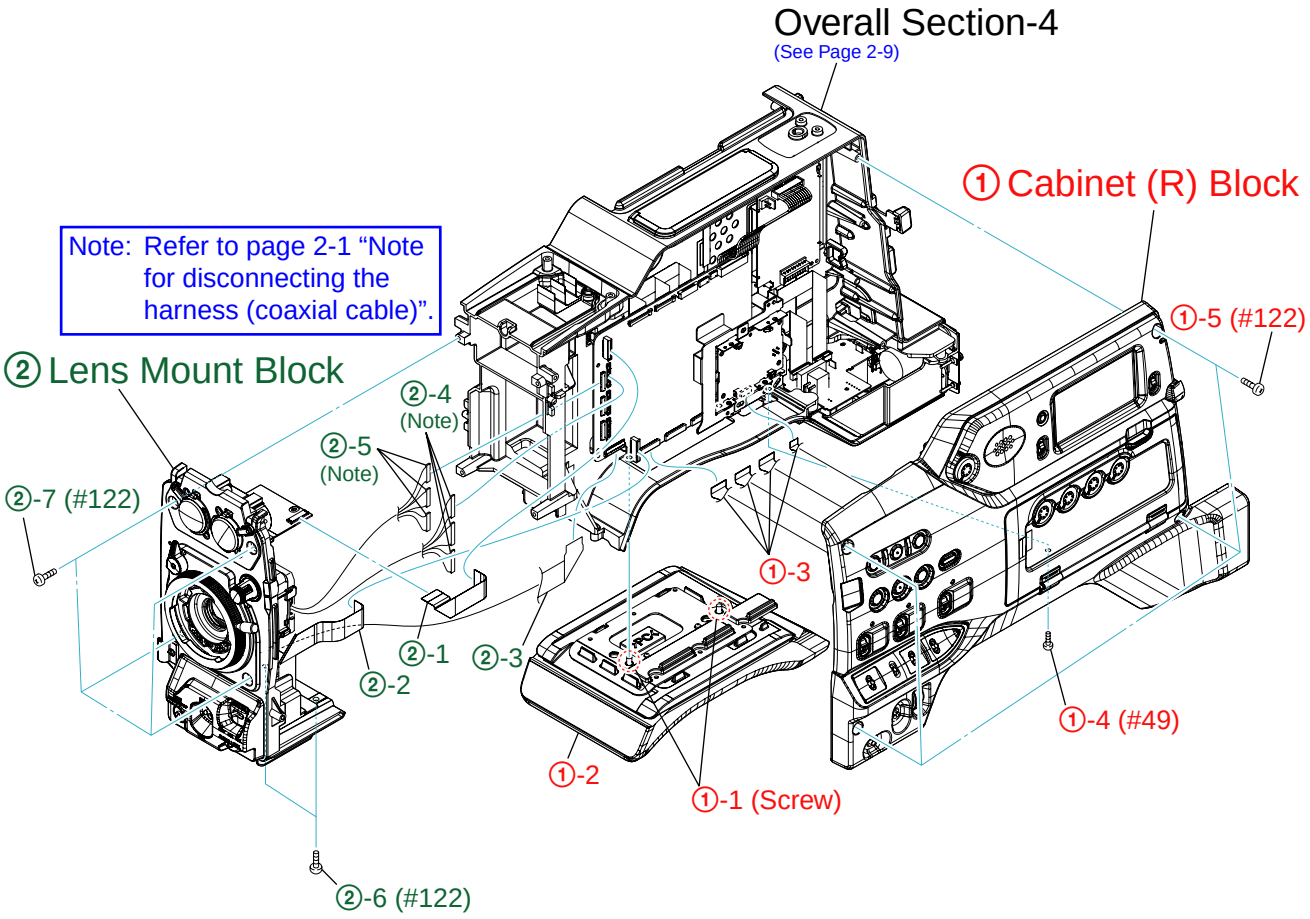
2-2-6. OVERALL SECTION-3

EXPLODED VIEW HARDWARE LIST

Follow the disassembly in the numerical order given.

① Cabinet (R) Block (①-1 to ①-5)

② Lens Mount Block (②-1 to ②-7)



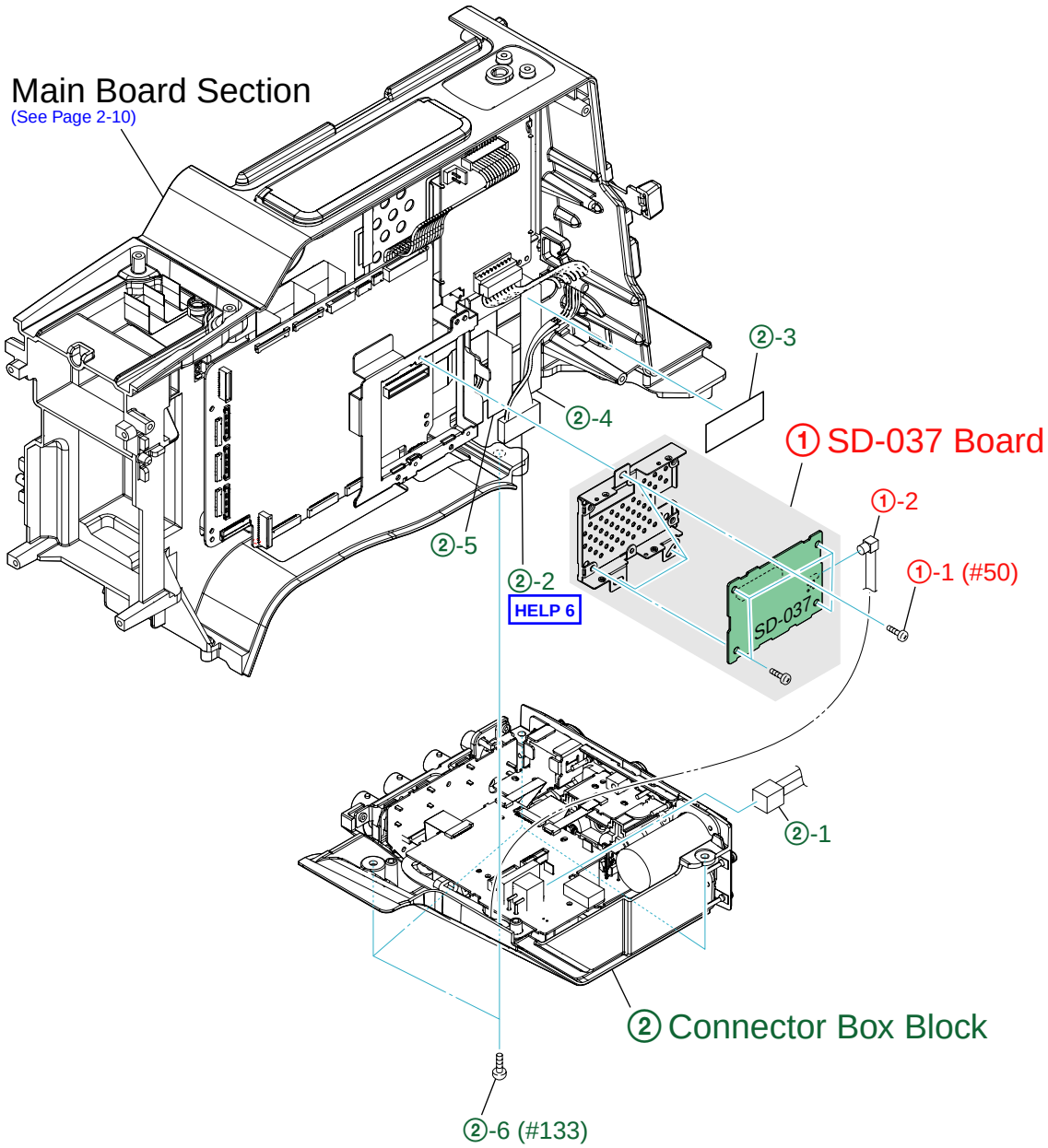
2-2-7. OVERALL SECTION-4

Follow the disassembly in the numerical order given.

① SD-037 Board (①-1 to ①-2)

② Connector Box Block (②-1 to ②-6)

EXPLODED VIEW HARDWARE LIST



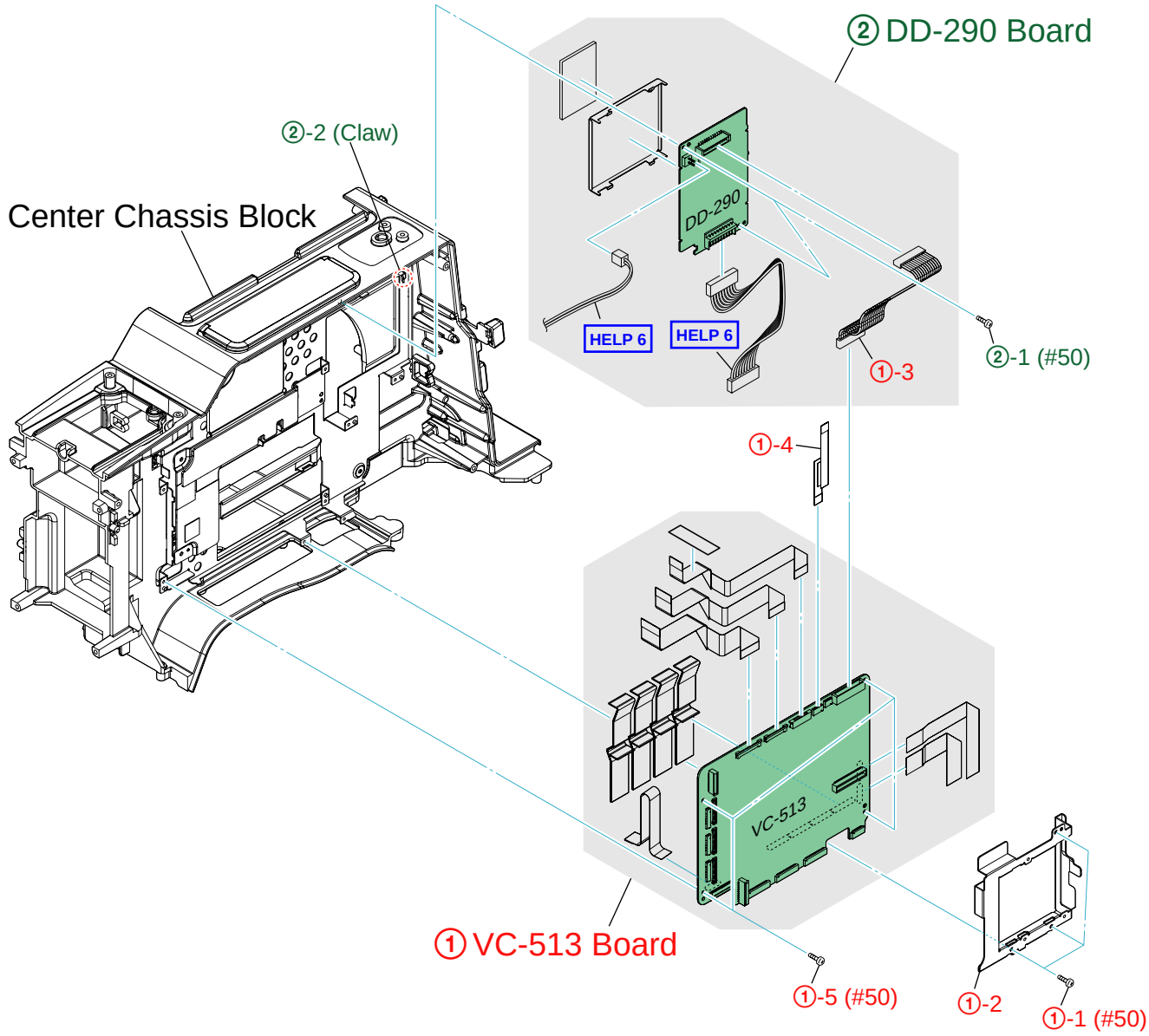
2-2-8. MAIN BOARD SECTION

Follow the disassembly in the numerical order given.

① VC-513 Board (①-1 to ①-5)

② DD-290 Board (②-1 to ②-2)

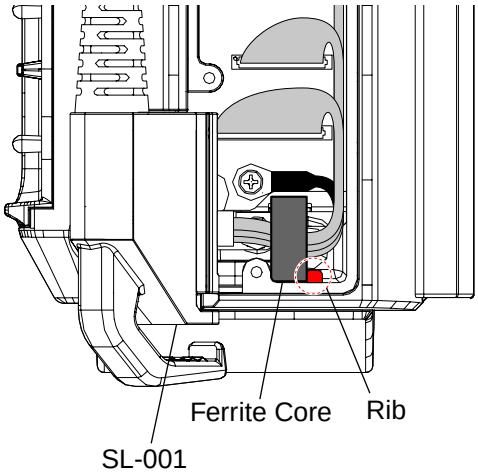
EXPLODED VIEW HARDWARE LIST



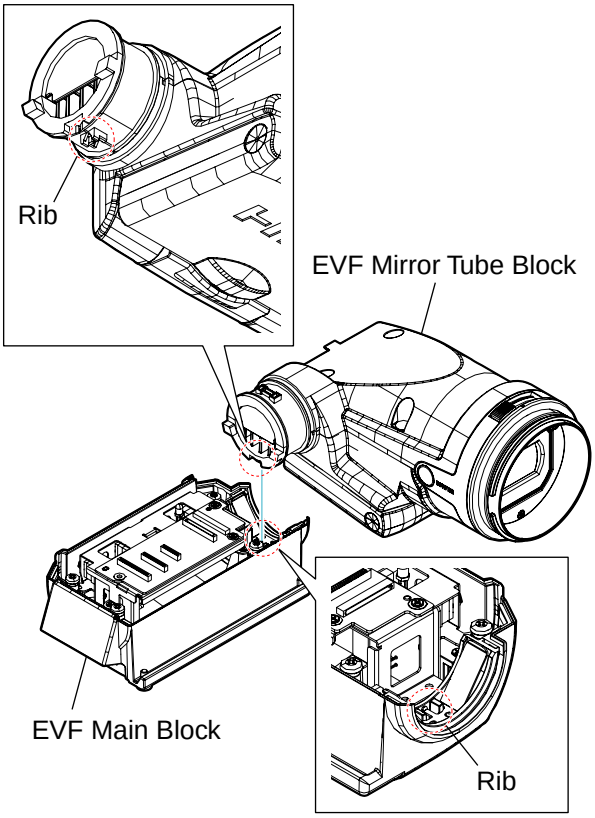
HELP

Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

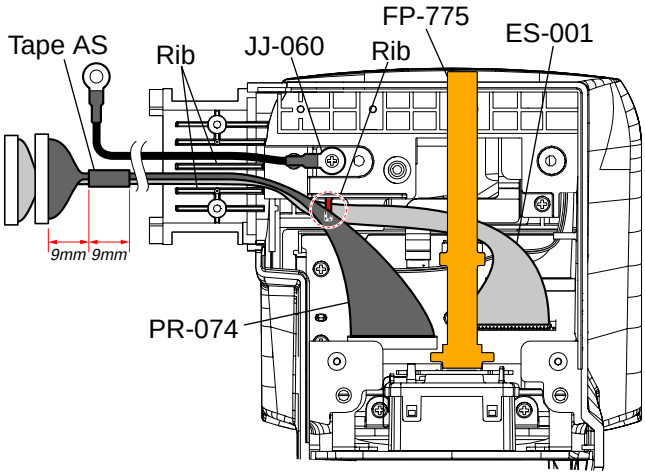
HELP 1: SL-001



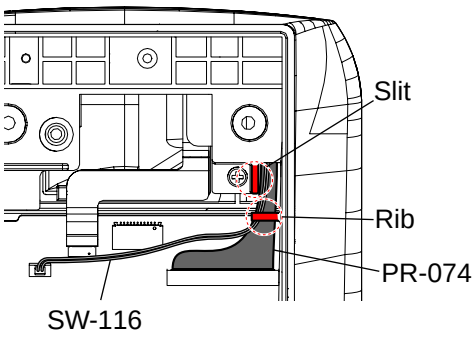
HELP 2: EVF Mirror Tube Block



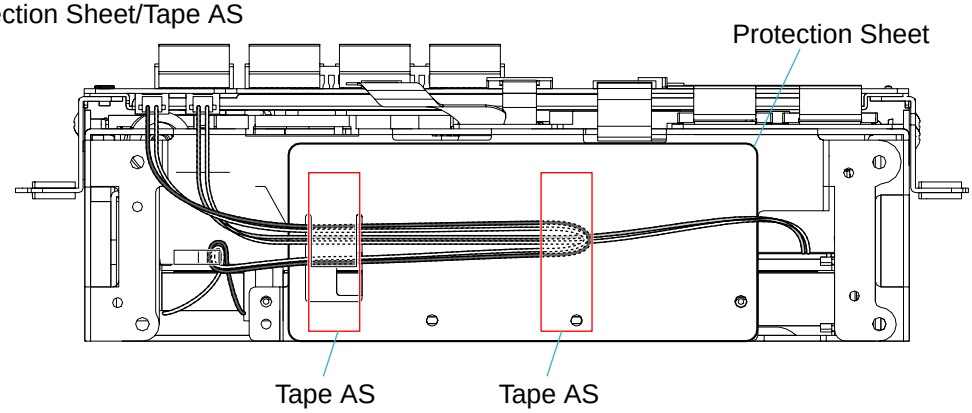
HELP 3: JJ-060/ES-001/PR-074/Tape AS



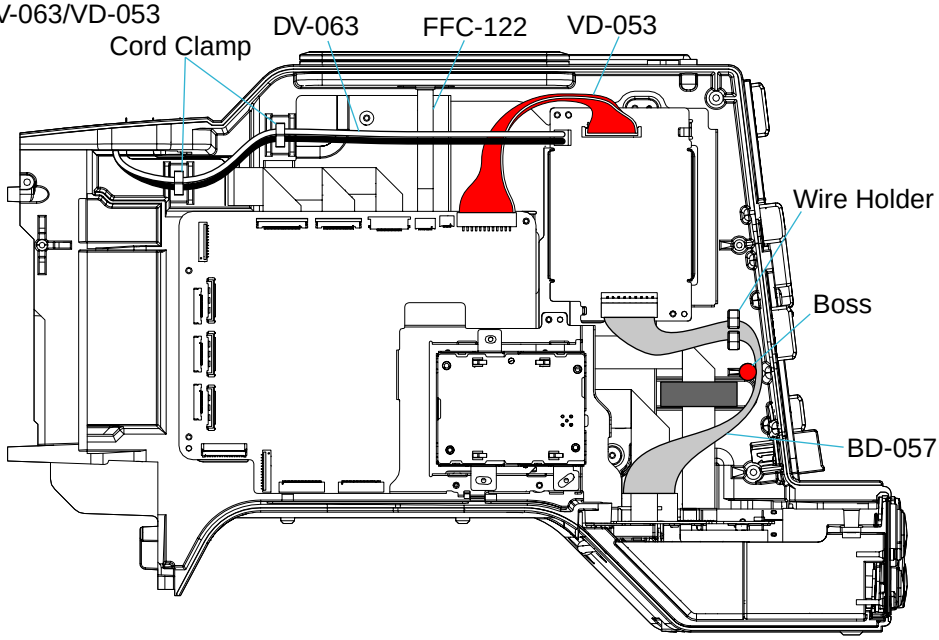
HELP 4: PR-074/SW-116



HELP 5: Protection Sheet/Tape AS



HELP 6: BD-057/DV-063/VD-053



3. BLOCK DIAGRAMS

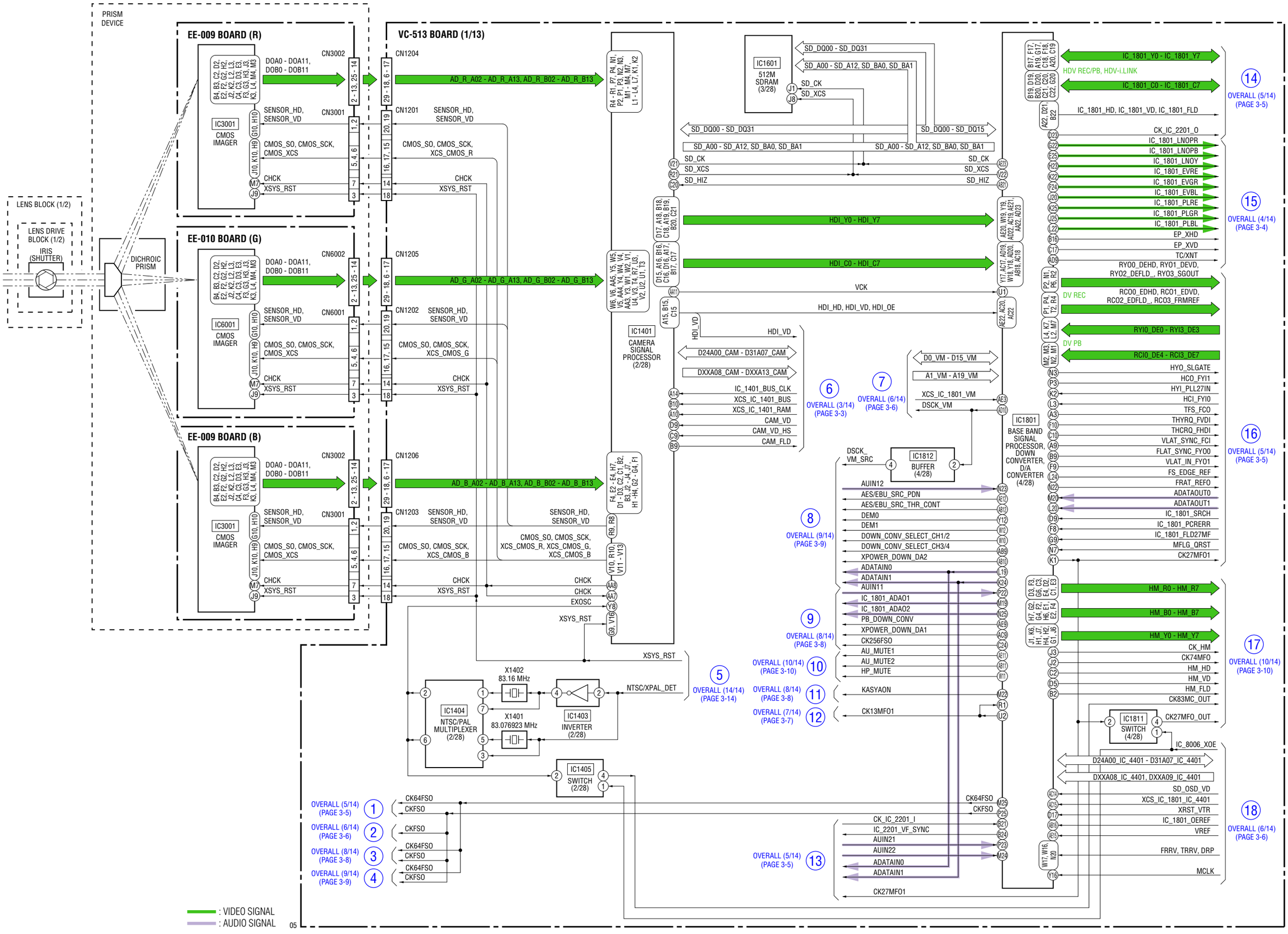
Link

OVERALL BLOCK DIAGRAM (1/14)	OVERALL BLOCK DIAGRAM (13/14)
OVERALL BLOCK DIAGRAM (2/14)	OVERALL BLOCK DIAGRAM (14/14)
OVERALL BLOCK DIAGRAM (3/14)	POWER BLOCK DIAGRAM (1/10)
OVERALL BLOCK DIAGRAM (4/14)	POWER BLOCK DIAGRAM (2/10)
OVERALL BLOCK DIAGRAM (5/14)	POWER BLOCK DIAGRAM (3/10)
OVERALL BLOCK DIAGRAM (6/14)	POWER BLOCK DIAGRAM (4/10)
OVERALL BLOCK DIAGRAM (7/14)	POWER BLOCK DIAGRAM (5/10)
OVERALL BLOCK DIAGRAM (8/14)	POWER BLOCK DIAGRAM (6/10)
OVERALL BLOCK DIAGRAM (9/14)	POWER BLOCK DIAGRAM (7/10)
OVERALL BLOCK DIAGRAM (10/14)	POWER BLOCK DIAGRAM (8/10)
OVERALL BLOCK DIAGRAM (11/14)	POWER BLOCK DIAGRAM (9/10)
OVERALL BLOCK DIAGRAM (12/14)	POWER BLOCK DIAGRAM (10/10)

3. BLOCK DIAGRAMS

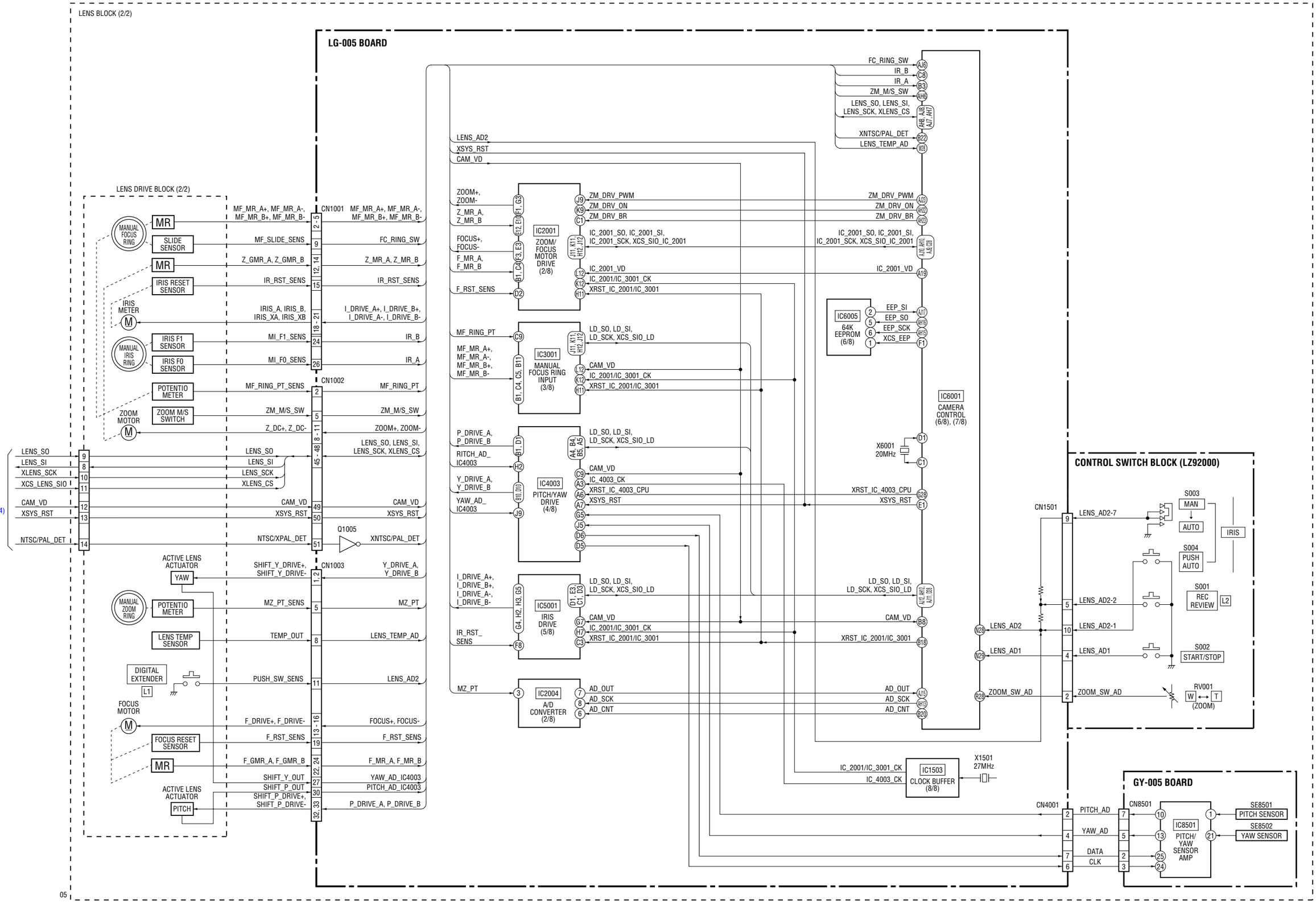
3-1. OVERALL BLOCK DIAGRAM (1/14)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



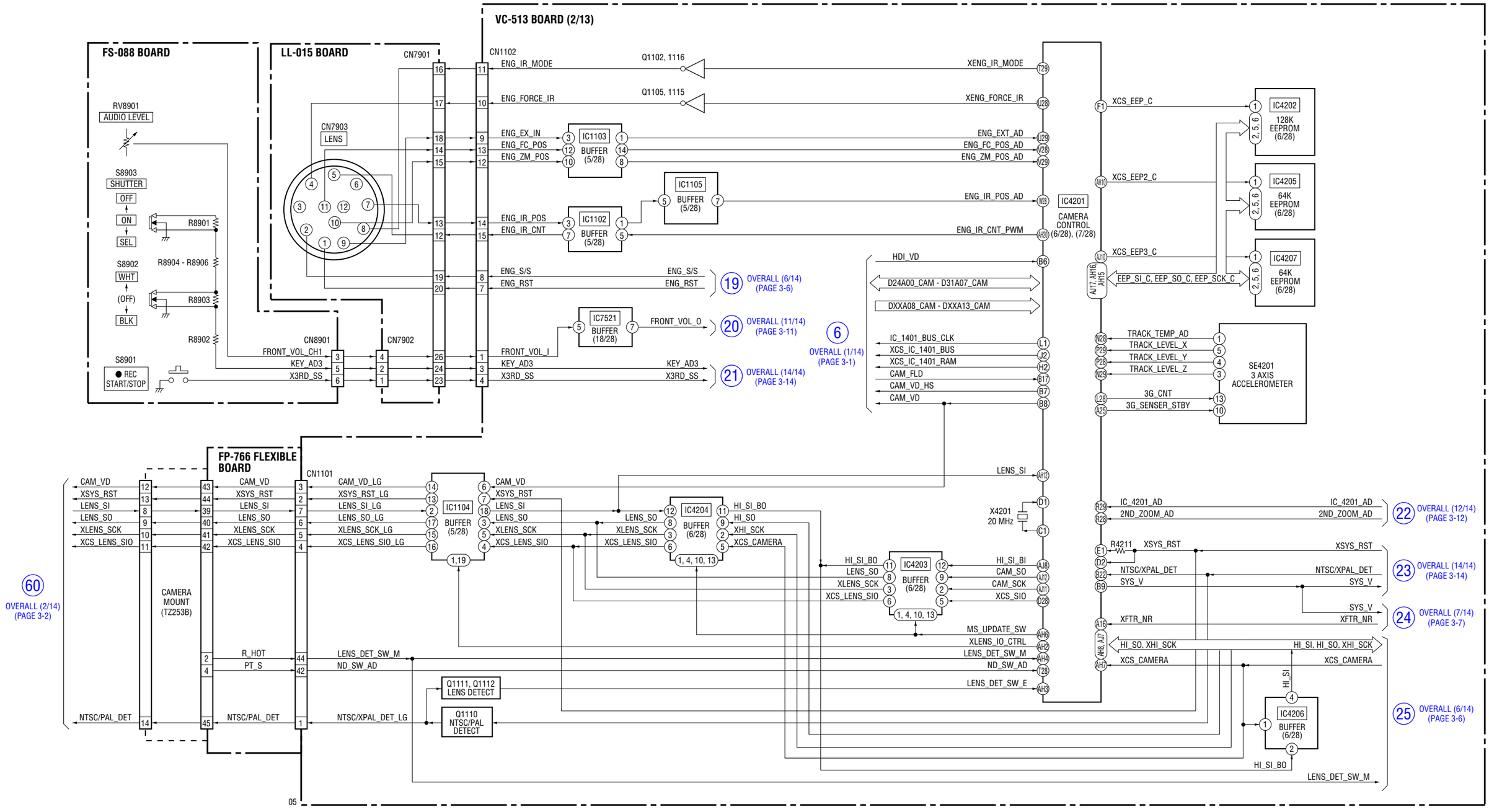
3-2. OVERALL BLOCK DIAGRAM (2/14)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



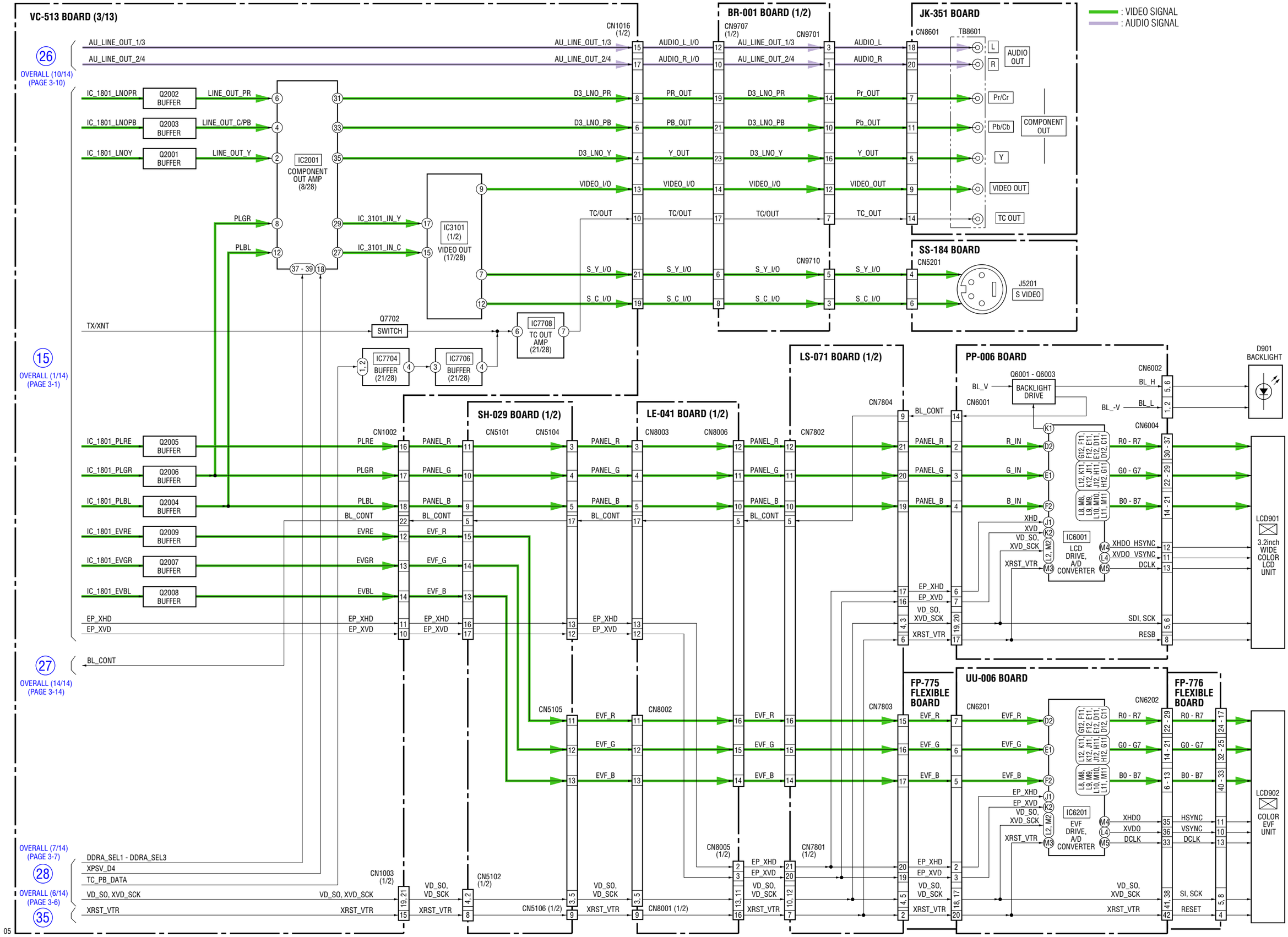
3-3. OVERALL BLOCK DIAGRAM (3/14)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

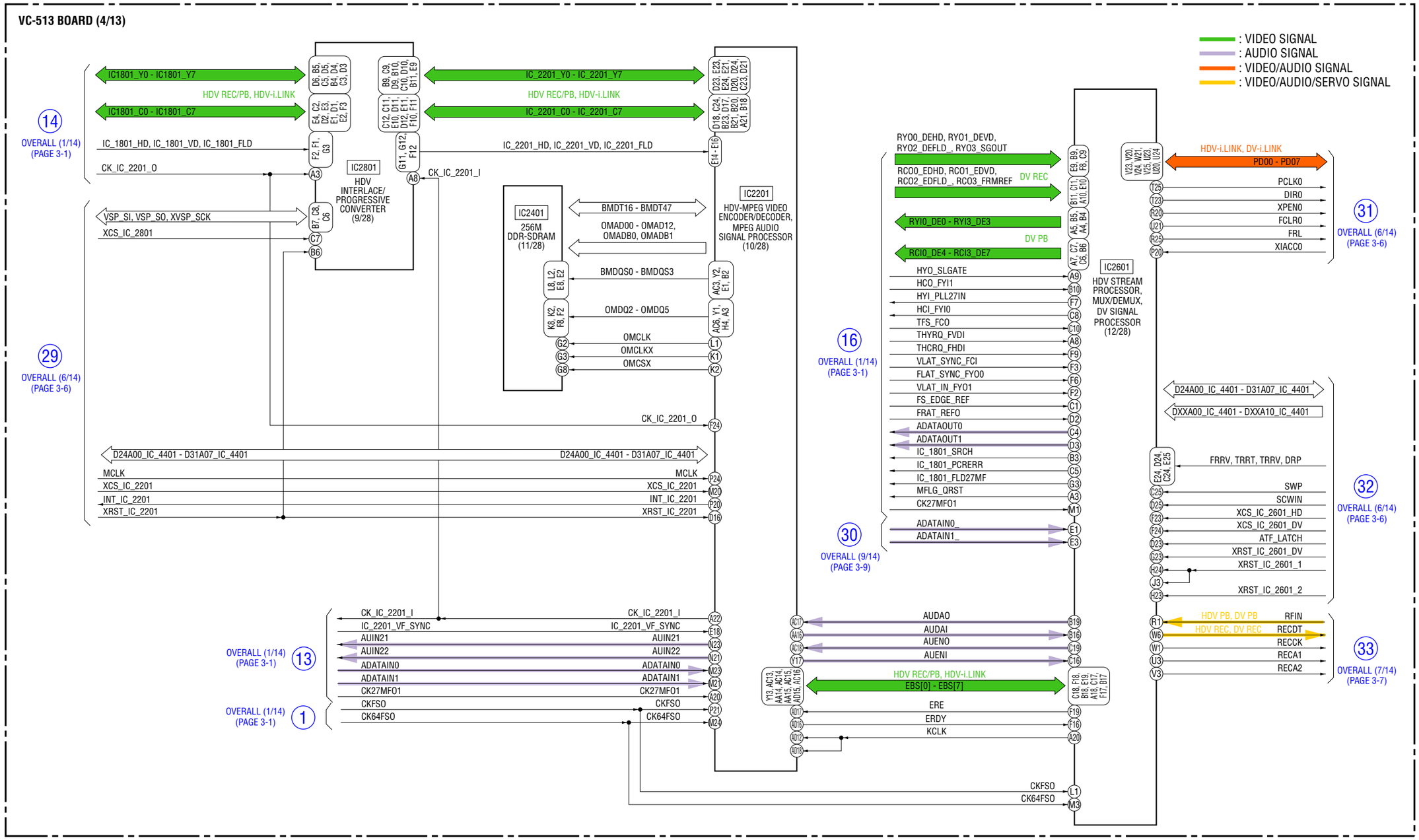


3-4. OVERALL BLOCK DIAGRAM (4/14)

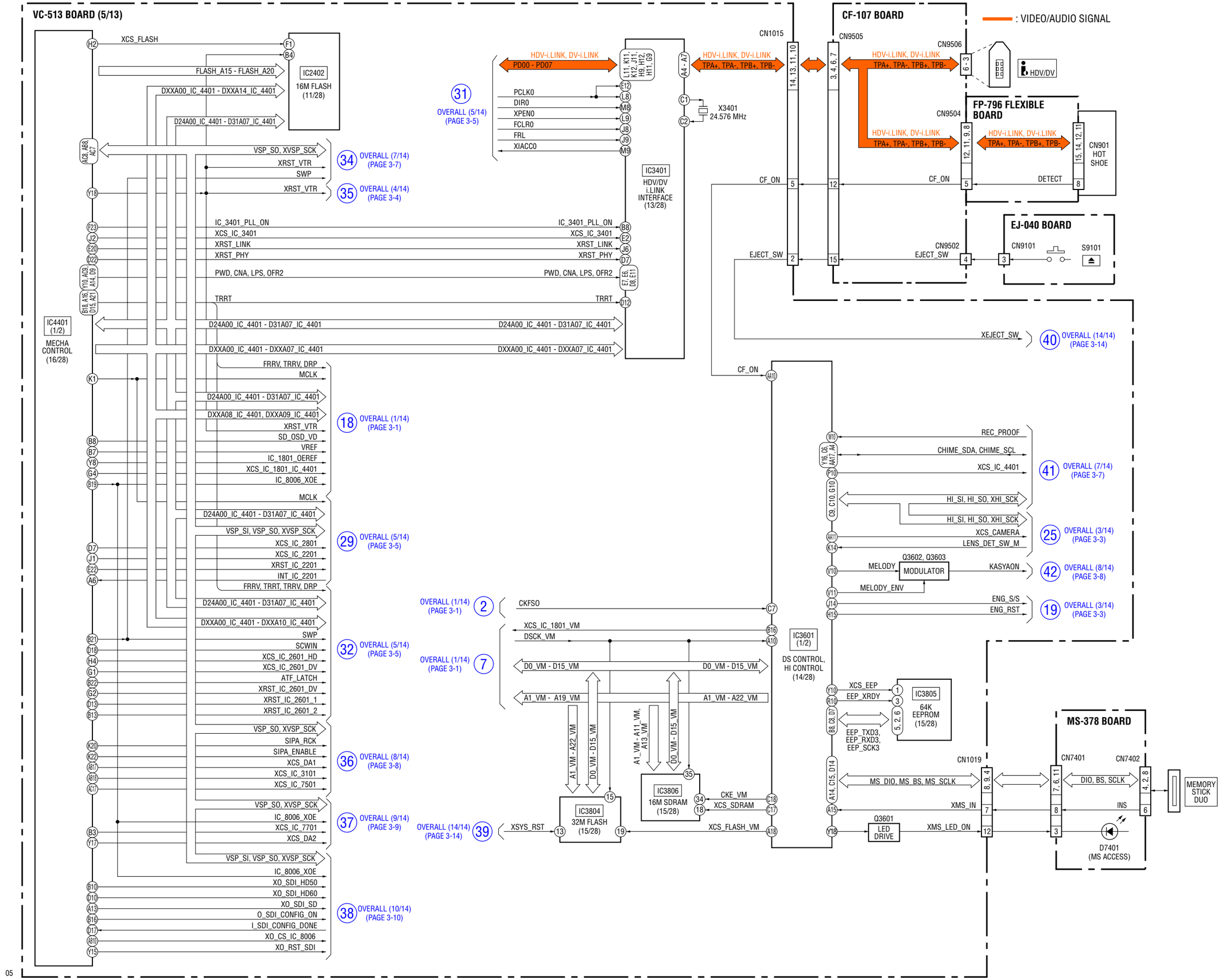
( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



3-5. OVERALL BLOCK DIAGRAM (5/14) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

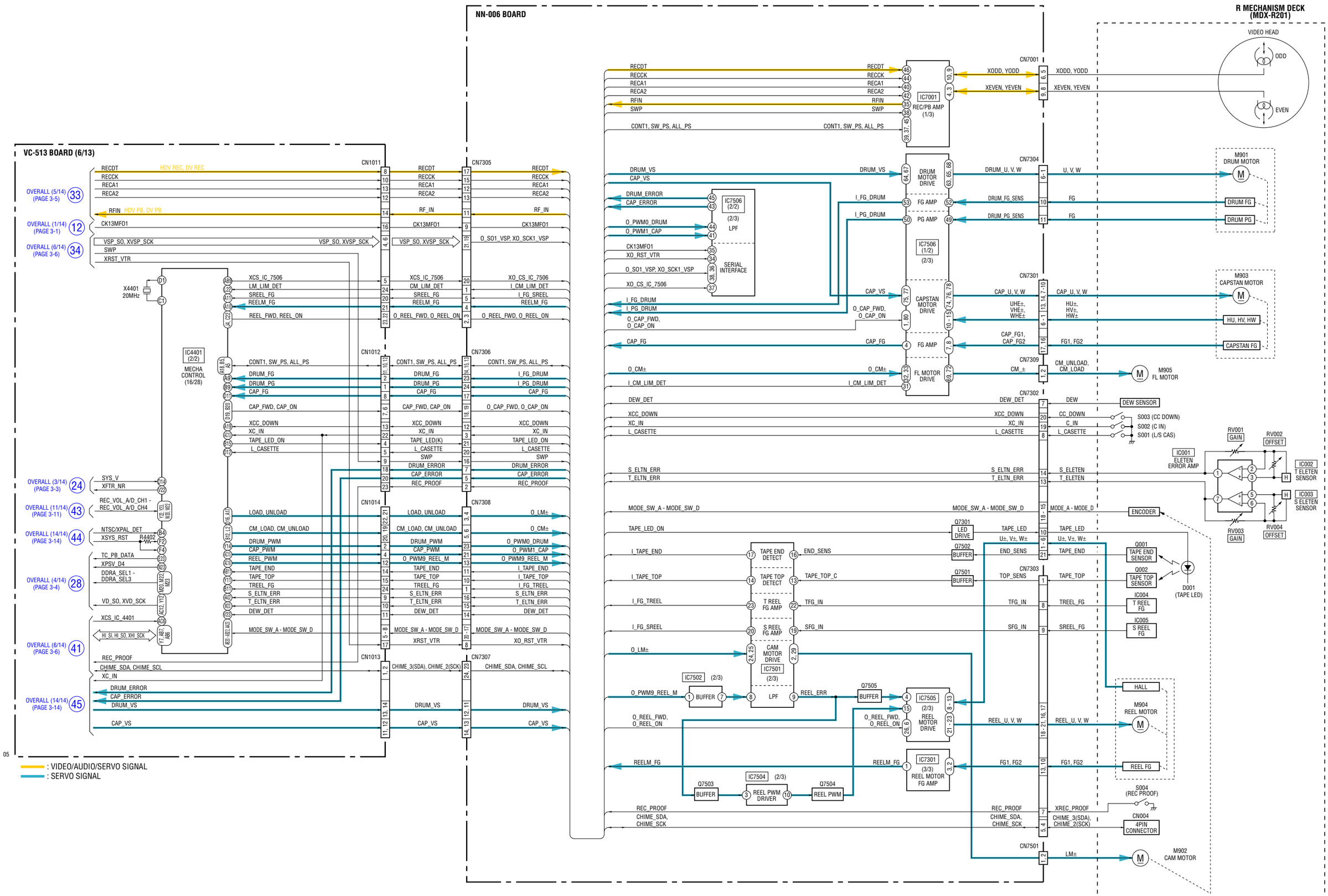


3-6. OVERALL BLOCK DIAGRAM (6/14) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

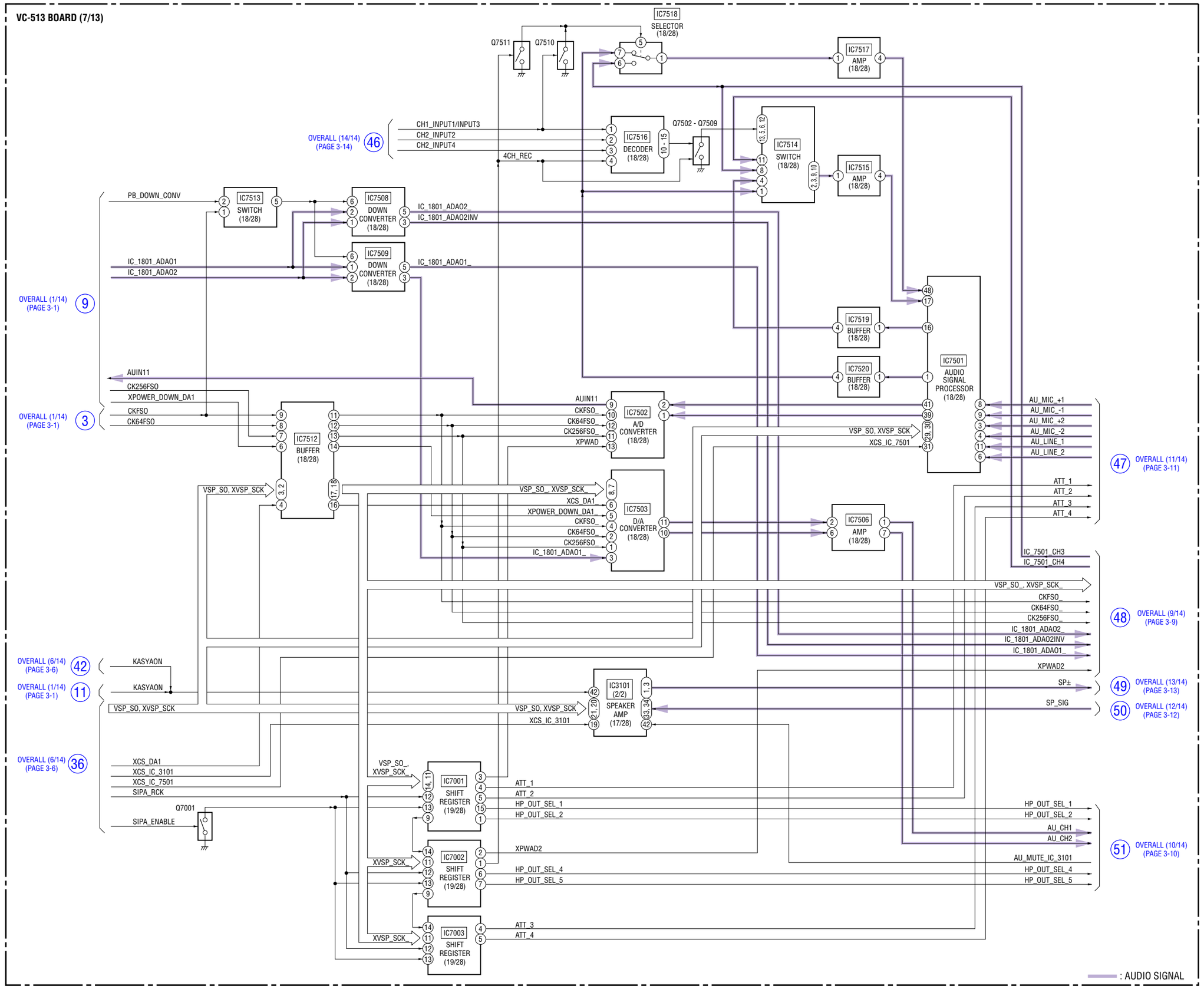


3-7. OVERALL BLOCK DIAGRAM (7/14)

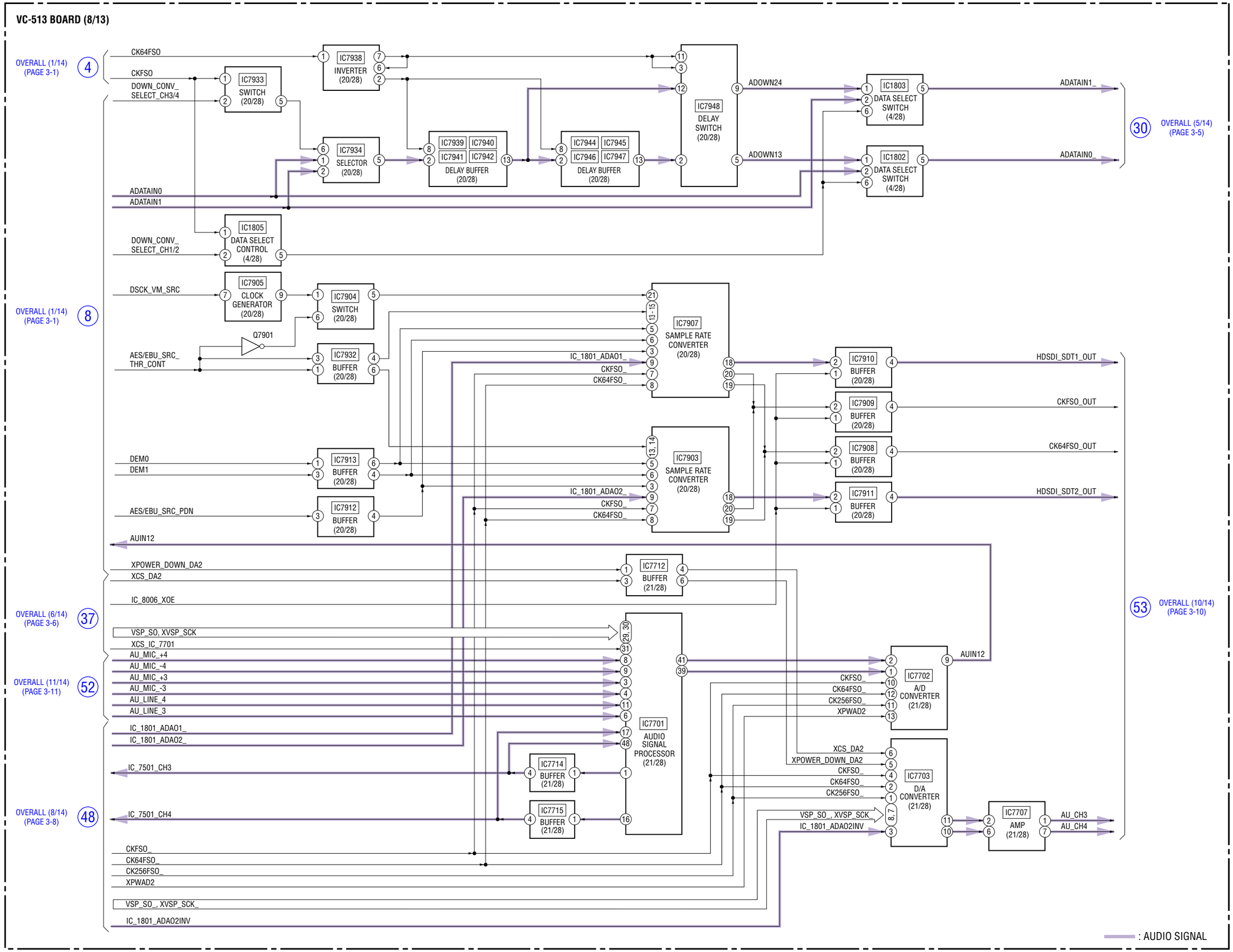
( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



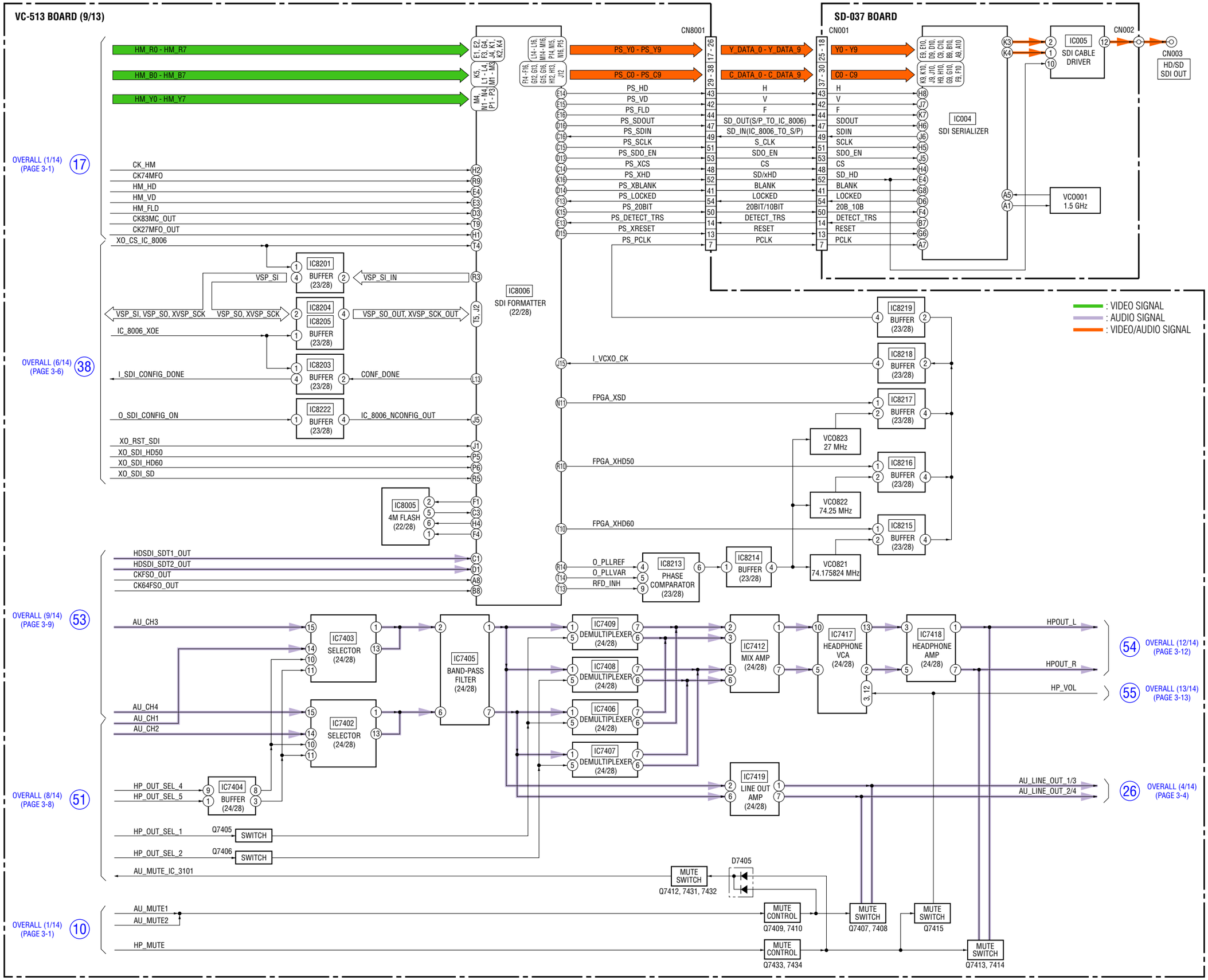
3-8. OVERALL BLOCK DIAGRAM (8/14) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



3-9. OVERALL BLOCK DIAGRAM (9/14) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

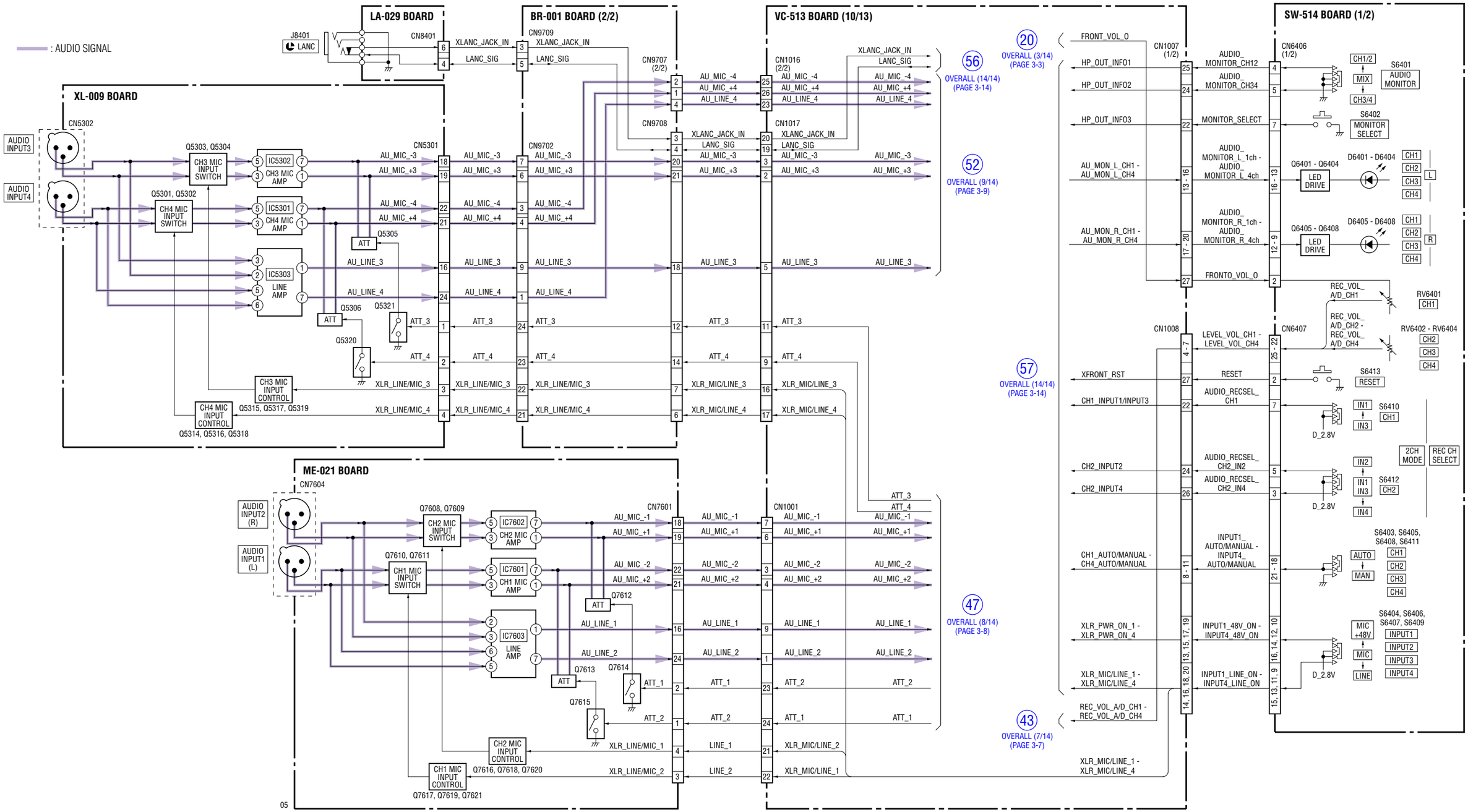


3-10. OVERALL BLOCK DIAGRAM (10/14) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



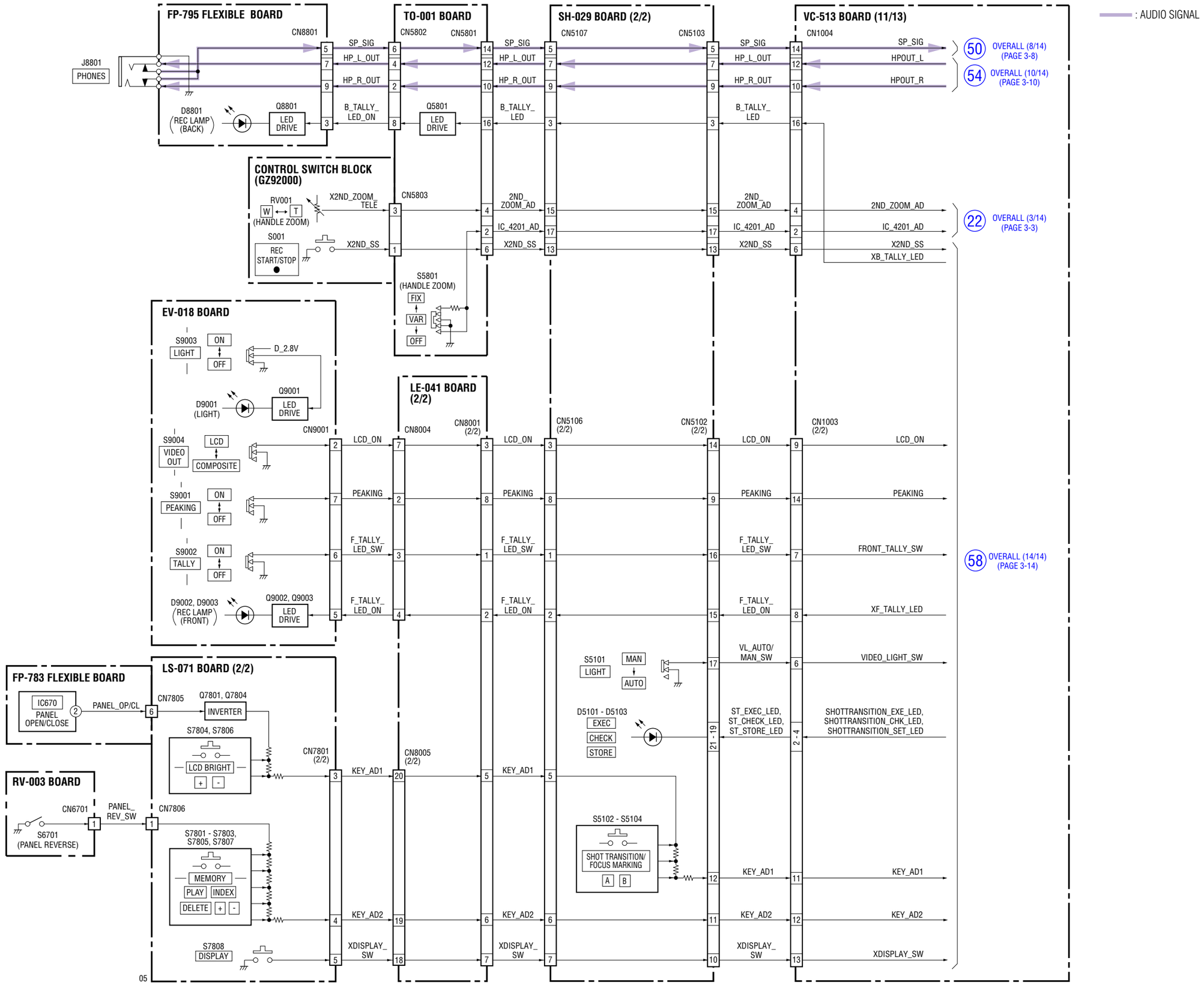
3-11. OVERALL BLOCK DIAGRAM (11/14)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



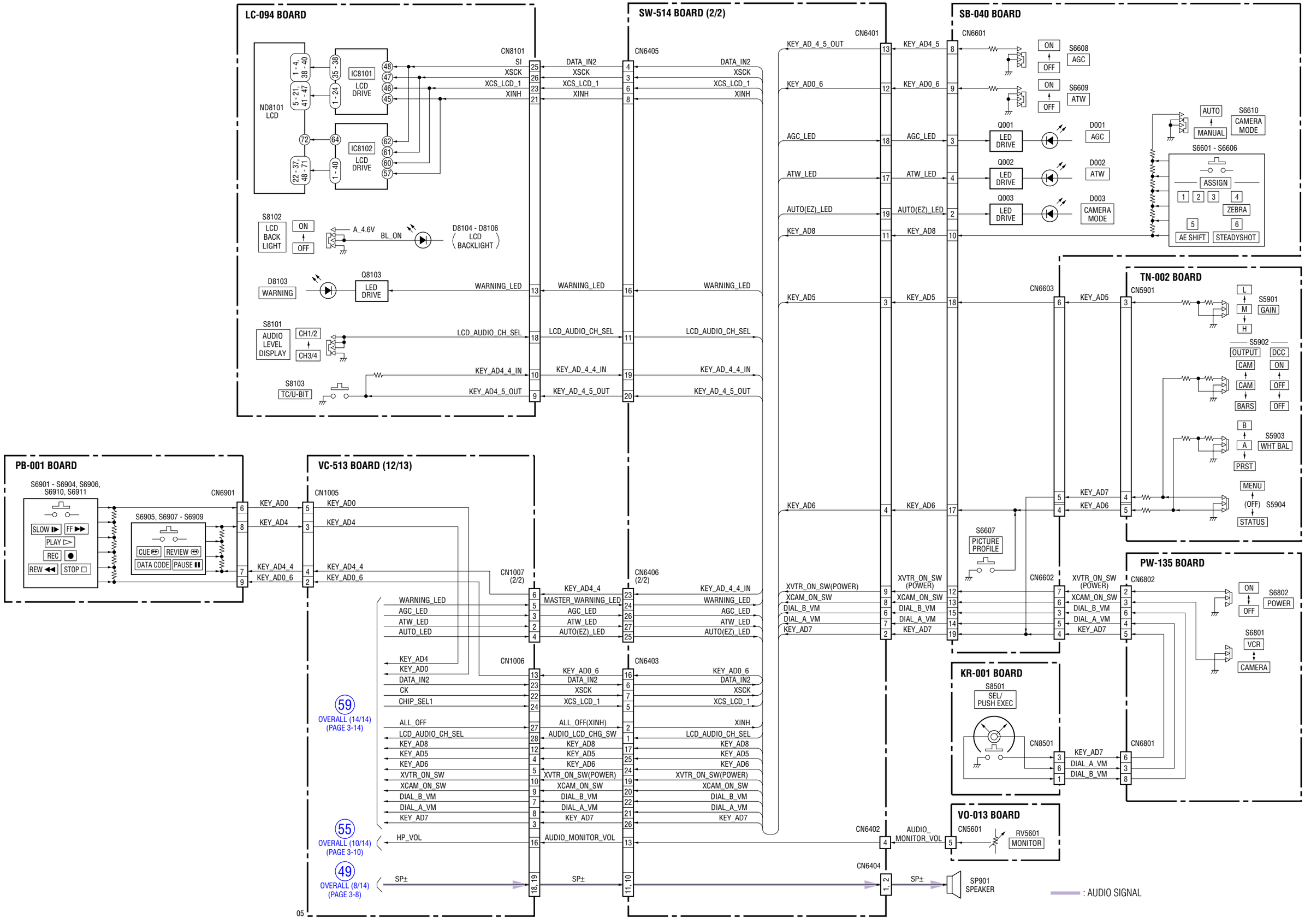
3-12. OVERALL BLOCK DIAGRAM (12/14)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



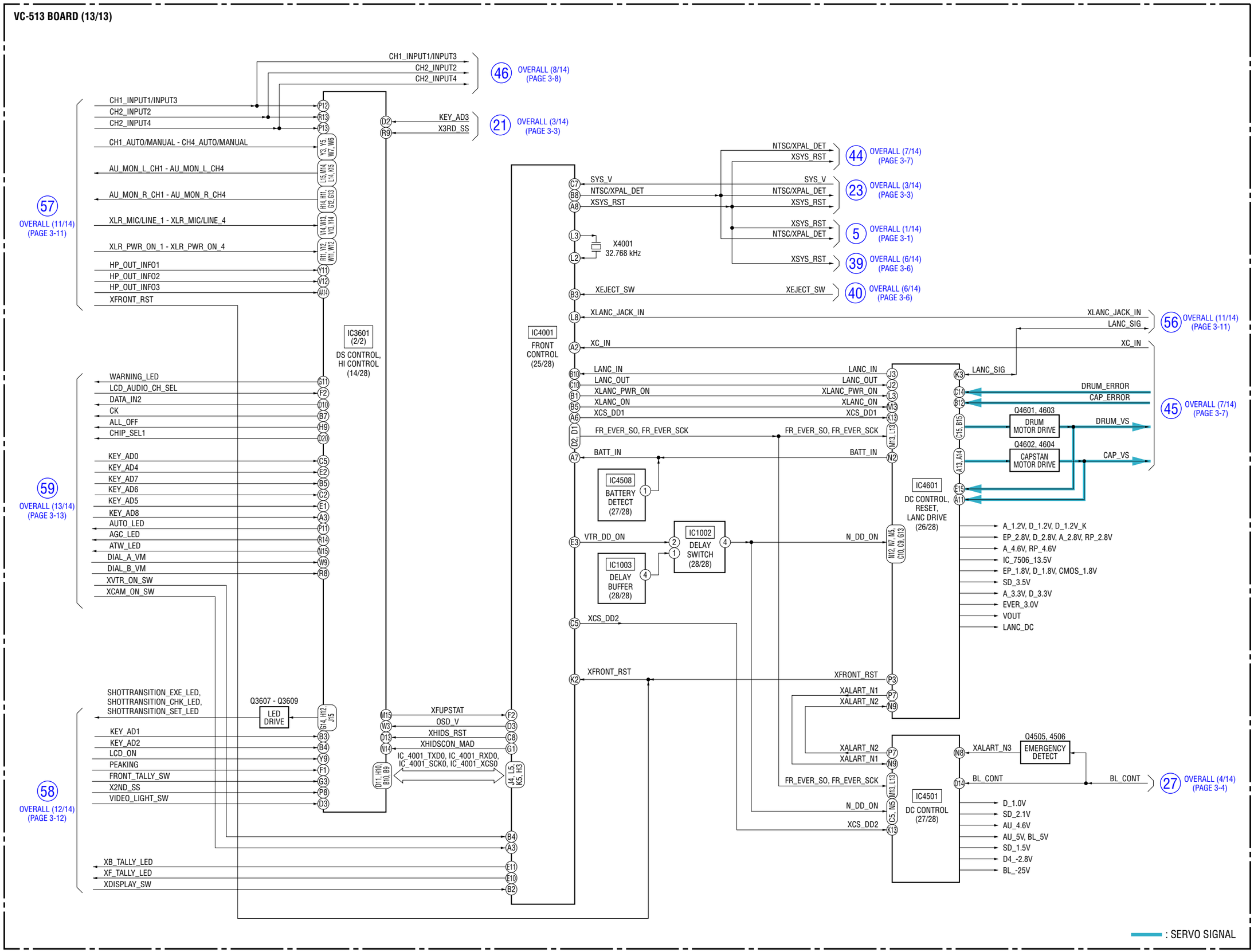
3-13. OVERALL BLOCK DIAGRAM (13/14)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

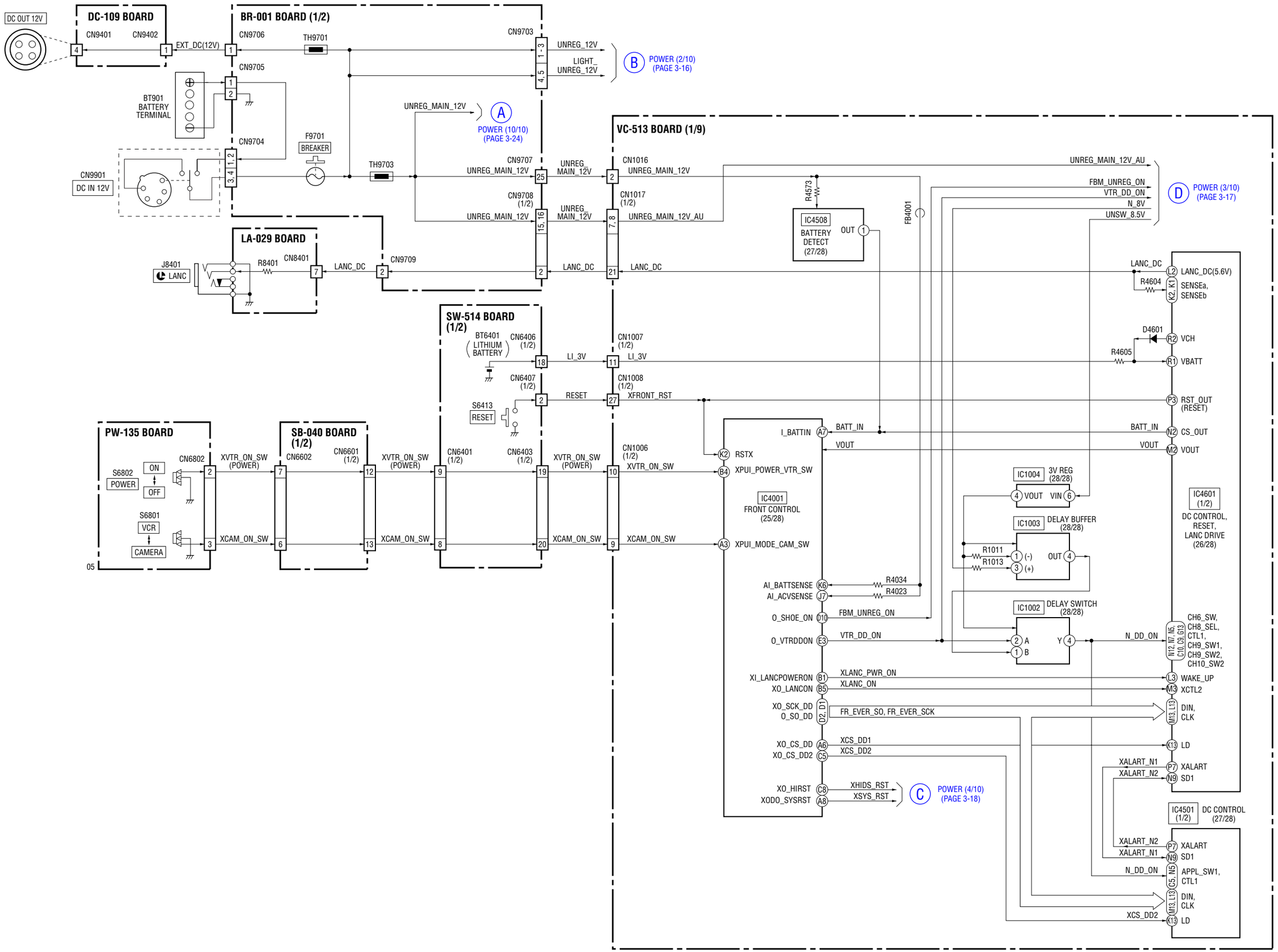


3-14. OVERALL BLOCK DIAGRAM (14/14)

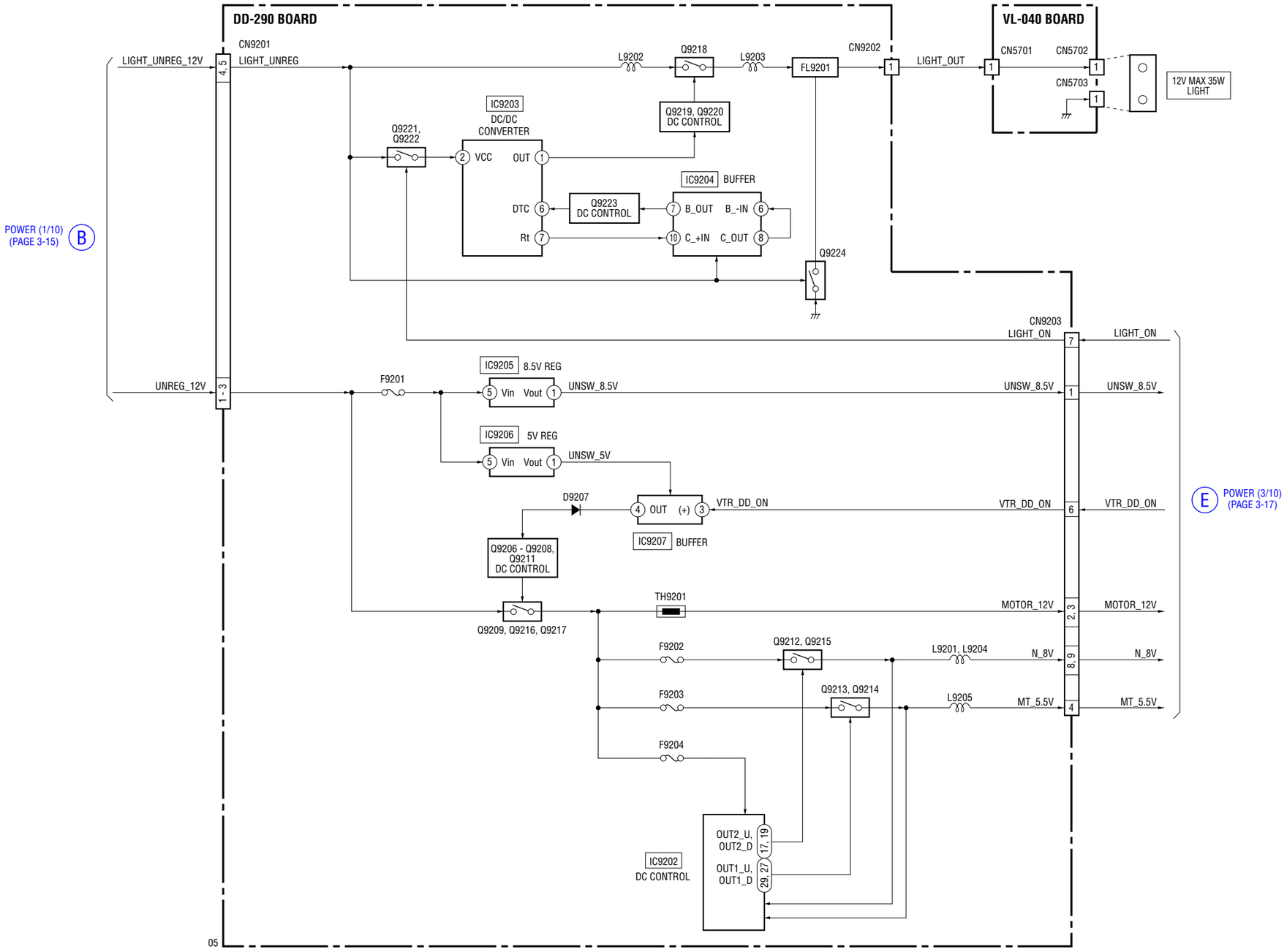
( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



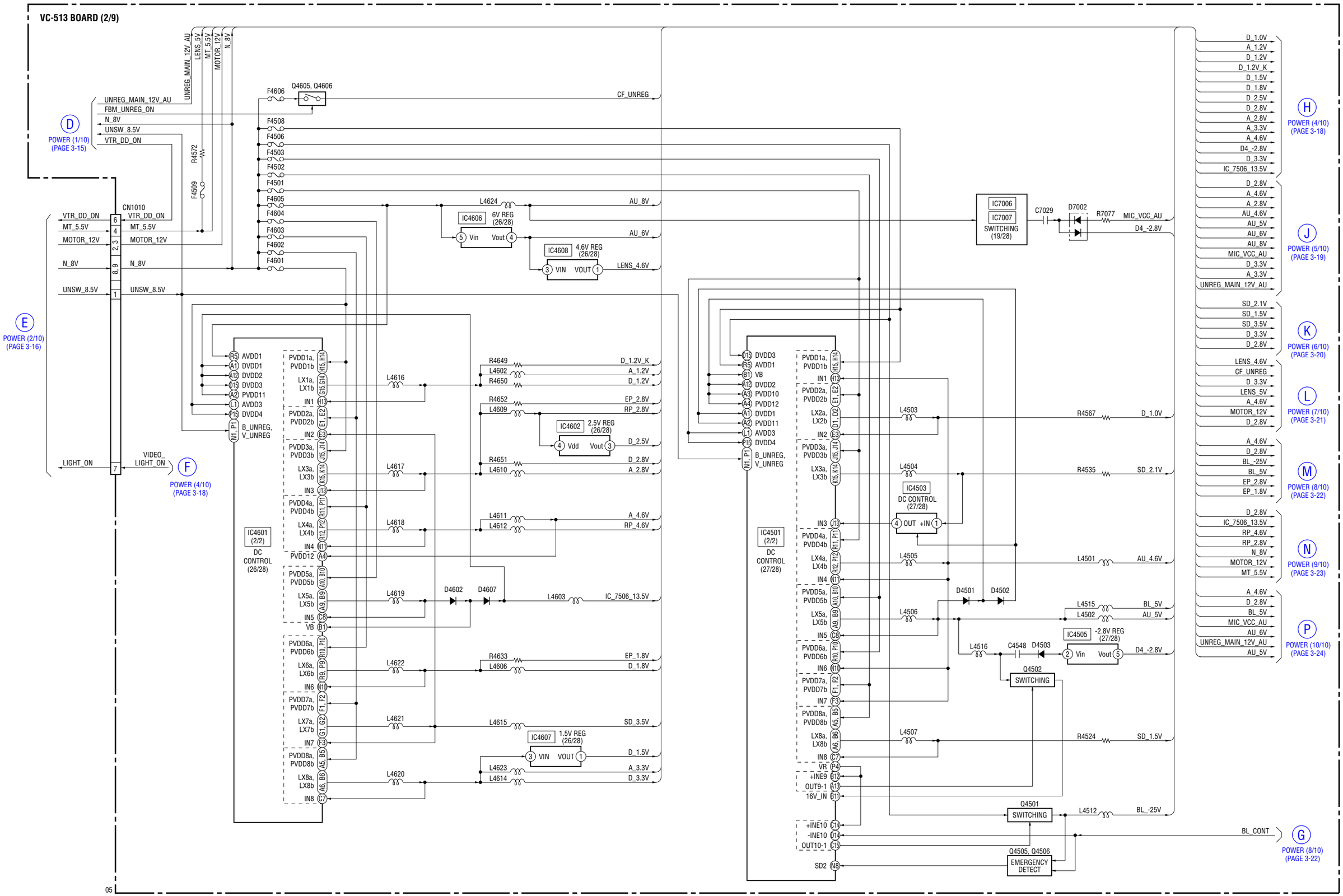
3-15. POWER BLOCK DIAGRAM (1/10) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



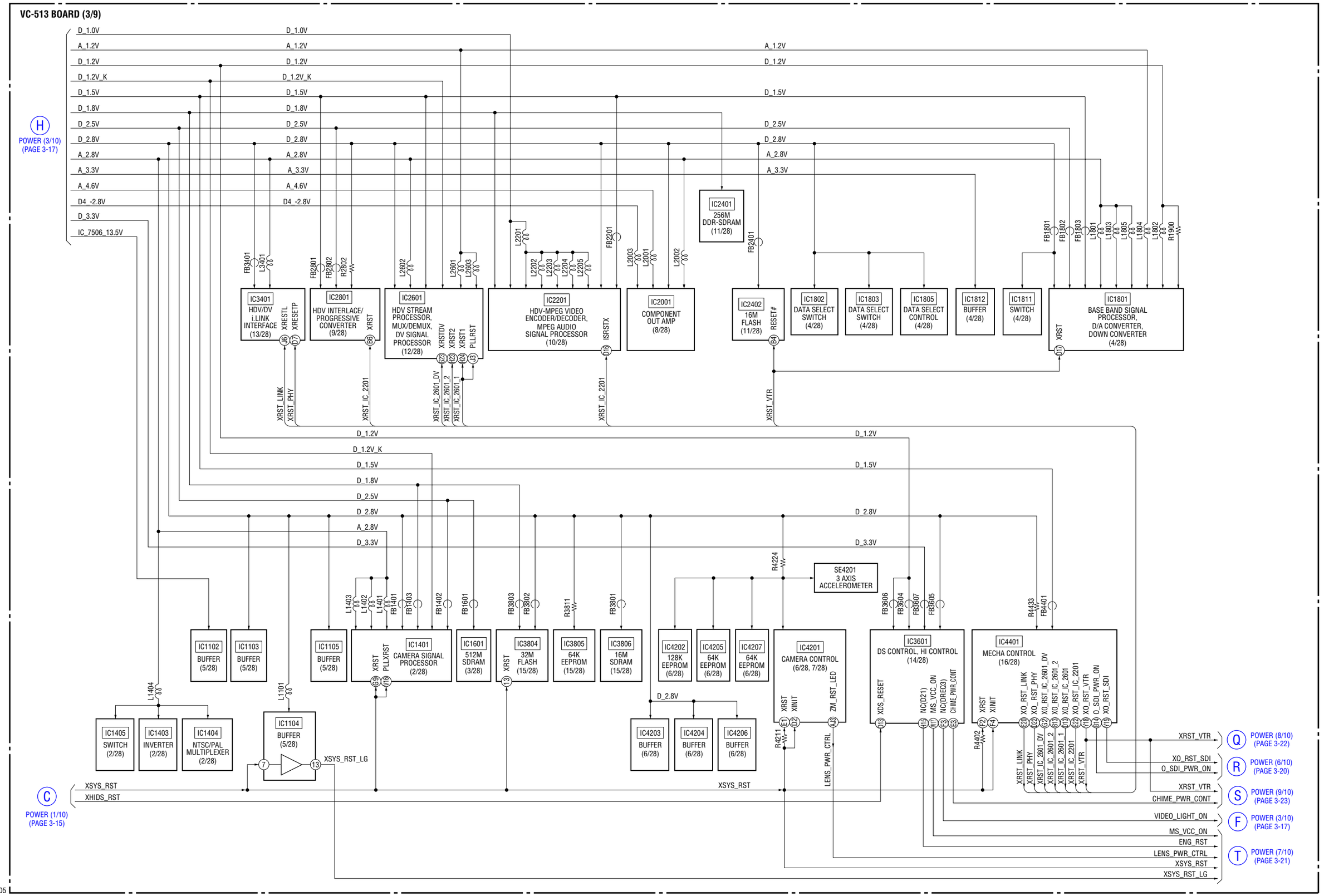
3-16. POWER BLOCK DIAGRAM (2/10) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



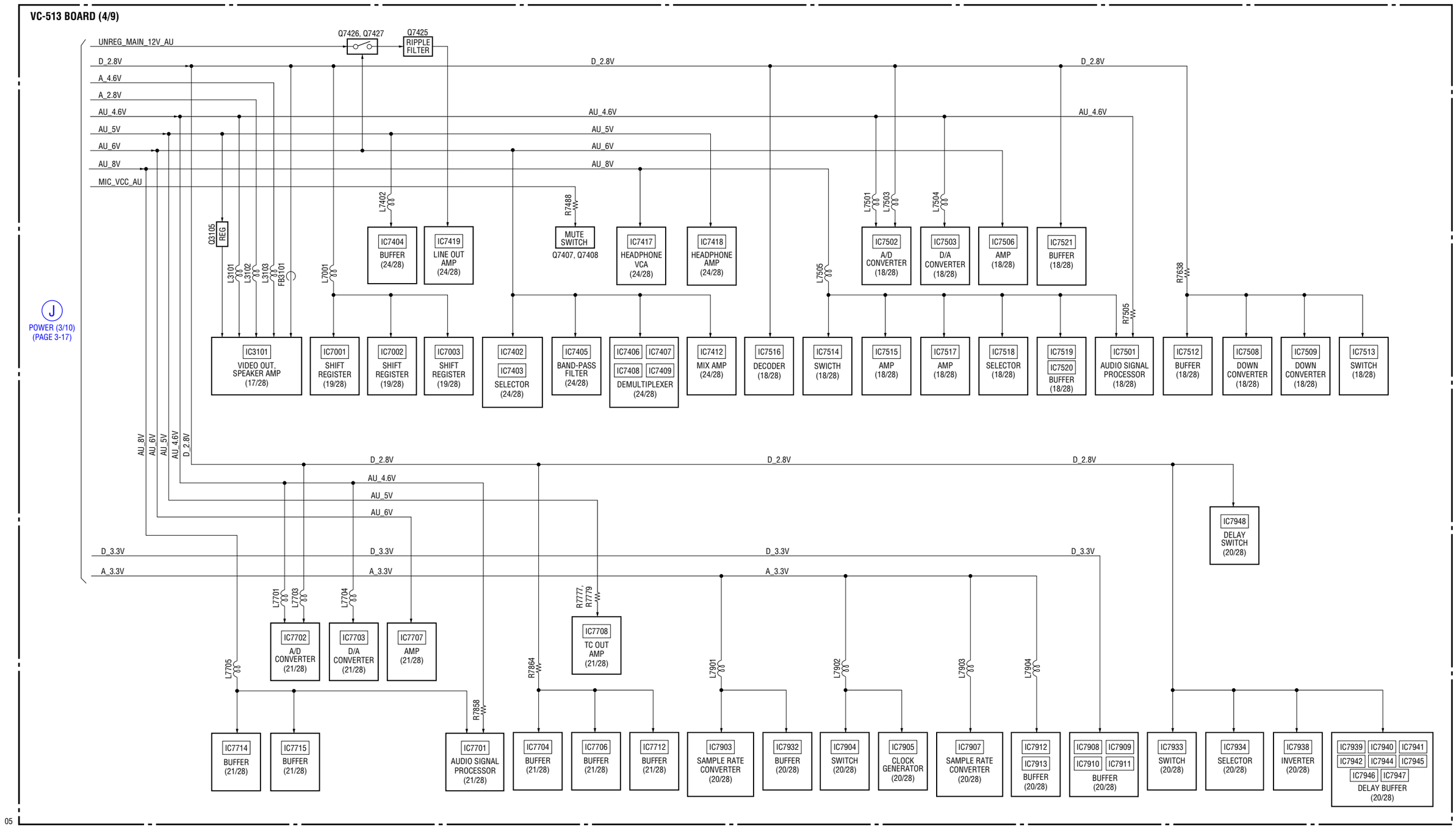
3-17. POWER BLOCK DIAGRAM (3/10) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



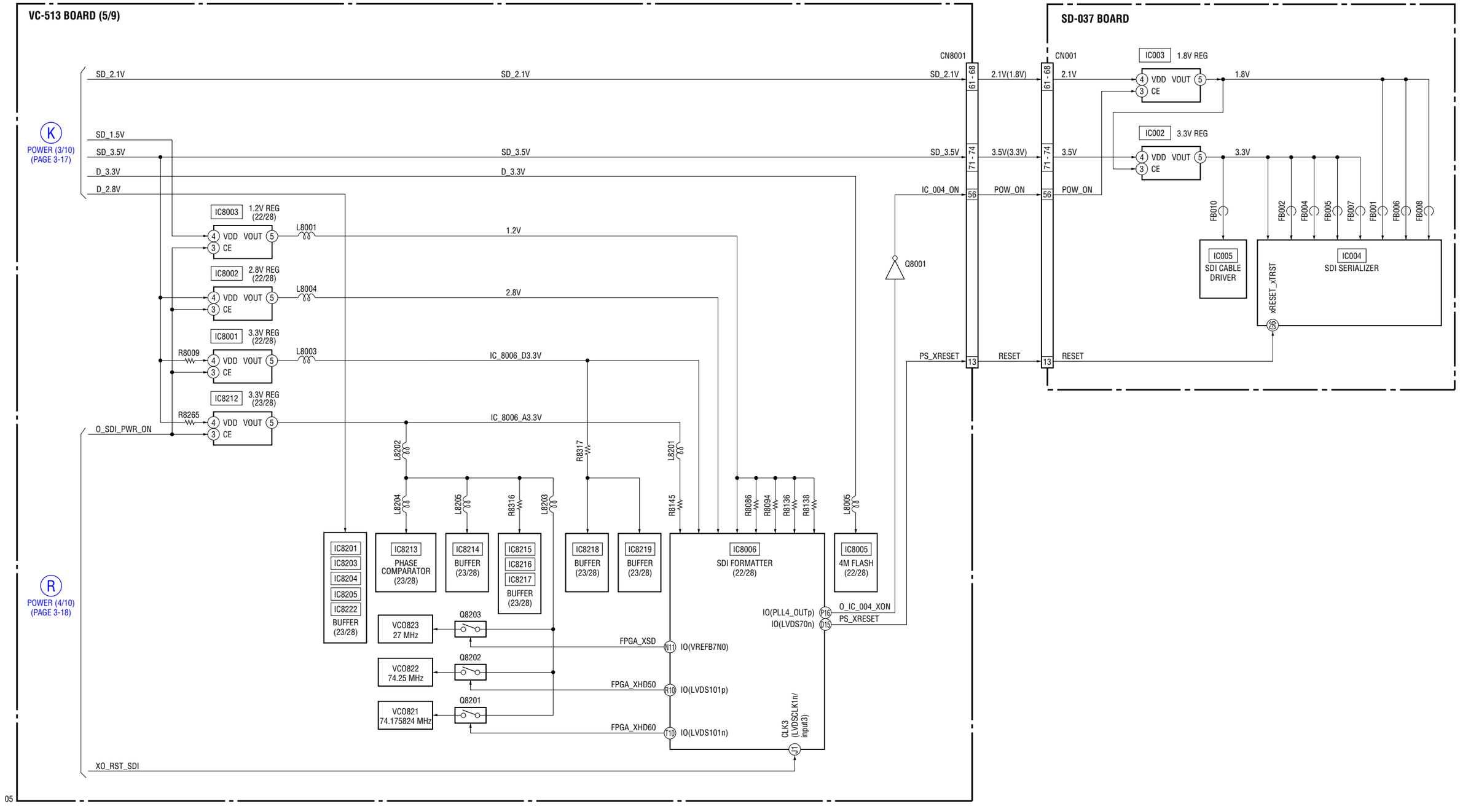
3-18. POWER BLOCK DIAGRAM (4/10) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



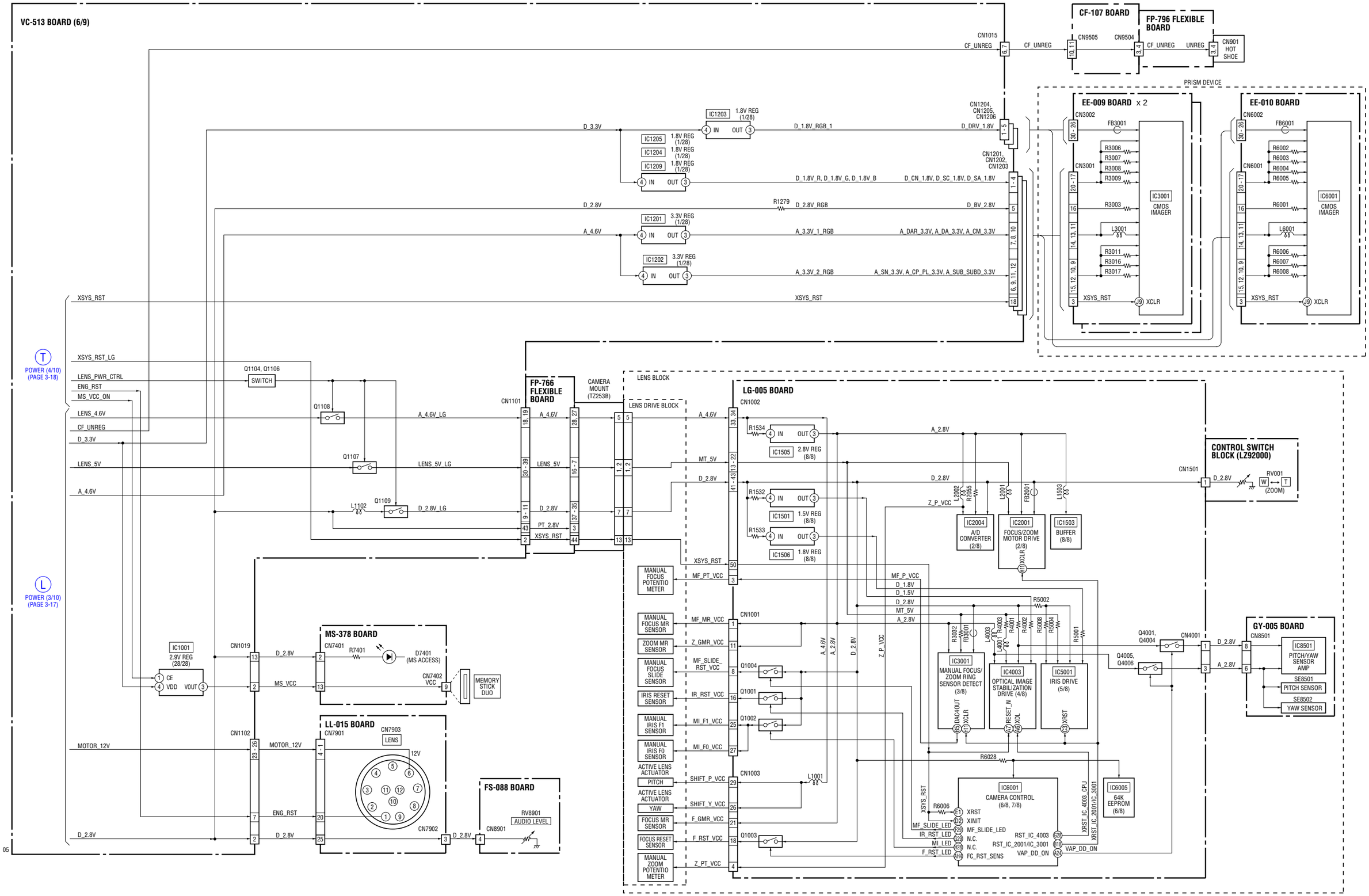
3-19. POWER BLOCK DIAGRAM (5/10) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



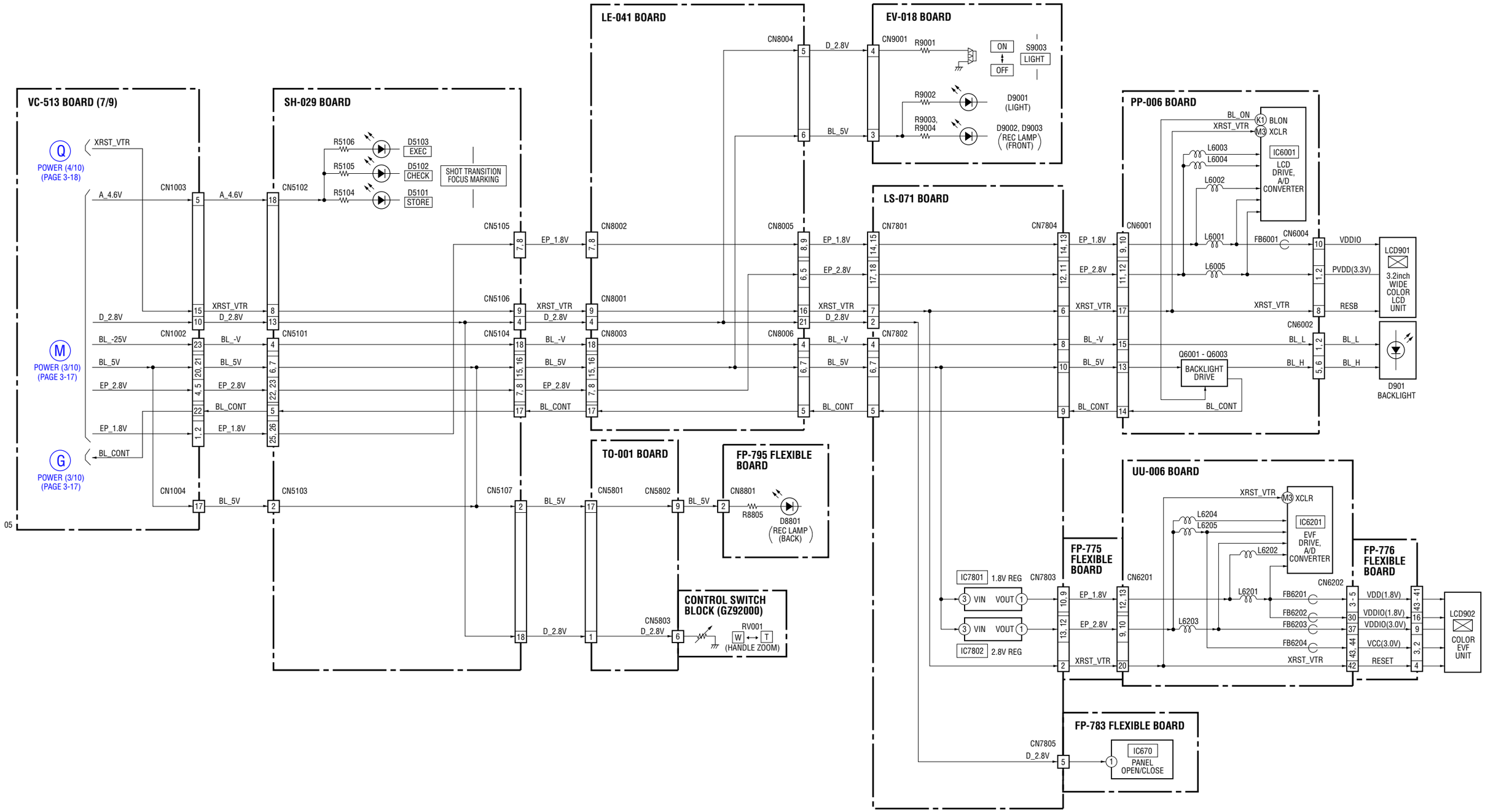
3-20. POWER BLOCK DIAGRAM (6/10) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



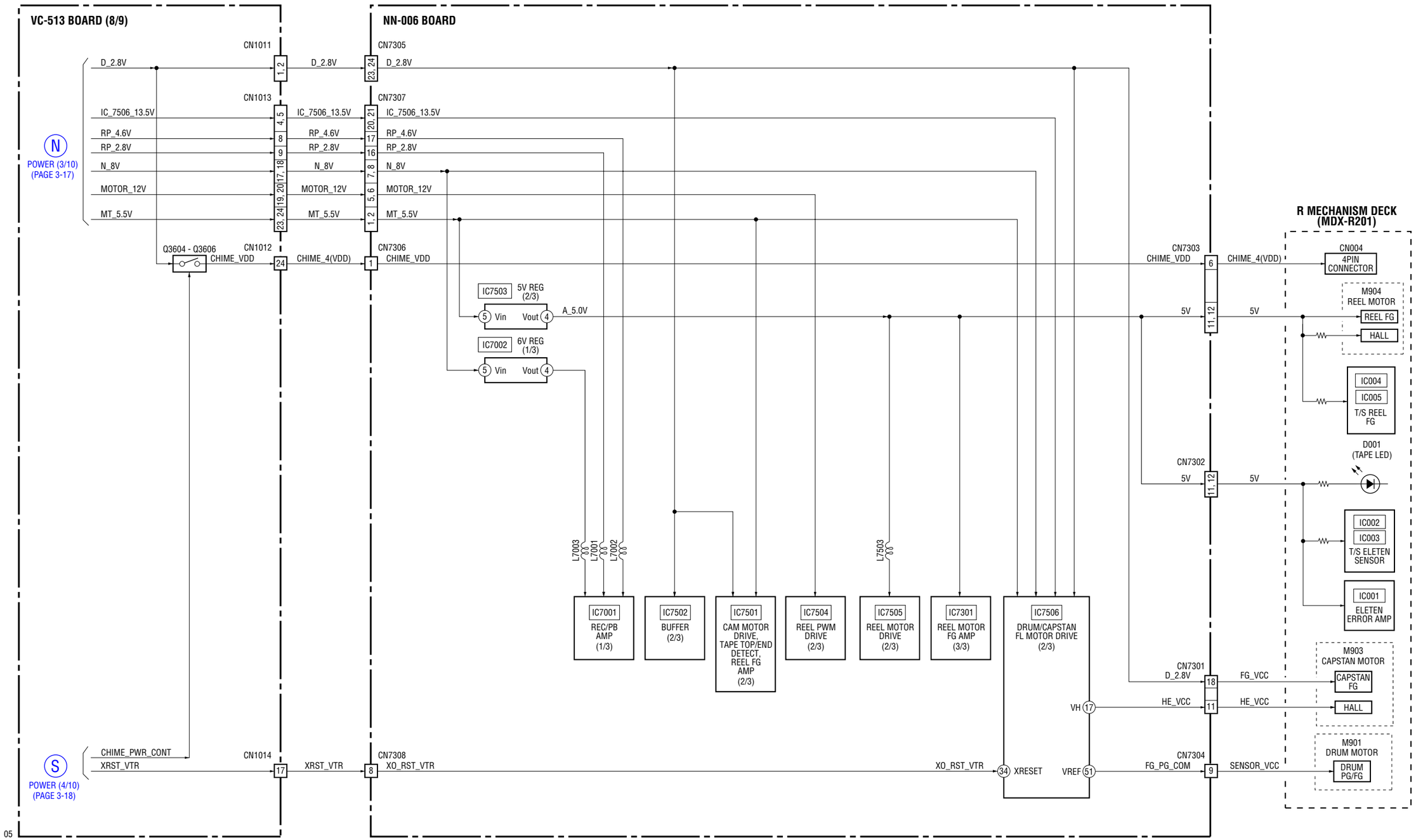
3-21. POWER BLOCK DIAGRAM (7/10) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



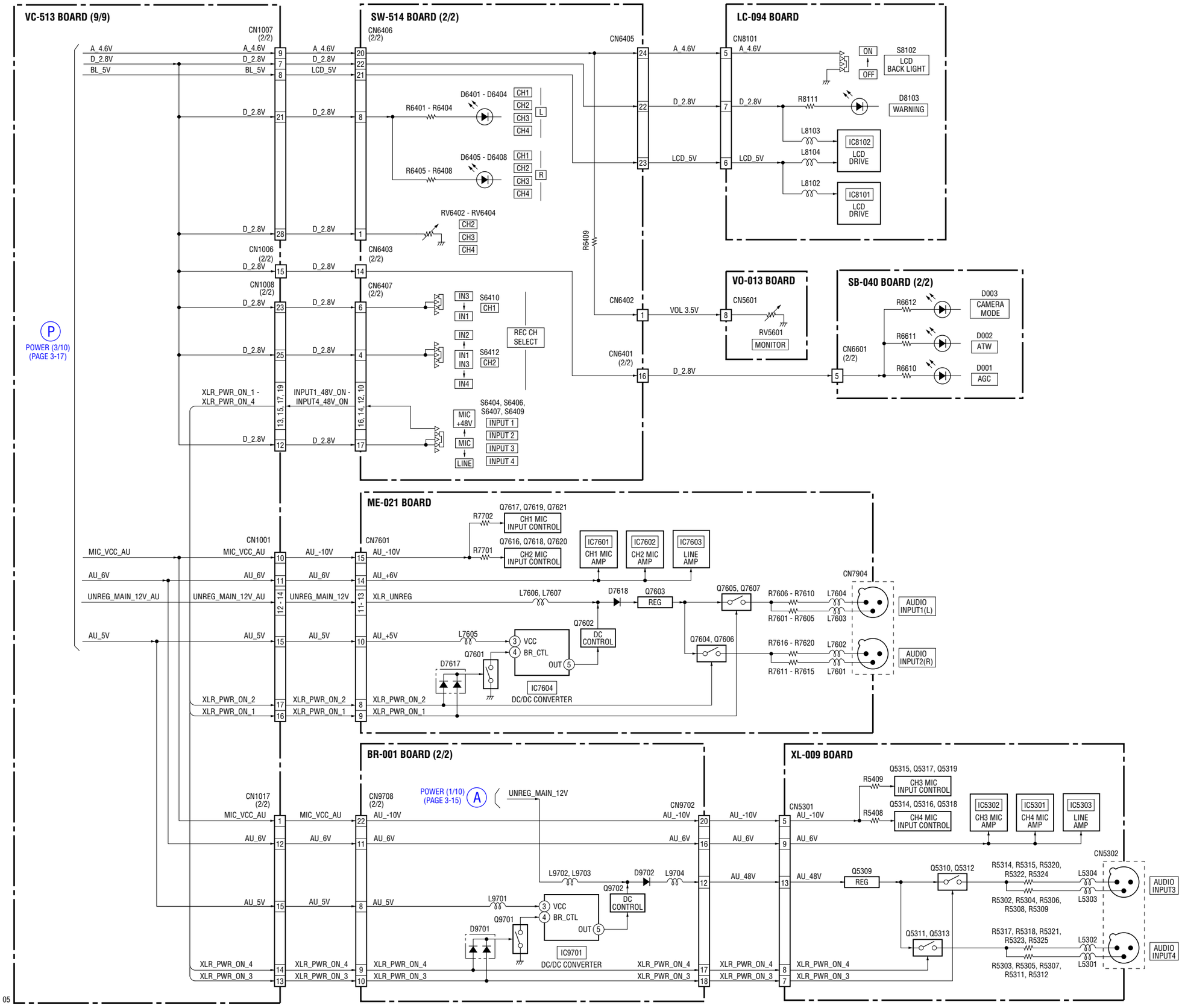
3-22. POWER BLOCK DIAGRAM (8/10) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



3-23. POWER BLOCK DIAGRAM (9/10) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

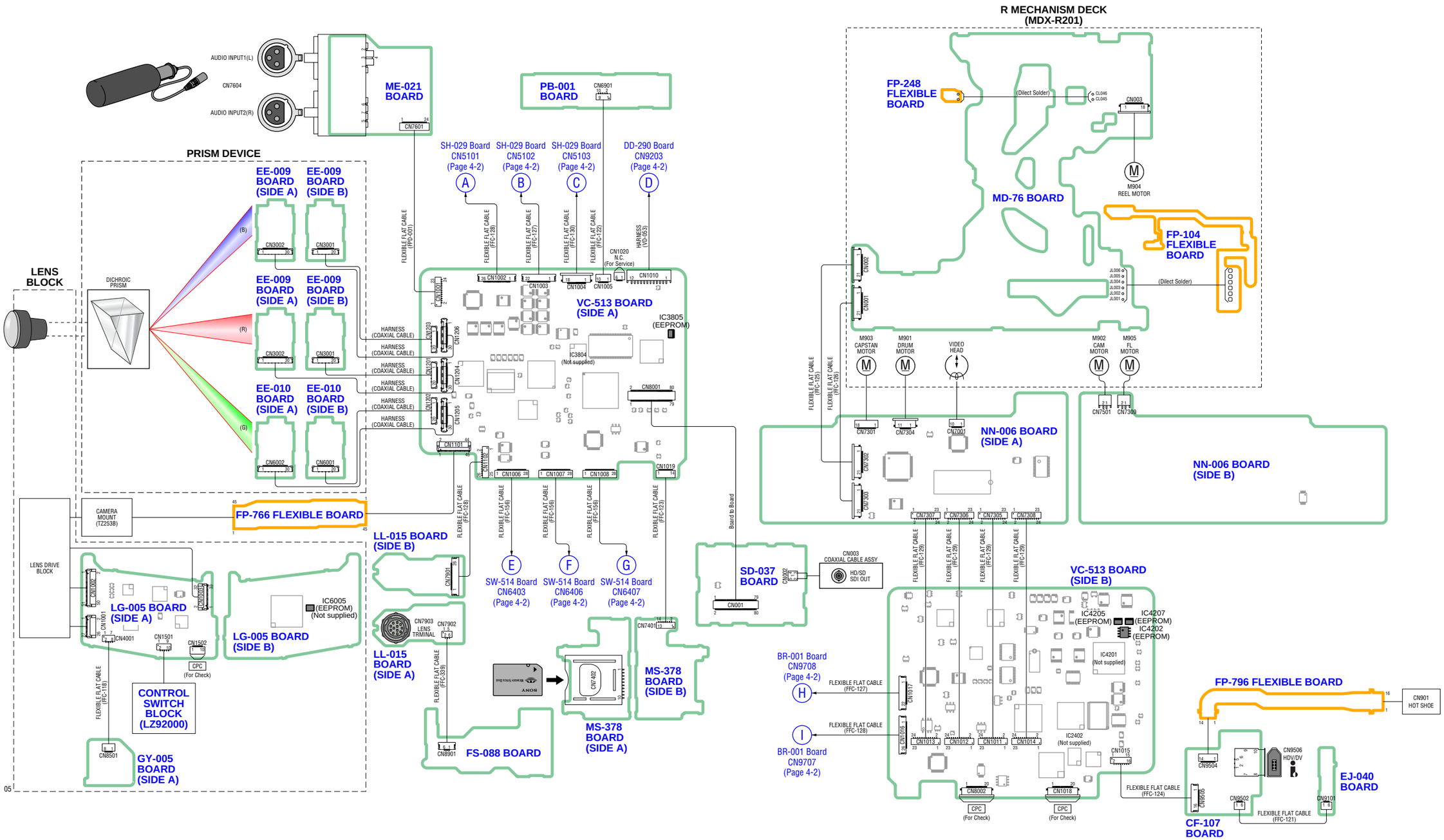


3-24. POWER BLOCK DIAGRAM (10/10) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

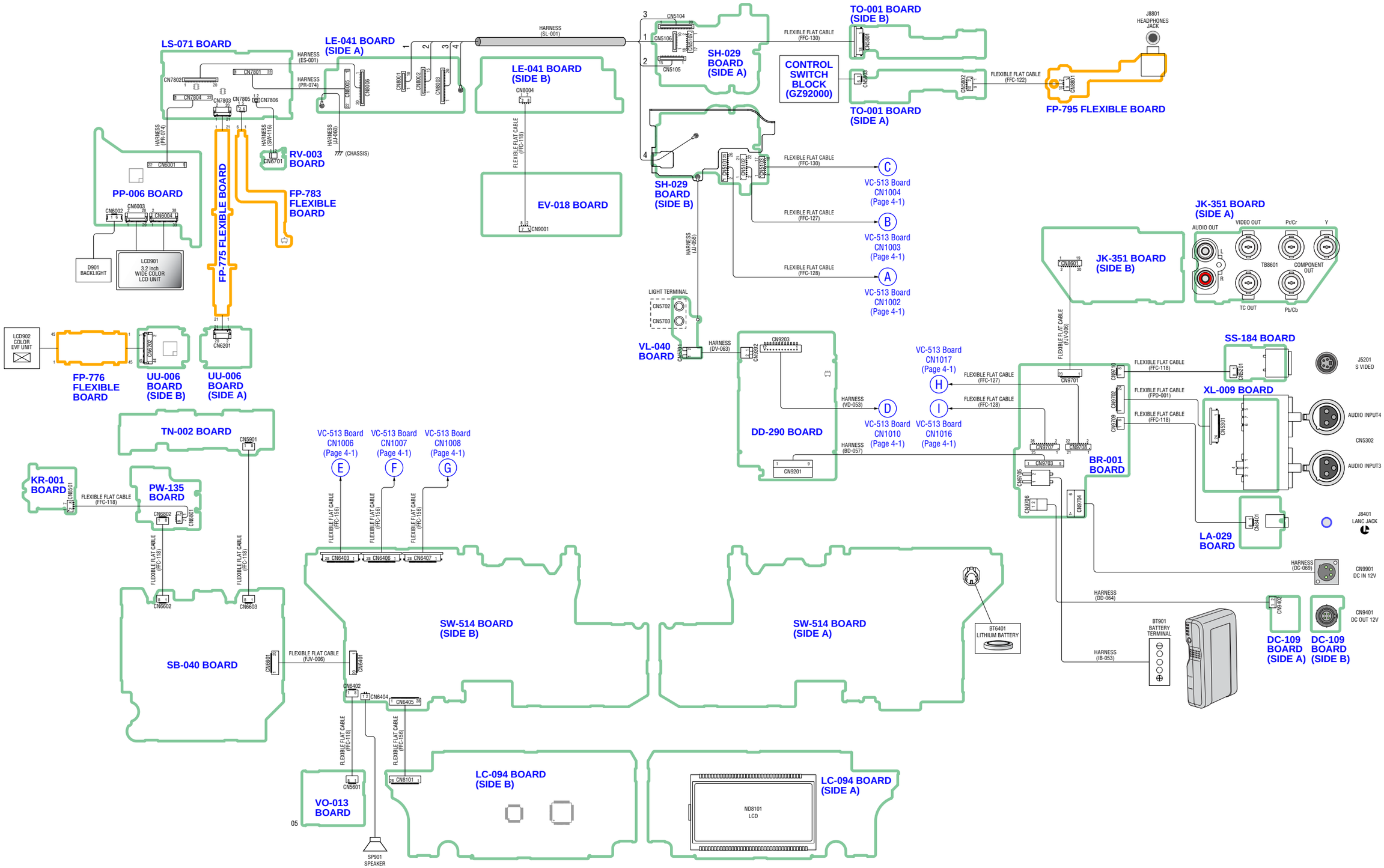


4-1. FRAME SCHEMATIC DIAGRAMS

FRAME SCHEMATIC DIAGRAM (1/2)



FRAME SCHEMATIC DIAGRAM (2/2)



4-2. SCHEMATIC DIAGRAMS (1/3)

Link TO (2/3)

EE-009 BOARD (CMOS IMAGER)	VC-513 BOARD (17/28) (VIDEO OUT, SPEAKER AMP)
EE-010 BOARD (CMOS IMAGER)	VC-513 BOARD (18/28) (AUDIO SIGNAL PROCESS 1)
VC-513 BOARD (1/28) (REGULATOR)	VC-513 BOARD (19/28) (AUDIO SELECTOR)
VC-513 BOARD (2/28) (CAMERA SIGNAL PROCESS)	VC-513 BOARD (20/28) (AUDIO CONVERTER)
VC-513 BOARD (3/28) (SDRAM)	VC-513 BOARD (21/28) (AUDIO SIGNAL PROCESS 2)
VC-513 BOARD (4/28) (BASE BAND SIGNAL PROCESS)	VC-513 BOARD (22/28) (SDI FORMATTER)
VC-513 BOARD (5/28) (LENS-ENG LENS CONNECTION)	VC-513 BOARD (23/28) (PLL)
VC-513 BOARD (6/28) (CAMERA CONTROL 1)	VC-513 BOARD (24/28) (AUDIO OUT)
VC-513 BOARD (7/28) (CAMERA CONTROL 2)	VC-513 BOARD (25/28) (FRONT CONTROL)
VC-513 BOARD (8/28) (COMPONENT OUT AMP)	VC-513 BOARD (26/28) (DC/DC CONVERTER 1)
VC-513 BOARD (9/28) (HDV INTERLACE/ PROGRESSIVE CONVERTER)	VC-513 BOARD (27/28) (DC/DC CONVERTER 2)
VC-513 BOARD (10/28) (HDV-MPEG VIDEO ENCODE/DECODE)	VC-513 BOARD (28/28) (CONNECTOR)
VC-513 BOARD (11/28) (SDRAM, FLASH)	LG-005 BOARD (1/8) (LENS CONNECTOR)
VC-513 BOARD (12/28) (HDV STREAM PROCESS)	LG-005 BOARD (2/8) (LENS DRIVE)
VC-513 BOARD (13/28) (HDV/DV i.LINK INTERFACE)	LG-005 BOARD (3/8) (LENS DETECT)
VC-513 BOARD (14/28) (DS CONTROL, HI CONTROL)	LG-005 BOARD (4/8) (OIS DRIVE)
VC-513 BOARD (15/28) (SDRAM, FLASH, EEPROM)	LG-005 BOARD (5/8) (IRIS DRIVE)
VC-513 BOARD (16/28) (MECHA CONTROL)	LG-005 BOARD (6/8) (CAMERA CONTROL 1)

COMMON NOTE FOR SCHEMATIC DIAGRAMS

4-2. SCHEMATIC DIAGRAMS (2/3)

Link

TO (1/3) TO (3/3)

LG-005 BOARD (7/8) (CAMERA CONTROL 2)	FP-776 FLEXIBLE BOARD (EVF)
LG-005 BOARD (8/8) (REGULATOR)	EV-018 BOARD (CONTROL SWITCH)
GY-005 BOARD (PITCH/YAW SENSOR)	CF-107 BOARD (HDV/DV CONNECTOR)
FP-766 FLEXIBLE BOARD (VC-LENS CONNECTION)	FP-796 FLEXIBLE BOARD (HOT SHOE)
FS-088 BOARD (CONTROL SWITCH)	EJ-040 BOARD (EJECT SWITCH)
LL-015 BOARD (LENS CONNECTOR)	CONTROL SWITCH BLOCK (LZ92000)
BR-001 BOARD (DC IN)	MS-378 BOARD (MS CONNECTOR)
JK-351 BOARD (VIDEO/AUDIO OUT JACK)	NN-006 BOARD (1/3) (REC/PB AMP)
SS-184 BOARD (S VIDEO JACK)	NN-006 BOARD (2/3) (SERVO)
LA-029 BOARD (LANC JACK)	NN-006 BOARD (3/3) (CONNECTOR)
SH-029 BOARD (CONTROL SWITCH, RELAY CONNECTOR)	SD-037 BOARD (HD/SD SDI OUT)
LE-041 BOARD (RELAY CONNECTOR)	ME-021 BOARD (XLR INPUT 1)
LS-071 BOARD (EVF CONTROL SWITCH)	XL-009 BOARD (XLR INPUT 2)
PP-006 BOARD (LCD, LCD DRIVE, A/D CONVERTER)	FP-795 FLEXIBLE BOARD (HEADPHONES JACK)
FP-775 FLEXIBLE BOARD (LS-UU CONNECTION)	CONTROL SWITCH BLOCK (GZ92000)
RV-003 BOARD (PANEL REVERSE DETECT)	TO-001 BOARD (HANDLE ZOOM SWITCH)
FP-783 FLEXIBLE BOARD (PANEL OPEN/CLOSE DETECT)	SW-514 BOARD (CONTROL SWITCH)
UU-006 BOARD (EVF DRIVE, A/D CONVERTER)	LC-094 BAORD (LCD, LCD DRIVE)

COMMON NOTE FOR SCHEMATIC DIAGRAMS

4-2. SCHEMATIC DIAGRAMS (3/3)

Link

TO (1/3)

4-2. SCHEMATIC DIAGRAMS (ENGLISH)

THIS NOTE IS COMMON FOR SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For schematic diagrams)

- All capacitors are in μF unless otherwise noted. pF : μμF. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. kΩ=1000 Ω, MΩ=1000 kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

  Example C541 22U TA A — Kinds of capacitor / Case size; L452 10UH 2520 — External dimensions (mm)
- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
  In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination.
  Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- : non flammable resistor
- : fusible resistor
- : panel designation
- : B+ Line
- : B– Line
- : IN/OUT direction of (+,–) B LINE.
- : adjustment for repair.
- : not use circuit

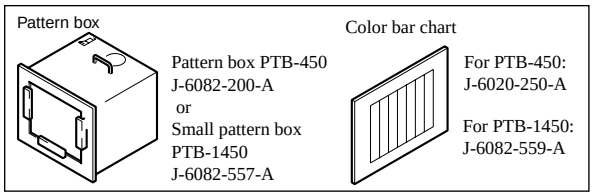
(Measuring conditions voltage and waveform)

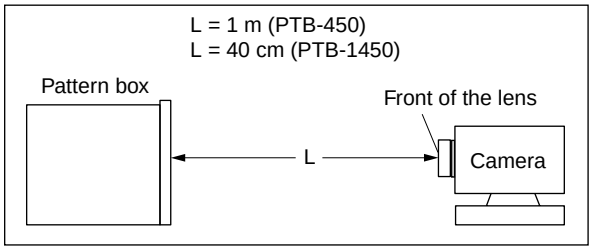
- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms.
  (VOM of DC 10 MΩ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

Precautions for Replacement of Imager

- If the imager has been replaced, carry out all the adjustments for the camera section.
- As the imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

1. Connection





2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

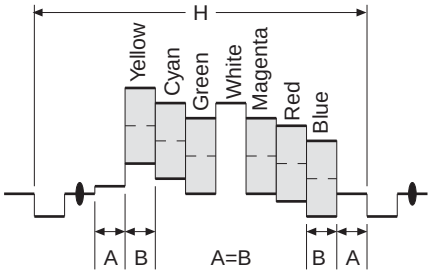


Fig. a (Video output terminal output waveform)

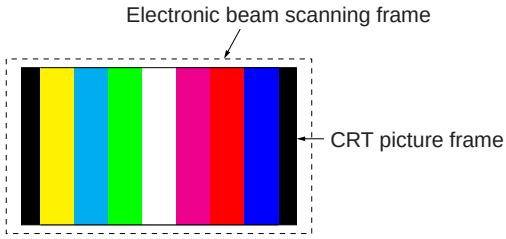


Fig.b (Picture on monitor TV)

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

(JAPANESE)

回路図共通ノート
（他に必要なノートは各ブロックに記載してあります）
【回路図ノート】
・ケミコン，タンタルを除くコンデンサで，耐圧50V以下のものはその耐圧を省略。単位はすべてμF（pはpF）。
・チップ抵抗で指示のないものは，1／10W以下。
kΩ＝1000Ω，MΩ＝1000kΩ
・チップ部品交換時の注意
取り外した部品は再使用せず，未使用の部品をご使用ください。
タンタルコンデンサのマイナス側は熱に弱いため注意してください。
・チップ部品には下記のように表示したものがあります。

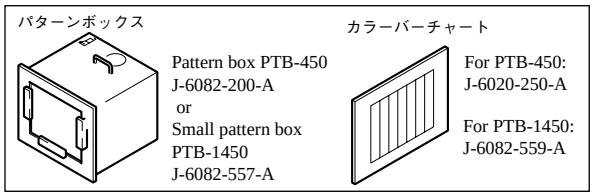
例	C 541	L 452
	22U	10UH
	TA A	2520
	↑ ↑	↑
	種類 ケースサイズ	外形寸法（mm）

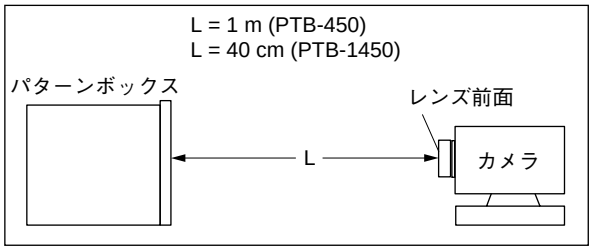
・抵抗，コンデンサ，ICなど定数にXXがあるものは，使用していない事を示しています。このため，使用していない回路が記載されている事があります。
・★印のある部品は，機種などにより異なりますので機能別マウント一覧表を参照してください。
・可変抵抗と半固定抵抗で，B特性の表示を省略。
・信号名表記について，下記のような場合があります。
XEDIT → $\overline{\text{EDIT}}$　　PB/XREC → PB/$\overline{\text{REC}}$
・  は不燃性抵抗。
・  はヒューズ抵抗。
・  はパネル表示名称。
・はB＋ライン。
・はB－ライン。
・  はBライン（＋，－）の入出力方向を示す。
・  は調整名称。
・は未使用回路。

【電圧・波形測定条件ノート】
・電圧値及び信号波形はパターンボックスのカラーバーチャートを被写体としたときの測定点対アース間の参考値。
（デジタルマルチメータ；入力インピーダンス　DC10MΩ使用）
・使用テスタの入力インピーダンスにより電圧値が多少異なります。

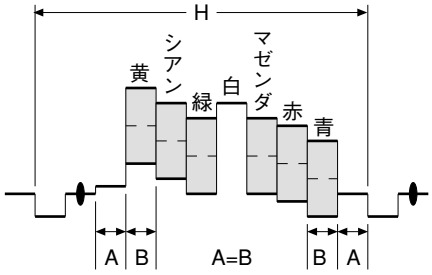
イメージャ交換時の注意
・イメージャを交換した場合は，カメラ部の全調整を行ってください。
・イメージャは構造上，静電気により破壊される恐れがあるため，MOS ICと同様に注意して取り扱ってください。
また，受光部にはゴミの付着，および強い光がはいることのないように注意してください。

1. 接続図

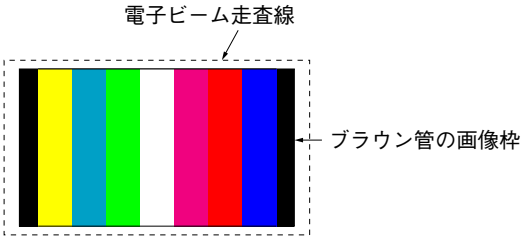




2. 図a及び図bの波形が得られるように画枠調整して下さい。



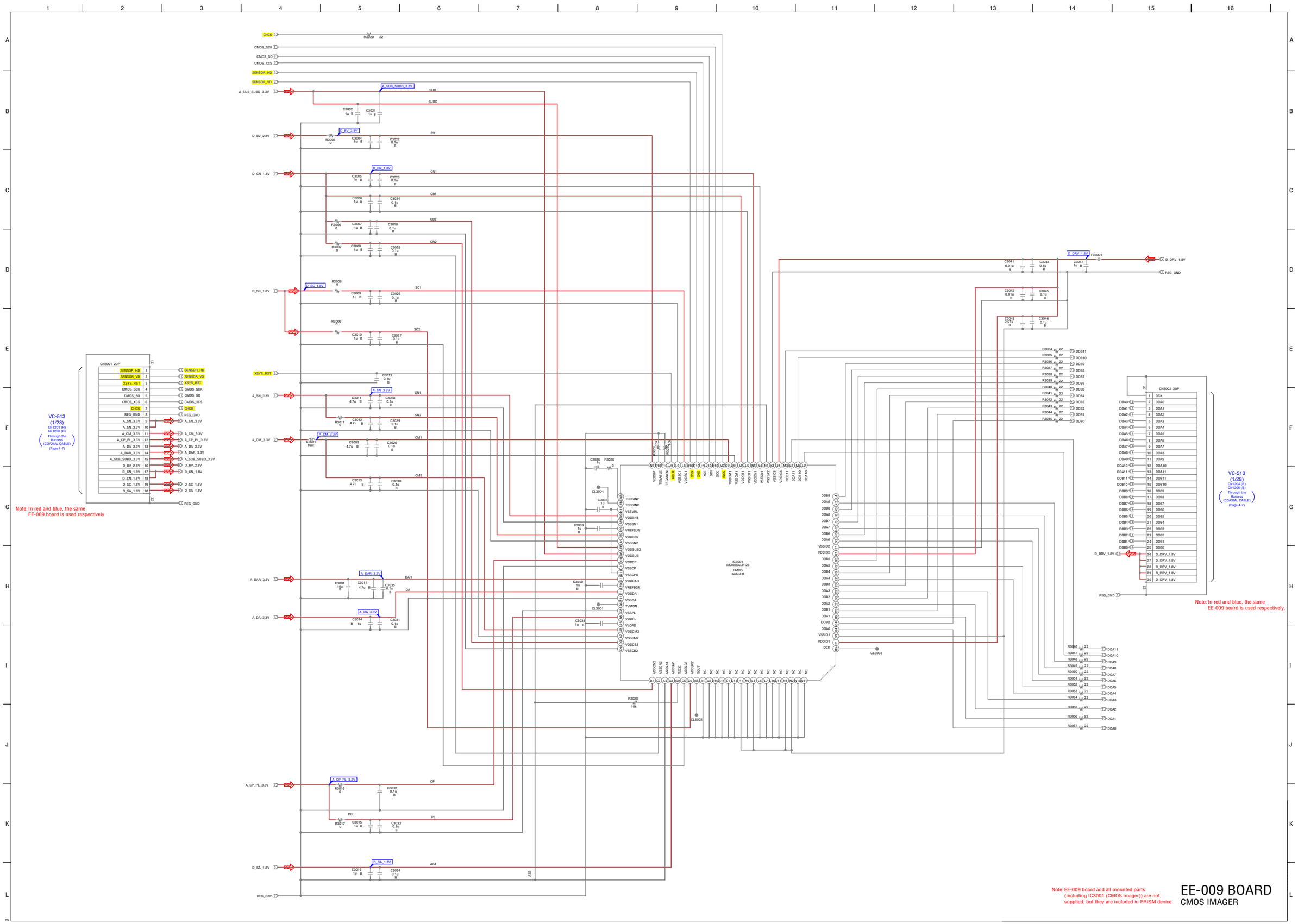
図a（映像入出力端子出力波形）



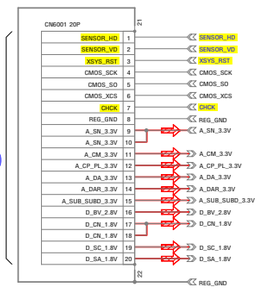
図b（テレビモニタの映像）

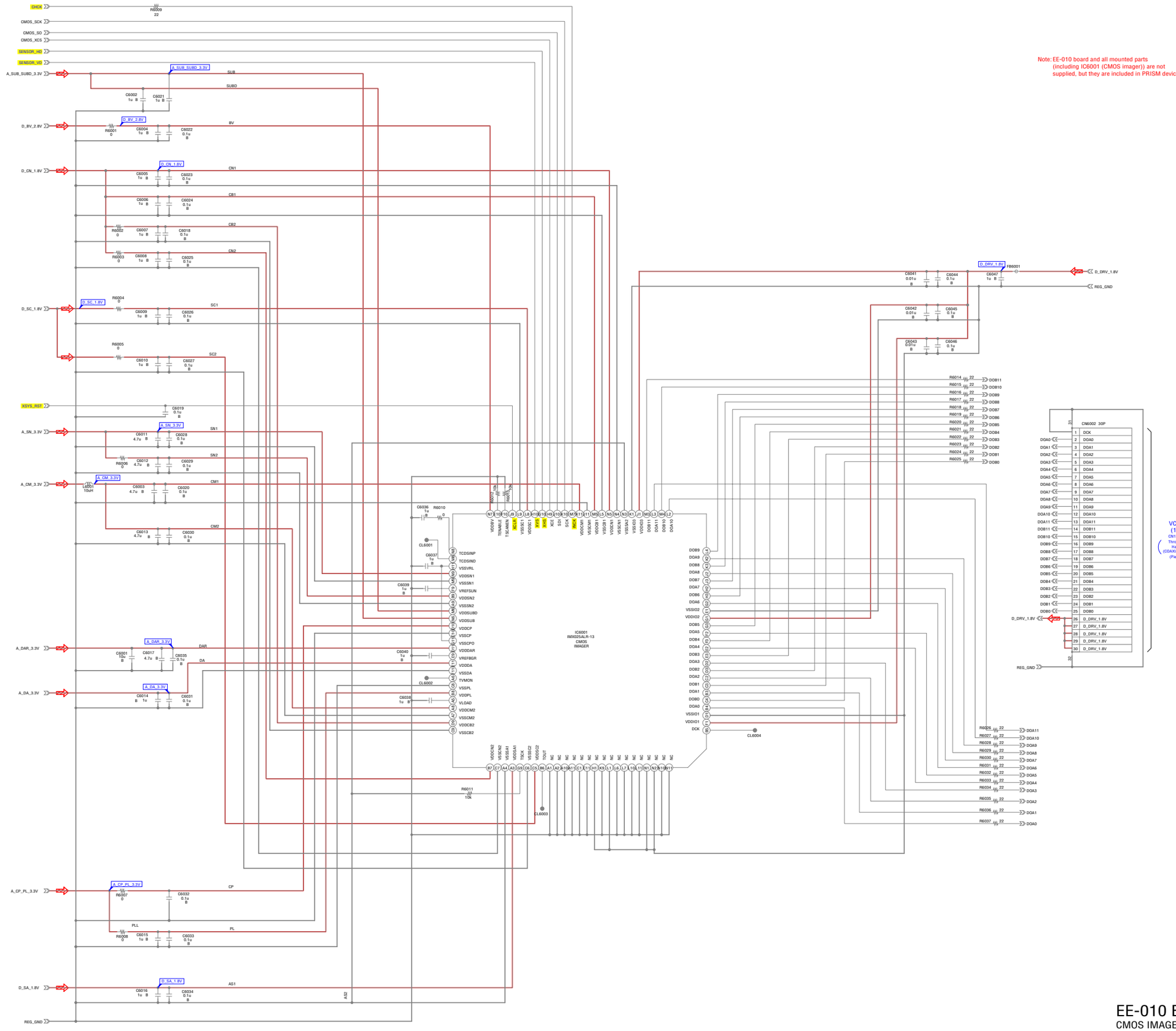
⚠印の部品，または⚠印付きの点線で囲まれた部品は，安全性を維持するために重要な部品です。
従って交換時は，必ず指定の部品を使用して下さい。

お願い
図面番号で部品を指定するときは基板名又はブロックを併せて指定して下さい。

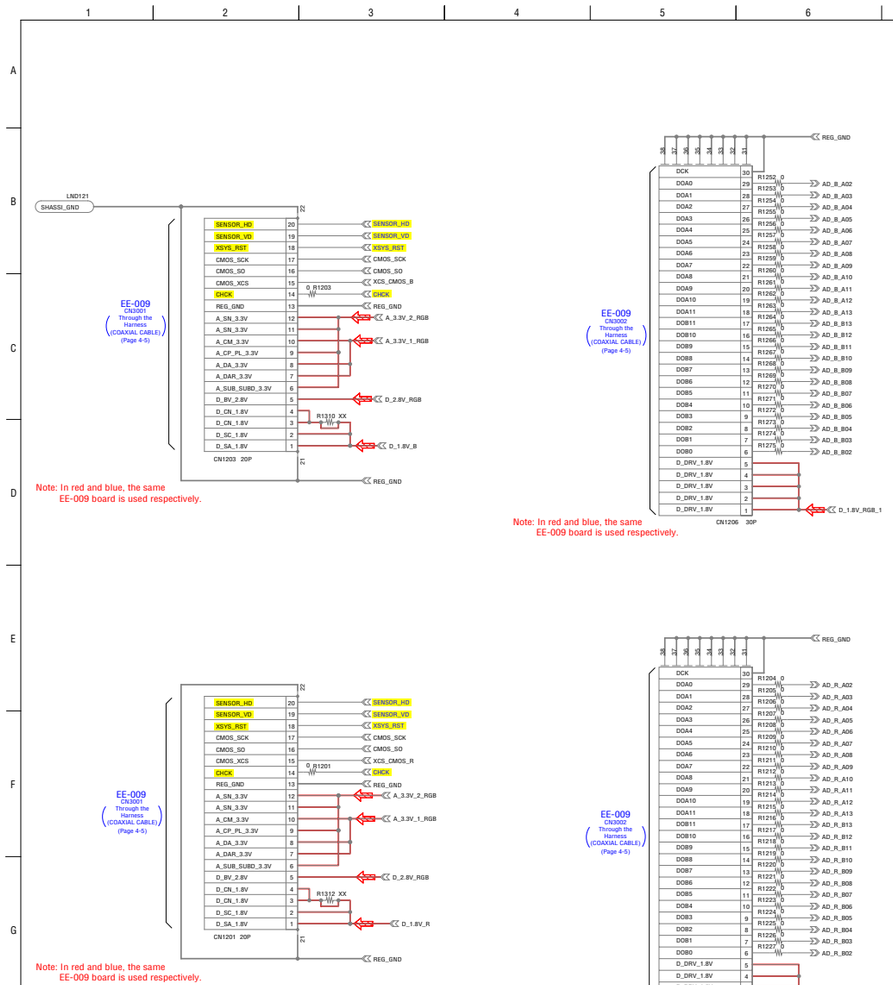

CN3001 20P
SENSOR_HD
SENSOR_VD
XSYS_RST
CMOS_SCK
CMOS_SO
CMOS_XCS
CHCK
REG_GND
A_SN_3.3V
A_CM_3.3V
A_CP_PL_3.3V
A_DA_3.3V
A_DAR_3.3V
A_SUB_SUBD_3.3V
D_BV_2.8V
D_CN_1.8V
D_SC_1.8V
D_SA_1.8V
VC-513 (1/28)
CN1201 (R)
CN1203 (R)
Through the Harness (COAXIAL CABLE) (Page 4-7)
Note: In red and blue, the same EE-009 board is used respectively.
IC3001 IMX035ALR-23 CMOS IMAGER
CN3002 30P
D_DRV_1.8V
VC-513 (1/28)
CN1204 (R)
CN1206 (R)
Through the Harness (COAXIAL CABLE) (Page 4-7)
Note: In red and blue, the same EE-009 board is used respectively.
Note: EE-009 board and all mounted parts (including IC3001 (CMOS imager)) are not supplied, but they are included in PRISM device.
EE-009 BOARD
CMOS IMAGER

Note: EE-010 board and all mounted parts
(including IC6001 (CMOS imager)) are not
supplied, but they are included in PRISM device.



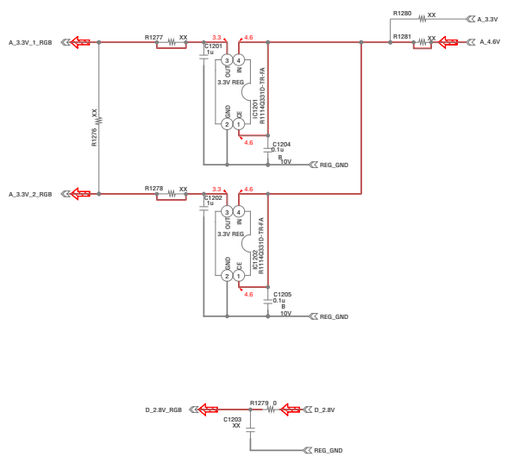


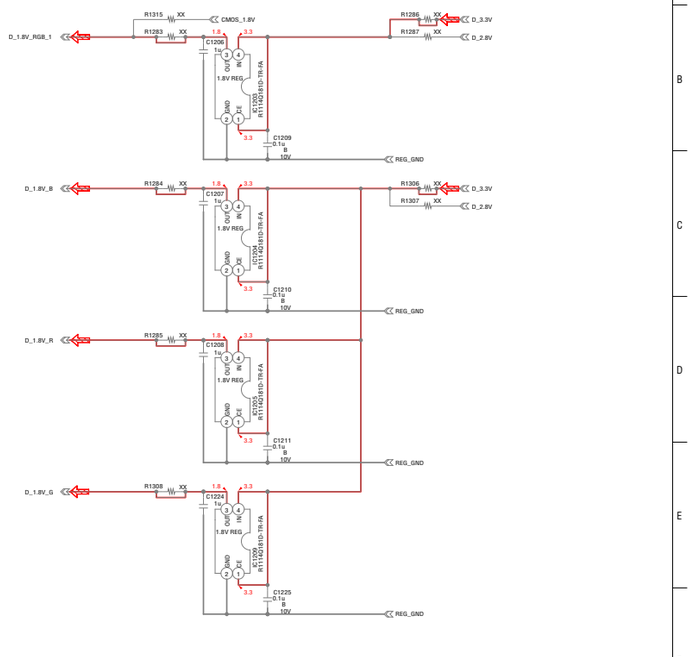
EE-010 BOARD
CMOS IMAGER

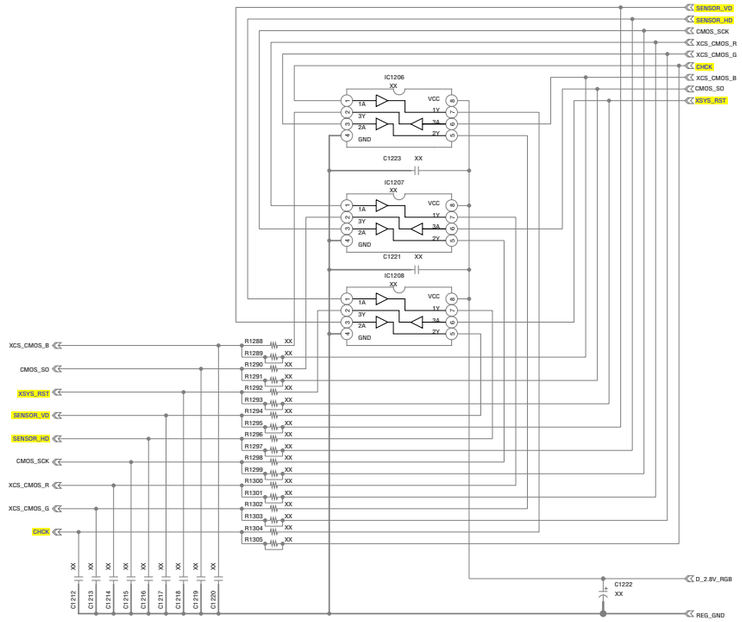


Note: In red and blue, the same EE-009 board is used respectively.

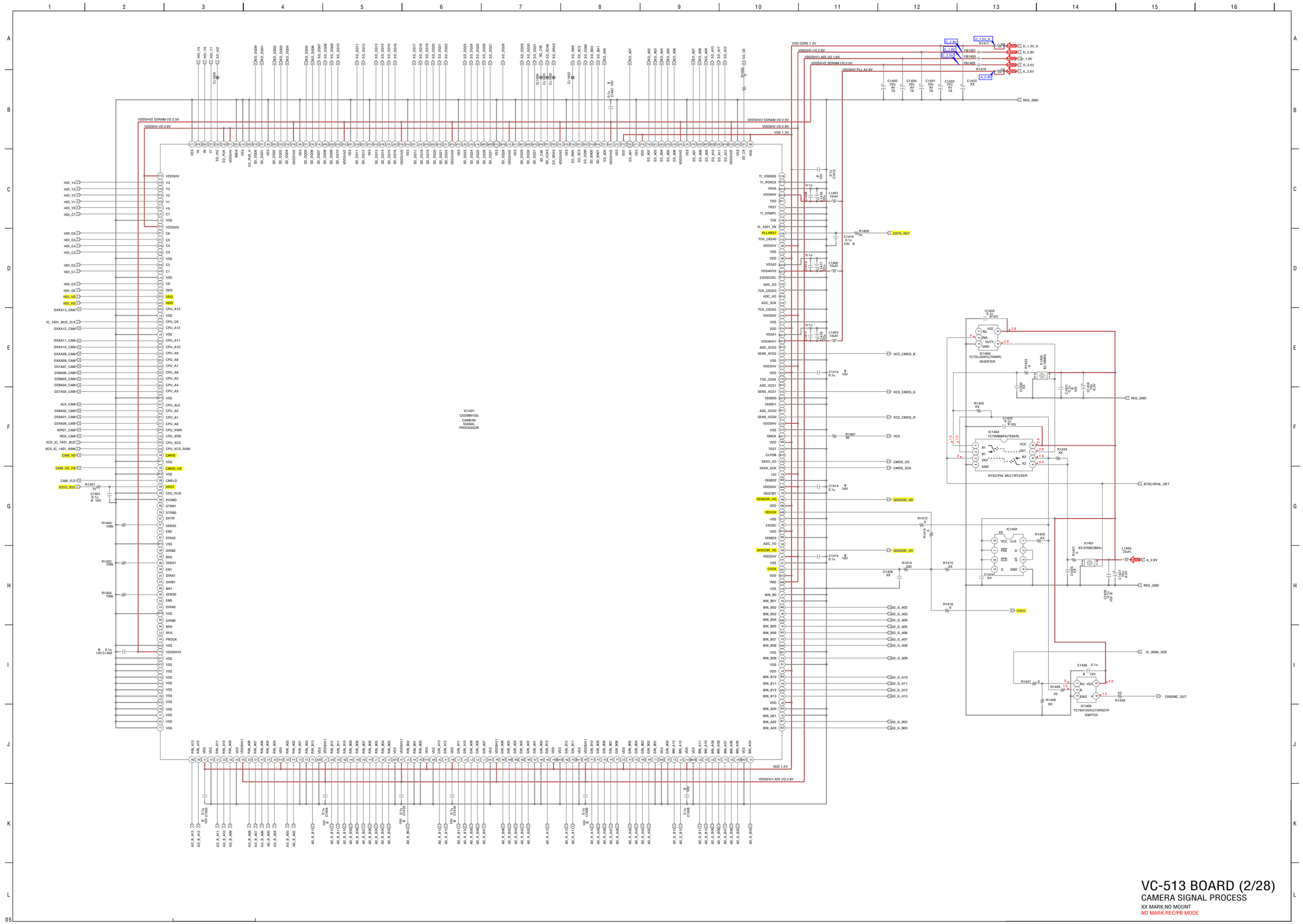
Note: In red and blue, the same EE-009 board is used respectively.

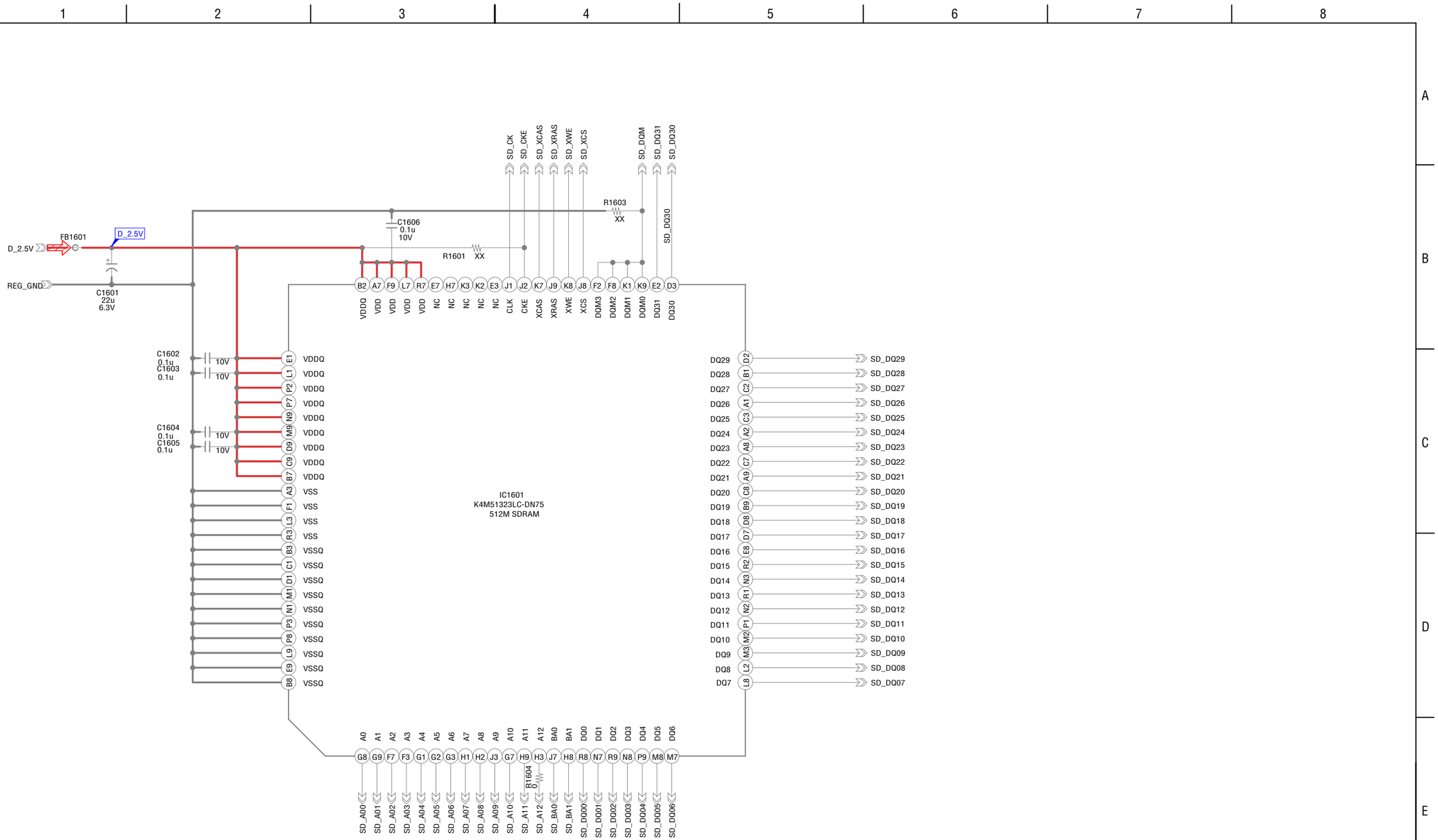






VC-513 BOARD (1/28)
REGULATOR
XX MARK:NO MOUNT
NO MARK:REC/PB MODE


IC1401
CXD9891GG
CAMERA
SIGNAL
PROCESSOR
VC-513 BOARD (2/28)
CAMERA SIGNAL PROCESS
XX MARK:NO MOUNT
NO MARK:REC/PB MODE


1
2
3
4
5
6
7
8
A
B
C
D
E
F
05
FB1601
D_2.5V
D_2.5V
REG_GND
C1601
22u
6.3V
C1606
0.1u
10V
R1603
XX
R1601
XX
C1602
0.1u
C1603
0.1u
C1604
0.1u
C1605
0.1u
10V
IC1601
K4M51323LC-DN75
512M SDRAM
R1604
0
SD_CK
SD_CKE
SD_XCAS
SD_XRAS
SD_XWE
SD_XCS
SD_DQM
SD_DQ31
SD_DQ30
VDDQ
VDD
NC
CLK
CKE
XCAS
XRAS
XWE
XCS
DQM3
DQM2
DQM1
DQM0
DQ31
DQ30
VSS
VSSQ
DQ29
DQ28
DQ27
DQ26
DQ25
DQ24
DQ23
DQ22
DQ21
DQ20
DQ19
DQ18
DQ17
DQ16
DQ15
DQ14
DQ13
DQ12
DQ11
DQ10
DQ9
DQ8
DQ7
SD_DQ29
SD_DQ28
SD_DQ27
SD_DQ26
SD_DQ25
SD_DQ24
SD_DQ23
SD_DQ22
SD_DQ21
SD_DQ20
SD_DQ19
SD_DQ18
SD_DQ17
SD_DQ16
SD_DQ15
SD_DQ14
SD_DQ13
SD_DQ12
SD_DQ11
SD_DQ10
SD_DQ09
SD_DQ08
SD_DQ07
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
BA0
BA1
DQ0
DQ1
DQ2
DQ3
DQ4
DQ5
DQ6
SD_A00
SD_A01
SD_A02
SD_A03
SD_A04
SD_A05
SD_A06
SD_A07
SD_A08
SD_A09
SD_A10
SD_A11
SD_A12
SD_BA0
SD_BA1
SD_DQ00
SD_DQ01
SD_DQ02
SD_DQ03
SD_DQ04
SD_DQ05
SD_DQ06
VC-513 BOARD (3/28)
SDRAM
XX MARK:NO MOUNT

VC-513 BOARD (4/28)

BASE BAND SIGNAL PROCESS

XX MARK:NO MOUNT

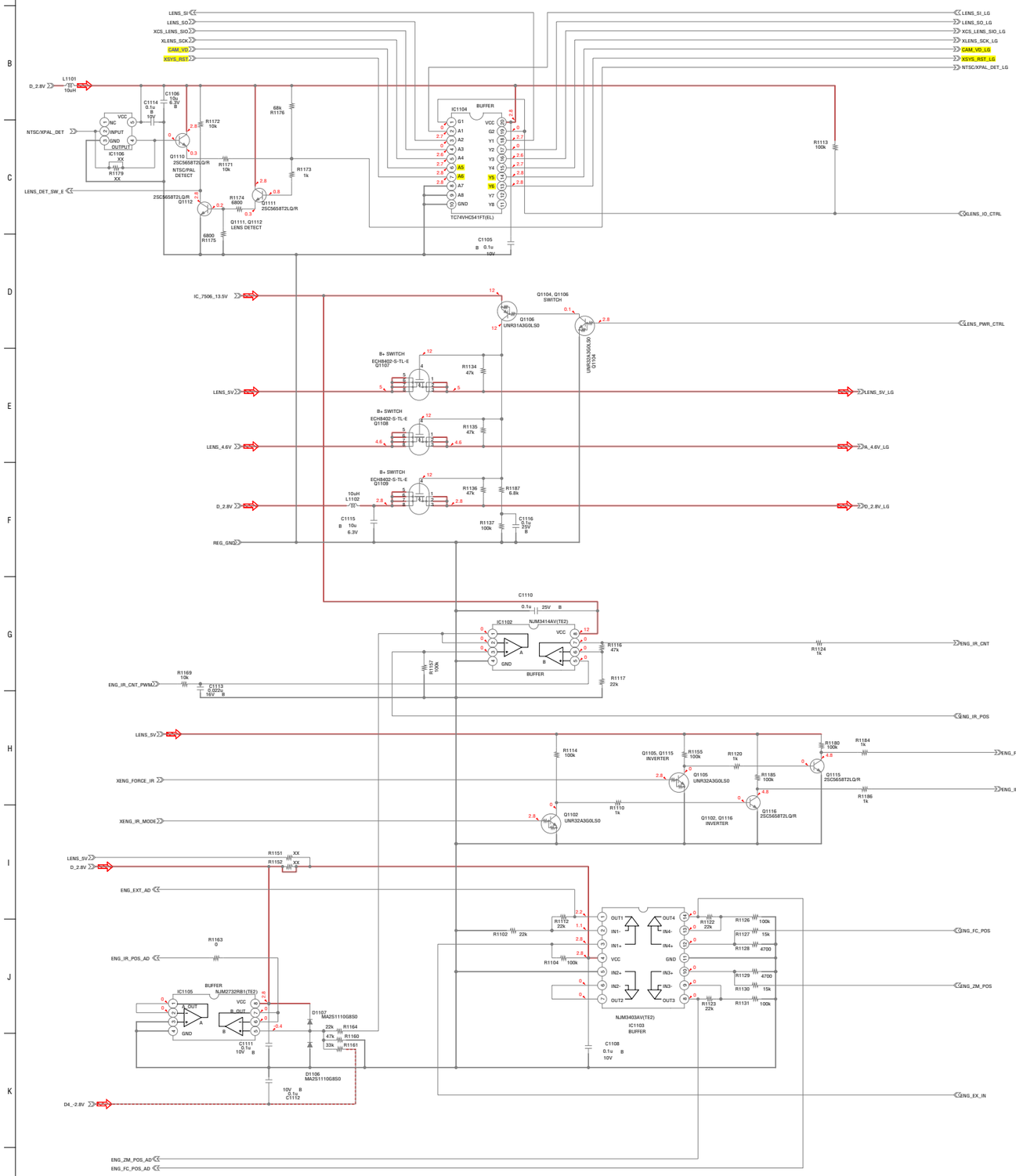
NO MARK:REC/PB MODE

*:IMPOSSIBLE TO MEASURE THE VOLTAGE AT THE MARKED POINTS.

IC1801

S4D006X02-Y071-K12K4C

BASE BAND SIGNAL PROCESSOR, DOWN CONVERTER, D/A CONVERTER



VC-513 BOARD (5/28)

LENS-ENG LENS CONNECTION

XX MARK:NO MOUNT

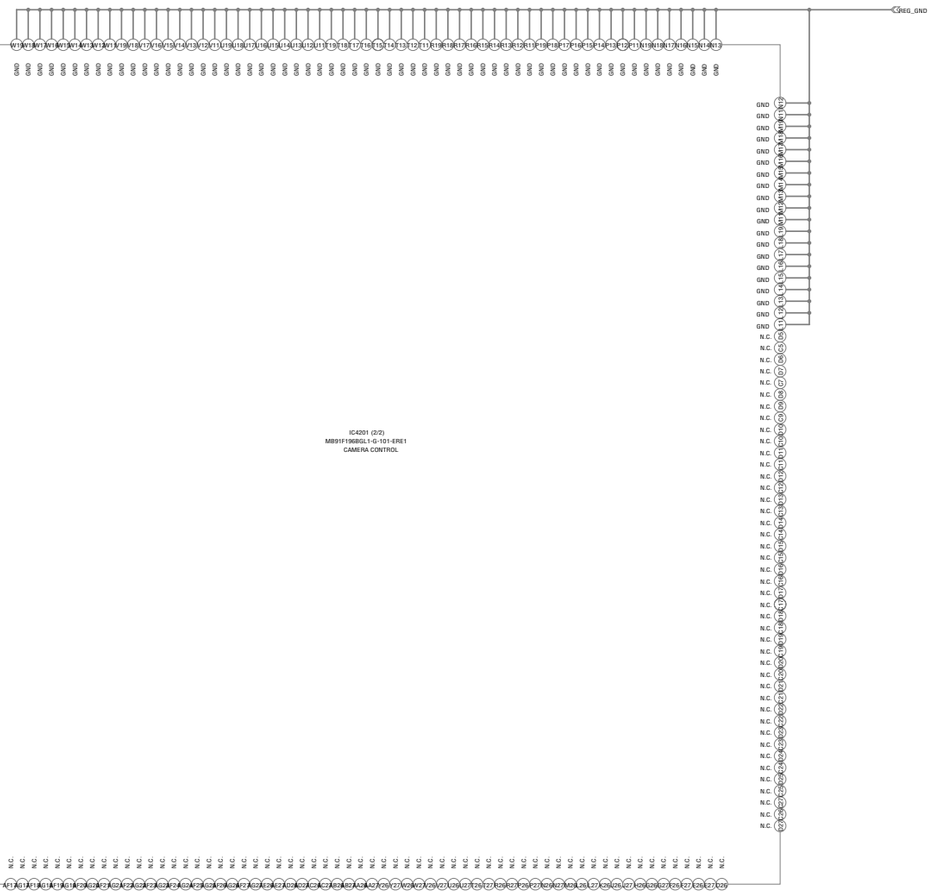
NO MARK:REC/PB MODE

Note: IC4201 is not supplied, but this is included in VC-513 complete board.

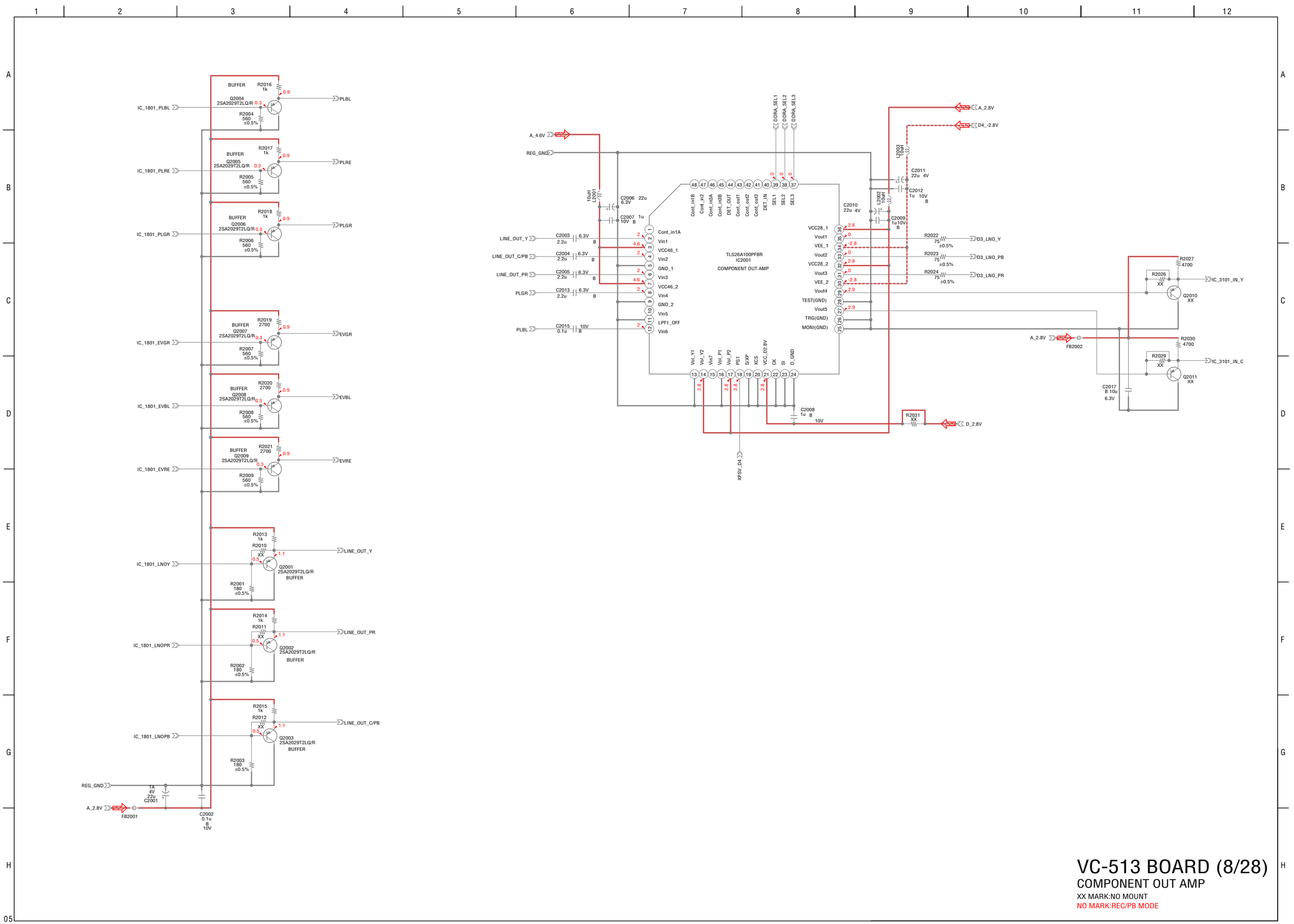
IC4201(1/2)
M891F196BGL1-G-101-ERE1
CAMERA CONTROL

VC-513 BOARD (6/28)
CAMERA CONTROL 1
XX MARK:NO MOUNT
NO MARK:REC/PB MODE

Note: IC4201 is not supplied, but this is
included in VC-513 complete board.



VC-513 BOARD (7/28)
CAMERA CONTROL 2

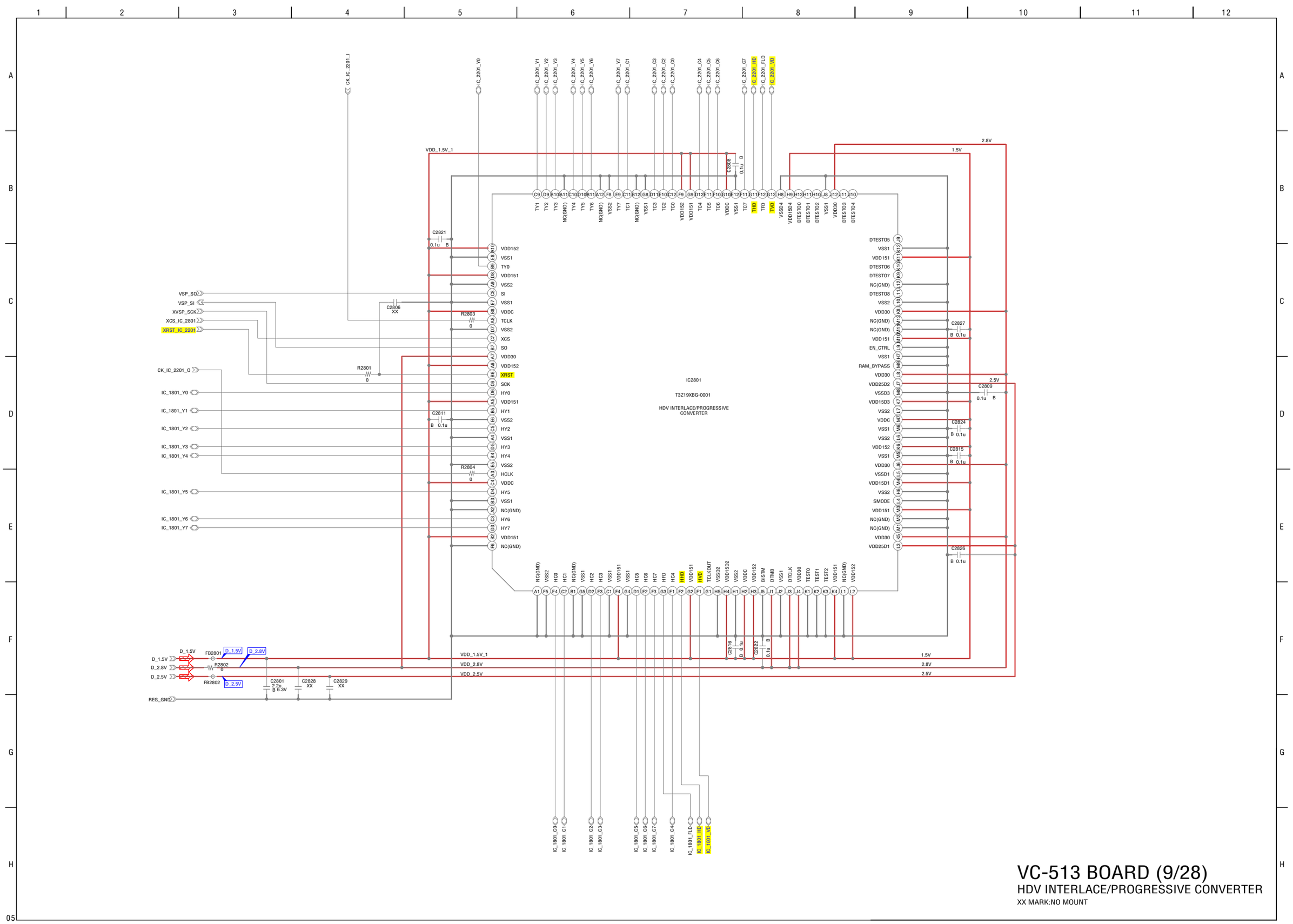


VC-513 BOARD (8/28)

COMPONENT OUT AMP

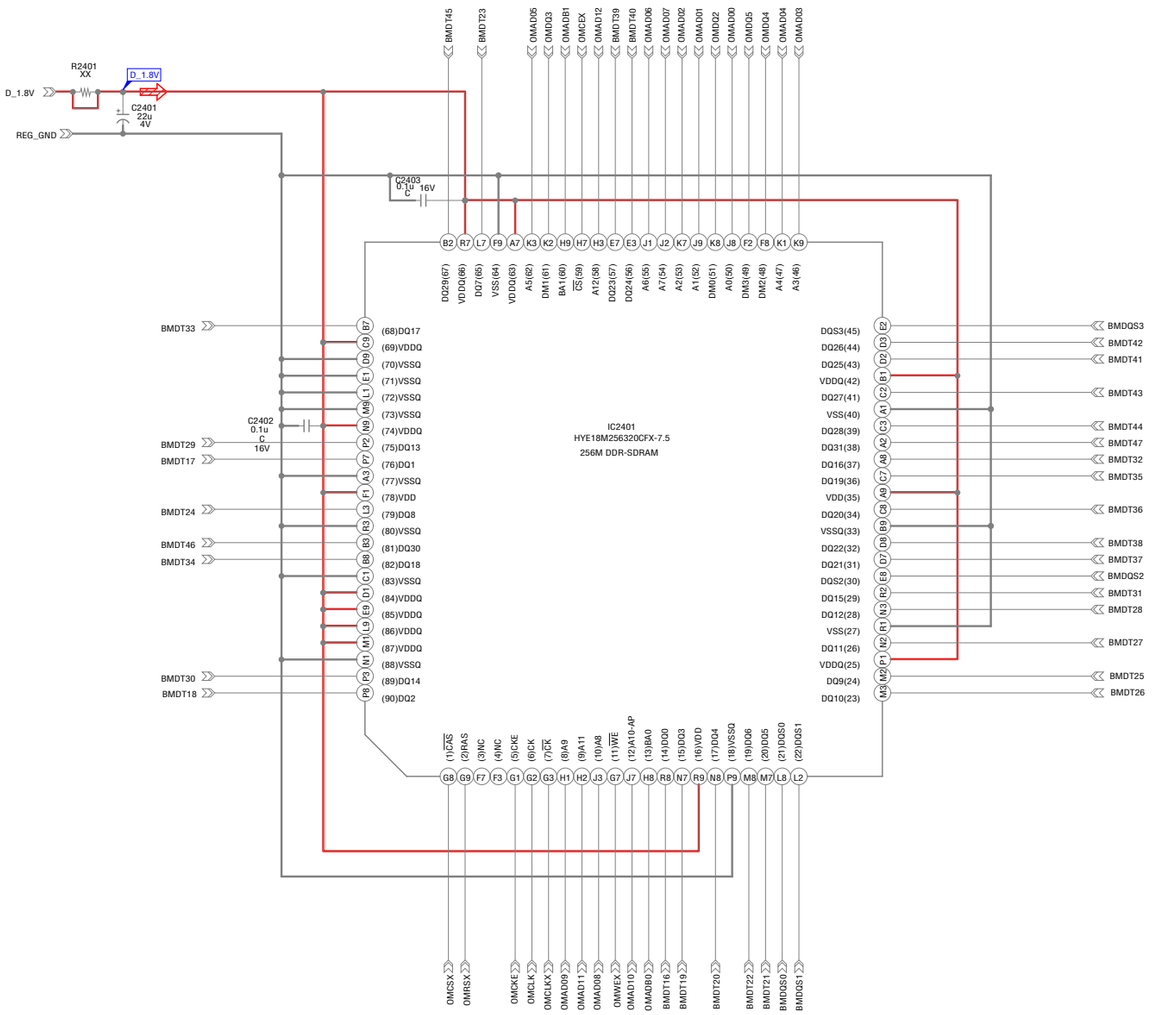
XX MARK:NO MOUNT

NO MARK:REC/PB MODE


IC2801
T3Z19XBG-0001
HDV INTERLACE/PROGRESSIVE CONVERTER
VC-513 BOARD (9/28)
HDV INTERLACE/PROGRESSIVE CONVERTER
XX MARK:NO MOUNT

IC2201
CXD3195AGG-T6
HDV-MPEG VIDEO
ENCODER/DECODER,
MPEG AUDIO SIGNAL PROCESSOR

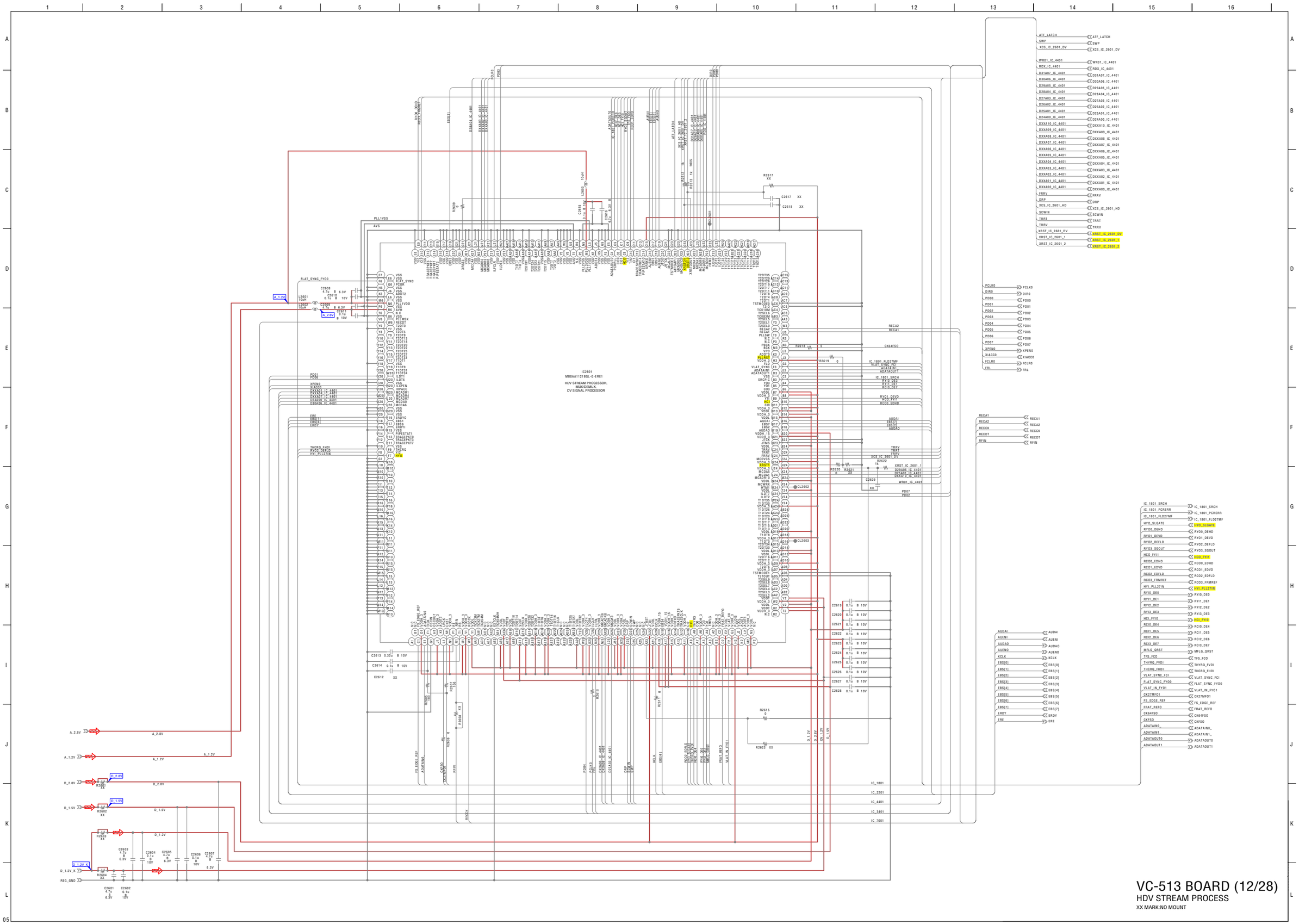
VC-513 BOARD (10/28)
HDV-MPEG VIDEO ENCODE/DECODE
XX MARK:NO MOUNT

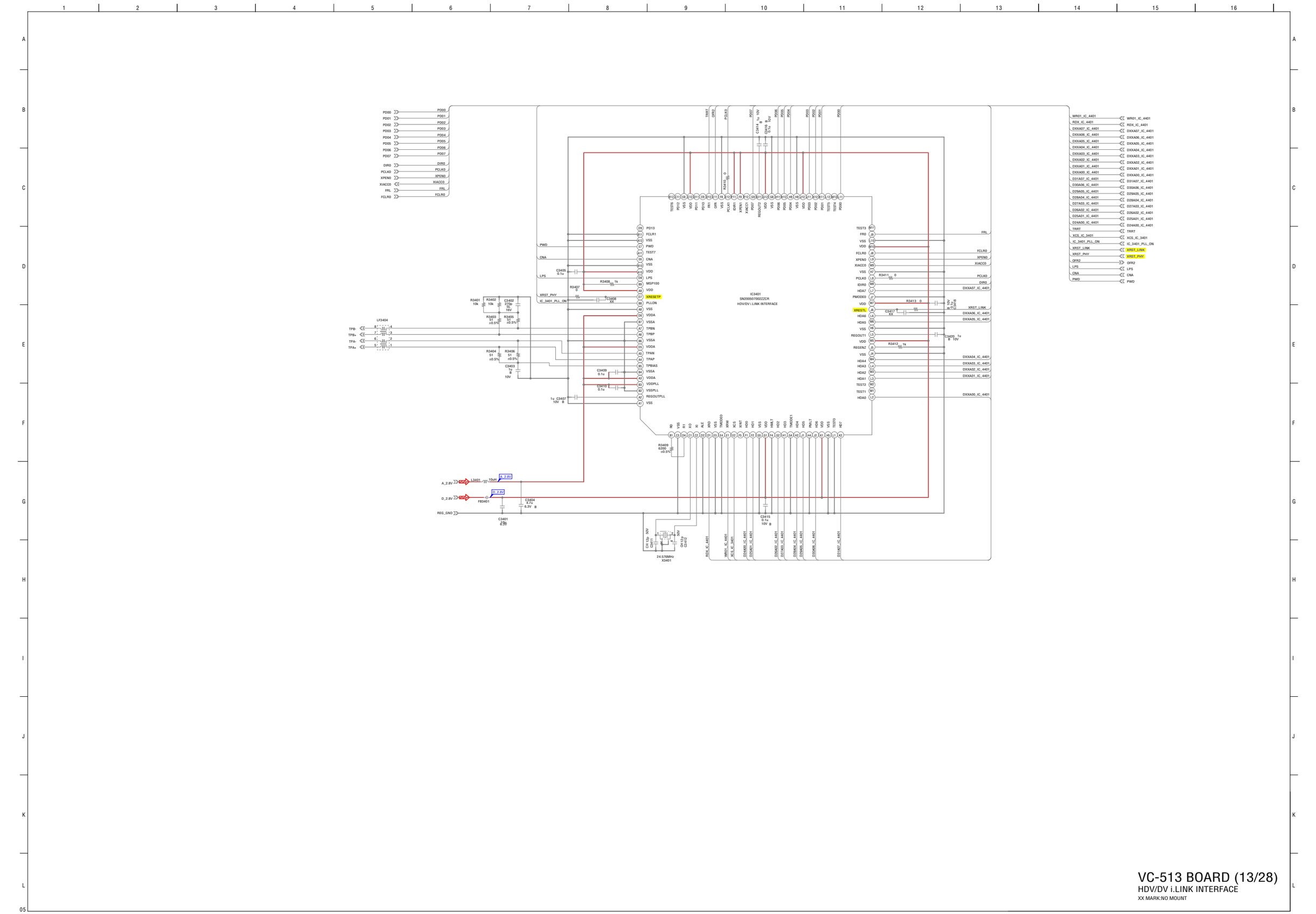


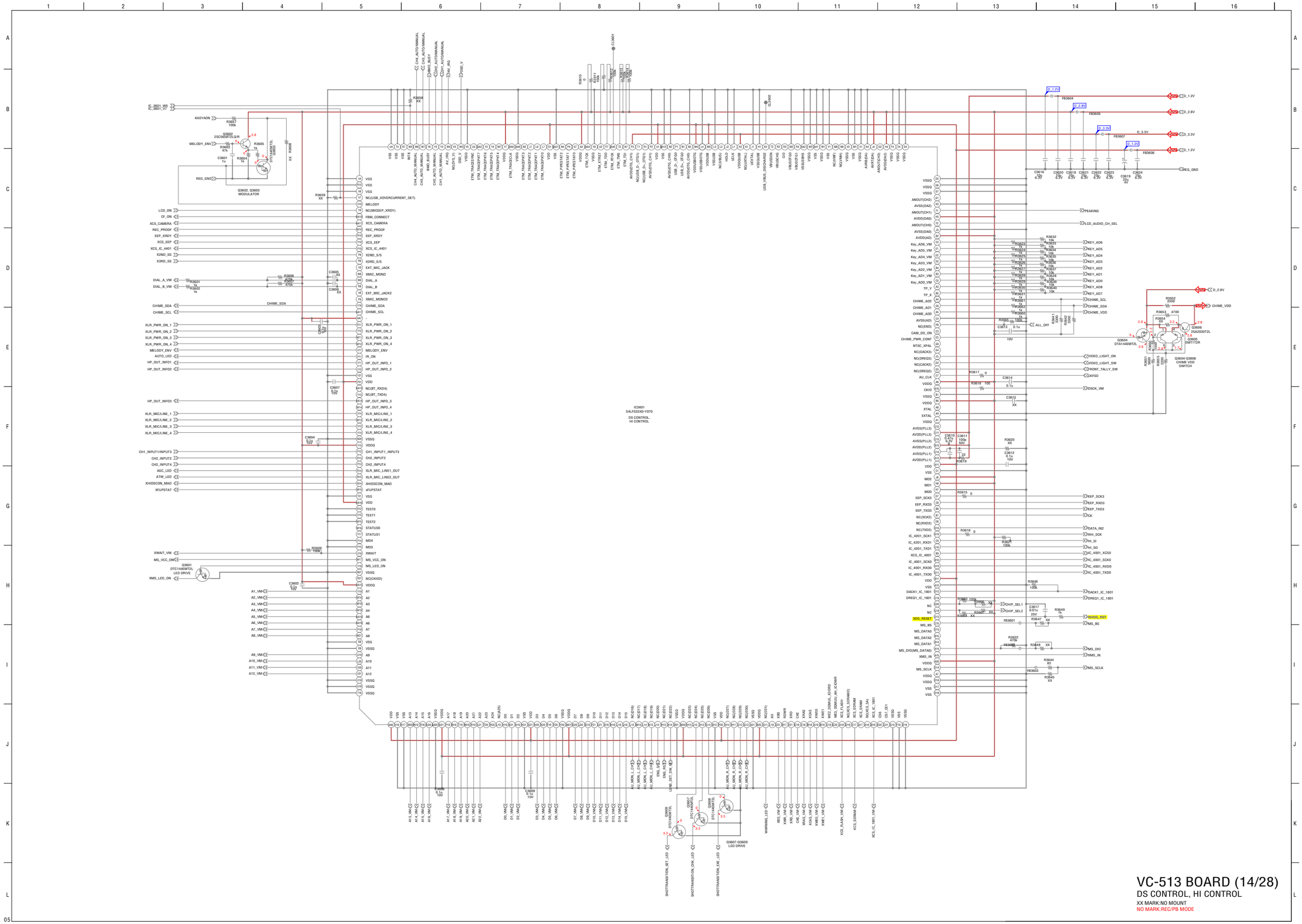
VC-513 BOARD (11/28)

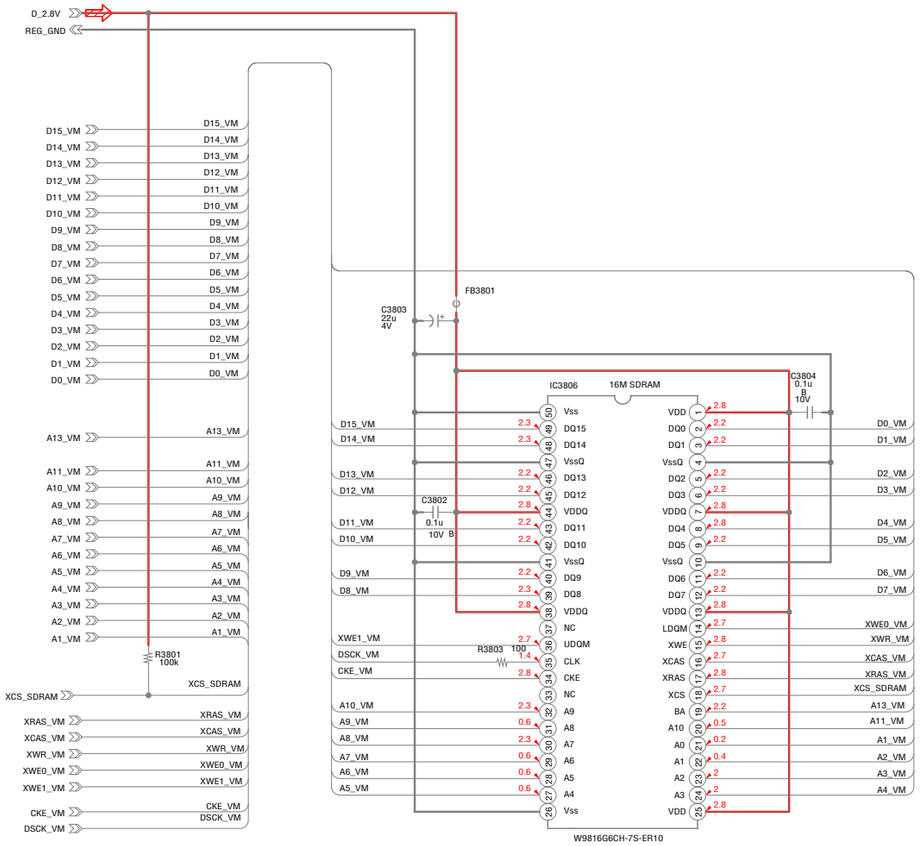
SDRAM, FLASH

XX MARK:NO MOUNT

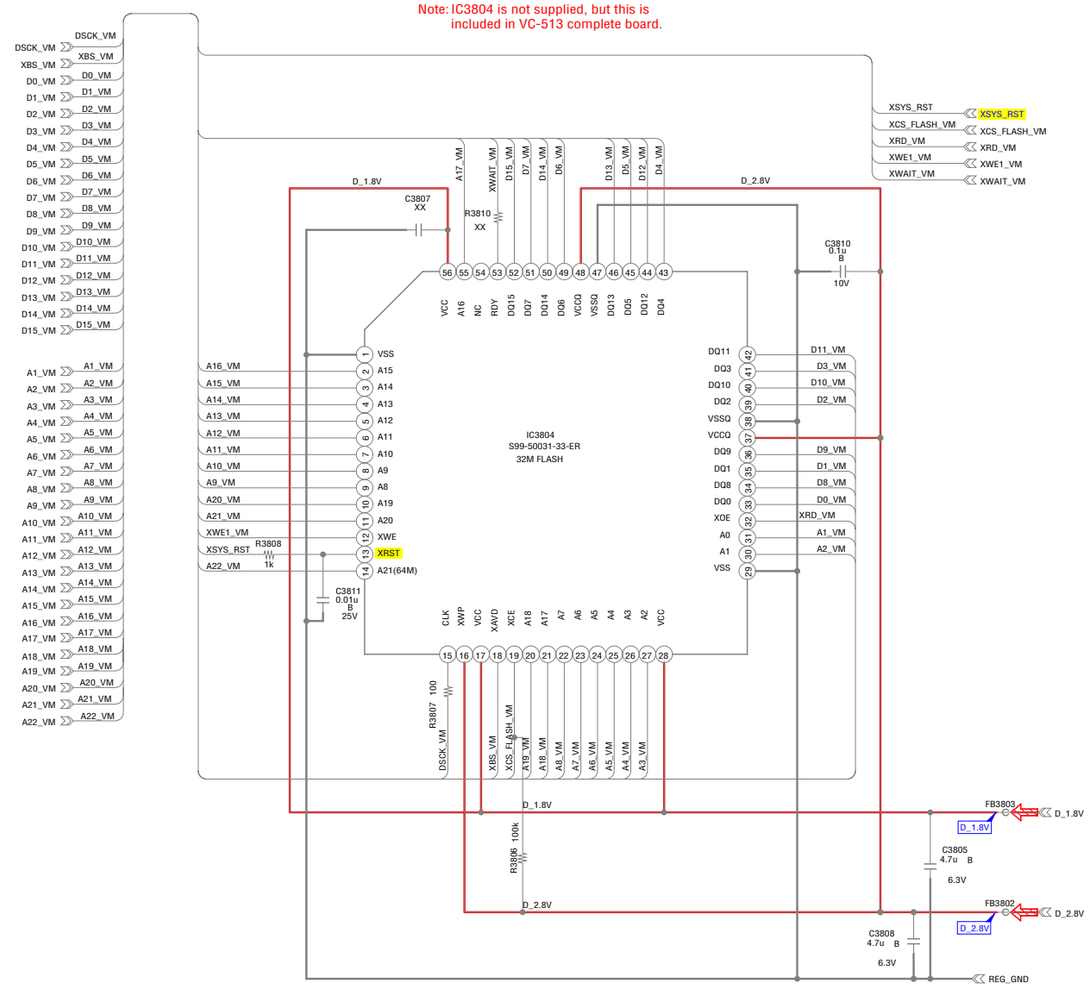

VC-513 BOARD (12/28)
HDV STREAM PROCESS
XX MARK:NO MOUNT

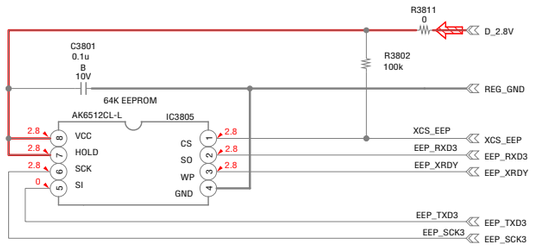

IC3401
SN20557002ZZCR
HDV/DV i.LINK INTERFACE
XX MARK:NO MOUNT
VC-513 BOARD (13/28)
HDV/DV i.LINK INTERFACE
XX MARK:NO MOUNT


VC-513 BOARD (14/28)
DS CONTROL, HI CONTROL
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
IC3601
S4LFS33XD-Y070
DS CONTROL,
HI CONTROL
Q3604-Q3606
CHIME VDD
SWITCH
Q3607-Q3609
LED DRIVE
KASYAON
MELODY_ENV
REG_GND
Q3602, Q3603
MODULATOR
LCD_ON
CF_ON
XCS_CAMERA
REC_PROOF
EEP_XRDY
XCS_EEP
XCS_IC_4401
X2ND_SS
X3RD_SS
DIAL_A_VM
DIAL_B_VM
CHIME_SDA
CHIME_SCL
XLR_PWR_ON_1
XLR_PWR_ON_2
XLR_PWR_ON_3
XLR_PWR_ON_4
MELODY_ENV
AUTO_LED
HP_OUT_INFO1
HP_OUT_INFO2
HP_OUT_INFO3
XLR_MIC/LINE_1
XLR_MIC/LINE_2
XLR_MIC/LINE_3
XLR_MIC/LINE_4
CH1_INPUT1/INPUT3
CH2_INPUT2
CH2_INPUT4
AGC_LED
ATW_LED
XHIDSCON_MAD
XFUPSTAT
XWAIT_VM
MS_VCC_ON
XMS_LED_ON
A1_VM
A2_VM
A3_VM
A4_VM
A5_VM
A6_VM
A7_VM
A8_VM
A9_VM
A10_VM
A11_VM
A12_VM
D0_VMCC
D1_VMCC
D2_VMCC
D3_VMCC
D4_VMCC
D5_VMCC
D6_VMCC
D7_VMCC
D8_VMCC
D9_VMCC
D10_VMCC
D11_VMCC
D12_VMCC
D13_VMCC
D14_VMCC
D15_VMCC
A13_VMCC
A14_VMCC
A15_VMCC
A16_VMCC
A17_VMCC
A18_VMCC
A19_VMCC
A20_VMCC
A21_VMCC
A22_VMCC
SHOTTRANSITION_DRT_LED
SHOTTRANSITION_CHK_LED
SHOTTRANSITION_EXE_LED
WARNING_LED
XRS_VM
XWR_VM
XRD_VM
CKE_VM
XRAS_VM
XCAS_VM
XWE0_VM
XWE1_VM
XCS_FLASH_VM
XCS_SDRAM
XCS_IC_1801_VM
PEAKING
LCD_AUDIO_CH_SEL
KEY_AD6
KEY_AD5
KEY_AD4
KEY_AD3
KEY_AD2
KEY_AD1
KEY_AD0
KEY_AD8
KEY_AD7
CHIME_SCL
CHIME_SDA
CHIME_VDD
ALL_OFF
VIDEO_LIGHT_ON
VIDEO_LIGHT_SW
FRONT_TALLY_SW
CKFSO
OSCK_VM
EEP_SCK3
EEP_RXD3
EEP_TXD3
CK
DATA_IN2
XHI_SCK
HI_SI
HI_SO
IC_4001_XCS0
IC_4001_SCK0
IC_4001_RXD0
IC_4001_TXD0
DACK1_IC_1801
DREQ1_IC_1801
CHIP_SEL1
CHIP_SEL2
XHIDS_RST
MS_BS
MS_DIO
XMS_IN
MS_SCLK
REG_GND
D_1.2V
D_2.8V
D_3.3V
CD_1.2V
CD_2.8V
CD_3.3V
VDD
VSS
VSSQ
VDDQ



Note: IC3804 is not supplied, but this is included in VC-513 complete board.





VC-513 BOARD (15/28)

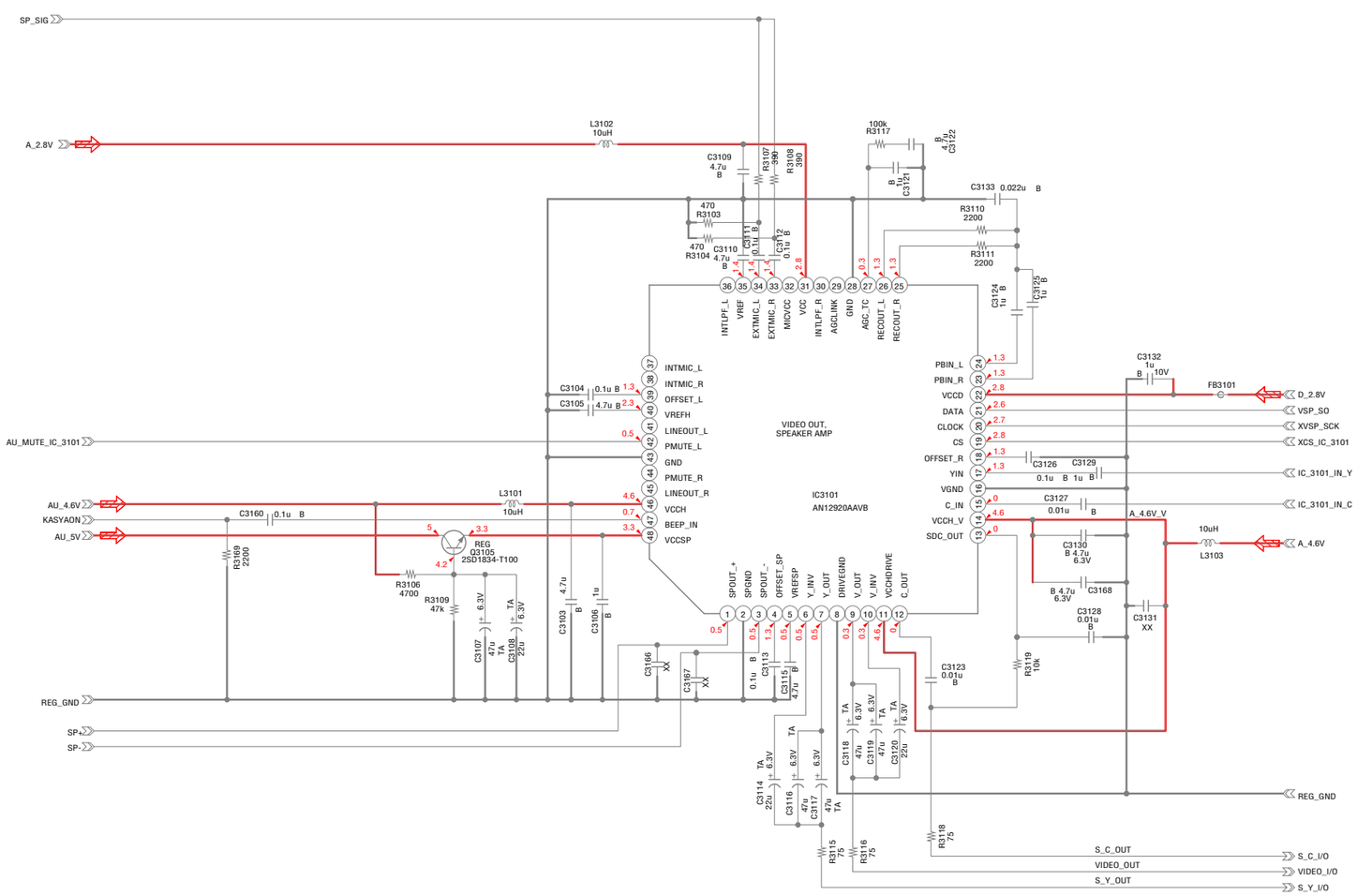
SDRAM, FLASH, EEPROM

XX MARK:NO MOUNT

NO MARK:REC/PB MODE

IC4401
MB91195ABGL-G-249-ERE1
MECHA CONTROL

VC-513 BOARD (16/28)
MECHA CONTROL
XX MARK:NO MOUNT

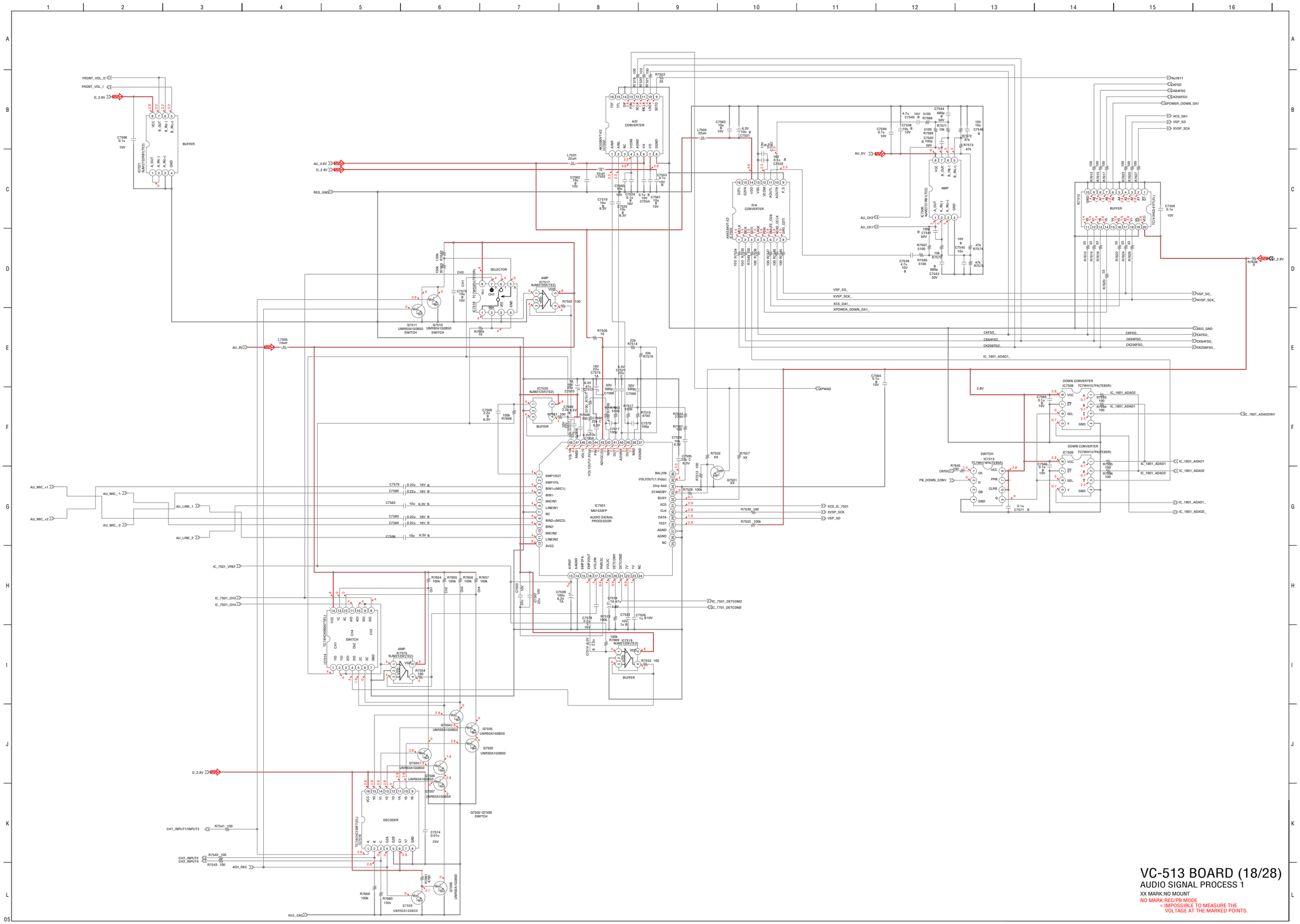


VC-513 BOARD (17/28)

VIDEO OUT, SPEAKER AMP

XX MARK:NO MOUNT

NO MARK:REC/PB MODE



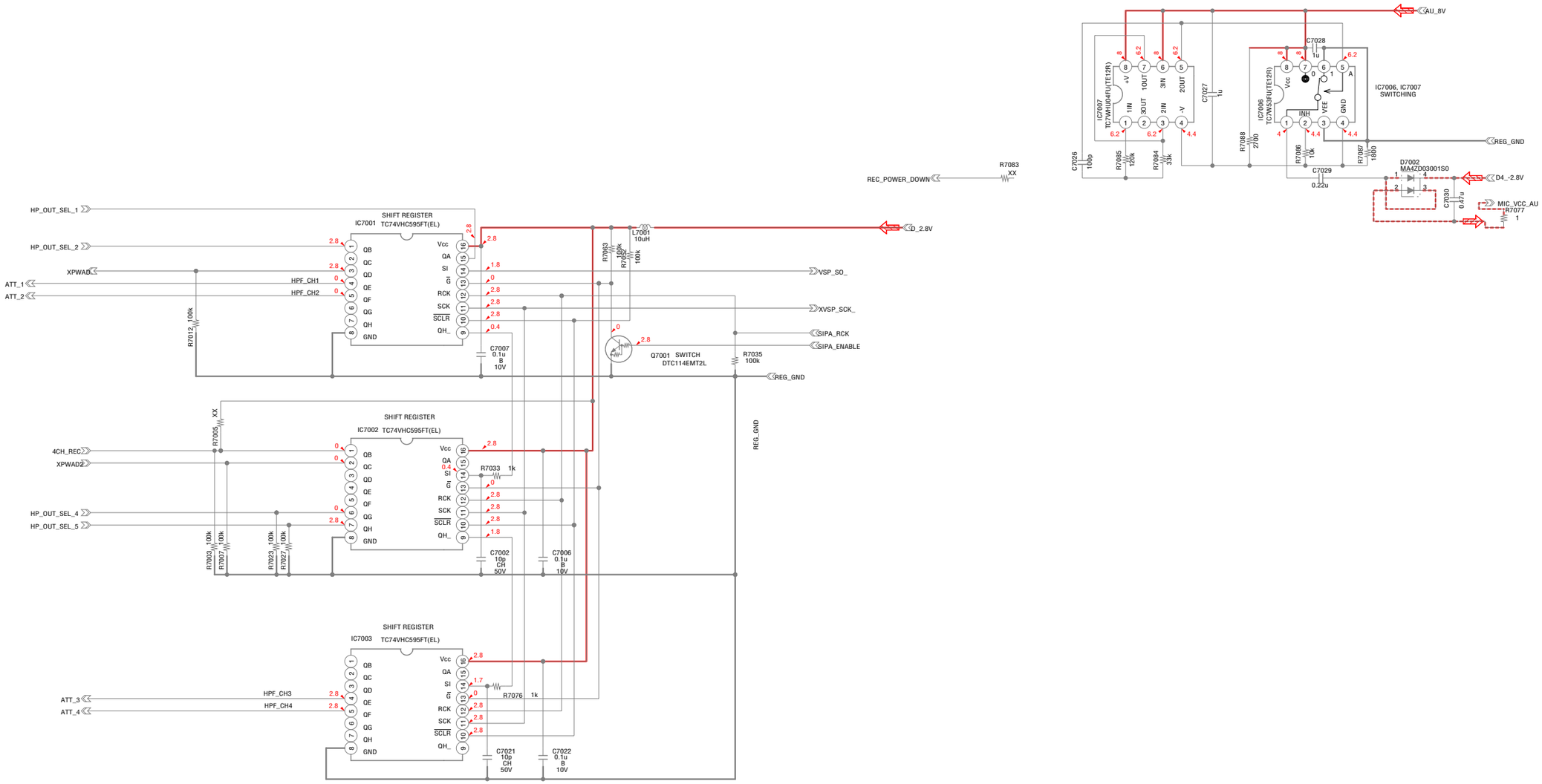
VC-513 BOARD (18/28)

AUDIO SIGNAL PROCESS 1

XX MARK:NO MOUNT

NO MARK:REC/PB MODE

*:IMPOSSIBLE TO MEASURE THE VOLTAGE AT THE MARKED POINTS.

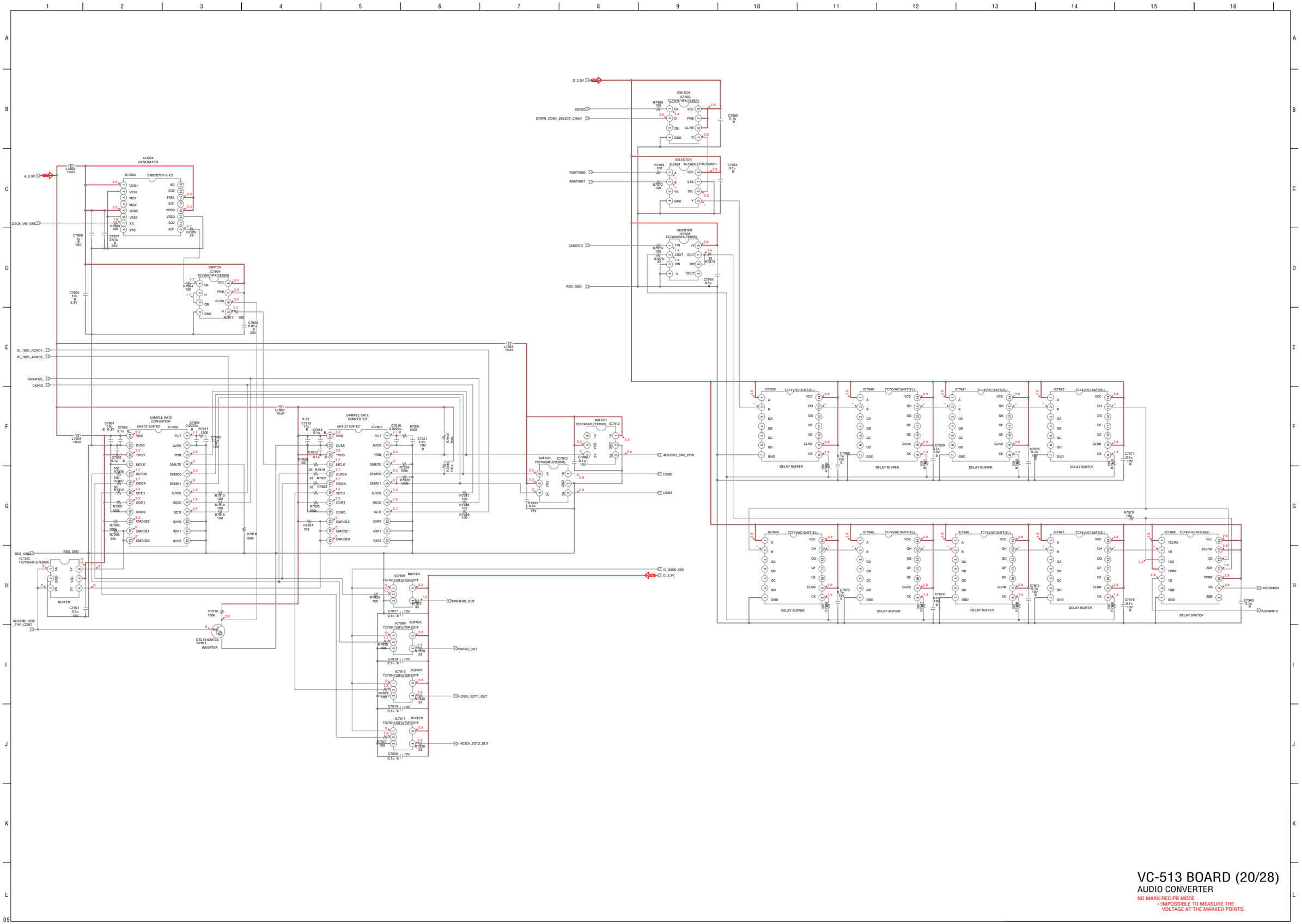


VC-513 BOARD (19/28)

AUDIO SELECTOR

XX MARK:NO MOUNT

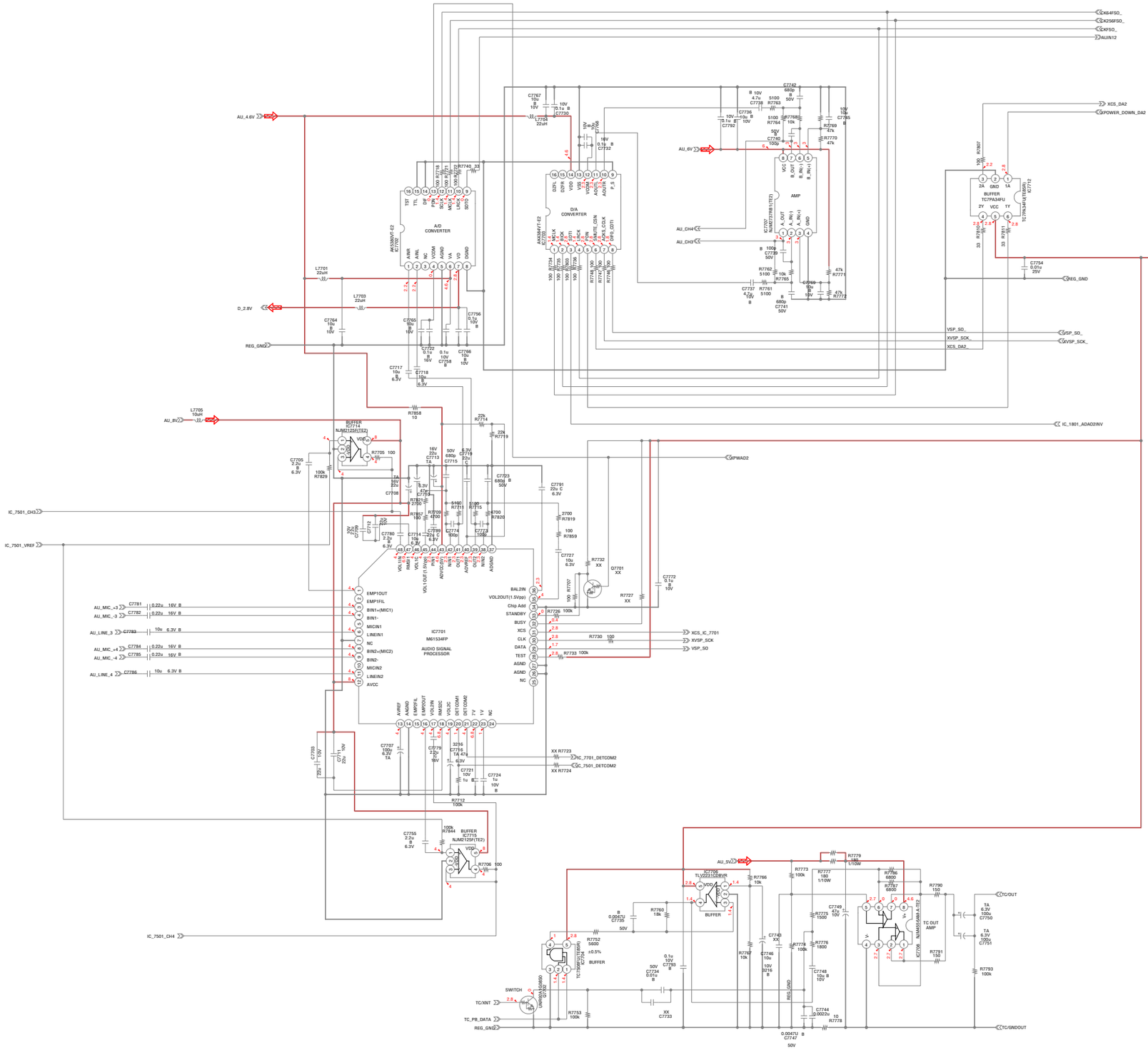
NO MARK:REC/PB MODE

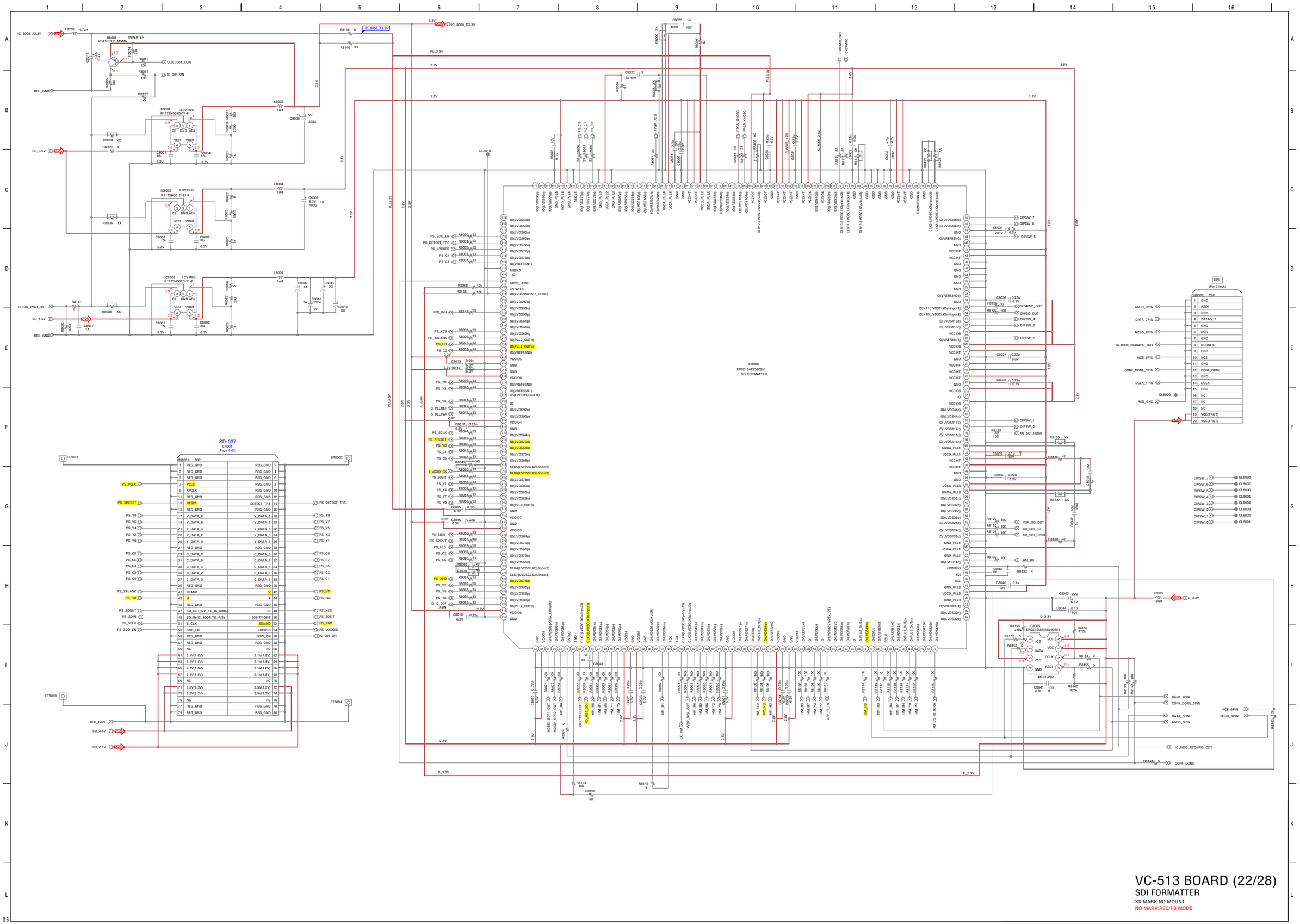


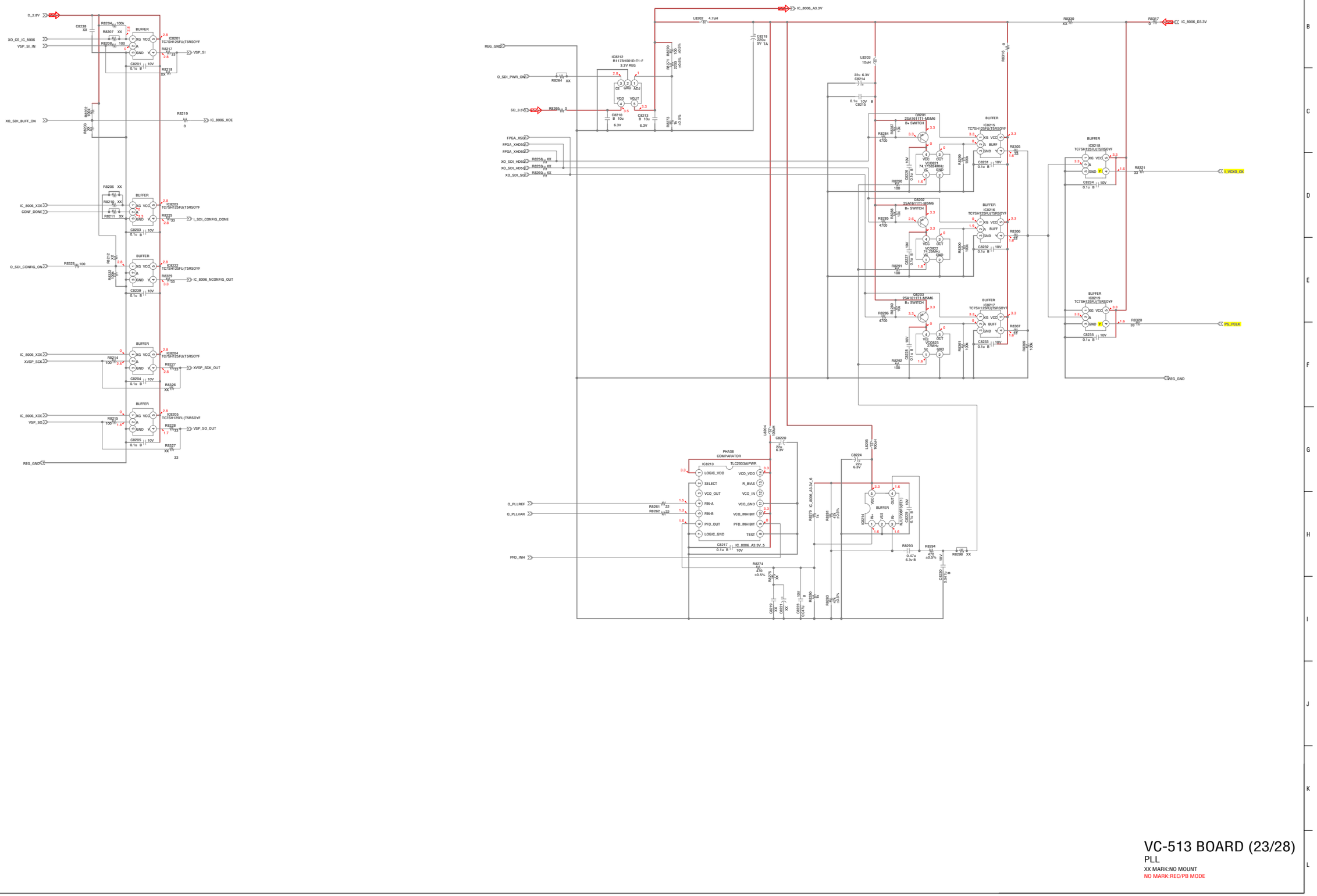
VC-513 BOARD (20/28)

AUDIO CONVERTER

NO MARK:REC/PB MODE
*:IMPOSSIBLE TO MEASURE THE VOLTAGE AT THE MARKED POINTS.


AU_4.6V
AU_6V
AU_CH4
AU_CH3
D_2.8V
REG_GND
AU_8V
IC_7501_CH3
IC_7501_VREF
IC_7501_CH4
AU_MIC_+3
AU_MIC_-3
AU_LINE_3
AU_MIC_+4
AU_MIC_-4
AU_LINE_4
A/D CONVERTER
D/A CONVERTER
AMP
BUFFER
IC7701
M61534FP
AUDIO SIGNAL PROCESSOR
XCS_DA2
XPOWER_DOWN_DA2
VSP_SO_
XVSP_SCK_
XCS_DA2_
IC_1801_ADAD2INV
QPWAD2
XCS_IC_7701
XVSP_SCK
VSP_SO
IC_7501_DETCOM2
XX R7723
XX R7724
SWITCH
TC/XINT
TC_PB_DATA
REG_GND
TC/CIOUT
TC/GNDOUT
TC OUT AMP
VC-513 BOARD (21/28)
AUDIO SIGNAL PROCESS 2
XX MARK:NO MOUNT
NO MARK:REC/PB MODE


IC8006
EP2C15AF256C8N
SDI FORMATTER
SD-037
CN001
(Page 4-62)
CPC
(For Check)
VC-513 BOARD (22/28)
SDI FORMATTER
XX MARK:NO MOUNT
NO MARK:REC/PB MODE

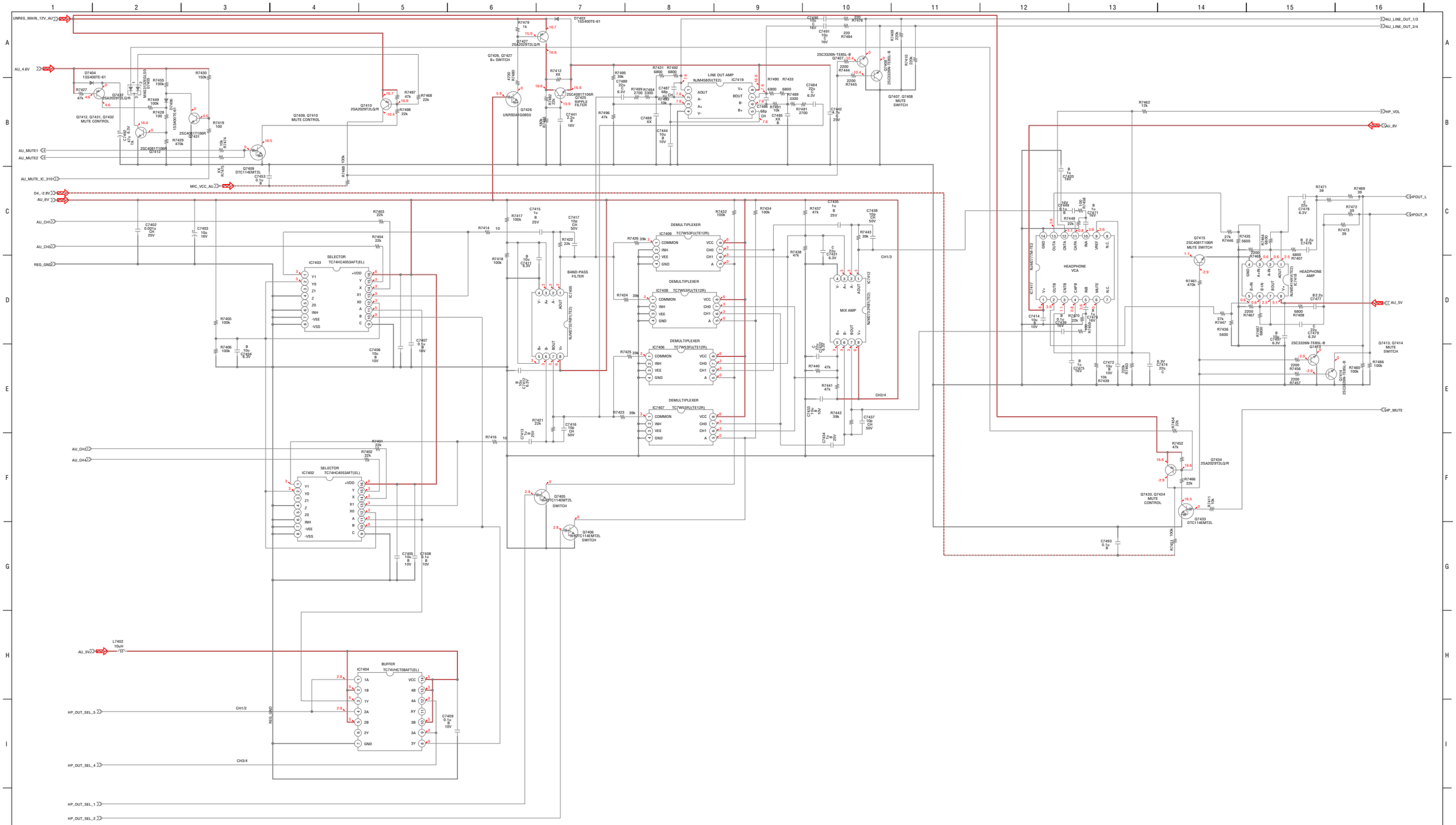


VC-513 BOARD (23/28)

PLL

XX MARK:NO MOUNT

NO MARK:REC/PB MODE



VC-513 BOARD (24/28)

AUDIO OUT

XX MARK:NO MOUNT

NO MARK:REC/PB MODE

VC-513 BOARD (25/28)

FRONT CONTROL

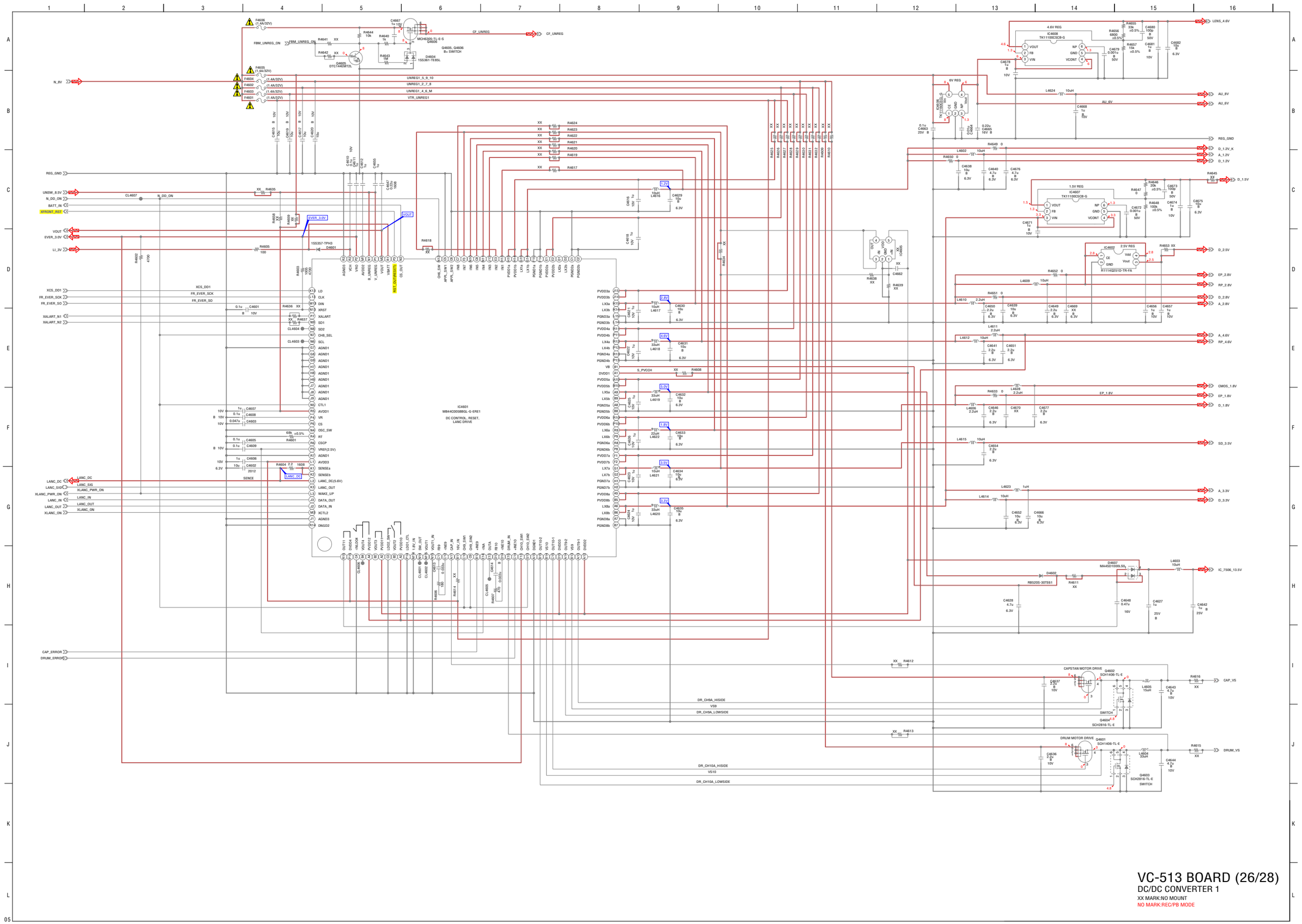
XX MARK:NO MOUNT

IC4001
MB95005BGL-G-111-ERE1
FRONT CONTROL

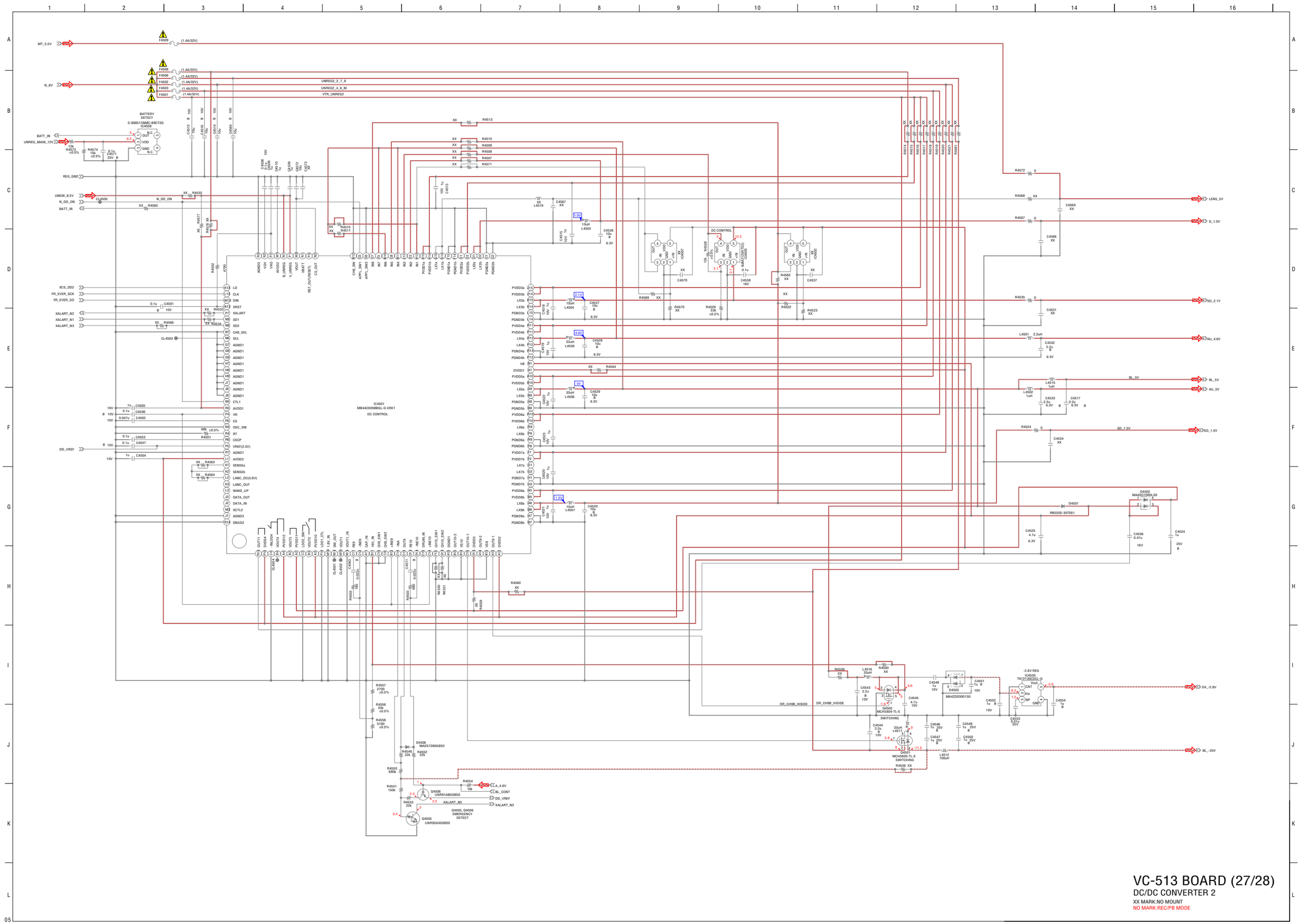
★ R4016
15k: NTSC:S270J/S270U/S270N
3.3k: PAL: S270E/S270P/S270C

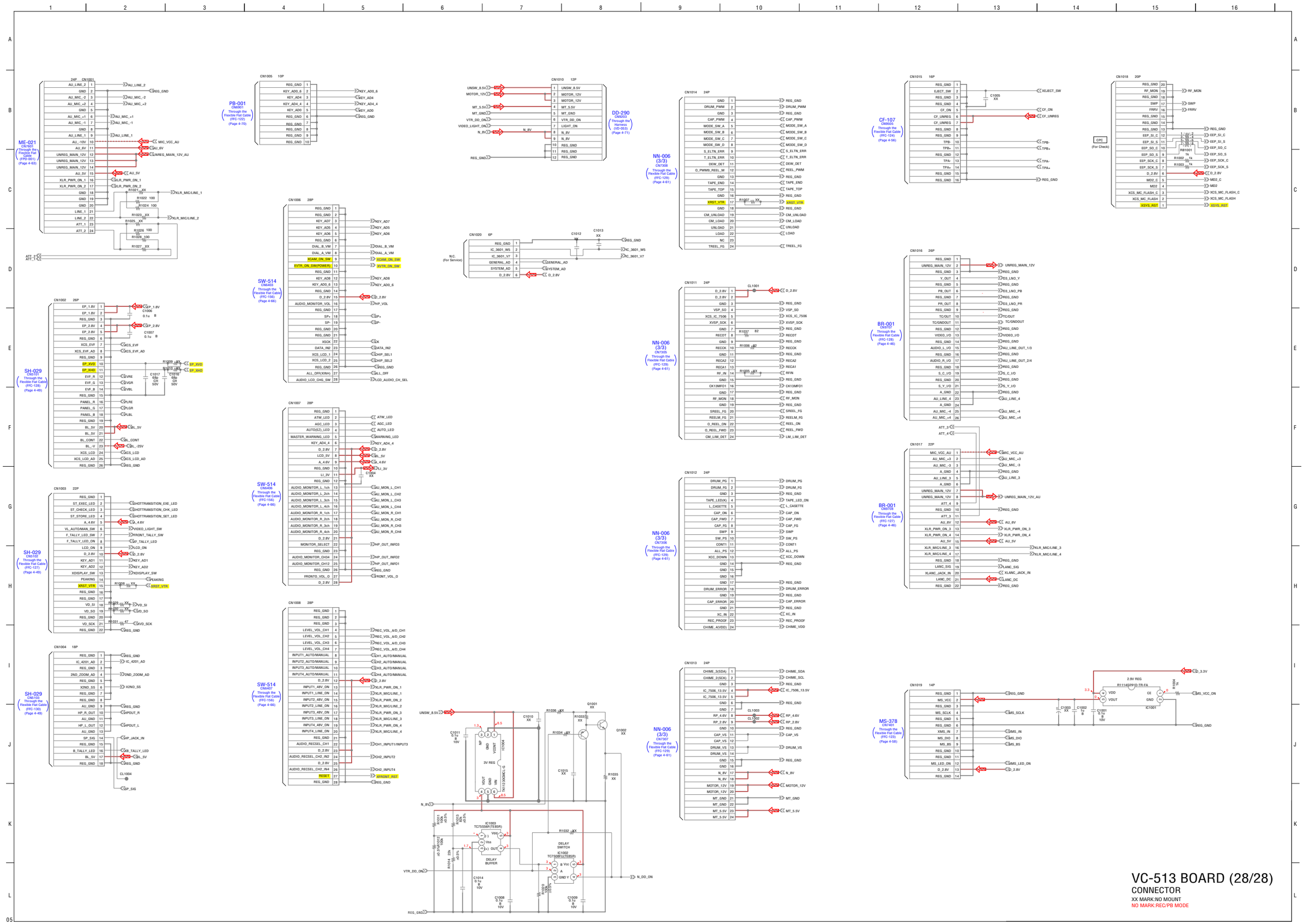
★ R4017
3.3k: NTSC:S270J/S270U/S270N
15k: PAL: S270E/S270P/S270C

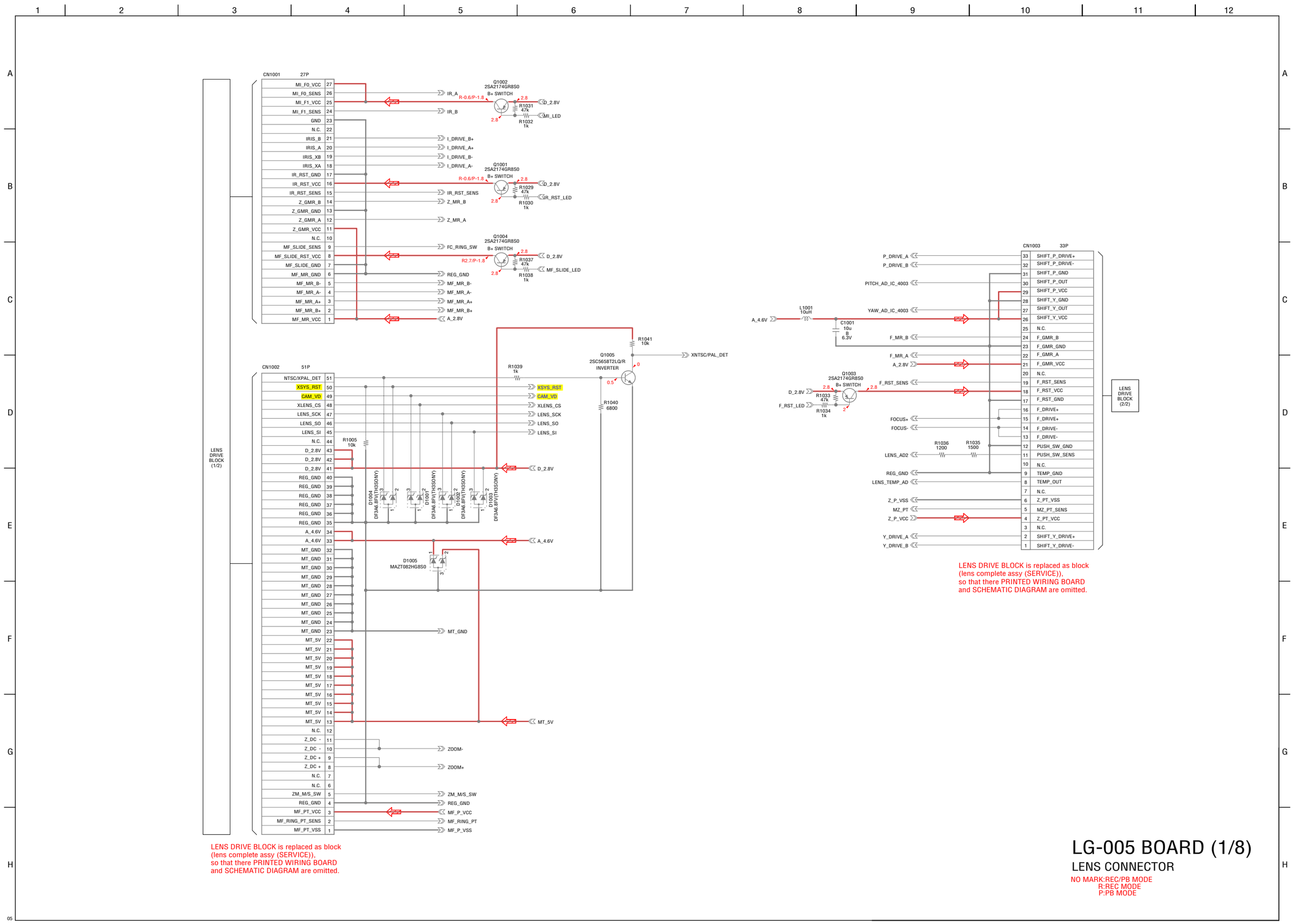
• Refer to page 4-3 (English), 4-4 (Japanese) for mark ⚠.



• Refer to page 4-3 (English), 4-4 (Japanese) for mark ⚠.




ME-021
CN7001
Through the Flexible Flat Cable (FFC-120) (FPD-001) (Page 4-43)
SH-029
CN5101
Through the Flexible Flat Cable (FFC-128) (Page 4-49)
SH-029
CN5102
Through the Flexible Flat Cable (FFC-127) (Page 4-48)
SH-029
CN5103
Through the Flexible Flat Cable (FFC-130) (Page 4-49)
PB-001
CN6901
Through the Flexible Flat Cable (FFC-122) (Page 4-70)
SW-514
CN6403
Through the Flexible Flat Cable (FFC-156) (Page 4-66)
SW-514
CN6405
Through the Flexible Flat Cable (FFC-156) (Page 4-66)
SW-514
CN6407
Through the Flexible Flat Cable (FFC-156) (Page 4-66)
DD-290
CN5503
Through the Harness (VD-053) (Page 4-71)
NN-006 (3/3)
CN7306
Through the Flexible Flat Cable (FFC-129) (Page 4-61)
NN-006 (3/3)
CN7305
Through the Flexible Flat Cable (FFC-129) (Page 4-61)
NN-006 (3/3)
CN7306
Through the Flexible Flat Cable (FFC-129) (Page 4-61)
NN-006 (3/3)
CN7307
Through the Flexible Flat Cable (FFC-129) (Page 4-61)
CF-107
CN9505
Through the Flexible Flat Cable (FFC-124) (Page 4-56)
BR-001
CN9707
Through the Flexible Flat Cable (FFC-128) (Page 4-46)
BR-001
CN9708
Through the Flexible Flat Cable (FFC-127) (Page 4-48)
MS-378
CN7401
Through the Flexible Flat Cable (FFC-123) (Page 4-58)
CPC
(For Check)
N.C.
(For Service)
VC-513 BOARD (28/28)
CONNECTOR
XX MARK:NO MOUNT
NO MARK:REC/PB MODE


CN1001 27P
MI_F0_VCC 27
MI_F0_SENS 26
MI_F1_VCC 25
MI_F1_SENS 24
GND 23
N.C. 22
IRIS_B 21
IRIS_A 20
IRIS_XB 19
IRIS_XA 18
IR_RST_GND 17
IR_RST_VCC 16
IR_RST_SENS 15
Z_GMR_B 14
Z_GMR_GND 13
Z_GMR_A 12
Z_GMR_VCC 11
N.C. 10
MF_SLIDE_SENS 9
MF_SLIDE_RST_VCC 8
MF_SLIDE_GND 7
MF_MR_GND 6
MF_MR_B- 5
MF_MR_A- 4
MF_MR_A+ 3
MF_MR_B+ 2
MF_MR_VCC 1
IR_A
IR_B
I_DRIVE_B+
I_DRIVE_A+
I_DRIVE_B-
I_DRIVE_A-
IR_RST_SENS
Z_MR_B
Z_MR_A
FC_RING_SW
REG_GND
MF_MR_B-
MF_MR_A-
MF_MR_A+
MF_MR_B+
A_2.8V
Q1002 2SA2174GR8S0 B+ SWITCH
R-0.6/P-1.8
2.8
R1031 47k
R1032 1k
D_2.8V
MI_LED
Q1001 2SA2174GR8S0 B+ SWITCH
R1029 47k
R1030 1k
IR_RST_LED
Q1004 2SA2174GR8S0 B+ SWITCH
R2.7/P-1.8
R1037 47k
R1038 1k
MF_SLIDE_LED
CN1002 51P
NTSC/XPAL_DET 51
XSYS_RST 50
CAM_VD 49
XLENS_CS 48
LENS_SCK 47
LENS_SO 46
LENS_SI 45
N.C. 44
D_2.8V 43
D_2.8V 42
D_2.8V 41
REG_GND 40
REG_GND 39
REG_GND 38
REG_GND 37
REG_GND 36
REG_GND 35
A_4.6V 34
A_4.6V 33
MT_GND 32
MT_GND 31
MT_GND 30
MT_GND 29
MT_GND 28
MT_GND 27
MT_GND 26
MT_GND 25
MT_GND 24
MT_GND 23
MT_5V 22
MT_5V 21
MT_5V 20
MT_5V 19
MT_5V 18
MT_5V 17
MT_5V 16
MT_5V 15
MT_5V 14
MT_5V 13
N.C. 12
Z_DC - 11
Z_DC - 10
Z_DC + 9
Z_DC + 8
N.C. 7
N.C. 6
ZM_M/S_SW 5
REG_GND 4
MF_PT_VCC 3
MF_RING_PT_SENS 2
MF_PT_VSS 1
R1041 10k
XNTSC/PAL_DET
Q1005 2SC5658T2LQ/R INVERTER
R1039 1k
R1040 6800
R1005 10k
D1004 DF3A6.8FV(TH3SONY)
D1001 DF3A6.8FV(TH3SONY)
D1002 DF3A6.8FV(TH3SONY)
D1003 DF3A6.8FV(TH3SONY)
D1005 MAZT082HG8S0
ZOOM-
ZOOM+
ZM_M/S_SW
MF_P_VCC
MF_RING_PT
MF_P_VSS
LENS DRIVE BLOCK (1/2)
LENS DRIVE BLOCK is replaced as block (lens complete assy (SERVICE)), so that there PRINTED WIRING BOARD and SCHEMATIC DIAGRAM are omitted.
CN1003 33P
P_DRIVE_A 33
P_DRIVE_B 32
PITCH_AD_IC_4003 31
YAW_AD_IC_4003 30
A_4.6V 29
F_MR_B 28
F_MR_A 27
A_2.8V 26
F_RST_SENS 25
D_2.8V 24
F_RST_LED 23
FOCUS+ 22
FOCUS- 21
LENS_AD2 20
REG_GND 19
LENS_TEMP_AD 18
Z_P_VSS 17
MZ_PT 16
Z_P_VCC 15
Y_DRIVE_A 14
Y_DRIVE_B 13
N.C. 12
N.C. 11
N.C. 10
TEMP_GND 9
TEMP_OUT 8
N.C. 7
Z_PT_VSS 6
MZ_PT_SENS 5
Z_PT_VCC 4
N.C. 3
SHIFT_Y_DRIVE+ 2
SHIFT_Y_DRIVE- 1
L1001 10uH
C1001 10u B 6.3V
Q1003 2SA2174GR8S0 B+ SWITCH
R1033 47k
R1034 1k
R1036 1200
R1035 1500
SHIFT_P_DRIVE+
SHIFT_P_DRIVE-
SHIFT_P_GND
SHIFT_P_OUT
SHIFT_P_VCC
SHIFT_Y_GND
SHIFT_Y_OUT
SHIFT_Y_VCC
N.C.
F_GMR_B
F_GMR_GND
F_GMR_A
F_GMR_VCC
N.C.
F_RST_SENS
F_RST_VCC
F_RST_GND
F_DRIVE+
F_DRIVE+
F_DRIVE-
F_DRIVE-
PUSH_SW_GND
PUSH_SW_SENS
N.C.
TEMP_GND
TEMP_OUT
N.C.
Z_PT_VSS
MZ_PT_SENS
Z_PT_VCC
N.C.
SHIFT_Y_DRIVE+
SHIFT_Y_DRIVE-
LENS DRIVE BLOCK (2/2)
LENS DRIVE BLOCK is replaced as block (lens complete assy (SERVICE)), so that there PRINTED WIRING BOARD and SCHEMATIC DIAGRAM are omitted.
LG-005 BOARD (1/8)
LENS CONNECTOR
NO MARK:REC/PB MODE
R:REC MODE
P:PB MODE

LG-005 BOARD (2/8)

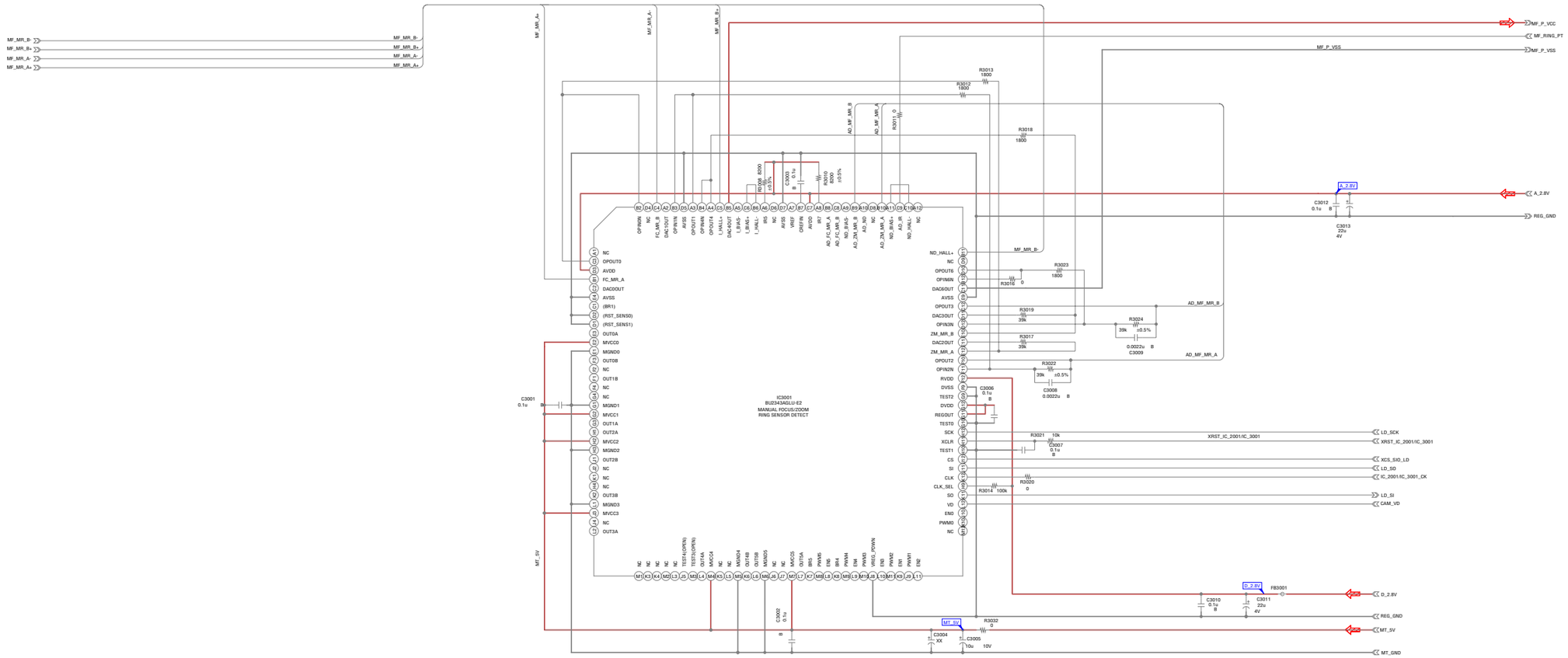
LENS DRIVE

XX MARK:NO MOUNT

NO MARK:REC/PB MODE

IC2001
BU2343AGLU-E2
FOCUS/ZOOM MOTOR DRIVE

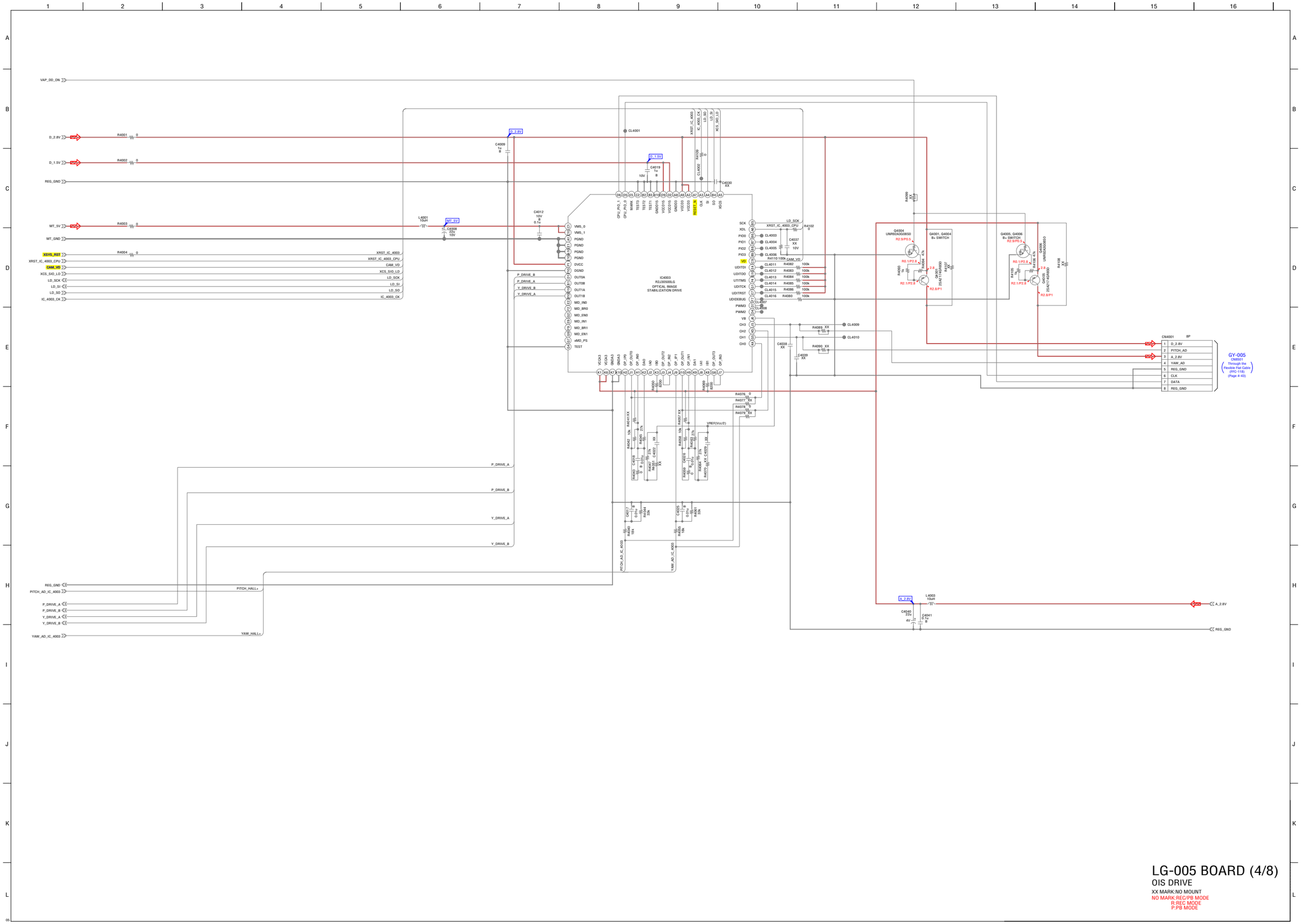
IC2004
AD7928WMZ-RL7
A/D CONVERTER



LG-005 BOARD (3/8)

LENS DETECT

XX MARK:NO MOUNT

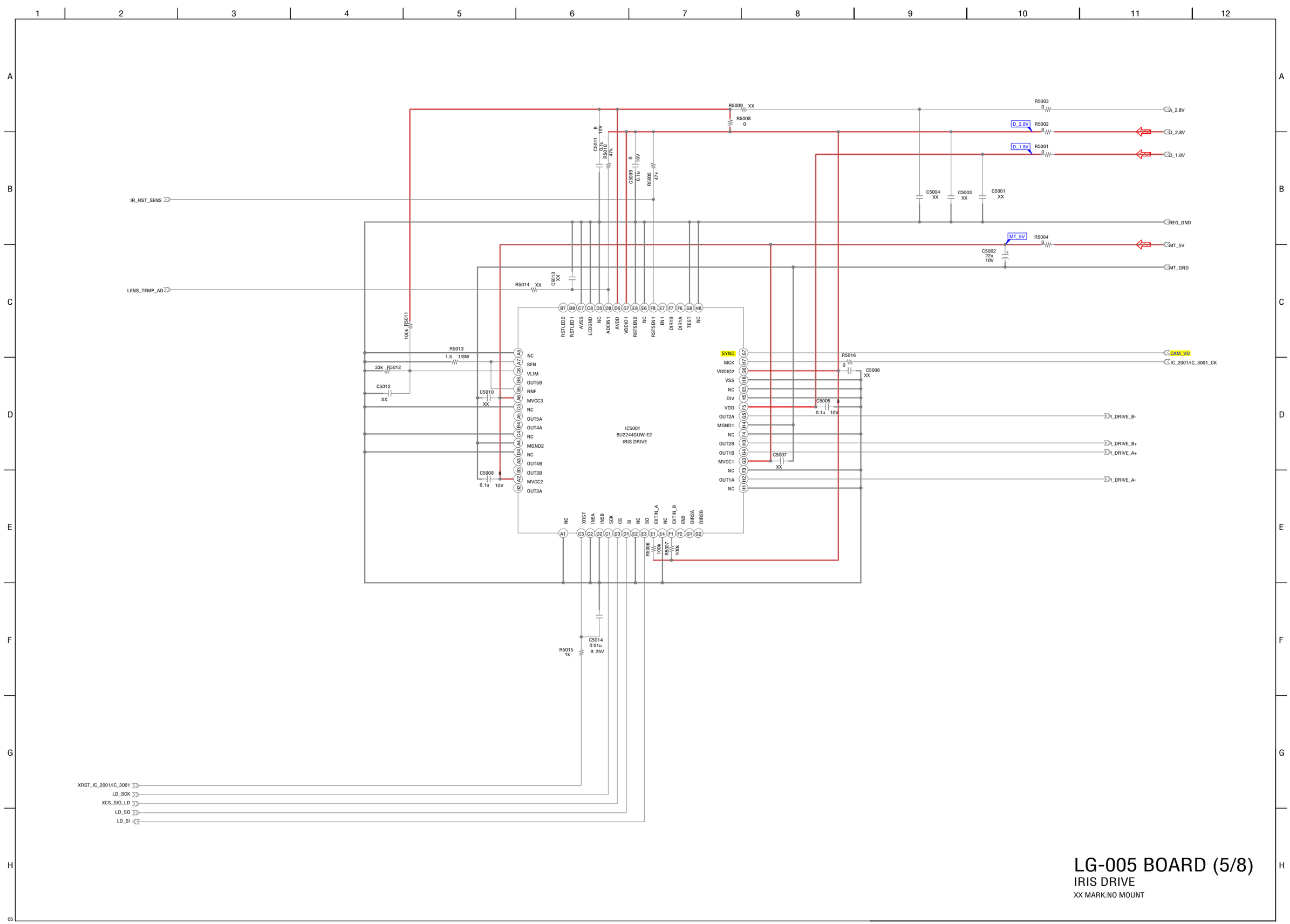


LG-005 BOARD (4/8)

OIS DRIVE

XX MARK:NO MOUNT

NO MARK:REC/PB MODE
R:REC MODE
P:PB MODE



LG-005 BOARD (5/8)

IRIS DRIVE

XX MARK:NO MOUNT

Note: IC6005 is not supplied, but this is included in LG-005 complete board.

IC6001 (1/2)
MB91F196BGLL-G-102-ERE1
CAMERA CONTROL

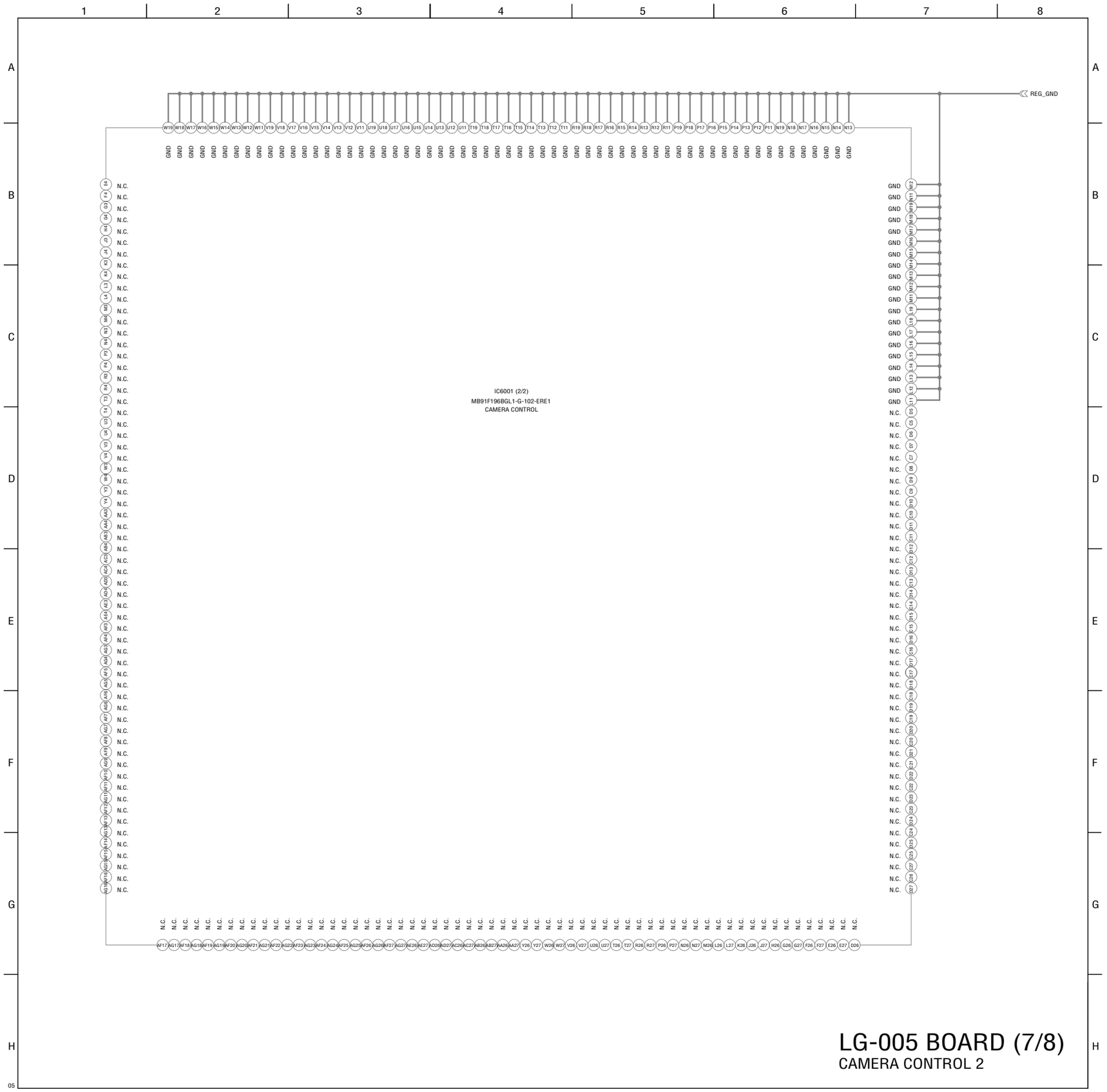
IC6005
AK6512CL-L
64K EEPROM

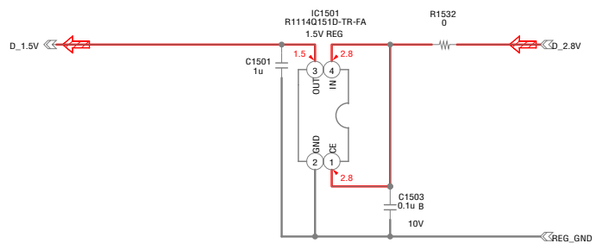
LG-005 BOARD (6/8)

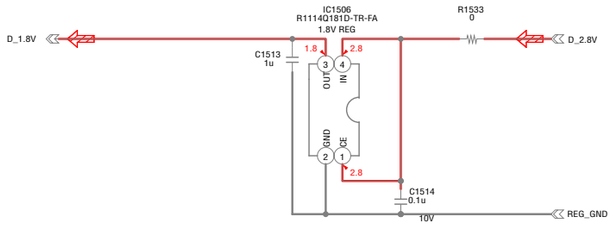
CAMERA CONTROL 1

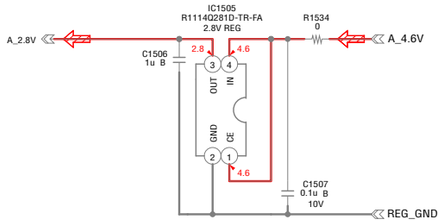
XX MARK:NO MOUNT

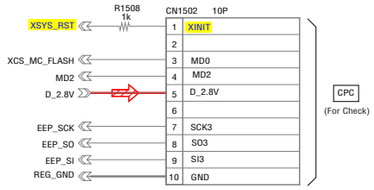
NO MARK:REC/PB MODE

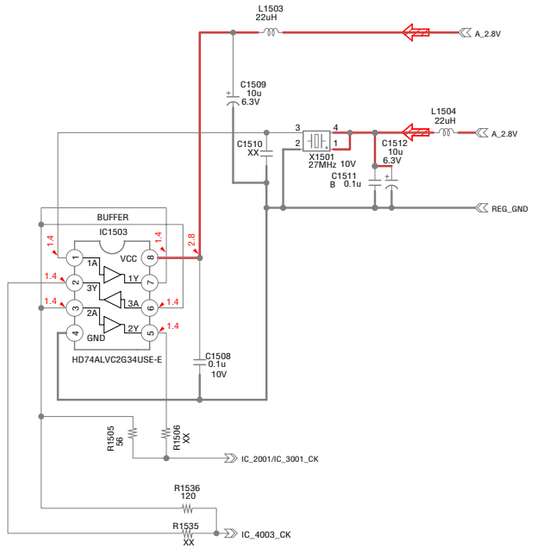

REG_GND
IC6001 (2/2)
MB91F196BGL1-G-102-ERE1
CAMERA CONTROL
LG-005 BOARD (7/8)
CAMERA CONTROL 2

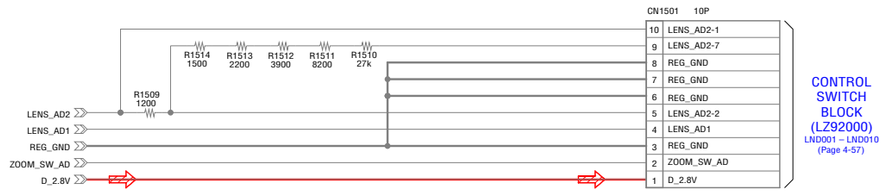










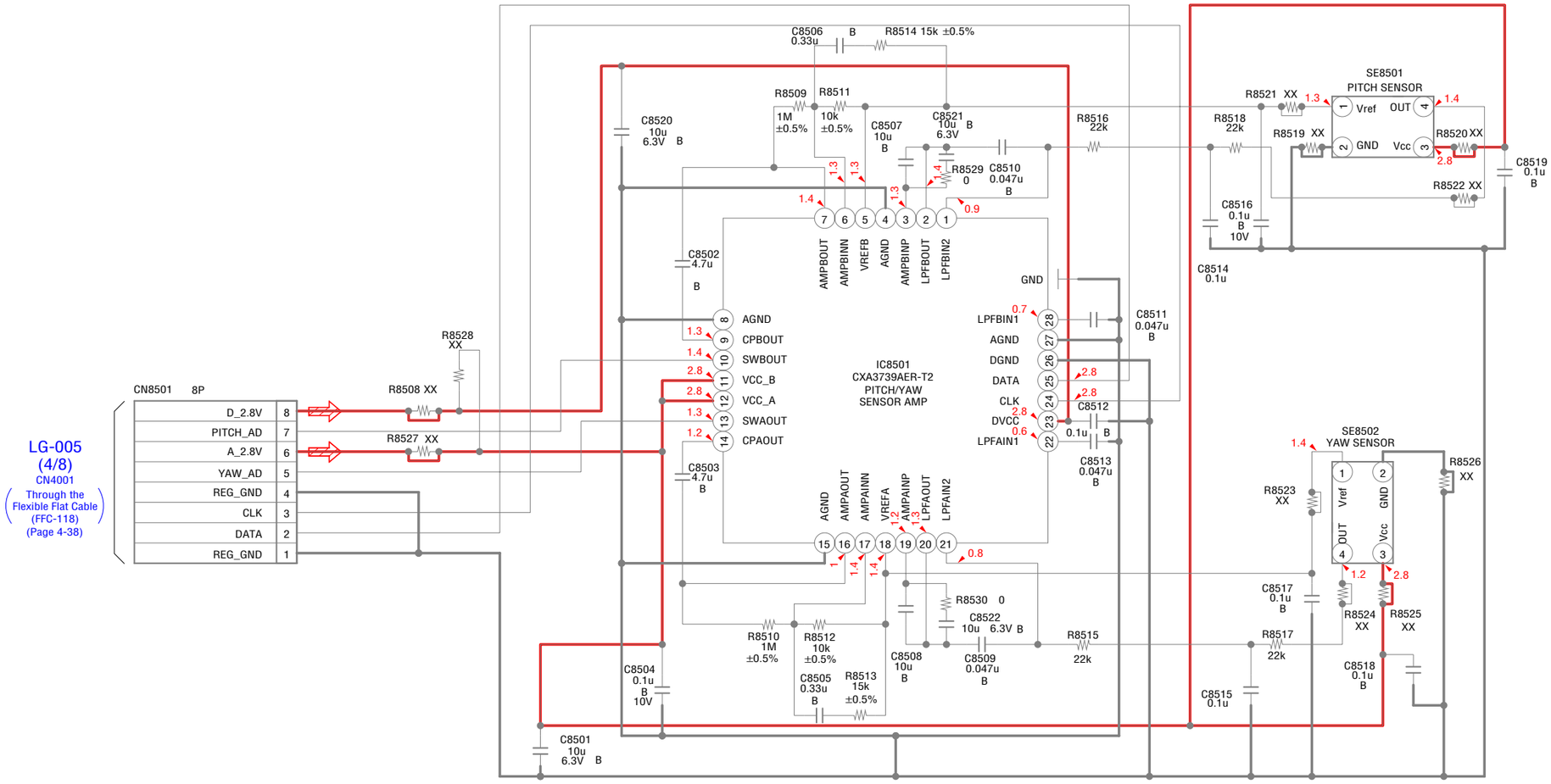


LG-005 BOARD (8/8)

REGULATOR

XX MARK:NO MOUNT

NO MARK:REC/PB MODE

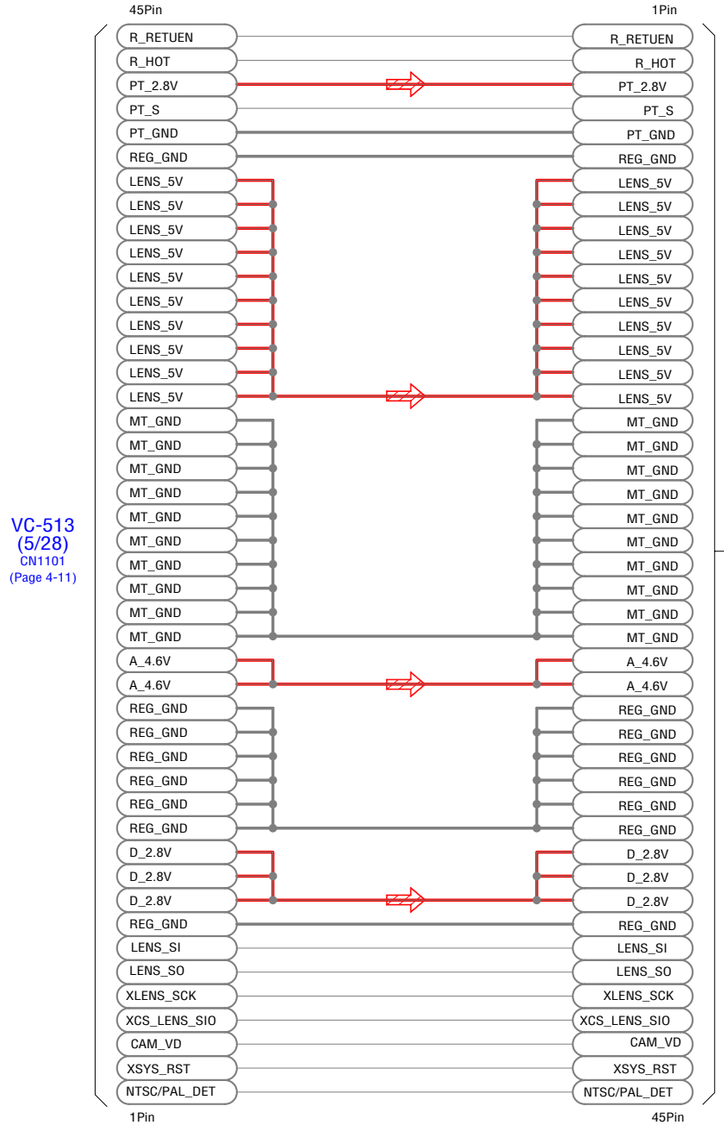


GY-005 BOARD

PITCH/YAW SENSOR

XX MARK:NO MOUNT

NO MARK:REC/PB MODE



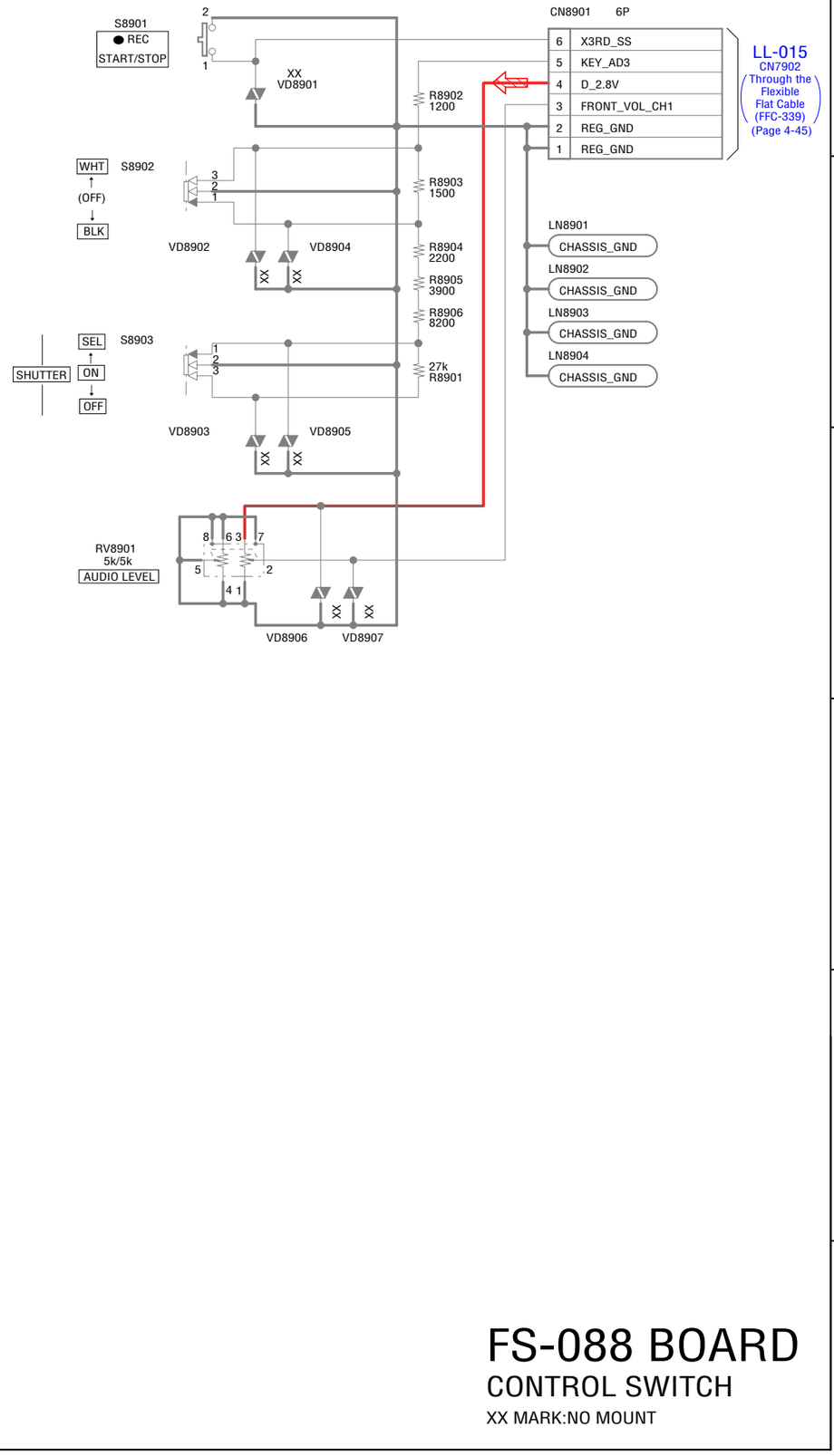
VC-513
(5/28)
CN1101
(Page 4-11)

CAMERA MOUNT (TZ253B)

FP-766 FLEXIBLE BOARD

VC-LENS CONNECTION

(PRINTED WIRING BOARD is omitted.)

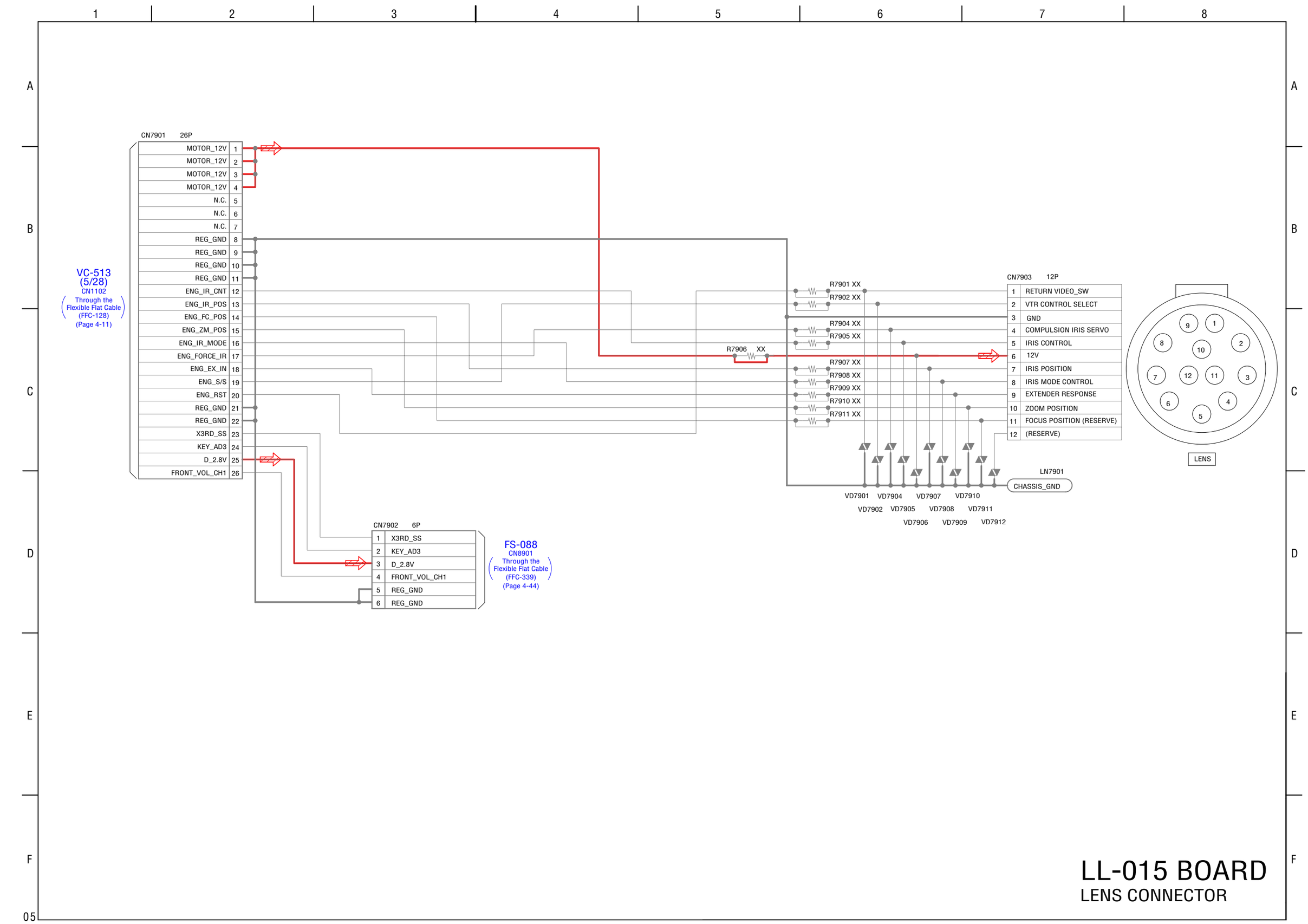


LL-015
CN7902
(Through the Flexible Flat Cable (FFC-339)
(Page 4-45)

FS-088 BOARD

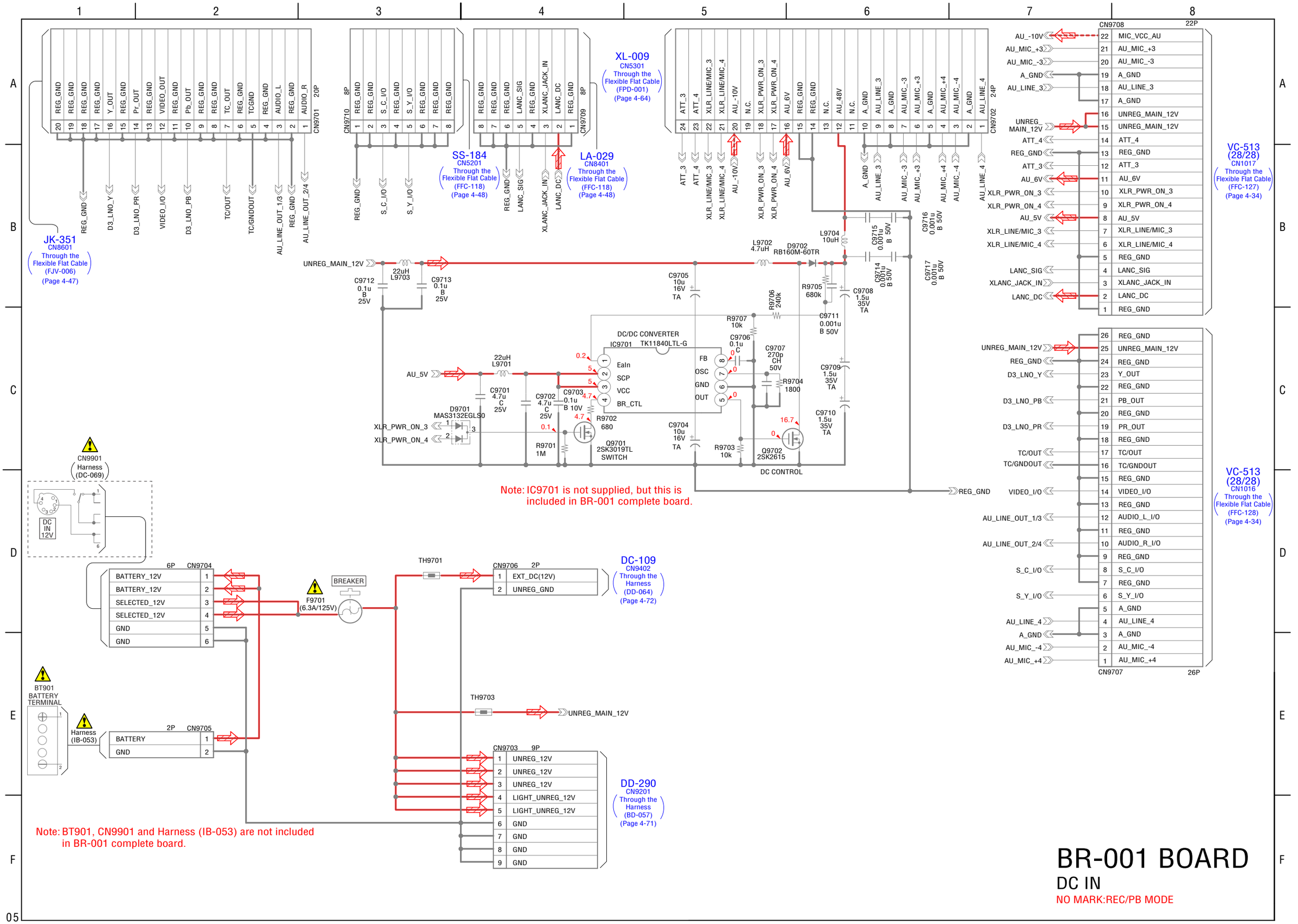
CONTROL SWITCH

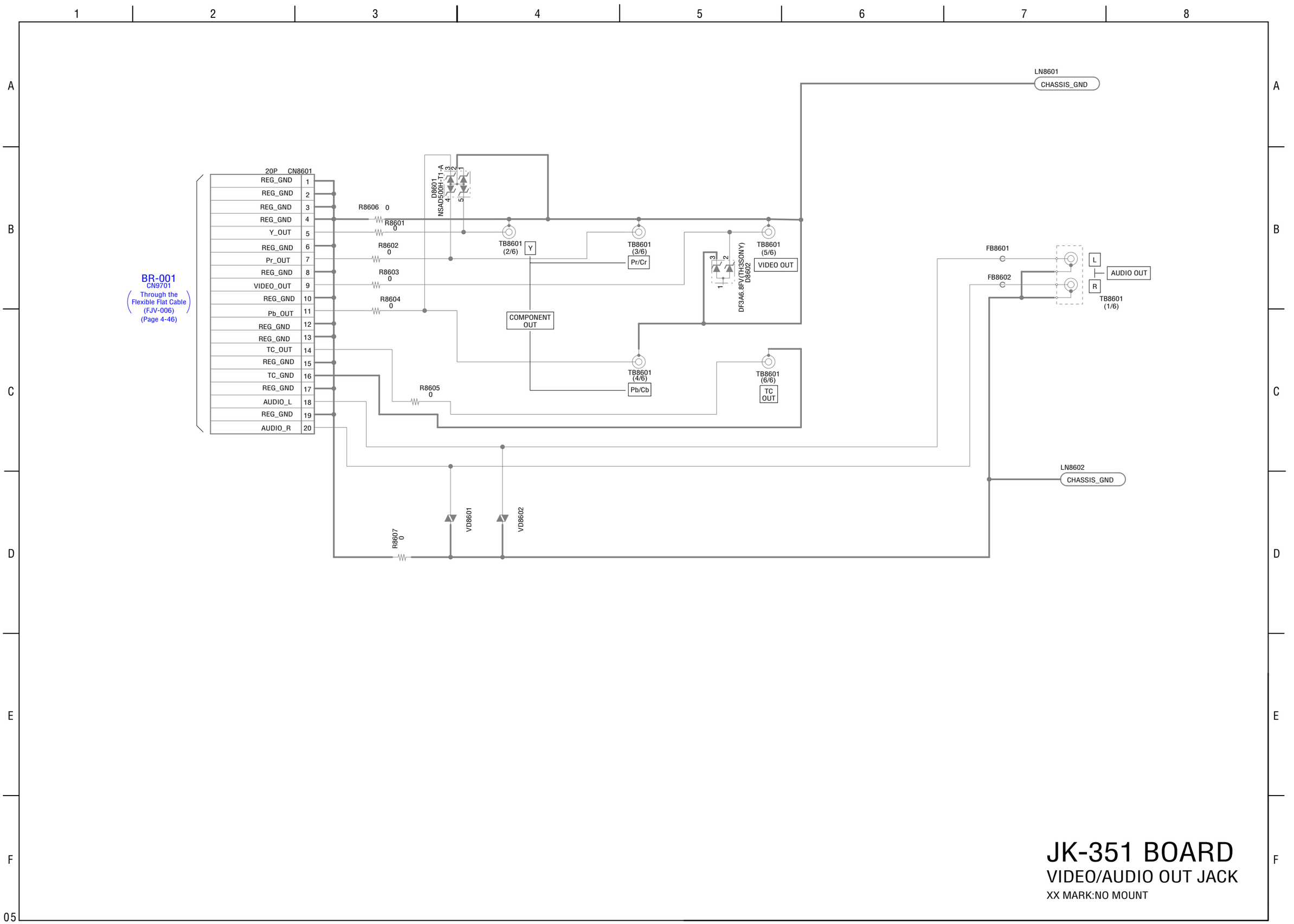
XX MARK:NO MOUNT

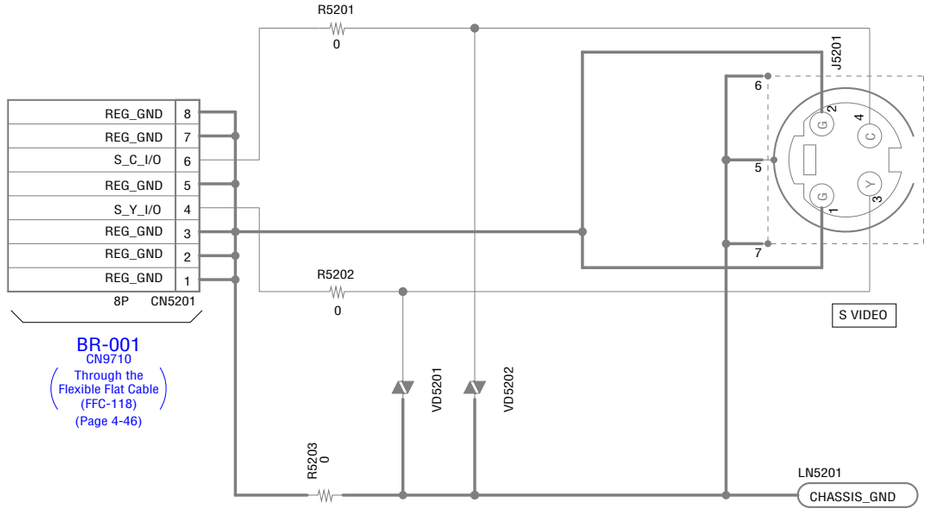


LL-015 BOARD
LENS CONNECTOR

• Refer to page 4-3 (English), 4-4 (Japanese) for mark ⚠.

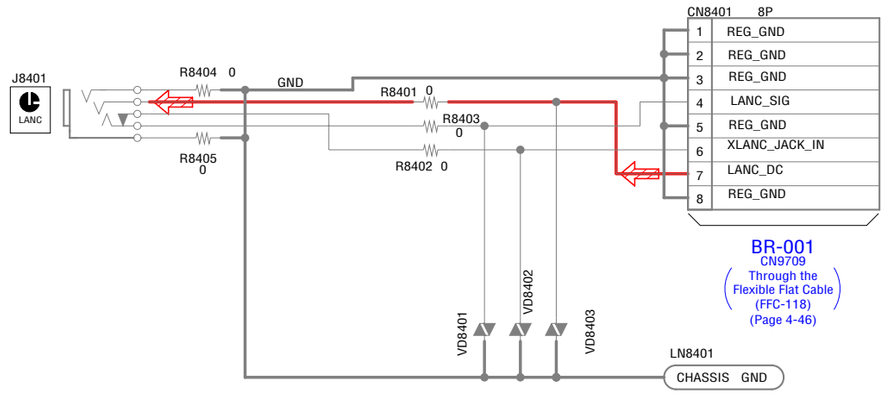



1
2
3
4
5
6
7
8
A
B
C
D
E
F
05
BR-001
CN9701
Through the Flexible Flat Cable (FJV-006)
(Page 4-46)
20P CN8601
REG_GND 1
REG_GND 2
REG_GND 3
REG_GND 4
Y_OUT 5
REG_GND 6
Pr_OUT 7
REG_GND 8
VIDEO_OUT 9
REG_GND 10
Pb_OUT 11
REG_GND 12
REG_GND 13
TC_OUT 14
REG_GND 15
TC_GND 16
REG_GND 17
AUDIO_L 18
REG_GND 19
AUDIO_R 20
R8606 0
R8601 0
R8602 0
R8603 0
R8604 0
R8605 0
R8607 0
D8601 NSAD500H-T1-A
VD8601
VD8602
TB8601 (2/6) Y
TB8601 (3/6) Pr/Cr
TB8601 (4/6) Pb/Cb
TB8601 (5/6) VIDEO OUT
TB8601 (6/6) TC OUT
COMPONENT OUT
DF3A6.8FV(TH3SONY) D8602
LN8601 CHASSIS_GND
FB8601
FB8602
L
R
AUDIO OUT
TB8601 (1/6)
LN8602 CHASSIS_GND
JK-351 BOARD
VIDEO/AUDIO OUT JACK
XX MARK:NO MOUNT



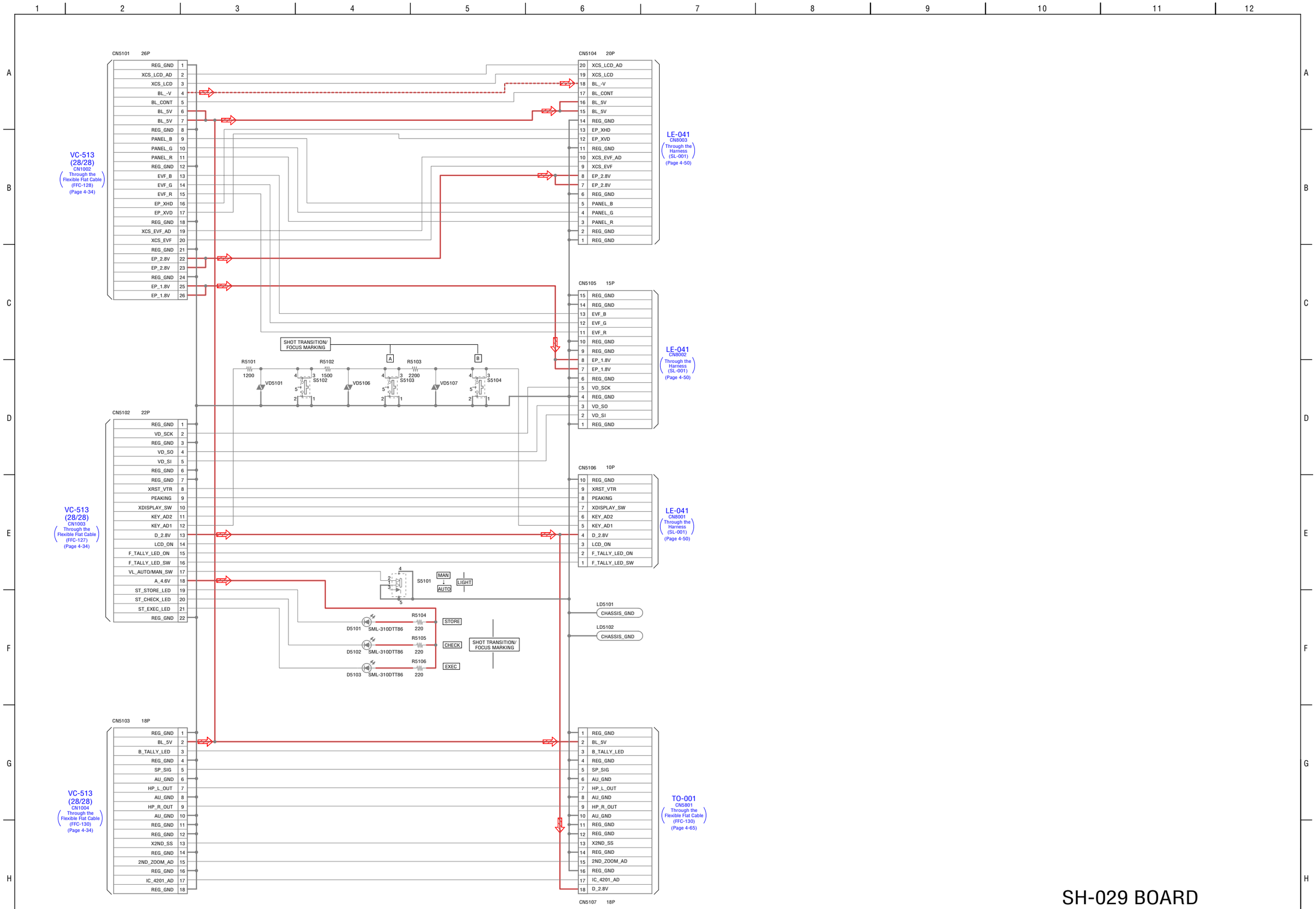
BR-001
CN9710
Through the Flexible Flat Cable (FFC-118)
(Page 4-46)

SS-184 BOARD
S VIDEO JACK



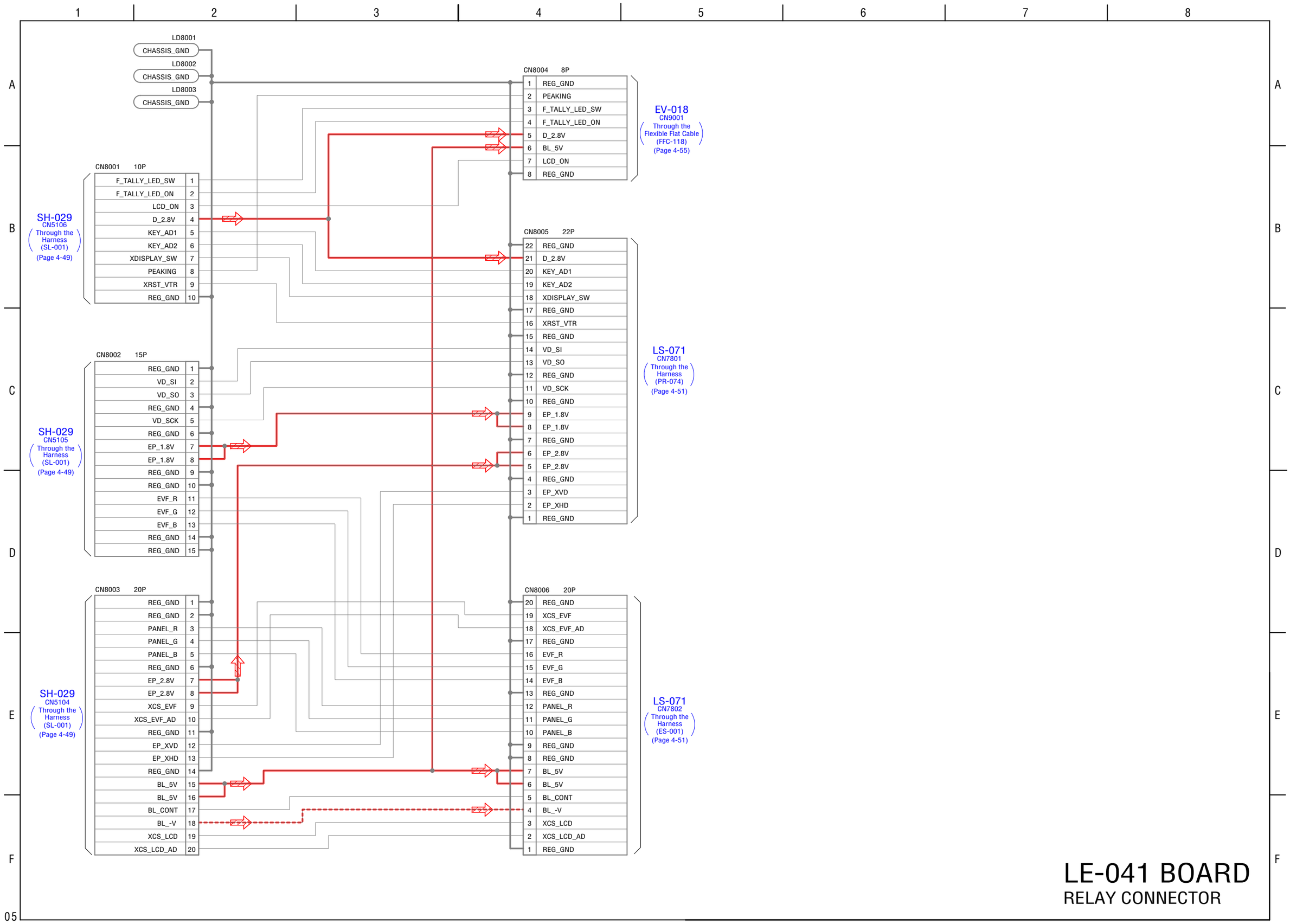
BR-001
CN9709
Through the Flexible Flat Cable (FFC-118)
(Page 4-46)

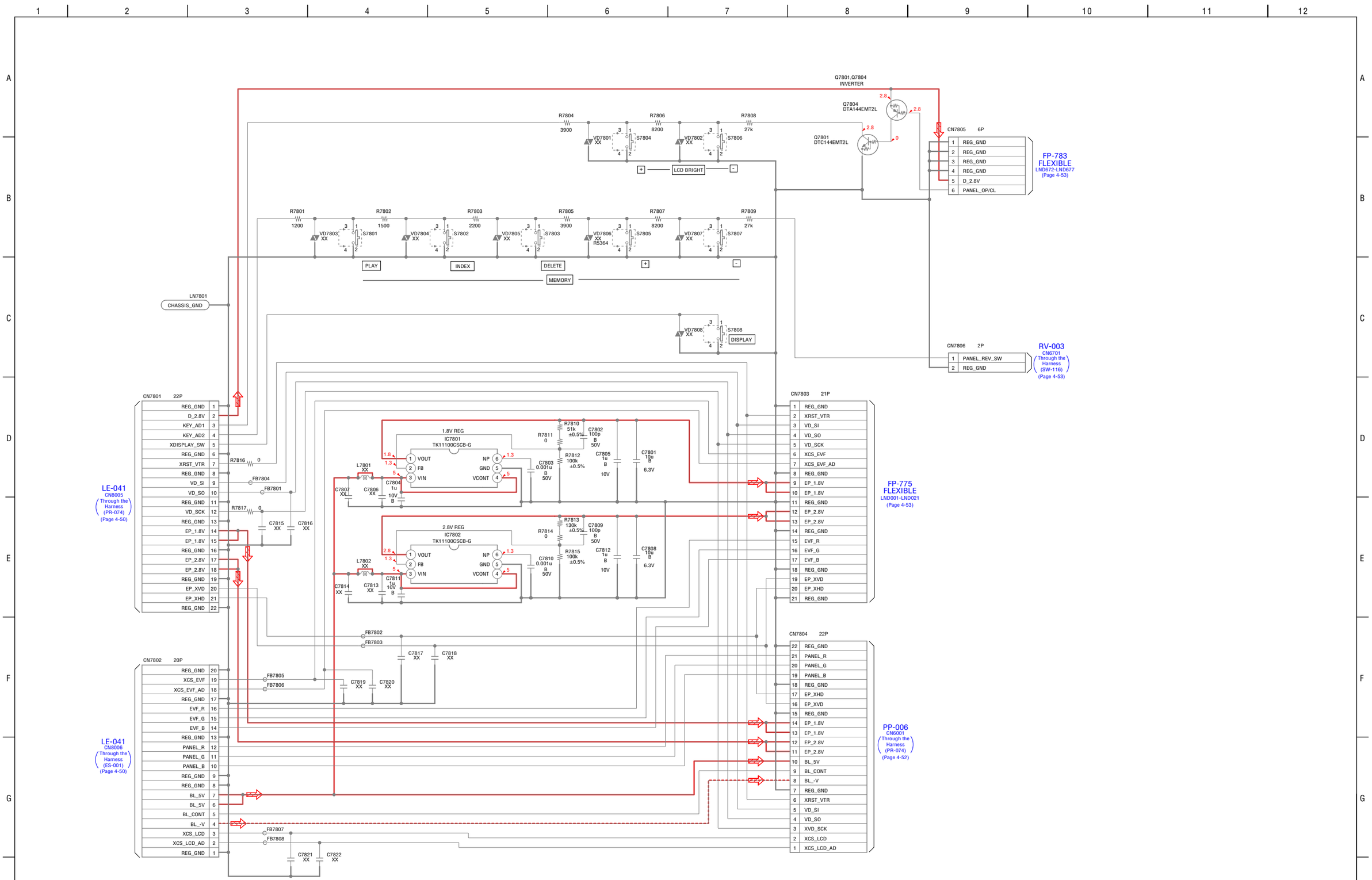
LA-029 BOARD
LANC JACK

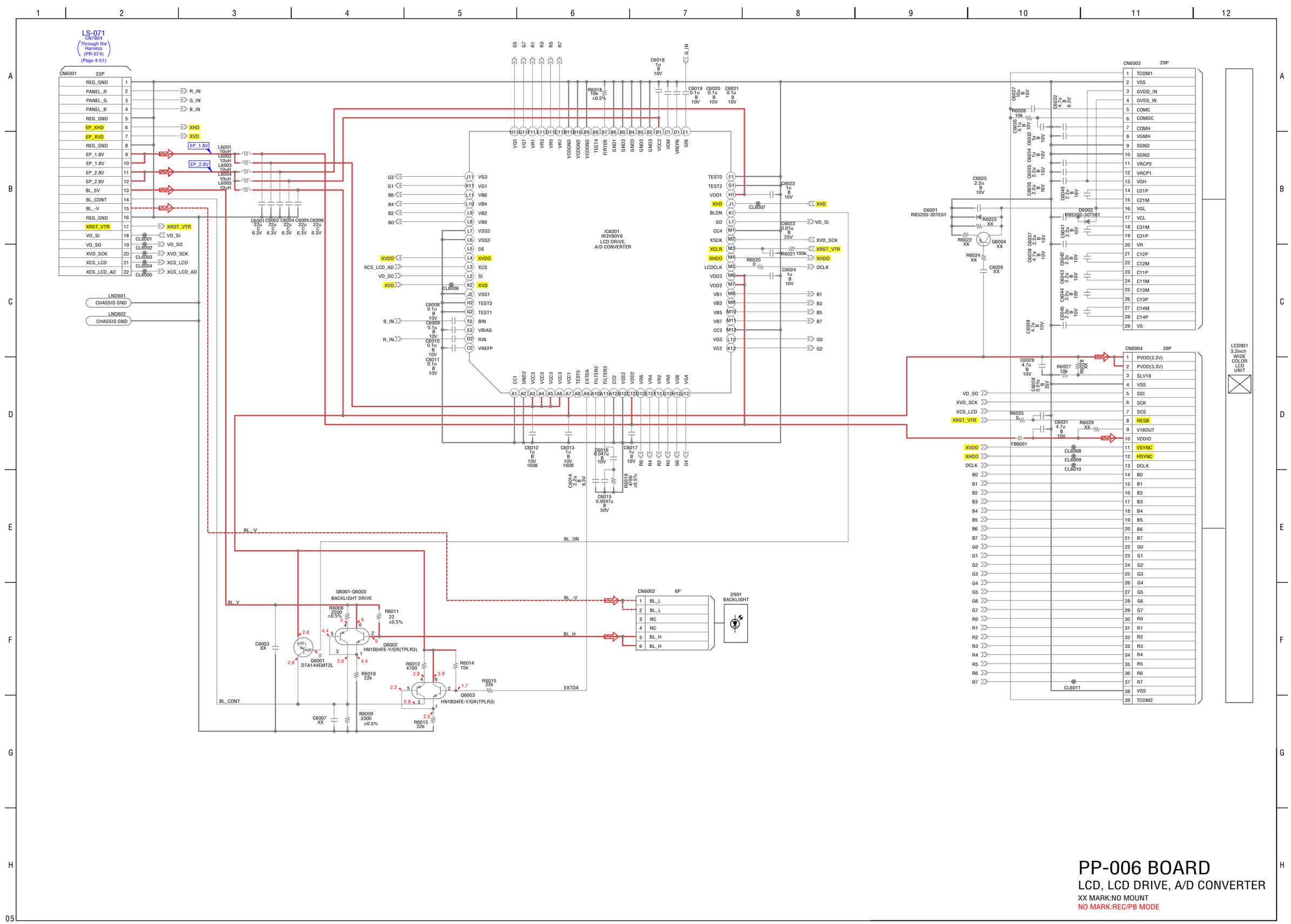


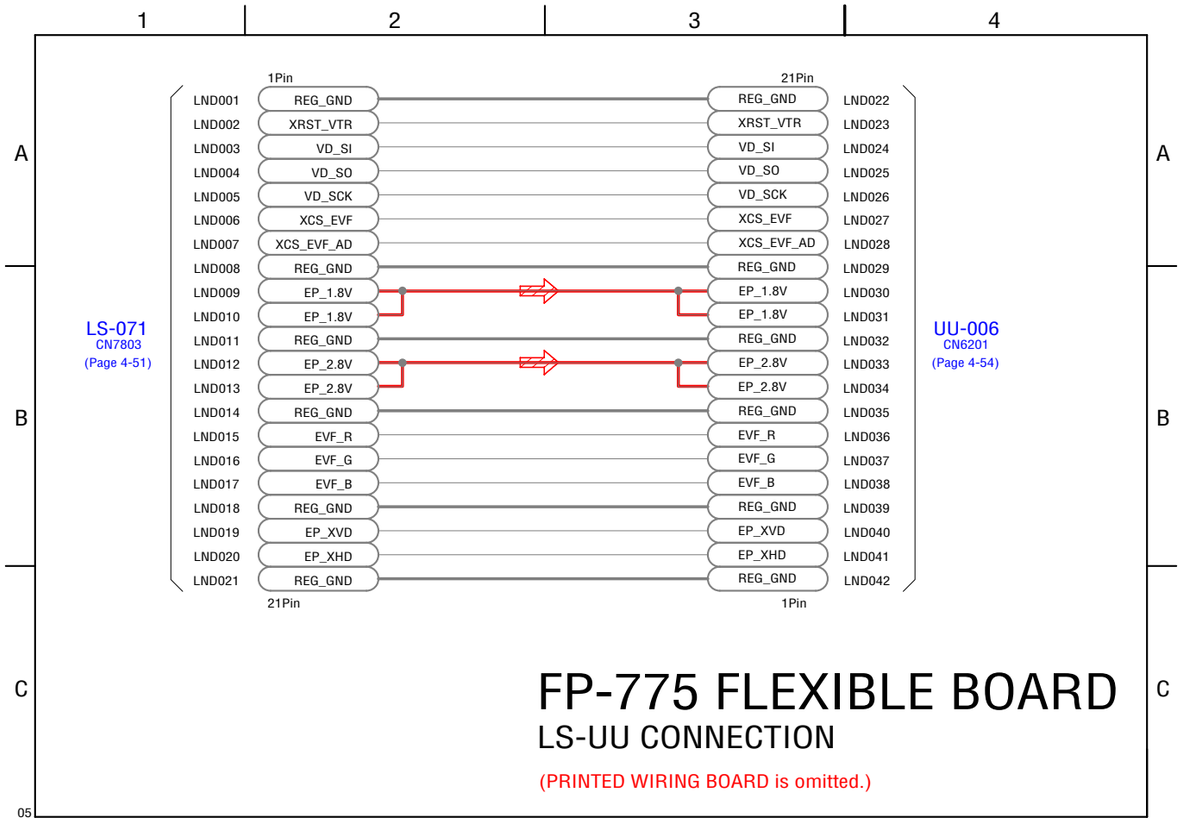
SH-029 BOARD

CONTROL SWITCH, RELAY CONNECTOR


LD8001
CHASSIS_GND
LD8002
CHASSIS_GND
LD8003
CHASSIS_GND
CN8004 8P
1 REG_GND
2 PEAKING
3 F_TALLY_LED_SW
4 F_TALLY_LED_ON
5 D_2.8V
6 BL_5V
7 LCD_ON
8 REG_GND
EV-018
CN9001
Through the Flexible Flat Cable (FFC-118)
(Page 4-55)
CN8001 10P
F_TALLY_LED_SW 1
F_TALLY_LED_ON 2
LCD_ON 3
D_2.8V 4
KEY_AD1 5
KEY_AD2 6
XDISPLAY_SW 7
PEAKING 8
XRST_VTR 9
REG_GND 10
SH-029
CN5106
Through the Harness (SL-001)
(Page 4-49)
CN8005 22P
22 REG_GND
21 D_2.8V
20 KEY_AD1
19 KEY_AD2
18 XDISPLAY_SW
17 REG_GND
16 XRST_VTR
15 REG_GND
14 VD_SI
13 VD_SO
12 REG_GND
11 VD_SCK
10 REG_GND
9 EP_1.8V
8 EP_1.8V
7 REG_GND
6 EP_2.8V
5 EP_2.8V
4 REG_GND
3 EP_XVD
2 EP_XHD
1 REG_GND
LS-071
CN7801
Through the Harness (PR-074)
(Page 4-51)
CN8002 15P
REG_GND 1
VD_SI 2
VD_SO 3
REG_GND 4
VD_SCK 5
REG_GND 6
EP_1.8V 7
EP_1.8V 8
REG_GND 9
REG_GND 10
EVF_R 11
EVF_G 12
EVF_B 13
REG_GND 14
REG_GND 15
SH-029
CN5105
Through the Harness (SL-001)
(Page 4-49)
CN8003 20P
REG_GND 1
REG_GND 2
PANEL_R 3
PANEL_G 4
PANEL_B 5
REG_GND 6
EP_2.8V 7
EP_2.8V 8
XCS_EVF 9
XCS_EVF_AD 10
REG_GND 11
EP_XVD 12
EP_XHD 13
REG_GND 14
BL_5V 15
BL_5V 16
BL_CONT 17
BL_-V 18
XCS_LCD 19
XCS_LCD_AD 20
SH-029
CN5104
Through the Harness (SL-001)
(Page 4-49)
CN8006 20P
20 REG_GND
19 XCS_EVF
18 XCS_EVF_AD
17 REG_GND
16 EVF_R
15 EVF_G
14 EVF_B
13 REG_GND
12 PANEL_R
11 PANEL_G
10 PANEL_B
9 REG_GND
8 REG_GND
7 BL_5V
6 BL_5V
5 BL_CONT
4 BL_-V
3 XCS_LCD
2 XCS_LCD_AD
1 REG_GND
LS-071
CN7802
Through the Harness (ES-001)
(Page 4-51)
LE-041 BOARD
RELAY CONNECTOR


Q7801,Q7804
INVERTER
Q7804
DTA144EMT2L
Q7801
DTC144EMT2L
R7804 3900
R7806 8200
R7808 27k
R7801 1200
R7802 1500
R7803 2200
R7805 3900
R7807 8200
R7809 27k
VD7801 XX
VD7802 XX
VD7803 XX
VD7804 XX
VD7805 XX
VD7806 XX R5364
VD7807 XX
VD7808 XX
S7804
S7806
S7801
S7802
S7803
S7805
S7807
S7808
LCD BRIGHT
PLAY
INDEX
DELETE
MEMORY
DISPLAY
LN7801
CHASSIS_GND
CN7805 6P
1 REG_GND
2 REG_GND
3 REG_GND
4 REG_GND
5 D_2.8V
6 PANEL_OP/CL
FP-783
FLEXIBLE
LND672-LND677
(Page 4-53)
CN7806 2P
1 PANEL_REV_SW
2 REG_GND
RV-003
CN6701
Through the Harness
(SW-116)
(Page 4-53)
CN7801 22P
REG_GND 1
D_2.8V 2
KEY_AD1 3
KEY_AD2 4
XDISPLAY_SW 5
REG_GND 6
XRST_VTR 7
REG_GND 8
VD_SI 9
VD_SO 10
REG_GND 11
VD_SCK 12
REG_GND 13
EP_1.8V 14
EP_1.8V 15
REG_GND 16
EP_2.8V 17
EP_2.8V 18
REG_GND 19
EP_XVD 20
EP_XHD 21
REG_GND 22
LE-041
CN8005
Through the Harness
(PR-074)
(Page 4-50)
R7816 0
R7817 0
FB7804
FB7801
C7815 XX
C7816 XX
1.8V REG
IC7801
TK11100CSCB-G
VOUT
FB
VIN
NP
GND
VCONT
R7810 51k ±0.5%
R7811 0
R7812 100k ±0.5%
C7802 100p B 50V
C7805 1u B 10V
C7801 10u B 6.3V
C7803 0.001u B 50V
L7801 XX
C7804 1u 10V B
C7807 XX
C7806 XX
2.8V REG
IC7802
TK11100CSCB-G
R7813 130k ±0.5%
R7814 0
R7815 100k ±0.5%
C7809 100p B 50V
C7812 1u B 10V
C7808 10u B 6.3V
C7810 0.001u B 50V
L7802 XX
C7811 1u 10V B
C7814 XX
C7813 XX
CN7803 21P
1 REG_GND
2 XRST_VTR
3 VD_SI
4 VD_SO
5 VD_SCK
6 XCS_EVF
7 XCS_EVF_AD
8 REG_GND
9 EP_1.8V
10 EP_1.8V
11 REG_GND
12 EP_2.8V
13 EP_2.8V
14 REG_GND
15 EVF_R
16 EVF_G
17 EVF_B
18 REG_GND
19 EP_XVD
20 EP_XHD
21 REG_GND
FP-775
FLEXIBLE
LND001-LND021
(Page 4-53)
CN7804 22P
22 REG_GND
21 PANEL_R
20 PANEL_G
19 PANEL_B
18 REG_GND
17 EP_XHD
16 EP_XVD
15 REG_GND
14 EP_1.8V
13 EP_1.8V
12 EP_2.8V
11 EP_2.8V
10 BL_5V
9 BL_CONT
8 BL_-V
7 REG_GND
6 XRST_VTR
5 VD_SI
4 VD_SO
3 XVD_SCK
2 XCS_LCD
1 XCS_LCD_AD
PP-006
CN6001
Through the Harness
(PR-074)
(Page 4-52)
CN7802 20P
REG_GND 20
XCS_EVF 19
XCS_EVF_AD 18
REG_GND 17
EVF_R 16
EVF_G 15
EVF_B 14
REG_GND 13
PANEL_R 12
PANEL_G 11
PANEL_B 10
REG_GND 9
REG_GND 8
BL_5V 7
BL_5V 6
BL_CONT 5
BL_-V 4
XCS_LCD 3
XCS_LCD_AD 2
REG_GND 1
LE-041
CN8006
Through the Harness
(ES-001)
(Page 4-50)
FB7802
FB7803
FB7805
FB7806
FB7807
FB7808
C7817 XX
C7818 XX
C7819 XX
C7820 XX
C7821 XX
C7822 XX
LS-071 BOARD
EVF CONTROL SWITCH
XX MARK:NO MOUNT
NO MARK:REC/PB MODE

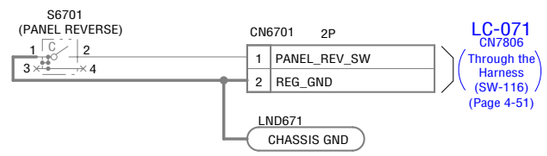

LS-071
CN7804
Through the Harness (PR-074)
(Page 4-51)
CN6001 22P
REG_GND 1
PANEL_R 2
PANEL_G 3
PANEL_B 4
REG_GND 5
EP_XHD 6
EP_XVD 7
REG_GND 8
EP_1.8V 9
EP_1.8V 10
EP_2.8V 11
EP_2.8V 12
BL_5V 13
BL_CONT 14
BL_-V 15
REG_GND 16
XRST_VTR 17
VD_SI 18
VD_SO 19
XVD_SCK 20
XCS_LCD 21
XCS_LCD_AD 22
R_IN
G_IN
B_IN
XHD
XVD
EP_1.8V
EP_2.8V
L6001 10uH
L6002 10uH
L6003 10uH
L6004 10uH
L6005 10uH
C6001 22u C 6.3V
C6002 22u C 6.3V
C6004 22u C 6.3V
C6005 22u C 6.3V
C6006 22u C 6.3V
XRST_VTR
VD_SI
VD_SO
XVD_SCK
XCS_LCD
XCS_LCD_AD
CL6001
CL6002
CL6003
CL6004
CL6005
LND601 CHASSIS GND
LND602 CHASSIS GND
G5 G7 R1 R3 R5 R7
G_IN
C6018 1u B 10V
R6018 10k ±0.5%
C6019 0.1u B 10V
C6020 0.1u B 10V
C6021 0.1u B 10V
H11 G11 F11 E11 D11 C11 B11 B10 B9 B8 B7 B6 B5 B4 B3 B2 B1 C1 D1 E1
VG5 VG7 VR1 VR3 VR5 VR7 VCOGND VCOGND VCOGND TEST4 FIRTER GND1 GND3 GND3 GND3 GND3 VCC2 VDM VREFM GIN
IC6001
IR3Y80Y6
LCD DRIVE,
A/D CONVERTER
G3 J11 VG3
G1 K11 VG1
B6 L11 VB6
B4 L10 VB4
B2 L9 VB2
B0 L8 VB0
L7 VSS2
L6 VSS3
L5 DE
XVDO L4 XVDO
XCS_LCD_AD L3 XCS
VD_SO L2 SI
XVD K2 XVD
CL6006
J2 VSS1
H2 TEST3
G2 TEST1
B_IN F2 BIN
C6009 0.1u B 10V
R_IN E2 VBIAS
C6010 0.1u B 10V
D2 RIN
C6011 0.1u B 10V
C2 VREFP
TEST0 F1
TEST2 G1
VDD1 H1
XHD J1 XHD
BLON K1
SO L1 VD_SI
CC4 M1
C6022 1u B 10V
CL6007
C6023 0.01u B 25V
XSCK M2 XVD_SCK
XCLR M3 XRST_VTR
R6021 100k
XHDO M4 XHDO
LCDCLK M5 DCLK
R6020 0
VDD3 M6
C6024 1u B 10V
VDD2 M7
VB1 M8 B1
VB3 M9 B3
VB5 M10 B5
VB7 M11 B7
CC3 M12
VG0 L12 G0
VG2 K12 G2
CC1 GND2 VCC3 VCC3 VCC3 VCC3 VCC1 TEST5 EXTDA FILTER2 FILTER3 CC2 VSS2 VDD2 VR6 VR4 VR2 VR0 VG6 VG4
A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 B12 C12 D12 E12 F12 G12 H12 J12
C6012 1u B 10V 1608
C6013 1u B 10V 1608
C6016 0.047u B 10V
C6017 1u B 10V
R6 R4 R2 R0 G6 G4
C6014 2.2u B 6.3V
R6019 470k ±0.5%
C6015 0.0047u B 50V
BL_-V
BL_ON
BL_V
Q6001-Q6003
BACKLIGHT DRIVE
R6008 2200 ±0.5%
R6011 22 ±0.5%
C6003 XX
Q6001 DTA144EMT2L
Q6002 HN1B04FE-Y/GR(TPLR3)
R6010 22k
R6012 4700
R6014 15k
R6015 22k
Q6003 HN1B04FE-Y/GR(TPLR3)
R6013 22k
C6007 XX
R6009 3300 ±0.5%
BL_CONT
EXTDA
BL_-V
BL_H
CN6002 6P
1 BL_L
2 BL_L
3 NC
4 NC
5 BL_H
6 BL_H
D901 BACKLIGHT
C6025 2.2u B 10V
D6001 RB520S-30TE61
R6023 XX
R6022 XX
Q6004 XX
R6024 XX
C6026 XX
C6027 10u B 10V
C6032 4.7u B 6.3V
R6026 10k
C6030 0.1u B 10V
C6033 1u B 10V
C6034 1u B 10V
C6035 2.2u B 10V
C6036 2.2u B 10V
C6040 2.2u B 10V
D6002 RB520S-30TE61
C6041 2.2u B 10V
C6037 2.2u B 10V
C6038 4.7u B 10V
C6042 2.2u B 10V
C6043 2.2u B 10V
C6044 2.2u B 10V
C6045 2.2u B 10V
C6039 4.7u B 10V
CN6003 29P
1 TCOM1
2 VSS
3 GVDD_IN
4 GVSS_IN
5 COMC
6 COMDC
7 COMH
8 VGMH
9 SGND
10 SGND
11 VRCP2
12 VRCP1
13 VGH
14 C21P
15 C21M
16 VGL
17 VCL
18 C31M
19 C31P
20 VR
21 C12P
22 C12M
23 C11P
24 C11M
25 C13M
26 C13P
27 C14M
28 C14P
29 VS
C6029 4.7u B 10V
R6027 10k
R6028 XX
C6028 0.01u B 25V
R6025 0
C6031 4.7u B 10V
R6029 XX
FB6001
CL6008
CL6009
CL6010
VD_SO
XVD_SCK
XCS_LCD
XRST_VTR
XVDO
XHDO
DCLK
B0 B1 B2 B3 B4 B5 B6 B7
G0 G1 G2 G3 G4 G5 G6 G7
R0 R1 R2 R3 R4 R5 R6 R7
CL6011
CN6004 39P
1 PVDD(3.3V)
2 PVDD(3.3V)
3 SLV18
4 VSS
5 SDI
6 SCK
7 SCS
8 RESB
9 V18OUT
10 VDDIO
11 VSYNC
12 HSYNC
13 DCLK
14 B0
15 B1
16 B2
17 B3
18 B4
19 B5
20 B6
21 B7
22 G0
23 G1
24 G2
25 G3
26 G4
27 G5
28 G6
29 G7
30 R0
31 R1
32 R2
33 R3
34 R4
35 R5
36 R6
37 R7
38 VSS
39 TCOM2
LCD901
3.2inch
WIDE
COLOR
LCD
UNIT
PP-006 BOARD
LCD, LCD DRIVE, A/D CONVERTER
XX MARK:NO MOUNT
NO MARK:REC/PB MODE



FP-775 FLEXIBLE BOARD

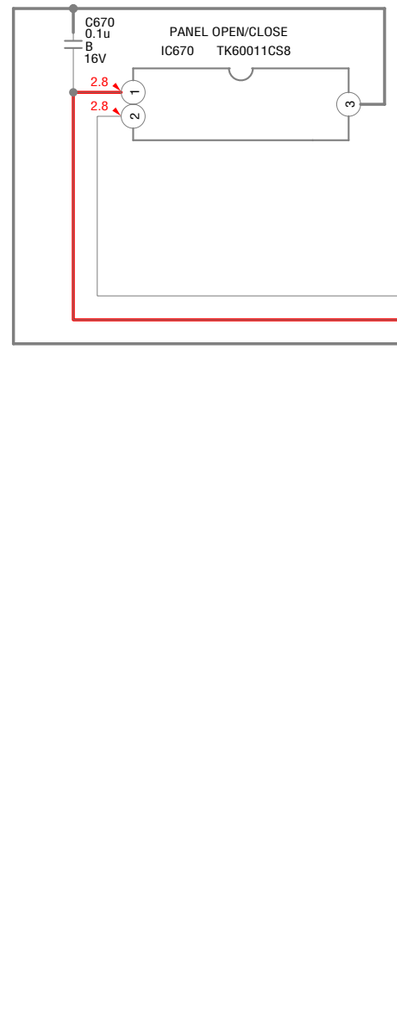
LS-UU CONNECTION

(PRINTED WIRING BOARD is omitted.)



RV-003 BOARD

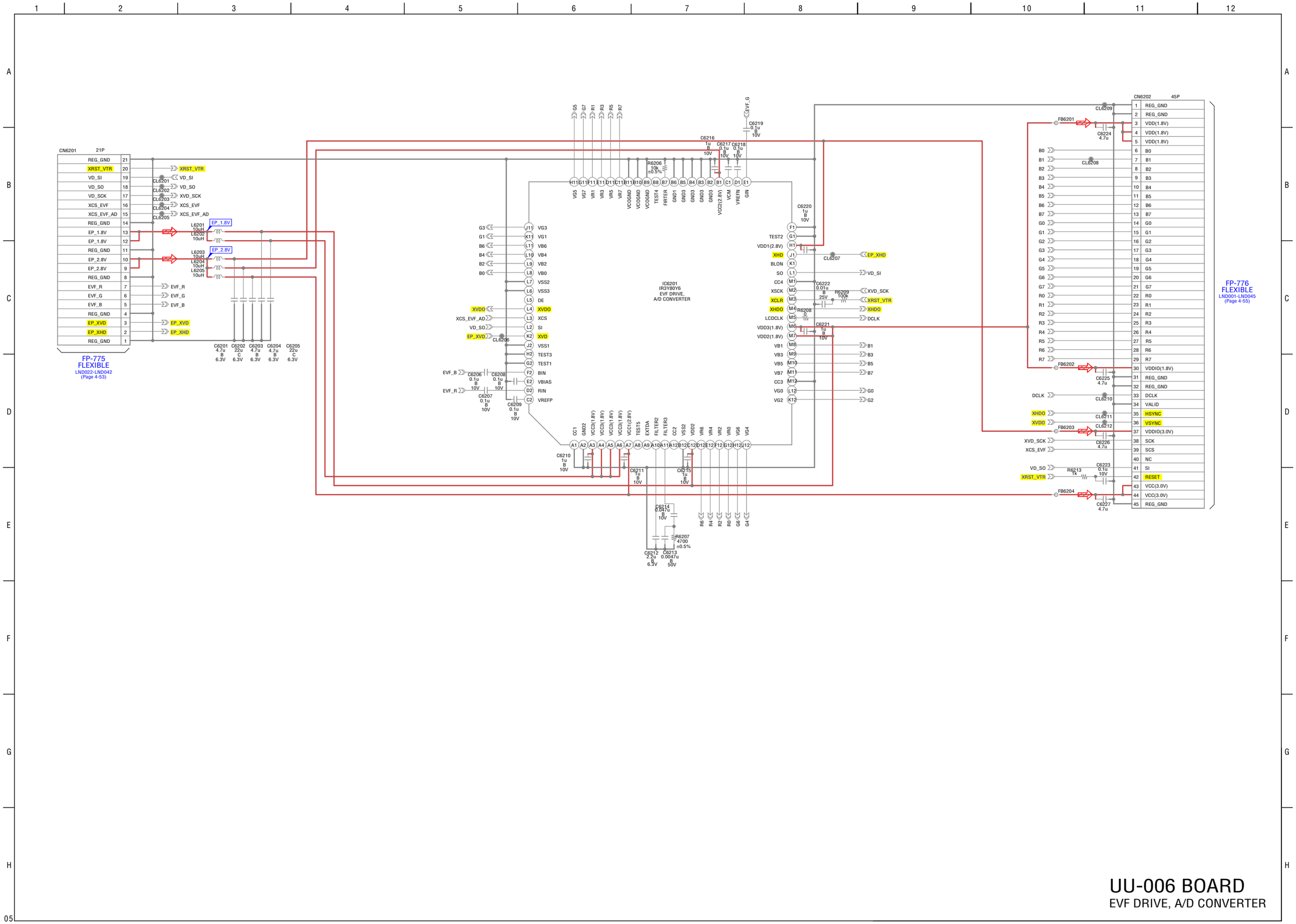
PANEL REVERSE DETECT



FP-783 FLEXIBLE BOARD

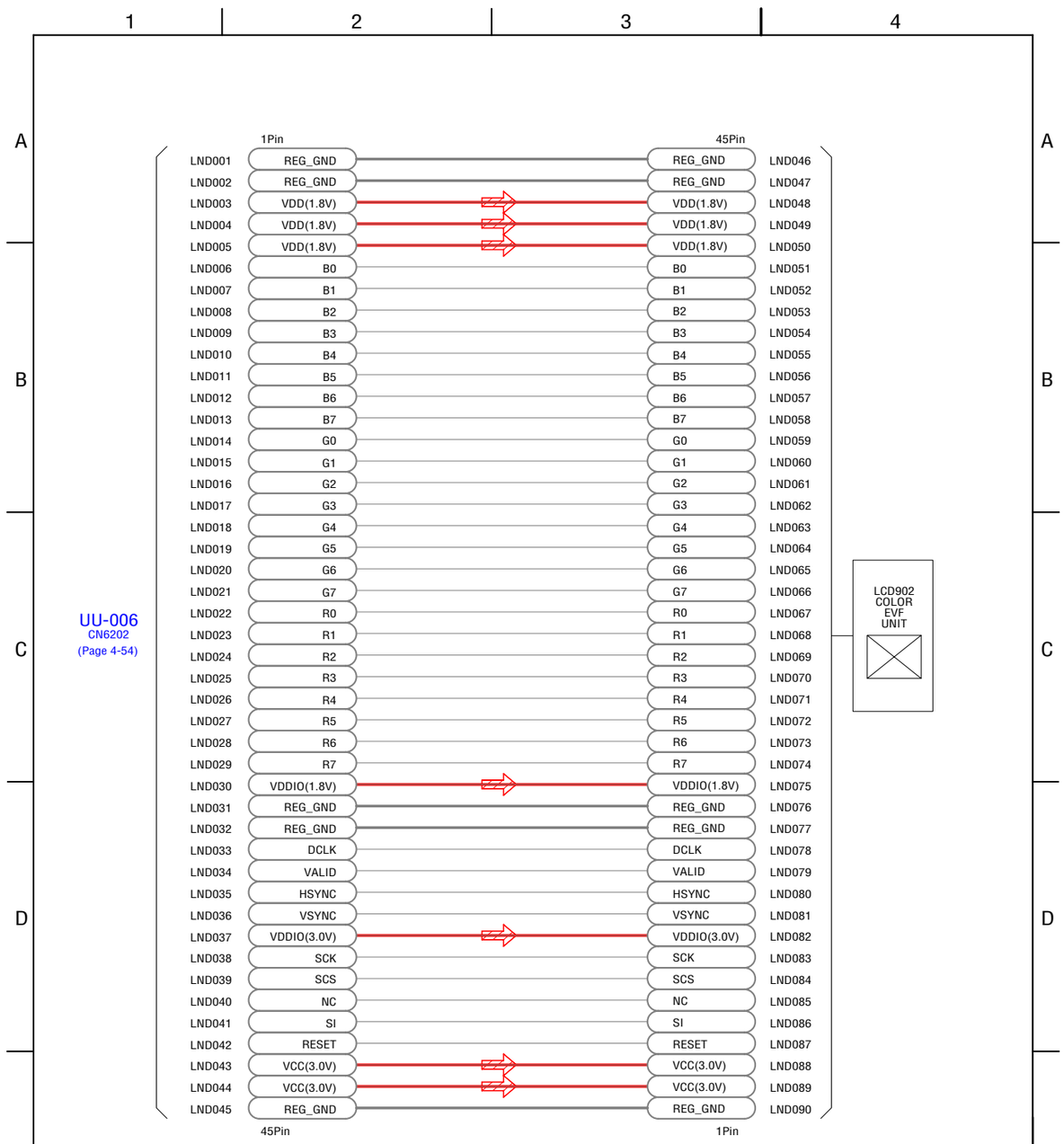
PANEL OPEN/CLOSE DETECT

NO MARK:REC/PB MODE



UU-006 BOARD

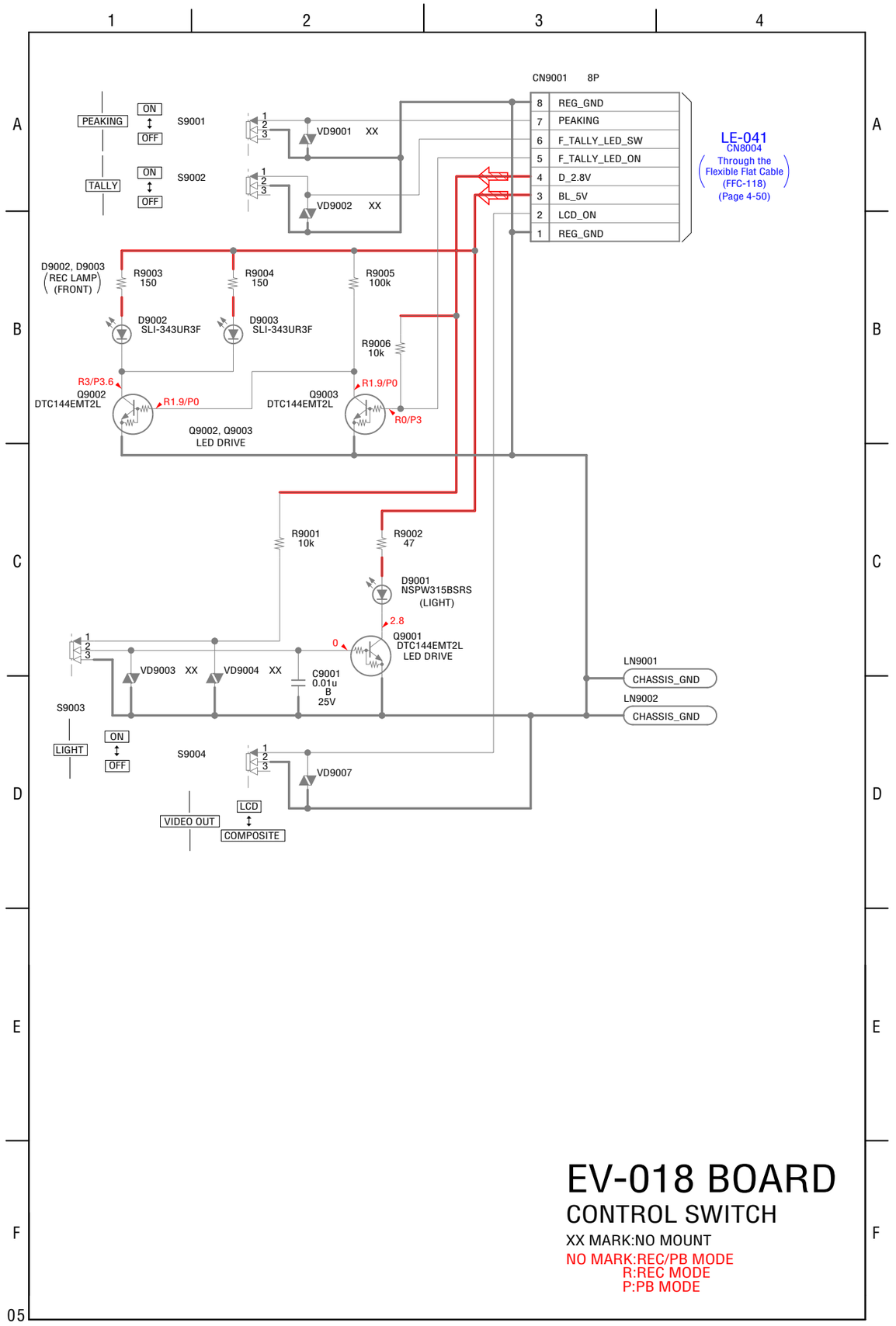
EVF DRIVE, A/D CONVERTER



FP-776 FLEXIBLE BOARD

EVF

(PRINTED WIRING BOARD is omitted.)

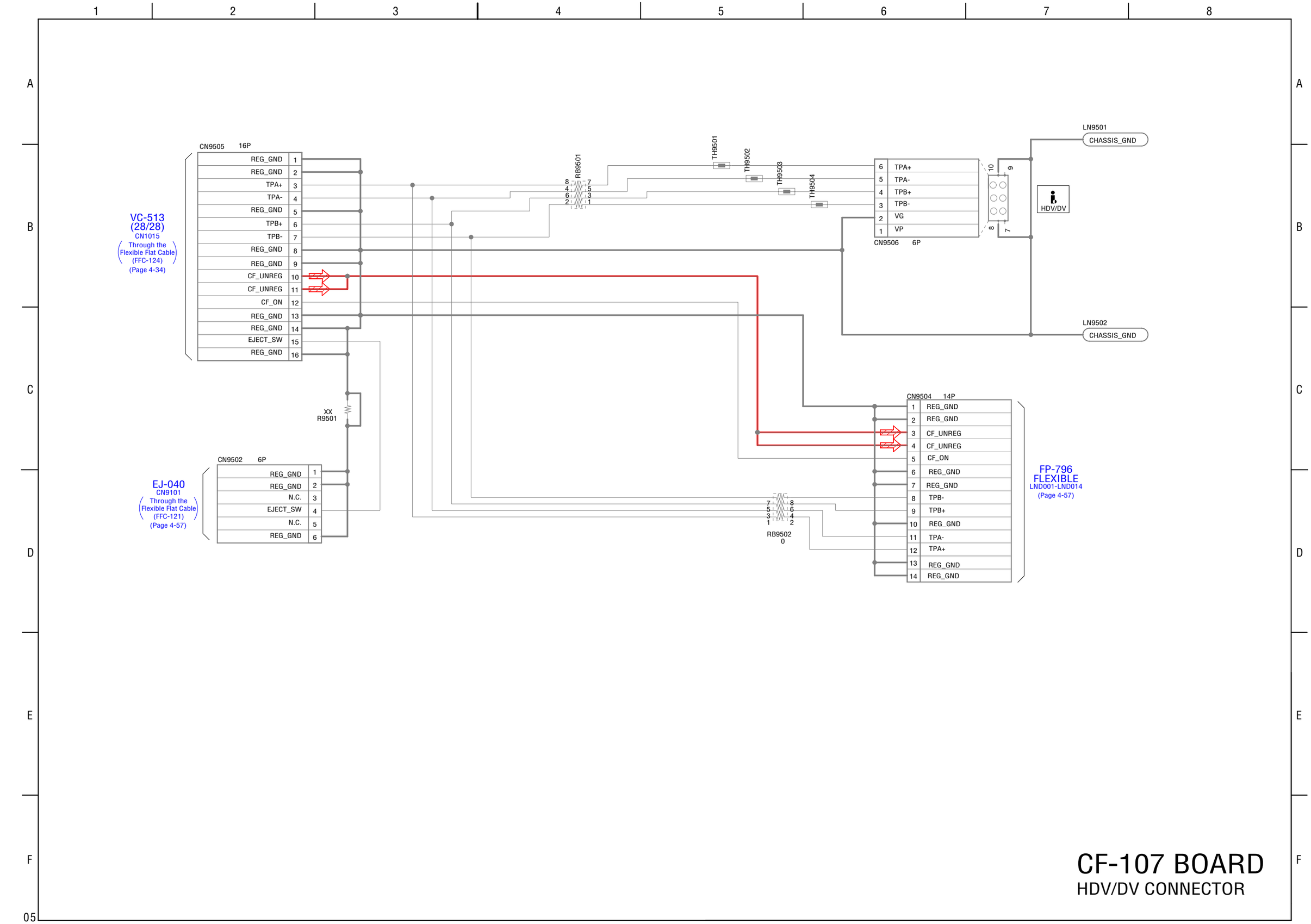


EV-018 BOARD

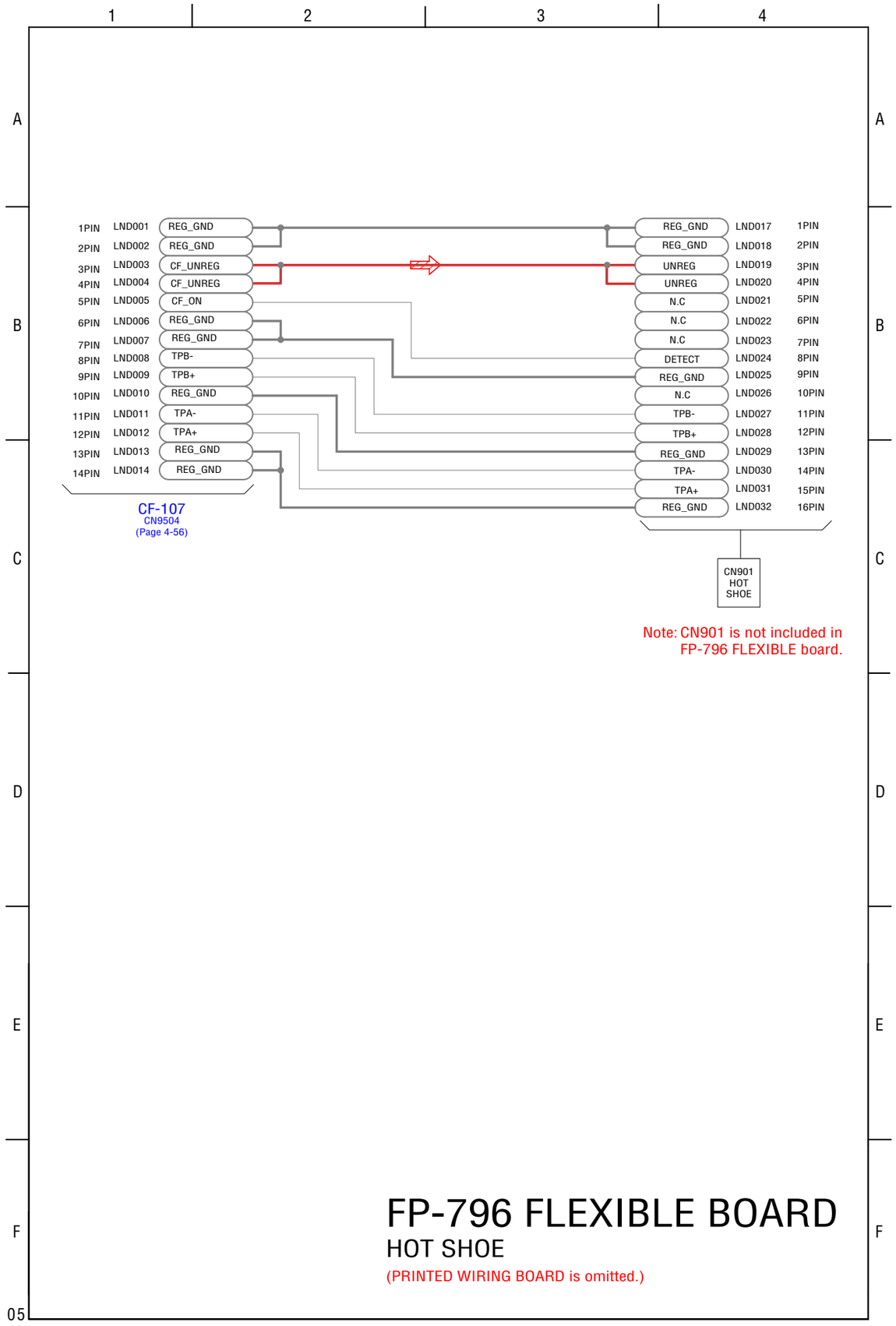
CONTROL SWITCH

XX MARK:NO MOUNT

NO MARK:REC/PB MODE
R:REC MODE
P:PB MODE



CF-107 BOARD
HDV/DV CONNECTOR

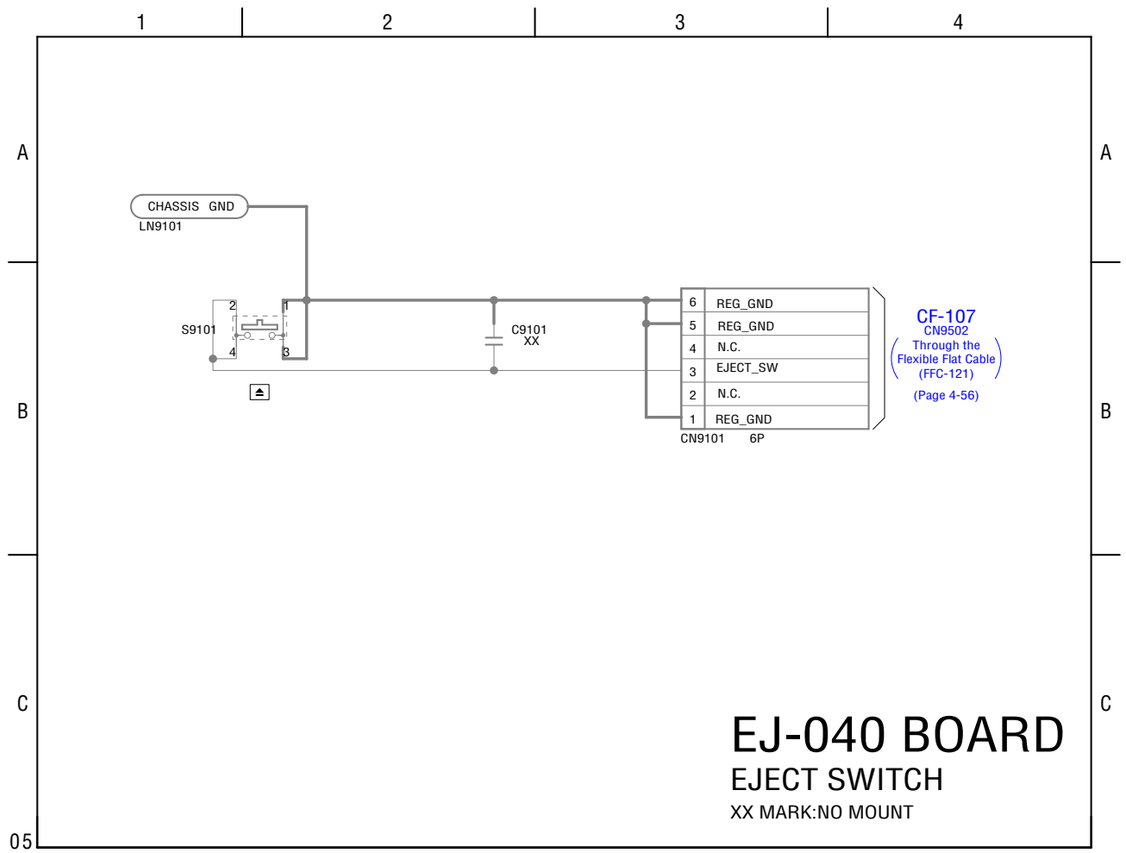


Note: CN901 is not included in FP-796 FLEXIBLE board.

FP-796 FLEXIBLE BOARD

HOT SHOE

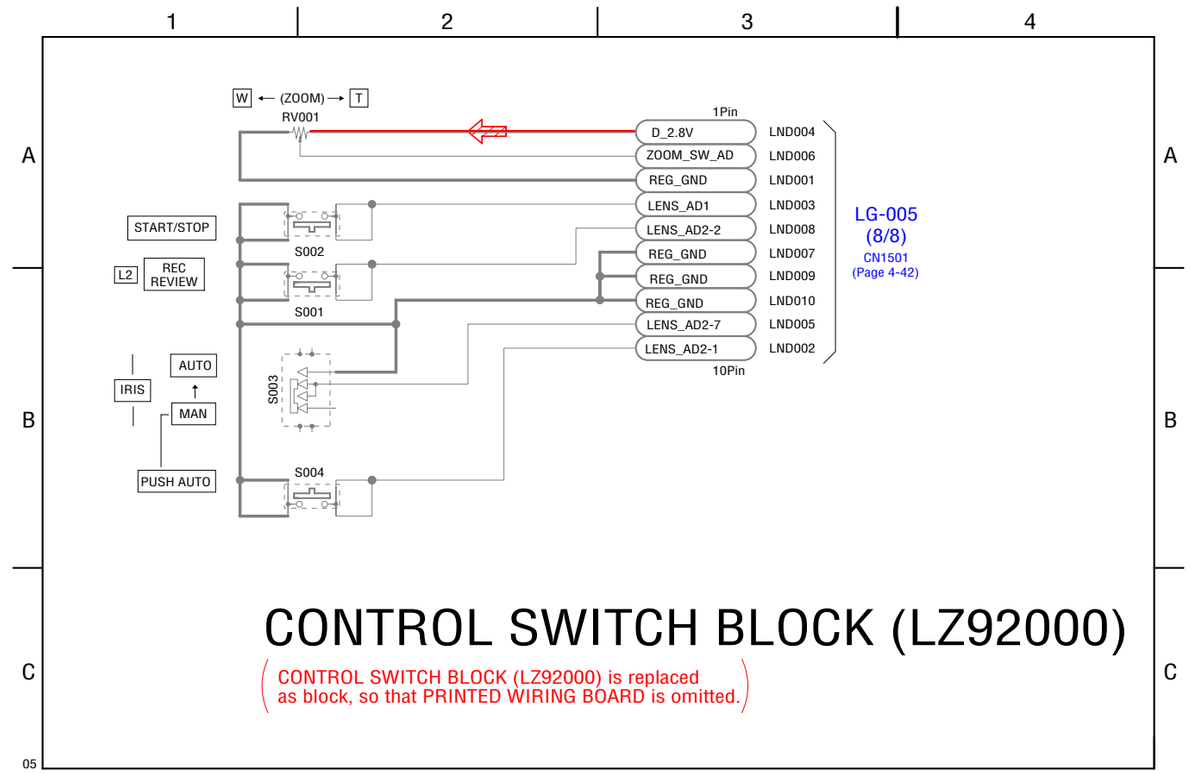
(PRINTED WIRING BOARD is omitted.)



EJ-040 BOARD

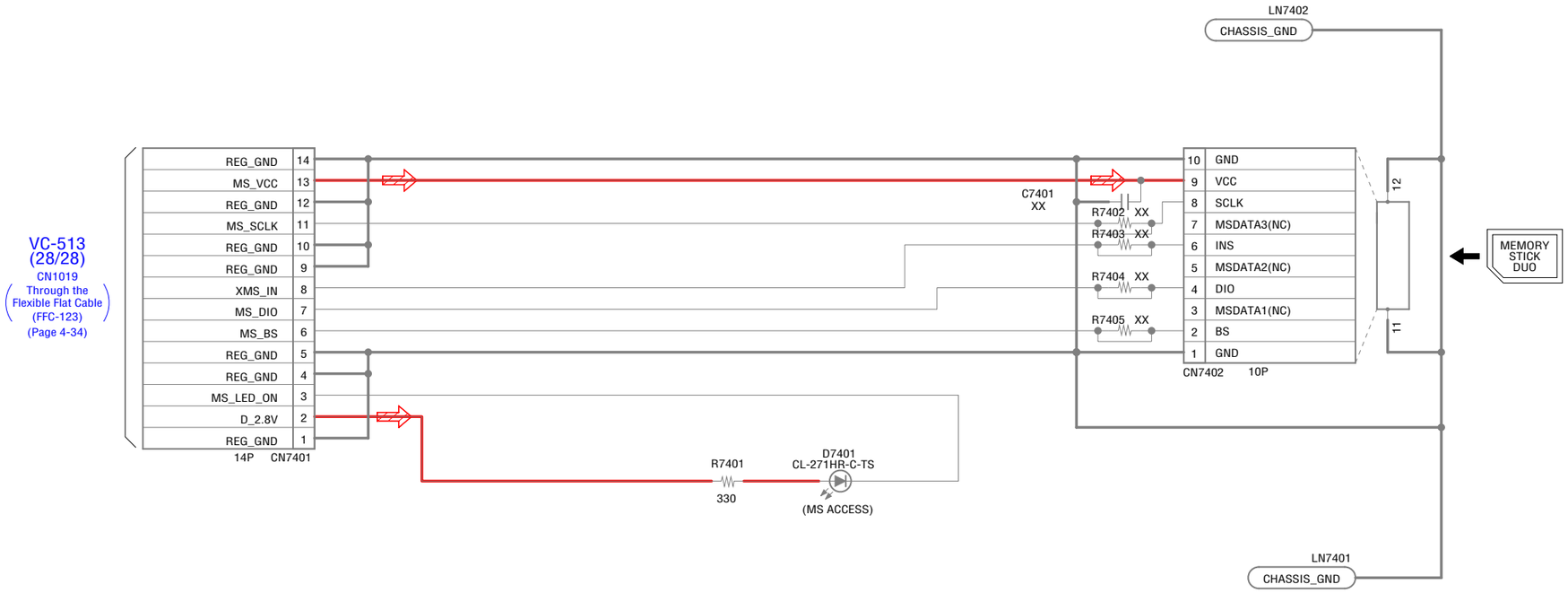
EJECT SWITCH

XX MARK:NO MOUNT



CONTROL SWITCH BLOCK (LZ92000)

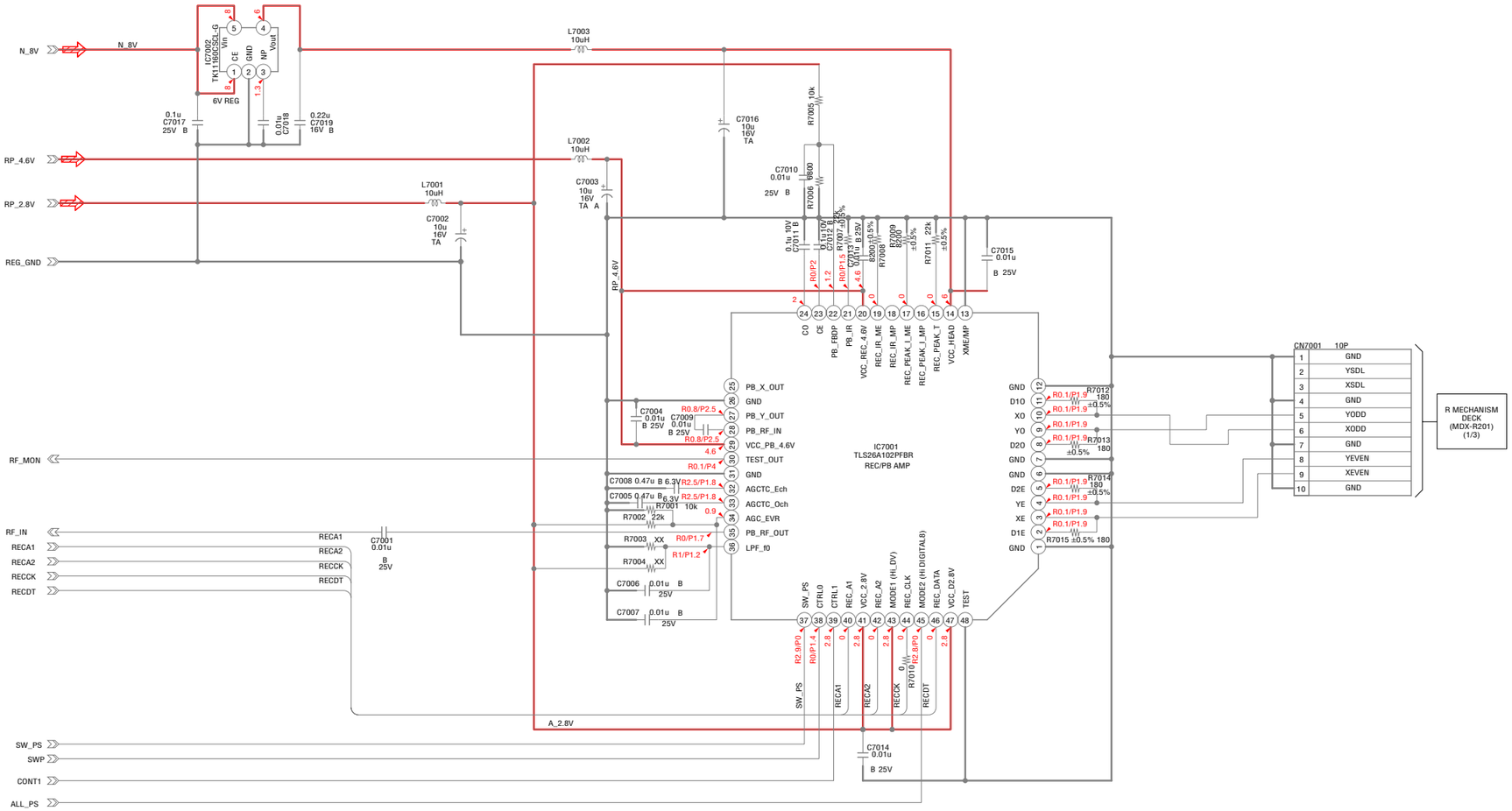
CONTROL SWITCH BLOCK (LZ92000) is replaced as block, so that PRINTED WIRING BOARD is omitted.



MS-378 BOARD

MS CONNECTOR

XX MARK:NO MOUNT



NN-006 BOARD(1/3)

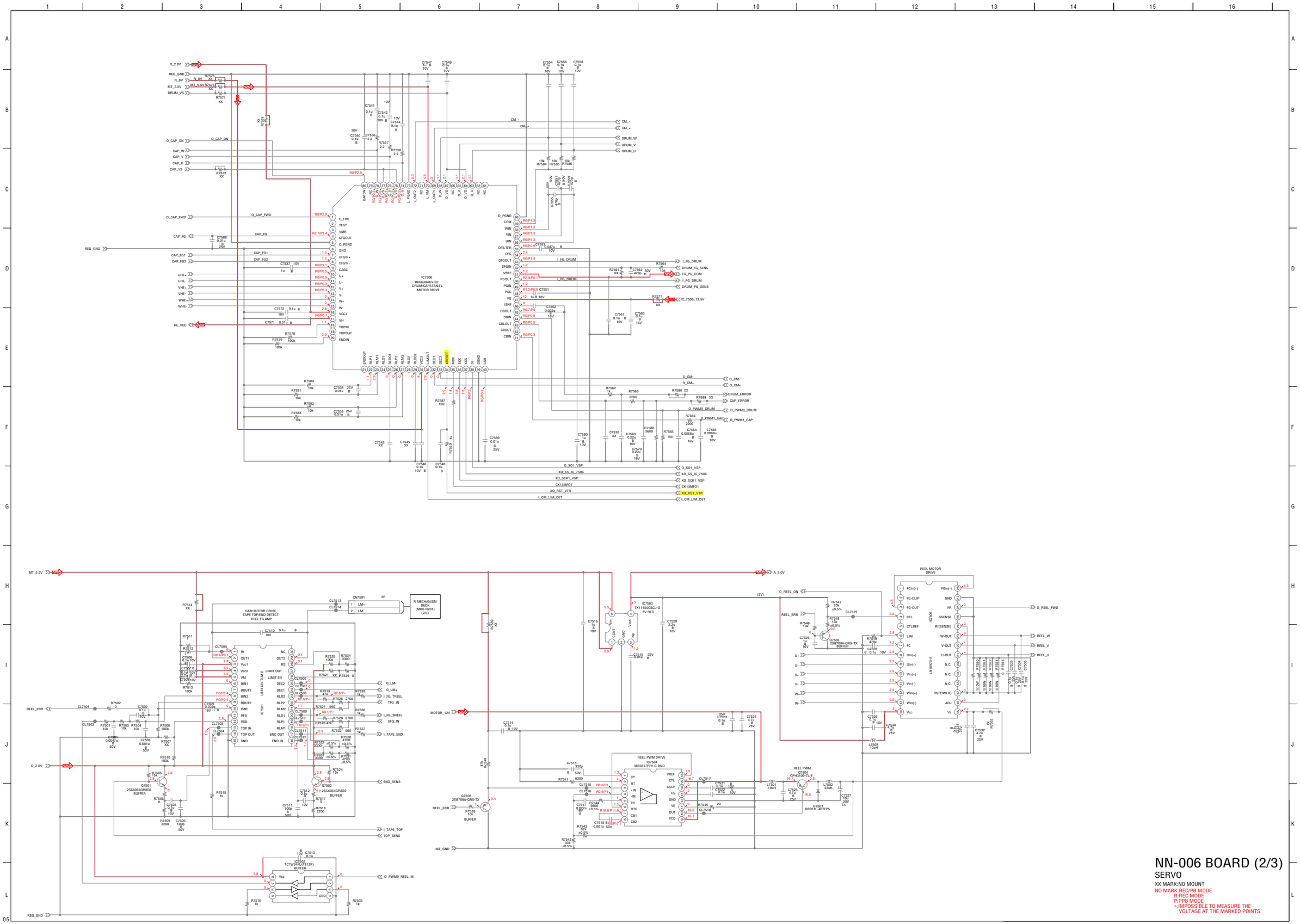
REC/PB AMP

XX MARK:NO MOUNT

NO MARK:REC/PB MODE

R:REC MODE

P:PB MODE

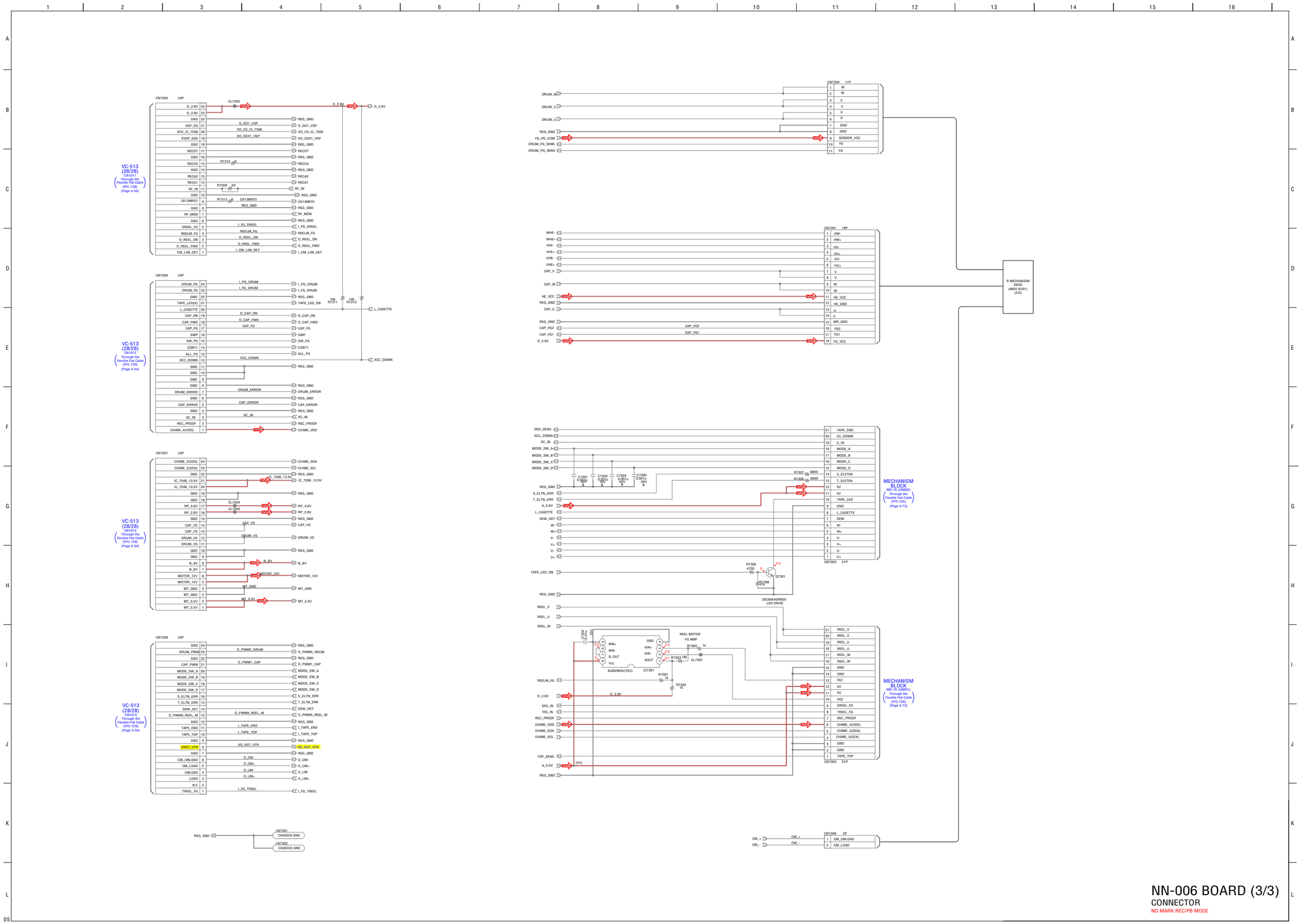


NN-006 BOARD (2/3)

SERVO

XX MARK:NO MOUNT

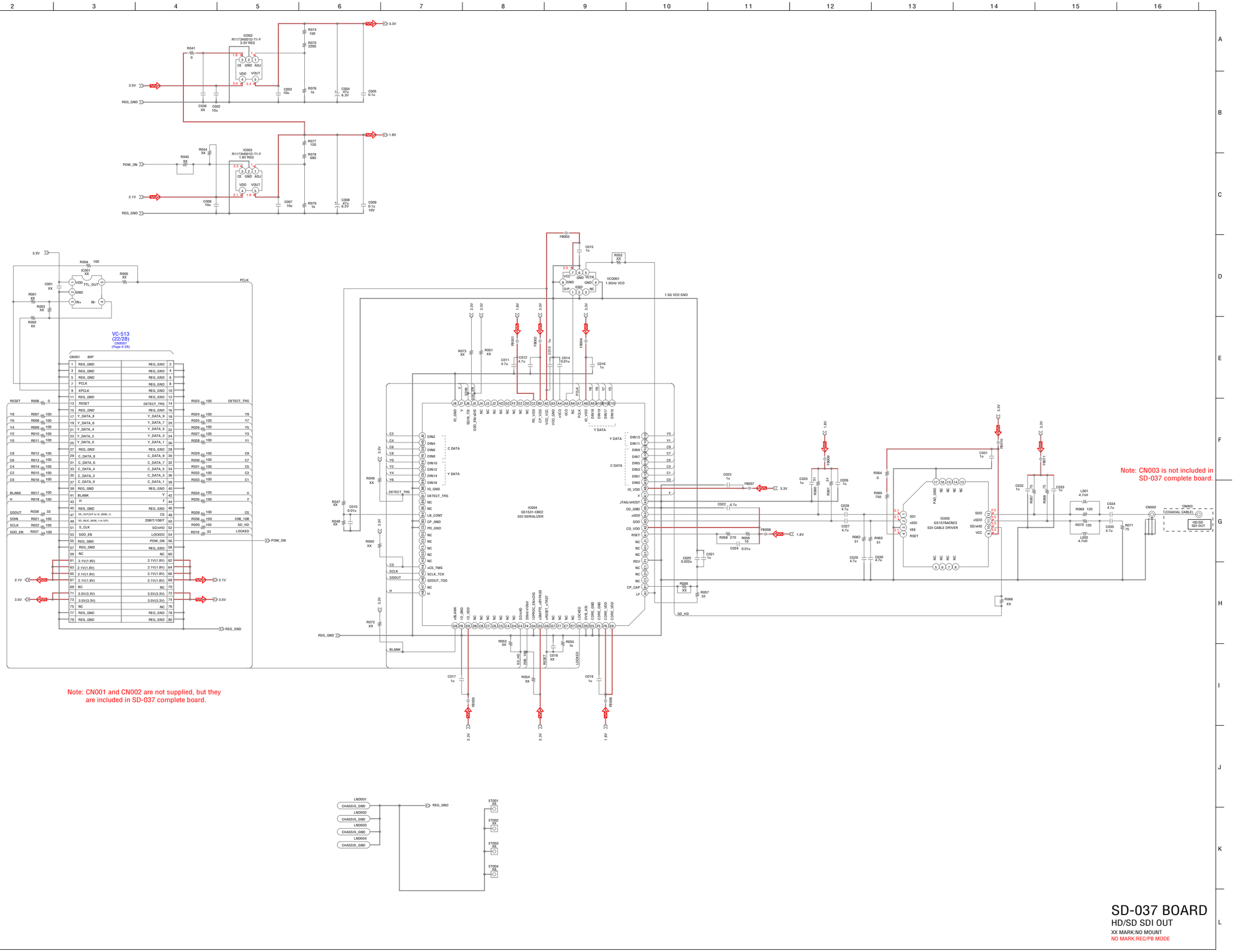
NO MARK:REC/PB MODE
R:REC MODE
P:PPB MODE
=:IMPOSSIBLE TO MEASURE THE VOLTAGE AT THE MARKED POINTS.



NN-006 BOARD (3/3)

CONNECTOR

NO MARK:REC/PB MODE

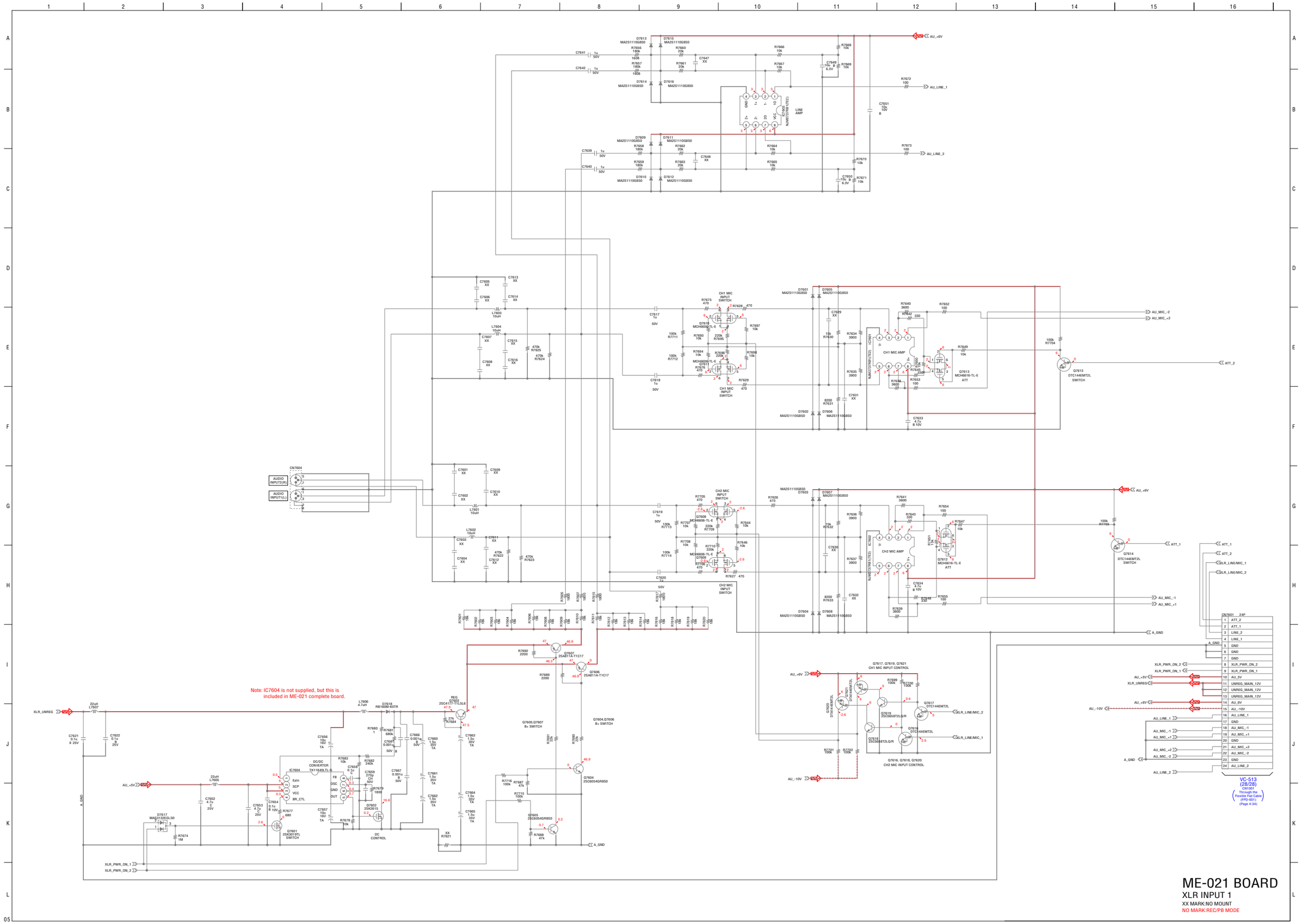


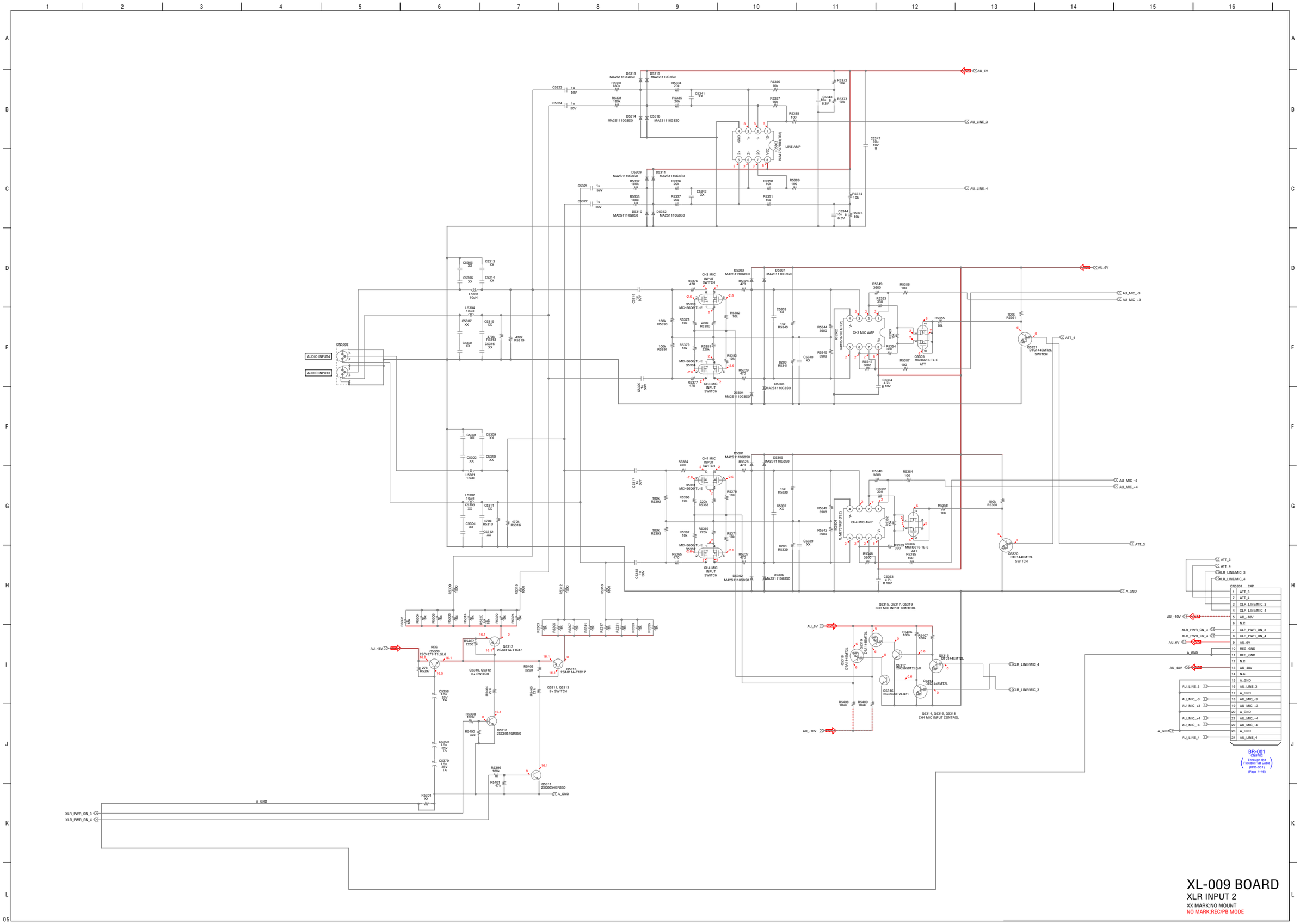
SD-037 BOARD

HD/SD SDI OUT

XX MARK:NO MOUNT

NO MARK:REC/PB MODE


AU_+6V
AU_LINE_1
AU_LINE_2
LINE AMP
CH1 MIC INPUT SWITCH
CH2 MIC INPUT SWITCH
CH1 MIC AMP
CH2 MIC AMP
CH1 MIC INPUT CONTROL
CH2 MIC INPUT CONTROL
AU_MIC_-2
AU_MIC_+2
ATT_2
ATT_1
XLR_LINE/MIC_2
XLR_LINE/MIC_1
AU_MIC_-1
AU_MIC_+1
A_GND
XLR_UNREG
AU_+5V
AU_-10V
XLR_PWR_ON_1
XLR_PWR_ON_2
Note: IC7604 is not supplied, but this is included in ME-021 complete board.
CN7601 24P
VC-513 (28/28)
CN1001 Through the Flexible Flat Cable (FPD-001) (Page 4-34)
ME-021 BOARD
XLR INPUT 1
XX MARK:NO MOUNT
NO MARK:REC/PB MODE

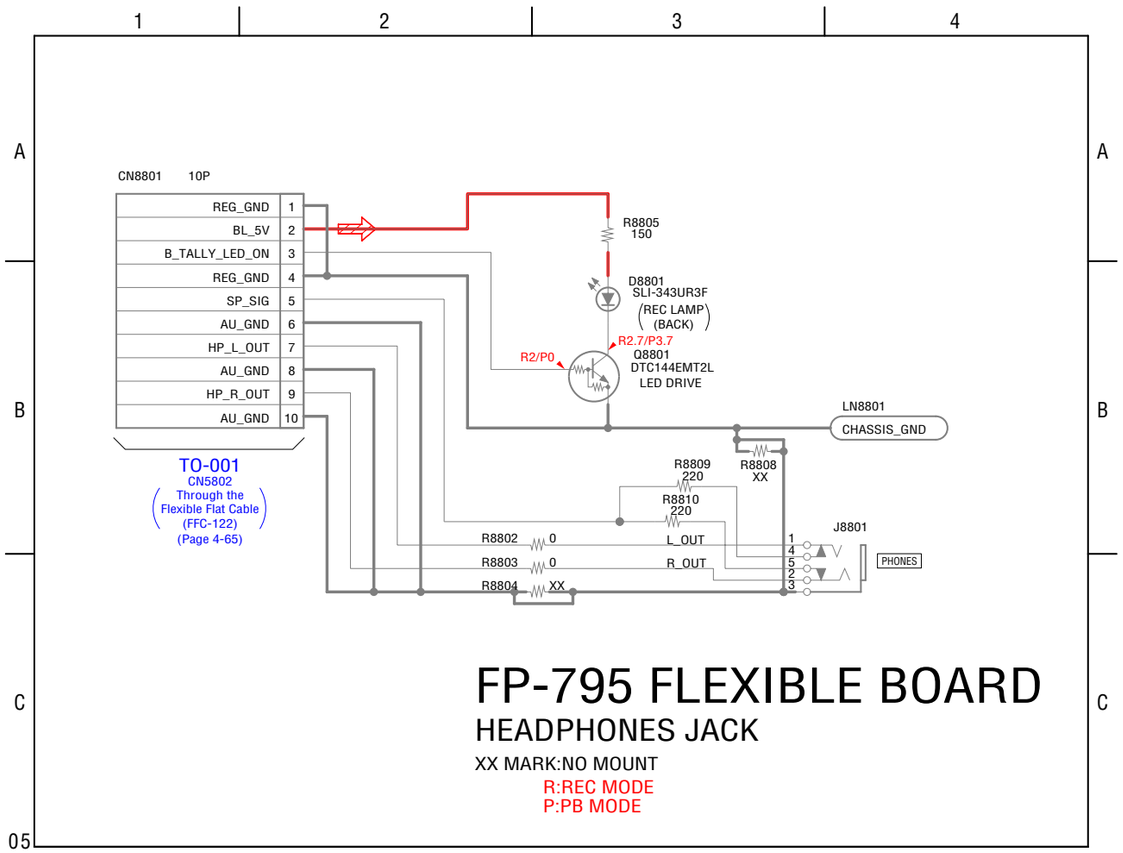


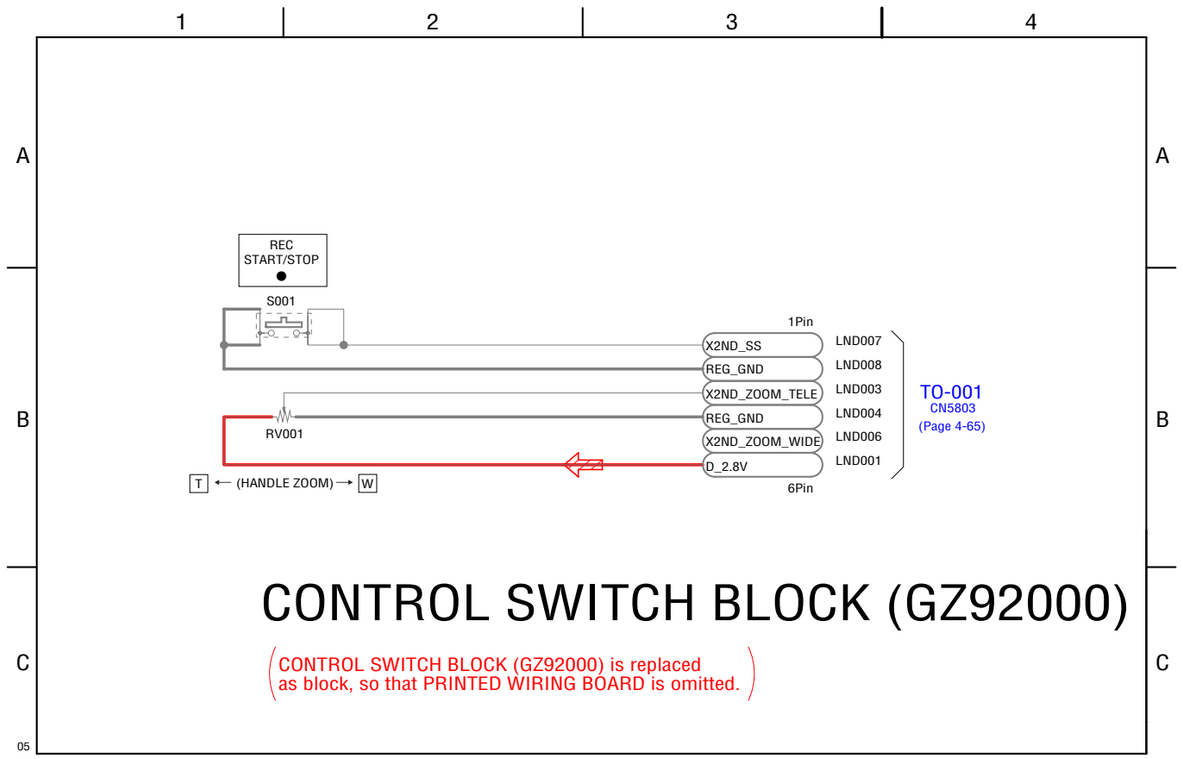
XL-009 BOARD

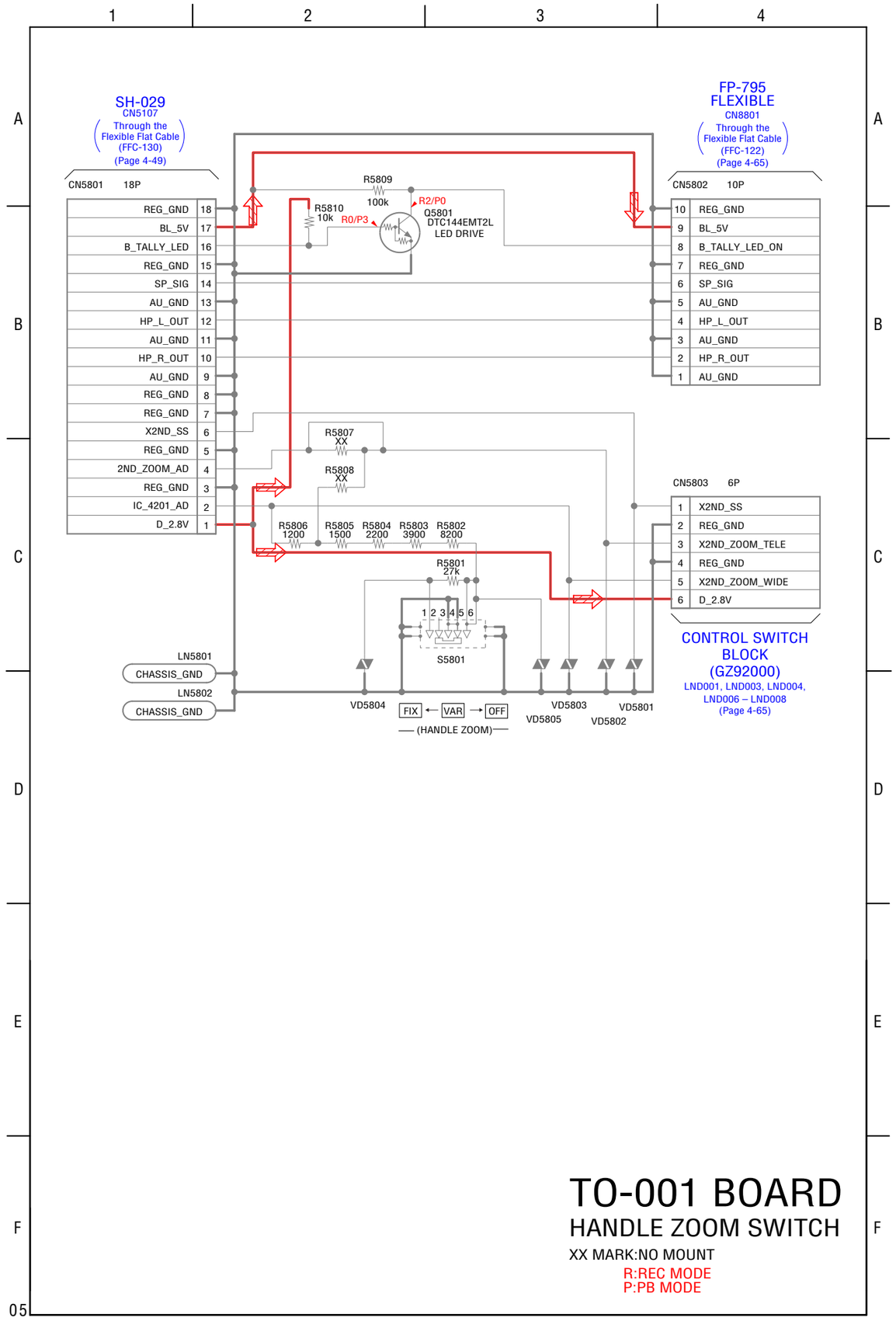
XLR INPUT 2

XX MARK:NO MOUNT

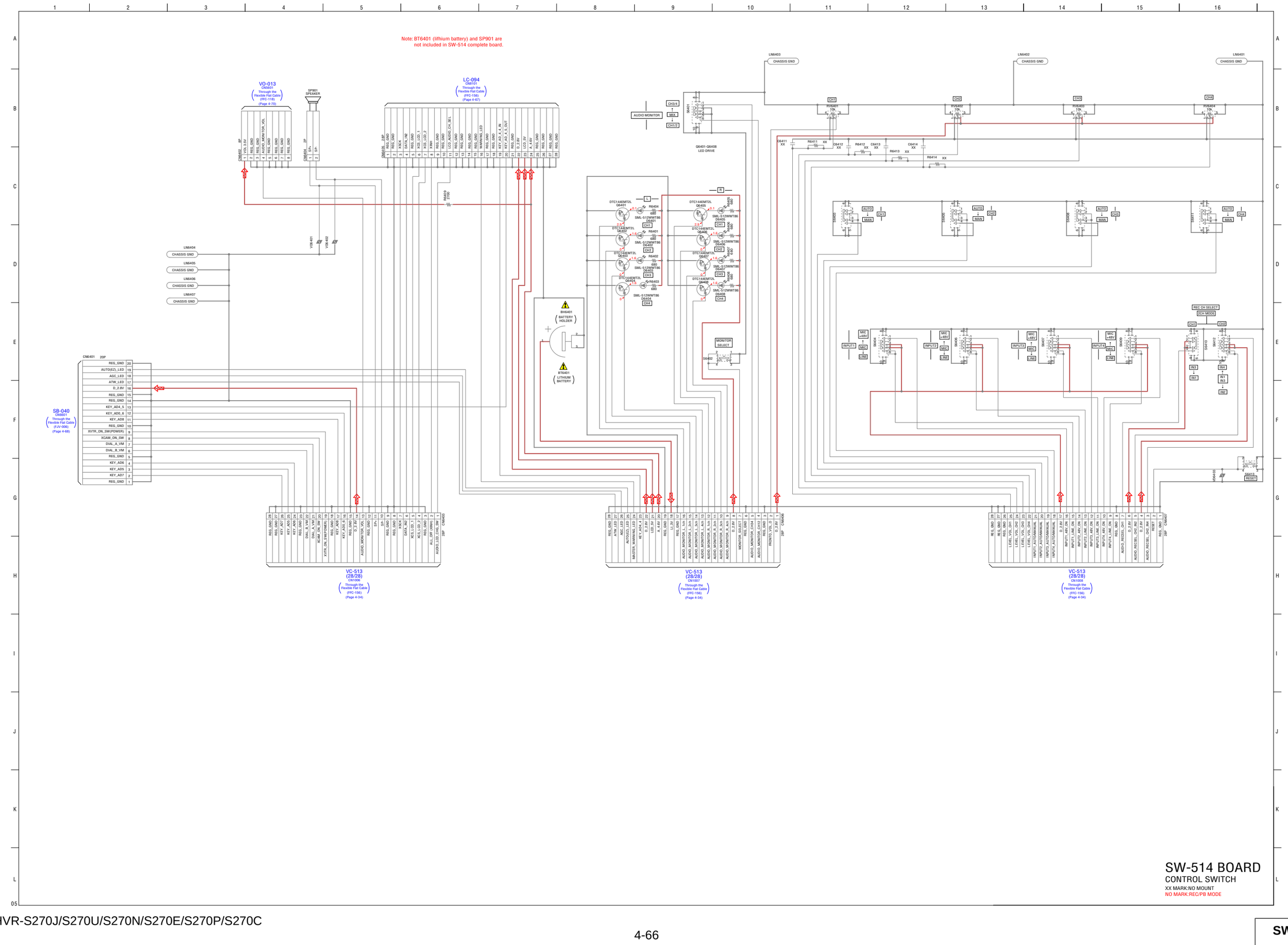
NO MARK:REC/PB MODE

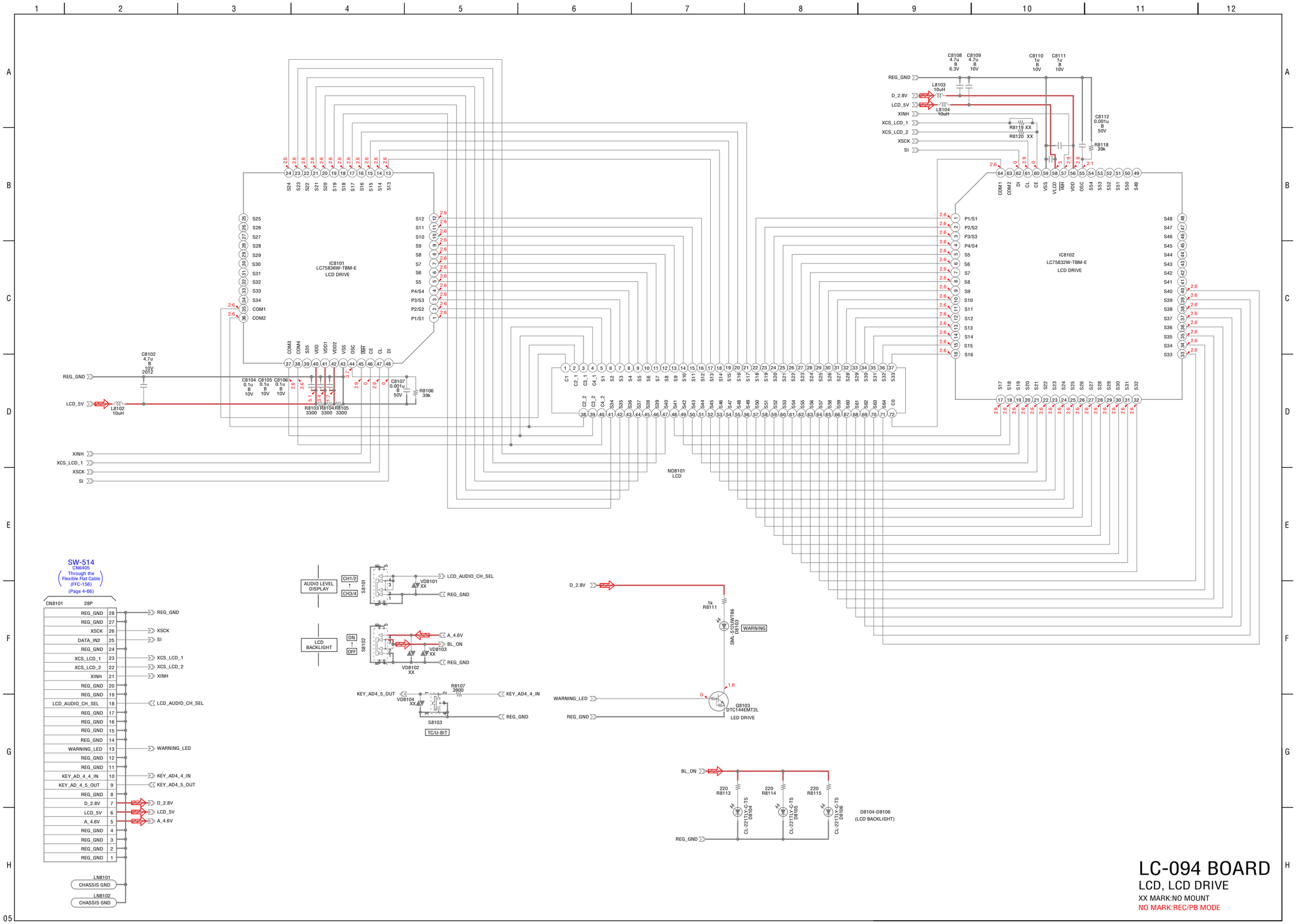

CN8801 10P
REG_GND 1
BL_5V 2
B_TALLY_LED_ON 3
REG_GND 4
SP_SIG 5
AU_GND 6
HP_L_OUT 7
AU_GND 8
HP_R_OUT 9
AU_GND 10
TO-001
CN5802
Through the Flexible Flat Cable (FFC-122)
(Page 4-65)
R8805 150
D8801 SLI-343UR3F (REC LAMP) (BACK)
R2.7/P3.7
R2/P0
Q8801 DTC144EMT2L LED DRIVE
LN8801
CHASSIS_GND
R8809 220
R8808 XX
R8810 220
R8802 0
R8803 0
R8804 XX
L_OUT
R_OUT
J8801
PHONES
FP-795 FLEXIBLE BOARD
HEADPHONES JACK
XX MARK:NO MOUNT
R:REC MODE
P:PB MODE


REC START/STOP
S001
1Pin
X2ND_SS LND007
REG_GND LND008
X2ND_ZOOM_TELE LND003
REG_GND LND004
X2ND_ZOOM_WIDE LND006
D_2.8V LND001
6Pin
RV001
T ← (HANDLE ZOOM) → W
TO-001
CN5803
(Page 4-65)
CONTROL SWITCH BLOCK (GZ92000)
CONTROL SWITCH BLOCK (GZ92000) is replaced as block, so that PRINTED WIRING BOARD is omitted.


SH-029
CN5107
Through the Flexible Flat Cable (FFC-130)
(Page 4-49)
CN5801 18P
REG_GND 18
BL_5V 17
B_TALLY_LED 16
REG_GND 15
SP_SIG 14
AU_GND 13
HP_L_OUT 12
AU_GND 11
HP_R_OUT 10
AU_GND 9
REG_GND 8
REG_GND 7
X2ND_SS 6
REG_GND 5
2ND_ZOOM_AD 4
REG_GND 3
IC_4201_AD 2
D_2.8V 1
FP-795 FLEXIBLE
CN8801
Through the Flexible Flat Cable (FFC-122)
(Page 4-65)
CN5802 10P
10 REG_GND
9 BL_5V
8 B_TALLY_LED_ON
7 REG_GND
6 SP_SIG
5 AU_GND
4 HP_L_OUT
3 AU_GND
2 HP_R_OUT
1 AU_GND
R5809 100k
R5810 10k
R0/P3
R2/P0
Q5801 DTC144EMT2L LED DRIVE
R5807 XX
R5808 XX
R5806 1200
R5805 1500
R5804 2200
R5803 3900
R5802 8200
R5801 27k
1 2 3 4 5 6
S5801
CN5803 6P
1 X2ND_SS
2 REG_GND
3 X2ND_ZOOM_TELE
4 REG_GND
5 X2ND_ZOOM_WIDE
6 D_2.8V
CONTROL SWITCH BLOCK (GZ92000)
LND001, LND003, LND004, LND006 – LND008
(Page 4-65)
LN5801
CHASSIS_GND
LN5802
CHASSIS_GND
VD5804
FIX ← VAR → OFF
(HANDLE ZOOM)
VD5805
VD5803
VD5802
VD5801
TO-001 BOARD
HANDLE ZOOM SWITCH
XX MARK:NO MOUNT
R:REC MODE
P:PB MODE

• Refer to page 4-3 (English), 4-4 (Japanese) for mark ⚠.



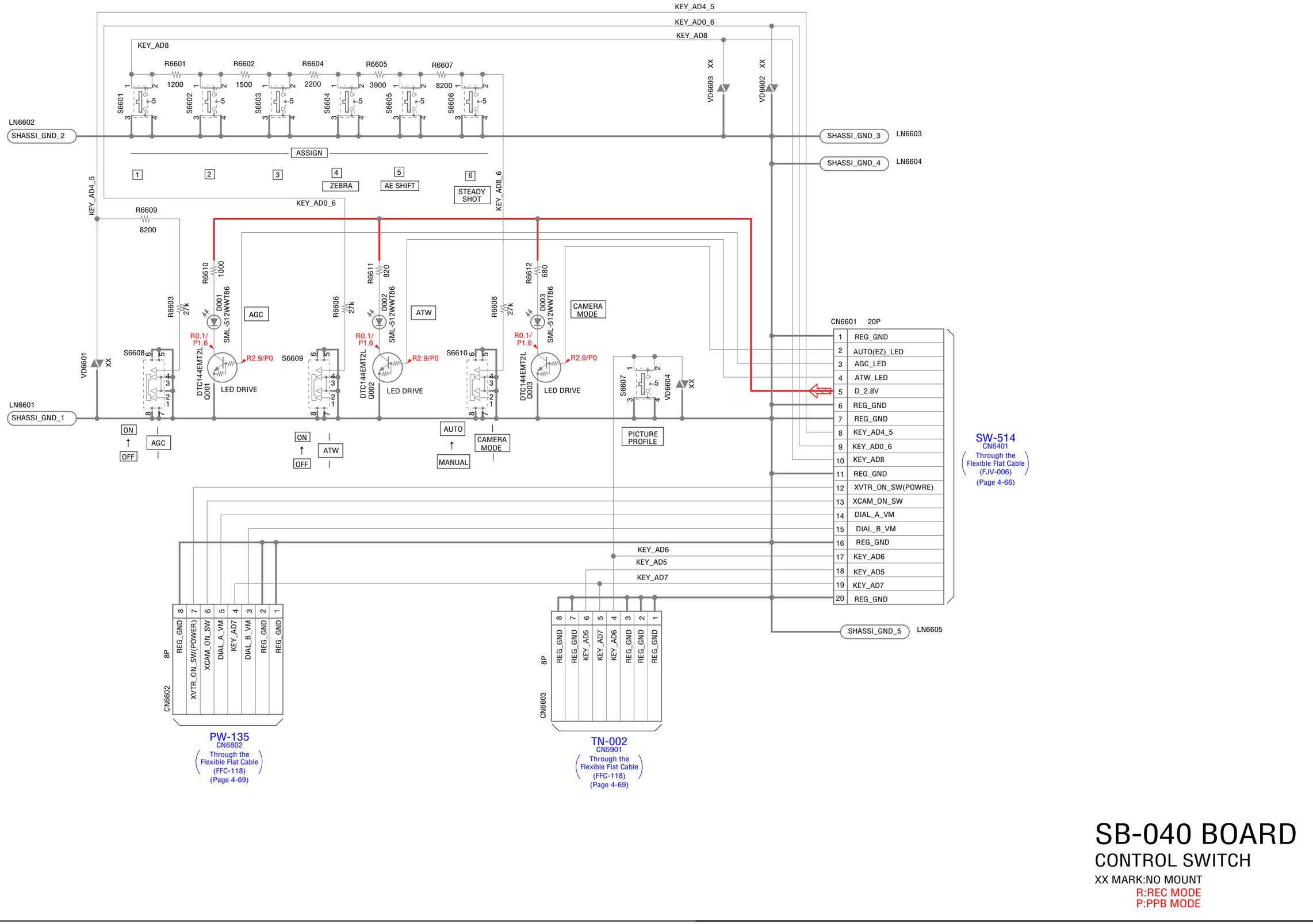


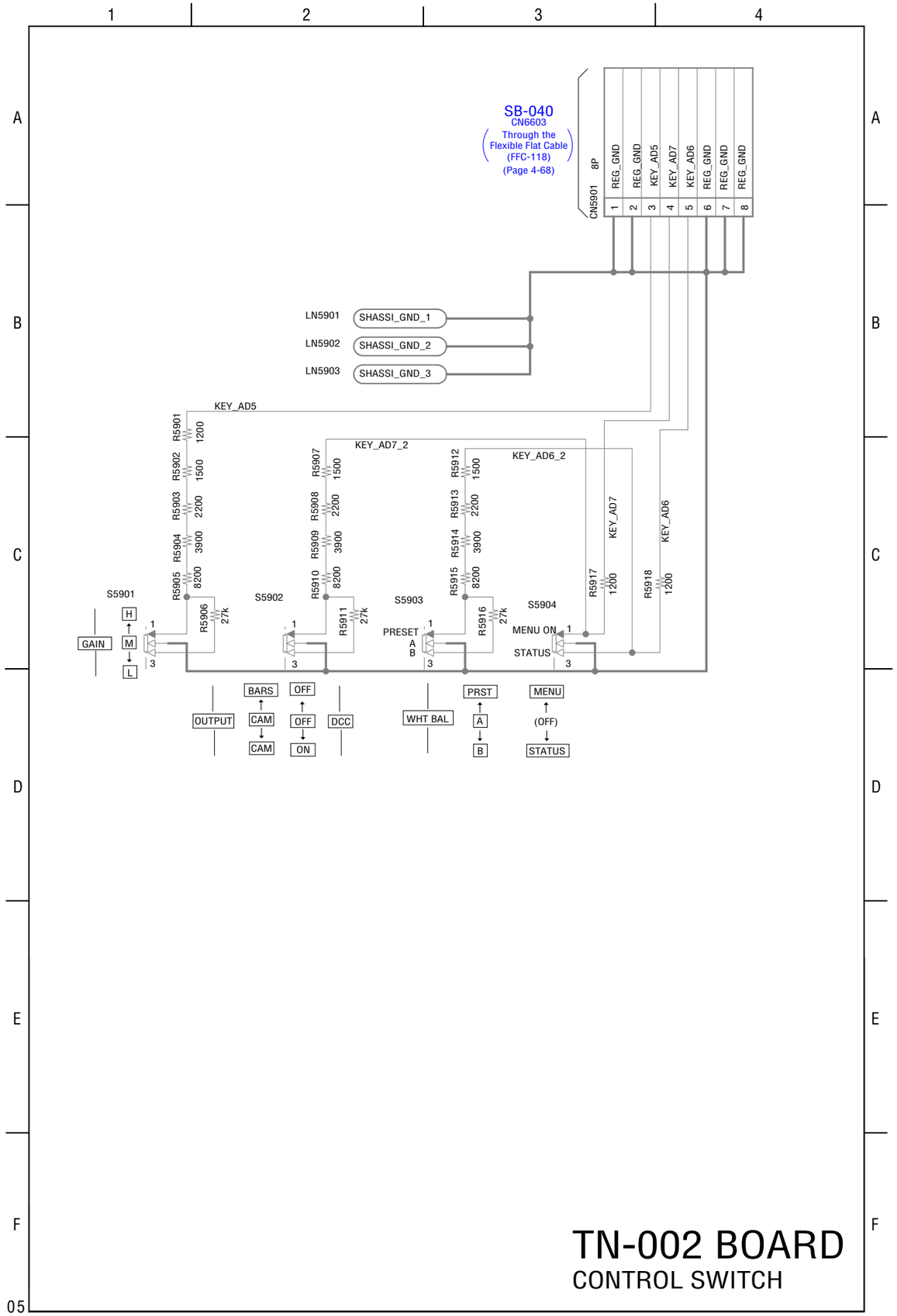
LC-094 BOARD

LCD, LCD DRIVE

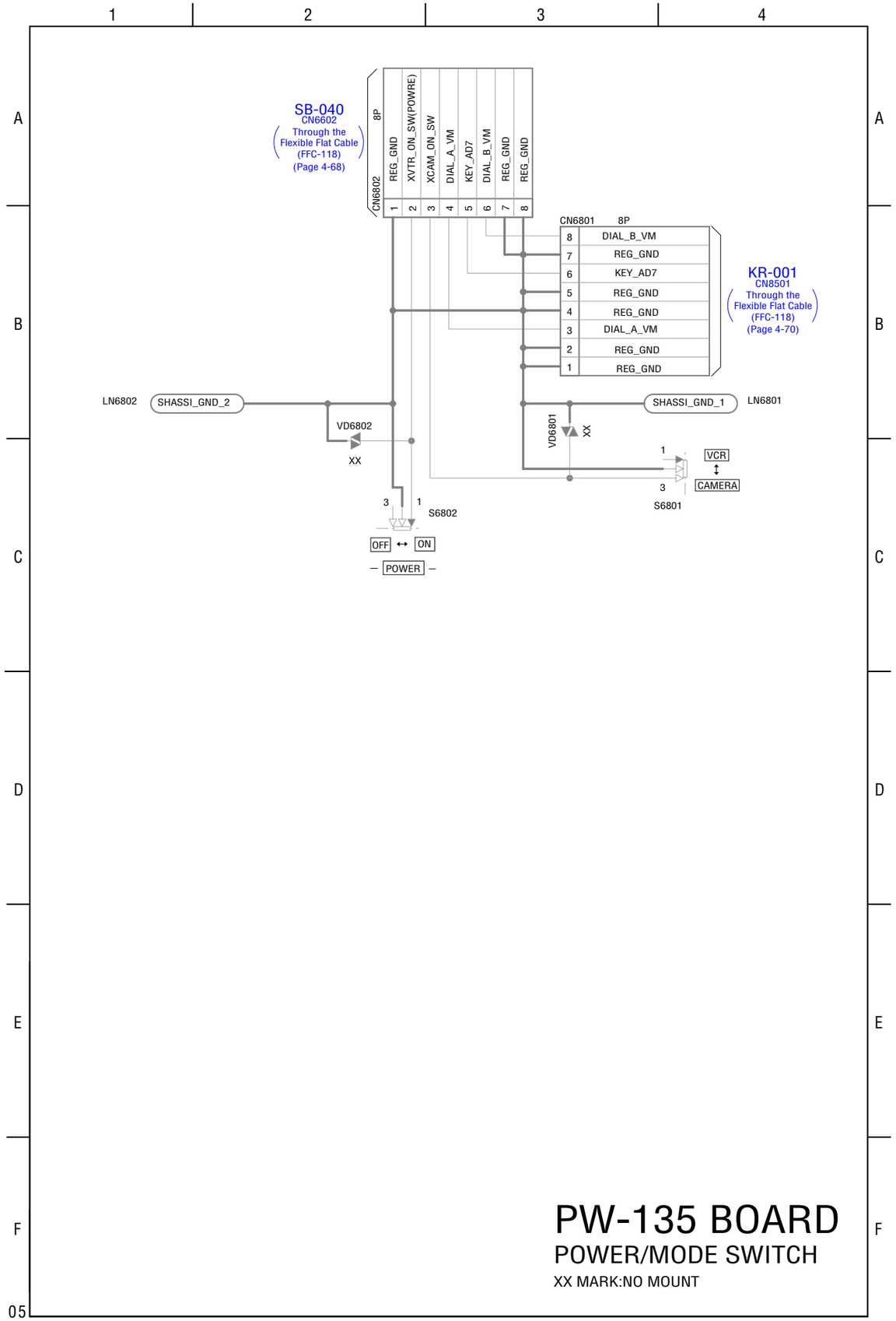
XX MARK:NO MOUNT

NO MARK:REC/PB MODE

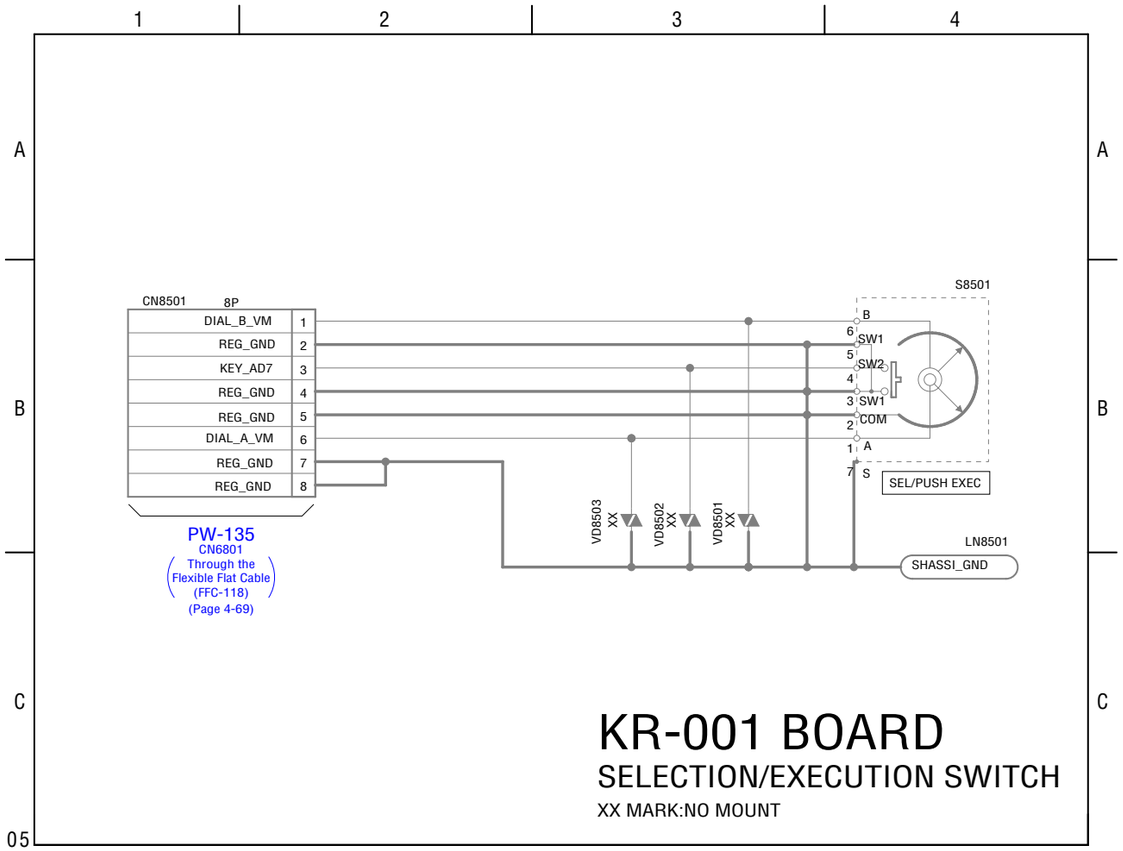

KEY_AD4_5
KEY_AD0_6
KEY_AD8
R6601 1200
R6602 1500
R6604 2200
R6605 3900
R6607 8200
S6601
S6602
S6603
S6604
S6605
S6606
VD6603 XX
VD6602 XX
LN6602
SHASSI_GND_2
SHASSI_GND_3
LN6603
SHASSI_GND_4
LN6604
ASSIGN
1
2
3
4 ZEBRA
5 AE SHIFT
6 STEADY SHOT
KEY_AD4_5
KEY_AD8_6
KEY_AD0_6
R6609 8200
R6610 1000
R6611 820
R6612 680
R6603 27k
R6606 27k
R6608 27k
D001 SML-512WWT86
D002 SML-512WWT86
D003 SML-512WWT86
AGC
ATW
CAMERA MODE
R0.1/ P1.6
R2.9/P0
DTC144EMT2L Q001
DTC144EMT2L Q002
DTC144EMT2L Q003
LED DRIVE
S6608
S6609
S6610
S6607
VD6601 XX
VD6604 XX
LN6601
SHASSI_GND_1
ON
OFF
AGC
ON
OFF
ATW
AUTO
MANUAL
CAMERA MODE
PICTURE PROFILE
CN6601 20P
1 REG_GND
2 AUTO(EZ)_LED
3 AGC_LED
4 ATW_LED
5 D_2.8V
6 REG_GND
7 REG_GND
8 KEY_AD4_5
9 KEY_AD0_6
10 KEY_AD8
11 REG_GND
12 XVTR_ON_SW(POWRE)
13 XCAM_ON_SW
14 DIAL_A_VM
15 DIAL_B_VM
16 REG_GND
17 KEY_AD6
18 KEY_AD5
19 KEY_AD7
20 REG_GND
SW-514
CN6401
Through the Flexible Flat Cable (FJV-006)
(Page 4-66)
KEY_AD6
KEY_AD5
KEY_AD7
SHASSI_GND_5
LN6605
CN6602 8P
8 REG_GND
7 XVTR_ON_SW(POWER)
6 XCAM_ON_SW
5 DIAL_A_VM
4 KEY_AD7
3 DIAL_B_VM
2 REG_GND
1 REG_GND
PW-135
CN6802
Through the Flexible Flat Cable (FFC-118)
(Page 4-69)
CN6603 8P
8 REG_GND
7 REG_GND
6 KEY_AD5
5 KEY_AD7
4 KEY_AD6
3 REG_GND
2 REG_GND
1 REG_GND
TN-002
CN5901
Through the Flexible Flat Cable (FFC-118)
(Page 4-69)
SB-040 BOARD
CONTROL SWITCH
XX MARK:NO MOUNT
R:REC MODE
P:PPB MODE

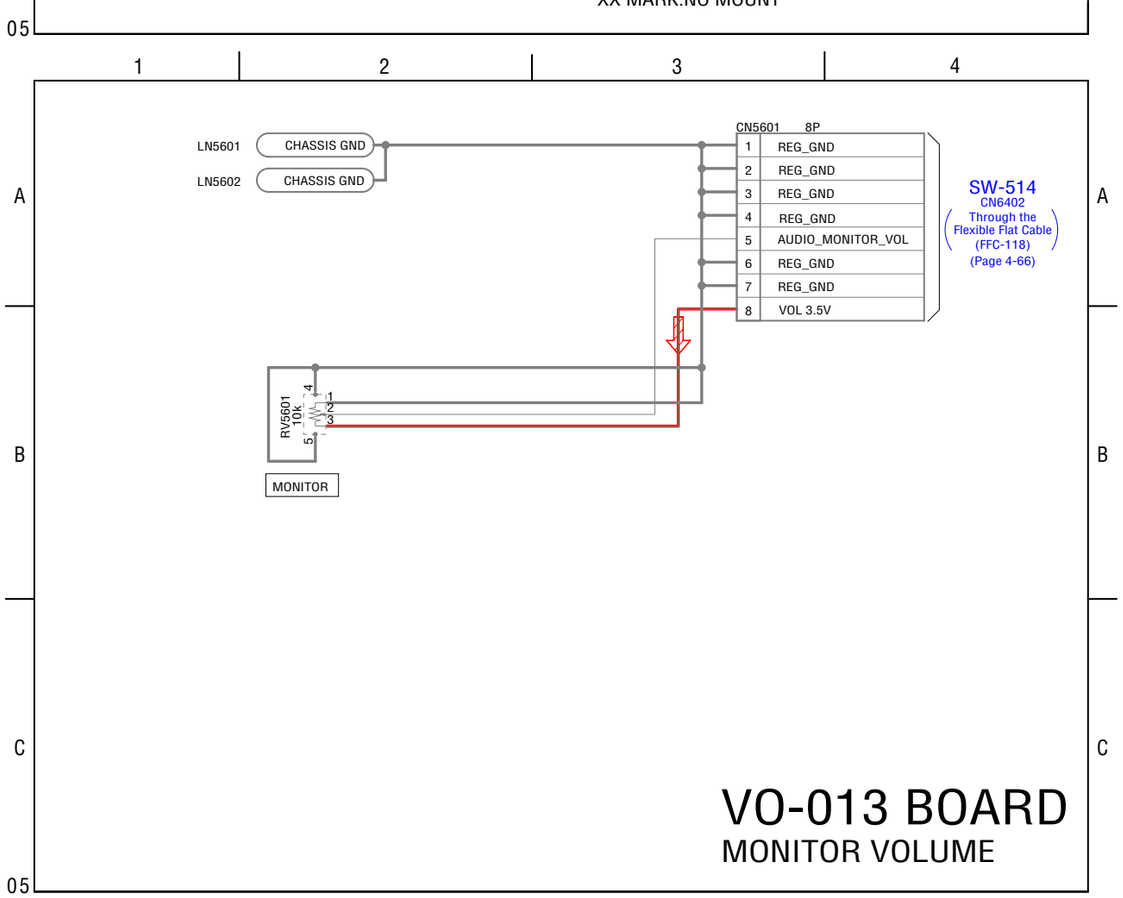


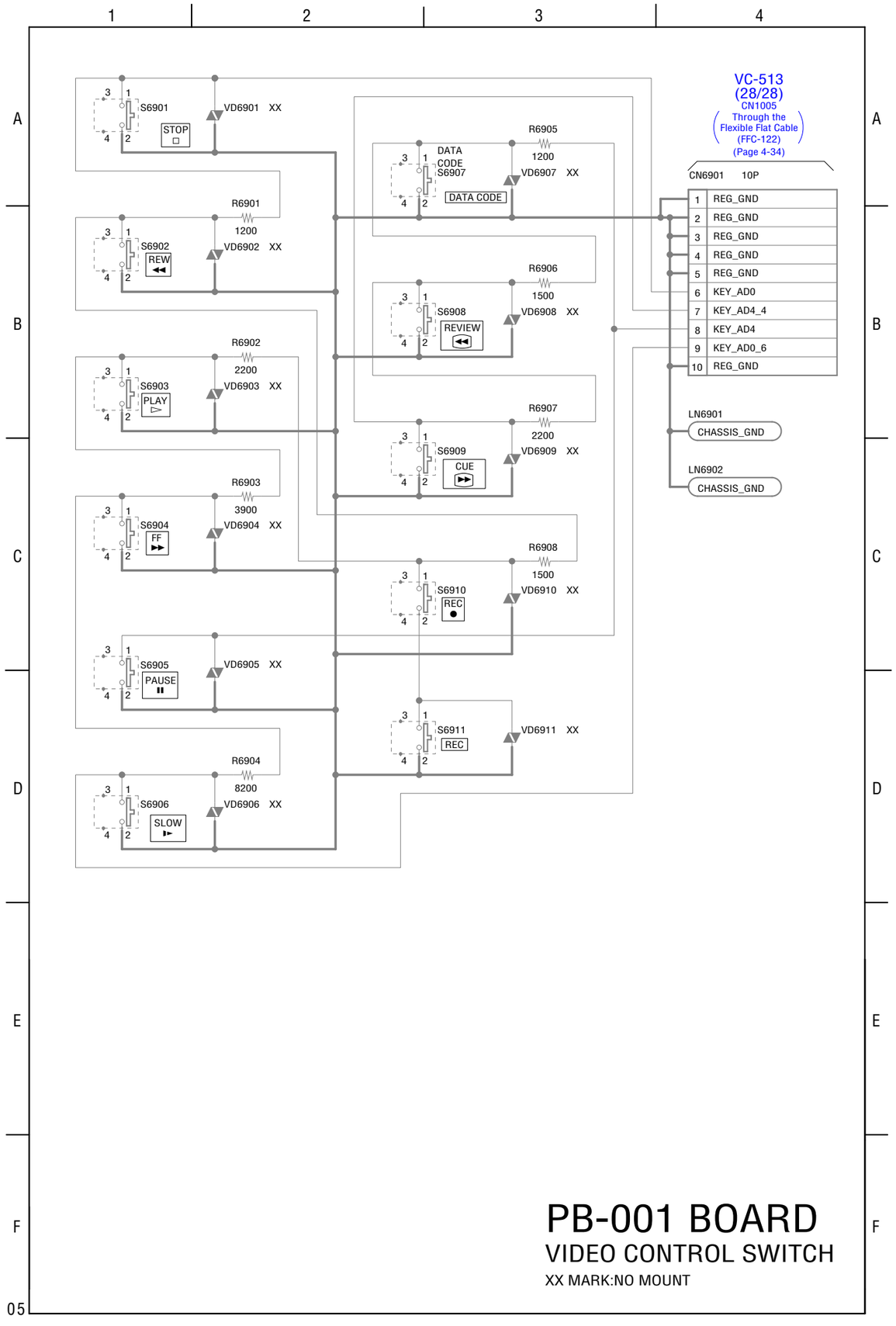
TN-002 BOARD
CONTROL SWITCH



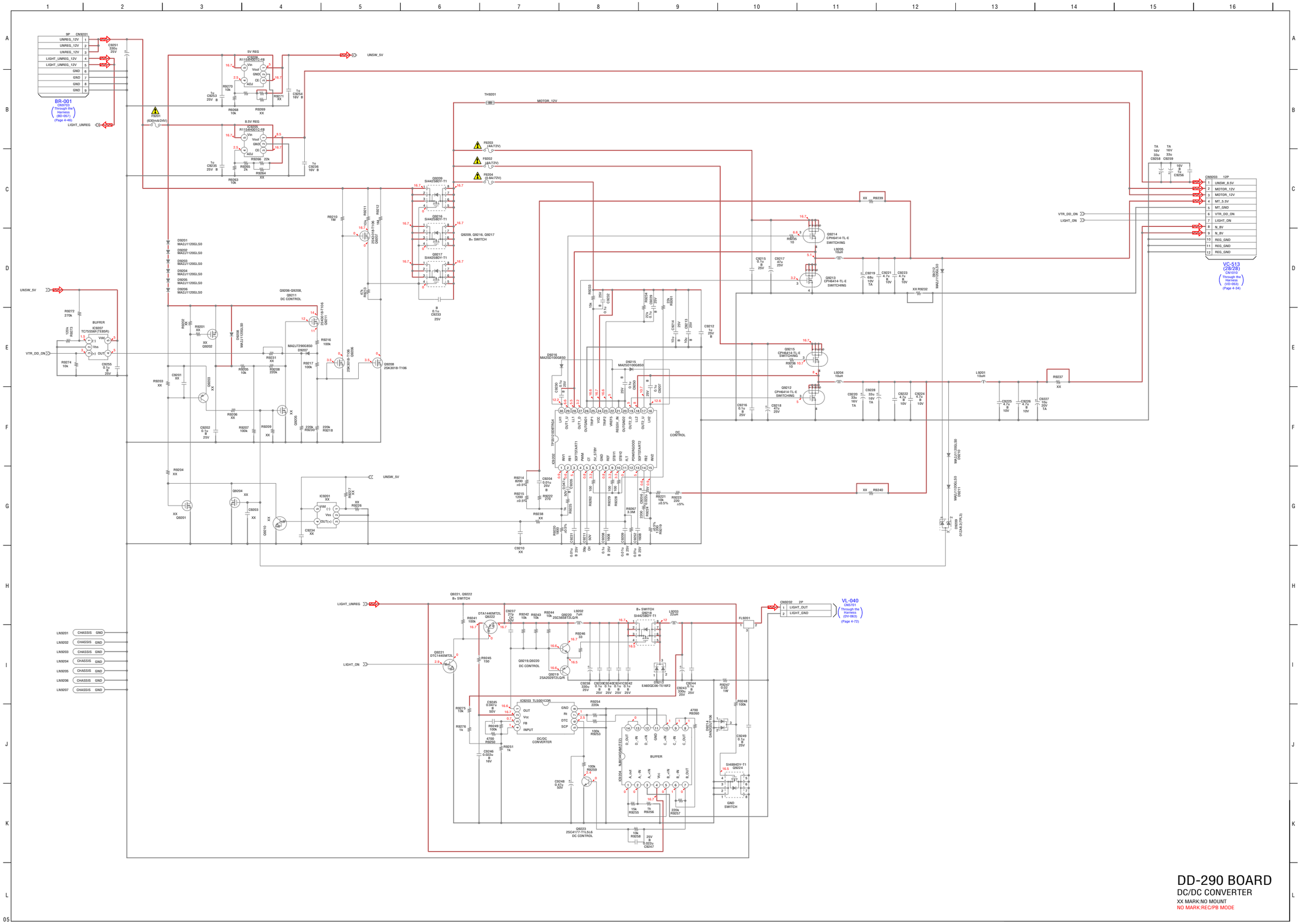
PW-135 BOARD
POWER/MODE SWITCH
XX MARK:NO MOUNT


CN8501 8P
DIAL_B_VM 1
REG_GND 2
KEY_AD7 3
REG_GND 4
REG_GND 5
DIAL_A_VM 6
REG_GND 7
REG_GND 8
PW-135
CN6801
Through the Flexible Flat Cable (FFC-118)
(Page 4-69)
S8501
B
SW1
SW2
SW1
COM
A
S
SEL/PUSH EXEC
VD8503 XX
VD8502 XX
VD8501 XX
LN8501
SHASSI_GND
KR-001 BOARD
SELECTION/EXECUTION SWITCH
XX MARK:NO MOUNT
05

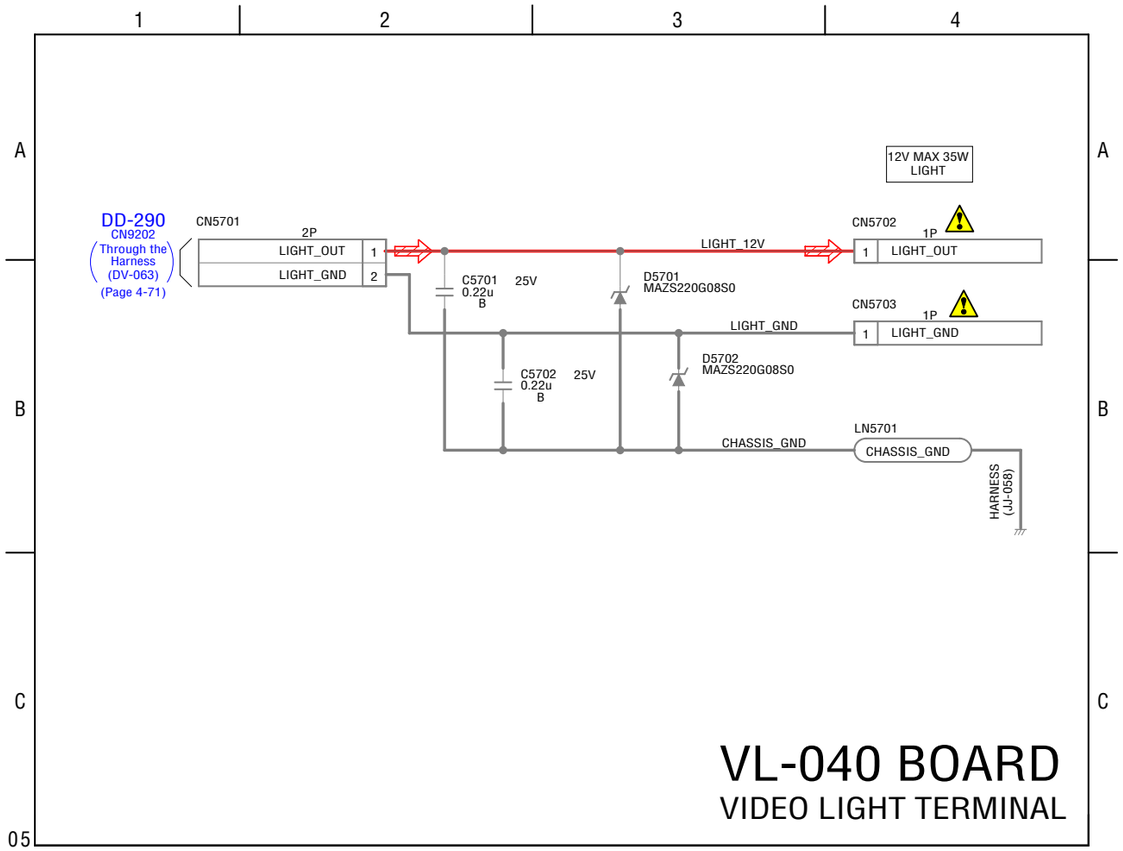

LN5601 CHASSIS GND
LN5602 CHASSIS GND
CN5601 8P
1 REG_GND
2 REG_GND
3 REG_GND
4 REG_GND
5 AUDIO_MONITOR_VOL
6 REG_GND
7 REG_GND
8 VOL 3.5V
SW-514
CN6402
Through the Flexible Flat Cable (FFC-118)
(Page 4-66)
RV5601 10K
MONITOR
VO-013 BOARD
MONITOR VOLUME
05

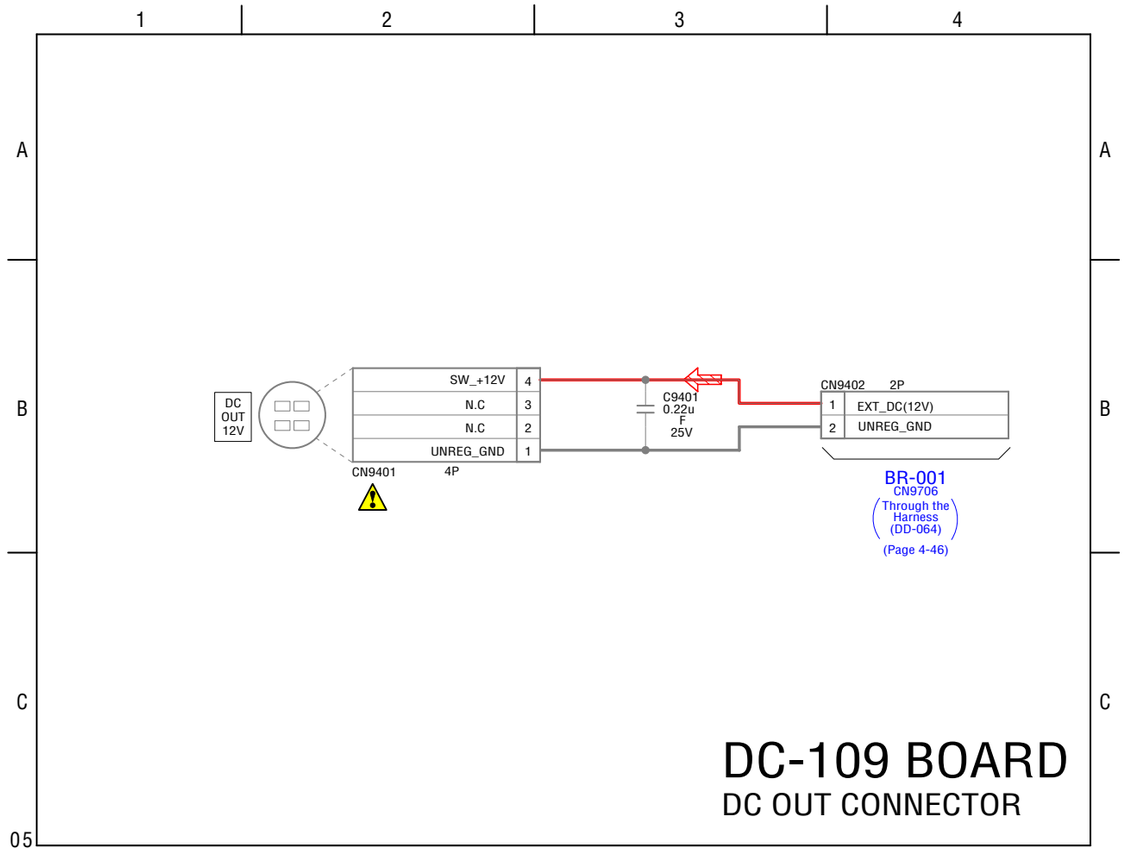

S6901 STOP
VD6901 XX
R6901 1200
S6902 REW
VD6902 XX
R6902 2200
S6903 PLAY
VD6903 XX
R6903 3900
S6904 FF
VD6904 XX
S6905 PAUSE
VD6905 XX
R6904 8200
S6906 SLOW
VD6906 XX
DATA CODE S6907
R6905 1200
VD6907 XX
DATA CODE
S6908 REVIEW
R6906 1500
VD6908 XX
S6909 CUE
R6907 2200
VD6909 XX
S6910 REC
R6908 1500
VD6910 XX
S6911 REC
VD6911 XX
VC-513 (28/28)
CN1005
Through the Flexible Flat Cable (FFC-122)
(Page 4-34)
CN6901 10P
1 REG_GND
2 REG_GND
3 REG_GND
4 REG_GND
5 REG_GND
6 KEY_AD0
7 KEY_AD4_4
8 KEY_AD4
9 KEY_AD0_6
10 REG_GND
LN6901 CHASSIS_GND
LN6902 CHASSIS_GND
PB-001 BOARD
VIDEO CONTROL SWITCH
XX MARK:NO MOUNT
05

• Refer to page 4-3 (English), 4-4 (Japanese) for mark ⚠.



• Refer to page 4-3 (English), 4-4 (Japanese) for mark ⚠.





MECHANISM BLOCK

MD-76 BOARD

XX MARK: NO MOUNT

NO MARK: REC/PB MODE

*: IMPOSSIBLE TO MEASURE THE VOLTAGE AT THE MARKED POINTS.

CN002 21P
TAPE_END 1
CC_DOWN 2
C_IN 3
MODE_A 4
MODE_B 5
MODE_C 6
MODE_D 7
S_ELETEN 8
T_ELETEN 9
5V 10
5V 11
TAPE_LED 12
GND 13
L_CASETTE 14
DEW 15
W- 16
W+ 17
V- 18
V+ 19
U- 20
U+ 21

NN-006 (3/3) CN7302 Through the Flexible Flat Cable (FFC-125) (Page 4-61)

ENCODER
JL010 JL009 JL008 JL007 JL011

D001 GL453SE0000F (TAPE LED)
R003 120

S003 (CC DOWN)
S002 (C IN)
S001 (L/S CAS)
JR003 0
JR001 0

Q001 PT4850FE000F TAPE END SENSOR

2 GND CL046
1 DEW CL045

FP-248 FLEXIBLE BOARD

GND 2
DEW 1
DEW SENSOR

CN003 18P
18 HE Vcc
17 HE GND
16 W-
15 W+
14 V-
13 V+
12 U-
11 U+
10 MR_FG2
9 MR_Vcc
8 MR_FG1
7 MR_GND
6 W
5 W
4 U
3 U
2 V
1 V

HALL
FG
M904 REEL MOTOR

R015 150
R001 150

JR004 0
JR005 0
RV001 GAIN
RV001 1M
JR006 0
R007 100
R008 22k
R004 22k
R005 6800
R006 6800
R030 0
RV002 47k
R031 0
R028 100
CL001
CL002
R026 XX

IC002
T ELETEN SENSOR
IC002
THS124TE85L

RV003 GAIN
RV004 OFFSET
R009 22k
R010 6800
R011 6800
CL004
CL003
R033 0
RV004 47k
R032 0
R013 22k
R012 100
R029 100

IC003
S ELETEN SENSOR
IC003
THS124TE85L

C002 10u 10V TA
R027 XX
C001 0.01u

IC001
ELETEN ERROR AMP
IC001
BA10358F-E2

CN001 21P
REEL_V 1
REEL_V 2
REEL_U 3
REEL_U 4
REEL_W 5
REEL_W 6
GND 7
GND 8
FG1 9
5V 10
5V 11
FG2 12
SREEL_FG 13
TREEL_FG 14
REC_PROOF 15
CHIME_4 (VDD) 16
CHIME_3 (SDA) 17
CHIME_2 (SCK) 18
GND 19
GND 20
TAPE_TOP 21

NN-006 (3/3) CN7303 Through the Flexible Flat Cable (FFC-126) (Page 4-61)

Q002 PT4850FE000F TAPE TOP SENSOR

IC004
T REEL FG
IC004
TLP907 (LB, SONY)

IC005
S REEL FG
IC005
TLP907 (LB, SONY)

R014 270

1 GND JL001
2 REC_PROOF JL002
3 CHIME_4 (VDD) JL003
4 CHIME_3 (SDA) JL004
5 CHIME_2 (SCK) JL005
6 GND JL006

FP-104 FLEXIBLE BOARD

Note: CN004 and S004 are not included in FP-104 flexible board.

GND 1
REC_PROOF 2
CHIME_4 (VDD) 3
CHIME_3 (SDA) 4
CHIME_2 (SCK) 5
GND 6

S004 (REC PROOF)
CN004 (4 PIN CONNECTOR)

05

4-3. PRINTED WIRING BOARDS (1/2)

Link

TO (2/2)

4-3. PRINTED WIRING BOARDS (2/2)

Link

TO (1/2)

4-3. PRINTED WIRING BOARDS

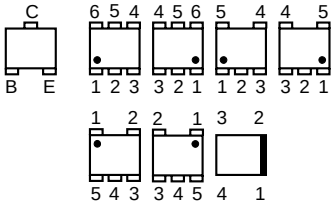
(ENGLISH)

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS

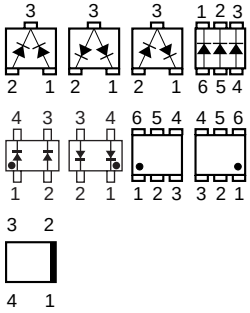
- : Uses unleaded solder.
- : Circuit board
  : Flexible board
  Pattern from the side which enables seeing.
  : pattern of the rear side
  (The other layers' patterns are not indicated)
- Through hole is omitted.
- There are a few cases that the part printed on diagram isn't mounted in this model.
- : panel designation

- Chip parts.

Transistor



Diode



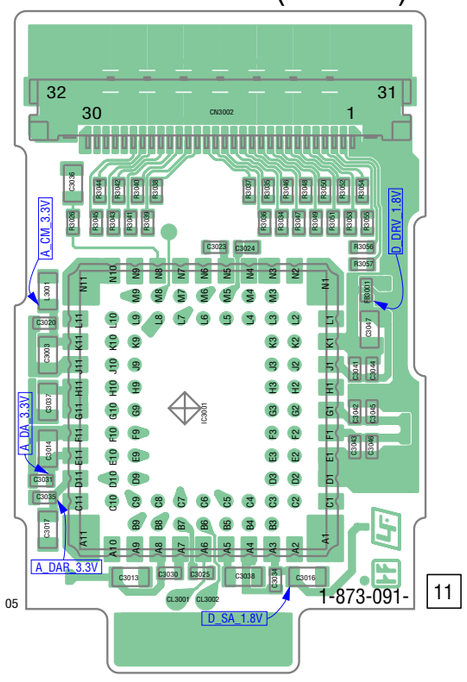
(JAPANESE)

プリント図共通ノート
【プリント図ノート】

- ：無鉛半田を使用しています。
- ：基板
  ：フレキシブル配線板
  見ている面側のパターン。
  ：裏側のパターン
  （他のパターンについては表示されていません）
- スルーホールは省略。
- プリント図には，本機で使用していない部品が記載されている場合があります。
- はパネル表示名称。

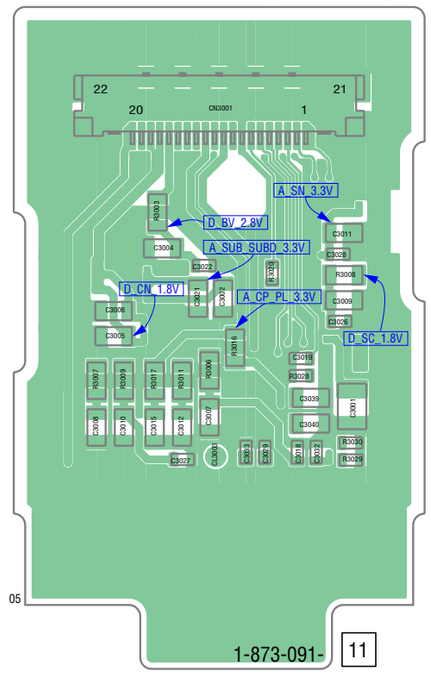
: Uses unleaded solder.

EE-009 BOARD (SIDE A)



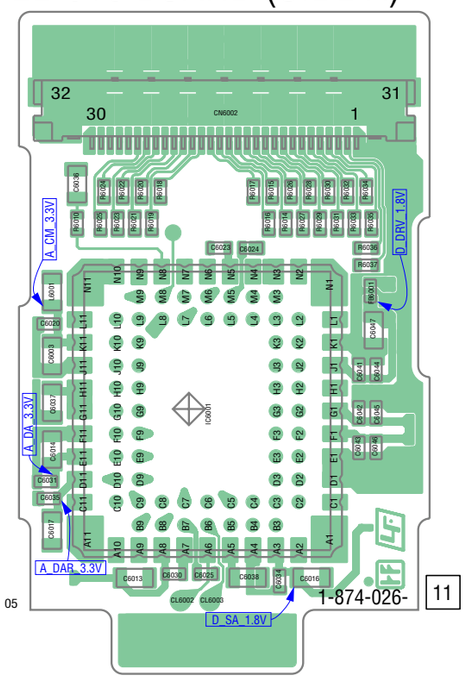
Note: In red and blue, the same EE-009 board is used respectively.

EE-009 BOARD (SIDE B)

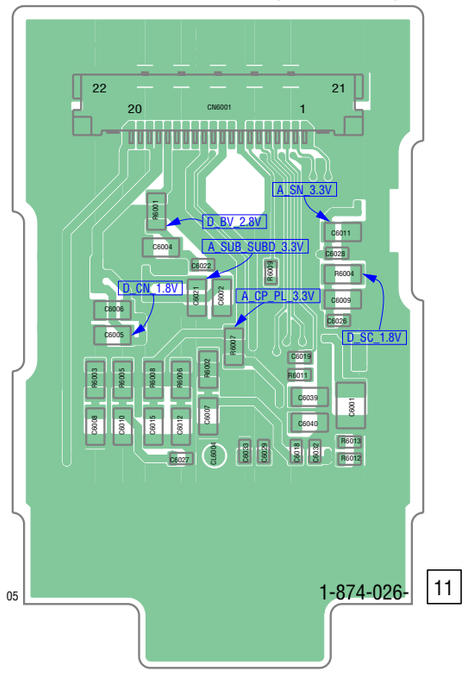


Note: EE-009 board and all mounted parts (including IC3001 (CMOS imager)) are not supplied, but they are included in PRISM device.

EE-010 BOARD (SIDE A)



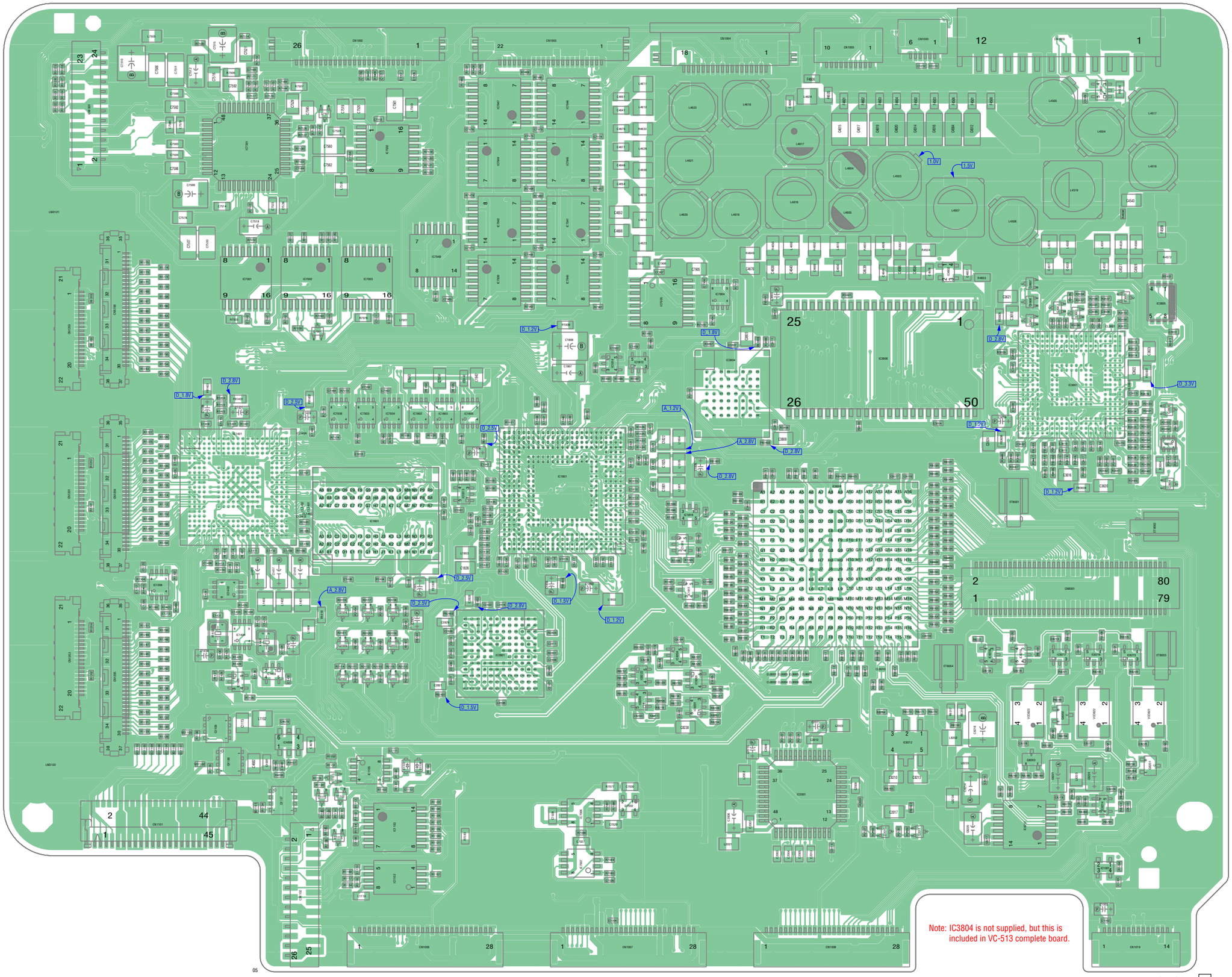
EE-010 BOARD (SIDE B)



Note: EE-010 board and all mounted parts (including IC6001 (CMOS imager)) are not supplied, but they are included in PRISM device.

: Uses unleaded solder.

VC-513 BOARD (SIDE A)

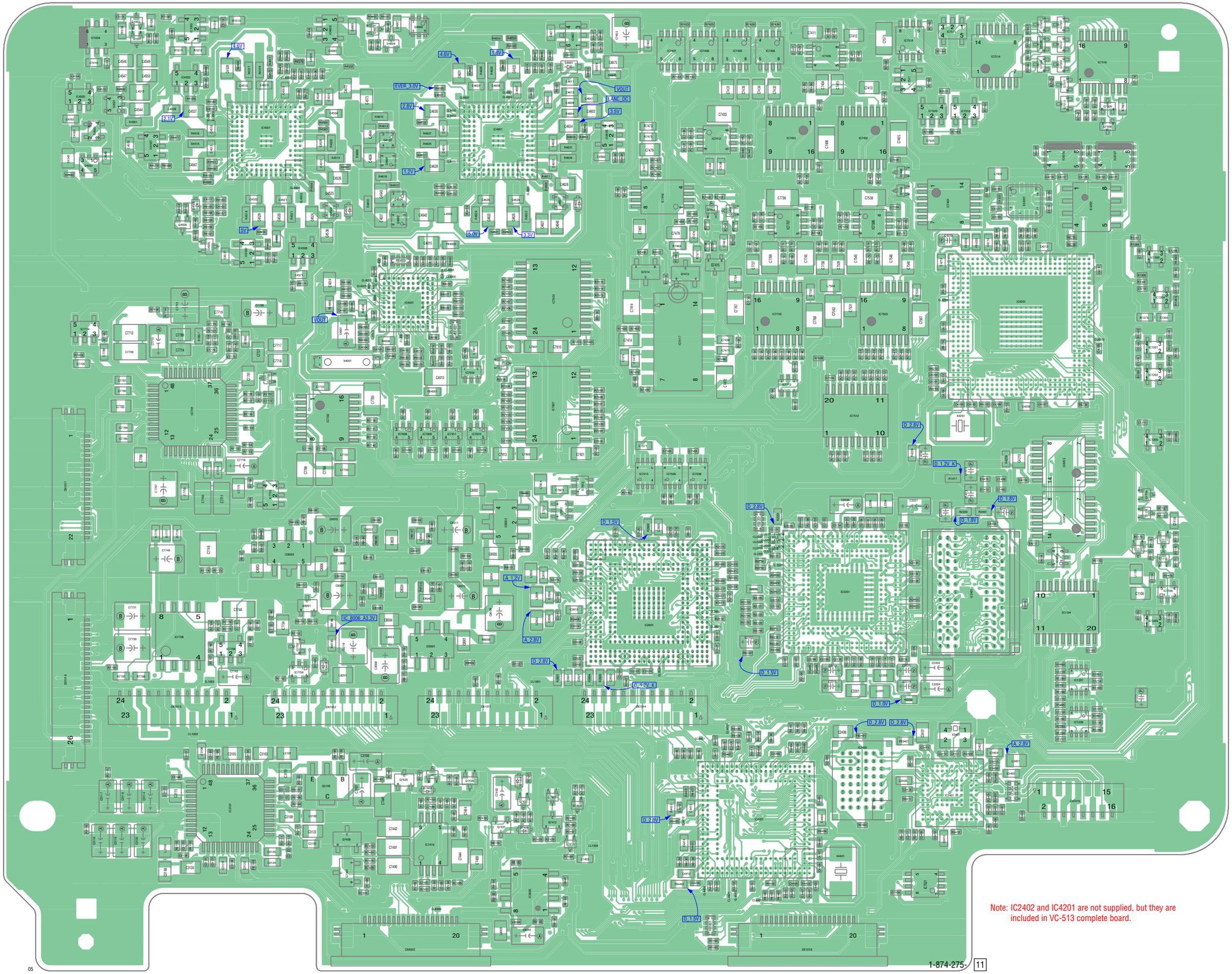


1-874-275-11

VC-513 (10 layers)

: Uses unleaded solder.

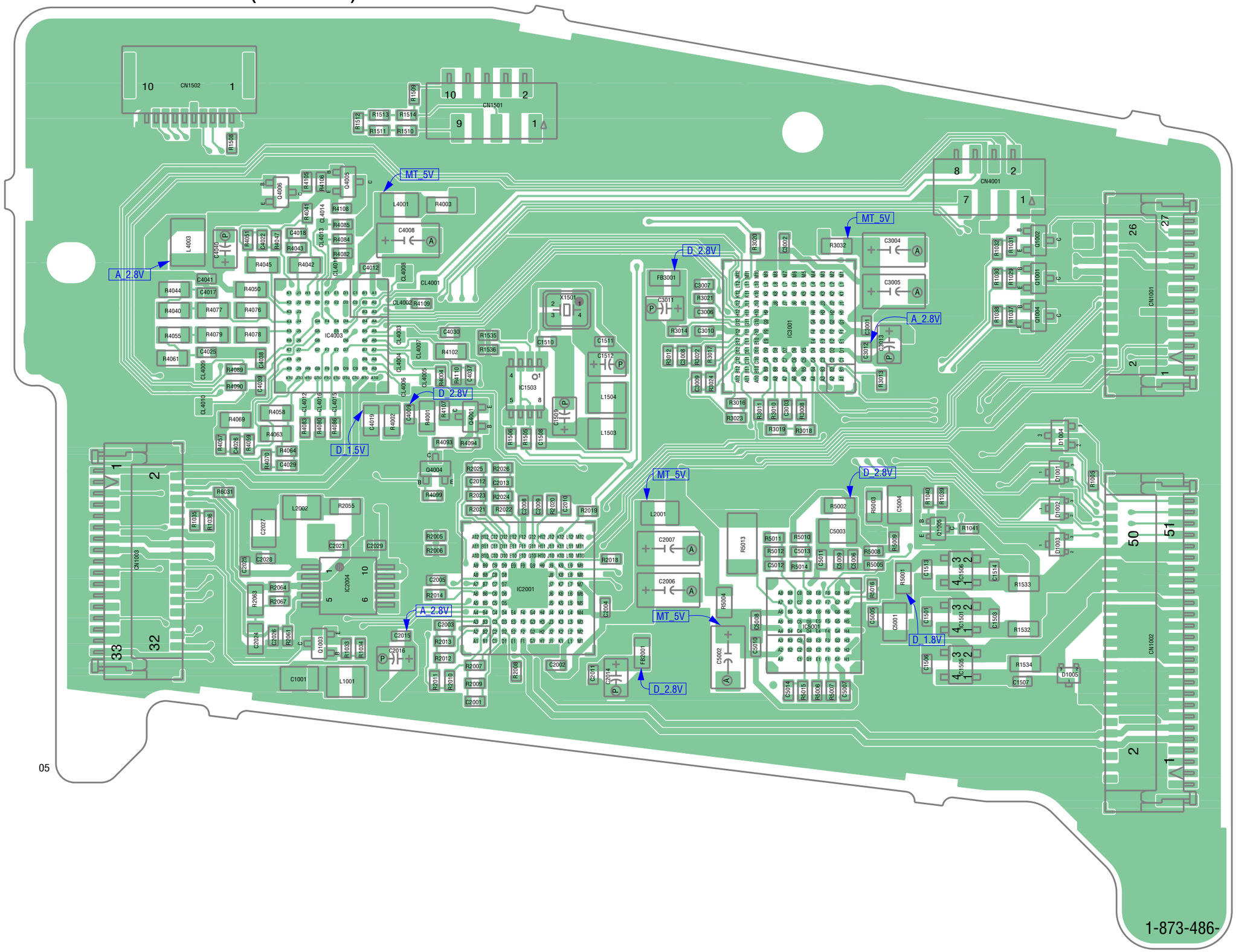
VC-513 BOARD (SIDE B)



LG-005 (6 layers)

: Uses unleaded solder.

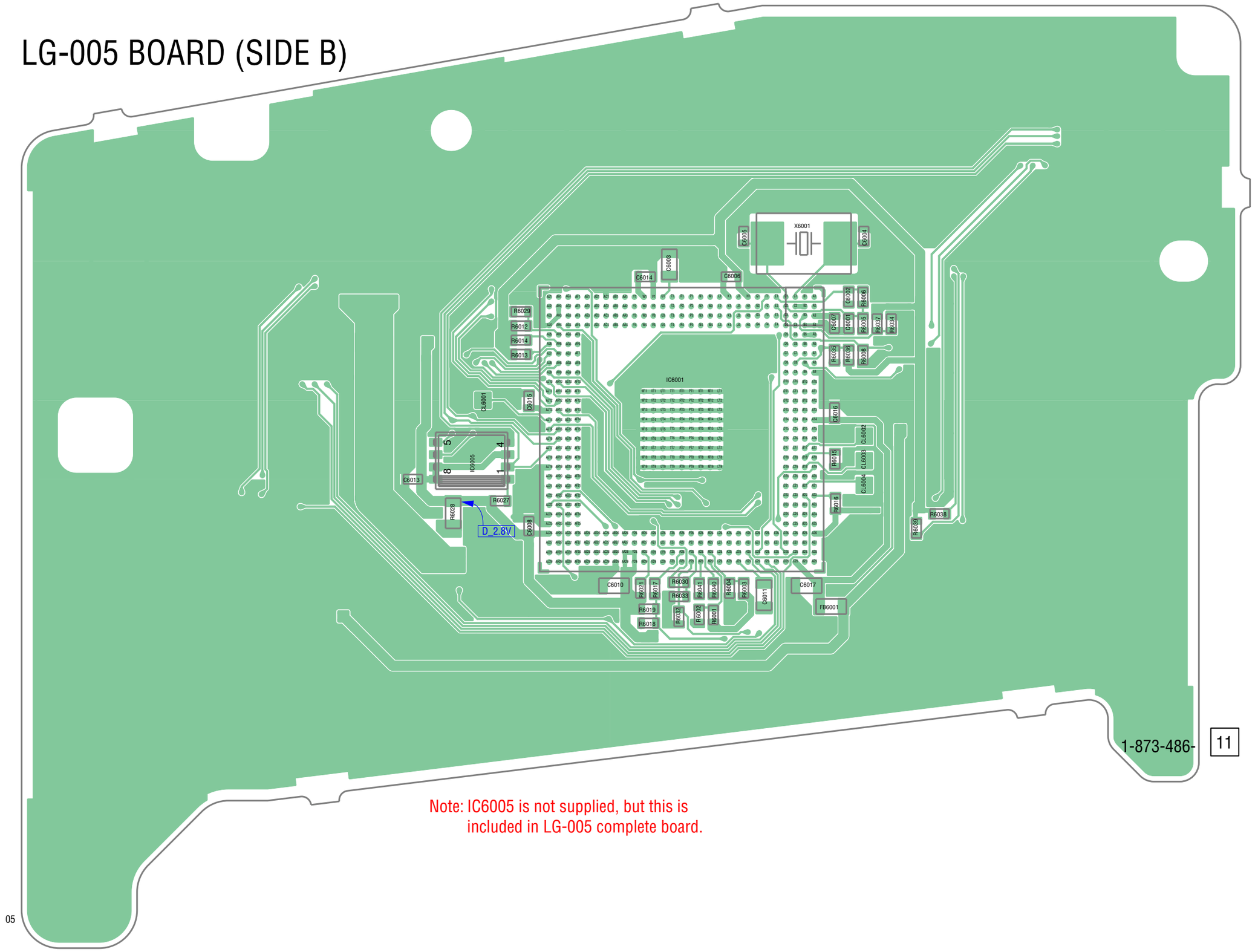
LG-005 BOARD (SIDE A)



LG-005 (6 layers)

: Uses unleaded solder.

LG-005 BOARD (SIDE B)

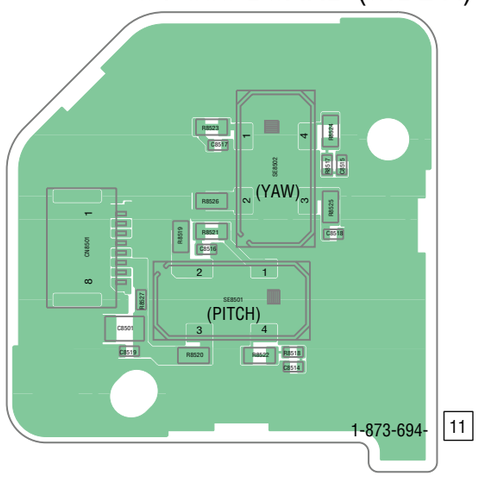


Note: IC6005 is not supplied, but this is included in LG-005 complete board.

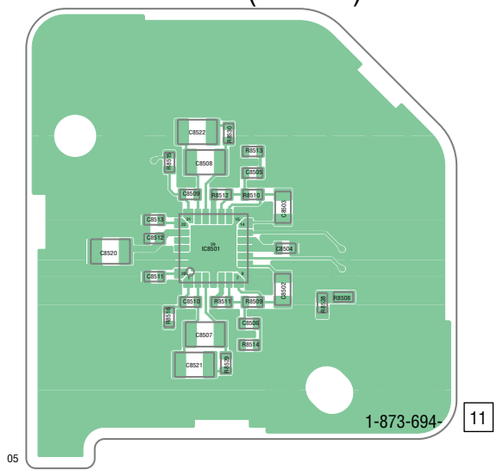
GY-005 (6 layers), FS-088 (2 layers), LL-015 (2 layers)

: Uses unleaded solder.

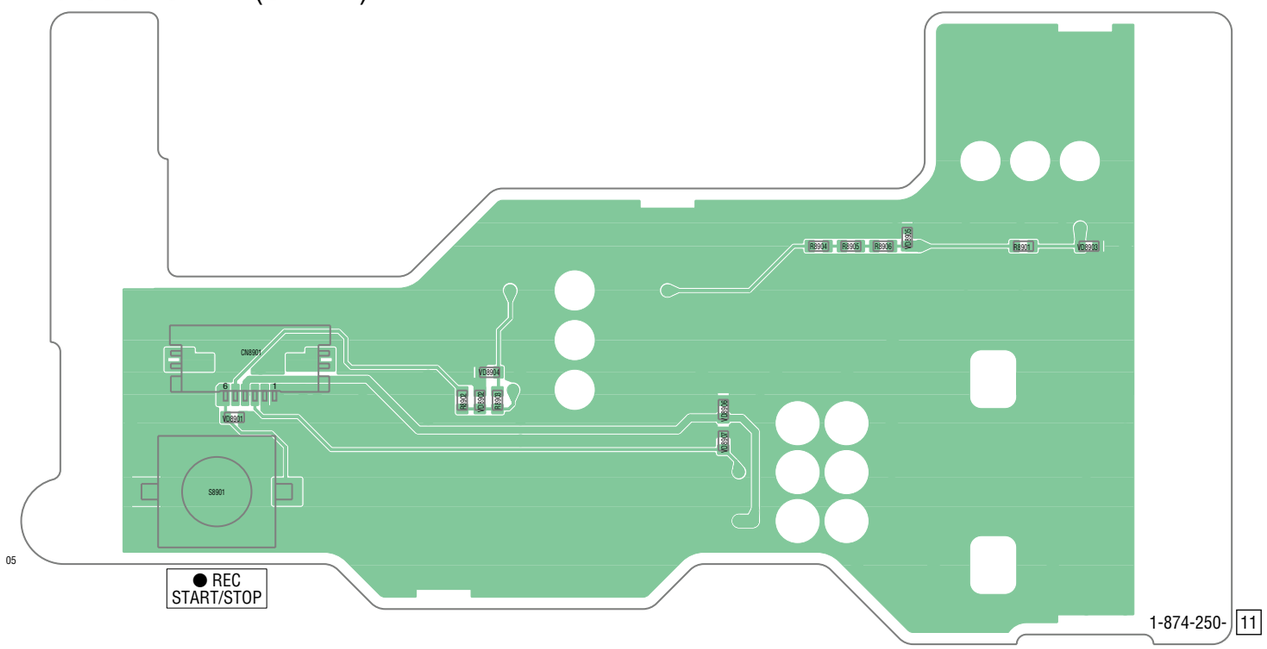
GY-005 BOARD (SIDE A)



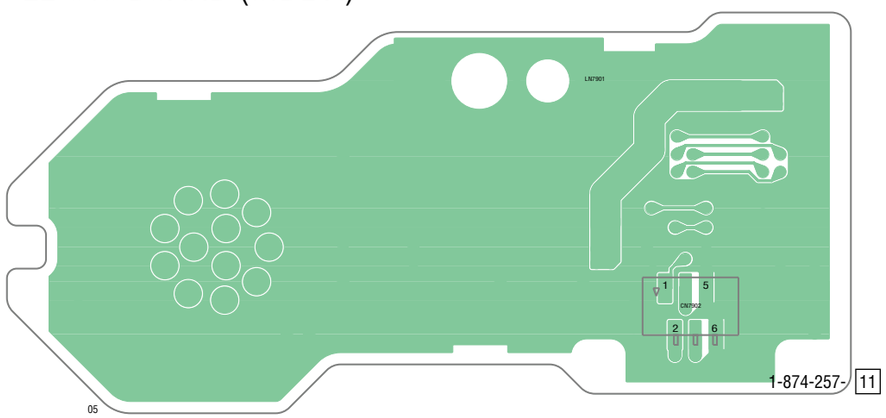
GY-005 BOARD (SIDE B)



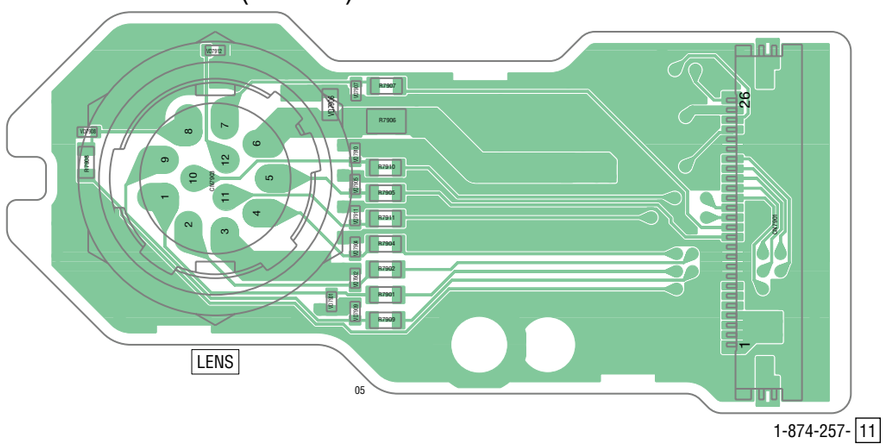
FS-088 BOARD (SIDE A)



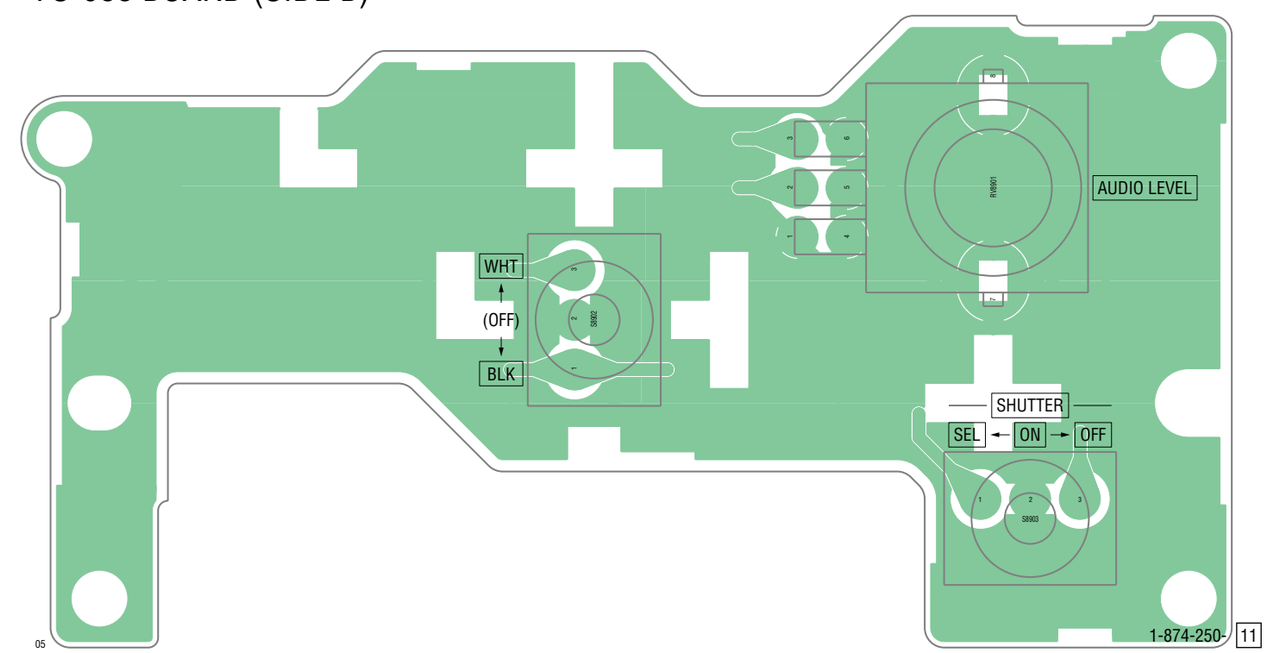
LL-015 BOARD (SIDE A)



LL-015 BOARD (SIDE B)



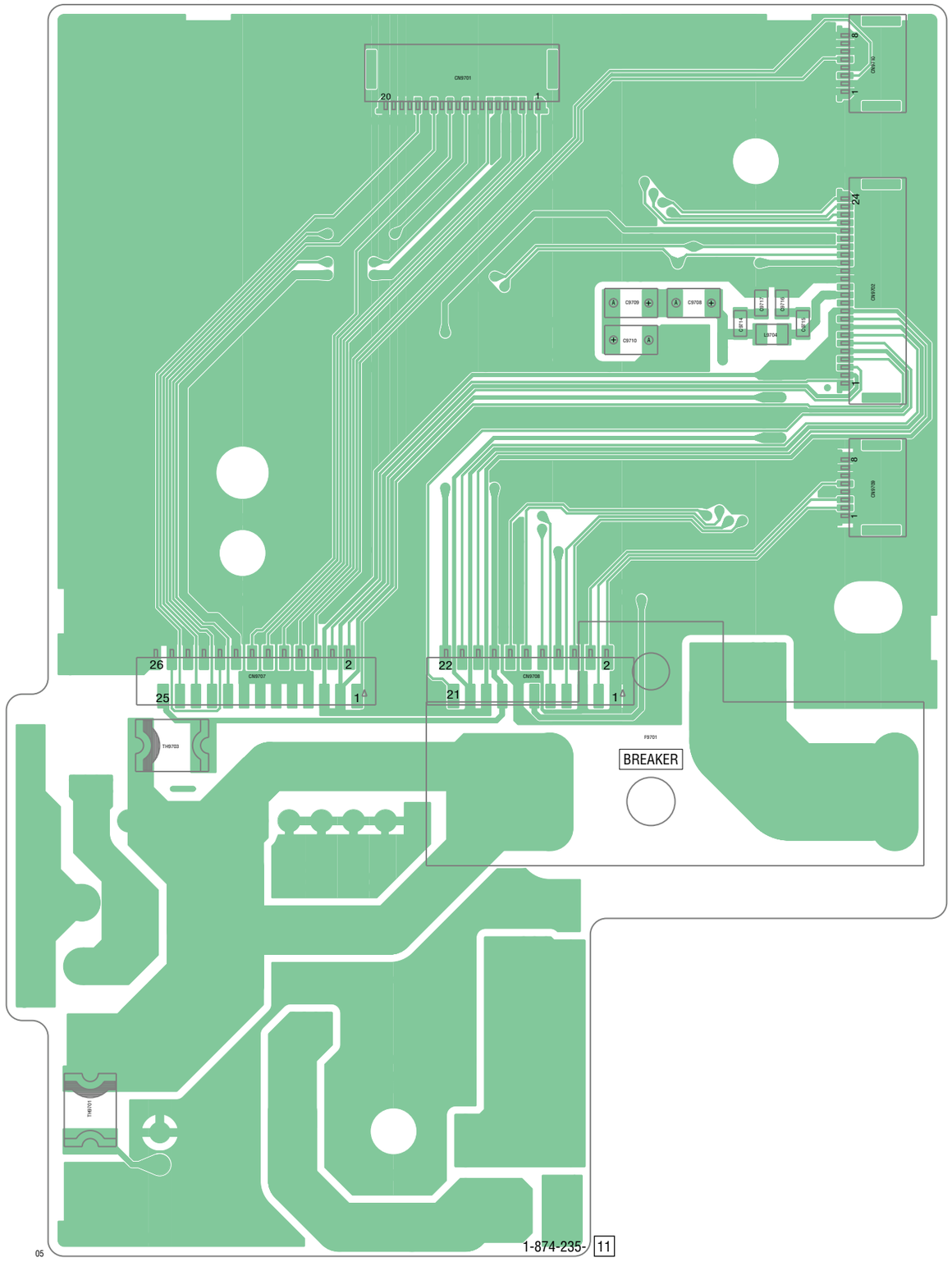
FS-088 BOARD (SIDE B)



BR-001 (4 layers)

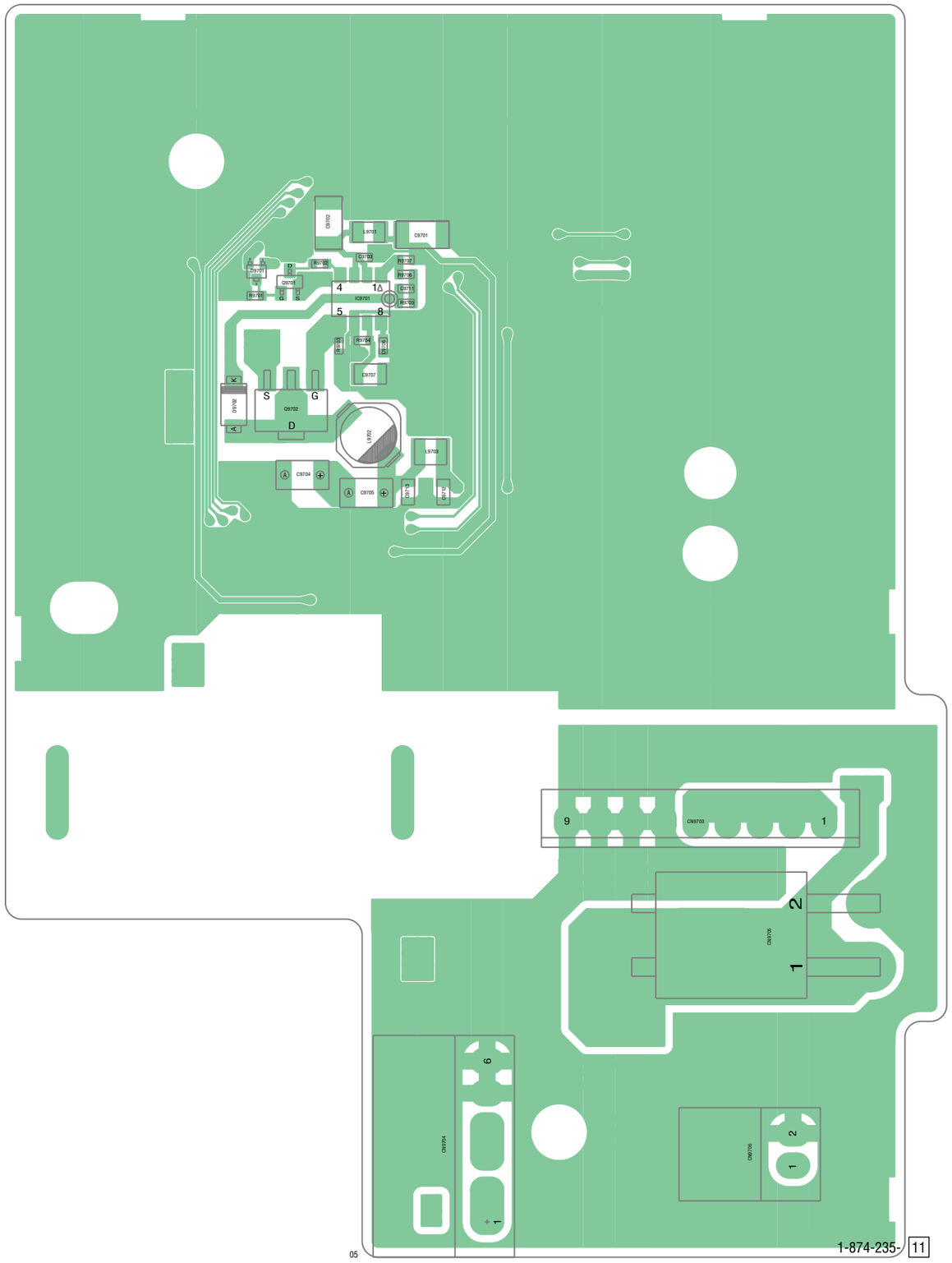
: Uses unleaded solder.

BR-001 BOARD (SIDE A)



BR-001 BOARD (SIDE B)

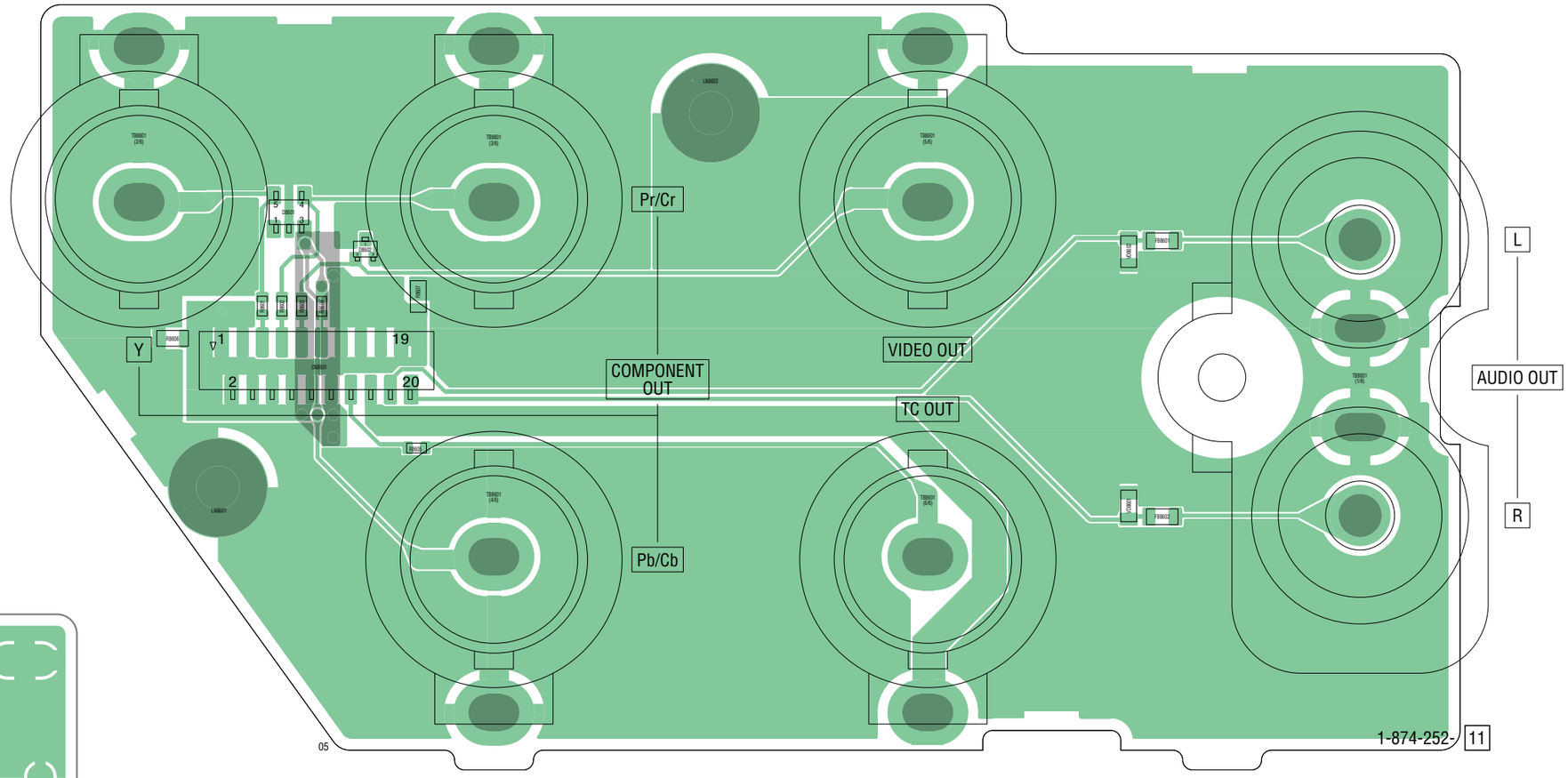
Note: IC9701 is not supplied, but this is included in BR-001 complete board.



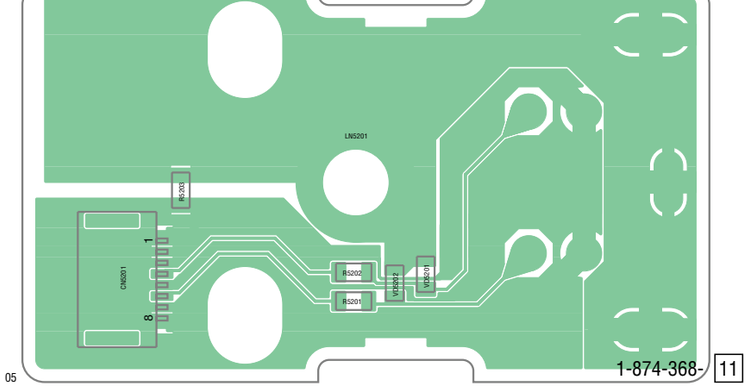
JK-351 (2 layers), SS-184 (2 layers), LA-029 (2 layers)

: Uses unleaded solder.

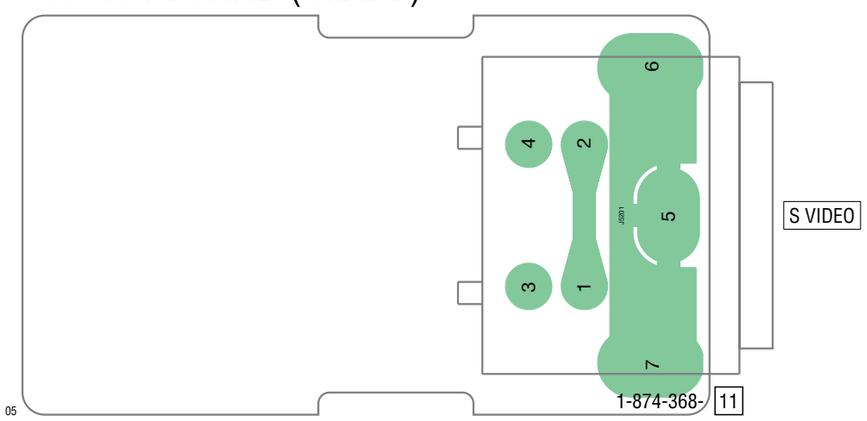
JK-351 BOARD



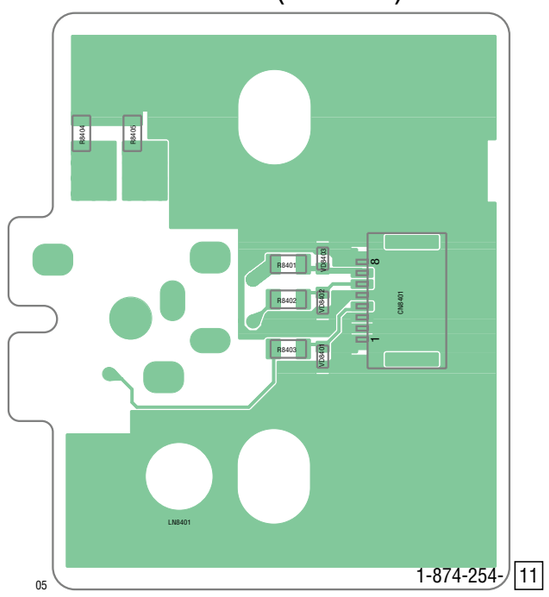
SS-184 BOARD (SIDE A)



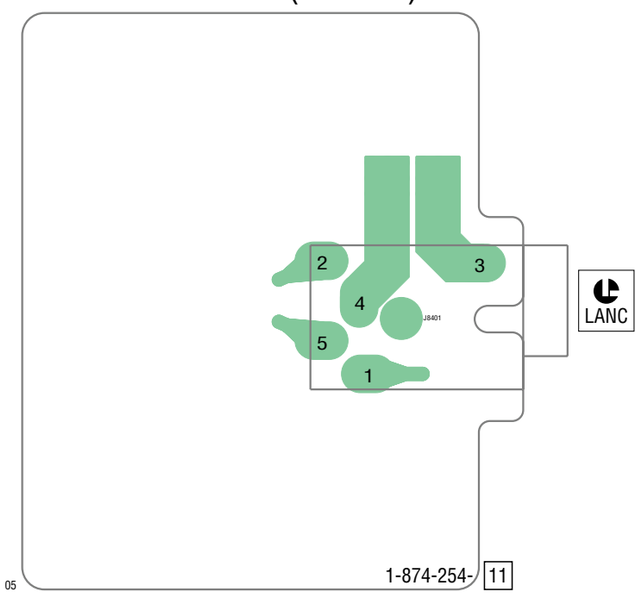
SS-184 BOARD (SIDE B)



LA-029 BOARD (SIDE A)



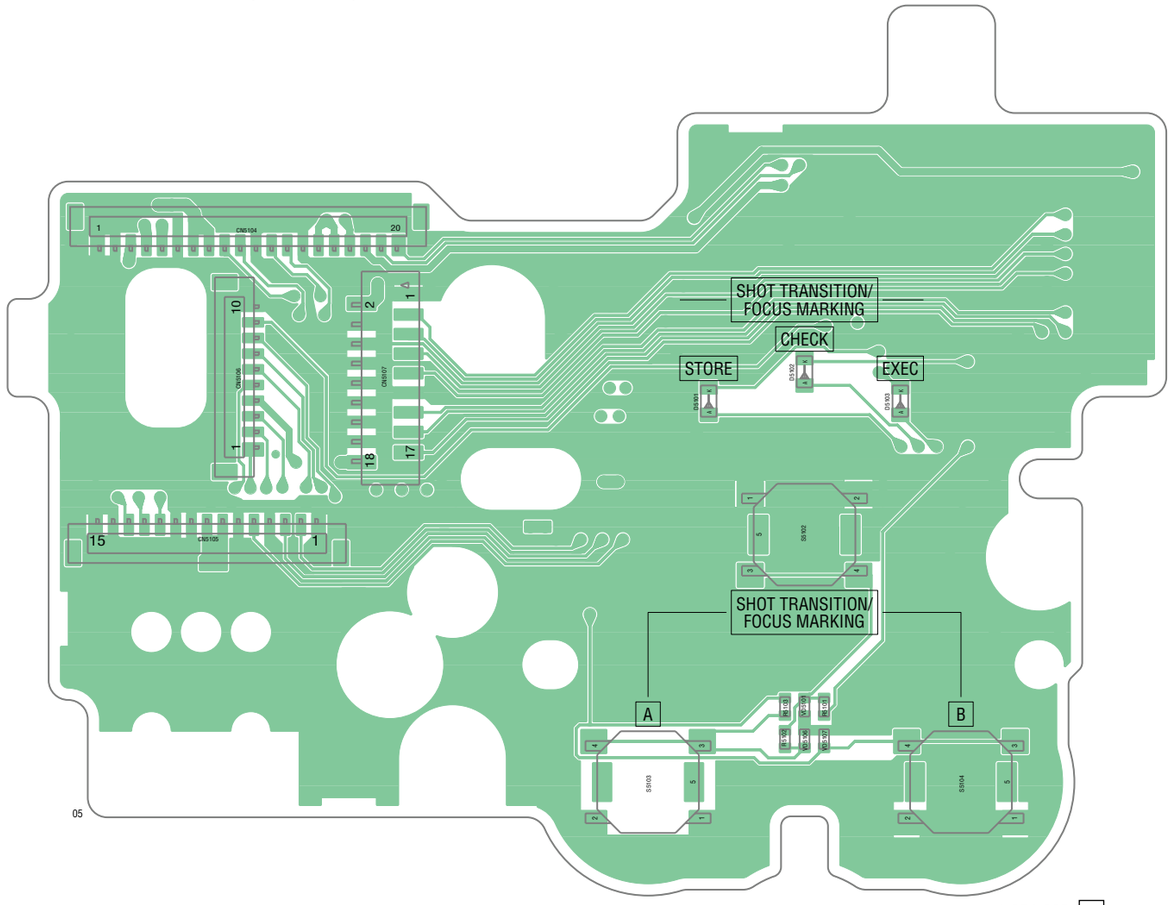
LA-029 BOARD (SIDE B)



SH-029 (4 layers)

: Uses unleaded solder.

SH-029 BOARD (SIDE A)



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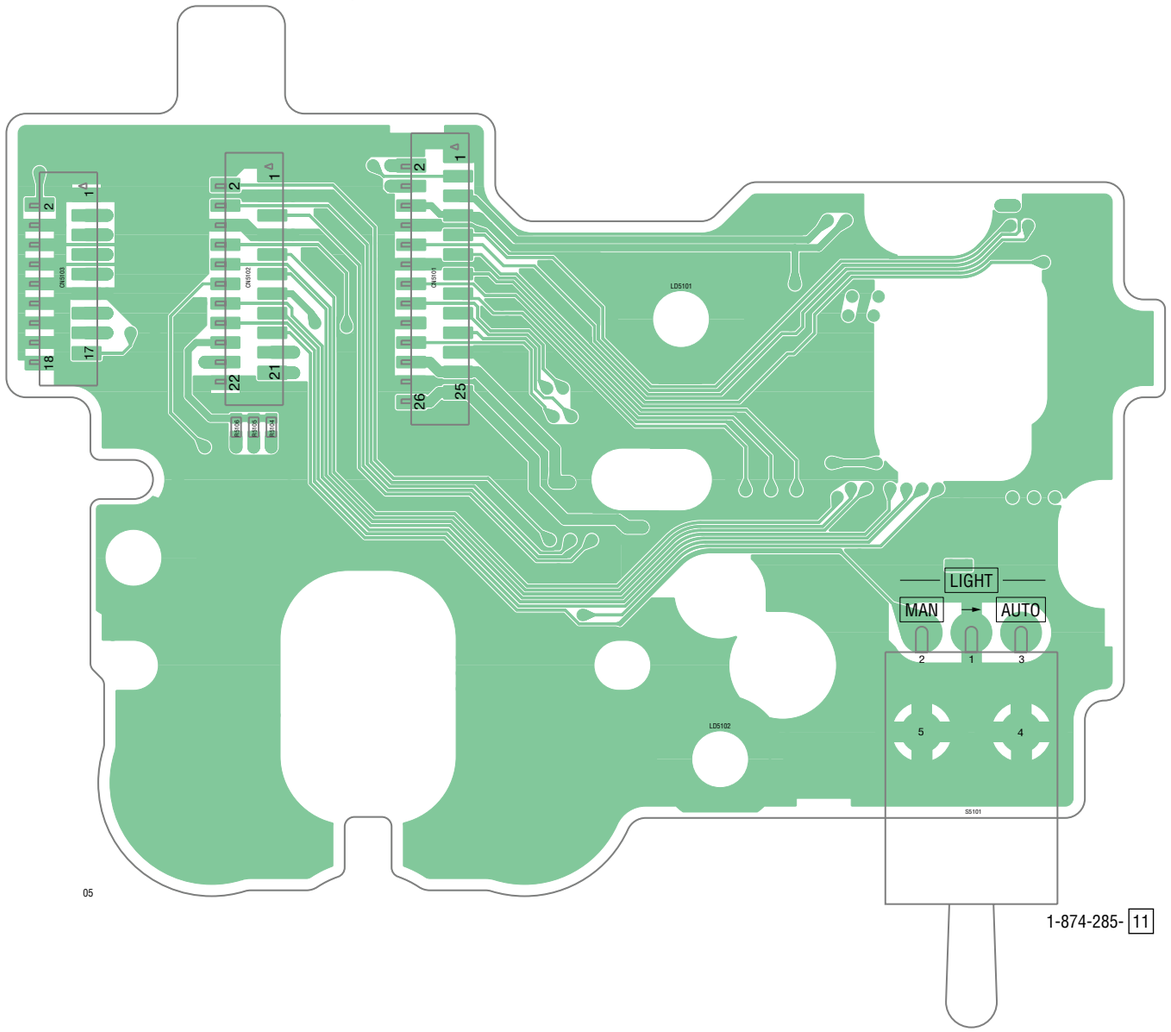
SH-029 BOARD (SIDE B)



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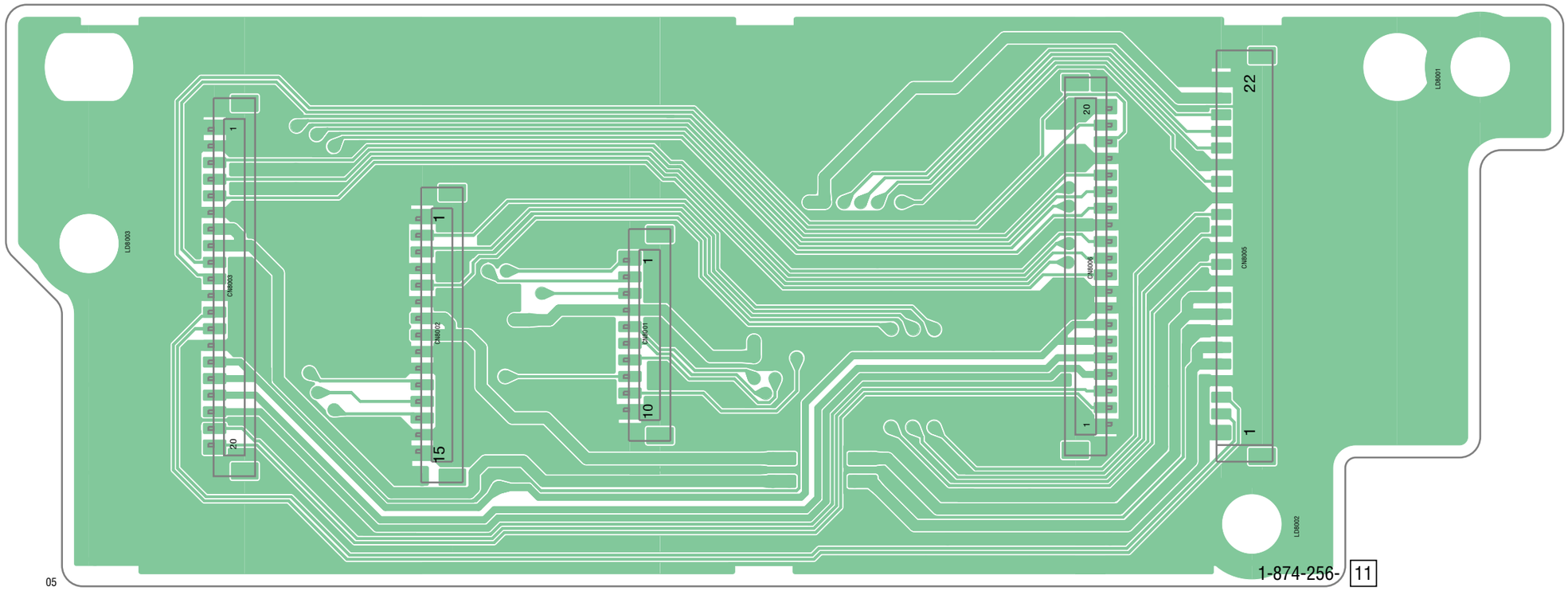
LE-041 (2 layers)

: Uses unleaded solder.

LE-041 BOARD (SIDE A)



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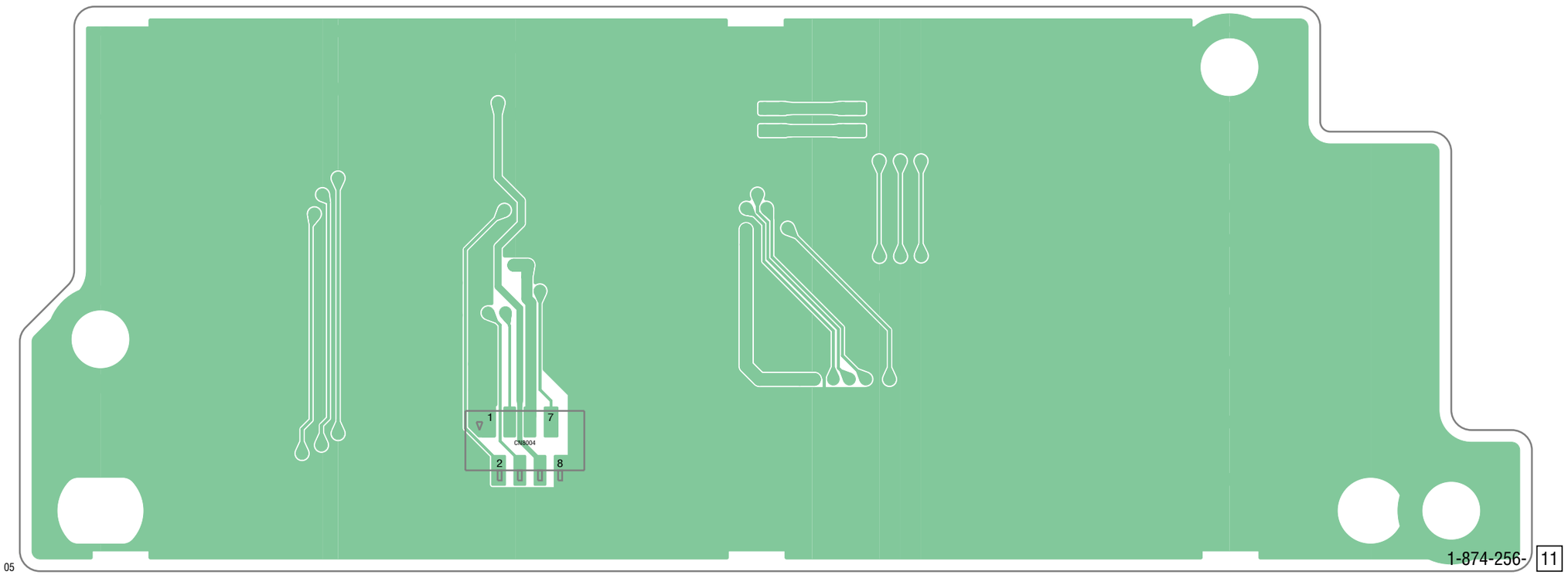
LE-041 BOARD (SIDE B)



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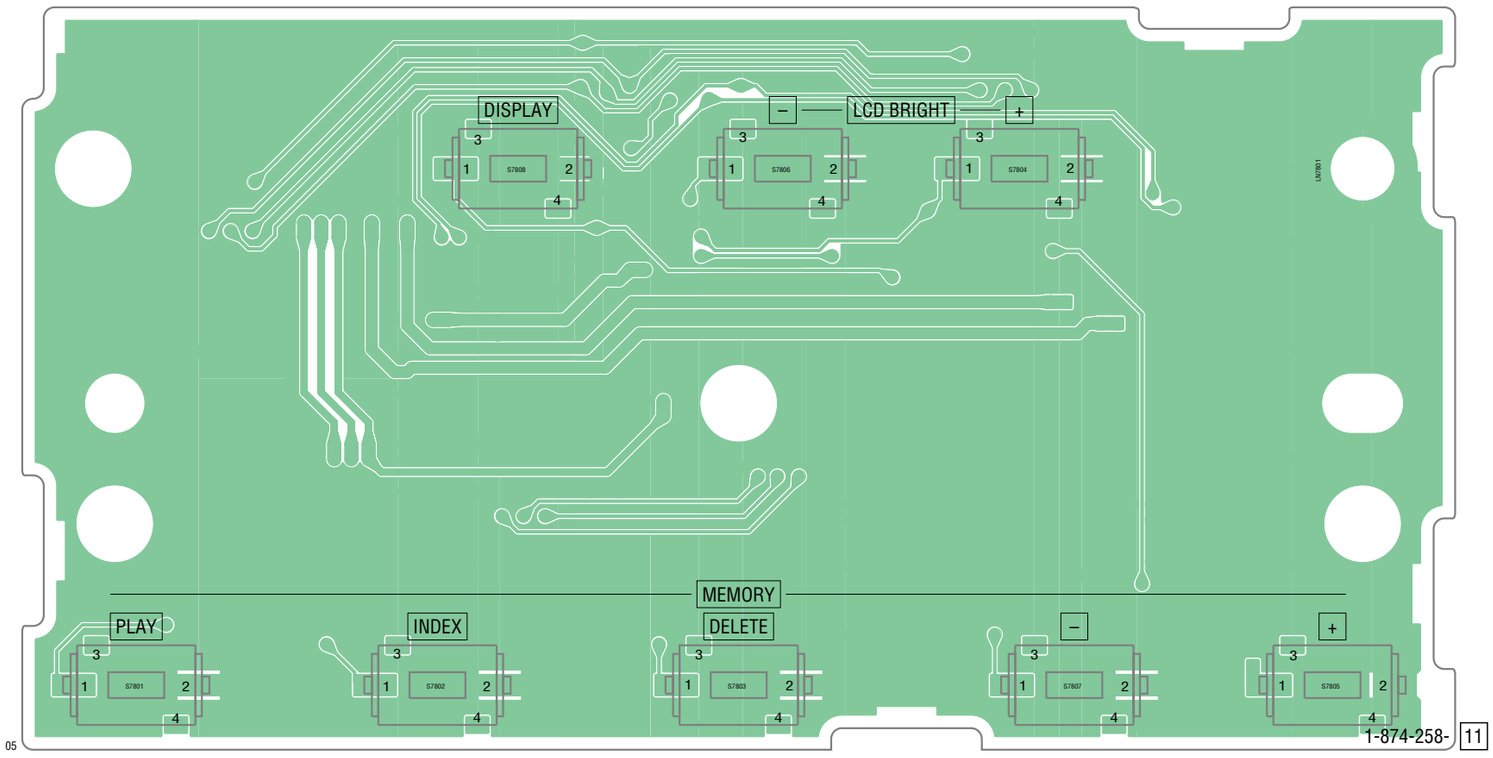
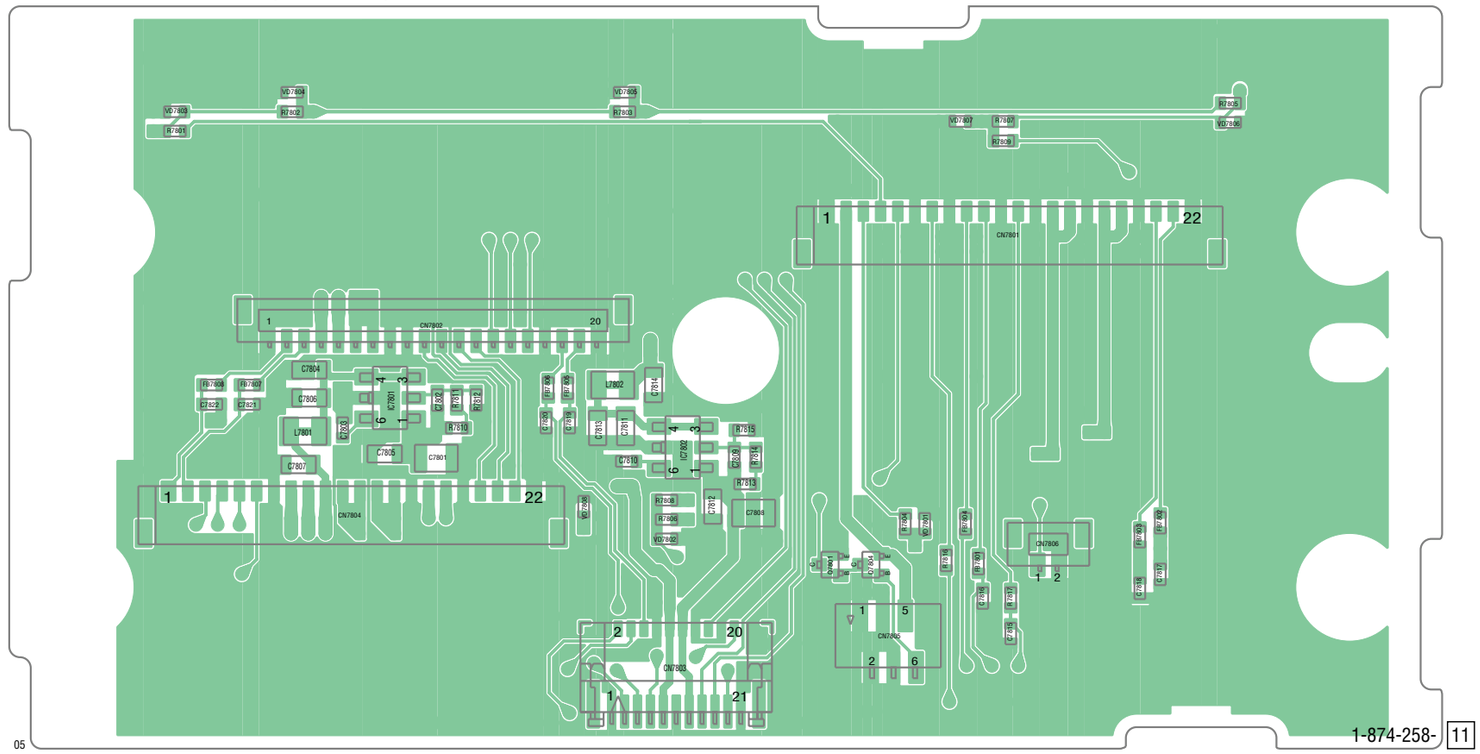
LS-071 (2 layers)

: Uses unleaded solder.

LS-071 BOARD (SIDE A)



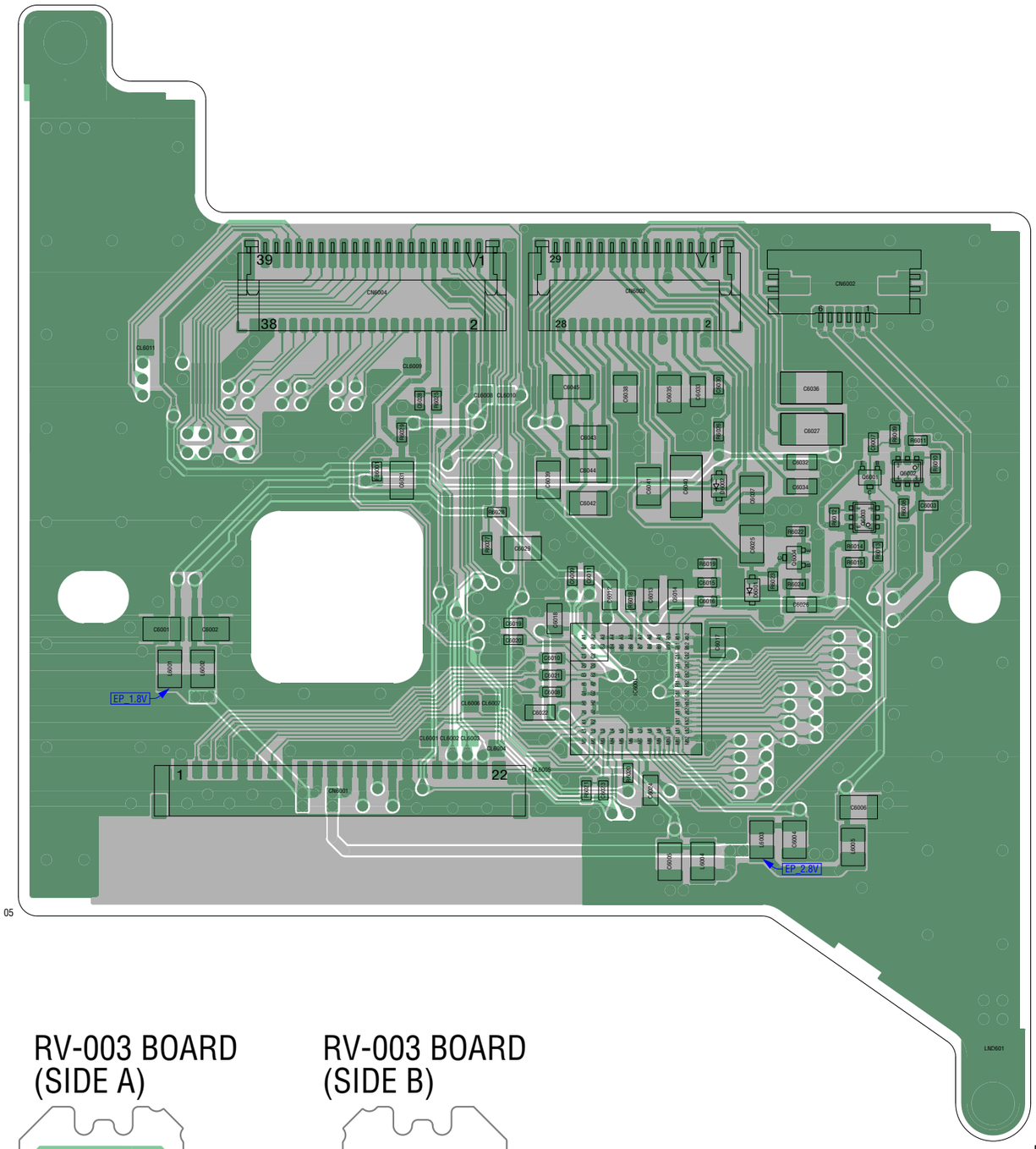
LS-071 BOARD (SIDE B)



PP-006 (4 layers), RV-003 (2 layers), FP-783 (1 layer)

: Uses unleaded solder.

PP-006 BOARD



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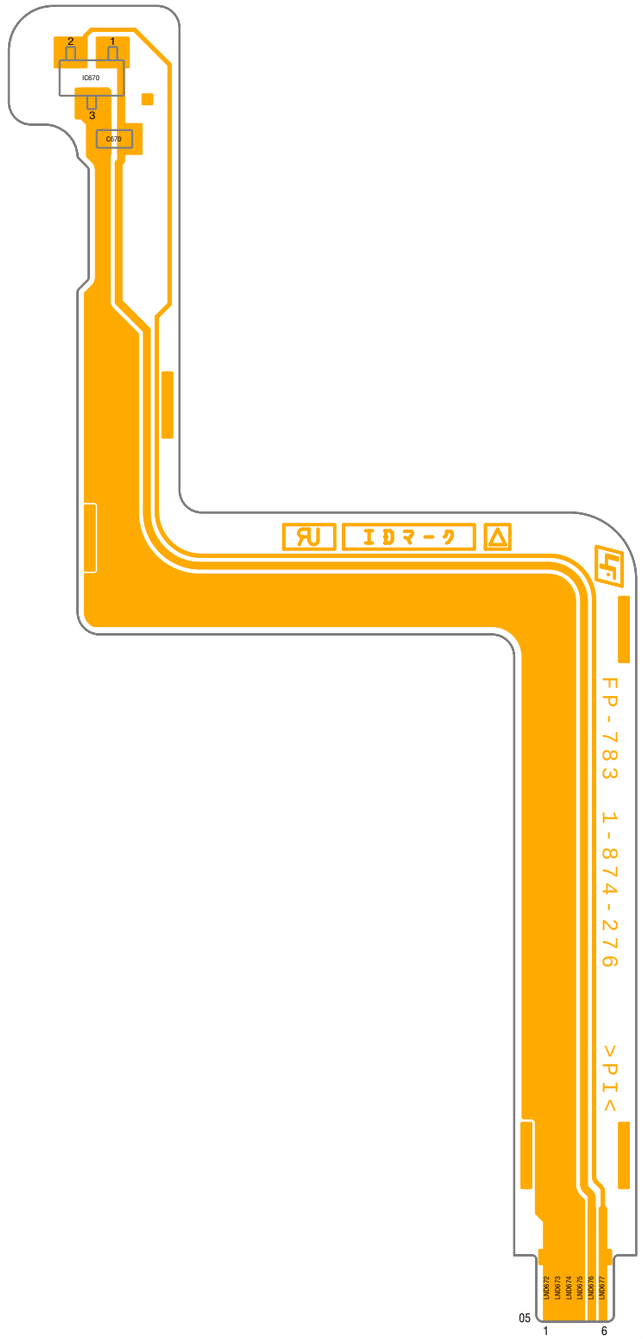
FP-783 FLEXIBLE BOARD



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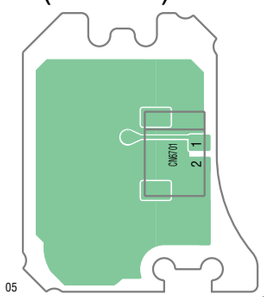
RV-003 BOARD (SIDE A)



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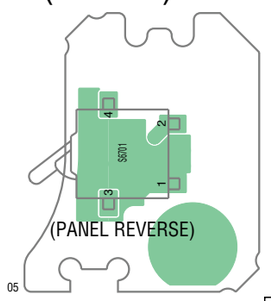
RV-003 BOARD (SIDE B)



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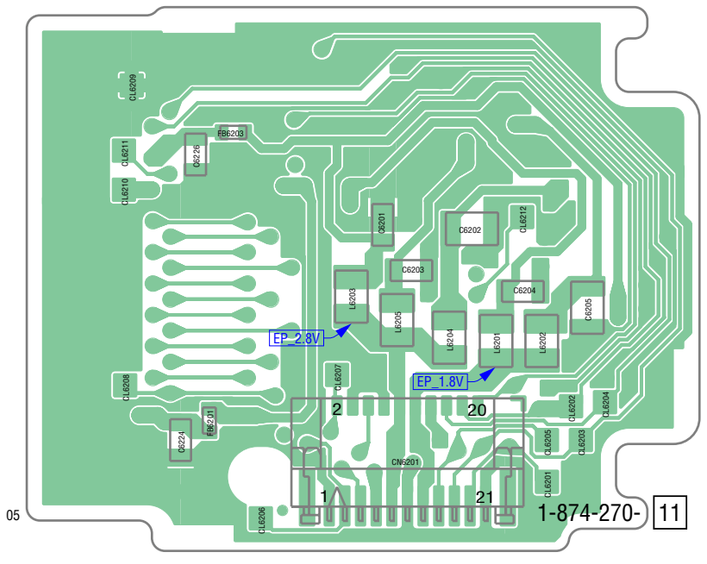
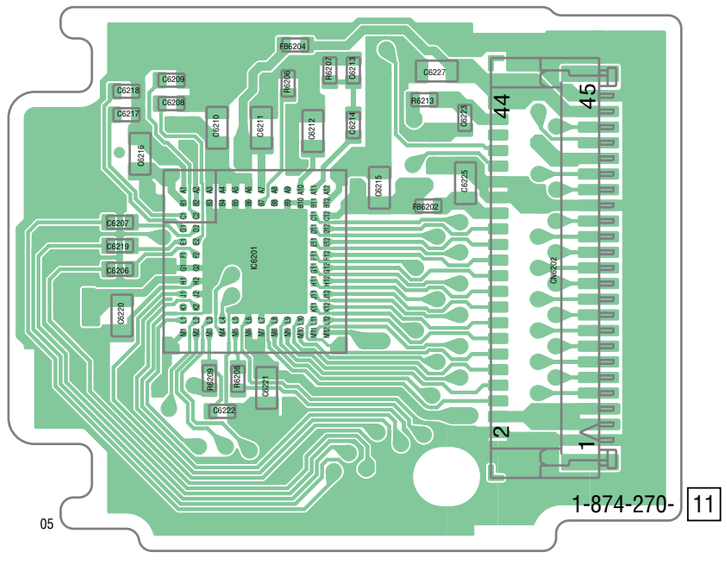
UU-006 (4 layers), EV-018 (2 layers)

: Uses unleaded solder.

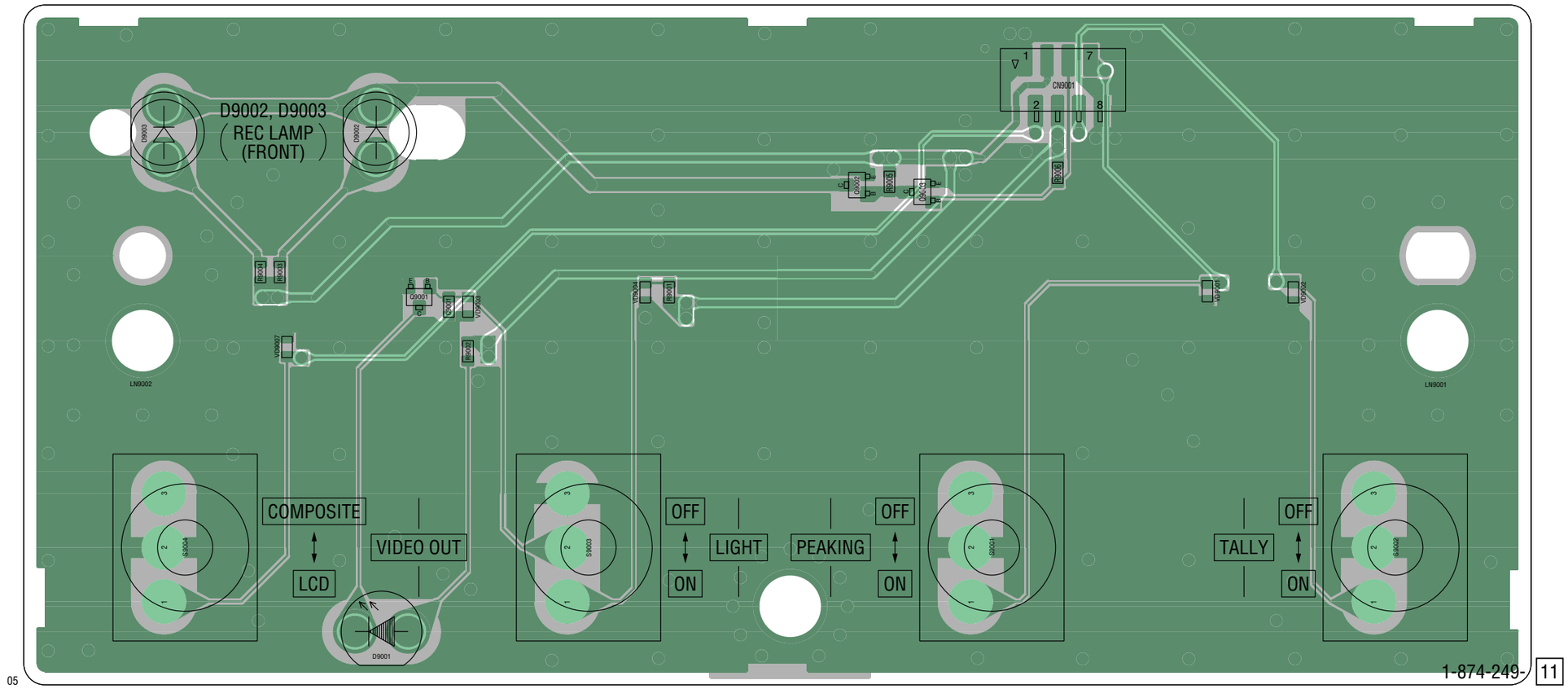
UU-006 BOARD (SIDE A)



UU-006 BOARD (SIDE B)



EV-018 BOARD

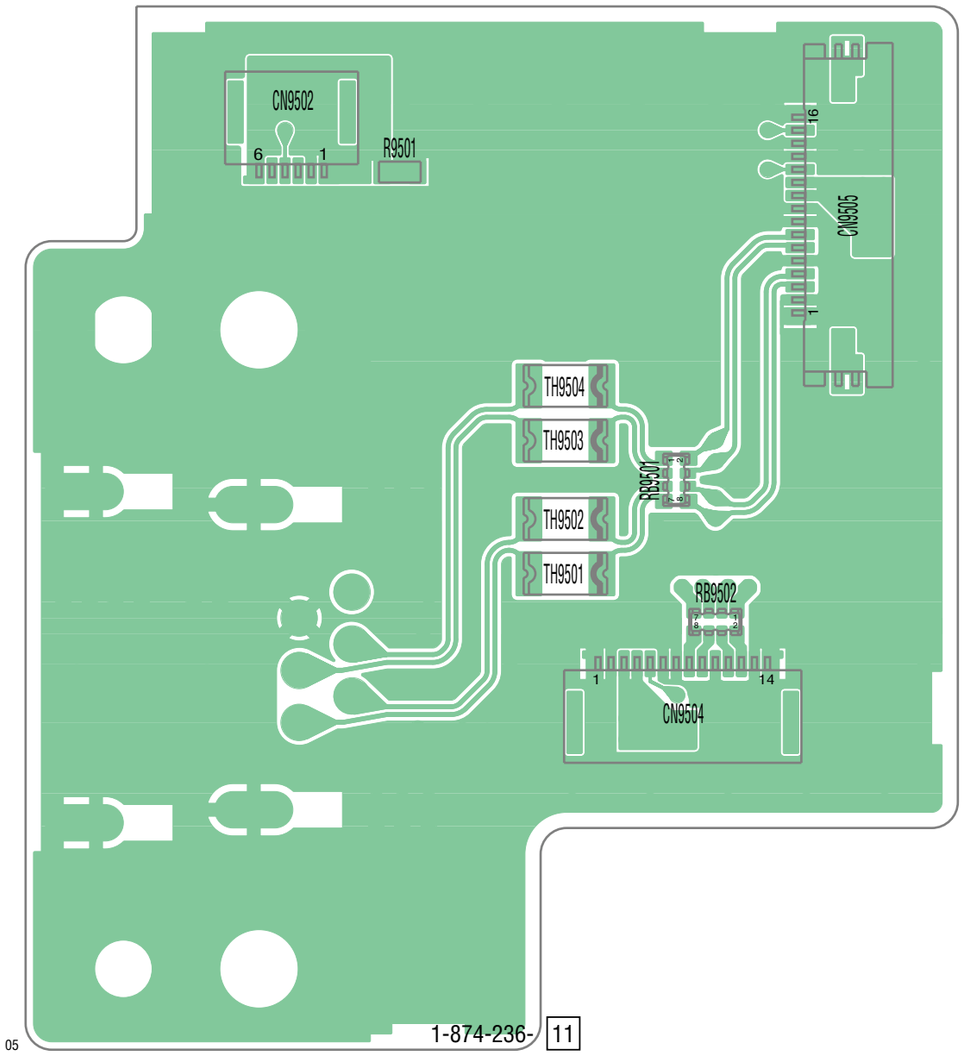


(LIGHT)

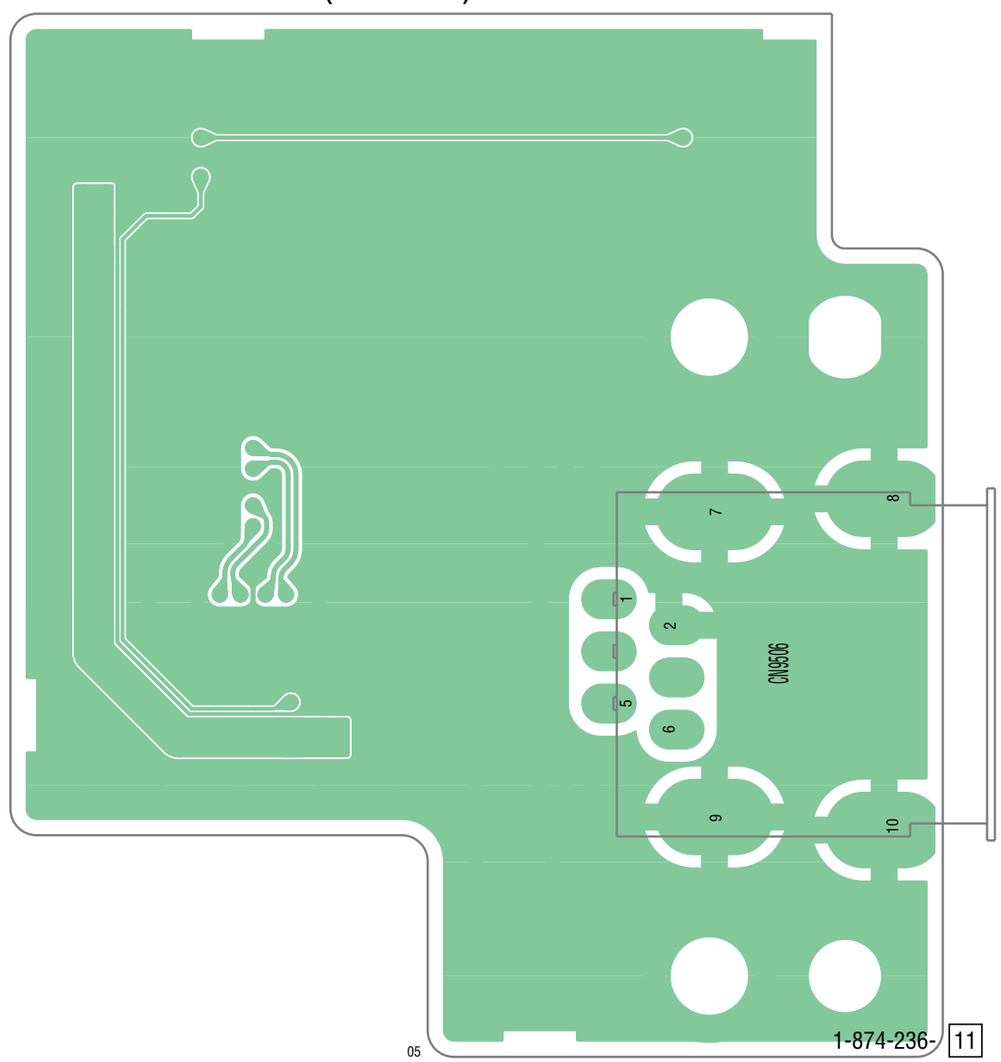
CF-107 (2 layers), EJ-040 (2 layers)

: Uses unleaded solder.

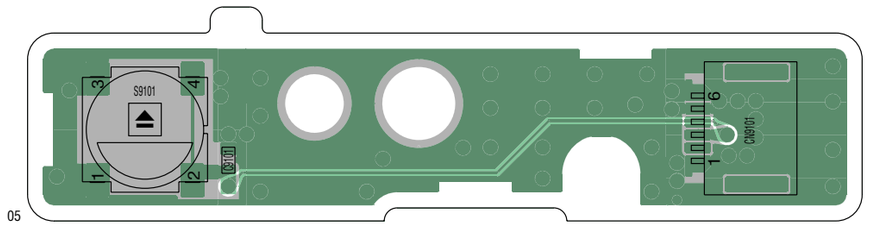
CF-107 BOARD (SIDE A)



CF-107 BOARD (SIDE B)



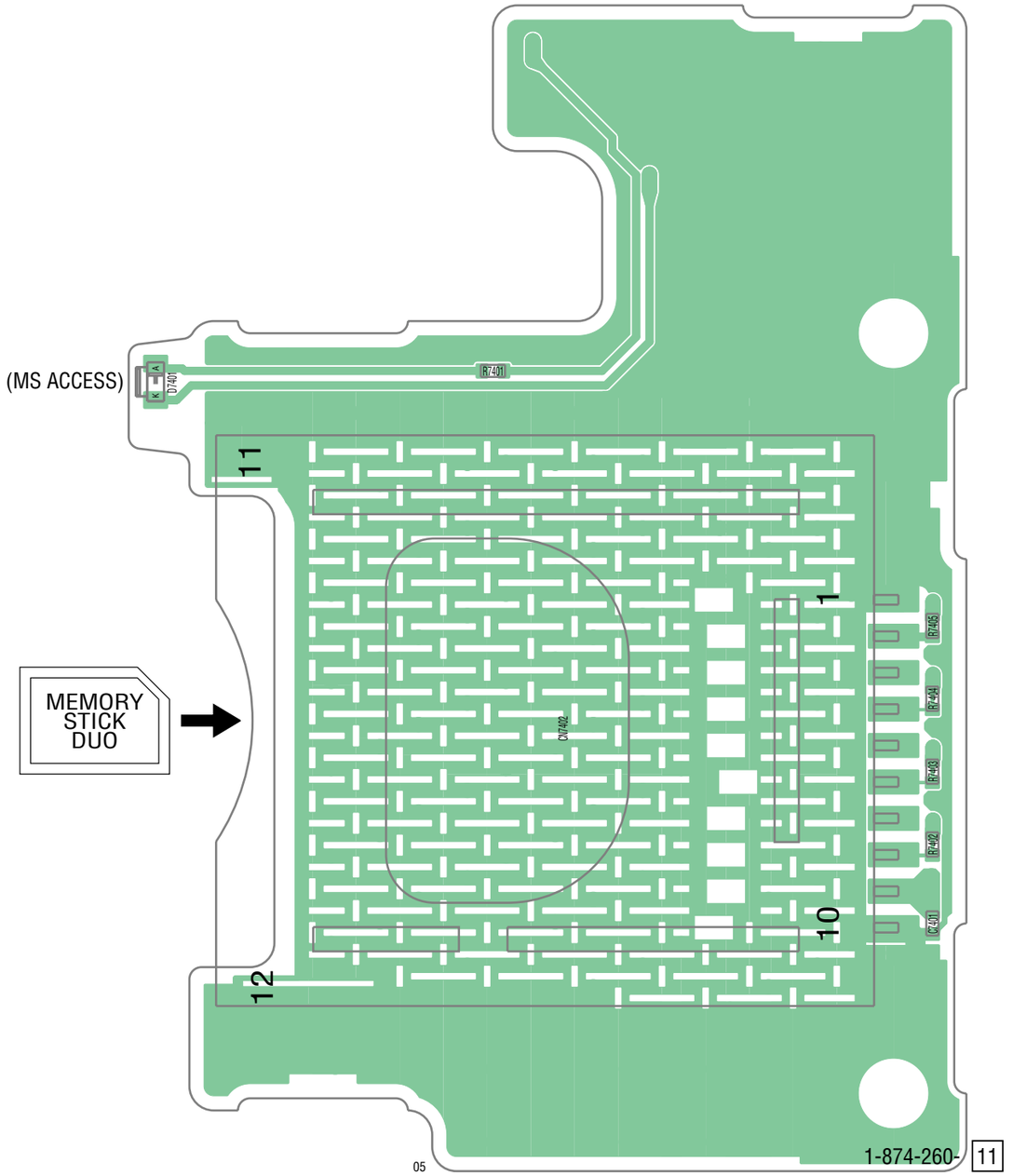
EJ-040 BOARD



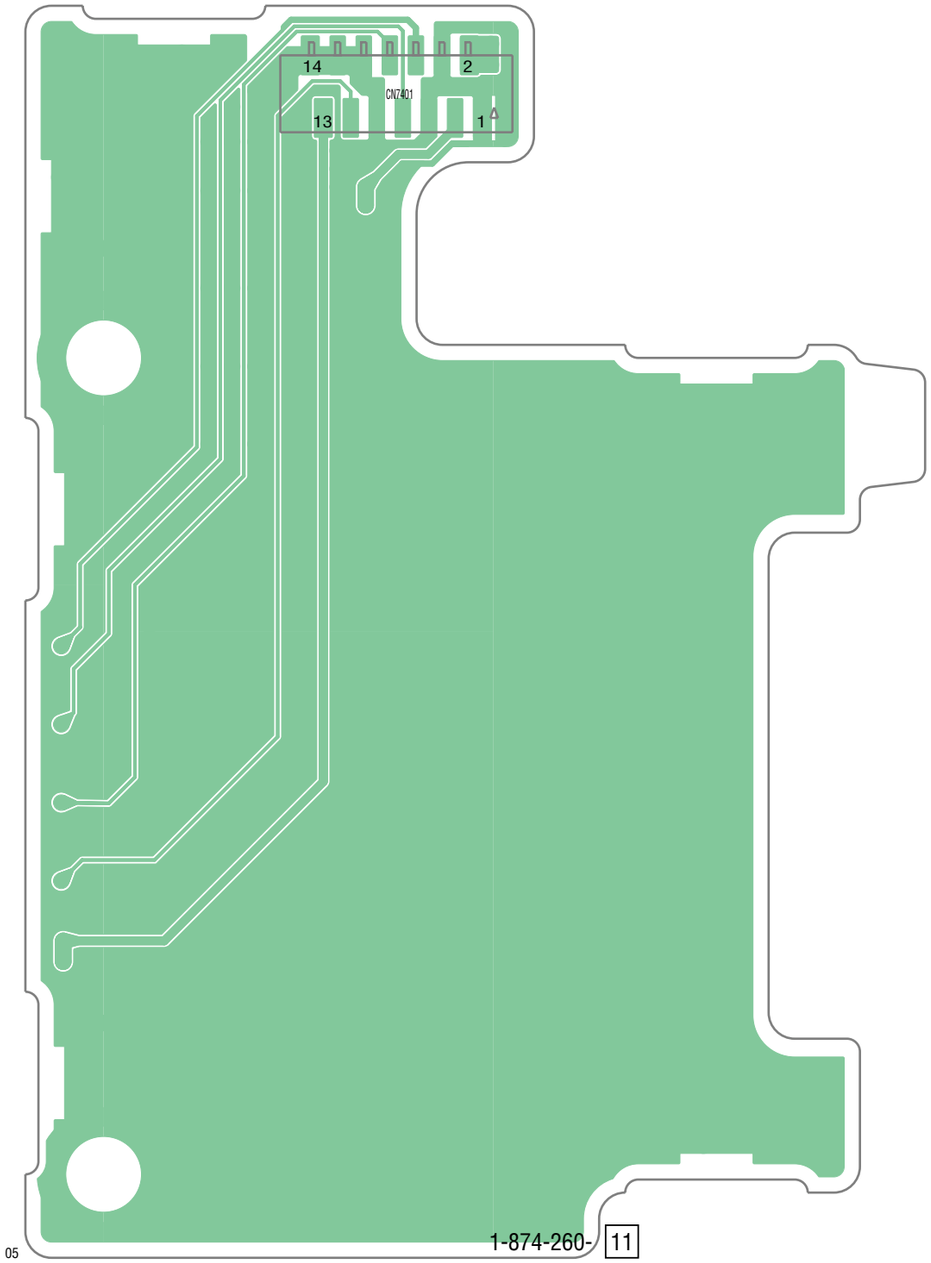
MS-378 (2 layers)

: Uses unleaded solder.

MS-378 BOARD (SIDE A)



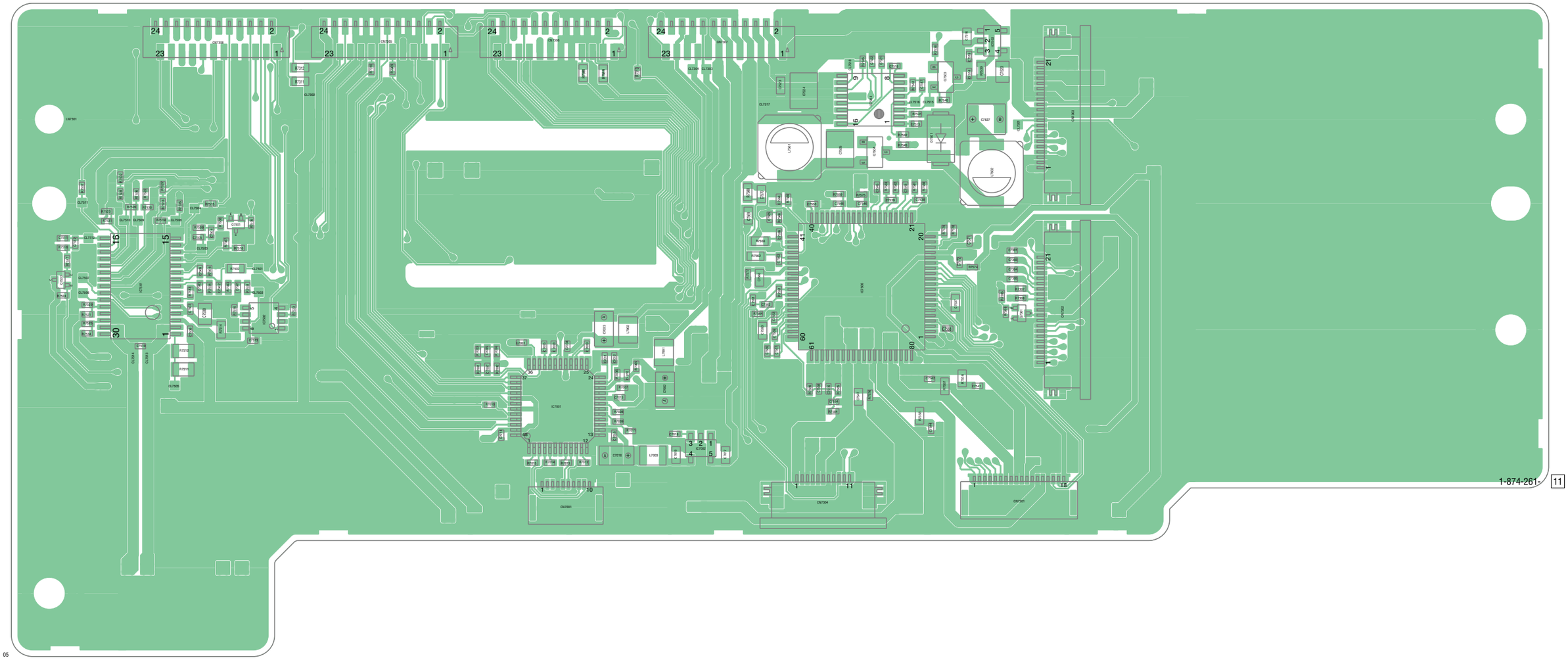
MS-378 BOARD (SIDE B)



NN-006 (4 layers)

: Uses unleaded solder.

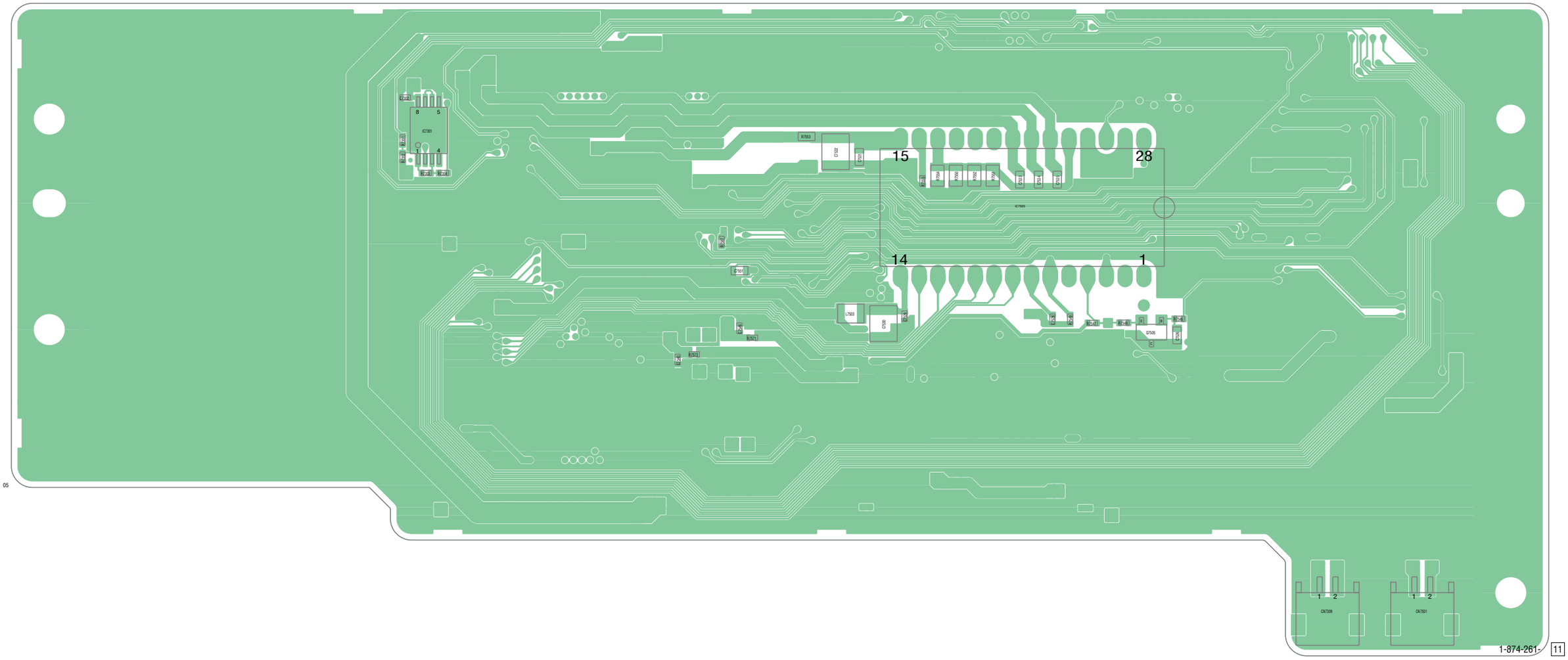
NN-006 BOARD (SIDE A)



NN-006 (4 layers)

: Uses unleaded solder.

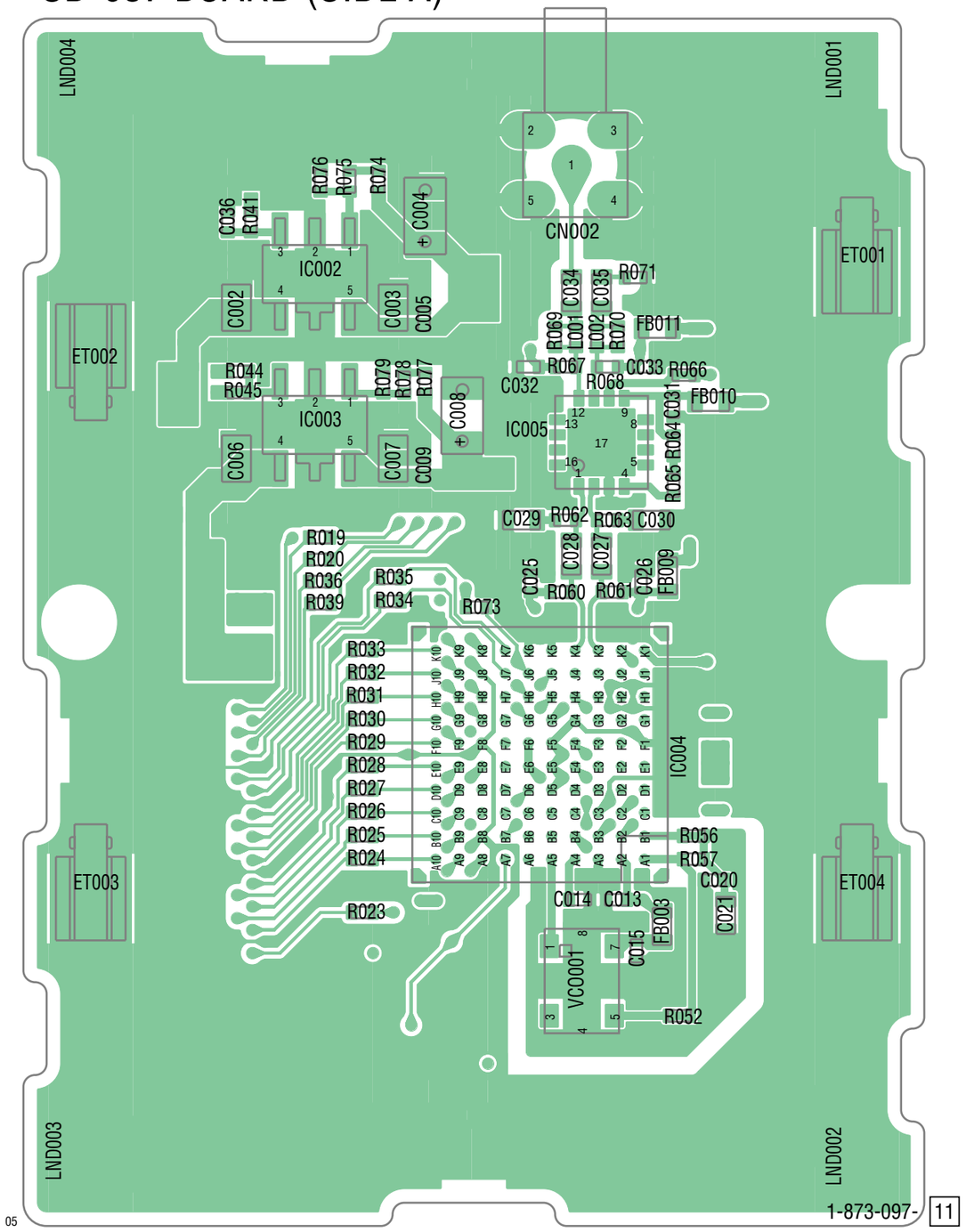
NN-006 BOARD (SIDE B)



SD-037 (6 layers)

: Uses unleaded solder.

SD-037 BOARD (SIDE A)



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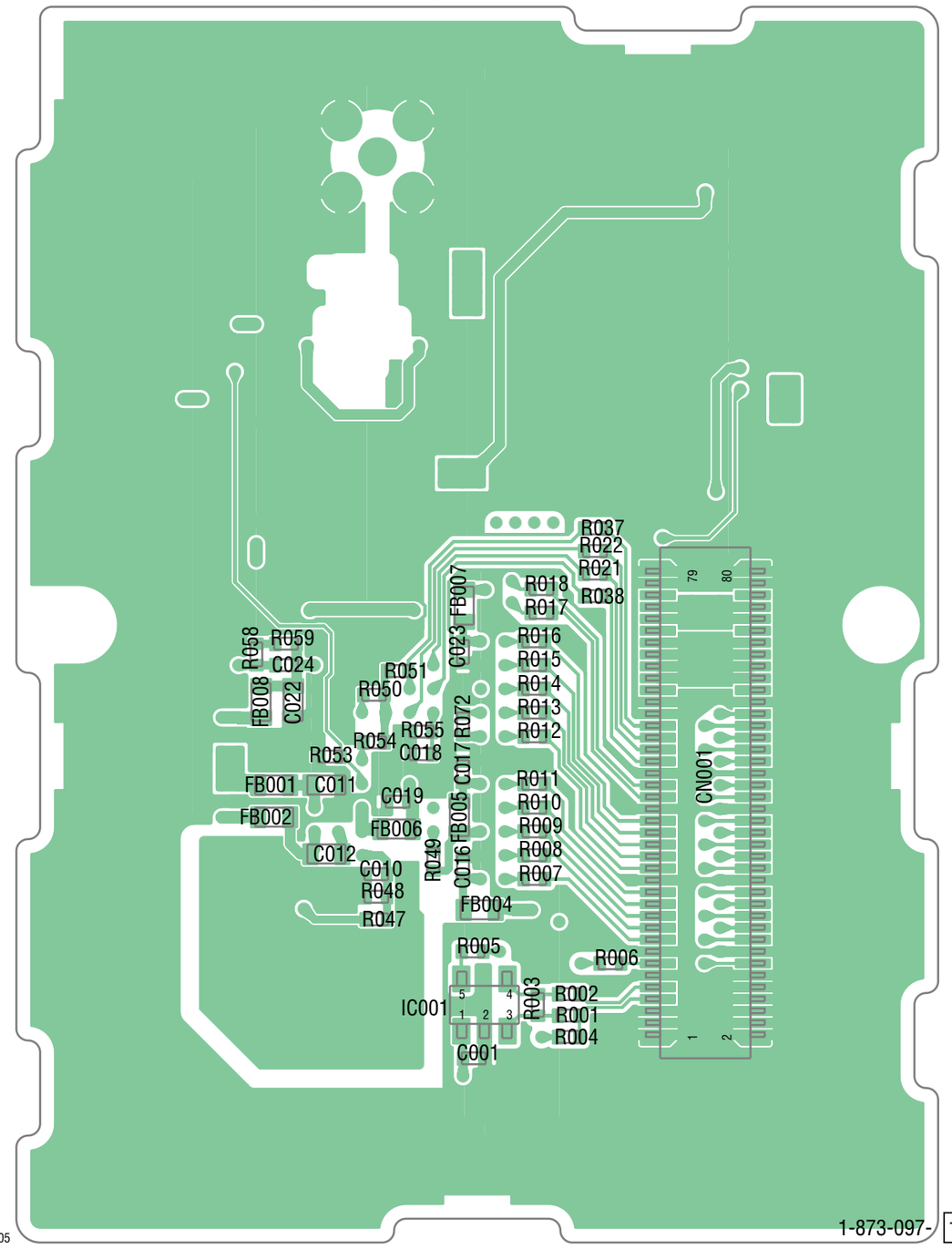
SD-037 BOARD (SIDE B)



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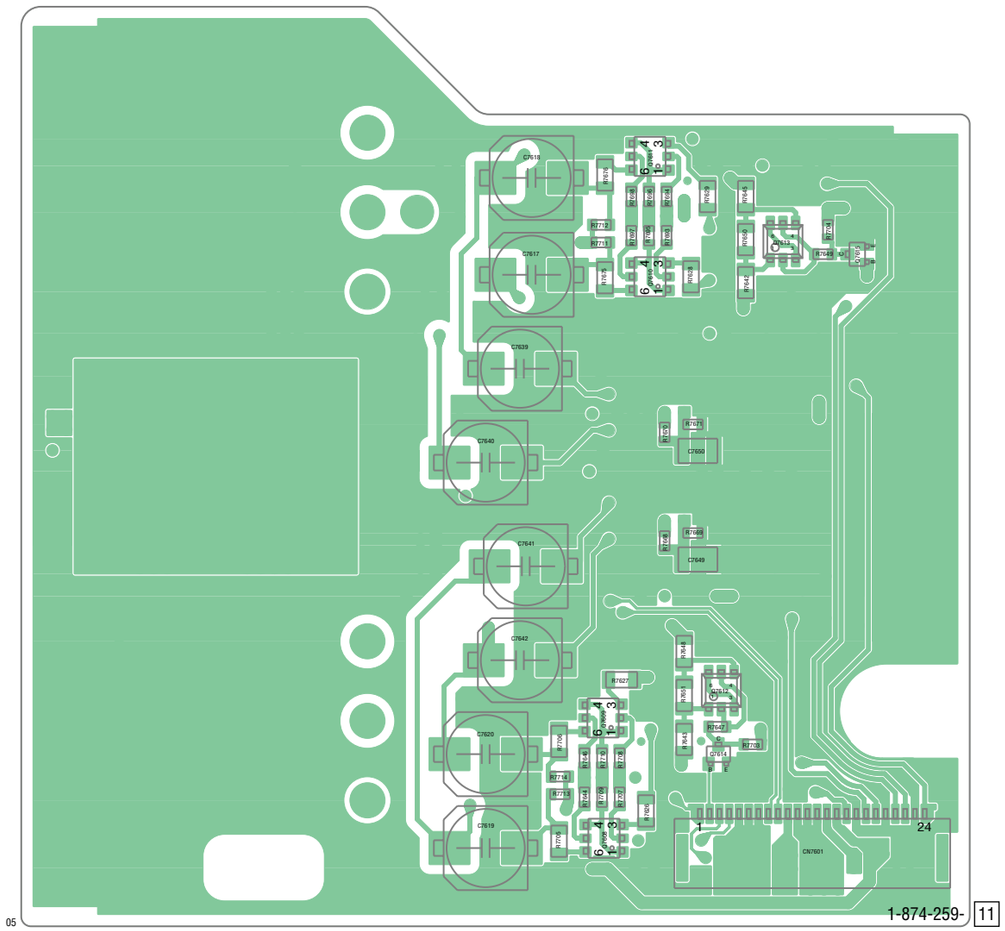
Note: CN001 and CN002 are not supplied,
but they are included in SD-037 complete board.

ME-021 (4 layers)

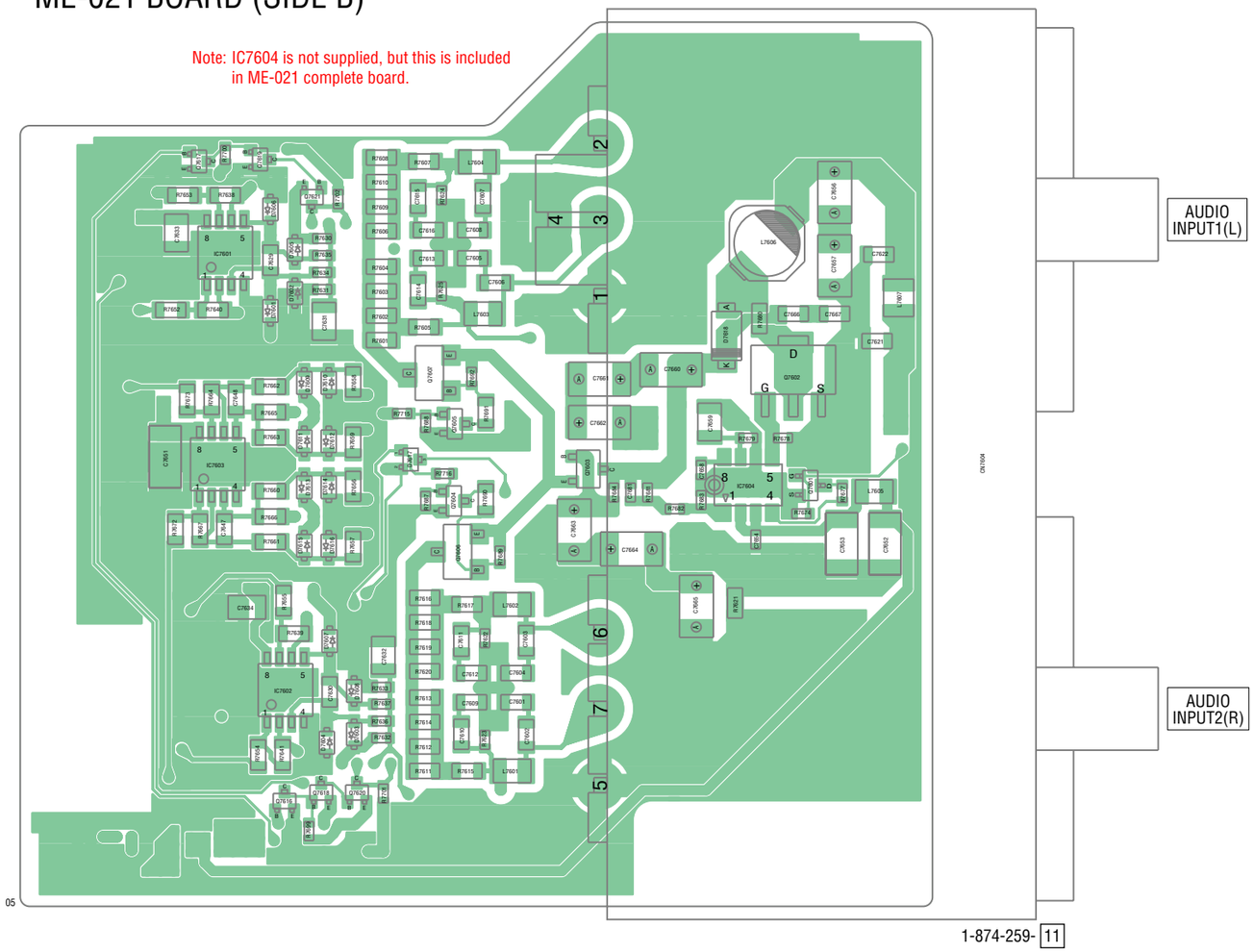
: Uses unleaded solder.

ME-021 BOARD (SIDE A)



ME-021 BOARD (SIDE B)

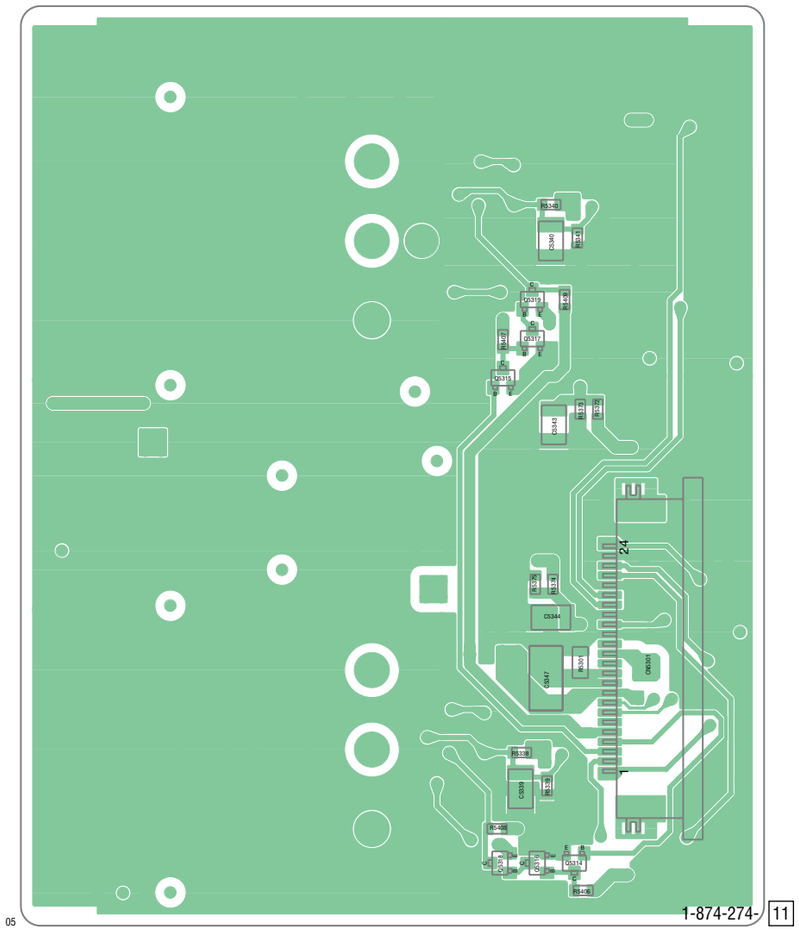
Note: IC7604 is not supplied, but this is included in ME-021 complete board.



XL-009 (4 layers)

: Uses unleaded solder.

XL-009 BOARD (SIDE A)



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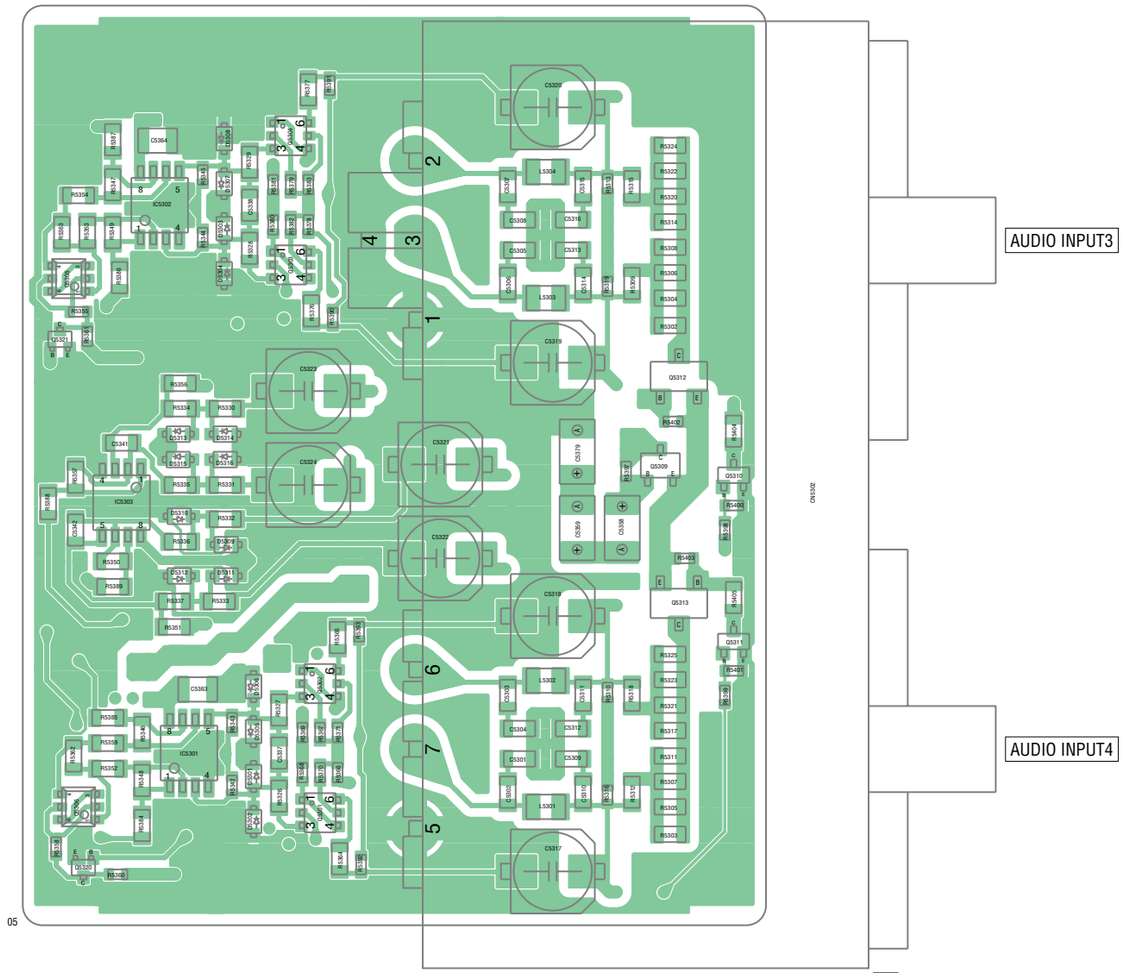
XL-009 BOARD (SIDE B)



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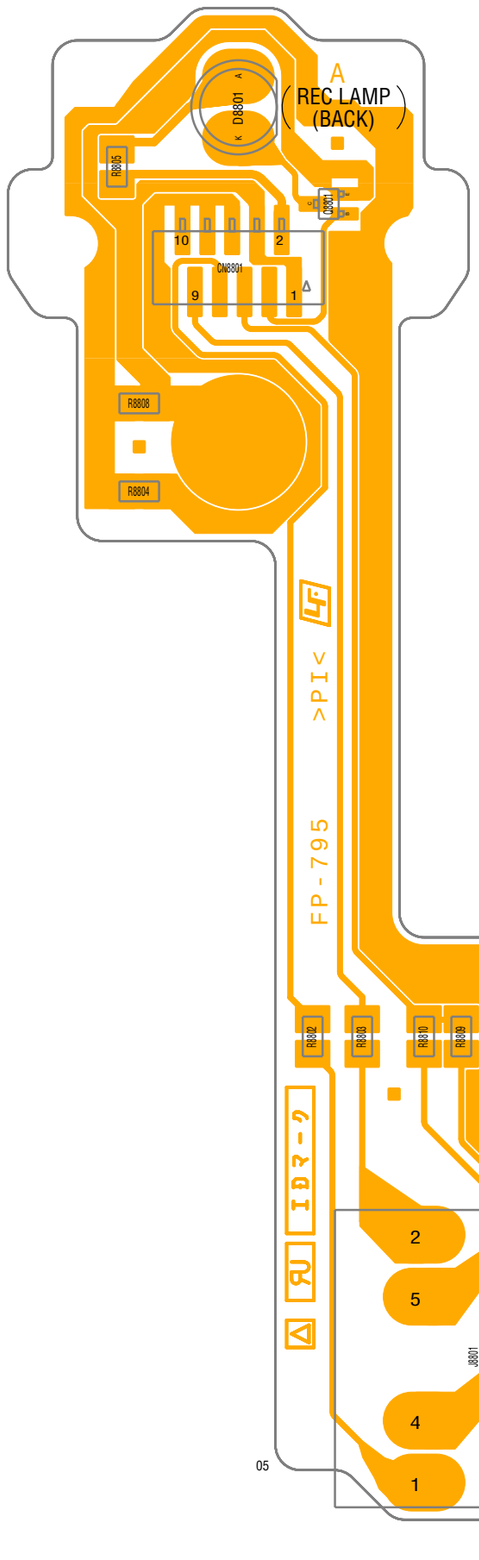
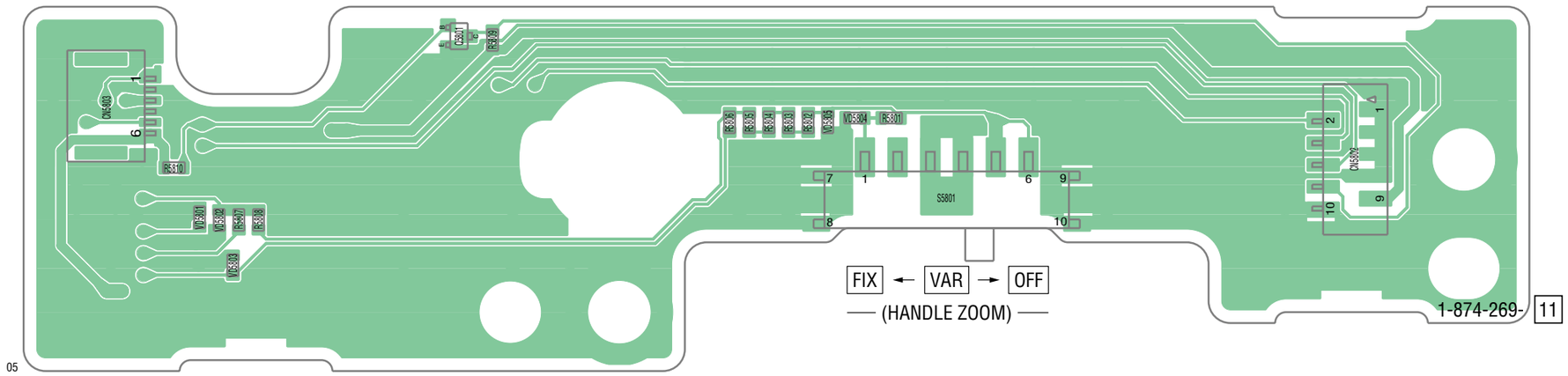
FP-795 (1 layer), TO-001 (2 layers)

: Uses unleaded solder.

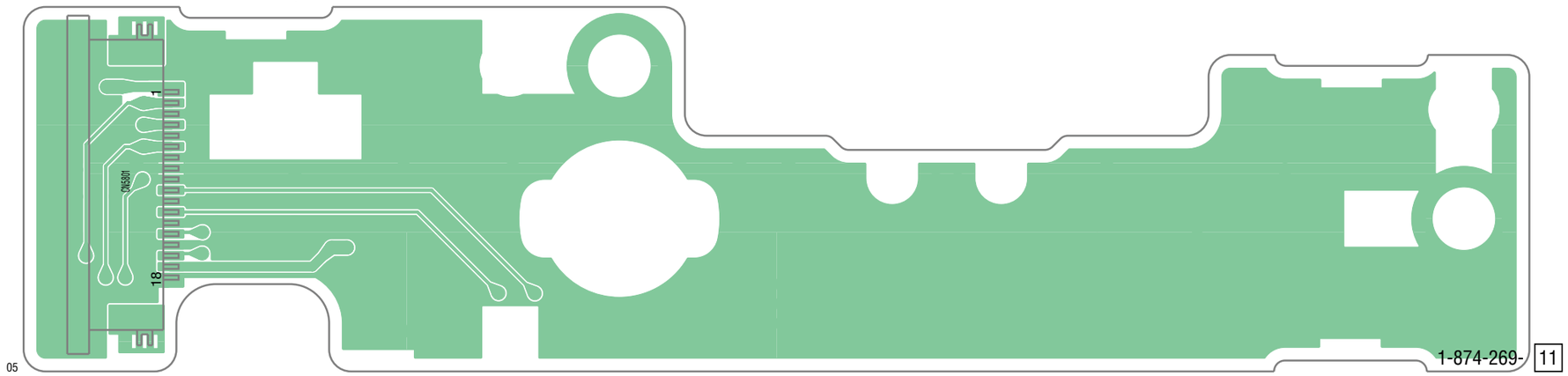
FP-795 FLEXIBLE BOARD



TO-001 BOARD (SIDE A)



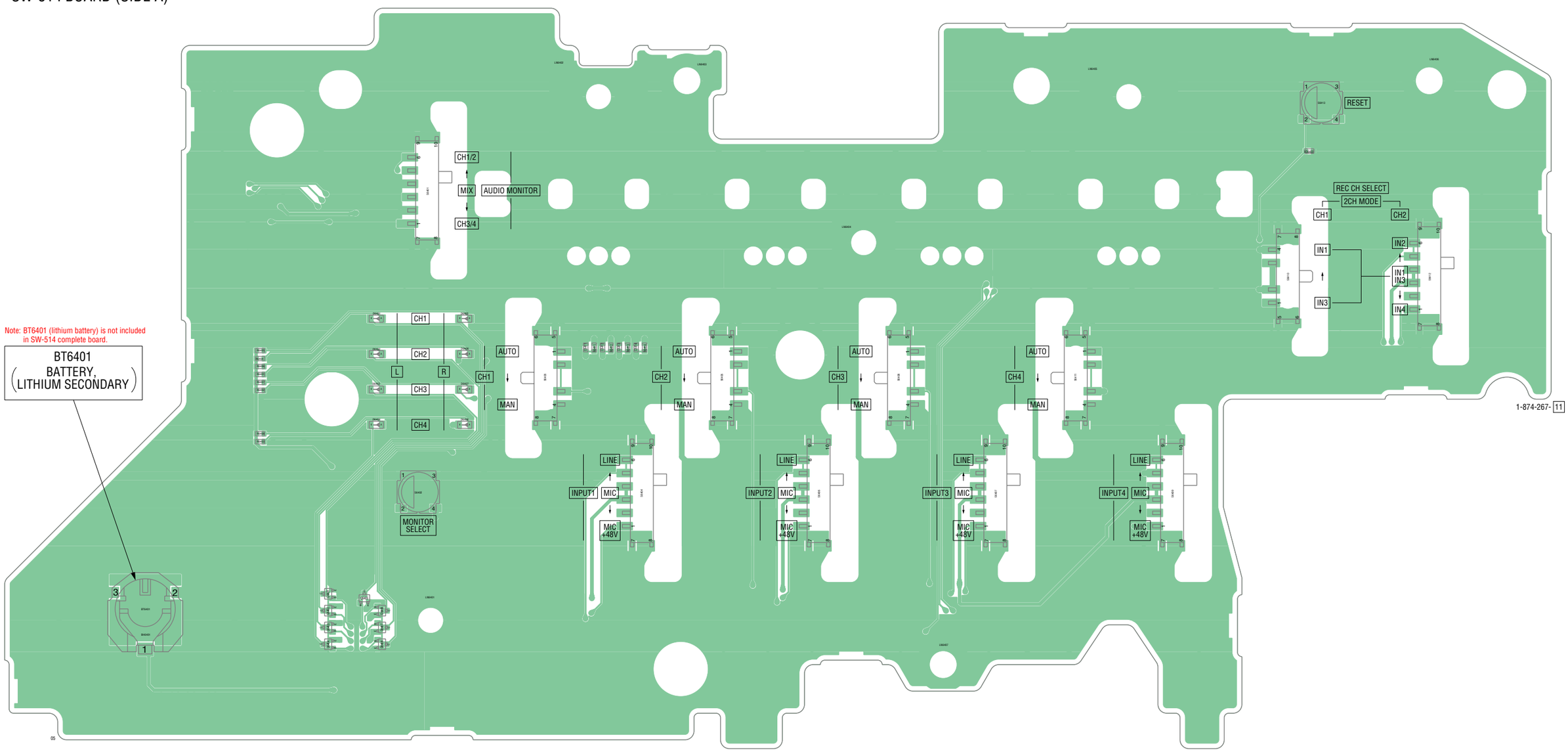
TO-001 BOARD (SIDE B)



SW-514 (2 layers)

: Uses unleaded solder.

SW-514 BOARD (SIDE A)



Note: Replace the battery holder (BH6401) together when replacing the lithium battery (BT6401) on the SW-514 board. (The battery holder removed once cannot be used again.)
When mounting these parts, mount new battery holder first and attach new lithium battery next.

Note: SW-514基板のリチウム電池（BT6401）を交換する場合はバッテリホルダ（BH6401）も同時に新品に交換してください。（一度使用したバッテリホルダは再使用できません。）
部品取り付けの際は，先にバッテリホルダを取り付けてからリチウム電池を装着してください。

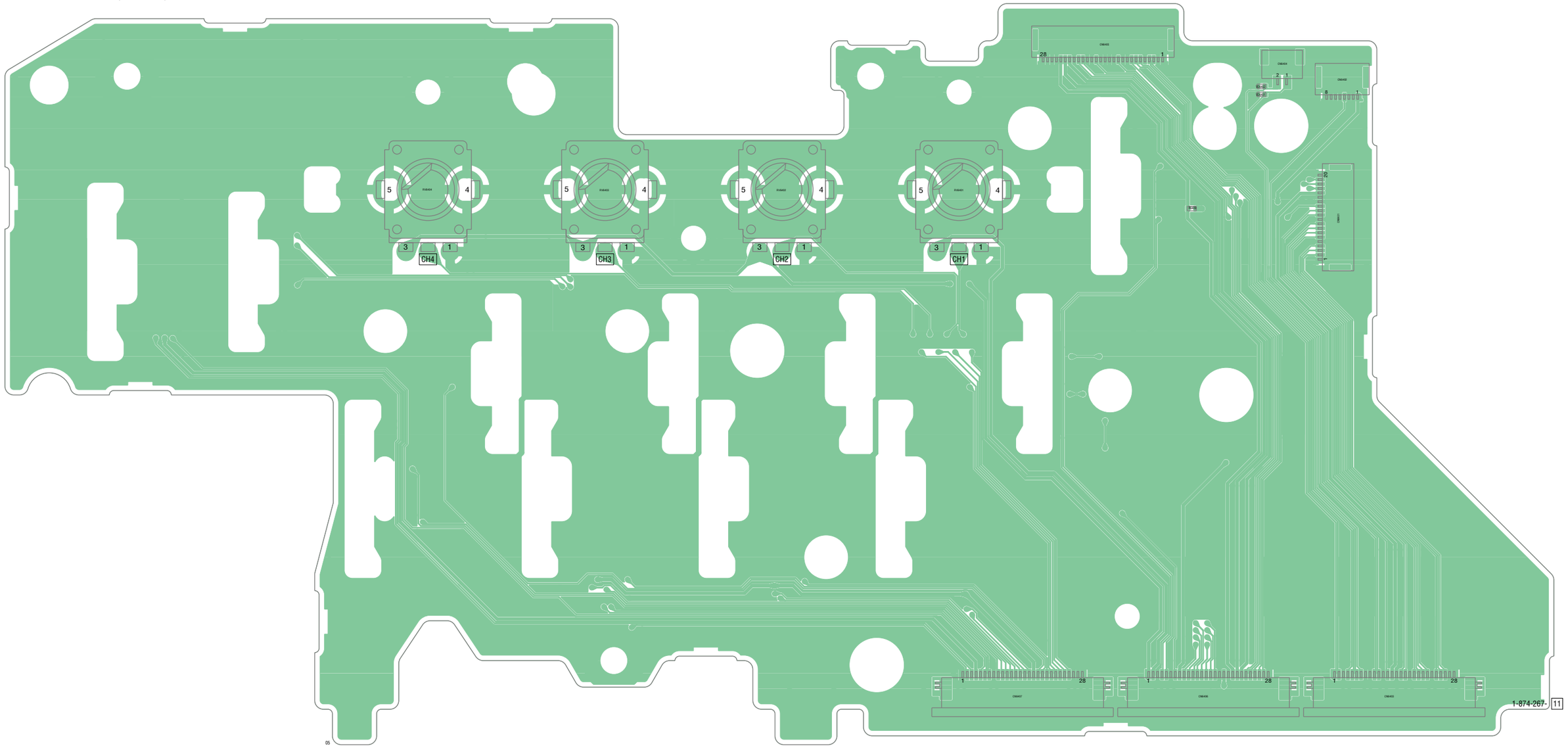
CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

注意
電池の交換は，正しく行わないと破裂する恐れがあります。電池を交換する場合には必ず同じ型名の電池又は同等品と交換してください。

SW-514 (2 layers)

: Uses unleaded solder.

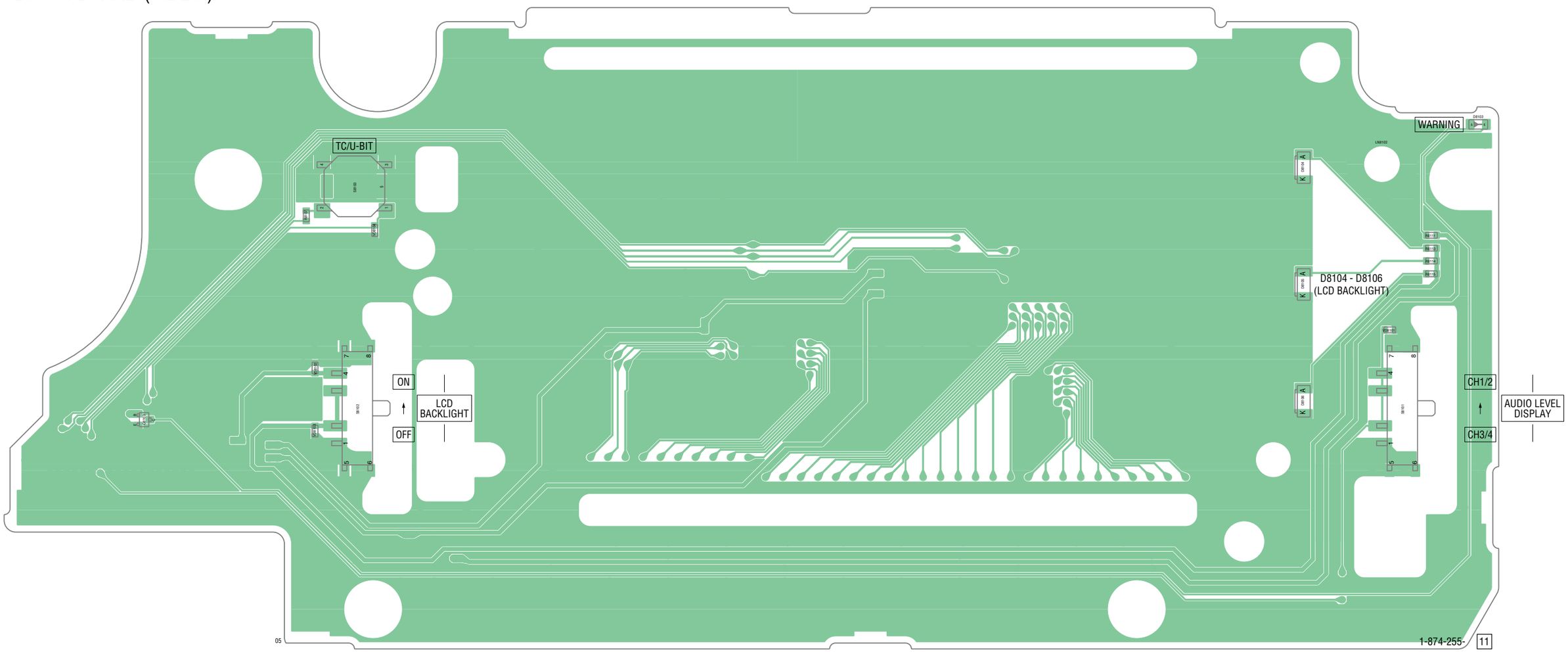
SW-514 BOARD (SIDE B)



LC-094 (2 layers)

: Uses unleaded solder.

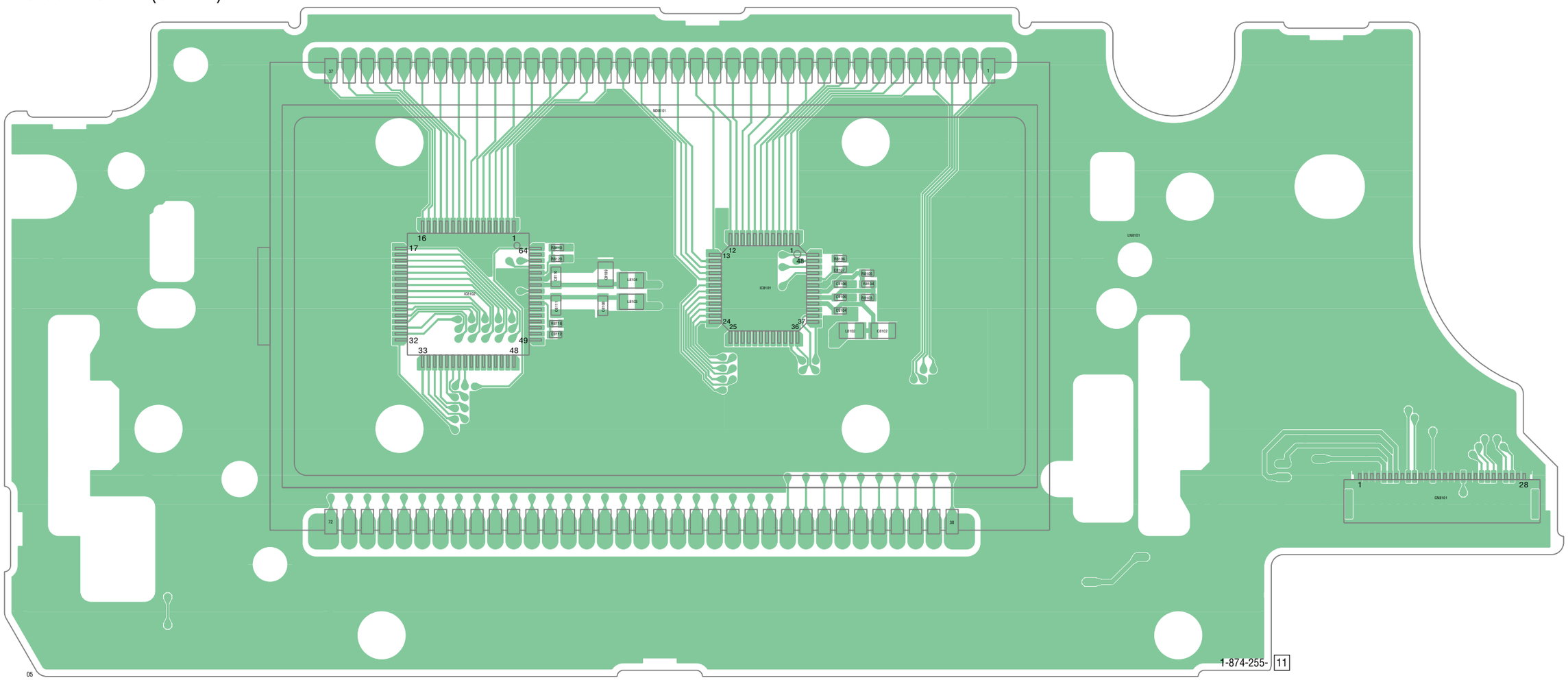
LC-094 BOARD (SIDE A)



LC-094 (2 layers)

: Uses unleaded solder.

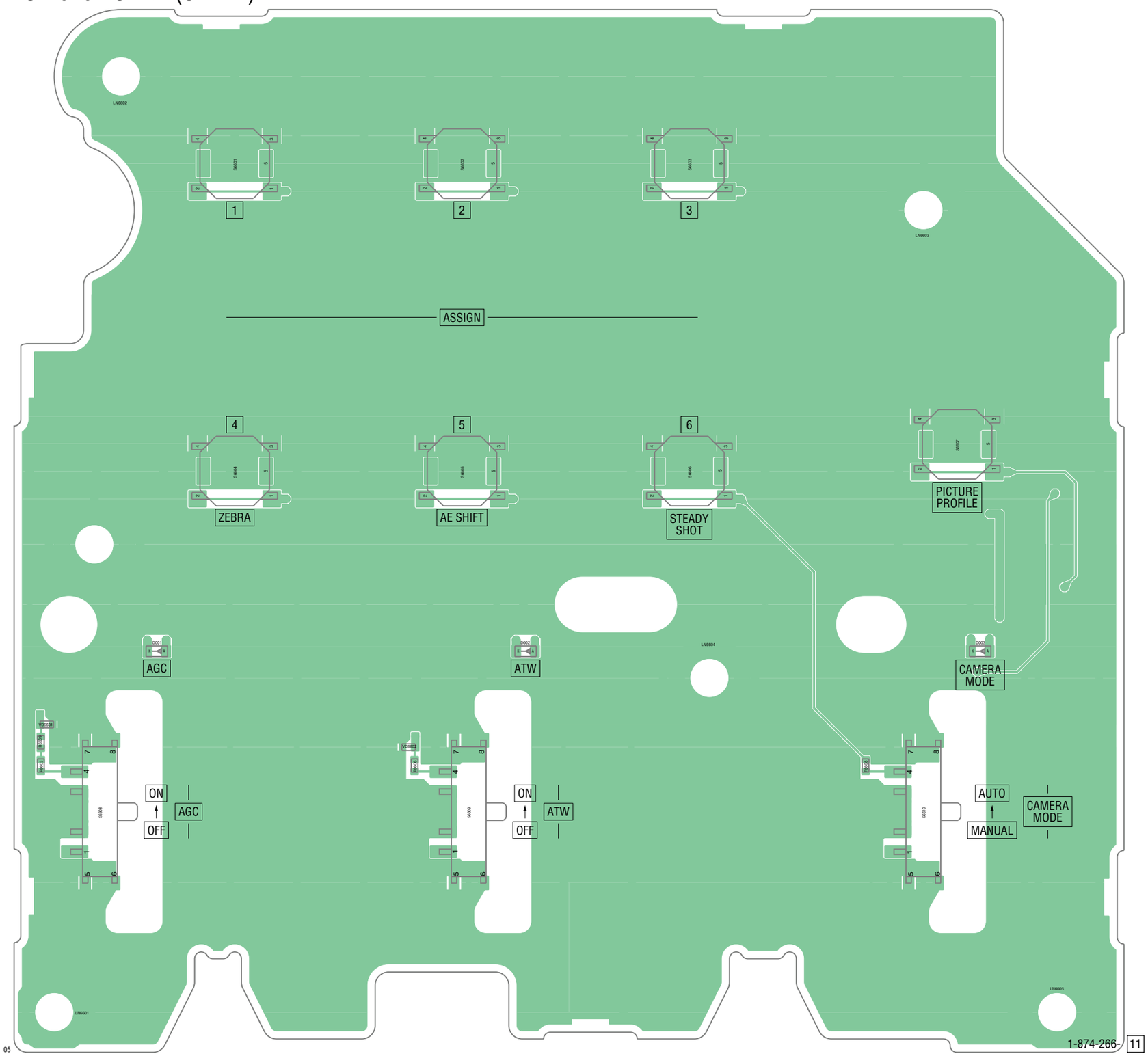
LC-094 BOARD (SIDE B)



SB-040 (2 layers)

: Uses unleaded solder.

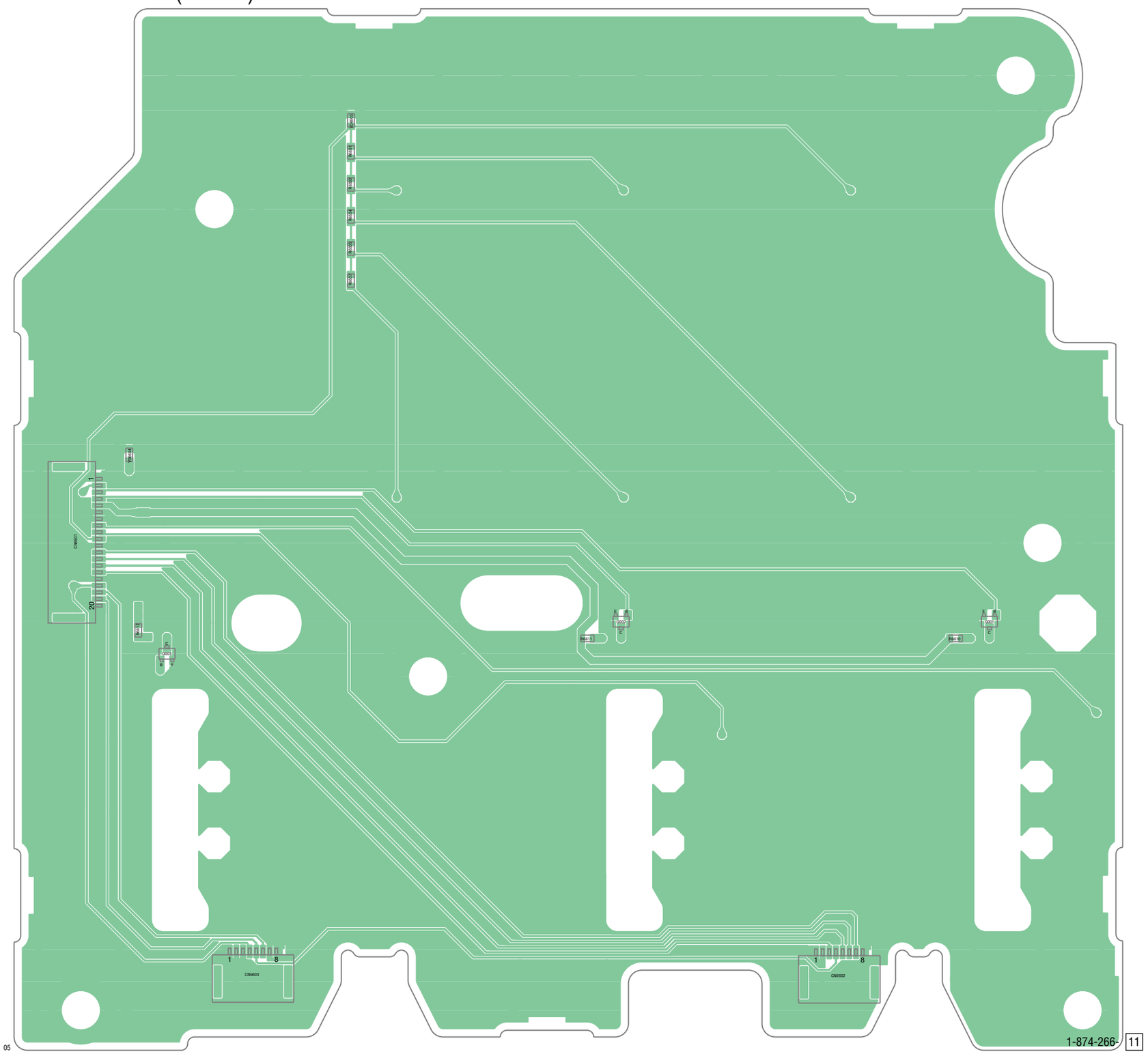
SB-040 BOARD (SIDE A)



SB-040 (2 layers)

: Uses unleaded solder.

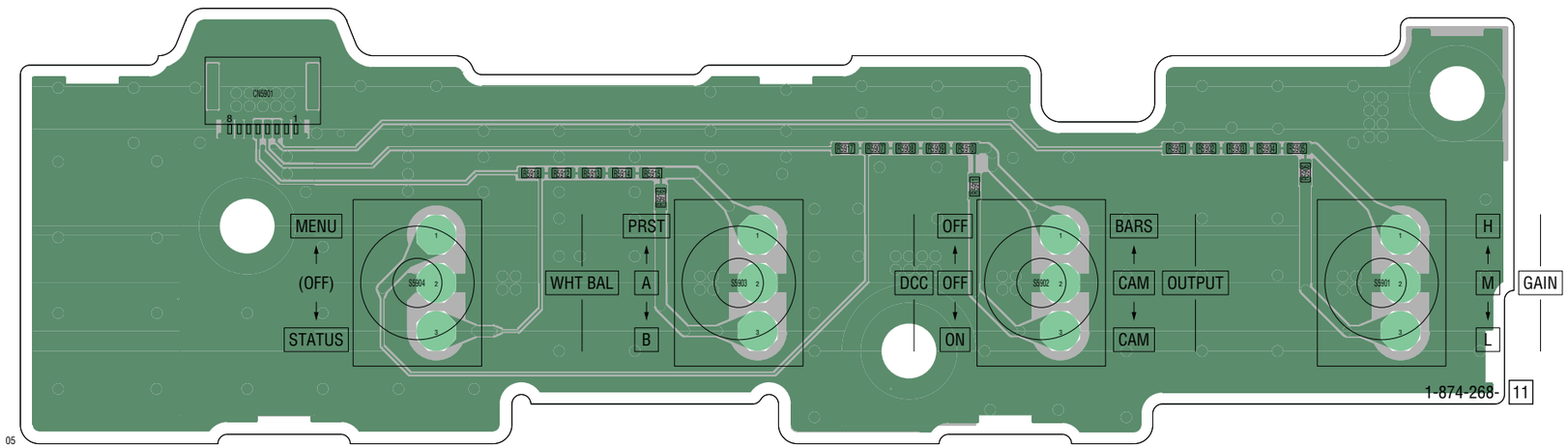
SB-040 BOARD (SIDE B)



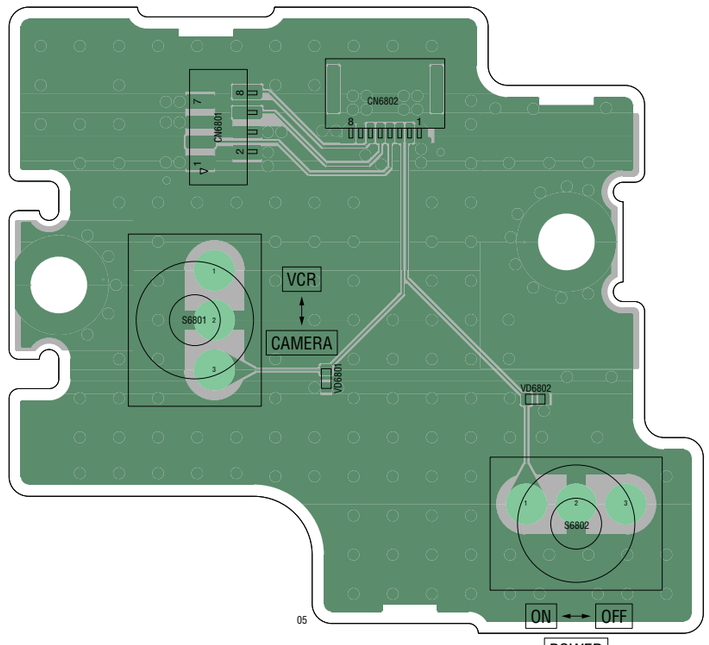
TN-002 (2 layers), PW-135 (2 layers), KR-001 (2 layers), VO-013 (2 layers)

: Uses unleaded solder.

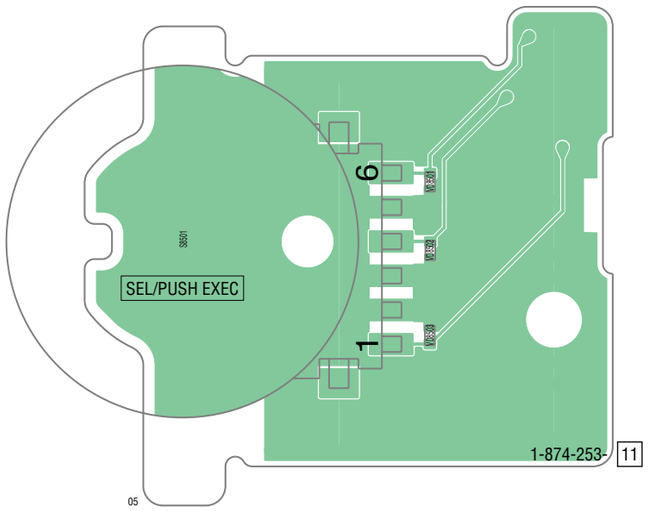
TN-002 BOARD



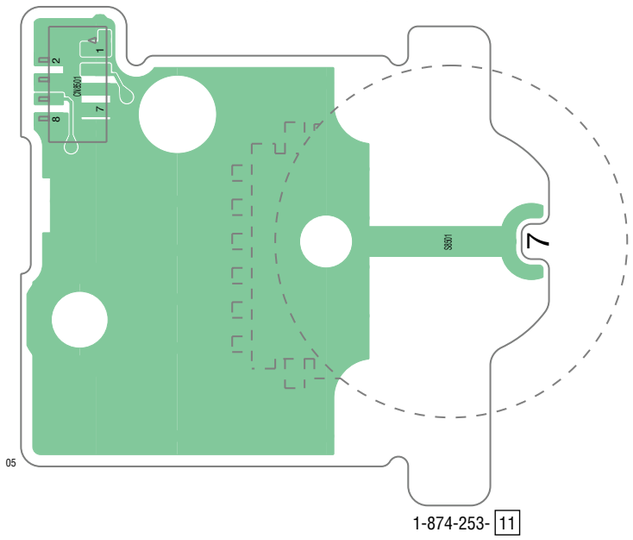
PW-135 BOARD



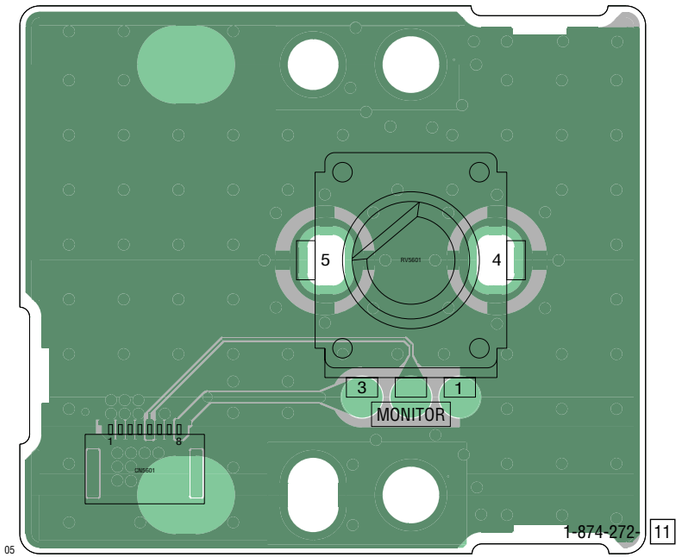
KR-001 BOARD (SIDE A)



KR-001 BOARD (SIDE B)



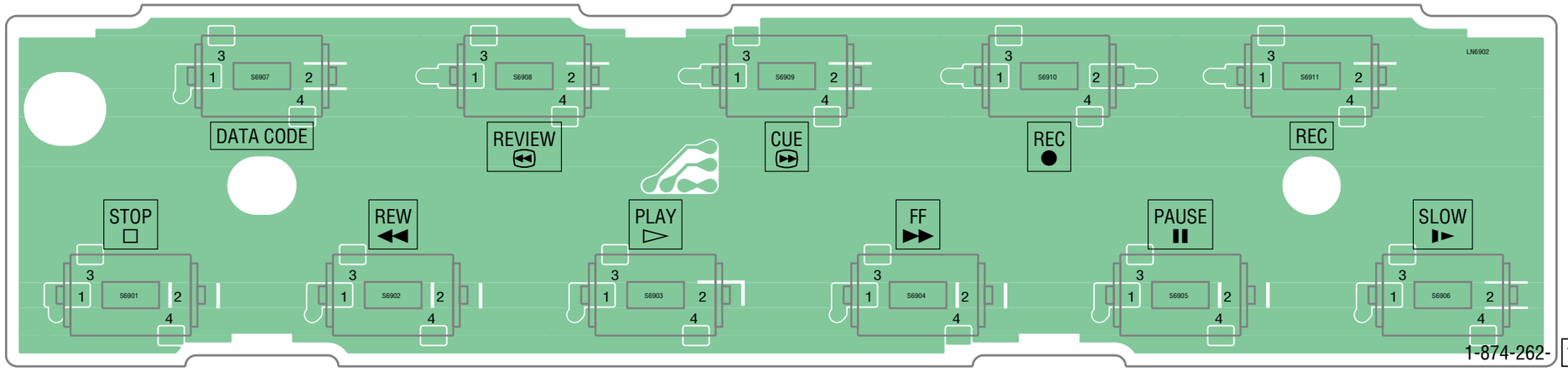
VO-013 BOARD



PB-001 (2 layers)

: Uses unleaded solder.

PB-001 BOARD (SIDE A)



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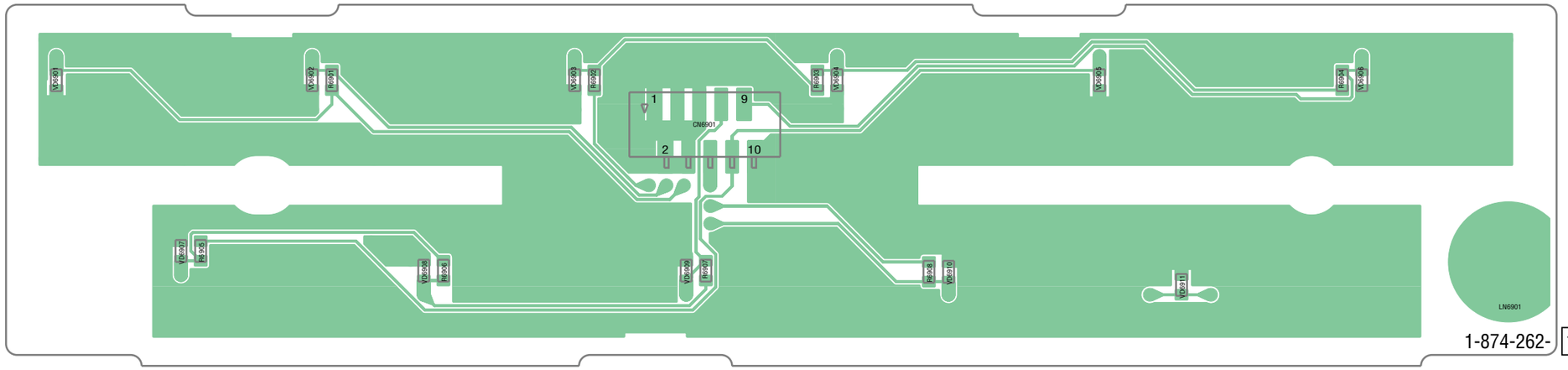
PB-001 BOARD (SIDE B)



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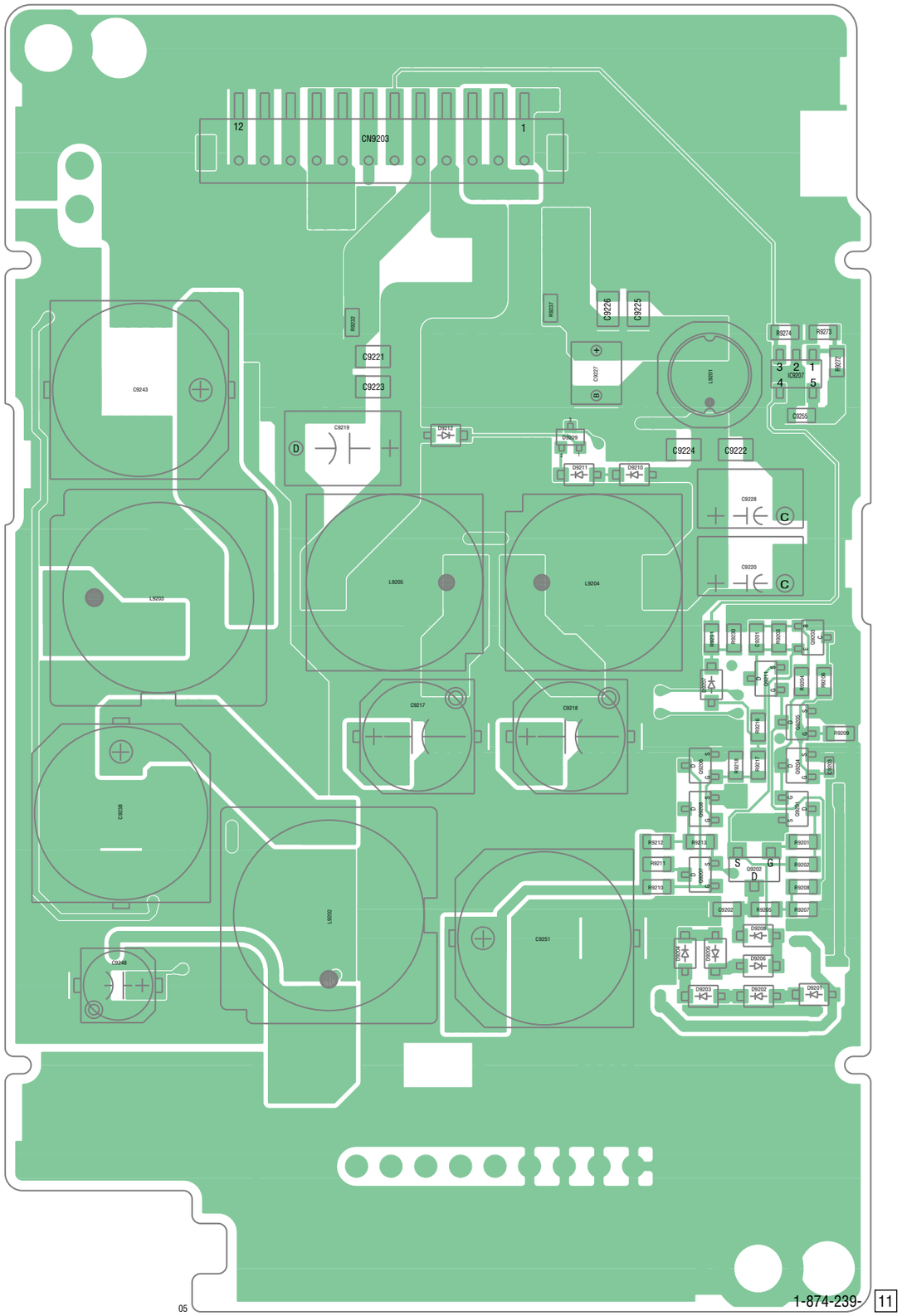
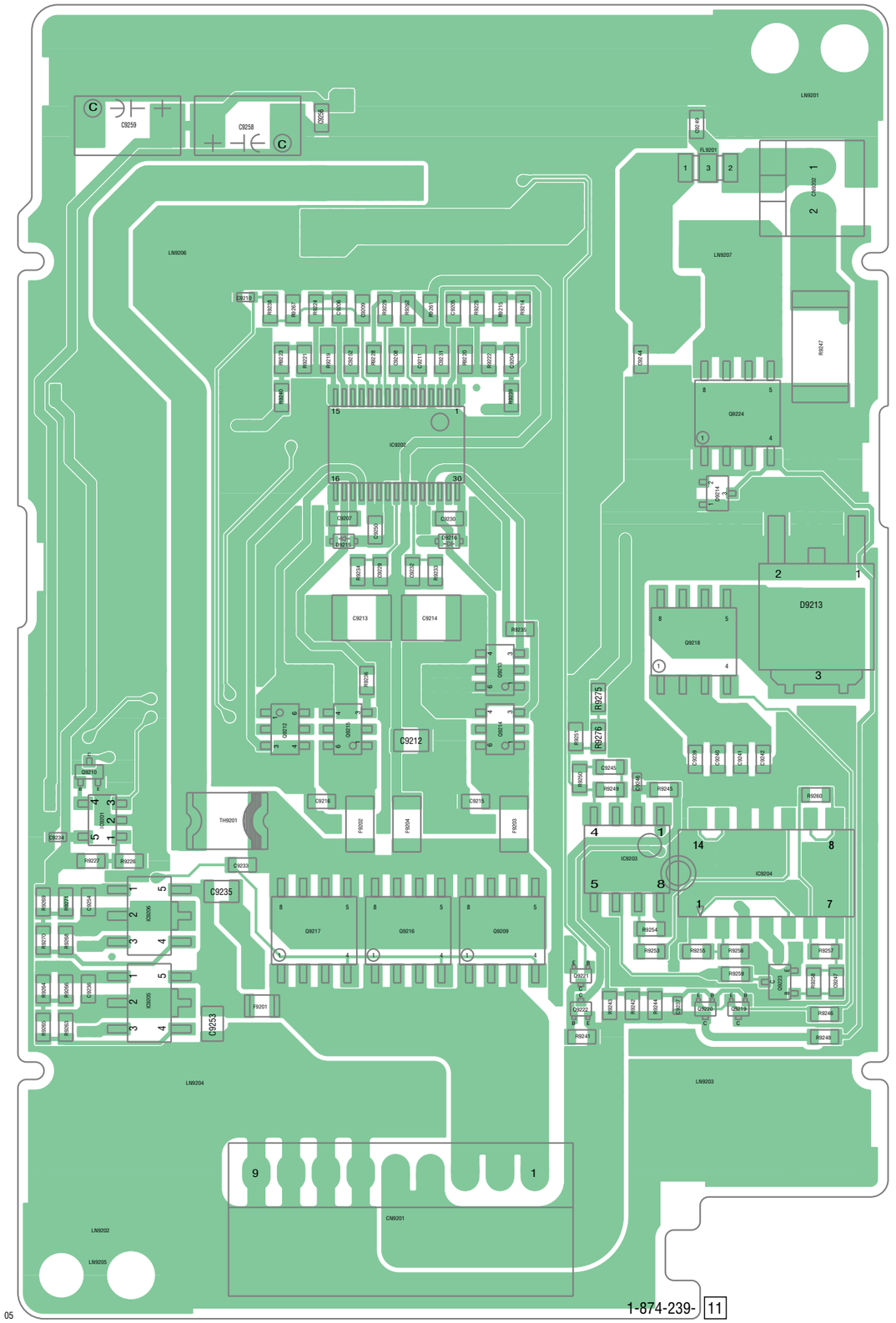
DD-290 (4 layers)

: **Uses unleaded solder.**

DD-290 BOARD (SIDE A)



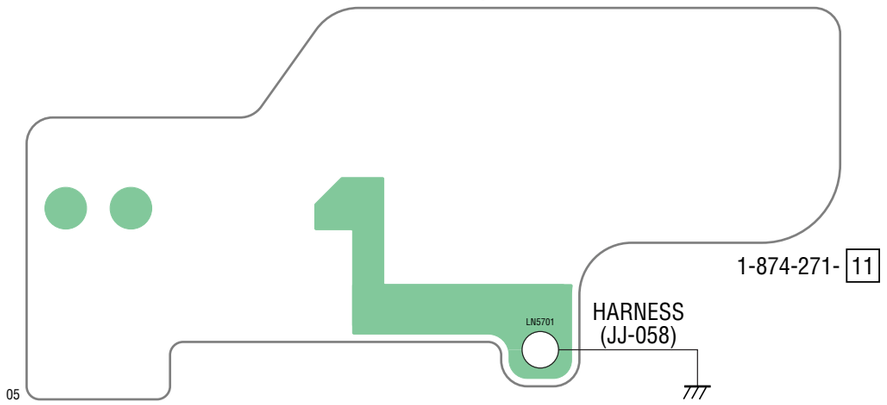
DD-290 BOARD (SIDE B)



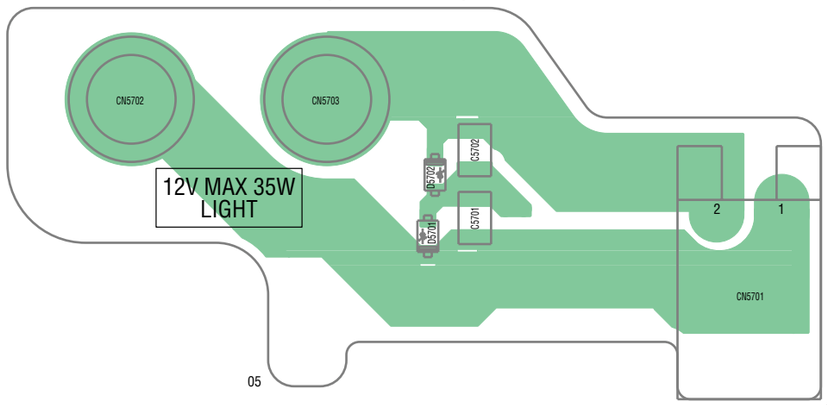
VL-040 (2 layers), DC-109 (2 layers)

: **Uses unleaded solder.**

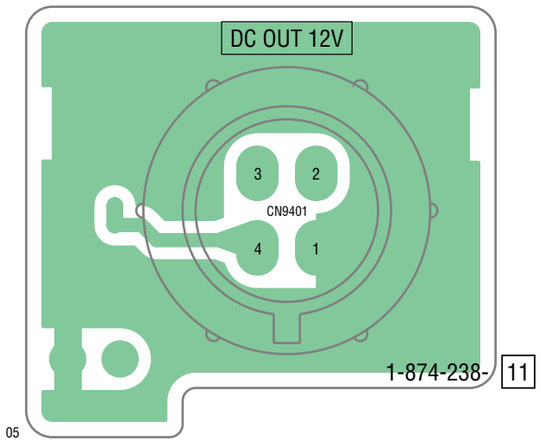
VL-040 BOARD (SIDE A)



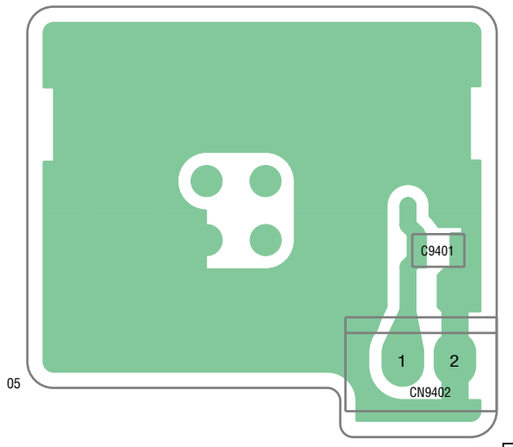
VL-040 BOARD (SIDE B)



DC-109 BOARD (SIDE A)

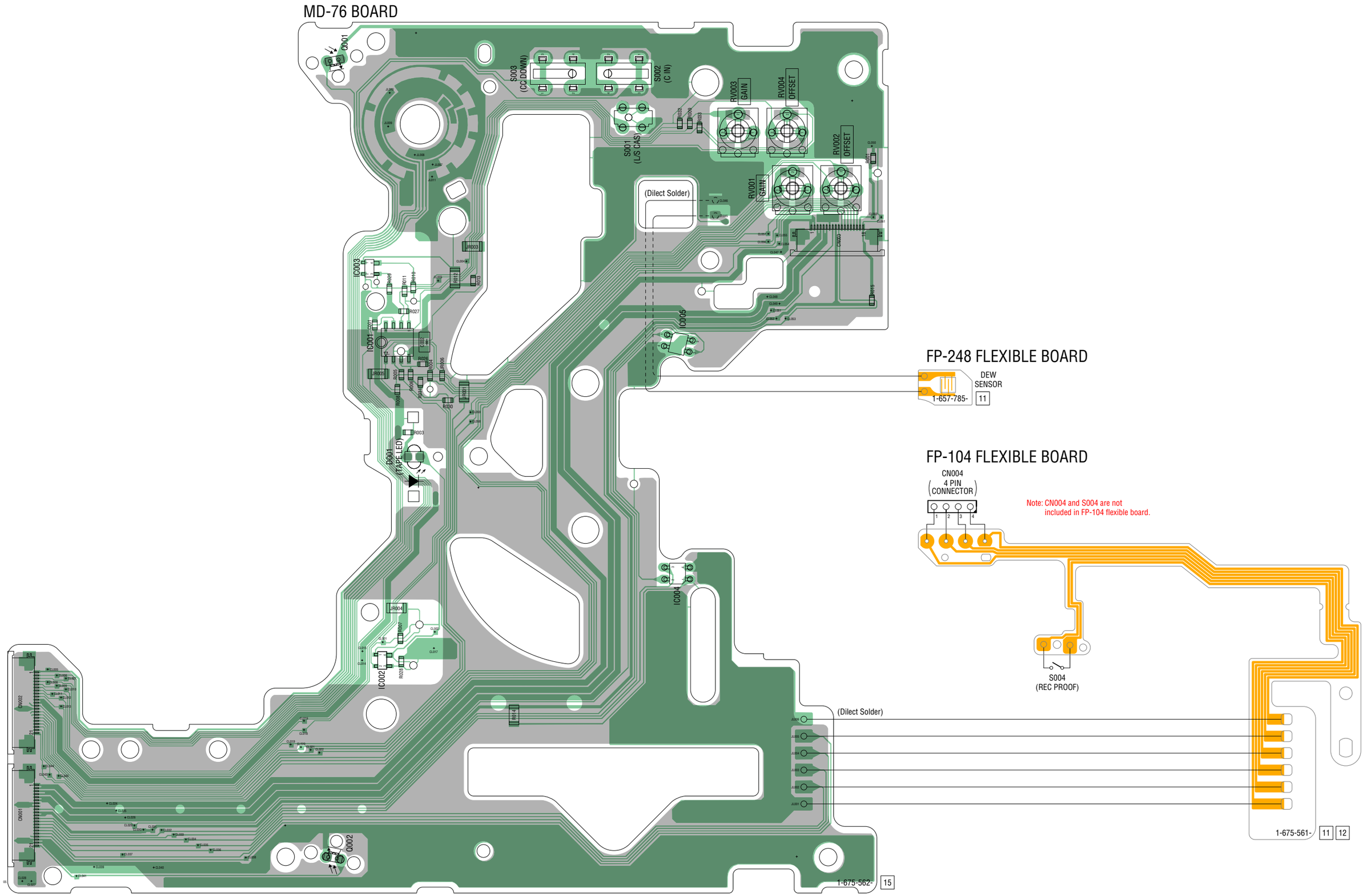


DC-109 BOARD (SIDE B)



MD-76 (2 layers), FP-104 (1 layer), FP-248 (1 layer)

: Uses unleaded solder.



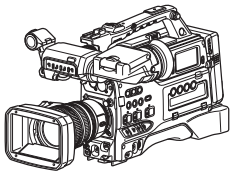
NOTE

5. REPAIR PARTS LIST (1/2)

TO (2/2)

NOTE: Characters A to Z of the electrical parts list indicate location of exploded views in which the desired part is shown.

Link EXPLODED VIEWS

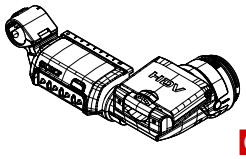


A

OVERALL SECTION-1

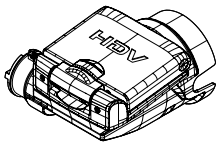
B

LENS SECTION



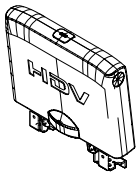
C

EVF MAIN SECTION



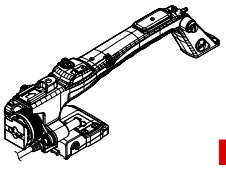
D

EVF MIRROR TUBE SECTION



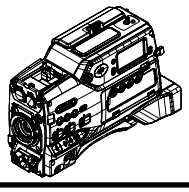
E

LCD PANEL SECTION



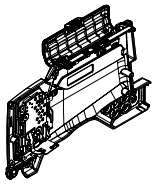
F

HANDLE SECTION



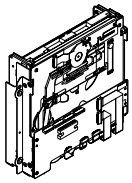
G

OVERALL SECTION-2



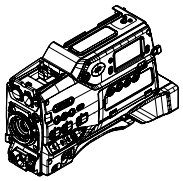
H

CABINET (L) SECTION



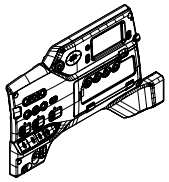
I

MD BLOCK SECTION



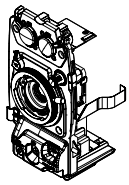
J

OVERALL SECTION-3



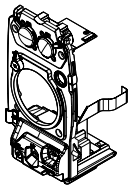
K

CABINET (R) SECTION



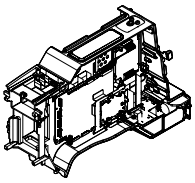
L

LENS MOUNT SECTION-1



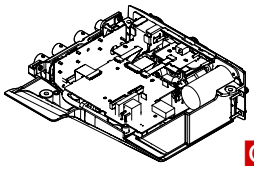
M

LENS MOUNT SECTION-2



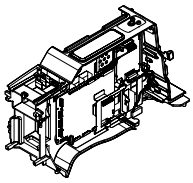
N

OVERALL SECTION-4



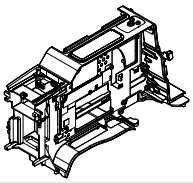
O

CONNECTOR BOX SECTION



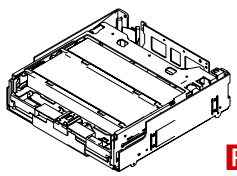
P

MAIN BOARD SECTION



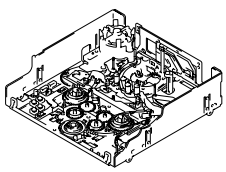
Q

CENTER CHASSIS SECTION



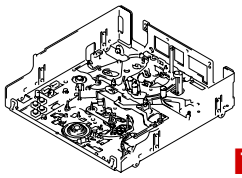
R

MECHANISM DECK ASSEMBLY-1



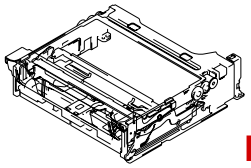
S

MECHANISM DECK ASSEMBLY-2



T

MECHANISM DECK ASSEMBLY-3



U

MECHANISM DECK ASSEMBLY-4

NOTE

5. REPAIR PARTS LIST (2/2)

TO (1/2)

NOTE: Characters A to Z of the electrical parts list indicate location of exploded views in which the desired part is shown.

Link

ELECTRICAL PARTS LIST

ACCESSORIES

BR-001 BOARD O	JK-351 BOARD O	PW-135 BOARD K
CF-107 BOARD H	KR-001 BOARD K	RV-003 BOARD E
DC-109 BOARD O	LA-029 BOARD O	SB-040 BOARD K
DD-290 BOARD P	LC-094 BOARD K	SD-037 BOARD N
EE-009 BOARD L	LE-041 BOARD C	SH-029 BOARD F
EE-010 BOARD L	LG-005 BOARD B	SS-184 BOARD O
EJ-040 BOARD H	LL-015 BOARD M	SW-514 BOARD K
EV-018 BOARD C	LS-071 BOARD D	TN-002 BOARD K
FP-104 FLEXIBLE BOARD R	MD-76 BOARD T	TO-001 BOARD F
FP-248 FLEXIBLE BOARD T	ME-021 BOARD M	UU-006 BOARD D
FP-783 FLEXIBLE BOARD D	MS-378 BOARD K	VC-513 BOARD P
FP-795 FLEXIBLE BOARD F	NN-006 BOARD I	VL-040 BOARD F
FS-088 BOARD M	PB-001 BOARD Q	VO-013 BOARD K
GY-005 BOARD B	PP-006 BOARD E	XL-009 BOARD O

5. REPAIR PARTS LIST

(ENGLISH)

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- CAPACITORS:
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Color Indication of Appearance Parts
  Example:
  (SILVER) : Cabinet's Color
  (Silver) : Parts Color

(JAPANESE)

【使用上の注意】

- ここに記載されている部品は, 補修用部品であるため, 回路図及びセットに付いている部品と異なる場合があります。
- -XX, -Xは標準化部品のため, セットに付いている部品と異なる場合があります。
- *印の部品は常備在庫しておりません。
- コンデンサの単位でuFは μFを示します。
- 抵抗の単位Ωは省略してあります。
  金　　被：金属被膜抵抗。
  サンキン：酸化金属被膜抵抗。
- インダクタの単位でuHは μHを示します。
- 半導体の名称でuA..., uPA..., uPB..., uPC..., uPD...等はそれぞれ μA..., μPA..., μPB..., μPC..., μPD...を示します。

お願い
図面番号で部品を指定するときは基板名又はブロックを併せて指定してください。

⚠印の部品，または⚠印付の点線で囲まれた部品は，安全性を維持するために，重要な部品です。
従って交換時は，必ず指定の部品を使用してください。

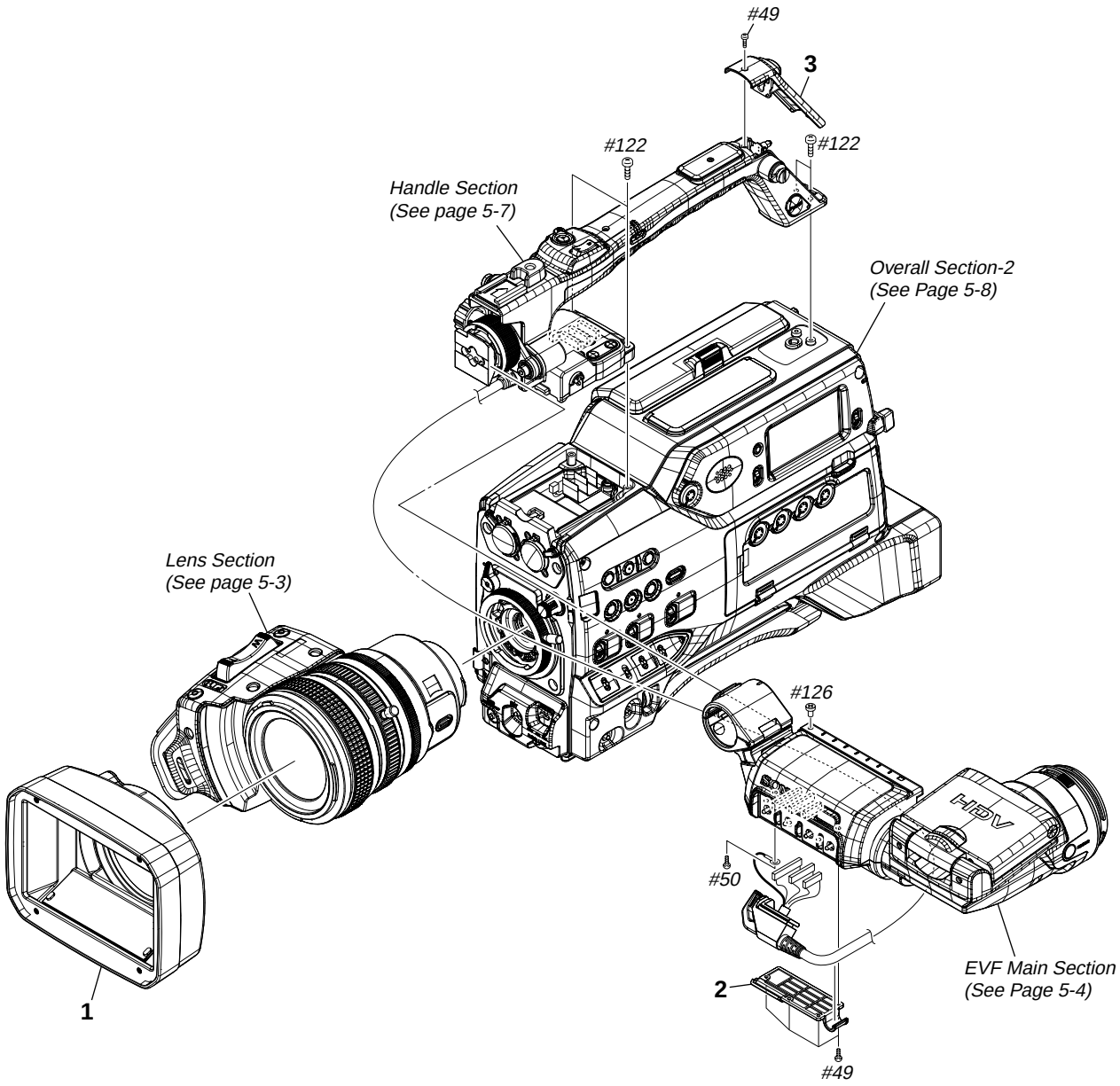
- 外装部品色表示
  例：
  (SILVER):セットの色を表す。
  (Silver) : 部品の色を表す。

- Abbreviation
  AR : Argentine model
  AUS : Australian model
  BR : Brazilian model
  CH : Chinese model
  CND : Canadian model
  EE : East European model
  HK : Hong Kong model
  J : Japanese model
  JE : Tourist model
  KR : Korea model
  NE : North European model

DISASSEMBLY HARDWARE LIST

5-1. EXPLODED VIEWS

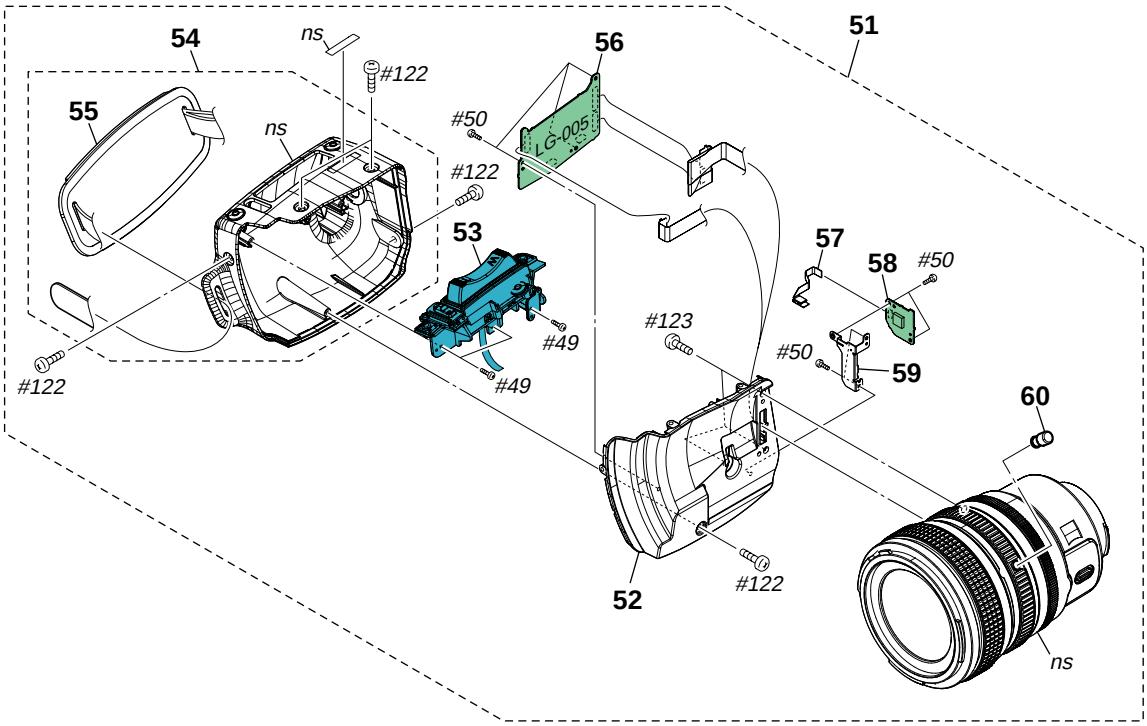
5-1-1. OVERALL SECTION-1



Ref. No.	Part No.	Description
1	X-2188-618-1	HOOD ASSY
2	3-292-615-01	PLATE, BOTTOM
3	X-2189-082-1	CABINET (REAR) ASSY, HANDLE
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#122	7-682-547-09	SCREW +B 3X6 (Black)
#126	3-292-616-01	SCREW, SETS STOPPER (Black)

5-1-2. LENS SECTION

ns: not supplied

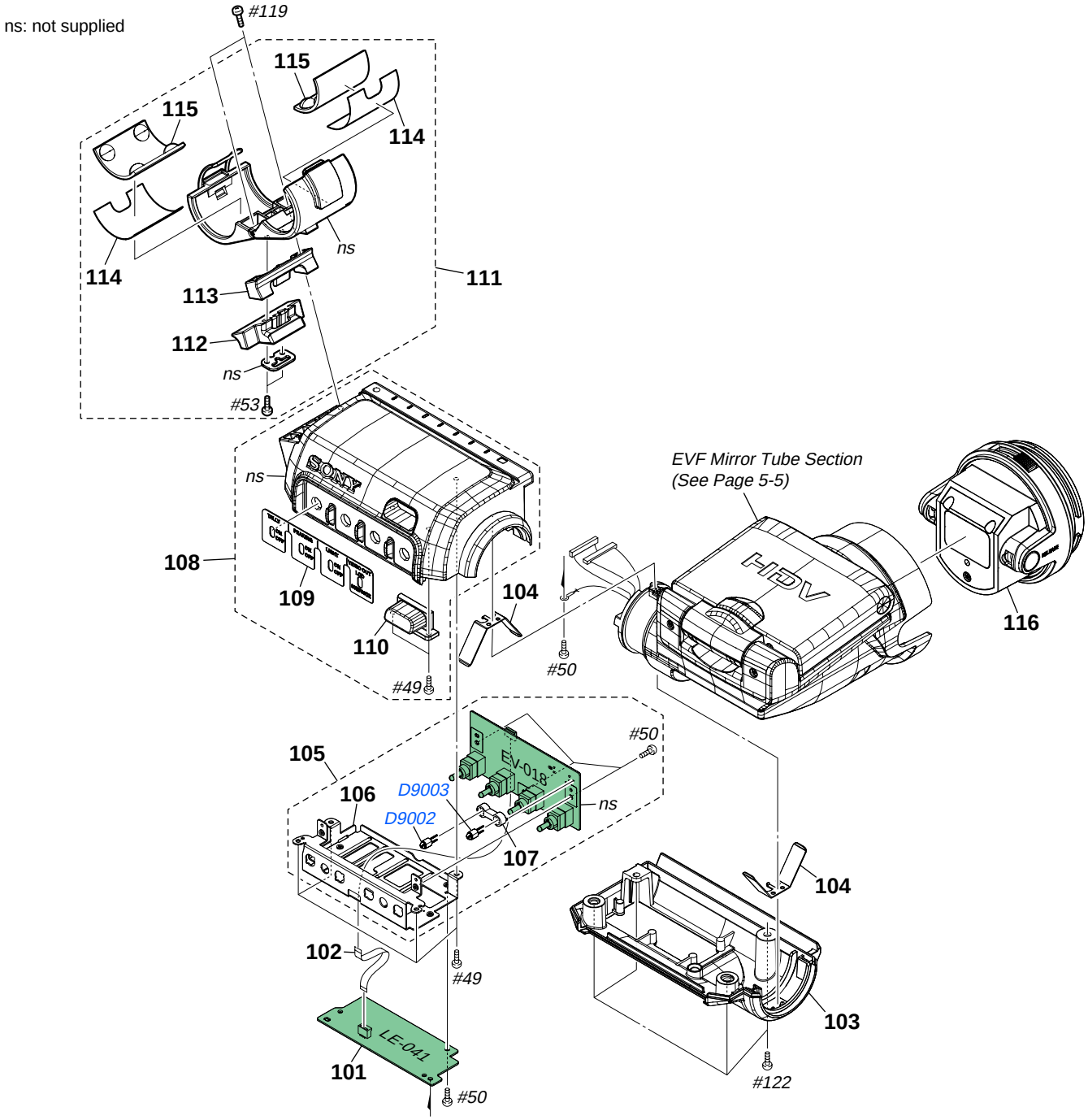


Ref. No.	Part No.	Description
51	A-1536-389-A	LENS COMPLETE ASSY (SERVICE)
52	3-292-678-01	COVER, GRIP
53	1-480-300-11	SWITCH BLOCK, CONTROL (LZ92000)
54	X-2189-140-1	CABINET ASSY, GRIP
55	3-288-596-01	BELT, GRIP
56	A-1486-850-A	LG-005 BOARD, COMPLETE
57	1-834-246-11	FLEXIBLE FLAT CABLE (FFC-118)

Ref. No.	Part No.	Description
58	A-1510-484-A	GY-005 BOARD, COMPLETE (SERVICE)
* 59	3-288-600-01	HOLDER, GYRO PC BOARD
60	3-292-214-01	LEVER, ZOOM
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#122	7-682-547-09	SCREW +B 3X6 (Black)
#123	7-682-561-09	SCREW +B 4X8 (Black)

5-1-3. EVF MAIN SECTION

ns: not supplied



Ref. No.	Part No.	Description
101	A-1506-558-A	LE-041 BOARD, COMPLETE
102	1-834-246-11	FLEXIBLE FLAT CABLE (FFC-118)
103	3-292-612-01	VF MAIN LOWER
104	3-292-613-01	SPRING, ROTARY (LEAF)
105	A-1506-625-A	EV-018 BOARD, COMPLETE
* 106	3-292-614-01	BRACKET, LE
* 107	3-063-718-01	HOLDER, TALLY LED
108	X-2189-134-1	VF MAIN UPPER ASSY
109	3-292-607-01	LABEL, VF
110	3-292-608-01	LIGHT, TALLY GUIDE
111	X-2187-986-1	HOLDER ASSY, MICROPHONE
112	3-284-074-01	RUBBER, MICROPHONE HOLDER
113	3-284-075-01	COVER, MICROPHONE HOLDER RUBBER
114	3-284-081-01	SHEET, RUBBER ADHESIVE
115	3-284-080-01	RUBBER, MICROPHONE
116	X-2189-139-1	LENS ASSY, EVF
D9002	8-719-079-30	DIODE SLI-343UR3F (REC LAMP (FRONT))
D9003	8-719-079-30	DIODE SLI-343UR3F (REC LAMP (FRONT))
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)
#119	7-627-556-58	SCREW +P 2.6X5 (Black)
#122	7-682-547-09	SCREW +B 3X6 (Black)

5-1-4. EVF MIRROR TUBE SECTION

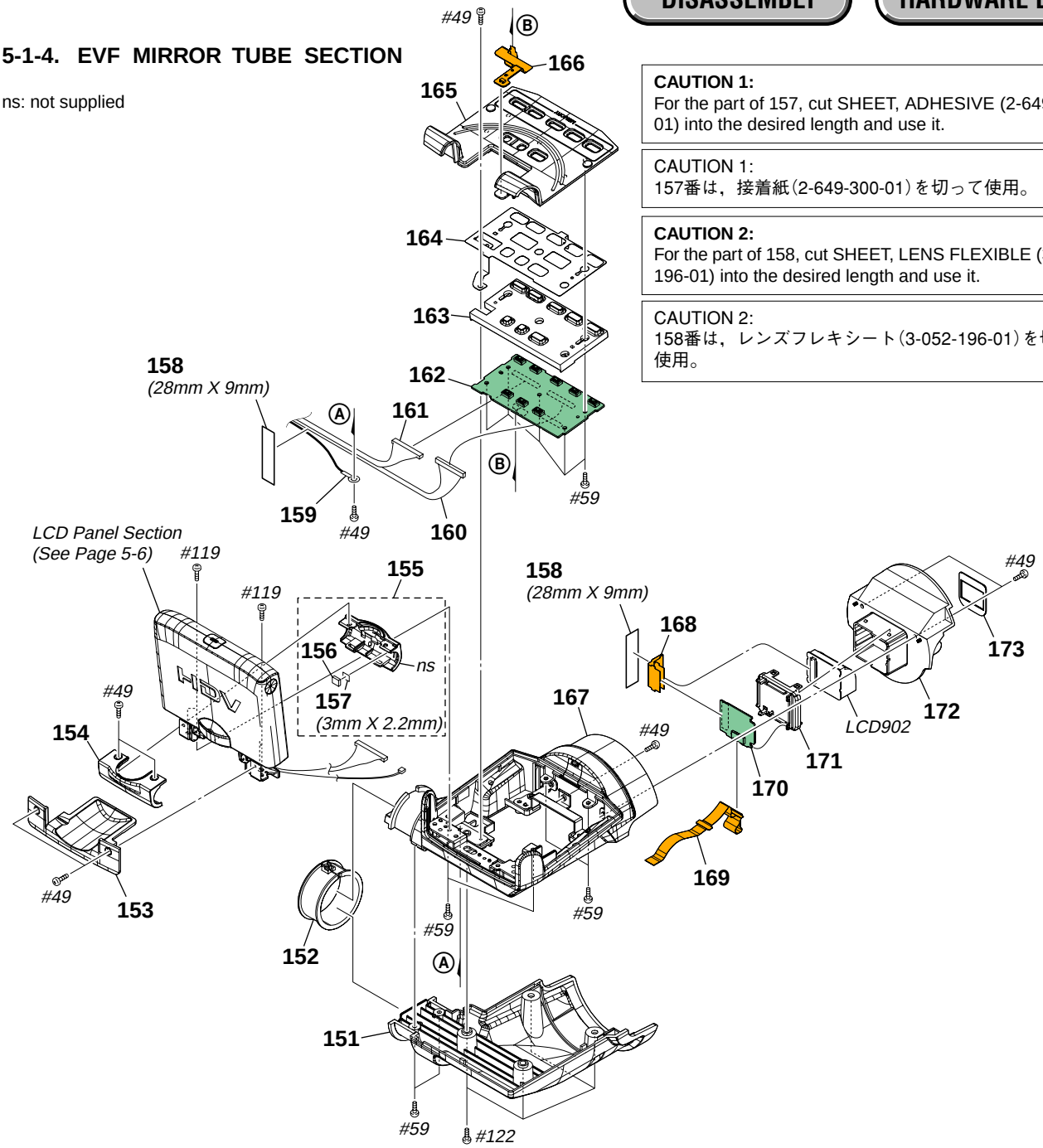
ns: not supplied

CAUTION 1:
For the part of 157, cut SHEET, ADHESIVE (2-649-300-01) into the desired length and use it.

CAUTION 1:
157番は，接着紙(2-649-300-01)を切って使用。

CAUTION 2:
For the part of 158, cut SHEET, LENS FLEXIBLE (3-052-196-01) into the desired length and use it.

CAUTION 2:
158番は，レンズフレキシート(3-052-196-01)を切って使用。



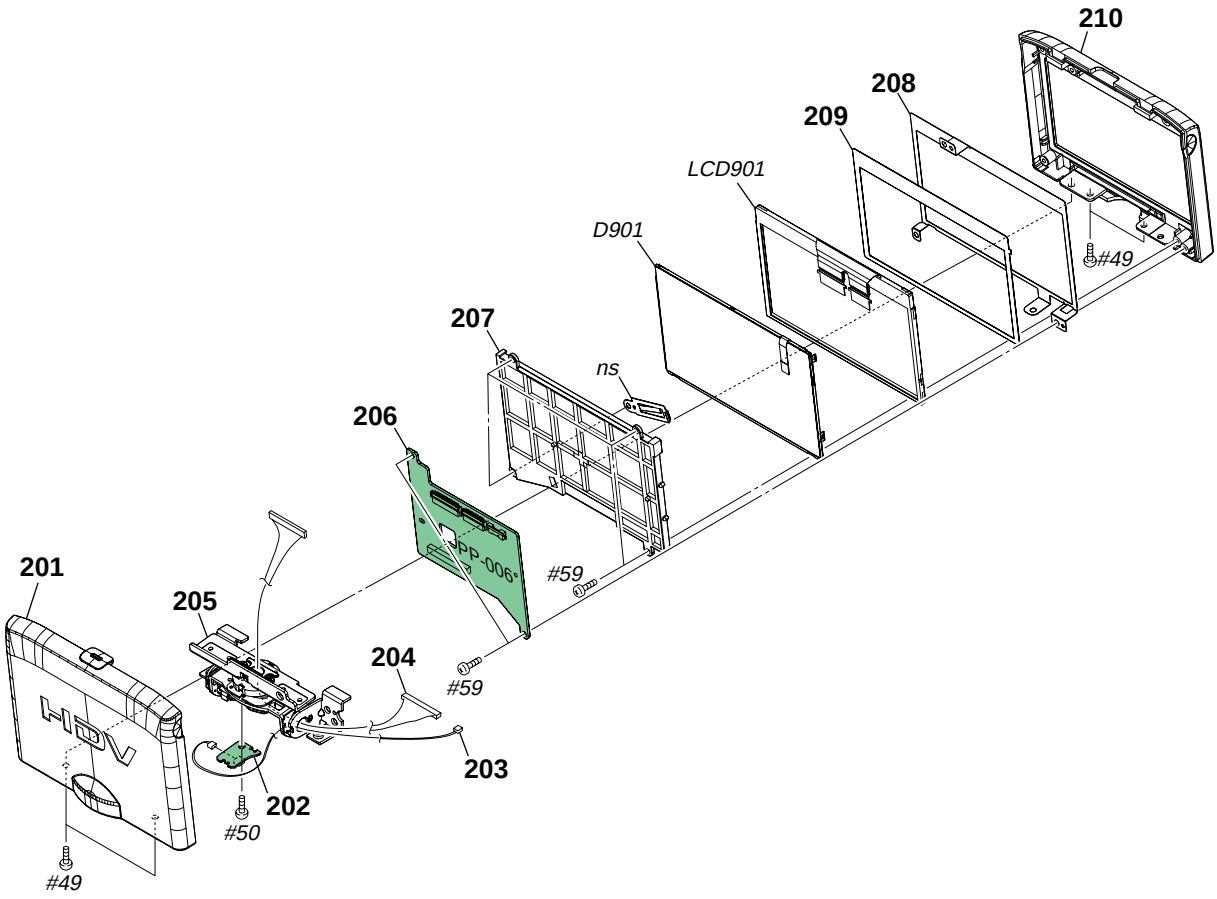
Ref. No.	Part No.	Description
151	3-292-624-01	CABINET (LOWER), EVF
* 152	3-292-626-01	RING, MOVABLE
153	3-292-661-01	COVER (FRONT), HINGE
154	3-292-635-01	COVER (FRONT), HINGE
155	X-2187-684-1	COVER (REAR) ASSY, HINGE
156	1-452-929-12	MAGNET (011)
157	CAUTION 1	SHEET (MAGNET), ADHESIVE
158	CAUTION 2	TAPE AS
159	1-966-027-11	HARNESS (JJ-060)
160	1-965-595-12	HARNESS (ES-001)
161	1-964-790-11	HARNESS (PR-074)
162	A-1506-555-A	LS-071 BOARD, COMPLETE
163	3-292-625-01	SWITCH, CONTROL
* 164	3-292-621-01	PLATE, SWITCH GROUND
165	X-2187-682-1	RETAINER ASSY, CONTROL SWITCH

Ref. No.	Part No.	Description
166	A-1506-631-A	FP-783 FLEXIBLE BOARD, COMPLETE
167	X-2189-137-1	CABINET (UPPER) ASSY, EVF
168	1-873-733-11	FP-776 FLEXIBLE BOARD
169	1-873-732-11	FP-775 FLEXIBLE BOARD
170	A-1506-630-A	UU-006 BOARD, COMPLETE
171	3-288-586-01	LID, PANEL
172	3-292-627-01	CASE, LCD
173	3-292-628-01	PLATE, EVF PROTECTION
LCD902	1-802-560-11	LCD MODULE
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#59	3-080-205-21	SCREW, TAPPING, P2 (Silver)
#119	7-627-556-58	SCREW +P 2.6X5 (Black)
#122	7-682-547-09	SCREW +B 3X6 (Black)

HARDWARE LIST

5-1-5. LCD PANEL SECTION

ns: not supplied



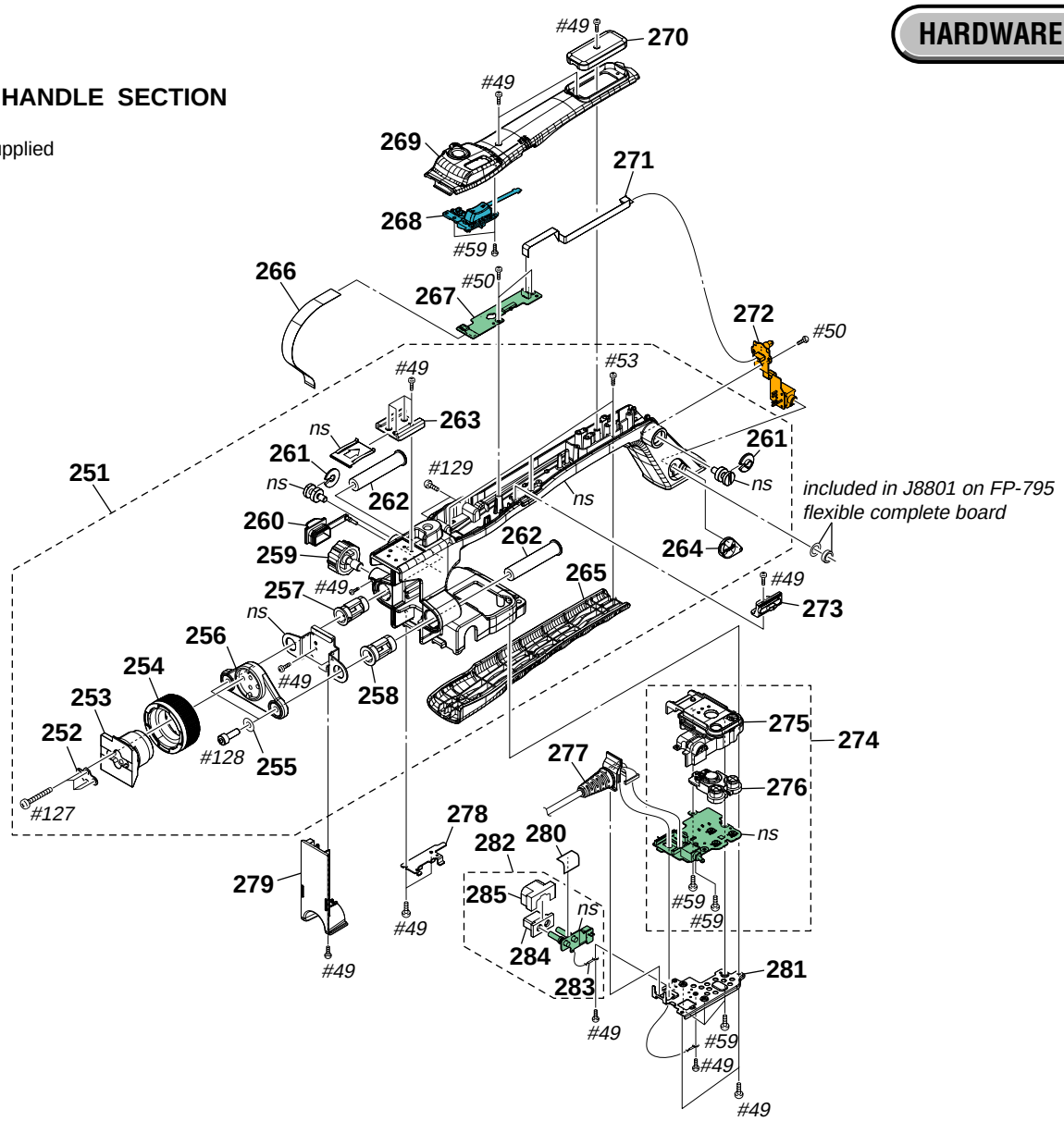
Ref. No.	Part No.	Description
201	3-292-636-01	CABINET (C), P
202	A-1506-551-A	RV-003 BOARD, COMPLETE
203	1-963-030-11	HARNESS (SW-116)
204	1-964-790-11	HARNESS (PR-074)
205	X-2187-982-1	HINGE ASSY
206	A-1506-552-A	PP-006 BOARD, COMPLETE
207	3-292-633-01	RETAINER, PANEL
208	3-292-638-01	PLATE, P CABINET GROUND

Ref. No.	Part No.	Description
209	3-288-565-01	CUSHION, PANEL
210	3-292-637-01	CABINET (M), P
D901	1-480-358-11	BLOCK, LIGHT GUIDE PLATE (3.2) (BACKLIGHT)
LCD901	1-802-590-11	INDICATOR MODULE, LIQUIDCRYSTAL
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#59	3-080-205-21	SCREW, TAPPING, P2 (Silver)

HARDWARE LIST

5-1-6. HANDLE SECTION

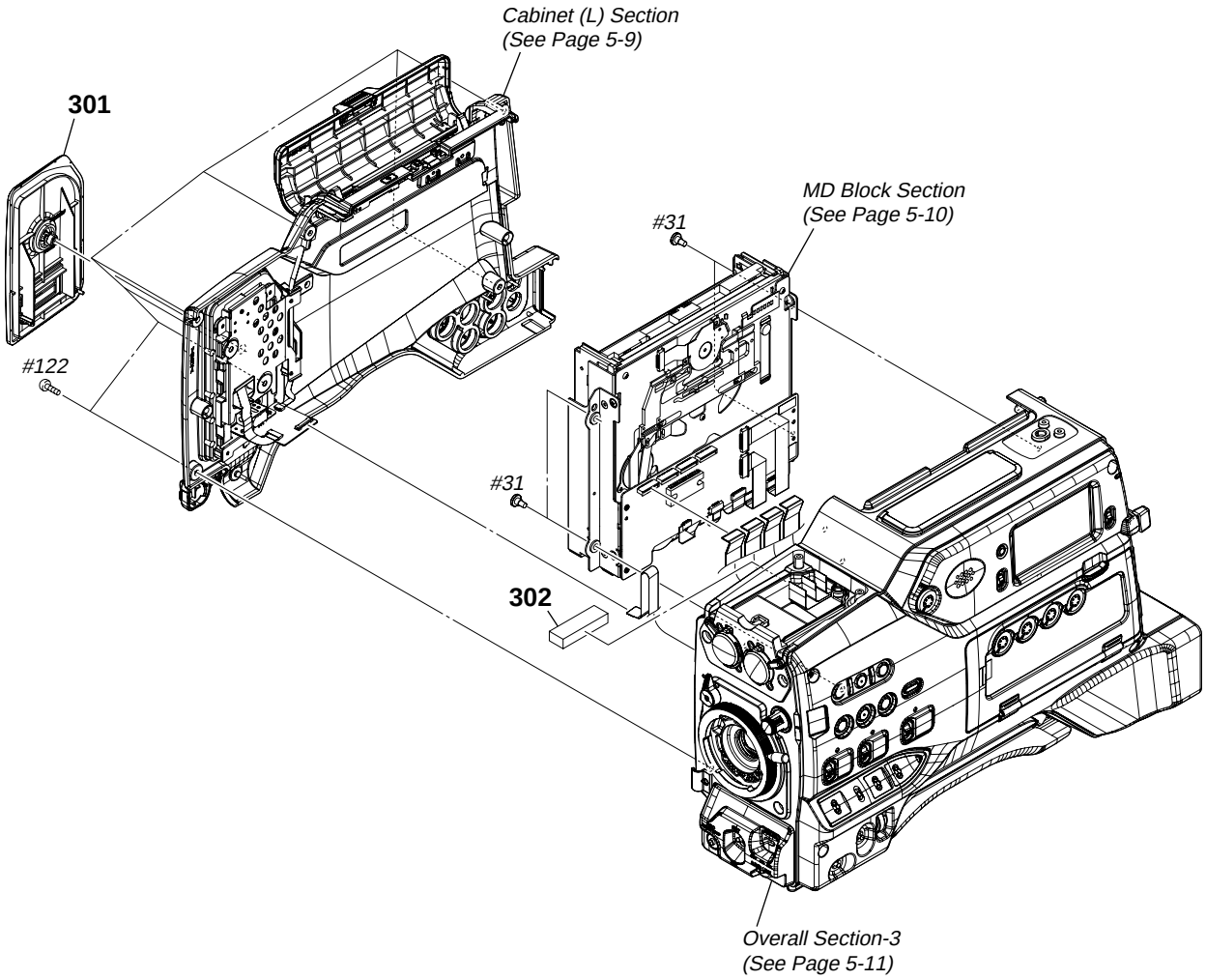
ns: not supplied



Ref. No.	Part No.	Description
251	X-2189-103-1	CABINET ASSY, HANDLE
* 252	3-687-070-01	WASHER, SHOE
253	3-686-261-03	SHOE3, SLIDE, VF
254	X-2189-102-1	RING ASSY, LOCK
* 255	7-688-004-02	W 4, SMALL
256	3-063-659-01	BASE, VF SHOE
* 257	3-063-657-01	GUIDE (L), ARM
* 258	3-063-655-01	GUIDE (R), ARM
259	3-063-658-01	LOCK, ARM
260	3-292-528-01	COVER, LIGHT TERMINAL
261	3-063-330-01	GUIDE, CARRYING BELT
262	3-063-665-01	ARM, SLIDE
263	3-069-286-01	SHOE, ACCESSORY
264	3-292-527-01	COVER, PHONE
265	3-292-531-01	CABINET (LOWER), HANDLE
266	1-835-012-11	FLEXIBLE FLAT CABLE (FFC-130)
267	A-1505-557-A	TO-001 BOARD, COMPLETE
268	1-480-298-11	SWITCH BLOCK, CONTROL (GZ92000)
269	X-2189-124-1	CABINET (UPPER) ASSY, HANDLE
270	3-292-552-01	LID, HANDLE CABINET (UPPER)
271	1-835-004-11	FLEXIBLE FLAT CABLE (FFC-122)

Ref. No.	Part No.	Description
272	A-1505-559-A	FP-795 FLEXIBLE BOARD, COMPLETE
273	X-2188-599-1	KNOB ASSY, ZOOM SELECTION
274	A-1505-558-A	SH-029 BOARD, COMPLETE
275	X-2189-125-1	CABINET (HN) ASSY, SWITCH
276	3-292-554-01	RUBBER (SW (HN))
277	1-965-792-11	HARNESS (SL-001)
* 278	3-292-553-01	RETAINER, LIGHT TERMINAL
279	3-292-551-01	CABINET (FRONT), HANDLE
280	3-297-510-01	SHEET (VL), PROTECTION
* 281	3-292-555-01	BRACKET, SH
282	A-1505-523-A	VL-040 BOARD, COMPLETE
283	1-960-907-12	HARNESS (JJ-058)
284	3-709-107-01	HOUSING, LIGHT TERMINAL
285	3-709-108-01	HOLDER, CONNECTOR
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)
#59	3-080-205-21	SCREW, TAPPING, P2 (Silver)
#127	7-682-654-09	SCREW +PS 3X25 (Black)
#128	3-452-472-01	BOLT (M4 (SG)), HEXAGON HOLE (Black)
#129	7-682-550-09	SCREW +B 3X12 (Black)

5-1-7. OVERALL SECTION-2



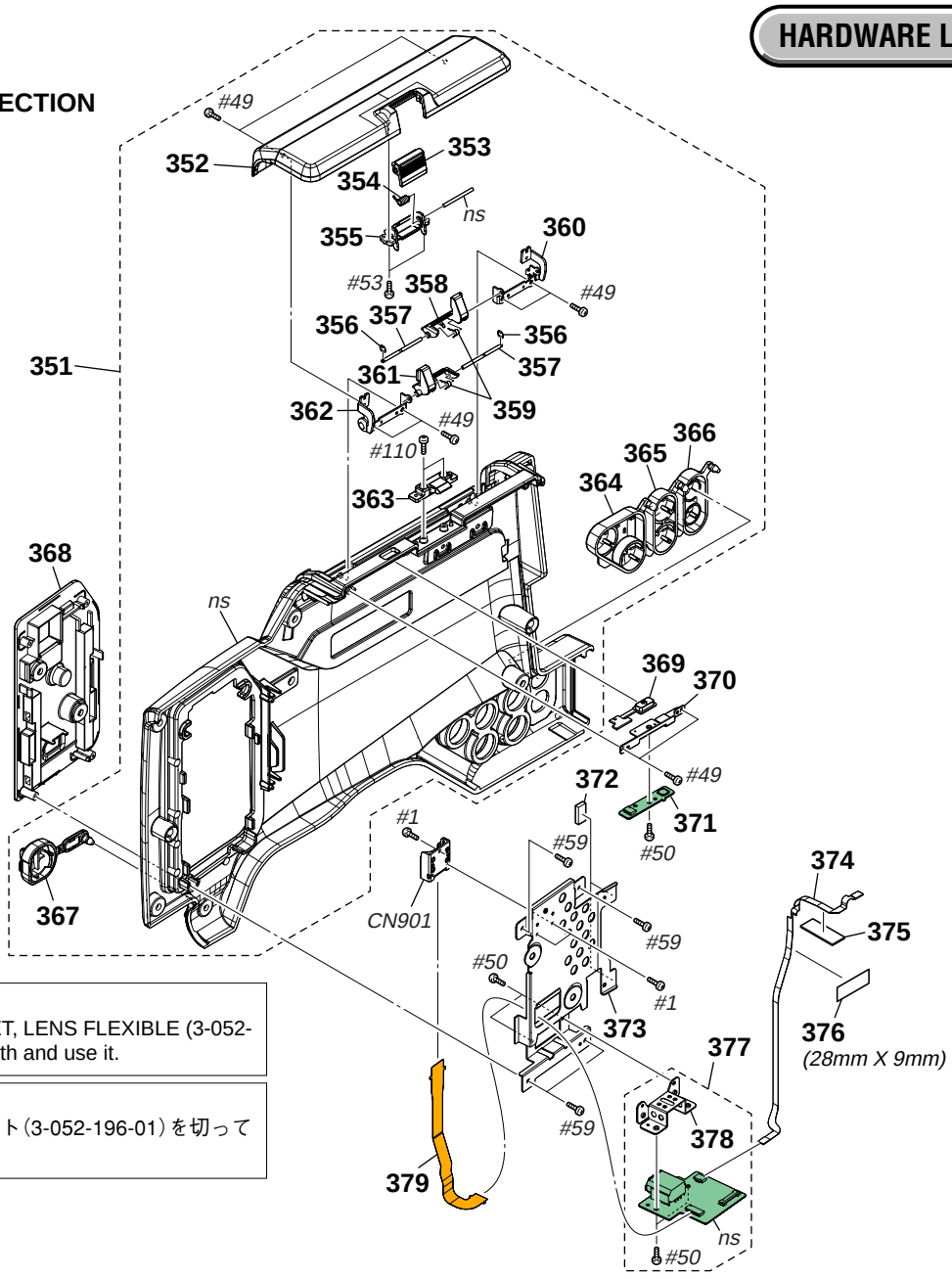
Ref. No.	Part No.	Description
301	X-2189-101-1	COVER ASSY, CF
* 302	3-870-821-01	CF SEAL

Ref. No.	Part No.	Description
#31	2-102-434-01	SCREW (M3 (ECO)), STEP (Silver)
#122	7-682-547-09	SCREW +B 3X6 (Black)

HARDWARE LIST

5-1-8. CABINET (L) SECTION

ns: not supplied



CAUTION:
For the part of 376, cut SHEET, LENS FLEXIBLE (3-052-196-01) into the desired length and use it.

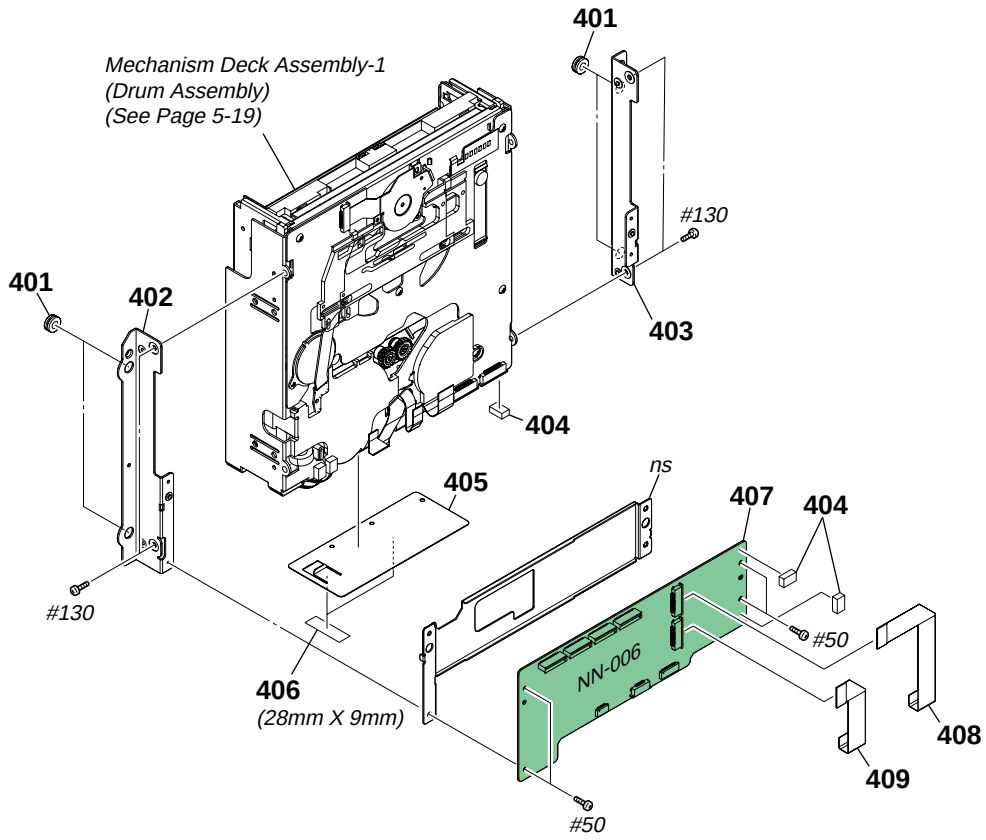
CAUTION:
376番は，レンズフレキシート(3-052-196-01)を切って使用。

Ref. No.	Part No.	Description
351	X-2189-100-1	CABINET (L) ASSY
352	3-292-498-01	COVER, CASSETTE
353	3-292-499-01	BUTTON, CC OPEN
354	3-292-506-01	OPEN BUTTON TORSION COIL SPRING
355	3-292-500-01	BRACKET, BUTTON
356	7-624-101-04	STOP RING 1.2 (E TYPE)
357	3-063-534-01	SHAFT, CG
* 358	3-063-524-01	GUIDE (R), CASSETTE
* 359	3-063-532-01	SPRING, CC TORSION COIL
360	X-3950-927-1	FRAME (R) ASSY, CC
* 361	3-063-536-01	GUIDE (L), CASSETTE
362	X-3950-928-1	FRAME (L) ASSY, CC
363	3-292-507-01	LOCK, BUTTON
364	3-292-502-01	COVER (1), JACK
365	3-292-503-01	COVER (2), JACK
366	3-292-504-01	COVER (3), JACK
367	3-292-508-01	CAP, ENG LENS
368	3-292-516-01	BASE, CF
369	3-292-517-01	KEY, EJECT

Ref. No.	Part No.	Description
370	3-292-515-01	BRACKET, EJ
371	A-1506-343-A	EJ-040 BOARD, COMPLETE
* 372	3-452-827-01	CUSHION, CF
373	3-292-514-01	BRACKET, CF
374	1-835-003-11	FLEXIBLE FLAT CABLE (FFC-121)
375	3-292-519-01	RETAINER, EJ
376	CAUTION	TAPE AS
377	A-1506-344-A	CF-107 BOARD, COMPLETE
* 378	3-292-518-01	BRACKET, I.LINK
379	1-874-796-11	FP-796 FLEXIBLE BOARD
CN901	1-818-890-21	CONNECTOR, EXTERNAL (HOT SHOE)
#1	2-635-562-11	SCREW (M1.7) (Black)
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)
#59	3-080-205-21	SCREW, TAPPING, P2 (Silver)
#110	2-630-005-21	SCREW (M2), NEW TRUSTER, P2 (Black)

5-1-9. MD BLOCK SECTION

ns: not supplied



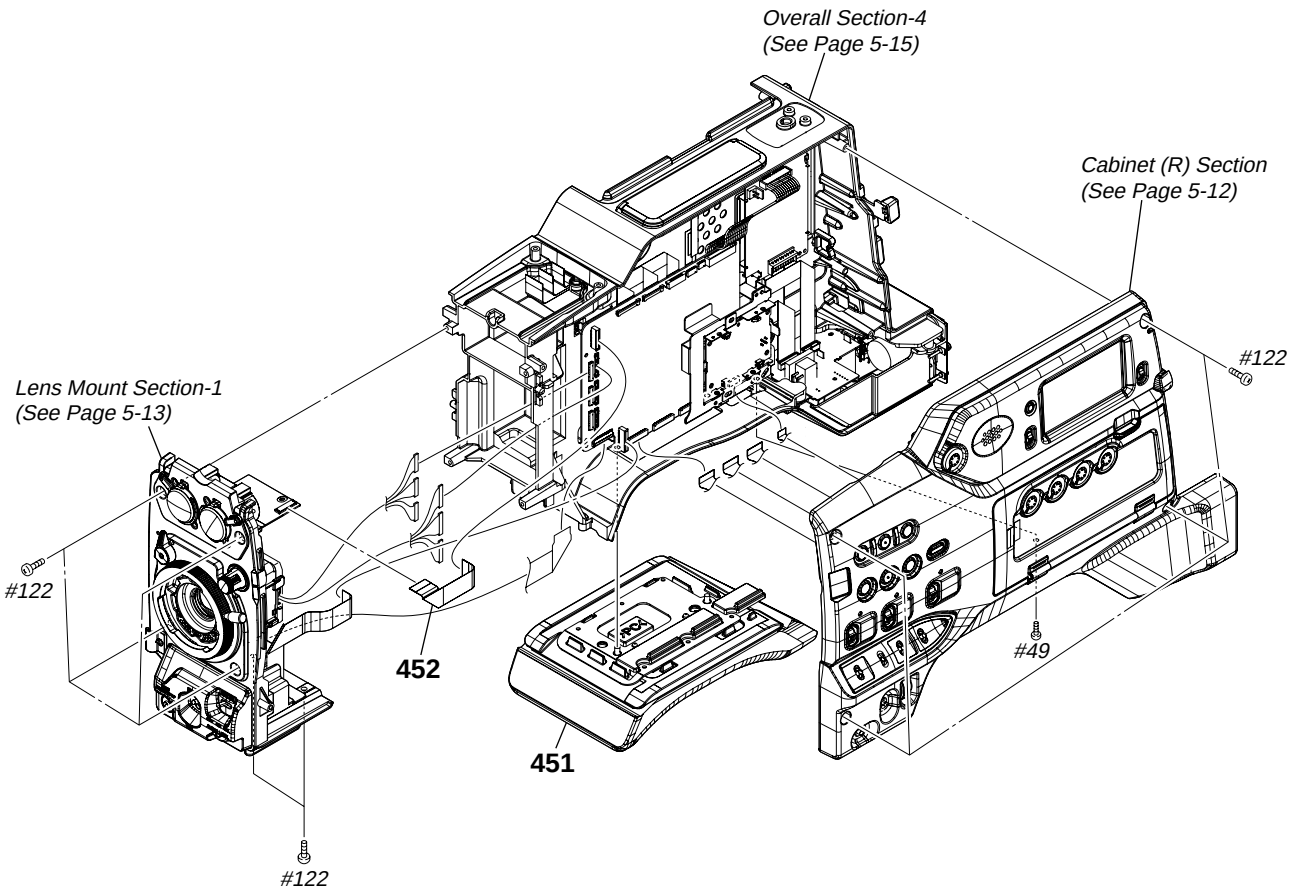
CAUTION:
For the part of 406, cut SHEET, LENS FLEXIBLE (3-052-196-01) into the desired length and use it.

CAUTION:
406番は，レンズフレキシート(3-052-196-01)を切って使用。

Ref. No.	Part No.	Description
401	3-974-011-01	RUBBER, VIBRATION PROOF
402	3-292-459-01	BRACKET (L), MD
403	3-292-460-01	BRACKET (R), MD
* 404	3-452-954-01	SHEET (MD), CONDUCTIVE
405	3-292-462-01	SHEET, PROTECTION
406	CAUTION	TAPE AS

Ref. No.	Part No.	Description
407	A-1506-548-A	NN-006 BOARD, COMPLETE
408	1-835-008-11	FLEXIBLE FLAT CABLE (FFC-126)
409	1-835-007-11	FLEXIBLE FLAT CABLE (FFC-125)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#130	3-732-817-11	SCREW (2X4.5), TAPPING (Silver)

5-1-10. OVERALL SECTION-3



Ref. No.	Part No.	Description
451	X-2189-079-1	PAD ASSY, SHOULDER
452	1-832-964-11	FLEXIBLE FLAT CABLE (FPD-001)

Ref. No.	Part No.	Description
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#122	7-682-547-09	SCREW +B 3X6 (Black)

HARDWARE LIST

5-1-11. CABINET (R) SECTION

ns: not supplied

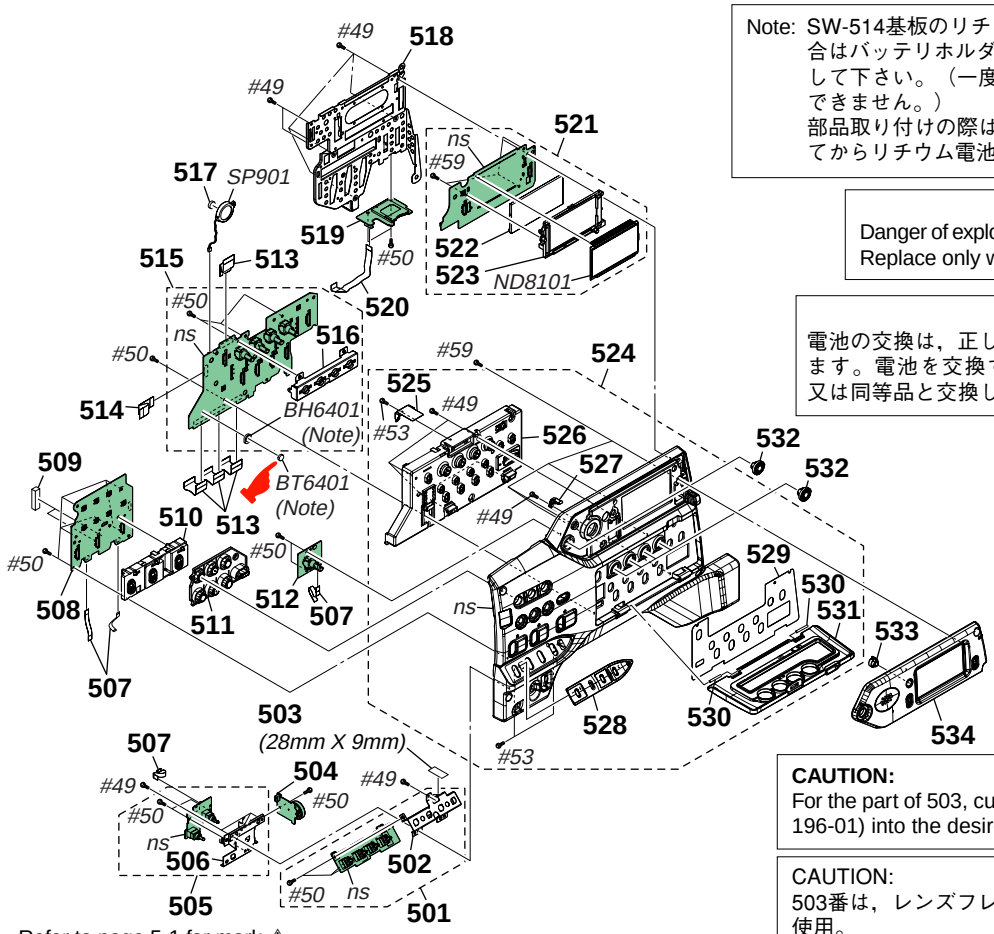
☛ : *BT6401 (BATTERY, STORAGE, LITHIUM) Board on the mount position.*
(See page 4-96)

Note: Replace the battery holder (BH6401) together when replacing the lithium battery (BT6401) on the SW-514 board. (The battery holder removed once cannot be used again.)
When mounting these parts, mount new battery holder first and attach new lithium battery next.

Note: SW-514基板のリチウム電池（BT6401）を交換する場合はバッテリホルダ（BH6401）も同時に新品に交換して下さい。（一度使用したバッテリホルダは再使用できません。）
部品取り付けの際は，先にバッテリホルダを取り付けてからリチウム電池を装着して下さい。

CAUTION
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

注意
電池の交換は，正しく行わないと破裂する恐れがあります。電池を交換する場合には必ず同じ型名の電池又は同等品と交換してください。



CAUTION:
For the part of 503, cut SHEET, LENS FLEXIBLE (3-052-196-01) into the desired length and use it.

CAUTION:
503番は，レンズフレキシート(3-052-196-01)を切って使用。

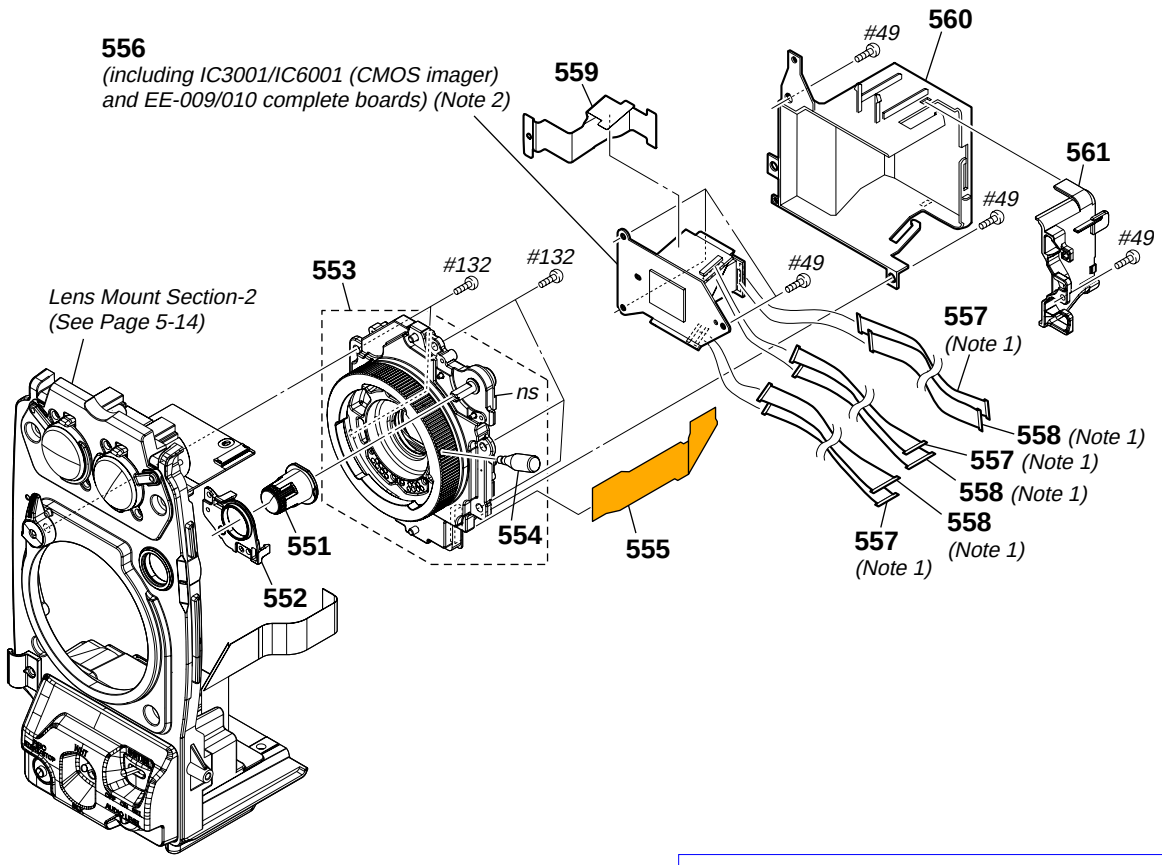
• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description
501	A-1506-085-A	TN-002 BOARD, COMPLETE
* 502	3-292-595-01	RETAINER, TOGGLE
503	CAUTION	TAPE AS
504	A-1506-091-A	KR-001 BOARD, COMPLETE
505	A-1506-088-A	PW-135 BOARD, COMPLETE
* 506	3-292-596-01	BRACKET, PB
507	1-834-246-11	FLEXIBLE FLAT CABLE (FFC-118)
508	A-1506-087-A	SB-040 BOARD, COMPLETE
* 509	3-700-639-01	CUSHION (SB)
510	X-2189-132-1	KNOB ASSY, SB
511	3-292-598-01	BUTTON (AS)
512	A-1506-084-A	VO-013 BOARD, COMPLETE
513	1-835-013-11	FLEXIBLE FLAT CABLE (FFC-156)
514	1-834-502-11	FLEXIBLE FLAT CABLE (FJV-006)
515	A-1506-086-A	SW-514 BOARD, COMPLETE
* 516	3-292-593-01	BRACKET, VR
517	3-292-599-01	CUSHION, SP
518	3-292-597-01	BRACKET, SW
519	A-1506-089-A	MS-378 BOARD, COMPLETE
520	1-835-005-11	FLEXIBLE FLAT CABLE (FFC-123)
521	A-1506-090-A	LC-094 BOARD, COMPLETE

Ref. No.	Part No.	Description
522	3-292-594-01	PLATE (LCD), LIGHT GUIDE
523	3-292-591-01	HOLDER, LCD
524	X-2189-130-1	CABINET (R) ASSY
525	3-292-579-01	SPRING, LOCK
526	X-2189-129-1	BRACKET ASSY, KNOB
527	3-292-581-01	HOLDER, HINGE
528	3-292-578-01	CABINET, AE
* 529	3-292-580-01	SHEET (CONTROL PANEL)
530	3-063-597-01	SHAFT, SW
531	X-2189-128-1	LID ASSY
532	3-063-593-11	KNOB, VR
533	3-292-592-01	BUTTON (TC)
534	X-2189-131-1	CABINET ASSY, SPEAKER
⚠* BH6401	1-756-615-51	HOLDER, BATTERY (Note)
⚠ BT6401	1-756-134-12	BATTERY, STORAGE, LITHIUM (Note)
ND8101	1-802-589-11	DISPLAY PANEL, LIQUID CRYSTAL
SP901	1-825-968-11	LOUDSPEAKER (1.8CM)
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)
#59	3-080-205-21	SCREW, TAPPING, P2 (Silver)

5-1-12. LENS MOUNT SECTION-1

ns: not supplied



Note 1: Refer to page 2-1 “Note for disconnecting the harness (coaxial cable)” when changing the harness (coaxial cable).

Note 1: ハーネス（coaxial cable）の交換時は2-1ページの“Note for disconnecting the harness (coaxial cable)”を参照してください。

Note 2: Be sure to read “Precautions for Replacement of Imager” on page 4-3 when changing the imager.

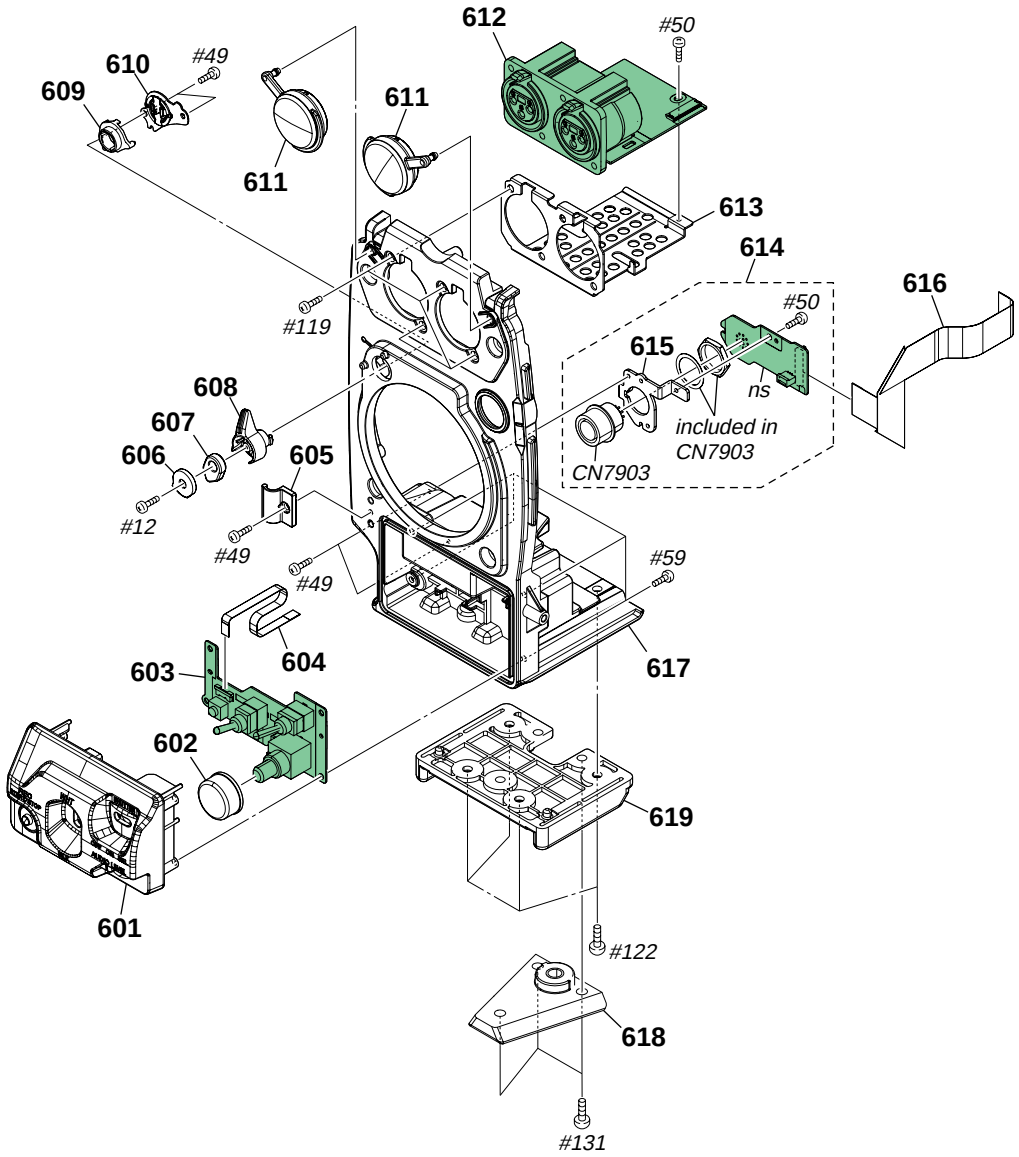
Note 2: イメージャの交換時は4-4ページの“イメージャ交換時の注意”を必ずお読みください。

Ref. No.	Part No.	Description
551	3-288-413-01	KNOB, ND
* 552	3-288-414-01	HOLDER, ND KNOB
553	1-788-732-11	MOUNT, CAMERA (TZ253B)
554	3-292-379-01	LEVER, MOUNT TUBE
555	1-873-723-11	FP-766 FLEXIBLE BOARD
556	A-1494-846-A	DEVICE (SERVICE), PRISM (including IC3001/IC6001 (CMOS imager) and EE-009/010 complete boards) (Note 2)

Ref. No.	Part No.	Description
557	1-963-577-41	HARNESS (COAXIAL CABLE) (20 PIN) (Note 1)
558	1-965-937-11	HARNESS (COAXIAL CABLE) (30 PIN) (Note 1)
559	3-291-246-01	HEAT SINK, CMOS
* 560	3-288-415-01	CABINET (A), LIGHT INTERCEPTION
* 561	3-288-416-01	CABINET (B), LIGHT INTERCEPTION
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#132	4-673-655-01	SCREW +B (Black)

5-1-13. LENS MOUNT SECTION-2

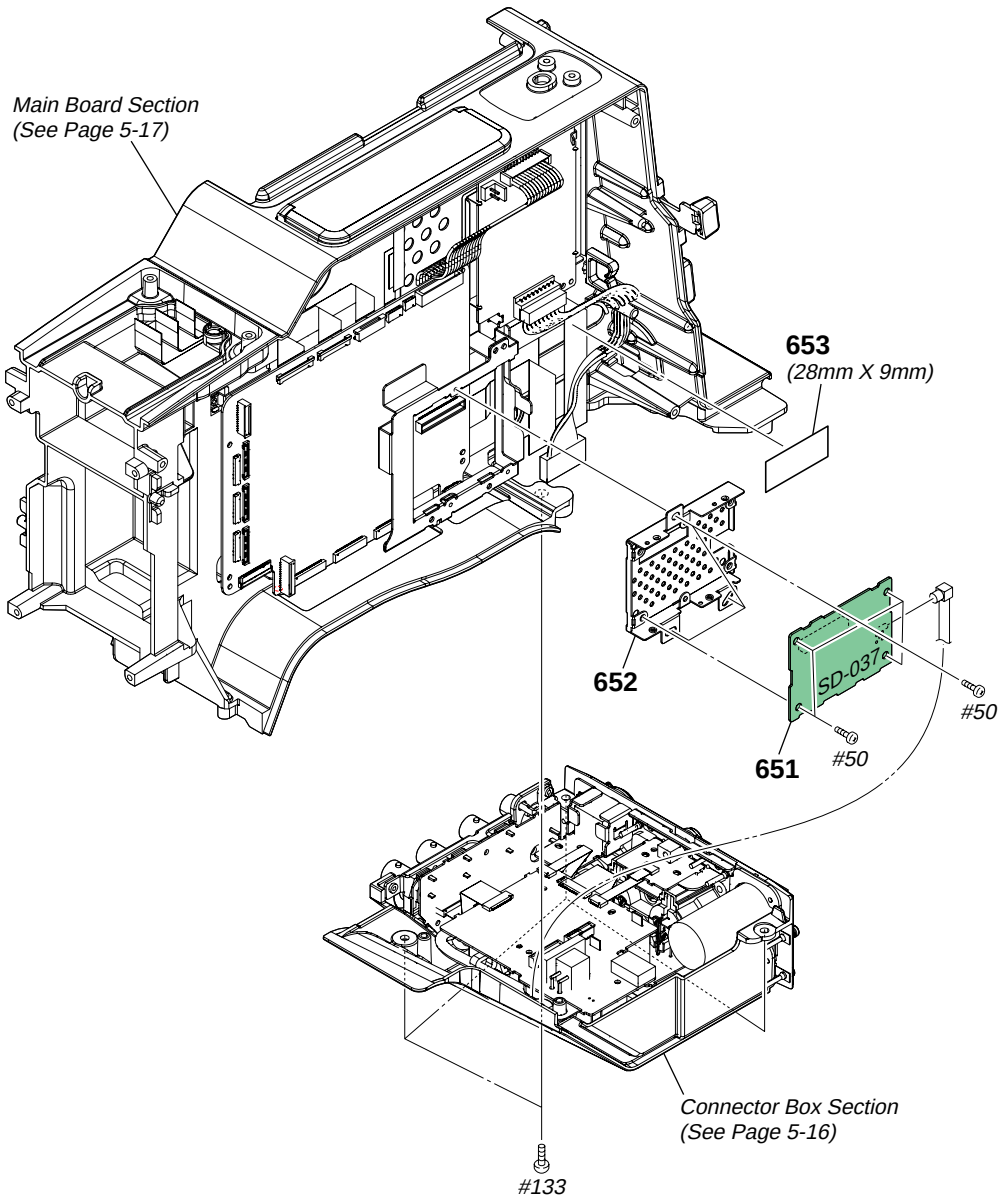
ns: not supplied



Ref. No.	Part No.	Description
601	X-2189-091-1	CABINET (LOWER) ASSY, FRONT
602	3-066-262-01	VR KNOB (AU)
603	A-1505-425-A	FS-088 BOARD, COMPLETE
604	1-834-810-11	CABLE, FLEXIBLE FLAT (FFC-339)
* 605	3-678-684-00	HOLDER, CABLE
606	3-288-407-01	LID (Y), KNOB
607	3-288-408-01	STOPPER (Y)
608	3-288-406-01	KNOB (Y)
609	3-288-405-01	GUIDE (Y)
610	X-2188-592-1	PLATE ASSY, CLICK
611	3-292-452-01	COVER, XLR (F) CONNECTOR
612	A-1505-418-A	ME-021 BOARD, COMPLETE
613	3-292-457-01	BRACKET, ME
614	A-1505-419-A	LL-015 BOARD, COMPLETE

Ref. No.	Part No.	Description
* 615	3-292-456-01	BRACKET, LL
616	1-835-010-11	FLEXIBLE FLAT CABLE (FFC-128)
617	3-292-449-01	PANEL, FRONT
618	3-292-451-01	EDGE, MOUNTING
619	3-292-450-01	SHOE, CAMERA
CN7903	1-562-221-31	CONNECTOR (ROUND TYPE) (R-F) 12P (LENS)
#12	3-080-204-21	SCREW, TAPPING, P2 (Black)
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#59	3-080-205-21	SCREW, TAPPING, P2 (Silver)
#119	7-627-556-58	SCREW +P 2.6X5 (Black)
#122	7-682-547-09	SCREW +B 3X6 (Black)
#131	3-452-471-01	SCREW (M4 (SG)), +P (Silver)

5-1-14. OVERALL SECTION-4



CAUTION:
For the part of 653, cut SHEET, LENS FLEXIBLE (3-052-196-01) into the desired length and use it.

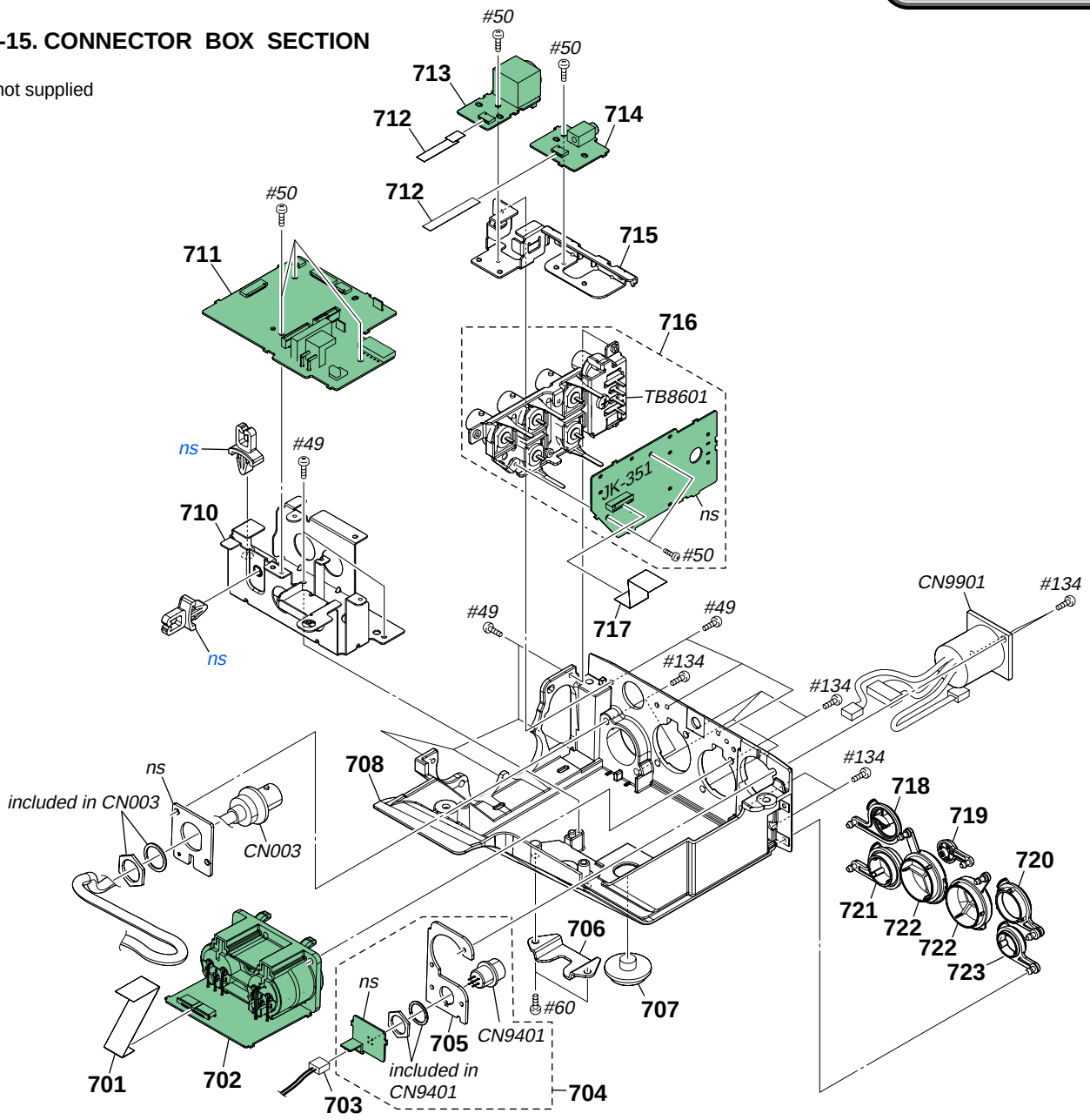
CAUTION:
653番は，レンズフレキシート(3-052-196-01)を切って使用。

Ref. No.	Part No.	Description
651	A-1439-402-A	SD-037 BOARD, COMPLETE
* 652	3-215-834-11	CASE (LOWER), SDI SHIELD
653	CAUTION	TAPE AS

Ref. No.	Part No.	Description
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#133	3-452-484-01	SCREW (M3X6 (SG)) (ECO), +B (Black)

5-1-15. CONNECTOR BOX SECTION

ns: not supplied



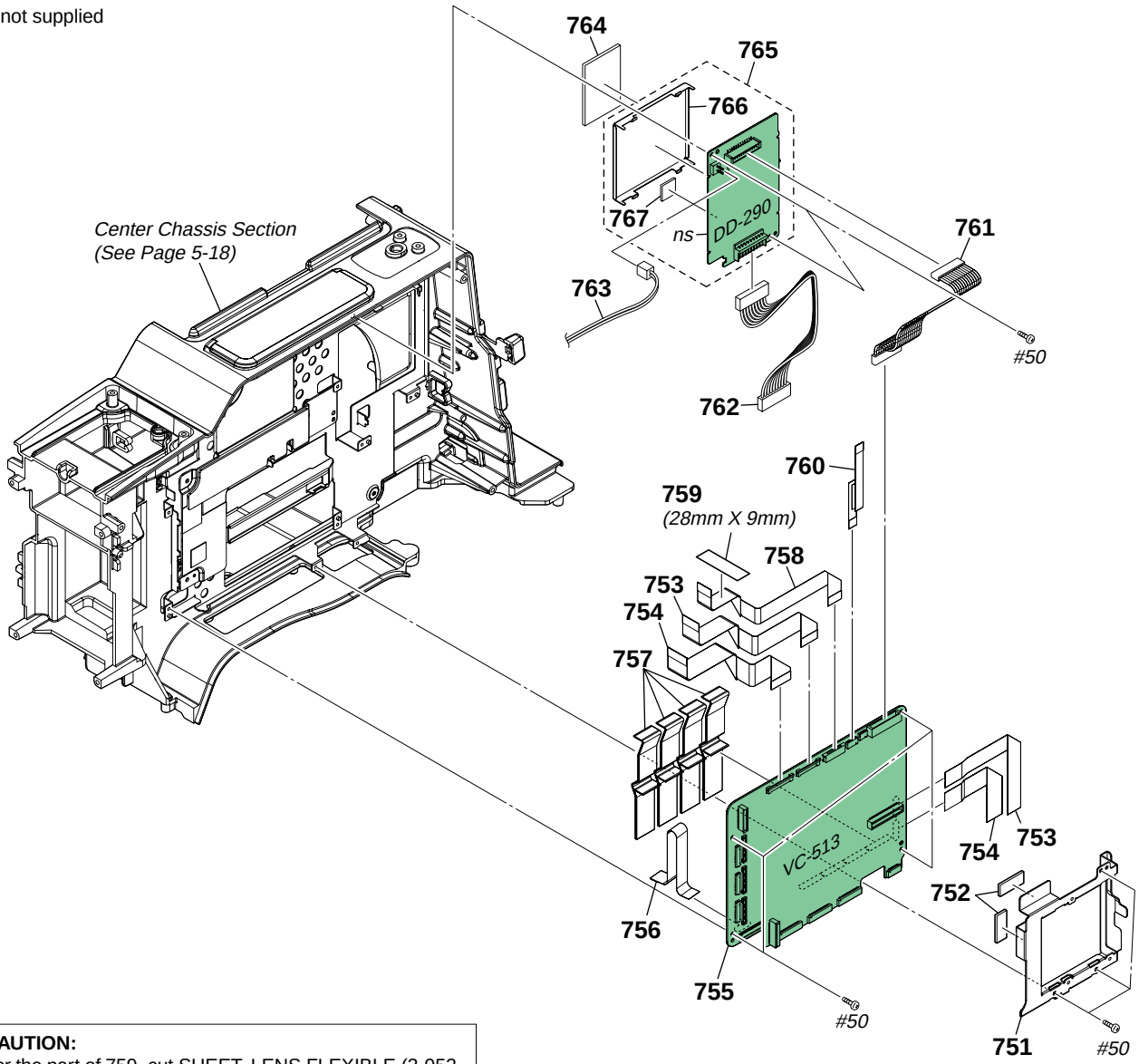
• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description
701	1-832-964-11	FLEXIBLE FLAT CABLE (FPD-001)
702	A-1505-593-A	XL-009 BOARD, COMPLETE
703	1-960-788-12	HARNESS (DD-064)
704	A-1505-630-A	DC-109 BOARD, COMPLETE
* 705	3-292-568-01	BRACKET, DC
* 706	3-971-072-01	STOPPER
707	3-717-821-01	CAP, BREAKER
708	3-292-556-01	BOX, CONNECTOR
710	3-292-566-01	BRACKET, BR
711	A-1505-631-A	BR-001 BOARD, COMPLETE
712	1-834-246-11	FLEXIBLE FLAT CABLE (FFC-118)
713	A-1505-595-A	SS-184 BOARD, COMPLETE
714	A-1505-596-A	LA-029 BOARD, COMPLETE
715	3-292-567-01	BRACKET, SS
716	A-1505-627-A	JK-351 BOARD, COMPLETE
717	1-834-502-11	FLEXIBLE FLAT CABLE (FJV-006)

Ref. No.	Part No.	Description
718	3-292-560-01	COVER (S), JACK
719	3-292-559-01	COVER (L), JACK
720	3-292-557-01	COVER (DI), JACK
721	3-292-562-01	COVER (SD), JACK
722	3-292-452-01	COVER, XLR (F) CONNECTOR
723	3-292-558-01	COVER (DO), JACK
CN003	1-834-622-11	CABLE ASSY, COAXIAL (HD/SD SDI OUT)
⚠ CN9401	1-563-929-11	CONNECTOR, ROUND TYPE (RF) 4P (DC OUT 12V)
⚠ CN9901	1-960-957-11	HARNESS (DC-069) (DC IN 12V)
* TB8601	1-780-574-11	TERMINAL BOARD (AUDIO OUT L/R, COMPONENT OUT Y/Pr/Cr/Pb/Cb, VIDEO OUT, TC OUT)
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#60	3-061-062-11	BOLT (M2.6) (Black)
#134	3-299-572-01	SCREW (M2.6) (Black)

5-1-16. MAIN BOARD SECTION

ns: not supplied



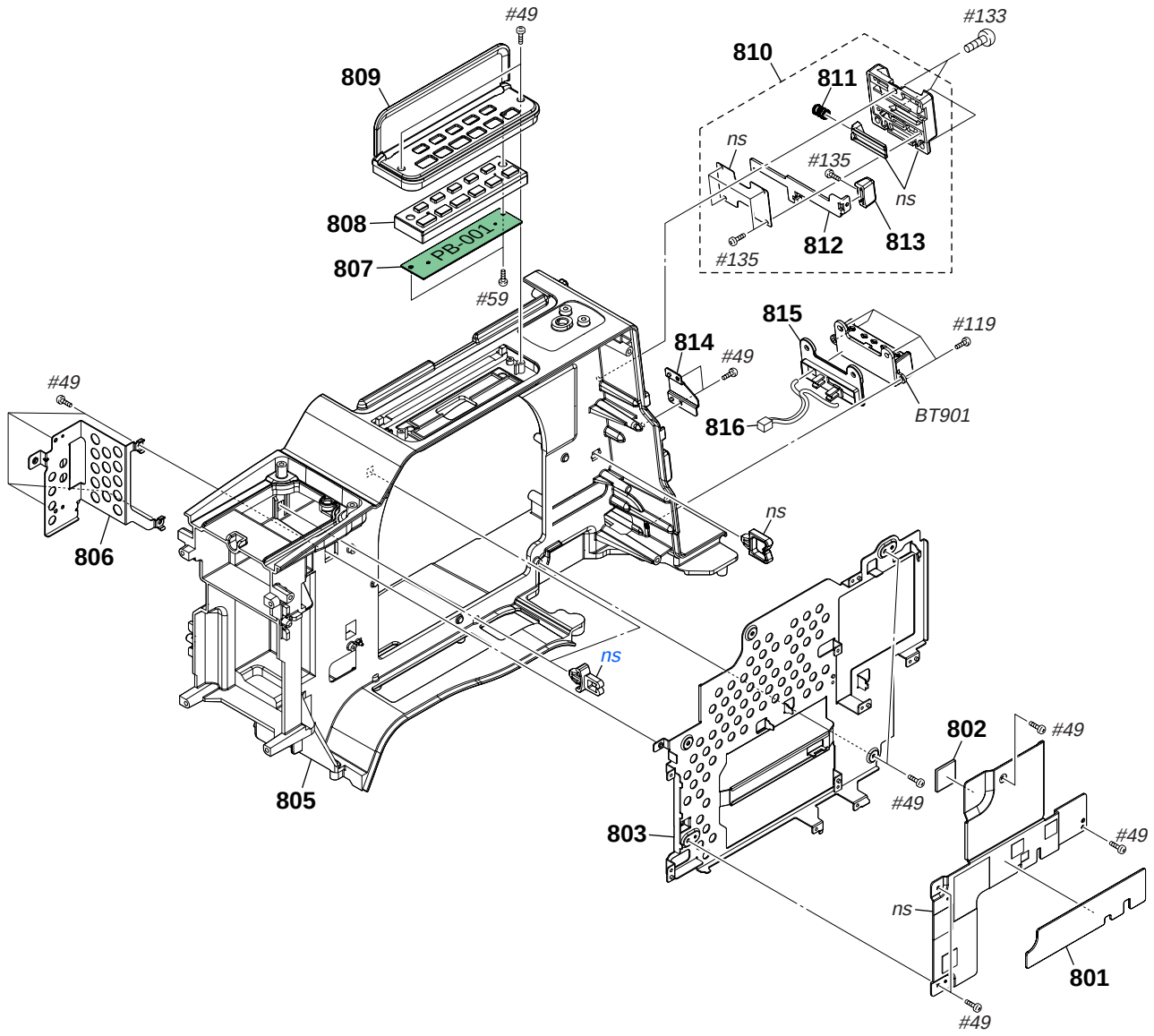
CAUTION:
For the part of 759, cut SHEET, LENS FLEXIBLE (3-052-196-01) into the desired length and use it.

CAUTION:
759番は，レンズフレキシート(3-052-196-01)を切って使用。

Ref. No.	Part No.	Description
751	3-292-389-01	BRACKET (SD)
752	3-292-361-01	SHEET (A), RADIATION
753	1-835-009-11	FLEXIBLE FLAT CABLE (FFC-127)
754	1-835-010-11	FLEXIBLE FLAT CABLE (FFC-128)
755	A-1507-977-A	VC-513 BOARD, COMPLETE (SERVICE) (NTSC: S270J/S270U/S270N)
755	A-1507-978-A	VC-513 BOARD, COMPLETE (SERVICE) (PAL: S270E/S270P/S270C)
756	1-835-006-11	FLEXIBLE FLAT CABLE (FFC-124)
757	1-835-011-11	FLEXIBLE FLAT CABLE (FFC-129)
758	1-835-012-11	FLEXIBLE FLAT CABLE (FFC-130)
759	CAUTION	TAPE AS
760	1-835-004-11	FLEXIBLE FLAT CABLE (FFC-122)
761	1-960-778-12	HARNESS (VD-053)
762	1-965-594-11	HARNESS (BD-057)
763	1-960-790-12	HARNESS (DV-063)
764	3-292-362-01	SHEET (B), RADIATION
765	A-1505-197-A	DD-290 BOARD, COMPLETE
* 766	3-296-072-01	HEAT SINK (DD)
* 767	3-296-071-01	SHEET (C), RADIATION
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)

5-1-17. CENTER CHASSIS SECTION

ns: not supplied



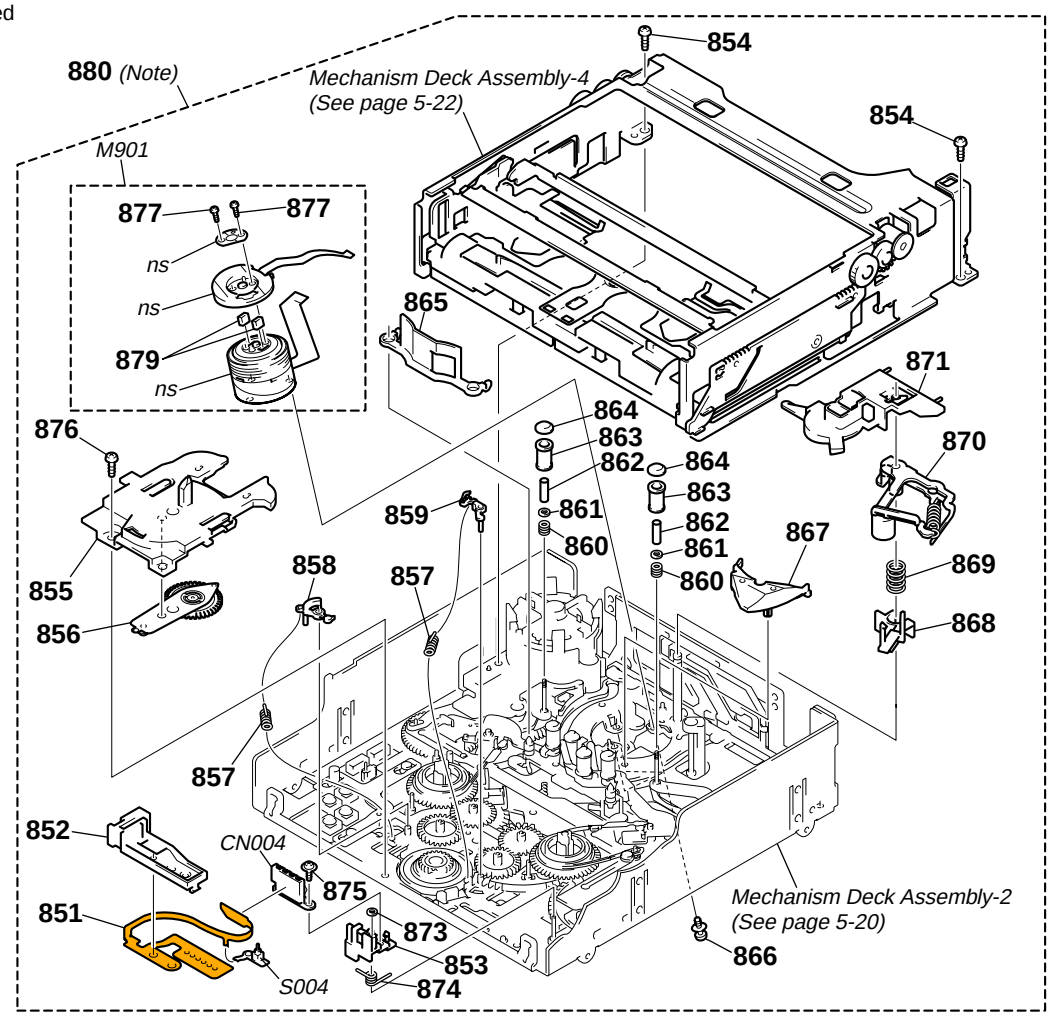
• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description
801	3-292-363-01	SHEET (D), RADIATION
802	3-292-388-01	SHEET (E), RADIATION
803	3-292-385-01	FRAME, MAIN
805	3-292-384-01	CHASSIS, CENTER
806	3-292-386-01	FRAME (CF), SUB
807	A-1506-627-A	PB-001 BOARD, COMPLETE
808	3-063-711-11	KEY, VTR
809	X-2189-084-1	FRAME ASSY, VTR KEY
810	A-8279-000-C	MOUNT, V (B) ASSY
* 811	3-614-293-01	SPPRING, COMPRESSION
812	3-614-295-02	LEVER, RELEASE (B)

Ref. No.	Part No.	Description
* 813	3-614-298-01	KNOB, RELEASE LEVER
814	3-063-720-01	RETAINER, B LEVER
815	3-063-361-01	SPACER, TERMINAL
⚠ 816	1-960-795-12	HARNESS (IB-053)
⚠ BT901	1-766-377-13	CONNECTOR, BATTERY (BATTERY TERMINAL)
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#59	3-080-205-21	SCREW, TAPPING, P2 (Silver)
#119	7-627-556-58	SCREW +P 2.6X5 (Black)
#133	3-452-484-01	SCREW (M3X6 (SG)) (ECO), +B (Black)
#135	7-627-553-28	SCREW, PRECISION +P 2X2.5 (Black)

5-1-18. MECHANISM DECK ASSEMBLY-1 (DRUM ASSEMBLY)

ns: not supplied



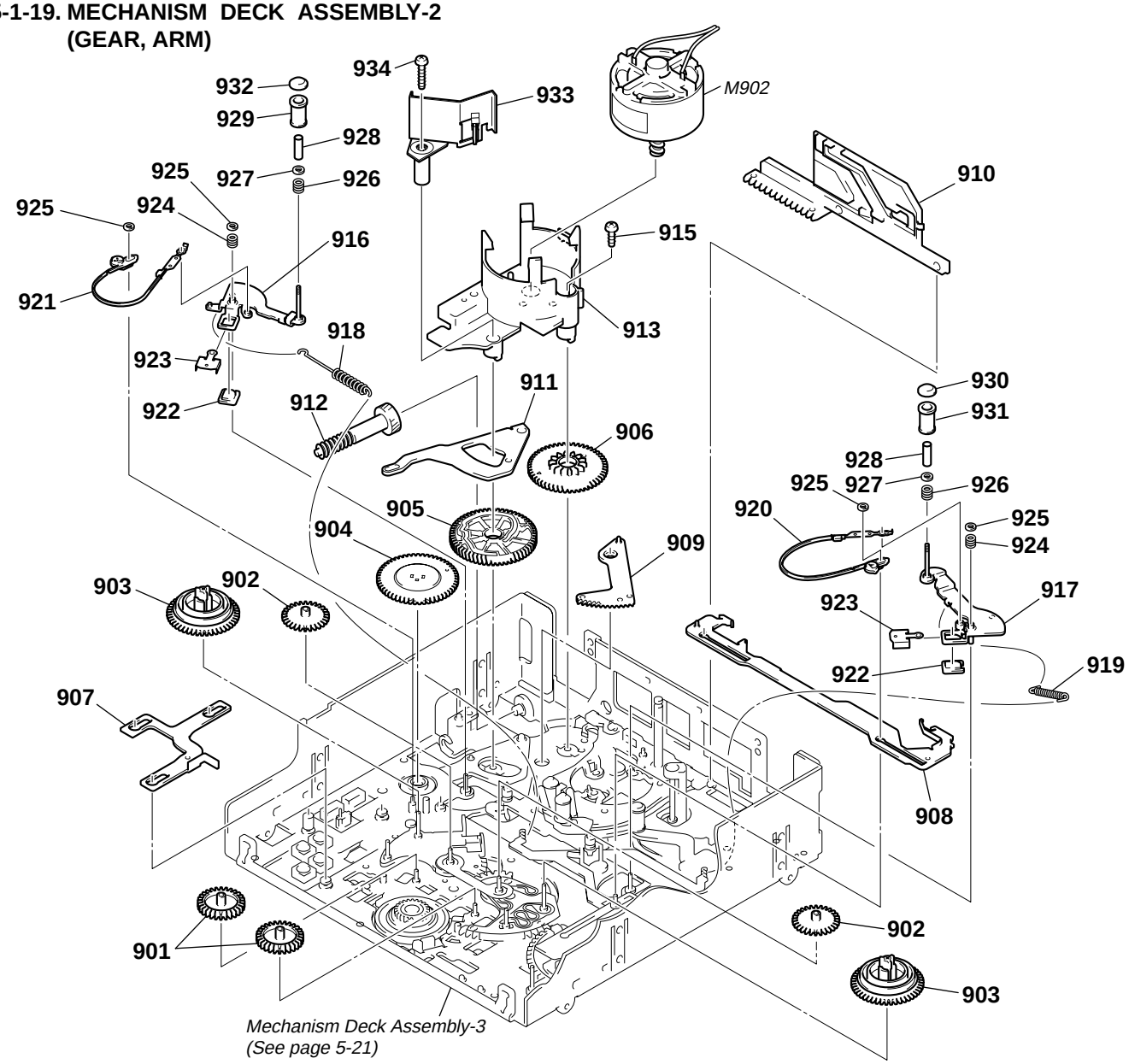
Note: Use this part when you cannot replace each single part such as dropping or flooding.

Note: 落下や浸水等で単品交換が出来ない際にこの部品を使用してください。

Ref. No.	Part No.	Description
851	1-675-561-11	FP-104 FLEXIBLE BOARD
* 852	3-057-351-01	GUIDE, MIC BASE
853	3-057-350-01	BASE, MIC
854	3-732-817-11	SCREW (2X4.5), TAPPING
855	3-057-319-08	RETAINER, PENDULUM
856	X-3949-922-3	ARM ASSY, PENDULUM
857	3-057-286-01	SPRING, EXTENSION (BRAKE)
858	3-057-280-01	ARM (S), BRAKE
859	3-057-279-01	BRAKE (T), RATCHET
860	3-057-232-01	SPRING, COMPRESSION (TG)
861	3-057-238-01	RING, TG
862	3-057-237-02	SLEEVE, TG
863	3-057-235-01	ROLLER, TG
864	3-057-234-01	FLANGE, TG UPPER
865	2-887-852-01	GUARD (B), GUIDE
866	A-7094-608-C	SCREW ASSY, DRUM FITTING

Ref. No.	Part No.	Description
867	3-973-171-01	SUPPORT, TAPE
868	3-057-227-01	RETAINER, TAPE
869	3-973-818-01	SPRING, COMPRESSION (TAPE RETAINER)
870	X-3949-915-3	ARM ASSY, PINCH
871	3-057-228-02	CAP, DRUM
873	3-726-829-01	WASHER, STOPPER
874	3-057-353-01	SPRING, MIC BASE
875	3-318-201-91	SCREW (B) (1.4X3), TAPPING
876	3-973-266-11	SCREW (M2X2.2 (MEK)), HEAD
877	3-703-816-74	SCREW (M 1.4X4.5)
879	1-770-363-11	CONNECTOR, ERASTEC
880	A-1192-170-A	MDX-R201 (Note)
CN004	1-770-312-21	CONNECTOR 4P
M901	A-1193-393-A	DRUM ASSY (DEH-21D/J-RP) (SERVICE)
S004	1-762-351-22	SWITCH, PUSH (1 KEY) (REC PROOF)

5-1-19. MECHANISM DECK ASSEMBLY-2 (GEAR, ARM)

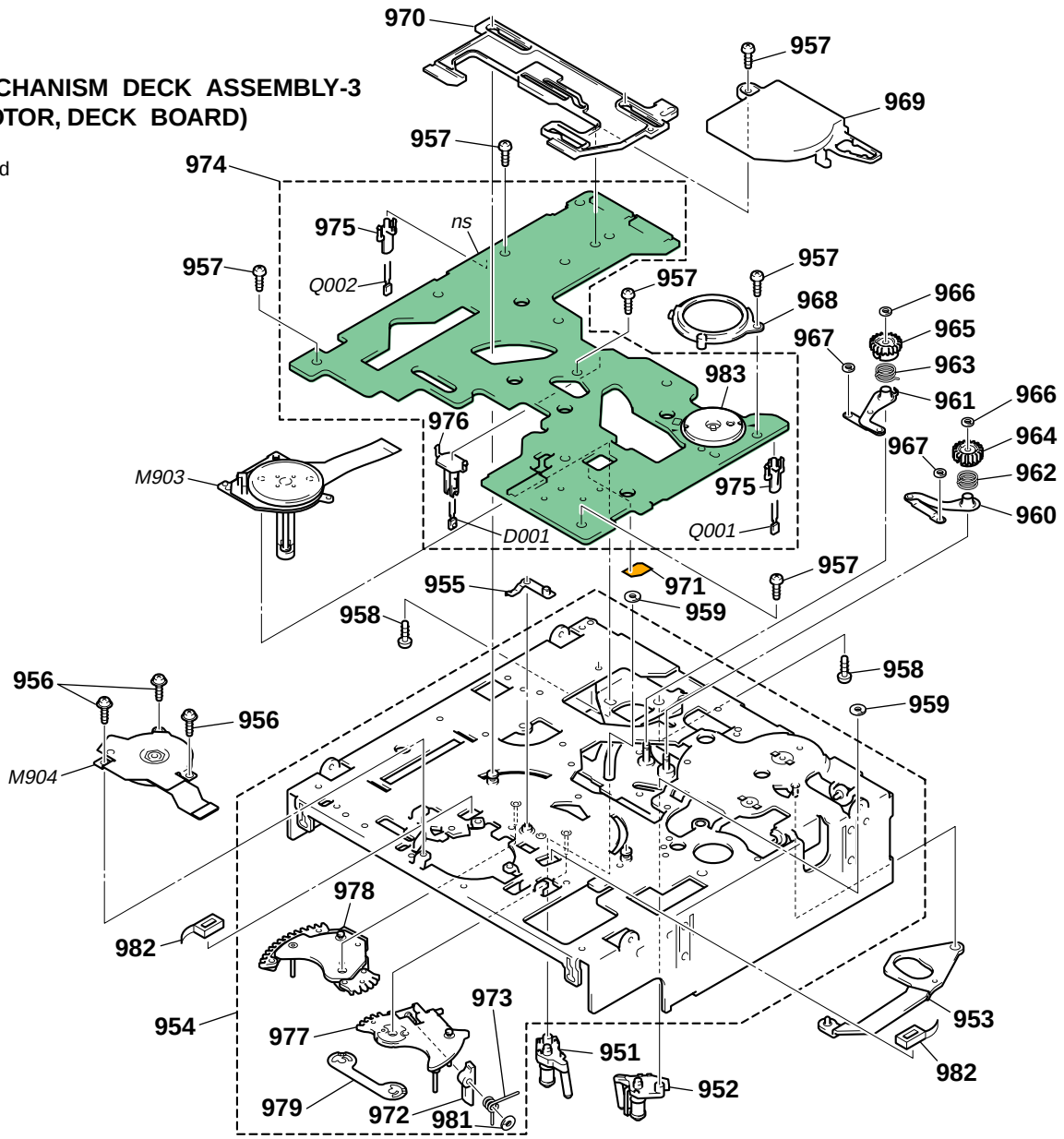


Ref. No.	Part No.	Description
901	A-7096-800-A	GEAR (A) ASSY, IDLER
902	3-057-311-01	GEAR (B), IDLER
903	A-7094-599-C	REEL (LARGE) BLOCK ASSY
904	3-057-267-01	GEAR, ENCODER
905	3-057-294-01	GEAR, MAIN CAM
906	3-973-140-01	GEAR, SUB CAM
* 907	3-057-302-01	SLIDER, SBR
908	3-057-314-02	SLIDER, SUB
909	X-3950-816-2	ARM ASSY, LOADING
910	3-057-221-01	SLIDER, PINCH
* 911	3-057-252-01	ARM, SUB SLIDER
912	3-973-159-01	GEAR, JOINT
913	3-057-222-02	HOLDER, MOTOR
915	3-973-266-11	SCREW (M2X2.2 (MEK)), HEAD
916	X-3949-918-2	ARM ASSY, TG2
917	X-3949-919-2	ARM ASSY, TG7
918	3-057-295-01	SPRING, EXTENSION (TG2)

Ref. No.	Part No.	Description
919	3-057-296-02	SPRING, EXTENSION (TG7)
920	X-3949-921-1	BAND (TG7) ASSY
921	X-3949-920-1	BAND (TG2) ASSY
922	3-057-281-01	MAGNET, ET
923	3-057-336-01	HOLDER, MAGNET
924	3-057-344-01	SPRING, COMPRESSION (TG ARM)
925	3-726-829-01	WASHER, STOPPER
926	3-057-232-01	SPRING, COMPRESSION (TG)
927	3-057-238-01	RING, TG
928	3-057-237-02	SLEEVE, TG
929	3-057-235-01	ROLLER, TG
930	3-057-234-01	FLANGE, TG UPPER
931	3-057-337-01	ROLLER, TG7
932	3-063-887-01	FLANGE (2), TG UPPER
933	X-2148-017-2	TC ASSY
934	2-685-919-01	SCREW (M2X13)
M902	X-3946-702-1	MOTOR ASSY, CAM

5-1-20. MECHANISM DECK ASSEMBLY-3 (MOTOR, DECK BOARD)

ns: not supplied

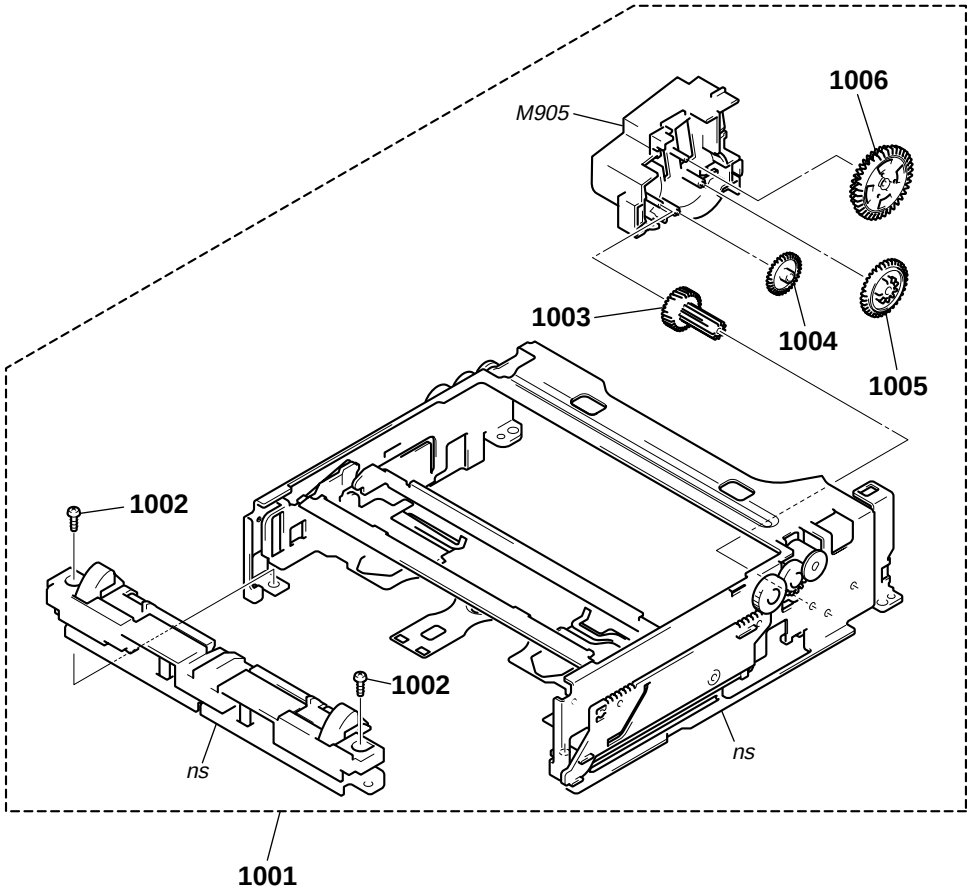


Ref. No.	Part No.	Description
951	A-7025-007-A	COASTER (T) BLOCK ASSY
952	A-7096-267-A	COASTER (S) BLOCK ASSY (R)
* 953	3-057-283-02	ARM, MAIN SLIDER
954	X-2022-253-6	CHASSIS ASSY, MECHANICAL
955	X-3949-924-1	STOPPER ASSY, PENDULUM
956	3-947-503-21	SCREW (M1.4)
957	3-732-817-11	SCREW (2X4.5), TAPPING
958	3-973-266-11	SCREW (M2X2.2 (MEK)), HEAD
959	3-973-142-01	STOPPER, COASTER PUNCHING
960	X-3946-690-2	ARM (S) ASSY, GL
961	X-3946-689-2	ARM (T) ASSY, GL
962	3-973-146-02	SPRING (S), GL TORSION
963	3-973-156-02	SPRING (T), GL TORSION
964	3-973-264-01	GEAR (S), GL
965	3-973-138-01	GEAR (T), GL
966	3-727-176-01	WASHER, STOPPER
967	3-973-143-01	WASHER, COASTER STOPPER
968	3-057-339-01	COVER, ENCODER
969	3-057-340-01	COVER, CAPSTAN
970	3-057-282-01	SLIDER, MAIN

Ref. No.	Part No.	Description
971	1-657-785-11	FP-248 FLEXIBLE BOARD (DEW SENSOR)
972	3-057-320-01	BLOCK, REEL LOCK RELEASE
973	3-057-354-01	SPRING, REEL LOCK RELEASE
974	A-1154-723-A	MD-76 BOARD, COMPLETE
* 975	3-066-170-01	HOLDER (A), SENSOR
* 976	3-057-555-01	HOLDER, LED
977	X-3950-199-1	BASE (S) ASSY, REEL (SERVICE)
978	X-3950-200-1	BASE (T) ASSY, REEL (SERVICE)
979	3-057-265-01	RETAINER, REEL BASE
981	3-726-829-01	WASHER, STOPPER
982	3-064-576-01	ECLIPSER
983	3-973-185-01	ENCODER
D001	6-500-652-01	DIODE GL453SE0000F (TAPE LED)
M903	8-835-648-14	MOTOR, DC SCD17A/C-NP (CAPSTAN)
M904	X-3949-928-4	MOTOR ASSY, REEL
Q001	6-550-402-01	TRANSISTOR PT4850FE000F (TAPE END SENSOR)
Q002	6-550-402-01	TRANSISTOR PT4850FE000F (TAPE TOP SENSOR)

5-1-21. MECHANISM DECK ASSEMBLY-4 (CASSETTE COMPARTMENT)

ns: not supplied



Ref. No.	Part No.	Description
1001	A-1203-445-A	COMPARTMENT BLOCK ASSY
1002	3-732-817-11	SCREW (2X4.5), TAPPING
1003	3-057-253-01	GEAR, WHEEL
1004	3-057-254-01	GEAR (A)
1005	3-057-255-01	GEAR (B)
1006	A-7094-689-A	GEAR (CD) BLOCK ASSY (SERVICE)
M905	X-3949-925-4	MOTOR ASSY, FL

5-2. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description			
	A-1505-631-A	BR-001 BOARD, COMPLETE			
		**********			
	(IC9701 is not supplied, but this is included in BR-001 complete board.)				
		< CAPACITOR >			
C9701	1-100-671-11	CERAMIC CHIP	4.7uF	20%	25V
C9702	1-100-671-11	CERAMIC CHIP	4.7uF	20%	25V
C9703	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C9704	1-137-910-11	TANTAL. CHIP	10uF	20%	16V
C9705	1-137-910-11	TANTAL. CHIP	10uF	20%	16V
C9706	1-100-505-11	CERAMIC CHIP	0.1uF	20%	16V
C9707	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C9708	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C9709	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C9710	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C9711	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C9712	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9713	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9714	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C9715	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C9716	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C9717	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
* CN9701	1-816-648-51	FFC/FPC CONNECTOR (LIF) 20P			
* CN9702	1-816-650-51	FFC/FPC CONNECTOR (LIF) 24P			
* CN9703	1-506-474-11	PIN, CONNECTOR 9P			
* CN9704	1-506-485-11	PIN, CONNECTOR 6P			
* CN9705	1-566-693-11	PIN, CONNECTOR (3.96mm PITCH) 2P			
* CN9706	1-506-481-11	PIN, CONNECTOR 2P			
CN9707	1-779-337-51	CONNECTOR, FFC/FPC 26P			
CN9708	1-779-335-51	CONNECTOR, FFC/FPC 22P			
* CN9709	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P			
* CN9710	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P			
		< DIODE >			
* D9701	6-501-928-01	DIODE MAS3132EGLS0			
D9702	6-501-123-01	DIODE RB160M-60TR			
		< FUSE >			
⚠F9701	1-532-525-31	CIRCUIT BREAKER (6.3A/125V) (BREAKER)			
		< IC >			
IC9701	(Not supplied)	IC TK11840LTL-G			
		(IC9701 is supplied including in BR-001 complete board.)			
		< COIL >			
L9701	1-400-676-11	INDUCTOR	22uH		
L9702	1-456-499-11	INDUCTOR	4.7uH		
L9703	1-469-557-21	INDUCTOR	22uH		
L9704	1-400-588-11	INDUCTOR	10uH		
		< TRANSISTOR >			
Q9701	8-729-044-37	TRANSISTOR	2SK3019TL		
Q9702	8-729-048-72	TRANSISTOR	2SK2615		

Ref. No.	Part No.	Description			
		< RESISTOR >			
R9701	1-218-989-11	RES-CHIP	1M	5%	1/16W
R9702	1-208-883-81	METAL CHIP	680	0.5%	1/16W
R9703	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R9704	1-208-893-11	METAL CHIP	1.8K	0.5%	1/16W
R9705	1-208-955-11	METAL CHIP	680K	0.5%	1/16W
R9706	1-208-944-81	METAL CHIP	240K	0.5%	1/16W
R9707	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
		< THERMISTOR >			
TH9701	1-803-615-21	THERMISTOR, POSITIVE			
TH9703	1-803-615-21	THERMISTOR, POSITIVE			
	A-1506-344-A	CF-107 BOARD, COMPLETE			
		**********			
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)			
*	3-292-518-01	BRACKET, I.LINK			
		< CONNECTOR >			
* CN9502	1-816-654-51	FFC/FPC CONNECTOR (LIF) 6P			
* CN9504	1-816-645-51	FFC/FPC CONNECTOR (LIF) 14P			
* CN9505	1-817-310-71	CONNECTOR, FPC (ZIF) 16P			
CN9506	1-785-444-11	CONNECTOR, SQUARE TYPE (HDV/DV)			
		< COMPOSITION CIRCUIT BLOCK >			
RB9501	1-234-400-21	CONDUCTOR, NETWORK (1005X4)			
RB9502	1-234-400-21	CONDUCTOR, NETWORK (1005X4)			
		< THERMISTOR >			
TH9501	1-805-726-11	THERMISTOR, POSITIVE			
TH9502	1-805-726-11	THERMISTOR, POSITIVE			
TH9503	1-805-726-11	THERMISTOR, POSITIVE			
TH9504	1-805-726-11	THERMISTOR, POSITIVE			
	A-1505-630-A	DC-109 BOARD, COMPLETE			
		**********			
*	3-292-568-01	BRACKET, DC			
		< CAPACITOR >			
C9401	1-164-222-91	CERAMIC CHIP	0.22uF		25V
		< CONNECTOR >			
⚠CN9401	1-563-929-11	CONNECTOR, ROUND TYPE (RF) 4P			
					(DC OUT 12V)
* CN9402	1-506-467-11	PIN, CONNECTOR 2P			

• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description			
	A-1505-197-A	DD-290 BOARD, COMPLETE			
		**********			
*	3-296-071-01	SHEET (C), RADIATION			
*	3-296-072-01	HEAT SINK (DD)			
		< CAPACITOR >			
C9202	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9204	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C9205	1-100-756-91	CERAMIC CHIP	0.047uF		50V
C9206	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C9207	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9208	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9209	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C9211	1-162-922-11	CERAMIC CHIP	39PF	5%	50V
C9212	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C9213	1-135-960-91	CERAMIC CHIP	10uF	10%	25V
C9214	1-135-960-91	CERAMIC CHIP	10uF	10%	25V
C9215	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9216	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9217	1-128-400-11	ELECT CHIP	47uF	20%	25V
C9218	1-128-400-11	ELECT CHIP	47uF	20%	25V
C9219	1-128-709-21	TANTAL. CHIP	68uF	20%	10V
C9220	1-113-991-11	TANTAL. CHIP	33uF	20%	16V
C9221	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C9222	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C9223	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C9224	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C9225	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C9226	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C9227	1-113-985-11	TANTAL. CHIP	10uF	20%	20V
C9228	1-113-991-11	TANTAL. CHIP	33uF	20%	16V
C9229	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9230	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9231	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C9232	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9233	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9235	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
* C9236	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C9237	1-164-860-11	CERAMIC CHIP	27PF	5%	50V
C9238	1-125-988-21	ELECT CHIP	330uF	20%	25V
C9239	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9240	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9241	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9242	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9243	1-125-988-21	ELECT CHIP	330uF	20%	25V
C9244	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9245	1-100-756-91	CERAMIC CHIP	0.047uF		50V
C9246	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C9247	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C9248	1-126-191-11	ELECT CHIP	0.47uF	20%	50V
C9249	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9250	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C9251	1-125-988-21	ELECT CHIP	330uF	20%	25V
C9252	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C9253	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
* C9254	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C9255	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
* C9256	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C9258	1-113-991-11	TANTAL. CHIP	33uF	20%	16V
C9259	1-113-991-11	TANTAL. CHIP	33uF	20%	16V
		< CONNECTOR >			
* CN9201	1-506-488-11	PIN, CONNECTOR 9P			
* CN9202	1-560-356-00	CONNECTOR POST HEADER, ILG (2P)			
CN9203	1-766-383-21	PIN, CONNECTOR (1.5MM) (SMD) 12P			
		< DIODE >			
* D9201	6-501-902-01	DIODE MA2J1120GLS0			
* D9202	6-501-902-01	DIODE MA2J1120GLS0			
* D9203	6-501-902-01	DIODE MA2J1120GLS0			
* D9204	6-501-902-01	DIODE MA2J1120GLS0			
* D9205	6-501-902-01	DIODE MA2J1120GLS0			
* D9206	6-501-902-01	DIODE MA2J1120GLS0			
* D9207	6-502-151-01	DIODE MA2J7290G8S0			
* D9208	6-501-902-01	DIODE MA2J1120GLS0			
D9209	8-719-062-16	DIODE 01ZA8.2 (TPL3)			
* D9210	6-501-902-01	DIODE MA2J1120GLS0			
* D9211	6-501-902-01	DIODE MA2J1120GLS0			
* D9212	6-501-902-01	DIODE MA2J1120GLS0			
D9213	8-719-023-54	DIODE EA60QC06-F			
D9214	8-719-941-86	DIODE DAN202U			
* D9215	6-502-147-01	DIODE MA2SD100G8S0			
* D9216	6-502-147-01	DIODE MA2SD100G8S0			
		< FUSE >			
⚠ F9201	1-576-447-21	FUSE (630mA/24V)			
⚠ F9202	1-576-757-21	FUSE (4A/72V)			
⚠ F9203	1-576-757-21	FUSE (4A/72V)			
⚠ F9204	1-576-864-21	FUSE (0.8A/72V)			
		< FILTER >			
FL9201	1-400-259-21	FILTER, EMI			
		< IC >			
IC9202	6-702-510-01	IC TPS5120DBTRG4			
IC9203	8-759-521-35	IC TL5001CD			
IC9204	8-759-701-36	IC NJM3403AM			
IC9205	6-707-617-01	IC R1154H001C-FB			
IC9206	6-707-617-01	IC R1154H001C-FB			
IC9207	8-759-494-88	IC TC75S56F (TE85R)			
		< COIL >			
L9201	1-416-668-31	INDUCTOR	10uH		
L9202	1-419-822-21	INDUCTOR	7uH		
L9203	1-416-281-11	INDUCTOR	22uH		
L9204	1-416-948-21	INDUCTOR	10uH		
L9205	1-416-948-21	INDUCTOR	10uH		
		< TRANSISTOR >			
Q9206	8-729-048-50	TRANSISTOR	2SK3018-T106		
Q9207	8-729-048-50	TRANSISTOR	2SK3018-T106		
Q9208	8-729-048-50	TRANSISTOR	2SK3018-T106		
Q9209	6-551-380-01	TRANSISTOR	SI4425BDY-T1		
Q9211	8-729-048-50	TRANSISTOR	2SK3018-T106		

• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description			
* Q9212	6-551-522-01	TRANSISTOR	CPH6414-TL-E		
* Q9213	6-551-522-01	TRANSISTOR	CPH6414-TL-E		
* Q9214	6-551-522-01	TRANSISTOR	CPH6414-TL-E		
* Q9215	6-551-522-01	TRANSISTOR	CPH6414-TL-E		
Q9216	6-551-380-01	TRANSISTOR	SI4425BDY-T1		
Q9217	6-551-380-01	TRANSISTOR	SI4425BDY-T1		
Q9218	6-551-380-01	TRANSISTOR	SI4425BDY-T1		
Q9219	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R		
Q9220	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R		
Q9221	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q9222	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L		
Q9223	8-729-117-32	TRANSISTOR	2SC4177-L6		
Q9224	8-729-051-63	TRANSISTOR	SI4884DY-T1		
		< RESISTOR >			
R9205	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9207	1-216-845-11	METAL CHIP	100K	5%	1/10W
R9208	1-218-903-11	METAL CHIP	220K	0.5%	1/10W
R9210	1-216-857-11	METAL CHIP	1M	5%	1/10W
R9211	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R9212	1-216-857-11	METAL CHIP	1M	5%	1/10W
R9213	1-218-887-11	METAL CHIP	47K	0.5%	1/10W
R9214	1-218-869-11	METAL CHIP	8.2K	0.5%	1/10W
R9215	1-218-849-11	METAL CHIP	1.2K	0.5%	1/10W
R9216	1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R9217	1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R9218	1-218-903-11	METAL CHIP	220K	0.5%	1/10W
R9219	1-218-849-11	METAL CHIP	1.2K	0.5%	1/10W
R9220	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R9221	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R9222	1-216-814-11	METAL CHIP	270	5%	1/10W
R9223	1-216-813-11	METAL CHIP	220	5%	1/10W
R9224	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R9225	1-216-821-11	METAL CHIP	1K	5%	1/10W
R9228	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R9229	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R9230	1-218-903-11	METAL CHIP	220K	0.5%	1/10W
R9233	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R9234	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R9235	1-216-797-11	METAL CHIP	10	5%	1/10W
R9236	1-216-797-11	METAL CHIP	10	5%	1/10W
R9241	1-216-845-11	METAL CHIP	100K	5%	1/10W
R9242	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9243	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9244	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9245	1-216-811-11	METAL CHIP	150	5%	1/10W
R9246	1-216-803-11	METAL CHIP	33	5%	1/10W
R9247	1-219-989-11	RES-CHIP	0.02	1%	1W
R9248	1-216-845-11	METAL CHIP	100K	5%	1/10W
R9249	1-216-845-11	METAL CHIP	100K	5%	1/10W
R9250	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R9251	1-216-821-11	METAL CHIP	1K	5%	1/10W
R9253	1-216-845-11	METAL CHIP	100K	5%	1/10W
R9254	1-216-849-11	METAL CHIP	220K	5%	1/10W
R9255	1-216-835-11	METAL CHIP	15K	5%	1/10W
R9256	1-216-821-11	METAL CHIP	1K	5%	1/10W
R9257	1-216-849-11	METAL CHIP	220K	5%	1/10W
R9258	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9259	1-216-845-11	METAL CHIP	100K	5%	1/10W
R9260	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R9261	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R9262	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R9263	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R9265	1-218-854-11	METAL CHIP	2K	0.5%	1/10W
R9266	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R9267	1-216-863-11	METAL CHIP	3.3M	5%	1/10W
R9268	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R9270	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R9272	1-218-905-11	METAL CHIP	270K	0.5%	1/10W
R9273	1-218-897-11	METAL CHIP	120K	0.5%	1/10W
R9274	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9275	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9276	1-216-821-11	METAL CHIP	1K	5%	1/10W
		< THERMISTOR >			
TH9201	1-802-063-21	THERMISTOR, POSITIVE			
	A-1494-846-A	DEVICE, PRISM (SERVICE) (Note)			
	(Not supplied)	EE-009 BOARD, COMPLETE			
		**********			
		(EE-009 board and all mounted parts (including IC3001 (CMOS imager)) are not supplied, but they are included in PRISM device.)			
	A-1494-846-A	DEVICE, PRISM (SERVICE) (Note)			
	(Not supplied)	EE-010 BOARD, COMPLETE			
		**********			
		(EE-010 board and all mounted parts (including IC6001 (CMOS imager)) are not supplied, but they are included in PRISM device.)			
	A-1506-343-A	EJ-040 BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
* CN9101	1-816-654-51	FFC/FPC CONNECTOR (LIF) 6P			
		< SWITCH >			
S9101	1-786-157-31	TACTILE SWITCH (⏏)			
	A-1506-625-A	EV-018 BOARD, COMPLETE			
		**********			
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)			
*	3-063-718-01	HOLDER, TALLY LED			
*	3-292-614-01	BRACKET, LE			
		< CAPACITOR >			
C9001	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
		< CONNECTOR >			
CN9001	1-779-328-51	CONNECTOR, FFC/FPC 8P			

Note: Be sure to read “Precautions for Replacement of Imager” on page 4-3 when changing the imager.

Note: イメージャの交換時は4-4ページの“イメージャ交換時の注意”を必ずお読みください。

Ref. No.	Part No.	Description			
		< DIODE >			
D9001	6-500-083-01	DIODE NSPW315BSRS (LIGHT)			
D9002	8-719-079-30	DIODE SLI-343UR3F (REC LAMP (FRONT))			
D9003	8-719-079-30	DIODE SLI-343UR3F (REC LAMP (FRONT))			
		< TRANSISTOR >			
Q9001	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q9002	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q9003	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
		< RESISTOR >			
R9001	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R9002	1-218-937-11	RES-CHIP	47	5%	1/16W
R9003	1-218-943-11	RES-CHIP	150	5%	1/16W
R9004	1-218-943-11	RES-CHIP	150	5%	1/16W
R9005	1-218-977-11	RES-CHIP	100K	5%	1/16W
R9006	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
		< SWITCH >			
* S9001	1-570-984-31	SWITCH, TOGGLE (PEAKING (ON/OFF))			
* S9002	1-570-984-31	SWITCH, TOGGLE (TALLY (ON/OFF))			
* S9003	1-570-984-31	SWITCH, TOGGLE (LIGHT (ON/OFF))			
* S9004	1-570-984-31	SWITCH, TOGGLE (VIDEO OUT (LCD/COMPOSITE))			
		< VARISTOR >			
* VD9007	1-802-279-11	VARISTOR (SMD)			
	1-675-561-11	FP-104 FLEXIBLE BOARD **********			
		(CN004 and S004 are not included in FP-104 flexible board.)			
		< CONNECTOR >			
CN004	1-770-312-21	CONNECTOR 4P			
		< SWITCH >			
S004	1-762-351-22	SWITCH, PUSH (1 KEY) (REC PROOF)			
	1-657-785-11	FP-248 FLEXIBLE BOARD (DEW SENSOR) **********			
	A-1506-631-A	FP-783 FLEXIBLE BOARD, COMPLETE **********			
		< CAPACITOR >			
C670	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< IC >			
* IC670	6-600-513-01	IC TK60011CS8			

Ref. No.	Part No.	Description			
	A-1505-559-A	FP-795 FLEXIBLE BOARD, COMPLETE **********			
		< CONNECTOR >			
* CN8801	1-779-329-51	CONNECTOR, FFC/FPC 10P			
		< DIODE >			
D8801	8-719-079-30	DIODE SLI-343UR3F (REC LAMP (BACK))			
		< JACK >			
J8801	1-507-980-21	JACK (PHONES)			
		< TRANSISTOR >			
Q8801	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
		< RESISTOR >			
R8802	1-216-864-11	SHORT CHIP	0		
R8803	1-216-864-11	SHORT CHIP	0		
R8805	1-216-811-11	METAL CHIP	150	5%	1/10W
R8809	1-216-813-11	METAL CHIP	220	5%	1/10W
R8810	1-216-813-11	METAL CHIP	220	5%	1/10W
	A-1505-425-A	FS-088 BOARD, COMPLETE **********			
		< CONNECTOR >			
* CN8901	1-794-322-51	FFC/CONNECTOR, FPC (ZIF) 6P			
		< RESISTOR >			
R8901	1-218-970-11	RES-CHIP	27K	5%	1/16W
R8902	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R8903	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R8904	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R8905	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R8906	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
		< VARIABLE RESISTOR >			
RV8901	1-225-610-11	RES, VAR, CARBON 5K/5K (AUDIO LEVEL)			
		< SWITCH >			
S8901	1-771-435-11	SWITCH, TACTILE (● REC START/STOP)			
* S8902	1-571-679-31	SWITCH, TOGGLE (WHT/BLK)			
* S8903	1-571-416-31	SWITCH, TOGGLE (SHUTTER (SEL/ON/OFF))			
	A-1510-484-A	GY-005 BOARD, COMPLETE (SERVICE) **********			
		< CAPACITOR >			
C8501	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
* C8502	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C8503	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C8504	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8505	1-114-411-21	CERAMIC CHIP	0.33uF	10%	6.3V
C8506	1-114-411-21	CERAMIC CHIP	0.33uF	10%	6.3V
C8507	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V

Ref. No.	Part No.	Description			
C8508	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8509	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C8510	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C8511	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C8512	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8513	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C8514	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8515	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8516	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8517	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8518	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8519	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8520	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8521	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8522	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
		< CONNECTOR >			
* CN8501	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P			
		< IC >			
* IC8501	8-753-284-38	IC CXA3739AER-T2			
		< RESISTOR >			
R8509	1-218-989-11	RES-CHIP	1M	5%	1/16W
R8510	1-218-989-11	RES-CHIP	1M	5%	1/16W
R8511	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8512	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8513	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R8514	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R8515	1-218-969-11	RES-CHIP	22K	5%	1/16W
R8516	1-218-969-11	RES-CHIP	22K	5%	1/16W
R8517	1-218-969-11	RES-CHIP	22K	5%	1/16W
R8518	1-218-969-11	RES-CHIP	22K	5%	1/16W
R8529	1-218-990-81	SHORT CHIP	0		
R8530	1-218-990-81	SHORT CHIP	0		
		< SENSOR >			
* SE8501	1-480-218-11	SENSOR, ANGULAR VELOCITY (PITCH)			
* SE8502	1-479-022-61	SENSOR, ANGULAR VELOCITY (YAW)			
	A-1505-627-A	JK-351 BOARD, COMPLETE **********			
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)			
		< CONNECTOR >			
* CN8601	1-779-334-51	CONNECTOR, FFC/FPC 20P			
		< DIODE >			
D8601	6-500-750-01	DIODE NSAD500H-T1-A			
D8602	6-500-776-01	DIODE MAZW068H0LS0			
		< FERRITE BEAD >			
FB8601	1-500-238-11	BEAD, FERRITE (CHIP) (1608)			
FB8602	1-500-238-11	BEAD, FERRITE (CHIP) (1608)			

Ref. No.	Part No.	Description	
		< RESISTOR >	
R8601	1-218-990-81	SHORT CHIP	0
R8602	1-218-990-81	SHORT CHIP	0
R8603	1-218-990-81	SHORT CHIP	0
R8604	1-218-990-81	SHORT CHIP	0
R8605	1-218-990-81	SHORT CHIP	0
R8606	1-216-864-11	SHORT CHIP	0
R8607	1-216-864-11	SHORT CHIP	0
		< TERMINAL BOARD >	
* TB8601	1-780-574-11	TERMINAL BOARD (AUDIO OUT L/R, COMPONENT OUT Y/Pr/Cr/Pb/Cb, VIDEO OUT, TC OUT)	
		< VARISTOR >	
VD8601	1-803-974-21	VARISTOR, CHIP (1608)	
VD8602	1-803-974-21	VARISTOR, CHIP (1608)	
	A-1506-091-A	KR-001 BOARD, COMPLETE **********	
		< CONNECTOR >	
CN8501	1-779-328-51	CONNECTOR, FFC/FPC 8P	
		< SWITCH >	
S8501	1-771-025-21	SWITCH, ROTARY (ENCODER) (SEL/PUSH EXEC)	
	A-1505-596-A	LA-029 BOARD, COMPLETE **********	
		< CONNECTOR >	
* CN8401	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P	
		< JACK >	
J8401	1-793-995-31	JACK, SUPER SMALL TYPE (LANC)	
		< RESISTOR >	
R8401	1-216-864-11	SHORT CHIP	0
R8402	1-216-864-11	SHORT CHIP	0
R8403	1-216-864-11	SHORT CHIP	0
R8404	1-216-864-11	SHORT CHIP	0
R8405	1-216-864-11	SHORT CHIP	0
		< VARISTOR >	
* VD8401	1-802-279-11	VARISTOR (SMD)	
* VD8402	1-802-279-11	VARISTOR (SMD)	
* VD8403	1-802-279-11	VARISTOR (SMD)	

Ref. No.	Part No.	Description			
	A-1506-090-A	LC-094 BOARD, COMPLETE			
		**********			
#59	3-080-205-21	SCREW, TAPPING, P2 (Silver)			
	3-292-591-01	HOLDER, LCD			
	3-292-594-01	PLATE (LCD), LIGHT GUIDE			
		< CAPACITOR >			
C8102	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8104	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8105	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8106	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8107	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
* C8108	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C8109	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8110	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8111	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8112	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
* CN8101	1-820-586-61	CONNECTOR, FFC/FPC 28P			
		< DIODE >			
D8103	6-500-817-01	DIODE SML-512UWT86 (WARNING)			
D8104	6-501-213-01	DIODE CL-221TLY-C-TS (LCD BACKLIGHT)			
D8105	6-501-213-01	DIODE CL-221TLY-C-TS (LCD BACKLIGHT)			
D8106	6-501-213-01	DIODE CL-221TLY-C-TS (LCD BACKLIGHT)			
		< IC >			
* IC8101	6-712-045-01	IC LC75836W-TBM-E			
* IC8102	6-712-046-01	IC LC75832W-TBM-E			
		< COIL >			
L8102	1-400-588-11	INDUCTOR	10uH		
L8103	1-400-588-11	INDUCTOR	10uH		
L8104	1-400-588-11	INDUCTOR	10uH		
		< LIQUID CRYSTAL DISPLAY >			
ND8101	1-802-589-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q8103	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
		< RESISTOR >			
R8103	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R8104	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R8105	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R8106	1-218-972-11	RES-CHIP	39K	5%	1/16W
R8107	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R8111	1-218-953-11	RES-CHIP	1K	5%	1/16W
R8113	1-218-945-11	RES-CHIP	220	5%	1/16W
R8114	1-218-945-11	RES-CHIP	220	5%	1/16W
R8115	1-218-945-11	RES-CHIP	220	5%	1/16W
R8118	1-218-972-11	RES-CHIP	39K	5%	1/16W
		< SWITCH >			
S8101	1-771-731-21	SWITCH, SLIDE (AUDIO LEVEL DISPLAY (CH1/2/CH3/4))			
S8102	1-771-731-21	SWITCH, SLIDE (LCD BACKLIGHT (ON/OFF))			
S8103	1-692-111-11	SWITCH, KEY BOARD (TC/U-BIT)			
	A-1506-558-A	LE-041 BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
CN8001	1-817-869-11	PIN, CONNECTOR 10P			
CN8002	1-817-871-11	PIN, CONNECTOR 15P			
CN8003	1-794-998-31	PIN, CONNECTOR 20P			
CN8004	1-779-328-51	CONNECTOR, FFC/FPC 8P			
CN8005	1-816-928-11	PIN, CONNECTOR 22P			
CN8006	1-794-998-31	PIN, CONNECTOR 20P			
	A-1486-850-A	LG-005 BOARD, COMPLETE			
		**********			
	(IC6005 is not supplied, but this is included in LG-005 complete board.)				
		< CAPACITOR >			
C1001	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C1501	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1503	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1506	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1507	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1508	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1509	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1511	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1512	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1513	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1514	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2001	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C2002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2003	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C2004	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2005	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2006	1-165-897-11	TANTAL. CHIP	22uF	20%	10V
C2007	1-165-897-11	TANTAL. CHIP	22uF	20%	10V
C2008	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2009	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2010	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2011	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2012	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C2013	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C2014	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2015	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2016	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2021	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2024	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C2027	1-112-342-91	CERAMIC CHIP	10uF	20%	10V
C2028	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2029	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3003	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3005	1-137-704-91	TANTAL. CHIP	10uF	20%	10V
C3006	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3007	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			
C3008	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C3009	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C3010	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3011	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C3012	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3013	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C4008	1-100-844-91	TANTAL. CHIP	22uF	20%	10V
C4009	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C4012	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4017	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4018	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4019	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4025	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4026	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4040	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C4041	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5002	1-165-897-11	TANTAL. CHIP	22uF	20%	10V
C5005	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5008	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5009	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5011	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5014	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C6001	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C6002	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
* C6003	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C6004	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C6005	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C6006	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6007	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6008	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6010	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
* C6011	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C6013	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
		< CONNECTOR >			
* CN1001	1-817-543-71	CONNECTOR, FPC (ZIF) 27P			
* CN1002	1-817-283-71	CONNECTOR, FPC (ZIF) 51P			
* CN1003	1-817-564-71	CONNECTOR, FPC (ZIF) 33P			
* CN1501	1-779-329-51	CONNECTOR, FFC/FPC 10P			
* CN1502	1-816-643-51	FFC/FPC CONNECTOR (LIF) 10P			
CN4001	1-779-328-51	CONNECTOR, FFC/FPC 8P			
		< DIODE >			
D1001	6-500-776-01	DIODE MAZW068H0LS0			
D1002	6-500-776-01	DIODE MAZW068H0LS0			
D1003	6-500-776-01	DIODE MAZW068H0LS0			
D1004	6-500-776-01	DIODE MAZW068H0LS0			
* D1005	6-502-153-01	DIODE MAZT082HG8S0			
		< FERRITE BEAD >			
FB2001	1-500-238-11	BEAD, FERRITE (CHIP) (1608)			
FB3001	1-500-238-11	BEAD, FERRITE (CHIP) (1608)			
		< IC >			
* IC1501	6-708-457-01	IC R1114Q151D-TR-FA			
IC1503	6-706-689-01	IC HD74ALVC2G34USE-E			
* IC1505	6-708-444-01	IC R1114Q281D-TR-FA			

Ref. No.	Part No.	Description			
IC1506	6-703-976-01	IC R1114Q181D-TR-FA			
* IC2001	6-807-895-01	IC BU2343AGLU-E2			
* IC2004	6-712-231-01	IC AD7942BRMZ-RL7			
* IC3001	6-807-895-01	IC BU2343AGLU-E2			
* IC4003	6-709-026-01	IC R2J30500LG			
* IC5001	6-711-626-01	IC BU2244GUW-E2			
* IC6001	6-807-886-01	IC MB91F196BGL1-G-102-ERE1			
IC6005	(Not supplied)	IC AK6512CL-L			
		(IC6005 is supplied including in LG-005 complete board.)			
		< COIL >			
L1001	1-469-555-21	INDUCTOR	10uH		
L1503	1-469-557-21	INDUCTOR	22uH		
L1504	1-469-557-21	INDUCTOR	22uH		
L2001	1-469-757-21	INDUCTOR	10uH		
L2002	1-400-588-11	INDUCTOR	10uH		
L4001	1-469-757-21	INDUCTOR	10uH		
L4003	1-469-967-21	INDUCTOR	10uH		
		< TRANSISTOR >			
* Q1001	6-551-881-01	TRANSISTOR	2SA2174GR8S0		
* Q1002	6-551-881-01	TRANSISTOR	2SA2174GR8S0		
* Q1003	6-551-881-01	TRANSISTOR	2SA2174GR8S0		
* Q1004	6-551-881-01	TRANSISTOR	2SA2174GR8S0		
Q1005	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R		
* Q4001	6-551-881-01	TRANSISTOR	2SA2174GR8S0		
* Q4004	6-551-796-01	TRANSISTOR	UNR92A3G08S0		
* Q4005	6-551-881-01	TRANSISTOR	2SA2174GR8S0		
* Q4006	6-551-796-01	TRANSISTOR	UNR92A3G08S0		
		< RESISTOR >			
R1005	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1029	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1030	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1031	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1032	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1033	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1034	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1035	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R1036	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R1037	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1038	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1039	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1040	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R1041	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1505	1-218-938-11	RES-CHIP	56	5%	1/16W
R1508	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1509	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R1510	1-218-970-11	RES-CHIP	27K	5%	1/16W
R1511	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R1512	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R1513	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R1514	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R1532	1-216-864-11	SHORT CHIP	0		
R1533	1-216-864-11	SHORT CHIP	0		
R1534	1-216-864-11	SHORT CHIP	0		
R1536	1-218-942-11	RES-CHIP	120	5%	1/16W

Ref. No.	Part No.	Description			
R2005	1-218-990-81	SHORT CHIP	0		
R2006	1-218-990-81	SHORT CHIP	0		
R2007	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R2008	1-218-973-11	RES-CHIP	47K	5%	1/16W
R2009	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R2010	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R2011	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R2012	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R2013	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R2014	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R2018	1-218-977-11	RES-CHIP	100K	5%	1/16W
R2019	1-218-990-81	SHORT CHIP	0		
R2020	1-218-965-11	RES-CHIP	10K	5%	1/16W
R2021	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R2022	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R2023	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R2024	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R2025	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R2026	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R2055	1-216-864-11	SHORT CHIP	0		
R2061	1-218-990-81	SHORT CHIP	0		
R2063	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2067	1-218-990-81	SHORT CHIP	0		
R3008	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R3010	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R3011	1-218-990-81	SHORT CHIP	0		
R3012	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R3013	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R3014	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3016	1-218-990-81	SHORT CHIP	0		
R3017	1-218-972-11	RES-CHIP	39K	5%	1/16W
R3018	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R3019	1-218-972-11	RES-CHIP	39K	5%	1/16W
R3020	1-218-990-81	SHORT CHIP	0		
R3021	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3022	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R3023	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R3024	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R3032	1-216-864-11	SHORT CHIP	0		
R4001	1-216-864-11	SHORT CHIP	0		
R4002	1-216-864-11	SHORT CHIP	0		
R4003	1-216-864-11	SHORT CHIP	0		
R4004	1-218-990-81	SHORT CHIP	0		
R4040	1-218-722-11	METAL CHIP	18K	0.5%	1/10W
R4042	1-218-716-11	METAL CHIP	10K	0.5%	1/10W
R4043	1-218-990-81	SHORT CHIP	0		
R4044	1-218-728-11	METAL CHIP	33K	0.5%	1/10W
R4045	1-218-726-11	METAL CHIP	27K	0.5%	1/10W
R4047	1-208-717-11	METAL CHIP	27K	0.5%	1/16W
R4050	1-218-869-11	METAL CHIP	8.2K	0.5%	1/10W
R4055	1-218-722-11	METAL CHIP	18K	0.5%	1/10W
R4058	1-218-716-11	METAL CHIP	10K	0.5%	1/10W
R4059	1-218-990-81	SHORT CHIP	0		
R4061	1-218-728-11	METAL CHIP	33K	0.5%	1/10W
R4063	1-218-726-11	METAL CHIP	27K	0.5%	1/10W
R4064	1-208-717-11	METAL CHIP	27K	0.5%	1/16W
R4069	1-218-869-11	METAL CHIP	8.2K	0.5%	1/10W
R4076	1-216-864-11	SHORT CHIP	0		

Ref. No.	Part No.	Description			
R4078	1-216-864-11	SHORT CHIP	0		
R4080	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4082	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4083	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4084	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4085	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4086	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4093	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4094	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4102	1-216-864-11	SHORT CHIP	0		
R4105	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4106	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4109	1-218-990-81	SHORT CHIP	0		
R4110	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5001	1-216-864-11	SHORT CHIP	0		
R5002	1-216-864-11	SHORT CHIP	0		
R5003	1-216-864-11	SHORT CHIP	0		
R5004	1-216-864-11	SHORT CHIP	0		
R5005	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5006	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5007	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5008	1-218-990-81	SHORT CHIP	0		
R5010	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5011	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5012	1-218-971-11	RES-CHIP	33K	5%	1/16W
R5013	1-219-107-91	RES-CHIP	1.5	5%	1/8W
R5015	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5016	1-218-990-81	SHORT CHIP	0		
R6002	1-218-990-81	SHORT CHIP	0		
R6004	1-218-990-81	SHORT CHIP	0		
R6005	1-218-941-81	RES-CHIP	100	5%	1/16W
R6006	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6008	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6012	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6013	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6014	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6015	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6016	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6017	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6018	1-218-989-11	RES-CHIP	1M	5%	1/16W
R6019	1-218-989-11	RES-CHIP	1M	5%	1/16W
R6021	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6027	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6028	1-216-864-11	SHORT CHIP	0		
R6032	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6033	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6036	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6037	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6038	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6039	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6040	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6041	1-218-953-11	RES-CHIP	1K	5%	1/16W

< VIBRATOR >

* X1501	1-813-856-11	OSCILLATOR, CRYSTAL (27MHz)	
* X6001	1-767-205-81	VIBRATOR, CRYSTAL (20MHz)	

Ref. No.	Part No.	Description
	A-1505-419-A	LL-015 BOARD, COMPLETE
		**********
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
*	3-292-456-01	BRACKET, LL
		< CONNECTOR >
* CN7901	1-816-202-71	CONNECTOR, FPC (ZIF) 26P
CN7902	1-779-327-51	CONNECTOR, FFC/FPC 6P
CN7903	1-562-221-31	CONNECTOR (ROUND TYPE) (R-F) 12P (LENS)
		< VARISTOR >
* VD7901	1-802-279-11	VARISTOR (SMD)
* VD7902	1-802-279-11	VARISTOR (SMD)
* VD7904	1-802-128-11	VARISTOR (SMD)
* VD7905	1-802-128-11	VARISTOR (SMD)
VD7906	1-801-925-21	VARISTOR, CHIP (1608)
* VD7907	1-802-128-11	VARISTOR (SMD)
* VD7908	1-802-128-11	VARISTOR (SMD)
* VD7909	1-802-279-11	VARISTOR (SMD)
* VD7910	1-802-128-11	VARISTOR (SMD)
* VD7911	1-802-128-11	VARISTOR (SMD)
* VD7912	1-802-279-11	VARISTOR (SMD)

	A-1506-555-A	LS-071 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C7801	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7802	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C7803	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C7804	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7805	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7808	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7809	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C7810	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C7811	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7812	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
		< CONNECTOR >			
CN7801	1-816-928-11	PIN, CONNECTOR 22P			
CN7802	1-794-998-31	PIN, CONNECTOR 20P			
* CN7803	1-817-560-71	CONNECTOR, FPC (ZIP) 21P			
CN7804	1-816-928-11	PIN, CONNECTOR 22P			
CN7805	1-779-327-51	CONNECTOR, FFC/FPC 6P			
CN7806	1-818-210-21	PIN, CONNECTOR 2P			
		< FERRITE BEAD >			
FB7801	1-400-927-31	BEAD, FERRITE (1005)			
FB7802	1-400-927-31	BEAD, FERRITE (1005)			
FB7803	1-400-927-31	BEAD, FERRITE (1005)			
FB7804	1-400-927-31	BEAD, FERRITE (1005)			
FB7805	1-400-927-31	BEAD, FERRITE (1005)			
FB7806	1-400-927-31	BEAD, FERRITE (1005)			
FB7807	1-400-927-31	BEAD, FERRITE (1005)			
FB7808	1-400-927-31	BEAD, FERRITE (1005)			

Ref. No.	Part No.	Description			
		< IC >			
IC7801	6-707-208-01	IC TK11100CSCB-G			
IC7802	6-707-208-01	IC TK11100CSCB-G			
		< TRANSISTOR >			
Q7801	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q7804	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L		
		< RESISTOR >			
R7801	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R7802	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R7803	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7804	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R7805	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R7806	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R7807	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R7808	1-218-970-11	RES-CHIP	27K	5%	1/16W
R7809	1-218-970-11	RES-CHIP	27K	5%	1/16W
R7810	1-208-928-11	METAL CHIP	51K	0.5%	1/16W
R7811	1-218-990-81	SHORT CHIP	0		
R7812	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R7813	1-218-898-11	METAL CHIP	130K	0.5%	1/10W
R7814	1-218-990-81	SHORT CHIP	0		
R7815	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R7816	1-218-990-81	SHORT CHIP	0		
R7817	1-218-990-81	SHORT CHIP	0		
		< SWITCH >			
S7801	1-786-725-21	SWITCH, TACTILE (MEMORY PLAY)			
S7802	1-786-725-21	SWITCH, TACTILE (MEMORY INDEX)			
S7803	1-786-725-21	SWITCH, TACTILE (MEMORY DELETE)			
S7804	1-786-725-21	SWITCH, TACTILE (LCD BRIGHT +)			
S7805	1-786-725-21	SWITCH, TACTILE (MEMORY +)			
S7806	1-786-725-21	SWITCH, TACTILE (LCD BRIGHT –)			
S7807	1-786-725-21	SWITCH, TACTILE (MEMORY –)			
S7808	1-786-725-21	SWITCH, TACTILE (DISPLAY)			

	A-1154-723-A	MD-76 BOARD, COMPLETE			
		**********			
*	3-057-555-01	HOLDER, LED			
*	3-066-170-01	HOLDER (A), SENSOR			
	3-973-185-01	ENCODER			
		< CAPACITOR >			
C001	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C002	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
		< CONNECTOR >			
CN001	1-691-359-51	CONNECTOR, FFC/FPC (ZIF) 21P			
CN002	1-691-359-51	CONNECTOR, FFC/FPC (ZIF) 21P			
CN003	1-691-356-51	CONNECTOR, FFC/FPC (ZIF) 18P			
		< DIODE >			
D001	6-500-652-01	DIODE GL453SE0000F (TAPE LED)			

Ref. No.	Part No.	Description			
		< IC >			
IC001	8-759-510-71	IC BA10358F-E2			
IC002	8-719-052-03	ELEMENT, HOLE THS124TE85L			
IC003	8-719-052-03	ELEMENT, HOLE THS124TE85L			
IC004	8-719-082-56	PHOTO COUPLER TLP907 (LB, SONY)			
IC005	8-719-082-56	PHOTO COUPLER TLP907 (LB, SONY)			
		< JUMPER RESISTOR >			
JR001	1-216-296-11	SHORT CHIP	0		
JR003	1-216-296-11	SHORT CHIP	0		
JR004	1-216-296-11	SHORT CHIP	0		
JR005	1-216-296-11	SHORT CHIP	0		
JR006	1-216-864-11	SHORT CHIP	0		
		< TRANSISTOR >			
Q001	6-550-402-01	TRANSISTOR	PT4850FE000F (TAPE END SENSOR)		
Q002	6-550-402-01	TRANSISTOR	PT4850FE000F (TAPE TOP SENSOR)		
		< RESISTOR >			
R001	1-216-811-11	METAL CHIP	150	5%	1/10W
R003	1-216-810-11	METAL CHIP	120	5%	1/10W
R004	1-216-837-11	METAL CHIP	22K	5%	1/10W
R005	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R006	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R007	1-216-809-11	METAL CHIP	100	5%	1/10W
R008	1-216-837-11	METAL CHIP	22K	5%	1/10W
R009	1-216-837-11	METAL CHIP	22K	5%	1/10W
R010	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R011	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R012	1-216-174-00	RES-CHIP	100	5%	1/8W
R013	1-216-837-11	METAL CHIP	22K	5%	1/10W
R014	1-216-184-00	RES-CHIP	270	5%	1/8W
R015	1-216-811-11	METAL CHIP	150	5%	1/10W
R028	1-216-809-11	METAL CHIP	100	5%	1/10W
R029	1-216-809-11	METAL CHIP	100	5%	1/10W
R030	1-216-864-11	SHORT CHIP	0		
R031	1-216-864-11	SHORT CHIP	0		
R032	1-216-864-11	SHORT CHIP	0		
R033	1-216-864-11	SHORT CHIP	0		
		< VARIABLE RESISTOR >			
RV001	1-241-770-11	RES, ADJ CERMET 1M (GAIN)			
RV002	1-238-019-11	RES, ADJ CERMET 47K (OFFSET)			
RV003	1-241-770-11	RES, ADJ CERMET 1M (GAIN)			
RV004	1-238-019-11	RES, ADJ CERMET 47K (OFFSET)			
		< SWITCH >			
S001	1-762-551-21	SWITCH, PUSH (L/S CAS)			
S002	1-771-604-11	SWITCH, DETECTION (C IN)			
S003	1-771-604-11	SWITCH, DETECTION (CC DOWN)			

Ref. No.	Part No.	Description			
	A-1505-418-A	ME-021 BOARD, COMPLETE **********			
		(IC7604 is not supplied, but this is included in ME-021 complete board.)			
		< CAPACITOR >			
C7617	1-128-594-11	ELECT CHIP	1uF	20%	50V
C7618	1-128-594-11	ELECT CHIP	1uF	20%	50V
C7619	1-128-594-11	ELECT CHIP	1uF	20%	50V
C7620	1-128-594-11	ELECT CHIP	1uF	20%	50V
C7621	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C7622	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C7633	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C7634	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C7639	1-128-594-11	ELECT CHIP	1uF	20%	50V
C7640	1-128-594-11	ELECT CHIP	1uF	20%	50V
C7641	1-128-594-11	ELECT CHIP	1uF	20%	50V
C7642	1-128-594-11	ELECT CHIP	1uF	20%	50V
C7649	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7650	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7651	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7652	1-100-671-11	CERAMIC CHIP	4.7uF	20%	25V
C7653	1-100-671-11	CERAMIC CHIP	4.7uF	20%	25V
C7654	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7656	1-137-910-11	TANTAL. CHIP	10uF	20%	16V
C7657	1-137-910-11	TANTAL. CHIP	10uF	20%	16V
C7658	1-100-505-11	CERAMIC CHIP	0.1uF	20%	16V
C7659	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C7660	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C7661	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C7662	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C7663	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C7664	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C7665	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C7666	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C7667	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C7681	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
* CN7601	1-816-650-51	FFC/FPC CONNECTOR (LIF) 24P			
CN7604	1-820-791-11	XLR CONNECTOR (RECEPTACLE) 3P (AUDIO INPUT1 (L), AUDIO INPUT2 (R))			
		< DIODE >			
* D7601	6-501-947-01	DIODE MA2S1110G8S0			
* D7602	6-501-947-01	DIODE MA2S1110G8S0			
* D7603	6-501-947-01	DIODE MA2S1110G8S0			
* D7604	6-501-947-01	DIODE MA2S1110G8S0			
* D7605	6-501-947-01	DIODE MA2S1110G8S0			
* D7606	6-501-947-01	DIODE MA2S1110G8S0			
* D7607	6-501-947-01	DIODE MA2S1110G8S0			
* D7608	6-501-947-01	DIODE MA2S1110G8S0			
* D7609	6-501-947-01	DIODE MA2S1110G8S0			
* D7610	6-501-947-01	DIODE MA2S1110G8S0			
* D7611	6-501-947-01	DIODE MA2S1110G8S0			
* D7612	6-501-947-01	DIODE MA2S1110G8S0			
* D7613	6-501-947-01	DIODE MA2S1110G8S0			
* D7614	6-501-947-01	DIODE MA2S1110G8S0			
* D7615	6-501-947-01	DIODE MA2S1110G8S0			

Ref. No.	Part No.	Description			
* D7616	6-501-947-01	DIODE MA2S1110G8S0			
* D7617	6-501-928-01	DIODE MAS3132EGLS0			
D7618	6-501-123-01	DIODE RB160M-60TR			
		< IC >			
* IC7601	6-710-823-01	IC NJM2737RB1 (TE2)			
* IC7602	6-710-823-01	IC NJM2737RB1 (TE2)			
* IC7603	6-710-823-01	IC NJM2737RB1 (TE2)			
IC7604	(Not supplied)	IC TK11840LTL-G			
		(IC7604 is supplied including in ME-021 complete board.)			
		< COIL >			
L7601	1-400-588-11	INDUCTOR	10uH		
L7602	1-400-588-11	INDUCTOR	10uH		
L7603	1-400-588-11	INDUCTOR	10uH		
L7604	1-400-588-11	INDUCTOR	10uH		
L7605	1-400-676-11	INDUCTOR	22uH		
L7606	1-456-499-11	INDUCTOR	4.7uH		
L7607	1-469-557-21	INDUCTOR	22uH		
		< TRANSISTOR >			
Q7601	8-729-044-37	TRANSISTOR	2SK3019TL		
Q7602	8-729-048-72	TRANSISTOR	2SK2615		
Q7603	8-729-117-32	TRANSISTOR	2SC4177-L6		
* Q7604	6-551-877-01	TRANSISTOR	2SC6054GR8S0		
* Q7605	6-551-877-01	TRANSISTOR	2SC6054GR8S0		
Q7606	8-729-119-64	TRANSISTOR	2SA811A-C17		
Q7607	8-729-119-64	TRANSISTOR	2SA811A-C17		
Q7608	6-551-294-01	TRANSISTOR	MCH6606-TL-E		
Q7609	6-551-294-01	TRANSISTOR	MCH6606-TL-E		
Q7610	6-551-294-01	TRANSISTOR	MCH6606-TL-E		
Q7611	6-551-294-01	TRANSISTOR	MCH6606-TL-E		
Q7612	6-550-356-01	TRANSISTOR	MCH6616-TL-E		
Q7613	6-550-356-01	TRANSISTOR	MCH6616-TL-E		
Q7614	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q7615	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q7616	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q7617	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q7618	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R		
Q7619	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R		
Q7620	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L		
Q7621	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L		
		< RESISTOR >			
R7601	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7602	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7603	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7604	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7605	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R7606	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7607	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R7608	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7609	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7610	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7611	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7612	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7613	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7614	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7615	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R7616	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7617	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R7618	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7619	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7620	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7622	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7623	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7624	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7625	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7626	1-216-817-11	METAL CHIP	470	5%	1/10W
R7627	1-216-817-11	METAL CHIP	470	5%	1/10W
R7628	1-216-817-11	METAL CHIP	470	5%	1/10W
R7629	1-216-817-11	METAL CHIP	470	5%	1/10W
R7630	1-218-967-11	RES-CHIP	15K	5%	1/16W
R7631	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R7632	1-218-967-11	RES-CHIP	15K	5%	1/16W
R7633	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R7634	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R7635	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R7636	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R7637	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R7638	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R7639	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R7640	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R7641	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R7642	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R7643	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R7644	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7645	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R7646	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7647	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7648	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R7649	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7650	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R7651	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R7652	1-216-809-11	METAL CHIP	100	5%	1/10W
R7653	1-216-809-11	METAL CHIP	100	5%	1/10W
R7654	1-216-809-11	METAL CHIP	100	5%	1/10W
R7655	1-216-809-11	METAL CHIP	100	5%	1/10W
R7656	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R7657	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R7658	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R7659	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R7660	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R7661	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R7662	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R7663	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R7664	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R7665	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R7666	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R7667	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R7668	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7669	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7670	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7671	1-208-911-11	METAL CHIP	10K	0.5%	1/16W

Ref. No.	Part No.	Description			
R7672	1-216-809-11	METAL CHIP	100	5%	1/10W
R7673	1-216-809-11	METAL CHIP	100	5%	1/10W
R7674	1-218-989-11	RES-CHIP	1M	5%	1/16W
R7675	1-216-817-11	METAL CHIP	470	5%	1/10W
R7676	1-216-817-11	METAL CHIP	470	5%	1/10W
R7677	1-208-883-81	METAL CHIP	680	0.5%	1/16W
R7678	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7679	1-208-893-11	METAL CHIP	1.8K	0.5%	1/16W
R7680	1-218-446-11	METAL CHIP	1	5%	1/10W
R7681	1-208-955-11	METAL CHIP	680K	0.5%	1/16W
R7682	1-208-944-81	METAL CHIP	240K	0.5%	1/16W
R7683	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7684	1-218-970-11	RES-CHIP	27K	5%	1/16W
R7687	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7688	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7689	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7690	1-216-837-11	METAL CHIP	22K	5%	1/10W
R7691	1-216-837-11	METAL CHIP	22K	5%	1/10W
R7692	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7693	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7694	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7695	1-218-981-91	RES-CHIP	220K	5%	1/16W
R7696	1-218-981-91	RES-CHIP	220K	5%	1/16W
R7697	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7698	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7699	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7700	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7701	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7702	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7703	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7704	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7705	1-216-817-11	METAL CHIP	470	5%	1/10W
R7706	1-216-817-11	METAL CHIP	470	5%	1/10W
R7707	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7708	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7709	1-218-981-91	RES-CHIP	220K	5%	1/16W
R7710	1-218-981-91	RES-CHIP	220K	5%	1/16W
R7711	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7712	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7713	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7714	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7715	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7716	1-218-977-11	RES-CHIP	100K	5%	1/16W

	A-1506-089-A	MS-378 BOARD, COMPLETE
		**********
		< CONNECTOR >
CN7401	1-779-331-51	CONNECTOR, FFC/FPC 14P
CN7402	1-817-913-41	MEMORY STICK DUO CONNECTOR
		< DIODE >
D7401	6-501-216-01	DIODE CL-271HR-C-TS (MS ACCESS)
		< RESISTOR >

R7401	1-218-947-11	RES-CHIP	330	5%	1/16W

Ref. No.	Part No.	Description			
	A-1506-548-A	NN-006 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C7001	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7002	1-137-910-11	TANTAL. CHIP	10uF	20%	16V
C7003	1-137-910-11	TANTAL. CHIP	10uF	20%	16V
C7004	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7005	1-100-415-91	CERAMIC CHIP	0.47uF	10%	6.3V
C7006	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7007	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7008	1-100-415-91	CERAMIC CHIP	0.47uF	10%	6.3V
C7009	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7010	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7011	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7012	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7013	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7014	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7015	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7016	1-137-910-11	TANTAL. CHIP	10uF	20%	16V
C7017	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C7018	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7019	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7301	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C7302	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7303	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C7304	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C7305	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C7501	1-100-581-81	CERAMIC CHIP	0.0047uF	10%	50V
C7502	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7503	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C7504	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7505	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C7506	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7507	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7508	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C7509	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C7510	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7511	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C7512	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7513	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7514	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7515	1-164-934-11	CERAMIC CHIP	330PF	10%	50V
C7516	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7517	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C7518	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C7519	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7520	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C7521	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7522	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7523	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C7524	1-127-738-91	CERAMIC CHIP	4.7uF	10%	25V
C7525	1-127-738-91	CERAMIC CHIP	4.7uF	10%	25V
C7526	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7527	1-113-985-11	TANTAL. CHIP	10uF	20%	20V
C7528	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7529	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			
C7530	1-127-738-91	CERAMIC CHIP	4.7uF	10%	25V
C7531	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C7532	1-127-738-91	CERAMIC CHIP	4.7uF	10%	25V
C7533	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C7534	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C7535	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C7537	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7538	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7539	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7540	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7541	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7542	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7544	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7546	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7547	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7548	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7549	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7550	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7551	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7552	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C7553	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C7554	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7555	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C7556	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7557	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C7558	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7559	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C7560	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7561	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7562	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C7563	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7564	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C7565	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C7568	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7569	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7570	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7571	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7572	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		< CONNECTOR >			
* CN7001	1-816-643-51	FFC/FPC CONNECTOR (LIF) 10P			
* CN7301	1-816-647-51	FFC/FPC CONNECTOR (LIF) 18P			
CN7302	1-691-359-51	CONNECTOR, FFC/FPC (ZIF) 21P			
CN7303	1-691-359-51	CONNECTOR, FFC/FPC (ZIF) 21P			
CN7304	1-766-341-51	CONNECTOR, FFC/FPC 11P			
CN7305	1-779-336-51	CONNECTOR, FFC/FPC 24P			
CN7306	1-779-336-51	CONNECTOR, FFC/FPC 24P			
CN7307	1-779-336-51	CONNECTOR, FFC/FPC 24P			
CN7308	1-779-336-51	CONNECTOR, FFC/FPC 24P			
CN7309	1-580-055-21	PIN, CONNECTOR (SMD) 2P			
CN7501	1-580-055-21	PIN, CONNECTOR (SMD) 2P			
		< DIODE >			
D7501	8-719-066-98	DIODE RB051L-40TE25			

Ref. No.	Part No.	Description			
		< IC >			
IC7001	6-707-432-01	IC TLS26A102PFBR			
IC7002	6-703-228-01	IC TK11160CSCL-G			
IC7301	8-759-338-95	IC NJM2903V (TE2)			
IC7501	8-759-327-61	IC LB8112V-TLM-E			
IC7502	8-759-648-48	IC TC7W34FU (TE12R)			
IC7503	6-705-337-01	IC TK11150CSCL-G			
IC7504	8-759-492-30	IC MB3817PFV-G-BND			
IC7505	8-759-339-61	IC LB1897D-E			
IC7506	6-705-676-01	IC TB6550FG (O, EB)			
		< COIL >			
L7001	1-469-967-21	INDUCTOR	10uH		
L7002	1-469-967-21	INDUCTOR	10uH		
L7003	1-469-967-21	INDUCTOR	10uH		
L7501	1-419-353-21	INDUCTOR	10uH		
L7502	1-416-669-11	INDUCTOR	22uH		
L7503	1-469-967-21	INDUCTOR	10uH		
		< TRANSISTOR >			
* Q7301	6-551-877-01	TRANSISTOR	2SC6054GR8S0		
* Q7501	6-551-877-01	TRANSISTOR	2SC6054GR8S0		
* Q7502	6-551-877-01	TRANSISTOR	2SC6054GR8S0		
Q7503	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX		
Q7504	8-729-048-75	TRANSISTOR	CPH3109-TL-E		
Q7505	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX		
		< RESISTOR >			
R7001	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7002	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7005	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7006	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R7007	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R7008	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R7009	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R7010	1-218-990-81	SHORT CHIP	0		
R7011	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
* R7012	1-208-869-11	METAL CHIP	180	0.5%	1/16W
* R7013	1-208-869-11	METAL CHIP	180	0.5%	1/16W
* R7014	1-208-869-11	METAL CHIP	180	0.5%	1/16W
* R7015	1-208-869-11	METAL CHIP	180	0.5%	1/16W
R7301	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7302	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7303	1-218-989-11	RES-CHIP	1M	5%	1/16W
R7304	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7305	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R7306	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7307	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R7308	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R7310	1-218-990-81	SHORT CHIP	0		
R7311	1-216-833-11	METAL CHIP	10K	5%	1/10W
R7312	1-216-833-11	METAL CHIP	10K	5%	1/10W
R7313	1-218-990-81	SHORT CHIP	0		
R7501	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7502	1-216-864-11	SHORT CHIP	0		
R7503	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7504	1-218-965-11	RES-CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			
R7505	1-218-967-11	RES-CHIP	15K	5%	1/16W
R7506	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7508	1-218-990-81	SHORT CHIP	0		
R7509	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7510	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7511	1-217-671-11	RES-CHIP	1	5%	1/10W
R7512	1-217-671-11	RES-CHIP	1	5%	1/10W
R7513	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7515	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7516	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7517	1-218-990-81	SHORT CHIP	0		
R7518	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7519	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7520	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7522	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W
R7523	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W
R7524	1-218-967-11	RES-CHIP	15K	5%	1/16W
R7525	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7526	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R7527	1-218-950-11	RES-CHIP	560	5%	1/16W
R7528	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R7529	1-218-990-81	SHORT CHIP	0		
R7530	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R7531	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R7532	1-218-950-11	RES-CHIP	560	5%	1/16W
R7533	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7534	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R7535	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7536	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7537	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7538	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7540	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7541	1-208-906-81	METAL CHIP	6.2K	0.5%	1/16W
R7542	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R7543	1-208-930-11	METAL CHIP	62K	0.5%	1/16W
R7544	1-208-905-11	METAL CHIP	5.6K	0.5%	1/16W
R7545	1-220-877-81	METAL CHIP	20	0.5%	1/16W
R7546	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7547	1-208-918-11	METAL CHIP	20K	0.5%	1/16W
R7548	1-208-709-11	METAL CHIP	12K	0.5%	1/16W
R7549	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7550	1-217-671-11	RES-CHIP	1	5%	1/10W
R7551	1-217-671-11	RES-CHIP	1	5%	1/10W
R7552	1-217-671-11	RES-CHIP	1	5%	1/10W
R7554	1-217-671-11	RES-CHIP	1	5%	1/10W
R7555	1-218-990-81	SHORT CHIP	0		
R7556	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R7557	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R7558	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R7559	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7562	1-216-821-11	METAL CHIP	1K	5%	1/10W
R7563	1-218-855-11	METAL CHIP	2.2K	0.5%	1/10W
R7564	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7565	1-218-967-11	RES-CHIP	15K	5%	1/16W
R7566	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7578	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7579	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7580	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7581	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7582	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7583	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7584	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7585	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7586	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7587	1-218-941-81	RES-CHIP	100	5%	1/16W
R7588	1-218-865-11	METAL CHIP	5.6K	0.5%	1/10W

	Part No.	Description			
	A-1506-627-A	PB-001 BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
* CN6901	1-779-329-51	CONNECTOR, FFC/FPC 10P			
		< RESISTOR >			
R6901	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R6902	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R6903	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R6904	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R6905	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R6906	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R6907	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R6908	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
		< SWITCH >			
S6901	1-786-725-21	SWITCH, TACTILE (STOP □)			
S6902	1-786-725-21	SWITCH, TACTILE (REW ◀◀)			
S6903	1-786-725-21	SWITCH, TACTILE (PLAY ▷)			
S6904	1-786-725-21	SWITCH, TACTILE (FF ▶▶)			
S6905	1-786-725-21	SWITCH, TACTILE (PAUSE ▮▮)			
S6906	1-786-725-21	SWITCH, TACTILE (SLOW ▮►)			
S6907	1-786-725-21	SWITCH, TACTILE (DATA CODE)			
S6908	1-786-725-21	SWITCH, TACTILE (REVIEW)			
S6909	1-786-725-21	SWITCH, TACTILE (CUE)			
S6910	1-786-725-21	SWITCH, TACTILE (REC ●)			
S6911	1-786-725-21	SWITCH, TACTILE (REC)			

	Part No.	Description			
	A-1506-552-A	PP-006 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C6001	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6002	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6004	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6005	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6006	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6008	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6009	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6010	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6011	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6012	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6013	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6014	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C6015	1-100-581-81	CERAMIC CHIP	0.0047uF	10%	50V
C6016	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V

Ref. No.	Part No.	Description			
C6017	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6018	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6019	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6020	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6021	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6022	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6023	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C6024	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6025	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6027	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C6028	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C6029	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C6030	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6031	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
* C6032	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C6033	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6034	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6035	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6036	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C6037	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6038	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C6039	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C6040	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C6041	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6042	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6043	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6044	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6045	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
		< CONNECTOR >			
CN6001	1-816-928-11	PIN, CONNECTOR 22P			
* CN6002	1-794-322-51	FFC/CONNECTOR, FPC (ZIF) 6P			
* CN6003	1-819-914-71	CONNECTOR, FPC (ZIF) 29P			
* CN6004	1-817-544-71	CONNECTOR, FPC (ZIF) 39P			
		< DIODE >			
D6001	8-719-069-29	DIODE RB520S-30FJTE61			
D6002	8-719-069-29	DIODE RB520S-30FJTE61			
		< FERRITE BEAD >			
FB6001	1-400-331-11	FERRITE, EMI (SMD) (1005)			
		< IC >			
* IC6001	6-712-180-01	IC IR3Y80Y6			
		< COIL >			
L6001	1-400-588-11	INDUCTOR	10uH		
L6002	1-400-588-11	INDUCTOR	10uH		
L6003	1-400-588-11	INDUCTOR	10uH		
L6004	1-400-588-11	INDUCTOR	10uH		
L6005	1-400-588-11	INDUCTOR	10uH		
		< TRANSISTOR >			
Q6001	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L		
Q6002	8-729-054-48	TRANSISTOR	UP04601008S0		
Q6003	8-729-054-48	TRANSISTOR	UP04601008S0		

Ref. No.	Part No.	Description			
		< RESISTOR >			
R6008	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W
R6009	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W
R6010	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6011	1-208-643-11	METAL CHIP	22	0.5%	1/16W
R6012	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R6013	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6014	1-218-967-11	RES-CHIP	15K	5%	1/16W
R6015	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6018	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R6019	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R6020	1-218-990-81	SHORT CHIP	0		
R6021	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6025	1-218-990-81	SHORT CHIP	0		
R6026	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6027	1-218-965-11	RES-CHIP	10K	5%	1/16W

	A-1506-088-A	PW-135 BOARD, COMPLETE	
		**********	
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)	
*	3-292-596-01	BRACKET, PB	
		< CONNECTOR >	
CN6801	1-779-328-51	CONNECTOR, FFC/FPC 8P	
* CN6802	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P	
		< SWITCH >	
* S6801	1-570-984-31	SWITCH, TOGGLE (CAMERA/VCR)	
* S6802	1-570-984-31	SWITCH, TOGGLE (POWER (ON/OFF))	

	A-1506-551-A	RV-003 BOARD, COMPLETE	
		**********	
		< CONNECTOR >	
CN6701	1-794-375-21	PIN, CONNECTOR 2P	
		< SWITCH >	
S6701	1-786-179-11	SWITCH, PUSH (1KEY) (PANEL REVERSE)	

	A-1506-087-A	SB-040 BOARD, COMPLETE	
		**********	
		< CONNECTOR >	
* CN6601	1-816-648-51	FFC/FPC CONNECTOR (LIF) 20P	
* CN6602	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P	
* CN6603	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P	
		< DIODE >	
D001	6-500-252-01	DIODE SML-512WWT86 (AGC)	
D002	6-500-252-01	DIODE SML-512WWT86 (ATW)	
D003	6-500-252-01	DIODE SML-512WWT86 (CAMERA MODE)	
		< TRANSISTOR >	
Q001	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q002	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L

Ref. No.	Part No.	Description			
Q003	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
		< RESISTOR >			
R6601	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R6602	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R6603	1-218-970-11	RES-CHIP	27K	5%	1/16W
R6604	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R6605	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R6606	1-218-970-11	RES-CHIP	27K	5%	1/16W
R6607	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R6608	1-218-970-11	RES-CHIP	27K	5%	1/16W
R6609	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R6610	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6611	1-218-952-11	RES-CHIP	820	5%	1/16W
R6612	1-218-951-11	RES-CHIP	680	5%	1/16W
		< SWITCH >			
S6601	1-692-111-11	SWITCH, KEY BOARD (ASSIGN 1)			
S6602	1-692-111-11	SWITCH, KEY BOARD (ASSIGN 2)			
S6603	1-692-111-11	SWITCH, KEY BOARD (ASSIGN 3)			
S6604	1-692-111-11	SWITCH, KEY BOARD (ASSIGN 4, ZEBRA)			
S6605	1-692-111-11	SWITCH, KEY BOARD (ASSIGN 5, AE SHIFT)			
S6606	1-692-111-11	SWITCH, KEY BOARD (ASSIGN 6, STEADYSHOT)			
S6607	1-692-111-11	SWITCH, KEY BOARD (PICTURE PROFILE)			
S6608	1-771-731-21	SWITCH, SLIDE (AGC (ON/OFF))			
S6609	1-771-731-21	SWITCH, SLIDE (ATW (ON/OFF))			
S6610	1-771-731-21	SWITCH, SLIDE (CAMERA MODE (AUTO/MANUAL))			

A-1439-402-A SD-037 BOARD, COMPLETE

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(CN001 and CN002 are not supplied, but they are included in SD-037 complete board.)

		< CAPACITOR >			
C002	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C003	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C004	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C005	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C006	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C007	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C008	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C009	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C010	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
* C011	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C012	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C013	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C014	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C015	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C016	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C017	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C019	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C020	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C021	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
* C022	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C023	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C024	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C025	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C026	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
* C027	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C028	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C029	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C030	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C031	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C032	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C033	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
* C034	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C035	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
		< CONNECTOR >			
CN001	(Not supplied)	CONNECTOR, BOARD TO BOARD 80P (CN001 is supplied including in SD-037 complete board.)			
CN002	(Not supplied)	CONNECTOR, COAXIAL (CN002 is supplied including in SD-037 complete board.)			
		< FERRITE BEAD >			
* FB001	1-481-300-11	INDUCTOR, FERRITE BEAD			
* FB002	1-481-300-11	INDUCTOR, FERRITE BEAD			
* FB003	1-481-300-11	INDUCTOR, FERRITE BEAD			
* FB004	1-481-300-11	INDUCTOR, FERRITE BEAD			
* FB005	1-481-300-11	INDUCTOR, FERRITE BEAD			
* FB006	1-481-300-11	INDUCTOR, FERRITE BEAD			
* FB007	1-481-300-11	INDUCTOR, FERRITE BEAD			
* FB008	1-481-300-11	INDUCTOR, FERRITE BEAD			
* FB009	1-481-300-11	INDUCTOR, FERRITE BEAD			
* FB010	1-481-300-11	INDUCTOR, FERRITE BEAD			
* FB011	1-481-300-11	INDUCTOR, FERRITE BEAD			
		< IC >			
* IC002	6-712-135-01	IC R1173H001D-T1-F			
* IC003	6-712-135-01	IC R1173H001D-T1-F			
IC004	6-708-741-01	IC GS1531-CBE2			
IC005	6-709-619-01	IC GS1578ACNE3			
		< COIL >			
L001	1-414-836-21	INDUCTOR	4.7nH		
L002	1-414-836-21	INDUCTOR	4.7nH		
		< RESISTOR >			
R004	1-218-941-81	RES-CHIP	100	5%	1/16W
R006	1-218-990-81	SHORT CHIP	0		
R007	1-218-941-81	RES-CHIP	100	5%	1/16W
R008	1-218-941-81	RES-CHIP	100	5%	1/16W
R009	1-218-941-81	RES-CHIP	100	5%	1/16W
R010	1-218-941-81	RES-CHIP	100	5%	1/16W
R011	1-218-941-81	RES-CHIP	100	5%	1/16W
R012	1-218-941-81	RES-CHIP	100	5%	1/16W
R013	1-218-941-81	RES-CHIP	100	5%	1/16W
R014	1-218-941-81	RES-CHIP	100	5%	1/16W
R015	1-218-941-81	RES-CHIP	100	5%	1/16W
R016	1-218-941-81	RES-CHIP	100	5%	1/16W
R017	1-218-941-81	RES-CHIP	100	5%	1/16W
R018	1-218-941-81	RES-CHIP	100	5%	1/16W
R019	1-218-935-11	RES-CHIP	33	5%	1/16W

Ref. No.	Part No.	Description			
R020	1-218-941-81	RES-CHIP	100	5%	1/16W
R021	1-218-941-81	RES-CHIP	100	5%	1/16W
R022	1-218-941-81	RES-CHIP	100	5%	1/16W
R023	1-218-941-81	RES-CHIP	100	5%	1/16W
R024	1-218-941-81	RES-CHIP	100	5%	1/16W
R025	1-218-941-81	RES-CHIP	100	5%	1/16W
R026	1-218-941-81	RES-CHIP	100	5%	1/16W
R027	1-218-941-81	RES-CHIP	100	5%	1/16W
R028	1-218-941-81	RES-CHIP	100	5%	1/16W
R029	1-218-941-81	RES-CHIP	100	5%	1/16W
R030	1-218-941-81	RES-CHIP	100	5%	1/16W
R031	1-218-941-81	RES-CHIP	100	5%	1/16W
R032	1-218-941-81	RES-CHIP	100	5%	1/16W
R033	1-218-941-81	RES-CHIP	100	5%	1/16W
R034	1-218-941-81	RES-CHIP	100	5%	1/16W
R035	1-218-941-81	RES-CHIP	100	5%	1/16W
R036	1-218-941-81	RES-CHIP	100	5%	1/16W
R037	1-218-941-81	RES-CHIP	100	5%	1/16W
R038	1-218-935-11	RES-CHIP	33	5%	1/16W
R039	1-218-941-81	RES-CHIP	100	5%	1/16W
R041	1-218-990-81	SHORT CHIP	0		
R055	1-218-953-11	RES-CHIP	1K	5%	1/16W
R057	1-208-647-11	METAL CHIP	33	0.5%	1/16W
R058	1-208-873-81	METAL CHIP	270	0.5%	1/16W
R059	1-208-635-11	METAL CHIP	10	0.5%	1/16W
R060	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R061	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R062	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R063	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R064	1-218-990-81	SHORT CHIP	0		
R065	1-208-884-81	METAL CHIP	750	0.5%	1/16W
R067	1-208-860-81	METAL CHIP	75	0.5%	1/16W
R068	1-208-860-81	METAL CHIP	75	0.5%	1/16W
R069	1-208-661-11	METAL CHIP	120	0.5%	1/16W
R070	1-208-661-11	METAL CHIP	120	0.5%	1/16W
R071	1-208-860-81	METAL CHIP	75	0.5%	1/16W
R074	1-218-941-11	RES-CHIP	100	5%	1/16W
R075	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W
R076	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R077	1-208-661-11	METAL CHIP	120	0.5%	1/16W
R078	1-208-883-81	METAL CHIP	680	0.5%	1/16W
R079	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
		< OSCILLATOR >			
* VCO001	1-814-093-11	OSCILLATOR (VOLTAGE CONTROL) (1.5GHz)			
	A-1505-558-A	SH-029 BOARD, COMPLETE			
		**********			
	X-2189-125-1	CABINET (HN) ASSY, SWITCH			
#59	3-080-205-21	SCREW, TAPPING, P2 (Silver)			
	3-292-554-01	RUBBER (SW (HN))			
		< CONNECTOR >			
CN5101	1-779-337-51	CONNECTOR, FFC/FPC 26P			
CN5102	1-779-335-51	CONNECTOR, FFC/FPC 22P			
* CN5103	1-779-333-51	CONNECTOR, FFC/FPC 18P			
CN5104	1-794-998-31	PIN, CONNECTOR 20P			
CN5105	1-817-871-11	PIN, CONNECTOR 15P			
CN5106	1-817-869-11	PIN, CONNECTOR 10P			
* CN5107	1-779-333-51	CONNECTOR, FFC/FPC 18P			
		< DIODE >			
D5101	8-719-053-08	DIODE SML-310DTT86 (SHOT TRANSITION/FOCUS MARKING STORE)			
D5102	8-719-053-08	DIODE SML-310DTT86 (SHOT TRANSITION/FOCUS MARKING CHECK)			
D5103	8-719-053-08	DIODE SML-310DTT86 (SHOT TRANSITION/FOCUS MARKING EXEC)			
		< RESISTOR >			
R5101	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R5102	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R5103	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5104	1-218-945-11	RES-CHIP	220	5%	1/16W
R5105	1-218-945-11	RES-CHIP	220	5%	1/16W
R5106	1-218-945-11	RES-CHIP	220	5%	1/16W
		< SWITCH >			
* S5101	1-798-117-31	SWITCH, TOGGLE (LIGHT (MAN/AUTO))			
S5102	1-692-111-11	SWITCH, KEY BOARD (SHOT TRANSITION/FOCUS MARKING)			
S5103	1-692-111-11	SWITCH, KEY BOARD (SHOT TRANSITION/FOCUS MARKING A)			
S5104	1-692-111-11	SWITCH, KEY BOARD (SHOT TRANSITION/FOCUS MARKING B)			
		< VARISTOR >			
* VD5101	1-802-279-11	VARISTOR (SMD)			
* VD5106	1-802-279-11	VARISTOR (SMD)			
* VD5107	1-802-279-11	VARISTOR (SMD)			
	A-1505-595-A	SS-184 BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
* CN5201	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P			
		< JACK >			
J5201	1-566-849-11	CONNECTOR, (S) TERMINAL 4P (S VIDEO)			
		< RESISTOR >			
R5201	1-216-864-11	SHORT CHIP	0		
R5202	1-216-864-11	SHORT CHIP	0		
R5203	1-216-864-11	SHORT CHIP	0		
		< VARISTOR >			
VD5201	1-803-974-21	VARISTOR, CHIP (1608)			
VD5202	1-803-974-21	VARISTOR, CHIP (1608)			

Ref. No.	Part No.	Description
	A-1506-086-A	SW-514 BOARD, COMPLETE
		**********
		(BT6401 is not included in SW-514 complete board.)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
*	3-292-593-01	BRACKET, VR
		< BATTERY HOLDER >
⚠*BH6401	1-756-615-51	HOLDER, BATTERY (Note)
		< BATTERY >
⚠BT6401	1-756-134-12	BATTERY, STORAGE, LITHIUM (Note)
		< CONNECTOR >
* CN6401	1-816-648-51	FFC/FPC CONNECTOR (LIF) 20P
* CN6402	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P
* CN6403	1-691-366-51	CONNECTOR, FFC/FPC (ZIF) 28P
CN6404	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P
* CN6405	1-820-586-61	CONNECTOR, FFC/FPC 28P
* CN6406	1-691-366-51	CONNECTOR, FFC/FPC (ZIF) 28P
* CN6407	1-691-366-51	CONNECTOR, FFC/FPC (ZIF) 28P
		< DIODE >
D6401	6-500-252-01	DIODE SML-512WWT86 (L CH1)
D6402	6-500-252-01	DIODE SML-512WWT86 (L CH2)
D6403	6-500-252-01	DIODE SML-512WWT86 (L CH3)
D6404	6-500-252-01	DIODE SML-512WWT86 (L CH4)
D6405	6-500-252-01	DIODE SML-512WWT86 (R CH1)
D6406	6-500-252-01	DIODE SML-512WWT86 (R CH2)
D6407	6-500-252-01	DIODE SML-512WWT86 (R CH3)
D6408	6-500-252-01	DIODE SML-512WWT86 (R CH4)
		< TRANSISTOR >
Q6401	6-550-119-01	TRANSISTOR DTC144EMFS6T2L
Q6402	6-550-119-01	TRANSISTOR DTC144EMFS6T2L
Q6403	6-550-119-01	TRANSISTOR DTC144EMFS6T2L
Q6404	6-550-119-01	TRANSISTOR DTC144EMFS6T2L
Q6405	6-550-119-01	TRANSISTOR DTC144EMFS6T2L
Q6406	6-550-119-01	TRANSISTOR DTC144EMFS6T2L
Q6407	6-550-119-01	TRANSISTOR DTC144EMFS6T2L
Q6408	6-550-119-01	TRANSISTOR DTC144EMFS6T2L
		< RESISTOR >
R6401	1-218-951-11	RES-CHIP 680 5% 1/16W
R6402	1-218-951-11	RES-CHIP 680 5% 1/16W
R6403	1-218-951-11	RES-CHIP 680 5% 1/16W
R6404	1-218-951-11	RES-CHIP 680 5% 1/16W
R6405	1-218-951-11	RES-CHIP 680 5% 1/16W
R6406	1-218-951-11	RES-CHIP 680 5% 1/16W
R6407	1-218-951-11	RES-CHIP 680 5% 1/16W
R6408	1-218-951-11	RES-CHIP 680 5% 1/16W
R6409	1-218-958-11	RES-CHIP 2.7K 5% 1/16W
		< VARIABLE RESISTOR >
RV6401	1-225-950-11	RES, VAR, CARBON 10K (CH1)
RV6402	1-225-950-11	RES, VAR, CARBON 10K (CH2)
RV6403	1-225-950-11	RES, VAR, CARBON 10K (CH3)
RV6404	1-225-950-11	RES, VAR, CARBON 10K (CH4)

• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description
		< SWITCH >
S6401	1-771-487-11	SWITCH, SLIDE (AUDIO MONITOR (CH1/2/MIX/CH3/4))
S6402	1-786-157-31	TACTILE SWITCH (MONITOR SELECT)
S6403	1-771-731-21	SWITCH, SLIDE (CH1 (AUTO/MAN)
S6404	1-771-487-11	SWITCH, SLIDE (INPUT1 (LINE/MIC/MIC+48V))
S6405	1-771-731-21	SWITCH, SLIDE (CH2 (AUTO/MAN)
S6406	1-771-487-11	SWITCH, SLIDE (INPUT2 (LINE/MIC/MIC+48V))
S6407	1-771-487-11	SWITCH, SLIDE (INPUT3 (LINE/MIC/MIC+48V))
S6408	1-771-731-21	SWITCH, SLIDE (CH3 (AUTO/MAN)
S6409	1-771-487-11	SWITCH, SLIDE (INPUT4 (LINE/MIC/MIC+48V))
S6410	1-771-731-21	SWITCH, SLIDE (REC CH SELECT CH1 (IN1/IN3))
S6411	1-771-731-21	SWITCH, SLIDE (CH4 (AUTO/MAN)
S6412	1-771-487-11	SWITCH, SLIDE (REC CH SELECT CH2 (IN2/IN1 IN3/IN4))
S6413	1-786-157-31	TACTILE SWITCH (RESET)
		< VARISTOR >
* VD6401	1-802-279-11	VARISTOR (SMD)
* VD6402	1-802-279-11	VARISTOR (SMD)
* VD6403	1-802-279-11	VARISTOR (SMD)
	A-1506-085-A	TN-002 BOARD, COMPLETE
		**********
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
*	3-292-595-01	RETAINER, TOGGLE
		< CONNECTOR >
* CN5901	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P
		< RESISTOR >
R5901	1-218-954-11	RES-CHIP 1.2K 5% 1/16W
R5902	1-218-955-11	RES-CHIP 1.5K 5% 1/16W
R5903	1-218-957-11	RES-CHIP 2.2K 5% 1/16W
R5904	1-218-960-11	RES-CHIP 3.9K 5% 1/16W
R5905	1-218-964-11	RES-CHIP 8.2K 5% 1/16W
R5906	1-218-970-11	RES-CHIP 27K 5% 1/16W
R5907	1-218-955-11	RES-CHIP 1.5K 5% 1/16W
R5908	1-218-957-11	RES-CHIP 2.2K 5% 1/16W

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

注意
電池の交換は，正しく行わないと破裂する恐れがあります。電池を交換する場合には必ず同じ型名の電池又は同等品と交換してください。

Note: Replace the battery holder (BH6401) together when replacing the lithium battery (BT6401) on the SW-514 board. (The battery holder removed once cannot be used again.)
When mounting these parts, mount new battery holder first and attach new lithium battery next.

Note: SW-514基板のリチウム電池（BT6401）を交換する場合はバッテリホルダ（BH6401）も同時に新品に交換して下さい。（一度使用したバッテリホルダは再使用できません。）
部品取り付けの際は，先にバッテリホルダを取り付けてからリチウム電池を装着して下さい。

Ref. No.	Part No.	Description			
R5909	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R5910	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R5911	1-218-970-11	RES-CHIP	27K	5%	1/16W
R5912	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R5913	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5914	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R5915	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R5916	1-218-970-11	RES-CHIP	27K	5%	1/16W
R5917	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R5918	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
		< SWITCH >			
S5901	1-570-985-31	SWITCH, TOGGLE (GAIN (H/M/L))			
S5902	1-570-985-31	SWITCH, TOGGLE (OUTPUT (BARS/CAM), DCC (ON/OFF))			
S5903	1-570-985-31	SWITCH, TOGGLE (WHT BAL (PRST/A/B))			
S5904	1-571-396-31	SWITCH, TOGGLE (STATUS/MENU)			

	A-1505-557-A	TO-001 BOARD, COMPLETE **********			
		< CONNECTOR >			
CN5801	1-691-356-51	CONNECTOR, FFC/FPC (ZIF) 18P			
* CN5802	1-779-329-51	CONNECTOR, FFC/FPC 10P			
* CN5803	1-816-654-51	FFC/FPC CONNECTOR (LIF) 6P			
		< TRANSISTOR >			
Q5801	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
		< RESISTOR >			
R5801	1-218-970-11	RES-CHIP	27K	5%	1/16W
R5802	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R5803	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R5804	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5805	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R5806	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R5809	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5810	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
		< SWITCH >			
S5801	1-771-487-11	SWITCH, SLIDE (HANDLE ZOOM (FIX/VAR/OFF))			
		< VARISTOR >			
* VD5801	1-802-279-11	VARISTOR (SMD)			
* VD5802	1-802-279-11	VARISTOR (SMD)			
* VD5803	1-802-279-11	VARISTOR (SMD)			
* VD5804	1-802-279-11	VARISTOR (SMD)			
* VD5805	1-802-279-11	VARISTOR (SMD)			

	A-1506-630-A	UU-006 BOARD, COMPLETE **********			
		< CAPACITOR >			
* C6201	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C6202	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
* C6203	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C6204	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C6205	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6206	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6207	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6209	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6210	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6211	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6212	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C6213	1-100-581-81	CERAMIC CHIP	0.0047uF	10%	50V
C6214	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C6215	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6216	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6217	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6218	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6219	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6220	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6221	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6222	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C6223	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C6224	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C6225	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C6226	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C6227	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
		< CONNECTOR >			
* CN6201	1-817-560-71	CONNECTOR, FPC (ZIP) 21P			
* CN6202	1-817-910-71	CONNECTOR, FPC (ZIF) 45P			
		< FERRITE BEAD >			
FB6201	1-400-927-31	BEAD, FERRITE (1005)			
FB6202	1-400-927-31	BEAD, FERRITE (1005)			
FB6203	1-400-927-31	BEAD, FERRITE (1005)			
FB6204	1-400-927-31	BEAD, FERRITE (1005)			
		< IC >			
* IC6201	6-712-180-01	IC IR3Y80Y6			
		< COIL >			
L6201	1-400-588-11	INDUCTOR	10uH		
L6202	1-400-588-11	INDUCTOR	10uH		
L6203	1-400-588-11	INDUCTOR	10uH		
L6204	1-400-588-11	INDUCTOR	10uH		
L6205	1-400-588-11	INDUCTOR	10uH		
		< RESISTOR >			
R6206	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R6207	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R6208	1-218-990-81	SHORT CHIP	0		
R6209	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6213	1-218-953-11	RES-CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			
	A-1507-977-A	VC-513 BOARD, COMPLETE (SERVICE) (NTSC: S270J/S270U/S270N)			
	A-1507-978-A	VC-513 BOARD, COMPLETE (SERVICE) (PAL: S270E/S270P/S270C)			
		**********			
		(IC2402, IC3804 and IC4201 are not supplied, but they are included in VC-513 complete board.)			
		< CAPACITOR >			
C1001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1002	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1006	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1007	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1008	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1009	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1011	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1014	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1016	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C1017	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C1105	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1106	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C1108	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1110	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C1111	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1112	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1113	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C1114	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1115	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C1116	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C1201	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1202	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1204	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1205	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1206	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1207	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1208	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1209	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1210	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1211	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1224	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1225	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1401	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1402	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1403	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1404	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1405	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1406	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1407	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1408	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1409	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1410	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1411	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1412	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1413	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1414	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1415	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1416	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C1417	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C1418	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V

Ref. No.	Part No.	Description			
C1419	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1420	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C1421	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C1422	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C1426	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1427	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1429	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C1431	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1432	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1433	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1434	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1435	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1436	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1601	1-100-786-91	TANTAL. CHIP	22uF	20%	6.3V
C1602	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1603	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1604	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1605	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1606	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1801	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C1802	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1803	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1805	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1806	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1807	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1808	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1810	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1811	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1812	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1813	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1814	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1815	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1816	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1817	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1818	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1819	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1820	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1821	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1822	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C1823	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1824	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1825	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C1826	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C1827	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1828	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1829	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1830	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1831	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1833	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1834	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1835	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1836	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1837	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1838	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1839	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1840	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1841	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			
C1842	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C1843	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C1844	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C1846	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1858	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1859	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1867	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C2001	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2003	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C2004	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C2005	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C2006	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C2007	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C2008	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C2009	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C2010	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2011	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2012	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C2013	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C2015	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2017	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C2201	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2202	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C2203	1-100-842-91	TANTAL. CHIP	47uF	20%	6.3V
C2204	1-100-842-91	TANTAL. CHIP	47uF	20%	6.3V
C2205	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C2206	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2207	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2209	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2210	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2211	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2212	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2213	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2214	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2215	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2217	1-100-505-11	CERAMIC CHIP	0.1uF	20%	16V
C2218	1-100-505-11	CERAMIC CHIP	0.1uF	20%	16V
C2219	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2220	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2221	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2222	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2223	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2224	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2225	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2226	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2227	1-100-842-91	TANTAL. CHIP	47uF	20%	6.3V
C2228	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2229	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2230	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2231	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2232	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2233	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2234	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2235	1-100-842-91	TANTAL. CHIP	47uF	20%	6.3V
C2401	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2402	1-100-505-11	CERAMIC CHIP	0.1uF	20%	16V

Ref. No.	Part No.	Description			
C2403	1-100-505-11	CERAMIC CHIP	0.1uF	20%	16V
C2405	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C2406	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
* C2601	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2602	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C2603	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2604	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C2605	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2606	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C2607	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C2608	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C2609	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2610	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2611	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2613	1-128-934-61	CERAMIC CHIP	0.33uF	10%	10V
C2614	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2615	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C2616	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2619	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2620	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2621	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2622	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2623	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2624	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2625	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2626	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2627	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2628	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2801	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C2808	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2809	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2811	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2815	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2816	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2821	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2822	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2824	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2826	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2827	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3103	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3104	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3105	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3106	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3107	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C3108	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C3109	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3110	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3111	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3112	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3113	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3114	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C3115	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3116	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C3117	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C3118	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C3119	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C3120	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V

Ref. No.	Part No.	Description			
C3121	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3122	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3123	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C3124	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3125	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3126	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3127	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C3128	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C3129	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3130	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3132	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3133	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3160	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3168	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3401	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3402	1-164-928-11	CERAMIC CHIP	270PF	5%	16V
C3403	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
* C3404	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3405	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3407	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3409	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3410	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3411	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
C3412	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
C3414	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3415	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3416	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3418	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3420	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3601	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C3602	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3603	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3604	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3607	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3608	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3609	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3610	1-100-415-91	CERAMIC CHIP	0.47uF	10%	6.3V
C3611	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C3612	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3613	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3614	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3616	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3617	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C3618	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3619	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C3620	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3621	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3622	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3623	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3624	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3801	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3802	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3803	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C3804	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3805	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3808	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3810	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3811	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description			
C4001	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C4002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4003	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4004	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4005	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C4006	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
C4007	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4008	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4009	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4012	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4013	1-100-671-11	CERAMIC CHIP	4.7uF	20%	25V
C4014	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4015	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4016	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4201	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4202	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
* C4203	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4204	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C4205	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C4206	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4211	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4213	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
* C4214	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4216	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4217	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4218	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4219	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4220	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4221	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4222	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4223	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4225	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4226	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C4227	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4228	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4229	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C4230	1-100-786-91	TANTAL. CHIP	22uF	20%	6.3V
C4231	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4232	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4401	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4402	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4403	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4405	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4406	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C4407	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C4408	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4409	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4410	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4411	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4412	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4413	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4415	1-100-505-11	CERAMIC CHIP	0.1uF	20%	16V
C4416	1-100-505-11	CERAMIC CHIP	0.1uF	20%	16V
C4501	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4502	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C4503	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			
C4504	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4505	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4506	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4507	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4508	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4509	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4510	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4511	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4512	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4513	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4514	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4515	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4516	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4517	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4518	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4519	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4520	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4521	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4522	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4523	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4524	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C4525	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4526	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4527	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4528	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4529	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4530	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4532	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4533	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4536	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C4538	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C4539	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4543	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C4544	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C4545	1-100-503-11	CERAMIC CHIP	4.7uF	20%	10V
C4546	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C4547	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C4548	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4549	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C4550	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C4551	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4552	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4553	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4554	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C4563	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4564	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4571	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C4572	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4601	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4602	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4603	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C4605	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4606	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4607	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4608	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4609	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4610	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4611	1-165-908-11	CERAMIC CHIP	1uF	10%	10V

Ref. No.	Part No.	Description			
C4612	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4613	1-127-772-81	CERAMIC CHIP	0.033uF	10%	10V
C4614	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4615	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4616	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4617	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4618	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4619	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4620	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4621	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4622	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4623	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4624	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4625	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4626	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4627	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C4628	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4629	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4630	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4631	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4632	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4633	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4634	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4635	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4636	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C4637	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C4638	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4639	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4640	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4641	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4642	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C4643	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C4644	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C4646	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4647	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C4648	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C4649	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4650	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4651	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4652	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4654	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4655	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4656	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4657	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4663	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C4664	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4665	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C4666	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4667	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4668	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4671	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4672	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4673	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C4674	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4675	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4676	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4677	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V

Ref. No.	Part No.	Description			
C4678	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4679	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4680	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C4681	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4682	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7002	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C7006	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7007	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7021	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C7022	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7026	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
* C7027	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
* C7028	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C7029	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7030	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C7402	1-115-416-61	CERAMIC CHIP	0.001uF	5%	25V
C7403	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C7404	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7405	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7406	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7407	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7408	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7409	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7411	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7412	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7413	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C7414	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7415	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C7416	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C7417	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
* C7420	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C7431	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7432	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7433	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7434	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C7435	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C7437	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C7438	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C7439	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7441	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C7442	1-100-671-11	CERAMIC CHIP	4.7uF	20%	25V
C7444	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7449	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7453	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
* C7471	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C7472	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
* C7473	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C7474	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
* C7475	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C7476	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C7477	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C7478	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7479	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7484	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7486	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C7487	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C7489	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7490	1-100-672-11	CERAMIC CHIP	10uF	20%	16V

Ref. No.	Part No.	Description			
C7491	1-100-672-11	CERAMIC CHIP	10uF	20%	16V
C7492	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C7493	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C7497	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7503	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C7505	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C7506	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7507	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C7508	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C7509	1-128-964-91	TANTAL. CHIP	100uF	20%	6.3V
C7510	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C7511	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C7512	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C7514	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C7515	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C7516	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7517	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C7518	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C7519	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7520	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7521	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7523	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7524	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7526	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7529	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7531	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7533	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7538	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7539	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C7540	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C7541	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C7542	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C7543	1-164-936-11	CERAMIC CHIP	680PF	10%	50V
C7544	1-164-936-11	CERAMIC CHIP	680PF	10%	50V
C7545	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7546	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7553	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7554	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7559	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7560	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7561	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7562	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7563	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7564	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7565	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7566	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7567	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7568	1-164-936-11	CERAMIC CHIP	680PF	10%	50V
C7569	1-164-936-11	CERAMIC CHIP	680PF	10%	50V
C7570	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C7571	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7574	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7575	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7578	1-100-743-91	CERAMIC CHIP	2.2uF	20%	16V
C7579	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7580	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7582	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V

Ref. No.	Part No.	Description			
C7583	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7584	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7586	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7589	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C7592	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7594	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7595	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7703	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C7705	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C7707	1-128-964-91	TANTAL. CHIP	100uF	20%	6.3V
C7708	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C7709	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C7710	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C7711	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C7712	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C7713	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C7714	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7715	1-164-936-11	CERAMIC CHIP	680PF	10%	50V
C7716	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C7717	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7718	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7719	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7721	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7722	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7723	1-164-936-11	CERAMIC CHIP	680PF	10%	50V
C7724	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7727	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7730	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7732	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7734	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C7735	1-100-581-81	CERAMIC CHIP	0.0047uF	10%	50V
C7736	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7737	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C7738	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C7739	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C7740	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C7741	1-164-936-11	CERAMIC CHIP	680PF	10%	50V
C7742	1-164-936-11	CERAMIC CHIP	680PF	10%	50V
C7744	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C7745	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7746	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7747	1-100-581-81	CERAMIC CHIP	0.0047uF	10%	50V
C7748	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7749	1-137-934-91	TANTAL. CHIP	47uF	20%	10V
C7750	1-128-964-91	TANTAL. CHIP	100uF	20%	6.3V
C7751	1-128-964-91	TANTAL. CHIP	100uF	20%	6.3V
C7754	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7755	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C7756	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7758	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7764	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7765	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7766	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7767	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7768	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7769	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C7772	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7773	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C7774	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C7779	1-100-743-91	CERAMIC CHIP	2.2uF	20%	16V
C7780	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C7781	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7782	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7783	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7784	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7785	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C7786	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7789	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7791	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C7792	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7793	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7901	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7902	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7903	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7904	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7905	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7907	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7908	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7909	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C7910	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C7913	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C7914	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7915	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7916	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C7917	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7918	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7919	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7920	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7921	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C7922	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7923	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7961	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7962	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7963	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7964	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7965	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7968	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7969	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7970	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7971	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7973	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7974	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7975	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7976	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8001	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8002	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8003	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8004	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8005	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8006	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8008	1-100-609-11	TANTAL. CHIP	220uF		5V
C8009	1-128-964-91	TANTAL. CHIP	100uF	20%	6.3V
C8010	1-100-609-11	TANTAL. CHIP	220uF		5V
C8013	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8014	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V

Ref. No.	Part No.	Description			
C8015	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8016	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8017	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8018	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8019	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8020	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8021	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8022	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8023	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8024	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8025	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8026	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8027	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8028	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8029	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8030	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8031	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8032	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8033	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C8034	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C8035	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8036	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8037	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8038	1-165-887-91	CERAMIC CHIP	0.22uF	10%	6.3V
C8039	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8040	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8041	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8042	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8043	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C8044	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8045	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8201	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8203	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8204	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8205	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8210	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8213	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8214	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C8215	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8216	1-128-964-91	TANTAL. CHIP	100uF	20%	6.3V
C8217	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8218	1-100-609-11	TANTAL. CHIP	220uF		5V
C8220	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C8223	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C8224	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C8226	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8227	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8228	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8229	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8230	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C8231	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8232	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8233	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8234	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8235	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8239	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description
		< CONNECTOR >
CN1001	1-779-336-51	CONNECTOR, FFC/FPC 24P
* CN1002	1-816-202-71	CONNECTOR, FPC (ZIF) 26P
* CN1003	1-793-750-71	CONNECTOR, FPC (ZIF) 22P
CN1004	1-691-356-51	CONNECTOR, FFC/FPC (ZIF) 18P
* CN1005	1-816-643-51	FFC/FPC CONNECTOR (LIF) 10P
* CN1006	1-820-586-61	CONNECTOR, FFC/FPC 28P
* CN1007	1-820-586-61	CONNECTOR, FFC/FPC 28P
* CN1008	1-820-586-61	CONNECTOR, FFC/FPC 28P
* CN1010	1-764-007-11	PIN, CONNECTOR (SMD) 12P
CN1011	1-779-336-51	CONNECTOR, FFC/FPC 24P
CN1012	1-779-336-51	CONNECTOR, FFC/FPC 24P
CN1013	1-779-336-51	CONNECTOR, FFC/FPC 24P
CN1014	1-779-336-51	CONNECTOR, FFC/FPC 24P
CN1015	1-779-332-51	CONNECTOR, FFC/FPC 16P
* CN1016	1-816-202-71	CONNECTOR, FPC (ZIF) 26P
* CN1017	1-793-750-71	CONNECTOR, FPC (ZIF) 22P
* CN1018	1-766-350-51	CONNECTOR, FFC/FPC 20P
* CN1019	1-816-645-51	FFC/FPC CONNECTOR (LIF) 14P
* CN1020	1-816-654-51	FFC/FPC CONNECTOR (LIF) 6P
* CN1101	1-817-910-71	CONNECTOR, FPC (ZIF) 45P
CN1102	1-779-337-51	CONNECTOR, FFC/FPC 26P
* CN1201	1-820-806-21	CONNECTOR, COAXIAL (RECEPTACLE)
* CN1202	1-820-806-21	CONNECTOR, COAXIAL (RECEPTACLE)
* CN1203	1-820-806-21	CONNECTOR, COAXIAL (RECEPTACLE)
* CN1204	1-821-760-21	CONNECTOR, COAXIAL (RECEPTACLE)
* CN1205	1-821-760-21	CONNECTOR, COAXIAL (RECEPTACLE)
* CN1206	1-821-760-21	CONNECTOR, COAXIAL (RECEPTACLE)
* CN8001	1-774-210-11	CONNECTOR, BOARD TO BOARD 80P
* CN8002	1-766-350-51	CONNECTOR, FFC/FPC 20P
		< DIODE >
* D1106	6-501-947-01	DIODE 1MA2S1110G8S0
* D1107	6-501-947-01	DIODE 1MA2S1110G8S0
D4401	8-719-069-28	DIODE 1SS400TE-61
D4501	8-719-069-29	DIODE RB520S-30FJTE61
D4502	6-500-168-01	DIODE MA4SD1000LS0
D4503	8-719-074-08	DIODE MA4ZD03001S0
* D4506	6-502-146-01	DIODE 1MA2S7280G8S0
D4601	8-719-027-76	DIODE 1SS357-TPH3
D4602	8-719-069-29	DIODE RB520S-30FJTE61
D4604	8-719-421-67	DIODE MA132WK
D4607	6-500-168-01	DIODE MA4SD1000LS0
D7002	8-719-074-08	DIODE MA4ZD03001S0
D7403	8-719-069-28	DIODE 1SS400TE-61
D7404	8-719-069-28	DIODE 1SS400TE-61
* D7405	6-501-928-01	DIODE 1MAS3132EGLS0
D7406	8-719-069-28	DIODE 1SS400TE-61
		< TERMINAL >
ET8001	1-694-802-21	CONTACT TERMINAL
ET8002	1-694-802-21	CONTACT TERMINAL
ET8003	1-694-802-21	CONTACT TERMINAL
ET8004	1-694-802-21	CONTACT TERMINAL
		< FUSE >
⚠ F4501	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)

• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description
⚠F4502	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
⚠F4503	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
⚠F4506	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
⚠F4508	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
⚠F4509	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
⚠F4601	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
⚠F4602	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
⚠F4603	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
⚠F4604	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
⚠F4605	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
⚠F4606	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)
		< FERRITE BEAD >
FB1401	1-500-238-11	BEAD, FERRITE (CHIP) (1608)
FB1402	1-500-238-11	BEAD, FERRITE (CHIP) (1608)
FB1403	1-500-238-11	BEAD, FERRITE (CHIP) (1608)
FB1601	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB1801	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB1802	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB1803	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB2001	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB2002	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB2201	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB2401	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB2801	1-400-331-11	FERRITE, EMI (SMD) (1005)
FB2802	1-400-331-11	FERRITE, EMI (SMD) (1005)
FB3101	1-400-331-11	FERRITE, EMI (SMD) (1005)
FB3401	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB3601	1-469-581-21	INDUCTOR, FERRITE BEAD (1005)
FB3602	1-469-581-21	INDUCTOR, FERRITE BEAD (1005)
FB3603	1-400-723-11	INDUCTOR, FERRITE BEAD (1005)
FB3604	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB3605	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB3606	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB3607	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB3801	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB3802	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB3803	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB4001	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB4002	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB4003	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB4401	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
		< IC >
* IC1001	6-708-445-01	IC R1114Q291D-TR-FA
IC1002	8-759-058-62	IC TC7S08FU (TE85R)
IC1003	8-759-494-88	IC TC75S56F (TE85R)
IC1004	6-707-084-01	IC TK11230CMCL-G
IC1102	8-759-359-49	IC NJM3414AV (TE2)
IC1103	8-759-058-45	IC NJM3403AV
IC1104	8-759-524-50	IC TC74VHC541FT (EL)
IC1105	6-706-906-01	IC NJM2732RB1 (TE2)
IC1201	6-703-977-01	IC R1114Q331D-TR-FA
IC1202	6-703-977-01	IC R1114Q331D-TR-FA
IC1203	6-703-976-01	IC R1114Q181D-TR-FA
IC1204	6-703-976-01	IC R1114Q181D-TR-FA
IC1205	6-703-976-01	IC R1114Q181D-TR-FA
IC1209	6-703-976-01	IC R1114Q181D-TR-FA

Ref. No.	Part No.	Description
* IC1401	6-710-308-01	IC CXD9891GG
IC1403	8-759-643-94	IC TC7SLU04FU (TE85R)
IC1404	6-701-979-01	IC TC7WB66FK (TE85R)
IC1405	6-710-786-01	IC TC7SH125FU (T5RSOYF
* IC1601	6-712-228-01	IC K4M51323LC-DN75T
* IC1801	6-710-743-01	IC S4DF006X02-Y071-K12K4C
IC1802	8-759-680-48	IC TC7WH157FK (TE85R)
IC1803	8-759-680-48	IC TC7WH157FK (TE85R)
IC1805	8-759-698-31	IC TC7WH74FK (TE85R)
IC1811	6-710-786-01	IC TC7SH125FU (T5RSOYF
* IC1812	6-709-937-01	IC TC7SA34FU (T5RSONYF)
IC2001	6-708-108-01	IC TLS26A100PFBR
* IC2201	8-753-276-37	IC CXD3195AGG-T6
* IC2401	6-710-306-01	IC HYE18M256320CFX-7.5
IC2402	(Not supplied)	IC S29AL016D70BFI013
		(IC2402 is supplied including in VC-513 complete board.)
* IC2601	6-710-783-01	IC MB8AA1121BGL-G-ERE1
* IC2801	6-712-134-01	IC T3Z19XBG-0001 (E02)
* IC3101	6-707-959-01	IC AN12920AAVB
* IC3401	6-710-516-01	IC SN200507002ZZCR
* IC3601	6-710-594-01	IC S4LFS33X0-Y070
IC3804	(Not supplied)	IC S99-50031-33-ER
		(IC3804 is supplied including in VC-513 complete board.)
IC3805	6-702-356-01	IC AK6512CL-L
IC3806	6-705-765-01	IC HY57V161610ETP-8DR
* IC4001	6-807-881-01	IC MB95005BGL-G-111-ERE1
IC4201	(Not supplied)	IC MB91F196BGL1-G-101-ERE1
		(IC4201 is supplied including in VC-513 complete board.)
* IC4202	6-706-013-01	IC AK6514CF-E2
IC4203	8-759-524-04	IC TC74VHC125FT (EL)
IC4204	8-759-524-05	IC TC74VHC126FT (EL)
IC4205	6-702-356-01	IC AK6512CL-L
IC4206	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC4207	6-702-356-01	IC AK6512CL-L
* IC4401	6-808-033-01	IC MB91195ABGL-G-249-ERE1
* IC4501	6-710-636-01	IC MB44C005BBGL-G-ERE1
IC4503	8-759-581-11	IC NJM2125F (TE2)
IC4505	6-708-133-01	IC TK72130CSCL-G
IC4508	6-707-086-01	IC S-80851CNMC-B9CT2G
* IC4601	6-710-636-01	IC MB44C005BBGL-G-ERE1
* IC4602	6-708-464-01	IC R1114Q251D-TR-FA
IC4606	6-703-228-01	IC TK11160CSCL-G
IC4607	6-707-208-01	IC TK11100CSCB-G
IC4608	6-707-208-01	IC TK11100CSCB-G
IC7001	8-759-529-76	IC TC74VHC595FT (EL)
IC7002	8-759-529-76	IC TC74VHC595FT (EL)
IC7003	8-759-529-76	IC TC74VHC595FT (EL)
IC7006	8-759-564-49	IC TC7W53FU (TE12R)
IC7007	8-759-591-61	IC TC7WHU04FU (TE12R)
IC7402	8-759-523-02	IC TC74HC4053AFT (EL)
IC7403	8-759-523-02	IC TC74HC4053AFT (EL)
IC7404	8-759-491-47	IC TC74VHCT08AFT (EL)
IC7405	6-706-906-01	IC NJM2732RB1 (TE2)
IC7406	8-759-564-49	IC TC7W53FU (TE12R)
IC7407	8-759-564-49	IC TC7W53FU (TE12R)
IC7408	8-759-564-49	IC TC7W53FU (TE12R)
IC7409	8-759-564-49	IC TC7W53FU (TE12R)
IC7412	6-706-906-01	IC NJM2732RB1 (TE2)

• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description
IC7417	6-704-818-01	IC NJM2777M-TE2
IC7418	8-759-359-49	IC NJM3414AV (TE2)
IC7419	8-759-422-21	IC NJM4580V (TE2)
IC7501	6-707-170-01	IC M61534FP
IC7502	6-702-527-01	IC AK5380VT-E2
IC7503	6-704-682-01	IC AK4384VT-E2
* IC7506	6-710-823-01	IC NJM2737RB1 (TE2)
IC7508	8-759-680-48	IC TC7WH157FK (TE85R)
IC7509	8-759-680-48	IC TC7WH157FK (TE85R)
IC7512	8-759-524-50	IC TC74VHC541FT (EL)
IC7513	8-759-698-31	IC TC7WH74FK (TE85R)
IC7514	8-759-523-03	IC TC74HC4066AFT (EL)
IC7515	8-759-581-11	IC NJM2125F (TE2)
IC7516	8-759-524-07	IC TC74VHC138FT (EL)
IC7517	8-759-581-11	IC NJM2125F (TE2)
IC7518	8-759-564-49	IC TC7W53FU (TE12R)
IC7519	8-759-581-11	IC NJM2125F (TE2)
IC7520	8-759-581-11	IC NJM2125F (TE2)
IC7521	6-706-906-01	IC NJM2732RB1 (TE2)
IC7701	6-707-170-01	IC M61534FP
IC7702	6-702-527-01	IC AK5380VT-E2
IC7703	6-704-682-01	IC AK4384VT-E2
IC7704	8-759-058-62	IC TC7S08FU (TE85R)
IC7706	8-759-678-15	IC TLV2231CDBVR
* IC7707	6-710-823-01	IC NJM2737RB1 (TE2)
IC7708	8-759-369-73	IC NJM4556AM
IC7712	6-701-917-01	IC TC7PA34FU (TE85R)
IC7714	8-759-581-11	IC NJM2125F (TE2)
IC7715	8-759-581-11	IC NJM2125F (TE2)
IC7903	6-707-479-01	IC AK4121AVF-E2
IC7904	8-759-698-31	IC TC7WH74FK (TE85R)
IC7905	6-701-877-01	IC SM8707EV-G-E2
IC7907	6-707-479-01	IC AK4121AVF-E2
IC7908	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC7909	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC7910	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC7911	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC7912	6-701-917-01	IC TC7PA34FU (TE85R)
IC7913	6-701-917-01	IC TC7PA34FU (TE85R)
IC7932	6-701-917-01	IC TC7PA34FU (TE85R)
IC7933	8-759-698-31	IC TC7WH74FK (TE85R)
IC7934	8-759-680-48	IC TC7WH157FK (TE85R)
IC7938	8-759-598-43	IC TC7WH04FK (TE85R)
IC7939	8-759-524-19	IC TC74VHC164FT (EL)
IC7940	8-759-524-19	IC TC74VHC164FT (EL)
IC7941	8-759-524-19	IC TC74VHC164FT (EL)
IC7942	8-759-524-19	IC TC74VHC164FT (EL)
IC7944	8-759-524-19	IC TC74VHC164FT (EL)
IC7945	8-759-524-19	IC TC74VHC164FT (EL)
IC7946	8-759-524-19	IC TC74VHC164FT (EL)
IC7947	8-759-524-19	IC TC74VHC164FT (EL)
* IC7948	6-707-882-01	IC TC74VHC74FT (EKJ)
* IC8001	6-712-135-01	IC R1173H001D-T1-F
* IC8002	6-712-135-01	IC R1173H001D-T1-F
* IC8003	6-712-135-01	IC R1173H001D-T1-F
* IC8005	6-807-878-01	IC EPCS4SI8N (15)-KM01
* IC8006	6-712-019-01	IC EP2C15AF256C8N

Ref. No.	Part No.	Description
IC8201	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC8203	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC8204	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC8205	6-710-786-01	IC TC7SH125FU (T5RSOYF
* IC8212	6-712-135-01	IC R1173H001D-T1-F
IC8213	6-709-646-01	IC TLC2933AIPWR
IC8214	6-706-652-01	IC NJU7008F3 (TE1)
IC8215	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC8216	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC8217	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC8218	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC8219	6-710-786-01	IC TC7SH125FU (T5RSOYF
IC8222	6-710-786-01	IC TC7SH125FU (T5RSOYF

< COIL >

L1101	1-469-757-21	INDUCTOR	10uH
L1102	1-469-555-21	INDUCTOR	10uH
L1401	1-469-555-21	INDUCTOR	10uH
L1402	1-469-555-21	INDUCTOR	10uH
L1403	1-469-555-21	INDUCTOR	10uH
L1404	1-400-353-21	INDUCTOR	22uH
L1801	1-400-676-11	INDUCTOR	22uH
L1802	1-400-675-11	INDUCTOR	10uH
L1803	1-400-588-11	INDUCTOR	10uH
L1804	1-400-588-11	INDUCTOR	10uH
L1805	1-400-676-11	INDUCTOR	22uH
L2001	1-400-588-11	INDUCTOR	10uH
L2002	1-400-588-11	INDUCTOR	10uH
L2003	1-400-588-11	INDUCTOR	10uH
L2201	1-400-675-11	INDUCTOR	10uH
L2202	1-400-676-11	INDUCTOR	22uH
L2203	1-400-676-11	INDUCTOR	22uH
L2204	1-400-676-11	INDUCTOR	22uH
L2205	1-400-676-11	INDUCTOR	22uH
L2601	1-400-675-11	INDUCTOR	10uH
L2602	1-400-675-11	INDUCTOR	10uH
L2603	1-400-675-11	INDUCTOR	10uH
L3101	1-400-588-11	INDUCTOR	10uH
L3102	1-400-588-11	INDUCTOR	10uH
L3103	1-400-588-11	INDUCTOR	10uH
L3401	1-400-588-11	INDUCTOR	10uH
L4501	1-469-551-21	INDUCTOR	2.2uH
L4502	1-469-549-21	INDUCTOR	1uH
L4503	1-457-049-21	INDUCTOR	10uH
L4504	1-457-049-21	INDUCTOR	10uH
L4505	1-456-138-11	INDUCTOR	33uH
L4506	1-456-138-11	INDUCTOR	33uH
L4507	1-419-353-21	INDUCTOR	10uH
L4512	1-469-561-21	INDUCTOR	100uH
L4515	1-469-549-21	INDUCTOR	1uH
L4516	1-456-138-11	INDUCTOR	33uH
L4517	1-456-138-11	INDUCTOR	33uH
L4602	1-469-555-21	INDUCTOR	10uH
L4603	1-469-555-21	INDUCTOR	10uH
L4604	1-456-501-11	INDUCTOR	33uH
L4605	1-456-497-11	INDUCTOR	15uH
L4606	1-469-551-21	INDUCTOR	2.2uH
L4609	1-469-555-21	INDUCTOR	10uH

Ref. No.	Part No.	Description	
L4610	1-469-551-21	INDUCTOR	2.2uH
L4611	1-469-551-21	INDUCTOR	2.2uH
L4612	1-469-555-21	INDUCTOR	10uH
L4614	1-469-555-21	INDUCTOR	10uH
L4615	1-469-555-21	INDUCTOR	10uH
L4616	1-419-353-21	INDUCTOR	10uH
L4617	1-456-136-21	INDUCTOR	10uH
L4618	1-456-138-11	INDUCTOR	33uH
L4619	1-456-138-11	INDUCTOR	33uH
L4620	1-456-138-11	INDUCTOR	33uH
L4621	1-457-049-21	INDUCTOR	10uH
L4622	1-456-137-11	INDUCTOR	22uH
L4623	1-469-549-21	INDUCTOR	1uH
L4624	1-469-555-21	INDUCTOR	10uH
L4628	1-469-551-21	INDUCTOR	2.2uH
L7001	1-400-588-11	INDUCTOR	10uH
L7402	1-400-588-11	INDUCTOR	10uH
L7501	1-400-676-11	INDUCTOR	22uH
L7503	1-400-676-11	INDUCTOR	22uH
L7504	1-400-676-11	INDUCTOR	22uH
L7505	1-400-588-11	INDUCTOR	10uH
L7701	1-400-676-11	INDUCTOR	22uH
L7703	1-400-676-11	INDUCTOR	22uH
L7704	1-400-676-11	INDUCTOR	22uH
L7705	1-400-588-11	INDUCTOR	10uH
L7901	1-400-588-11	INDUCTOR	10uH
L7902	1-400-588-11	INDUCTOR	10uH
L7903	1-400-588-11	INDUCTOR	10uH
L7904	1-400-588-11	INDUCTOR	10uH
L8001	1-469-549-21	INDUCTOR	1uH
L8003	1-469-549-21	INDUCTOR	1uH
L8004	1-469-549-21	INDUCTOR	1uH
L8005	1-400-588-11	INDUCTOR	10uH
L8201	1-469-553-21	INDUCTOR	4.7uH
L8202	1-469-553-21	INDUCTOR	4.7uH
L8203	1-400-588-11	INDUCTOR	10uH
L8204	1-400-678-11	INDUCTOR	100uH
L8205	1-400-678-11	INDUCTOR	100uH
		< LINE FILTER >	
LF3404	1-457-064-13	COMMON MODE CHOKE COIL	
		< TRANSISTOR >	
* Q1102	6-551-766-01	TRANSISTOR	UNR32A3G0LS0
* Q1104	6-551-766-01	TRANSISTOR	UNR32A3G0LS0
* Q1105	6-551-766-01	TRANSISTOR	UNR32A3G0LS0
* Q1106	6-551-760-01	TRANSISTOR	UNR31A3G0LS0
Q1107	6-551-536-01	TRANSISTOR	ECH8402-S-TL-E
Q1108	6-551-536-01	TRANSISTOR	ECH8402-S-TL-E
Q1109	6-551-536-01	TRANSISTOR	ECH8402-S-TL-E
Q1110	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R
Q1111	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R
Q1112	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R
Q1115	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R
Q1116	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R
Q2001	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2002	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2003	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2004	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2005	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2006	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2007	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2008	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2009	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q3105	8-729-921-51	TRANSISTOR	2SD1834-T100
Q3601	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q3602	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R
Q3603	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q3604	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L
Q3605	8-729-053-54	TRANSISTOR	HN1A01FE-Y/GR (TPLR3)
Q3606	6-550-174-01	TRANSISTOR	2SA2030T2L
Q3607	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q3608	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q3609	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q4501	8-729-056-72	TRANSISTOR	MCH5805-TL-E
Q4502	8-729-056-02	TRANSISTOR	MCH5804-TL-E
* Q4505	6-551-796-01	TRANSISTOR	UNR92A3G08S0
Q4506	6-551-792-01	TRANSISTOR	UNR91ABG08S0
Q4601	6-550-714-01	TRANSISTOR	SCH1406-TL-E
Q4602	6-550-714-01	TRANSISTOR	SCH1406-TL-E
Q4603	6-550-713-01	TRANSISTOR	SCH2816-TL-E
Q4604	6-550-713-01	TRANSISTOR	SCH2816-TL-E
Q4605	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q4606	6-551-184-01	TRANSISTOR	MCH6305-TL-E-S
Q7001	6-550-242-01	TRANSISTOR	DTC114EMFS6T2L
Q7405	6-550-242-01	TRANSISTOR	DTC114EMFS6T2L
Q7406	6-550-242-01	TRANSISTOR	DTC114EMFS6T2L
Q7407	8-729-202-38	TRANSISTOR	2SC3326N-A
Q7408	8-729-202-38	TRANSISTOR	2SC3326N-A
Q7409	6-550-242-01	TRANSISTOR	DTC114EMFS6T2L
Q7410	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q7412	8-729-905-35	TRANSISTOR	2SC4081-R
Q7413	8-729-202-38	TRANSISTOR	2SC3326N-A
Q7414	8-729-202-38	TRANSISTOR	2SC3326N-A
Q7415	8-729-905-35	TRANSISTOR	2SC4081-R
Q7425	8-729-905-35	TRANSISTOR	2SC4081-R
* Q7426	6-551-794-01	TRANSISTOR	UNR92A1G08S0
Q7427	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q7431	8-729-905-35	TRANSISTOR	2SC4081-R
Q7432	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q7433	6-550-242-01	TRANSISTOR	DTC114EMFS6T2L
Q7434	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
* Q7502	6-551-794-01	TRANSISTOR	UNR92A1G08S0
* Q7503	6-551-794-01	TRANSISTOR	UNR92A1G08S0
* Q7504	6-551-794-01	TRANSISTOR	UNR92A1G08S0
* Q7505	6-551-794-01	TRANSISTOR	UNR92A1G08S0
* Q7506	6-551-794-01	TRANSISTOR	UNR92A1G08S0
* Q7507	6-551-794-01	TRANSISTOR	UNR92A1G08S0
* Q7508	6-551-794-01	TRANSISTOR	UNR92A1G08S0
* Q7509	6-551-794-01	TRANSISTOR	UNR92A1G08S0
* Q7510	6-551-794-01	TRANSISTOR	UNR92A1G08S0
* Q7511	6-551-794-01	TRANSISTOR	UNR92A1G08S0
* Q7702	6-551-794-01	TRANSISTOR	UNR92A1G08S0
Q7901	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L

Ref. No.	Part No.	Description			
Q8001	8-729-140-63	TRANSISTOR	2SA1611-M5M6		
Q8201	8-729-140-63	TRANSISTOR	2SA1611-M5M6		
Q8202	8-729-140-63	TRANSISTOR	2SA1611-M5M6		
Q8203	8-729-140-63	TRANSISTOR	2SA1611-M5M6		
		< RESISTOR >			
R1002	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1003	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1004	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1006	1-218-940-11	RES-CHIP	82	5%	1/16W
R1011	1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R1012	1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R1013	1-218-893-11	METAL CHIP	82K	0.5%	1/10W
R1014	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R1020	1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R1022	1-218-941-81	RES-CHIP	100	5%	1/16W
R1024	1-218-941-81	RES-CHIP	100	5%	1/16W
R1026	1-218-941-81	RES-CHIP	100	5%	1/16W
R1028	1-218-941-81	RES-CHIP	100	5%	1/16W
R1031	1-218-937-11	RES-CHIP	47	5%	1/16W
R1037	1-218-940-11	RES-CHIP	82	5%	1/16W
R1102	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R1104	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R1110	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1112	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R1113	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1114	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1116	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R1117	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R1120	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1122	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R1123	1-218-969-11	RES-CHIP	22K	5%	1/16W
R1124	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R1126	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R1127	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R1128	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R1129	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R1130	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R1131	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R1134	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1135	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1136	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1137	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1155	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1157	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R1160	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R1161	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R1163	1-218-990-81	SHORT CHIP	0		
R1164	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R1169	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R1171	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1172	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1173	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1174	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R1175	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R1176	1-218-975-11	RES-CHIP	68K	5%	1/16W
R1180	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1184	1-218-953-11	RES-CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			
R1185	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1186	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1187	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R1201	1-218-990-81	SHORT CHIP	0		
R1202	1-218-990-81	SHORT CHIP	0		
R1203	1-218-990-81	SHORT CHIP	0		
R1204	1-218-990-81	SHORT CHIP	0		
R1205	1-218-990-81	SHORT CHIP	0		
R1206	1-218-990-81	SHORT CHIP	0		
R1207	1-218-990-81	SHORT CHIP	0		
R1208	1-218-990-81	SHORT CHIP	0		
R1209	1-218-990-81	SHORT CHIP	0		
R1210	1-218-990-81	SHORT CHIP	0		
R1211	1-218-990-81	SHORT CHIP	0		
R1212	1-218-990-81	SHORT CHIP	0		
R1213	1-218-990-81	SHORT CHIP	0		
R1214	1-218-990-81	SHORT CHIP	0		
R1215	1-218-990-81	SHORT CHIP	0		
R1216	1-218-990-81	SHORT CHIP	0		
R1217	1-218-990-81	SHORT CHIP	0		
R1218	1-218-990-81	SHORT CHIP	0		
R1219	1-218-990-81	SHORT CHIP	0		
R1220	1-218-990-81	SHORT CHIP	0		
R1221	1-218-990-81	SHORT CHIP	0		
R1222	1-218-990-81	SHORT CHIP	0		
R1223	1-218-990-81	SHORT CHIP	0		
R1224	1-218-990-81	SHORT CHIP	0		
R1225	1-218-990-81	SHORT CHIP	0		
R1226	1-218-990-81	SHORT CHIP	0		
R1227	1-218-990-81	SHORT CHIP	0		
R1228	1-218-990-81	SHORT CHIP	0		
R1229	1-218-990-81	SHORT CHIP	0		
R1230	1-218-990-81	SHORT CHIP	0		
R1231	1-218-990-81	SHORT CHIP	0		
R1232	1-218-990-81	SHORT CHIP	0		
R1233	1-218-990-81	SHORT CHIP	0		
R1234	1-218-990-81	SHORT CHIP	0		
R1235	1-218-990-81	SHORT CHIP	0		
R1236	1-218-990-81	SHORT CHIP	0		
R1237	1-218-990-81	SHORT CHIP	0		
R1238	1-218-990-81	SHORT CHIP	0		
R1239	1-218-990-81	SHORT CHIP	0		
R1240	1-218-990-81	SHORT CHIP	0		
R1241	1-218-990-81	SHORT CHIP	0		
R1242	1-218-990-81	SHORT CHIP	0		
R1243	1-218-990-81	SHORT CHIP	0		
R1244	1-218-990-81	SHORT CHIP	0		
R1245	1-218-990-81	SHORT CHIP	0		
R1246	1-218-990-81	SHORT CHIP	0		
R1247	1-218-990-81	SHORT CHIP	0		
R1248	1-218-990-81	SHORT CHIP	0		
R1249	1-218-990-81	SHORT CHIP	0		
R1250	1-218-990-81	SHORT CHIP	0		
R1251	1-218-990-81	SHORT CHIP	0		
R1252	1-218-990-81	SHORT CHIP	0		
R1253	1-218-990-81	SHORT CHIP	0		
R1254	1-218-990-81	SHORT CHIP	0		
R1255	1-218-990-81	SHORT CHIP	0		

Ref. No.	Part No.	Description			
R1256	1-218-990-81	SHORT CHIP	0		
R1257	1-218-990-81	SHORT CHIP	0		
R1258	1-218-990-81	SHORT CHIP	0		
R1259	1-218-990-81	SHORT CHIP	0		
R1260	1-218-990-81	SHORT CHIP	0		
R1261	1-218-990-81	SHORT CHIP	0		
R1262	1-218-990-81	SHORT CHIP	0		
R1263	1-218-990-81	SHORT CHIP	0		
R1264	1-218-990-81	SHORT CHIP	0		
R1265	1-218-990-81	SHORT CHIP	0		
R1266	1-218-990-81	SHORT CHIP	0		
R1267	1-218-990-81	SHORT CHIP	0		
R1268	1-218-990-81	SHORT CHIP	0		
R1269	1-218-990-81	SHORT CHIP	0		
R1270	1-218-990-81	SHORT CHIP	0		
R1271	1-218-990-81	SHORT CHIP	0		
R1272	1-218-990-81	SHORT CHIP	0		
R1273	1-218-990-81	SHORT CHIP	0		
R1274	1-218-990-81	SHORT CHIP	0		
R1275	1-218-990-81	SHORT CHIP	0		
R1279	1-216-864-11	SHORT CHIP	0		
R1401	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1403	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1404	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1405	1-218-990-81	SHORT CHIP	0		
R1407	1-218-940-11	RES-CHIP	82	5%	1/16W
R1408	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1412	1-218-990-81	SHORT CHIP	0		
R1413	1-218-947-11	RES-CHIP	330	5%	1/16W
R1414	1-218-990-81	SHORT CHIP	0		
R1416	1-218-990-81	SHORT CHIP	0		
R1421	1-218-990-81	SHORT CHIP	0		
R1422	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1423	1-218-990-81	SHORT CHIP	0		
R1427	1-218-990-81	SHORT CHIP	0		
R1429	1-218-935-11	RES-CHIP	33	5%	1/16W
R1430	1-218-935-11	RES-CHIP	33	5%	1/16W
R1604	1-218-990-81	SHORT CHIP	0		
R1805	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1807	1-218-990-81	SHORT CHIP	0		
R1808	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R1809	1-218-990-81	SHORT CHIP	0		
R1810	1-218-935-11	RES-CHIP	33	5%	1/16W
R1811	1-218-935-11	RES-CHIP	33	5%	1/16W
R1812	1-218-990-81	SHORT CHIP	0		
R1813	1-218-990-81	SHORT CHIP	0		
R1814	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1815	1-218-941-81	RES-CHIP	100	5%	1/16W
R1816	1-218-990-81	SHORT CHIP	0		
R1817	1-218-929-11	RES-CHIP	10	5%	1/16W
R1819	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1820	1-218-990-81	SHORT CHIP	0		
R1821	1-218-933-11	RES-CHIP	22	5%	1/16W
R1822	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R1823	1-218-990-81	SHORT CHIP	0		
R1825	1-218-990-81	SHORT CHIP	0		
R1827	1-208-711-11	METAL CHIP	15K	0.5%	1/16W

Ref. No.	Part No.	Description			
R1828	1-218-990-81	SHORT CHIP	0		
R1829	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1830	1-218-990-81	SHORT CHIP	0		
R1831	1-218-990-81	SHORT CHIP	0		
R1832	1-218-990-81	SHORT CHIP	0		
R1833	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1835	1-218-935-11	RES-CHIP	33	5%	1/16W
R1836	1-218-941-81	RES-CHIP	100	5%	1/16W
R1837	1-218-941-81	RES-CHIP	100	5%	1/16W
R1839	1-218-941-81	RES-CHIP	100	5%	1/16W
R1840	1-218-941-81	RES-CHIP	100	5%	1/16W
R1845	1-218-941-81	RES-CHIP	100	5%	1/16W
R1850	1-218-935-11	RES-CHIP	33	5%	1/16W
R1882	1-218-990-81	SHORT CHIP	0		
R1883	1-218-941-81	RES-CHIP	100	5%	1/16W
R1884	1-218-935-11	RES-CHIP	33	5%	1/16W
R1886	1-218-935-11	RES-CHIP	33	5%	1/16W
R1887	1-218-941-81	RES-CHIP	100	5%	1/16W
R1888	1-218-935-11	RES-CHIP	33	5%	1/16W
R1890	1-218-990-81	SHORT CHIP	0		
R1891	1-218-935-11	RES-CHIP	33	5%	1/16W
R1892	1-218-990-81	SHORT CHIP	0		
R1895	1-218-990-81	SHORT CHIP	0		
R1896	1-218-935-11	RES-CHIP	33	5%	1/16W
R1897	1-218-935-11	RES-CHIP	33	5%	1/16W
R1898	1-218-990-81	SHORT CHIP	0		
R1900	1-216-864-11	SHORT CHIP	0		
* R2001	1-208-869-11	METAL CHIP	180	0.5%	1/16W
* R2002	1-208-869-11	METAL CHIP	180	0.5%	1/16W
* R2003	1-208-869-11	METAL CHIP	180	0.5%	1/16W
R2004	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2005	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2006	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2007	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2008	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2009	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2013	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2014	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2015	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2016	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2017	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2018	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2019	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R2020	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R2021	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R2022	1-208-860-81	METAL CHIP	75	0.5%	1/16W
R2023	1-208-860-81	METAL CHIP	75	0.5%	1/16W
R2024	1-208-860-81	METAL CHIP	75	0.5%	1/16W
R2027	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2030	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2207	1-218-935-11	RES-CHIP	33	5%	1/16W
R2208	1-218-941-81	RES-CHIP	100	5%	1/16W
R2209	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2210	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2212	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2213	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2214	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2217	1-218-961-11	RES-CHIP	4.7K	5%	1/16W

Ref. No.	Part No.	Description			
R2218	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2219	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2220	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2221	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2222	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2223	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2224	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2226	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2228	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2231	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2238	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2605	1-218-941-81	RES-CHIP	100	5%	1/16W
R2606	1-218-990-81	SHORT CHIP	0		
R2607	1-218-941-81	RES-CHIP	100	5%	1/16W
R2609	1-218-990-81	SHORT CHIP	0		
R2610	1-218-990-81	SHORT CHIP	0		
R2611	1-218-990-81	SHORT CHIP	0		
R2612	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2613	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2615	1-218-990-81	SHORT CHIP	0		
R2618	1-218-990-81	SHORT CHIP	0		
R2619	1-218-990-81	SHORT CHIP	0		
R2620	1-218-990-81	SHORT CHIP	0		
R2622	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2801	1-218-990-81	SHORT CHIP	0		
R2802	1-218-990-81	SHORT CHIP	0		
R2803	1-218-990-81	SHORT CHIP	0		
R2804	1-218-990-81	SHORT CHIP	0		
R3103	1-218-949-11	RES-CHIP	470	5%	1/16W
R3104	1-218-949-11	RES-CHIP	470	5%	1/16W
R3106	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3107	1-218-948-11	RES-CHIP	390	5%	1/16W
R3108	1-218-948-11	RES-CHIP	390	5%	1/16W
R3109	1-218-973-11	RES-CHIP	47K	5%	1/16W
R3110	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3111	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3115	1-220-169-11	RES-CHIP	75	5%	1/16W
R3116	1-220-169-11	RES-CHIP	75	5%	1/16W
R3117	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3118	1-220-169-11	RES-CHIP	75	5%	1/16W
R3119	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3169	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3401	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3402	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3403	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R3404	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R3405	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R3406	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R3407	1-218-990-81	SHORT CHIP	0		
R3408	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3409	1-208-906-81	METAL CHIP	6.2K	0.5%	1/16W
R3410	1-218-990-81	SHORT CHIP	0		
R3411	1-218-990-81	SHORT CHIP	0		
R3412	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3413	1-218-990-81	SHORT CHIP	0		
R3601	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3602	1-218-953-11	RES-CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			
R3603	1-218-973-11	RES-CHIP	47K	5%	1/16W
R3604	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3605	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3606	1-218-985-11	RES-CHIP	470K	5%	1/16W
R3607	1-218-985-11	RES-CHIP	470K	5%	1/16W
R3609	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3610	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3611	1-218-990-81	SHORT CHIP	0		
R3612	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3613	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3614	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3615	1-218-990-81	SHORT CHIP	0		
R3616	1-218-990-81	SHORT CHIP	0		
R3617	1-218-990-81	SHORT CHIP	0		
R3618	1-218-941-81	RES-CHIP	100	5%	1/16W
R3619	1-218-933-11	RES-CHIP	22	5%	1/16W
R3621	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3622	1-218-985-11	RES-CHIP	470K	5%	1/16W
R3623	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3624	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3625	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3626	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3627	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3628	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3629	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3630	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3631	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3632	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3633	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3634	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3635	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3636	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3637	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3638	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3639	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3640	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3641	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R3642	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R3644	1-218-940-11	RES-CHIP	82	5%	1/16W
R3646	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3649	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3650	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R3651	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R3652	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R3653	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3655	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3657	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3660	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3661	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3662	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3663	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3665	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3801	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3802	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3803	1-218-941-81	RES-CHIP	100	5%	1/16W
R3806	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3807	1-218-941-81	RES-CHIP	100	5%	1/16W
R3808	1-218-953-11	RES-CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			
R3811	1-218-990-81	SHORT CHIP	0		
R4002	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4003	1-218-949-11	RES-CHIP	470	5%	1/16W
R4004	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4005	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4006	1-219-570-11	METAL CHIP	10M	5%	1/10W
R4007	1-218-990-81	SHORT CHIP	0		
R4008	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R4009	1-208-893-11	METAL CHIP	1.8K	0.5%	1/16W
R4011	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4013	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4014	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4015	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4016	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
			(PAL: S270E/S270P/S270C)		
R4016	1-218-967-11	RES-CHIP	15K	5%	1/16W
			(NTSC: S270J/S270U/S270N)		
R4017	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
			(NTSC: S270J/S270U/S270N)		
R4017	1-218-967-11	RES-CHIP	15K	5%	1/16W
			(PAL: S270E/S270P/S270C)		
R4018	1-218-967-11	RES-CHIP	15K	5%	1/16W
R4019	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R4020	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R4022	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4023	1-218-982-11	RES-CHIP	270K	5%	1/16W
R4026	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4027	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4028	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4029	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4030	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4031	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4032	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4033	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4034	1-218-982-11	RES-CHIP	270K	5%	1/16W
R4035	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4036	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4037	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4038	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4039	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4202	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4204	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4210	1-218-941-81	RES-CHIP	100	5%	1/16W
R4211	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4212	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4213	1-218-990-81	SHORT CHIP	0		
R4214	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4216	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4223	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4224	1-216-864-11	SHORT CHIP	0		
R4226	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4227	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4229	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4230	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4231	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4232	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4233	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4235	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4236	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4401	1-218-941-81	RES-CHIP	100	5%	1/16W
R4402	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4403	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4405	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4406	1-218-990-81	SHORT CHIP	0		
R4413	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4414	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4415	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4418	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4420	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4421	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4423	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4427	1-218-981-91	RES-CHIP	220K	5%	1/16W
R4428	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4429	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4430	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4431	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4432	1-218-975-11	RES-CHIP	68K	5%	1/16W
R4433	1-216-864-11	SHORT CHIP	0		
R4437	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4438	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4439	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4440	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4442	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4443	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4445	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4446	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4447	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4450	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4451	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4452	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4453	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4458	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4463	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4464	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4465	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4501	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R4502	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4503	1-218-951-11	RES-CHIP	680	5%	1/16W
R4524	1-216-295-91	SHORT CHIP	0		
R4528	1-208-709-11	METAL CHIP	12K	0.5%	1/16W
R4529	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R4535	1-216-295-91	SHORT CHIP	0		
R4549	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4550	1-218-987-11	RES-CHIP	680K	5%	1/16W
R4551	1-218-979-11	RES-CHIP	150K	5%	1/16W
R4552	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4553	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4554	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4555	1-218-944-11	RES-CHIP	180	5%	1/16W
R4556	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R4557	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R4558	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R4567	1-216-295-91	SHORT CHIP	0		
R4572	1-216-295-91	SHORT CHIP	0		
R4573	1-208-709-11	METAL CHIP	12K	0.5%	1/16W

Ref. No.	Part No.	Description			
R4574	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R4601	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R4602	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4603	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4604	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R4605	1-218-941-81	RES-CHIP	100	5%	1/16W
R4606	1-218-944-11	RES-CHIP	180	5%	1/16W
R4607	1-218-949-11	RES-CHIP	470	5%	1/16W
R4633	1-216-295-91	SHORT CHIP	0		
R4640	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4643	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4644	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4646	1-208-918-11	METAL CHIP	20K	0.5%	1/16W
R4647	1-218-990-81	SHORT CHIP	0		
R4648	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4649	1-216-295-91	SHORT CHIP	0		
R4650	1-216-295-91	SHORT CHIP	0		
R4651	1-216-295-91	SHORT CHIP	0		
R4652	1-216-295-91	SHORT CHIP	0		
R4655	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R4656	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R4657	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R7003	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7007	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7012	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7023	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7027	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7033	1-216-821-11	METAL CHIP	1K	5%	1/10W
R7035	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7052	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7063	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7076	1-216-821-11	METAL CHIP	1K	5%	1/10W
R7077	1-218-446-11	METAL CHIP	1	5%	1/10W
R7084	1-218-971-11	RES-CHIP	33K	5%	1/16W
R7085	1-218-978-11	RES-CHIP	120K	5%	1/16W
R7086	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7087	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R7088	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R7401	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7402	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7403	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7404	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7405	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7406	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7407	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R7408	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R7409	1-218-981-91	RES-CHIP	220K	5%	1/16W
R7410	1-218-981-91	RES-CHIP	220K	5%	1/16W
R7411	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7414	1-218-929-11	RES-CHIP	10	5%	1/16W
R7416	1-218-929-11	RES-CHIP	10	5%	1/16W
R7417	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7418	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7419	1-218-941-81	RES-CHIP	100	5%	1/16W
R7421	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7422	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7423	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R7424	1-208-721-11	METAL CHIP	39K	0.5%	1/16W

Ref. No.	Part No.	Description			
R7425	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R7426	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R7427	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7428	1-218-941-81	RES-CHIP	100	5%	1/16W
R7429	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7430	1-218-979-11	RES-CHIP	150K	5%	1/16W
R7431	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R7432	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7433	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R7434	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7435	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R7436	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R7437	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7438	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7439	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7440	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7441	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7442	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R7443	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R7444	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7445	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7446	1-218-970-11	RES-CHIP	27K	5%	1/16W
R7447	1-218-970-11	RES-CHIP	27K	5%	1/16W
R7448	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7449	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7451	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7452	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7454	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7455	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7456	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7457	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7458	1-218-941-11	RES-CHIP	100	5%	1/16W
R7459	1-218-941-11	RES-CHIP	100	5%	1/16W
R7460	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7461	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7462	1-218-966-11	RES-CHIP	12K	5%	1/16W
R7463	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R7464	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R7465	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7466	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7467	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7468	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7469	1-216-804-11	METAL CHIP	39	5%	1/10W
R7470	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7471	1-216-804-11	METAL CHIP	39	5%	1/10W
R7472	1-216-804-11	METAL CHIP	39	5%	1/10W
R7473	1-216-804-11	METAL CHIP	39	5%	1/10W
R7474	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7476	1-218-945-11	RES-CHIP	220	5%	1/16W
R7479	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7480	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R7481	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R7482	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7483	1-218-980-11	RES-CHIP	180K	5%	1/16W
R7484	1-218-945-11	RES-CHIP	220	5%	1/16W
R7486	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7487	1-218-963-11	RES-CHIP	6.8K	5%	1/16W

Ref. No.	Part No.	Description			
R7488	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7489	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W
R7490	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R7491	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7492	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R7493	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7494	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W
R7495	1-218-972-11	RES-CHIP	39K	5%	1/16W
R7496	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7497	1-218-973-11	RES-CHIP	47K	5%	1/16W
R7498	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7499	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R7505	1-218-929-11	RES-CHIP	10	5%	1/16W
R7506	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R7507	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R7509	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R7511	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R7512	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7513	1-218-941-81	RES-CHIP	100	5%	1/16W
R7514	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7515	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R7517	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7518	1-218-941-81	RES-CHIP	100	5%	1/16W
R7519	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7520	1-218-941-81	RES-CHIP	100	5%	1/16W
R7521	1-218-941-81	RES-CHIP	100	5%	1/16W
R7522	1-218-935-11	RES-CHIP	33	5%	1/16W
R7526	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7530	1-218-941-81	RES-CHIP	100	5%	1/16W
R7533	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7534	1-218-941-81	RES-CHIP	100	5%	1/16W
R7535	1-218-941-81	RES-CHIP	100	5%	1/16W
R7536	1-218-941-81	RES-CHIP	100	5%	1/16W
R7541	1-218-941-81	RES-CHIP	100	5%	1/16W
R7542	1-218-941-81	RES-CHIP	100	5%	1/16W
R7543	1-218-941-81	RES-CHIP	100	5%	1/16W
R7545	1-218-941-81	RES-CHIP	100	5%	1/16W
R7546	1-218-941-81	RES-CHIP	100	5%	1/16W
R7547	1-218-941-81	RES-CHIP	100	5%	1/16W
R7549	1-218-941-81	RES-CHIP	100	5%	1/16W
R7551	1-218-941-81	RES-CHIP	100	5%	1/16W
R7552	1-218-941-81	RES-CHIP	100	5%	1/16W
R7553	1-218-941-81	RES-CHIP	100	5%	1/16W
R7554	1-218-941-81	RES-CHIP	100	5%	1/16W
R7565	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7567	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7568	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7569	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7570	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7571	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7572	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R7573	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R7574	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R7575	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R7593	1-218-941-81	RES-CHIP	100	5%	1/16W
R7594	1-218-941-81	RES-CHIP	100	5%	1/16W
R7595	1-218-941-81	RES-CHIP	100	5%	1/16W
R7596	1-218-941-81	RES-CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			
R7612	1-218-935-11	RES-CHIP	33	5%	1/16W
R7613	1-218-941-81	RES-CHIP	100	5%	1/16W
R7614	1-218-935-11	RES-CHIP	33	5%	1/16W
R7615	1-218-941-81	RES-CHIP	100	5%	1/16W
R7616	1-218-935-11	RES-CHIP	33	5%	1/16W
R7617	1-218-941-81	RES-CHIP	100	5%	1/16W
R7620	1-218-935-11	RES-CHIP	33	5%	1/16W
R7622	1-218-935-11	RES-CHIP	33	5%	1/16W
R7623	1-218-941-81	RES-CHIP	100	5%	1/16W
R7624	1-218-935-11	RES-CHIP	33	5%	1/16W
R7625	1-218-941-81	RES-CHIP	100	5%	1/16W
R7626	1-218-935-11	RES-CHIP	33	5%	1/16W
R7627	1-218-941-81	RES-CHIP	100	5%	1/16W
R7638	1-218-990-81	SHORT CHIP	0		
R7643	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7644	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R7645	1-218-941-81	RES-CHIP	100	5%	1/16W
R7654	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7655	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7656	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7657	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7659	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7660	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7661	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R7662	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7663	1-218-979-11	RES-CHIP	150K	5%	1/16W
R7664	1-218-929-11	RES-CHIP	10	5%	1/16W
R7669	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7698	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7705	1-218-941-81	RES-CHIP	100	5%	1/16W
R7706	1-218-941-81	RES-CHIP	100	5%	1/16W
R7707	1-218-941-81	RES-CHIP	100	5%	1/16W
R7709	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R7711	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7712	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7714	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7715	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7718	1-218-941-81	RES-CHIP	100	5%	1/16W
R7719	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7721	1-218-941-81	RES-CHIP	100	5%	1/16W
R7722	1-218-941-81	RES-CHIP	100	5%	1/16W
R7726	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7730	1-218-941-81	RES-CHIP	100	5%	1/16W
R7733	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7734	1-218-941-81	RES-CHIP	100	5%	1/16W
R7735	1-218-941-81	RES-CHIP	100	5%	1/16W
R7736	1-218-941-81	RES-CHIP	100	5%	1/16W
R7740	1-218-935-11	RES-CHIP	33	5%	1/16W
R7746	1-218-941-81	RES-CHIP	100	5%	1/16W
R7747	1-218-941-81	RES-CHIP	100	5%	1/16W
R7748	1-218-941-81	RES-CHIP	100	5%	1/16W
R7752	1-208-905-11	METAL CHIP	5.6K	0.5%	1/16W
R7753	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7760	1-208-713-11	METAL CHIP	18K	0.5%	1/16W
R7761	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7762	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7763	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W

Ref. No.	Part No.	Description			
R7764	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R7765	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7766	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7767	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7768	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7769	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R7770	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R7771	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R7772	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R7773	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7774	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R7775	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R7776	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R7777	1-216-812-11	METAL CHIP	180	5%	1/10W
R7778	1-216-797-11	METAL CHIP	10	5%	1/10W
R7779	1-216-812-11	METAL CHIP	180	5%	1/10W
R7786	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R7787	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R7790	1-216-811-11	METAL CHIP	150	5%	1/10W
R7791	1-216-811-11	METAL CHIP	150	5%	1/10W
R7793	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R7803	1-218-941-81	RES-CHIP	100	5%	1/16W
R7807	1-218-941-81	RES-CHIP	100	5%	1/16W
R7810	1-218-935-11	RES-CHIP	33	5%	1/16W
R7811	1-218-935-11	RES-CHIP	33	5%	1/16W
R7819	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R7820	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R7821	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R7829	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7844	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7857	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R7858	1-218-929-11	RES-CHIP	10	5%	1/16W
R7859	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R7864	1-218-990-81	SHORT CHIP	0		
R7901	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7903	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7905	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7906	1-218-941-81	RES-CHIP	100	5%	1/16W
R7907	1-218-941-81	RES-CHIP	100	5%	1/16W
R7911	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R7912	1-218-935-11	RES-CHIP	33	5%	1/16W
R7913	1-218-941-81	RES-CHIP	100	5%	1/16W
R7914	1-218-941-81	RES-CHIP	100	5%	1/16W
R7915	1-218-941-81	RES-CHIP	100	5%	1/16W
R7916	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7917	1-218-941-81	RES-CHIP	100	5%	1/16W
R7918	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7919	1-218-935-11	RES-CHIP	33	5%	1/16W
R7920	1-218-935-11	RES-CHIP	33	5%	1/16W
R7921	1-218-935-11	RES-CHIP	33	5%	1/16W
R7922	1-218-935-11	RES-CHIP	33	5%	1/16W
R7924	1-218-969-11	RES-CHIP	22K	5%	1/16W
R7925	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7926	1-218-941-81	RES-CHIP	100	5%	1/16W
R7927	1-218-941-81	RES-CHIP	100	5%	1/16W
R7928	1-218-941-81	RES-CHIP	100	5%	1/16W
R7929	1-218-941-81	RES-CHIP	100	5%	1/16W
R7930	1-218-941-81	RES-CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			
R7931	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R7932	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7933	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7937	1-218-935-11	RES-CHIP	33	5%	1/16W
R7938	1-218-935-11	RES-CHIP	33	5%	1/16W
R7939	1-218-935-11	RES-CHIP	33	5%	1/16W
R7940	1-218-935-11	RES-CHIP	33	5%	1/16W
R7944	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7945	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7947	1-218-941-81	RES-CHIP	100	5%	1/16W
R7948	1-218-941-81	RES-CHIP	100	5%	1/16W
R7949	1-218-941-81	RES-CHIP	100	5%	1/16W
R7950	1-218-941-81	RES-CHIP	100	5%	1/16W
R7964	1-218-941-81	RES-CHIP	100	5%	1/16W
R7969	1-218-941-81	RES-CHIP	100	5%	1/16W
R7970	1-218-941-81	RES-CHIP	100	5%	1/16W
R7972	1-218-941-81	RES-CHIP	100	5%	1/16W
R7973	1-218-935-11	RES-CHIP	33	5%	1/16W
R7974	1-218-941-81	RES-CHIP	100	5%	1/16W
R7978	1-218-935-11	RES-CHIP	33	5%	1/16W
R7979	1-218-941-81	RES-CHIP	100	5%	1/16W
R7980	1-218-941-81	RES-CHIP	100	5%	1/16W
R7981	1-218-941-81	RES-CHIP	100	5%	1/16W
R7982	1-218-941-81	RES-CHIP	100	5%	1/16W
R7984	1-218-941-81	RES-CHIP	100	5%	1/16W
R7985	1-218-941-81	RES-CHIP	100	5%	1/16W
R7986	1-218-941-81	RES-CHIP	100	5%	1/16W
R7987	1-218-941-81	RES-CHIP	100	5%	1/16W
R7988	1-218-941-81	RES-CHIP	100	5%	1/16W
R8002	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8009	1-216-864-11	SHORT CHIP	0		
R8014	1-218-969-11	RES-CHIP	22K	5%	1/16W
R8015	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8016	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8017	1-218-941-81	RES-CHIP	100	5%	1/16W
R8018	1-218-941-11	RES-CHIP	100	5%	1/16W
R8019	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W
R8021	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R8022	1-218-990-81	SHORT CHIP	0		
R8023	1-208-893-11	METAL CHIP	1.8K	0.5%	1/16W
R8025	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R8026	1-218-990-81	SHORT CHIP	0		
R8027	1-220-174-11	RES-CHIP	200	5%	1/16W
R8029	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R8030	1-218-935-11	RES-CHIP	33	5%	1/16W
R8031	1-218-935-11	RES-CHIP	33	5%	1/16W
R8032	1-218-935-11	RES-CHIP	33	5%	1/16W
R8033	1-218-935-11	RES-CHIP	33	5%	1/16W
R8034	1-218-935-11	RES-CHIP	33	5%	1/16W
R8035	1-218-935-11	RES-CHIP	33	5%	1/16W
R8036	1-218-935-11	RES-CHIP	33	5%	1/16W
R8037	1-218-935-11	RES-CHIP	33	5%	1/16W
R8038	1-218-935-11	RES-CHIP	33	5%	1/16W
R8039	1-218-935-11	RES-CHIP	33	5%	1/16W
R8040	1-218-935-11	RES-CHIP	33	5%	1/16W
R8041	1-218-935-11	RES-CHIP	33	5%	1/16W
R8042	1-208-647-11	METAL CHIP	33	0.5%	1/16W

Ref. No.	Part No.	Description			
R8043	1-208-647-11	METAL CHIP	33	0.5%	1/16W
R8044	1-218-935-11	RES-CHIP	33	5%	1/16W
R8045	1-218-935-11	RES-CHIP	33	5%	1/16W
R8046	1-218-935-11	RES-CHIP	33	5%	1/16W
R8047	1-218-935-11	RES-CHIP	33	5%	1/16W
R8048	1-218-935-11	RES-CHIP	33	5%	1/16W
R8050	1-218-935-11	RES-CHIP	33	5%	1/16W
R8051	1-218-935-11	RES-CHIP	33	5%	1/16W
R8052	1-218-935-11	RES-CHIP	33	5%	1/16W
R8053	1-218-935-11	RES-CHIP	33	5%	1/16W
R8054	1-218-935-11	RES-CHIP	33	5%	1/16W
R8055	1-218-935-11	RES-CHIP	33	5%	1/16W
R8056	1-218-935-11	RES-CHIP	33	5%	1/16W
R8057	1-218-941-81	RES-CHIP	100	5%	1/16W
R8058	1-218-935-11	RES-CHIP	33	5%	1/16W
R8059	1-218-935-11	RES-CHIP	33	5%	1/16W
R8060	1-218-935-11	RES-CHIP	33	5%	1/16W
R8061	1-218-935-11	RES-CHIP	33	5%	1/16W
R8062	1-218-935-11	RES-CHIP	33	5%	1/16W
R8063	1-218-935-11	RES-CHIP	33	5%	1/16W
R8064	1-218-935-11	RES-CHIP	33	5%	1/16W
R8065	1-218-935-11	RES-CHIP	33	5%	1/16W
R8068	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8071	1-218-941-81	RES-CHIP	100	5%	1/16W
R8072	1-218-941-81	RES-CHIP	100	5%	1/16W
R8073	1-218-941-81	RES-CHIP	100	5%	1/16W
R8074	1-218-990-81	SHORT CHIP	0		
R8076	1-218-935-11	RES-CHIP	33	5%	1/16W
R8077	1-218-935-11	RES-CHIP	33	5%	1/16W
R8078	1-218-935-11	RES-CHIP	33	5%	1/16W
R8079	1-218-953-11	RES-CHIP	1K	5%	1/16W
R8080	1-218-935-11	RES-CHIP	33	5%	1/16W
R8081	1-218-941-81	RES-CHIP	100	5%	1/16W
R8082	1-218-941-81	RES-CHIP	100	5%	1/16W
R8083	1-218-941-81	RES-CHIP	100	5%	1/16W
R8084	1-218-941-81	RES-CHIP	100	5%	1/16W
R8085	1-218-941-81	RES-CHIP	100	5%	1/16W
R8086	1-218-937-11	RES-CHIP	47	5%	1/16W
R8087	1-218-935-11	RES-CHIP	33	5%	1/16W
R8089	1-218-941-81	RES-CHIP	100	5%	1/16W
R8091	1-218-935-11	RES-CHIP	33	5%	1/16W
R8092	1-218-941-81	RES-CHIP	100	5%	1/16W
R8093	1-218-941-81	RES-CHIP	100	5%	1/16W
R8094	1-218-937-11	RES-CHIP	47	5%	1/16W
R8095	1-218-941-81	RES-CHIP	100	5%	1/16W
R8096	1-218-941-81	RES-CHIP	100	5%	1/16W
R8097	1-218-941-81	RES-CHIP	100	5%	1/16W
R8098	1-218-941-81	RES-CHIP	100	5%	1/16W
R8099	1-218-935-11	RES-CHIP	33	5%	1/16W
R8100	1-218-935-11	RES-CHIP	33	5%	1/16W
R8103	1-218-941-81	RES-CHIP	100	5%	1/16W
R8104	1-218-941-81	RES-CHIP	100	5%	1/16W
R8105	1-218-941-81	RES-CHIP	100	5%	1/16W
R8106	1-218-941-81	RES-CHIP	100	5%	1/16W
R8107	1-218-941-81	RES-CHIP	100	5%	1/16W
R8108	1-218-941-81	RES-CHIP	100	5%	1/16W
R8109	1-218-941-81	RES-CHIP	100	5%	1/16W
R8110	1-218-935-11	RES-CHIP	33	5%	1/16W

Ref. No.	Part No.	Description			
R8111	1-218-935-11	RES-CHIP	33	5%	1/16W
R8112	1-218-935-11	RES-CHIP	33	5%	1/16W
R8114	1-218-941-81	RES-CHIP	100	5%	1/16W
R8116	1-218-941-81	RES-CHIP	100	5%	1/16W
R8117	1-218-990-81	SHORT CHIP	0		
R8118	1-218-941-81	RES-CHIP	100	5%	1/16W
R8119	1-218-941-81	RES-CHIP	100	5%	1/16W
R8120	1-218-941-81	RES-CHIP	100	5%	1/16W
R8121	1-218-941-81	RES-CHIP	100	5%	1/16W
R8122	1-218-941-81	RES-CHIP	100	5%	1/16W
R8125	1-218-941-81	RES-CHIP	100	5%	1/16W
R8126	1-218-935-11	RES-CHIP	33	5%	1/16W
R8127	1-218-941-81	RES-CHIP	100	5%	1/16W
R8128	1-218-941-81	RES-CHIP	100	5%	1/16W
R8129	1-218-941-81	RES-CHIP	100	5%	1/16W
R8130	1-218-941-81	RES-CHIP	100	5%	1/16W
R8131	1-218-941-81	RES-CHIP	100	5%	1/16W
R8132	1-218-941-81	RES-CHIP	100	5%	1/16W
R8133	1-218-990-81	SHORT CHIP	0		
R8136	1-218-937-11	RES-CHIP	47	5%	1/16W
R8138	1-218-937-11	RES-CHIP	47	5%	1/16W
R8139	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8140	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8141	1-218-990-81	SHORT CHIP	0		
R8143	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8145	1-216-864-11	SHORT CHIP	0		
R8147	1-218-935-11	RES-CHIP	33	5%	1/16W
R8148	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8149	1-218-953-11	RES-CHIP	1K	5%	1/16W
R8150	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8151	1-218-990-81	SHORT CHIP	0		
R8152	1-218-990-81	SHORT CHIP	0		
R8153	1-218-990-81	SHORT CHIP	0		
R8154	1-218-990-81	SHORT CHIP	0		
R8155	1-218-990-81	SHORT CHIP	0		
R8156	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8158	1-218-985-11	RES-CHIP	470K	5%	1/16W
R8159	1-218-985-11	RES-CHIP	470K	5%	1/16W
R8160	1-218-985-11	RES-CHIP	470K	5%	1/16W
R8202	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R8204	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8208	1-218-941-81	RES-CHIP	100	5%	1/16W
R8214	1-218-941-81	RES-CHIP	100	5%	1/16W
R8215	1-218-941-81	RES-CHIP	100	5%	1/16W
R8217	1-218-935-11	RES-CHIP	33	5%	1/16W
R8219	1-218-990-81	SHORT CHIP	0		
R8225	1-218-935-11	RES-CHIP	33	5%	1/16W
R8227	1-218-935-11	RES-CHIP	33	5%	1/16W
R8228	1-208-647-11	METAL CHIP	33	0.5%	1/16W
R8261	1-218-933-11	RES-CHIP	22	5%	1/16W
R8262	1-218-933-11	RES-CHIP	22	5%	1/16W
R8265	1-218-990-81	SHORT CHIP	0		
R8270	1-218-941-11	RES-CHIP	100	5%	1/16W
R8271	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W
R8273	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R8274	1-208-675-11	METAL CHIP	470	0.5%	1/16W
R8279	1-208-683-11	METAL CHIP	1K	0.5%	1/16W

Ref. No.	Part No.	Description			
R8280	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R8281	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R8283	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R8284	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R8285	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R8286	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R8287	1-218-965-11	RES-CHIP	10K	5%	1/16W
R8288	1-218-965-11	RES-CHIP	10K	5%	1/16W
R8289	1-218-965-11	RES-CHIP	10K	5%	1/16W
R8290	1-218-941-81	RES-CHIP	100	5%	1/16W
R8291	1-218-941-81	RES-CHIP	100	5%	1/16W
R8292	1-218-941-81	RES-CHIP	100	5%	1/16W
R8293	1-100-415-91	CERAMIC CHIP	0.47uF	10%	6.3V (Note)
R8294	1-208-675-11	METAL CHIP	470	0.5%	1/16W
R8299	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8300	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8301	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8305	1-218-935-11	RES-CHIP	33	5%	1/16W
R8306	1-218-935-11	RES-CHIP	33	5%	1/16W
R8307	1-218-935-11	RES-CHIP	33	5%	1/16W
R8309	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8316	1-216-864-11	SHORT CHIP	0		
R8317	1-216-864-11	SHORT CHIP	0		
R8320	1-218-935-11	RES-CHIP	33	5%	1/16W
R8321	1-218-935-11	RES-CHIP	33	5%	1/16W
R8328	1-218-941-81	RES-CHIP	100	5%	1/16W
R8329	1-218-935-11	RES-CHIP	33	5%	1/16W
R8332	1-218-977-11	RES-CHIP	100K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB1001	1-234-375-21	RES, NETWORK 1K (1005X4)			
RB2201	1-234-377-21	RES, NETWORK 4.7K (1005X4)			
RB4001	1-234-378-11	RES, NETWORK 10K (1005X4)			
RB4002	1-234-375-21	RES, NETWORK 1K (1005X4)			
		< SENSOR >			
* SE4201	1-478-556-11	3 AXIS ACCELEROMETER			
		< OSCILLATOR >			
VCO821	1-795-671-12	OSCILLATOR, CRYSTAL (VCXO) 3.3V (74.175824MHz)			
VCO822	1-795-670-12	OSCILLATOR, CRYSTAL (VCXO) 3.3V (74.25MHz)			
VCO823	1-795-831-12	OSCILLATOR, CRYSTAL (VCXO) 3.3V (27MHz)			
		< VIBRATOR >			
* X1401	1-813-907-21	QUARTZ CRYSTAL OSCILLATOR (83.076923MHz)			
* X1402	1-813-906-21	QUARTZ CRYSTAL OSCILLATOR (83.16MHz)			
X3401	1-781-045-21	VIBRATOR, CRYSTAL (24.576MHz)			
X4001	1-781-525-11	VIBRATOR, CRYSTAL (32.768kHz)			
* X4201	1-767-205-81	VIBRATOR, CRYSTAL (20MHz)			
* X4401	1-767-205-81	VIBRATOR, CRYSTAL (20MHz)			

Ref. No.	Part No.	Description			
	A-1505-523-A	VL-040 BOARD, COMPLETE **********			
	1-960-907-12	HARNESS (JJ-058)			
	3-709-107-01	HOUSING, LIGHT TERMINAL			
	3-709-108-01	HOLDER, CONNECTOR			
		< CAPACITOR >			
C5701	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C5702	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
		< CONNECTOR >			
* CN5701	1-560-364-00	CONNECTOR POST HEADER, ILG (2P)			
⚠CN5702	3-709-106-01	TERMINAL, LIGHT (12V MAX 35W LIGHT)			
⚠CN5703	3-709-106-01	TERMINAL, LIGHT (12V MAX 35W LIGHT)			
		< DIODE >			
* D5701	6-501-965-01	DIODE MAZS220G08S0			
* D5702	6-501-965-01	DIODE MAZS220G08S0			
	A-1506-084-A	VO-013 BOARD, COMPLETE **********			
		< CONNECTOR >			
* CN5601	1-816-655-51	FFC/FPC CONNECTOR (LIF) 8P			
		< VARIABLE RESISTOR >			
RV5601	1-225-950-11	RES, VAR, CARBON 10K (MONITOR)			
	A-1505-593-A	XL-009 BOARD, COMPLETE **********			
		< CAPACITOR >			
C5317	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5318	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5319	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5320	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5321	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5322	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5323	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5324	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5343	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C5344	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C5347	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C5358	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C5359	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C5363	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C5364	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C5379	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
		< CONNECTOR >			
* CN5301	1-691-362-51	CONNECTOR, FFC/FPC (ZIF) 24P			
CN5302	1-820-791-11	XLR CONNECTOR (RECEPTACLE) 3P (AUDIO INPUT3, AUDIO INPUT4)			

Note: Capacitor is mounted to the location where R8293 is printed.

Note: R8293にはコンデンサがマウントされています。

• Refer to page 5-1 for mark ⚠.

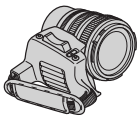
Ref. No.	Part No.	Description			
		< DIODE >			
* D5301	6-501-947-01	DIODE MA2S1110G8S0			
* D5302	6-501-947-01	DIODE MA2S1110G8S0			
* D5303	6-501-947-01	DIODE MA2S1110G8S0			
* D5304	6-501-947-01	DIODE MA2S1110G8S0			
* D5305	6-501-947-01	DIODE MA2S1110G8S0			
* D5306	6-501-947-01	DIODE MA2S1110G8S0			
* D5307	6-501-947-01	DIODE MA2S1110G8S0			
* D5308	6-501-947-01	DIODE MA2S1110G8S0			
* D5309	6-501-947-01	DIODE MA2S1110G8S0			
* D5310	6-501-947-01	DIODE MA2S1110G8S0			
* D5311	6-501-947-01	DIODE MA2S1110G8S0			
* D5312	6-501-947-01	DIODE MA2S1110G8S0			
* D5313	6-501-947-01	DIODE MA2S1110G8S0			
* D5314	6-501-947-01	DIODE MA2S1110G8S0			
* D5315	6-501-947-01	DIODE MA2S1110G8S0			
* D5316	6-501-947-01	DI MA2S1110G8S0			
		< IC >			
* IC5301	6-710-823-01	IC NJM2737RB1 (TE2)			
* IC5302	6-710-823-01	IC NJM2737RB1 (TE2)			
* IC5303	6-710-823-01	IC NJM2737RB1 (TE2)			
		< COIL >			
L5301	1-400-588-11	INDUCTOR	10uH		
L5302	1-400-588-11	INDUCTOR	10uH		
L5303	1-400-588-11	INDUCTOR	10uH		
L5304	1-400-588-11	INDUCTOR	10uH		
		< TRANSISTOR >			
Q5301	6-551-294-01	TRANSISTOR	MCH6606-TL-E		
Q5302	6-551-294-01	TRANSISTOR	MCH6606-TL-E		
Q5303	6-551-294-01	TRANSISTOR	MCH6606-TL-E		
Q5304	6-551-294-01	TRANSISTOR	MCH6606-TL-E		
Q5305	6-550-356-01	TRANSISTOR	MCH6616-TL-E		
Q5306	6-550-356-01	TRANSISTOR	MCH6616-TL-E		
Q5309	8-729-117-32	TRANSISTOR	2SC4177-L6		
* Q5310	6-551-877-01	TRANSISTOR	2SC6054GR8S0		
* Q5311	6-551-877-01	TRANSISTOR	2SC6054GR8S0		
Q5312	8-729-119-64	TRANSISTOR	2SA811A-C17		
Q5313	8-729-119-64	TRANSISTOR	2SA811A-C17		
Q5314	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q5315	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q5316	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R		
Q5317	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R		
Q5318	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L		
Q5319	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L		
Q5320	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q5321	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
		< RESISTOR >			
R5302	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5303	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5304	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5305	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5306	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5307	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5308	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5309	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R5310	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5311	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5312	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R5313	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5314	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5315	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R5316	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5317	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5318	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R5319	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5320	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5321	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5322	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5323	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5324	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5325	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5326	1-216-817-11	METAL CHIP	470	5%	1/10W
R5327	1-216-817-11	METAL CHIP	470	5%	1/10W
R5328	1-216-817-11	METAL CHIP	470	5%	1/10W
R5329	1-216-817-11	METAL CHIP	470	5%	1/10W
R5330	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R5331	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R5332	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R5333	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R5334	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R5335	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R5336	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R5337	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R5338	1-218-967-11	RES-CHIP	15K	5%	1/16W
R5339	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R5340	1-218-967-11	RES-CHIP	15K	5%	1/16W
R5341	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R5342	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R5343	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R5344	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R5345	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R5346	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R5347	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R5348	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R5349	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R5350	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R5351	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R5352	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R5353	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R5354	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R5355	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5356	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R5357	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R5358	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5359	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R5360	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5361	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5362	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R5363	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R5364	1-216-817-11	METAL CHIP	470	5%	1/10W
R5365	1-216-817-11	METAL CHIP	470	5%	1/10W

Ref. No.	Part No.	Description			
R5366	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5367	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5368	1-218-981-91	RES-CHIP	220K	5%	1/16W
R5369	1-218-981-91	RES-CHIP	220K	5%	1/16W
R5370	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5371	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5372	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5373	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5374	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5375	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5376	1-216-817-11	METAL CHIP	470	5%	1/10W
R5377	1-216-817-11	METAL CHIP	470	5%	1/10W
R5378	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5379	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5380	1-218-981-91	RES-CHIP	220K	5%	1/16W
R5381	1-218-981-91	RES-CHIP	220K	5%	1/16W
R5382	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5383	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R5384	1-216-809-11	METAL CHIP	100	5%	1/10W
R5385	1-216-809-11	METAL CHIP	100	5%	1/10W
R5386	1-216-809-11	METAL CHIP	100	5%	1/10W
R5387	1-216-809-11	METAL CHIP	100	5%	1/10W
R5388	1-216-809-11	METAL CHIP	100	5%	1/10W
R5389	1-216-809-11	METAL CHIP	100	5%	1/10W
R5390	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5391	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5392	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5393	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5397	1-218-970-11	RES-CHIP	27K	5%	1/16W
R5398	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5399	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5400	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5401	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5402	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5403	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5404	1-216-837-11	METAL CHIP	22K	5%	1/10W
R5405	1-216-837-11	METAL CHIP	22K	5%	1/10W
R5406	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5407	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5408	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5409	1-218-977-11	RES-CHIP	100K	5%	1/16W

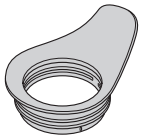
Ver. 1.2 2008.07
The changed portions from
Ver. 1.1 are shown in blue.

• EXCEPT J MODEL

Checking supplied accessories. **to J MODEL**

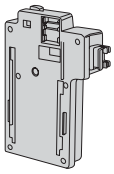


Carl Zeiss Lens
VCL-412BWS
(Refer to page 5-3)



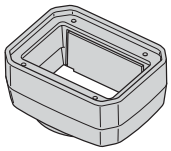
Large Eyecup
X-2189-869-1

Memory Recording Unit
HVR-MRC1
(Note)

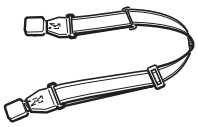


i.LINK Cradle
HVRA-CR1
(Note)

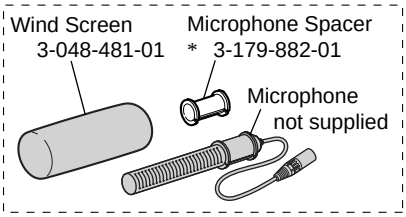
Note: Refer to following service manual when you repair.
・Memory Recording Unit
HVR-MRC1 Service Manual (9-852-266-1□)



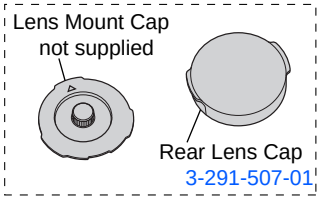
Lens Hood with Lens Cover
X-2188-618-1



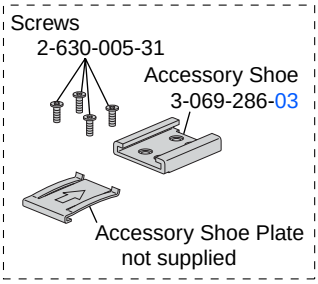
Shoulder Belt
A-6772-374-C



Wind Screen, Microphone
ECM-XM1
1-542-749-11

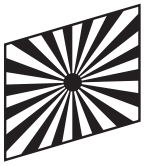


Lens Mount Cap Ass'y
X-2188-940-1

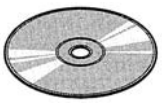


Accessory Shoe Kit
X-2188-877-2

Operating Guide
3-280-851-11 (ENGLISH) (S270U/S270N)
3-280-852-11 (ENGLISH) (S270E/S270P)
3-280-852-21 (SIMPLIFIED CHINESE) (S270C)



Test Chart for Flange Focal
Length Adjustment
3-291-529-01



CD-ROM
"Manuals for Digital HD
Video Camera Recorder"
3-280-849-01

Operating Guide (PDF)

The CD-ROM supplied contains all of language version of the Operating Guide (PDF) for printing.
・The printed matter is not supplied. If required, please order it with the part number below.
・(Only for destination Japanese model)
日本国内については日本語のみが印刷での部品供給可能です。

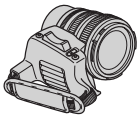
3-280-851-01 (JAPANESE)
3-280-851-11 (ENGLISH)
* 3-280-851-21 (FRENCH)
3-280-852-11 (ENGLISH)
3-280-852-21 (SIMPLIFIED CHINESE)
* 3-280-852-31 (FRENCH)
* 3-280-852-41 (SPANISH)
* 3-280-852-51 (ITALIAN)
* 3-280-852-61 (GERMAN)

Ver. 1.2 2008.07

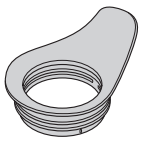
Ver. 1.1からの変更部分は
青色で記載されています。

• J MODEL

付属品

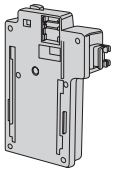


カールツァイスレンズ
VCL-412BWS
(5-3ページ参照)



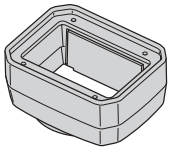
大型アイカップ
X-2189-869-1

メモリーレコーディング
ユニット
HVR-MRC1
(Note)

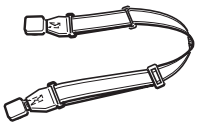


i.LINKクレードル
HVRA-CR1
(Note)

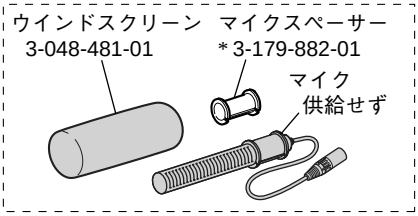
Note: 修理に関しては下記のサービスマニュアルを参照してください。
・Memory Recording Unit
HVR-MRC1 Service Manual (9-852-266-1□)



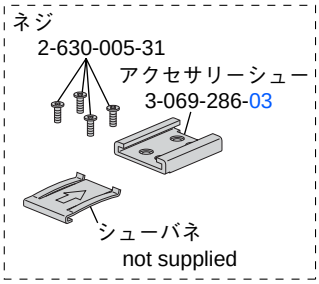
レンズカバー付きフード
X-2188-618-1



ショルダーベルト
A-6772-374-C

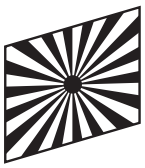


ウインドスクリーン，マイク
ECM-XM1
1-542-749-11



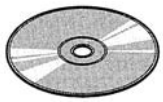
アクセサリーシューキット
X-2188-877-2

レンズマウントキャップ組立
X-2188-940-1



フランジバック調整用チャート
3-291-529-01

取扱説明書
3-280-851-01 (日本語)



CD-ROM
「Manuals for Digital HD
Video Camera Recorder」
3-280-849-01

取扱説明書 (PDF)

印刷用の取扱説明書（PDF）は全ての言語が付属品の
CD-ROMに含まれています。

3-280-851-01 (日本語)

6. ADJUSTMENTS

Link

SECTION 6
ADJUSTMENTS

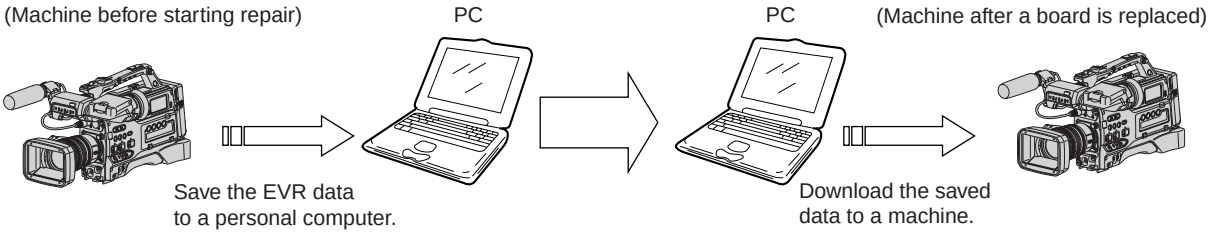
1. Before starting adjustments

EVR Data Re-writing Procedure When Replacing Board

The data that is stored in the repair board, is not necessarily correct.
Perform either procedure 1 or procedure 2 or procedure 3 when replacing board.

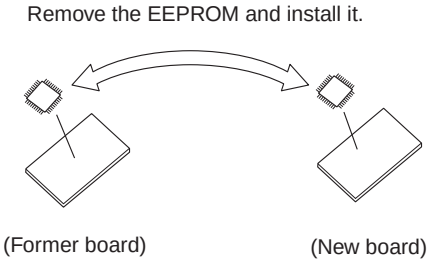
Procedure 1

Save the EVR data of the machine in which a board is going to be replaced. Download the saved data after a board is replaced.



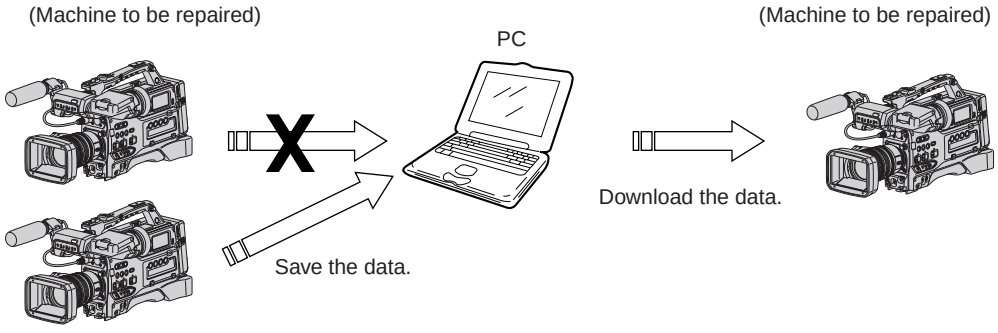
Procedure 2

Remove the EEPROM from the board of the machine that is going to be repaired. Install the removed EEPROM to the replaced board.



Procedure 3

When the data cannot be saved due to defective EEPROM, or when the EEPROM cannot be removed or installed, save the data from the same model of the same destination, and download it.



After the EVR data is saved and downloaded, check the respective items of the EVR data.
(Refer to page 6-3 for the items to be checked)

1-1. Adjusting items when replacing main parts and boards

• Adjusting items when replacing main parts

When replacing main parts, adjust the items indicated by ● in the following table.

Note 1: When replacing the drum assy or the mechanism deck, reset the data of page: 7, address: A8 to AB to "00". (Refer to "Record of Use check" of "6-4. SERVICE MODE")

Note 2: If the lens is broken, it must be replace with the already adjusted lens.

Adjustment Section	Adjustment	Replaced part																								
		Block replacement										Mounted part replacement														
		Lens block (Note 2)	Camera mount (TZ253B)	PRISM device (Including EE-009 and EE-010 board and CMOS imager (IC3001/IC6001))	LCD block LCD901 (LCD panel)	LCD block D901 (Backlight)	EVF block LCD902 (LCD panel)	Mechanism deck (Note 1)	Mechanism deck M901 (Drum assembly) (Note 1)	Mechanism deck MD block		GY-005 board SE8501, 8502 (PITCH, YAW sensor)	VC-513 board X1401, 1402 (Oscillator)	VC-513 board SE4201 (3 Axis accelerometer)	VC-513 board IC1401 (Camera signal processor)	VC-513 board IC1801 (Base band signal processor, etc.)	VC-513 board IC2601 (DV signal processor, etc.)	VC-513 board IC3101 (Video out, etc.)	VC-513 board IC2001 (Component out AMP)	NN-006 board IC7001 (REC/PB AMP)	NN-006 board IC7505 (Reel motor drive)	UU-006 board IC6201 (EVF drive)	PP-006 board IC6001 (LCD drive)	
Initialization of EVR data	Initialization of A, B, D, 1A, 1B page data																									
	Initialization of 8, 9, C, 13, 18, 1C, 1D, 1E page data																									
	Initialization of camera control page data																									
Camera	Origin oscillation check												●													
	Level vial adj.														●											
	ND filter switch adj.		●																							
	Coaxial harness connecting check			●																						
	Flange back adj. (body) Optical path differencial adj.		●	●																						
	Black balance adj.		●	●												●										
	Linear matrix adj.		●	●												●										
	Auto white balance standard data input		●	●												●										
	LV standard data input		●	●												●										
	STD GAIN adj.		●	●												●										
	Auto white balance adj.		●	●												●										
	Color reproduction adj.		●	●												●										
	White defect adj.		●	●																						
	Black defect adj.		●	●																						
	Angular velocity sensor sensitivity adj.											●														
	Flange back adj. (Set)		●	●																						
EVF	EVF gain adj.																							●		
LCD	PANEL gain adj.																●								●	
	V-COM adj.				●																				●	
	Transmissive mode white balance adj.				●	●																			●	
ENG	Lens jack supply voltage check																									
	Iris control adj.																									
	Iris position adj.																									
Mechanism	Tape path adj.							●	●	●																
System control	Node uniqe ID No. input																									
Servo, RF	CAP FG duty adj.							●		●																
	Switching position adj.							●	●	●																
	Tape slack check							●															●			
	Error rate check							●	●	●								●			●					
Video	S VIDEO OUT Y level adj.																●		●							
	S VIDEO OUT chroma level adj.																●		●							
	VIDEO OUT level check																●		●							
	COMPONENT OUT Y level adj.																●			●						
	COMPONENT OUT Pr level adj.																●			●						
	COMPONENT OUT Pb level adj.																●			●						

Table 6-1-1 (1)

• Adjusting items when replacing a board or EEPROM

When replacing a board or EEPROM, adjust the items indicated by ● in the following table.

Adjustment Section	Adjustment	Replaced part										
		GY-005 board (COMPLETE)	LG-005 board (Note 4, 5) (COMPLETE)	VC-513 board (COMPLETE)	NN-006 board (COMPLETE)	UU-006 board (COMPLETE)	PP-006 board (COMPLETE)	VC-513 board IC3805 (EEPROM)	VC-513 board IC4202 (EEPROM)	VC-513 board IC4205 (EEPROM)	VC-513 board IC4207 (EEPROM)	Supporting RadarW
Initialization of EVR data	Initialization of A, B, D, 1A, 1B page data			●				●				
	Initialization of 8, 9, C, 13, 18, 1C, 1D, 1E page data			●								
	Initialization of camera control page data			●					●	●		
Camera	Origin oscillation check			●								
	Level vial adj.			●								●
	ND filter switch adj.			●					●			●
	Coaxial harness connecting check			●					●			●
	Flange back adj. (body) Optical path defferencial adj.			●					●			●
	Black balance adj.			●					●			●
	Linear matrix adj.			●					●			●
	Auto white balance standard data input			●					●			●
	LV standard data input			●					●			●
	STD GAIN adj.			●					●			●
	Auto white balance adj.			●					●			●
	Color reproduction adj.			●					●			●
	White defect adj.			●					●			●
	Black defect adj.			●					●			●
	Angular velocity sensor sensitivity adj.	●		●								
	Flange back adj. (Set)			●					●			●
EVF	EVF gain adj.			●		●						
LCD	PANEL gain adj.			●			●					●
	V-COM adj.			●			●					
	Transmissive mode white balance adj.			●			●					
ENG	Lens jack supply voltage check			●								
	Iris control adj.			●					●			●
	Iris position adj.			●					●			●
Mechanism	Tape path adj.											
System control	Node uniqe ID No. input			●								
Servo, RF	CAP FG duty adj.			●	●							●
	Switching position adj.			●	●							●
	Tape slack check				●							
	Error rate check			●	●							●
Video	S VIDEO OUT Y level adj.			●								
	S VIDEO OUT chroma level adj.			●								
	VIDEO OUT level check			●								
	COMPONENT OUT Y level adj.			●								
	COMPONENT OUT Pr level adj.			●								
	COMPONENT OUT Pb level adj.			●								

Table 6-1-1 (2)

Note 3: IC2402, IC3804 (Flash memory) on the VC-513 board cannot be replaced.

Note 4: If the LG-005 board was damaged, replace the board or lens block.

Note 5: The data cannot be extracted from the EEPROM (IC6005) on the LG-005 board.
If the repair is required, remove the EEPROM from the LG-005 board and reuse it, or replace the board or lens block.

1-2. List of service tools

- Oscilloscope
- Color monitor
- Regulated power supply
- Digital voltmeter
- Frequency counter
- Audio level meter
- Balanced audio generator
- Calculating machine capable of calculating hexadecimal numbers

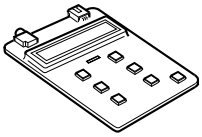
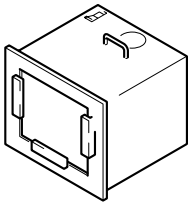
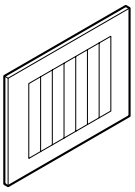
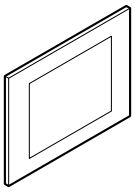
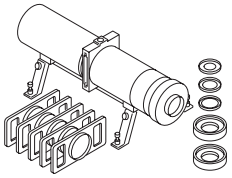
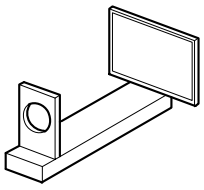
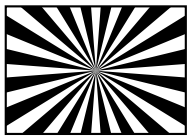
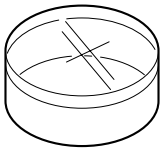
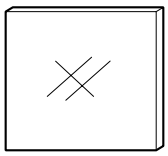
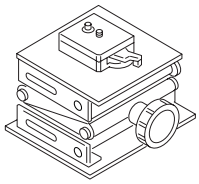
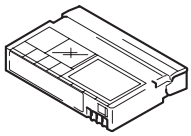
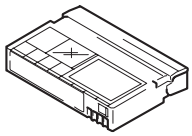
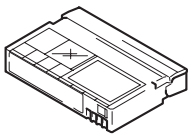
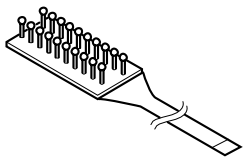
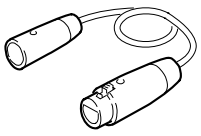
J-1  Adjustment remote commander (RM-95) J-6082-053-B	J-2  Adjustment remote commander (NEW LANC JIG) J-6082-565-A	J-3  LANC cable J-6082-442-A
J-4  Small pattern box PTB-1450 J-6082-557-A	J-5  Color bar chart For PTB-1450: J-6082-559-A	J-6  Clear chart For PTB-1450: J-6082-560-A
J-7  Minipattern box J-6082-353-B	J-8  Flange back adjustment jig J-6082-563-A	J-9  Siemens star chart J-6080-875-A
J-10  Filter for color temperature correction (C14) J-6080-058-A	J-11  ND filter 1.0 J-6080-808-A ND filter 0.4 J-6080-806-A ND filter 0.1 J-6080-807-A	J-12  Camera table J-6082-384-A
J-13  SW/OL standard (XH2-3) 8-967-997-11	J-14 Audio operation check  for NTSC (XH5-3) 8-967-997-51 for PAL (XH5-3P) 8-967-997-55	J-15 System operation check  for NTSC (XH5-5) 8-967-997-61 for PAL (XH5-5P) 8-967-997-66
J-16  CPC-13 jig J-6082-443-A	J-17  Circular connector (PF, XLR4P) 1-783-189-11 (Note 1)	

Fig. 6-1-1 (1)

Note 1: Refer to “1-1-2. How to make the DC cable”.

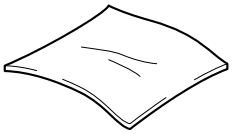
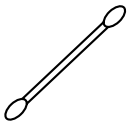
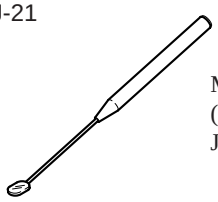
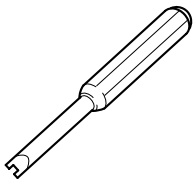
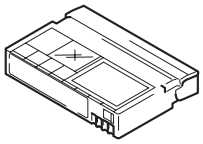
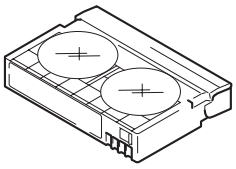
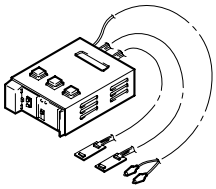
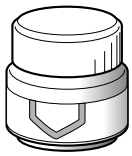
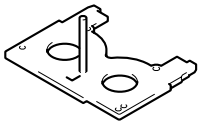
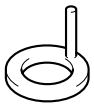
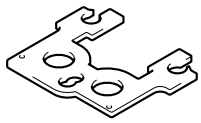
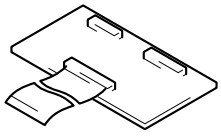
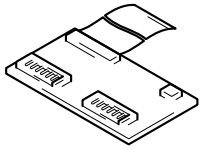
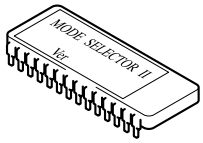
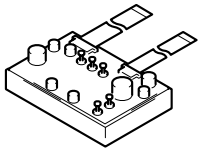
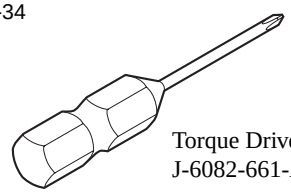
J-18  Head cleaning liguid 9-919-573-01	J-19  Wiping cloth 7-741-900-53	J-20  Super fine applicator (made by Nippon Applicator (P752D))
J-21  Mirror (Small oval type) J-6080-840-A	J-22  Screwdraiver for the tape path J-6082-026-A	J-23  Tracking tape (XH2-1A1) 8-967-999-03
J-24  Mini DV torque cassette J-6082-360-A	J-25  Mode Selector II J-6082-282-B	J-26  Suncall Grease (FG-87HSR) 7-640-006-08
J-27  Cassette reference plate J-6082-330-A	J-28  Reel reference plate J-6082-331-A	J-29  TG 2/7 preset plate J-6082-459-A
J-30  Relay board for tension regulator adjustment J-6082-461-A	J-31  Mode selector conversion board J-6082-460-A	J-32  ROM for Mode selector (Cope with R mechanism) (Note 2) J-6082-314-E
J-33  Board for tension regulator adjustment J-6082-359-A	J-34  Torque Driver Bit (#0) J-6082-661-A	

Fig. 6-1-1 (2)

Note 2: The ROM makes mode selector II's version up to use it with R mechanism.

6-1. CAMERA SECTION ADJUSTMENTS

1-1. PREPARATIONS BEFORE ADJUSTMENTS (CAMERA SECTION)

1-1-1. Preparations

Note: Before perform the adjustment, check that the data of page: 0, address: 10 is “00”.
If not, select page: 0, address: 10, and set data “00”.

1) Connect the equipment for adjustments according to Fig. 6-1-3.

1-1-2. How to make the DC cable

Cut the connecting cable (1-783-189-11), and connect the regulated power supply to the circular connector (receptacle) as shown in the following figure.

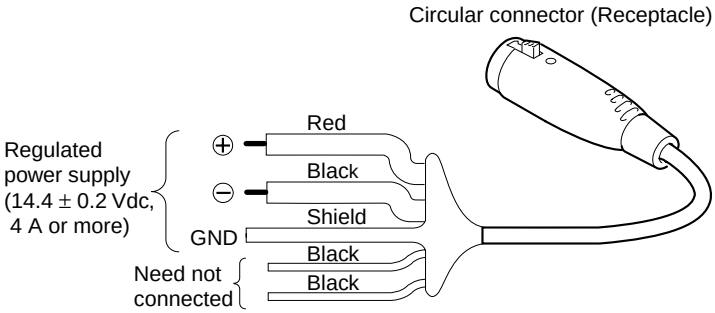


Fig. 6-1-2

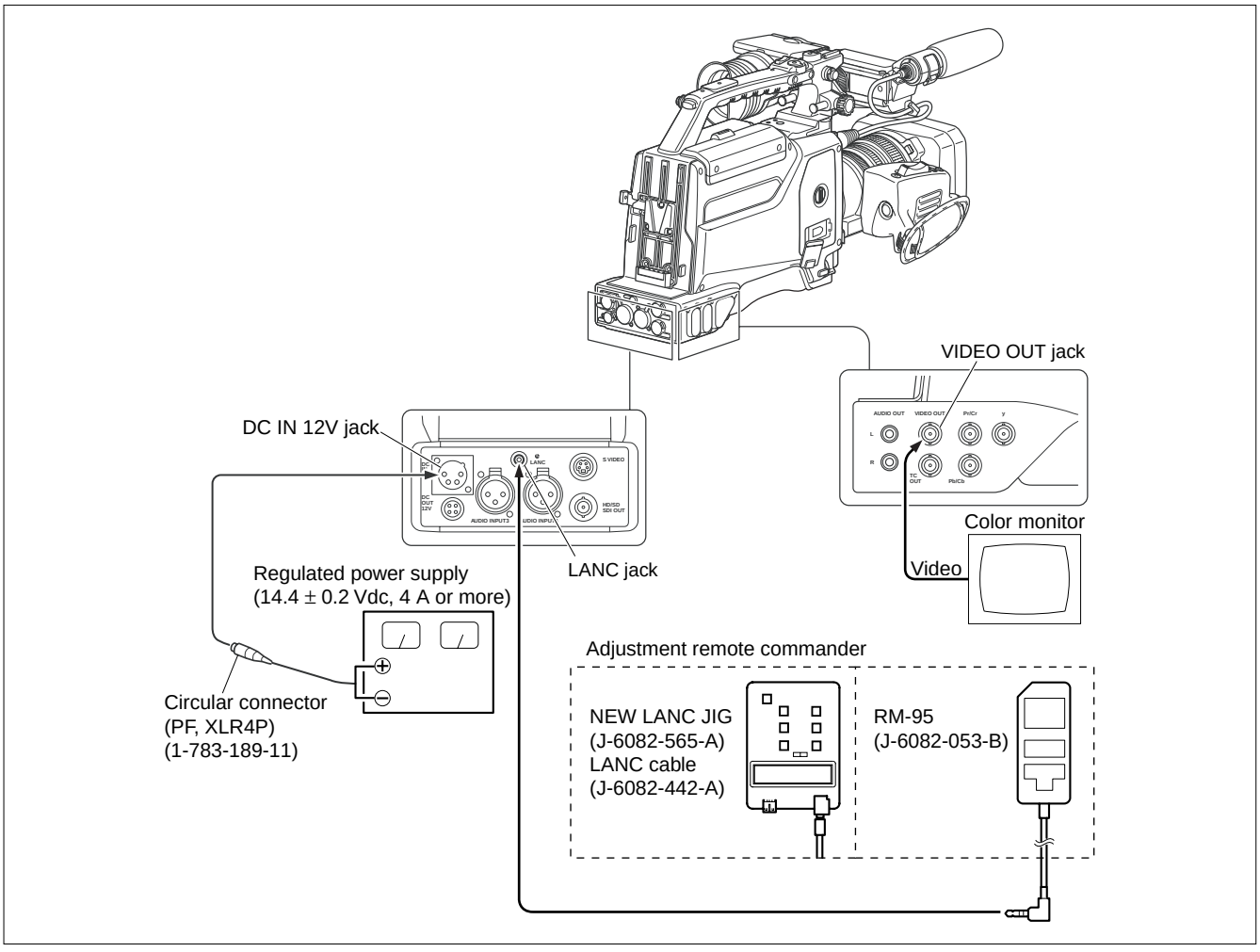


Fig. 6-1-3

1-1-3. Precaution

1. Setting the Switch

Unless otherwise specified, set the switches as follows and perform adjustments without loading cassette.

1. CAMERA/VCR switch ..... CAMERA
2. FOCUS ring (Lens block) ..... Mode A
3. ND FILTER 1
4. ZOOM switch (Lens block) ..... SERVO
5. CAMERA MODE switch ..... AUTO
6. ASSIGN4/ZEBRA switch ..... OFF
7. ASSIGN5/AE SHIFT 0
8. ASSIGN6/STEADY SHOT ..... OFF
9. PICTURE PROFILE switch ..... OFF
10. MENU settings
    - CAMERA SET menu
      - BACK LIGHT ..... OFF
      - SPOT LIGHT ..... OFF
      - D. EXTENDER ..... OFF
    - IN/OUT REC menu
      - REC FORMAT HDV1080i

2. Order of Adjustments

Basically carry out adjustments in the order given.

Color bar chart (Color reproduction adjustment frame)

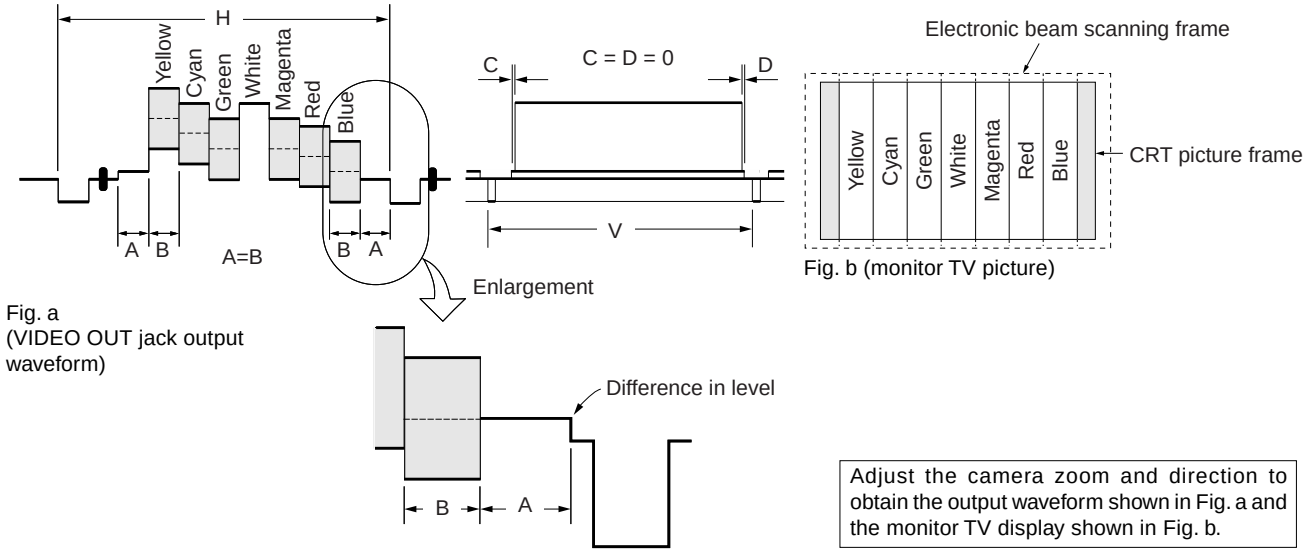


Fig. 6-1-4

3. Subjects

1) Color bar chart (Color reproduction adjustment frame)
   When performing adjustments using the color bar chart, adjust the picture frame as shown in Fig. 6-1-4. (Color reproduction adjustment frame)
2) Clear chart (Color reproduction adjustment frame)
   Remove the color bar chart from the pattern box and insert a clear chart in its place. (Do not perform zoom operations during this time)
3) Chart for flange back adjustment
   Join together a piece of white A0 size paper (1189 mm × 841 mm) and a piece of black paper to make the chart shown in Fig. 6-1-5.

Note: Use a non-reflecting and non-glazing vellum paper. The size must be A0 or larger and the joint between the white and black paper must not have any undulations.

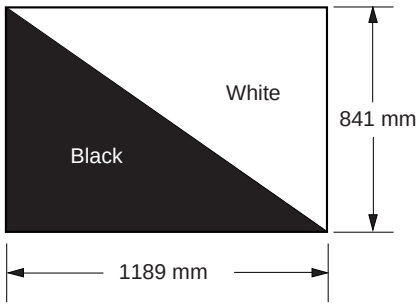


Fig. 6-1-5

4. Setting Distance between Pattern Box and Camera

Set the distance from the front of the lens to the pattern box as shown in Fig. 6-1-6.

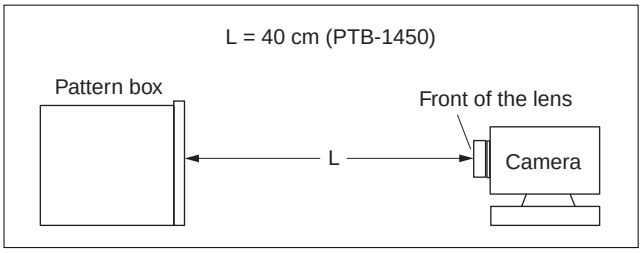
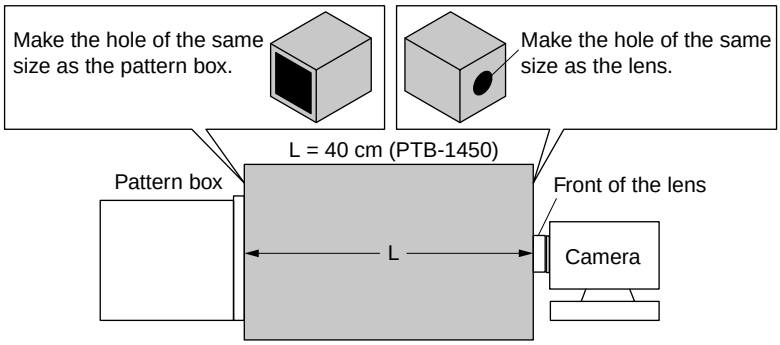


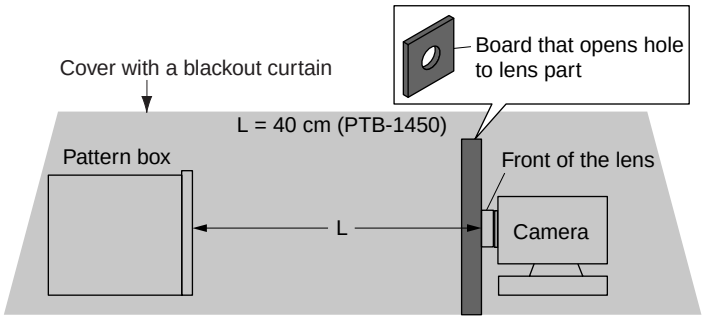
Fig. 6-1-6

5. Precautions When Using Pattern Box

1) It takes about 30 minutes for pattern box to stabilize its brightness.
   Turn on the pattern box 30 minutes before the adjustment starts.
2) Make arrangement so that the outside light does not enter the chart surface in the pattern box.
   Also, place a board between chart and camera, and make a hole at the lens part of the board so that the camera is not reflected in the shot image screen.
   (Adjustment may not be performed correctly due to the influence of outside light.)
   Example 1: Place a box to block a section between pattern box and camera.



Example 2: Place a board having a hole in front of the camera and cover the pattern box and camera with a blackout curtain



3) Control of color chart
   The color chart will fade if it is exposed to direct sunlight or strong light.
   Since the fading of color chart progresses even with the light in the pattern box, remove and store the color chart when it is not used.
   Remove the color chart and store it.
   Store the color chart in a place not exposed to direct light, avoiding high temperature and humidity.
   Use the color chart for about three years, and afterward replace it with a new chart.

1-2. INITIALIZATION OF EVR DATA

Note 1: Pages used for the EVR consists of 42 pages. There are 8, 9, A, B, C, D, 13, 18, 1A, 1B, 1C, 1D, 1E, 6D, 6E, 6F, 8C, 8D, 8E, 8F, 9C, 9D, 9E, 9F, AD, AE, AF, BF, C2, C3, C4, C5, C6, C7, C8, C9, CA, CB, CC, CD, CE, CF, pages.

Note 2: If 2-digit page is selected, set higher-order digit to page: 0, address: 10 as data, and then select lower-order digit by a usual method.
e.g.: Set data: 06 to page: 0, address: 10, and then select page: D. Thus, the page 6D can be selected.

1-2-1. Initialization of A, B, D, 1A, 1B Page Data

Note: Check that the data of page: 0, address: 10 is "00".

1. Initializing of A, B, D, 1A, 1B Page Data

Note: If the A, B, D, 1A, 1B page data has been initialized, the following adjustments need to be performed again.
1) Modification of A, B, D, 1A, 1B page data
2) Level vial adjustment

Adjustment Page	A
Adjustment Address	10 to FF
Adjustment Page	B
Adjustment Address	00 to FF
Adjustment Page	D
Adjustment Address	10 to FF
Adjustment Page	1A
Adjustment Address	00 to FF
Adjustment Page	1B
Adjustment Address	00 to FF

Initializing method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	2	27		Check the bit2 value. 1: NTSC model 0: PAL model
4	7	04		Set the following data 10: NTSC model 11: PAL model
5	7	01		Set the following data 20: Initializing A page 21: Initializing B page 22: Initializing D page 23: Initializing 1A page 24: Initializing 1B page 25: Initializing A and 1A page 26: Initializing B and 1B page 28: Initializing A, B, D, 1A and 1B page
6	7	02	FF	
7	7	00	01	Press PAUSE (Write) button.
8	7	02		Check the data changes to "01".
9				Perform "Modification of A, B, D, 1A, 1B Page Data"

2. Modification of A, B, D, 1A, 1B Page Data

If the A, B, D, 1A, 1B page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) If modification of data on pages A, B, D, set data: 00 to page: 0, address: 10, and then select pages A, B, D.
3) If modification of data on pages 1A, 1B, set data: 01 to page: 0, address: 10, and then select pages A, B.
   After the modification of data finished, return the data on page: 0, address: 10 to "00".
4) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note 1: If copy the data built in the different model, the camcorder may not operate.
5) When changing the data, press the PAUSE (Write) button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
6) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification A, B, D, 1A, 1B page data:

Order	Page	Address	Data	Procedure
1	0	10	00	
2	2	00	29	
3	2	01	29	Press PAUSE (Write) button.

Note 2: If following symptoms occur after completing of the "Modification A, B, D, 1A, 1B page data", check that the data of the "Fixed data-2" address of A, B, D, 1A, 1B page are same as those of same model of same destination.
1) The power is shut off so that unit cannot operate.

3. A Page table

Note 1: Check that the data of page: 0, address: 10 is“00”.

Note 2: Fixed data-1: Initialized data. (Refer to“1. Initializing the A, B, D, 1A, 1B Page Data”)
Fixed data-2: Modified data. (Refer to“2. Modification of A, B, D, 1A, 1B Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
10	00	00	Test mode
11 to 17	Fixed data-1 (Initialized data)		
18	Fixed data-2		
19 to EF	Fixed data-1 (Initialized data)		
F0	Fixed data-2		
F1			
F2			
F3			
F4, F5	Fixed data-1 (Initialized data)		
F6	27	27	Level vial adj.
F7	DE	DE	
F8	27	27	
F9	EC	EC	
FA	28	28	
FB	32	32	
FC to FF	Fixed data-1 (Initialized data)		

4. B Page table

Note 1: Check that the data of page: 0, address: 10 is “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the A, B, D, 1A, 1B Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of A, B, D, 1A, 1B Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

5. D Page table

Note 1: Check that the data of page: 0, address: 10 is “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the A, B, D, 1A, 1B Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of A, B, D, 1A, 1B Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
10 to FF	Fixed data-1 (Initialized data)		

6. 1A Page table

Note 1: If reading/writing data on pages 1A, set data: 01 to page: 0, address: 10, and then select pages: A. By this data setting, the pages 1A can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the A, B, D, 1A, 1B Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of A, B, D, 1A, 1B Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

7. 1B Page table

Note 1: If reading/writing data on pages 1B, set data: 01 to page: 0, address: 10, and then select pages: B. By this data setting, the pages 1B can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the A, B, D, 1A, 1B Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of A, B, D, 1A, 1B Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

1-2-2. Initialization of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data

1. Initializing of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data

Note 1: If "Initialization of Pages 8, 9, C, 13, 18, 1C, 1D, 1E" is executed, all data on pages 8, 9, C, 13, 18, 1C, 1D, 1E are initialized. (Only an individual page cannot be initialized)

Note 2: If the 8, 9, C, 13, 18, 1C, 1D, 1E page data has been initialized, the following adjustments need to be performed again.

1) Modification of 8, 9, C, 13, 18, 1C, 1D, 1E page data
2) Electronic viewfinder system adjustments (if all areas were initialized)
3) LCD system adjustments (if all areas were initialized)
4) Node unique ID No. input (if all areas were initialized)
5) Servo, RF system adjustments (if all areas were initialized)
6) Video system adjustments (if all areas were initialized)

Adjustment Page	8
Adjustment Address	00 to FF
Adjustment Page	9
Adjustment Address	00 to FF
Adjustment Page	C
Adjustment Address	10 to FF
Adjustment Page	13
Adjustment Address	00 to FF
Adjustment Page	18
Adjustment Address	00 to FF
Adjustment Page	1C
Adjustment Address	00 to FF
Adjustment Page	1D
Adjustment Address	00 to FF
Adjustment Page	1E
Adjustment Address	00 to FF

Initializing method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	3	81		Set the following data, and press PAUSE (Write) button. (Note 3) 00: Initializing all areas 01: Initializing other than adjustment address
4	3	80	0C	Press PAUSE (Write) button.
5	3	80		Check the data changes to "1C".
6	3	91		Set the following data, and press PAUSE (Write) button. (Note 3) 01: Initializing all areas 11: Initializing other than adjustment address
7	3	90	0C	Press PAUSE (Write) button.
8	3	90		Check the data changes to "1C".
9				Perform "Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data"

Note 3: If other than adjustment address was initialized, the adjusted data is not initialized.

2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data

If the 8, 9, C, 13, 18, 1C, 1D, 1E page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

Processing before Modification 8, 9, C, 13, 18, 1C, 1D, 1E page data:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	3	71	01	Press PAUSE (Write) button.

Modifying Method:

1) If modification of data on pages 8, 9, C, set data: 00 to page: 0, address: 10, and then select pages 8, 9, C.
2) If modification of data on pages 13, 18, 1C, 1D, 1E, set data: 01 to page: 0, address: 10, and then select pages 3, 8, C, D, E. After the modification of data finished, return the data on page: 0, address: 10 to "00".
3) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note: If copy the data built in the different model, the camcorder may not operate.
4) When changing the data, press the PAUSE (Write) button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
5) If all areas were initialized, check that the data at the addresses for adjustment are initial values (adjustment initial values) listed in the table.
   If different, change them to the adjustment initial values.

Processing after Completing Modification 8, 9, C, 13, 18, 1C, 1D, 1E page data:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	3	70	10	Press PAUSE (Write) button.
4	3	70		Check the data changes to "11".
5	2	00	29	
6	2	01	29	Press PAUSE (Write) button.

3. 8 Page table

Note 1: Check that the data of page: 0, address: 10 is“00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to 92	Fixed data-1 (Initialized data)		
93	Fixed data-2		
94			
95	Fixed data-1 (Initialized data)		
96	Fixed data-2		
97			
98			
99			
9A to AE	Fixed data-1 (Initialized data)		
AF	Fixed data-2		
B0			
B1	Fixed data-1 (Initialized data)		
B2	Fixed data-2		
B3			
B4	Fixed data-1 (Initialized data)		
B5	Fixed data-2		
B6			
B7	Fixed data-1 (Initialized data)		
B8	Fixed data-2		
B9 to FF	Fixed data-1 (Initialized data)		

4. 9 Page table

Note 1: Check that the data of page: 0, address: 10 is “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

5. C Page table

Note 1: Check that the data of page: 0, address: 10 is “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
10	EE	EE	Switching position adj.
11	00	00	
12	00	00	
13	00	00	
14, 15			Fixed data-1 (Initialized data)
16	20	20	CAP FG duty adj.
17 to 8B			Fixed data-1 (Initialized data)
8C	79	79	COMPONENT OUT Y level adj.
8D	31	31	COMPONENT OUT Pb level adj.
8E	32	32	COMPONENT OUT Pr level adj.
8F to 94			Fixed data-1 (Initialized data)
95	67	-	S VIDEO OUT Y level adj. (NTSC)/Fixed data-1 (PAL)
96	53	-	S VIDEO OUT chroma level adj.
97	69	-	(NTSC)/Fixed data-1 (PAL)
98	-	67	Fixed data-1(NTSC)/S VIDEO OUT Y level adj. (PAL)
99	-	53	Fixed data-1(NTSC)/S VIDEO OUT
9A	-	69	chroma level adj. (PAL)
9Bto A0			Fixed data-1 (Initialized data)
A1	70	70	V-COM adj. (LCD)
A2	20	20	Transmissive mode white balance
A3	20	20	adj. (LCD)
A4, A5			Fixed data-1 (Initialized data)
A6	80	80	PANEL gain adj.
A7	80	80	
A8	80	80	
A9	80	80	EVF gain adj.
AA	80	80	
AB	80	80	
AC to B1			Fixed data-1 (Initialized data)
B2	00	00	Error rate check
B3	00	00	
B4	00	00	
B5	00	00	
B6	00	00	
B7	80	80	
B8	00	00	
B9	00	00	
BA	00	00	
BB	00	00	
BC	00	00	
BD	00	00	
BE	00	00	Error rate check
BF	00	00	
C0	00	00	
C1	00	00	
C2	80	80	
C3	00	00	
C4	00	00	
C5	00	00	
C6	00	00	
C7	00	00	
C8 to F3			Fixed data-1 (Initialized data)
F4	00	00	Emergence memory address (Mechanism section)
F5	00	00	
F6	00	00	
F7	00	00	
F8	00	00	
F9	00	00	
FA	00	00	
FB	00	00	
FC	00	00	
FD	00	00	
FE	00	00	
FF	00	00	

6. 13 Page table

Note 1: If reading/writing data on pages 13, set data: 01 to page: 0, address: 10, and then select pages: 3. By this data setting, the pages 13 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 03	Fixed data-1 (Initialized data)		
04	08	08	Node unique ID No. input
05	00	00	
06	46	46	
07	01	01	
08	02	02	
09	00	00	
0A	00	00	
0B	00	00	
0C to 13	Fixed data-1 (Initialized data)		
14	Fixed data-2		
15 to 24	Fixed data-1 (Initialized data)		
25	Fixed data-2		
26 to FF	Fixed data-1 (Initialized data)		

7. 18 Page table

Note 1: If reading/writing data on pages 18, set data: 01 to page: 0, address: 10, and then select pages: 8. By this data setting, the pages 18 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 66	Fixed data-1 (Initialized data)		
67	Fixed data-2		
68			
69, 6A	Fixed data-1 (Initialized data)		
6B	Fixed data-2		
6C, 6D	Fixed data-1 (Initialized data)		
6E	Fixed data-2		
6F			
70 to 8F	Fixed data-1 (Initialized data)		
90	Fixed data-2		
91			
92, 93	Fixed data-1 (Initialized data)		
94	Fixed data-2		
95			
96			
97			
98 to FF	Fixed data-1 (Initialized data)		

8. 1C Page table

Note 1: If reading/writing data on pages 1C, set data: 01 to page: 0, address: 10, and then select pages: C. By this data setting, the pages 1C can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to"00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

9. 1D Page table

Note 1: If reading/writing data on pages 1D, set data: 01 to page: 0, address: 10, and then select pages: D. By this data setting, the pages 1D can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

10. 1E Page table

Note 1: If reading/writing data on pages 1E, set data: 01 to page: 0, address: 10, and then select pages: E. By this data setting, the pages 1E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

1-2-3. Initialization of Camera Control Page Data

1. Initializing of Camera Control Page Data

Note 1: If "Initialization of Camera Control Page Data" is executed, all data on camera control page are initialized. (Only an individual page cannot be initialized)

Note 2: If the camera control page data has been initialized, the following adjustments need to be performed again.
1) Modification of camera control page data
2) Camera system adjustment (if all areas were initialized)

Adjustment Page	6D
Adjustment Address	00 to F9
Adjustment Page	6E
Adjustment Address	00 to FF
Adjustment Page	6F
Adjustment Address	10 to FF
Adjustment Page	8C
Adjustment Address	00 to FF
Adjustment Page	8D
Adjustment Address	00 to FF
Adjustment Page	8E
Adjustment Address	00 to FF
Adjustment Page	8F
Adjustment Address	00 to FF
Adjustment Page	9C
Adjustment Address	00 to FF
Adjustment Page	9D
Adjustment Address	00 to FF
Adjustment Page	9E
Adjustment Address	00 to FF
Adjustment Page	9F
Adjustment Address	00 to FF
Adjustment Page	AD
Adjustment Address	00 to 4F
Adjustment Page	AE
Adjustment Address	00 to 8F
Adjustment Page	AF
Adjustment Address	00 to FF
Adjustment Page	BF
Adjustment Address	00 to FF
Adjustment Page	C2
Adjustment Address	00 to FF
Adjustment Page	C3
Adjustment Address	00 to FF
Adjustment Page	C4
Adjustment Address	00 to FF
Adjustment Page	C5
Adjustment Address	00 to FF
Adjustment Page	C6
Adjustment Address	00 to DF
Adjustment Page	C7
Adjustment Address	00 to FF
Adjustment Page	C8
Adjustment Address	00 to FF
Adjustment Page	C9
Adjustment Address	00 to FF
Adjustment Page	CA
Adjustment Address	00 to FF
Adjustment Page	CB
Adjustment Address	00 to DF
Adjustment Page	CC
Adjustment Address	00 to FF
Adjustment Page	CD
Adjustment Address	00 to FF
Adjustment Page	CE
Adjustment Address	00 to FF
Adjustment Page	CF
Adjustment Address	00 to FF

Initializing method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	2	27		Check the bit2 value. 1: NTSC model 0: PAL model
4	6	01		Set the following data, and press PAUSE (Write) button. (Note 3) NTSC model: 2D: Initializing all areas 31: Initializing other than adjustment address PAL model: 2F: Initializing all areas 33: Initializing other than adjustment address
5	6	03	01	Press PAUSE (Write) button.
6	6	02		Check the data changes to "01".
7	6	01	00	Press PAUSE (Write) button.
8				Perform "Modification of Camera Control Data".

Note 3: If other than adjustment address was initialized, the adjusted data is not initialized.

Note 4: NTSC model: HVR-S270J/S270U/S270N
PAL model: HVR-S270E/S270P/S270C

2. Modification of Camera Control Page Data

If the camera control page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) If 2-digit page is selected, set higher-order digit to page: 0, address: 10 as data, and then select lower-order digit by a usual method.
   e.g.: Set data: 06 to page: 0, address: 10, and then select page: D. Thus, the page 6D can be selected.
   After the modification of data finished, return the data on page: 0, address: 10 to "00".
3) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note: If copy the data built in the different model, the camcorder may not operate.
4) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
5) If all areas were initialized, check that the data at the addresses for adjustment are initial values (adjustment initial values) listed in the table. If different, change them to the adjustment initial values.

Processing after Completing Modification Camera Control Data:

Order	Page	Address	Data	Procedure
1	0	10	00	
2	2	00	29	
3	2	01	29	Press PAUSE button.

3. 6D Page table

Note 1: If reading/writing data on pages 6D, set data: 06 to page: 0, address: 10, and then select pages: D. By this data setting, the pages 6D can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 3F			Fixed data-1 (Initialized data)
40	B0	B0	Iris control adj.
41	00	00	
42	60	60	
43	00	00	
44	48	48	
45	00	00	
46	0B	0B	Iris position adj.
47	40	40	
48	03	03	
49	4A	4A	
4A	01	01	
4B	B6	B6	
4C to 59			Fixed data-1 (Initialized data)
5A	00	00	STD gain adj.
5B			Fixed data-1 (Initialized data)
5C	35	35	LV Standard data input
5D	00	00	
5E	0B	0B	STD gain adj.
5F	86	86	
60 to AF			Fixed data-1 (Initialized data)
B0	04	04	Linear matrix adj.
B1	00	00	
B2	00	00	
B3	00	00	
B4	00	00	
B5	00	00	
B6	00	00	
B7	00	00	
B8	04	04	
B9	00	00	
BA	00	00	
BB	00	00	
BC	00	00	
BD	00	00	
BE	00	00	
BF	00	00	
C0	04	04	
C1	00	00	
C2	04	04	
C3	00	00	

6D Page table

Address	Initial value		Remark
	NTSC	PAL	
C4	00	00	
C5	00	00	
C6	00	00	
C7	00	00	
C8	00	00	
C9	00	00	
CA	04	04	
CB	00	00	
CC	00	00	
CD	00	00	
CE	00	00	
CF	00	00	
D0	00	00	
D1	00	00	
D2	04	04	
D3	00	00	
D4	04	04	
D5	19	19	
D6	FF	FF	
D7	AF	AF	
D8	00	00	
D9	0A	0A	
DA	FF	FF	
DB	B6	B6	Linear matrix adj.
DC	04	04	
DD	70	70	
DE	FF	FF	
DF	8F	8F	
E0	00	00	
E1	00	00	
E2	FF	FF	
E3	EC	EC	
E4	04	04	
E5	2C	2C	
E6	04	04	
E7	D5	D5	
E8	FF	FF	
E9	74	74	
EA	FF	FF	
EB	E1	E1	
EC	FF	FF	
ED	80	80	
EE	04	04	
EF	F3	F3	
F0	FE	FE	
F1	EC	EC	
F2	FF	FF	
F3	F8	F8	
F4	FF	FF	Linear matrix adj.
F5	D5	D5	
F6	05	05	
F7	35	35	
F8, F9	Fixed data-1 (Initialized data)		

4. 6E Page table

Note 1: If reading/writing data on pages 6E, set data: 06 to page: 0, address: 10, and then select pages: E. By this data setting, the pages 6E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to C5	Fixed data-1 (Initialized data)		
C6	00	00	Black Balance Adj.
C7	2D	2D	
C8	00	00	
C9	00	00	
CA	00	00	
CB	00	00	
CC	00	00	
CD	00	00	
CE	00	00	
CF	00	00	
D0	00	00	
D1	00	00	
D2	00	00	
D3	00	00	
D4	00	00	
D5	10	10	
D6	00	00	
D7	00	00	
D8	00	00	
D9	00	00	
DA	00	00	
DB	00	00	
DC	00	00	
DD	00	00	
DE	00	00	
DF	00	00	
E0	00	00	
E1	00	00	
E2	00	00	
E3	80	80	
E4	00	00	
E5	00	00	
E6	00	00	
E7	00	00	
E8	00	00	
E9	00	00	
EA	00	00	
EB	00	00	
EC	00	00	
ED	00	00	
EE	00	00	Black Balance Adj.
EF	00	00	
F0 to FF	Fixed data-1 (Initialized data)		

5. 6F Page table

Note 1: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
10 to 1F			Fixed data-1 (Initialized data)
20	00	00	Optical Path Differencial adj.(ND1 (CLR))
21	00	00	
22	40	40	Optical Path Differencial adj.(ND2)
23	00	00	
24	40	40	Optical Path Differencial adj.(ND3)
25	00	00	
26	40	40	Optical Path Differencial adj.(ND4)
27	00	00	
28	00	00	Optical Path Differencial adj.(ND1 (CLR))
29	00	00	Optical Path Differencial adj.(ND2)
2A	E5	E5	Optical Path Differencial adj.(ND3)
2B	19	19	Optical Path Differencial adj.(ND4)
2C to 5B			Fixed data-1 (Initialized data)
5C	18	18	ND Filter Switch adj.
5D	5D	5D	
5E	A2	A2	
5F	E7	E7	
60 to 81			Fixed data-1 (Initialized data)
82	00	00	AWB Standard data input (ND1 (CLR))
83			Fixed data-1 (Initialized data)
84	2A	2A	AWB adj. (ND1 (CLR))
85	BA	BA	
86	5C	5C	
87	4C	4C	
88	1A	1A	AWB Standard data input (ND1 (CLR))
89	78	78	
8A	09	09	
8B	AD	AD	
8C	1A	1A	AWB Standard data input (ND2)
8D	78	78	
8E	09	09	
8F	AD	AD	
90	1A	1A	AWB Standard data input (ND3)
91	78	78	
92	09	09	
93	AD	AD	
94	1A	1A	AWB Standard data input (ND4)
95	78	78	
96	09	09	AWB Standard data input (ND4)
97	AD	AD	
98	0E	0E	AWB adj. (ND1 (CLR))
99	BC	BC	
9A	10	10	
9B	EB	EB	
9C	0E	0E	AWB adj. (ND2)
9D	BC	BC	
9E	10	10	
9F	EB	EB	
A0	0E	0E	AWB adj. (ND3)
A1	BC	BC	
A2	10	10	
A3	EB	EB	
A4	0E	0E	AWB adj. (ND4)
A5	BC	BC	
A6	10	10	
A7	EB	EB	
A8	D8	D8	Color reproduction adj.
A9	C4	C4	
AA	41	41	
AB	3E	3E	
AC	DC	DC	
AD	D7	D7	
AE	43	43	
AF	42	42	
B0	D8	D8	
B1	C4	C4	
B2	41	41	
B3	3E	3E	
B4	DC	DC	
B5	D7	D7	
B6	43	43	
B7	42	42	
B8 to FF			Fixed data-1 (Initialized data)

6. 8C Page table

Note 1: If reading/writing data on pages 8C, set data: 08 to page: 0, address: 10, and then select pages: C. By this data setting, the pages 8C can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 09	Fixed data-1 (Initialized data)		
0A	Fixed data-2		
0B	Fixed data-1 (Initialized data)		
0C	Fixed data-2		
0D			
0E to 11	Fixed data-1 (Initialized data)		
12	Fixed data-2		
13 to 16	Fixed data-1 (Initialized data)		
17	Fixed data-2		
18			
19			
1A to 1D	Fixed data-1 (Initialized data)		
1E	Fixed data-2		
1F to 22	Fixed data-1 (Initialized data)		
23	Fixed data-2		
24			
25			
26 to 29	Fixed data-1 (Initialized data)		
2A	Fixed data-2		
2B to CA	Fixed data-1 (Initialized data)		
CB	Fixed data-2		
CC to D5	Fixed data-1 (Initialized data)		
D6	Fixed data-2		
D7 to DD	Fixed data-1 (Initialized data)		
DE	Fixed data-2		
DF to E5	Fixed data-1 (Initialized data)		
E6	Fixed data-2		
E7 to FF	Fixed data-1 (Initialized data)		

7. 8D Page table

Note 1: If reading/writing data on pages 8D, set data: 08 to page: 0, address: 10, and then select pages: D. By this data setting, the pages 8D can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

8. 8E Page table

Note 1: If reading/writing data on pages 8E, set data: 08 to page: 0, address: 10, and then select pages: E. By this data setting, the pages 8E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

9. 8F Page table

Note 1: If reading/writing data on pages 8F, set data: 08 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 8F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 71	Fixed data-1 (Initialized data)		
72	Fixed data-2		
73			
74	Fixed data-1 (Initialized data)		
75	Fixed data-2		
76, 77	Fixed data-1 (Initialized data)		
78	Fixed data-2		
79	Fixed data-1 (Initialized data)		
7A	Fixed data-2		
7B to FF	Fixed data-1 (Initialized data)		

10. 9C Page table

Note 1: If reading/writing data on pages 9C, set data: 09 to page: 0, address: 10, and then select pages: C. By this data setting, the pages 9C can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

11. 9D Page table

Note 1: If reading/writing data on pages 9D, set data: 09 to page: 0, address: 10, and then select pages: D. By this data setting, the pages 9D can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

12. 9E Page table

Note 1: If reading/writing data on pages 9E, set data: 09 to page: 0, address: 10, and then select pages: E. By this data setting, the pages 9E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00	Fixed data-2		
01			
02			
03 to FF	Fixed data-1 (Initialized data)		

13. 9F Page table

Note 1: If reading/writing data on pages 9F, set data: 09 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 9F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 26	Fixed data-1 (Initialized data)		
27	Fixed data-2		
28 to FF	Fixed data-1 (Initialized data)		

14. AD Page table

Note 1: If reading/writing data on pages AD, set data: 0A to page: 0, address: 10, and then select pages: D. By this data setting, the pages AD can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 4F	Fixed data-1 (Initialized data)		

15. AE Page table

Note 1: If reading/writing data on pages AE, set data: 0A to page: 0, address: 10, and then select pages: E. By this data setting, the pages AE can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 11	Fixed data-1 (Initialized data)		
12	Fixed data-2		
13			
14, 15	Fixed data-1 (Initialized data)		
16	Fixed data-2		
17			
18			
19 to 23	Fixed data-1 (Initialized data)		
24	Fixed data-2		
25	Fixed data-1 (Initialized data)		
26	Fixed data-2		
27			
28			
29			
2A			
2B to 8F	Fixed data-1 (Initialized data)		

16. AF Page table

Note 1: If reading/writing data on pages AF, set data: 0A to page: 0, address: 10, and then select pages: F. By this data setting, the pages AF can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to E6	Fixed data-1 (Initialized data)		
E7	Fixed data-2		
E8	Fixed data-1 (Initialized data)		
E9	Fixed data-2		
EA	Fixed data-1 (Initialized data)		
EB	Fixed data-2		
EC	Fixed data-1 (Initialized data)		
ED	Fixed data-2		
EE to FF	Fixed data-1 (Initialized data)		

17. BF Page table

Note 1: If reading/writing data on pages BF, set data: 0B to page: 0, address: 10, and then select pages: F. By this data setting, the pages BF can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to F0	Fixed data-1 (Initialized data)		
F1	Fixed data-2		
F2 to FF	Fixed data-1 (Initialized data)		

18. C2 Page table

Note 1: If reading/writing data on pages C2, set data: 0C to page: 0, address: 10, and then select pages: 2. By this data setting, the pages C2 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

19. C3 Page table

Note 1: If reading/writing data on pages C3, set data: 0C to page: 0, address: 10, and then select pages: 3. By this data setting, the pages C3 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

20. C4 Page table

Note 1: If reading/writing data on pages C4, set data: 0C to page: 0, address: 10, and then select pages: 4. By this data setting, the pages C4 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

21. C5 Page table

Note 1: If reading/writing data on pages C5, set data: 0C to page: 0, address: 10, and then select pages: 5. By this data setting, the pages C5 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

22. C6 Page table

Note 1: If reading/writing data on pages C6, set data: 0C to page: 0, address: 10, and then select pages: 6. By this data setting, the pages C6 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to DF	Fixed data-1 (Initialized data)		

23. C7 Page table

Note 1: If reading/writing data on pages C7, set data: 0C to page: 0, address: 10, and then select pages: 7. By this data setting, the pages C7 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

24. C8 Page table

Note 1: If reading/writing data on pages C8, set data: 0C to page: 0, address: 10, and then select pages: 8. By this data setting, the pages C8 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

25. C9 Page table

Note 1: If reading/writing data on pages C9, set data: 0C to page: 0, address: 10, and then select pages: 9. By this data setting, the pages C9 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

26. CA Page table

Note 1: If reading/writing data on pages CA, set data: 0C to page: 0, address: 10, and then select pages: A. By this data setting, the pages CA can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

27. CB Page table

Note 1: If reading/writing data on pages CB, set data: 0C to page: 0, address: 10, and then select pages: B. By this data setting, the pages CB can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to DF	Fixed data-1 (Initialized data)		

28. CC Page table

Note 1: If reading/writing data on pages CC, set data: 0C to page: 0, address: 10, and then select pages: C. By this data setting, the pages CC can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

29. CD Page table

Note 1: If reading/writing data on pages CD, set data: 0C to page: 0, address: 10, and then select pages: D. By this data setting, the pages CD can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

30. CE Page table

Note 1: If reading/writing data on pages CE, set data: 0C to page: 0, address: 10, and then select pages: E. By this data setting, the pages CE can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

31. CF Page table

Note 1: If reading/writing data on pages CF, set data: 0C to page: 0, address: 10, and then select pages: F. By this data setting, the pages CF can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to FF	Fixed data-1 (Initialized data)		

1-3. CAMERA SYSTEM ADJUSTMENTS

Before perform the camera system adjustments, check that the specified values of "VIDEO SYSTEM ADJUSTMENTS" are satisfied. (Except Origin Oscillation Check")
Check that the data of page: 0, address: 10 is "00".
If not, select page: 0, address: 10, and set the data "00".

1-3-1. Camera System Adjustments (body)

1. Origin Oscillation Check (VC-513 board)

Check the frequency of the clock for synchronization.
If deviated, the synchronization will be disrupted and the color will become inconsistent.

Subject	Not required
Measurement Point	R1414 (CHCK) on VC-513 board
Measuring Instrument	Frequency counter
Specified value	f = 41538461 ± 835 Hz (NTSC) f = 41580000 ± 835 Hz (PAL)

Switch setting

1) POWER ..... CAMERA mode

Checking method:

1) Check that the frequency (f) satisfies the specified value.

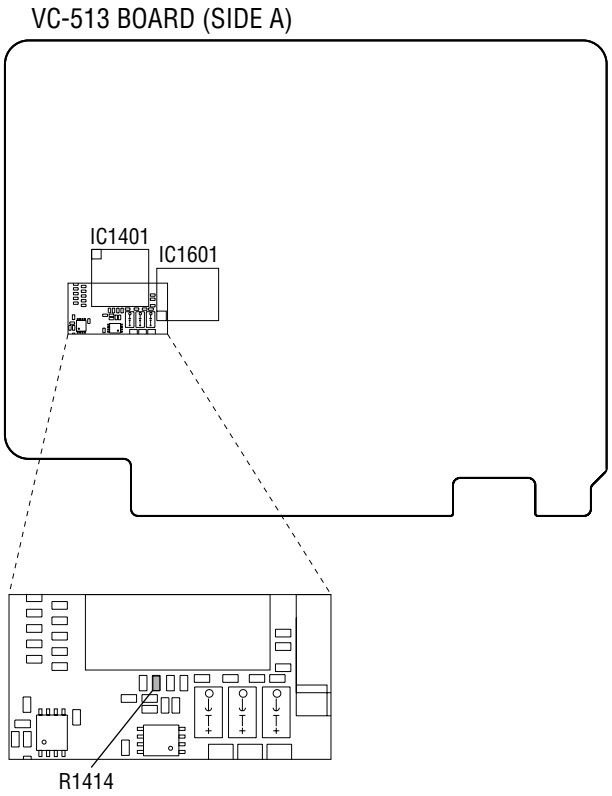


Fig. 6-1-7

2. Level Vial Adjustment (VC-513 board)

Input average offset voltage of the accelerometer (SE4201) on a horizontal plane.

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	A
Adjustment Address	F6 to FB
Specified value	Data of page: 7, address: 02 is "01"

Note 1: Set the camera on a horizontal table.
Note 2: Check that the data of page: 6, address: 02 is "00"
If not, select page: 6, address: 01, set data: 00, and press the PAUSE (Write) button.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	7	01	5F	
3	7	00	01	Press PAUSE (Write) button. (Note 3)
4	7	02		Check the data changes to "01". (Note 4)
5	0	01	00	

Note 3: The adjustment data will be automatically input to page: A, address: F6 to FB.
Note 4: If the data is other than "01", adjustment has errors. Contents of error is written into page: 7, address: 02. See the following table.

Data of page: 7, address: 02	Error contents
FD	Not horizontal
FE	Unstable installation
FF	Sensor input not recognization

3. ND Filter Switch Adjustment RadarW

Adjust a variation in AD value of the ND filter switch.

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	5C to 5F
Specified value	Data of page: 6 address: D1 is “01”

Note 1: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Perform this adjustment only when replacing the lens block. When the microprocessor, circuit etc. is damaged, don't perform this adjustment but check the steady shot operations only.

Note 3: With the lens not mounted, adjust the ND filter switch while checking visually that the ND filter is surely switched (free from incomplete engagement).

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	07		Check the data is “04”.
3	6	02		Check the data is “00”.
4				Set the ND FILTER to “1”.
5	6	D0	01	
6	6	01	F1	Press PAUSE (Write) button. (Note 4)
7	6	02		Check the data changes to “01”.
8	6	D1		Check the data is “01”. (Note 5)
9	6	01	00	Press PAUSE (Write) button.
10				Set the ND FILTER to “2”.
11	6	D0	02	
12	6	01	F1	Press PAUSE (Write) button. (Note 4)
13	6	02		Check the data changes to “01”.
14	6	D1		Check the data is “01”. (Note 5)
15	6	01	00	Press PAUSE (Write) button.
16				Set the ND FILTER to “3”.
17	6	D0	03	
18	6	01	F1	Press PAUSE (Write) button. (Note 4)
19	6	02		Check the data changes to “01”.
20	6	D1		Check the data is “01”. (Note 5)
21	6	01	00	Press PAUSE (Write) button.
22				Set the ND FILTER to “4”.
23	6	D0	04	
24	6	01	F1	Press PAUSE (Write) button. (Note 4)
25	6	02		Check the data changes to “01”.
26	6	D1		Check the data is “01”. (Note 5)
27	6	01	00	Press PAUSE (Write) button.
28	0	01	00	

Note 4: The adjustment data will be automatically input to page: 6F, address: 5C to 5F.

Note 5: Adjustment error occurs if the data of page: 6, address: D1 is “02”.

4. Coaxial Harness Connecting Check RadarW

Check if the coaxial harness of CMOS is connected correctly.

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6
Adjustment Address	D1 to D6
Specified value	Data of page: 6, address: D0 is “07”

Note 1: Check that the data of page: 6, address: 02 is “00”
If not, select page: 6, address: 01, set data: 00, and press the PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	07		Check the data is “04”.
3	0	10	01	
4	6 (16)	07		Check the data is “04”.
5	0	10	09	
6	E (9E)	90	04	
7	0	10	00	
8	6	01	EB	Press PAUSE (Write) button.(Note 2)
9	6	02		Check the data changes to “01”.
10	6	D0		Check the data is “07”. (Note 3)

Note 2: The adjustment data will be automatically input to page: 6, address: D1 to D6.

Note 3: For the error codes of bit 0 to bit 2 of data of page: 6, address: D0, see the following table.

Bit value of data of page: 6, address: D0		Error contents	
Bit	Function	When bit value = 0	When bit value = 1
0	R	Error exists	No error
1	G	Error exists	No error
2	B	Error exists	No error

Example: If an error exists in G, data is “05”

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	09	
3	E (9E)	90	00	
4	0	10	00	
5	0	01	00	

5. Flange Back Adjustment (body) (Using the minipattern box or flange back adjustment jig)

[Preparation (Using the minipattern box)]

1) The minipattern box is installed as shown in the following figure.
   Note: The attachment lenses are not used.
2) Install the minipattern box so that the distance between it and the front of lens of camera is less than 3 cm.
3) Make the height of minipattern box and the camera equal.
4) Check the output voltage of the regulated power supply is the specified voltage ± 0.01 Vdc.
5) Check that the center of Siemens star chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

Specified voltage: The specified voltage varies according to the minipattern box, so adjustment the power supply output voltage to the specified voltage written on the sheet which is supplied with the minipattern box.

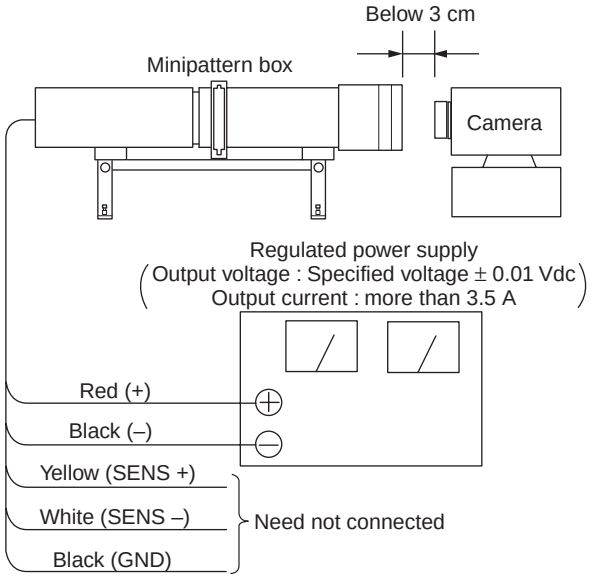


Fig. 6-1-8

[Preparation (Using the flange back adjustment jig)] (Illuminance: 250 to 350 lux)

1) Install the flange back adjustment jig so that the distance between it and the front of lens of camera is less than 3 cm.
2) Make the height of flange back adjustment jig and the camera equal.
3) Check that the center of chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

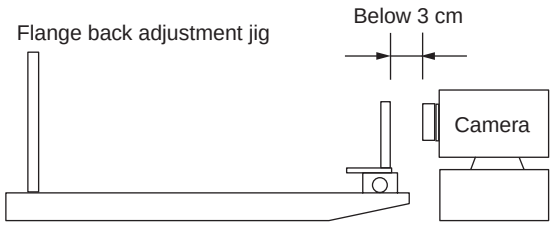


Fig. 6-1-9

5-1. Optical Path Differencial Adjustment (ND1 (CLR))

RadarW

(Using the minipattern box or flange back adjustment jig)

Perform the flange back adjustment on the body side. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Siemens star chart with ND filter for minipattern box (Note 1) or flange back adjustment jig
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	20, 21, 28
Specified value	Data of pege: 16, address: 0C is “00”

Note 1: Dark Siemens star chart.
Note 2: Perform the adjustment with the lens in horizontal state.
Note 3: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.
Note 4: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.
Note 5: Don't touch the zoom lever during adjustment.
Note 6: After adjustment, if the focusing to a subject located at infinity failed, increase the ilIlluminance of the chart and perform readjustment.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	09	
3	F (9F)	26		Set the bit value of bit0 is “1”, and press PAUSE (Write) button. (Note 7)
4	0	10	00	
5	6	07		Check the data is “04”.
6	0	10	01	
7	6 (16)	07		Check the data is “04”.
8	0	10	00	
9	6	61	01	
10				Wait for 3 seconds.
11	6	99		Check the data is “00”.
12	0	10	01	
13	6 (16)	02		Check the data is “00”.
14	0	10	00	
15	6	02		Check the data is “00”.
16	0	10	01	
17	6 (16)	2C	01	
18	0	10	00	
19	6	4D	40	
20	6	64	04	
21	6	01	13	Press PAUSE (Write) button.
22	0	10	01	
23	6 (16)	01	13	Press PAUSE (Write) button.
24				Wait for 1 seconds.
25	0	10	00	
26	6	01	51	Press PAUSE (Write) button. (Note 8)
27	0	10	01	
28	6 (16)	01	51	Press PAUSE (Write) button. (Note 8)
29	0	10	00	
30	6	02		Check the data changes to “01”.
31	0	10	01	
32	6 (16)	0C		Check the data is “00”.

Note 7: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.
Note 8: The adjustment data will be automatically input to page: 6F, address: 20, 21, 28.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	01	00	Press PAUSE (Write) button.
2	0	10	00	
3	6	01	00	Press PAUSE (Write) button.
4	6	64	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	6	01	25	Press PAUSE (Write) button.
10	6	01	00	Press PAUSE (Write) button.
11	6	61	00	
12				Wait for 3 seconds.
13	0	10	09	
14	F (9F)	26		Set the bit value of bit0 is “0”, and press PAUSE (Write) button. (Note 7)
15	0	10	00	
16	0	01	00	
17				Perform “Flange Back Check (ND1)”.
18				Perform “Optical Path Differencial Adjustment (ND2)”.

5-2. Optical Path Differencial Adjustment (ND2)

RadarW

(Using the minipattern box or flange back adjustment jig)

Perform the flange back adjustment on the body side, if the ND filter is set to ND2. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Siemens star chart with ND filter for minipattern box (Note 1) or flange back adjustment jig
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	22, 23, 29
Specified value	Data of pege: 16, address: 0C is “00”

Note 1: Dark Siemens star chart.
Note 2: Perform the adjustment with the lens in horizontal state.
Note 3: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.
Note 4: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.
Note 5: Don't touch the zoom lever during adjustment.
Note 6: After adjustment, if the focusing to a subject located at infinity failed, increase the ilIlluminance of the chart and perform readjustment.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 2
3) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	09	
3	F (9F)	26		Set the bit value of bit0 is “1”, and press PAUSE (Write) button. (Note 7)
4	0	10	00	
5	6	07		Check the data is “04”.
6	0	10	01	
7	6 (16)	07		Check the data is “04”.
8	0	10	00	
9	6	61	01	
10				Wait for 3 seconds.
11	6	99		Check the data is “01”.
12	0	10	01	
13	6 (16)	02		Check the data is “00”.
14	0	10	00	
15	6	02		Check the data is “00”.
16	0	10	01	
17	6 (16)	2C	01	
18	0	10	00	
19	6	4D	40	
20	6	64	04	
21	6	01	13	Press PAUSE (Write) button.
22	0	10	01	
23	6 (16)	01	13	Press PAUSE (Write) button.
24				Wait for 1 seconds.
25	0	10	00	
26	6	01	51	Press PAUSE (Write) button. (Note 8)
27	0	10	01	
28	6 (16)	01	51	Press PAUSE (Write) button. (Note 8)
29	0	10	00	
30	6	02		Check the data changes to “01”.
31	0	10	01	
32	6 (16)	0C		Check the data is “00”.

Note 7: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.
Note 8: The adjustment data will be automatically input to page: 6F, address: 22, 23, 29.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	01	00	Press PAUSE (Write) button.
2	0	10	00	
3	6	01	00	Press PAUSE (Write) button.
4	6	64	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	6	01	25	Press PAUSE (Write) button.
10	6	01	00	Press PAUSE (Write) button.
11	6	61	00	
12				Wait for 3 seconds.
13	0	10	09	
14	F (9F)	26		Set the bit value of bit0 is “0”, and press PAUSE (Write) button. (Note 7)
15	0	10	00	
16	0	01	00	
17				Perform “Flange Back Check (ND2)”.
18				Perform “Optical Path Differencial Adjustment (ND3)”.

5-3. Optical Path Differencial Adjustment (ND3)

RadarW

(Using the minipattern box or flange back adjustment jig)

Perform the flange back adjustment on the body side, if the ND filter is set to ND3. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Siemens star chart with ND filter for minipattern box (Note 1) or flange back adjustment jig
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	24, 25, 2A
Specified value	Data of pege: 16, address: 0C is “00”

Note 1: Dark Siemens star chart.
Note 2: Perform the adjustment with the lens in horizontal state.
Note 3: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.
Note 4: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.
Note 5: Don't touch the zoom lever during adjustment.
Note 6: After adjustment, if the focusing to a subject located at infinity failed, increase the ilIlluminance of the chart and perform readjustment.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 3
3) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	09	
3	F (9F)	26		Set the bit value of bit0 is “1”, and press PAUSE (Write) button. (Note 7)
4	0	10	00	
5	6	07		Check the data is “04”.
6	0	10	01	
7	6 (16)	07		Check the data is “04”.
8	0	10	00	
9	6	61	01	
10				Wait for 3 seconds.
11	6	99		Check the data is “02”.
12	0	10	01	
13	6 (16)	02		Check the data is “00”.
14	0	10	00	
15	6	02		Check the data is “00”.
16	0	10	01	
17	6 (16)	2C	01	
18	0	10	00	
19	6	4D	40	
20	6	64	04	
21	6	01	13	Press PAUSE (Write) button.
22	0	10	01	
23	6 (16)	01	13	Press PAUSE (Write) button.
24				Wait for 1 seconds.
25	0	10	00	
26	6	01	51	Press PAUSE (Write) button. (Note 8)
27	0	10	01	
28	6 (16)	01	51	Press PAUSE (Write) button. (Note 8)
29	0	10	00	
30	6	02		Check the data changes to “01”.
31	0	10	01	
32	6 (16)	0C		Check the data is “00”.

Note 7: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.
Note 8: The adjustment data will be automatically input to page: 6F, address: 24, 25, 2A.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	01	00	Press PAUSE (Write) button.
2	0	10	00	
3	6	01	00	Press PAUSE (Write) button.
4	6	64	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	6	01	25	Press PAUSE (Write) button.
10	6	01	00	Press PAUSE (Write) button.
11	6	61	00	
12				Wait for 3 seconds.
13	0	10	09	
14	F (9F)	26		Set the bit value of bit0 is “0”, and press PAUSE (Write) button. (Note 7)
15	0	10	00	
16	0	01	00	
17				Perform “Flange Back Check (ND3)”.
18				Perform “Optical Path Differencial Adjustment (ND4)”.

5-4. Optical Path Differencial Adjustment (ND4)

RadarW

(Using the minipattern box or flange back adjustment jig)

Perform the flange back adjustment on the body side, if the ND filter is set to ND4. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Siemens star chart with ND filter for minipattern box (Note 1) or flange back adjustment jig
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	26, 27, 2B
Specified value	Data of pege: 16, address: 0C is “00”

Note 1: Dark Siemens star chart.
Note 2: Perform the adjustment with the lens in horizontal state.
Note 3: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.
Note 4: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.
Note 5: Don't touch the zoom lever during adjustment.
Note 6: After adjustment, if the focusing to a subject located at infinity failed, increase the ilIlluminance of the chart and perform readjustment.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 4
3) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	09	
3	F (9F)	26		Set the bit value of bit0 is “1”, and press PAUSE (Write) button. (Note 7)
4	0	10	00	
5	6	07		Check the data is “04”.
6	0	10	01	
7	6 (16)	07		Check the data is “04”.
8	0	10	00	
9	6	61	01	
10				Wait for 3 seconds.
11	6	99		Check the data is “03”.
12	0	10	01	
13	6 (16)	02		Check the data is “00”.
14	0	10	00	
15	6	02		Check the data is “00”.
16	0	10	01	
17	6 (16)	2C	01	
18	0	10	00	
19	6	4D	40	
20	6	64	04	
21	6	1C	33	
22	6	1D	0F	
23	6	1E	00	
24	6	01	13	Press PAUSE (Write) button.
25	0	10	01	
26	6 (16)	01	13	Press PAUSE (Write) button.
27				Wait for 1 seconds.
28	0	10	00	
29	6	01	51	Press PAUSE (Write) button. (Note 8)
30	0	10	01	
31	6 (16)	01	51	Press PAUSE (Write) button. (Note 8)
32	0	10	00	
33	6	02		Check the data changes to “01”.
34	0	10	01	
35	6 (16)	0C		Check the data is “00”.

Note 7: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.
Note 8: The adjustment data will be automatically input to page: 6F, address: 26, 27, 2B.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	01	00	Press PAUSE (Write) button.
2	0	10	00	
3	6	01	00	Press PAUSE (Write) button.
4	6	1C	00	
5	6	1D	00	
6	6	1E	00	
7	6	64	00	
8	6	4D	00	
9				Wait for 2 seconds.
10	6	01	00	Press PAUSE (Write) button.
11	0	10	01	
12	6 (16)	2C	00	
13	0	10	00	
14	6	01	25	Press PAUSE (Write) button.
15	6	01	00	Press PAUSE (Write) button.
16	6	61	00	
17				Wait for 3 seconds.
18	6	D0	96	
19	6	01	21	Press PAUSE (Write) button.
20	6	02		Check the data changes to “01”
21	6	01	00	Press PAUSE (Write) button.
22	0	10	09	
23	F (9F)	26		Set the bit value of bit0 is “0”, and press PAUSE (Write) button. (Note 7)
24	0	10	00	
25	0	01	00	
26				Perform “Flange Back Check (ND4)”.

6. Flange Back Check

6-1. Flange Back Check (ND1)
(Using the flange back adjustment jig)

Subject	Flange back adjustment jig (Illuminance: approx. 200 ± 50 lux)
Measurement Point	Check operation on monitor TV
Measuring Instrument	(Note 2)
Specified value	Focused at the TELE end and WIDE end

Note 1: Check that the data of page: 0, address: 10 is “00”.
Note 2: Check with the monitor larger than 40 inches.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) REC FORMAT (Menu setting) HDV1080i

Preparations before adjustments:

1) Install the flange back adjustment jig so that the distance between it and the front of lens of camera is less than 3 cm.
2) To open the IRIS, decrease the illuminance intensity to the chart of the flange back adjustment jig up to a point before noise appear on the image. (approx. 200 ± 50 lux)
3) Check that the center of chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

Checking method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to “1”.
2	0	01	01	
3	6	99		Check the data is “00”.”
4	0	10	01	
5	6 (16)	2C	01	
6	6 (16)	40	01	
7	0	10	00	
8	6	41	01	
9	6	4D	40	
10				Shoot the chart with the zoom TELE end.
11	0	10	01	
12	6 (16)	2C	02	
13				Check that the lens is focused.
14				Shoot the chart with the zoom WIDE end.
15				Check that the lens is focused.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	2C	00	
2	6 (16)	40	00	
3	0	10	00	
4	6	41	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	0	01	00	

6-2. Flange Back Check (ND2)
(Using the flange back adjustment jig)

Subject	Flange back adjustment jig (Illuminance: approx. 200 ± 50 lux)
Measurement Point	Check operation on monitor TV
Measuring Instrument	(Note 2)
Specified value	Focused at the TELE end and WIDE end

Note 1: Check that the data of page: 0, address: 10 is “00”.
Note 2: Check with the monitor larger than 40 inches.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 2
3) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to “2”.
2	0	01	01	
3	6	99		Check the data is “01”.
4	0	10	01	
5	6 (16)	2C	01	
6	6 (16)	40	01	
7	0	10	00	
8	6	41	01	
9	6	4D	40	
10				Shoot the chart with the zoom TELE end.
11	0	10	01	
12	6 (16)	2C	02	
13				Check that the lens is focused.
14				Shoot the chart with the zoom WIDE end.
15				Check that the lens is focused.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	2C	00	
2	6 (16)	40	00	
3	0	10	00	
4	6	41	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	0	01	00	

6-3. Flange Back Check (ND3)
(Using the flange back adjustment jig)

Subject	Flange back adjustment jig (Illuminance: approx. 200 ± 50 lux)
Measurement Point	Check operation on monitor TV
Measuring Instrument	(Note 2)
Specified value	Focused at the TELE end and WIDE end

Note 1: Check that the data of page: 0, address: 10 is “00”.
Note 2: Check with the monitor larger than 40 inches.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 3
3) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to “3”.
2	0	01	01	
3	6	99		Check the data is “02”.
4	0	10	01	
5	6 (16)	2C	01	
6	6 (16)	40	01	
7	0	10	00	
8	6	41	01	
9	6	4D	40	
10				Shoot the chart with the zoom TELE end.
11	0	10	01	
12	6 (16)	2C	02	
13				Check that the lens is focused.
14				Shoot the chart with the zoom WIDE end.
15				Check that the lens is focused.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	2C	00	
2	6 (16)	40	00	
3	0	10	00	
4	6	41	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	0	01	00	

6-4. Flange Back Check (ND4)
(Using the flange back adjustment jig)

Subject	Flange back adjustment jig (Illuminance: approx. 200 ± 50 lux)
Measurement Point	Check operation on monitor TV
Measuring Instrument	(Note 2)
Specified value	Focused at the TELE end and WIDE end

Note 1: Check that the data of page: 0, address: 10 is "00".
Note 2: Check with the monitor larger than 40 inches.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 4
3) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to "4".
2	0	01	01	
3	6	99		Check the data is "03".
4	0	10	01	
5	6 (16)	2C	01	
6	6 (16)	40	01	
7	0	10	00	
8	6	41	01	
9	6	4D	40	
10				Shoot the chart with the zoom TELE end.
11	0	10	01	
12	6 (16)	2C	02	
13				Check that the lens is focused.
14				Shoot the chart with the zoom WIDE end.
15				Check that the lens is focused.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	2C	00	
2	6 (16)	40	00	
3	0	10	00	
4	6	41	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	0	01	00	

7. Black Balance RadarW

Adjust the black level.

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6E
Adjustment Address	C6 to EF

Note 1: If reading/writing data on pages 6E, set data: 06 to page: 0, address: 10, and then select pages E. By this data setting, the pages 6E can be selected.

After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Check that the data of page: 6, address: 02 is "00"
If not, select page: 6, address: 01, set data: 00, and press the PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	07		Check the data is "04".
3	0	10	01	
4	6 (16)	07		Check the data is "04".
5	0	10	00	
6	6	01	BF	Press PAUSE (Write) button. (Note 3)
7	6	02		Check the data changes to "01".

Note 3: The adjustment data will be automatically input to page: 6E, address: C6 to EF.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	01	00	

8. Linear Matrix Adjustment RadarW

Adjust the matrix coefficient for compensating the variation in spectral sensitivity.

Adjustment Page	6D
Adjustment Address	B0 to F7

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 06.
3) Input the following data to page: D (6D), address: B0 to F7.

Note: Press the PAUSE (Write) button of the adjustment remote commander each time to set data.

Address	Data	Address	Data
B0	04	D4	04
B1	00	D5	19
B2	00	D6	FF
B3	00	D7	AF
B4	00	D8	00
B5	00	D9	0A
B6	00	DA	FF
B7	00	DB	B6
B8	04	DC	04
B9	00	DD	70
BA	00	DE	FF
BB	00	DF	8F
BC	00	E0	00
BD	00	E1	00
BE	00	E2	FF
BF	00	E3	EC
C0	04	E4	04
C1	00	E5	2C
C2	04	E6	04
C3	00	E7	D5
C4	00	E8	FF
C5	00	E9	74
C6	00	EA	FF
C7	00	EB	E1
C8	00	EC	FF
C9	00	ED	80
CA	04	EE	04
CB	00	EF	F3
CC	00	F0	FE
CD	00	F1	EC
CE	00	F2	FF
CF	00	F3	F8
D0	00	F4	FF
D1	00	F5	D5
D2	04	F6	05
D3	00	F7	35

4) Select page: 0, address: 10, and set data: 00.
5) Select page: 0, address: 01, and set data: 00.

9. Picture Frame Setting (Color reproduction adjustment frame)

Subject	Color bar chart (Color reproduction adjustment frame) 40 cm (PTB-1450) from the front of lens)
Measurement Point	VIDEO OUT jack (75 Ω terminated)
Measuring Instrument	Oscilloscope and monitor TV (16:9)
Specified Value	A=B, C=D, E=F

Note 1: "Flange Back Adjustment" before this adjustment.
Note 2: Check that the data of page: 0, address: 10 is "00".

Switch setting

1) POWER ..... CAMERA mode
2) FOCUS ring (Lens block) ..... Mode A
3) D.EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Setting method:

Order	Page	Address	Data	Procedure
1	0	10	01	
2	6 (16)	40	01	
3				Adjust the zoom and the camera direction, and set the specified position.
4				Mark the position of the picture frame on the monitor TV, and adjust the picture frame to this position in following adjustment using "Color reproduction adjustment frame".
5	0	10	00	

How to read the XH, XL, YH and YL data:

Order	Page	Address	Data	Procedure
1	0	03	18	
2	1			Read XH data and XL data. (Note 3)
3	0	03	22	
4	1			Read YH data and YL data. (Note 3)

Note 3: The right four digits of the page: 1 displayed data of the adjusting remote commander.

1:XX : XX
- XL or YL data
- XH or YH data

How to reset the zoom and focus when they deviated:

If the zoom and focus deviated due to some reason, reset them in the following method.

Order	Page	Address	Data	Procedure
1	0	10	01	
2	6 (16)	40	01	
3	6 (16)	2C	01	
4	6 (16)	90	XL	
5	6 (16)	91	XH	
6	6 (16)	92	YL	
7	6 (16)	93	YH	
8	6 (16)	01	79	Press PAUSE (Write) button.
9	0	10	00	

How to release the picture frame setting:

Order	Page	Address	Data	Procedure
1	0	10	01	
2	6 (16)	40	01	
3	6 (16)	01	00	Press PAUSE (Write) button.
4	6 (16)	90	00	
5	6 (16)	91	00	
6	6 (16)	92	00	
7	6 (16)	93	00	
8	6 (16)	2C	00	
9	0	10	00	

Check on the oscilloscope

1. Horizontal period

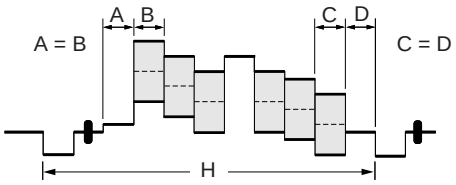


Fig. 6-1-10

2. Vertical period

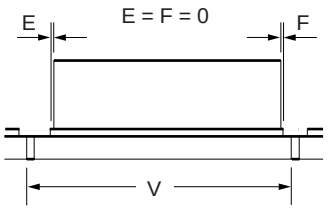


Fig. 6-1-11

Check on the monitor TV (Underscanned mode)

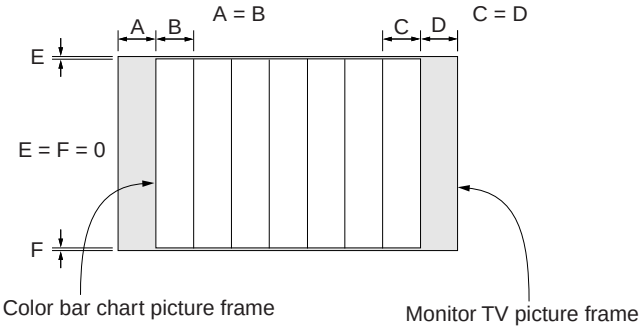


Fig. 6-1-12

10. Auto White Balance Standard Data Input (ND1 (CLR)) RadarW

Adjust the white balance reference at 3200K, and adjust the normal coefficient of the light value.

Subject	Clear chart (Color reproduction adjustment frame)
Adjustment Page	6F
Adjustment Address	82, 88 to 8B

Note 1: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Check that the data of page: 6, address: 02 is "00". If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) D.EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	99		Check the data is "00".
3	6	02		Check the data is "00".
4	6	07		Check the data is "04".
5	0	10	01	
6	6 (16)	07		Check the data is "04".
7	0	10	00	
8	6	61	01	
9				Wait for 3 seconds.
10	0	10	01	
11	6 (16)	40	01	
12	0	10	00	
13	6	41	01	
14	6	01	0B	Press PAUSE (Write) button. (Note 3)
15	6	02		Check the data changes to "01".

Note 3: The adjustment data will be automatically input to page: 6F, address: 82, 88 to 8B.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	40	00	
4	0	10	00	
5	6	41	00	
6	6	61	00	
7				Wait for 3 seconds.
8	0	01	00	

11. LV Standard Data Input RadarW

Adjust the normal coefficient of the light value at 3200K.

Adjustment Page	6D
Adjustment Address	5C, 5D

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 06.
3) Input the following data to page: D (6D), address: 5C and 5D.

Note: Press the PAUSE (Write) button of the adjustment remote commander each time to set data.

Address	Data
5C	36
5D	10

4) Select page: 0, address: 10, and set data: 00.
5) Select page: 0, address: 01, and set data: 00.

12. STD GAIN Adjustment RadarW

Correct a variation in the CMOS sensitivity setting.
As the CMOS sensitivity is dominant on the variation, correct it with the AGC_GAIN standard setting.

Adjustment Page	6D
Adjustment Address	5A, 5E, 5F

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 06.
3) Input the following data to page: D (6D), address: 5A, 5E and 5F.

Note: Press the PAUSE (Write) button of the adjustment remote commander each time to set data.

Address	Data
5A	00
5E	0B
5F	86

4) Select page: 0, address: 10, and set data: 00.
5) Select page: 0, address: 01, and set data: 00.

13. Auto White Balance Adjustment (ND1 (CLR))

RadarW

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Adjustment Page	6F
Adjustment Address	84 to 87, 98 to 9B

Note 1: Perform "Auto White Balance Standard Data Input (ND1 (CLR))" before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 3: Check that the data of page: 6, address: 02 is "00". If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter on the lens.
2	0	01	01	
3	6	99		Check the data is "00".
4	6	02		Check the data is "00".
5	6	07		Check the data is "04".
6	0	10	01	
7	6 (16)	07		Check the data is "04".
8	0	10	00	
9	6	61	01	
10				Wait for 3 seconds.
11	0	10	01	
12	6 (16)	40	01	
13	0	10	00	
14	6	41	01	
15	0	10	06	
16	F (6F)	84	2A	Press PAUSE (Write) button.
17	F (6F)	85	BA	Press PAUSE (Write) button.
18	F (6F)	86	5C	Press PAUSE (Write) button.
19	F (6F)	87	4C	Press PAUSE (Write) button.
20	0	10	00	
21	6	01	81	Press PAUSE (Write) button. (Note 4)
22	6	02		Check the data changes to "01".

Note 4: The adjustment data will be automatically input to page: 6F, address: 98 to 9B.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	40	00	
4	0	10	00	
5	6	41	00	
6	6	61	00	
7				Wait for 3 seconds.
8	0	01	00	
9				Remove the C14 filter on the lens.

14. Auto White Balance Check (ND1 (CLR)) RadarW

Subject	Clear chart (Color reproduction adjustment frame)
Filter	ND filter 1.0, 0.4 and 0.1
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified Value	Data of page: 6, address: 0C is “00”

Note 1: Perform “Auto White Balance Standard Data Input (ND1 (CLR))”, “LV Standard Data Input” and “Auto White Balance Adjustment (ND1 (CLR))” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”.
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	9B		Check the bit value of bit2 is “0”. (Note 3)
3	6	99		Check the data is “00”.
4	6	07		Check the data is “04”.
5	0	10	01	
6	6 (16)	07		Check the data is “04”.
7	0	10	00	
8	6	61	01	
9				Wait for 3 seconds.
10	0	10	01	
11	6 (16)	40	01	
12	0	10	00	
13	6	41	01	
14	6	CA	85	
15	6	C9	10	
OUTDOOR white balance check				
16	6	01	4F	Press PAUSE (Write) button.
17	6	02		Check the data changes to “01”.
18	6	0C		Check the data is “00”.
19	6	01	00	Press PAUSE (Write) button.
20	6	01	0F	Press PAUSE (Write) button.
21	6	02		Check the data changes to “01”.
22	6	0C		Check the data is “00”.
23	6	01	00	Press PAUSE (Write) button.
24	6	61	00	
25				Wait for 3 seconds.
InOut check				
26				Place the ND filter 1.5 (1.0 +0.4 + 0.1) on the lens.
27	6	C9	11	
28	6	01	4B	Press PAUSE (Write) button.
29	6	02		Check the data changes to “01”.
30	6	0C		Check the data is “00”.
31	6	01	00	Press PAUSE (Write) button.
32				Remove the ND filter 1.5 (1.0 + 0.4 + 0.1) on the lens.

Note 3: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	C9	00	
2	6	CA	00	
3	0	10	01	
4	6 (16)	40	00	
5	0	10	00	
6	6	41	00	
7	0	01	00	

15. Color Reproduction Adjustment RadarW

Adjust the color separation matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart (Color reproduction adjustment frame)
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	A8 to B7
Specified Value	Data of page: 6 address: 0C is “00”

Note 1: Perform “Linear Matrix Adjustment” and “Auto White Balance Standard Data Input (ND1 (CLR))” before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	99		Check the data is “00”.
3	6	02		Check the data is “00”.
4	6	9B		Check the bit value of bit2 is “0”. (Note 4)
5	6	9B		Check the bit value of bit3 is “0”. (Note 4)
6	6	07		Check the data is “04”.
7	0	10	01	
8	6 (16)	07		Check the data is “04”.
9	0	10	00	
10	6	61	01	
11				Wait for 3 seconds.
12	0	10	01	
13	6 (16)	40	01	
14	0	10	00	
15	6	41	01	
16	6	C9	10	
17	6	CA	04	
18	6	D0	34	
19	6	01	61	Press PAUSE (Write) button. (Note 5)
20	6	02		Check the data changes to “01”.
21	6	0C		Check the data is “00”.

Note 4: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Note 5: The adjustment data will be automatically input to page: 6F, address: A8 to B7.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	C9	00	
3	6	CA	00	
4	0	10	01	
5	6 (16)	40	00	
6	0	10	00	
7	6	41	00	
8	6	61	00	
9				Wait for 3 seconds.
10	0	01	00	

16. Color Reproduction Check (ND1 (CLR)) (Outdoor)

RadarW

Subject	Color bar chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified Value	Data of page: 6, address: 0C is “00”

Note 1: Perform “Color Reproduction Adjustment” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter on the lens.
2	0	01	01	
3	6	99		Check the data is “00”.
4	6	02		Check the data is “00”.
5	6	9B		Check the bit value of bit2 is “0”. (Note 3)
6	6	9B		Check the bit value of bit3 is “0”. (Note 3)
7	6	07		Check the data is “04”.
8	0	10	01	
9	6 (16)	07		Check the data is “04”.
10	0	10	00	
11	6	61	01	
12				Wait for 3 seconds.
13	0	10	01	
14	6 (16)	40	01	
15	0	10	00	
16	6	41	01	
17	6	C9	10	
18	6	CA	04	
19	6	D0	34	
20	6	01	3D	Press PAUSE (Write) button.
21	6	02		Check the data changes to “01”.
22	6	0C		Check the data is “00”.

Note 3: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	C9	00	
3	6	CA	00	
4	0	10	01	
5	6 (16)	40	00	
6	0	10	00	
7	6	41	00	
8	6	61	00	
9				Wait for 3 seconds.
10	0	01	00	
11				Remove the C14 filter on the lens.

17. Auto White Balance Standard Data Input (ND2) RadarW

Adjust the white balance reference at 3200K, and adjust the normal coefficient of the light value.

Subject	Clear chart (Color reproduction adjustment frame)
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	8C to 8F
Specified Value	Data of page: 6 address: 0C is “00”

Note 1: Perform “Auto White Balance Standard Data Input (ND1 (CLR))” before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 2
3) D.EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	99		Check the data is “01”.
3	6	02		Check the data is “00”.
4	6	07		Check the data is “04”.
5	0	10	01	
6	6 (16)	07		Check the data is “04”.
7	0	10	00	
8	6	61	01	
9				Wait for 3 seconds.
10	0	10	01	
11	6 (16)	40	01	
12	0	10	00	
13	6	41	01	
14	6	01	0B	Press PAUSE (Write) button. (Note 4)
15	6	02		Check the data changes to “01”.
16	6	0C		Check the data is “00”.

Note 4: The adjustment data will be automatically input to page: 6F, address: 8C to 8F.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	40	00	
4	0	10	00	
5	6	41	00	
6	6	61	00	
7				Wait for 3 seconds.
8	0	01	00	

18. Auto White Balance Adjustment (ND2) RadarW

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Adjustment Page	6F
Adjustment Address	9C to 9F

Note 1: Perform “Linear Matrix Adjustment” and “Auto White Balance Standard Data Input (ND1 (CLR))” before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 2
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter on the lens.
2	0	01	01	
3	6	99		Check the data is “01”.
4	6	02		Check the data is “00”.
5	6	07		Check the data is “04”.
6	0	10	01	
7	6 (16)	07		Check the data is “04”.
8	6 (16)	40	01	
9	0	10	00	
10	6	41	01	
11	6	01	81	Press PAUSE (Write) button. (Note 4)
12	6	02		Check the data changes to “01”.

Note 4: The adjustment data will be automatically input to page: 6F, address: 9C to 9F.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	40	00	
4	0	10	00	
5	6	41	00	
6	0	01	00	
7				Remove the C14 filter on the lens.

19. Auto White Balance Check (ND2) RadarW

Subject	Clear chart (Color reproduction adjustment frame)
Filter	ND filter 1.0, 0.4 and 0.1
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified Value	Data of page: 6, address: 0C is “00”

Note 1: Perform “Auto White Balance Standard Data Input (ND2)”, “LV Standard Data Input” and “Auto White Balance Adjustment (ND2)” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 2
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	9B		Check the bit value of bit2 is “0”. (Note 3)
3	6	99		Check the data is “01”.
4	6	07		Check the data is “04”.
5	0	10	01	
6	6 (16)	07		Check the data is “04”.
7	0	10	00	
8	6	61	01	
9				Wait for 3 seconds.
10	0	10	01	
11	6 (16)	40	01	
12	0	10	00	
13	6	41	01	
14	6	CA	85	
15	6	C9	10	
OUTDOOR white balance check				
16	6	01	4F	Press PAUSE (Write) button.
17	6	02		Check the data changes to “01”.
18	6	0C		Check the data is “00”.
19	6	01	00	Press PAUSE (Write) button.
20	6	01	0F	Press PAUSE (Write) button.
21	6	02		Check the data changes to “01”.
22	6	0C		Check the data is “00”.
23	6	01	00	Press PAUSE (Write) button.
24	6	61	00	
25				Wait for 3 seconds.
InOut check				
26				Place the ND filter 1.5 (1.0 +0.4 + 0.1) on the lens.
27	6	C9	11	
28	6	01	4B	Press PAUSE (Write) button.
29	6	02		Check the data changes to “01”.
30	6	0C		Check the data is “00”.
31	6	01	00	Press PAUSE (Write) button.
32				Remove the ND filter 1.5 (1.0 + 0.4 + 0.1) on the lens.

Note 3: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	C9	00	
2	6	CA	00	
3	0	10	01	
4	6 (16)	40	00	
5	0	10	00	
6	6	41	00	
7	0	01	00	

20. Auto White Balance Standard Data Input (ND3) RadarW

Adjust the white balance reference at 3200K, and adjust the normal coefficient of the light value.

Subject	Clear chart (Color reproduction adjustment frame)
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	90 to 93
Specified Value	Data of page: 6 address: 0C is “00”

Note 1: Perform “Linear Matrix Adjustment” and “Auto White Balance Standard Data Input (ND1 (CLR))” before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 3
3) D.EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	99		Check the data is “02”.
3	6	02		Check the data is “00”.
4	6	07		Check the data is “04”.
5	0	10	01	
6	6 (16)	07		Check the data is “04”.
7	6 (16)	40	01	
8	0	10	00	
9	6	41	01	
10	6	01	0B	Press PAUSE (Write) button. (Note 4)
11	6	02		Check the data changes to “01”.
12	6	0C		Check the data is “00”.

Note 4: The adjustment data will be automatically input to page: 6F, address: 90 to 93.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	40	00	
4	0	10	00	
5	6	41	00	
6	0	01	00	

21. Auto White Balance Adjustment (ND3) RadarW

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Adjustment Page	6F
Adjustment Address	A0 to A3

Note 1: Perform "Linear Matrix Adjustment" and "Auto White Balance Standard Data Input (ND1 (CLR))" before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 3: Check that the data of page: 6, address: 02 is "00". If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 3
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter on the lens.
2	0	01	01	
3	6	99		Check the data is "02".
4	6	02		Check the data is "00".
5	6	07		Check the data is "04".
6	0	10	01	
7	6 (16)	07		Check the data is "04".
8	6 (16)	40	01	
9	0	10	00	
10	6	41	01	
11	6	13	BF	
12	6	01	81	Press PAUSE (Write) button. (Note 4)
13	6	02		Check the data changes to "01".

Note 4: The adjustment data will be automatically input to page: 6F, address: A0 to A3.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	40	00	
4	0	10	00	
5	6	41	00	
6	6	13	00	
7	0	01	00	
8				Remove the C14 filter on the lens.

22. Auto White Balance Check (ND3) RadarW

Subject	Clear chart (Color reproduction adjustment frame)
Filter	ND filter 1.0, 0.4 and 0.1
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified Value	Data of page: 6, address: 0C is “00”

Note 1: Perform “Auto White Balance Standard Data Input (ND3)”, “LV Standard Data Input” and “Auto White Balance Adjustment (ND3)” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 3
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	9B		Check the bit value of bit2 is “0”. (Note 3)
3	6	99		Check the data is “02”.
4	6	07		Check the data is “04”.
5	0	10	01	
6	6 (16)	07		Check the data is “04”.
7	6 (16)	40	01	
8	0	10	00	
9	6	41	01	
10	6	CA	85	
11	6	C9	10	
OUTDOOR white balance check				
12	6	01	4F	Press PAUSE (Write) button.
13	6	02		Check the data changes to “01”.
14	6	0C		Check the data is “00”.
15	6	01	00	Press PAUSE (Write) button.
16	6	01	0F	Press PAUSE (Write) button.
17	6	02		Check the data changes to “01”.
18	6	0C		Check the data is “00”.
19	6	01	00	Press PAUSE (Write) button.
InOut check				
20				Place the ND filter 1.5 (1.0 +0.4 + 0.1) on the lens.
21	6	C9	11	
22	6	13	BF	
23				Wait for 1 second.
24	6	01	4B	Press PAUSE (Write) button.
25	6	02		Check the data changes to “01”.
26	6	0C		Check the data is “00”.
27	6	01	00	Press PAUSE (Write) button.
28				Remove the ND filter 1.5 (1.0 + 0.4 + 0.1) on the lens.

Note 3: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	C9	00	
2	6	CA	00	
3	0	10	01	
4	6 (16)	40	00	
5	0	10	00	
6	6	41	00	
7	6	13	00	
8	0	01	00	

23. Auto White Balance Standard Data Input (ND4) RadarW

Adjust the white balance reference at 3200K, and adjust the normal coefficient of the light value.

Subject	Clear chart (Color reproduction adjustment frame)
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	94 to 97
Specified Value	Data of page: 6 address: 0C is “00”

Note 1: Perform “Linear Matrix Adjustment” and “Auto White Balance Standard Data Input (ND1 (CLR))” before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 4
3) D.EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	99		Check the data is “03”.
3	6	02		Check the data is “00”.
4	6	07		Check the data is “04”.”
5	0	10	01	
6	6 (16)	07		Check the data is “04”.
7	6 (16)	40	01	
8	0	10	00	
9	6	41	01	
10	6	13	BF	
11	6	01	0B	Press PAUSE (Write) button. (Note 4)
12	6	02		Check the data changes to “01”.
13	6	0C		Check the data is “00”.

Note 4: The adjustment data will be automatically input to page: 6F, address: 90 to 93.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	40	00	
4	0	10	00	
5	6	41	00	
6	6	13	00	
7	0	01	00	

24. Auto White Balance Adjustment (ND4) RadarW

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Adjustment Page	6F
Adjustment Address	A4 to A7

Note 1: Perform "Linear Matrix Adjustment" and "Auto White Balance Standard Data Input (ND1 (CLR))" before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 3: Check that the data of page: 6, address: 02 is "00". If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 4
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter on the lens.
2	0	01	01	
3	6	99		Check the data is "03".
4	6	02		Check the data is "00".
5	6	07		Check the data is "04".
6	0	10	01	
7	6 (16)	07		Check the data is "04".
8	6 (16)	40	01	
9	0	10	00	
10	6	41	01	
11	6	13	BE	
12	6	01	81	Press PAUSE (Write) button. (Note 4)
13	6	02		Check the data changes to "01".

Note 4: The adjustment data will be automatically input to page: 6F, address: A4 to A7.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	40	00	
4	0	10	00	
5	6	41	00	
6	6	13	00	
7	0	01	00	
8				Remove the C14 filter on the lens.

25. Auto White Balance Check (ND4) RadarW

Subject	Clear chart (Color reproduction adjustment frame)
Filter	ND filter 1.0, 0.4 and 0.1
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified Value	Data of page: 6, address: 0C is “00”

Note 1: Perform “Auto White Balance Standard Data Input (ND4)”, “LV Standard Data Input” and “Auto White Balance Adjustment (ND4)” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 4
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF
5) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	9B		Check the bit value of bit2 is “0”. (Note 3)
3	6	99		Check the data is “03”.
4	6	07		Check the data is “04”.
5	0	10	01	
6	6 (16)	07		Check the data is “04”.
7	6 (16)	40	01	
8	0	10	00	
9	6	41	01	
10	6	CA	85	
11	6	C9	10	
OUTDOOR white balance check				
12	6	01	4F	Press PAUSE (Write) button.
13	6	02		Check the data changes to “01”.
14	6	0C		Check the data is “00”.
15	6	01	00	Press PAUSE (Write) button.
16	6	01	0F	Press PAUSE (Write) button.
17	6	02		Check the data changes to “01”.
18	6	0C		Check the data is “00”.
19	6	01	00	Press PAUSE (Write) button.
InOut check				
20				Place the ND filter 1.5 (1.0 +0.4 + 0.1) on the lens.
21	6	C9	11	
22	6	13	BE	
23				Wait for 3 seconds.
24	6	01	4B	Press PAUSE (Write) button.
25	6	02		Check the data changes to “01”.
26	6	0C		Check the data is “00”.
27	6	01	00	Press PAUSE (Write) button.
28				Remove the ND filter 1.5 (1.0 + 0.4 + 0.1) on the lens.

Note 3: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	C9	00	
2	6	CA	00	
3	0	10	01	
4	6 (16)	40	00	
5	0	10	00	
6	6	41	00	
7	6	13	00	
8	0	01	00	

26. White Defect & HS Defect Adjustment RadarW

Detect white defective pixels of CMOS image sensor.

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified value	Data of page: 6 address: D3 is “00”

Note 1: Perform “STD GAIN Adjustment” before this adjustment.
Note 2: Check that the data of page: 0, address: 10 is “00”.
Note 3: Check that the data of page: 6, address: 02 is “00”.
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode

Preparation for adjustment:

1) Before starting the adjustment, perform the aging to raise the temperature so that the set becomes ready for adjustment.

Aging temperature judge mode:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	09	
3	F (9F)	5D	98	Press PAUSE (Write) button.
4				During the aging, the screen will be as follows. (Fig. 6-1-13)
5				When the aging completed, execute the subsequent steps to exit the aging temperature judge mode.
6	F (9F)	5D	00	Press PAUSE (Write) button.
7	0	10	00	
8	0	01	00	

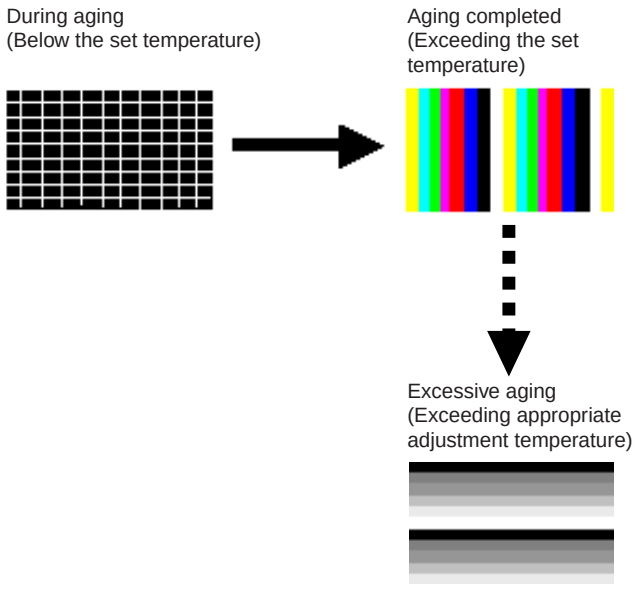


Fig.6-1-13

CMOS temperature checking method:

Order	Page	Address	Data	Procedure
1	0	FF	06	
2	7	64		Check the data is “02”.
3	7	65		Check the data is “5C” to “94”. (Note 4)
4	0	FF	00	

Note 4: If the data is other than “5C” to “94”, perform the aging.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is “00”.
3	6	07		Check the data is “04”.
4	0	10	01	
5	6 (16)	07		Check the data is “04”.
6	0	10	00	
7	6	D0	81	
8	6	01	21	Press PAUSE (Write) button.
9	6	02		Check the data changes to “01”.
10	6	01	00	Press PAUSE (Write) button.
11	6	D0	06	
12	6	01	21	Press PAUSE (Write) button.
13	6	02		Check the data changes to “01”.
14	6	D3		Check the data is “00”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	01	00	

27. White Defect Adjustment (FD white point) RadarW

Detect white defective pixels (FD white point) of CMOS image sensor.

Subject	Not required

Note 1: Perform "White Defect & HS Defect Adjustment" before this adjustment.
Note 2: Check that the data of page: 0, address: 10 is "00".
Note 3: Check that the data of page: 6, address: 02 is "00". If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is "00".
3	6	07		Check the data is "04".
4	0	10	01	
5	6 (16)	07		Check the data is "04".
6	0	10	00	
7	6	D0	0C	
8	6	01	21	Press PAUSE (Write) button.
9	6	02		Check the data changes to "01".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	01	00	

28. White Defect Check RadarW

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified value 1	Data of page: 6 address: D1 is "00"
Specified value 2	Data of page: 6, address: D2 is "00" to "06"

Note 1: Perform "White Defect Adjustment (FD white point)" before this adjustment.
Note 2: Check that the data of page: 0, address: 10 is "00".
Note 3: Check that the data of page: 6, address: 02 is "00". If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is "00".
3	6	07		Check the data is "04".
4	0	10	01	
5	6 (16)	07		Check the data is "04".
6	0	10	00	
7	6	D0	04	
8	6	01	21	Press PAUSE (Write) button.
9	6	02		Check the data changes to "01".
10	6	D1		Check the data is "00".
11	6	D2		Check the data is "00" to "06".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	01	00	

29. Black Defect Adjustment (Bch) RadarW

Detect black defective pixels of CMOS image sensor.

Subject	Clear chart (All white) (Note 1)

Note 1: Shoot the clear chart with the zoom TELE end.
Note 2: Perform "White Defect Check" before this adjustment.
Note 3: Check that the data of page: 0, address: 10 is "00".
Note 4: Check that the data of page: 6, address: 02 is "00".
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) ZOOM switch (Lens block) ..... SERVO

Adjusting method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to "1".
2	0	01	01	
3	6	02		Check the data is "00".
4	6	07		Check the data is "04".
5	6	99		Check the data is "00".
6	0	10	01	
7	6 (16)	07		Check the data is "04".
8	6 (16)	2C	01	
9	6 (16)	90	00	
10	6 (16)	91	04	
11	6 (16)	92	00	
12	6 (16)	93	10	
13	6 (16)	01	79	Press PAUSE (Write) button.
14				Wait for 4 seconds.
15	6 (16)	01	00	Press PAUSE (Write) button.
16	0	10	00	
17				Check that the entire screen is white.
18	6	D0	01	
19	6	D1	02	
20	6	01	21	Press PAUSE (Write) button.
21	6	02		Check the data changes to "01".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	90	00	
4	6 (16)	91	00	
5	6 (16)	92	00	
6	6 (16)	93	00	
7	6 (16)	01	79	Press PAUSE (Write) button.
8				Wait for 4 seconds.
9	6 (16)	01	00	Press PAUSE (Write) button.
10	6 (16)	2C	00	
11	0	10	00	
12	0	01	00	

30. Black Defect Adjustment (Gch) RadarW

Detect black defective pixels of CMOS image sensor.

Subject	Clear chart (All white) (Note 1)

Note 1: Shoot the clear chart with the zoom TELE end.
Note 2: Perform "White Defect Check" before this adjustment.
Note 3: Check that the data of page: 0, address: 10 is "00".
Note 4: Check that the data of page: 6, address: 02 is "00".
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) ZOOM switch (Lens block) ..... SERVO

Adjusting method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to "1".
2	0	01	01	
3	6	02		Check the data is "00".
4	6	07		Check the data is "04".
5	6	99		Check the data is "00".
6	0	10	01	
7	6 (16)	07		Check the data is "04".
8	6 (16)	2C	01	
9	6 (16)	90	00	
10	6 (16)	91	04	
11	6 (16)	92	00	
12	6 (16)	93	10	
13	6 (16)	01	79	Press PAUSE (Write) button.
14				Wait for 4 seconds.
15	6 (16)	01	00	Press PAUSE (Write) button.
16	0	10	00	
17				Check that the entire screen is white.
18	6	D0	01	
19	6	D1	02	
20	6	01	21	Press PAUSE (Write) button.
21	6	02		Check the data changes to "01".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	90	00	
4	6 (16)	91	00	
5	6 (16)	92	00	
6	6 (16)	93	00	
7	6 (16)	01	79	Press PAUSE (Write) button.
8				Wait for 4 seconds.
9	6 (16)	01	00	Press PAUSE (Write) button.
10	6 (16)	2C	00	
11	0	10	00	
12	0	01	00	

31. Black Defect Adjustment (Rch) RadarW

Detect black defective pixels of CMOS image sensor.

Subject	Clear chart (All white) (Note 1)

Note 1: Shoot the clear chart with the zoom TELE end.
Note 2: Perform "White Defect Check" before this adjustment.
Note 3: Check that the data of page: 0, address: 10 is "00".
Note 4: Check that the data of page: 6, address: 02 is "00".
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) ZOOM switch (Lens block) ..... SERVO

Adjusting method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to "1".
2	0	01	01	
3	6	02		Check the data is "00".
4	6	07		Check the data is "04".
5	6	99		Check the data is "00".
6	0	10	01	
7	6 (16)	07		Check the data is "04".
8	6 (16)	2C	01	
9	6 (16)	90	00	
10	6 (16)	91	04	
11	6 (16)	92	00	
12	6 (16)	93	10	
13	6 (16)	01	79	Press PAUSE (Write) button.
14				Wait for 4 seconds.
15	6 (16)	01	00	Press PAUSE (Write) button.
16	0	10	00	
17				Check that the entire screen is white.
18	6	D0	01	
19	6	D1	04	
20	6	01	21	Press PAUSE (Write) button.
21	6	02		Check the data changes to "01".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	01	
3	6 (16)	90	00	
4	6 (16)	91	00	
5	6 (16)	92	00	
6	6 (16)	93	00	
7	6 (16)	01	79	Press PAUSE (Write) button.
8				Wait for 4 seconds.
9	6 (16)	01	00	Press PAUSE (Write) button.
10	6 (16)	2C	00	
11	0	10	00	
12	0	01	00	

32. Angular Velocity Sensor Sensitivity Adjustment

- Perform the angular velocity sensor sensitivity adjustment only when replacing the angular velocity sensor or lens block. When the microprocessor, circuit, etc. malfunctions, do not perform this adjustment but check operations only.
- Record the sensitivity label of the angular velocity sensor (repair part), including to which side of the board it was attached to, etc. If it has been attached incorrectly, the image will move up and down or to the left and right during steady shot operation. Be sure to take note of this.

Precautions on the Parts Replacement

There are two types of repair parts.

Type A ENC03RC – 04
Type B ENC03RD

Replace the broken sensor with a same type sensor. If replace with other type parts, the image will vibrate up and down or left and right during hand-shake correction operations. After replacing, readjust according to the adjusting method after replacement.

Precautions on Angular Velocity Sensor

The sensor incorporates a precision oscillator. Handle it with care as if it dropped, the balance of the oscillator will be disrupted and operations will not be performed properly.

32-1. Angular Velocity Sensor Sensitivity Adjustment (1)

Adjustment Page	7F (Note 1)
Adjustment Address	20

Note 1: If reading/writing data on pages 7F, set data: 07 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 7F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: The PITCH sensor (SE8501 of GY-005 board) sensitivity is labeled only the repair parts.

Preparation

1) Read the PITCH sensor (SE8501 of GY-005 board) sensitivity written on repair parts, and named this as S_{20}.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	07	
3				Calculate D_{20}' using following equations. (decimal calculation) (Note 3) $D_{20}' = 117 \times (60/S_{20})$
4				Convert D_{20}' to a hexadecimal number, and obtain D_{20}. (Note 4)
5	F (7F)	20	D_{20}	Press PAUSE (Write) button.
6	0	10	00	

Note 3: S_{20} is read in "Preparation".

Note 4: Refer to table 6-4-1. "Hexadecimal-decimal conversion table".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	0	01	00	
2				Check that the steady shot function operates normally.

32-2. Angular Velocity Sensor Sensitivity Adjustment (2)

Adjustment Page	7F (Note 1)
Adjustment Address	21

Note 1: If reading/writing data on pages 7F, set data: 07 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 7F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: The YAW sensor (SE8502 of GY-005 board) sensitivity is labeled only the repair parts.

Preparation

1) Read the YAW sensor (SE8502 of GY-005 board) sensitivity written on repair parts, and named this as S_{21}.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	07	
3				Calculate D_{21}' using following equations. (decimal calculation) (Note 3) $D_{21}' = 123 \times (60/S_{21})$
4				Convert D_{21}' to a hexadecimal number, and obtain D_{21}. (Note 4)
5	F (7F)	21	D_{21}	Press PAUSE (Write) button.
6	0	10	00	

Note 3: S_{21} is read in "Preparation".

Note 4: Refer to table 6-4-1. "Hexadecimal-decimal conversion table".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	0	01	00	
2				Check that the steady shot function operates normally.

1-3-2. Camera System Adjustment (Set)

1. Flange Back Adjustment (Set) RadarW (Using the minipattern box or flange back adjust ment jig)

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Siemens star chart with ND filter for minipattern box (Note 1) or flange back adjustment jig
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	FF
Adjustment Address	A0 to AF
Specified value	Data of pege: 16, address: 0C is “00”

Note 1: Dark Siemens star chart.
Note 2: All adjustment in “1-3-1. Camera System Adjustments (Body)” must be already finished.
Note 3: Perform the adjustment with the lens in horizontal state.
Note 4: If reading/writing data on pages FF, set data: 0F to page: 0, address: 10, and then select pages F. By this data setting, the pages FF can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.
Note 5: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.
Note 6: Don't touch the zoom lever during adjustment.
Note 7: After adjustment, if the focusing to a subject located at infinity failed, increase the ilIlluminance of the chart and perform readjustment.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) REC FORMAT (Menu setting) HDV1080i

Preparation (Using the minipattern box)

1) The minipattern box is installed as shown in the following figure.
Note 8: The attachment lenses are not used.
2) Install the minipattern box so that the distance between it and the front of lens of camera is less than 3 cm.
3) Make the height of minipattern box and the camera equal.
4) Check the output voltage of the regulated power supply is the specified voltage ± 0.01 Vdc.
5) Check that the center of Siemens star chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

Specified voltage: The specified voltage varies according to the minipattern box, so adjustment the power supply output voltage to the specified voltage written on the sheet which is supplied with the minipattern box.

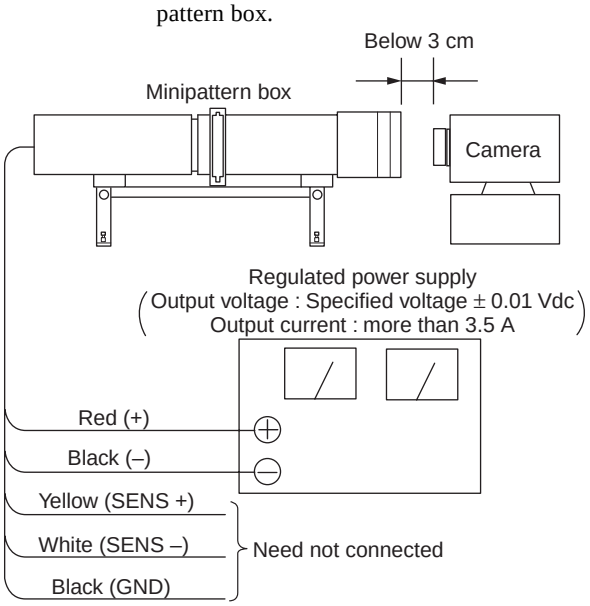


Fig. 6-1-14

Preparation (Using the flange back adjustment jig) (Illuminance: 200 to 300 lux)

1) Install the flange back adjustment jig so that the distance between it and the front of lens of camera is less than 3 cm.
2) Make the height of flange back adjustment jig and the camera equal.
3) Check that the center of chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

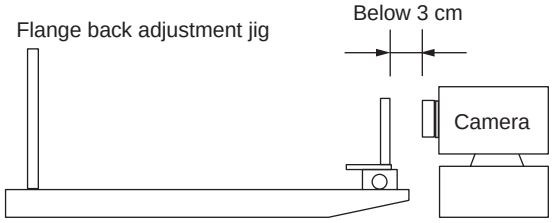


Fig. 6-1-15

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	09	
3	F (9F)	26		Set the bit value of bit0 is “1”, and press PAUSE (Write) button. (Note 9)
4	0	10	00	
5	6	07		Check the data is “04”.
6	0	10	01	
7	6 (16)	07		Check the data is “04”.
8	0	10	00	
9	6	02		Check the data is “00”.
10	6	D0	96	
11	6	01	21	Press PAUSE (Write) button.
12	6	02		Check the data changes to “01”.
13	6	01	00	Press PAUSE (Write) button.
14	6	61	01	
15				Wait for 3 seconds.
16	6	02		Check the data is “00”.
17	0	10	01	
18	6 (16)	2C	01	
19	0	10	00	
20	6	4D	40	
21	6	64	04	
22	0	10	01	
23	6 (16)	22	14	
24	0	10	00	
25	6	01	13	Press PAUSE (Write) button.
26	0	10	01	
27	6 (16)	01	13	Press PAUSE (Write) button.
28				Wait for 1 seconds.
29	6 (16)	01	55	Press PAUSE (Write) button. (Note 10)
30	6 (16)	02		Check the data changes to “01”.
31	0	10	00	
32	6	01	55	Press PAUSE (Write) button. (Note 10)
33	6	02		Check the data changes to “01”.
34	0	10	01	
35	6 (16)	0C		Check the data is “00”.

Note 9: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Note 10: The adjustment data will be automatically input to page: FF, address: A0 to AF.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	01	00	Press PAUSE (Write) button.
2	0	10	00	
3	6	01	00	Press PAUSE (Write) button.
4	6	64	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	6	01	25	Press PAUSE (Write) button.
10	6	01	00	Press PAUSE (Write) button.
11	6	61	00	
12				Wait for 3 seconds.
13	0	10	09	
14	F (9F)	26		Set the bit value of bit0 is “0”, and press PAUSE (Write) button. (Note 9)
15	0	10	00	
16	0	01	00	
17				Perform “Flange Back Check”.

2. Flange Back Check (Set)

2-1. Flange Back Check (ND1)

(Using the flange back adjustment jig)

Subject	Flange back adjustment jig (Illuminance: approx. 400 ± 50 lux)
Measurement Point	Check operation on monitor TV
Measuring Instrument	(Note 2)
Specified value	Focused at the TELE end and WIDE end

Note 1: Check that the data of page: 0, address: 10 is “00”.
Note 2: Check with the monitor larger than 40 inches.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) REC FORMAT (Menu setting) HDV1080i

Preparations before adjustments:

1) Install the flange back adjustment jig so that the distance between it and the front of lens of camera is less than 3 cm.
2) To open the IRIS, decrease the illuminance intensity to the chart of the flange back adjustment jig up to a point before noise appear on the image. (approx. 400 ± 50 lux)
3) Check that the center of chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

Checking method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to “1”.
2	0	01	01	
3	6	99		Check the data is “00”.”
4	0	10	01	
5	6 (16)	2C	01	
6	6 (16)	40	01	
7	0	10	00	
8	6	41	01	
9	6	4D	40	
10				Shoot the chart with the zoom TELE end.
11	0	10	01	
12	6 (16)	2C	02	
13				Check that the lens is focused.
14				Shoot the chart with the zoom WIDE end.
15				Check that the lens is focused.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	2C	00	
2	6 (16)	40	00	
3	0	10	00	
4	6	41	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	0	01	00	

2-2. Flange Back Check (ND2)
(Using the flange back adjustment jig)

Subject	Flange back adjustment jig (Illuminance: approx. 400 ± 50 lux)
Measurement Point	Check operation on monitor TV
Measuring Instrument	(Note 2)
Specified value	Focused at the TELE end and WIDE end

Note 1: Check that the data of page: 0, address: 10 is “00”.
Note 2: Check with the monitor larger than 40 inches.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 2
3) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to “2”.
2	0	01	01	
3	6	99		Check the data is “01”.
4	0	10	01	
5	6 (16)	2C	01	
6	6 (16)	40	01	
7	0	10	00	
8	6	41	01	
9	6	4D	40	
10				Shoot the chart with the zoom TELE end.
11	0	10	01	
12	6 (16)	2C	02	
13				Check that the lens is focused.
14				Shoot the chart with the zoom WIDE end.
15				Check that the lens is focused.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	2C	00	
2	6 (16)	40	00	
3	0	10	00	
4	6	41	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	0	01	00	

2-3. Flange Back Check (ND3)
(Using the flange back adjustment jig)

Subject	Flange back adjustment jig (Illuminance: approx. 400 ± 50 lux)
Measurement Point	Check operation on monitor TV
Measuring Instrument	(Note 2)
Specified value	Focused at the TELE end and WIDE end

Note 1: Check that the data of page: 0, address: 10 is “00”.
Note 2: Check with the monitor larger than 40 inches.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 3
3) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to “3”.
2	0	01	01	
3	6	99		Check the data is “02”.
4	0	10	01	
5	6 (16)	2C	01	
6	6 (16)	40	01	
7	0	10	00	
8	6	41	01	
9	6	4D	40	
10				Shoot the chart with the zoom TELE end.
11	0	10	01	
12	6 (16)	2C	02	
13				Check that the lens is focused.
14				Shoot the chart with the zoom WIDE end.
15				Check that the lens is focused.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	2C	00	
2	6 (16)	40	00	
3	0	10	00	
4	6	41	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	0	01	00	

2-4. Flange Back Check (ND4)
(Using the flange back adjustment jig)

Subject	Flange back adjustment jig (Illuminance: approx. 400 ± 50 lux)
Measurement Point	Check operation on monitor TV
Measuring Instrument	(Note 2)
Specified value	Focused at the TELE end and WIDE end

Note 1: Check that the data of page: 0, address: 10 is “00”.
Note 2: Check with the monitor larger than 40 inches.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 4
3) REC FORMAT (Menu setting) HDV1080i

Checking method:

Order	Page	Address	Data	Procedure
1				Set the ND FILTER to “4”.
2	0	01	01	
3	6	99		Check the data is “03”.
4	0	10	01	
5	6 (16)	2C	01	
6	6 (16)	40	01	
7	0	10	00	
8	6	41	01	
9	6	4D	40	
10				Shoot the chart with the zoom TELE end.
11	0	10	01	
12	6 (16)	2C	02	
13				Check that the lens is focused.
14				Shoot the chart with the zoom WIDE end.
15				Check that the lens is focused.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6 (16)	2C	00	
2	6 (16)	40	00	
3	0	10	00	
4	6	41	00	
5	6	4D	00	
6	0	10	01	
7	6 (16)	2C	00	
8	0	10	00	
9	0	01	00	

1-4. ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS

Before perform the viewfinder system adjustments, check the data of page: 0, address: 10 is “00”.
If not, select page: 0, address: 10, and set the data “00”.

Note 1: Taken an extreme care not to destroy the liquid crystal display module by static electricity when replacing it.

1. EVF Gain Adjustment (UU-006 board) RadarW

This adjustment does the following items automatically.
RGB Amp Adjustment
Contrast Adjustment

Mode	VTR stop (VCR mode)
Signal	No signal
Adjustment Page	C
Adjustment Address	A9 to AB
Specified value	The data of page :3, address: 03 is “00”

Note 1: Check that the data of page: 0, address: 10 is “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	0	10	01	
4	8 (18)	AF		Set the bit value of bit1 is “1”, and press PAUSE (Write) button. (Note 2)
5	8 (18)	AC	04	Press PAUSE (Write) button.
6	8 (18)	A3	44	Press PAUSE (Write) button.
7	0	10	00	
8	3	03	FF	
9	3	01	6B	Press PAUSE (Write) button. (Note 3)
10	3	03		Check the data is "00". (Note 4)
11	3	70	10	Press PAUSE (Write) button.
12	3	70		Check the data changes to “11”.
13	0	01	00	

Note 2: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.
Note 3: The adjustment data will be automatically input to page: C, address: A9 and AB.
Note 4: If the data is other than “00”, adjustment has errors. Contents of error is written into page: 3, address: 03. See the following table.

Data of page: 3, address: 03	Contents of error
81	EVF_G adjustment error
82	EVF_R adjustment error
83	EVF_B adjustment error.

1-5. LCD SYSTEM ADJUSTMENTS

Before perform the LCD system adjustments, check that the data of page: 0, address: 10 is “00”.
If not, select page: 0, address: 10, and set the data “00”.

Note 1: Taken an extreme care not to destroy the liquid crystal display module by static electricity when replacing it.
Note 2: Set the “LCD BRIGHT”, “LCD COLOR” to the center with the menu settings of the LCD panel.
Note 3: Open the LCD panel during the LCD system adjustment.

1. PANEL Gain Adjustment (PP-006 board) RadarW

This adjustment does the following items automatically.
RGB Amp Adjustment
Contrast Adjustment

Mode	VTR stop (VCR mode)
Signal	No signal
Adjustment Page	C
Adjustment Address	A6 to A8
Specified value	The data of page: 3, address: 03 is “00”

Note 1: Check that the data of page: 0, address: 10 is “00”.

Switch setting:
VIDEO OUT ..... LCD
(Page: 7, address: 4F, Bit1 = 0)

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	0	10	01	
4	8 (18)	AF		Set the bit value of bit1 is “1”, and press PAUSE (Write) button. (Note 2)
5	8 (18)	AC	04	Press PAUSE (Write) button.
6	8 (18)	A3	44	Press PAUSE (Write) button.
7	0	10	00	
8	3	03	FF	
9	3	01	6A	Press PAUSE (Write) button. (Note 3)
10	3	03		Check the data is "00". (Note 4)
11	3	70	10	Press PAUSE (Write) button.
12	3	70		Check the data changes to “11”.
13	0	01	00	

Note 2: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.
Note 3: The adjustment data will be automatically input to page: C, address: A6 and A8.
Note 4: If the data is other than “00”, adjustment has errors. Contents of error is written into page: 3, address: 03. See the following table.

Data of page: 3, address: 03	Contents of error
01	PANEL_G adjustment error
02	PANEL_R adjustment error
03	PANEL_B adjustment error

2. V-COM Adjustment (PP-006 board)

Set the DC bias of the common electrode drive signal of LCD to the specified value.
If deviated, the LCD display will be move, producing flicker and conspicuous vertical lines.

Mode	VTR stop (VCR mode)
Signal	No signal
Measurement Point	Check on LCD screen
Measuring Instrument	
Adjustment Page	C
Adjustment Address	A1
Specified Value	The brightness difference between the section-A and section-B is minimum

Note 1: Perform "PANEL Gain Adjustment" before this adjustment.
Note 2: Check that the data of page: 0, address: 10 is "00".

Switch setting
VIDEO OUT ..... LCD
(Page: 7, address: 4F, Bit1 = 0)

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	7	01	95	
4	7	04	00	
5	7	00	01	Press PAUSE (Write) button.
6	C	A1	70	
7	C	A1		Change the data so that brightness of the section A and section B is equal.
8	C	A1		Set a value obtained by adding 3 to the forementioned data, and press PAUSE (Write) button.
9	7	01	95	
10	7	04	01	
11	7	00	01	Press PAUSE (Write) button.
12	3	70	10	Press PAUSE (Write) button.
13	3	70		Check the data changes to "11".
14	0	01	00	

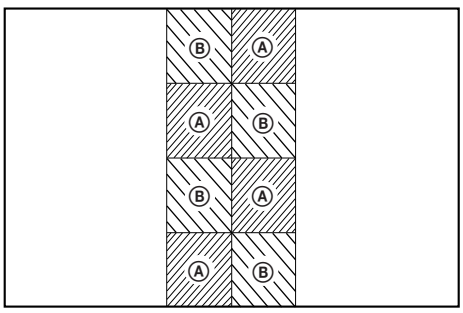


Fig. 6-1-16

3. Transmissive Mode White Balance Adjustment (PP- 006 board)

Correct the white balance at transmissive mode.
If deviated, the LCD screen color cannot be reproduced.

Mode	VTR stop (VCR mode)
Signal	No signal
Measurement Point	Check on LCD screen
Measuring Instrument	
Adjustment Page	C
Adjustment Address	A2, A3
Specified Value	LCD screen must not be colored

Note 1: Check that the data of page: 0, address: 10 is "00".
Note 2: Check the white balance only when replacing the following parts. If necessary, adjust them.
1. LCD block
2. Light induction plate
3. IC6001

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	7	01	95	
4	7	04	00	
5	7	00	01	Press PAUSE (Write) button.
6	C	A2	20	Press PAUSE (Write) button.
7	C	A3	20	Press PAUSE (Write) button.
8				Check that the LCD screen is not colored. If not colored, proceed to step 10.
9	C	A2 A3		Change the data so that the LCD screen is not colored. (Note 3)
10	7	01	95	
11	7	04	01	
12	7	00	01	Press PAUSE (Write) button.
13	3	70	10	Press PAUSE (Write) button.
14	3	70		Check the data changes to "11".
15	0	01	00	

Note 3: To write in the non-volatile memory (EEPROM), press the PAUSE (Write) button each time to set the data.

1-6. ENG ADJUSTMENTS

[Connecting the measuring instruments]
Connect the measuring instruments as shown in Fig. 6-1-17.

[Lens jack (CN7903 of LL-015 board)]
The following table shown the Pin No. and signal name of CN7903

Pin No.	Signal Name	Pin No.	Signal Name
1	RETURN VIDEO_SW	7	IRIS POSITION
2	VTR CONTROL SELECT	8	IRIS MODE CONTROL
3	GND	9	EXTENDER RESPONSE
4	COMPULSION IRIS SERVO	10	ZOOM POSITION
5	IRIS CONTROL	11	FOCUS POSITION (RESERVE)
6	12V	12	(RESERVE)

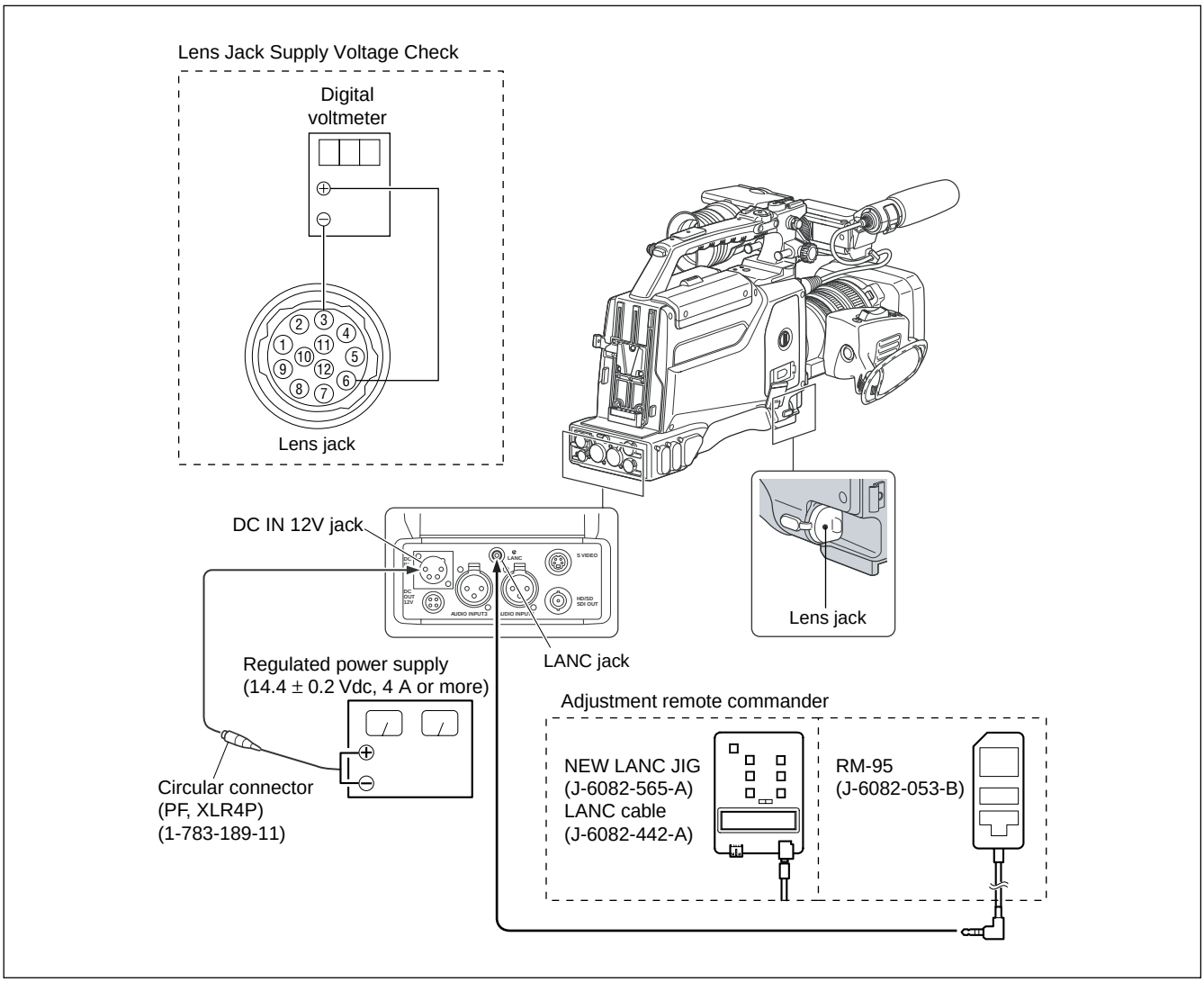


Fig. 6-1-17

1. Lens Jack Supply Voltage Check

Check that +12V is supplied normally from the lens jack.

Mode	CAMERA mode
Signal	No signal
Measurement Point	Lens jack + probe: pin ⑥ – probe: pin ③
Measuring Instrument	Digital voltmeter
Specified value	A = 11 to 17V

Checking method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	09	
3	F (9F)	27		Set the bit value of bit1 is "1", and press PAUSE (Write) button. (Note 1)
4				Check that the voltage of lens jack pin ⑥ satisfies the specified value.
5	F (9F)	27		Set the bit value of bit1 is "0", and press PAUSE (Write) button. (Note 1)
6	0	10	00	
7	0	01	00	

Note 1: For the bit values, refer to "6-4. SERVICE MODE", "4-4. 3. Bit value discrimination".

2. Iris Control Adjustment RadarW

Adjust the iris control, and check that it operates normally.

Adjustment Page	6D
Adjustment Address	40 to 45

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 06.
3) Input the following data to page: D (6D), address: 40 to 45.

Note: Press the PAUSE (Write) button of the adjustment remote commander each time to set data.

Address	Data
40	AB
41	96
42	5D
43	AD
44	44
45	A3

4) Select page: 0, address: 10, and set data: 00.
5) Select page: 0, address: 01, and set data: 00.

3. Iris Position Adjustment RadarW

Adjust the iris position, and check that it operates normally.

Adjustment Page	6D
Adjustment Address	46 to 4B

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 06.
3) Input the following data to page: D (6D), address: 46 to 4B.

Note: Press the PAUSE (Write) button of the adjustment remote commander each time to set data.

Address	Data
46	0A
47	B9
48	03
49	93
4A	01
4B	46

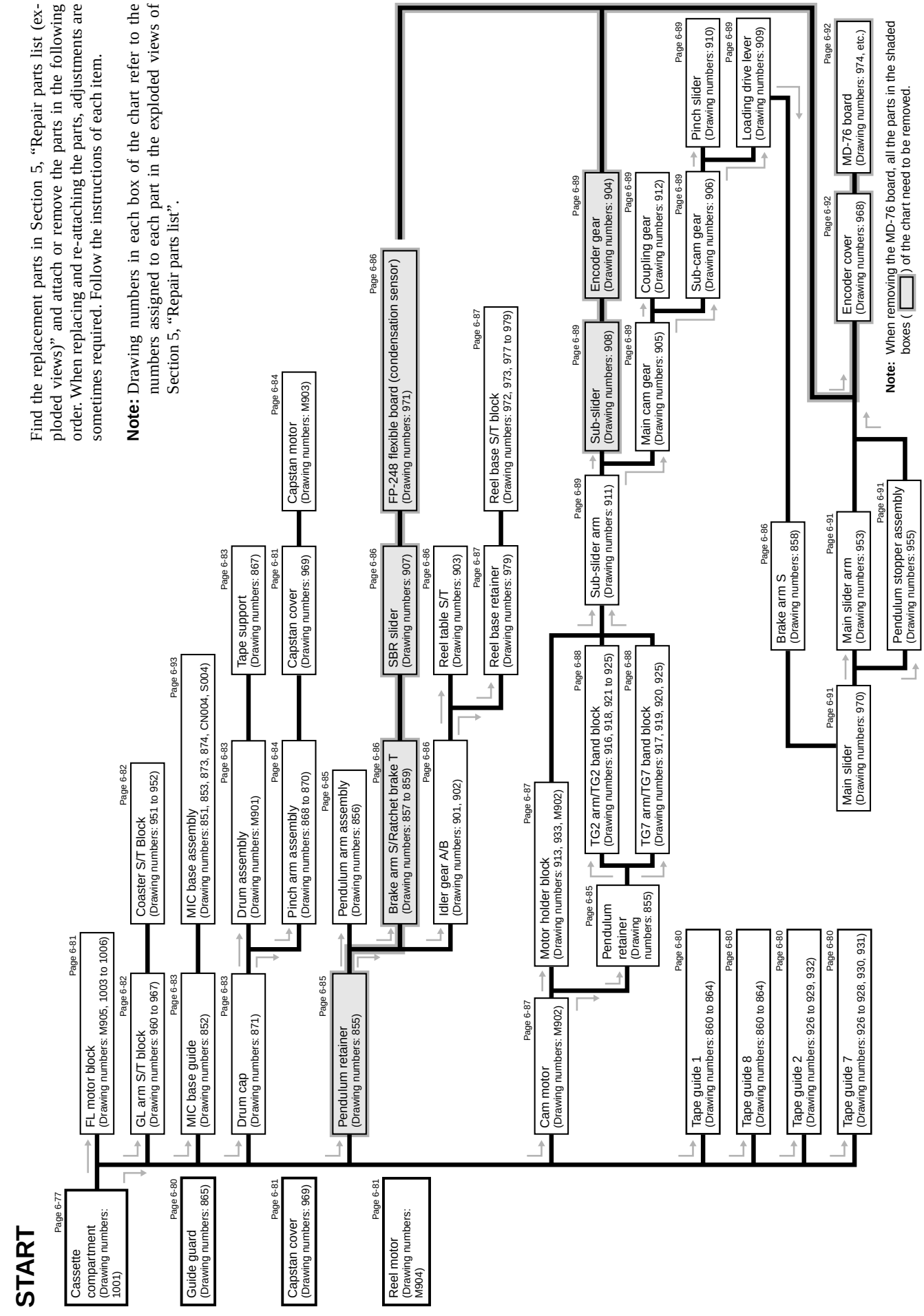
4) Select page: 0, address: 10, and set data: 00.
5) Select page: 0, address: 01, and set data: 00.

6-2. MECHANICAL SECTION ADJUSTMENTS

INFORMATION

Find the replacement parts in Section 5, "Repair parts list (exploded views)" and attach or remove the parts in the following order. When replacing and re-attaching the parts, adjustments are sometimes required. Follow the instructions of each item.

Note: Drawing numbers in each box of the chart refer to the numbers assigned to each part in the exploded views of Section 5, "Repair parts list".

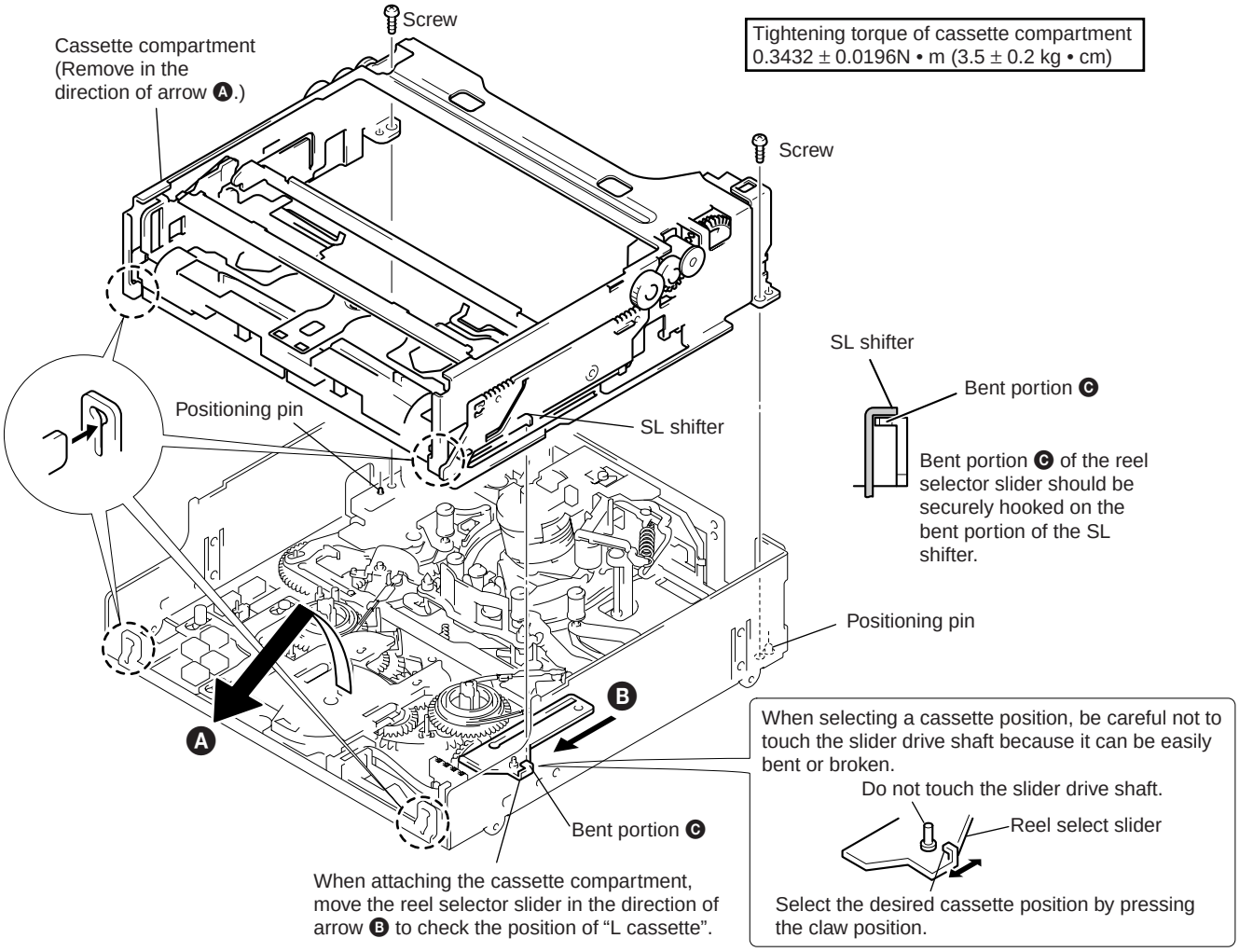


6-2-1. PARTS REPLACEMENT AND PREPARATION FOR ADJUSTMENT

1-1. ASSEMBLY/DISASSEMBLY OF CASSETTE COMPARTMENT

For details on disassembling the mechanism deck (R mechanism), refer to the Service Manual of the main unit in which the R mechanism is mounted.

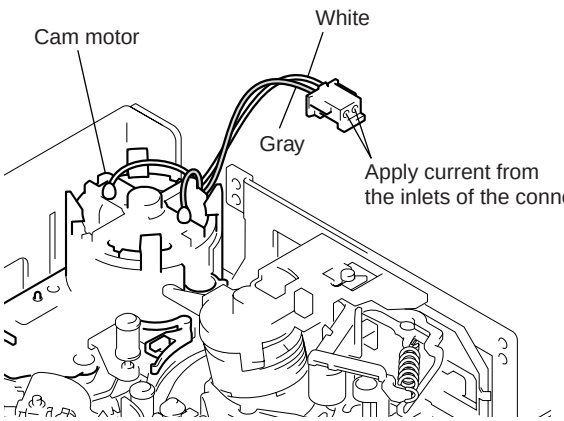
Before attaching or removing the cassette compartment, check the position of "L cassette".



1-2. HOW TO LOAD/UNLOAD

[Using the regulated power supply]

Note: Make sure to remove the connector of the cam motor from the board of the main unit and apply +5V current.



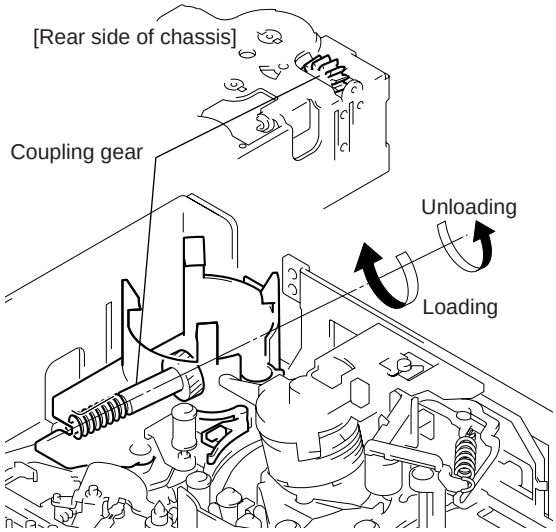
Loading : Apply positive polarity (+) of power supply to the gray wire and negative polarity (–) of power supply to the white wire.

Unloading : Apply negative polarity (–) of power supply to the gray wire and positive polarity (+) of power supply to the white wire.

[Manual: No cam motor]

Note: Remove the cam motor from the motor holder while referring to "Information" on page 6-76.

Rotate the coupling gear by hand to load or unload.



1-3. About Mode Selector II

• About Mode Selector II

3-1. OUTLINE

This unit is a mechanism drive tool which supplements the maintenance of each mechanism deck. Its functions are described below.

1. Manual test
A mode which drives the motor only while the switch is ON. It enables the operator to control the motor as desired.

2. Step test
A mode which drives the motor until the current condition detected by the sensor changes to another condition. It enables the movements made by the motor in each operation to be controlled while being detected.

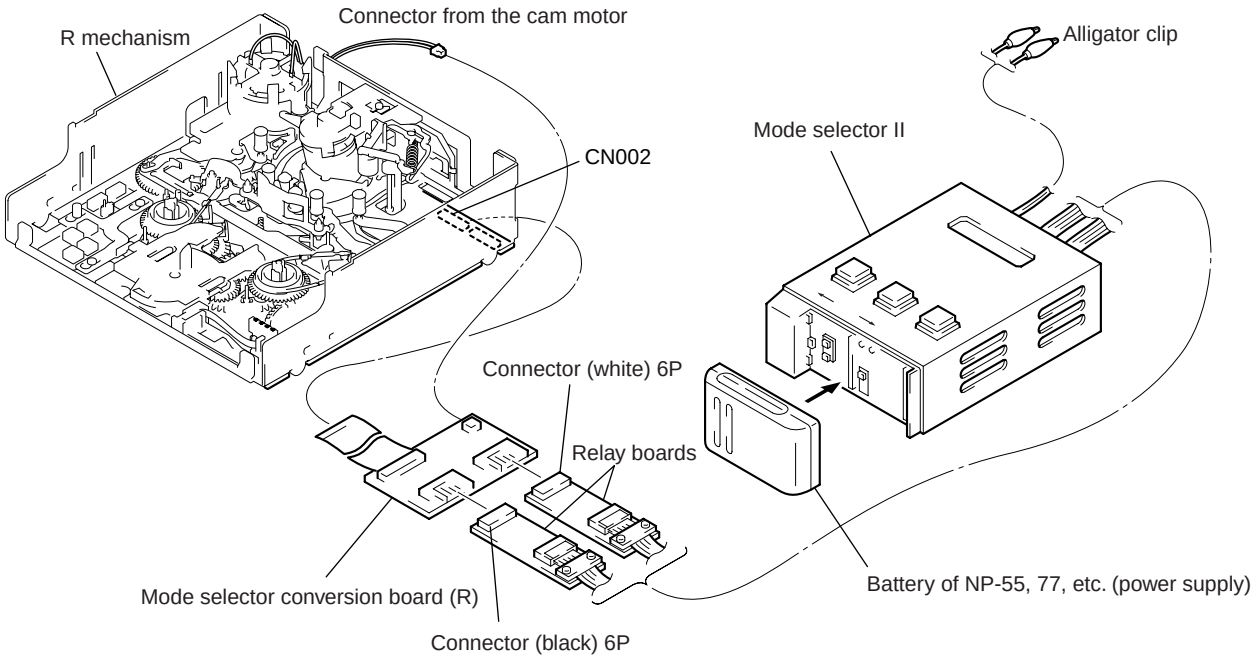
3. Auto test
A mode that checks if the mechanism operates normally according to the condition shift table recorded in the unit for each mechanism deck. All the conditions of the decks are checked through a series of operations.
An error message is displayed and operations are stopped if incorrect shifts and conditions are detected.

3-2. MECHANISM CONDITION (POSITION) SHIFTING ORDER LIST

After selecting the mechanism deck, select one of the two test modes other than the auto test, and press the RVS or FF button to specify the mechanism state (position).

MD name / Code					R mechanism
A	B	C	D		
0	1	1	1	1	ULE
0	0	1	1	2	DEW
1	0	1	1	3	LE
1	0	0	1	4	REW
1	0	1	0	5	FF
1	1	1	0	6	STOP
1	1	0	1	7	FWD / RVS

3-3. MODE SELECTOR II CONNECTION



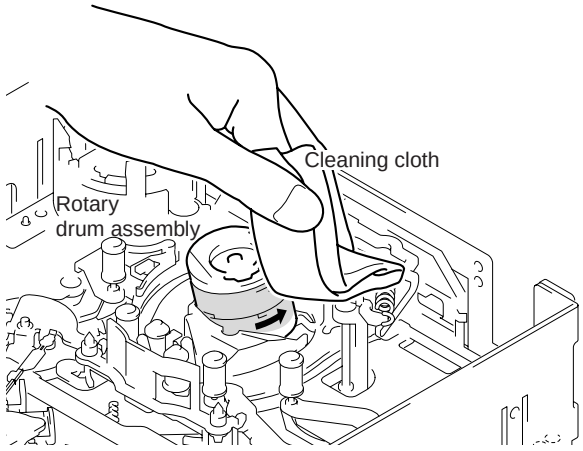
6-2-2. PERIODIC CHECK

• Carry out the following maintenance and periodic checks not only to fully display the functions and performance of the set, but also for the equipment and tape. After replacing, service the set as follows, regardless of the length of use.

2-1. CLEANING OF ROTARY DRUM ASSEMBLY

1. Press a wiping cloth (J-19) moistened with head cleaning liquid (J-18) against the rotary drum assembly gently, and clean it while rotating the rotary drum assembly slowly with your finger in the counterclockwise direction.

Note: Do not rotate the motor on power or rotate the rotary drum assembly in the clockwise direction with your finger. The head tip will also be damaged if the wiping cloth is moved perpendicularly against it. Therefore, be sure to follow the above instructions when cleaning the rotary drum assembly.

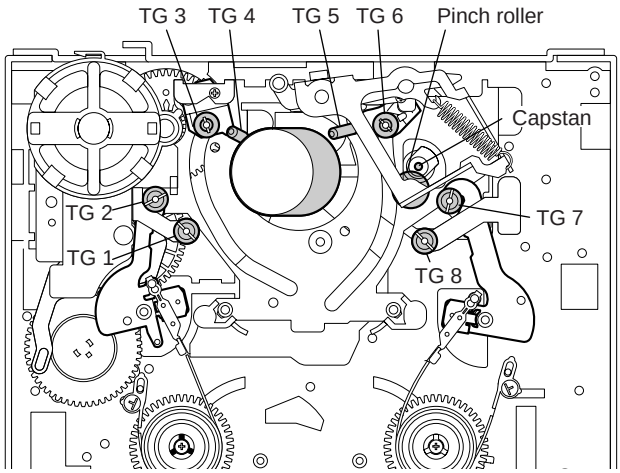


2-2. CLEANING OF TAPE PATH SYSTEM

1. Clean the tape path systems (TG1 to TG8 and capstan) and the lower drum using a super fine applicator (J-20) moistened with head cleaning liquid.

Note: Make sure that no oil or grease of the link mechanisms sticks to the super fine applicator (J-20).

Note: Do not use a applicator moistened with alcohol to the other guide cleaning. But clean the pinch roller using alcohol.



2-3. PERIODIC CHECKS

Location of Maintenance and Check		Hours of Use (H)										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
	Cleaning of tape path surface	○	○	○	○	○	○	○	○	○	○	Be careful of the oil.
	Cleaning and degaussing of rotary drum assembly	○	○	○	○	○	○	○	○	○	○	Be careful of the oil.
Driving System	Gear	—	◎	—	◎	—	◎	—	◎	—	◎	Make sure that no oil gets on the tape path surface.
	Cam motor (worm block)	—	◎	—	◎	—	◎	—	◎	—	◎	X-3946-702-1 (M902)
Performance Confirmation	Abnormal noise	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Back tension measurement	—	☆	—	☆	—	☆	—	☆	—	☆	
	Brake system	—	☆	—	☆	—	☆	—	☆	—	☆	
	FWD/RVS torque measurement	—	☆	—	☆	—	☆	—	☆	—	☆	

○ : Cleaning ◎: Appling grease ☆: Confirmation

Note: When overhauling, refer to the checks above and replace parts.

Note: Greasing

Always use the specified grease. If the viscosity differs, various problems may occur.
(Use FG-87HSR for all parts of the R mechanism.)

Check the quantity of grease when installing the parts which is needed to apply the grease. When replacing these parts, make sure to apply the specified amount of grease.

• SUNCALL (FG-87HSR): Part No. 7-640-006-08

6-2-3. PARTS REPLACEMENT

• Precaution

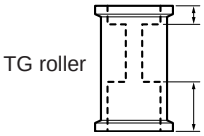
For details on disassembling the cabinets, boards and other parts, refer to “Section 2, Disassembly”. For details on replacing parts (disassembly, assembly) of the mechanism deck, refer to “Information” on page 6-76.

3-1. TAPE GUIDE 1/8 AND GUIDE GUARD

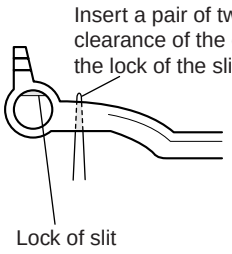
Disassembly/Assembly

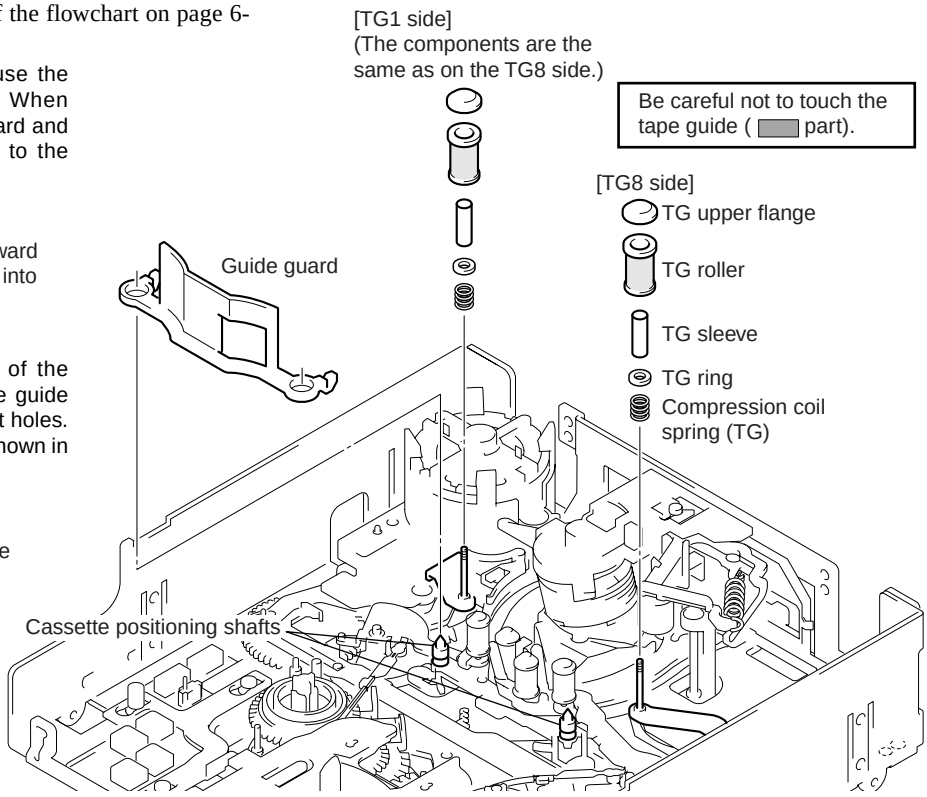
When the tape guide 1/8 is replaced or attached, perform each adjustment from Adjustment Start -2 of the flowchart on page 6-95.

To attach or remove the tape guide, use the screwdriver for the tape path (J-22). When attaching the TG rollers, check the upward and downward directions and attach them to the chassis shaft.



The guide guard is fixed at each slit of the cassette positioning shaft. To attach the guide guard, only insert it into the right and left holes. To remove it, use a pair of tweezers as shown in the figure below.



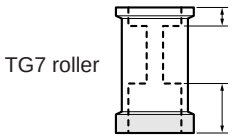


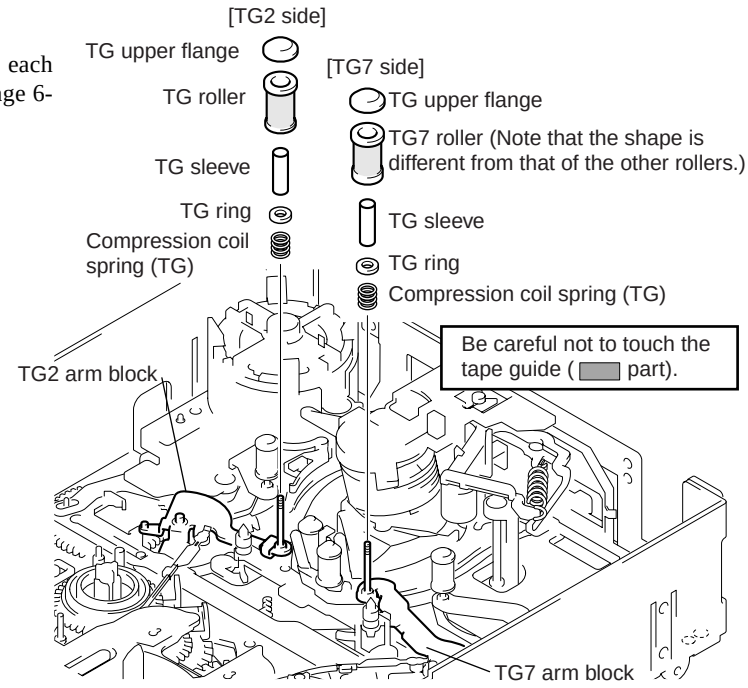
3-2. TAPE GUIDE 2/7

Disassembly/Assembly

When the tape guide 2/7 is replaced or attached, perform each adjustment from Adjustment Start -3 of the flowchart on page 6-95.

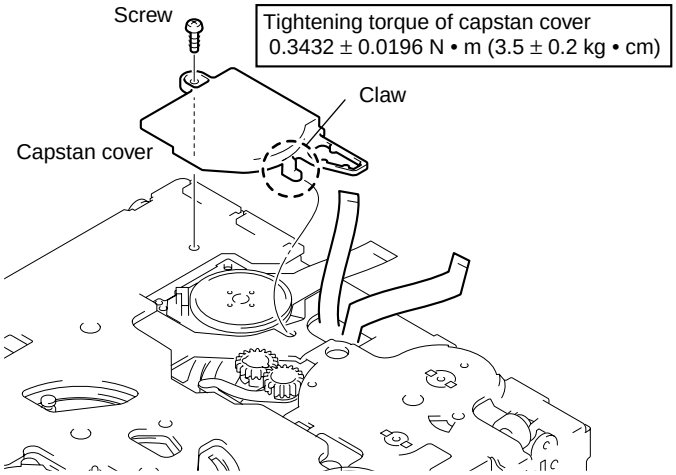
To attach or remove the tape guide, use the screwdriver for the tape path (J-22). When attaching the TG rollers, check the upward and downward directions and that the TG roller to be attached to the TG7 side is exclusively for the TG7 side. Then attach the TG rollers to the chassis shaft.

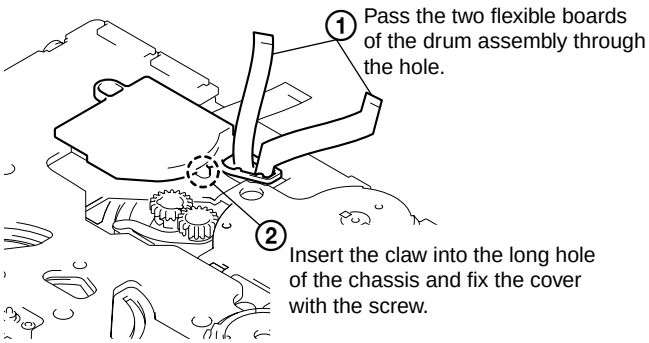




3-3. CAPSTAN COVER

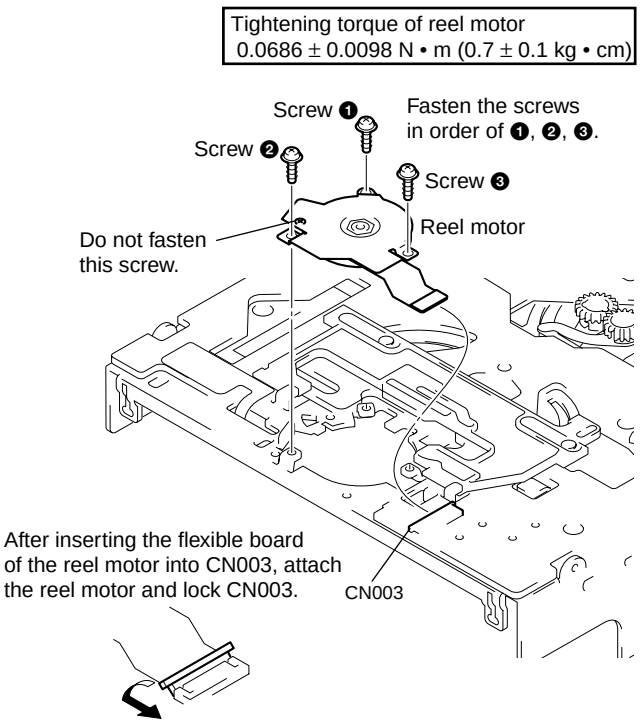
Disassembly/Assembly





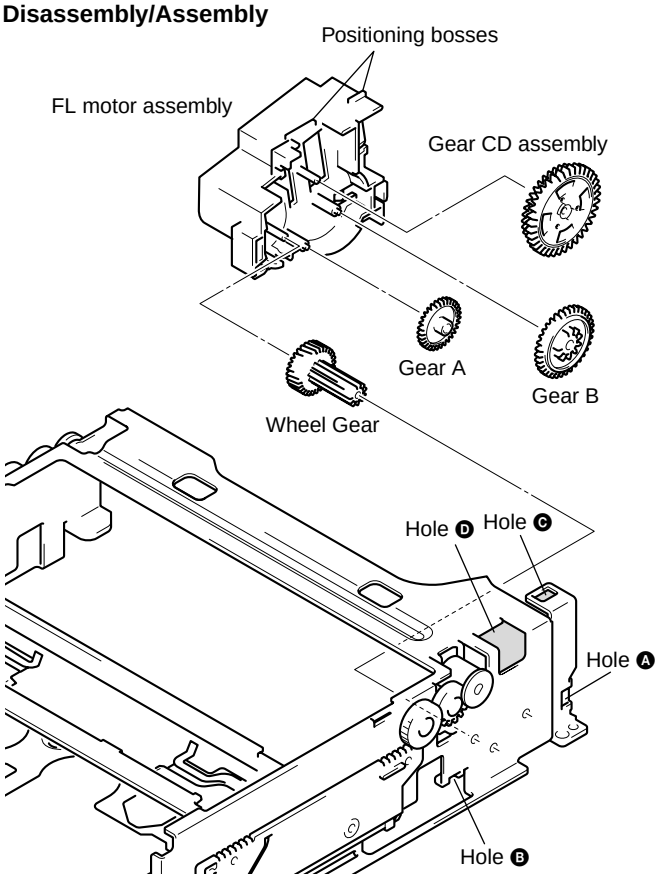
3-4. REEL MOTOR

Disassembly/Assembly



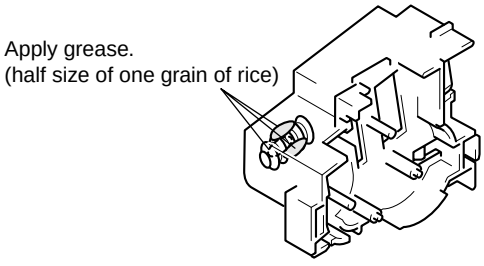
3-5. FL MOTOR ASSEMBLY, GEAR A, GEAR B AND GEAR CD ASSEMBLY

Disassembly/Assembly



Remove the claws of the FL motor assembly from hole ❹ and hole ❸ and remove the FL motor assembly. Then, remove each gear, etc.
To attach them, after attaching the gears, etc. to the FL motor assembly and hook the positioning bosses of the FL motor block on holes ❷ and ❶ then fit the two claws in each hole ❹ and ❸.

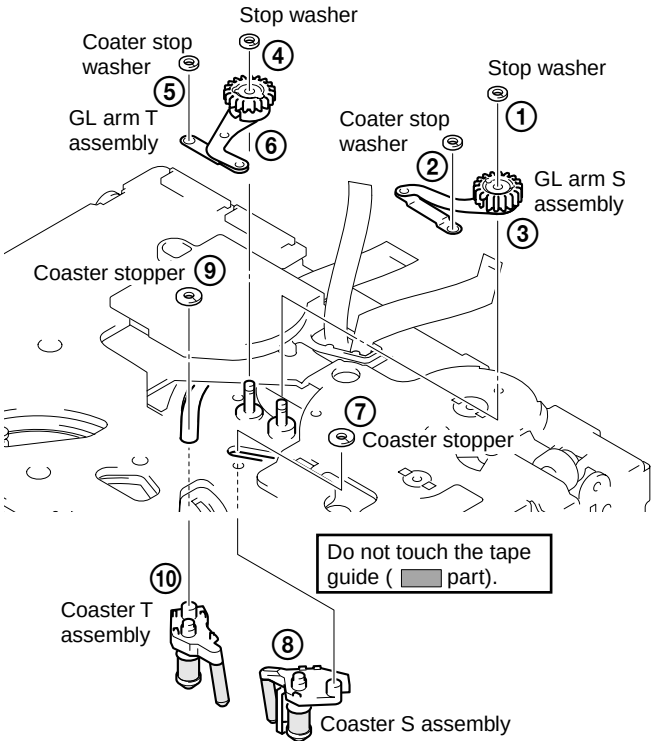
The worm gears are attached inside the FL motor assembly. When attaching the FL motor assembly, apply grease there.



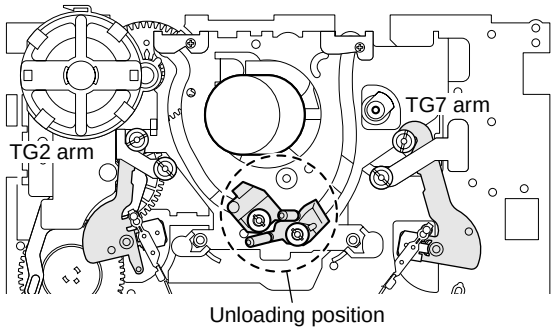
3-6. GL ARM S ASSEMBLY, GL ARM T ASSEMBLY, COASTER S ASSEMBLY AND COASTER T ASSEMBLY

Disassembly: Remove the parts in order of ①➡②➡③➡④➡⑤➡⑥➡⑦➡⑧➡⑨➡⑩

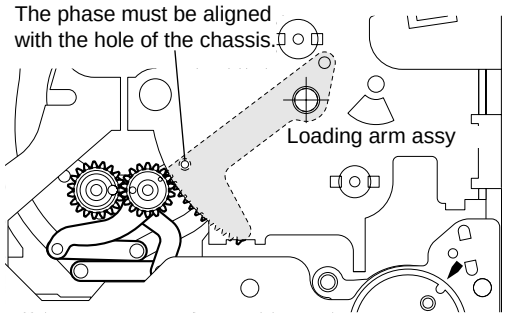
For the disassembling and assembling procedures of the GL gear, GL helical torsion spring, etc., refer to page 6-93.



Move the TG2/7 arms to the loading position with the regulated power supply or by hand while referring to page 6-77. Each coaster assembly must be in the unloading position.

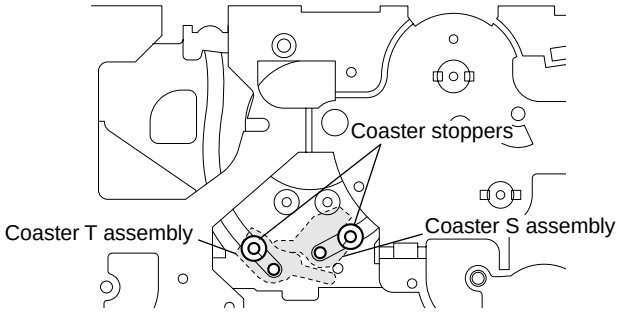


With consideration for future assembly, check from the rear of the chassis that the phase of the loading arm assy is aligned.

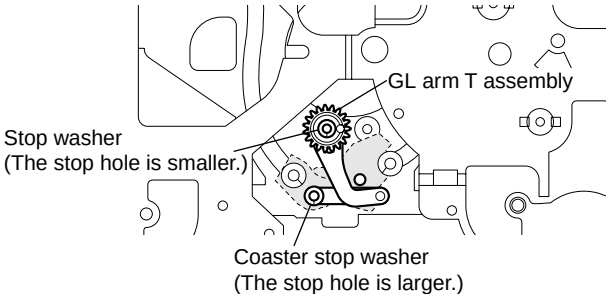


Assembly

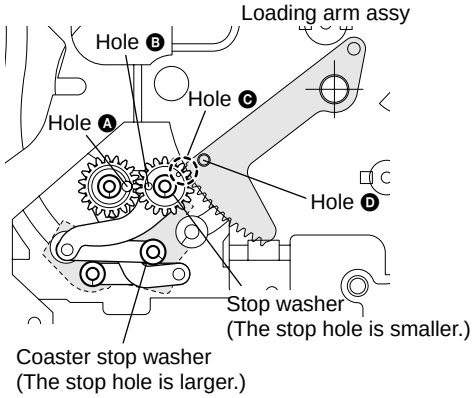
① Attach the coaster S/T assembly to the chassis with a new coaster stopper while being careful not to touch the tape guide. Do the work while holding the drum side of each coaster.



② Attach the GL arm T assembly. Fix the stop washers in the correct position, using new stop washers.



③ Attach the GL arm S assembly while checking the phase of each part. Fix the stop washers at the correct position, using new stop washers.

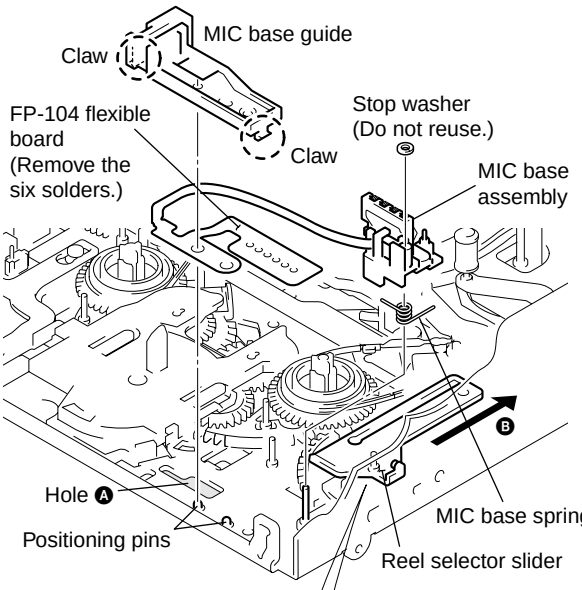


Check each phase adjustment while referring to the above figure.
Hole Ⓐ of the GL gear T and hole Ⓑ of the GL gear S must face each other. Hole Ⓓ of the loading arm assy must be aligned with the hole of the chassis, and the endmost gear tooth of the loading arm assy must face toward hole Ⓒ of the GL gear S.

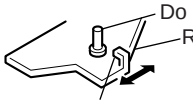
3-7. MIC BASE GUIDE, MIC BASE ASSEMBLY AND MIC BASE SPRING

Disassembly/Assembly

For the disassembling and assembling procedures of the components of the MIC base assembly, refer to page 6-93.



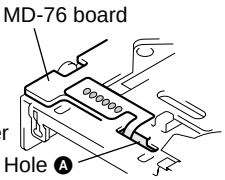
When selecting a cassette position, be careful not to touch the slider drive shaft because it can be easily bent or broken.



Select the desired cassette position by pressing the claw position.

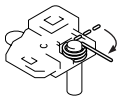
Remove the six solders on the FP-104 flexible board from the rear of the chassis. Pass the flexible board through hole Ⓐ and pull it out of the front side of the chassis while being careful not to damage it. To attach the flexible board, perform the steps of disassembly in reverse order.

Six solders
Temperature of tip of soldering iron : 350 ± 20 °C
Hold time : one second or shorter

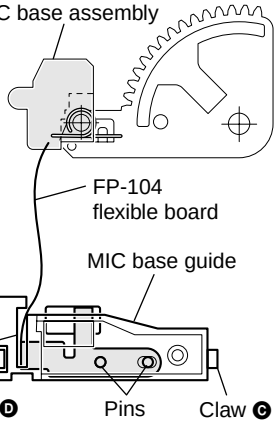


Move the reel selector slider in the direction of arrow Ⓑ and attach the MIC base assembly at the position of "S cassette". For the assembly of the MIC base spring, refer to the figure.

Note: Do not hold the shaft when selecting the reels.



Insert the side of the shorter spring into the hole of the holder and hook the side of the longer spring.

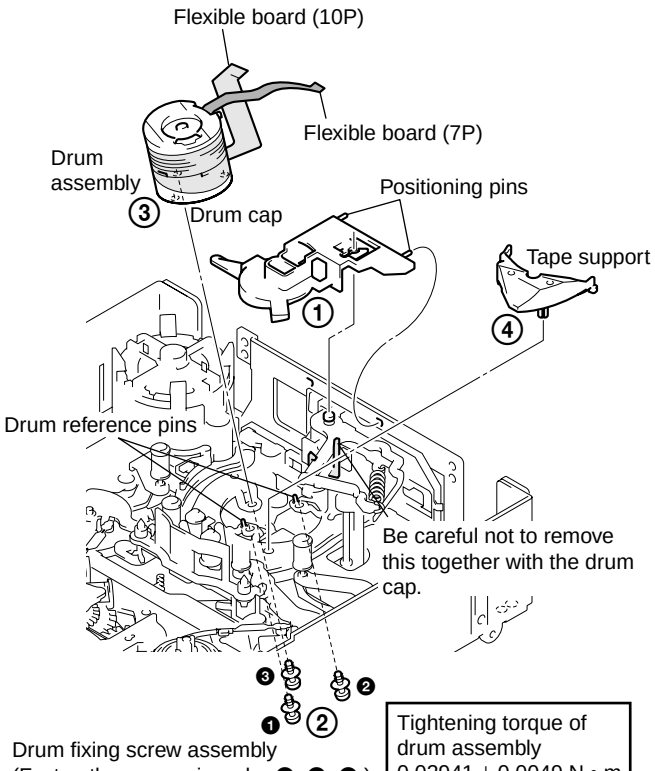


When attaching the MIC base guide, lock the positioning pins, claw Ⓒ, and claw Ⓓ in this order. Route the flexible board into the clearance of the MIC base guide.

3-8. DRUM CAP, DRUM ASSEMBLY AND TAPE SUPPORT

Disassembly: Remove them in order of ①➡②➡③

For the disassembly and assembly procedures of the components of the drum assembly, refer to page 6-94.



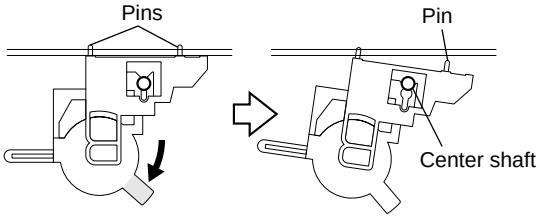
Tightening torque of drum assembly
0.02941 ± 0.0049 N • m
(0.3 ± 0.05 kg • cm)

Assembly: Attach the parts while referring to the disassembly procedure and the figure below.

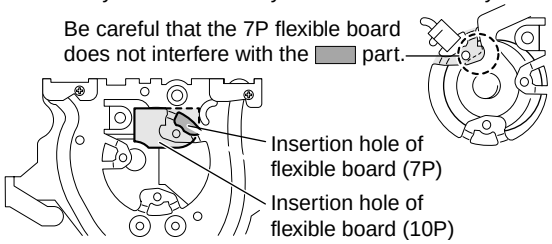
(After assembling, adjust the tape path while referring to page 6-95 and thereafter.)

Assembly and disassembly of the drum assembly

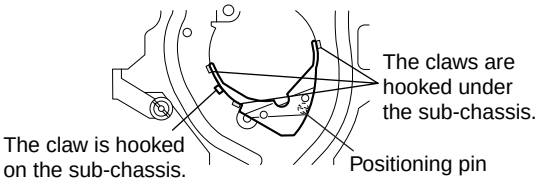
When pulling the RadarW part in the direction of the arrow, the claw is removed from the center shaft, then the right pin and the drum cap are removed as shown in the figure on the right. To attach the drum assembly, perform the disassembly steps in reverse order.



Assembly and disassembly of the drum assembly



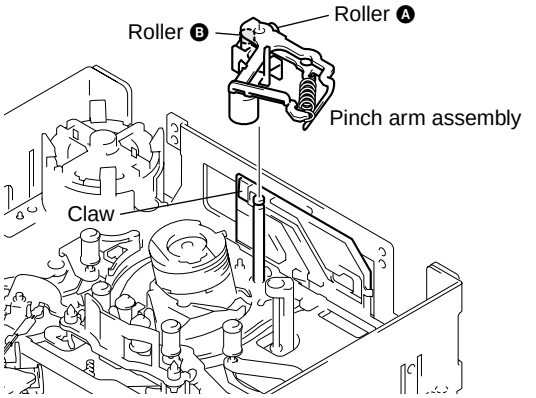
Assembly and disassembly of the tape support



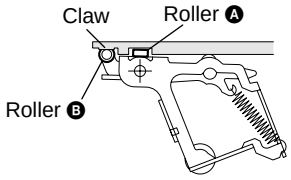
3-9. PINCH ARM ASSEMBLY

Disassembly/Assembly

For the disassembling and assembling procedures of the tape retainer and compression coil spring (tape retainer), refer to page 6-94.



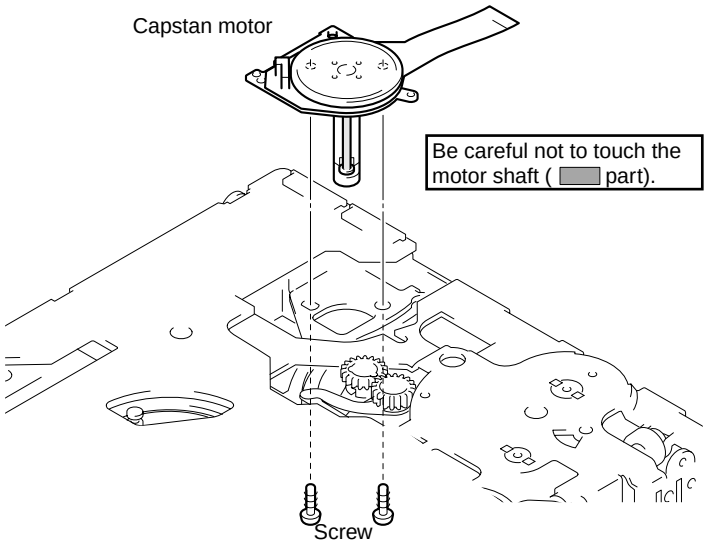
Push roller Ⓐ into the groove as shown in the figure. Insert roller Ⓑ into the claw. To remove the pinch arm assembly, pull out the pinch arm upward while pushing the claw.



3-10. CAPSTAN MOTOR

Disassembly/Assembly

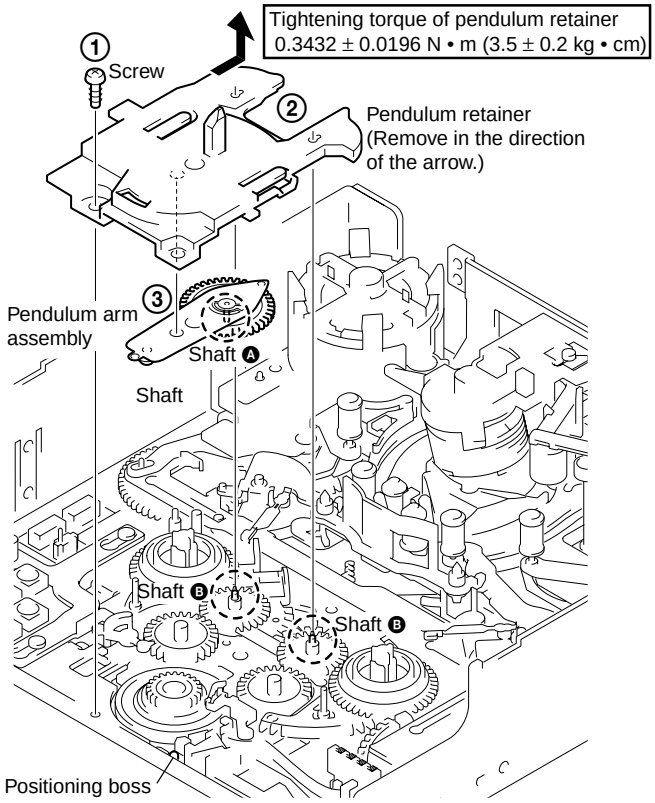
(After assembling, adjust the tape path from page 6-95.)



Tightening torque of capstan motor
0.1961 ± 0.0196 N • m (2.0 ± 0.2 kg • cm)

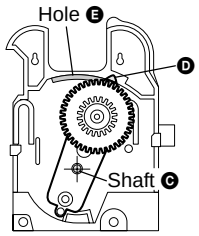
3-11. PENDULUM RETAINER AND PENDULUM ARM ASSEMBLY

Disassembly: Remove them in order of ①➡②➡③
(To attach them, perform the disassembly steps in reverse order.)

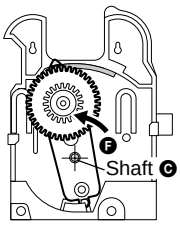


Notes during assembly
When assembling or disassembling the pendulum arm assembly, be careful of the following.

[Rear side of pendulum retainer]

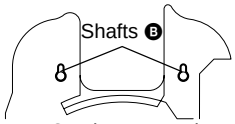


Insert tip Ⓓ of the pendulum arm into hole Ⓔ of the pendulum retainer and insert the pendulum into shaft Ⓒ.

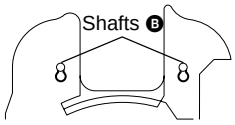


Slide the pendulum arm in the direction of arrow Ⓕ and attach it to the chassis.

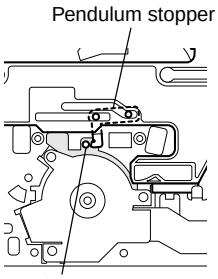
Attach the pendulum retainer to shaft Ⓑ. Be careful of the positions of the pendulum stopper at the rear of the chassis and shaft Ⓐ of the pendulum arm.



Can be removed.



Cannot be removed.

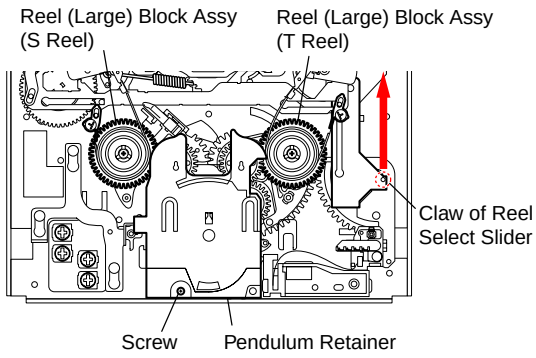


Shaft Ⓐ of the pendulum must be in this position.

Adjust the space according to the following procedure when you install Pendulum Retainer.

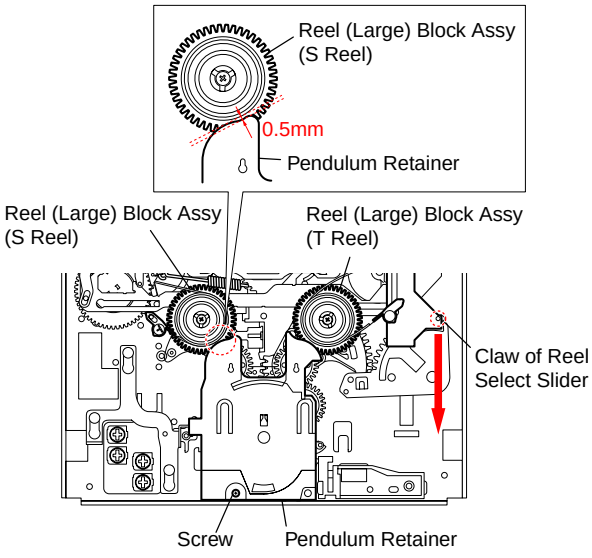
① Fix Pendulum Retainer with the Screw.

② Move the Reel to the position of Mini cassette.
Press the Claw of Reel Select Slider in the direction of arrow until it stops.



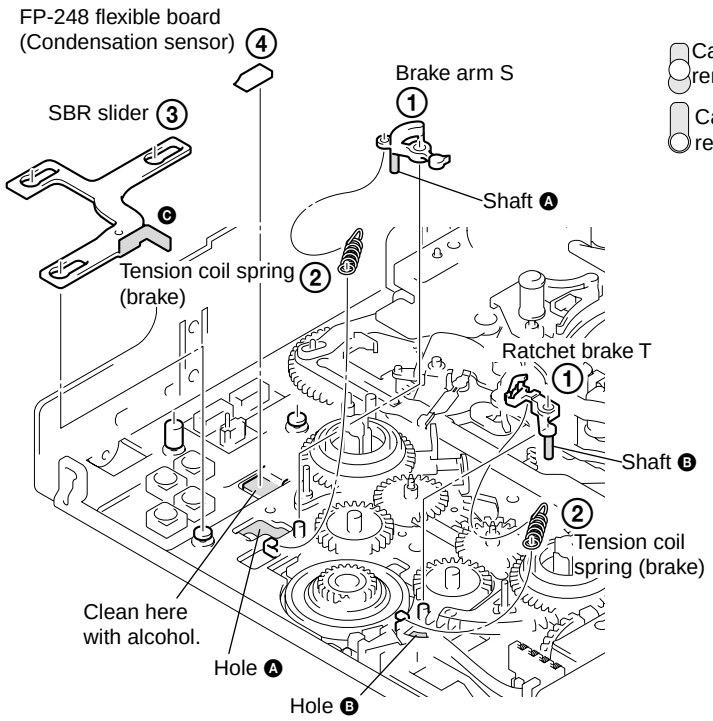
③ Loose the Screw of Pendulum Retainer and adjust to make 0.5 mm gap between Pendulum Retainer and S Reel, then tighten the Screw.

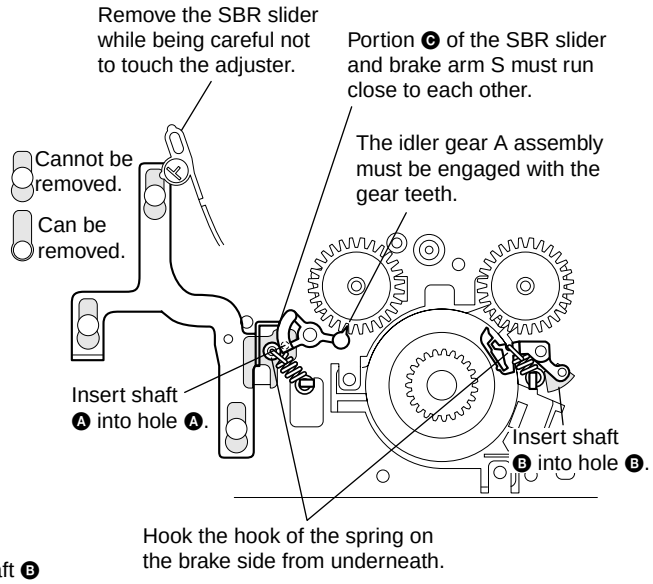
④ Return the Reel to the position of L cassette.
Press the Claw of Reel Select Slider in the direction of arrow until it stops.

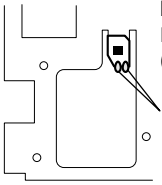


3-12. BRAKE ARM S, RATCHET BRAKE T, TENSION COIL SPRING (BRAKE), SBR SLIDER AND FP-248 FLEXIBLE BOARD (CONDENSATION SENSOR)

Disassembly: Remove them in order of ①➡②➡③➡④
(To attach them, perform the disassembly steps in reverse order.)





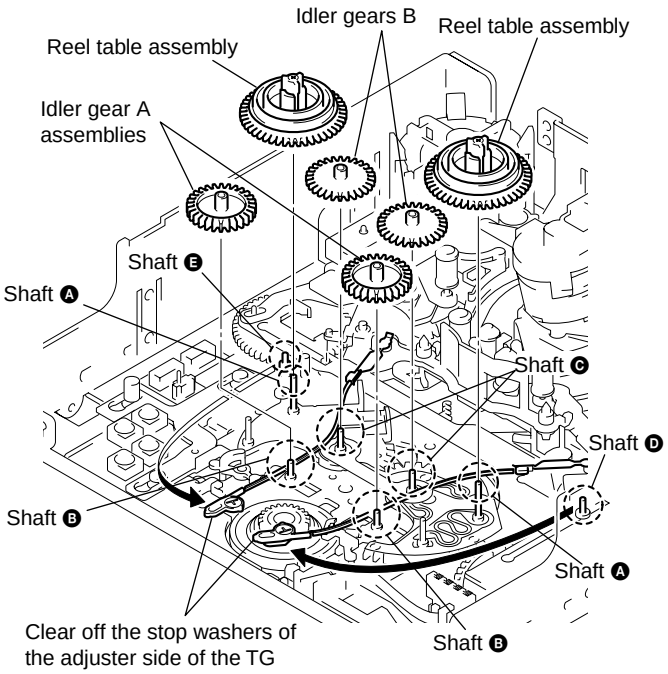


When attaching the FP-248 flexible board, scrape the contact surface with a swab to stick the flexible board to the chassis.
Do not touch the sensor block (black area).

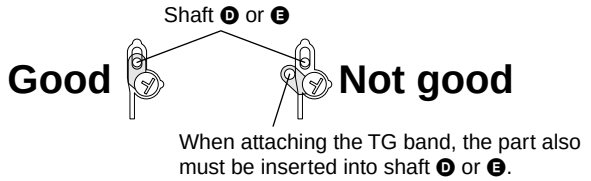
Two solders
Temperature of tip of soldering iron: 350 ± 20 °C
Hold time: one second or shorter

3-13. REEL TABLE ASSEMBLY, IDLER GEAR A ASSEMBLY AND IDLER GEAR B

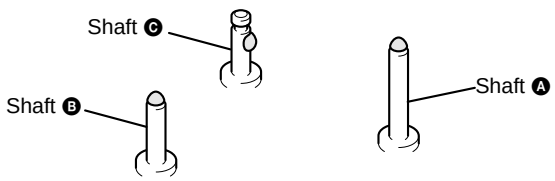
Disassembly/Assembly
(Do not touch the TG band block.)
When the reel table assembly is replaced or attached, perform each adjustment from Adjustment Start -1 of the flowchart on page 6-95.

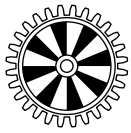


Checks before work
The TG band winds around the slit of the reel table assembly. Before removing the reel table assembly, clear off the TG band while referring to the left figure. When attaching the TG band, be sure to use new stop washers.



When attaching each gear, apply grease to each fixing shaft. Apply grease of half the size of one rice grain to the top side of shaft Ⓒ. When attaching the idler gear A assembly, be careful not to apply grease to the reflection panel.

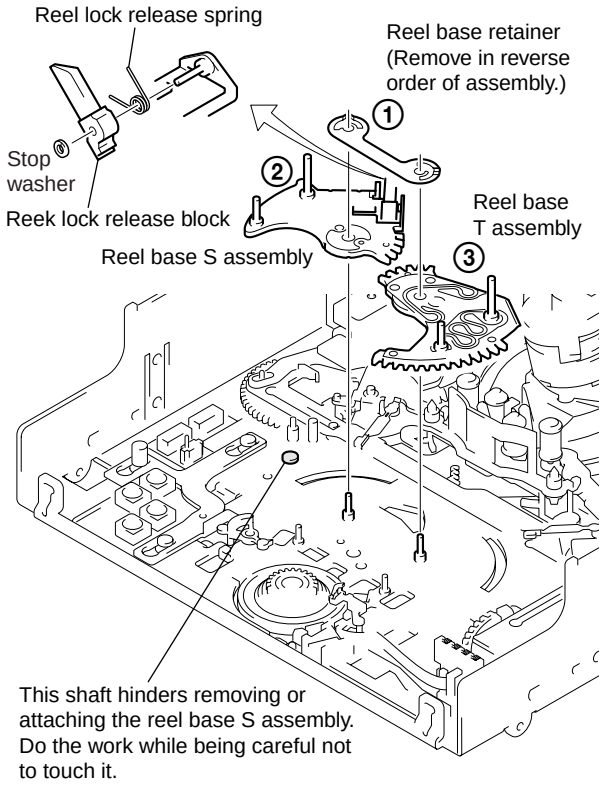




When attaching the idler gear A assembly, be careful not to apply grease to the reflection panel.

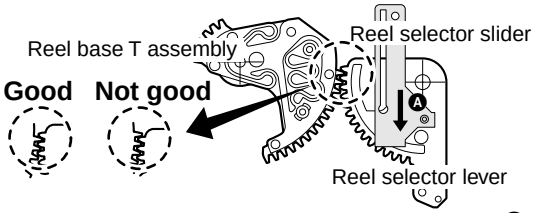
3-14. REEL BASE RETAINER, REEL BASE T ASSEMBLY AND REEL BASE S ASSEMBLY (REEL LOCK RELEASE BLOCK AND REEL LOCK RELEASE SPRING)

Disassembly: Remove them in order of ①➡②➡③
(Refer to Assembly, too.)

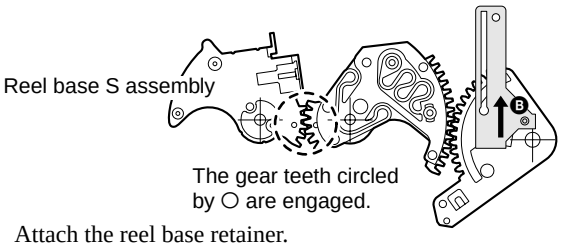


Assembly: Attach them in order of ①➡②➡③

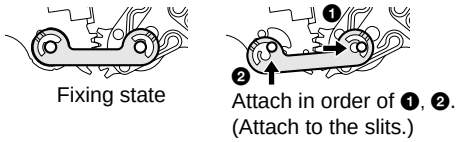
① Move the reel selector slider in the direction of arrow Ⓐ to check that the reel selector lever is "L cassette". At this position, attach the reel base T assembly. The gear teeth must be engaged as shown in the figure.



② Move the reel selector slider in the direction of arrow Ⓑ and switch the reel selector lever to "S cassette". At this position, attach the reel base S assembly. The gear teeth (circled by ○) must be engaged as shown in the figure.



③ Attach the reel base retainer.

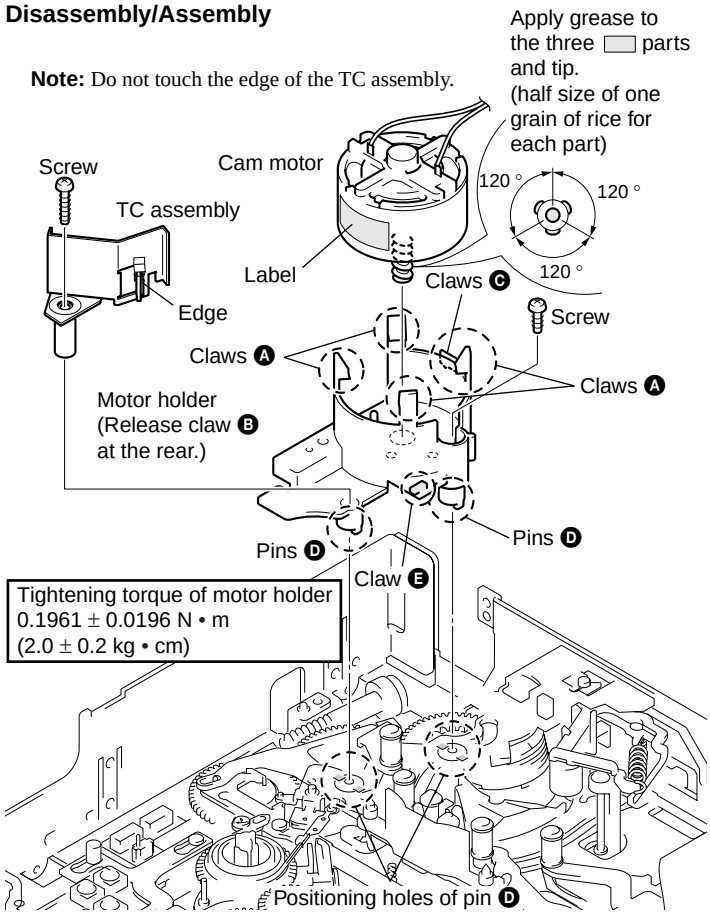


Note: Do not hold the shaft when selecting the reels.

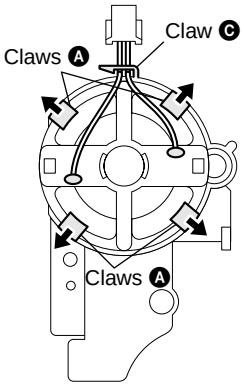
3-15. CAM MOTOR, MOTOR HOLDER

Disassembly/Assembly

Note: Do not touch the edge of the TC assembly.

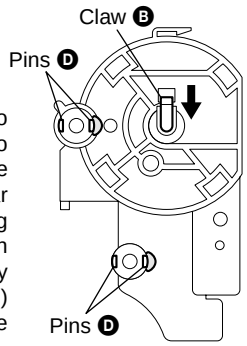


Checks before disassembly and assembly
The cam motor is fixed on the motor holder by the four claws. Releasing the four claws enables the cam motor to be removed without removing the motor holder from the chassis. When attaching the cam motor, be careful of the assembling direction (the label must face toward the front). If the phase of the gear, etc. moves when removing the motor holder, refer to page 6-82.



[Front side of motor holder]
While spreading claws Ⓐ in the direction of the arrow, pull out the cam motor upward. To attach it, push the cam motor into the motor holder and route the two wires of the cam motor into claw Ⓒ.

When attaching the TG2 control arm, claw Ⓔ must be inserted into the hole of the TG2 control arm.



[Rear side of motor holder]
The motor holder is fixed by the two screws and claw Ⓑ at the rear. To remove it, push claw Ⓑ in the direction of the arrow from the rear of the chassis. Note that positioning pins Ⓓ are easy to break when attaching the motor holder. Apply grease (half size of one grain of rice) to the two RadarW parts shown in the right figure.

3-16. TG2/7 ARM BLOCK, TG2/7 BAND BLOCK AND TENSION COIL SPRING (TG2)/(TG7)

Disassembly: Remove them in order of ①➡②➡③➡④

For the disassembling and assembling procedures of the assembly components of the TG2/TG7 arm, refer to page 6-94.

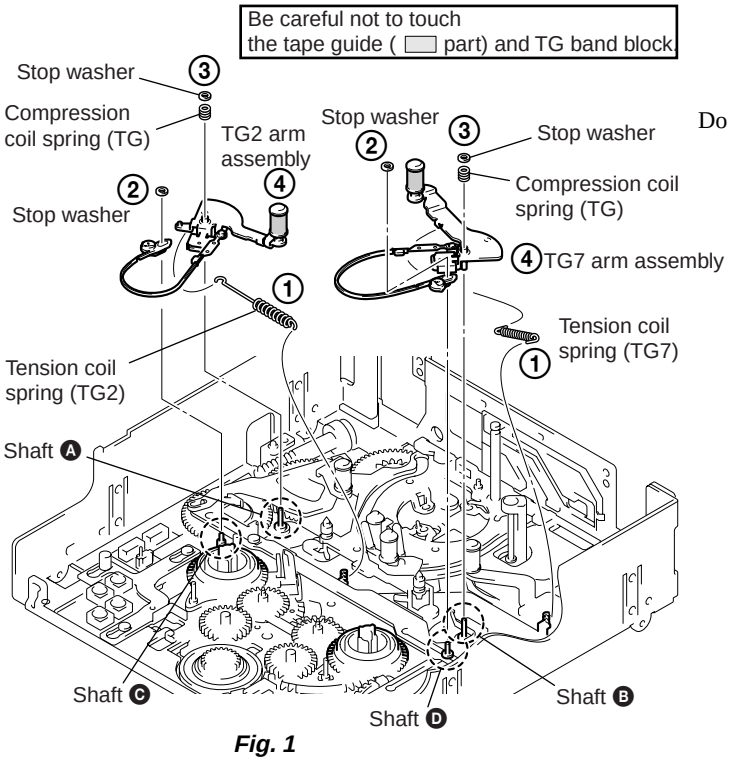


Fig. 1

Notes during work

Be careful when handling the TG arm and the peripheral parts.

- Twisting and bending of the band block and tension coil spring
- Dirt and scratches of the tape guide
- Loss of the compression coil spring (TG)

Do not reuse removed stop washers.

Disassembly of the band TG2/TG7 assembly

When pulling portion Ⓔ of the TG2 or TG7 band in the direction of the arrow, a click sound is heard as the band is removed. To attach the bands, pull out the opposite side to portion Ⓔ to lock.

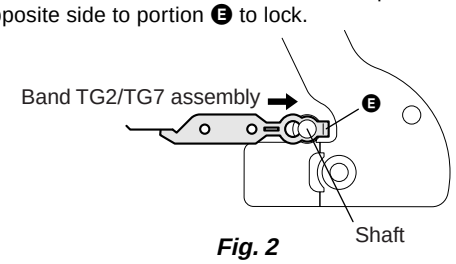


Fig. 2

Assembly: Attach them while referring to figure above or below and the descriptions.

When these parts are replaced or attached, perform each adjustment from Adjustment Start -3 of the flowchart on page 6-95.

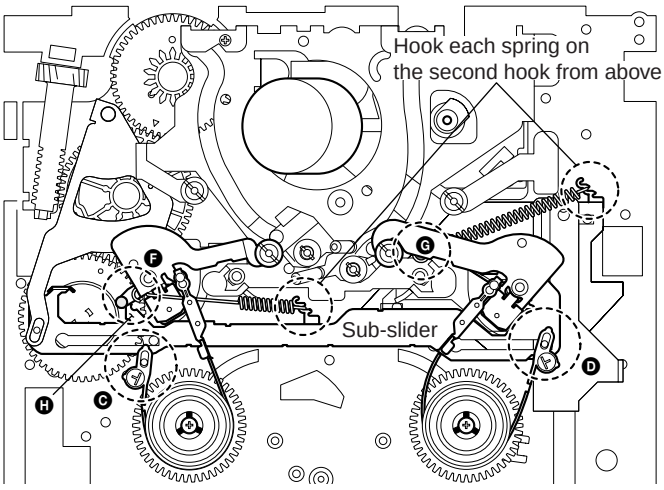


Fig. 3

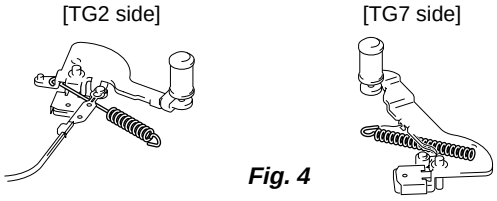
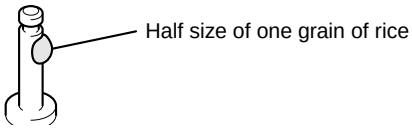


Fig. 4

Hook the spring from the inside and put it under the TG band.

Hook the spring from the outside and put it under the arm.

① Apply grease to the top side of the fixing shaft (Ⓐ or Ⓑ) of the TG arm. (Fig. 1)



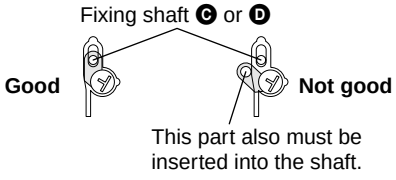
② Attach the TG band assembly to the TG arm assembly. (Fig. 2) Be sure that the felt sides of the TG band face toward the reel tables so that they surround the respective reel tables.

③ Attach the tension coil spring to the TG arm assembly. (Fig. 3, 4)

- Hook the spring of the tension coil spring (TG2) from the inside and put it under the TG band. (Fig. 3-Ⓕ, 4)
- Hook the spring of the tension coil spring (TG7) from the outside and put it under the TG7 band. (Fig. 3-Ⓖ, 4)

④ Attach the TG arm block to the shaft (Ⓐ or Ⓑ) and attach the tension coil spring to the second hook. When attaching the TG2 arm, the RadarW part must be at the left of portion Ⓗ of the slider. (Fig. 3)

⑤ Attach the adjuster of the TG band to shafts Ⓒ and Ⓓ.



⑥ Fix the TG band and TG arm with new stop washers. When attaching the TG arm, do not forget to attach the compression coil spring (TG). (Fig. 1)

3-17. SUB-SLIDER ARM, SUB-SLIDER, ENCODER GEAR, MAIN CAM GEAR, COUPLING GEAR, SUB-CAM GEAR, PINCH SLIDER AND LOADING ARM ASSY

Disassembly: Remove them in order of ①➡②➡③➡④➡⑤➡⑥➡⑦➡⑧

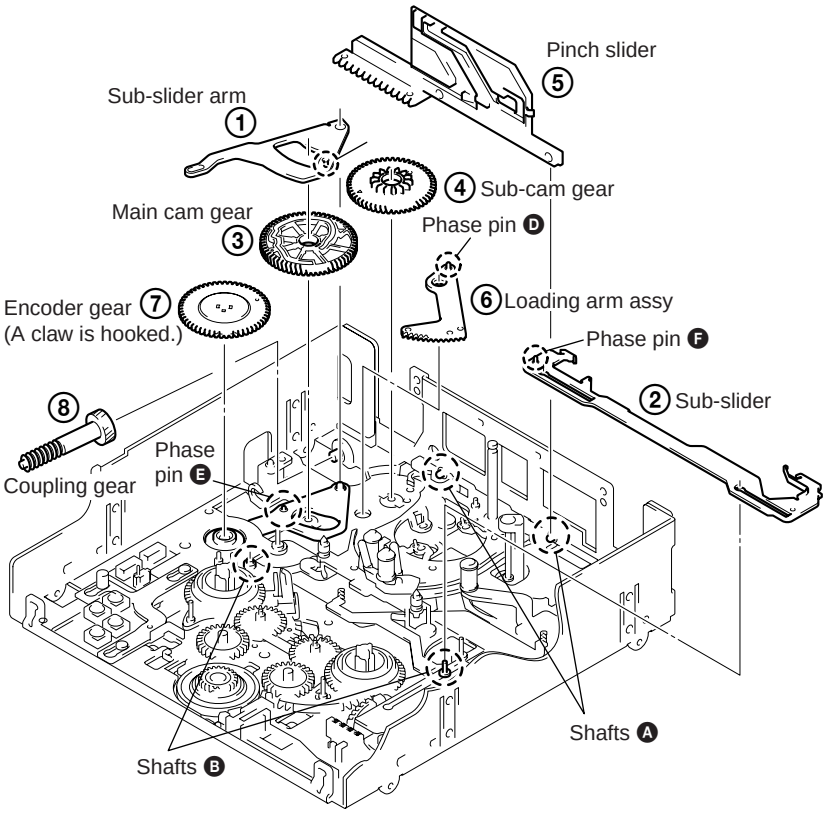


Fig. 1

Disassembly of the pinch slider

Move the pinch slider to the leftmost end, and slide it upward and remove it when two shafts A are superimposed on the holes of the pinch slider.

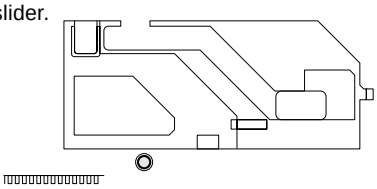
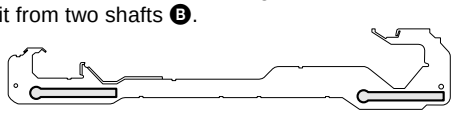
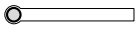


Fig. 2

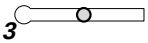
Disassembly of the sub-slider

Move the sub-slider to the rightmost and remove it from two shafts B.





This can be removed.



This cannot be removed.

Fig. 3

Disassembly of the encoder gear

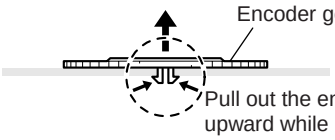


Fig. 4

Assembly: Attach them while referring to the figure above or below and the descriptions.

Check before work

When attaching the parts described in this section, various phase adjustments are required. Before work, refer to page 6-91 and check the reference phases.

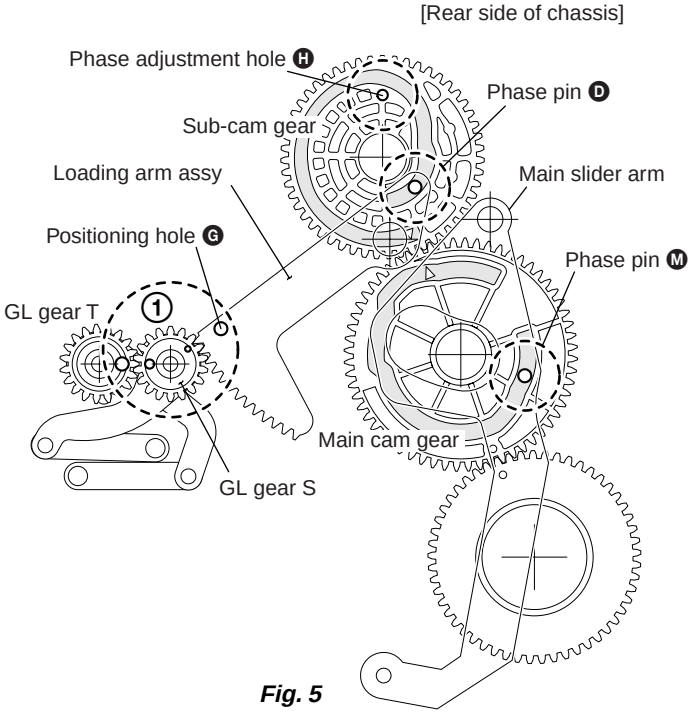


Fig. 5

① Attach the loading arm assy. (Refer to the figure above.)
The phases of the GL gear S and GL gear T must match and the positioning hole G of the loading arm assy must be superimposed on the hole of the chassis. (Fig. 5)

② Attach the pinch slider. (Fig. 1, 2)

③ Apply grease to the groove at the rear of the sub-cam gear. (Fig. 6)
After applying, adjust the phase of the sub-cam gear to that of the pinch slider. (Fig. 7)
Phase pin D of the loading arm assy must be inserted into the groove at the rear of the sub-cam gear. (Fig. 5, 7)

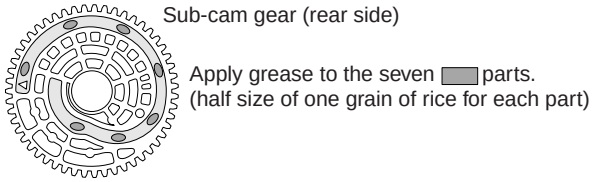


Fig. 6

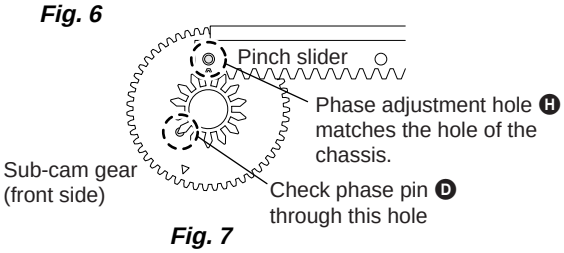


Fig. 7

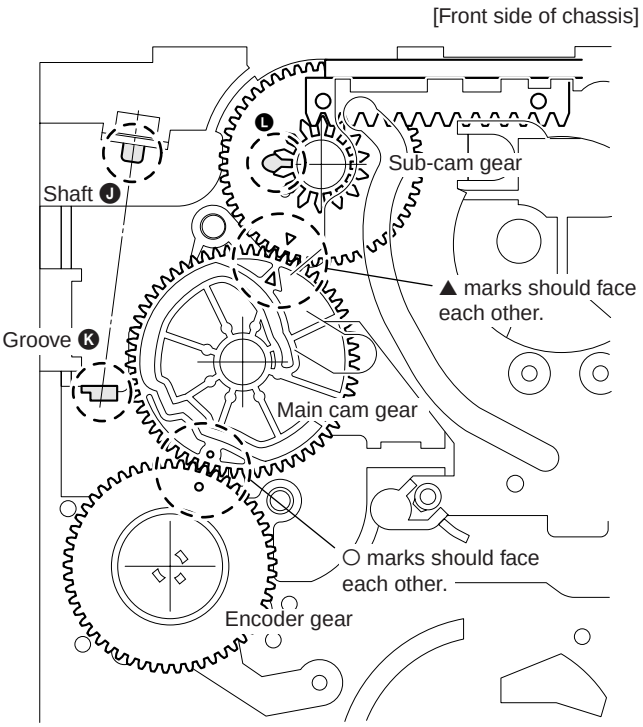


Fig. 8

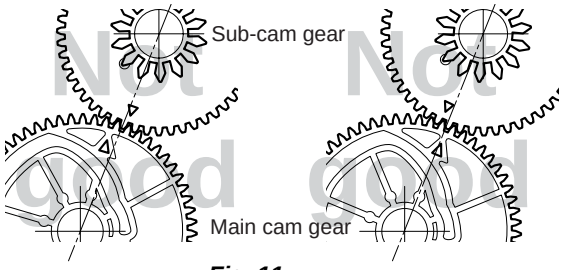


Fig. 11

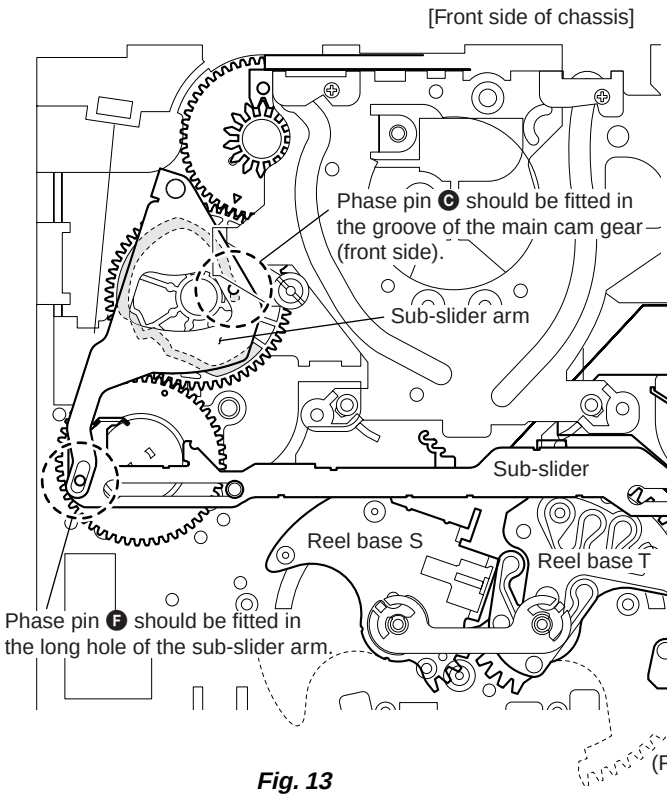


Fig. 13

④ Apply grease to the fixing block (shaft J and U-shaped groove K) of the coupling gear and portion L of the sub-cam gear (half size of one grain of rice for each part). (Fig. 8)

⑤ Attach the coupling gear. After attaching, apply grease while rotating the coupling gear by 120˚ each time. (Fig. 9, 10)

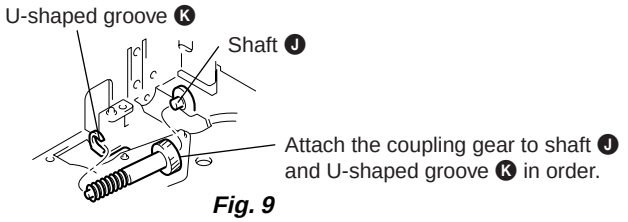


Fig. 9

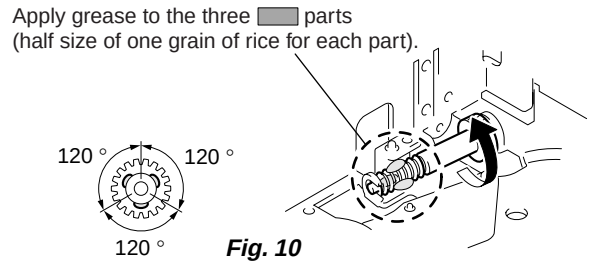


Fig. 10

⑥ Attach the main cam gear while being careful of the directions of the front and rear sides. Also, take care of the phase adjustment to the sub-cam gear. (Fig. 8, 11, 12)
Phase pin M of the main slider arm should be fitted in the groove of the main cam gear (rear side). (Fig. 5)

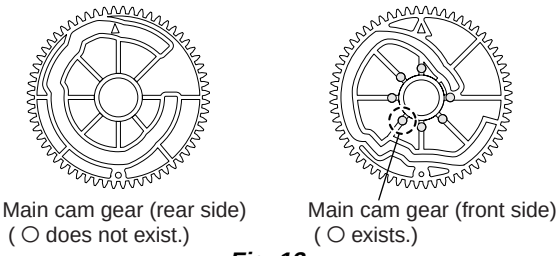


Fig. 12

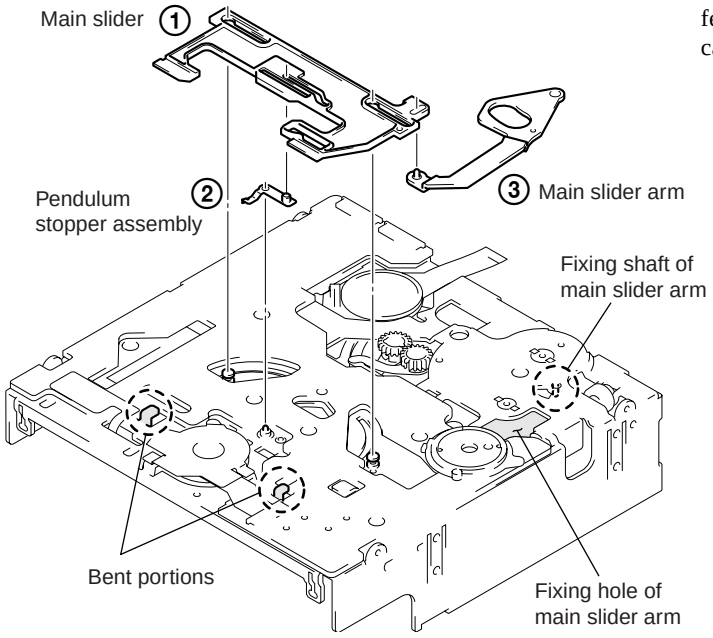
⑦ Attach the encoder gear. (Fig. 3)
Adjust the phases (marked) to those of the main cam gear. (Fig. 4/Fig. 8)

⑧ After moving the reel selector slider in the direction of arrow N to set the position of the reel base to "L cassette", attach the sub-slider in reverse order while referring to Fig. 3. (Fig. 13)

⑨ Attach the sub-slider arm. (Fig. 1/Fig. 13)

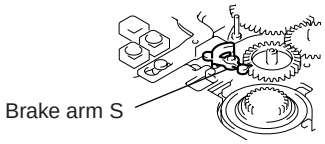
3-18. MAIN SLIDER, MAIN SLIDER ARM AND PENDULUM STOPPER ASSEMBLY

Disassembly: Remove them in order of ①➡②➡③



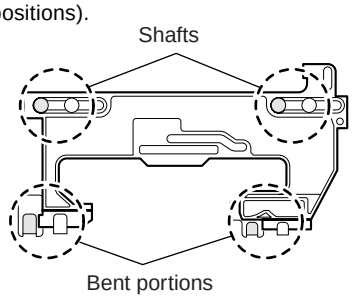
Disassembly of each part

The main slider controls several parts. Before removing the main slider, remove "Brake arm S" at the front of the chassis while referring to "Information" on page 6-76. Otherwise, the main slider cannot be removed.



Main slider

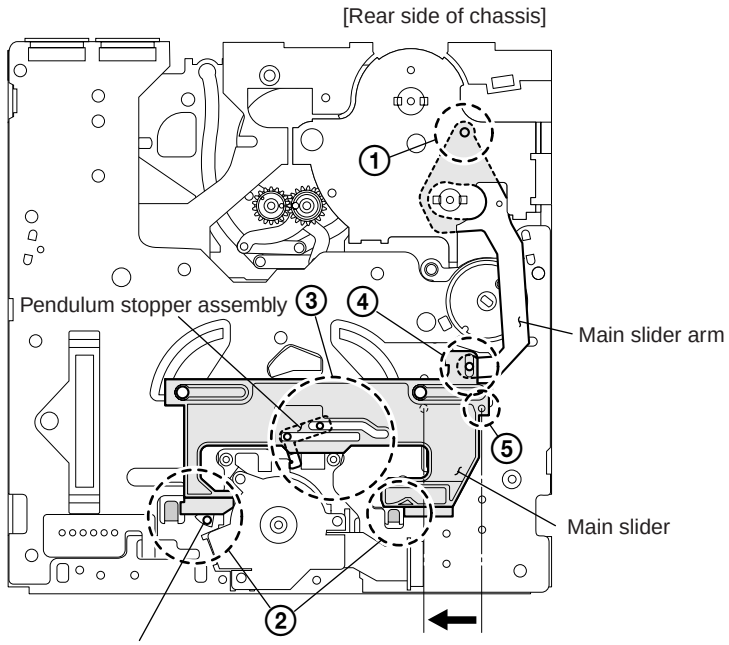
The main slider is fixed by the two shafts and the two bent portions at the rear of the chassis. The main slider can be removed when it is moved to the rightmost end (RadarW positions).



Assembly: Attach them while referring to the figure above or below and the descriptions.

Assembly of each part

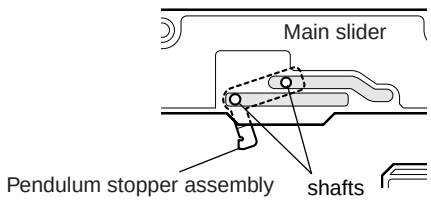
Attach each part while referring to the figure above or below. When attaching the parts, adjust the positions carefully while referring to the instructions in the figure below. Because these positioning will be used as a reference when assembling in future, make sure to adjust the positions and phases correctly.



① Insert the main slider arm into the fixing hole and attach it to the fixing shaft at the front of the chassis while referring to the figure above. (To facilitate assembly, stick adhesive tape so that the main slider arm does not drop.)

② Perform assembly so that the main slider can pass under the bent portion of the chassis. If "Ratchet brake T" remains, move down the "Ratchet brake T" as shown in the left figure and attach the main slider.

③ Carefully attach the pendulum stopper assembly so that the two shafts fit in the two long holes of the main slider.

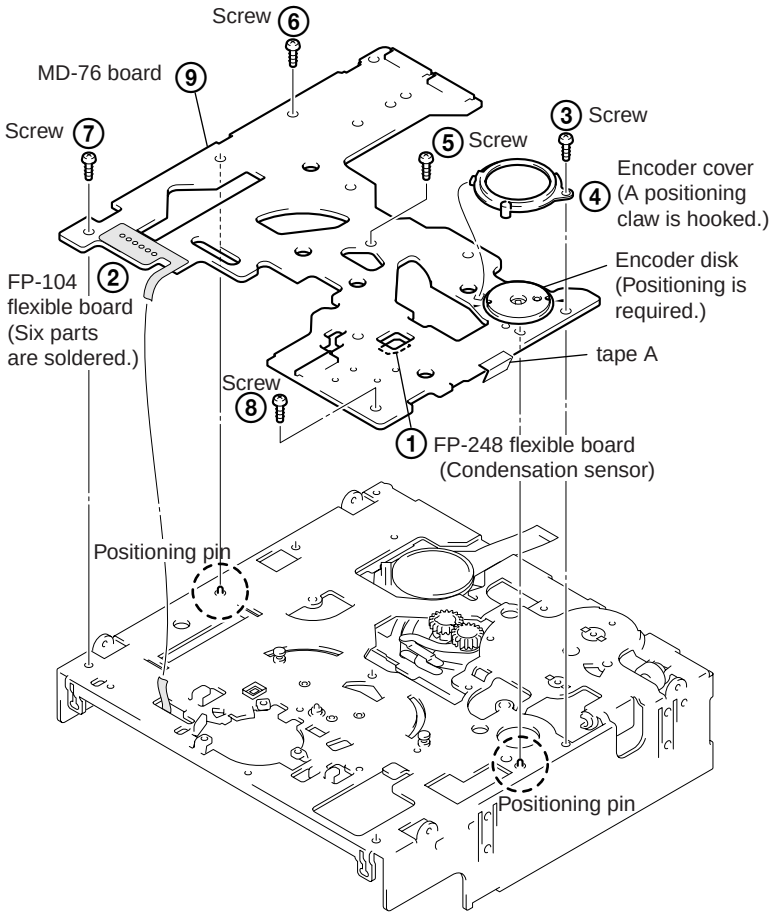


④ Attach the shaft of the main slider arm to the long hole of the main slider.

⑤ Move the main slider to the leftmost end so that the small positioning hole of the main slider is superimposed on the small positioning hole of the chassis, and fix the main slider. The position where the main slider is fixed will be used as a reference during assembling and phase adjustment in future.
(To avoid affecting the main unit, fix the reel motor and main slider with adhesive tape, etc.)

3-19. MD-76 BOARD AND ENCODER RETAINER

Disassembly: Remove them in order of ①➡②➡③➡④➡⑤➡⑥➡⑦➡⑧➡⑨



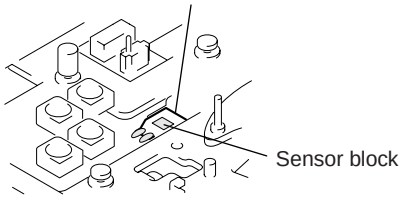
Disassembly of MD-76 board

Peel off the FP-248 flexible board at the front of the chassis (refer to page 6-86). Remove the six solders on the FP-104 flexible board from the rear of the chassis. Remove the screws in order of ③ to ⑧ shown in the figure. When removing the MD-76 board from the chassis, be careful not to let the sensors touch the chassis.

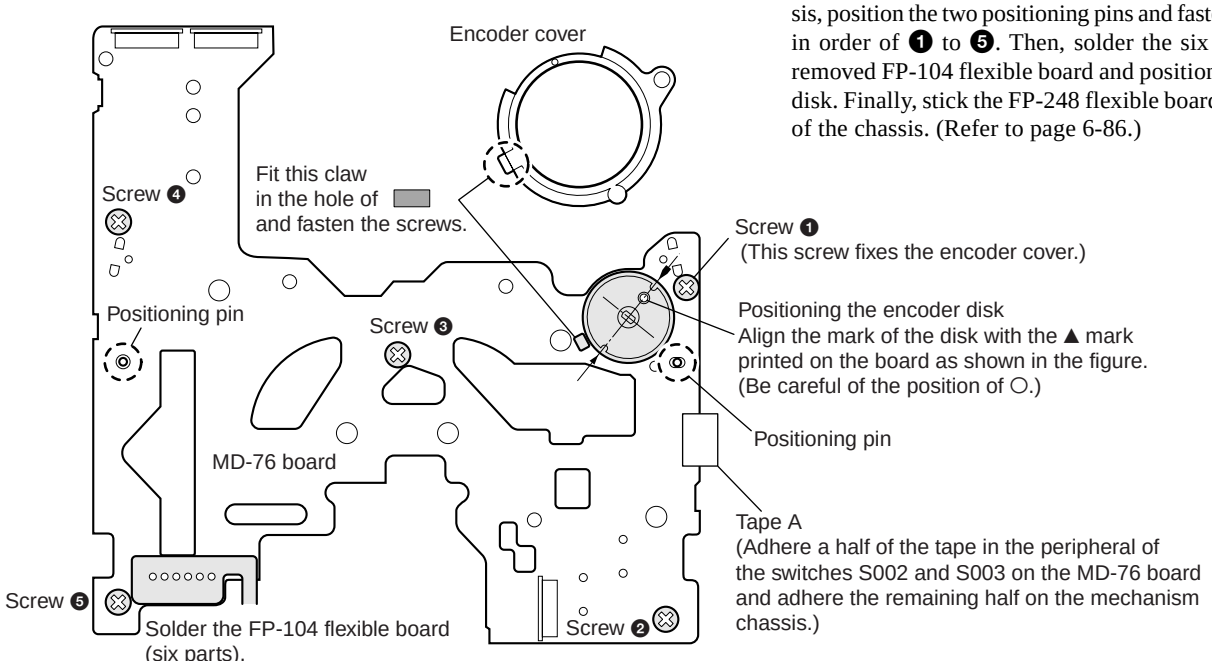
Note: When the tape A is removed, use the new tape A for replacement. (See the illustration below.)

FP-248 flexible board

Peel off the flexible board while being careful not to get the sensor block dirty or damage the sensor block.



Assembly: Attach them in order of ⑨➡④➡③➡⑤➡⑥➡⑦➡⑧➡①➡②
(Refer to the figure above or below.)



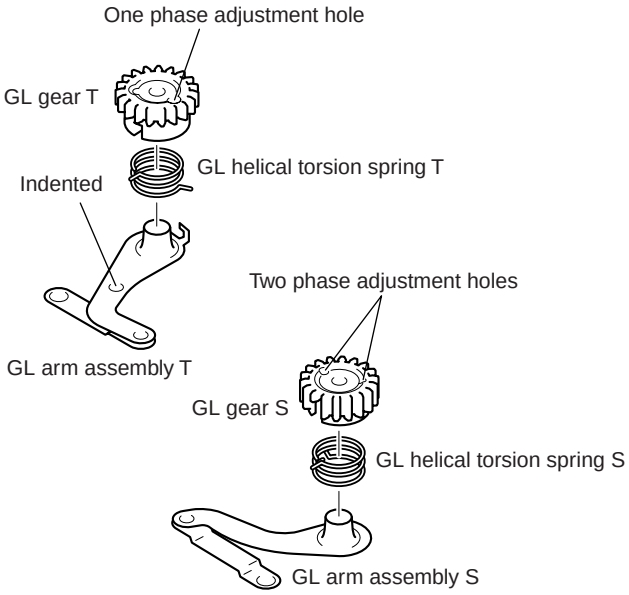
Assembly of MD-76 board

While being careful not to let the sensors touch the chassis, position the two positioning pins and fasten the screws in order of ❶ to ❺. Then, solder the six parts on the removed FP-104 flexible board and position the encoder disk. Finally, stick the FP-248 flexible board on the front of the chassis. (Refer to page 6-86.)

Tightening torque of MD-76 board
0.3432 ± 0.0196 N·m (3.5 ± 0.2 kg • cm)

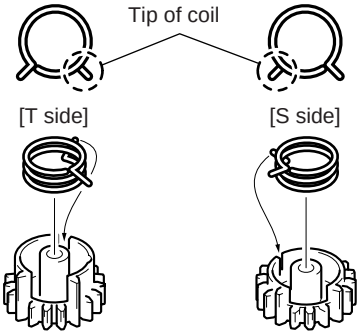
3-20. COMPONENTS OF GL ARM S/T ASSEMBLY (GL ARM ASSEMBLY, GL HELICAL TORSION SPRING, GL GEAR)

Disassembly and distinguishing the S side from the T side



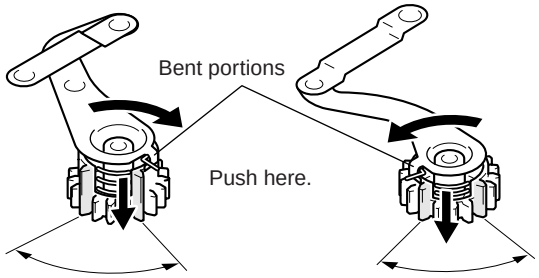
Assembly

① Attach each GL helical torsion spring to the GL gear. To distinguish the S side from the T side when the opening of the spring tip is facing toward the front, note that the coil tip of the S side is located on the left and that of the T side is located on the right.



Fit the tip of the spring into the small cut-out of the GL gear.

② Hook the tip of the spring on the bent portion of the GL arm assembly and push the bent portion of the GL arm into the large cut-out of the GL gear while rotating the GL gear in the direction of the arrow.

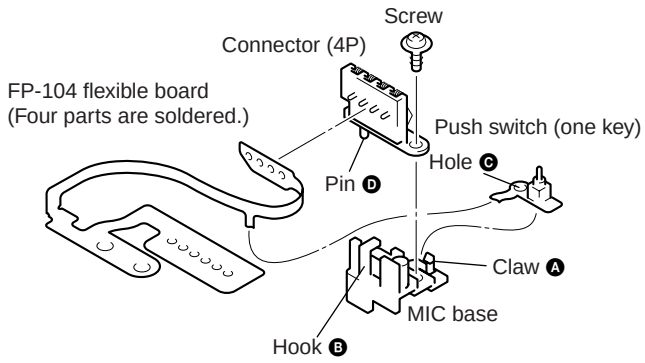


When the bent portion of the GL arm comes inside this range, push the bent portion into the gear.

3-21. COMPONENTS OF MIC BASE ASSEMBLY (FP-104 FLEXIBLE BOARD, MIC BASE)

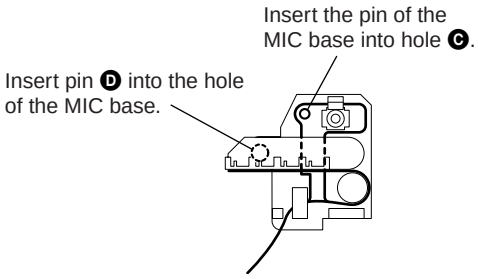
Disassembly

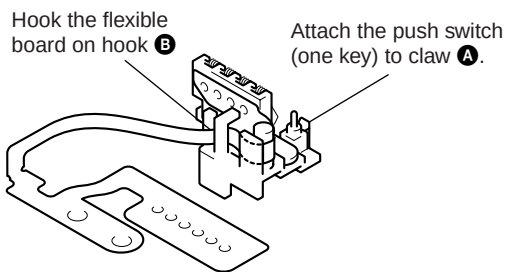
Remove the push switch from claw ❹ of the MIC base. Remove the screw and connector (4P). Then, remove the flexible board while being careful not to touch hook ❸.



Tightening torque of connector (4P)
0.0392 ± 0.0098N • m (0.4 ± 0.1 kg • cm)

Assembly

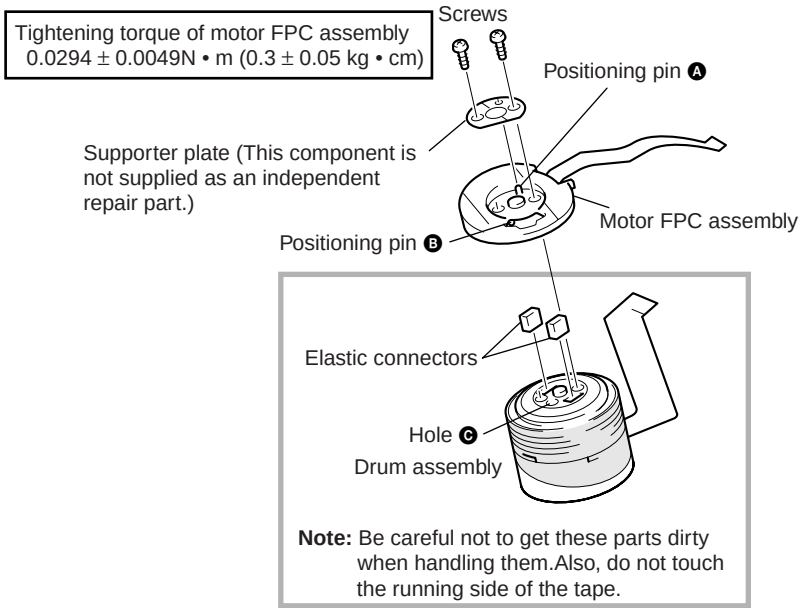




3-22. COMPONENTS OF DRUM ASSEMBLY (MOTOR FPC ASSEMBLY, ELASTIC CONNECTOR)

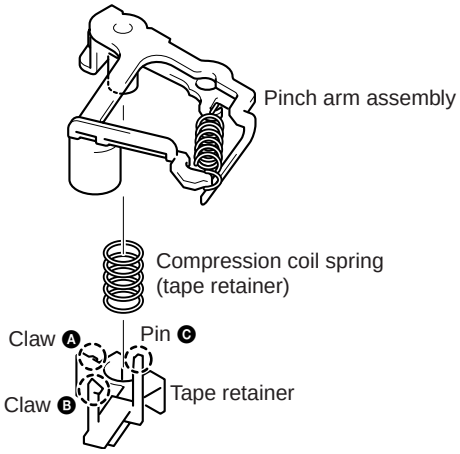
Disassembly/Assembly

Connect the elastic connector to the drum assembly and attach the motor FPC assembly while aligning pin Ⓑ with hole Ⓒ of the drum assembly. Fix the supporter plate with the screws while being careful of pin Ⓐ of the motor FPC assembly.

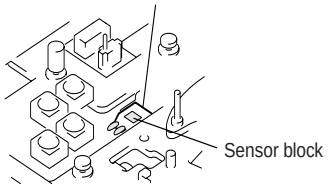


3-23. COMPONENTS OF PINCH ARM ASSEMBLY (TAPE RETAINER, COMPRESSION COIL SPRING)

Disassembly/Assembly

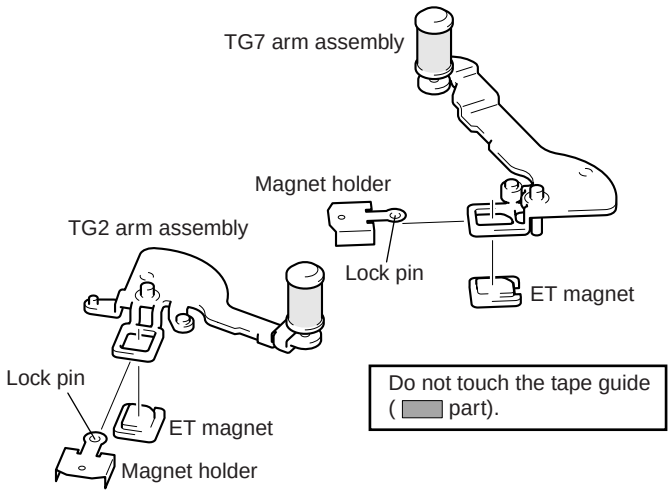


Peel off the flexible board while being careful not to get the sensor block dirty or damage the sensor block.

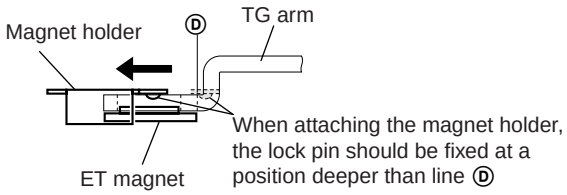


3-24. COMPONENTS OF TG2/7 ARM ASSEMBLY (ET MAGNET, MAGNET HOLDER)

Disassembly/Assembly



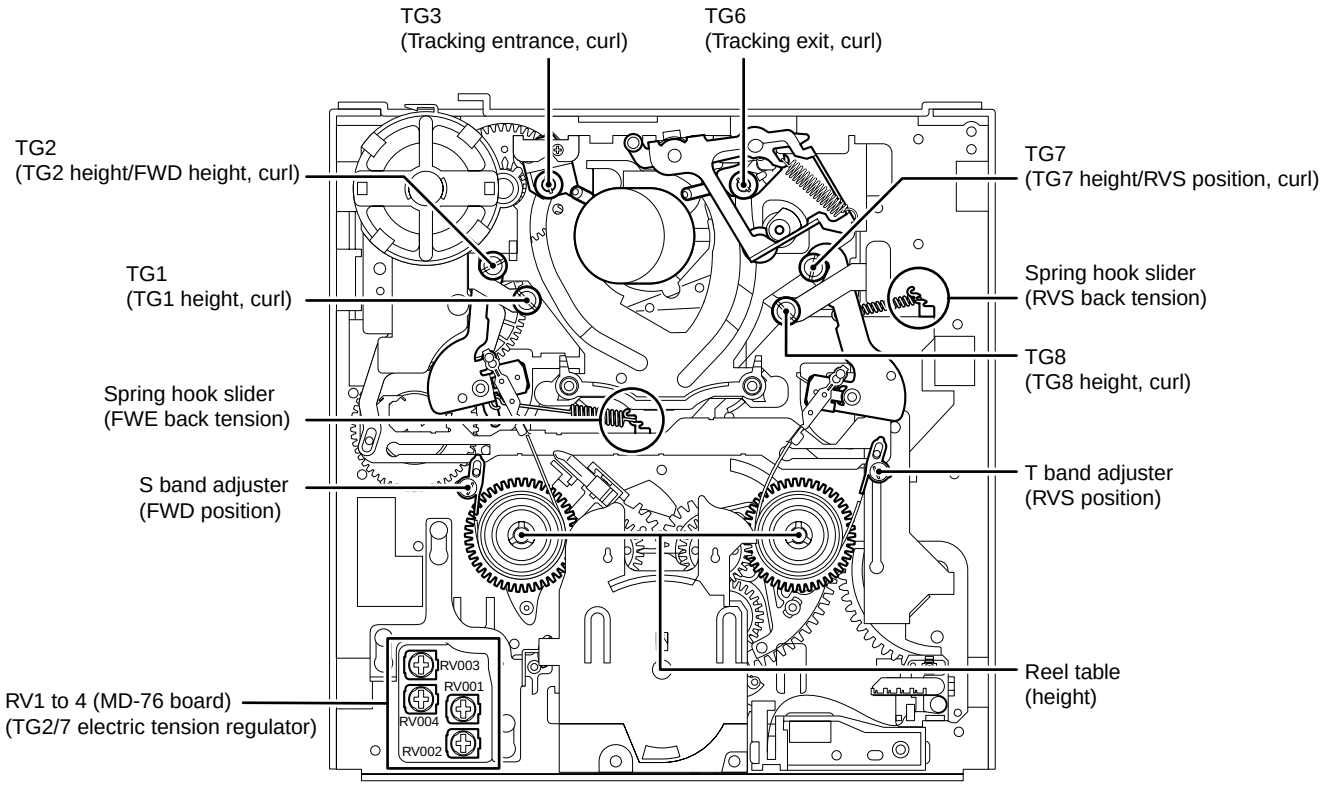
Remove the TG2 arm assembly and the TG7 arm assembly in the direction of the arrow while pushing the lock pin of the magnet holder from the rear of each TG arm. To attach them, insert the TG2 or TG7 arm assembly in the direction opposite to the arrow while holding the ET magnet with the magnet holder, then hook the lock pin.



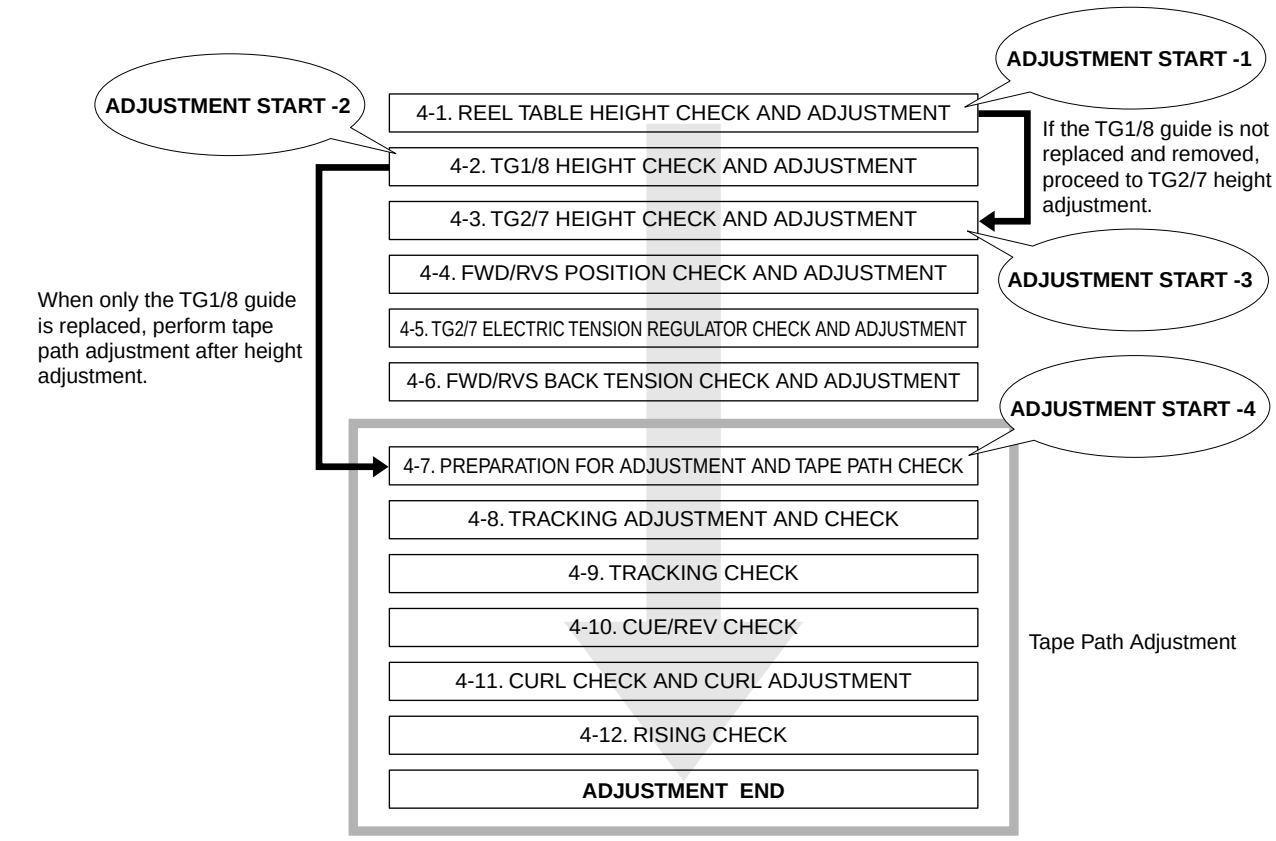
6-2-4. CHECK AND ADJUSTMENT

- When the parts of the tape path (tape guide, reel table, etc.) have been removed or parts have been replaced, adjust the following parts according to the flowchart below.

- **ADJUSTMENT POSITION**



- **ADJUSTMENT ORDER (FLOWCHART)**

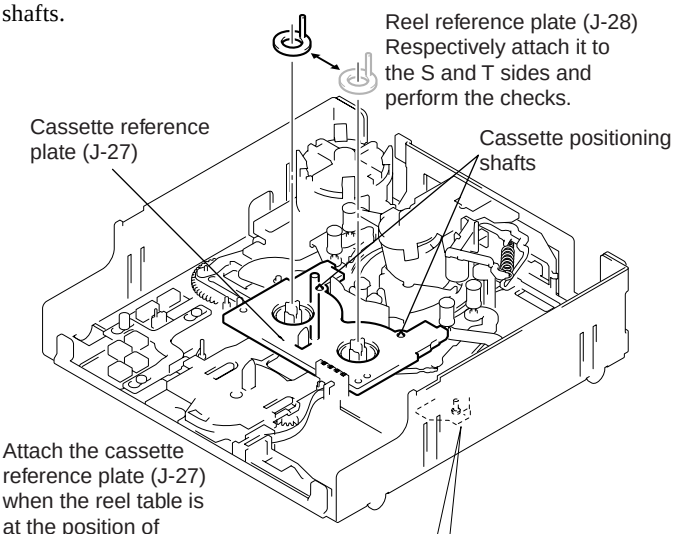


4-1. REEL TABLE HEIGHT CHECK AND ADJUSTMENT

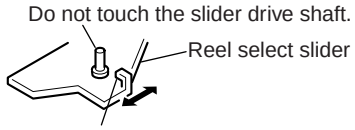
1. Preparation before check

Check that the cassette compartment has already been removed. (Refer to page 6-77.)

Fit the cassette reference plate (J-27) in the cassette positioning shafts.



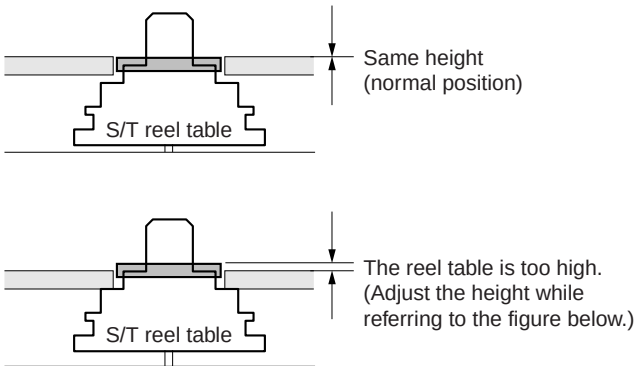
When selecting a cassette position, be careful not to touch the slider drive shaft because it can be easily bent or broken.



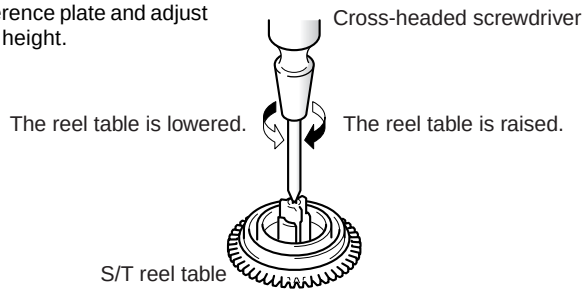
Select the desired cassette position by pressing the claw position.

2. Check and adjustment

Put the reel reference plate (J-28) on each reel table. Rotate the screw block of the reel table so that the height of the cassette reference plate is the same as that of the reel reference plate.



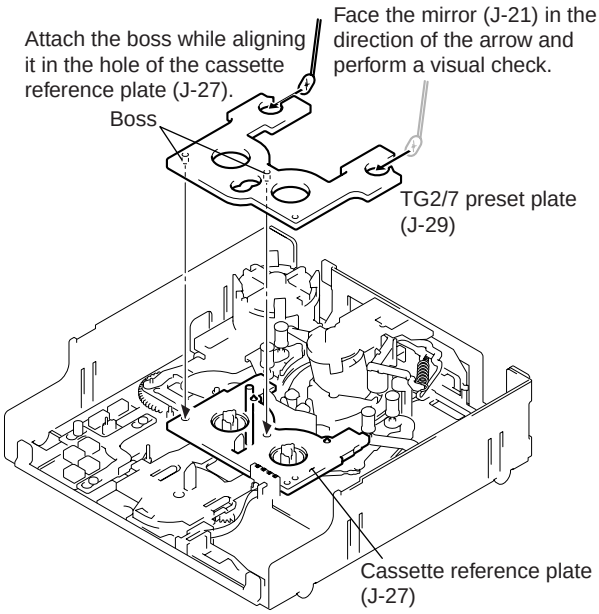
Put the reel and cassette reference plate and adjust the height.



4-2. TG1/8 HEIGHT CHECK AND ADJUSTMENT

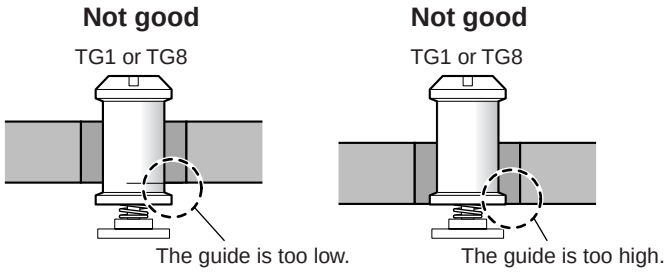
1. Preparation before check

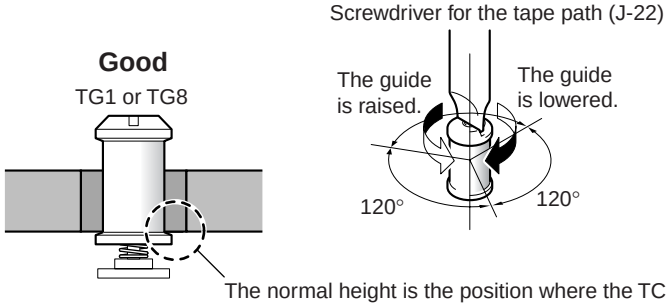
1) Check that the cassette compartment block has already been removed. (Refer to page 6-77.)
2) Set the mechanism deck to the loading end position (TG2 to 7 already moved to the loading end position and the pinch roller is in the unloading position). Alternatively, set the mechanism deck to the “LE position” using the mode selector II. (Refer to page 6-78.)
3) Place the TG2/7 preset plate (J-29).



2. Check and adjustment

Rotate the TG upper flange until the heights of the TG2/7 preset plate (J-29) and TG1 or TG8 roller block are the same. Alternatively, rotate the TG upper flange by 120˚ in the direction of lowering the guide from the reference height where the preset plate and roller have the same height.



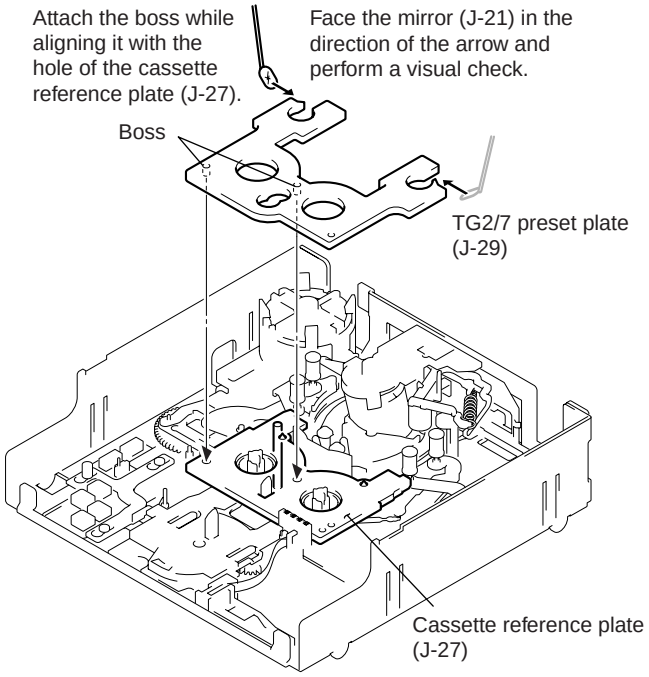


The normal height is the position where the TC upper flange is rotated by 120° in the direction of lowering the guide from the adjusted height while referring to the figure below.

4-3. TG2/7 HEIGHT CHECK AND ADJUSTMENT

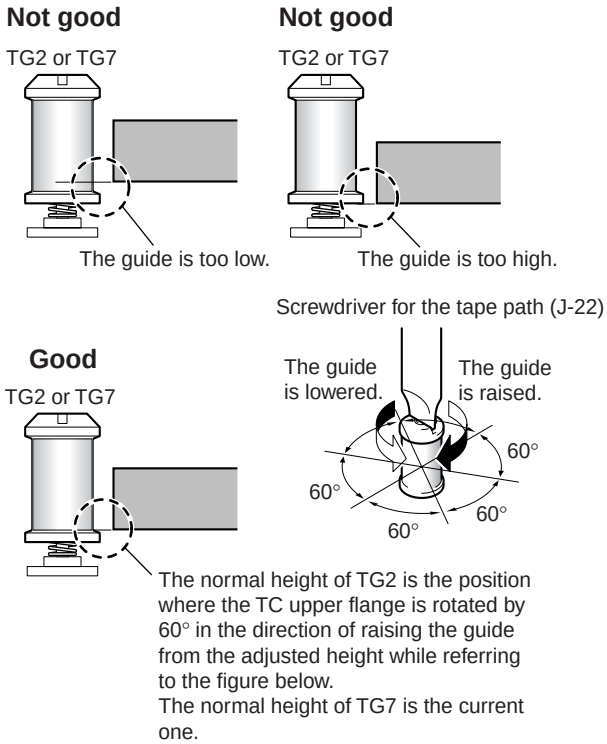
1. Preparation before check

1) Check that the cassette compartment block has already been removed. (Refer to page 6-77.)
2) Set the mechanism deck to the loading end position (TG2 to 7 already moved to the loading end position and the pinch roller is in the unloading position). Alternatively, set the mechanism deck to the "LE position" using the mode selector II. (Refer to page 6-78.)
3) Place the TG2/7 preset plate (J-29).



2. Check and adjustment

Rotate the TG upper flange until the height of the TG2/7 preset plate (J-29) and TG2 or TG7 roller block is the same. Alternatively, rotate the TG upper flange of only TG2 by 60˚ in the direction of raising the guide from the adjusted height while referring to the figure below.



The normal height of TG2 is the position where the TC upper flange is rotated by 60° in the direction of raising the guide from the adjusted height while referring to the figure below.
The normal height of TG7 is the current one.

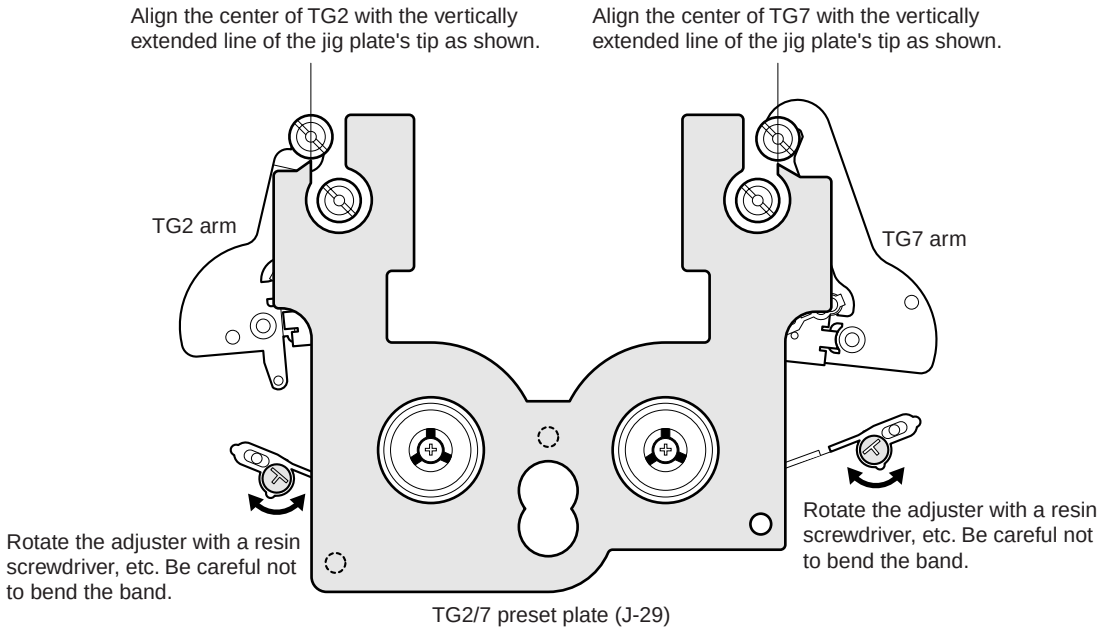
4-4. FWD/RVS POSITION CHECK AND ADJUSTMENT

1. Preparation before check

1) Check that the cassette compartment block has already been removed. (Refer to page 6-77.)
2) Set the mechanism deck to the loading end position (TG2 to 7 already moved to the loading end position and the pinch roller is in the unloading position). Alternatively, set the mechanism deck to the "LE position" using the mode selector II. (Refer to page 6-78.)
3) Place the TG2/7 preset plate (J-29).

2. Check and adjustment

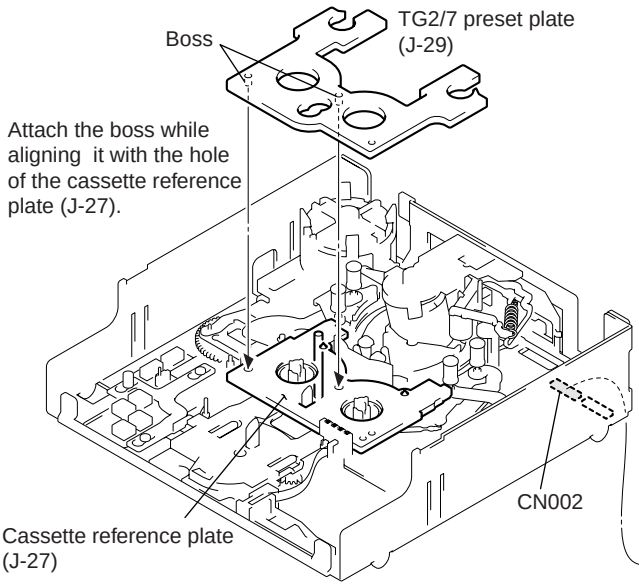
Rotate each adjuster to adjust the TG2/7 position until ≦ or ≧ of the TG2/7 preset plate (J-29), TG2 and TG7 are in line.

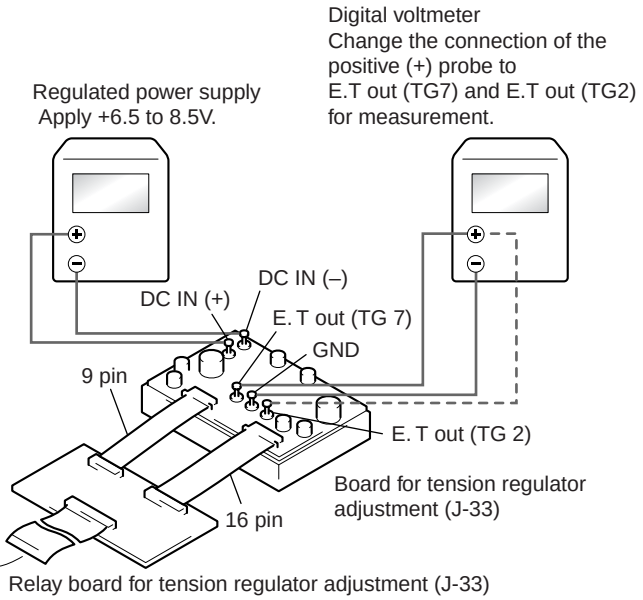


4-5. ELECTRIC TENSION REGULATOR CHECK AND ADJUSTMENT OF TG2/7 ARM

1. Preparation before check

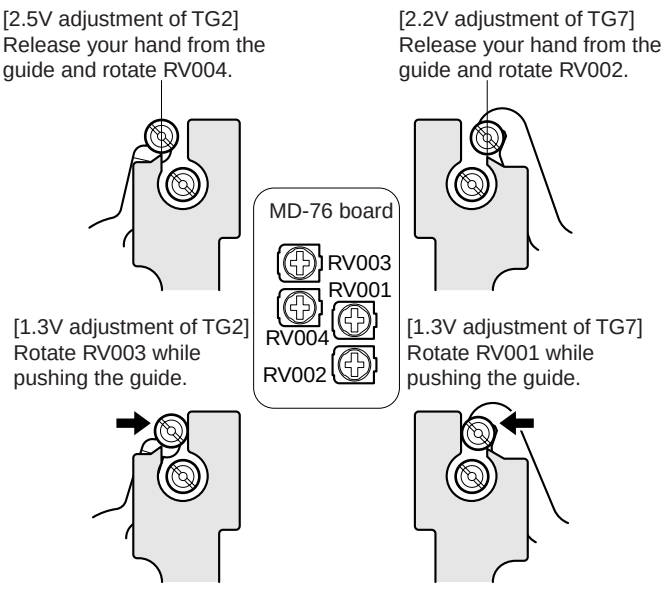
1) Check that the cassette compartment block has already been removed. (Refer to page 6-77.)
2) Set the mechanism deck to the loading end position (TG2 to 7 already moved to the loading end position and the pinch roller is in the unloading position). Alternatively, set the mechanism deck to the "LE position" using the mode selector II (J-25). (Refer to page 6-78.)
3) Attach the cassette reference plate (J-27) and TG2/7 preset plate (J-29). (Refer to page 6-97.)
4) Connect the relay board for tension regulator adjustment (J-30) and other equipment as shown in the figure below.

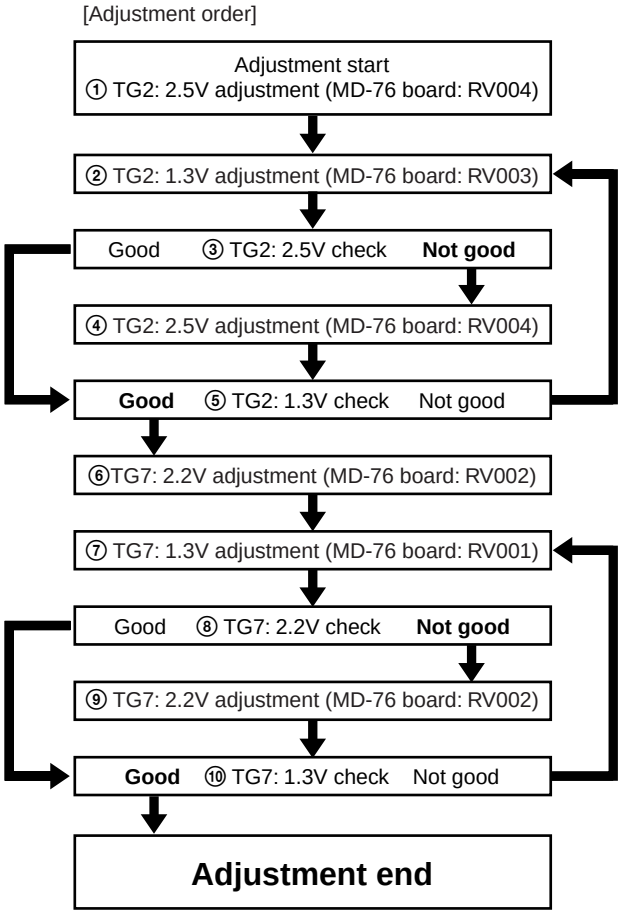




2. Check and adjustment

Connect the positive (+) probe of a digital voltmeter to E.T out (TG2: for measurement of TG2 data) or to E.T out (TG7: for measurement of TG7 data). First, press the guide to the TG2/7 preset plate (J-29), then release your hand from the guide and read the voltmeter value. Adjust RV004 (TG2 side) or RV002 (TG7 side) until the voltmeter measurement is 2.5 ± 0.1 V (TG2 side) or 2.2 ± 0.1 V (TG7 side) when releasing your hand. Then press the guide to the TG2/7 preset plate (J-29). Adjust RV003 (TG2 side) or RV001 (TG7 side) until the voltmeter measurement is 1.3 ± 0.1 V.

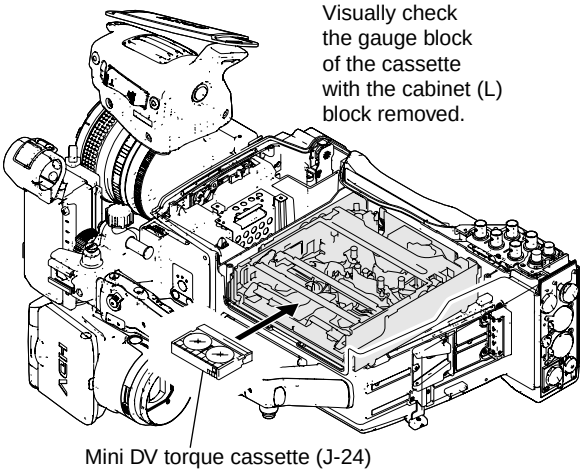


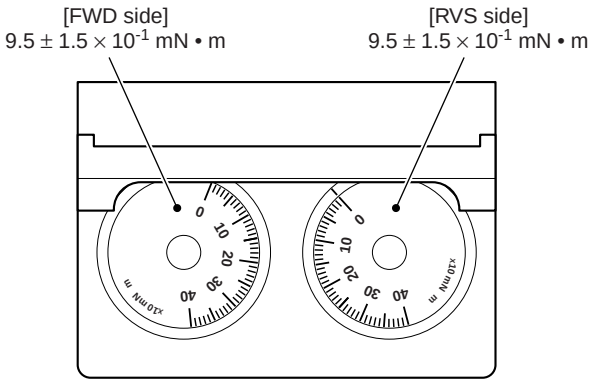


4-6. FWD/RVS BACK TENSION CHECK AND ADJUSTMENT

1. Preparation before check

Mount the mechanism deck in the main unit, connect all the connectors, then insert the mini DV torque cassette (J-24) into the mechanism block.



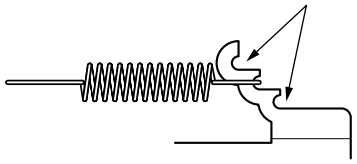


2. Check and adjustment

• FWD (TG2) side

The torque value should satisfy $9.5 \pm 1.5 \times 10^{-1}$ mN • m while the mini DV torque cassette runs in the FWD mode. If it does not satisfy this, take the following measure.

Re-attach the spring to the upper hook if the measurement value is beyond the specifications or re-attach the spring to the lower hook if the measurement value is below the specifications. Then, repeat the measurement.

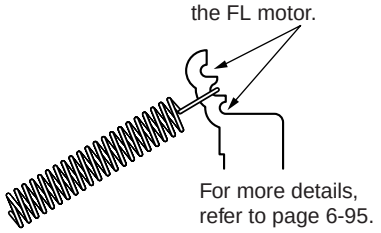


For more details, refer to page 6-95.

• RVS (TG7) side

The torque value should satisfy $9.5 \pm 1.5 \times 10^{-1}$ mN • m while the mini DV torque cassette runs in the RVS mode. If it does not satisfy this, take the following measure.

Re-attach the spring to the upper hook if the measurement value is beyond the specifications or re-attach the spring to the lower hook if the measurement value is below the specifications. Then, repeat the measurement.
Be careful that these spring blocks may hinder the FL motor.



For more details, refer to page 6-95.

4-7. PREPARATION FOR ADJUSTMENT AND TAPE PATH CHECK

Preparation before adjustment (connection and setting)

1. Mount the mechanism deck in the main unit.
   (Connect all the connectors.)

2. Clean the tape running side.
   (Refer to “6-2-2. Periodic check”.)

3. Connect an oscilloscope to VC-513 board CN1018 via the CPC-13 jig (J-6082-443-A) (J-16).
   Channel 1: CPC-13 jig, test pin ② (Note 1, 2)
   External trigger: CPC-13 jig, test pin ④

Note 1: Connect a 75 Ω resistor between test pins ② of CPC-13 jig and ① (GND).
75 Ω resistor (Parts code: 1-247-804-11)

Note 2: Pin numbers of CN1018 are different from test pin number of CPC-13 jig. (See page 6-104)

4. Connect the adjustment remote commander (J-1, J-2) to the LANC jack.

5. Turn the HOLD switch of the adjustment remote commander to the ON position. (Set the slide switch to SERVICE)

6. Select page: 3, address: 33, set data: 08 and press the PAUSE (Write) button.

7. Select page: 3, address: 26, set data: 31 and press the PAUSE (Write) button.

Procedure after operations

1. Connect the adjustment remote commander (J-1, J-2) to the LANC jack.

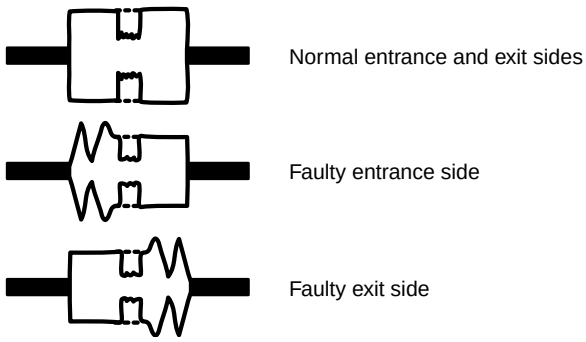
2. Turn the HOLD switch of the adjustment remote commander to the ON position. (Set the slide switch to SERVICE)

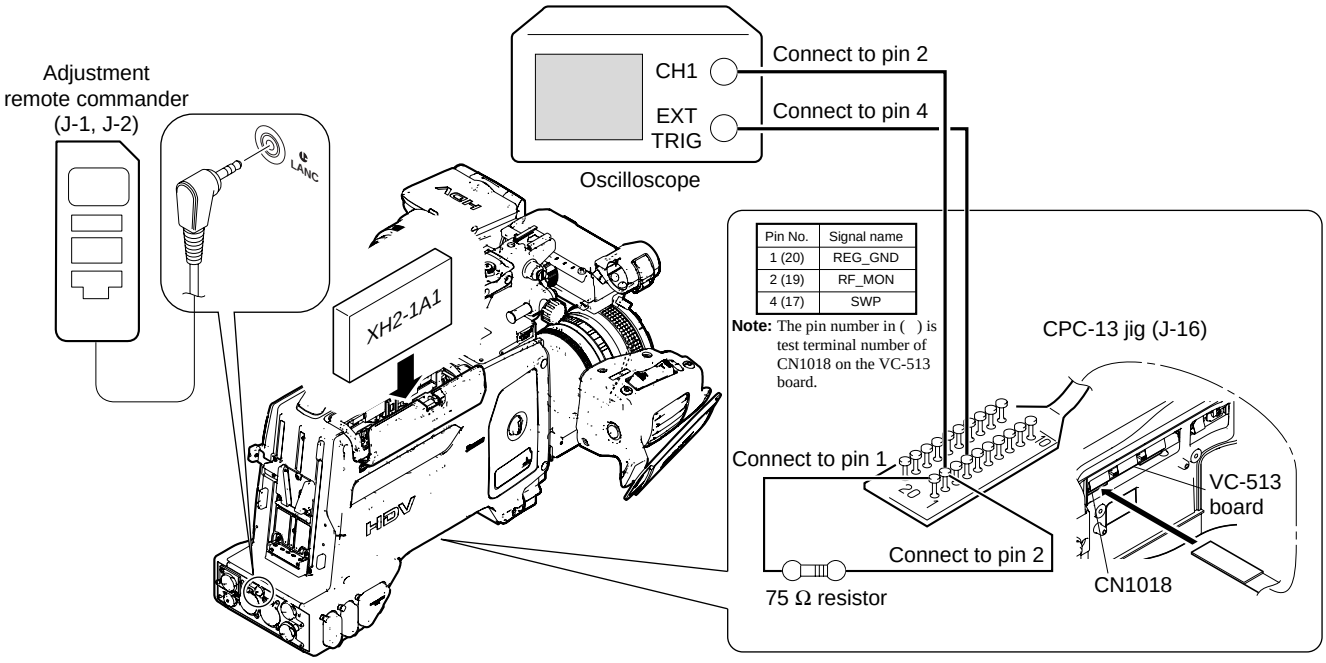
3. Select page: 3, address: 33, set data: 00 and press the PAUSE (Write) button.

4. Select page: 3, address: 26, set data: 00 and press the PAUSE (Write) button.

Tape path check (checking the RF waveform)

Play back the tracking tape (J-23) and check the states at the entrance and exit of the RF waveform. If it is not flat at either side, perform the adjustments from Adjustment Start-4 in the flowchart on page 6-95.

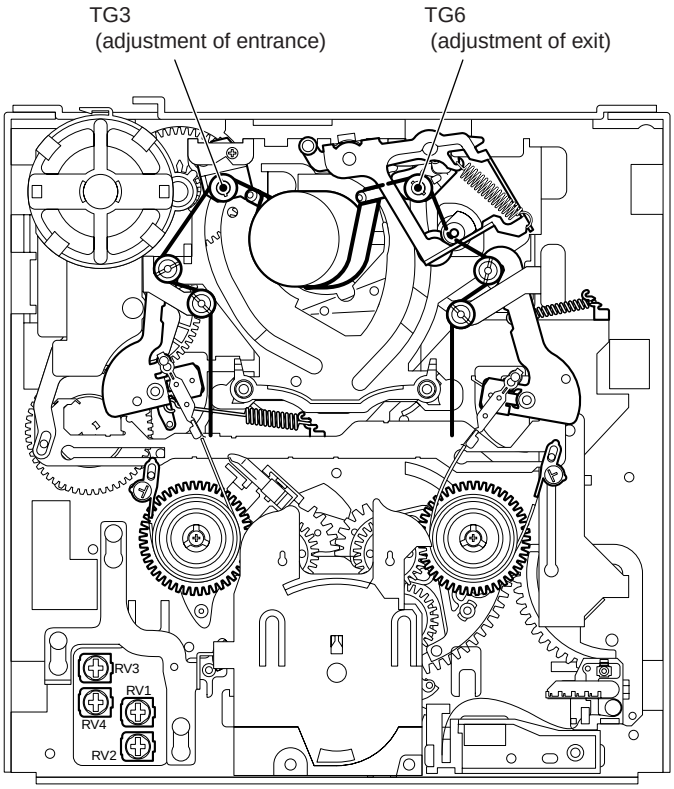




4-8. TRACKING ADJUSTMENT AND CHECK (Checking the RF Waveform)

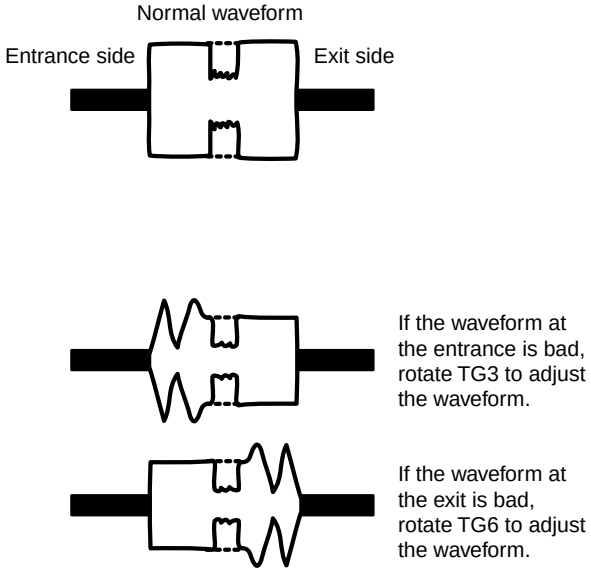
• Checking the RF waveform

Check that the RF waveforms at both the entrance and exit are flat while the tracking tape (J-23) runs in the PLAY mode.



• If not flat

If the waveform at the entrance is bad, rotate TG3. If the waveform at the exit is bad, rotate TG6 to flatten the waveform.

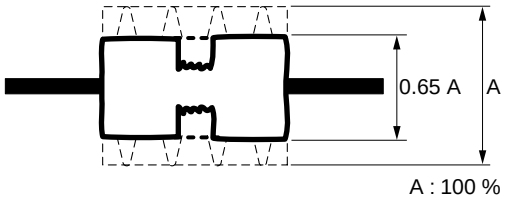


4-9. TRACKING CHECK

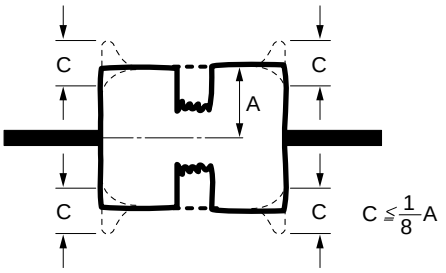
• Check

The difference between the maximum value and minimum value of the waveform amplitude during playback of the tracking tape (J-23) in the FWD mode should be 30% or less of the waveform amplitude during the CUE (or REV) mode (which is taken as 100% as shown). At the same time, there must not exist too much fluctuation of waveform amplitude.

Tracking waveform check -1

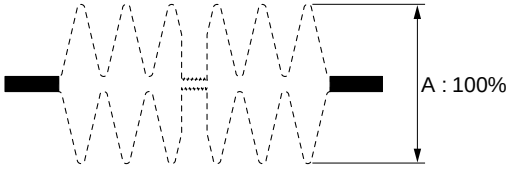


Tracking waveform check -2

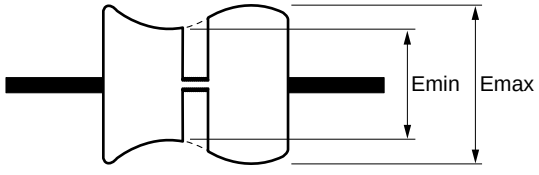


The waveform should not change sharply.

[Waveform in CUE or REV mode]



[Waveform in FWD mode]



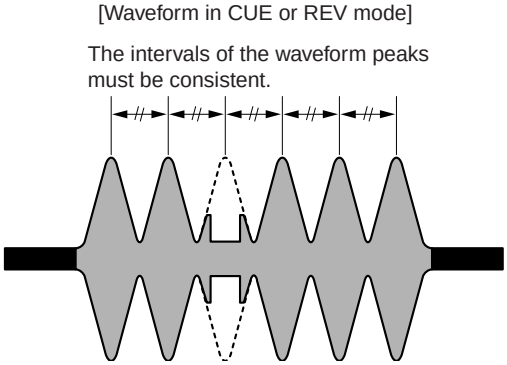
Emin: Minimum value
Emax: Maximum value

(Emin - Emax) ≦ 30% or ($\frac{3}{10}$A)

4-10. CUE/REV CHECK

• Check

Check that the intervals of the waveform peaks are consistent while the tracking tape (J-23) runs in the CUE mode or REV mode.



• If not even

If the waveform peaks are not even, perform Section 4-8, “Tracking adjustment”.

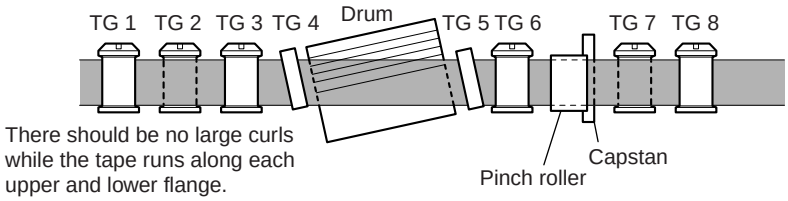
4-11. CURL CHECK AND ADJUSTMENT

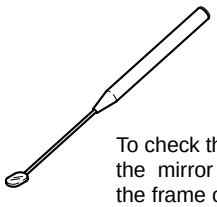
• Check

Check that the tape runs along each upper and lower flange while the tracking tape (J-23) runs in the CUE or REV mode. Also check that there are no large curls on each tape guide and pinch roller.

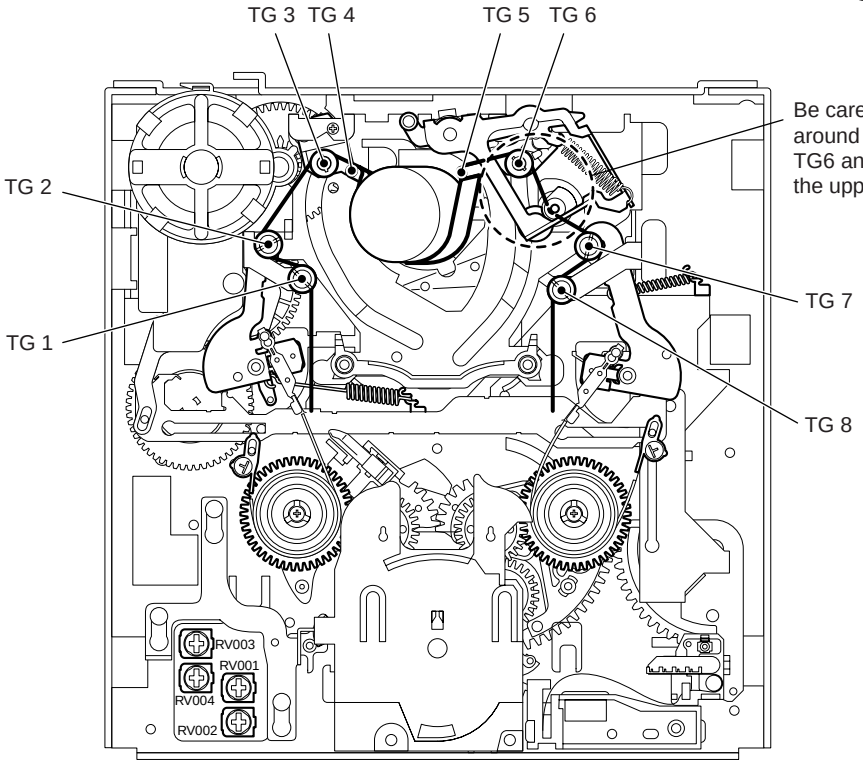
• If the curl is large

Perform the adjustment from Adjustment Start -3 (TG7 side) of the flowchart on page 6-95 again.





To check the tape path visually, use the mirror (J-21) to facilitate check as the frame of the cassette compartment hinders operations.



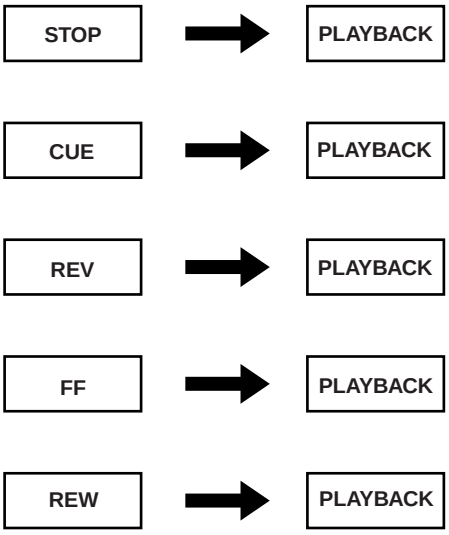
Be careful that there are often large curls around the capstan and pinch roller between TG6 and TG7. If there are large curls, rotate the upper flange of TG7 to remove the curls.

4-12. RISING CHECK

• Check

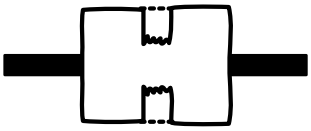
Check that when the tracking tape (J-23) is switched from the STOP, CUE, REV, FF, REW modes to the PLAYBACK mode, the waveform rises horizontally within 2 seconds. (Perform this 2 or 3 times.)

• Check after checking rising



- Check that the tape loads and unloads smoothly.
- Play a self-recorded or already recorded tape, and check that the sound and images are normal.

When switching the modes, the waveform should rise horizontally within 2 seconds.



6-3. VIDEO SECTION ADJUSTMENTS

3-1. PREPARATIONS BEFORE ADJUSTMENTS

3-1-1. Precautions on Adjusting

Note: Before performing the adjustment, check the data of page: 0, address: 10 is "00". If not, select page: 0, address: 00, and set data "00".

1) The adjustments of this unit are performed in the VTR mode (VCR mode) or camera mode (CAMERA mode).

3-1-2. Adjusting Connectors

The measuring point of the playback RF signal is CN1018 of VC-513 board. Connect the measuring instruments via the CPC-13 jig (J-6082-443-A). Refer to "MECHANISM SECTION ADJUSTMENT" for the measuring method. The following table lists the test pin numbers of CPC-13 jig, and the pin numbers and signal names of CN1018.

Pin No.	Signal Name	Pin No.	Signal Name
1 (20)	REG_GND	11 (10)	EEP_SO_C
2 (19)	RF_MON	12 (9)	EEP_SO_S
3 (18)	REG_GND	13 (8)	EEP_SCK_C
4 (17)	SWP	14 (7)	EEP_SCK_S
5 (16)	FRRV	15 (6)	D_2.8V
6 (15)	REG_GND	16 (5)	MD2_C
7 (14)	REG_GND	17 (4)	MD2
8 (13)	REG_GND	18 (3)	XCS_MC_FLASH_C
9 (12)	EEP_SI_C	19 (2)	XCS_MC_FLASH
10 (11)	EEP_SI_S	20 (1)	XSYS_RST

Note: The pin number in ( ) is test terminal number of CN1018 on the VC-513 board.

Table 6-3-1

3-1-3. Connecting the Equipment

Connect the measuring instruments as shown in Fig. 6-3-1, and perform the adjustments.

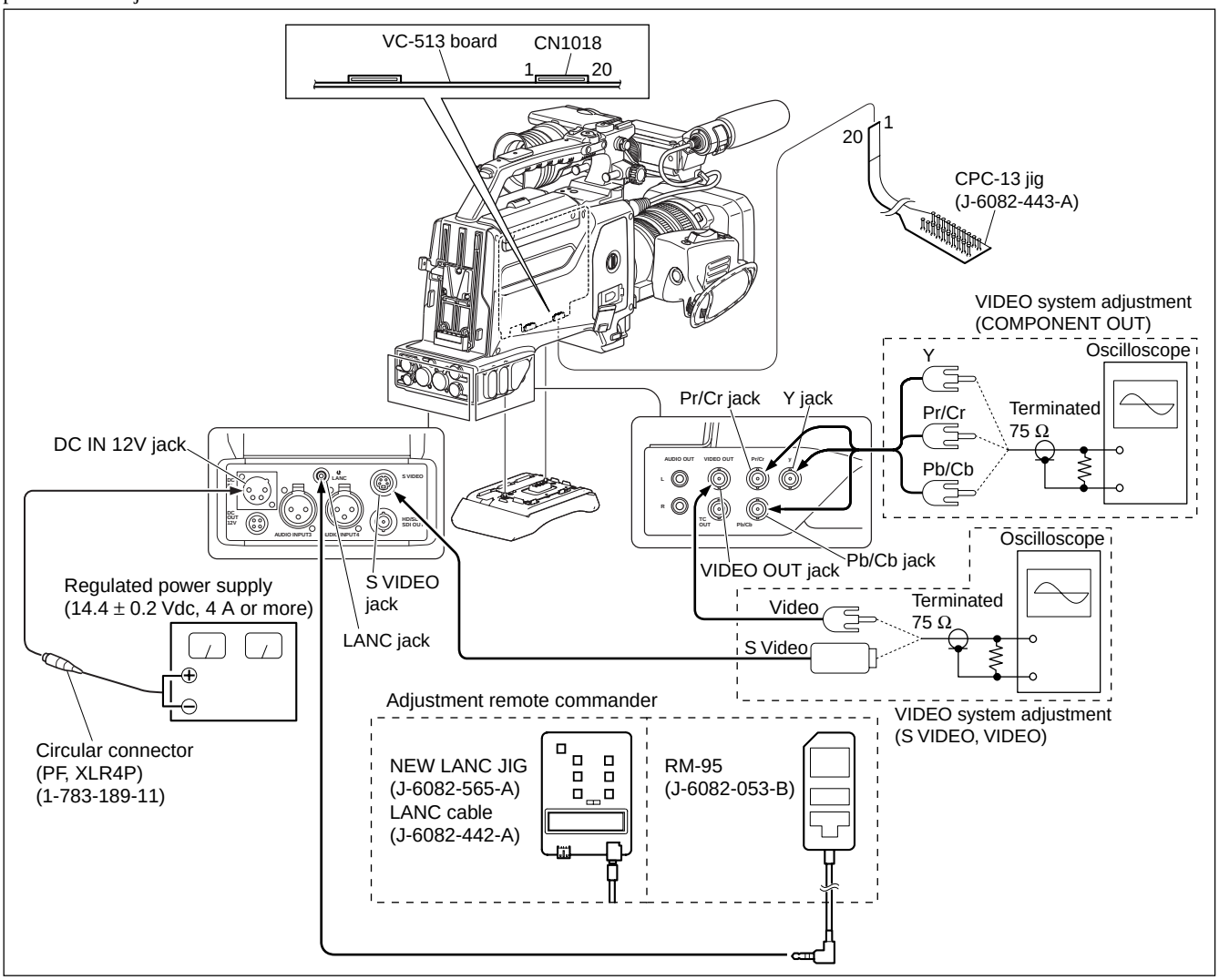


Fig. 6-3-1

3-1-4. Alignment Tapes

Use the alignment tapes shown in the following table.
Use tapes specified in the signal column of each adjustment.

Name	Use
Tracking tape (XH2-1A1)	Tape path adjustment
SW/OL standard (XH2-3)	Switching position adjustment
Audio operation check (XH5-3(NTSC), XH5-3P(PAL))	Audio system adjustment
System operation check (XH5-5(NTSC), XH5-5P(PAL))	Operation check

Fig. 6-3-2 shows the 75% color bar signals recorded on the alignment tape for Audio Operation Check.

Note: Measure with video terminal (Terminated at 75 Ω)

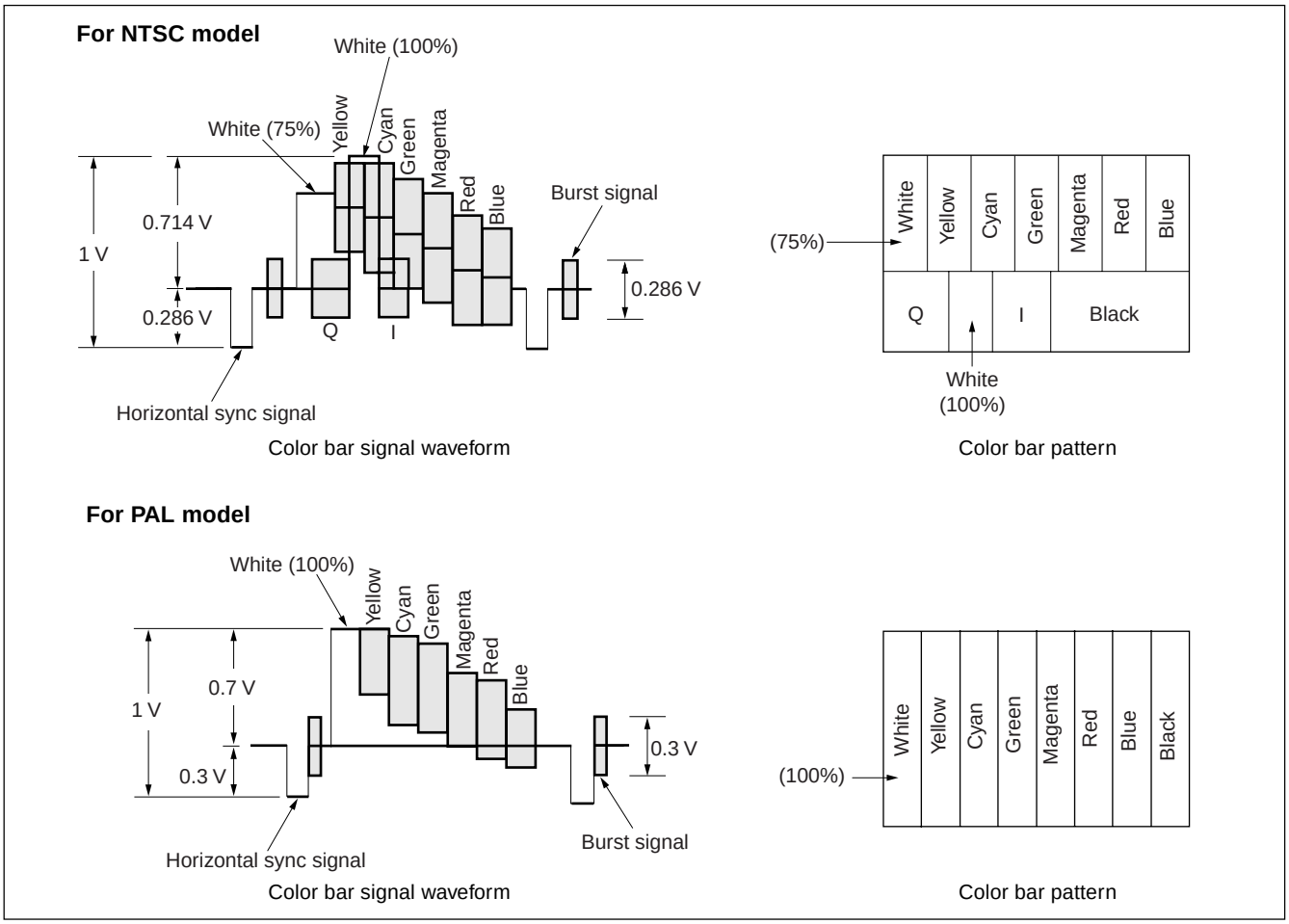


Fig. 6-3-2 Color bar signal of alignment tapes

3-1-5. Output Level and Impedance

VIDEO OUT jack
BNC connector × 1
Video signal: 1 Vp-p, 75 Ω (ohms)

S VIDEO jack
S connector × 1
Luminance signal: 1 Vp-p, 75 Ω (ohms)
Chrominance signal: 0.3 Vp-p (burst signal), 75 Ω (ohms) (NTSC)
Chrominance signal: 0.286 Vp-p (burst signal), 75 Ω (ohms) (PAL)

AUDIO OUT jack
RCA connector × 2
Audio signal: –10 dBu (at load impedance 47 kΩ (kilohms)), Output impedance with less than 2.2 kΩ (kilohms) (0 dBu=0.775 Vrms)

TC OUT jack
BNC connector × 1
2.2 Vp-p, 600 Ω (ohms) / 1.2 Vp-p, 75 Ω (ohms)

COMPONENT OUT jack
BNC connector × 3
Y: 1 Vp-p, 75Ω (ohms), P_B/P_R, C_B/C_R: +/- 350 mV, 75 Ω (ohms)

HD/SD SDI OUT jack
BNC type × 1
SD-SDI: SD-SDI format, SMPTE259M-C (270Mbps)
HD-SDI: HD-SDI format, SMPTE292M

3-2. SYSTEM CONTROL SYSTEM ADJUSTMENTS

1. Initialization of EEPROM Data

If the EEPROM data is erased due to some reason, perform "1-2. INITIALIZATION OF EVR DATA ", of "6-1. CAMERA SECTION ADJUSTMENTS"

2. Node Unique ID No. Input

Note 1: Perform "2-2. Input of Serial No." if the data on page 13 has been cleared and original node unique ID No. is uncertain.
Usually, read the data on page 13 before repair, and write it after repair.

Note 2: If reading/writing data on pages 13, set data: 01 to page: 0, address: 10, and then select pages: 3. By this data setting, the pages 13 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

2-1. Input of Company ID

Write the company ID to the EEPROM (nonvolatile memory).

Page	13
Address	04, 05, 06, 07, 08

Input method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 71, and set data: 01, then press the PAUSE (Write) button.
3) Select page: 0, address: 10, and set data: 01.
4) Select page: 3 (13), and enter the following data.

Note 3: Each time the data is set, press the PAUSE (Write) button on the adjusting remote commander.

Address	Data
04	08
05	00
06	46
07	01
08	02

5) Select page: 0, address: 10, and set data: 00.
6) Select page: 3, address: 70, and set data: 10, then press the PAUSE (Write) button.
7) Select page: 3, address: 70, and check that the data changes to "11".
8) Select page: 0, address: 01, and set data: 00.

2-2. Input of Serial No.

Write the serial No. and model code to the EEPROM (nonvolatile memory).
In writing the serial No., a decimal number should be converted into a hexadecimal number

Page	13
Address	09, 0A, 0B

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 71, and set data: 01, then press the PAUSE (Write) button.
3) Read the serial No. from the model name label, and it is assumed to be D_1.
   Example: If serial No. is "77881",
   $D_1 = 77881$
4) From Table 6-3-2, obtain D_2 and H_1 that correspond to D_1.
   Example: If $D_1 = 77881$,
   $D_2 = D_1 - 65536 = 12345$
   $H_1 = FE$

D_1 (decimal)	D_2 (decimal)	H_1 (hexadecimal) (Service model code)
00001 to 65535	D_1	FE
65536 to 131071	$D_1 - 65536$	FE
131072 to196607	$D_1 - 131072$	FE
196608 to 262143	$D_1 - 196608$	FE
262144 to 327679	$D_1 - 262144$	FE
327680 to 393215	$D_1 - 327680$	FE
393216 to 458751	$D_1 - 393216$	FE
458752 to 524287	$D_1 - 458752$	FE
524288 to 589823	$D_1 - 524288$	FE
589824 to 655359	$D_1 - 589824$	FE
655360 to 720895	$D_1 - 655360$	FE
720896 to 786431	$D_1 - 720896$	FE
786432 to 851967	$D_1 - 786432$	FE
851968 to 917503	$D_1 - 851968$	FE
917504 to 983039	$D_1 - 917504$	FE
983040 to 999999	$D_1 - 983040$	FE

Table 6-3-2

5) Enter H_1 to address: 09 on page: 13.
   Example: If $H_1 = FE$,
   Select page: 0, address: 10, and set data: 01.
   Select page: 3 (13), address: 09, and set data: FE, then press the PAUSE (Write) button.
6) From Table 6-3-3, obtain the maximum decimal number less than D_2, and it is assumed to be D_3.
   Example: If $D_2 = 12345$.
   $D_3 = 12288$
7) From Table 6-3-3, obtain a hexadecimal number that corresponds to D_3, and it is assumed to be H_3.
   Example: If $D_3 = 12288$,
   $H_3 = 3000$
8) Caluculate D_4 using following equations (decimal caluculation). ($0 \leqq D_4 \leqq 225$)
   $D_4 = D_2 - D_3$
   Example: If $D_2 = 12345$ and $D_3 = 12288$,
   $D_4 = 12345 - 12288 = 57$
9) Convert D_4 into a hexadecimal number to obtain H_4. (See Table 6-4-1 "Hexadecimal - decimal conversion table" in 6-4. Service Mode)
   Example: If $D_4 = 57$,
   $H_4 = 39$
10) Enter higher two digits of H_3 to address: 0A on page: 13.
    Example: If $H_3 = 3000$,
    Select page: 0, address: 10, and set data: 01.
    Select page: 3 (13), address: 0A, and set data: 30, then press the PAUSE (Write) button.
11) Enter H_4 to address: 0B on page: 13.
    Example: If $H_4 = 39$,
    Select page: 0, address: 10, and set data: 01.
    Select page: 3 (13), address: 0B, and set data: 39, then press the PAUSE (Write) button.
12) Select page: 0, address: 10, and set data: 00.
13) Select page: 3, address: 70, and set data: 10, then press the PAUSE (Write) button.
14) Select page: 3, address: 70, and check that the data changes to "11".
15) Select page: 0, address: 01, and set data: 00.

D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3
0	0000	8192	2000	16384	4000	24576	6000	32768	8000	40960	A000	49152	C000	57344	E000
256	0100	8448	2100	16640	4100	24832	6100	33024	8100	41216	A100	49408	C100	57600	E100
512	0200	8704	2200	16896	4200	25088	6200	33280	8200	41472	A200	49664	C200	57856	E200
768	0300	8960	2300	17152	4300	25344	6300	33536	8300	41728	A300	49920	C300	58112	E300
1024	0400	9216	2400	17408	4400	25600	6400	33792	8400	41984	A400	50176	C400	58368	E400
1280	0500	9472	2500	17664	4500	25856	6500	34048	8500	42240	A500	50432	C500	58624	E500
1536	0600	9728	2600	17920	4600	26112	6600	34304	8600	42496	A600	50688	C600	58880	E600
1792	0700	9984	2700	18176	4700	26368	6700	34560	8700	42752	A700	50944	C700	59136	E700
2048	0800	10240	2800	18432	4800	26624	6800	34816	8800	43008	A800	51200	C800	59392	E800
2304	0900	10496	2900	18688	4900	26880	6900	35072	8900	43264	A900	51456	C900	59648	E900
2560	0A00	10752	2A00	18944	4A00	27136	6A00	35328	8A00	43520	AA00	51712	CA00	59904	EA00
2816	0B00	11008	2B00	19200	4B00	27392	6B00	35584	8B00	43776	AB00	51968	CB00	60160	EB00
3072	0C00	11264	2C00	19456	4C00	27648	6C00	35840	8C00	44032	AC00	52224	CC00	60416	EC00
3328	0D00	11520	2D00	19712	4D00	27904	6D00	36096	8D00	44288	AD00	52480	CD00	60672	ED00
3584	0E00	11776	2E00	19968	4E00	28160	6E00	36352	8E00	44544	AE00	52736	CE00	60928	EE00
3840	0F00	12032	2F00	20224	4F00	28416	6F00	36608	8F00	44800	AF00	52992	CF00	61184	EF00
4096	1000	12288	3000	20480	5000	28672	7000	36864	9000	45056	B000	53248	D000	61440	F000
4352	1100	12544	3100	20736	5100	28928	7100	37120	9100	45312	B100	53504	D100	61696	F100
4608	1200	12800	3200	20992	5200	29184	7200	37376	9200	45568	B200	53760	D200	61952	F200
4864	1300	13056	3300	21248	5300	29440	7300	37632	9300	45824	B300	54016	D300	62208	F300
5120	1400	13312	3400	21504	5400	29696	7400	37888	9400	46080	B400	54272	D400	62464	F400
5376	1500	13568	3500	21760	5500	29952	7500	38144	9500	46336	B500	54528	D500	62720	F500
5632	1600	13824	3600	22016	5600	30208	7600	38400	9600	46592	B600	54784	D600	62976	F600
5888	1700	14080	3700	22272	5700	30464	7700	38656	9700	46848	B700	55040	D700	63232	F700
6144	1800	14336	3800	22528	5800	30720	7800	38912	9800	47104	B800	55296	D800	63488	F800
6400	1900	14592	3900	22784	5900	30976	7900	39168	9900	47360	B900	55552	D900	63744	F900
6656	1A00	14848	3A00	23040	5A00	31232	7A00	39424	9A00	47616	BA00	55808	DA00	64000	FA00
6912	1B00	15104	3B00	23296	5B00	31488	7B00	39680	9B00	47872	BB00	56064	DB00	64256	FB00
7168	1C00	15360	3C00	23552	5C00	31744	7C00	39936	9C00	48128	BC00	56320	DC00	64512	FC00
7424	1D00	15616	3D00	23808	5D00	32000	7D00	40192	9D00	48384	BD00	56576	DD00	64768	FD00
7680	1E00	15872	3E00	24064	5E00	32256	7E00	40448	9E00	48640	BE00	56832	DE00	65024	FE00
7936	1F00	16128	3F00	24320	5F00	32512	7F00	40704	9F00	48896	BF00	57088	DF00	65280	FF00

Note: D_3: Decimal
H_3: Hexadecimal

Table 6-3-3

3-3. SERVO AND RF SYSTEM ADJUSTMENTS

Before perform the servo and RF system adjustments, check that the specified values of "Origin Oscillation check" of "1-3. CAMERA SYSTEM ADJUSTMENTS" is satisfied.
Check that the data of page: 0, address: 10 is "00". If not, select page: 0, address: 10, and set the data "00".

Adjusting Procedure:
1. CAP FG duty adjustment
2. Switching position adjustment
3. Error rate check

1. CAP FG Duty Adjustment (VC-513 board)

RadarW

Set the CAP FG signal duty cycle to 50% to establish an appropriate capstan servo. If deviated, the uneven rotation of capstan and noise can occur.

Mode	VTR stop (VCR mode)
Signal	No signal
Measurement Point	Displayed data of page: 3, address: 03
Measuring Instrument	Adjusting remote commander
Adjustment Page	C
Adjustment Address	16
Specified value	The data of page: 3, address: 03 is "00"

Note 1: Check that the data of page: 0, address: 10 is "00".

Adjusting method:

Order	Page	Address	Data	Procedure
1				Close the cassette compartment without inserting cassette.
2	0	01	01	
3	3	71	01	Press PAUSE (Write) button.
4	3	03	FF	
5	C	16	20	Press PAUSE (Write) button.
6	3	01	1B	Press PAUSE (Write) button.
7	3	02		Check the data changes in the following order "1B" → "2B" → "00"
8	3	03		Check the data is "00". (Note 2)
9	3	01	00	Press PAUSE (Write) button.
10	3	70	10	Press PAUSE (Write) button.
11	3	70		Check the data changes to "11".
12	0	01	00	

Note 2: If the data is "01", adjustment has errors or the mechanism deck is defective.
If the data is "80", the mechanism deck is in emergency state or the end of tape was detected.

2. Switching Position Adjustment (VC-513 board)

RadarW

Mode	VTR playback (VCR mode)
Signal	SW/OL standard (XH2-3)
Measurement Point	Displayed data of page: 3, address: 03
Measuring Instrument	Adjusting remote commander
Adjustment Page	C
Adjustment Address	10, 11, 12, 13
Specified value	The data of page: 3, address: 03 is "00"

Note 1: Check that the data of page: 0, address: 10 is "00".

Adjusting method:

Order	Page	Address	Data	Procedure
1				Insert the SW/OL standard tape and enter the VTR stop mode.
2	0	01	01	
3	3	71	01	Press PAUSE (Write) button.
4	C	10	EE	Press PAUSE (Write) button.
5	3	03	FF	
6	3	21		Check the data is "02". (Note 2)
7	3	01	0D	Press PAUSE (Write) button.
8	3	02		Check the data changes to "00".
9	3	03		Check the data is "00". (Note 3)
10	3	01	00	Press PAUSE (Write) button.
11	3	70	10	Press PAUSE (Write) button.
12	3	70		Check the data changes to "11".
13	0	01	00	

Note 2: If the data is "72", the tape top being played. After playing the tape for 1 to 2 seconds, stop it, perform step 5 and higher.
If the data is "62", the tape end being played. After rewind the tape, perform step 5 and higher.

Note 3: If bit0 of the data is "1", the EVEN channel is defective.
If bit1 of the data is "1", the ODD channel is defective.
Contents of the defect is see written into page: C, address: 10 and 12. See following table.
(For the bit values, refer to "6-4. SERVICE MODE", "4-4. 3. Bit value discrimination".)
If bit3 of the data is "1", the tape end being played, so rewind the tape and perform the adjustment again.

When the EVEN channel is defective

Data of page: C, address: 10	Contents of defect
EE	Writing into Flash memory (IC2402) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC2601

When the ODD channel is defective

Data of page: C, address: 12	Contents of defect
EE	Writing into Flash memory (IC2402) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC2601

3. Tape Slack Check

The tape unloading operation is checked to improve the tape slack during the unloading.

Mode	VCR mode
Signal	No signal
Measurement Point	Displayed data of page: 3, address: 8A
Measuring Instrument	Adjusting remote commander
Adjustment Page	C
Adjustment Address	C9

Note 1: Execute the tape slack check when the following parts were repaired or replaced.
- Reel driver IC (IC7505 on the NN-006 board)
- Mechanism deck
- Reel motor (M904)

Checking method:

1) Insert a cassette tape.
2) After the loading completed, perform the EJECT (unload the tape) while monitoring the data of page: 3, address: 8A.
3) If the data of page: 3, address: 8A changed to “01” during the EJECT operation, change the data of page: C, address: C9 from “00” to “30”. If the data of page: 3, address: 8A remains “00”, the data change is not necessary.

Note 2: Perform the operation mentioned above to both mini DV cassette and standard cassette.

Data change method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	3	71	01	Press PAUSE (Write) button.
4	C	C9	30	Press PAUSE (Write) button.
5	3	70	10	Press PAUSE (Write) button.
6	3	70		Check the data changes to “11”.
7	0	01	00	

Note 3: In regard to the unit which the data has changed, confirm again the data of page: 3, address: 08 remains “00” while “EJECT” (unload the tape) operation.
If the data value has changed again, we assume it is caused by other defect.
In this case, return the data value of page: C, address: C9 to “00”.

4. Error Rate Check (VC-513 board) RadarW

Note: Check that the data of page: 0, address: 10 is “00”.

4-1. Preparations before adjustments

Mode	Camera recording (CAMERA mode)
Subject	Arbitrary

Switch setting

1) REC FORMAT (Menu setting) ..... DV

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	0	10	01	
4	C (1C)	0D	CC	Press PAUSE (Write) button.
5	0	10	00	
6				Record the camera signal for 2 minutes.

4-2. Error Rate Check

Mode	VTR playback (VCR mode)
Subject	Recorded signal at “Preparations before adjustments”
Measurement Point	Displayed data of page: 3, address: 03
Measuring Instrument	Adjusting remote commander
Adjustment Page	C
Adjustment Address	B2 to C7
Specified value	The data of page: 3, address: 03 is “00”

Note 1: Check that the data of page: 0, address: 10 is “00”.

Initial Value of Page C: Address: B2 to C7

Address	Initial value	Address	Initial value	Address	Initial value
B2	00	BA	00	C2	80
B3	00	BB	00	C3	00
B4	00	BC	00	C4	00
B5	00	BD	00	C5	00
B6	00	BE	00	C6	00
B7	80	BF	00	C7	00
B8	00	C0	00		
B9	00	C1	00		

Table 6-3-4

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3				Check that the data of page: C, address: B2 to C7 is the initial value. (See Table 6-3-4)
4				Playback the recorded signal at “Preparations before adjustments”.
5	3	03	FF	
6	3	01	40	Press PAUSE (Write) button.
7	3	02		Check the data changes to “00”.
8	3	03		Check the data is “00”. (Note 2)
9	3	01	00	Press PAUSE (Write) button.
10				Perform “Processing after Completing Adjustments”.

Note 2: If the data is other than “00”, Error rate is abnormal. For the contents of the abnormality, see the following table.

Data of page: 3, address: 03	Contents of defect
01	EVEN channel is abnormal.
02	ODD channel is abnormal.
03	EVEN channel and ODD channel are abnormal.

Note 3: If Error rate is abnormal, Check the use tape, clean the tape running surface. And after inputting initial values to page C: address: B2 to C7, perform re-adjustment. (See Table 6-3-4)

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	01	
3	C (1C)	0D	00	Press PAUSE (Write) button.
4	0	10	00	
5	3	70	10	Press PAUSE (Write) button.
6	3	70		Check the data changes to “11”.
7	0	01	00	

3-4. VIDEO SYSTEM ADJUSTMENTS

Before perform the video system adjustments, check that the specified values of "Origin Oscillation Check" of "1-3. CAMERA SYSTEM ADJUSTMENTS" is satisfied.
Check that the data of page: 0, address: 10 is "00".
If not, select page: 0, address: 10, and set the data "00".
Note: NTSC model: HVR-S270J/S270U/S270N
PAL model: HVR-S270E/S270P/S270C

Adjusting Procedure:
1. S VIDEO OUT Y level adjustment
2. S VIDEO OUT chroma level adjustment
3. VIDEO OUT level check
4. COMPONENT OUT Y level adjustment
5. COMPONENT OUT Pr level adjustment
6. COMPONENT OUT Pb level adjustment

Switch setting
VIDEO OUT ..... COMPOSITE
(Page: 7, address: 4F, Bit 1 = 1)

1. S VIDEO, VIDEO OUT Adjustment

1-1. Preparations

Perform the following data setting before the "S VIDEO, VIDEO OUT Adjustment".

Order	Page	Address	Data	Procedure
1				Set the unit to VCR mode.
2	0	01	01	
3	3	71	01	Press PAUSE (Write) button.
4	0	10	01	
5	C (1C)	0F	10	Press PAUSE (Write) button.
6	8 (18)	00	01	Press PAUSE (Write) button.
7	8 (18)	01	60	Press PAUSE (Write) button.
8	8 (18)	06	55	Press PAUSE (Write) button.
9	8 (18)	04	C0	Press PAUSE (Write) button.
10	0	10	00	
11	0	FF	3E	
12	B	00	02	
13	C	85		Check the data is "55".
14	B	00	00	
15	0	FF	00	

1-2. S VIDEO OUT Y Level Adjustment (VC-513 board)

Mode	VCR mode
Signal	No signal
Measurement Point	Y signal terminal of S VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	95 (NTSC) 98 (PAL)
Specified value	A = 1000 ± 14 mVp-p

Adjusting method for NTSC model:

Order	Page	Address	Data	Procedure
1				Perform "Preparations"
2	C	95		Change the data and set the Y signal level (A) to the specified value.
3	C	95		Press PAUSE (Write) button.
4	C	98		Set a value obtained by subtracting 3 from the forementioned data, and press PAUSE (Write) button.
5				Perform "Processing after Complete Adjustment".

Adjusting method for PAL model:

Order	Page	Address	Data	Procedure
1				Perform "Preparations"
2	C	98		Change the data and set the Y signal level (A) to the specified value.
3	C	98		Press PAUSE (Write) button.
4	C	95		Set a value obtained by adding 3 to the forementioned data, and press PAUSE (Write) button.
5				Perform "Processing after Complete Adjustment".

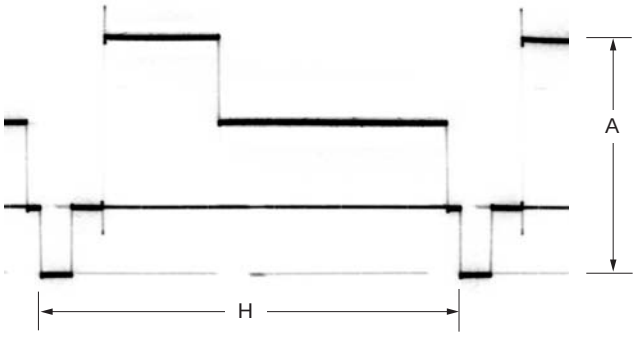


Fig. 6-3-3

1-3. S VIDEO OUT Chroma Level Adjustment (VC-513 board)

Mode	VCR mode
Signal	No signal
Measurement Point	Chroma signal terminal of S VIDEO jack (75 Ω terminated) External trigger: Y signal terminal of S VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	96, 97 (NTSC) 99, 9A (PAL)
Specified value	Cr level: A = 714 ± 14 mVp-p (NTSC) A = 700 ± 14 mVp-p (PAL) Cb level: B = 714 ± 14 mVp-p (NTSC) B = 700 ± 14 mVp-p (PAL) Burst level: C = 286 ± 6 mVp-p (NTSC) C = 300 ± 6 mVp-p (PAL)

Adjusting method for NTSC model:

Order	Page	Address	Data	Procedure
1				Perform “Preparations”
2	C	96		Change the data and set the Cr signal level (A) to the specified value.
3	C	96		Press PAUSE (Write) button.
4	C	99		Set a value obtained by subtracting 3 from the forementioned data, and press PAUSE (Write) button.
5	C	97		Change the data and set the Cb signal level (B) to the specified value.
6	C	97		Press PAUSE (Write) button.
7	C	9A		Set a value obtained by subtracting 5 from the forementioned data, and press PAUSE (Write) button.
8				Check the burst signal (C) to the specified value.
9				Perform “Processing after Complete Adjustment”.

Adjusting method for PAL model:

Order	Page	Address	Data	Procedure
1				Perform “Preparations”
2	C	99		Change the data and set the Cr signal level (A) to the specified value.
3	C	99		Press PAUSE (Write) button.
4	C	96		Set a value obtained by adding 3 to the forementioned data, and press PAUSE (Write) button.
5	C	9A		Change the data and set the Cb signal level (B) to the specified value.
6	C	9A		Press PAUSE (Write) button.
7	C	97		Set a value obtained by adding 5 to the forementioned data, and press PAUSE (Write) button.
8				Check the burst signal (C) to the specified value.
9				Perform “Processing after Complete Adjustment”.

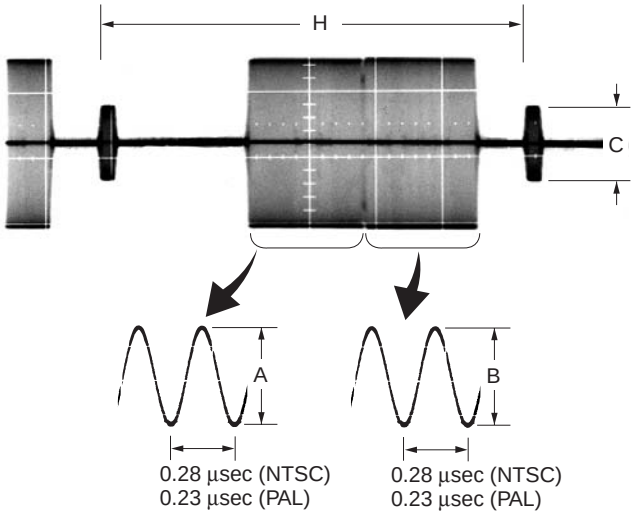


Fig. 6-3-4

1-4. VIDEO OUT Level Check (VC-513 board)

Mode	VCR mode
Signal	No signal
Measurement Point	VIDEO OUT jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Specified value	Sync level: A = 286 ± 18 mVp-p (NTSC) A = 300 ± 18 mVp-p (PAL) Burst level: B = 286 ± 18 mVp-p (NTSC) B = 300 ± 18 mVp-p (PAL)

Checking method:

Order	Page	Address	Data	Procedure
1				Peform “Preparations”
2				Check the sync signal level (A) to the specified value.
3				Check the burst signal level (B) to the specified value.
4				Perform “Processing after Complete Adjustment”.

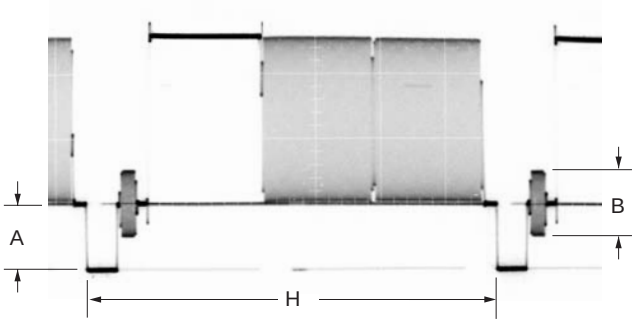


Fig. 6-3-5

1-5. Processing after Complete Adjustment

Perform the setting through the procedure mentioned below when you finish the “S VIDEO, VIDEO OUT Adjustment”.

Order	Page	Address	Data	Procedure
1	0	10	01	
2	C (1C)	0F	00	Press PAUSE (Write) button.
3	8 (18)	04	80	Press PAUSE (Write) button.
4	8 (18)	00	00	Press PAUSE (Write) button.
5	8 (18)	01	00	Press PAUSE (Write) button.
6	8 (18)	06	00	Press PAUSE (Write) button.
7	0	10	00	
8	3	70	10	Press PAUSE (Write) button.
9	3	70		Check the data changes to “11”.
10	0	01	00	

2. COMPONENT OUT Y Level Adjustment (VC-513 board)

Mode	CAMERA mode
Subject	Arbitrary
Measurement Point	Y signal terminal of COMPONENT OUT jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	8C
Specified value	Y level: A = 1000 ± 10 mVp-p Sync level: B = C = 300 ± 10 mVp-p

Switch setting:

1) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	0	10	01	
4	8 (18)	5C		Set the bit value of bit0 is "1", and press PAUSE (Write) button. (Note)
5	8 (18)	5D	05	Press PAUSE (Write) button.
6	0	10	00	
7	C	8C		Change the data and set the Y signal level (A) to the specified value.
8	C	8C		Press PAUSE (Write) button.
9				Check the sync signal (B, C) to the specified value.
10	0	10	01	
11	8 (18)	5C		Set the bit value of bit0 is "0", and press PAUSE (Write) button. (Note)
12	8 (18)	5D	00	Press PAUSE (Write) button.
13	0	10	00	
14	3	70	10	Press PAUSE (Write) button.
15	3	70		Check the data changes to "11".
16	0	01	00	

Note: For the bit values, refer to "6-4. SERVICE MODE", "4-4. 3. Bit value discrimination".

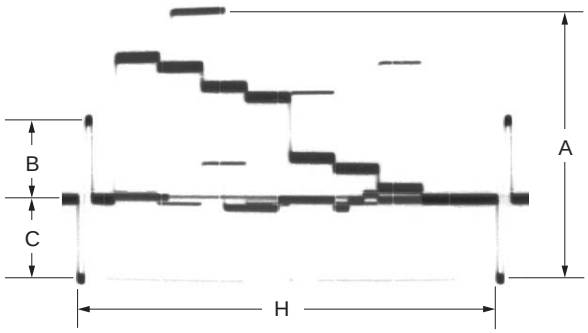


Fig. 6-3-6

3. COMPONENT OUT Pr Level Adjustment (VC-513 board)

Mode	CAMERA mode
Subject	Arbitrary
Measurement Point	P_r/C_r signal terminal of COMPONENT OUT jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	8E
Specified value	Pr level: A = 525 ± 10 mVp-p Sync level: B = C = 300 ± 10 mVp-p

Switch setting:

1) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	0	10	01	
4	8 (18)	5C		Set the bit value of bit0 is "1", and press PAUSE (Write) button. (Note)
5	8 (18)	5D	05	Press PAUSE (Write) button.
6	0	10	00	
7	C	8E		Change the data and set the Pr signal level (A) to the specified value.
8	C	8E		Press PAUSE (Write) button.
9				Check the sync signal (B, C) to the specified value.
10	0	10	01	
11	8 (18)	5C		Set the bit value of bit0 is "0", and press PAUSE (Write) button. (Note)
12	8 (18)	5D	00	Press PAUSE (Write) button.
13	0	10	00	
14	3	70	10	Press PAUSE (Write) button.
15	3	70		Check the data changes to "11".
16	0	01	00	

Note: For the bit values, refer to "6-4. SERVICE MODE", "4-4. 3. Bit value discrimination".

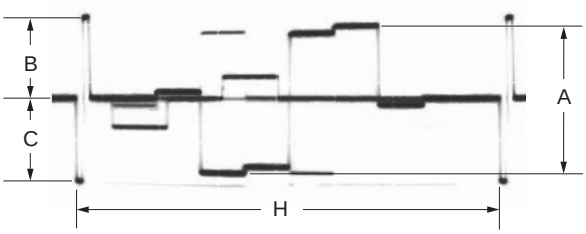


Fig. 6-3-7

4. COMPONENT OUT Pb Level Adjustment (VC-513 board)

Mode	CAMERA mode
Subject	Arbitrary
Measurement Point	P_b/C_b signal terminal of COMPONENT OUT jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	8D
Specified value	Pb level: A = 525 ± 10 mVp-p Sync level: B = C = 300 ± 10 mVp-p

Switch setting:

1) REC FORMAT (Menu setting) HDV1080i

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	0	10	01	
4	8 (18)	5C		Set the bit value of bit0 is "1", and press PAUSE (Write) button. (Note)
5	8 (18)	5D	05	Press PAUSE (Write) button.
6	0	10	00	
7	C	8D		Change the data and set the Pb signal level (A) to the specified value.
8	C	8D		Press PAUSE (Write) button.
9				Check the sync signal (B, C) to the specified value.
10	0	10	01	
11	8 (18)	5C		Set the bit value of bit0 is "0", and press PAUSE (Write) button. (Note)
12	8 (18)	5D	00	Press PAUSE (Write) button.
13	0	10	00	
14	3	70	10	Press PAUSE (Write) button.
15	3	70		Check the data changes to "11".
16	0	01	00	

Note: For the bit values, refer to "6-4. SERVICE MODE", "4-4. 3. Bit value discrimination".

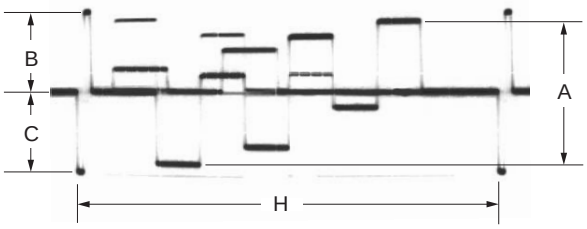


Fig. 6-3-8

3-5. AUDIO SYSTEM ADJUSTMENTS

Note: NTSC model: HVR-S270J/S270U/S270N
PALmodel: HVR-S270E/S270P/S270C

[Connecting the measuring instruments for the audio]
Connect the audio system measuring instruments as shown in Fig. 6-3-9.

Menu setting (AUDIO SET menu)
XLR SET
1) AGC CH1, 2 ..... SEPARATE
2) AGC CH3, 4 ..... SEPARATE
3) AU.LMT CH1, 2 ..... OFF
4) AU.LMT CH3, 4 ..... OFF
5) INPUT1 TRIM 0dB
6) INPUT1 WIND ..... OFF
7) INPUT2 TRIM 0dB
8) INPUT2 WIND ..... OFF
9) INPUT3 TRIM 0dB
10) INPUT3 WIND ..... OFF
11) INPUT4 TRIM 0dB
12) INPUT4 WIND ..... OFF

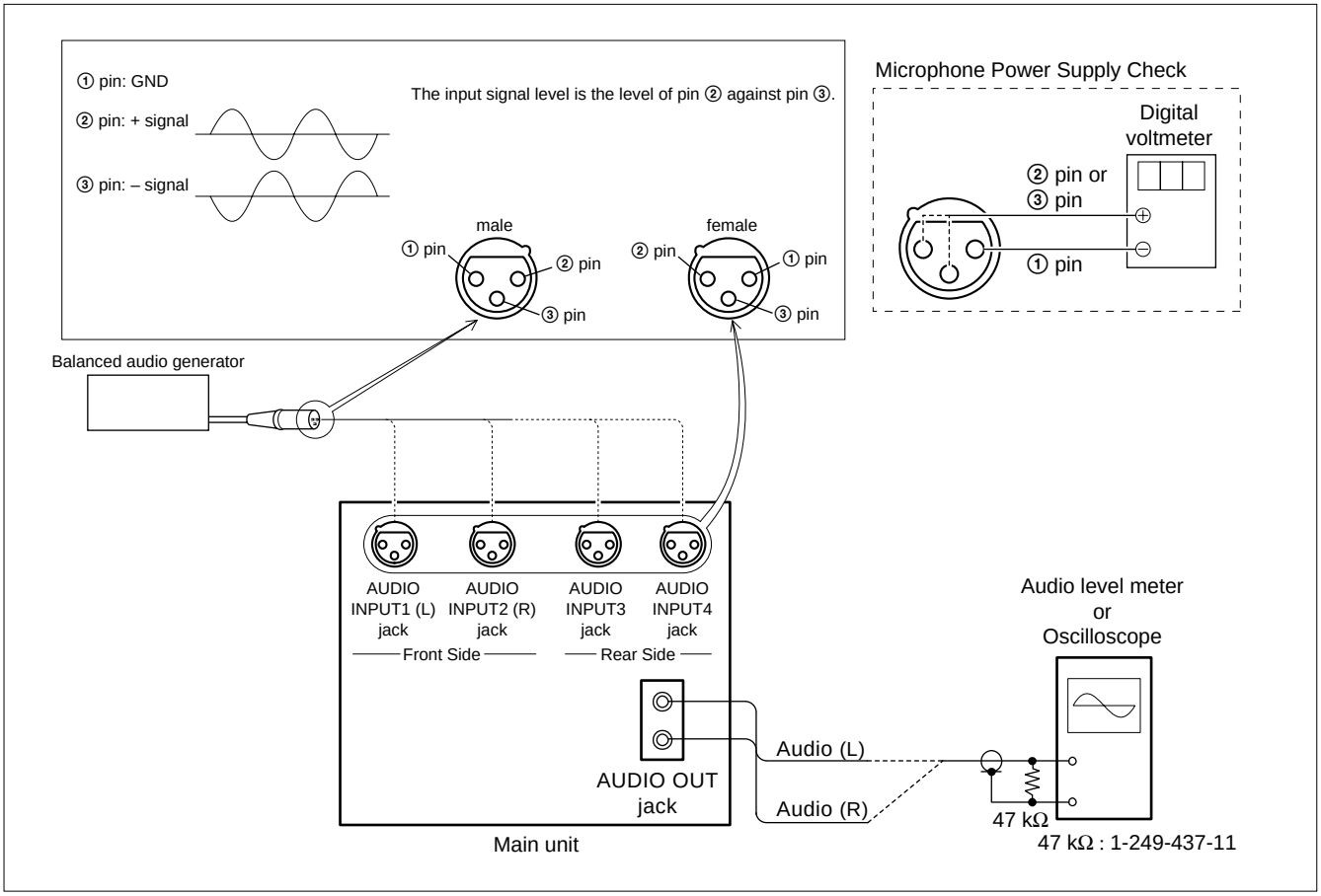


Fig. 6-3-9

1. Audio LCD Monitor Display Check

Mode	CAMERA mode
Signal	No signal
Measurement Point	Sub LCD panel
Measuring Instrument	
Specified value	All segments of sub LCD panel must be active for display.

Note: The back light must turn on and off by the LCD BACK LIGHT switch.

Checking method:

1) Select page: 7, address: 01, and set data: 97.
2) Select page: 7, address: 04, and set data: 01.
3) Select page: 7, address: 00, set data: 01 and press the "PAUSE (Write)" button of the adjustment remote commander.
4) Check that all segments of sub LCD panel are active for display.

5) Select page: 7, address: 01, and set data: 97
6) Select page: 7, address: 04, and set data: 05.
7) Select page: 7, address: 05, and set data: 01.
8) Select page: 7, address: 00, set data: 01 and press the "PAUSE (Write)" button of the adjustment remote commander.
9) Check that odd pins of audio level meter light up.

10) Select page: 7, address: 01, and set data: 97
11) Select page: 7, address: 04, and set data: 05.
12) Select page: 7, address: 05, and set data: 02.
13) Select page: 7, address: 00, set data: 01 and press the "PAUSE (Write) " button of the adjustment remote commander.
14) Check that even pins of audio level meter light up.

15) Select page: 7, address: 01, and set data: 97
16) Select page: 7, address: 04, and set data: 06.
17) Select page: 7, address: 00, set data: 01 and press the "PAUSE (Write) " button of the adjustment remote commander.
18) Check that the counter indicator lights up.

Processing after check:

1) Select page: 7, address: 01, and set data: 97.
2) Select page: 7, address: 04, and set data: 00.
3) Select page: 7, address: 00, set data: 01 and press the "PAUSE (Write) " button of the adjustment remote commander.

2. Microphone Power Supply Check

Mode	CAMERA mode
Signal	No signal
Measurement Point	XLR terminal (AUDIO INPUT1 (L) to AUDIO INPUT4) + probe: pin ②, ③ – probe: pin ①
Measuring Instrument	Digital voltmeter
Specified value	A = 46.0 ± 3.0 V B = 2 V or less

Checking method:

1) Connect the + probe of digital voltmeter to the pin ② on the AUDIO INPUT1 (L).
2) Set the INPUT1 switch to "MIC+48V".
3) Check that the DC voltage (A) satisfies the specified value.
4) Connect the + probe of digital voltmeter to the pin ③ on the AUDIO INPUT1 (L).
5) Check that the DC voltage (A) satisfies the specified value.
6) Set the INPUT1 switch to "MIC".
7) Connect the + probe of digital voltmeter to the pin ② on the AUDIO INPUT1 (L).
8) Check that the DC voltage (B) satisfies the specified value.
9) Connect the + probe of digital voltmeter to the pin ③ on the AUDIO INPUT1 (L).
10) Check that the DC voltage (B) satisfies the specified value.
11) Set the INPUT1 switch to "LINE".
12) For the INPUT2, 3 and 4, perform checking in the same manner.

3. INPUT1 LINE Check

Mode	CAMERA mode
Signal	1 kHz, +4 dBu signal: XLR terminal (AUDIO INPUT1 (L))
Measurement Point	Audio L terminal of AUDIO OUT jack (CH1)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–12 dBs to –8 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms
Note 3: In this check, AUDIO LEVEL dial must be in the maximum position.

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT1 switch ..... LINE
2) CH1 switch ..... MAN
3) AUDIO MONITOR switch CH1/2
4) MENU/STATUS switch ..... STATUS

Checking method:
1) Input 1 kHz, +4 dBu signal in the XLR terminal (AUDIO INPUT1 (L)).
2) Increase gradually the REC-LEVEL VOL CH1 to adjust so that the STATUS AUDIO indicator CH1 lights up at –20 dB (NTSC model) or –18 dB (PAL model).
3) Check that the 1 kHz signal level is the specified value.

4. INPUT2 LINE Check

Mode	CAMERA mode
Signal	1 kHz, +4 dBu signal: XLR terminal (AUDIO INPUT2 (R))
Measurement Point	Audio R terminal of AUDIO OUT jack (CH2)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–12 dBs to –8 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms
Note 3: In this check, AUDIO LEVEL dial must be in the maximum position.

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT2 switch ..... LINE
2) CH2 switch ..... MAN
3) AUDIO MONITOR switch CH1/2
4) MENU/STATUS switch ..... STATUS

Checking method:
1) Input 1 kHz, +4 dBu signal in the XLR terminal (AUDIO INPUT2 (R)).
2) Increase gradually the REC-LEVEL VOL CH2 to adjust so that the STATUS AUDIO indicator CH2 lights up at –20 dB (NTSC model) or –18 dB (PAL model).
3) Check that the 1 kHz signal level is the specified value.

5. INPUT3 LINE Check

Mode	CAMERA mode
Signal	1 kHz, +4 dBu signal: XLR terminal (AUDIO INPUT3)
Measurement Point	Audio L terminal of AUDIO OUT jack (CH3)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–12 dBs to –8 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms
Note 3: In this check, AUDIO LEVEL dial must be in the maximum position.

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT3 switch ..... LINE
2) CH3 switch ..... MAN
3) AUDIO MONITOR switch CH3/4
4) MENU/STATUS switch ..... STATUS

Checking method:
1) Input 1 kHz, +4 dBu signal in the XLR terminal (AUDIO INPUT3).
2) Increase gradually the REC-LEVEL VOL CH3 to adjust so that the STATUS AUDIO indicator CH3 lights up at –20 dB (NTSC model) or –18 dB (PAL model).
3) Check that the 1 kHz signal level is the specified value.

6. INPUT4 LINE Check

Mode	CAMERA mode
Signal	1 kHz, +4 dBu signal: XLR terminal (AUDIO INPUT4)
Measurement Point	Audio R terminal of AUDIO OUT jack (CH4)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–12 dBs to –8 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms
Note 3: In this check, AUDIO LEVEL dial must be in the maximum position.

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT4 switch ..... LINE
2) CH4 switch ..... MAN
3) AUDIO MONITOR switch CH3/4
4) MENU/STATUS switch ..... STATUS

Checking method:
1) Input 1 kHz, +4 dBu signal in the XLR terminal (AUDIO INPUT4).
2) Increase gradually the REC-LEVEL VOL CH4 to adjust so that the STATUS AUDIO indicator CH4 lights up at –20 dB (NTSC model) or –18 dB (PAL model).
3) Check that the 1 kHz signal level is the specified value.

7. INPUT1 MIC Check

Mode	CAMERA mode
Signal	1 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT1 (L))
Measurement Point	Audio L terminal of AUDIO OUT jack (CH1)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–12 dBs to –8 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT1 switch ..... MIC
2) CH1 switch ..... MAN
3) AUDIO MONITOR switch CH1/2
4) MENU/STATUS switch ..... STATUS

Checking method:
1) Input 1 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT1 (L)).
2) Increase gradually the REC-LEVEL VOL CH1 to adjust so that the STATUS AUDIO indicator CH1 lights up at –20 dB (NTSC model) or -18 dB (PAL model).
3) Check that the 1 kHz signal level is the specified value.

8. INPUT2 MIC Check

Mode	CAMERA mode
Signal	1 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT2 (R))
Measurement Point	Audio R terminal of AUDIO OUT jack (CH2)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–12 dBs to –8 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT2 switch ..... MIC
2) CH2 switch ..... MAN
3) AUDIO MONITOR switch CH1/2
4) MENU/STATUS switch ..... STATUS

Checking method:
1) Input 1 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT2 (R)).
2) Increase gradually the REC-LEVEL VOL CH2 to adjust so that the STATUS AUDIO indicator CH2 lights up at –20 dB (NTSC model) or –18 dB (PAL model).
3) Check that the 1 kHz signal level is the specified value.

9. INPUT3 MIC Check

Mode	CAMERA mode
Signal	1 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT3)
Measurement Point	Audio L terminal of AUDIO OUT jack (CH3)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–12 dBs to –8 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT3 switch ..... MIC
2) CH3 switch ..... MAN
3) AUDIO MONITOR switch CH3/4
4) MENU/STATUS switch ..... STATUS

Checking method:
1) Input 1 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT3).
2) Increase gradually the REC-LEVEL VOL CH3 to adjust so that the STATUS AUDIO indicator CH3 lights up at –20 dB (NTSC model) or –18 dB (PAL model).
3) Check that the 1 kHz signal level is the specified value.

10. INPUT4 MIC Check

Mode	CAMERA mode
Signal	1 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT4)
Measurement Point	Audio R terminal of AUDIO OUT jack (CH4)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–12 dBs to –8 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT4 switch ..... MIC
2) CH4 switch ..... MAN
3) AUDIO MONITOR switch CH3/4
4) MENU/STATUS switch ..... STATUS

Checking method:
1) Input 1 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT4).
2) Increase gradually the REC-LEVEL VOL CH4 to adjust so that the STATUS AUDIO indicator CH4 lights up at –20 dB (NTSC model) or –18 dB (PAL model).
3) Check that the 1 kHz signal level is the specified value.

11. INPUT1 MIC ATT Check

Mode	CAMERA mode
Signal	1 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT1 (L))
Measurement Point	Audio L terminal of AUDIO OUT jack (CH1)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value (INPUT1 TRIM: –12 dB)	–24 dBs to –20 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT1 switch ..... MIC
2) CH1 switch ..... MAN
3) AUDIO MONITOR switch CH1/2

Checking method:
1) Input 1 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT1 (L)).
2) Set the INPUT1 TRIM (AUDIO SET menu: XLR SET) to "–12dB".
3) Set the REC-LEVEL VOL CH1 to the position adjusted in "7. INPUT1 MIC Check".
4) Check that the 1 kHz signal level is the specified value.
5) Set the INPUT1 TRIM (AUDIO SET menu: XLR SET) to "0dB".

12. INPUT2 MIC ATTCheck

Mode	CAMERA mode
Signal	1 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT2 (R))
Measurement Point	Audio R terminal of AUDIO OUT jack (CH2)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value (INPUT2 TRIM: –12 dB)	–24 dBs to –20 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT2 switch ..... MIC
2) CH2 switch ..... MAN
3) AUDIO MONITOR switch CH1/2

Checking method:
1) Input 1 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT2 (R)).
2) Set the INPUT2 TRIM (AUDIO SET menu: XLR SET) to "–12dB".
3) Set the REC-LEVEL VOL CH2 to the position adjusted in "8. INPUT2 MIC Check".
4) Check that the 1 kHz signal level is the specified value.
5) Set the INPUT2 TRIM (AUDIO SET menu: XLR SET) to "0dB".

13. INPUT3 MIC ATT Check

Mode	CAMERA mode
Signal	1 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT3)
Measurement Point	Audio L terminal of AUDIO OUT jack (CH3)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value (INPUT3 TRIM: –12 dB)	–24 dBs to –20 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT3 switch ..... MIC
2) CH3 switch ..... MAN
3) AUDIO MONITOR switch CH3/4

Checking method:
1) Input 1 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT3).
2) Set the INPUT3 TRIM (AUDIO SET menu: XLR SET) to "–12dB".
3) Set the REC-LEVEL VOL CH3 to the position adjusted in "9. INPUT3 MIC Check".
4) Check that the 1 kHz signal level is the specified value.
5) Set the INPUT3 TRIM (AUDIO SET menu: XLR SET) to "0dB".

14. INPUT4 MIC ATT Check

Mode	CAMERA mode
Signal	1 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT4)
Measurement Point	Audio R terminal of AUDIO OUT jack (CH4)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value (INPUT4 TRIM: –12 dB)	–24 dBs to –20 dBs

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Menu setting
1) HDV 2CH/4CH (AUDIO SET menu) 4CH

Switch setting
1) INPUT4 switch ..... MIC
2) CH4 switch ..... MAN
3) AUDIO MONITOR switch CH3/4

Checking method:
1) Input 1 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT4).
2) Set the INPUT4 TRIM (AUDIO SET menu: XLR SET) to "–12dB".
3) Set the REC-LEVEL VOL CH4 to the position adjusted in "10. INPUT4 MIC Check".
4) Check that the 1 kHz signal level is the specified value.
5) Set the INPUT4 TRIM (AUDIO SET menu: XLR SET) to "0dB".

15. REC CH SELECT Check

Mode	CAMERA mode
Signal	1 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT1 (L)) 2 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT2 (R)) 3 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT3) 4 kHz, –48 dBu signal: XLR terminal (AUDIO INPUT4)
Measurement Point	Audio L and R terminal of AUDIO OUT jack (CH1, CH2)
Measuring Instrument	Oscilloscope
Specified value	The REC CH SELECT switch must operate normally.

Note: 0 dBu = 0.775 Vrms/balance

Menu setting

1) HDV 2CH/4CH (AUDIO SET menu) 2CH

Switch setting

1) INPUT1 switch ..... MIC
2) INPUT2 switch ..... MIC
3) INPUT3 switch ..... MIC
4) INPUT4 switch ..... MIC
5) REC CH SELECT CH1 switch ..... IN1 or IN3
6) REC CH SELECT CH2 switch ..... IN2 or IN1_IN3 or IN4
7) AUDIO MONITOR switch CH1/2
8) CH1 switch (RECORDING LEVEL) ..... AUTO
9) CH2 switch (RECORDING LEVEL) ..... AUTO

Checking method:

1) Input 1 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT1 (L)).
2) Input 2 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT2 (R)).
3) Input 3 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT3).
4) Input 4 kHz, –48 dBu signal in the XLR terminal (AUDIO INPUT4).
5) Operate the REC CH SELECT switch to check the input operations of (A) to (F) mentioned below.

Operation (A) Audio L (CH1): Outputs INPUT1 1 kHz signal
Audio R (CH2): Outputs INPUT2 2 kHz signal
Operation (B) Audio L (CH1): Outputs INPUT3 3 kHz signal
Audio R (CH2): Outputs INPUT4 4 kHz signal
Operation (C) Audio L (CH1): Outputs INPUT1 1 kHz signal
Audio R (CH2): Outputs INPUT1 1 kHz signal
Operation (D) Audio L (CH1): Outputs INPUT3 3 kHz signal
Audio R (CH2): Outputs INPUT3 3 kHz signal
Operation (E) Audio L (CH1): Outputs INPUT1 1 kHz signal
Audio R (CH2): Outputs INPUT4 4 kHz signal
Operation (F) Audio L (CH1): Outputs INPUT3 3 kHz signal
Audio R (CH2): Outputs INPUT2 2 kHz signal

Operation (A) REC CH SELECT CH1 switch...IN1
REC CH SELECT CH2 switch...IN2
Operation (B) REC CH SELECT CH1 switch...IN3
REC CH SELECT CH2 switch...IN4
Operation (C) REC CH SELECT CH1 switch...IN1
REC CH SELECT CH2 switch...IN1_IN3
Operation (D) REC CH SELECT CH1 switch...IN3
REC CH SELECT CH2 switch...IN1_IN3
Operation (E) REC CH SELECT CH1 switch...IN1
REC CH SELECT CH2 switch...IN4
Operation (F) REC CH SELECT CH1 switch...IN3
REC CH SELECT CH2 switch...IN2

16. Playback Level Check (1)

Mode	VCR mode
Signal	Alignment tape: For audio check (HX5-3 (NTSC))
Measurement Point	Audio L and R terminal of AUDIO OUT jack (CH1, CH2)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	32 kHz mode section: 1 kHz signal must be outputted. 48 kHz mode section: 1 kHz signal level is +8 to +12 dBs 44.1 kHz mode EMP ON section: 7.35 kHz signal level is +2 to +6 dBs 44.1 kHz mode EMP OFF section: 7.35 kHz signal level is +8 to +12 dBs

Note: 0 dBs = 0.775 Vrms

Menu setting

1) VCR HDV/DV (IN/OUT REC menu) ..... AUTO

Switch setting

1) AUDIO MONITOR switch CH1/2

Checking method:

1) Check that the playback signal level on CH1 satisfies the specified value.
2) Observing the output waveform on CH1 with the oscilloscope, check that no clip is found.
3) For the CH2 perform checking in the same manner.

17. Playback Level Check (2)

Mode	VCR mode
Signal	Alignment tape: For audio check (HX5-3P (PAL))
Measurement Point	Audio L and R terminal of AUDIO OUT jack (CH1, CH2)
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	32 kHz mode section: 1 kHz signal must be outputted. 48 kHz mode section: 1 kHz signal level is +6 to +10 dBs 44.1 kHz mode EMP ON section: 7.35 kHz signal level is 0 to +4 dBs 44.1 kHz mode EMP OFF section: 7.35 kHz signal level is +6 to +10 dBs

Note: 0 dBs = 0.775 Vrms

Menu setting

1) VCR HDV/DV (IN/OUT REC menu) ..... AUTO

Switch setting

1) AUDIO MONITOR switch CH1/2

Checking method:

1) Check that the playback signal level on CH1 satisfies the specified value.
2) Observing the output waveform on CH1 with the oscilloscope, check that no clip is found.
3) For the CH2 perform checking in the same manner.

18. Recording and Playing Check

Mode	CAMERA and VCR mode
Signal	Test tone generation 1 kHz, –20 dBFS signal (NTSC model) 1 kHz, –18 dBFS signal (PAL model)
Measurement Point	Audio L and R terminal of AUDIO OUT jack (CH1, CH2, CH3, CH4)
Measuring Instrument	Oscilloscope
Specified value	No abnormality in played back sounds

Menu setting

1) COLOR BAR (CAMERA SET menu (CAMERA mode))
   TONE ..... ON
2) HDV 2CH/4CH (AUDIO SET menu
   (CAMERA mode)) 4CH
3) VCR HDV/DV (IN/OUT REC menu (VCR mode)) ... AUTO

Switch setting

1) OUTPUT switch ..... BARS

Note: After the tape recording finished, return the switch to CAM.

2) AUDIO MONITOR switch ..... CH1/2 or CH3/4

Checking method:

1) Record the test tone.
2) Playback the recorded section.
3) Set the AUDIO MONITOR switch to CH1/2. Observe the output waveform of CH1 at Audio L terminal with oscilloscope to check that no abnormality is found in the played back sounds.
4) Observe the output waveform of CH2 at from Audio R terminal, perform checking in the same manner.
5) Set the AUDIO MONITOR switch to CH3/4. Observe the output waveform of CH3 at from Audio L terminal, perform checking in the same manner.
6) Observe the output waveform of CH4 at from Audio R terminal, perform checking in the same manner.

3-6. TIME CODE SYSTEM ADJUSTMENTS

Set the switches to the following positions unless otherwise specified.

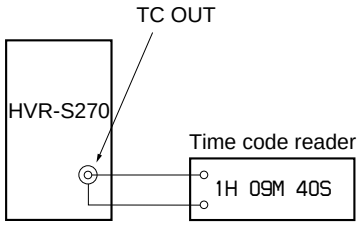
1. Time Code Output Check

Mode	VTR playback (VCR mode)
Signal	Time code recorded tape
Measurement point	Counter value of timer code reader
Measuring instrument	
Specified value	The counter value on the LCD panel must be same as the value indicated on the time code reader.

Switch setting

TC/U-BIT button ..... TC

Connection of equipment



Checking method:

1) Connect the time code reader (such as DSR-45) to the TC OUT terminal.
2) Check that the counter value on the LCD panel is same as the value indicated on the time code reader.

6-4. SERVICE MODE

4-1. ADJUSTMENT REMOTE COMMANDER (RM-95)

The adjustment remote commander (RM-95) is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjustment remote commander (RM-95) performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the Adjustment Remote Commander (RM-95)

1) Connect the adjustment remote commander to the LANC terminal.
2) Set the HOLD switch of the adjustment remote commander (RM-95) to "HOLD" (SERVICE position). If it has been properly connected, the LCD on the adjustment remote commander (RM-95) will display as shown in Fig. 6-4-1.

Fig. 6-4-1

3) Operate the adjustment remote commander (RM-95) as follows.
   - Changing the page
     The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH– button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0 1 2 3 4 5 6 7 8 9 A B C D E F
LCD Display	0 1 2 3 4 5 6 7 8 9 A b c d E F
Decimal notation conversion value	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

   - Changing the address
     The address increases when the FF (►►) button is pressed, and decreases when the REW (◄◄) button is pressed. There are altogether 256 addresses, from 00 to FF.
   - Changing the data (Data setting)
     The data increases when the PLAY (►) button is pressed, and decreases when the STOP (■) button is pressed. There are altogether 256 data, from 00 to FF.
   - Writing the adjustment data
     The PAUSE button must be pressed to write the adjustment data in the nonvolatile memory. (The new adjusting data will not be recorded in the nonvolatile memory if this step is not performed)
4) After completing all adjustments, turn off the main power supply (8.4 V) once.

2. Precautions Upon Using the Adjustment Remote Commander (RM-95)

Mishandling of the adjustment remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

4-2. ADJUSTMENT REMOTE COMMANDER (NEW LANC JIG)

The adjustment remote commander (New LANC Jig) is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjustment remote commander (New LANC Jig) performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the Adjustment Remote Commander (New LANC Jig))

1) Connect the adjustment remote commander (New LANC Jig) to the LANC terminal via the LANC cable (J-6082-442-A).
2) Set the slide switch of the adjustment remote commander (New LANC Jig) to "SERVICE" (SERVICE position). If it has been properly connected, the LCD on the adjustment remote commander (New LANC Jig) will display as shown in Fig. 6-4-2.

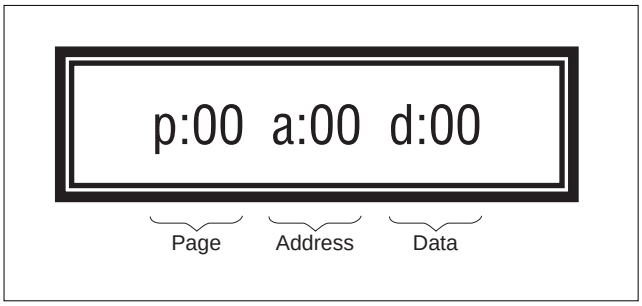


Fig. 6-4-2

3) Operate the adjustment remote commander (New LANC Jig) as follows.
   - Changing the page
     The page increases when the Page+ (►►) button is pressed, and decreases when the Page– (◄◄) button is pressed.
   - Changing the address
     The address increases when the ADD+ (►) button is pressed, and decreases when the ADD– (❚❚) button is pressed. There are altogether 256 addresses, from 00 to FF.
   - Changing the data (Data setting)
     The data increases when the Data+ button is pressed, and decreases when the Data– button is pressed. There are altogether 256 data, from 00 to FF.
   - Writing the adjustment data
     The Write (■) button must be pressed to write the adjustment data in the nonvolatile memory. (The new adjusting data will not be recorded in the nonvolatile memory if this step is not performed)
4) After completing all adjustments, turn off the main power supply (8.4 V) once.

2. Precautions Upon Using the Adjustment Remote Commander (New LANC Jig)

Mishandling of the adjustment remote commander (New LANC Jig) may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

4-3. DATA PROCESS

The calculation of the DDS display and the adjustment remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Indicates the hexadecimal-decimal conversion table.

Hexadecimal-decimal Conversion Table

Upper digit of hexadecimal \ Lower digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	D (d)	E (E)	F (F)
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
① B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

② (above the D (d) column)

Note: The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.

(Example) If the DDS display or the adjustment remote commander shows BD (bd);
Because the upper digit of the adjustment number is B (b), and the lower digit is D (d), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

Table 6-4-1

4-4. SERVICE MODE

Note: Before performing the adjustment, check the data of page: 0, address: 10 is “00”. If not, select page: 0, address: 00, and set data “00”.

1. Setting the Test Mode

Page A	Address 10

Data	Function
00	Normal
01	Forced camera power ON (CAMERA mode)
02	Forced VTR power ON (VCR mode)
03	Forced camera + VTR power ON

- Before setting the data , select page: 0, address: 01, and set data: 01.
- For page A, the data set will be recorded in the non-volatile memory by pressing the PAUSE (Write) button of the adjustment remote commander. In this case, take note that the test mode will not be exited even when the main power is turned off (8.4 Vdc).
- After completing adjustments/repairs, be sure to return the data of this address to 00, and press the PAUSE (Write) button of the adjustment remote commander. And select page: 0, address: 01, and set data: 00.

2. Emergence Memory Address

2-1. Emergence Memory Address (Mechanism section)

Page C	Address F4 to FF

Address	Contents
F4	EMG code when first error occurs
F6	Upper: MSW code when shift starts when first error occurs Lower: MSW code when first error occurs
F7	Lower: MSW code to be moved when first error occurs
F8	EMG code when second error occurs
FA	Upper: MSW code when shift starts when second error occurs Lower: MSW code when second error occurs
FB	Lower: MSW code to be moved when second error occurs
FC	EMG code when last error occurs
FE	Upper: MSW code when shift starts when last error occurs Lower: MSW code when last error occurs
FF	Lower: MSW code to be moved when last error occurs

When no error occurs in this unit, data “00” is written in the above addresses (F4 to FF). when first error occurs in the unit, the data corresponding to the error is written in the first emergency address (F4 to F7). In the same way, when the second error occurs, the data corresponding to the error is written in the second emergency address (F8 to FB).
Finally, when the last error occurs, the data corresponding to the error is written in the last emergency address (FC to FF).

Note: After completing adjustments, be sure to initialize the data of addresses F4 to FF to “00”.

Initializing method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	3	03	FF	
4	3	01	37	Press PAUSE (Write) button.
5	3	02		Check the data changes to “00”.
6	3	03		Check the data changes to “00”.
7	3	70	10	Press PAUSE (Write) button.
8	3	70		Check the data changes to “11”.
9	0	01	01	

2-2. EMG Code (Emergency Code)

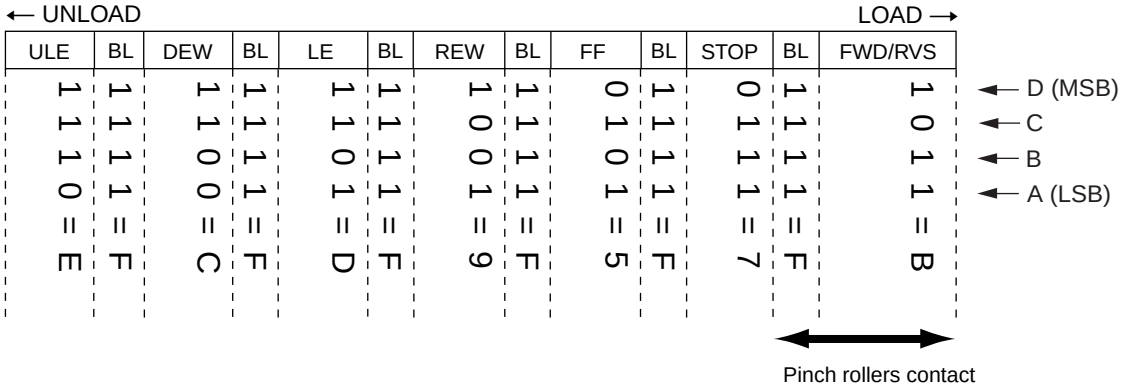
Codes corresponding to the errors which occur are written in C page, addresses F4, F8 and FC . The type of error indicated by the code are shown in the following table.

Code	Emergency Type
00	No error
10	Loading motor emergency during loading
11	Loading motor emergency during unloading
22	T reel emergency during normal rotation
23	S reel emergency during normal rotation
24	T reel emergency (Short circuit between S reel terminal and T reel terminal)
30	FG emergency at the start up of the capstan
40	FG emergency at the start up of the drum
42	FG emergency during normal rotation of the drum

2-3. MSW Code

MSW when an alarm occurred: MSW (Mode Switch) information when an alarm occurred.
MSW when a transition starts: MSW information when the mechanism position starts to move (if L motor runs).
MSW of target destination: MSW information of target position if the mechanism position moves.

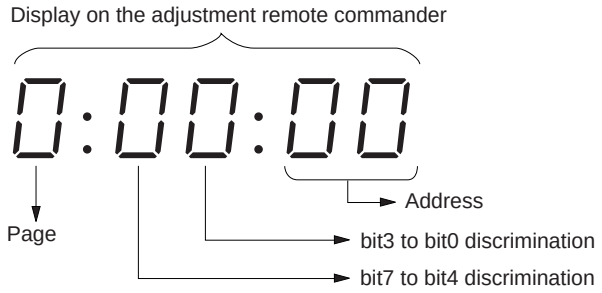
Mechanism position



Mechanism position	MSW code	Description
ULE	E	Unload end position. The mechanism stops at this position when it ejects a cassette. It waits for cassette insertion. The guide starts to expand as it advances to the load position.
BL	F	Blank code. It is provided between code and code. The mechanism does not stop at this code (excluding Load/Unload).
DEW	C	Code during loading.
LE	D	Load end position of tape guide.
REW	9	Position of REW operation. The pinch rollers are released.
FF	5	Position of FF operation. The pinch rollers are released.
STOP	7	Stop position. The pinch rollers are released, the tension regulator returns, and the brake is applied to both reels.
FWD/RVS	B	PB, REC, CUE, REVIEW, and PAUSE positions. The mechanism operates at this position in the mode where normal screen appears with the pinch rollers in contact state and the tension regulator turned on.
NULL	0	Code not existing in MD. Default value.

3. Bit Value Discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for the following items. Us the table below to discriminate if the bit value is “1” or “0”.



(Example) If the remote commander display is “8E”, bit value from bit 7 to bit 4 can be discriminated from the column Ⓐ, and those from bit 3 to bit 0 from column Ⓑ.

	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A (A)	1	0	1	0
	B (b)	1	0	1	1
	C (C)	1	1	0	0
	D (d)	1	1	0	1
Ⓑ	E (E)	1	1	1	0
	F (F)	1	1	1	1

4. Switch Check (1)

Page 2	Address 81

Bit	Function	When bit value = 1	When bit value = 0
0	POWER (PW-135 board S6802)	ON	OFF
1	CAMERA/VCR (PW-135 board S6801)	CAMERA	VCR
3	EJECT (EJ-040 board S9101)	ON	OFF
4			
5	DISPLAY (LS-071 board S7808)	ON	OFF

Using method:

1) Select page: 2, address: 81.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

5. Switch Check (2)

Page 3	Address 62

Bit	Function	When bit value = 1	When bit value = 0
7	CC DOWN (Mechanism chassis)	ON (DOWN)	OFF (UP)

Using method:

1) Select page: 3, address: 62.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

6. Switch Check (3)

Page 7	Address 48

Bit	Function	When bit value = 1	When bit value = 0
0	TALLY (EV-018 board S9002)	OFF	ON
1	LIGHT MAN/AUTO (SH-029 board S5101)	AUTO	MAN
2		MAN	AUTO

Using method:

1) Select page: 7, address: 48.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

7. Switch Check (4)

Page 7	Address 4A

Bit	Function	When bit value = 1	When bit value = 0
4	AUDIO LEVEL DISPLAY (LC-094 board S8101)	CH1/ 2	CH3/4
5	PEAKING (EV-018 board S9001)	OFF	ON

Using method:
1) Select page: 7, address: 4A.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

8. Switch Check (5)

Page 7	Address 4D

Bit	Function	When bit value = 1	When bit value = 0
7	CH1 (SW-514 board S6403)	AUTO	MAN

Using method:
1) Select page: 7, address: 4D.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

9. Switch Check (6)

Page 7	Address 4E

Bit	Function	When bit value = 1	When bit value = 0
0	CH2 (SW-514 board S6405)	AUTO	MAN
2	CH3 (SW-514 board S6408)	AUTO	MAN
3	CH4 (SW-514 board S6411)	AUTO	MAN

Using method:
1) Select page: 7, address: 4E.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

10. Switch Check (7)

Page 7	Address 4F

Bit	Function	When bit value = 1	When bit value = 0
1	VIDEO OUT (EV-018 board S9004)	COMPOSITE	LCD

Using method:
1) Select page: 7, address: 4F.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

11. Switch Check (8)

Page 7	Address 50

Bit	Function	When bit value = 1	When bit value = 0
0	REC START/STOP (HANDLE) (GZ92000 block S001)	OFF	ON
1	REC START/STOP (FRONT) (FS-088 board S8901)	OFF	ON

Using method:
1) Select page: 7, address: 50.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

12. Switch Check (9)

Page 7	Address 52

Bit	Function	When bit value = 1	When bit value = 0
2	MONITOR SELECT (SW-514 board S6402)	OFF	ON

Using method:
1) Select page: 7, address: 52.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

13. Switch Check (10)

Page 7	Address 53

Bit	Function	When bit value = 1	When bit value = 0
0	REC CH SELECT CH1 (SW-514 board S6410)	IN1	IN3

Using method:
1) Select page: 7, address: 53.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

14. Switch Check (11)

Page 7	Address 53

Function		bit value	
		bit 2	bit 1
REC CH SELECT CH2 (SW-514 board S6412)	IN1, IN3	0	0
	IN2	0	1
	IN4	1	0

Using method:
1) Select page: 7, address: 53.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

15. Switch Check (12)

Page 7	Address 54

Function		bit value	
		bit 7	bit 6
AUDIO MONITOR (SW-514 board S6401)	CH1/2	1	0
	MIX	1	1
	CH3/4	0	1

Using method:
1) Select page: 7, address: 54.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

16. Switch Check (13)

Page 7	Address 54

Bit	Function	When bit value = 1	When bit value = 0
0	INPUT 1 (SW-514 board S6404)	MIC+48V	LINE or MIC
1	INPUT 2 (SW-514 board S6406)	MIC+48V	LINE or MIC
2	INPUT 3 (SW-514 board S6407)	MIC+48V	LINE or MIC
3	INPUT 4 (SW-514 board S6409)	MIC+48V	LINE or MIC

Page 7	Address 52

Bit	Function	When bit value = 1	When bit value = 0
4	INPUT 1 (SW-514 board S6404)	LINE	MIC or MIC+48
5	INPUT 2 (SW-514 board S6406)	LINE	MIC or MIC+48
6	INPUT 3 (SW-514 board S6407)	LINE	MIC or MIC+48
7	INPUT 4 (SW-514 board S6409)	LINE	MIC or MIC+48

Using method:

1) Select page: 7, address: 54 or 52.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

17. Switch Check (14)

Page 16	Address 6A

Using method:

1) Select page: 0, address: 10, and set data: 01.
2) Select page: 6 (16), address: 69, and set data: 03.
3) Select page: 6 (16), address: 6A.
4) By discriminating the bit value of display data, the state of switch can be discriminated.

Bit	Function	When bit value = 1	When bit value = 0
4	ZOOM switch (Lens block)	MANUAL	SERVO

5) Select page: 6 (16), address: 69, and set data: 00
6) Select page: 0, address: 10, and set data: 00.

18. Switch Check (15)

Page 7	Address 63 to 6B

Note: Check that the data of page: 0, address: 10 is “00”.

Using method:

1) Select page: 7, address: 63 to 6B.
2) By discriminating the display data, the pressed key can be discriminated.

Address	Data							
	00 to 0C	0D to 27	32 to 3A	4F to 58	73 to 7B	8B to B7	B8 to E6	E7 to FF
63 (KEY AD7) (VC-513) (IC3601 Ⓑ5)	SEL/ PUSH EXEC (KR-001) (S8501)	MENU (TN-002) (S5904)	–	–	–	OUTPUT BARS (TN-002) (S5902)	OUTPUT CAM/ DCC ON (TN-002) (S5902)	OUTPUT CAM (TN-002) (S5902)
64 (KEY AD8) (VC-513) (IC3601 Ⓐ3)	ASSIGN 1 (SB-040) (S6601)	ASSIGN 2 (SB-040) (S6602)	ASSIGN 3 (SB-040) (S6603)	ASSIGN 4 /ZEBRA (SB-040) (S6604)	ASSIGN 5 /AE SHIFT (SB-040) (S6605)	ASSIGN 6 /STEADYSHOT (SB-040) (S6606)	CAMERA MODE AUTO (SB-040) (S6610)	CAMERA MODE MANUAL (SB-040) (S6610)
65 (KEY AD0) (VC-513) (IC3601 Ⓒ5)	STOP (PB-001) (S6901)	REW (PB-001) (S6902)	REC (PB-001) (S6910, S6911)	PLAY (PB-001) (S6903)	FF (PB-001) (S6904)	SLOW (PB-001) (S6906)	ATW ON (SB-040) (S6609)	ATW OFF (SB-040) (S6609)
66 (KEY AD1) (VC-513) (IC3601 Ⓑ3)	–	SHOT TRANSITION/ FOCUS MARKING (SH-029) (S5102)	SHOT TRANSITION/ FOCUS MARKING A (SH-029) (S5103)	SHOT TRANSITION/ FOCUS MARKING B (SH-029) (S5104)	LCD BRIGHT + (LS-071) (S7804)	LCD BRIGHT – (LS-071) (S7806)	PANEL CLOSE (FP-783 flexible) (IC670)	PANEL OPEN (FP-783 flexible) (IC670)
67 (KEY AD2) (VC-513) (IC3601 Ⓑ4)	–	MEMORY/ PLAY (LS-071) (S7801)	MEMORY/ INDEX (LS-071) (S7802)	MEMORY/ DELET (LS-071) (S7803)	MEMORY + (LS-071) (S7805)	MEMORY – (LS-071) (S7807)	PANEL REVERS (RV-003) (S6701)	PANEL NORMAL (RV-003) (S6701)
68 (KEY AD3) (VC-513) (IC3601 Ⓓ2)	–	WHT (FS-088) (S8902)	BLK (FS-088) (S8902)	–	–	SHUTTER SEL (FS-088) (S8903)	SHUTTER OFF (FS-088) (S8903)	SHUTTER ON (FS-088) (S8903)
69 (KEY AD4) (VC-513) (IC3601 Ⓔ2)	PAUSE (PB-001) (S6905)	DATA CODE (PB-001) (S6907)	REVIEW (PB-001) (S6908)	CUE (PB-001) (S6909)	TC/ U-BIT (LC-094) (S8103)	–	AGC ON (SB-040) (S6608)	AGC OFF (SB-040) (S6608)
6A (KEY AD5) (VC-513) (IC3601 Ⓔ1)	–	–	–	–	–	GAIN H (TN-002) (S5901)	GAIN L (TN-002) (S5901)	GAIN M (TN-002) (S5901)
6B (KEY AD6) (VC-513) (IC3601 Ⓒ2)	PICTURE PROFILE (SB-040) (S6607)	STATUS (TN-002) (S5904)	–	–	–	WHT BAL PRST (TN-002) (S5903)	WHT BAL B (TN-002) (S5903)	WHT BAL A (TN-002) (S5903)

19. Switch Check (16)

Page 6, 16	Address 6A

Note: Check that the data of page: 0, address: 10 is “00”.

Using method 1:
1) Select page: 6, address: 69, and set data: 01.
2) Select page: 6, address: 6A.
3) By discriminating the display data, the pressed key can be discriminated.

Address	Data							
	00 to 0C	0D to 27	32 to 3A	4F to 58	73 to 7B	8B to B7	B8 to E6	E7 to FF
6A (BODY AD) (VC-513) (IC4201 ㉙)	–	–	–	–	–	HANDLE ZOOM OFF (TO-001) (S5801)	HANDLE ZOOM FIX (TO-001) (S5801)	HANDLE ZOOM VAR (TO-001) (S5801)

4) Select page: 6, address: 69, and set data: 00

Using method 2:
1) Select page: 0, address: 10, and set data: 01.
2) Select page: 6 (16), address: 69, set the following data.
   01: (LENS AD1)
   02: (LENS AD2)
3) Select page: 6 (16), address: 6A.
4) By discriminating the display data, the pressed key can be discriminated.

Address	Data							
	00 to 0C	0D to 27	32 to 3A	4F to 58	73 to 7B	8B to B7	B8 to E6	E7 to FF
6A (LENS AD1) (LG-005) (IC6001 ㉙)	REC START/STOP (LZ92000 block) (S002)	–	–	–	–	–	–	No key input
6A (LENS AD2) (LG-005) (IC6001 ㉘)	IRIS PUSH AUTO (LZ92000 block) (S004)	REC REVIEW/L2 (LZ92000 block) (S001)	DIGITAL EXTENDER/ L1 (Lens block)	–	–	–	IRIS AUTO (LZ92000 block) (S003)	IRIS MANUAL (LZ92000 block) (S003)

5) Select page: 6 (16), address: 69, and set data: 00
6) Select page: 0, address: 10, and set data: 00.

20. Switch Check (17)

Page 16	Address 6A

Using method:
1) Select page: 0, address: 10, and set data: 01.
2) Select page: 6 (16), address: 69, and set data: 03.
3) Select page: 6 (16), address: 6A.
4) By discriminating the bit value of display data, the state of switch can be discriminated.

Bit	Function	When bit value = 1	When bit value = 0
0	Focus ring (Lens block)	Mode A	Mode B

5) Select page: 6 (16), address: 69, and set data: 00
6) Select page: 0, address: 10, and set data: 00.

21. Dial Check (1)

Page 3	Address 43

Function		Data
AUDIO LEVEL	MIN	00
(FS-088 board RV8901)	MAX	03

Using method:
1) Select page: 3, address: 43. (Note)
2) By discriminating the display data, the state of dial can be discriminated.

Note: In this dial check, CH1 dial must be in the maximum position.

22. Dial Check (2)

Page 3	Address 42 to 45, 6C to 6F

Address	Data	
	00	03
42 (Note)	CH1 dial : MIN (SW-514 board RV6401)	–
43 (Note)	—	CH1 dial : MAX (SW-514 board RV6401)
44	CH2 dial : MIN (SW-514 board RV6402)	–
45	—	CH2 dial : MAX (SW-514 board RV6402)
6C	CH3 dial : MIN (SW-514 board RV6403)	–
6D	—	CH3 dial : MAX (SW-514 board RV6403)
6E	CH4 dial : MIN (SW-514 board RV6404)	–
6F	—	CH4 dial : MAX (SW-514 board RV6404)

Using method:
1) Select page: 3, address: 42 to 45, 6C to 6F.
2) By discriminating the display data, the state of dial can be discriminated.

Note: In this dial check, AUDIO LEVEL dial must be in the maximum position.

23. LED Check

Page 7	Address 00, 01 and 04

Note: Check that the data of page: 0, address: 10 is “00”.

Switch setting

1) TALLY ..... ON

Using method:

Order	Page	Address	Data	Procedure
1				Set the unit to CAMERA mode.
2	7	01	90	
3	7	02	FF	
4	7	04	01	
5	7	00	01	Press PAUSE (Write) button.
6	7	02		Check the data changes to “01”.
7				Check that the following LED are lit. • Front recording lamp • Rear recording lamp • SHOT TRANSITION STORE • SHOT TRANSITION CHECK • SHOT TRANSITION EXEC • AUDIO MONITOR (CH1 to CH4) • WARNING • ATW • AGC • CAMERA MODE
8	7	01	90	
9	7	02	FF	
10	7	04	00	
11	7	00	01	Press PAUSE (Write) button.
12	7	02		Check the data changes to “01”.
13	7	00	00	
14	7	01	00	

24. Record of Use Check (1)

Page 7	Address A4 to AF

Note 1: This data will not be erased (reset) when the lithium 3 V power supply (SW-514 board BT6401) is removed.
Note 2: When the drum was replaced, initialize the drum rotation counted time.
Note 3: Check that the data of page: 0, address: 10 is “00”.

Address	Function		Remarks
A4	Power supplying	Hour (H)	100000th place digit and 10000th place digit of counted time (decimal digit)
A5	time	Hour (M)	1000th place digit and 100th place digit of counted time (decimal digit)
A6		Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
A7	(BCD code)	Minute	
A8	Drum rotation	Hour (H)	100000th place digit and 10000th place digit of counted time (decimal digit)
A9	counted time	Hour (M)	1000th place digit and 100th place digit of counted time (decimal digit)
AA		Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
AB	(BCD code)	Minute	
AC	Tape run time	Hour (H)	100000th place digit and 10000th place digit of counted time (decimal digit)
AD		Hour (M)	1000th place digit and 100th place digit of counted time (decimal digit)
AE		Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
AF	(BCD code)	Minute	

Using method:
1) The record of use data is displayed at page: 7, addresses: A4 to AF.

Initializing method:

Order	Page	Address	Data	Procedure
1	7	A4	00	Press PAUSE (Write) button.
2	7	A5	00	Press PAUSE (Write) button.
3	7	A6	00	Press PAUSE (Write) button.
4	7	A7	00	Press PAUSE (Write) button.
5	7	A8	00	Press PAUSE (Write) button.
6	7	A9	00	Press PAUSE (Write) button.
7	7	AA	00	Press PAUSE (Write) button.
8	7	AB	00	Press PAUSE (Write) button.
9	7	AC	00	Press PAUSE (Write) button.
10	7	AD	00	Press PAUSE (Write) button.
11	7	AE	00	Press PAUSE (Write) button.
12	7	AF	00	Press PAUSE (Write) button.

25. Record of Use Check (2)

Page 7	Address 90 to 95

Note 1: This data will not be erased (reset) when the lithium 3 V power supply (SW-514 board BT6401) is removed.
Note 2: When the drum was replaced, initialize the drum rotation counted time.
Note 3: Check that the data of page: 0, address: 10 is "00".

Address	Function		Remarks
90	Eject count with tape	Count (H)	100000th place digit and 10000th place digit of Eject count (decimal digit)
91		Count (M)	1000th place digit and 100th place digit of Eject count (decimal digit)
92	(BCD code)	Count (L)	10th place digit and 1st place digit of Eject count (decimal digit)
93	Eject count without	Count (H)	100000th place digit and 10000th place digit of Eject count (decimal digit)
94	tape	Count (M)	1000th place digit and 100th place digit of Eject count (decimal digit)
95	(BCD code)	Count (L)	10th place digit and 1st place digit of Eject count (decimal digit)

Using method:
1) The record of use data is displayed at page: 7, addresses: 90 to 95.

Initializing method:

Order	Page	Address	Data	Procedure
1	7	90	00	Press PAUSE (Write) button.
2	7	91	00	Press PAUSE (Write) button.
3	7	92	00	Press PAUSE (Write) button.
4	7	93	00	Press PAUSE (Write) button.
5	7	94	00	Press PAUSE (Write) button.
6	7	95	00	Press PAUSE (Write) button.

26. Record of Use Check (3)

Page 7	Address C8 to CD

Note 1: This data will not be erased (reset) when the lithium 3 V power supply (SW-514 board BT6401) is removed.
Note 2: Check that the data of page: 0, address 10 is "00".

Address	Function		Remarks
C8	User initial power	Year	After setting the clock, set the date of power on next
C9	on date	Month	
CA	(BCD code)	Day	
CB	Final condensation	Year	
CC	occurrence date	Month	
CD	(BCD code)	Day	

Using method:
1) The record of use data is displayed at page: 7, addresses: C8 to CD.

27. Record of Self-diagnosis Check

Page 7	Address B0 to C6

Note 1: This data will not be erased (reset) when the lithium 3 V power supply (SW-514 board BT6401) is removed.
Note 2: Check that the data of page: 0, address 10 is “00”.

Address	Self-diagnosis code
B0	“Repaired by” code (Occurred 1st time) *1
B1	“Block function” code (Occurred 1st time)
B2	“Detailed” code (Occurred 1st time)
B4	“Repaired by” code (Occurred 2nd time) *1
B5	“Block function” code (Occurred 2nd time)
B6	“Detailed” code (Occurred 2nd time)
B8	“Repaired by” code (Occurred 3rd time) *1
B9	“Block function” code (Occurred 3rd time)
BA	“Detailed” code (Occurred 3rd time)
BC	“Repaired by” code (Occurred 4th time) *1
BD	“Block function” code (Occurred 4th time)
BE	“Detailed” code (Occurred 4th time)
C0	“Repaired by” code (Occurred 5th time) *1
C1	“Block function” code (Occurred 5th time)
C2	“Detailed” code (Occurred 5th time)
C4	“Repaired by” code (Occurred the last time) *1
C5	“Block function” code (Occurred the last time)
C6	“Detailed” code (Occurred the last time)

*1 : “01” → “C”, “03” → “E”

Using method:

1) The past self-diagnosis codes are displayed at page: 7, address: BC to C6. Refer to “1-5. SELF-DIAGNOSIS FUNCTION” for detail of the self-diagnosis code.

Initializing method:

Order	Page	Address	Data	Procedure
1	7	01	C0	
2	7	00	01	Press PAUSE button.
3	7	B0 to C6		Check that the data is “00”.
4	7	00	00	
5	7	01	00	

HVR-S270J/S270U/S270N/S270E/ S270P/S270C

SONY

SERVICE MANUAL

Ver. 1.2 2008.07

US Model
Canadian Model
AEP Model
E Model
Chinese Model
Japanese Model

SUPPLEMENT-1

File this supplement with the service manual.

(DI08-163)

- **Addition of Service Note**
- **Change of Repair Parts**
- **Revision of Accessories**
- **Revision of Adjustments**

Note: Please refer to Ver. 1.2 of SERVICE MANUAL (9-852-267-12) for the revision of accessories and the revision of adjustments.

- **Suffix No. of MD-76 board has been changed from 15 into 16.**
  About suffix No. 15 and 16, there are no change of schematic diagram and printed wiring board.

Sony EMCS Co.

2008G0500-1

Published by Kohda TEC

• Addition of Service Note

1. SERVICE NOTE

(ENGLISH)

1-7. How to Identify the LG-005 Board for Standard Lens and for Wide Lens

The LG-005 board for standard lens and for wide lens cannot be identified from the appearance.
The LG-005 board can be identified by connecting the adjustment remote commander (RM-95 or NEW LANC JIG) and then checking the data value. Please note that the LG-005 board for wide lens cannot be used for this set.

Checking method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 01.
3) Select page: 6 (16), address: FE.
3) Check the displayed data value to identify the LG-005 board.

Data value	LG-005 board
F1	For standard lens
F2	For wide lens

5) Select page: 0, address: 10, and set data: 00.
6) Select page: 0, address: 01, and set data: 00.

(JAPANESE)

1-7. 標準レンズ用とワイドレンズ用のLG-005基板の見分け方

標準レンズ用とワイドレンズ用のLG-005基板は，外観での見分けが付きません。
調整リモコン（RM-95またはNEW LANC JIG）を接続してデータ値を確認することにより，LG-005基板を判別することが出来ます。本機ではワイドレンズ用LG-005基板は使用できませんので注意してください。

確認方法

1）ページ：0，アドレス：01にデータ：01をセットする。
2）ページ：0，アドレス：10にデータ：01をセットする。
3）ページ：6（16），アドレス：FEを選択する。
4）表示データのデータ値を確認することにより，LG-005基板を判別する。

データ値	LG-005基板
F1	標準レンズ用
F2	ワイドレンズ用

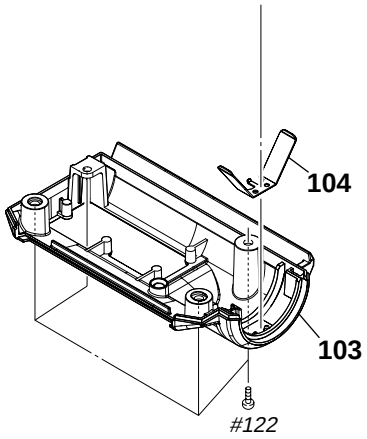
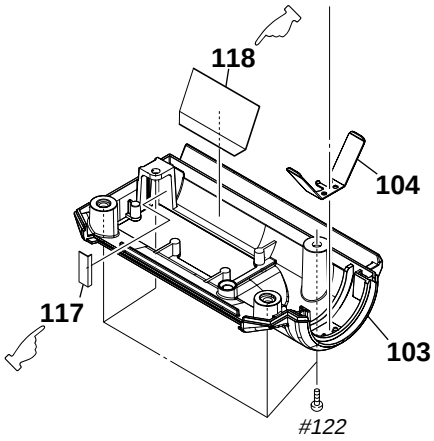
5）ページ：0，アドレス：10にデータ：00をセットする。
6）ページ：0，アドレス：01にデータ：00をセットする。

☞ : Points added portion.

• Change of Repair Parts

5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

Page	Former	New
5-4	 Ref. No. Part No. Description	 Ref. No. Part No. Description 117 2-590-635-01 TAPE (AS 1/2) * 118 4-108-055-01 SHEET, PROTECTION
5-7	251 X-2189-103-1 CABINET ASSY, HANDLE 263 3-069-286-01 SHOE, ACCESSORY	251 X-2189-103-2 CABINET ASSY, HANDLE 263 3-069-286-03 SHOE, ACCESSORY
5-17	755 A-1507-977-A VC-513 BOARD, COMPLETE (SERVICE) (NTSC: S270J/S270U/S270N) 755 A-1507-978-A VC-513 BOARD, COMPLETE (SERVICE) (PAL: S270E/S270P/S270C)	755 A-1507-977-B VC-513 BOARD, COMPLETE (SERVICE) (NTSC: S270J/S270U/S270N) 755 A-1507-978-B VC-513 BOARD, COMPLETE (SERVICE) (PAL: S270E/S270P/S270C)
5-18	⚠BT901 1-766-377-13 CONNECTOR, BATTERY (BATTERY TERMINAL)	⚠BT901 1-820-459-12 CONNECTOR, BATTERY (BATTERY TERMINAL)
5-19	880 A-1192-170-A MDX-R201 (Note)	880 A-1556-714-A MDX-R203 (Note)
5-21	M904 X-3949-928-4 MOTOR ASSY, REEL	M904 X-3949-928-5 MOTOR ASSY, REEL

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

⚠印の部品，または⚠印付の点線で囲まれた部品は，安全性を維持するために，重要な部品です。
従って交換時は,必ず指定の部品を使用してください。

5-2. ELECTRICAL PARTS LIST

Page	Fomer	New
	Ref. No. Part No. Description	Ref. No. Part No. Description
5-23	**BR-001 Board** < CONNECTOR > * CN9701 1-816-648-51 FFC/FPC CONNECTOR (LIF) 20P * CN9709 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P * CN9710 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P	**BR-001 Board** < CONNECTOR > CN9701 1-816-648-61 FFC/FPC CONNECTOR (LIF) 20P CN9709 1-816-655-61 CONNECTOR, FFC/FPC 8P CN9710 1-816-655-61 CONNECTOR, FFC/FPC 8P
5-23	**CF-107 Board** < CONNECTOR > * CN9502 1-816-654-51 FFC/FPC CONNECTOR (LIF) 6P * CN9504 1-816-645-51 FFC/FPC CONNECTOR (LIF) 14P	**CF-107 Board** < CONNECTOR > CN9502 1-816-654-61 FFC/FPC CONNECTOR (LIF) 6P CN9504 1-816-645-61 FFC/FPC CONNECTOR (LIF) 14P
5-25	**DD-290 Board** < TRANSISTOR > Q9224 8-729-051-63 TRANSISTOR SI4884DY-T1	**DD-290 Board** < TRANSISTOR > * Q9224 6-552-043-01 TRANSISTOR SI4384DY-T1-E3
5-25	**EJ-040 Board** < CONNECTOR > * CN9101 1-816-654-51 FFC/FPC CONNECTOR (LIF) 6P	**EJ-040 Board** < CONNECTOR > CN9101 1-816-654-61 FFC/FPC CONNECTOR (LIF) 6P
5-27	**GY-005 Board** < CONNECTOR > * CN8501 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P	**GY-005 Board** < CONNECTOR > CN8501 1-816-655-61 CONNECTOR, FFC/FPC 8P
5-27	**JK-351 Board** < DIODE > D8602 6-500-776-01 DIODE MAZW068H0LS0	**JK-351 Board** < DIODE > * D8602 6-501-930-01 DIODE MAZW068HGLS0
5-27	**LA-029 Board** < CONNECTOR > * CN8401 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P	**LA-029 Board** < CONNECTOR > CN8401 1-816-655-61 CONNECTOR, FFC/FPC 8P
5-29	**LG-005 Board** < DIODE > D1001 6-500-776-01 DIODE MAZW068H0LS0 D1002 6-500-776-01 DIODE MAZW068H0LS0 D1003 6-500-776-01 DIODE MAZW068H0LS0 D1004 6-500-776-01 DIODE MAZW068H0LS0	**LG-005 Board** < DIODE > * D1001 6-501-930-01 DIODE MAZW068HGLS0 * D1002 6-501-930-01 DIODE MAZW068HGLS0 * D1003 6-501-930-01 DIODE MAZW068HGLS0 * D1004 6-501-930-01 DIODE MAZW068HGLS0
5-31	**MD-76 Board** < CONNECTOR > CN001 1-691-359-51 CONNECTOR, FFC/FPC (ZIF) 21P CN002 1-691-359-51 CONNECTOR, FFC/FPC (ZIF) 21P CN003 1-691-356-51 CONNECTOR, FFC/FPC (ZIF) 18P	**MD-76 Board** < CONNECTOR > * CN001 1-691-359-61 CONNECTOR, FFC/FPC (ZIF) 21P * CN002 1-691-359-61 CONNECTOR, FFC/FPC (ZIF) 21P * CN003 1-691-356-61 CONNECTOR, FFC/FPC (ZIF) 18P
5-35	**NN-006 Board** < TRANSISTOR > Q7503 8-729-424-02 TRANSISTOR 2SB709A-QRS-TX Q7505 8-729-424-02 TRANSISTOR 2SB709A-QRS-TX	**NN-006 Board** < TRANSISTOR > Q7503 8-729-216-31 TRANSISTOR 2SA1163-G Q7505 8-729-216-31 TRANSISTOR 2SA1163-G
5-37	**PW-135 Board** < CONNECTOR > * CN6802 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P	**PW-135 Board** < CONNECTOR > CN6802 1-816-655-61 CONNECTOR, FFC/FPC 8P

Page	Former	New
5-37	Ref. No. Part No. Description **SB-040 Board** < CONNECTOR > * CN6601 1-816-648-51 FFC/FPC CONNECTOR (LIF) 20P * CN6602 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P * CN6603 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P	Ref. No. Part No. Description **SB-040 Board** < CONNECTOR > CN6601 1-816-648-61 FFC/FPC CONNECTOR (LIF) 20P CN6602 1-816-655-61 CONNECTOR, FFC/FPC 8P CN6603 1-816-655-61 CONNECTOR, FFC/FPC 8P
5-39	**SS-184 Board** < CONNECTOR > * CN5201 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P	**SS-184 Board** < CONNECTOR > CN5201 1-816-655-61 CONNECTOR, FFC/FPC 8P
5-40	**SW-514 Board** < CONNECTOR > * CN6401 1-816-648-51 FFC/FPC CONNECTOR (LIF) 20P * CN6402 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P	**SW-514 Board** < CONNECTOR > CN6401 1-816-648-61 FFC/FPC CONNECTOR (LIF) 20P CN6402 1-816-655-61 CONNECTOR, FFC/FPC 8P
5-40	**TN-002 Board** < CONNECTOR > * CN5901 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P	**TN-002 Board** < CONNECTOR > CN5901 1-816-655-61 CONNECTOR, FFC/FPC 8P
5-41	**TO-001 Board** < CONNECTOR > * CN5803 1-816-654-51 FFC/FPC CONNECTOR (LIF) 6P	**TO-001 Board** < CONNECTOR > CN5803 1-816-654-61 FFC/FPC CONNECTOR (LIF) 6P
5-42	A-1507-977-A VC-513 BOARD, COMPLETE (SERVICE) (NTSC: S270J/S270U/S270N) A-1507-978-A VC-513 BOARD, COMPLETE (SERVICE) (PAL: S270E/S270P/S270C) ********** < CONNECTOR >	A-1507-977-B VC-513 BOARD, COMPLETE (SERVICE) (NTSC: S270J/S270U/S270N) A-1507-978-B VC-513 BOARD, COMPLETE (SERVICE) (PAL: S270E/S270P/S270C) ********** < CONNECTOR >
5-48	* CN1019 1-816-645-51 FFC/FPC CONNECTOR (LIF) 14P * CN1020 1-816-654-51 FFC/FPC CONNECTOR (LIF) 6P < FUSE >	CN1019 1-816-645-61 FFC/FPC CONNECTOR (LIF) 14P CN1020 1-816-654-61 FFC/FPC CONNECTOR (LIF) 6P < FUSE >
5-49	⚠F4501 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4502 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4503 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4506 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4508 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4509 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4601 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4602 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4603 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4604 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4605 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) ⚠F4606 1-576-406-21 FUSE, MICRO (1608) (1.4A/32V) < IC > * IC4401 6-808-033-01 IC MB91195ABGL-G-249-ERE1	⚠F4501 1-576-406-11 FUSE (1.4A/32V) ⚠F4502 1-576-406-11 FUSE (1.4A/32V) ⚠F4503 1-576-406-11 FUSE (1.4A/32V) ⚠F4506 1-576-406-11 FUSE (1.4A/32V) ⚠F4508 1-576-406-11 FUSE (1.4A/32V) ⚠F4509 1-576-406-11 FUSE (1.4A/32V) ⚠F4601 1-576-406-11 FUSE (1.4A/32V) ⚠F4602 1-576-406-11 FUSE (1.4A/32V) ⚠F4603 1-576-406-11 FUSE (1.4A/32V) ⚠F4604 1-576-406-11 FUSE (1.4A/32V) ⚠F4605 1-576-406-11 FUSE (1.4A/32V) ⚠F4606 1-576-406-11 FUSE (1.4A/32V) < IC > * IC4401 6-808-157-01 IC MB91195ABGL-G-256-ERE1
5-60	**VO-013 Board** < CONNECTOR > * CN5601 1-816-655-51 FFC/FPC CONNECTOR (LIF) 8P	**VO-013 Board** < CONNECTOR > CN5601 1-816-655-61 CONNECTOR, FFC/FPC 8P

⚠印の部品，または⚠印付の点線で囲まれた部品は，安全性を維持するために，重要な部品です。
従って交換時は，必ず指定の部品を使用してください。

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SONY

Digital HD Video Camera Recorder

GB

SONY

3-280-852-**11**(1)

Digital HD Video Camera Recorder

Operating Guide

Before operating the unit, please read this manual thoroughly, and retain it for future reference

HDV 1080i

PROGRESSIVE

HVR-S270E/S270P

http://www.sony.net/

Printed on 70% or more recycled paper using VOC (Volatile Organic Compound) -free vegetable oil based ink.

Printed in Japan

3280852110

Read this first

Before operating this unit, please read this manual thoroughly, and retain it for future reference.

Notes on use

Types of cassette you can use in your camcorder

Your camcorder is capable of recording in HDV, DVCAM and DV formats.
When recording in HDV/DV format, Sony recommends that you use standard size DV cassettes or mini DV cassettes.
When recording in DVCAM format, Sony recommends that you use standard size DVCAM cassettes or mini DVCAM cassettes. Your camcorder does not support the Cassette Memory function (p. 106).

The HDV format

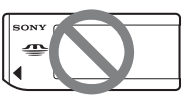
- Digital high-definition (HD) video signals are recorded and played back on a DV format cassette.
- HDV signals are compressed in MPEG2 format, which is adopted in BS (broadcast satellite) digital and terrestrial digital HDTV broadcastings and in Blu-ray disc recorders.

Types of "Memory Stick" you can use in your camcorder

You can use any "Memory Stick" that has the following markings.
MEMORY STICK DUO MEMORY STICK PRO DUO
MEMORY STICK PRO-HG DUO

"Memory Stick Duo"
(This size can be used with your camcorder.)

"Memory Stick"
(You cannot use it in your camcorder.)

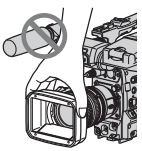


Notes

- You cannot use any type of memory card except "Memory Stick Duo."
- "Memory Stick PRO Duo" can be used only with "Memory Stick PRO" compatible equipment.
- Do not attach a label or the like on a "Memory Stick Duo" or a Memory Stick Duo Adaptor.
- When using a "Memory Stick Duo" with "Memory Stick" compatible equipment, insert the "Memory Stick Duo" into the Memory Stick Duo Adaptor.

Using the camcorder

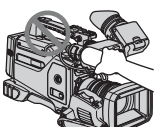
• Do not hold the camcorder by the following part.



Lens hood

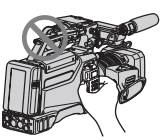
LCD panel

Battery pack



Microphone or Microphone holder

Viewfinder



Memory Recording Unit

Notes

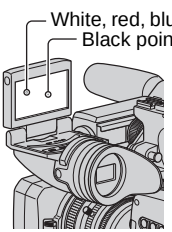
• The camcorder is not dustproof, dripproof or waterproof.
See “About handling of your camcorder” (p. 112).

• Do not connect cables to your camcorder with their terminals placed the wrong way. Squeezing the terminals into your camcorder's jacks may damage them or results in a malfunction of your camcorder.

About menu items, LCD panel, viewfinder, and lens

• A menu item that is grayed out is not available under the current recording or playback conditions.

• The LCD screen and the viewfinder are manufactured using extremely high-precision technology, so over 99.99% of the pixels are operational for effective use. However, there may be some tiny black points and/or bright points (white, red, blue, or green in color) that appear constantly on the LCD screen and the viewfinder. These points are normal results of the manufacturing process and do not affect the recording in any way.



Do not expose your camcorder’s viewfinder, lens, or LCD screen to the sun or strong light source for extended periods.

• Intense light sources, especially the sun will converge on the viewfinder or lens and damage the internal parts of your camcorder. Avoid sunlight or other strong light sources when storing your camcorder. Protect this device by always closing the lens cover or by placing it in its bag when not in use.

On recording

• Before starting to record, test the recording function to make sure the picture and sound are recorded without any problems.

- Compensation for the contents of recordings cannot be provided, even if recording or playback is not possible due to a malfunction of the camcorder, storage media, etc.
- TV color systems differ depending on the countries/regions. To view your recordings on a TV, you need a PAL system-based TV.
- Television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the copyright laws.
- Because of the way that the image device (CMOS sensor) reads out image signals, the subjects passing by the frame rapidly might appear crooked depending on the recording conditions. This phenomenon may be notable in displays having high motion resolution.

On playing back HDV tapes on other devices

A tape recorded in the HDV format cannot be played back on a device that is not compatible with the HDV format.
Check the contents of tapes by playing them back on this camcorder prior to playing them back on other devices.

Notes on the icons used in this manual

HDV1080i Features available for the HDV format only.

DVCAM Features available for the DVCAM format only.

DV SP Features available for the DV SP format only.

i.LINK The function that can be used when i.LINK cable is connected.

(AS) The function that can be assigned to an ASSIGN button.

About this manual

- The images of the LCD screen and the viewfinder used in this manual for illustration purposes are captured using a digital still camera, and therefore may appear different.
- The on-screen displays in each local language are used for illustrating the operating procedures. Change the screen language before using your camcorder if necessary (p. 21).
- Design and specifications of recording media and other accessories are subject to change without notice.

About the Carl Zeiss lens

Your camcorder is equipped with a Carl Zeiss lens, which was developed jointly by Carl Zeiss, in Germany, and Sony Corporation, and produces superior images. It adopts the MTF measurement system for video cameras and offers a quality typical of a Carl Zeiss lens. Also, the lens for your camcorder is T*-coated to suppress unwanted reflections and faithfully reproduce colors.
MTF= Modulation Transfer Function. The number value indicates the amount of light from a subject coming into the lens.

Table of Contents

Getting Started

Recording/Playback

Using the Menu

Dubbing/Editing

Troubleshooting

Additional Information

Quick Reference

Step 1: Checking supplied items

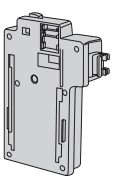
Make sure that you have following items supplied with your camcorder.
The number in the parentheses indicates the number of that item supplied.

- A cassette tape and a “Memory Stick Duo” are not included. See pages 2, 106 and 109 for types of cassette tape and “Memory Stick Duo” that you can use on your camcorder.

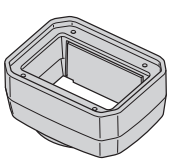
Carl Zeiss lens (VCL-412BWS) (1) (p. 9)
This lens is pre-mounted.

Memory Recording Unit (HVR-MRC1) (1) (p. 13),

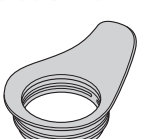
i.LINK Cradle (HVRA-CR1) (1) (p. 14)



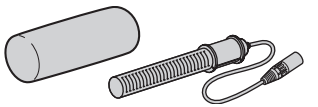
Lens hood with lens cover (1) (p. 11)
This lens hood is pre-mounted.



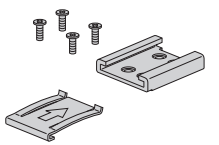
Large eyecup (1) (p. 18)



Wind Screen (1), Microphone (ECM-XM1) (1) (p. 11)



Accessory shoe kit (Accessory shoe (1), Accessory shoe plate (1), screws (4)) (p. 120)



Shoulder belt (1) (p. 12)

Lens mount cap (1) (p. 126),
Rear lens cap (1) (p. 126)

Test chart for flange focal length adjustment (1) (p. 9)

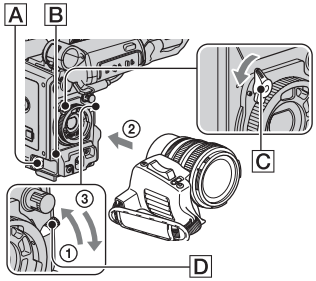
CD-ROM “Manuals for Digital HD Video Camera Recorder” (1)

Operating Guide (This manual) (1)

Step 2: Attaching the supplied items

Mounting the lens

Make sure to turn off the POWER switch of your camcorder before mounting the lens. Refer to the manuals provided with the lens for details on the proper handling of the lens.



Mounting the Carl Zeiss lens

① Push the lens locking lever D up and remove the lens or the lens mount cap from the lens mount.

② Align the center slot in the lens mount with the center pin on the lens, and insert the lens into the mount.

③ While holding the lens in place, push the lens locking lever D down to mount the lens.

Notes

- If the lens is not properly locked, it may come off when in use, which may cause a serious problem. Make sure that the lens is securely locked. Sony recommends that you set the lens securing tab C as illustrated.

Mounting non-Carl Zeiss lens

① Push the lens locking lever D up and remove the lens or the lens mount cap from the lens mount.

② Align the center slot in the lens mount with the center pin on the lens, and insert the lens into the mount.

③ While holding the lens in place, push the lens locking lever D down to mount the lens.

④ Connect the lens cable to the LENS jack A.

⑤ Push the lens cable in the cable holder B.

Notes

- You can mount a 1/3" lens directly on your camcorder. You can mount a 1/2" lens via the Fujinon ACM-19 or equivalent. You can mount a 2/3" lens via the Fujinon ACM-17 or equivalent.
- If the lens is not properly locked, it may come off when in use, which may cause a serious problem. Make sure that the lens is securely locked. Sony recommends that you set the lens securing tab C as illustrated.
- Press the REC START/STOP button on the handle to record when using a lens that does not have a lens cable.

Tips

- When you attach a non-Carl Zeiss lens, Sony recommends that you adjust the black balance with the iris closed before recording. (p. 36)

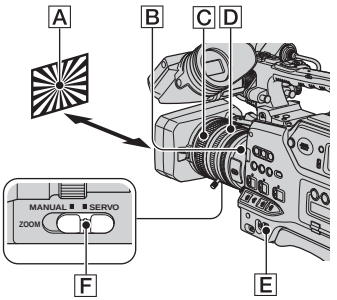
Adjusting the flange focal length (for Carl Zeiss lens)

You need to adjust the flange focal length (the distance from the lens flange to the plane of the image along the optical axis) in the following cases.

- After you have changed lenses.
- When you cannot adjust focus properly during zoom in or out.

Tips

- Your camcorder can store flange focal length data for ten different Carl Zeiss lenses (VCL-412BWS/VCL-308BWS. If you remount the lens after you have mounted ten different lenses and adjusted their flange focal length, you need to adjust the flange focal length for the lens even for the Carl Zeiss lens whose flange focal length has been adjusted.



Adjusting the flange focal length automatically

① Set the ND filter B to 1 to adjust brightness so that the proper video light level is obtained.

② Place the flange focal length adjustment test chart A about 2-3 meters (7-10 feet) away. Zoom in and set your camcorder to locate the center of the chart in the center of the screen.

③ Set the ZOOM switch F to SERVO.

④ Select [AUTO ADJUST] in [FLANGE BACK] of the (CAMERA SET) menu (p. 73).

⑤ Select [YES] with the SEL/PUSH EXEC dial E.

The flange focal length adjustment starts and [EXECUTING] appears on the screen. When the adjustment is completed, [Completed..] appears on the screen. If the adjustment fails, [Could not adjust.] appears on the screen. Try the adjustment again.

Adjusting the flange focal length manually

① Perform steps ① and ② of "Adjusting the flange focal length automatically."

② Set the ZOOM switch F to MANUAL.

③ Select [MANU ADJUST] in [FLANGE BACK] of the (CAMERA SET) menu.

④ Select [YES] with the SEL/PUSH EXEC dial E.

⑤ Turn the zoom ring D to the telephoto position.

⑥ Turn the focus ring C until the subject comes in focus, then press the SEL/PUSH EXEC dial E.

⑦ Turn the zoom ring D to the wide angle position.

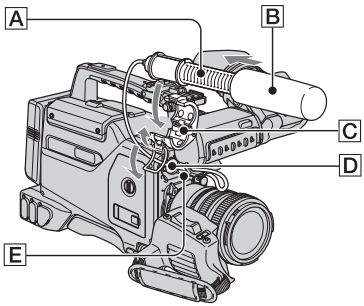
⑧ Turn the focus ring C until the subject comes in focus, then press the SEL/PUSH EXEC dial E.

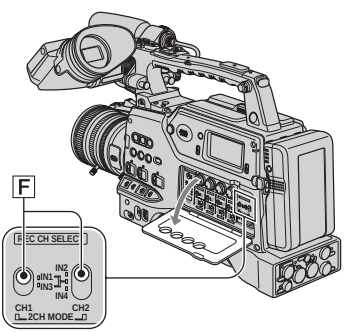
When the adjustment is completed, [Completed.] appears on the screen. If the adjustment fails, [Could not adjust.] appears on the screen. Try the adjustment again.

Tips

- You can check the focusing easily if you do the following before adjusting the focal length.
  - Set the PEAKING switch to ON (p. 31).
  - Press the ASSIGN button to which [EXP.FOCUS] is assigned (p. 48).

Attaching the supplied microphone





1 **Attach the wind screen B to the supplied microphone A.**

2 **Place the microphone A in the microphone holder C with the model name facing upward, close the cover, and shut the clamp.**

3 **Connect the plug of the microphone to the AUDIO INPUT1 (L) jack D.**

4 **Put the microphone cable into the cable holder E.**

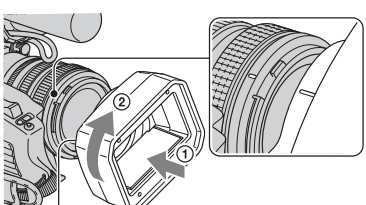
5 **Select the channel with the REC CH SELECT switch F.**

See p. 45 for details.

Tips

- See page 45 for adjusting the volume.
- Set the INPUT1/2/3/4 switch for the jack connected to the microphone to MIC+48V.

Attaching the lens hood with lens cover



Align the marks on the lens hood to those on the camcorder, and turn the lens hood in the direction of the arrow ②.

To remove the Lens hood with lens cover

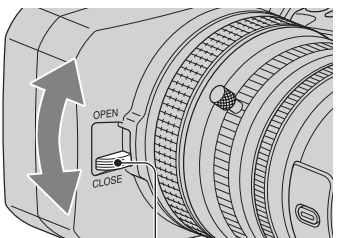
Turn the lens hood in the opposite direction to the arrow ② in the illustration while pressing the PUSH (lens hood release) button.

Tips

- If you attach or remove a 72mm (2 7/8 in.) PL filter or MC protector, remove the lens hood with lens cover.

To open or close the shutter of the Lens hood with lens cover

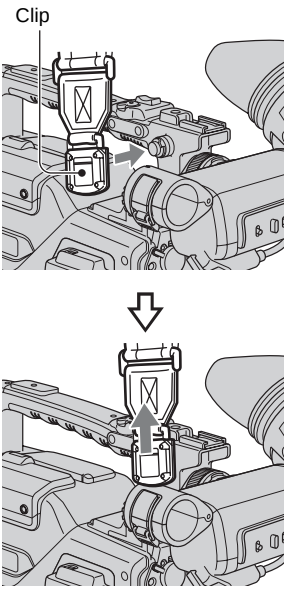
Move the lens cover lever up or down to open or close the lens cover.



Move the lens cover lever to OPEN to open the lens cover, and move the lever to CLOSE to close the lens cover.

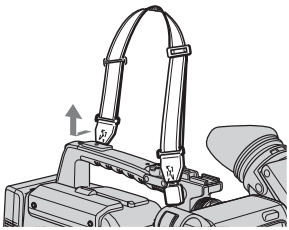
Attaching the shoulder strap

1 Fit one of the clips to a shoulder strap fitting.



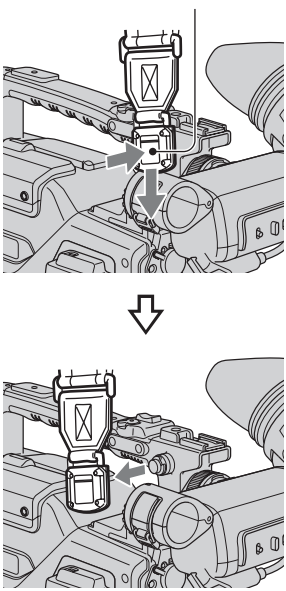
Pull up the strap to lock the fitting.

2 Fit the other clip to the shoulder strap fitting on the other side of the grip in the same way.



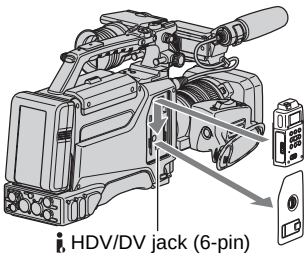
To remove the shoulder strap

Pull in the direction of the arrow while pressing here.



Attaching Memory Recording Unit

Attach the Memory Recording Unit to your camcorder as illustrated.
For details, refer to the Operating Instructions of the Memory Recording Unit on the CD-ROM.

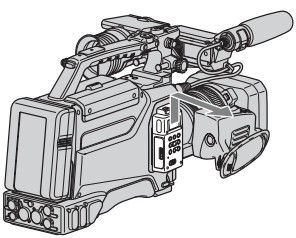


Notes

- You cannot use the HDV/DV jack when the Memory Recording Unit is attached to your camcorder.

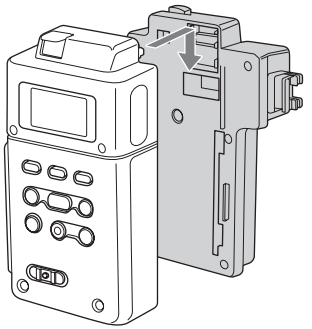
To remove the Memory Recording Unit

Slide the unit upward while pushing the RELEASE lever of the Memory Recording Unit downward.



To attach the Memory Recording Unit to the i.LINK Cradle

Attach the Memory Recording Unit to the i.LINK Cradle as illustrated.



To remove the Memory Recording Unit from the i.LINK Cradle

Slide the unit upward while pushing the RELEASE lever of the Memory Recording Unit downward.

Tips

- Refer to the operating instructions of HVR-MRC1 on the supplied CD-ROM for details on the i.LINK Cradle.

Step 3: Preparing a power supply

The following power supplies are recommended for your camcorder.

- BP-GL65/GL95/L60S/L80S Lithium-ion Battery Pack
- AC power using the AC-550, AC-DN2, AC-DN10 AC Adaptor

Using a battery pack

Approximate operating time (min.) when you use a fully charged battery pack.

Model name	HDV	DVCAM (DV)
BP-GL65	240	255
BP-GL95	370	385
BP-L60S	215	230
BP-L80S	295	310

Before use, charge the battery pack with a charger suitable for each battery.

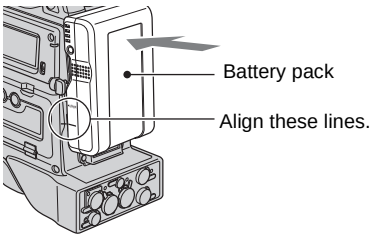
- All times are measured under following conditions.
  - when recording on both tape and Memory Recording Unit (HVR-MRC1)
  - when using the microphone (ECM-XM1)
  - when recording continuously
  - when using the viewfinder with the LCD panel closed
- For details on charging procedure, refer to the battery charger operation manual.

Notes

- A warm battery pack may not be able to be fully recharged.
- Set [BATTERY TYPE] to display an accurate battery life (p. 90).

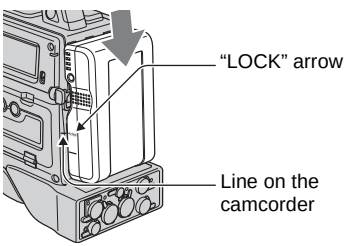
To attach the battery pack

① Press the battery pack against the back of the camcorder, aligning the line on the side of the battery pack with the matching line on the camcorder.

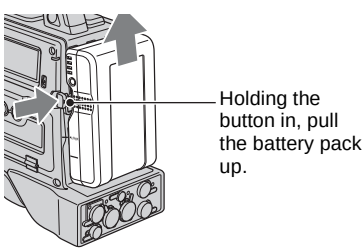


Back of the camcorder

② Slide the battery pack down until its "LOCK" arrow points at the matching line on the camcorder.



To detach the battery pack



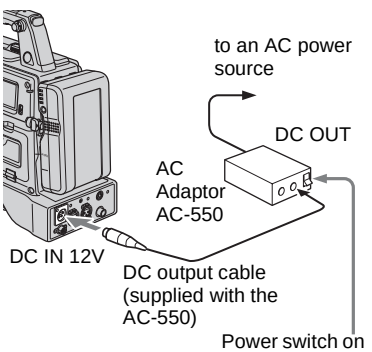
Notes

- During recording, playback, and loading/unloading a tape, be careful never to remove the battery pack.
- Make sure to turn the camcorder off before changing the battery (except when using an AC-550 and an AC-DN2/DN10 AC Adaptor together).

Using an AC Adaptor

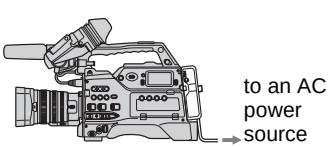
To use the AC-550 AC Adaptor

Connect the camcorder to the AC power supply through an AC-550 AC Adaptor as shown in the following figure, and turn the POWER switch of the AC-550 on.



To use the AC-DN10 AC Adaptor

Mount an AC-DN10 on the camcorder in the same way as a battery pack, then connect to the AC power supply.
The AC-DN10 can supply up to 100 W of power.



Avoiding breaks in operation due to an exhausted battery

When the battery pack is becoming exhausted, you can perform battery replacement without causing a break to the camcorder operation by using an AC Adaptor.

① Turn the AC-550 AC Adaptor on.

② Connect an AC-550 AC Adaptor to an AC power source, then connect it to the DC IN 12V connector of the camcorder (p. 16).
The power source switches automatically from the battery pack to the AC Adaptor connected to the DC IN 12V connector.

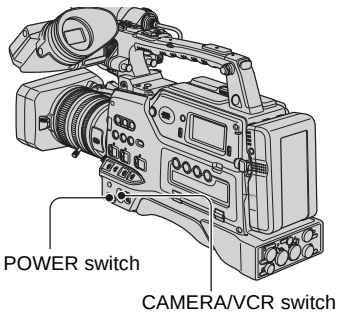
Notes

- There may be some noise on the video signal at the time of power source switching.

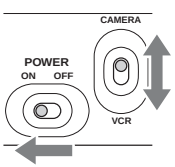
③ Replace the battery pack with a fully charged one.

Step 4: Turning the power on and holding your camcorder properly

To record or play, set the CAMERA/VCR switch to respective positions.
When you use your camcorder for the first time, [CLOCK SET] screen appears (p. 20).



1 Set the POWER switch to ON, and set the CAMERA/VCR switch.

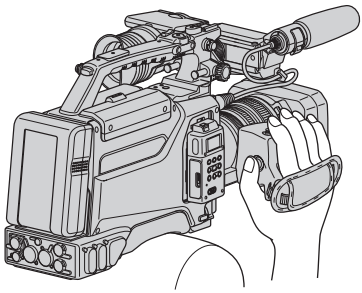


CAMERA: To record pictures.
VCR: To play or edit pictures.

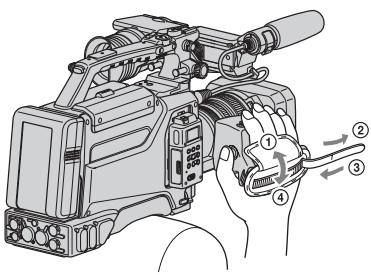
Notes

- The current date and time appears on the LCD screen for a few seconds when you turn on your camcorder once you set the date and time ([CLOCK SET], p. 20).

2 Hold the camcorder properly.



3 Ensure a good grip, then fasten the grip belt.



To turn off the power

Set the POWER switch to OFF.

Notes

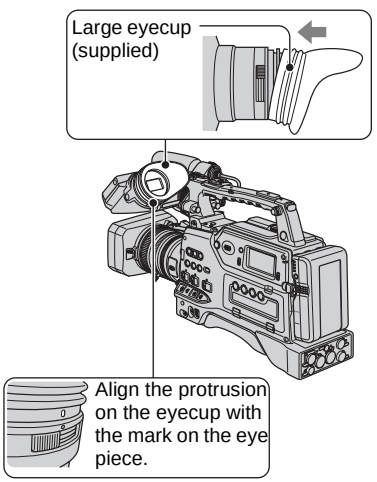
- If warning messages appear on the screen, follow the instructions.

Step 5: Adjusting the viewfinder and LCD panel

The viewfinder

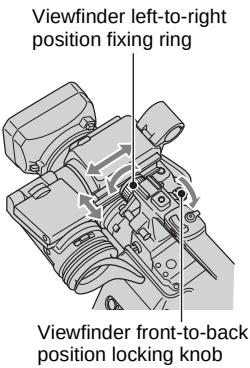
To attach the large eyecup

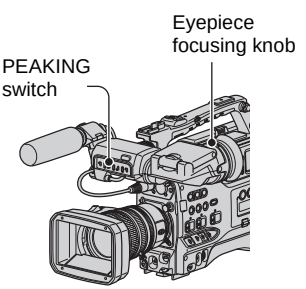
To attach the supplied large eyecup, stretch it slightly and align it with the eyecup groove in the viewfinder. You can attach the large eyecup facing either the right or left side.



To adjust the viewfinder position

To adjust the viewfinder left-to-right position, loosen the left-to-right fixing ring. To adjust the front-to-back position, loosen the front-to-back position locking knob.





To adjust the eyepiece focus

First focus the image with the lens, then adjust the viewfinder lens adjustment lever to get the clearest viewfinder image for your eyesight.

To adjust the image detail

Set the PEAKING switch to ON.
The detail of the viewfinder image is enhanced, which helps you to focus the image.

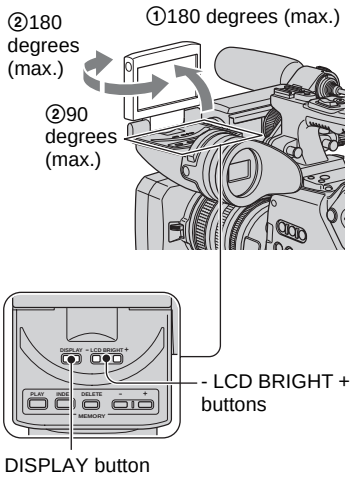
To adjust the brightness

Set the brightness in [VF B.LIGHT] of (DISPLAY SET) menu (p. 79).

Notes

- You may see primary colors shimmering in the viewfinder when you move your eye line. This is not a malfunction. The shimmering colors will not be recorded on the recording media.

The LCD panel



Tips

- You can use the LCD panel for recording mirror image. You will see a mirror image on the LCD screen but the image will be recorded in a normal image.

To adjust the brightness

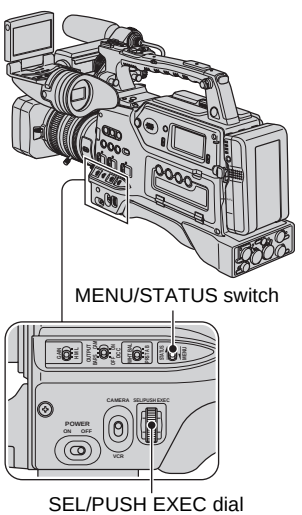
Adjust the LCD brightness with the - LCD BRIGHT + buttons. You can turns on and off the LCD backlight by pressing the DISPLAY button.

Step 6: Setting the date and time

Set the date and time when using this camcorder for the first time. If you do not set the date and time, [CLOCK SET] screen appears every time you turn on your camcorder or change the CAMERA/VCR switch position.

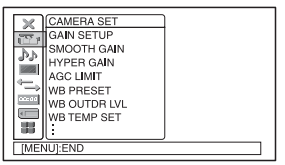
Tips

- If you do not use your camcorder for **about 3 months**, the built-in rechargeable battery gets discharged and the date and time settings may be cleared from the memory. In that case, charge the rechargeable battery and then set the date and time again (p. 114).

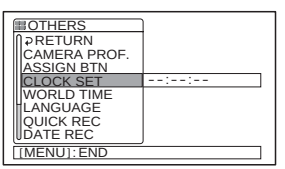


Skip to step **4** when you set the clock for the first time.

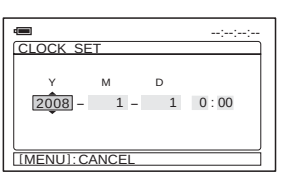
1 **Push the MENU/STATUS switch to MENU.**



2 **Select (OTHERS) by turning the SEL/PUSH EXEC dial, then press the dial.**

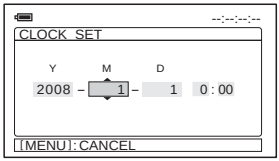


3 **Select [CLOCK SET] by turning the SEL/PUSH EXEC dial, then press the dial.**



4 Set [Y] (year) by turning the SEL/PUSH EXEC dial, then press the dial.

You can set any year up to the year 2079.



5 Set [M] (month), [D] (day), hour and minute, then press the dial.

The clock starts.

Tips

- The date and time are automatically recorded on the tape, and can be displayed during playback (DATA CODE button, p. 58).

Changing the language setting

You can change the on-screen displays to show messages in a specified language. Select the screen language in [LANGUAGE] (p. 89).

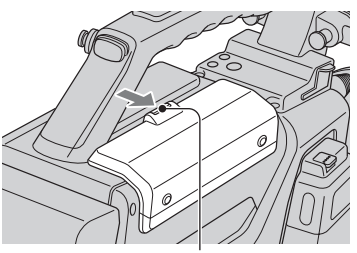
Step 7: Inserting a tape or a “Memory Stick Duo”

Cassette tape

The camcorder can use standard-size and mini-size DVCAM/DV cassettes. For details about usable cassette, see “Types of cassette you can use in your camcorder” on page 2.

1 **Set the POWER switch to ON.**

2 **While sliding the open lever in the direction of the arrow, open the cassette lid.**

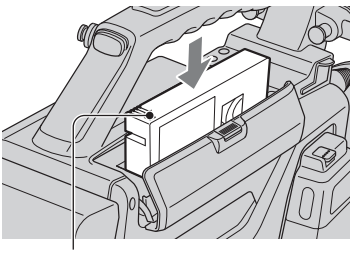


Open lever

3 **Insert the cassette with the cassette window (on the front) facing outward and the REC/SAVE switch facing upward.**

Check for tape slack before inserting the cassette.

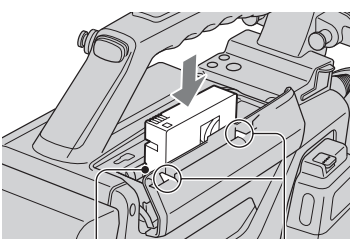
Press the center of the cassette.



REC/SAVE switch

To insert a mini-size cassette

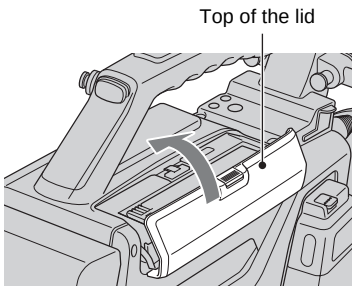
Insert the cassette with the cassette window (on the front) facing outward. Push the cassette between the both guides.



Guides

Mini-size cassette match marks

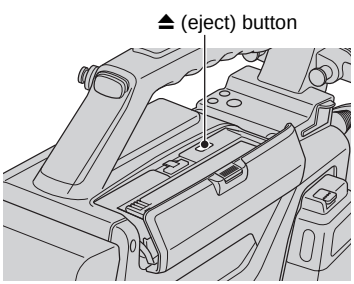
4 Close the cassette lid until it clicks.



Press the lid firmly until it clicks.
If the cassette lid is hard to close, press the top of the lid.

To eject a cassette

Follow the procedure above, and take out the cassette by pressing the ⏏ (eject) button in step **3**.



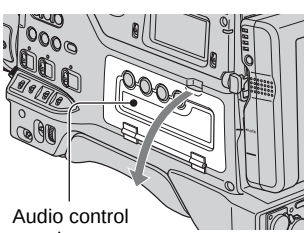
Notes

- Before inserting a cassette, make sure that there is no cassette in the cassette compartment. Inserting two cassettes by mistake may cause a malfunction.
- Internal parts of the camcorder may become bent or otherwise damaged if you attempt to insert a mini-size cassette in the wrong direction (such as with the cassette turned backside front so the reel holes face the cassette holder window or with the cassette turned sideways so that a short side enters first).
- If a cassette is not inserted completely or gets stuck when being inserting, take out the cassette and reinsert it. If your insert a cassette forcibly, the cassette may not be inserted in the correct position or may cause a malfunction.
- When inserting a cassette, hold the center of the cassette and insert it straight toward the compartment. **Holding the side of the cassette may cause it to be inserted incorrectly.**
- When inserting a cassette, put the camcorder on a horizontal and stable surface.
- When inserting a mini DV cassette tape, strong light entering the slot may cause a malfunction such as improper cassette type detection.

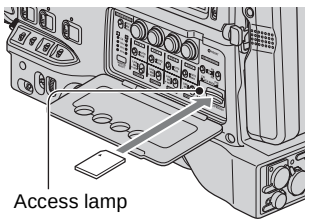
“Memory Stick Duo”

You can use only a “Memory Stick Duo” marked with MEMORY STICK DUO, MEMORY STICK PRO DUO or MEMORY STICK PRO-HG DUO (p. 109).

1 Open the audio control panel cover.



2 Insert the “Memory Stick Duo” into the Memory Stick Duo slot in the right direction until it clicks.



Notes

- If you insert the “Memory Stick Duo” into the slot in the wrong direction, the “Memory Stick Duo,” the Memory Stick Duo slot, or image data may be damaged.

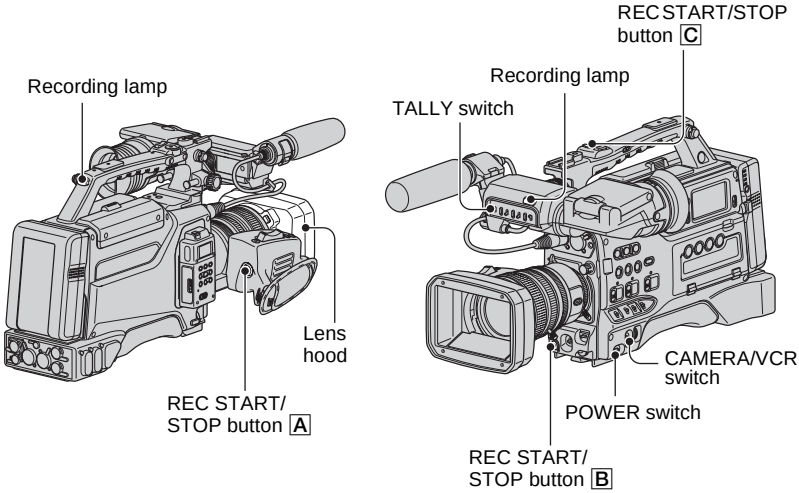
To eject a “Memory Stick Duo”

Lightly push the “Memory Stick Duo” once.

Notes

- When the access lamp is lit or flashing, your camcorder is reading/writing data. Do not shake or knock your camcorder, turn the power off, eject the “Memory Stick Duo,” or remove the battery pack. Otherwise, image data may be damaged.
- When inserting or ejecting the “Memory Stick Duo,” be careful with the “Memory Stick Duo” from popping out and dropping.

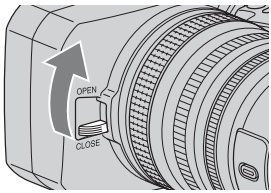
Recording



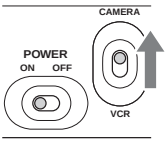
Your camcorder records movies on tape and still images on “Memory Stick Duo.” Do the following steps to record movies.

- This camcorder can record movies in HDV or DVCAM (DV) format. The factory setting is HDV format ([REC FORMAT] p. 80).

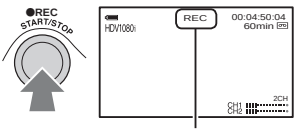
1 Open the shutter of the lens hood.



2 Set the POWER switch to ON and the CAMERA/VCR switch to CAMERA.



3 Press the REC START/STOP button A (or B, C).



[STBY] → [REC]

The recording lamp lights up during recording.
To stop the movie recording, press the REC START/STOP button again.

Tips

- When recording in HDV format, the aspect ratio is fixed to 16:9. When recording in DVCAM (DV) format, you can switch the aspect ratio to 4:3 ([DV WIDE REC] p. 82).
- You can change the screen display during recording (p. 58).
- Indicators displayed on the screen during recording are shown on page 127.
- To turn off the front recording lamp, set the TALLY switch to OFF. To turn off the rear recording lamp, set [REC LAMP[R]] (p. 90).
- You cannot record movies on a “Memory Stick Duo.”
- For low angle recording, the REC START/STOP button on the handle is convenient. Release the HOLD lever to enable the REC START/STOP button.

To use the video light

Mount an Anton Bauer Ultralight 2 or equivalent (12-V supply voltage, 35-W maximum power consumption) as follows:

① Mount the video light on the accessory shoe on the handle of your camcorder.

② Connect the connector of the video light to the LIGHT connector of your camcorder.

Notes

- Do not connect a video light, the power consumption of which is higher than 35W.

Tips

- You can turns on and off the video light linked with the start and stop recording when you connect the connector to the LIGHT connector and set the LIGHT MAN/AUTO switch to AUTO.

To capture still images

① Assign [PHOTO] to an ASSIGN button.

② Press the ASSIGN button to which [PHOTO] is assigned.
A still image will be recorded on the "Memory Stick Duo." ||||||| appears when the recording is completed.

You can capture still images during movie recording.

Tips

- See page 129 for indicators that appear on the screen during recording.

Capacity of the "Memory Stick Duo" (MB) and the number of recordable pictures

	1.2M 1440 × 810 1.2M	0.9M 1080 × 810 0.9M	VGA 640 × 480 VGA	0.2M 640 × 360 0.2M
256MB	370	500	1400	1750
512MB	770	1000	2900	3650
1GB	1550	2100	6000	7500
2GB	3150	4300	12000	15000
4GB	6300	8500	23500	29500
8GB	12500	17000	48000	60000

Notes

- Specifications are for Sony "Memory Stick Duo." The actual number of recordable pictures can vary depending on the recording environment and the type of "Memory Stick Duo."

Tips

- Image sizes of still images are as follows:
  - Recording in HDV format/DVCAM (DV) format (16:9): 1.2M
  - Recording in DVCAM (DV) format (4:3): 0.9M
  - Playing back in HDV format: 1.2M
  - Playing back in DVCAM (DV) format (16:9): 0.2M
  - Playing back in DVCAM (DV) format (4:3): VGA

To store still images captured from movies on a tape on "Memory Stick Duo"

You can capture an image in a movie and record it on a "Memory Stick Duo" as a still image. Be sure to insert a recorded tape and a "Memory Stick Duo" in your camcorder, Assign [PHOTO] to any one of ASSIGN buttons (p. 48).

① Set the POWER switch to ON and the CAMERA/VCR switch to VCR.

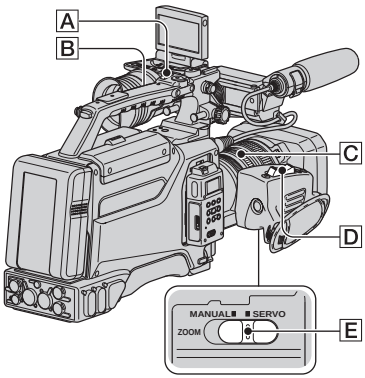
② Press the ► (play) button to search for the scene you want to save as a still image. Press the ASSIGN button to which [PHOTO] is assigned at the scene.

Notes

- The recorded date and time on the tape and the stored date and time on the "Memory Stick Duo" are both saved on the "Memory Stick Duo." When you view the still images, only the recorded date and time on the tape will be displayed on the screen (Data code, p. 58).
- Camera data stored on the tape will not be copied to the "Memory Stick Duo."
- You cannot store a still image during using your camcorder with [PB ZOOM] set to [ON] (p. 89).
- You cannot store a still image under the following conditions:
  - When the shutter speed is slower than 1/50
  - While using the fader
  - While using smooth slow rec
  - While using shot transition
  - When [SCAN TYPE] is set to [25] (p. 81)

Changing the settings of your camcorder recordings

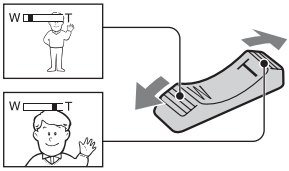
Adjusting the zoom



Using the zoom lever

Set the ZOOM switch E to SERVO. Move the power zoom lever D slightly for a slower zoom. Move it further for a faster zoom.

Wide view: (Wide angle)



Close view: (Telephoto)

Tips

- The minimum distance required between your camcorder and the subject for focus is about 1 cm (about 13/32 in.) for wide angle and about 80 cm (about 2 5/8 feet) for telephoto.
- The focus may not be adjusted at certain zoom positions if the subject is within 80 cm (about 2 5/8 feet) from your camcorder.
- When you set [FOCUS MACRO] to [OFF] or the focus ring to the mode A position (p. 30), you cannot focus on a subject within 80 cm (about 2 5/8 feet) regardless of the zoom position (p. 70).
- Be sure to keep your finger on the power zoom lever D. If you move your finger off the power zoom lever D, the operation sound of the power zoom lever D may also be recorded.

Using the handle zoom

① Set the ZOOM switch E to SERVO.

② Set the handle zoom switch B to VAR or FIX.

Tips

- When you set the handle zoom switch B to VAR, you can zoom in or out at variable speed.
- When you set the handle zoom switch B to FIX, you can zoom in or out at fixed speed set in [HANDLE ZOOM] (p. 70).

③ Press the handle zoom lever A to zoom in or out.

Notes

- You cannot use the handle zoom lever A when the handle zoom switch B is set to OFF.
- You cannot change the zoom speed of the zoom lever D with the handle zoom switch B.

Using the zoom ring

You can zoom at the desired speed by turning the zoom ring C. Fine adjustment is also possible.

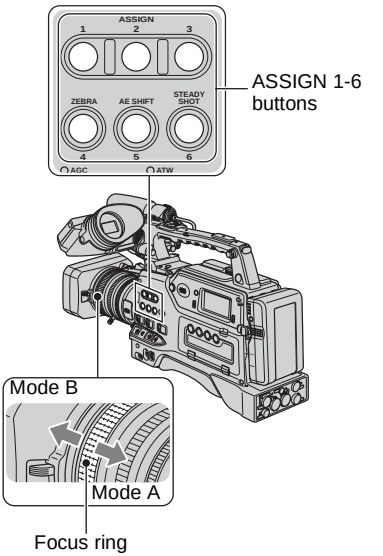
① Set the ZOOM switch E to MANUAL.

② Turn the zoom ring C to zoom in or out.

Tips

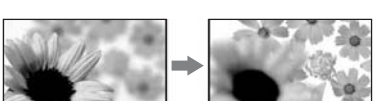
- You can remove the zoom pin.

Adjusting the focus manually



You can adjust the focus manually for different recording conditions.
Use this function in the following cases.

– To record a subject behind a window covered with raindrops.
– To record horizontal stripes.
– To record a subject with little contrast between the subject and its background.
– When you want to focus on a subject in the background.



– To record a stationary subject using a tripod.

Adjusting focus manually in mode A

In mode A, you can manually adjust focus without automatic adjustment functions. Set the focus ring to the mode A position and focus manually using the focus scale on the lens.

Notes

- Turn the focus ring slowly. If it is forced against either end, the focus ring may move toward the mode B position and move past the end, and make noises.

Adjusting focus manually in mode B

In mode B, you can use the automatic adjustment functions during manual focus adjustment. Set the focus ring to the mode B position and do the following steps.

① Assign [FOCUS] to an ASSIGN button (p. 48).

② Press the ASSIGN button to which [FOCUS] is assigned.
MF appears on the screen.

③ Turn the focus ring to adjust the focus.
MF changes to ▲ when you cannot bring any further subject in focus. MF changes to 👤 when you cannot bring any closer subject in focus.

Tips

For manual focus

- Zoom in and bring your camcorder in focus, then gradually zoom out.
- Fully zoom out and gradually zoom in when you shoot a close subject.

To restore automatic adjustment

Press the ASSIGN button to which [FOCUS] is assigned once again.
MF disappears and the automatic focus adjustment is restored.

Tips

- If you want to adjust focus automatically or use automatic adjustment functions such as one push auto focus during manual focus adjustment, set the focus ring to mode B. You cannot use the automatic adjustment functions in mode A.

Using automatic focus temporarily (One push auto focus)

You can use this function only in mode B. Do steps ① and ② of "Adjusting focus manually in mode B" in advance.

① Assign [ONE PUSH AF] to an ASSIGN button (p. 48).

② Record a movie while holding the ASSIGN button to which [ONE PUSH AF] is assigned.
Automatic focus functions as long as you hold the ASSIGN button (☞ disappears).

Tips

- The focal distance is always displayed while you turn the focus ring in mode A. In mode B, the focal distance is displayed for about 3 seconds in the following cases:
  – When you press the ASSIGN button to which [FOCUS] is assigned (☞ appears on the screen).
  – When you turn the focus ring while ☞ is displayed on the screen.

The focal distance is not displayed when you use non-Carl Zeiss lenses.

Using the expanded focus (Expanded focus)

During standby, press the ASSIGN button to which [EXP.FOCUS] is assigned. [EXPANDED FOCUS] appears and the center of the screen is magnified by about 2.0 times. It will be easier to confirm the focus setting during manual focusing. The screen returns to the original size when you press the button again.

Notes

- You cannot use the expanded focus when [REC CTL MODE] in [EXT REC CTRL] is set to other than [OFF] (p. 83).
- The center of the screen is magnified by about 1.5 times when [SCAN TYPE] in [HDV PROGRE.] or [DV PROGRE.] of the (IN/OUT REC) menu is set to [25].
- The screen returns to the original size when you start recording during the expanded focus display.

Tips

- You can select a type of an expanded image displayed during the expanded focus ([EXP.FOCUS TYPE] p. 78).

Focusing on a distant subject (Focus infinity)

Notes

- Focus infinity is available when the focus ring is set to the mode B position. It is not available during the auto focus.

① Assign [FOCUS INFNTY] to an ASSIGN button (p. 48).

② Press the ASSIGN button to which [FOCUS INFNTY] is assigned.
▲ appears on the screen.
If you release the button, your camcorder returns to the manual focus mode. This function enables you to set focus on a distant subject even when the focus is automatically set on a close subject.

Enhancing image detail for focusing (Peaking)

When you set the PEAKING switch to ON, the detail of an image on the screen is enhanced. This helps you to focus the image.
You can set the peaking sensitivity in [PEAKING] of (DISPLAY SET) menu (p. 77).

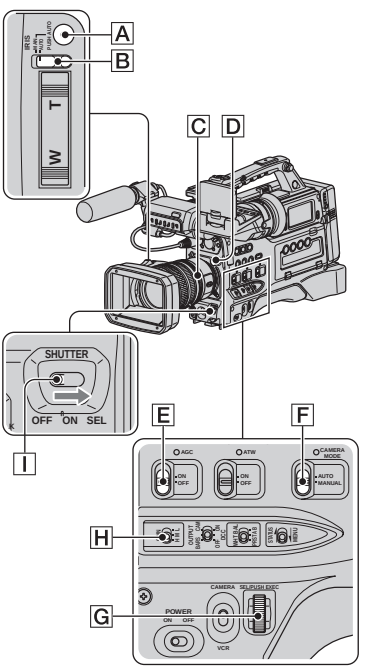
Notes

- Images, details of which are enhanced, will not be recorded on a tape or a “Memory Stick Duo.”

Tips

- You can focus an image more easily when you use this function with the expanded focus.

Adjusting the exposure



Adjusting the iris

You can manually adjust the iris to control the volume of the light entering the lens. By adjusting the iris, you can change or close the aperture of the lens, which is expressed as an F value between F1.6 and F11. The volume of the light increases the more that you open the aperture (decreasing F value). The volume of the light decreases the more that you close the aperture (increasing F value). The current F value appears on the screen.

① During recording or standby, set the CAMERA MODE switch F to MANUAL.

② Set the IRIS switch B to MAN.

③ Adjust the iris with the iris ring C. During the manual iris adjustment, you can temporarily return to the auto iris adjustment while holding down the PUSH AUTO button A.

Tips

- The F value becomes close to F2.0 as the zoom position changes from W to T even when you open the aperture by setting the F value lower than F2.0, such as F1.6.
- The range of focus, an important effect of the aperture, is called the depth of field. The depth of field gets shallower as the aperture is opened, and deeper as the aperture is closed. Use the aperture creatively to obtain the desired effect in your photography.
- This is handy for making the background blurred or sharp.

To adjust the iris automatically

Set the IRIS switch B or CAMERA MODE switch F to AUTO.

Notes

- When you set the CAMERA MODE switch F to AUTO, other manually adjusted items (gain, shutter speed, white balance) also become automatic.

Adjusting the volume of light (ND filter)

You can record the subject clearly by using the ND filter D when the recording environment is too bright. If you do not want to reduce the volume of light, use the ND filter 1. The ND filters 2, 3 and 4 reduce the volume of light to about 1/4, 1/16 and 1/64, respectively.

If the ND icon flashes during the iris automatic adjustment, set the ND filter D to the position that the icon indicates. The ND icon does not flash during the manual iris adjustment.

Notes

- If you change the ND filters D during recording, the movie and sound may be distorted.
- **ND** will flash when your camcorder cannot detect the ND filter positions (1/2/3/4). Check the ND filter position.

Tips

- While recording a bright subject, diffraction may occur if you close the aperture further down, resulting in a fuzzy focus (this is a common phenomenon with video cameras). The ND filter D suppresses this phenomenon and gives better recording results.

Adjusting the gain

You can adjust the gain manually when you do not want to use the AGC (automatic gain control).

① Set the CAMERA MODE switch F to MANUAL during recording or standby.

② Set the AGC switch E to OFF.

③ Set the GAIN switch H to H, M or L. The gain value set for the selected GAIN switch position appears on the screen.

The gain value can set for each GAIN switch position from [GAIN SETUP] of the (CAMERA SET) menu (p. 67).

To adjust the gain automatically

Set the AGC switch E to ON, or set the CAMERA MODE switch F to AUTO. The lamps above the respective switches will turn on.

Notes

- When you set CAMERA MODE switch F to AUTO, other manually adjusted items (iris, shutter speed, white balance) also become automatic.

Adjusting the shutter speed

You can manually adjust and fix the shutter speed. You can make a moving subject look still or emphasize the movement of a moving subject by adjusting the shutter speed.

① During recording or standby, set the CAMERA MODE switch F to MANUAL.

② Set the SHUTTER switch I to ON. The denominator of the set shutter speed appears on the screen. For example, [100] appears on the screen when you set the shutter speed to 1/100 second. The larger the value on the screen, the faster the shutter speed.

Each time you push the SHUTTER switch I to SEL, the shutter speed mode changes in the following sequence:

Manual mode → Extended clear scan (ECS) mode → Slow shutter (SLS) mode → Auto mode → Manual mode …

③ Adjust the shutter speed with the SEL/PUSH EXEC dial G.
The adjustable shutter speed range varies depending on the shutter speed mode and the setting of [SCAN TYPE] ((IN/OUT REC) menu → [HDV PROGRE.] or [DV PROGRE.]).

SCAN TYPE	[25]	[50]
Manual mode	1/50 - 1/10000 (sec.)	1/50 - 1/10000 (sec.)
ECS mode	25.00 - 200.0 (Hz)	50.00 - 200.0 (Hz)
SLS mode	1/3 - 1/25 (sec.)	1/3 - 1/25 (sec.)

To adjust the shutter speed automatically

Push the SHUTTER switch [I] to SEL a few times to set to auto mode, or set the CAMERA MODE switch [F] to AUTO.

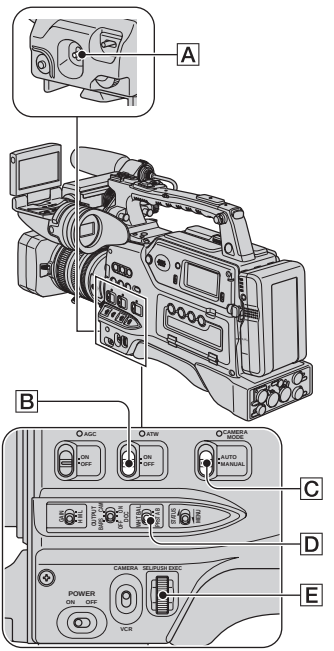
Notes

- If you set the CAMERA MODE switch [F] to AUTO, other manually adjusted items (iris, gain, white balance) also become automatic.
- The shutter speed information will not be recorded during recording in the ECS mode.

Tips

- Select the ECS mode if you want to obtain images with no horizontal bands of noise when you record subjects such as monitor screens.
- Select the slow shutter (SLS) mode if the subject is not well lit.
- The shutter speed is fixed to 1/50 when you set the SHUTTER switch [I] to OFF.
- It is difficult to focus automatically at a lower shutter speed. Sony recommends that you set up your camcorder on something stable such as a tripod, and manually adjust the focus.
- The picture may flicker or change colors under fluorescent lamps, sodium lamps or mercury lamps. You can reduce flickering by setting the shutter speed to an appropriate frequency in ECS mode.

Adjusting to natural color (White balance)



You can adjust and fix the white balance according to the lighting conditions of recording environment. You can store white balance values in memory A (▭ A) and memory B (▭ B), respectively. Unless a white balance is readjusted, values will remain even after the power has been turned off.

1 During recording or standby, set the CAMERA MODE switch [C] to MANUAL.

2 Set the ATW switch [B] to OFF.

3 Set the WHT BAL switch D to any one of PRST/A/B.

Select A or B for recording with the white balance setting stored in memory A or B. Select PRST for recording with the white balance setting set in [OUTDOOR], [INDOOR] or [MANU WB TEMP], which you have selected in [WB PRESET] of the (CAMERA SET) menu.

Indicator	Shooting conditions
A (Memory A) B (Memory B)	• White balance values adjusted for light sources can be stored in memory A and memory B. Follow the steps in "To save the adjusted white balance value in memory A or B" (p. 35).
Outdoor ([OUTDOOR])	• Recording sunset/ sunrise, just after sunset or just before sunrise • Recording neon signs or fireworks • Under daylight color fluorescent lamps
Indoor ([INDOOR])	• Under the lighting conditions that change in many ways, such as a party hall • Under strong light such as in a photography studio • Under sodium lamps or mercury lamps
Color temperature ([MANU WB TEMP])	• Color temperature can be set between 2300K and 15000K (the default setting is 6500K).

Tips

- You can change the outdoor white balance setting by setting offset. Push the WHT/BLK switch A to WHT and turn the SEL/PUSH EXEC dial E to select an offset value from -7 (bluish) to 0 (normal, the default setting) to +7 (reddish). Press the SEL/PUSH EXEC dial E to set the value. You can also set the white balance offset value from the menu ([WB OUTDR LVL] p. 67).
- You can change the color temperature when you set [WB PRESET] to [MANU WB TEMP] and the WHT BAL switch D to PRST. Push the WHT/BLK switch A to WHT. Turn the SEL/PUSH EXEC dial E until the desired temperature appears on the screen, then press the dial to set the temperature. You can also set the color temperature from the menu ([WB TEMP SET] p. 68).

To save the adjusted white balance value in memory A or B

① Set the WHT BAL switch D to A (A) or B (B) in step **3** of "Adjusting to natural color (White balance)."

② Capture a white subject, such as white paper, full-screen in the same lighting condition as the one in which the subject is.

③ Push the WHT/BLK switch A to WHT.
A or B starts flashing rapidly. It will stay on when the white balance adjustment is completed and the adjusted value is stored in A or B.

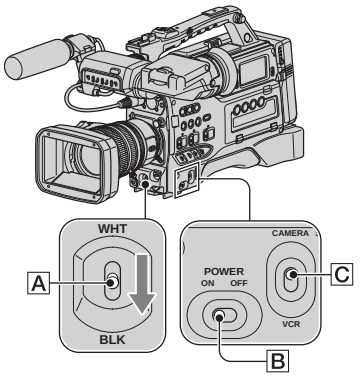
To adjust the white balance automatically

Set the ATW switch B to ON or the CAMERA MODE switch C to AUTO. The lamp above the ATW switch B turns on when you set the ATW switch B to ON. The lamps above the respective switches will turn on when you set the CAMERA MODE switch C to AUTO.

Notes

- When you set the CAMERA MODE switch C to AUTO, other manual adjustments (iris, gain, and shutter speed) also become automatic.

Adjusting the black balance



Normally, you do not need to adjust the black balance.
The black balance may become off in some recording conditions.
If that happens, adjust the black balance.
The adjusted settings are stored only temporarily. The settings return to the default settings when you turn the power off and back on.

1 Set the POWER switch [B] to ON and the CAMERA/VCR switch [C] to CAMERA.

2 Push the WHT/BLK switch [A] to BLK.

The black balance adjustment starts. When the adjustment is completed, [Completed.] appears on the screen.

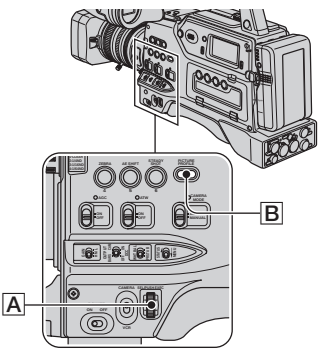
If the black balance adjustment fails

Check that the iris is closed, then try the adjustment again.

Notes

- You cannot adjust the black balance while the color bars are displayed.
- When using a non-Carl Zeiss lens, close the iris prior to the adjustment.

Customizing the picture quality (Picture profile)



You can customize the picture quality by adjusting picture profile items such as [GAMMA] and [DETAIL].
Connect your camcorder to a TV or monitor, and adjust the picture quality while observing the picture on the TV or monitor screen.
Picture quality settings for different recording conditions are stored in [PP1] through [PP6] as default settings.

Notes

- When you set [x.v.Color] to [ON], the picture profile will be disabled.

Picture profile number (setting name)	Recording condition
PP1 :USER	Default settings the same as when Picture Profile is [OFF]

Picture profile number (setting name)	Recording condition
PP2 :USER	Default settings the same as when Picture Profile is [OFF]
PP3 :PRO COLOR	Example settings of pictures recorded by a professional shoulder camcorder with ITU-709 gamma
PP4 :PD COLOR	Example settings of pictures recorded by a professional handy camcorder with PD gamma
PP5 :FILM LOOK1	Example settings of pictures recorded on cinema color negative film
PP6 :FILM LOOK2	Example settings of pictures screened with cinema color print film

1 During standby, press the PICTURE PROFILE button B.

2 Select a picture profile number with the SEL/PUSH EXEC dial A.

You can record with the settings of the selected picture profile.

3 Select [OK] with the SEL/PUSH EXEC dial A.

To cancel the picture profile recording

Select [OFF] in step **2** with the SEL/PUSH EXEC dial A.

To change the picture profile

You can change the settings stored in [PP1] through [PP6].

① Press the PICTURE PROFILE button B.

② Select the PICTURE PROFILE number with the SEL/PUSH EXEC dial A.

③ Select [SETTING] with the SEL/PUSH EXEC dial A.

④ Select an item to be adjusted with the SEL/PUSH EXEC dial A.

⑤ Adjust the picture quality with the SEL/PUSH EXEC dial A.

⑥ Repeat steps ④ and ⑤ to adjust other items.

⑦ Select [RETURN] with the SEL/PUSH EXEC dial A.

⑧ Select [OK] with the SEL/PUSH EXEC dial A.
A picture profile indicator appears.

Tips

- You can assign picture profiles to the ASSIGN buttons and use them to turn the picture profiles on and off (p. 48).

BLACK LEVEL

To set the black level.

Item	Description and settings
[MASTER BLACK]	Sets the master black level. -15 to +15
[BLACK R]	Sets the black level of Rch. [MASTER BLACK] + [BLACK R] is the black level of Rch. -15 to +15
[BLACK G]	Sets the black level of Gch. [MASTER BLACK] + [BLACK G] is the black level of Gch. -15 to +15
[BLACK B]	Sets the black level of Bch. [MASTER BLACK] + [BLACK B] is the black level of Bch. -15 to +15

GAMMA

To select a gamma curve.

Item	Description and settings
[STANDARD]	Standard gamma curve
[CINEMATONE1]	Gamma curve 1 for producing tone of film camera images
[CINEMATONE2]	Gamma curve 2 for producing tone of film camera images
[ITU709]	Gamma curve that corresponds to ITU-709 . Gain in low intensity area: 4.5
[G5.0]	Gamma curve with 5.0 of a low intensity area gain
[PD]	Gamma curve for producing tone similar to DCR-PD series
[x.v.]	Gamma curve similar to x.v.Color

BLACK GAMMA

To correct gamma in low intensity area.

Item	Description and settings
[RANGE]	Selects a correcting range. HIGH / MIDDLE / LOW
[LEVEL]	Sets the correcting level. -7 (maximum black compression) to +7 (maximum black stretch)

KNEE

To set knee point and slope for video signal compression to reduce over-highlighting by limiting signals in high contrast area of the subject to the dynamic range of your camcorder. When you set the OUTPUT/DCC switch to ON, [KNEE] is automatically adjusted.

Item	Description and settings
[AUTO SET]	Available when you set the OUTPUT/DCC switch to ON Sets the maximum point and sensitivity in the automatic mode. [MAX POINT] : Sets the maximum point. 90% ~ 100% [SENSITIVITY] : Sets the sensitivity. HIGH/MIDDLE/LOW
[MANUAL SET]	Available when you set the OUTPUT/DCC switch to OFF Sets the knee point and slope manually. [POINT] : Sets the knee point. 75% ~ 105% [SLOPE] : Sets the knee slope. -5(gentle) ~ +5(steep)

COLOR MODE

To set type and level of colors.

Item	Description and settings
[TYPE]	Selects a type of colors. [STANDARD] : Standard colors [CINEMATONE1] : Film camera image-like colors good with [GAMMA] set to [CINEMATONE1] [CINEMATONE2] : Film camera image-like colors good with [GAMMA] set to [CINEMATONE2] [ITU709 MTX] : Colors corresponding to ITU709
[LEVEL]	Sets a color level when you set [TYPE] to the settings other than STANDARD]. 1 (close to color settings of [STANDARD]) - 8 (color settings of the selected type)

COLOR LEVEL

To set the color level.

Item	Description and settings
	-7 (light) to +7 (dark), -8: black and white

COLOR PHASE

To set the color phase.

Item	Description and settings
	-7 (greenish) to +7 (reddish)

COLOR DEPTH

To set the color depth for each color phase.
This function is more effective for deep colors and less effective for light colors. The color looks deeper as you decrease the setting value to more negative side, and lighter as you increase the value to more positive side. This function is effective even if you set [COLOR LEVEL] to [-8] (monotone).

Item	Description and settings
[R]	-7 to +7 (depth of red)
[G]	-7 to +7 (depth of green)
[B]	-7 to +7 (depth of blue)
[C]	-7 to +7 (depth of cyan)
[M]	-7 to +7 (depth of magenta)
[Y]	-7 to +7 (depth of yellow)

COLOR CORRCT

To set items for the color correction.

Item	Description and settings
[TYPE]	Selects color correction type. [OFF] : Not correct colors. [COLOR REVISN] : Corrects colors stored in memory. Colors not stored in memory (displayed in black and white when [COLOR EXTRCT] is set) will not be corrected. [COLOR EXTRCT] : Displays areas in colors that are stored in the memory. The other areas are displayed in black and white. You can use this function to add effects on your movies or to confirm the colors to be stored in the memory.
[MEMORY SEL]	Selects a memory to be effective. [1]: Sets Memory 1 to be effective. [2]: Sets Memory 2 to be effective. [1&2]: Sets both Memory 1 and 2 to be effective.

COLOR CORRCT (Continued)

Item	Description and settings
[MEM1 COLOR]	Sets colors stored in Memory 1. [PHASE] : Sets color phase. 0 (purple) → 8 (red) → 16 (yellow) → 24 (green) → 31 (blue) [RANGE] : Sets color phase range. 0 (no color selection), 1 (narrow: to select only a single color) to 31 (wide: to select multiple colors in similar color phase) [SATURATION] : Sets saturation. 0 (to select from light colors to dark colors) to 31 (to select dark color) [ONE PUSH SET]: Automatically sets [PHASE] for a subject at the center of the marker. [SATURATION] is set to 0.
[MEM1 REVISN]	Corrects colors in Memory 1. [R GAIN] : Corrects the redness of the color in Memory 1. Tone of cyan becomes higher as the redness decreases. -15 (less reddish) to +15 (more reddish) 0 for no correction [B GAIN] : Corrects the blueness of the color in Memory 1. Tone of yellow becomes higher as the blueness decreases. -15 (less bluish) to +15 (more bluish) 0 for no correction
[MEM2 COLOR]	Sets colors stored in Memory 2. See [MEM1 COLOR] for description and settings.
[MEM2 REVISN]	Corrects colors in Memory 2. See [MEM1 REVISN] for description and settings.

Tips

- Setting both memories to the same setting doubles the color correction effect.
- The settings of [COLOR CORRCT] will be retained even if the power is turned off. However, if you want to correct colors that may change according to time of the day, weather, location, etc., it is recommended that you set [COLOR CORRCT] again prior to recording.
- If you change the white balance value or the settings of [WB SHIFT], [COLOR LEVEL] or [COLOR PHASE] of the picture profile, the settings of [RANGE] and [PHASE] of the selected memory will change. When you change the white balance value or the settings of the above picture profile items after you have set [RANGE] and [PHASE], check the settings of [COLOR CORRCT] prior to recording.
- During the automatic white balance adjustment, the white balance value automatically varies according to the lighting conditions of your recording environment. The manual white balance adjustment is recommended when you use [COLOR CORRCT].

WB SHIFT

To set items for the white balance shift.

Item	Description and settings
[FILTER TYPE]	Selects a color filter type for the white balance shift. [LB-CC] : Film type (color conversion and correction) [R-B] : Video type (correction of R and B levels)
[LB[COL TEMP]]	Sets a color temperature offset value. -9 (bluish) to +9 (reddish)
[CC[MG/GR]]	Sets a color correct offset value. -9 (greenish) to +9 (magentish)
[R GAIN]	Sets an R level. -9 (low R level) to +9 (high R level)
[B GAIN]	Sets a B level. -9 (low B level) to +9 (high B level)

DETAIL

To set items for the detail.

Item	Description and settings
[LEVEL]	Sets the detail level. -7 to +7
[MANUAL SET]	[ON/OFF] : Turns on and off the manual detail adjustment. [ON] : Enables the manual detail adjustment (automatic optimization will not be performed). [OFF] : Disables the manual detail adjustment. [V/H BALANCE] : Sets the horizontal (H) and vertical (V) balance of detail. [B/W BALANCE]: Selects the balance of the upper DETAIL (P) and the lower DETAIL (N). TYPE 1 (off to the lower DETAIL (N) side) to TYPE 5 (off to the upper DETAIL (P) side) [BLACK LIMIT] : Sets the limit level of the lower DETAIL (N). 0 (Low limit level: likely to be limited) to 7 (High limit level: not likely to be limited) [WHITE LIMIT] : Sets the limit level of the upper DETAIL (P). 0 (Low limit level: likely to be limited) to 7 (High limit level: not likely to be limited) [CRISPENING] : Sets the crispening level. 0 (shallow crispening level) to 7 (deep crispening level) [HI-LIGHT DTL] : Sets the DETAIL level in the high intensity areas. -2 to +2

SKINTONE DTL

To adjust the detail of skintone areas to reduce wrinkles.

Item	Description and settings
[ON/OFF]	Suppresses details in skin-tone areas to reduce wrinkles. Select [ON] when you want to use this function. You can also select other areas.
[LEVEL]	Sets the adjustment level. 1 (less adjust the detail) to 8 (more adjust the detail)
[COLOR SEL]	Sets color items for the detail adjustment. [PHASE] : Sets the color phase. 0 (purple) → 32 (red) → 64 (yellow) → 96 (green) → 127 (blue) [RANGE] : Sets the color range. 0 (selects no color), 1 (narrow: selects a single color) to 31 (wide: selects multiple colors in similar color phases and saturation) The detail will not be adjusted when you set [RANGE] to 0. [SATURATION] : Sets the color saturation. 0 (selects a light color) to 31 (selects a deep color) [REVERSE] : Reverses the selected color range. If you execute this function when a color has been selected, colors that were not selected will be selected instead. [Y LEVEL] : Sets the color brightness. 0 (selects a dark color) to 31 (selects a bright color) [Y RANGE] : Sets the color brightness range. 1 (narrows the brightness range) to 32 (expands the brightness range) [ONE PUSH SET]: Automatically adjusts [PHASE], [SATURATION] and [Y LEVEL] for a subject at the center of the marker. [RANGE] and [Y RANGE] will not be changed.

PROFILE NAME

To name the picture profiles set in [PP1] through [PP6] (p. 44).

COPY

To copy the settings of the picture profile to another picture profile number.

RESET

To reset the picture profile to the default setting.

To name the picture profile settings

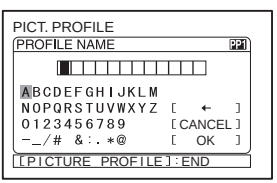
You can name picture profile1 through 6.

① Press the PICTURE PROFILE button B.

② Select the picture profile that you want to name with the SEL/PUSH EXEC dial A.

③ Select [SETTING] → [PROFILE NAME] with the SEL/PUSH EXEC dial A.

④ Select a letter with the SEL/PUSH EXEC dial A. Repeat this operation until a complete name is entered.



Tips

- Each name can be up to 12 characters long. Characters that can be used in profile names:
  - A to Z
  - 0 to 9
  - - _ / # & : . * @

⑤ Select [OK] with the SEL/PUSH EXEC dial A.
The profile name is changed.

⑥ Select [⮐ RETURN] → [OK] with the SEL/PUSH EXEC dial A.

To copy the picture profile setting to other picture profiles

① Press the PICTURE PROFILE button B.

② Select the picture profile that you want to copy from with the SEL/PUSH EXEC dial A.

③ Select [SETTING] → [COPY] with SEL/PUSH EXEC dial A.

④ Select the number of the picture profile that you want to copy to with the SEL/PUSH EXEC dial A.

⑤ Select [YES] with the SEL/PUSH EXEC dial A.

⑥ Select [⮐ RETURN] → [OK] with the SEL/PUSH EXEC dial A.

To reset the picture profile settings

You can reset the picture profile settings by each picture profile number. You cannot reset all picture profile settings at once.

① Press the PICTURE PROFILE button B.

② Select the number of the picture profile that you want to reset with the SEL/PUSH EXEC dial A.

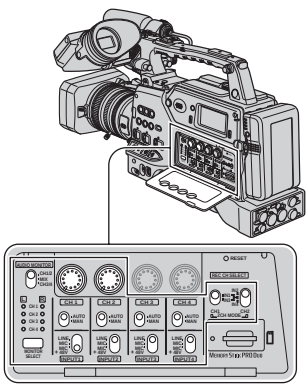
③ Select [SETTING] → [RESET] → [YES] → [⮐ RETURN] → [OK] with the SEL/PUSH EXEC dial A.

Adjusting the volume

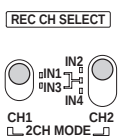
You can adjust the volume of a microphone connected to the AUDIO INPUT1 (L) jack through the AUDIO INPUT4 jack.
Set the number of channels to be recorded from [HDV 2CH/4CH] (for HDV, p. 74) or [DV AU.MODE] (for DVCAM (DV), p. 74) of the (AUDIO SET) menu.

■ 2CH/FS48K recording

You can select audio input to be recorded on the audio track of a tape.



① Set the REC CH SELECT switch.



Select the recording audio input to CH1 with CH1 of the REC CH SELECT switch.

IN1: Records the audio input from the AUDIO INPUT1 (L) jack.

IN3: Records the audio input from the AUDIO INPUT3 jack.

Select the recording audio input to CH2 with CH2 of the REC CH SELECT switch.

IN2: Records the audio input from the AUDIO INPUT2 (R) jack.

Center: Records the audio input from the AUDIO INPUT jack selected with CH1 switch.

IN4: Records the audio input from the AUDIO INPUT4 jack.

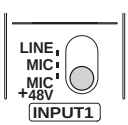
Notes

- For stereo recording, set your camcorder to record the left-side sound in CH1 and the right-side sound in CH2.

Tips

- Sony recommends that you set CH2 of the REC CH SELECT switch to the center position in the following cases:
  - To avoid no audio input to CH2 by recording the same audio input with that inputted to CH1.
  - To record different audio inputs from the same audio source simultaneously with different audio settings to make the audio recording reliable. For example, you can set the audio level manually for the audio input to CH1 and automatically for that to CH2, and record the inputs in the respective channels.

② Set the INPUT1/2/3/4 switch.
If your microphone needs a power supply, set the INPUT1/2/3/4 switch to MIC+48V. If it does not need a power supply, set to MIC.



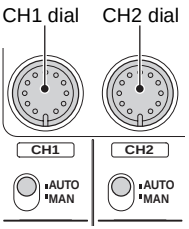
Notes

- Setting the INPUT1/2/3/4 switch to MIC+48V when a microphone that does not need a power supply is attached may damage the microphone or impair the sound recording quality.

Tips

- Set the INPUT1/2/3/4 switch to MIC+48V when using the supplied microphone.

③ Set the level of input to be recorded on each audio track.



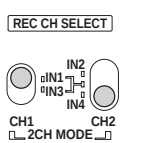
If you want to adjust the recording volume automatically, set the CH1 and CH2 switches to AUTO. If you want to adjust it manually, set the switches to MAN. When you set the switches to MAN, ♪M appears on the screen. The CH switch numbers you set to MAN appear on the right of the icon (♪M). You can adjust the volume when the switches are set to MAN by turning the CH1 and CH2 dials.

Notes

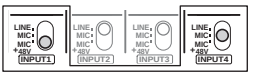
- Set the INPUT switches for the respective AUDIO INPUT jacks, and the CH switches for the corresponding recording tracks on a tape.

Example of 2CH recording (recording audio input from INPUT1 and INPUT4)

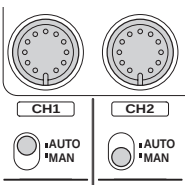
① Set CH1 of the REC CH SELECT switch to IN1 and CH2 to IN4.



② Set the INPUT1 and INPUT4 switches. For example, set the INPUT1 switch to MIC+48V and the INPUT4 switch to MIC when the supplied microphone is connected to the AUDIO INPUT1 (L) jack, or a microphone that does not need a power supply is connected to the AUDIO INPUT4 jack, as illustrated.



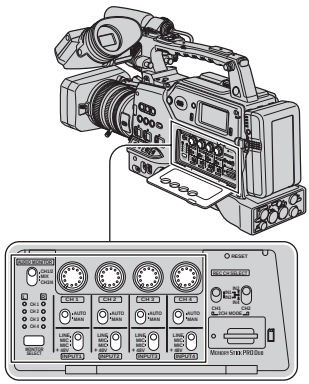
③ Set the CH1 and CH2 switches. For example, set the CH1 switch to AUTO and the CH2 switch to MAN to adjust the recording level of CH1 automatically and that of CH2 manually.



Tips

- You cannot adjust the recording levels of CH3 and CH4 during 2-channel recording.

■ 4CH/FS32K recording

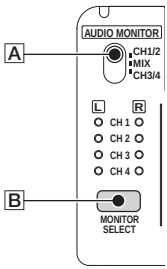


In 4-channel recording, the recording channels are designated to their respective input channels, as shown in the following table.You cannot select the channels.
The settings of REC CH SELECT switch become ineffective.

Input		Recording channel
INPUT1	→	CH1
INPUT2	→	CH2
INPUT3	→	CH3
INPUT4	→	CH4

Monitor the recording sound

You can select audio output via headphones or line-out.



Select the channels with the AUDIO MONITOR switch A and the MONITOR SELECT button B.
The lamps of the selected output channels light up.

Assigning the functions to the ASSIGN buttons

Some functions need to be assigned to the ASSIGN buttons for use. You can assign a single function to any one of the ASSIGN 1 to 6 buttons on the body or the L1, L2 and RET buttons on the lens.

Notes

- The following functions cannot be assigned to the RET button.
  - FOCUS (for changing between automatic focus and manual focus)
  - ONE PUSH AF
  - FOCUS INFNTY
  - FOCUS MACRO
  - STEADYSHOT

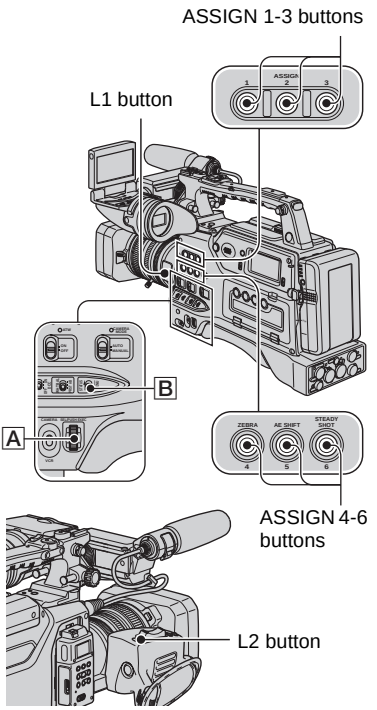
Tips

- The RET button is an assignable button on non-Carl Zeiss lenses.

Functions you can assign to the ASSIGN buttons

The buttons in parentheses indicate that the functions are assigned to the buttons by default.

- FOCUS (p. 30)
- EXP.FOCUS (p. 31)
- ONE PUSH AF (p. 31)
- FOCUS INFNTY (p. 31)
- FOCUS MACRO (p. 70)
- D.EXTENDER (p. 70) (L1 button)
- HYPER GAIN (p. 67)
- AE SHIFT (p. 68) (ASSIGN 5 button)
- INDEX MARK (p. 49)
- STEADYSHOT (p. 69) (ASSIGN 6 button)
- BACK LIGHT (p. 69)
- SPOTLIGHT (p. 69)
- FADER (p. 70)
- LAST SCN RVW (p. 50)
- REC REVIEW (p. 50) (L2 or RET button)
- END SEARCH (p. 50)
- ZEBRA (p. 76) (ASSIGN 4 button)
- MARKER (p. 77)
- DISPLAY (p. 58)
- TC RESET (p. 84)
- TC COUNTUP (p. 84)
- PHOTO (p. 27)
- REC LAMP[R] (p. 90)
- PICTURE PROFILE (p. 36)



1 **Push the MENU/STATUS switch [B] to MENU.**

2 **Select the (OTHERS) → [ASSIGN BTN] with the SEL/PUSH EXEC dial [A].**

3 **Select [CAMERA] or [LENS], whichever the ASSIGN button to which you want to assign a function is located, with the SEL/PUSH EXEC dial [A].**

4 Select the ASSIGN button to which you want to assign a function with the SEL/PUSH EXEC dial A.

- You can select the ASSIGN 1 through 6 buttons on the body and the L1, L2 and RET button on the lens.
- [------] appears if no function is assigned to the ASSIGN button.

5 Select the function that you want to assign with the SEL/PUSH EXEC dial A.

6 Select [OK] with the SEL/PUSH EXEC dial A.

7 Select [RETURN] with the SEL/PUSH EXEC dial A.

8 Push the MENU/STATUS switch B to MENU to hide the menu screen.

Recording an index signal

When you record a scene with an index signal, you can easily find the scene during playback on a device that supports this function.
The index function will make it easier to check the transition of recording or edit your pictures using index signals.

1 Assign [INDEX MARK] to one of the ASSIGN buttons (p. 48).

2 Press the ASSIGN button to which [INDEX MARK] is assigned.

During recording

appears for about 7 seconds and an index signal is recorded.

During standby

flashes.

After you press the REC START/STOP button to start recording, appears for about 7 seconds and an index signal is recorded.

To cancel the operation

Press the ASSIGN button to which [INDEX MARK] is assigned again before you start recording.

Notes

- You cannot record an index signal on a recorded tape afterward.

Reviewing the most recently recorded scenes (Rec review)

You can view about 2 seconds of the scene recorded just before you stopped the tape. This is convenient during playback of the latest scene check.

Press the REC REVIEW button or the ASSIGN button to which [REC REVIEW] is assigned during standby.

The last 2 seconds (approx.) of the most recently recorded scenes will be played back, then your camcorder returns to standby.

Searching for the last scene of the most recent recording (End search)

1 Assign [END SEARCH] to one of the ASSIGN buttons (p. 48).

2 Press the ASSIGN button to which [END SEARCH] is assigned.

The last scene of the most recent recording will be played back for about 5 seconds, and the camcorder goes standby at the point where the last recording has finished.

Notes

- End search will not work once you eject the tape.
- End search will not work correctly if a blank section exists between recorded sections on the tape.

Playing back the most recently recorded movies (Last scene review)

You can set your camcorder to automatically rewind the tape to the beginning of the most recently recorded scene, play back to the end of the scene, then stop the tape.

1 Assign [LAST SCN RVW] to an ASSIGN button (p. 48).

2 During standby, press the ASSIGN button to which [LAST SCN RVW] is assigned.

The last scene review starts.

Notes

- If the recording time of the movie is short, [LAST SCN RVW] may not work correctly.

Tips

- If you press the ASSIGN button again during the last scene review, your camcorder plays back the last 5 seconds of the most recently recorded movie, then goes standby at the end of the recording.

Using the Shot transition

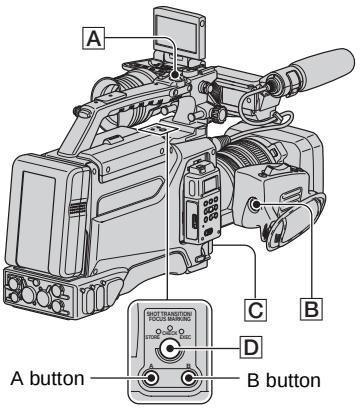
You can store settings of focus, zoom, iris, gain, shutter speed and white balance, and smoothly shift from the current settings to the stored settings (shot transition).
For example, you can shift the focus from closer objects to farther objects, or change the depth of field by adjusting the iris. You can also develop scenes under different conditions smoothly. If you store manually adjusted settings of white balance, you can smoothly shift from one scene to another under different conditions, such as from indoor to outdoor.
Sony recommends that you use a tripod to avoid image blurring.
You can set the following items in [SHOT TRANSITION] of the (CAMERA SET) menu (p. 72).

Item	Description and settings
TRANS TIME	Setting of transition time (the default setting is [4.0sec]) You can set the transition time by 0.5 sec between [3.5sec] and [15.0sec], or select from [20sec], [30sec], [45sec] and [60sec].
START TIMER	Setting of timer to start shot transition (the default setting is [OFF]) You can select from [5sec], [10sec] and [20sec].
REC LINK	Setting of transition linked with start of recording (the default setting is [OFF]) [OFF]: Not to start transition when the recording is started. [SHOT-A]: To start transition to the SHOT-A when the recording is started. [SHOT-B]: To start transition to the SHOT-B when the recording is started.
FOCUS TRANS	Setting ([ON]/[OFF]) of focus transition (the default setting is [ON])
ZOOM TRANS	Setting ([ON]/[OFF]) of zoom transition (the default setting is [ON])
IRIS TRANS	Setting ([ON]/[OFF]) of iris transition (the default setting is [ON])

Notes

- You cannot manually adjust the focus, zoom, iris, gain, shutter speed and white balance while the CHECK or EXEC lamp is on. You can manually adjust the focus, zoom and iris, even the CHECK or EXEC lamp is on when you set [FOCUS TRANS], [ZOOM TRANS] and [IRIS TRANS] to [OFF], respectively.
- When [EXT REC CTRL] is set to [EXT ONLY], setting [REC LINK] (linked recording) to [SHOT-A] or [SHOT-B] links the start of transition to the start of recording on an external device (HVR-MRC1 or HVR-DR60).

Continued ➡



1 **Set [S.TRANS/F.MARK] of the (CAMERA SET) menu to [SHOT TRANSITION].**

2 **Press the SHOT TRANSITION/FOCUS MARKING button D to bring up the shot transition store screen.**

The STORE lamp turns on.

3 **Press the A button to store the settings in SHOT-A, or the B button to store the settings in SHOT-B.**

Notes

- The settings stored in SHOT-A or SHOT-B will be erased when you set the POWER switch to OFF.

4 **Press the SHOT TRANSITION/FOCUS MARKING button D again to bring up the shot transition check screen.**

The CHECK lamp turns on.

Press the A button to check SHOT-A, or the B button to check SHOT-B. The image will be displayed with the settings stored in the selected SHOT. The focus, zoom, iris, gain, shutter speed and white balance are automatically adjusted to the stored settings.

Notes

- The settings do not shift to the stored settings with the transition time set in [TRANS TIME] (p. 51).

5 **Press SHOT TRANSITION/FOCUS MARKING button D again to bring up the shot transition execution screen.**

The EXEC lamp turns on.

6 **Press the REC START/STOP button A (B or C).**

Press the A button for recording with SHOT-A, or the B button for recording with SHOT-B.

The settings shift from the current ones to the stored ones.

Notes

- When you change [SHOT TRANSITION] (p. 51), press the SHOT TRANSITION/FOCUS MARKING button repeatedly to exit the shot transition screen.
- You cannot return from the stored SHOT-A or SHOT-B settings to previous settings after you execute the shot transition during recording.

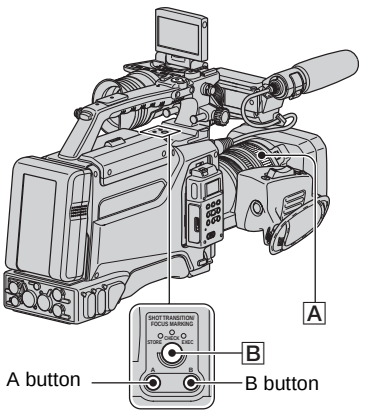
- If you use the following buttons and switch during the shot transition operation, the shot transition will be canceled:
  - PICTURE PROFILE button
  - MENU/STATUS switch
  - ASSIGN button to which [EXP.FOCUS] is assigned
- You can also make a transition from the SHOT-A to the SHOT-B or from the SHOT-B to the SHOT-A. For example, to make a transition from the SHOT-A to the SHOT-B, display the shot transition check screen, press the A button to bring up the SHOT-A and press the REC START/STOP button. Then, display the shot transition execution screen and press the B button.
- You can rehearse the shot transition by pressing the respective buttons (A or B) to which your customized settings are assigned before pressing the REC START/STOP button in step **6**.
- You cannot use the shot transition when you use a non-Carl Zeiss lens.
- The settings stored in the memory (SHOT-A/SHOT-B) are cleared when you remove the Carl Zeiss lens, or you adjust the flange focal length.

To cancel the operation

Press the SHOT TRANSITION/FOCUS MARKING button [D] repeatedly to exit the shot transition screen.

Marking focal point on the screen (Focus marking)

You can mark a focal point, at which you set a subject in focus, on the LCD screen prior to the recording. You can use this function during the manual focus.



1 **Set [S.TRANS/F.MARK] of the (CAMERA SET) menu to [FOCUS MARKING].**

2 **Press the SHOT TRANSITION/ FOCUS MARKING button B.**

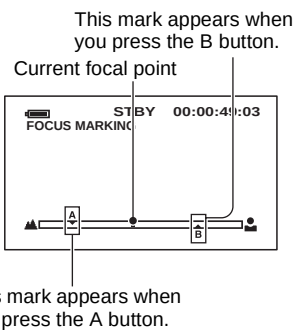
The focus marking bar appears at the bottom of the screen.

3 **Adjust the focus by turning the focus ring A and set a focal point.**

A cursor on the focus marking bar moves as you turn the focus ring.

4 **Press the A button for marking a focal point at position A or the B button for marking a focal point at position B.**

When you press the A button, ▼ and A appear on the focus marking bar. When you press the B button, ▲ and B appear on the focus marking bar.



The color of the marks changes when position A or B matches the current focal point.

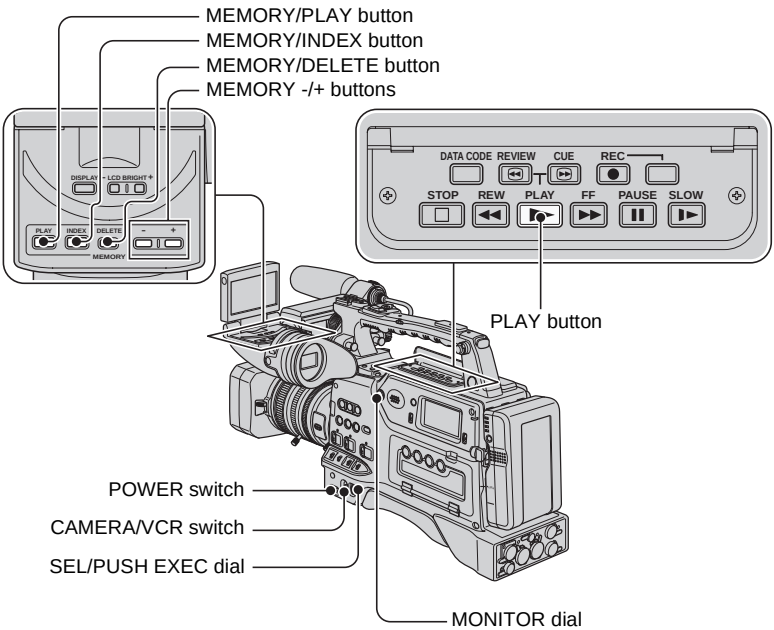
Notes

- The focus marking function does not work when [FOCUS MACRO] is set to [ON].
- You cannot use the focus marking when you use a non-Carl Zeiss lens. Marking positions A and B will be cleared when you dismount the lens or turn off the power.

Tips

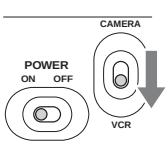
- You can use the focus marking function during the expanded focus.

Playback



You can play back movies as follows:

1 Set the POWER switch to ON and the CAMERA/VCR switch to VCR



2 Start playing back.

Press ◀◀ (rewind) to go to the point you want to view, then press ▶ (play) to start playback.

- ■ : STOP
- ❚❚ : PAUSE (Press ▶ or ❚❚ again to restart the playback)
- ◀◀/▶▶ : REW (Rewind)/FF (Forward)
- ⏪/⏩ : REVIEW/CUE
- ❚▶ : SLOW

Notes

- Your camcorder automatically goes into a stopped state when it is in pause for more than 3 minutes.
- The screen may temporarily go blank losing images and sound when signals switch between HDV and DVCAM (DV) during playback of a tape in which HDV format and DVCAM (DV) format are mixed.
- You cannot play back movies recorded in HDV format on DVCAM (DV) format video cameras or mini DV players.
- You can play back a DV format tape on your camcorder only when its contents are recorded in the SP mode. You cannot play back movies recorded on the DV format tape in the LP mode.
- Time code and user bits will not be displayed correctly when you play back a tape with no time code or user bit data, or a tape with time code that your camcorder does not support.

Tips

- See page 129 for indicators displayed on the screen during playback.
- See page 58 for how to switch displays during playback.

To search for a scene while viewing a movie

Press ⏮/⏭ during playback (Picture Search). To view during fast forward, press and hold ▶▶. To view during rewind, press and hold ◀◀ (Skip Scan).

To adjust the volume

Adjust the volume with the MONITOR dial.

To view still images

① Set the POWER switch to ON and the CAMERA/VCR switch to VCR.

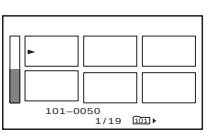
② Press the MEMORY/PLAY button.

③ Select a still image that your want to view using the MEMORY -/+ button.
To stop viewing still images, press the MEMORY/PLAY button again.

To display the list of still images (index screen)

① Set the POWER switch to ON and the CAMERA/VCR switch to VCR.

② Press the MEMORY/INDEX button.



③ Select a still image using the MEMORY -/+ button.
To display a single image, move ▶ to that image and press the MEMORY/PLAY button.
To stop displaying the list of still images, press the MEMORY/INDEX button again.

To delete still images from the “Memory Stick Duo”

① Do the steps of “To view still images” to display still images that you want to delete.

② Press the MEMORY/DELETE button.

③ Select [YES] with the SEL/PUSH EXEC dial.
The still image will be deleted.

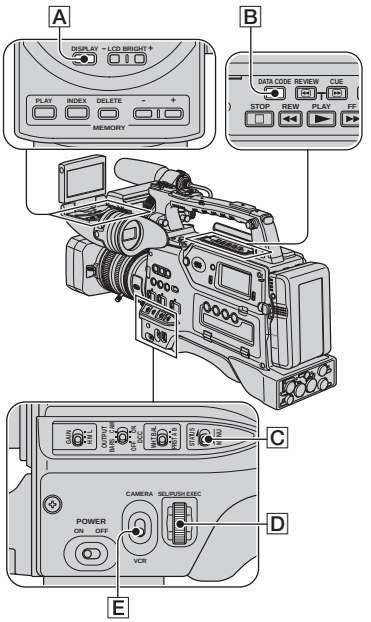
Notes

- Still images cannot be restored once you delete them.
- You cannot delete still images when the “Memory Stick Duo” is write-protected (p. 109) or the still image is protected (p. 97).

Tips

- To delete a still image in the index, move ▶ to the still image using the VOLUME/MEMORY button, then do steps ② and ③.
- To delete all still images, do [ALL ERASE] of the (MEMORY SET) menu (p. 86).

Changing/checking the settings in your camcorder



Changing the screen

You can turn on and off the display of the time code, tape counter, and other information on the screen.

Press the DISPLAY button A.

The screen indictors turns on (displayed) and off (not displayed) as you press the button.
When the CAMERA/VCR switch is set to CAMERA, the screen changes (detailed display → simple display → no display) as you press the button.

Tips

- You can display the screen indicators during playback on a TV. Select [V-OUT/PANEL] of [DISP OUTPUT] (p. 80).
- When you assign [DISPLAY] of [ASSIGN BTN] to an ASSIGN button, you can use the ASSIGN button to change the screen.
- To output a signal containing information on indicators such as icons via the COMPONENT OUT jack or the HD/SD SDI OUT jack, set [DISP OUTPUT] to [ALL OUTPUT].

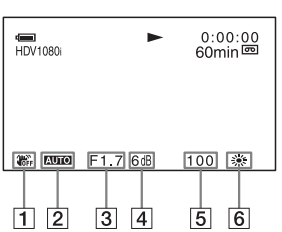
Displaying recording data (Data code)

You can display information, including date, time and camera data, automatically stored during recording on the screen during playback.

1 Set the CAMERA/VCR switch E to VCR.

2 Press the DATA CODE button B during playback or pause.

The screen changes (date and time display → camera data display → no display) as you press the button.



1 SteadyShot off

2 Exposure
AUTO appears during playback of the movie recorded with the iris, gain and shutter speed automatically adjusted.

MANUAL appears during playback of the movie recorded with the iris, gain and shutter speed manually adjusted.

3 Iris

CLOSE appears in the iris value display area during playback of the movie recorded with the iris manually adjusted to its maximum value.

4 Gain

5 Shutter speed

6 White balance

PWB appears during playback of the movie recorded with the shot transition or [MANU WB TEMP].

Notes

- The exposure correction value (0EV), shutter speed and iris will be displayed during viewing of still images on "Memory Stick Duo."
- Date and time will be displayed in the same area when you select the date and time display. If you record without setting date and time, [-- -- ----] and [--:--:--] will be displayed.
- An accurate shutter speed may not be displayed when you playback a tape recorded with your camcorder on another device. Check the data code that is displayed on the screen when you play back the tape on your camcorder for the accurate shutter speed.
- A shutter speed is indicated with [---] during playback of the movie record in the extended clear scan (ECS) mode.

Displaying the settings in your camcorder (Status check)

You can check the settings of the following items.

- Audio setup such as microphone volume level (p. 74)
- Output signal setup ([VCR HDV/DV], etc.) (p. 80)
- Functions assigned to the ASSIGN buttons (p. 48)
- Camera setup (p. 67)
- External devices

1 Push the MENU/STATUS switch C to STATUS.

2 Turn the SEL/PUSH EXEC dial D until a desired display shows up on the screen.

When the CAMERA/VCR switch E is set to CAMERA, the display changes in the following sequence:

AUDIO → OUTPUT → ASSIGN → CAMERA → EXT DEVICE (when an external device is connected)

When the CAMERA/VCR switch E is set to VCR, the display changes in the following sequence:

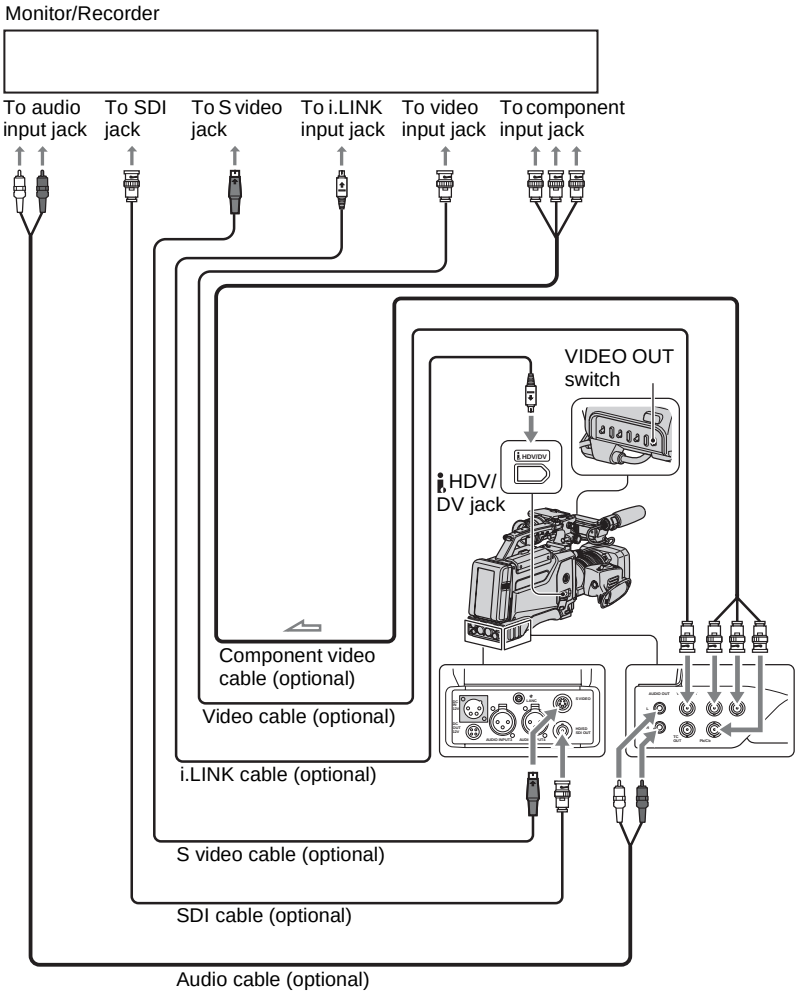
AUDIO → OUTPUT → ASSIGN → EXT DEVICE (when an external device is connected)

To hide the display

- Push the MENU/STATUS switch C to STATUS.

Connecting a monitor or a TV

To connect to a monitor or recorder without an i, HDV/DV jack, use audio and video cables as below. You do not need an audio cable to connect a monitor that supports SDI audio input via an SDI cable. If the monitor does not support SDI audio input, you need an audio cable even if you connect the monitor via an SDI cable. When using the VIDEO OUT jack, set the VIDEO OUT switch to COMPOSITE (no image on the LCD screen).

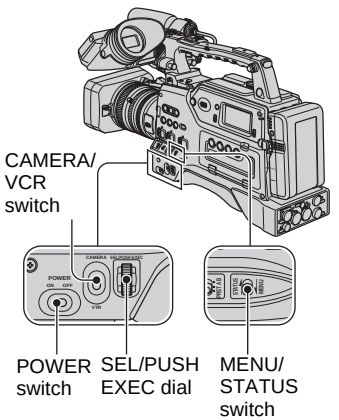


Notes

- Set (IN/OUT REC) menu → [VIDEO OUT] → [SDI/CMPNT] (p. 82) for an external device to which HDV format signals are inputted from your camcorder via an SDI cable or a component video cable. When connecting via an SDI cable, also set [SDI OUTPUT] in the (IN/OUT REC) menu to [ON] (default setting).
- See “Specifications” (p. 116) for details on the HD/SD SDI OUT jack and the COMPONENT OUT jack.
- Video signals outputted from the HD/SD SDI OUT jack or the COMPONENT OUT jack of your camcorder have the following limitations:
  - Video signals inputted from the HDV/DV jack of your camcorder need to be recorded to output to an external device. When recording video signals and outputting them from the HDV/DV jack to the external device, you can view the movie reproduced by the video signal.
  - When recording a video signal inputted from the HDV/DV jack in HDV format and outputting the signal in SDI format, the SDI signal does not meet SDI specifications.
  - Image and audio distortion may occur depending on the quality of the i.LINK signal in the device connected to your camcorder via the HDV/DV jack, or the quality or type of SDI input jack of the connected device. Make sure the connected device is appropriate for receiving an SDI video signal.
  - Video signals are simultaneously outputted from the COMPONENT OUT jack and the HD/SD SDI OUT jack. The [SDI/CMPNT] settings in [VIDEO OUT] of the (IN/OUT REC) menu affect both the COMPONENT OUT jack and the HD/SD SDI OUT jack.
- When down converting an HDV format signal to a DVCAM (DV) signal and outputting it, you can output a 4-channel audio signal via any jack except the HDV/DV jack.
- You cannot up convert a DVCAM (DV) format video signal to an HDV format video signal.
- 1080/25p video signals are outputted via the COMPONENT OUT jack and the HD/SD SDI OUT jack as 1080/50i video signals.
- Make sure that [VCR HDV/DV] in the (IN/OUT REC) menu is set to [AUTO] (default setting) before connecting an i.LINK cable. If you connect the i.LINK cable before setting [VCR HDV/DV] to [AUTO], your monitor may not recognize video signals.
- You may need to set your monitor to recognize your camcorder when connecting them via an i.LINK cable. Refer to the operating instructions of your monitor.
- A video signal and an audio signal are outputted together when your camcorder is connected to an external device via an i.LINK cable. You cannot output those signals separately.
- When you down convert an HDV format signal with 4-channel recording to a DVCAM (DV) format signal and output it via the HDV/DV jack, the audio is output through two channels. Set (IN/OUT REC) menu → [i.LINK SET] → [DOWN CONV AU] to select [CH1,CH2] or [CH3,CH4] output channels.
- If you change the [SDI/CMPNT] settings in [VIDEO OUT] of the (IN/OUT REC) menu during playback, the image signals outputted from the S VIDEO OUT jack, VIDEO OUT jack and HDV/DV jack may be temporarily distorted.
- When you down convert an HDV format progressive video signal to a DVCAM (DV) format video signal and output it via the i.LINK jack, the output signal is converted into an interlaced video signal.

Using the menu items

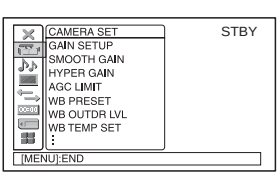
You can change various settings or make detailed adjustments using the menu items displayed on the screen.



1 Set the POWER switch to ON, then set the CAMERA/VCR switch to CAMERA or VCR.

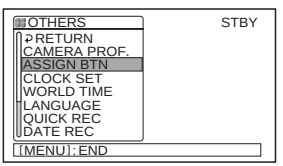
2 Push the MENU/STATUS switch to MENU.

The menu index screen appears.

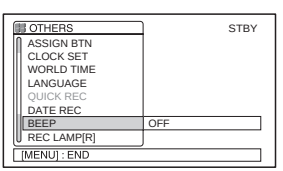


3 Turn the SEL/PUSH EXEC dial until the icon of the desired menu is highlighted, then press the dial to select the menu.

CAMERA SET (p. 67)
AUDIO SET (p. 74)
DISPLAY SET (p. 76)
IN/OUT REC (p. 80)
TC/UB SET (p. 84)
MEMORY SET (p. 86)
OTHERS (p. 88)

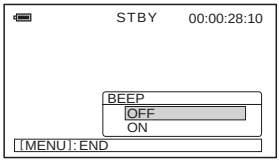


4 Turn the SEL/PUSH EXEC dial until the desired menu item is highlighted, then press the dial to select the item.



The available menu items vary depending on the position of the CAMERA/VCR switch of your camcorder. Unavailable items will be grayed out.

5 **Turn the SEL/PUSH EXEC dial until the desired setting is highlighted or to bring up the desired setting, then press the dial to confirm the setting.**



6 **Push the MENU/STATUS switch to MENU to hide the menu screen.**

To return to the previous screen, select [RETURN].

Menu items

Available menu items (●) vary depending on the CAMERA/VCR switch position.

Position of CAMERA/VCR switch:	CAMERA	VCR
(CAMERA SET) menu (p. 67)		
GAIN SETUP	●	–
SMOOTH GAIN	●	–
HYPER GAIN (AS)	●	–
AGC LIMIT	●	–
WB PRESET	●	–
WB OUTDR LVL	●	–
WB TEMP SET	●	–
ATW SENS	●	–
SMOOTH WB	●	–
AE SHIFT (AS)	●	–
AE WINDOW	●	–
AE RESPONSE	●	–
AT IRIS LMT	●	–
FLCKR REDUCE	●	–
CNTRST ENHCR	●	–
BACK LIGHT (AS)	●	–
SPOTLIGHT (AS)	●	–
STEADYSHOT (AS)	●	–
AF ASSIST	●	–
FOCUS MACRO (AS)	●	–
HANDLE ZOOM	●	–
D.EXTENDER (AS)	●	–
FADER (AS)	●	–
SMTH SLW REC	●	–
INTERVAL REC	●	–
DV FRAME REC DVCAM DV	●	–
SHOT TRANSITION	●	–
S.TRANS/F.MARK	●	–
x.v.Color HDV1080i	●	–
COLOR BAR	●	–
FLANGE BACK	●	–
(AUDIO SET) menu (p. 74)		
HDV 2CH/4CH HDV1080i	●	–
DV AU.MODE DVCAM DV	●	–
AU.LMT CH1,2	●	–
AU.LMT CH3,4	●	–
XLR SET	●	–

Position of CAMERA/VCR switch:	CAMERA	VCR
(DISPLAY SET) menu (p. 76)		
ZEBRA (AS)	●	–
HISTOGRAM	●	–
PEAKING	●	–
MARKER (AS)	●	–
CAM LEVELING	●	–
EXP.FOCUS TYPE	●	–
CAM DATA DSP	●	–
AU.LVL DISP	●	–
ZOOM DISPLAY	●	–
FOCUS DISP	●	–
SHUTTER DISP	●	–
LCD COLOR	●	●
LCD BL LEVEL	●	●
VF B.LIGHT	●	●
VF COLOR	●	●
LETTER SIZE	●	●
REMAINING	●	●
DISP OUTPUT	●	●
(IN/OUT REC) menu (p. 80)		
REC FORMAT	●	–
VCR HDV/DV	–	●
HDV PROGRE. HDV1080i	●	–
DV PROGRE. DVCAM DV	●	–
DV REC MODE DVCAM DV	●	●
DV WIDE REC DVCAM DV	●	–
SDI OUTPUT	●	●
VIDEO OUT	●	●
i.LINK SET	●	●
EXT REC CTRL	●	–
(TC/UB SET) menu (p. 84)		
TC PRESET	●	●
TC COUNTUP (AS)	●	●
UB PRESET	●	●
TC RUN	●	●
TC MAKE	●	●
TC LINK	●	–
UB TIME REC	●	●
UB-DATE/TC-TIME	●	●

Continued ➡

Position of CAMERA/VCR switch:	CAMERA	VCR
(MEMORY SET) menu (p. 86)		
ALL ERASE	–	●
FORMAT	●	●
FILE NO.	●	●
NEW FOLDER	●	●
REC FOLDER	●	●
PB FOLDER	–	●
(OTHERS) (p. 88)		
CAMERA PROF.	●	●
ASSIGN BTN	●	●
CLOCK SET	●	●
WORLD TIME	●	●
LANGUAGE	●	●
PB ZOOM	–	●
QUICK REC HDV1080i	●	–
DATE REC	●	–
BEEP	●	●
REC LAMP[R] (AS)	●	–
BATTERY TYPE	●	●
HOURS METER	●	●

(CAMERA SET) menu

Settings to adjust your camcorder to the recording conditions (GAIN SETUP/BACK LIGHT/STEADYSHOT, etc.)

The default settings are marked with ►. The indicators in parentheses appear when the items are selected.

See page 62 for details on selecting menu items.

Push the MENU/STATUS switch to MENU → select the (CAMERA SET) with the SEL/PUSH EXEC dial.

GAIN SETUP

You can set gain values for H, M and L positions of the GAIN switch. The default settings of [H], [M] and [L] are 18dB, 9dB and 0dB, respectively.

① Select [H], [M] or [L] with the SEL/PUSH EXEC dial.

② Set the gain value with the SEL/PUSH EXEC dial, and press the dial.
You can select the value between -6dB and 21dB by 3dB. The larger the value, the higher the gain.

③ Select [OK] with the SEL/PUSH EXEC dial.

④ Push the MENU/STATUS switch to MENU to hide the menu screen.

SMOOTH GAIN

You can set the transition speed at which the gain setting shifts from one value to another, set for the gain switch positions, when you switch the gain switch from a position to another. You can select the transition speed from [FAST], [MIDDLE] and [SLOW] or set to [OFF]. The default setting is [OFF].

HYPER GAIN (AS)

When you set this function to [ON] (HYPER), you can increase the gain to its limit. The default setting is [OFF].

Notes

- During the hyper gain, you cannot use the following function.
  – [BACK LIGHT]
  – [SPOTLIGHT]
- During the hyper gain, the picture quality will be reduced due to noise.
- [HYPER GAIN] is automatically set to [OFF] if you turn the power off and back on.

Tips

- You are recommended to use this function with manual focus.

AGC LIMIT

You can select the upper limit for the Auto Gain Control (AGC) from [OFF] (21dB, the default setting), [18dB], [15dB], [12dB], [9dB], [6db], [3dB] and [0dB].

Notes

- If you adjust the gain manually, you cannot obtain the effect of [AGC LIMIT].

WB PRESET

You can use the preset white balance. For more details, see page 34.

WB OUTDR LVL

You can set an offset value to adjust the outdoor white balance when you set [WB PRESET] to [OUTDOOR]. You can select the offset value from [-7] (bluish) - [0] (normal) - [+7] (reddish). The default setting is [0] .

Push the MENU/STATUS switch to MENU → select the (CAMERA SET) with the SEL/PUSH EXEC dial.

WB TEMP SET

You can set the color temperature between 2,300K and 15,000K in 100K steps when you set [WB PRESET] to [MANU WB TEMP].

ATW SENS

You can set the auto white balance operation under a reddish light source such as an incandescent lamp or candle, or under a blueish light source such as in outdoor shade.

►INTELLIGENT

Automatically adjusts the white balance so that scenes look natural for the light source.

HIGH

Automatically adjusts the white balance while reducing redness or blueness.

MIDDLE

LOW

Automatically adjusts the white balance while increasing redness or blueness.

Notes

- This is only effective when white balance is adjusted automatically.
- [ATW SENS] is not effective under a clear sky or the sun.

SMOOTH WB

You can set the transition speed at which the color temperature values shifts from the one set for one of the WHT BAL switch positions to the other set for the other WHT BAL switch position when you switch the positions. You can select the transition speed from [FAST], [MIDDLE] and [SLOW] or set to [OFF]. The default setting is [OFF].

AE SHIFT (AS)

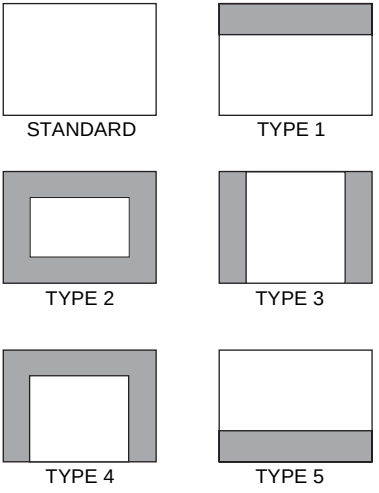
You can set an offset value to adjust the automatic exposure adjustment value between [-7] (dark) and [+7] (bright) with the SEL/PUSH EXEC dial. The default setting is [0] . AS and selected value appears on the screen when you change the value from the default setting.

Notes

- This function is not effective while you adjust the iris, shutter speed and gain all manually.
- This function is not effective when [HYPER GAIN] is set to [ON].

AE WINDOW

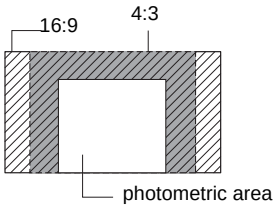
You can select a photometric area in which the automatic exposure adjustment function detects changes in the brightness of the subject to automatically adjust the exposure. This function is not effective during the manual exposure adjustment.



Tips

- The photometric area stays the same even when you change the aspect ratio.

Example: TYPE 4



AE RESPONSE

You can select the speed at which the automatic exposure adjustment function follows changes in the brightness of the subject. You can select the speed from [FAST], [MIDDLE] and [SLOW]. The default setting is [FAST].

AT IRIS LMT

You can select the highest iris value for the automatic adjustment from [F11], [F9.6], [F8], [F6.8], [F5.6], [F4.8] and [F4]. The default setting is [F11].

Notes

- This function is not effective during the manual iris adjustment.

FLCKR REDUCE

►ON

Reduces flickering. Flickering of the screen under a light source such as fluorescent lamps will be reduced.

OFF

Not reduce flickering. Select this when you do not want to reduce flickering.

Notes

- Flickering may not be reduced for certain light sources.

CNTRST ENHCR

When you set this function to [ON], your camcorder detects high contrast images, such as backlit scenes, and automatically improves the unexposed images. The default setting is [OFF].

Notes

- When you set [BACK LIGHT] to [ON], [CNTRST ENHCR] is temporarily disabled.

BACK LIGHT (AS)

When you set this function to [ON] (), you can correct backlighting. The default setting is [OFF].

Notes

- The back light function is canceled when you set [SPOTLIGHT] to [ON].

SPOTLIGHT (AS)

When you set this function to [ON] (), you can prevent overexposure of light during recording of a subject under strong light, such as a stage. For example, you can prevent people's faces from over-highlighting. The default setting is [OFF].

Notes

- The spotlight function is canceled when you set [BACK LIGHT] to [ON].
- You cannot use the spotlight function if at least two of iris, gain, and shutter speed are adjusted manually.

STEADYSHOT (AS)

■ ON/OFF

When you select [ON], you can reduce camera shakes. Select [OFF] () when you use a tripod (optional) to make images look natural. The default setting is [ON].

■ TYPE

You can select a type of camera-shake reduction for different recording situations.

Push the MENU/STATUS switch to MENU → select the (CAMERA SET) with the SEL/PUSH EXEC dial.

HARD

Reduces camera shakes at a high level. This setting is not suitable for panorama tilt recordings.

►STANDARD

Reduces camera shakes at a standard level.

SOFT

Reduces camera shakes at a low level. Slight unsteadiness remains in movies, which make the movies look as they are.

AF ASSIST

When you set this function to [ON], you can temporarily focus manually using the focus ring during the auto focus adjustment. The default setting is [OFF].

Notes

- This function is effective only when the focus ring is set to the mode B position (p. 30).

FOCUS MACRO AS

When you set this function to [ON], you can focus on a subject within 80 cm (about 2 5/8 feet). The default setting is [ON]. When you set this function to [OFF] ( ), you can set fine focus on a subject further than 80 cm regardless of the zoom position although you will lose focus on a subject within 80 cm.

Notes

- This function is effective only when the focus ring is set to the mode B position (p. 30).

HANDLE ZOOM

You can select the zoom speed for the FIX position of the handle zoom switch from [1] (slow) through [8] (fast). The default setting is [3].

D.EXTENDER AS

When you set this function to [ON] ( ), the displayed image becomes 1.5 times larger. The image quality decreases because the image is digitally processed. This function helps you to focus on far-away subjects such as a wild bird away at a distance. The default setting is [OFF].

Notes

- This function is automatically set to [OFF] when you turn the power off and back on.

FADER AS

You can add visual effects to transition between scenes.

① Select [WHITE FADER] or [BLACK FADER] during standby to fade in with the selected effect or recording to fade out with the selected effect.

② Press the REC START/STOP button.
The fader indicator stops flashing and disappears when the fading is complete.

To cancel before starting the operation, select [OFF] in step ①.
The setting will be cleared every time you press the REC START/STOP button.

Fading out Fading in

WHITE FADER

BLACK FADER

Notes

- This function is automatically set to [OFF] when you turn the power off and back on.

SMTH SLW REC

Fast moving subjects and actions, which cannot be captured under the general recording conditions, can be recorded in smooth moving slow-motion.
This is useful for recording fast actions such as a golf or tennis swing.

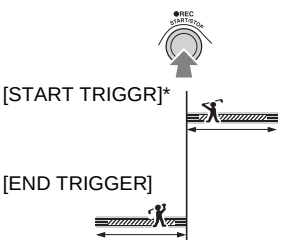
① Set [REC TIME].

Select the recording time from [3sec] (the default setting), [6sec] and [12sec].

The picture quality deteriorates as the recording time increases.

② Set [REC TIMING].

Select the recording timing from [START TRIGGR] and [END TRIGGER] to record the action after or before the REC START/STOP button is pressed.



* The default setting is [START TRIGGR].

③ Start recording.

Select [EXECUTE], then press the REC START/STOP button on the [SMTH SLW REC] screen.

A slow-motion movie about 4 times longer than your [REC TIME] setting is recorded. Recording ends when [Recording···] disappears from the screen.

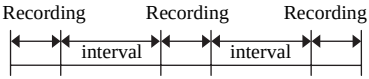
To cancel [SMTH SLW REC], push the MENU/STATUS switch to MENU.

Notes

- Sounds cannot be recorded.
- The settings are automatically cleared when you turn the power off and back on.
- The shutter speed is automatically set to 1/215 second when you start [SMTH SLW REC].
- The shutter speed is fixed to 1/215 second when you set the SHUTTER switch to OFF.
- You cannot select extended clear scan (ECS) mode or SLS mode during [SMTH SLW REC]. Pushing the SHUTTER switch to SEL only enables you to select manual mode or auto mode.
- The recording time may be shorter than the set time, depending on recording conditions.
- The image quality is lower than with the regular recording.

INTERVAL REC

You can record a series of movies on a tape at regular intervals. This function is useful to observe things like cloud movements or daylight changes. The scenes run smoothly into each other when you play back the tape. Use the AC Adapter to obtain AC power for long recording.



① Select [ON/OFF] → [ON] with the SEL/PUSH EXEC dial.

② Perform the following step if you are changing the recording time from the default setting of [0.5sec]. If you are keeping the default recording time, go straight to step ③.

Select [REC TIME] → [0.5sec], [1sec], [1.5sec] or [2sec] with the SEL/PUSH EXEC dial.

③ Perform the following step if you are changing the interval time from the default setting of [30sec]. If you are keeping the default interval time, go straight to step ④.

Select [INTERVAL] → [30sec], [1min], [5min] or [10min].

④ Select [OK] with the SEL/PUSH EXEC dial.

⑤ Push the MENU/STATUS switch to MENU to hide the menu screen.

⑥ Press the REC START/STOP button.

The [INTERVAL REC] recording starts.

To cancel [INTERVAL REC], press the REC START/STOP button.

Push the MENU/STATUS switch to MENU → select the (CAMERA SET) with the SEL/PUSH EXEC dial.

The operation of your camcorder differs depending on when you press the REC START/STOP button.
If you press the button during [INTERVAL REC] recording, the recording temporarily stops. If you press it again, the [INTERVAL REC] recording restarts.
If you press the button during [INTERVAL REC] interval, the [INTERVAL REC] recording stops and regular recording starts. If you press it again, regular recording stops. If you press the button once again, the [INTERVAL REC] recording restarts.
To cancel the [INTERVAL REC] recording, select [ON/OFF] → [OFF] with the SEL/PUSH EXEC dial.

Notes

- The recording time and interval time may differ slightly from the settings.
- If you focus manually, you can get sharp images even if the lighting changes.

DV FRAME REC DVCAM

You can record stop motion (or frame-by-frame) animation movies. That type of animation uses a technique of changing the subject, such as a doll or a toy's positions and recording it at each different position while your camcorder sits still.

► OFF

Not use this function.

ON ( )

Records a movie by stop motion (or frame-by-frame) technique.

① Select [ON] with the SEL/PUSH EXEC dial.
② Push the MENU/STATUS switch to MENU to hide the menu screen.
③ Press the REC START/STOP button.
Your camcorder records a movie for about 5 to 8 frames and returns to standby.
④ Move the subject and repeat step ③.

Notes

- When you use frame recording continuously, the remaining tape time will not be indicated correctly.
- The last scene will be longer than other scenes.
- You cannot record index signals during frame recording.
- This function is automatically set to [OFF] when you turn the power off and back on.

SHOT TRANSITION

See page 51.

S.TRANS/F.MARK

You can select a function to be assigned to the SHOT TRANSITION/FOCUS MARKING button.

► SHOT TRANSITION

Select to assign the shot transition function to the button.

FOCUS MARKING

Select to assign the focus marking function to the button.

x.v.Color HDV1080i

When you set this function to [ON], you can record with the wider color range. Your camcorder can reproduce brilliant and vivid colors for flowers and the beautiful blue-green of tropical oceans that cannot be matched by conventional technologies.

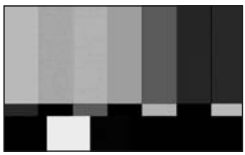
Notes

- The colors may not be well reproduced when you play back a movie recorded with this function set to [ON] on a TV that does not support x.v.Color.
- You cannot set [x.v.Color] in the following cases:
  - When recording in SD (standard) format
  - When recording movies
- When you set [x.v.Color] to [ON], the picture profile will be disabled.

COLOR BAR (AS)

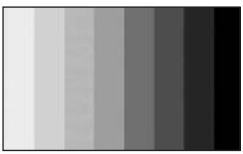
■ TYPE

Selects a type of the color bars.



TYPE 1

TYPE 2



TYPE 3

TYPE 4 (75% brightness of TYPE 3)

■ TONE

Outputs audio tone signals (1 kHz: full bit -20 dB) when you set the OUTPUT/DCC switch to BARS and [TONE] to [ON]. The default setting is [OFF].

FLANGE BACK

You can select a mode for the flange focal length adjustment. The flange focal length is a distance from the lens flange to the plane of the image along the optical axis. See page 9 for details.

►AUTO ADJUST

Automatically adjusts the flange focal length.

MANU ADJUST

Manually adjusts the flange focal length.

(AUDIO SET) menu

Settings for the audio recording (HDV 2CH/4CH/XLR SET, etc.)

The default settings are marked with ►. The indicators in parentheses appear when the items are selected.

See page 62 for details on selecting menu items.

Push the MENU/STATUS switch to MENU → select the (AUDIO SET) with the SEL/PUSH EXEC dial.

HDV 2CH/4CH HDV1080i

You can select the number of recording channels for HDV format recording.

►2CH

Records in two channels, CH1 and CH2. Signals from AUDIO INPUT1 (L)-4 are recorded in CH1 and CH2 (p. 45).

4CH

Records in four channels. Signals from AUDIO INPUT1 (L), AUDIO INPUT2 (R), AUDIO INPUT3 and AUDIO INPUT4 are recorded in CH1, CH2, CH3 and CH4, respectively.

Notes

- The REC CH SELECT switch settings become ineffective when you select [4CH].

DV AU.MODE (DV Audio mode) DVCAM DV

FS32K (32k)

Records in the 12-bit mode (2 stereo sounds). Select this setting for the DVCAM/DV SP recording.

►FS48K (48k)

Records in the 16-bit mode (1 stereo sound with high quality). Select this setting for the DVCAM/DV SP recording.

Notes

- When recording in the HDV format, sound is automatically recorded in the [FS48K] mode.

AU.LMT CH1,2

You can set the clipping-noise reduction function for CH1 and CH2.

►OFF

Disables the function.

ON

Enables the function.

Notes

- This function is available only when you set the CH1/CH2 switch to MAN.

AU.LMT CH3,4

You can set the clipping-noise reduction function for CH3 and CH4

►OFF

Disables the function.

ON

Enables the function.

Notes

- This function is available only when you set the CH3/CH4 switch to MAN.

XLR SET

■ AGC CH1,2

You can select either linked or separate AGC (Auto Gain Control) of CH1 and CH2 when using an external microphone.

►SEPARATE

Separately applies the AGC for CH1/CH2. Sound inputs from CH1 and CH2 will be recorded as separate sound.

LINKED

Applies the AGC of CH1 linked with that of CH2. Sound inputs from CH1 and CH2 will be recorded as a set of sound such as stereo sound. A[appears on the status check screen.

Notes

- This setting becomes effective when the CH1 and CH2 switches are both set to AUTO and the INPUT switches to CH1 and CH2 are set to MIC or MIC+48V, or both are set to LINE (p. 45).

■ AGC CH3,4

You can select either linked or separate AGC (Auto Gain Control) of CH3 and CH4 when using an external microphone.

►SEPARATE

Separately applies the AGC for CH3/CH4. Sound inputs from CH3 and CH4 will be recorded as separate sound.

LINKED

Applies the AGC of CH3 linked with that of CH4. Sound inputs from CH3 and CH4 will be recorded as a set of sound such as stereo sound. A[appears on the status check screen.

Notes

- This setting becomes effective when the CH3 and CH4 switches are both set to AUTO and the INPUT3 and INPUT4 switches are set to MIC or MIC+48V, or both are set to LINE (p. 45).

■ INPUT1 MIC NR

Reduces noise from the microphone.

►ON

Reduces noise from the microphone.

NR appears on the status check screen.

OFF

Does not reduce noise from the microphone.

Notes

- The setting is not effective when you set the INPUT1 switch to LINE.

■ INPUT1 TRIM

Adjusts the input signal level from INPUT1.

You can select from [-18dB], [-12dB], [-6dB], [0dB], [6dB] and [12dB]. The default setting is [0dB].

Notes

- The setting is not effective when you set the INPUT1 switch to LINE.

■ INPUT1 WIND

►OFF

Disables wind noise reduction.

ON

Enables wind noise reduction.

appears on the status check screen.

Notes

- The setting is not effective when you set the INPUT1 switch to LINE.

■ INPUT2 MIC NR

■ INPUT2 TRIM

■ INPUT2 WIND

■ INPUT3 MIC NR

■ INPUT3 TRIM

■ INPUT3 WIND

■ INPUT4 MIC NR

■ INPUT4 TRIM

■ INPUT4 WIND

You can set INPUT2, INPUT3 and INPUT4 in the same way as INPUT1.

Tips

- 48 dBu is set as 0dB in your camcorder.
- Set [INPUT TRIM] to [0dB] for the supplied microphone (ECM-XM1).
- Set [INPUT TRIM] to [12dB] for the optional microphone (Sony ECM-NV1).
- The INPUT TRIM function adjusts the input level from an external microphone. When using a highly sensitive microphone or recording loud sound, set this to the minus side. When using a less sensitive microphone or recording quiet sound, set it to the plus side.
- When recording loud sound, the sound may be distorted at either the input point or the recording point. If it is distorted at the input point, adjust the sound using the INPUT TRIM

Push the MENU/STATUS switch to MENU → select the (AUDIO SET) with the SEL/PUSH EXEC dial.

function. If it is distorted at the recording point, lower the total volume level manually.

- If you set INPUT TRIM too far to the minus side, the microphone volume becomes too low, resulting in a poor signal to noise ratio.
- Test the effect of the INPUT TRIM function according to the microphone used or the sound field of the recording site before actual recording.

(DISPLAY SET) menu

Display settings of the display and the viewfinder (MARKER/VF B.LIGHT/DISP OUTPUT, etc.)

The default settings are marked with ►. The indicators in parentheses appear when the items are selected.

See page 62 for details on selecting menu items.

Push the MENU/STATUS switch to MENU → select the (DISPLAY SET) with the SEL/PUSH EXEC dial.

ZEBRA (AS)

You can display a zebra pattern as a guide for adjusting brightness.

■ ON/OFF

When you select [ON], and the brightness level appear on the screen. The zebra pattern will not be recorded on a tape or a "Memory Stick Duo."

■ LEVEL

You can select the brightness level between 70 and 100 or 100+.

Tips

- The zebra pattern is a strip pattern displayed over a part of an image on the screen when the part is higher than a preset brightness level.

HISTOGRAM

You can adjust the iris while referring to a histogram. A histogram is a graph that shows the distribution of the image brightness. You can use the histogram as a guide for adjusting the iris. The histogram will not be recorded on a tape or a "Memory Stick Duo."

►OFF

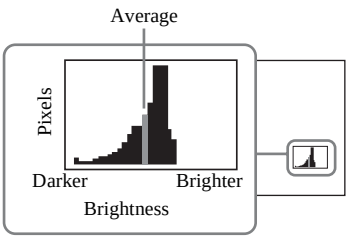
Does not display a histogram.

NORMAL

Displays a histogram.

ADVANCE

Displays a histogram, and a bar that indicates an average of the brightness levels around the center of an image (within the marker) on the histogram.



Tips

- The left area on the graph shows the darker areas of the image while the right area shows the brighter areas.
- A vertical line that indicates the brightness level of [ZEBRA] will be displayed on the histogram when you set [ZEBRA] to [ON].

PEAKING

You can select a peaking sensitivity from [HIGH], [MIDDLE] and [LOW]. The default setting is [MIDDLE].

Notes

- You cannot record an image with enhanced details on a tape or a "Memory Stick Duo."

Tips

- You can focus more easily using this function in combination with the expanded focus function (p. 31).

MARKER (AS)

■ ON/OFF

When you select [ON], you can display markers. The default setting is [OFF]. Markers will not be recorded on a tape or "Memory Stick Duo."

■ CENTER

When you select [ON], you can display a marker at the center of the screen. The default setting is [ON].

■ ASPECT

When you select [ON], you can display markers at boundaries of display area defined by the aspect ratio, which you can select from [4:3], [13:9] and [14:9]. The default setting is [OFF].

■ SAFETY ZONE

When you select [ON], then [80%] or [90%], you can display markers at boundaries of display area that regular home TVs can display. The default setting is [OFF].

■ GUIDEFRAME

When you select [ON], you can display frame markers that help you to check horizontal and vertical positions of a subject. The default setting is [OFF].

Notes

- You cannot display markers on an external device connected to your camcorder via an analog jack.
- You cannot display markers when you set [DATE REC] to [ON].

Push the MENU/STATUS switch to MENU → select the (DISPLAY SET) with the SEL/PUSH EXEC dial.

Tips

- You can display all types of markers at the same time.
- You can obtain a balanced composition by positioning the subject at the cross points of the guideframe marker.
- You can display markers only on the LCD panel and viewfinder. You cannot display them on an external device.

CAM LEVELING

When you set this function to [ON], you can display a level meter to check the level of your camcorder. The default setting is [OFF].

EXP.FOCUS TYPE

You can set a type of the expanded focus display.

►TYPE 1

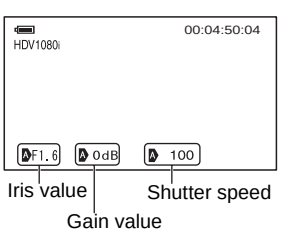
Simply enlarges images.

TYPE 2

Enlarges and shows images in white and black.

CAM DATA DSP (Camera data display)

When you set this function to [ON], you can constantly display the iris, shutter speed and gain settings on the screen. The default setting is [OFF].

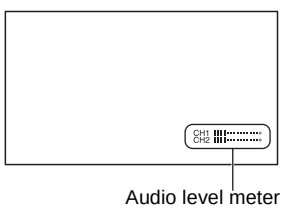


Tips

- The settings appear on the screen during the manual adjustment regardless of the settings of this function.
- A indicates that the settings are automatically adjusted values.
- The displayed settings are different from the settings that will be displayed when you press the DATA CODE button (p. 58).

AU.LVL DISP (Audio level display)

When you set this function to [ON], you can display the audio level meter on the screen. The default setting is [ON].



Tips

- You can switch what channels to be displayed, CH1/CH2 or CH3/CH4, with the AUDIO LEVEL DISPLAY switch.

ZOOM DISPLAY

►BAR

Displays a bar that indicates the zoom position.

NUMBER

Displays a number (0 through 99) that indicates the zoom position.

FOCUS DISP

You can select how to display the focal distance during manual focus.

►METER

Displays the focal distance in meters.

FEET

Displays the focal distance in feet.

SHUTTER DISP

You can select how to display the shutter speed.

►SECOND

Displays the shutter speed in seconds.

DEGREE

Displays the shutter speed in degrees.

The shutter speed equal to the period that your camcorder reads image data from the image sensor is defined as 360 degrees. The degree is calculated based on this definition and displayed.

– When [SCAN TYPE] is set to [50], 1/50 second is defined as 360 degrees.

– When [SCAN TYPE] is set to [25], 1/25 second is defined as 360 degrees.

For details on [SCAN TYPE], see [HDV PROGRE.] (p. 81) or [DV PROGRE.] (p. 81).

Notes

- When you press the DATA CODE button, the shutter speed will be displayed in seconds regardless of the setting of this function.

Tips

- Shutter speed slower than 360° are displayed in multiples of 360°, such as 360° × 2.

LCD COLOR

You can adjust the color level of the LCD panel. Changes in the LCD color level will not affect the color level of recording images.

LCD BL LEVEL

You can adjust the backlight level of the LCD screen.

►NORMAL

Standard brightness.

BRIGHT

Brightens the LCD screen.

VF B.LIGHT

You can adjust the brightness of the viewfinder.

►NORMAL

Standard brightness.

BRIGHT

Brightens the viewfinder screen.

VF COLOR

►ON

Displays images in the viewfinder in color.

OFF

Displays images in the viewfinder in black and white.

LETTER SIZE

►NORMAL

Displays the menu in regular letter size.

2×

Displays the selected menu items in letter size, the height of which is doubled.

REMAINING

►AUTO

Displays the remaining time of a tape for about 8 seconds in the following situation:

- When you set the CAMERA/VCR switch to VCR or CAMERA with a cassette inserted.
- When you press ► (Play) or the DISPLAY/BATT INFO button.

Push the MENU/STATUS switch to MENU → select the (DISPLAY SET) with the SEL/PUSH EXEC dial.

ON

Always displays the remaining time of a tape. The remaining time is not displayed when you insert a new tape or a tape that is rewound to the beginning. It is displayed when you start playback or recording. It is always displayed on the sub LCD monitor.

DISP OUTPUT

You can select outputs to which display information, such as time code, is outputted.

►LCD PANEL

Outputs the information to the LCD screen and viewfinder.

V-OUT/PANEL

Outputs the information to the LCD screen and composite output.

ALL OUTPUT

Outputs the information to the LCD screen, SDI output, component output and composite output.

(IN/OUT REC) menu

Recording settings, input and output settings (REC FORMAT/HDV PROGRE./ VIDEO OUT/EXT REC CTRL, etc.)

The default settings are marked with ►. The indicators in parentheses appear when the items are selected.

See page 62 for details on selecting menu items.

Push the MENU/STATUS switch to MENU → select the (IN/OUT REC) with the SEL/PUSH EXEC dial.

REC FORMAT

You can select a recording format.

►HDV1080i (HDV1080i)

Records in the HDV1080i format.

DV (DVCAM DV SP)

Records in the DVCAM (DV) format. Set also [DV REC MODE] when you record in this format.

Notes

- Set also [i.LINK SET] when you output a movie to an external device through an i.LINK cable (p. 83).

VCR HDV/DV

You can select a type of output signal to an external device for playing back a movie on the device. Select [AUTO] in most cases. When you connect your camcorder to an external device with an i.LINK cable, select a type of input and output signals to and from the external device via the HDV/DV jack. You can record or play back a movie reproduced by the selected type of signals.

►AUTO

Automatically switches between HDV signals and DV signals during playback. During the i.LINK connection, recognizes HDV signals and DVCAM (DV) signals, and automatically inputs or outputs the

signals to or from the external device via the i, HDV/DV (i.LINK) jack for recording or playback.

HDV (HDV1080i)

Plays back only HDV format sections of a tape.

During the i.LINK connection, inputs or outputs only HDV signals to or from an external device via the i, HDV/DV (i.LINK) jack for recording or playback. Select this setting when you connect your camcorder to your computer.

DV (DV)

Plays back only DVCAM (DV) format sections of a tape.

During the i.LINK connection, inputs or outputs only DVCAM (DV) signals to or from an external device via the i, HDV/DV (i.LINK) jack for recording or playback. Select this setting when you connect your camcorder to your computer.

Notes

- Make sure to disconnect the i.LINK cable prior to changing the setting. Otherwise, a video device may not recognize video signals.
- When you select [AUTO], images and sounds may be cut off on switching between HDV signals and DVCAM (DV) signals.
- When you set [i.LINK SET] → [HDV → DV CONV] to [ON], the following signals will be outputted:
  - [AUTO]: HDV signals are converted to DVCAM (DV) signals and outputted. DVCAM (DV) signals are outputted without any conversion.
  - [HDV]: HDV signals are converted to DVCAM (DV) signals and outputted. DVCAM (DV) signals will not be outputted.
  - [DV]: DVCAM (DV) signals are outputted without any conversion. HDV signals will not be outputted.

HDV PROGRE. HDV1080i

■ REC TYPE

You can select an HDV recording format from [INTERLACE] and [PROGRESSIVE].

■ SCAN TYPE

You can select a scan type for recording in HDV format.

►50

Records by the interlace scan.

25

Records 25 frames per second.

Notes

- Selectable [SCAN TYPE] settings differ depending on the setting of [REC TYPE].
  - [INTERLACE]: [50], [25]
  - [PROGRESSIVE]: [25]
- You can only play back a tape recorded with the [REC TYPE] set to [PROGRESSIVE] on a device that supports playback of a tape recorded by progressive scanning.

DV PROGRE. DVCAM DV SP

■ SCAN TYPE

You can select a scan type for recording in DVCAM/DV format.

►50

Records by the interlace scan.

25

Records 25 frames per second.

DV REC MODE (DV Recording mode) DVCAM DV SP

This function is available only when you set [REC FORMAT] to [DV].

►DVCAM (DVCAM)

Records in the DVCAM format.

DV SP (DV SP)

Records in the SP (Standard Play) mode of the DV format to record for a longer time than in the DVCAM format.

Notes

- Mosaic-like disturbance or audio interruption may occur when you play back a movie recorded in the DV SP mode by another device.

- Image may be distorted or time code may not be properly connected between the scenes recorded in the DVCAM mode and DV SP mode.

DV WIDE REC DVCAM DV SP

You can record a movie in an aspect ratio that matches that of a TV that you want to connect. Refer also to the instruction manuals that come with the TV.

►ON

Records a movie in an aspect ratio that matches the full screen of a 16:9 (wide) TV.

OFF (4:3)

Records a movie in an aspect ratio that matches the full screen of a 4:3 TV.

Notes

- Set [DV WIDE CONV] correctly to suite a TV that you want to connect for playback (p. 81).
- The aspect ratio will be fixed to 16:9 and you cannot set it to 4:3 when you record in HDV format.

SDI OUTPUT

Outputs signals from the HD/SD SDI OUT jack. The default setting is [ON].

VIDEO OUT

■ SDI/CMPNT

You can select the type of connection when connecting your camcorder to a TV with the SDI or component input jack.

576i

Supports connection between your camcorder and a TV with a component input jack that supports the 576i format.

►1080i/576i

Supports connection between your camcorder and a TV with a component input jack that supports the 1080i format.

■ DOWN CONVERT

You can select a down convert type when you down-covert HDV signal to DV signal. Use this function for signals outputting from the following output jacks:

– Component (576i)
– S Video
– Audio/Video

►SQUEEZE

Outputs a horizontally compressed image while maintaining its original height.

LETTER BOX

Outputs an image with black bars added to the top and bottom of the original image, while maintaining the original aspect ratio.

EDGE CROP

Outputs the central portion of the original image by cropping its right and left edges.

Notes

- When you view a movie recorded in the DVCAM (DV) format with [DV WIDE REC] set to [ON] on a standard 4:3 TV, images of the movie may appear vertically compressed. In such a case, set [DV WIDE CONV] to [LETTER BOX] or [EDGE CROP].

■ DV WIDE CONV

You can select a down convert type when you down-covert DV widescreen signal to DV signal.
Use this function for signals outputting from the following output jacks:

– Component (576i)
– S Video
– Audio/Video

►SQUEEZE

Outputs a horizontally compressed image while maintaining its original height.

LETTER BOX

Outputs an image with black bars added to the top and bottom of the original image, while maintaining the original aspect ratio.

EDGE CROP

Outputs the central portion of the original image by cropping its right and left edges.

■ SD-SDI SET

VIDEO INDEX

Adds a video index signal that includes information on aspect ratio and signal format to SDI output signals. The default setting is [ON].

RP188 ATC

Adds an Ancillary Time Code (ATC) to the SDI output signal. The default setting is [ON].

VITC LINESEL

Selects the vertical blanking interval line of the SD video signal, in which the vertical interval time code (VITC) is recorded, between 9 and 22. The default setting is 19.

i.LINK SET

■ HDV → DV CONV

When you set this function to [ON], you can convert HDV format signals to DV format signals and output the DV format signals to an external device via the i HDV/DV (i.LINK) jack. You can output DV format signals without any format conversion. The default setting is [OFF].

■ DOWN CONVERT

You can set a down convert type when you set [HDV → DV CONV] to [ON] to convert HDV format signals to DV format signals.

►SQUEEZE

Outputs a horizontally compressed image while maintaining its original height.

EDGE CROP

Outputs the central portion of the original image by cropping its right and left edges.

■ DOWN CONV AU

►CH1,CH2

Outputs audio signals from CH1 and CH2.

CH3,CH4

Outputs audio signals from CH3 and CH4.

Notes

- When you set [HDV → DV CONV] to [ON] during 4-channel audio recording on an HDV device, only audio in the channel selected in [DOWN CONV AU] is outputted from the i HDV/DV (i.LINK) jack.
- For i.LINK connection, see [VCR HDV/DV] (p. 80).
- Disconnect the i.LINK cable before setting [i.LINK SET]. Otherwise, the connected video device may not be able to recognize the video signal from your camcorder.
- Even when you select [CH3,CH4] during HDV2CH recording, only audio in CH1 and CH2 will be outputted from the i HDV/DV (i.LINK) jack.

EXT REC CTRL

You can connect your camcorder to an HDV/DVCAM/DV compatible device (digital HD video camera recorder, digital video camera recorder, hard disc recorder, etc.) with an i.LINK cable, and record movies on your camcorder and the connected device simultaneously, or continue recording from your camcorder to the connected device.
Refer also to the instruction manuals supplied with the connecting devices.

■ REC CTL MODE

►OFF

Does not record on a connected device.

SYNCHRONOUS (EXT)

Records movies, sound and time code on a connected device in synchronization with your camcorder.

RELAY (EXT)

Records movies, sound and time code on a connected device when a tape on your camcorder reaches close to the end during recording.

EXT ONLY (EXT)

You can operate an external recording unit* with the REC START/STOP button of your camcorder.

Push the MENU/STATUS switch to MENU → select the (IN/OUT REC) with the SEL/PUSH EXEC dial.

*HVR-MRC1(supplied) or HVR-DR60 (optional)

Notes

- When this function is set to [EXT ONLY], does not flash even when there is no tape inserted.
- You can use the REC START/STOP button of your camcorder as a recording start/stop button for the external recording unit when you set this function to [EXT ONLY]. Use the REC button of the video control buttons (p. 124) to start recording on a tape or the STOP button to stop recording.
- EXT (EXT ONLY) flashes when you connect an external recording unit that is not supported by [EXT ONLY].

■ STBY COMMAND

►REC PAUSE

Stops recording operation of a connected device by putting it in pause when you stop recording operation of your camcorder.

STOP

Stops recording operation of a connected device when you stop recording operation of your camcorder.

(TC/UB SET) menu

(TC PRESET/UB PRESET/TC LINK, etc.)

The default settings are marked with ►. The indicators in parentheses appear when the items are selected.

See page 62 for details on selecting menu items.

Push the MENU/STATUS switch to MENU → select the (TC/UB SET) with the SEL/PUSH EXEC dial.

TC PRESET

■ PRESET

You can preset the time code.

① Select [TC PRESET] with the SEL/PUSH EXEC dial.
② Select [PRESET] with the SEL/PUSH EXEC dial.
③ Select the first 2 digits with the SEL/PUSH EXEC dial.
You can set the time code between 00:00:00:00 and 23:59:59:24.
④ Set other digits by repeating step ③.
⑤ Select [OK] with the SEL/PUSH EXEC dial.

■ RESET

You can reset the time code (00:00:00:00). Select [RESET] in step ① of the [PRESET].

TC COUNTUP (AS)

You can increment the hour of time code by 1 and reset the minute, second and frame of time code when you execute this function.

Notes

- This function is available only when you set [TC MAKE] to [PRESET].

UB PRESET

■ PRESET

You can preset the user bit.

① Select [UB PRESET] with the SEL/PUSH EXEC dial.

② Select [PRESET] with the SEL/PUSH EXEC dial.
③ Select the first 2 digits with the SEL/PUSH EXEC dial.
④ Set other digits by repeating step ③.
⑤ Select [OK] with the SEL/PUSH EXEC dial.

■ RESET

You can reset the user bit (00 00 00 00). Select [RESET] in step ① of the [PRESET].

TC RUN

You can select how the time code advances.

►REC RUN

Advances the time code only during recording.

Select this setting to record the time code continuous from the last time code of the previous recording.

FREE RUN

Advances the time code regardless of operation of your camcorder.

Select this setting to save the actual time in the time code.

TC MAKE

►REGENERATE

Reads the last time code of the previous recording from the tape and records the new time code consecutively from the last time code during the backspace editing.

The time code runs in [REC RUN] mode regardless of the setting of [TC RUN].

PRESET

Records the newly set time code on the tape.

TC LINK

You can synchronize the time codes of multiple camcorders.
This function is useful for editing movies recorded by multiple camcorders.

① Insert a tape to the main camcorder from which you want to generate the time code.
② Set the CAMERA/VCR switches of the main and sub camcorders to CAMERA.
③ Connect the sub camcorder to the main camcorder with an i.LINK cable.
④ Set the main and sub camcorder as follows:
- Set [TC RUN] to [FREE RUN] (p. 85).
- Set [TC MAKE] to [PRESET] (p. 85).

Set the sub camcorders as follows:

⑤ Select [TC/UB SET] → [TC LINK] with the SEL/PUSH EXEC dial.
⑥ The message [Synchronize TC with connected device?] appears. Select [YES] to synchronize the time code of the sub camcorder with that of the main camcorder. Disconnect the i.LINK cable from your camcorders when synchronization is completed. You can record with the synchronized time codes using those camcorders.

Notes

- If you want to execute [TC LINK] for more than two camcorders, repeat the steps for multiple sub camcorders with one main camcorder.
- Some frame shifting may occur over time after time code synchronization.
- Some frame shifting may occur if you turn the power off and back on. In such a case, set [TC LINK] again.

UB TIME REC

►OFF

Does not save the actual time in the user bit code.

ON

Saves the actual time in the user bit code.

UB-DATE/TC-TIME

You can save the date and time set in your camcorder in the user bit and time code, respectively, when you do this function.

Push the MENU/STATUS switch to MENU → select the 00:00 (TC/UB SET) with the SEL/PUSH EXEC dial.

Notes

- This function is available in the following cases:
  - [TC MAKE] : [PRESET]
  - [TC RUN] : [FREE RUN]
  - [UB TIME REC] : [OFF]
- The time lag may occur between the set time code and the actual time as time goes on. Do [UB-DATE/TC-TIME] again prior to recording.
- The date saved in the user bit will not be automatically updated even when the actual date has been changed.

(MEMORY SET) menu

Settings for the "Memory Stick Duo" (ALL ERASE/FORMAT, etc.)

The default settings are marked with ►. The indicators in parentheses appear when the items are selected.

See page 62 for details on selecting menu items.

Push the MENU/STATUS switch to MENU → select the (MEMORY SET) with the SEL/PUSH EXEC dial.

ALL ERASE

You can delete all the still images without image protection on a "Memory Stick Duo" or in the selected folder.

① Select [ALL FILES] or [CURRENT FLDR].

[ALL FILES]: Deletes all the images on the "Memory Stick Duo."

[CURRENT FLDR]: Deletes all the images in the currently selected folder.

② Select [YES] → [YES] with the SEL/PUSH EXEC dial.

[Erasing all data...] appears. [Completed.] appears when all unprotected images are deleted.

Notes

- Release the write protect tab on the "Memory Stick Duo" beforehand for the "Memory Stick Duo" with the write-protect tab (p. 109).
- The folder will not be deleted even when you delete all the images in the folder.
- Do not do any of the following while [Erasing all data...] is displayed:
  - Operate the POWER switch/buttons.
  - Eject the "Memory Stick Duo."

FORMAT

You do not need to format the “Memory Stick Duo” since it is already formatted at the factory. If you want to format the “Memory Stick Duo,” select [YES]→[YES].

Notes

- Do not do any of the following while [Formatting…] is displayed:
  - Operate the POWER switch/buttons.
  - Eject the “Memory Stick Duo.”
- Formatting erases everything on the “Memory Stick Duo” including protected image data and newly created folders.

FILE NO.

►SERIES

Assigns file numbers in sequence even if the “Memory Stick Duo” is replaced with another one. The file number is reset when a new folder is created or the recording folder is replaced with another.

RESET

Resets the file number to 0001 each time the “Memory Stick Duo” is changed.

NEW FOLDER

When you select [YES], you can create a new folder (102MSDCF to 999MSDCF) on a “Memory Stick Duo.” When a folder is full (a maximum of 9,999 images are stored), a new folder is automatically created.

Notes

- You cannot delete the new folder once you have created it on your camcorder. Format the “Memory Stick Duo” (p. 87) or delete it on your computer.
- The number of recordable pictures on a “Memory Stick Duo” may decrease as the number of folders increases.

REC FOLDER (Recording folder)

You can select a folder in which you want to store still images.
Select the folder with the SEL/PUSH EXEC dial.

Tips

- The still images will be stored in the 101MSDCF folder by default.
- Once you store the still images in the current folder, the folder is selected as a playback folder.

PB FOLDER (Playback folder)

You can select a folder in which still images you want to view are stored.
Select the folder with the SEL/PUSH EXEC dial.

(OTHERS) menu

Settings while recording on a tape or other basic settings (QUICK REC/BEEP, etc.)

The default settings are marked with ▶. The indicators in parentheses appear when the items are selected.

See page 62 for details on selecting menu items.

Push the MENU/STATUS switch to MENU → select the (OTHERS) with the SEL/PUSH EXEC dial.

CAMERA PROF. (Camera profile)

You can save up to 99 camera setting profiles on a "Memory Stick Duo" and two profiles in your camcorder. Using these saved profiles let you quickly obtain suitable camera settings later. When using multiple camcorders of this model, you can save the setting on a "Memory Stick Duo" and load them into the other camcorders.

Tips

- You can save menu settings, picture profiles and button settings as a camera profile.

■ To load a camera profile

You can load a camera profile and use it on your camcorder.

① Select [LOAD] with SEL/PUSH EXEC dial.
② Select the camera profile that you want to load with the SEL/PUSH EXEC dial.
③ Select [YES] in the check screen.
Your camcorder is restarted and the selected camera profile becomes effective.

Notes

- You cannot load camera profile that has been saved by a different model of camcorder or edited on a computer.

■ To save a camera profile

① Select [SAVE] with the SEL/PUSH EXEC dial.
② Select [MEMORY STICK] with the SEL/PUSH EXEC dial to save the camera profile on the "Memory Stick Duo" or [CAMERA] to save it in your camcorder.
③ Select [NEW FILE] or an existing profile name with the SEL/PUSH EXEC dial.
④ Select [YES] in the check screen with the SEL/PUSH EXEC dial.
The camera profile is saved.

Tips

- When you select [NEW FILE] in [MEMORY STICK], a camera profile is saved as [MS01] the fist time you save a camera profile.
- When you select [NEW FILE] in [CAMERA], a camera profile is saved as [CAM1] or [CAM2].
- When you select an existing camera profile, the new camera profile is overwritten.
- You cannot view nor edit a camera profile saved on a "Memory Stick Duo" on your computer.
- You can save a camera profile on a "Memory Stick Duo" that has still image data.

■ To change the camera profile name

You can change the camera profile name.

① Select [PROFILE NAME] with the SEL/PUSH EXEC dial.
② Select the camera profile of which you want to change the name with the SEL/PUSH EXEC dial.
[PROFILE NAME] screen appears.
③ Change the profile name with the SEL/PUSH EXEC dial.

Tips

- You can enter the name in the same way as the picture profile (p. 44).

④ Select [OK] with the SEL/PUSH EXEC dial.
Profile name is changed.

■ To delete camera profile settings

① Select [DELETE] with the SEL/PUSH EXEC dial.
② Select the camera profile you want to delete with the SEL/PUSH EXEC dial.
③ Select [YES] on the check screen.

■ To copy a camera profile

You can copy camera profile saved on your camcorder to a “Memory Stick Duo.”

① Select [COPY] with the SEL/PUSH EXEC dial.
② Select the camera profile that you want to copy with the SEL/PUSH EXEC dial.
③ Select [MEMORY STICK] or [CAMERA] for a “Memory Stick Duo” or your camcorder as a copy destination of the camera profile.
④ Select [NEW FILE] or an existing profile name with the SEL/PUSH EXEC dial.
⑤ Select [YES] on the check screen.

Tips

- You can copy a camera profile saved on a “Memory Stick Duo” to your camcorder.

ASSIGN BTN

See page 48.

CLOCK SET

See page 20.

WORLD TIME

When you use your camcorder abroad, you can adjust the clock to the local time by setting the time difference with the SEL/PUSH EXEC dial.
When you set the time difference to 0, the clock returns to the original setting.

LANGUAGE

You can select the language to be used on the LCD screen.

Tips

- Your camcorder offers [ENG[SIMP]] (simplified English) in case that you cannot find your native tongue among the options.

PB ZOOM (Playback zoom)

When you set this function to [ON], you can enlarge movie images about 1.1 to 5 times (still images about 1.5 to 5 times) with the handle zoom lever. The default setting is [OFF]. To end the zoom, press and hold the W side of the handle zoom lever until it stops.

Tips

- To move the zoom horizontally, press the SEL/PUSH EXEC dial, then turn the dial. To move the zoom vertically, press the SEL/PUSH EXEC dial one more time, then turn the dial.

QUICK REC HDV1080i

You can slightly reduce the recording start point time when resuming recording by changing the POWER switch from OFF to ON.

► OFF

It takes some time to restart recording from the state that the drum has stopped rotating, but the transition from the last recorded scene is smooth.

ON (Q.REC)

The time shortens slightly until recording restarts from the state that the drum has stopped rotating, but the transition from the last recorded scene may not be smooth.
Select this when you do not want to miss a recording chance.

Tips

- When this function is set to [ON], the interval between scenes freezes for a moment (editing on your computer is recommended).
- When the camcorder is left in standby for more than about 3 minutes, your camcorder exits from standby (the drum stops rotating) to prevent tape wear and battery loss. Since the power does not turn off, you can restart recording by pressing the REC START/STOP button again.

Push the MENU/STATUS switch to MENU → select the (OTHERS) with the SEL/PUSH EXEC dial.

DATE REC

►**OFF**

Does not superimpose the date and time on images.

ON

Superimposes the date and time on images.

Tips

- When [DV WIDE REC] is set to [OFF], the date and time are displayed outside the 4:3 area but properly recorded on images.
- When you record in the HDV format, the date and time are displayed at different positions during recording and playback.

BEEP

►**OFF**

Cancels the melody.

ON

Activates a melody when you start/stop recording.

REC LAMP[R] (Recording lamp [rear]) (AS)

When you set this function to [OFF], you can turns off the rear camera recording lamp during recording. The default setting is [ON].

BATTERY TYPE

You can select the battery type to accurately display the remaining power of the battery installed.

►**L SERIES**

Select when using an L-series battery pack.

GL SERIES

Select when using a GL-series battery pack.

ANTON/BAUER

Select when using an ANTON/BAUER battery pack.

HOURS METER

You can display the cumulative operation time of your camcorder with the total hours of operation, drum rotation, tape running, or the total number of tape unthreading operations.

OPERATION

Displays the total hours of operation in 10-hour increments.

DRUM RUN

Displays the total hours of drum rotation in 10-hour increments.

TAPE RUN

Displays the total hours of tape running in 10-hour increments.

THREADING

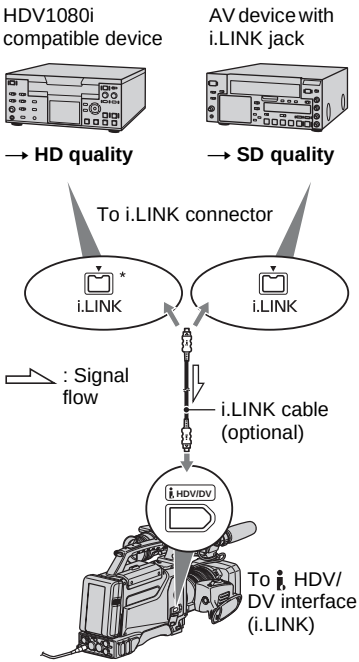
Displays the total number of tape unthreading operation in 10-operation increments.

Recording pictures from a VCR i.LINK

You can record pictures from a VCR on a tape. You can record a scene as a still image on a "Memory Stick Duo." You can record pictures in the HDV format by connecting an HDV1080i specification compatible device. Be sure to insert a cassette or a "Memory Stick Duo" for recording in your camcorder beforehand.
You can connect your camcorder to a VCR device using an i.LINK cable.
Connect your camcorder to the wall socket using the optional AC Adaptor for this operation (p. 16). Refer also to the instruction manuals supplied with the devices to be connected.

Notes

- You need an i.LINK cable for this operation.
- You cannot perform this operation with the video and audio cable.
- Your camcorder has a 6-pin i.LINK terminal. Select a cable that fits the terminal on the device to be attached.
- Your camcorder can only record from a PAL source. For example, French video or TV programs (SECAM) cannot be recorded correctly. See page 102 for details on TV color systems.
- If you use a 21-pin adaptor to input PAL source, you need a dual direction 21-pin adaptor (optional).



* An i.LINK jack which is compatible with HDV1080i specification is required.

Recording movies

1 Set the CAMERA/VCR switch to VCR.

2 Set the input signal of your camcorder.

Set [VCR HDV/DV] to [AUTO] when recording from an HDV format compatible device.

Set [VCR HDV/DV] to [DV] or [AUTO] when recording from a

DVCAM (DV) format compatible device (p. 80).

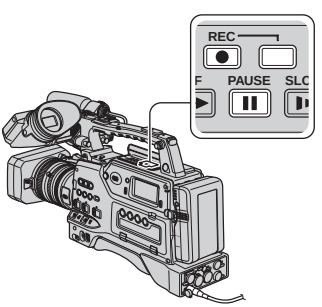
3 Connect your VCR as a player to your camcorder.

When an i.LINK cable is connected, the format of the input signal (HDV IN i.LINK or DV IN i.LINK) will be indicated on the LCD screen of your camcorder (This indicator may appear on the screen of the playback device but it will not be recorded).

4 Insert a cassette into the VCR.

5 Set your camcorder to recording pause.

While pressing II (PAUSE), press both ● REC (record) buttons simultaneously.



6 Start playing the cassette on your VCR.

The picture played on the VCR appears on the LCD screen of your camcorder.

7 Press II (PAUSE) again at the point you want to start recording.

8 Press ■ (STOP) to stop recording.

Notes

- You cannot record TV programs from the i.LINK HDV/DV interface (i.LINK).
- User bits are not recorded when dubbing from a DVCAM (DV) device via an i.LINK cable.
- You can record pictures from DV devices only in the DVCAM (DV) format.
- Note the following when connecting with an i.LINK cable:
  - The recorded picture becomes rough when a picture is paused on your camcorder while recording to a VCR.
  - You cannot record the picture and sound separately.
  - If you pause or stop the recording and restart it, the picture may not be recorded smoothly.
- If video signals inputted to your camcorder via the i.LINK HDV/DV jack experience the phenomenon of jittering (variation in frequency), that jittering is transmitted to the video signals outputted from the COMPONENT OUT jack and A/V OUT jack. When you monitor a movie on a TV connected to your camcorder via the COMPONENT OUT jack or A/V OUT jack, images may be distorted or not be displayed. Jittering will not affect recording of the movie on a tape with your camcorder but may affect recording of the movie with another VCR connected to your camcorder via the COMPONENT OUT jack or A/V OUT jack.

Tips

- When a 4:3 video signal is input, it appears with black bands on the right and left sides on the screen of your camcorder.

Recording still images

Be sure to insert a “Memory Stick Duo” for recording in your camcorder beforehand, and assign [PHOTO] to any of ASSIGN buttons (p. 48).

1 Perform steps 1 to 4 in “Recording movies.”

2 Start playing the cassette.

The pictures on the VCR appear on the screen of your camcorder.

3 Press the ASSIGN button to which [PHOTO] is assigned at the scene you want to record.

Notes

- The image size is 1.2M when capturing a still image from a movie recorded and played back in the HDV format. The image size is 0.2M when capturing a still image from a movie recorded and played back in the DVCAM (DV) and widescreen (16:9) formats, or VGA (0.3M) when the movie is recorded and played back in the DVCAM (DV) and 4:3 formats.

Copying movies on a tape to a computer

Connect your camcorder to the computer with an i.LINK cable.
The computer needs to have an i.LINK connector and be installed with editing software that can copy video signals.
The software required depends on the format of the recorded pictures and the format for copying to the computer (HDV or DVCAM (DV)) as shown in the table below.

Recorded format	Format for copying to the computer	Required software
HDV	HDV	Editing software capable of copying HDV signal
HDV	DVCAM (DV)	Editing software capable of copying DVCAM (DV) signal
DVCAM (DV)	DVCAM (DV)	Editing software capable of copying DVCAM (DV) signal

Notes

- The i, HDV/DV jack of your camcorder does not have a power-supply function.
- You cannot copy movies using a USB cable.
- Refer to the operating instructions of the software for the details on image copying.
- Refer to the operating instructions of the editing software for the recommended connection.
- Some editing software on the computer may not work correctly.
- You cannot change format DVCAM (DV) to HDV.

The required menu settings vary depending on the recorded images and the format (HDV or DVCAM (DV)) to be copied to the computer.

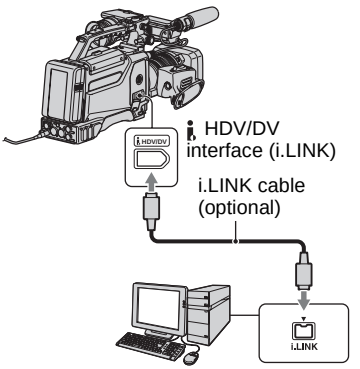
Recorded format	Format for copying to the computer	Menu setting*
HDV	HDV	[VCR HDV/DV] → [HDV] [i.LINK SET] → [HDV → DV CONV] → [OFF]
HDV	DVCAM (DV)	[VCR HDV/DV] → [HDV] [i.LINK SET] → [HDV → DV CONV] → [ON]
DVCAM (DV)	DVCAM (DV)	[VCR HDV/DV] → [DV] [i.LINK SET] → [HDV → DV CONV] → [OFF]

* See page 62 for menu settings.

Tips

- To copy HDV format images as they are without changing their format, an HDV compatible environment is required. For details, refer to your software instruction manual or contact the software manufacturer.
- To play movies by a regular DVD player, you need to create DVD video in the SD format. The DVD video is not in the HDV format.

Step:1 Connect an i.LINK cable



Notes on connecting to the computer

- Connect the i.LINK cable to the computer first, then to your camcorder. Connecting in the opposite order may cause static electricity to build up, resulting in a malfunction of your camcorder.
- The computer may freeze or may not recognize the signal from your camcorder in the following situations.
  - Connecting your camcorder to a computer that does not support the video signal formats appearing on the LCD screen of your camcorder display (HDV or DVCAM (DV)).
  - Changing the settings in [VCR HDV/DV] (p. 80) and [HDV → DV CONV] of [i.LINK SET] (p. 83).
  - Changing [REC FORMAT] setting while connected with an i.LINK cable with the CAMERA/VCR switch set to CAMERA (p. 80).
  - Changing the CAMERA/VCR switch position while connected with an i.LINK cable.
- The format (HDV or DVCAM (DV)) of input/output signal appears on the LCD screen of your camcorder while connected with an i.LINK cable.

Step:2 Copying the movies

Use the optional AC Adaptor to obtain AC power (p. 16).

① Prepare editing software (not provided).

② Turn on your computer.

③ Insert a tape into your camcorder and set the CAMERA/VCR switch to VCR.

④ Set the menu of your camcorder.
The menu settings vary depending on the copying image.

⑤ Copy images to the computer with your software.

Notes

- If images are copied in HDV format but are not recognized, your editing software may not support HDV format. Convert the images to DVCAM (DV) format according to step ④ and copy again.
- A tape recorded in DVCAM (DV) format cannot be copied to a computer in HDV format.

Tips

- When images recorded in HDV format are copied to a computer, the file size is about 2GB (almost the same as a DV file) for a 10-minute movie if the video compression format is MPEG2.

When copying the movie in the HDV format from the computer to your camcorder

Set [VCR HDV/DV] to [HDV] and [HDV → DV CONV] of [i.LINK SET] to [OFF] (p. 80, 83).

Notes

- To copy an HDV format movie edited on a computer back onto a tape in HDV format is possible so long as your editing software supports copying HDV movies onto tape. For details, contact the software manufacturer.

When copying the movie in the DVCAM (DV) format from the computer to your camcorder

Set [VCR HDV/DV] to [DV] (p. 80).

Troubleshooting

If you run into any problems using your camcorder, use the following table to troubleshoot the problem. If the problem persists, disconnect the power source and contact your Sony dealer.

Power sources/LCD screen

The power does not turn on or abruptly turns off.

- Attach a charged battery pack to the camcorder (p. 15).
- Use the AC Adaptor to connect to a wall socket (p. 16).

The camcorder does not operate even when the power is set to on.

- Disconnect the AC Adaptor from the wall socket or remove the battery pack, then reconnect it after about 1 minute.
- Press the RESET button (p. 124) using a sharp-pointed object.

The camcorder gets warm.

- The camcorder may get warmer while you use it. This is not a malfunction.

The remaining battery time indicator does not indicate the correct time.

- Ambient temperature is too high or too low, or the battery pack has not been charged enough. This is not a malfunction.
- Fully charge the battery again. If the problem persists, the battery may be worn-out. Replace it with a new one (p. 15, 114).
- The indicated time may not be correct in certain circumstances. For example, when you open or close the LCD panel, it takes about 1 minute to display the correct remaining battery time.
- Set proper battery type in [BATTERY TYPE] (p. 90).

The battery pack discharges too quickly.

- Ambient temperature is too high or low, or the battery pack has not been charged enough. This is not a malfunction.
- Fully charge the battery again. If the problem persists, the battery may be worn-out. Replace it with a new one (p. 15, 114).

The picture remains on the LCD screen.

- This occurs if you disconnect the DC plug or remove the battery pack without turning off the power first. This is not a malfunction.

The picture in the viewfinder is not clear.

- Move the viewfinder lens adjustment lever until the picture appears clearly (p. 18).

Cassette tapes/“Memory Stick Duo”

The cassette cannot be ejected from the compartment.

- Make sure the power source (battery pack or AC Adaptor) is connected correctly (p. 15).
- Moisture condensation has occurred inside the camcorder (p. 112).

The Cassette Memory indicator or title display does not appear while using a cassette with Cassette Memory.

- This camcorder does not support Cassette Memory, so the indicator does not appear.

The remaining tape indicator is not displayed.

- Set [REMAINING] to [ON] to always display the remaining tape indicator (p. 79).

You cannot delete pictures or format the “Memory Stick Duo.”

- The pictures are protected. Release the protect function on your computer, etc.

Recording

The recording does not start when you press the REC START/STOP button.

- Set the POWER switch to ON and the CAMERA/VCR switch to CAMERA (p. 25).
- The tape has reached the end. Rewind it, or insert a new cassette.
- Set the write-protect tab of the cassette to REC or insert a new cassette (p. 106).
- The tape is stuck to the drum due to moisture condensation. Remove the cassette and leave your camcorder for at least 1 hour, then re-insert the cassette (p. 112).
- Set [REC CTL MODE] of [EXT REC CTRL] to other than [EXT ONLY] (p. 83).

The handle zoom does not work.

- Set the handle zoom speed switch to FIX or VAR (p. 29).

You cannot record on the “Memory Stick Duo.”

- Assign [PHOTO] to an ASSIGN button (p. 48).
- The “Memory Stick Duo” is full. Delete unnecessary pictures recorded on the “Memory Stick Duo” (p. 109).
- Format the “Memory Stick Duo” on your camcorder (p. 87) or insert another “Memory Stick Duo” (p. 23).
- You cannot record still images on the “Memory Stick Duo” in the following cases.
  – While executing [FADER]
  – While executing [SMTH SLW REC]
  – When the shutter speed is set to slower than 1/50
  – While using shot transition
  – When [SCAN TYPE] is set to [25]

Continued ➡

You cannot record a smooth transition on a tape from the last recorded scene to the next.

- Do not record progressive pictures in different [REC TYPE] settings on the same tape.
- Perform End search (p. 50).
- Do not remove the cassette (the picture will be recorded continuously without a break even when you turn the power off).
- Do not record pictures in the HDV and DVCAM (DV) formats on the same tape.
- Do not record pictures in DVCAM mode and DV SP mode on the same tape. DVCAM DV
- When [QUICK REC] is set to [ON], you cannot record a smooth transition (p. 89). HDV1080i

The shutter sound is not heard when you record a still image.

- Set [BEEP] to [ON] (p. 90).
- No shutter sound will be outputted during movie recording or while an external device is connected.

End search or last scene review does not work.

- Do not eject the cassette after recording (p. 50).
- There is nothing recorded on the cassette.
- There is a blank section between recorded sections of the tape. This is not a malfunction.

Auto focus does not function.

- Set the focus ring to mode B and press the ASSIGN button to which [FOCUS] is assigned until the automatic focus function is enabled (p. 30, 48).
- Adjust the focus manually if the automatic focus does not work properly (p. 30).

Menu items are grayed out or do not work.

- You cannot select grayed out display items in the current recording/playback situation.
- There are some functions you cannot activate simultaneously. The following list shows examples of unworkable combinations of functions and menu items.

Cannot use	Situation
[BACK LIGHT], [SPOTLIGHT]	Two or more of iris, gain, and shutter speed are set manually.
[AE SHIFT]	Iris, gain, and shutter speed are all set manually.
[CNTRST ENHCR]	During [BACK LIGHT]
[FADER]	No tape is inserted.
[D.EXTENDER]	[REC TYPE] of [HDV PROGRE.] is set to [PROGRESSIVE]. [REC TYPE] of [HDV PROGRE.] is set to [INTERLACE] and [SCAN TYPE] is set to [25]. [SCAN TYPE] of [DV PROGRE.] is set to [25].
[ZEBRA], [PEAKING], [CAM DATA DSP], [HISTOGRAM]	The OUTPUT/DCC switch is set to BARS.

Cannot use	Situation
[SMTH SLW REC]	[REC TYPE] of [HDV PROGRE.] is set to [PROGRESSIVE]. [REC TYPE] of [HDV PROGRE.] is set to [INTERLACE] and [SCAN TYPE] is set to [25]. [SCAN TYPE] of [DV PROGRE.] is set to [25]. [REC CTL MODE] of [EXT REC CTRL] is set to [EXT ONLY]. The OUTPUT/DCC switch is set to BARS.
[MARKER]	During [DATE REC]
[FOCUS MACRO]	A Carl Zeiss lens is mounted, and the focus ring is set to mode B. A Carl Zeiss lens is not mounted.
[STEADYSHOT], [FLANGE BACK]	A Carl Zeiss lens is not mounted.
[TC LINK]	Your camcorder is not connected to an external device via an i.LINK cable.
[TC COUNTUP]	[TC MAKE] is set to [REGENERATE].
[UB-DATE/TC-TIME]	[TC MAKE] is set to [REGENERATE]. [TC RUN] is set to [REC RUN]. [UB TIME REC] is set to [ON]. Date and time are not set.
[WORLD TIME], [DATE REC]	Date and time are not set.
[x.v.Color]	[REC FORMAT] is set to [DV].
[INTERVAL REC]	[REC CTL MODE] of [EXT REC CTRL] is set to [EXT ONLY]. [REC TYPE] of [HDV PROGRE.] is set to [PROGRESSIVE]. [REC TYPE] of [HDV PROGRE.] is set to [INTERLACE] and [SCAN TYPE] is set to [25]. [SCAN TYPE] of [DV PROGRE.] is set to [25].
[DV FRAME REC]	[REC CTL MODE] of [EXT REC CTRL] is set to [EXT ONLY].
[EXT REC CTRL]	During [SMTH SLW REC] During [INTERVAL REC] During [DV FRAME REC]

Shutter speed, gain, white balance or iris cannot be adjusted manually.

- Set the CAMERA MODE switch to MANUAL.

Tiny spots in white, red, blue, or green appear on the screen.

- This phenomenon appears when using a slow shutter speed (p. 33). This is not a malfunction.

The subjects passing by the frame very fast appear crooked.

- This is called the focal plane phenomenon. This is not a malfunction. Because of the way that the image device (CMOS sensor) reads out image signals, the subjects passing by the frame rapidly might appear crooked depending on the recording conditions.

The screen picture is bright, and the subject does not appear on the screen.

- Set [BACK LIGHT] to [OFF].
- Set [HYPER GAIN] to [OFF].

The screen picture is dark, and the subject does not appear on the screen.

- Press and hold the DISPLAY button for a few seconds to turn on the backlight (p. 19).

Horizontal stripes appear on the image.

- This occurs when recording pictures under a fluorescent lamp, sodium lamp, or mercury lamp. This is not a malfunction. This can be improved by changing the shutter speed (p. 33).

Black bands appear when you record a TV screen or computer screen.

- This can be improved by adjusting the shutter speed in the ECS mode (p. 33).

The beginning of the recording looks dark when the video light comes on linked to the start of movie recording (when the LIGHT MAN/AUTO switch is set to AUTO).

- The light volume may not be stable immediately after the light comes on.
- The light does not come on during data writing in the cache memory of an external recording unit.
- Set the LIGHT MAN/AUTO switch to MAN and turn on the light before recording starts.

The video light does not come on.

- Set the video light switch to ON.
- The video light does not come on during the following kinds of recording when the LIGHT MAN/AUTO switch is set to AUTO:
  – DV frame recording
  – Smooth slow recording
  – Interval recording
  – Recording by a VCR

Fine patterns flicker, diagonal lines look jagged.

- Adjust [DETAIL] to [0] side (p. 42).

Playback

If you are playing back pictures stored on a “Memory Stick Duo,” refer also to the Cassette tapes/“Memory Stick Duo” section (p. 97).

You cannot play back tape.

- Set the POWER switch to ON and the CAMERA/VCR switch to VCR.
- Rewind the tape (p. 55).

Image data stored on a “Memory Stick Duo” cannot be played back correctly.

- Image data cannot be played back if you have modified file names or folders, or have edited the data on a computer (In this case, the file name flashes). This is not a malfunction (p. 110).
- Pictures recorded on other devices may not be played back correctly. This is not a malfunction.

The data file name is displayed incorrectly, or flashing.

- The file is damaged.
- The file format is not supported on your camcorder (p. 106).
- Only the file name is displayed if the directory structure does not conform to the universal standard.

Horizontal lines appear on the picture. The displayed pictures are not clear or do not appear.

- Video head is dirty. Clean the head using the cleaning cassette (optional) (p. 113).

You cannot hear the sound recorded with 4CH microphone recording on your camcorder.

- Confirm the setting of AUDIO MONITOR switch (p. 47).

No sound or only a low sound is heard.

- Turn up the volume (p. 56).
- Pictures recorded using [SMTH SLW REC] do not have sounds.

The picture or sound breaks off.

- The tape was recorded in both of the HDV and DVCAM (DV) formats. This is not a malfunction.

The movies freeze for a while, or the sound breaks off.

- This occurs if the tape or video head is dirty (p. 113).
- Use the Sony standard size DV or mini DV cassette tape.

"---" is displayed on the screen.

- The tape you are playing back was recorded without setting the date and time.
- A blank section on the tape is being played back.
- The data code on a tape with a scratch or noise cannot be read.
- A movie recorded in the extended clear scan (ECS) mode is being played back.
- When a non-Carl Zeiss lens is attached, the iris value cannot be displayed.
- The tape you are playing back was recorded with the gain value set to -6dB.
- The tape you are playing back was recorded with [HYPER GAIN] set to [ON].

Noises appear and NTSC or 60i is displayed on the screen.

- The tape was recorded in a TV color system other than that of your camcorder (PAL). This is not a malfunction.

Date Search does not work correctly.

- Be sure to record more than 2 minutes after the date changed. If one day's recording is too short, your camcorder may not accurately find the point where the recording date changes.
- There is a blank section between recorded sections of the tape. This is not a malfunction.

No picture appears during End search, Rec review or Last scene review.

- The tape was recorded in both HDV and DVCAM (DV) formats. This is not a malfunction.

2/2-ST appears on the LCD screen.

- This appears when you play back a tape recorded on other recording devices using a 4ch microphone.

Connecting to TV

You cannot view the picture on the TV connected with the i.LINK cable.

- You cannot view the picture in the HD (high definition) quality on the TV if an i.LINK jack of the TV is not compatible with the HDV1080i specification (p. 60). Refer to the instruction manuals supplied with your TV.
- Down convert the pictures recorded in HDV format and play back in DVCAM (DV) format (SD image quality) (p. 83).
- Connect the TV with another connecting cable, and play back pictures (p. 60).

You cannot hear the sound on the TV connected with the S VIDEO plug (S VIDEO channel) or component video plug.

- If you are using an S VIDEO plug or component video plug, make sure the audio cable is also connected (p. 60).

You cannot view the picture or hear the sound on the TV connected with the component video cable.

- Set [SDI/CMPNT] according to the requirements of the connected device (p. 82).

You cannot output S video output or video output signals.

- Set the VIDEO OUT switch to COMPOSITE (p. 60).

Dubbing/Editing/Connecting to other devices

Pictures from connected devices cannot be zoomed.

- You cannot zoom pictures from connected devices on your camcorder.

Time code and other information appear on the display of the connected device.

- Set [DISP OUTPUT] to [LCD PANEL] while connected with video and audio cables (p. 80).

You cannot dub correctly using the video and audio cables.

- The video and audio cables are not connected properly.
  Make sure that the video and audio cable is connected to the input jack of the other device for dubbing a picture from your camcorder.

When connected using an i.LINK cable, no picture appears on the monitor screen during dubbing.

- Set [VCR HDV/DV] according to the requirements of the connected device (p. 80).

You cannot add sound to the recorded tape.

- You cannot add sound to the recorded tape on this unit.

When you copy a movie shot in wide (16:9) format using an i.LINK cable, the screen stretches vertically.

- You cannot output the aspect ratio setting using an i.LINK cable. Set the aspect ratio of the TV instead.
- Connect using video and audio cables instead.

Connecting to a computer

The computer does not recognize your camcorder. i.LINK

- Disconnect the cable from the computer, then connect it again securely.
- Disconnect the cable from the computer, restart the computer, then connect the computer to your camcorder correctly.

You cannot view or copy a movie recorded on a tape to a computer. i.LINK

- Disconnect the cable from the computer, then connect it again.
- You need the editing software (optional) to copy a movie recorded on a tape to your computer (p. 93).

Your computer freezes.

- Set [VCR HDV/DV] correctly according to the connected device (p. 80).
- Disconnect the cable from your computer and camcorder. Reboot your computer, and connect your computer and camcorder following the steps in the correct order (p. 94).

Warning indicators and messages

Self-diagnosis display/Warning indicators

When an error occurs, a warning indicator appears on the LCD screen or in the viewfinder, or the WARNING lamp turns on or flashes.
You can fix some problems associated with the symptoms yourself. If the problem persists even after you have tried a couple of times, contact your Sony dealer or local authorized Sony service facility.

C:(or E:) □□:□□ (Self-diagnosis display)

C:21:□□

- Moisture condensation has occurred. Remove the cassette and leave your camcorder for at least 1 hour, then re-insert the cassette (p. 112).

C:22:□□

- Clean the head using a cleaning cassette (optional) (p. 113).

C:31:□□ / C:32:□□

- Symptoms that are not described above have occurred. Remove and insert the cassette, then operate your camcorder again. Do not perform this procedure if moisture condensation has occurred (p. 112).
- Remove the power source. Reconnect it and operate your camcorder again.
- Change the cassette. Press the RESET button (p. 124), and operate your camcorder again.

E:61:□□ / E:62:□□

- Contact your Sony dealer or local authorized Sony service facility. Inform them of the 5-digit code, which starts from "E."

101-1001(Warning indicator pertaining to files)

- The file is damaged.
- The file is unreadable (p. 110).

(Battery level warning)

- The battery pack is nearly used up.
- Depending on the operating, environment, or battery conditions, may flash, even if there are approximately 5 to 10 minutes remaining.

(Moisture condensation warning)*

- Eject the cassette, remove the power source, and then leave it for about 1 hour with the cassette lid open (p. 112).

(Warning indicators pertaining to the tape)

Slow flashing:

- There is less than 5 minutes remaining on the tape.
- No cassette is inserted.*
- The write-protect tab on the cassette is set to lock (p. 106).*

Fast flashing:

- The tape has run out.*

⏏ (Eject cassette warning)*

Slow flashing:

- The write-protect tab on the cassette is set to lock (p. 106).

Fast flashing:

- Moisture condensation has occurred (p. 112).
- The self-diagnosis display code is displayed (p. 105).

* When [BEEP] is set to [ON] (p. 90), you hear a melody when the warning indicators appear on the screen.

Warning messages

If messages appear on the screen, follow the instructions.

Maintenance and precautions

HDV format and recording/ playback

Your camcorder is capable of recording in HDV/DVCAM/DV formats.
It is recommended to use a cassette with the DV or Mini DV mark to record in the HDV/ DVCAM/DV format.
It is recommended to use a cassette with the DVCAM mark to record in the DVCAM format.
Your camcorder is not compatible with the Cassette Memory function.

What is the HDV format?

The HDV format is a video format developed to record and play back digital high definition (HD) video signals on a DV cassette.
Your camcorder adopts the Interlace mode with 1,080 effective scan lines of screen ruling (1080i, number of pixels 1,440 × 1,080 dots).
The video bit rate for recording is about 25 Mbps.
i.LINK is adopted for the digital interface, enabling a digital connection with an HDV compatible TV or computer.

- HDV signals are compressed in MPEG2 format, which is adopted in BS (broadcast satellite) digital, terrestrial digital HDTV broadcastings, in Blu-ray Disc recorders, etc.

Playback

- Your camcorder can play back pictures in both the DVCAM (DV) format and HDV1080i specification.
- Your camcorder can play back pictures recorded in the HDV 720/30p format, but cannot output it from the i.LINK HDV/DV interface (i.LINK).

To prevent a blank section from being created on the tape

Go to the end of the recorded section using [END SEARCH] (p. 50) before you begin the next recording when you have played back the tape.

Copyright signal

■ When you play back

If the cassette you play back on your camcorder contains copyright signals, you cannot copy it to a tape in another video camera connected to your camcorder.

■ When you record

You cannot record software on your camcorder that contains copyright control signals for copyright protection of software. [Cannot record due to copyright protection.] appears on the LCD screen, or on the viewfinder if you try to record such software. Your camcorder does not record copyright control signals on the tape when it records.

Audio mode

The DVCAM format has 2 audio modes.

- You cannot dub sound onto a recorded tape with your camcorder.

■ FS32K (12-bit) mode

Sound can be recorded in four 4 channels, CH1, CH2, CH3 and CH4.
You can monitor sounds by switching outputs using the AUDIO MONITOR switch. When the AUDIO MONITOR switch is set to MIX, CH1 and CH3 sounds are mixed and CH2 and CH4 sounds are mixed.

■ FS48K (16-bit) mode

The original sound can be recorded in high quality using 2 channels. The audio mode can be indicated on the LCD screen or in the viewfinder.

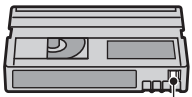
Notes on use

■ When not using your camcorder for a long time

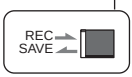
Remove the cassette and store it.

■ To prevent accidental erasure

Slide the write-protect tab on the cassette to set it to SAVE.

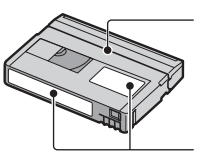


REC: The cassette can be recorded.
SAVE: The cassette cannot be recorded (write-protected).



■ When labeling the cassette

Be sure to place the label only on the locations shown in the following illustration so as not to cause a malfunction of your camcorder.

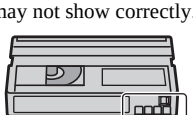


■ After using the cassette

Rewind the tape to the beginning to avoid distortion of the picture or the sound. The cassette should then be put in its case, and stored in an upright position.

■ When cleaning the gold-plated connector

Generally, clean the gold-plated connector on a cassette with a cotton-wool swab after every 10 times it has been ejected.
If the gold-plated connector on the cassette is dirty or dusty, the remaining tape indicator may not show correctly.



Gold-plated connector

On Sony HDV1080i compliant TVs

HDV1080i

An HDV format compatible TV with the component input jack is required to view playback pictures recorded in the HDV format.

Compatibility of the DVCAM/DV formats

The DVCAM format was developed as a more reliable and higher-end format than the consumer DV format. Explained here are the differences, compatibility, and limitations on editing for the DVCAM and DV formats.

Differences between the DVCAM and DV formats

Specification	DVCAM	DV
TRACK Pitch	15 µm	10 µm
Audio sampling frequency	12 bit:32 kHz 16 bit:48 kHz	12 bit:32 kHz 16 bit:48 kHz 44.1 kHz 48 kHz
Audio recording mode*	Lock mode	Lock/Unlock mode

* There are 2 modes for audio recording, lock mode and unlock mode. In lock mode, the sampling frequencies of audio and video are synchronized. Therefore, lock mode is more effective than unlock mode in digital processing and smooth transition during audio editing.

Mini DVCAM and mini DV cassettes

The recording format of the picture is defined according to the recorder's format as described below.

Recorder's format	Cassette's format	Recording format
DVCAM	DVCAM DV	DVCAM
DV	DVCAM DV	DV

Notes

- This camcorder complies with the DVCAM format.Though mini DV cassettes can be used for recording, we recommend you use mini DVCAM cassettes to get the most out of the high reliability of the DVCAM format.
- The recording time of mini DV cassettes is 1/3 shorter than that indicated on mini DV cassettes when recorded in the DVCAM format.

Compatibility on playback

Tape	On DV video equipment	On DVCAM video equipment
DV formatted	Can be playback	Can be played back only when recorded in SP mode
DVCAM formatted	Can be played back on some equipment	Can be playback

Compatibility on editing using DV jacks

When this camcorder is connected to other digital video equipment using an i.LINK cable, the recording format of edited tapes is defined according to the source tape and the recorder's format as described below. Playback or editing using the edited tape may be limited depending on dubbing operation. Start dubbing after reading "Limitations on editing" (p. 109).

Source tape	Player's format	Recorder's format	Recording format
DV formatted (SP mode only)	DVCAM	DVCAM	DVCAM [1]
		DV	DV
DV formatted	DV	DVCAM	DVCAM
		DV	DV
DVCAM formatted [2]	DVCAM	DVCAM	DVCAM
		DV	DV
DVCAM formatted [2]	DV [3]	DVCAM	DVCAM (Compatibility depends on models.)
		DV	DV

[1] When using mini DVCAM video equipment to perform DV dubbing of a tape recorded in DV format, the tape produced will be in the DVCAM format which the time code format will be partly misadjusted. (there will be no effect on the recorded picture except in certain cases.)

[2] If the tape that is to be dubbed is in the DVCAM format as in 1), the tape produced will be in the DVCAM format and the time code format will be partly misadjusted.

[3] Some mini DV video equipment may be able to play back a DVCAM-formatted tape. Even if the tape is played back, quality of the playback cannot be guaranteed. The time code format will be partly misadjusted.

Notes

- If you use tapes as in 1) to 3) above for editing, the functions may be limited regardless of the format of players and recorders.

Limitations on editing

You may find the following limitations when editing a tape produced by dubbing or editing using the HDV/DV Interface (i.LINK) jack:

- Due to the difference in track pitch, you cannot record or edit on DV-formatted tapes using mini DVCAM video equipment.
- Depending on the DVCAM video equipment used, you may not be able to edit DVCAM formatted tapes if the audio recording mode is unlock mode. In this case, dub using audio/video jacks.

About the “Memory Stick”

A “Memory Stick” is a compact, portable IC recording medium with a large data capacity.
You can use the following types of “Memory Stick” listed below on the camcorder. However, we do not guarantee the operation of all types of “Memory Stick” on your camcorder. (See the list below for more details.)

Types of “Memory Stick”	Recording /Playback
“Memory Stick Duo” (with MagicGate)	○
“Memory Stick PRO Duo”	○
“Memory Stick PRO-HG Duo”	○

- This product does not support high speed data transfer via a parallel interface.
- This product cannot record or play data that uses “MagicGate” technology. “MagicGate” is a copyright protection technology that records and transfers the contents in an encrypted format.
- This product is compatible with “Memory Stick Micro” (“M2”). “M2” is the abbreviation for the “Memory Stick Micro.”
- Still image format: Your camcorder compresses and records image data in the JPEG (Joint Photographic Experts Group) format. The file extension is “.JPG.”
- A “Memory Stick Duo” formatted by a computer (Windows OS/Mac OS) does not have guaranteed compatibility with your camcorder.
- Data read/write speed may vary depending on the combination of the “Memory Stick Duo” and “Memory Stick Duo” compliant product you use.
- You can prevent accidental erasure of images when you slide the write-protect tab on the “Memory Stick Duo” with a small tapered object, to the write-protect position.
- Damaged or lost image data will not be compensated for, and may occur in the following cases:
  - If you eject the “Memory Stick Duo,” turn the power off on your camcorder, or remove the battery pack for replacement while your camcorder is reading or writing image files on the “Memory Stick Duo” (while the access lamp is lit or flashing).
  - If you use the “Memory Stick Duo” near magnets or magnetic fields.
- It is recommended to make a back-up of important data on the hard disk of a computer.
- Be careful not to apply excessive force when writing on a memo area on a “Memory Stick Duo.”
- Do not attach a label or the like on a “Memory Stick Duo” or a Memory Stick Duo adaptor.
- When you carry or store a “Memory Stick Duo,” put it in its case.
- Do not touch, or allow metallic objects to come into contact with the terminals.
- Do not bend, drop or apply strong force to the “Memory Stick Duo.”
- Do not disassemble or modify the “Memory Stick Duo.”
- Do not let the “Memory Stick Duo” get wet.
- Be careful to keep “Memory Stick Duo” media out of the reach of small children. There is danger that a child might swallow it.
- Do not insert anything other than a “Memory Stick Duo” into the Memory Stick Duo slot. Doing so may cause a malfunction.

- Do not use or keep the “Memory Stick Duo” in the following locations:
  – Places subject to extremely high temperature, such as a car parked outside in the summer.
  – Places under direct sunlight.
  – Places with extremely high humidity or subject to corrosive gases.

■ On the Memory Stick Duo adaptor

- When using a “Memory Stick Duo” with a “Memory Stick” compliant device, make sure to insert the “Memory Stick Duo” into a Memory Stick Duo adaptor.
- When inserting a “Memory Stick Duo” into a Memory Stick Duo adaptor, make sure the “Memory Stick Duo” is inserted facing in the correct direction, then insert it all the way in. Note that improper use may cause a malfunction. Also, if you force the “Memory Stick Duo” into the Memory Stick Duo adaptor in the wrong direction, it may be damaged.
- Do not insert a Memory Stick Duo adaptor without a “Memory Stick Duo” attached. Doing so may result in malfunctions of the unit.

■ On a “Memory Stick PRO Duo”

- The maximum memory capacity of a “Memory Stick PRO Duo” that can be used on your camcorder is 8 GB.

Notes on using “Memory Stick Micro”

- To use a “Memory Stick Micro” with the camcorder, you need a Duo-sized M2 Adaptor. Insert the “Memory Stick Micro” into the Duo-sized M2 Adaptor, then insert the adaptor into the Memory Stick Duo slot. If you insert a “Memory Stick Micro” into the camcorder without using a Duo-sized M2 Adaptor, you might not be able to remove it from the camcorder.
- Do not leave the “Memory Stick Micro” within the reach of small children. They might accidentally swallow it.

On image data compatibility

- Image data files recorded on a “Memory Stick Duo” by your camcorder conform to the “Design rule for Camera File system” universal standard established by the JEITA (Japan Electronics and Information Technology Industries Association).
- On your camcorder, you cannot play back still images recorded on other devices (DCR-TRV900E or DSC-D700/D770) that do not conform to the universal standard. (These models are not sold in some regions.)
- If you cannot use a “Memory Stick Duo” that has been used with another device, format it with your camcorder (p. 87). Note that formatting erases all information on the “Memory Stick Duo.”
- You may not be able to play back images with your camcorder:
  – When playing back image data modified on your computer.
  – When playing back image data recorded with other devices.

About storage of the battery pack

- If the battery pack is not used for a long time, fully charge the battery pack and use it up on your camcorder once a year to maintain proper function. To store the battery pack, remove it from your camcorder and put it in a dry, cool place.
- To discharge the battery pack on your camcorder completely, leave your camcorder in tape recording standby until the power goes off (p. 15).

About battery life

- Battery capacity decreases over time and through repeated use. If decreased usage time between charges becomes significant, it is probably time to replace it with a new one.
- Each battery’s life is governed by storage, operating and environmental conditions.

About i.LINK

The i HDV/DV (i.LINK) jack on your camcorder is an i.LINK-compliant 6-pin jack. This section describes the i.LINK standard and its features.

What is i.LINK?

i.LINK is a digital serial interface for transferring digital video, digital audio, and other data to other i.LINK-compatible devices. You can also control other devices using the i.LINK.
i.LINK-compatible devices can be connected using an i.LINK cable. Possible applications are operations and data transactions with various digital AV devices.
When two or more i.LINK-compatible devices are daisy-chained with the unit, operation becomes possible from any device in the chain. Note that operation method may vary, or data transactions may not be possible, depending on specifications and characteristics of the connected devices.

Notes

- Normally, only one device can be connected to this unit with an i.LINK cable. When connecting this unit to an HDV/DV compatible device having two or more HDV/DV interfaces, refer to the operating instructions of the device to be connected.
- i.LINK is a more familiar term for the IEEE 1394 data transport bus proposed by Sony, and is a trademark approved by many corporations.
- IEEE 1394 is an international standard standardized by the Institute of Electrical and Electronics Engineers.

About the i.LINK Baud rate

i.LINK's maximum baud rate varies according to the device. There are 3 types.

S100 (approx. 100Mbps*)
S200 (approx. 200Mbps)
S400 (approx. 400Mbps)

The baud rate is listed under "Specifications" in the operating instructions of each piece of equipment. It is also indicated near the i.LINK interface on some devices.

The baud rate may differ from the indicated value when the unit is connected to a device with a different maximum baud rate.

*** What is Mbps?**

Mbps stands for "megabits per second," or the amount of data that can be sent or received in one second. For example, a baud rate of 100 Mbps means that 100 megabits of data can be sent in one second.

To use i.LINK functions on this unit

For details on how to dub when this unit is connected to other video devices having an i.LINK interface, see page 94.
This unit can also be connected to other i.LINK-compatible devices made by Sony (for example, a VAIO series personal computer) as well as to video devices. Some i.LINK compatible video devices, such as Digital Televisions, DVD, MICROMV or HDV recorders/players are not compatible with this unit. Before connecting to other devices, be sure to confirm whether the device is compatible with an HDV/DV device or not. For details on precautions and compatible application software, refer also to the operating instructions for the device to be connected.

Notes

- When connecting a device with an i.LINK terminal to your camcorder via an i.LINK cable, switch off the device and unplug it from the power socket before plugging in or unplugging the i.LINK cable.

About x.v.Color

- x.v.Color is a more familiar term for the x.v.YCC standard proposed by Sony, and is a trademark of Sony.
- x.v.YCC is an international standard for color space in video. This standard can express a wider color range than the currently used broadcast standard.

About handling of your camcorder

On use and care

- Do not use or store the camcorder and accessories in the following locations.
  - Anywhere extremely hot or cold. Never leave them exposed to temperatures above 60 °C (140 °F), such as under direct sunlight, near heaters or in a car parked in the sun. They may malfunction or become deformed.
  - Near strong magnetic fields or mechanical vibration. The camcorder may malfunction.
  - Near strong radio waves or radiation. The camcorder may not be able to record properly.
  - Near AM receivers and video equipment. Noise may occur.
  - On a sandy beach or anywhere dusty. If sand or dust gets in your camcorder, it may malfunction. Sometimes this malfunction cannot be repaired.
  - Near windows or outdoors, where the LCD screen, the viewfinder, or the lens may be exposed to direct sunlight. This damages the inside of the viewfinder or the LCD screen.
  - Anywhere very humid.
- Operate your camcorder on DC 7.2 V (battery pack) or DC 8.4 V (AC Adaptor).
- For DC or AC operation, use the accessories recommended in these operating instructions.
- Do not let your camcorder get wet, for example, from rain or sea water. If your camcorder gets wet, it may malfunction. Sometimes this malfunction cannot be repaired.
- If any solid object or liquid gets inside the casing, unplug your camcorder and have it checked by a Sony dealer before operating it any further.
- Avoid rough handling, disassembling, modifying, physical shock, or impact such as hammering, dropping or stepping on the product. Be particularly careful of the lens.
- Keep the POWER switch setting to OFF when you are not using your camcorder.
- Do not wrap your camcorder with a towel, for example, and operate it. Doing so might cause heat to build up inside.
- When disconnecting the mains lead, pull it by the plug and not the lead.
- Do not damage the mains lead such as by placing anything heavy on it.
- Keep metal contacts clean.
- If the battery electrolytic liquid has leaked,
  - consult your local authorized Sony service facility.
  - wash off any liquid that may have contacted your skin.
  - if any liquid gets in your eyes, wash with plenty of water and consult a doctor.

■ When not using your camcorder for a long time

- Periodically turn on the camcorder and play a cassette for about 3 minutes.
- Use up the battery pack completely before storing it.

Moisture condensation

If your camcorder is brought directly from a cold place to a warm place, moisture may condense inside your camcorder, on the surface of the tape, or on the lens. In this state, the tape may stick to the head drum and be damaged or your camcorder may not operate correctly. If there is moisture inside your camcorder, [Moisture condensation. Eject the cassette] or [Moisture condensation. Turn off for 1H.] appears. The indicator will not appear when the moisture condenses on the lens.

■ If moisture condensation has occurred

None of the functions except cassette ejection will work. Eject the cassette, turn off your camcorder, and leave it for about one hour with the cassette lid open. Your camcorder can be used again when both of the following conditions are met:

- The warning message does not appear when the power is turned on.
- Neither ⏏ nor ⏏ flashes when a cassette is inserted and the video operation buttons are pressed.

If moisture starts to condense, your camcorder sometimes cannot detect condensation. If this happens, the cassette is sometimes not ejected for 10 seconds after the cassette lid is opened. This is not a

malfunction. Do not close the cassette lid until the cassette is ejected.

■ Note on moisture condensation

Moisture may condense when you bring your camcorder from a cold place into a warm place (or vice versa) or when you use your camcorder in a humid place as shown below.

- When you bring your camcorder from a ski slope into a place warmed up by a heating device.
- When you bring your camcorder from an air conditioned car or room into a hot place outside.
- When you use your camcorder after a squall or a shower.
- When you use your camcorder in a hot and humid place.

■ How to avoid moisture condensation

When you bring your camcorder from a cold place into a warm place, put your camcorder in a plastic bag and seal it tightly. Remove the bag when the air temperature inside the plastic bag has reached the surrounding temperature (after about one hour).

Video head

If you play back a tape recorded in HDV format, the image and sound may freeze for a while (about 0.5 seconds).
This occurs if the HDV signals cannot be recorded or played back correctly because of dirt on the tape or video head. Depending on the cassette, this fairly infrequently occurs even if the cassette is brand new or is not used a lot.
If this freezing point is created while playing back, you can solve this problem and see the pictures by rewinding after slightly forwarding. Such a freezing point cannot be recovered if it was created while recording.
To prevent such a problem, use the Sony mini DV cassette.

- If the following problem occurs, clean the video heads for 10 seconds with the Sony cleaning cassette (optional).
  - Playback pictures do not move.
  - Playback pictures do not appear.
  - The sound breaks off.
  - [Dirty video head. Use a cleaning cassette.] appears on the screen during recording.
  - The following phenomenon occurs in HDV format.

The playback screen pauses.

The playback screen goes blank. (Solid blue screen)

  - The following phenomenon occurs in DVCAM (DV) format.

Block-noise appears.

The playback screen goes blank. (Solid blue screen)

- The video heads will be worn after long use. If you cannot obtain a clear image even after using a cleaning cassette (optional), the video heads may be worn out. Please contact your Sony dealer or local authorized Sony service facility to have the video heads replaced.

LCD screen

- Do not exert excessive pressure on the LCD screen, as it may cause damage.
- If your camcorder is used in a cold place, a residual image may appear on the LCD screen. This is not a malfunction.
- While using your camcorder, the back of the LCD screen may heat up. This is not a malfunction.

■ To clean the LCD screen

If fingerprints or dust make the LCD screen dirty, it is recommended you use a soft cloth to clean it. When you use the LCD

Cleaning Kit (optional), do not apply the cleaning liquid directly to the LCD screen. Use cleaning paper moistened with the liquid.

On handling the casing

- If the casing is soiled, clean the camcorder body with a soft cloth lightly moistened with water, and then wipe the casing with a dry soft cloth.
- Avoid the following to avoid damage to the finish.
  - Using chemicals such as thinner, benzine, alcohol, chemical cloths, repellent, insecticide and sunscreen.
  - Handling with above substances on your hands.
  - Leaving the casing in contact with rubber or vinyl objects for a long period of time.

About care and storage of the lens

- Wipe the surface of the lens clean with a soft cloth in the following instances:
  - When there are fingerprints on the lens surface.
  - In hot or humid locations
  - When the lens is exposed to salty air such as at the seaside.
- Store in a well-ventilated location subject to little dirt or dust.
- To prevent mold, periodically clean the lens as described above. It is recommended that you operate your camcorder about once a month to keep it in optimum state for a long time.

On charging the pre-installed rechargeable battery

Your camcorder has a pre-installed rechargeable battery to retain the date, time, and other settings even when the POWER switch is set to OFF. The pre-installed rechargeable battery is always charged while your camcorder is connected to the wall socket via the AC Adaptor or while the battery pack is inserted. The rechargeable battery will be fully discharged in about **3 months** if you do not use your camcorder at all without the AC Adaptor connected or the battery pack attached. Use your camcorder after charging the pre-installed rechargeable battery.
However, even if the pre-installed rechargeable battery is not charged, the camcorder operation will not be affected as long as you are not recording the date.

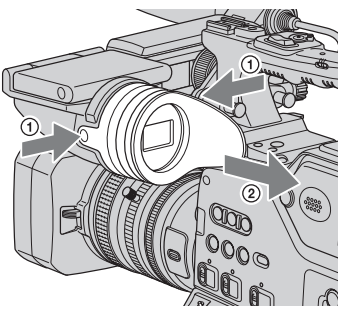
■ **Procedures**

Connect your camcorder to a wall socket using the optional AC Adaptor, and leave it with the POWER switch set to OFF for more than 24 hours.

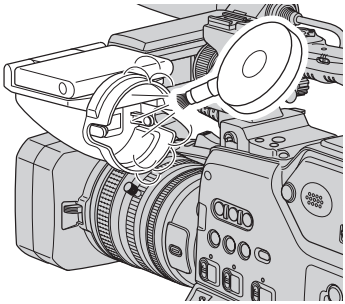
Removing dust from inside the viewfinder

1 Remove the eye piece of the viewfinder.

Push and hold the RELEASE buttons in the eye piece of the viewfinder (①), and remove the eye piece (②).



2 **Remove dust inside the eye piece and viewfinder with a blower.**



Specifications

System

Video recording system (HDV)
2 rotary heads, Helical scanning system
Video recording system (DVCAM (DV))
2 rotary heads, Helical scanning system
Still image recording system
Exif Ver. 2.2*
Audio recording system (HDV)
Rotary heads,
MPEG-1 Audio Layer-2 (2-channel)
MPEG-2 Audio Layer-2 (4-channel)
Quantization: 16 bits
Fs48kHz (stereo)
transfer rate: 384 kbps
Audio recording system (DVCAM (DV))
Rotary heads, PCM system
Quantization: 12 bits
Fs32kHz (channel 1/2, channel 3/4 stereo)
Quantization: 16 bits
Fs48kHz (channel 1/2 stereo)
Video signal
PAL color, CCIR standards
1080/50i specification
Usable cassette
Standard size DV cassette with the DV Digital Video Cassette mark printed
Standard size DVCAM cassette with the DVCAM mark printed
Mini DV cassette with the Mini DV mark printed
Mini DVCAM cassette with the DVCAM mark printed
Tape speed (HDV)
Approx. 18.812 mm/s
Tape speed (DVCAM)
Approx. 28.218 mm/s
Tape speed (DV SP)
Approx. 18.812 mm/s
Recording/playback time (HDV)
276 min (using a PHDV-276DM cassette)
63 min (using a PHDVM-63DM cassette)
Recording/playback time (DVCAM)
184 min (using a PHDV-276DM cassette)
41 min (using a PHDVM-63DM cassette)
Recording/playback time (DV SP)
276 min (using a PHDV-276DM cassette)
63 min (using a PHDVM-63DM cassette)
Fast forward/rewind time
Approx. 2 min (using a PHDV-276DM cassette and rechargeable battery pack)
Approx. 2 min (using a PHDV-276DM cassette and AC Adaptor)
Viewfinder
Electric viewfinder (color, black and white)
Picture
1.1 cm (0.45 type, aspect ratio 16:9)
Total dot number
1 226 880 (approx. 852 × 3[RGB] × 480)
Image device
6.0 mm (1/3 type) 3CMOS sensor
Recording Pixels (HDV/DV16:9 still recording):
Max. 1.20 Mega (1 440 × 810) pixels**
Gross: Approx. 1 120 000 pixels
Effective (movie, 16:9):
1 037 000 pixels
Effective (movie, 4:3):
778 000 pixels
Effective (still, 16:9):
1 037 000 pixels
Effective (still, 4:3):
778 000 pixels
Lens
Carl Zeiss Vario-Sonnar T*
12 × (Optical), Approx. 18 × (Digital, when [D.EXTENDER] is set to [ON])

Focal length

f=4.4 - 52.8 mm (3/16 - 2 1/8 in.)
When converted to a 35 mm still camera
32.0 - 384 mm (1 5/16 - 15 1/8 in.) (16:9),
39.5 - 474 mm (1 9/16 - 18 3/4 in.) (4:3)
F1.6 - 2.0
Filter diameter: 72 mm (2 7/8 in.)

Color temperature

[AUTO]
[ONE PUSH AF]
[INDOOR] (3 200K)
[OUTDOOR] (5 800K±7 offset levels)
[MANU WB TEMP] (2 300K - 15 000K in 100K steps)

Minimum illumination

1.5 lx (lux) (Fixed Shutter Speed 1/25, auto gain, auto iris) (F 1.6)

* "Exif" is a file format for still images, established by the JEITA (Japan Electronics and Information Technology Industries Association). Files in this format can have additional information such as your camcorder's setting information at the time of recording.

**Still image resolution is obtained by the unique pixel array of Sony's ClearVid CMOS Sensor and image processing system (new Enhanced Imaging Processor).

Output connectors

VIDEO OUT jack

BNC connector × 1
Video signal: 1 Vp-p, 75 Ω (ohms)

S VIDEO jack

S connector × 1
Luminance signal: 1 Vp-p, 75 Ω (ohms)
Chrominance signal: 0.3 Vp-p (burst signal), 75 Ω (ohms)

AUDIO OUT jack

RCA connector × 2
Audio signal: -10 dBu (at load impedance 47 kΩ (kilohms)), Output impedance with less than 2.2 kΩ (kilohms)
(0 dBu=0.775 Vrms)

TC OUT jack

BNC connector × 1
2.2 Vp-p, 600 Ω (ohms) / 1.2 Vp-p, 75 Ω (ohms)

COMPONENT OUT jack

BNC connector × 3
Y: 1 Vp-p, 75Ω (ohms), PB/PR, CB/CR: +/- 350 mV, 75 Ω (ohms)

HD/SD SDI OUT jack

BNC type × 1
SD-SDI: SD-SDI format, SMPTE259M-C (270Mbps)
HD-SDI: HD-SDI format, SMPTE292M

Input/Output connectors

LANC jack

Stereo mini-minijack (Ø 2.5 mm)

AUDIO INPUT1 (L)/AUDIO INPUT2 (R)/AUDIO INPUT3/AUDIO INPUT4 jack

XLR 3-pin, female,
-48 dBu: 3kΩ (kilohms)
+4 dBu: 10kΩ (kilohms)
(0 dBu=0.775 Vrms)

PHONES jack

Stereo-minijack (Ø 3.5 mm)

DC OUT 12V connector

4-pin, male, 12 V

LIGHT connector

2-pin, max. 35 W

LENS jack

12-pin connector

HDV/DV jack

i.LINK interface (IEEE 1394, 6-pin connector S100)

DC IN 12V connector
XLR 4-pin, female, 11 V - 17 V

LCD screen

Picture
8.0 cm (3.2 type, aspect ratio 16:9)
Total dot number
921 600 (1 920 × 480)

General

Power requirements
DC 14.4 V (battery pack)
DC 12 V (11 V - 17 V) (AC Adaptor)
Average power consumption*
During camera recording using the viewfinder with normal brightness:
HDV recording 12.2 W
DVCAM (DV) recording 11.7 W
During camera recording using the viewfinder and Memory Recording Unit (HVR-MRC1) with normal brightness:
HDV recording 14.9 W
DVCAM (DV) recording 14.4 W
Operating temperature
0 °C to 40 °C (32 °F to 104 °F)
Storage temperature
-20 °C to + 60 °C (-4 °F to + 140 °F)
Dimensions (approx.)
305 × 277 × 505 mm
(11 1/8 × 11 × 20 in.) (w/h/d)
including the projecting parts with Carl Zeiss lens (VCL-412BWS) and lens hood with lens cover
305 × 277 × 510 mm
(11 1/8 × 11 × 20 1/8 in.) (w/h/d)
including the projecting parts with Carl Zeiss lens (VCL-412BWS), lens hood with lens cover and battery pack (BP-GL65)
Mass (approx.)
4.0 kg (8 lb 12 oz) camera body only
5.2 kg (11 lb 7 oz) including Carl Zeiss lens (VCL-412BWS)
6.3 kg (13 lb 15 oz) including battery pack (BP-GL95), cassette (PHDV-276DM), Carl Zeiss lens (VCL-412BWS), lens hood with lens cover and microphone (ECM-XM1)

* When the microphone (ECM-XM1) is used

Design and specifications are subject to change without notice.

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- "Memory Stick," "MEMORY STICK," "Memory Stick Duo," "MEMORY STICK DUO," "Memory Stick PRO Duo," "MEMORY STICK PRO DUO," "Memory Stick PRO-HG Duo," "MEMORY STICK PRO-HG DUO," "Memory Stick Micro," "MagicGate," "MAGICGATE," "MagicGate Memory Stick" and "MagicGate Memory Stick Duo" are trademarks of Sony Corporation.
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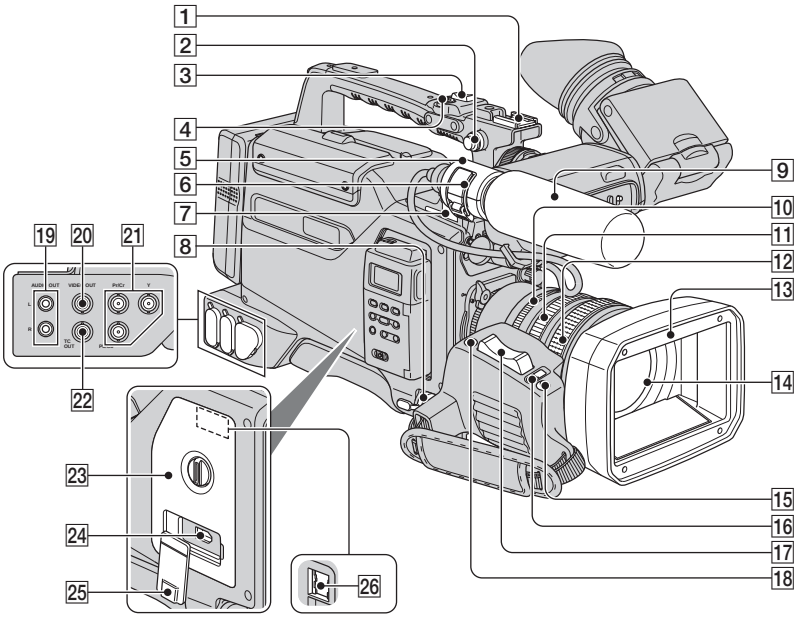
Identifying parts and controls

The numbers in ( ) are reference pages.



1 Accessory shoe (126)

2 Shoulder strap fitting (12)

3 Handle zoom lever (29)

4 REC START/STOP button (25)

5 Microphone holder (11)

6 Microphone fixing clamper (11)

7 LIGHT connector (2-pin, female) (27)
A video light with a maximum power consumption of 35W, such as the Anton Bauer Ultralight 2 or equivalent can be connected.

8 LENS jack (9)

9 Microphone (11)

10 Iris ring (32)

11 Zoom ring (29)

12 Focus ring (30)

13 Lens hood with lens cover (11)

14 Lens (9)

15 PUSH AUTO button (32)

16 IRIS switch (32)

17 Zoom lever (31)

18 REC REVIEW/L2 button (50)

19 AUDIO OUT jacks (60)

20 VIDEO OUT jack (60)

21 COMPONENT OUT jacks (60)

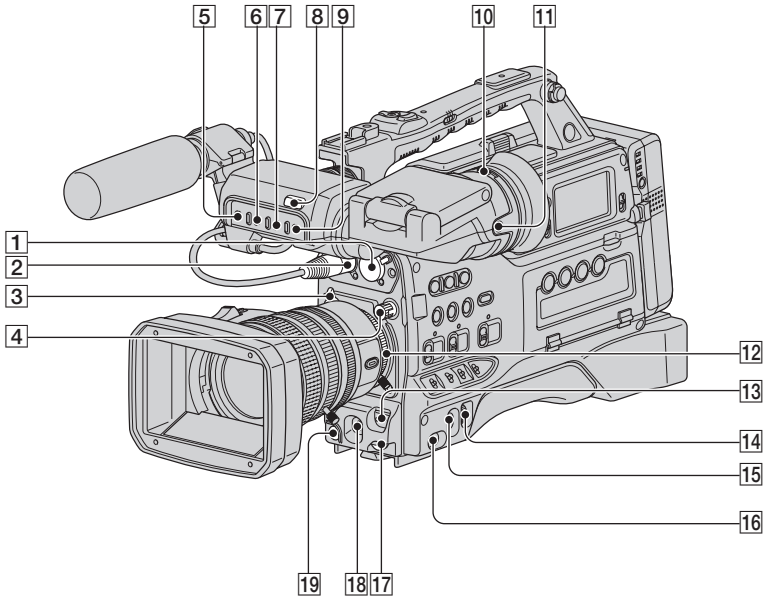
22 TC OUT jack (60)

23 Cover (13)
Remove this cover when you attach the Memory Recording Unit HVR-MRC1.

24 HDV/DV jack (60)

25 HDV/DV jack cover

26 Accessory interface shoe (13)



1 AUDIO INPUT2 (R) jack (45)

2 AUDIO INPUT1 (L) jack (45)

3 Lens mount securing tab (9)

4 ND filter (32)

5 TALLY switch
Set to ON to turn on the front recording lamp.

6 PEAKING switch (18)

7 LIGHT ON/OFF switch
Lights the lens to help you to see the focus scale in the dark.

8 Recording lamp (25)

9 VIDEO OUT switch (60)

10 Viewfinder lens adjustment lever (18)

11 RELEASE button (114)

12 Lens mount (9)

13 SHUTTER switch (33)

14 SEL/PUSH EXEC dial (20)

15 CAMERA/VCR switch (17)

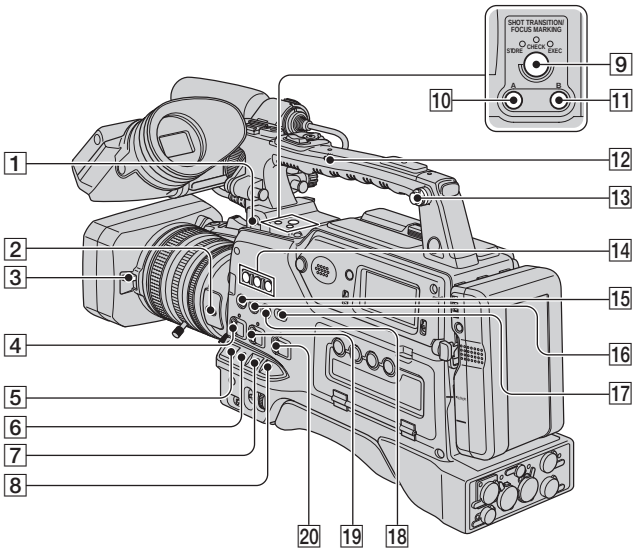
16 POWER switch (17)

17 AUDIO LEVEL dial
Adjusts the audio input level of CH1.

18 WHT/BLK switch (34)

19 REC START/STOP button (25)

Continued ➡



1 LIGHT MAN/AUTO switch

Select AUTO or MAN to automatically or manually turn on and off a video light connected to the LIGHT connector.

AUTO: The video light automatically turns on upon a start of recording when its power switch is in the on position.

MAN: You can manually turn on and off the video light with its power switch.

2 DIGITAL EXTENDER/L1 button (48)

3 Lens cover lever (12)

4 AGC switch (33)

5 GAIN switch (33)

6 OUTPUT/DCC switch

Switches the video signal, which is output to the VTR part, viewfinder, and video monitor from the camera part, between the following two.

BARS: Outputs the color bar signal.

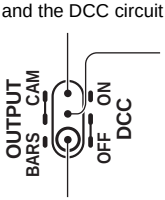
CAM: Outputs the video signal from the camera. When this is selected, you can switch DCC* on and off.

* **DCC (Dynamic Contrast Control):** Against a very bright background with the iris opening adjusted to the subject, objects in the background will be lost in the glare. The DCC function will suppress the high intensity and restore much of the lost detail and is particularly effective in the following cases.

- Recording people in the shade on a sunny day
- Recording a subject indoors, against a background through a window
- Any high contrast scene

OUTPUT: CAM, DCC: ON

The video signal from the camera is output, and the DCC circuit operates.



OUTPUT: CAM, DCC: OFF

The video signal from the camera is output, and the DCC circuit does not operate.

OUTPUT: BARS, DCC: OFF

A color bar signal is output and the DCC circuit does not operate. Use this setting to adjust the video monitor, to record the color bar signal, etc.

7 WHT BAL switch (33)

8 MENU/STATUS switch (62)

9 SHOT TRANSITION/FOCUS MARKING button (51)

10 A button (51)

11 B button (51)

12 Handle zoom switch (29)

13 Shoulder strap fitting (12)

14 ASSIGN 1-3 buttons (48)

15 ASSIGN 4 button/ZEBRA button (48)

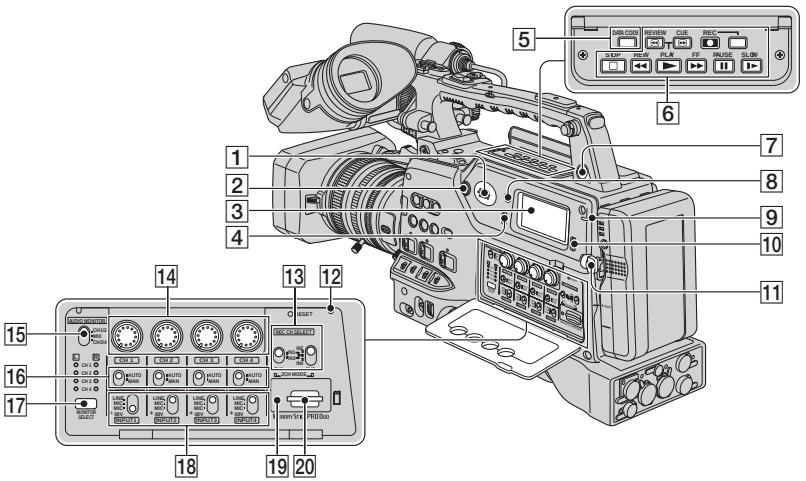
16 ASSIGN 5 button/AE SHIFT button (48)

17 PICTURE PROFILE button (36)

18 ASSIGN 6 button/STEADYSHOT button (48)

19 ATW switch (34)

20 CAMERA MODE switch (32)



1 Built-in speaker
The speaker can be used to monitor E-E* sound during recording, and playback sound during playback. The speaker also sounds alarms to reinforce visual warnings. If you connect earphones to the PHONES jack, the speaker is automatically muted.

* **E-E:** Abbreviation of "Electric-to-Electric." In E-E mode, video and audio signals input to the camcorder are output after passing through internal electric circuits only. This can be used to check input signals.

2 MONITOR dial (56)

3 Sub LCD panel (130)

4 LCD BACK LIGHT switch
When you set the switch to ON, the backlight of the sub LCD screen turns on.

5 DATA CODE button (58)

6 Video control buttons (STOP/REW/PLAY/FF/PAUSE/REC/SLOW/CUE/REVIEW) (55)

7 PHONES jack
Plugging earphones into the jack automatically cuts off the sound from built-in speaker.

8 TC/U-BIT button
Switches between time code and user bit to display on the sub LCD screen (display on the LCD screen also changes).

9 WARNING lamp (105)

10 AUDIO LEVEL DISPLAY switch
Switches between CH1/CH2 and CH3/CH4 audio level meters to display on the sub LCD screen (display on the LCD screen also changes).

11 Battery release button (15)

12 RESET button
If you press the RESET button, all settings including the clock setting (except the Picture profile and Camera profile settings) return to the default.

13 REC CH SELECT switch (45)

14 CH1/CH2/CH3/CH4 dials (45)

15 AUDIO MONITOR switch (47)

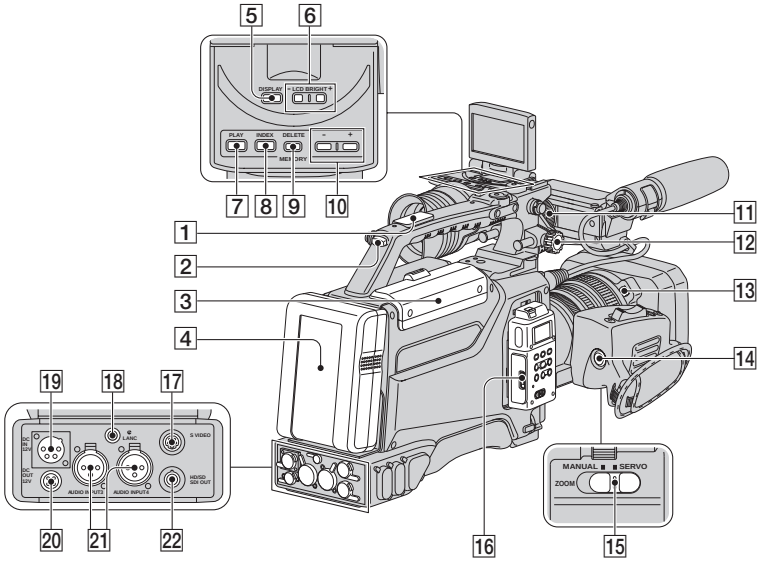
16 CH1/CH2/CH3/CH4 switches (45)

17 MONITOR SELECT button (47)

18 INPUT1/INPUT2/INPUT3/INPUT4 switches (45)

19 Access lamp (23)

20 Memory Stick Duo slot (23)



1 Accessory shoe mount(126)

2 Recording lamp (25)

3 Cassette lid (22)

4 Rechargeable battery pack (15)

5 DISPLAY button (19)

6 -LCD BRIGHT+ buttons (19)

7 MEMORY/PLAY button (55)

8 MEMORY/INDEX button (55)

9 MEMORY/DELETE button (55)

10 MEMORY -/+ button (55)

11 Viewfinder left-to-right position fixing ring (18)

12 Viewfinder front-to-back position fixing ring (18)

13 PUSH (lens hood release) button (11)

14 REC START/STOP button (25)

15 ZOOM switch (29)

16 Memory Recording Unit (13)

17 S VIDEO jack (60)

18 LANC jack
The LANC control jack is used for controlling the tape transport of video device and peripherals connected to it.

19 DC IN 12V connector (16)

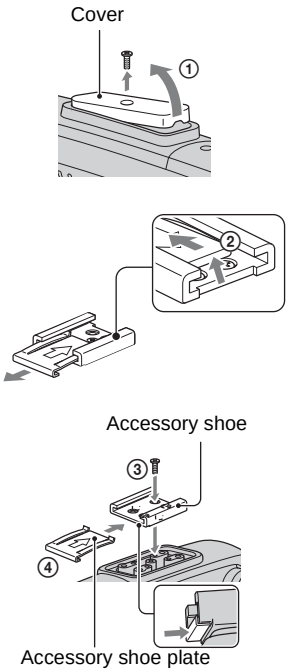
20 DC OUT 12V connector
Supplies power for a WRR-81/862 UHF Synthesizer Tuner (optional) (maximum 0.2 A).

Do not connect any equipment other than the UHF synthesizer tuner.

21 AUDIO INPUT3/AUDIO INPUT4 jacks (45)

22 HD/SD SDI OUT jack (60)

To mount the accessory shoe



① Loosen the screw and remove the cover on the accessory shoe mount as illustrated.

② Lift the edge of the accessory shoe plate and pull it in the direction opposite to that of the arrow on the shoe plate and remove it from the accessory shoe.

③ Place the accessory shoe on the mount, then fix it to the mount with four screws.

④ Insert the accessory shoe plate in the direction of the arrow on the plate surface until the end of the plate engages the end of the shoe.

To dismount the accessory shoe

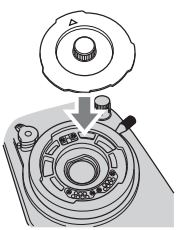
① Lift the edge of the accessory shoe plate and pull it in the direction opposite to that of the arrow on the shoe plate and remove it from the accessory shoe.

② Loosen the four screws and remove the accessory shoe from the mount.

③ Place the cover on the mount and fix it to the mount with the screw.

To attach the lens mount cap

Hold the lens mount cap with the ▲ mark facing up. Attach the lens mount cap to the lens mount with the center pin on the back of the cap inserted in the recess at the top center of the lens mountr.



To remove the lens mount cap

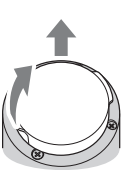
Hold the protrusion at the center of the lens mount cap and remove the cap from the lens mount.

To attach the rear lens cap

Attach the rear lens cap to the rear of the lens.

To remove the rear lens cap

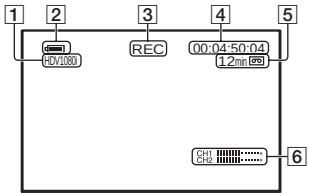
Hold the two protrusions on the edge of the rear lens cap as illustrated and remove the cap from the lens.



Indicators for the LCD screen and viewfinder

The numbers in ( ) are reference pages.
The indicators will not be recorded on the tape during recording.

Recording movies



1 Recording format (HDV1080i or DVCAM, DV SP) (80)

2 Remaining battery (approx.)

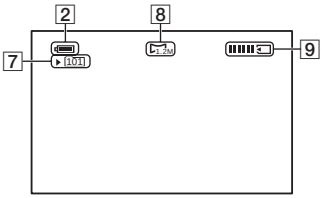
3 Recording status ([STBY] (standby) or [REC] (recording))

4 During recording:
Tape counter (hour: minute: second: frame)
During playback:
Time code (hour: minute: second: frame)

5 Recording capacity of the tape (approx.)

6 Audio level display (78)

Recording still images



7 Recording folder (87)

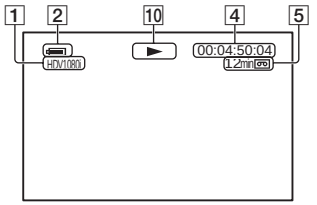
8 Image size (27)

9 Recording indicator (27)

Data code during recording

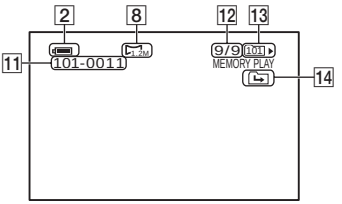
The date/time during recording and the camera setting data will be recorded automatically. They do not appear on the screen during recording, but you can check them on the screen by pressing the DATA CODE button during playback (p. 58).

Viewing movies



10 Tape transport indicator
Recording mode (DVCAM or DV SP) appears when a tape recorded in the DVCAM or DV SP format is played back. DVCAM DV

Viewing still images



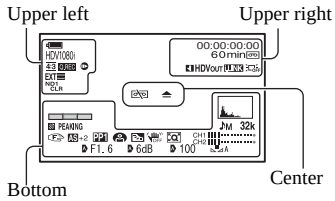
11 Data file name

12 Picture number/Total number of recorded pictures in the current playback folder

13 Playback folder (87)

14 Previous/Next folder icon
The , or appears when the first or last picture of the current folder is displayed and when there are multiple folders on the same “Memory Stick Duo.” You can move to Previous/Next folder with the VOLUME/MEMORY button.

Indicators when you made changes



Upper left

Indicator	Meaning
HDV1080i DVCAM DV SP	Recording format (80)
4:3	DV WIDE REC (82)*
Q.REC	QUICK REC (89)**
	DV FRAME REC (72)*
ND1 CLR ND2 1/4 ND3 1/16 ND4 1/64 ND	ND filter (32)
	INTERVAL REC (71)
EXT EXT EXT CF	EXT REC CTRL (83)
25pSCAN 25P	REC TYPE SCAN TYPE (81)

Upper right

Indicator	Meaning
	INDEX MARK (49)
HDVIN DVIN	HDV input/ DV input (91)
HDVOUT DVOUT	HDV output/ DV output (91)
i.LINK	i.LINK connection (60, 91)
OFF	LCD backlight off (19)

Center

Indicator	Meaning
	Warning (105)

Bottom

Indicator	Meaning
	HISTOGRAM (76)
	CAM LEVELING (78)
2CH 4CH	HDV 2CH/4CH (74)**
32k 48k	DV AU.MODE (DV Audio mode) (74)*
	Manual volume control(45)
	Manual focus (30)
PP1 ~ PP6	Picture profile (36)
	SPOTLIGHT (69)
	BACK LIGHT(69)
OFF	SteadyShot off (69)
PEAKING	PEAKING (31, 77)
	D.EXTENDER (70)
AS	AE SHIFT (68)
	Auto setting (78)
A B	White balance (34)
OFF	FOCUS MACRO (70)
HYPER	HYPER GAIN (67)
(COLOR)	x.v.Color (72)**
	ZEBRA (76)

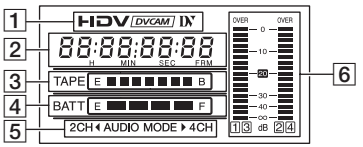
* The settings can be made only for the pictures in the DVCAM (DV) format.

** The setting can be made only for the pictures in the HDV format.

Tips

- Indicators may look different or appear at different positions.

Indicators on the sub LCD screen



1 Recording format

2 Time code/user bit

3 Tape remaining indicator

4 Battery capacity indicator

5 2CH/4CH audio mode

6 Audio level indicator

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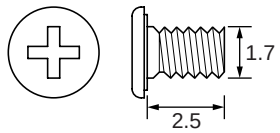
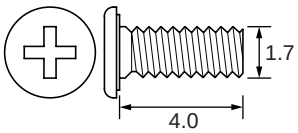
HARDWARE LIST (1/7)

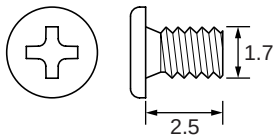
#1: M1.7 X 2.5
(Black)
2-635-562-11



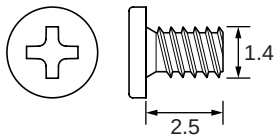
#2: M1.7 X 4.0
(Black)
2-635-562-31



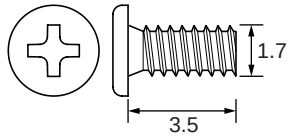
#3: M1.7 X 2.5
(Red)
2-660-401-01



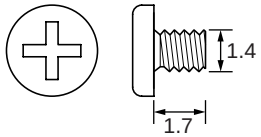
#4: M1.4 X 2.5 (Tapping)
(Dark Silver)
3-348-998-81



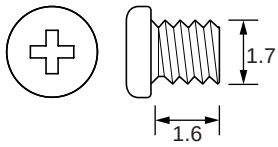
#5: M1.7 X 3.5 (Tapping)
(Black)
3-080-204-01



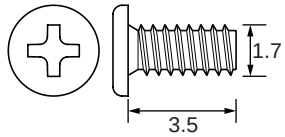
#6: M1.4 X 1.7
(Silver)
2-598-474-01



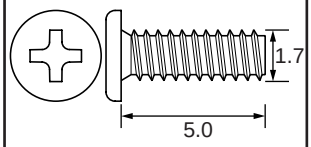
#7: M1.7 X 1.6
(Black)
7-627-552-18



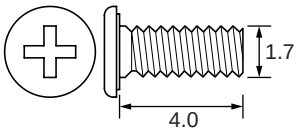
#8: M1.7 X 3.5 (Tapping)
(Silver)
3-078-890-01



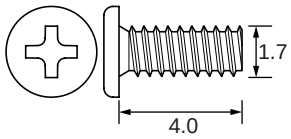
#9: M1.7 X 5.0 (Tapping)
(Silver)
3-078-890-21



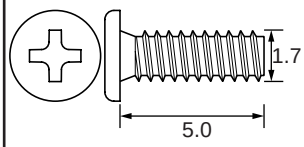
#10: M1.7 X 4.0
(Silver)
2-599-475-31



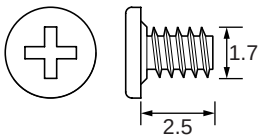
#11: M1.7 X 4.0 (Tapping)
(Silver)
3-078-890-11



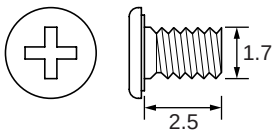
#12: M1.7 X 5.0 (Tapping)
(Black)
3-080-204-21



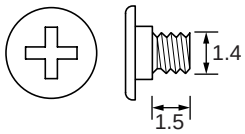
#13: M1.7 X 2.5 (Tapping)
(Silver)
3-085-397-01



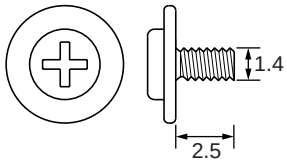
#14: M1.7 X 2.5
(Silver)
2-599-475-11



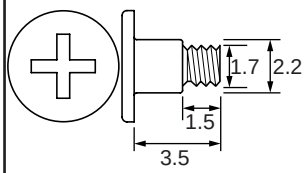
#15: M1.4 X 1.5
(Silver)
3-062-214-01



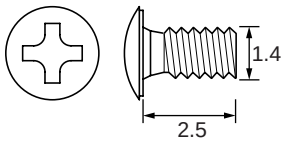
#16: M1.4 X 2.5
(Silver)
2-586-337-01



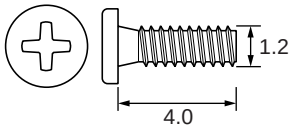
#17: M1.7 X 1.5
(Silver)
2-586-389-01



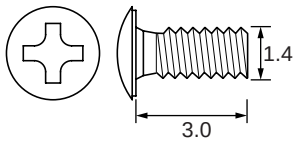
#18: M1.4 X 2.5
(Silver)
2-635-591-21



#19: M1.2 X 4.0 (Tapping)
(Red)
3-086-156-21

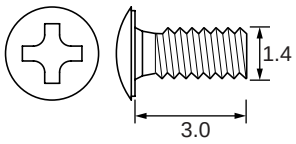


#20: M1.4 X 3.0
(Silver)
2-635-591-31

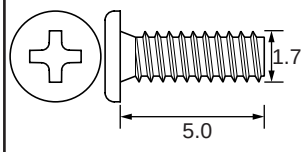


HARDWARE LIST (2/7)

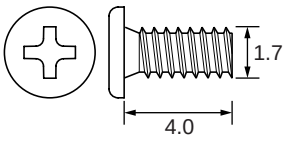
#21: M1.4 X 3.0
(Black)
2-662-396-21



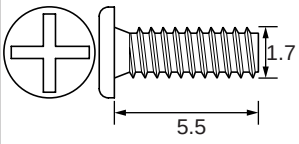
#22: M1.7 X 5.0 (Tapping)
(Silver)
3-083-261-01



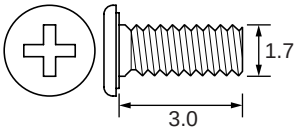
#23: M1.7 X 4.0 (Tapping)
(Black)
3-080-204-11



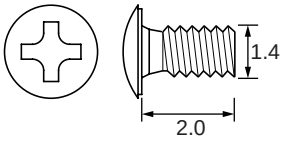
#24: B1.7 X 5.5 (Tapping)
(Black)
4-679-805-11



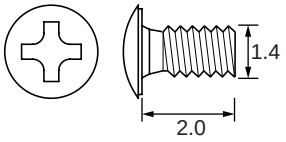
#25: M1.7 X 3.0
(Black)
2-635-562-21



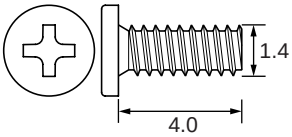
#26: M1.4 X 2.0
(Silver)
2-635-591-11



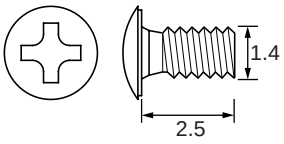
#27: M1.4 X 2.0
(Black)
2-662-396-11



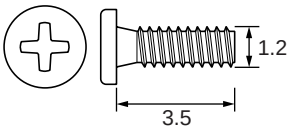
#28: M1.4 X 4.0 (Tapping)
(Silver)
3-348-998-61



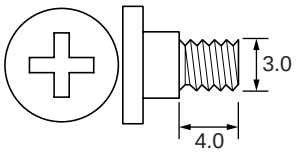
#29: M1.4 X 2.5
(Black)
2-662-396-01



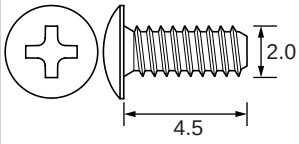
#30: M1.2 X 3.5 (Tapping)
(White)
3-086-156-11



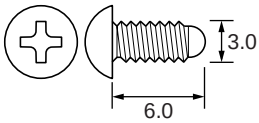
#31: M3.0 X 4.0
(Silver)
2-102-434-01



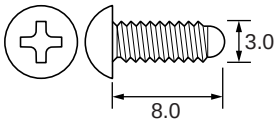
#32: M2.0 X 4.5 (Tapping)
(Silver)
2-102-498-01



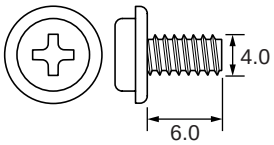
#33: M3.0 X 6.0
(Silver)
3-077-331-21



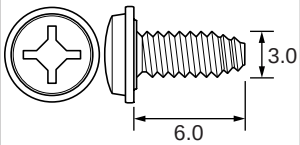
#34: M3.0 X 8.0
(Black)
3-077-331-41



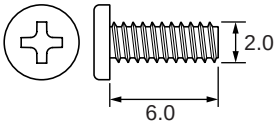
#35: M4.0 X 6.0 (Tapping)
(Silver)
3-975-291-02



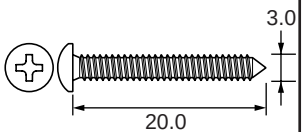
#36: M3.0 X 6.0
(Silver)
4-886-821-11



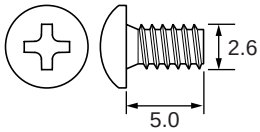
#37: M2.0 X 6.0 (Tapping)
(Black)
3-080-206-31



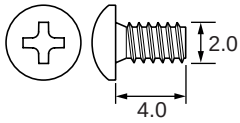
#38: M3.0 X 20.0 (Tapping)
(Silver)
7-685-651-79



#39: M2.6 X 5.0 (Tapping)
(Black)
7-685-791-09

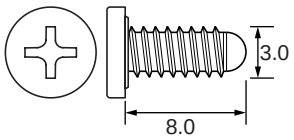


#40: M2.0 X 4.0 (Tapping)
(Silver)
7-685-851-04

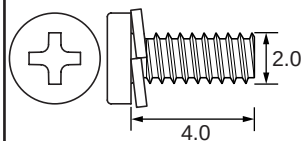


HARDWARE LIST (3/7)

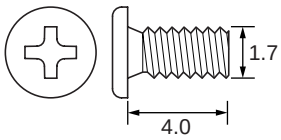
#41: M3.0 X 8.0 (Tapping)
(Silver)
3-065-748-01



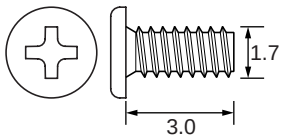
#42: M2.0 X 4.0 (Tapping)
(Silver)
7-628-253-00



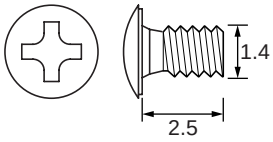
#43: M1.7 X 4.0
(Red)
2-660-401-31



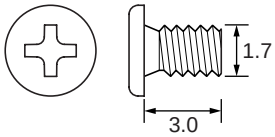
#44: M1.7 X 3.0 (Tapping)
(Silver)
3-078-890-61



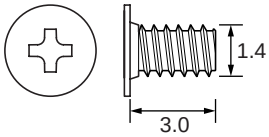
#45: M1.4 X 2.5
(Silver)
2-587-151-01



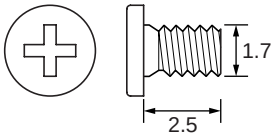
#46: M1.7 X 3.0
(Red)
2-660-401-11



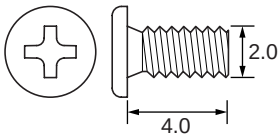
#47: M1.4 X 3.0 (Tapping)
(Silver)
2-665-774-01



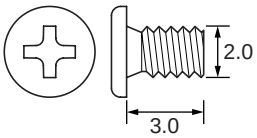
#48: M1.7 X 2.5
(Silver)
3-973-497-91



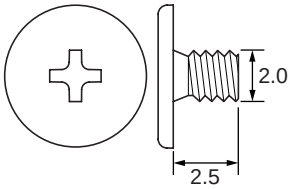
#49: M2.0 X 4.0
(Black)
2-630-005-31



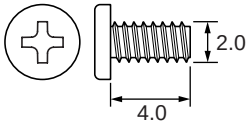
#50: M2.0 X 3.0
(Red)
2-891-494-11



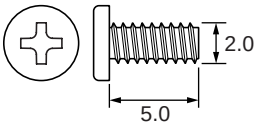
#51: M2.0 X 2.5
(Silver)
3-073-686-01



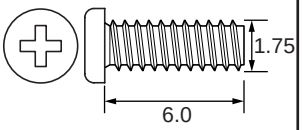
#52: M2.0 X 4.0 (Tapping)
(Black)
3-080-206-11



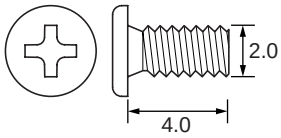
#53: M2.0 X 5.0 (Tapping)
(Black)
3-080-206-21



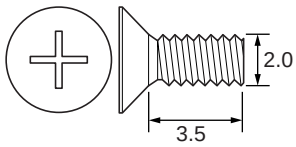
#54: M1.75 X 6.0 (Tapping)
(Black)
3-318-203-11



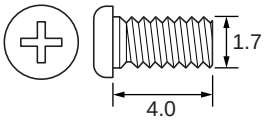
#55: M2.0 X 4.0
(Silver)
2-655-582-11



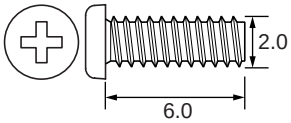
#56: M2.0 X 3.5
(Silver)
3-067-187-11



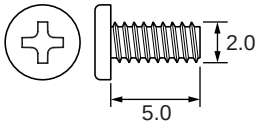
#57: M1.7 X 4.0
(Black)
7-627-852-18



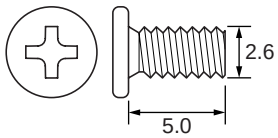
#58: M2.0 X 6.0 (Tapping)
(Silver)
3-719-408-11



#59: M2.0 X 5.0 (Tapping)
(Silver)
3-080-205-21

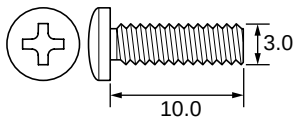


#60: M2.6 X 5.0
(Black)
3-061-062-11

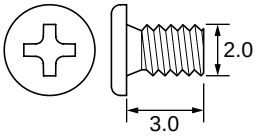


HARDWARE LIST (4/7)

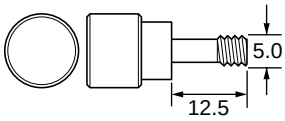
#61: M3.0 X 10.0
(Black)
7-682-549-09



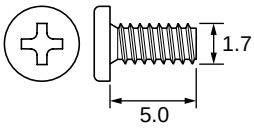
#62: M2.0 X 3.0
(Silver)
3-080-202-21



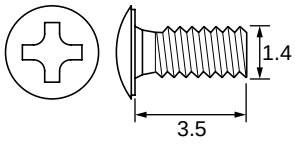
#63: M5.0 X 12.5
(Black)
3-060-811-21



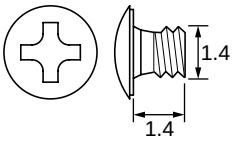
#64: M1.7 X 5.0 (Tapping)
(Silver)
2-666-551-21



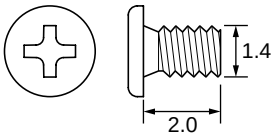
#65: M1.4 X 3.5
(Silver)
2-635-591-01



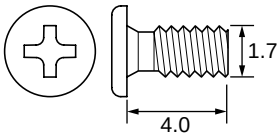
#66: M1.4 X 1.4
(Silver)
2-635-591-41



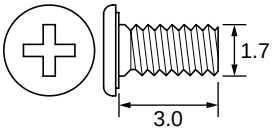
#67: M1.4 X 2.0
(Silver)
3-389-523-16



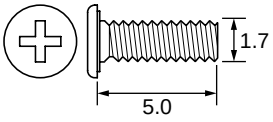
#68: M1.7 X 4.0
(Silver)
2-655-581-01



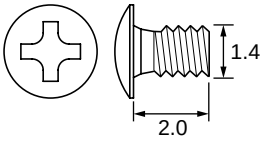
#69: M1.7 X 3.0
(Silver)
2-599-475-21



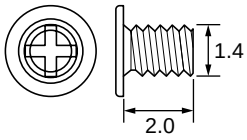
#70: M1.7 X 5.0
(Silver)
2-599-475-41



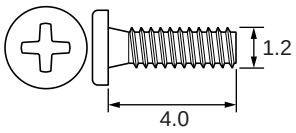
#71: M1.4 X 2.0
(Red)
3-208-537-01



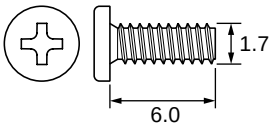
#72: M1.4 X 2.0
(Silver)
4-663-621-41



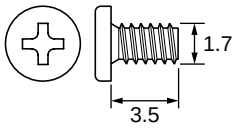
#73: M1.2 X 4.0 (Tapping)
(Black)
3-086-156-61



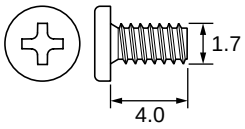
#74: M1.7 X 6.0 (Tapping)
(Silver)
2-666-551-31



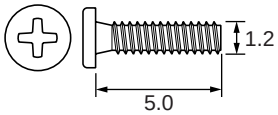
#75: M1.7 X 3.5 (Tapping)
(Silver)
2-666-551-01



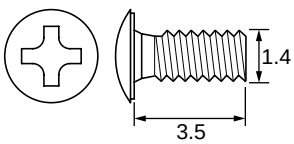
#76: M1.7 X 4.0 (Tapping)
(Silver)
2-666-551-11



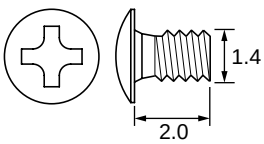
#77: M1.2 X 5.0 (Tapping)
(Silver)
3-086-156-31



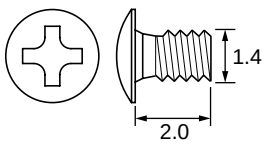
#78: M1.4 X 3.5
(Red)
3-208-537-11



#79: M1.4X 2.0
(Silver)
2-587-151-11

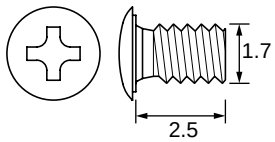


#80: M1.4X 2.0
(Black)
3-279-411-01

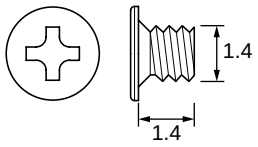


HARDWARE LIST (5/7)

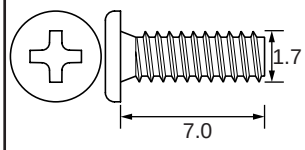
#81: M1.7 X 2.5
(Silver)
2-515-756-01



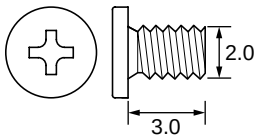
#82: M1.4 X 1.4
(Silver)
3-272-251-01



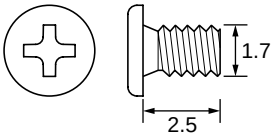
#83: M1.7 X 7.0 (Tapping)
(Black)
3-080-204-41



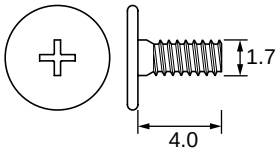
#84: M2.0 X 3.0
(Silver)
3-072-453-11



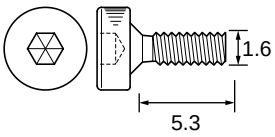
#85: M1.7 X 2.5
(Black)
2-515-483-11



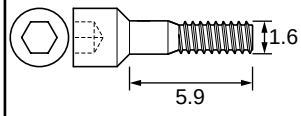
#86: M1.7 X 4.0 (Tapping)
(Silver)
2-695-434-21



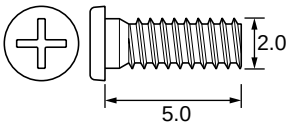
#87: M1.6 X 5.3
(Black)
2-689-328-01



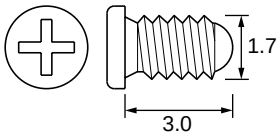
#88: M1.6 X 5.9 (Tapping)
(Silver)
2-689-015-01



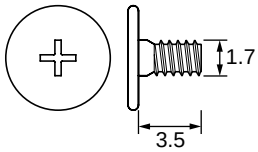
#89: M2.0 X 5.5 (Tapping)
(Silver)
2-695-575-01



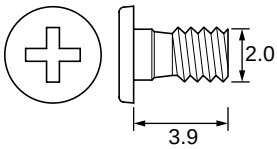
#90: M1.7 X 3.0
(Silver)
3-271-395-01



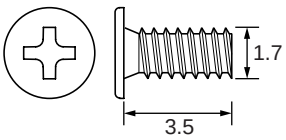
#91: M1.7 X 3.0 (Tapping)
(Silver)
2-695-434-11



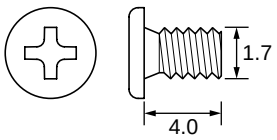
#92: M2.0 X 3.9
(Black)
3-268-954-01



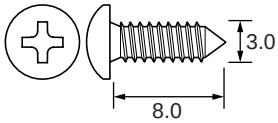
#93: M1.7 X 3.5 (Tapping)
(Silver)
3-254-082-01



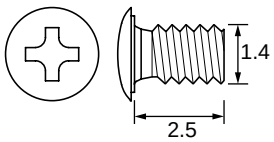
#94: M1.7 X 4.0
(Black)
2-515-483-31



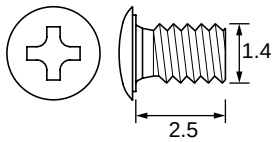
#95: M3.0 X 8.0 (Tapping)
(Black)
7-685-646-79



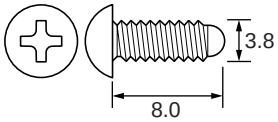
#96: M1.4 X 2.5
(Silver)
2-587-151-21



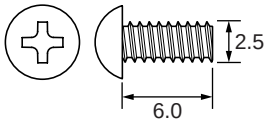
#97: M1.4 X 2.5
(Black)
2-662-396-31



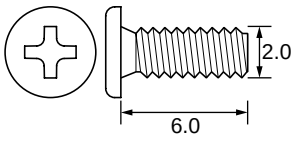
#98: M3.0 X 8.0
(Silver)
3-077-331-01



#99: M2.5 X 6.0 (Tapping)
(Silver)
3-776-750-02

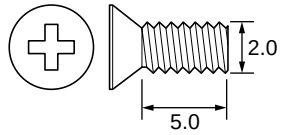


#100: M2.0 X 6.0
(Black)
3-080-203-51

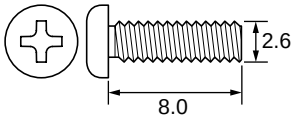


HARDWARE LIST (6/7)

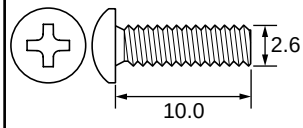
#101: M2.0 X 5.0
(Silver)
7-621-555-39



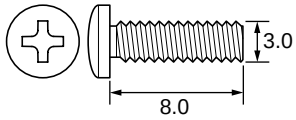
#102: M2.6 X 8.0
(Black)
7-621-284-30



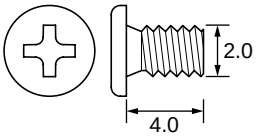
#103: M2.6 X 10.0
(Silver)
7-685-794-09



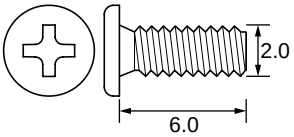
#104: M3.0 X 8.0
(Black)
7-682-548-09



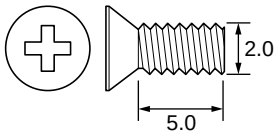
#105: M2.0 X 4.0
(Red)
2-891-494-31



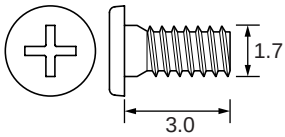
#106: M2.0 X 6.0
(Black)
3-713-786-11



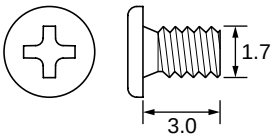
#107: M2.0 X 5.0
(Silver)
3-032-750-01



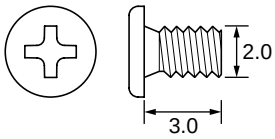
#108: M1.7 X 3.0 (Tapping)
(Black)
2-695-430-01



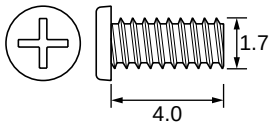
#109: M1.7 X 3.0
(Black)
2-515-483-21



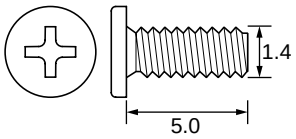
#110: M2.0 X 3.0
(Black)
2-630-005-21



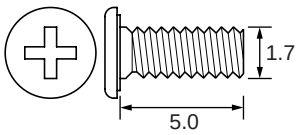
#111: M1.7 X 4.0 (Tapping)
(Black)
2-887-124-01



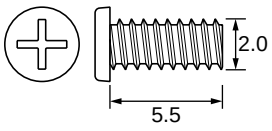
#112: M1.4 X 5.0
(Black)
2-178-410-11



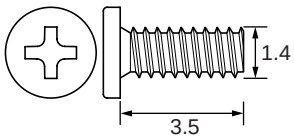
#113: M1.7 X 5.0
(Black)
2-635-562-41



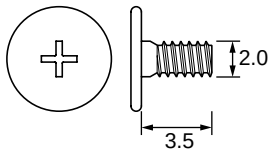
#114: M2.0 X 5.5 (Tapping)
(Silver)
2-698-464-01



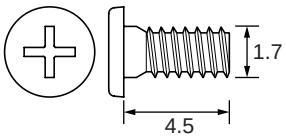
#115: M1.4 X 3.5 (Tapping)
(Silver)
3-348-998-51



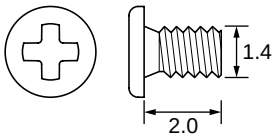
#116: M2.0 X 3.5 (Tapping)
(Silver)
2-695-435-01



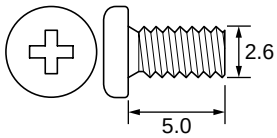
#117: M1.7 X 4.5 (Tapping)
(Silver)
2-695-429-31



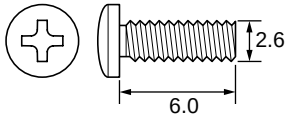
#118: M1.4 X 2.0
(Black)
2-655-580-01



#119: M2.6 X 5.0
(Black)
7-627-556-58

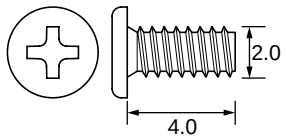


#120: M2.6 X 6.0
(Silver)
7-621-770-67

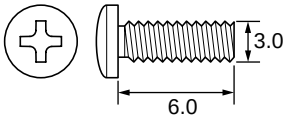


HARDWARE LIST (7/7)

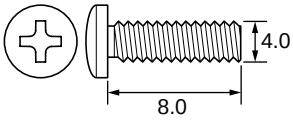
#121: M2.0 X 4.0 (Tapping)
(Silver)
3-080-205-11



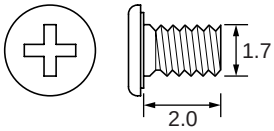
#122: M3.0 X 6.0
(Black)
7-682-547-09



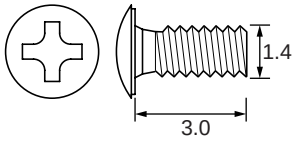
#123: M4.0 X 8.0
(Black)
7-682-561-09



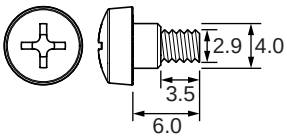
#124: M1.7 X 2.0
(Silver)
2-599-475-01



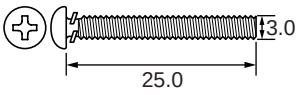
#125: M1.4 X 3.0
(Black)
3-291-847-01



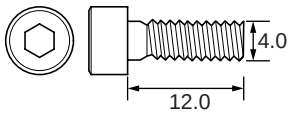
#126: M2.9 X 3.5
(Black)
3-292-616-01



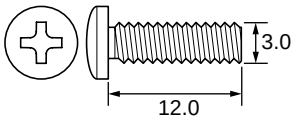
#127: M3.0 X 25.0
(Black)
7-682-654-09



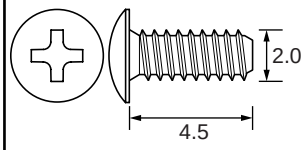
#128: M4.0 X 12.0
(Black)
3-452-472-01



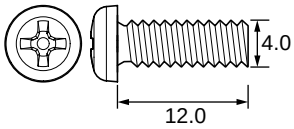
#129: M3.0 X 12.0
(Black)
7-682-550-09



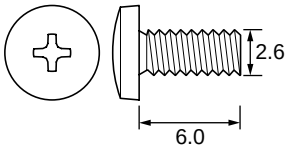
#130: M2.0 X 4.5 (Tapping)
(Silver)
3-732-817-11



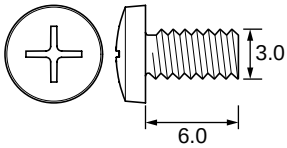
#131: M4.0 X 12.0
(Silver)
3-452-471-01



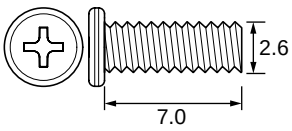
#132: M2.6 X 6.0
(Black)
4-673-655-01



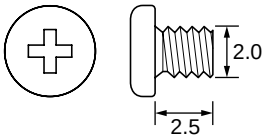
#133: M3.0 X 6.0
(Black)
3-452-484-01



#134: M2.6 X 7.0
(Black)
3-299-572-01



#135: M2.0 X 2.5
(Black)
7-627-553-28



Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2008.02	Official Release	—	—
1.1	2008.02	Revised-1 (A1 DI07-286)	• Correction of Schematic Diagrams • Correction of Printed Wiring Boards • Correction of Repair Parts S.M. correction: Page 4-5, Page 4-7, Page 4-75, Page 4-76, Page 5-4, Page 5-16, Page 5-18, Page 5-63	Yes
1.2	2008.07	Supplement-1 (S1 DI08-163)	• Addition of Service Note • Change of Repair Parts • Revision of Accessories • Revision of Adjustments – Change of Table 6-1-1 (1)/(2) – Addition of the “Precaution When Using Pattern Box” – Addition of the “Tape Slack Check” S.M. revised: Page 5-63, Page 5-64, Page 6-2, Page 6-3, Page 6-6, Page 6-8, Page 6-110	Yes