

HDR-HC3/HC3E/HC3K/HC3EK

RMT-831

SERVICE MANUAL

LEVEL 2

Ver 1.2 2006.08

Revision History

How to use
Acrobat Reader



US Model
Canadian Model
AEP Model
UK Model
North European Model
E Model
Australian Model
Chinese Model
Hong Kong Model
Korea Model
Tourist Model
Japanese Model

N MECHANISM (MDX-N110)

Photo: HDR-HC3/Black

Link

SPECIFICATIONS	DISASSEMBLY	SCHEMATIC DIAGRAMS
MODEL INFORMATION TABLE	BLOCK DIAGRAMS	PRINTED WIRING BOARDS
SERVICE NOTE	FRAME SCHEMATIC DIAGRAMS	REPAIR PARTS LIST

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

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

Mini **DV** Digital Video Cassette

DIGITAL HD VIDEO CAMERA RECORDER

SONY[®]



HANDYCAM

HDV
HDV 1080i



SPECIFICATIONS

System

Video recording system (HDV)

2 rotary heads, Helical scanning system

Video recording system (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,

Quantization: 16 bits (Fs 48 kHz,
stereo)

transfer rate: 384 kbps

Audio recording system (DV)

Rotary heads, PCM system

Quantization: 12 bits (Fs 32 kHz, stereo

1, stereo 2), 16 bits (Fs 48 kHz, stereo)

Video signal

NTSC color, EIA standards

1080/60i specification

Usable cassette

Mini DV cassette with the mark
printed

Tape speed (HDV)

Approx. 18.81 mm/s

Tape speed (DV)

SP: Approx. 18.81 mm/s

LP: Approx. 12.56 mm/s

Recording/playback time (HDV)

60 min (using a DVM60 cassette)

Recording/playback time (DV)

SP: 60 min (using a DVM60 cassette)

LP: 90 min (using a DVM60 cassette)

Fast forward/rewind time

Approx. 2 min 40 s (using a DVM60

cassette and rechargeable battery pack)

Approx. 1 min 45 s (using a DVM60

cassette and AC Adaptor)

Viewfinder

Electric viewfinder (color)

Image device

5.9 mm (1/3 type) CMOS sensor

Gross: Approx. 2 103 000 pixels

Effective (movie, 4:3):

1 076 000 pixels

Effective (movie, 16:9):

1 434 000 pixels

Effective (still, 4:3):

1 991 000 pixels

Effective (still, 16:9):

1 493 000 pixels

Lens

Carl Zeiss Vario-Sonnar T*

10 × (Optical), 20 ×, 80 × (Digital)

Focal length

f=5.1 ~ 51 mm (7/32 ~ 2 1/8 in.)

When converted to a 35 mm still
camera

In CAMERA-TAPE *: 41.3 ~ 485 mm

(1 11/16 ~ 19 1/8 in.) (16:9), 50.5 ~ 594

mm (2 ~ 23 1/2 in.) (4:3)

In CAMERA-MEMORY: 37 ~ 370 mm

(1 1/2 ~ 14 5/8 in.) (4:3), 40.4 ~ 404

mm (1 5/8 ~ 16 in.) (16:9)

F1.8 ~ 2.9

Filter diameter: 30 mm (1 3/16 in.)

Color temperature

[AUTO], [ONE PUSH], [INDOOR]

(3 200 K),

[OUTDOOR] (5 800 K)

Minimum illumination

5 lx (lux) (F 1.8)

0 lx (lux) (during NightShot function)

*1“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.

*2The focal length figures are actual
figures resulting from wide angle pixel
read-out.

Output connectors

Audio/Video output

10-pin connector

Video signal: 1 Vp-p, 75Ω (ohms),
unbalanced

Luminance signal: 1 Vp-p, 75Ω

(ohms), unbalanced

Chrominance signal: 0.286 Vp-p, 75Ω

(ohms), unbalanced

Audio signal: 327 mV (at load

impedance 47 kΩ (kilohms)), Output

impedance with less than 2.2 kΩ

(kilohms)

COMPONENT OUT jack

Y: 1 Vp-p, 75Ω (ohms), unbalanced Pb/

Pr, Cb/Cr: +/- 350 mVp-p

HDMI OUT jack

TypeA (19-pin)

Input/Output connectors

LANC jack

Stereo mini-minijack (Ø 2.5 mm)

USB jack

mini-B

i.LINK/HDV/DV jack

i.LINK Interface (IEEE 1394, 4-pin
connector S100)

LCD screen

Picture

6.9 cm (2.7 type, aspect ratio 16:9)

Total dot number

211 200 (960 × 220)

General

Power requirements

DC 7.2 V (battery pack)

DC 8.4 V (AC Adaptor)

Average power consumption

During camera recording using the

viewfinder with normal brightness:

HDV recording 4.1 W

DV recording 3.9 W

During camera recording using the

LCD with normal brightness:

HDV recording 4.4 W

DV recording 4.2 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.)

82 × 78 × 139 mm

(3 1/4 × 3 1/8 × 5 1/2 in.) (w/h/d)

excluding the projecting parts

Mass (approx.)

500 g (1 lb 1 oz) main unit only

600 g (1 lb 5 oz) including the NP-FP60

rechargeable battery pack and DVM60

cassette.

Supplied accessories

AC Adaptor (1)

Power cord (1)

Wireless Remote Commander (1)

A/V connecting cable (1)

Component video cable (1)

USB cable (1)

Rechargeable battery pack NP-FP60 (1)

Battery terminal cover (1)

Operating Guide (1)

See page 5-36.

AC Adaptor AC-L200

Power requirements

AC 100 - 240 V, 50/60 Hz

Current consumption

0.35 - 0.18 A

Power consumption

18 W

Output voltage

DC 8.4 V*

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.)

48 × 29 × 81 mm (1 15/16 × 1 3/16 ×

3 1/4 in.) (w/h/d) excluding the

projecting parts

Mass (approx.)

170 g (6.0 oz) excluding the power cord

* See the label on the AC Adaptor for other
specifications.

Rechargeable battery pack (NP-FP60)

Maximum output voltage

DC 8.4 V

Output voltage

DC 7.2 V

Capacity

7.2 Wh (1 000 mAh)

Dimensions (approx.)

31.8 × 33.3 × 45.0 mm

(1 5/16 × 1 5/16 × 1 13/16 in.) (w/h/d)

Mass (approx.)

80 g (2.9 oz)

Operating temperature

0 °C to + 40 °C (32 °F to 104 °F)

Type

Lithium ion

Design and specifications are subject to change
without notice.



HANDYCAM **HDV**
HDV 1080i



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 (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 ^{*1}
録音方式 (HDV)	回転ヘッド MPEG-1 Audio Layer2 16ビット48kHz(ステレオ) 転送レート 384kbps
録音方式 (DV)	回転ヘッド 12ビット32kHz (ステレオ1,ステレオ2) 16ビット48kHz(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	Mini DV マークのついたミニDVカセット
テープ速度 (HDV)	約18.81mm/秒
テープ速度 (DV)	SP:約18.81mm/秒 LP:約12.56mm/秒
録画/再生時間 (HDV)	60分 (DVM60使用時)
録画/再生時間 (DV)	SP:60分 (DVM60使用時) LP:90分 (DVM60使用時)
早送り、巻き戻し時間	バッテリー使用時: 約2分40秒 (DVM60使用時) ACアダプター使用時: 約1分45秒 (DVM60使用時)
ファインダー	電子ファインダー:カラー
撮像素子	5.9mm (1/3型) CMOSセンサー 総画素数:約210万画素 動画時有効画素数 (4:3モード): 約108万画素 動画時有効画素数 (16:9モード): 約143万画素 静止画時有効画素数 (4:3モード): 約199万画素 静止画時有効画素数 (16:9モード): 約149万画素
ズームレンズ	カール ツァイス バリオソナー T* 10倍 (光学)、20倍、80倍 (デジタル) f=5.1~51mm 35mmカメラ換算では 「撮るーテープ」時 ^{*2} : 41.3~485mm (16:9モード) (4:3モードでは50.5~594mm) 「撮るーメモリー」時: 37~370mm (4:3モード) (16:9モードでは40.4~ 404mm) F1.8~2.9 フィルター径30mm
色温度切り換え	[オート]、[ワンプッシュ]、 [屋内] (3 200K)、 [屋外] (5 800K)
最低被写体照度	11 lx (ルクス) (F1.8) 0 lx (ルクス) (NightShot時)

^{*1} (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。

^{*2} 広角画素読み出しによる実動作値

出力端子

A/V OUT 端子	10ピン特殊コネクター 映像:1 Vp-p、75 Ω不平衡 Y出力 1Vp-p、75Ω不平衡 C出力 0.286Vp-p、75Ω不平衡 音声:327mV(47 kΩ負荷時)、出カインピーダンス2.2 kΩ以下
コンポーネントビデオ端子	D1/D3映像:コンポーネントビデオ端子 Y:1Vp-p、75Ω不平衡 Pb/Pr、Cb/Cr:±350mVp-p
HDMI OUT 端子	タイプA(19ピン)

入/出力端子

LANC端子	ステレオミニミニジャック (ø 2.5)
USB端子	mini-B
HDV/DV端子	i.LINK (IEEE 1394 4ピンコネクター S100)

液晶画面

画面サイズ	6.9cm (2.7型、アスペクト比 16:9)
総ドット数	211 200ドット 横960×縦220

電源部、その他

電源電圧	バッテリー端子入力7.2V DC端子入力8.4V
消費電力	ファインダー使用時、明るさ標準: HDV記録時 4.1W DV記録時 3.9W 液晶画面使用時、明るさ標準: HDV記録時 4.4W DV記録時 4.2W
動作温度	0°C~+40°C
保存温度	-20°C~+60°C
外形寸法	82×78×139mm (最大突起部を除く)(幅×高さ×奥行き)
本体質量	約500g(本体のみ)
撮影時総質量	約600g(バッテリーNP-FP60、テープ(DVM60)含む。)
付属品	ACアダプター(1) 電源コード(1) ワイヤレスリモコン(1) AV接続ケーブル(1) D端子コンポーネントビデオケーブル(1) USBケーブル(1) リチャージャブルバッテリーパック NP-FP60(1) バッテリー端子カバー(1) 取扱説明書(1) 保証書(1)

ACアダプター AC-L200

電源	AC100~240V、50/60Hz
消費電力	18W
定格出力	DC8.4V *
動作温度	0°C~+40°C
保存温度	-20°C~+60°C
外形寸法	約48×29×81mm(最大突起部をのぞく)(幅×高さ×奥行き)
質量	約170g(本体のみ)

* その他の仕様については AC アダプターのラベルをご覧ください。

リチャージャブルバッテリーパック NP-FP60

最大電圧	DC8.4V
公称電圧	DC7.2V
容量	7.2Wh (1 000mAh)
最大外形寸法	約31.8×33.3×45.0mm (幅×高さ×奥行き)
質量	約80g
使用温度	0°C~+40°C
使用電池	Li-ion

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	HDR-HC3	HDR-HC3E	HDR-HC3K	HDR-HC3EK
Destination	US, CND, E, KR, J	AEP, UK, NE, E, AUS, CH, HK	JE	JE
Color system	NTSC	PAL	NTSC	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 \triangle OR DOTTED LINE WITH MARK \triangle 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 IDENTIFIÉS PAR UNE MARQUE \triangle SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS 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プ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。

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1-1. POWER SUPPLY DURING REPAIRS

In this unit, about 10 seconds after power is supplied to the battery terminal using the regulated power supply (8.4V), the power is shut off so that the unit cannot operate.

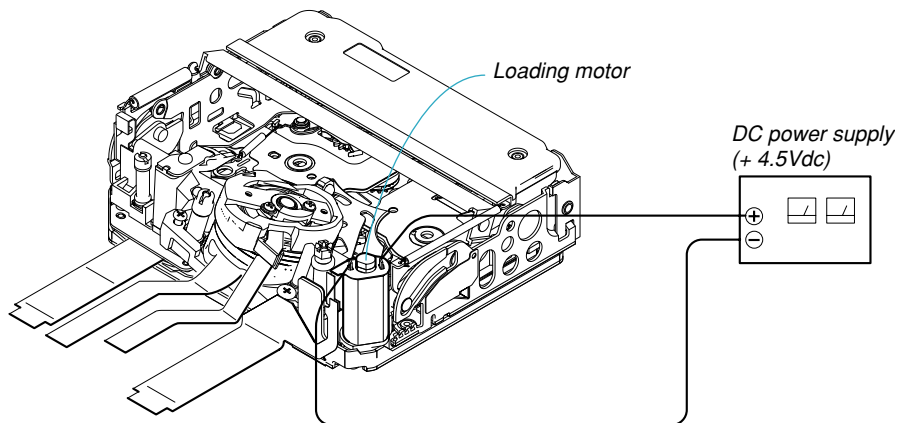
The following method is available to prevent this.

Method:

Use the AC power adaptor (AC-L200).

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

- ① Refer to "2. DISASSEMBLY" to remove the mechanism deck block.
- ② Supply +4.5V from the DC power supply to the loading motor and unload with a pressing the cassette compartment.

**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

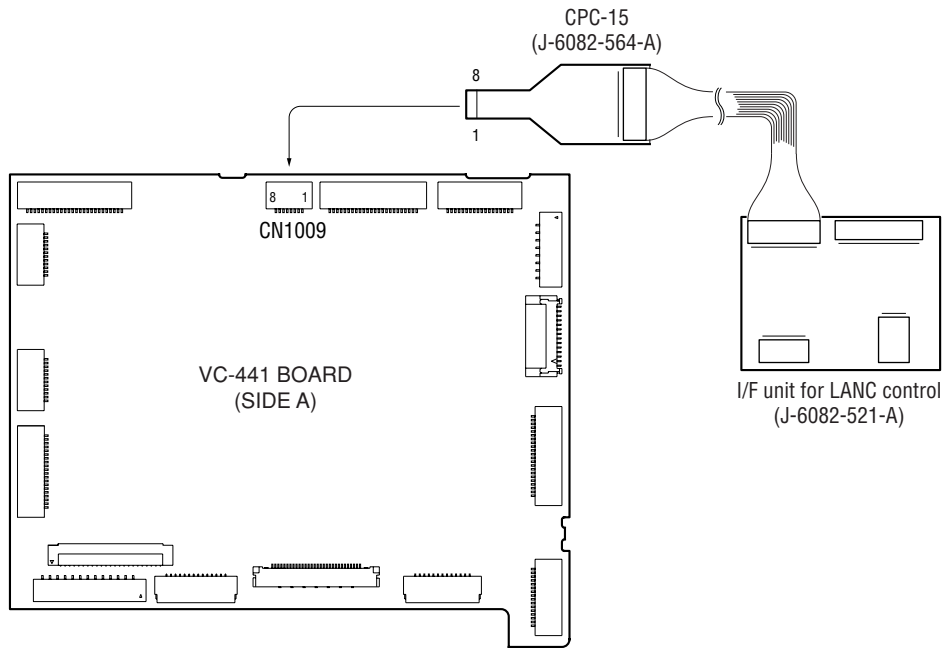
- 1) Select page: 0, address: 01, and set data:01.
- 2) Select page: A, address: 10, set data:02 and press the "PAUSE (Write)" button of the adjustment remote commander.

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-15 jig connector (J-6082-564-A) and I/F unit for LANC control (J-6082-521 A) to the CN1009 on the VC-441 board.



1-5. SELF-DIAGNOSIS FUNCTION

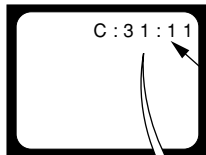
1-5-1. Self-diagnosis Function

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. This function consists of two display; self-diagnosis display and service mode display. Details of the self-diagnosis functions are provided in the Instruction manual.

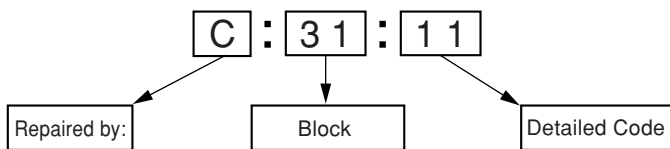
1-5-2. Self-diagnosis Display

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.

Viewfinder or LCD screen



Blinks at 3.2Hz



C : Corrected by customer
H : Corrected by dealer
E : Corrected by service engineer

Indicates the appropriate step to be taken.
E.g.
31Reload the tape.
32Turn on power again.

Refer to “1-5-3. Self-diagnosis Code Table”.

1-5-3. Self-diagnosis Code Table

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
C	0 4	0 0	Non-standard battery is used.	Use the InfolITHIUM battery.
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	3 0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3 1	3 1	FG fault during normal capstan operations.	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 1	PG 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	4 3	PG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 4	Phase fault during normal drum operations.	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	3 0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	3 1	FG fault during normal capstan operations.	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 1	PG 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.
C	3 2	4 3	PG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 4	Phase fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
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 block (Pin ①⑨, ②⑩ of CN7103 on the LD-202 board). If not faulty, inspect the focus motor drive circuit (IC7204 on the LD-202 board).

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
E	6 1	1 0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the zoom MR sensor of lens block (Pin ⑩, ⑪ of CN7103 on the LD-202 board) when zooming is performed when the zoom switch is operated and the zoom motor drive circuit (IC7204 on the LD-202 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 2	0 0	Steadyshot function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE7702 on the CM-071 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 (SE7701 on the CM-071 board) peripheral circuits.
E	9 1	0 1	Abnormality when flash is being charged.	Checking of flash unit or replacement of flash unit. (Note)

Note: After repair, be sure to perform “1-6. PROCESS AFTER FIXING FLASH ERROR”.

1-6. PROCESS AFTER FIXING FLASH ERROR

When “FLASH error” (Self-diagnosis Code E:91:**) occurs, to prevent any abnormal situation caused by high voltage, setting of the flash is changed automatically to disabling charge and flash setting.

After fixing, this setting needs to be deactivated. Connect the adjustment remote commander (RM-95 or NEW LANC JIG) and perform the following process.

Order	Page	Address	Data	Procedure
1	7	01	75	
2	7	00	01	Press PAUSE (Write) button.
3	7	02		Check the data changes to “01”.

1-1. 修理時の電源供給について

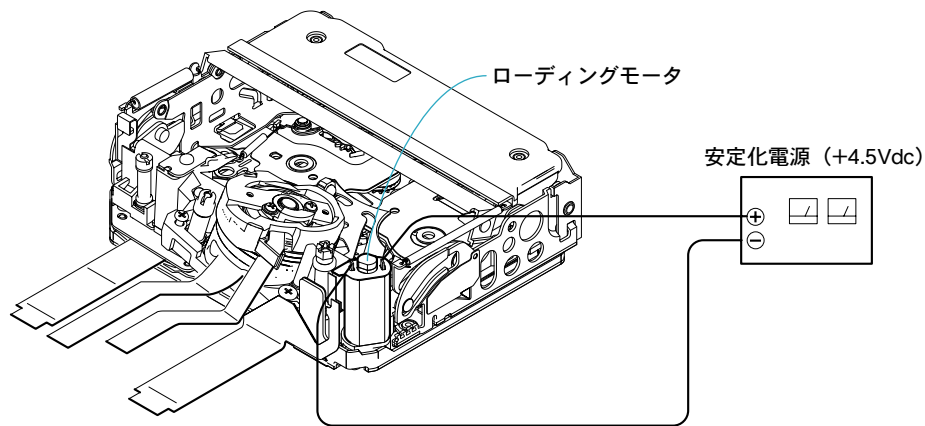
本機では、安定化電源（8.4Vdc）からバッテリー端子に電源を供給した場合、約10秒後にシャットオフし、動作しなくなります。これを避けるため、下記の方法を用いてください。

方法：

DC入力端子を使用する。（ACアダプタ（AC-L200）を使用する。）

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、メカデッキを外す。
- ② カセコン組立を押さえながら、安定化電源より+4.5Vをローディングモータに加え、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できます。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

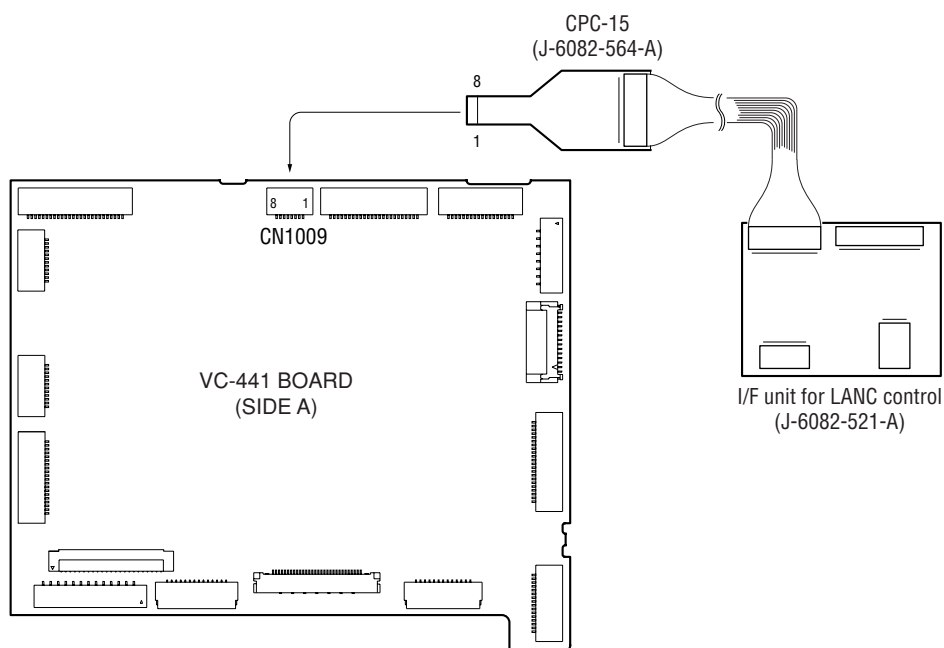
- 1) ページ：0，アドレス：01にデータ：01をセット。
- 2) ページ：A，アドレス：10にデータ：02をセットしPAUSE（Write）ボタンを押す。

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-15治具コネクタ (J-6082-564-A), LANC変換用I/F (J-6082-521-A) をVC-441基板CN1009に接続します。



1-5. 自己診断機能

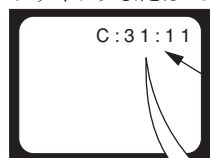
1-5-1. 自己診断機能について

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。「自己診断表示」と「サービスモード表示」の2つの表示があります。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。

ビューファインダまたはLCD画面



3.2Hz点滅

C : 31 : 11

対応者分類

ブロック分類

詳細コード

C : お客さま自身で対応
H : 販売店で対応
E : サービスエンジニアで対応

対応方法の違いにより分類
例 31...テープを入れ直す
32...電源を入れ直す

「1-5-3. 自己診断コード表」を参照

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	0 4	0 0		標準でないバッテリーを使用している	インフォリチウムバッテリーを使用する
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	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	3 1		キャプスタン定常時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 1		ドラム起動時PG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	4 3		ドラム定常時PG異常	テープを入れ直し、再度操作し直す
C	3 1	4 4		ドラム定常時位相異常	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	バッテリー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	バッテリー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	バッテリー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	バッテリー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	バッテリー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	バッテリー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	バッテリー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 1		キャプスタン定常時FG異常	バッテリー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	バッテリー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 1		ドラム起動時PG異常	バッテリー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	バッテリー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 3		ドラム定常時PG異常	バッテリー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 4		ドラム定常時位相異常	バッテリー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)	バッテリー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、レンズブロックのフォーカスMRセンサ(LD-202基板CN7103 ⑱、⑳ 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(LD-202基板IC7204)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		
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ブロックのズームMRセンサ(LD-202基板CN7103 ⑬, 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(LD-202基板IC7204)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 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(CM-071基板SE7702)周辺回路点検
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(CM-071基板SE7701)周辺回路点検
E	9 1	0 1	フラッシュの充電異常	フラッシュユニットの点検または交換(注)

注意：修理後は、必ず「1-6. フラッシュ異常修理後の処置」を行ってください。

1-6. フラッシュ異常修理後の処置

フラッシュエラー（自己診断コード E：91：**）発生時は、高電圧による異常を防止するために自動的にフラッシュ充電・発光禁止の設定になります。修理後は、この設定を解除する必要があります。調整用リモコン（RM-95またはNEW LANC JIG）を接続し、下記の処置を行ってください。

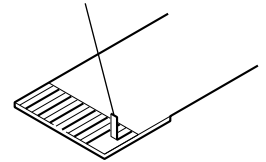
順序	ページ	アドレス	データ	作業内容
1	7	01	75	
2	7	00	01	PAUSE (Write) ボタンを押す
3	7	02		データが“01”になることを確認

2. DISASSEMBLY

NOTE FOR REPAIR

- Make sure that the flat cable and flexible board are not cracked or 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)

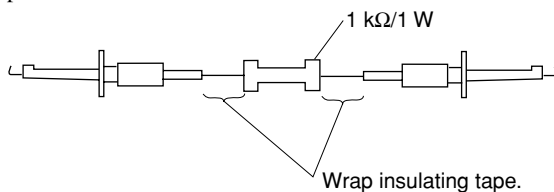


DISCHARGING OF THE ST-139 BOARD'S CHARGING CAPACITOR (C901)

The charging capacitor (C901) of the ST-139 board is charged up to the maximum 330 V potential. There is a danger of electric shock by this high voltage when the capacitor is handled by hand. The electric shock is caused by the charged voltage which is kept without discharging when the main power of the unit is simply turned off. Therefore, the remaining voltage must be discharged as described below.

Preparing the Short Jig

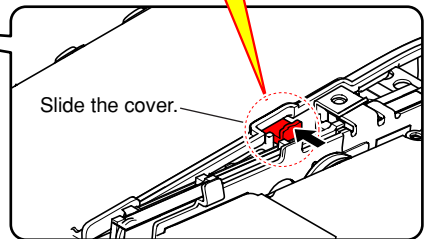
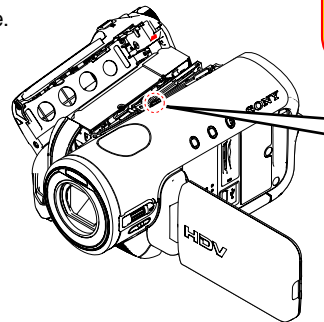
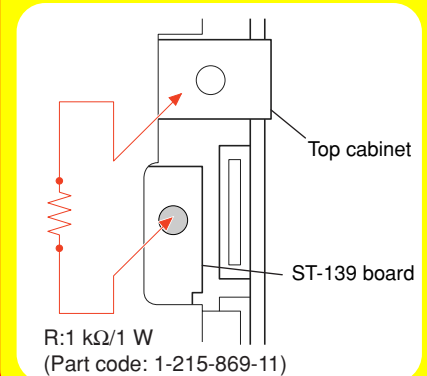
To preparing the short jig, a small clip is attached to each end of a resistor of 1 k Ω /1 W (1-215-869-11). Wrap insulating tape fully around the leads of the resistor to prevent electrical shock.



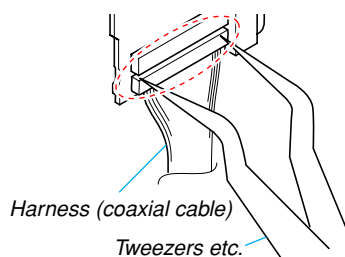
Note: High-voltage cautions

Discharging the Capacitor

Short-circuit between the two points with the short jig about 10 seconds.



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. DISASSEMBLY

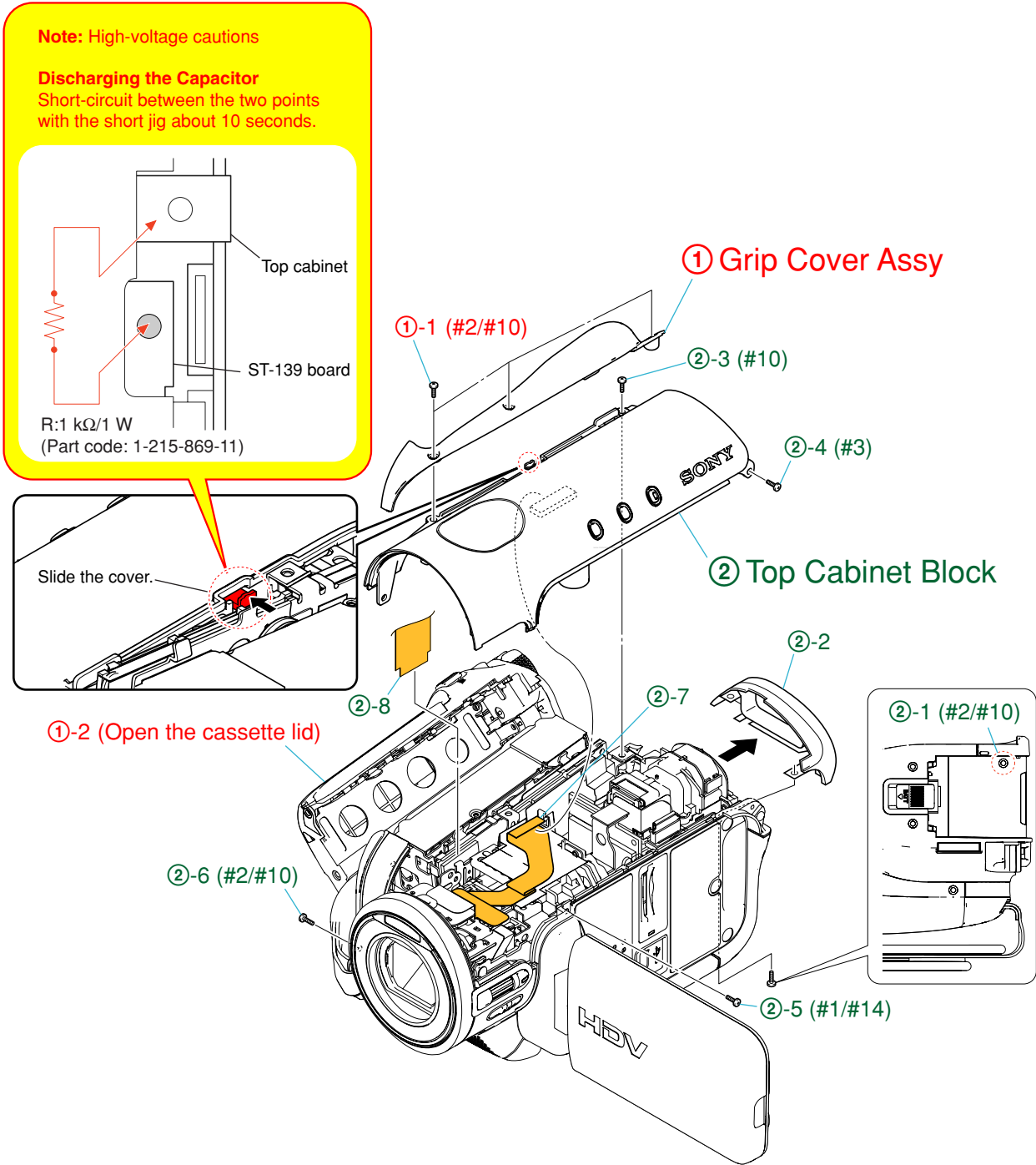
EXPLODED VIEW

HARDWARE LIST

2-1-1. OVERALL ASSEMBLY-1

Follow the disassembly in the numerical order given.

- ① Grip cover assy (①-1 to ①-2)
- ② Top cabinet block (②-1 to ②-8)



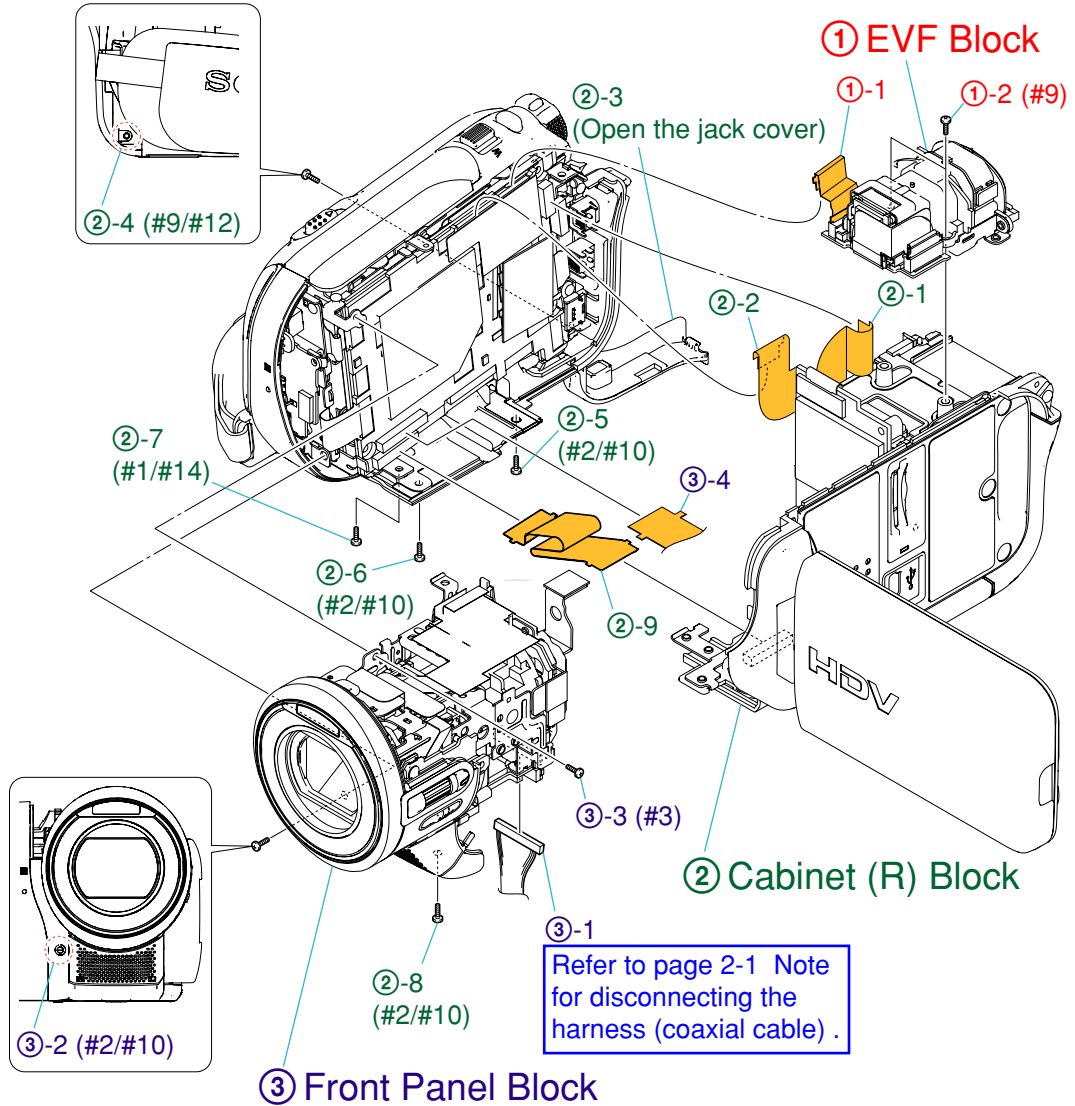
2-1-2. OVERALL ASSEMBLY-2

Follow the disassembly in the numerical order given.

- ① EVF block (①-1 to ①-2)
- ② Cabinet (R) block (②-1 to ②-9)
- ③ Front panel Block (③-1 to ③-3)

EXPLODED VIEW

HARDWARE LIST



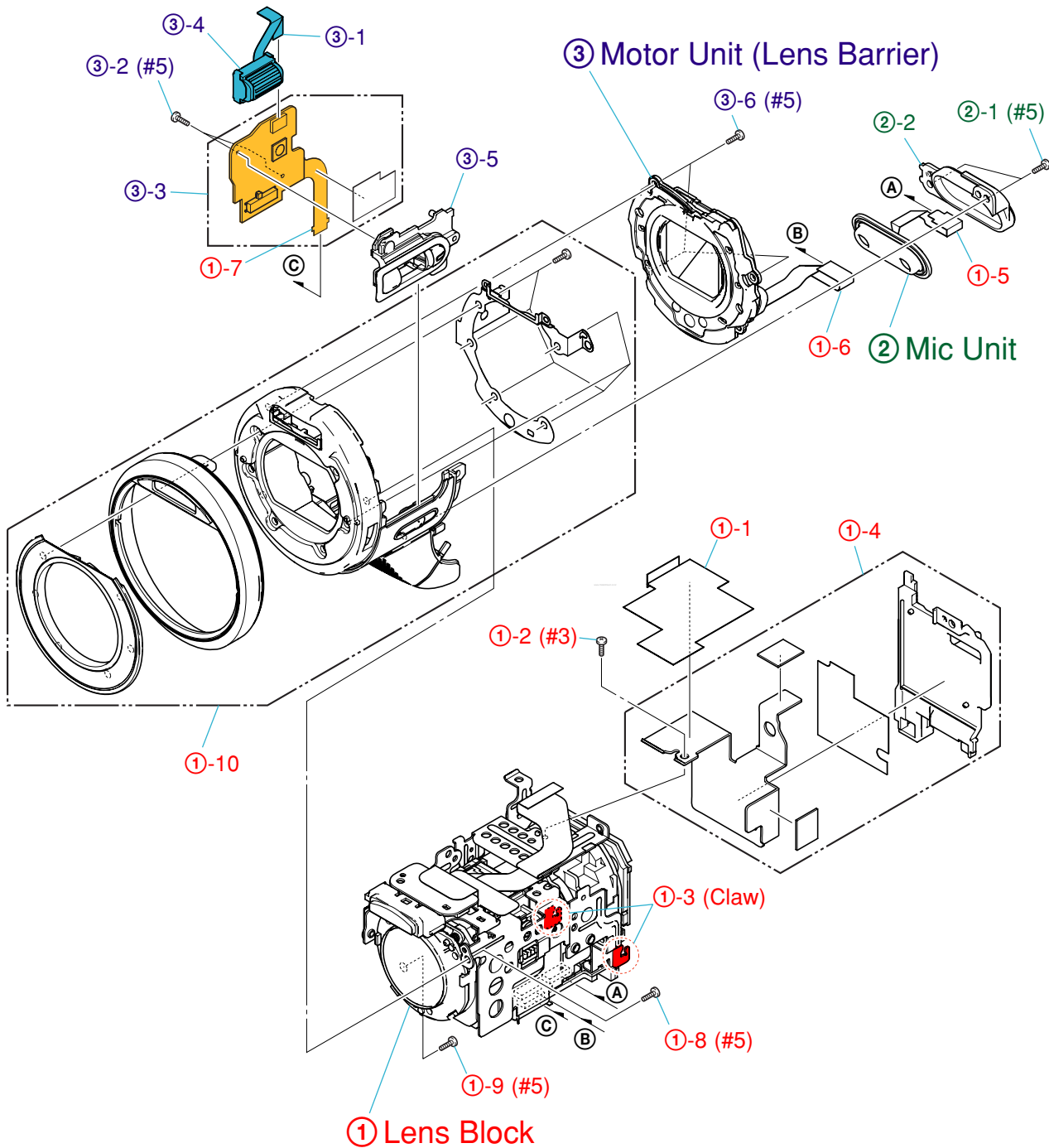
2-1-3. FRONT PANEL BLOCK

Follow the disassembly in the numerical order given.

- ① Lens block (①-1 to ①-10)
- ② Mic unit (②-1 to ②-2)
- ③ Motor Unit (③-1 to ③-6)

EXPLODED VIEW

HARDWARE LIST



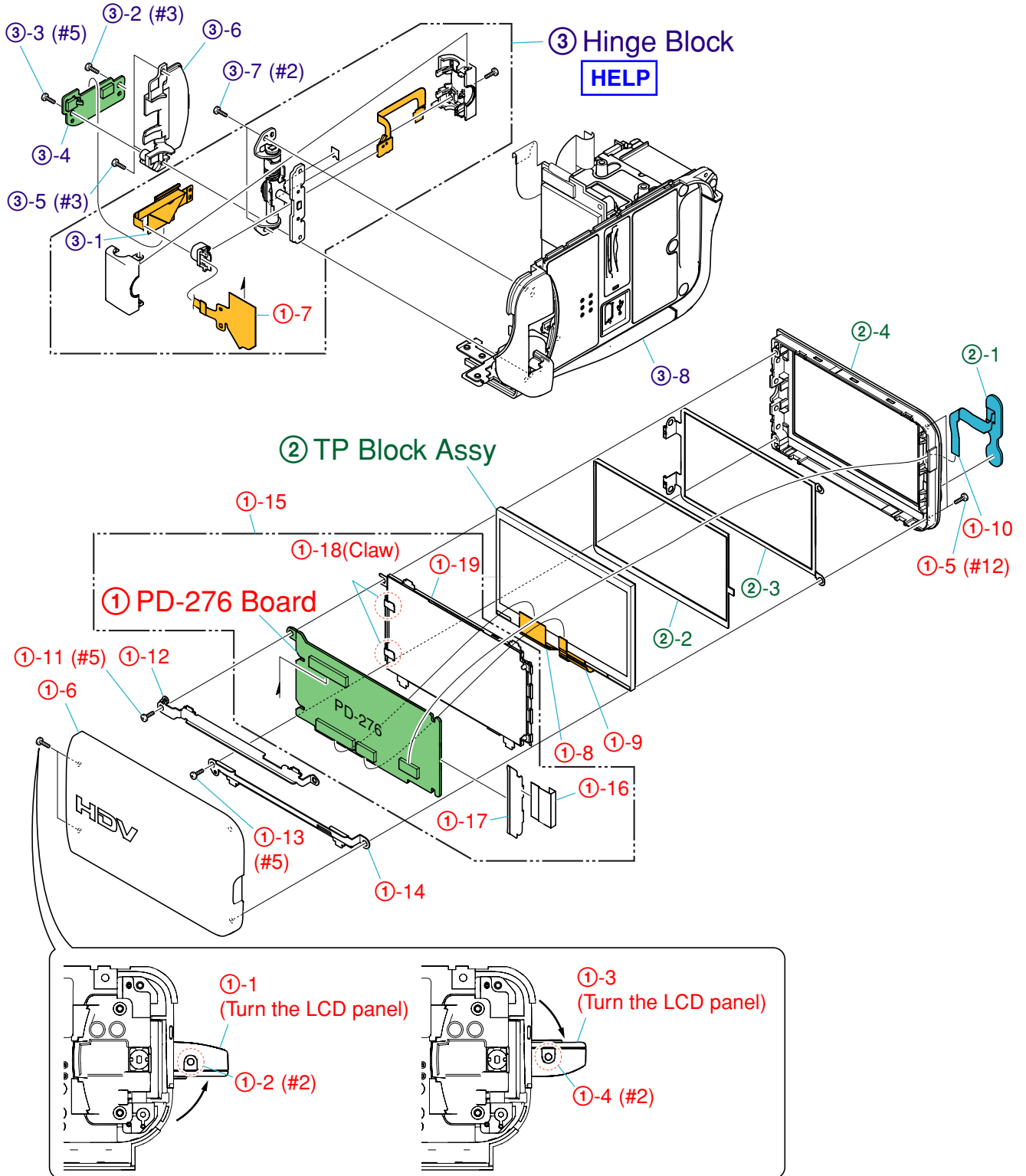
2-1-4. LCD PANEL BLOCK

Follow the disassembly in the numerical order given.

- ① PD-276 board (①-1 to ①-19)
- ② TP block assy (②-1 to ②-4)
- ③ Hinge block (③-1 to ③-8)

EXPLODED VIEW

HARDWARE LIST



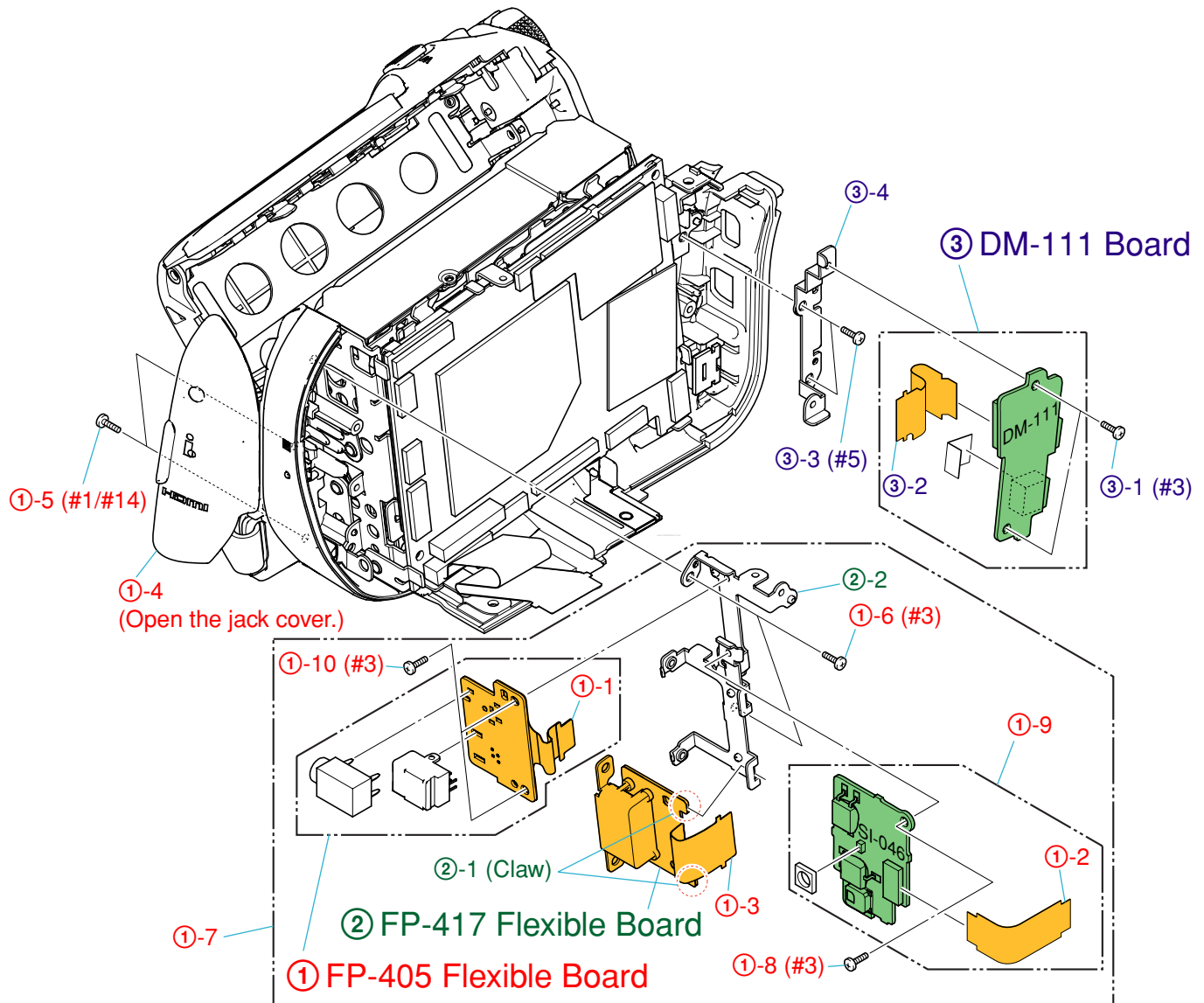
2-1-5. CABINET (L) BLOCK-1

Follow the disassembly in the numerical order given.

- ① FP-405 flexible board (①-1 to ①-10)
- ② FP-417 flexible board (②-1 to ②-2)
- ③ DM-111 board (③-1 to ③-4)

EXPLODED VIEW

HARDWARE LIST



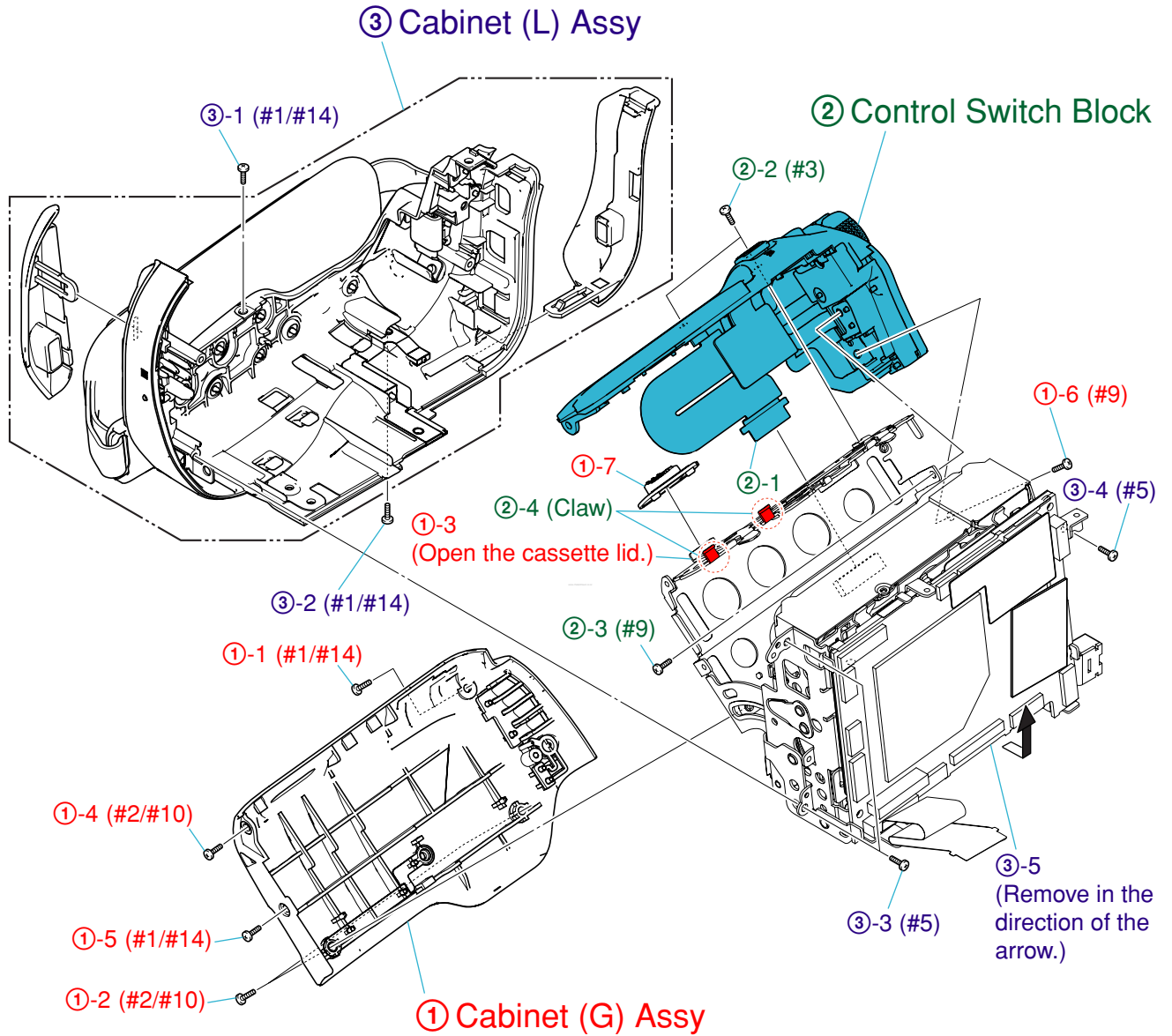
2-1-6. CABINET (L) BLOCK-2

Follow the disassembly in the numerical order given.

- ① Cabinet (G) assy (①-1 to ①-7)
- ② Control switch block (②-1 to ②-4)
- ③ Cabinet (L) assy (③-1 to ③-5)

EXPLODED VIEW

HARDWARE LIST



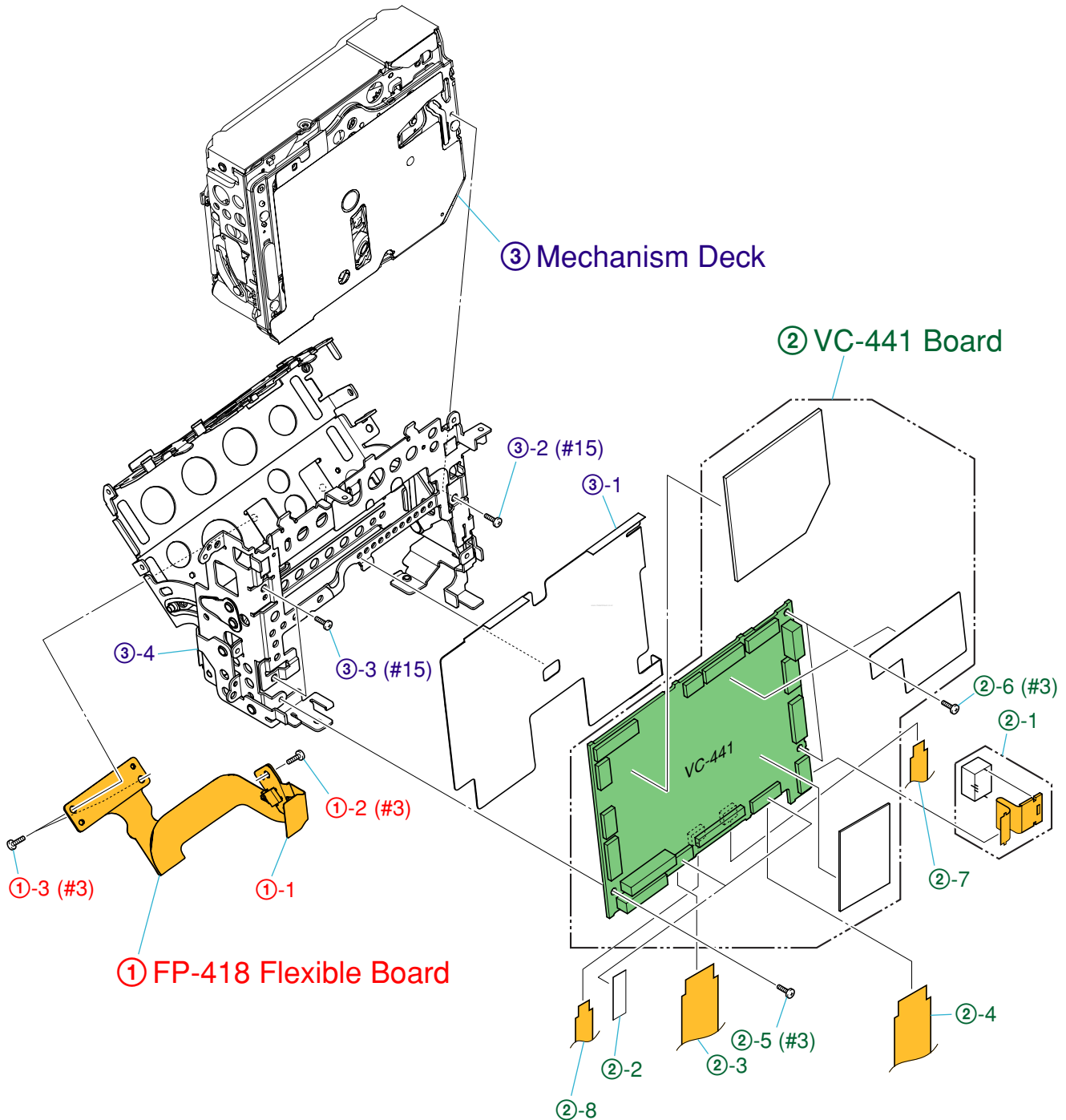
2-1-7. MD FRAME BLOCK

Follow the disassembly in the numerical order given.

- ① FP-418 flexible board (①-1 to ①-3)
- ② VC-441 board (②-1 to ②-8)
- ③ Mechanism Deck (③-1 to ③-4)

EXPLODED VIEW

HARDWARE LIST

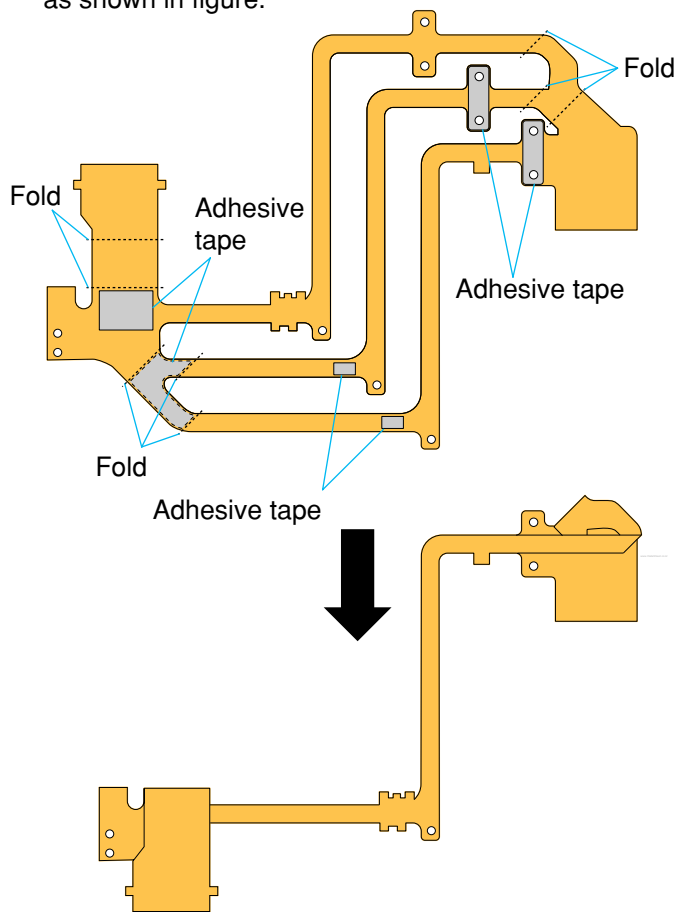


HELP

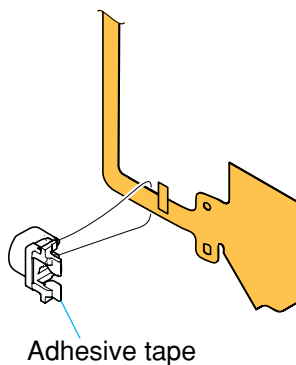
Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

THE METHOD OF ATTACHMENT OF FP-412 FLEXIBLE BOARD

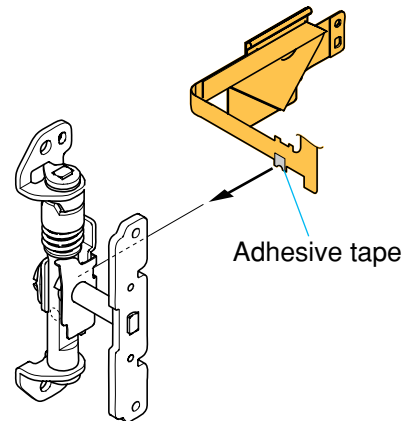
- ① Fold dotted line parts of the FP-412 flexible board as shown in figure.



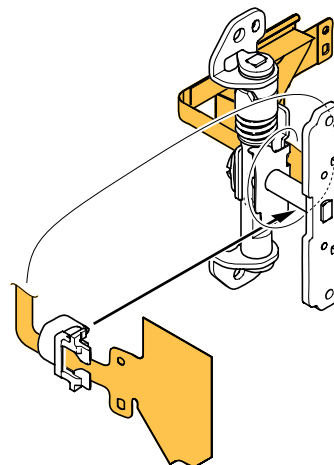
- ② Install the FP-412 flexible board in the clamp, and put it with the adhesive tape.



- ③ Put the FP-412 flexible board on the hinge assembly with adhesive tape.



- ④ Wrap the FP-412 flexible board around the stick by 1.5 rotations, and install it with the clamp.



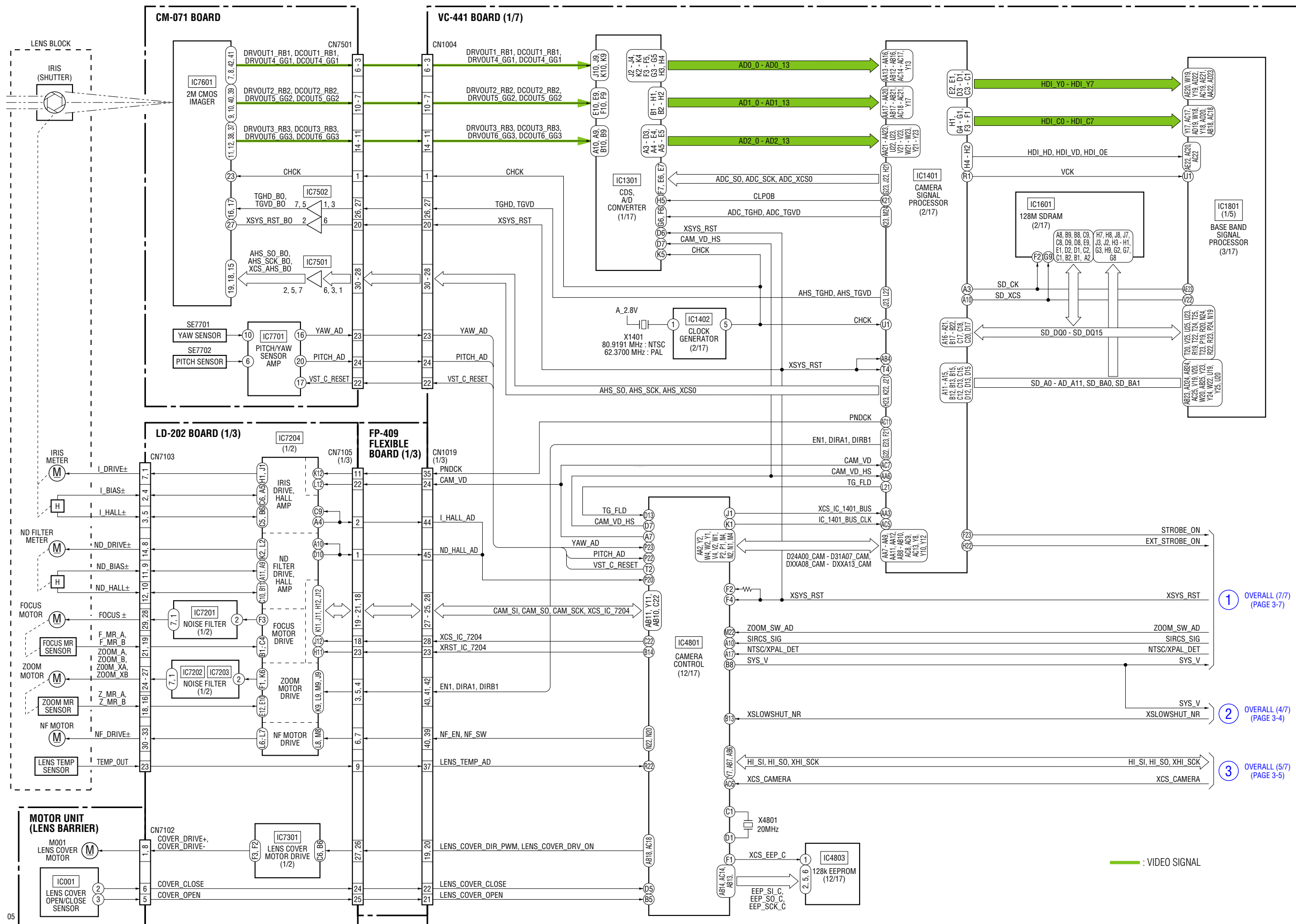
3. BLOCK DIAGRAMS

Link

OVERALL BLOCK DIAGRAM (1/7)	OVERALL BLOCK DIAGRAM (6/7)
OVERALL BLOCK DIAGRAM (2/7)	OVERALL BLOCK DIAGRAM (7/7)
OVERALL BLOCK DIAGRAM (3/7)	POWER BLOCK DIAGRAM (1/3)
OVERALL BLOCK DIAGRAM (4/7)	POWER BLOCK DIAGRAM (2/3)
OVERALL BLOCK DIAGRAM (5/7)	POWER BLOCK DIAGRAM (3/3)

3. BLOCK DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM (1/7) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.



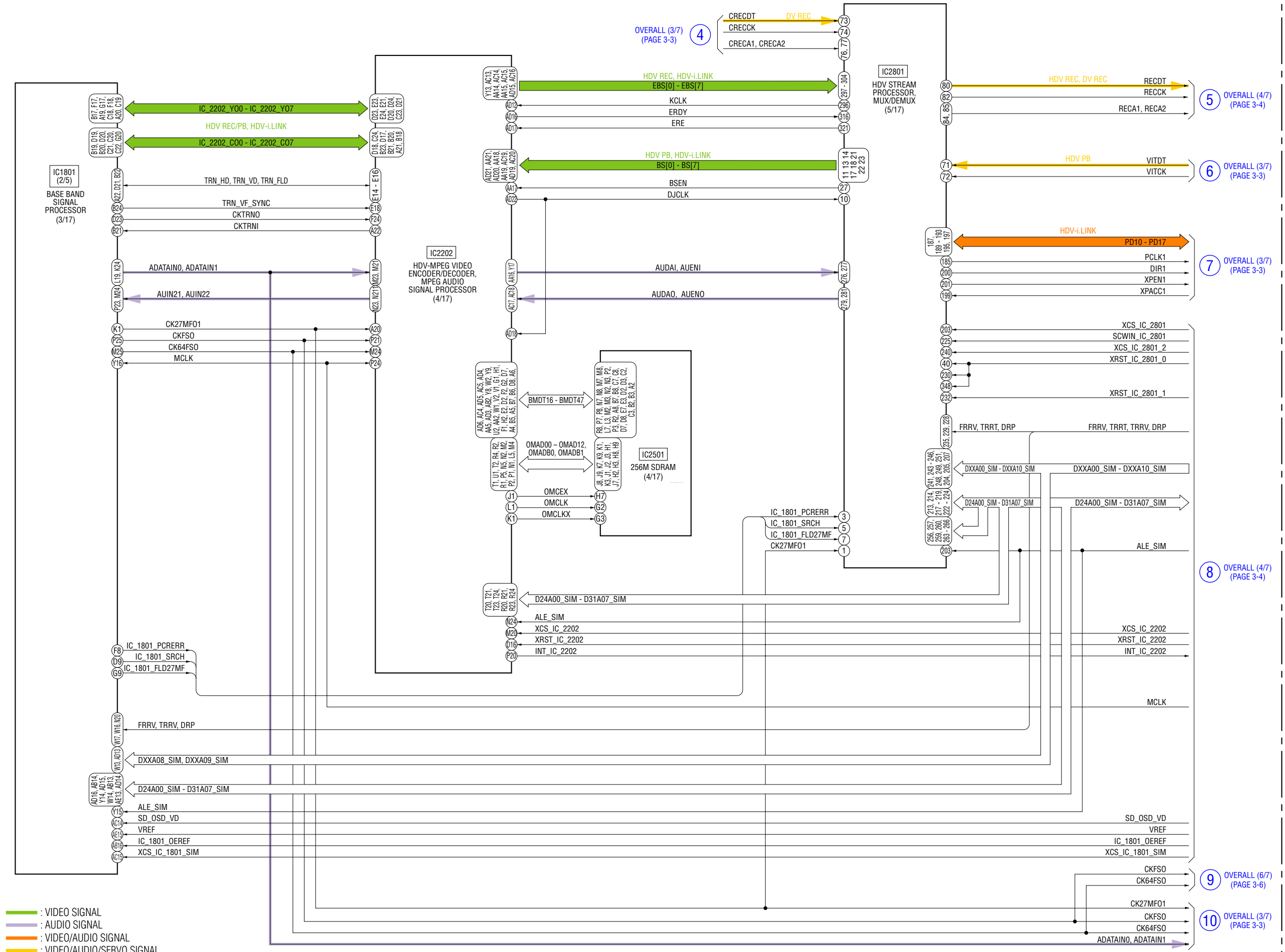
1 OVERALL (7/7)
(PAGE 3-7)

2 OVERALL (4/7)
(PAGE 3-4)

3 OVERALL (5/7)
(PAGE 3-5)

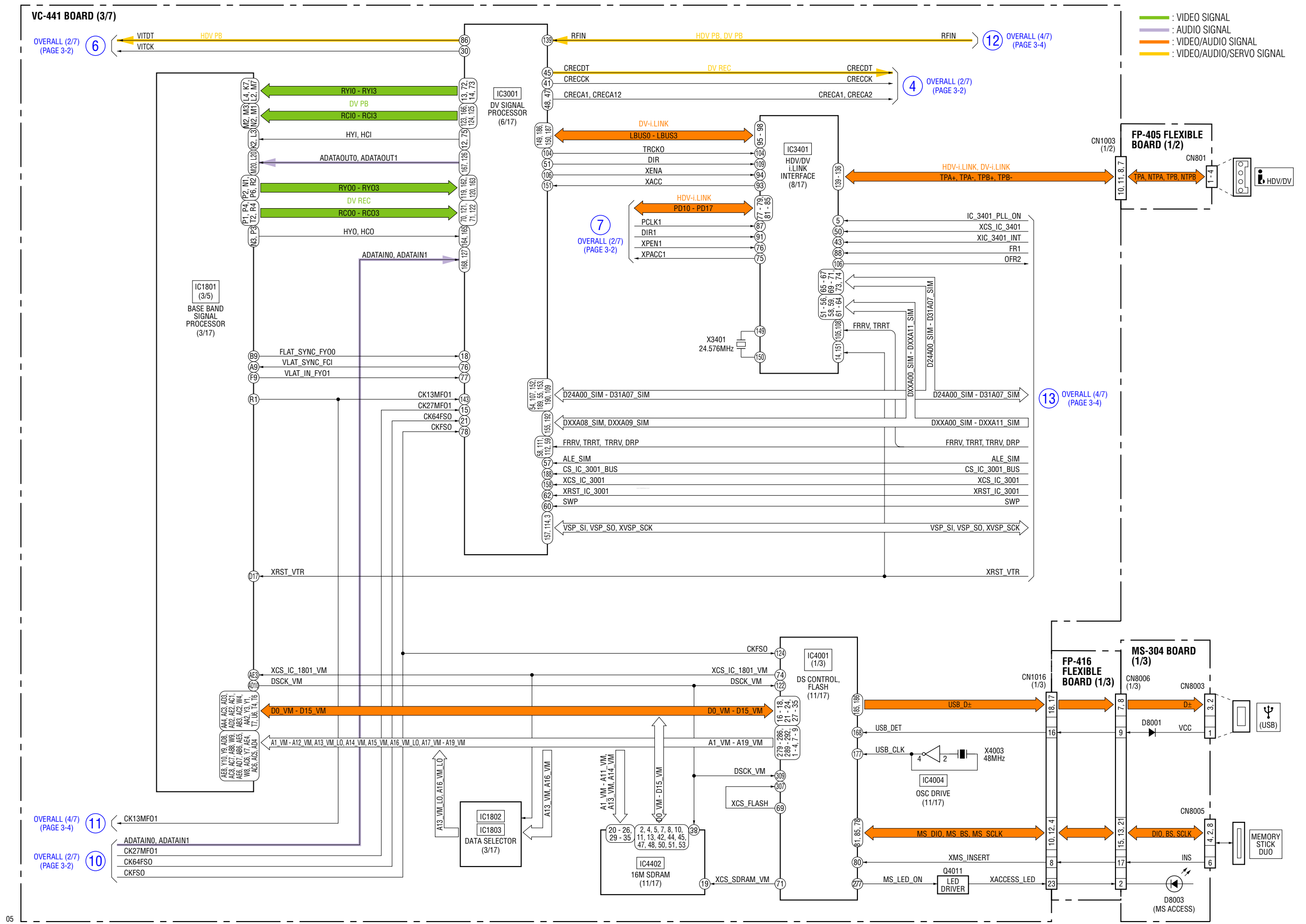
3-2. OVERALL BLOCK DIAGRAM (2/7) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.

VC-441 BOARD (2/7)



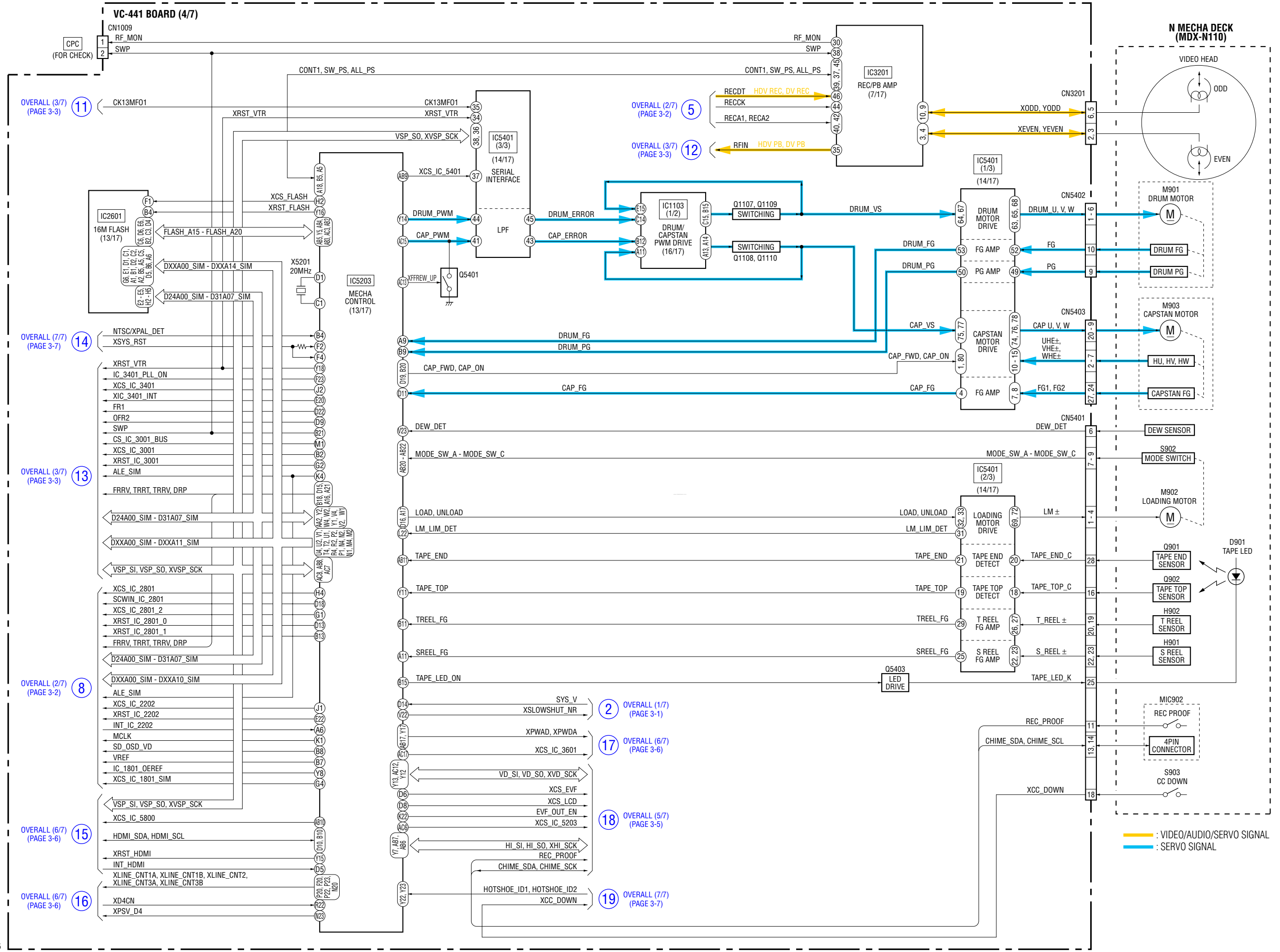
05

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

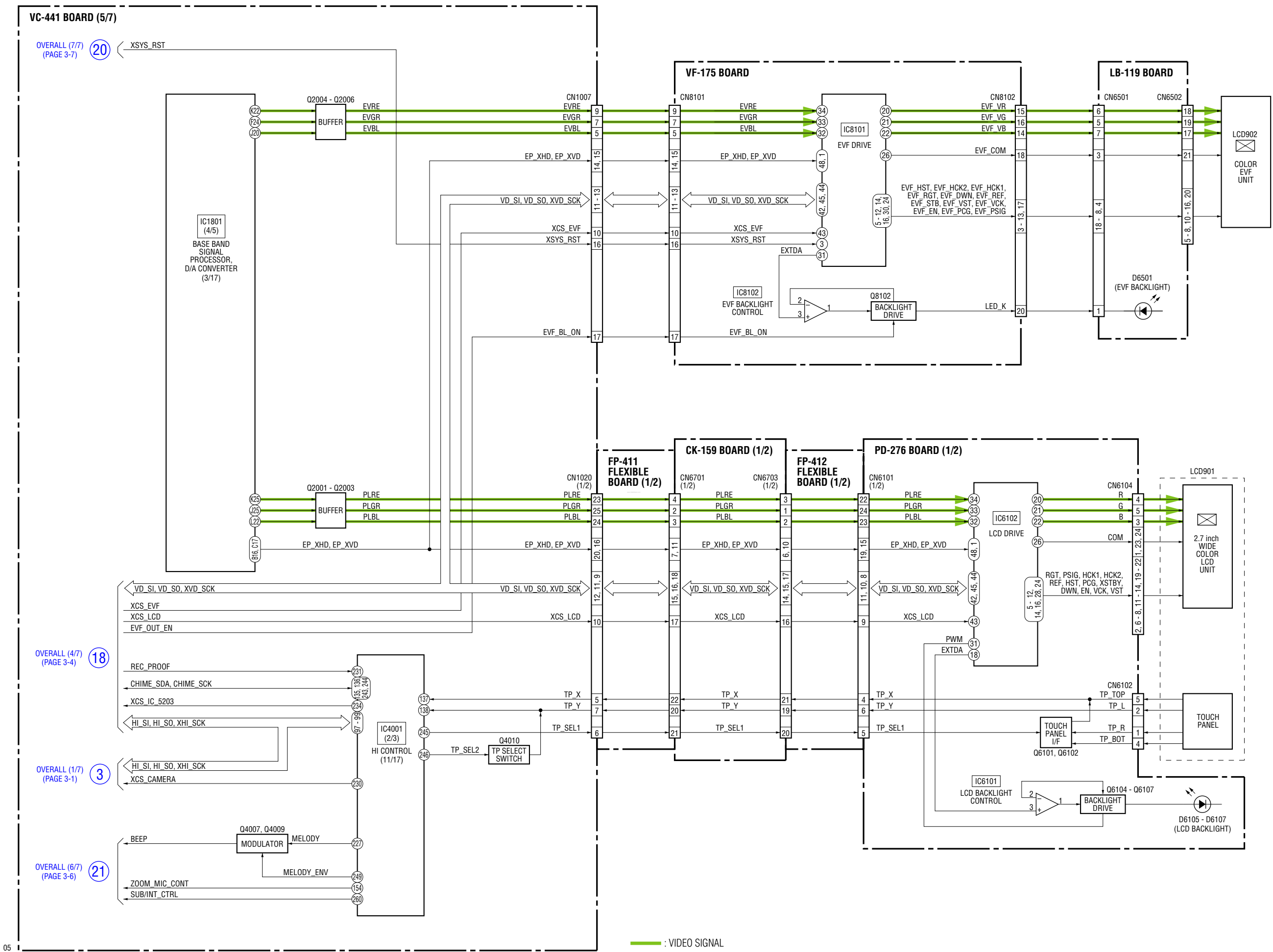


05

3-4. OVERALL BLOCK DIAGRAM (4/7) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.

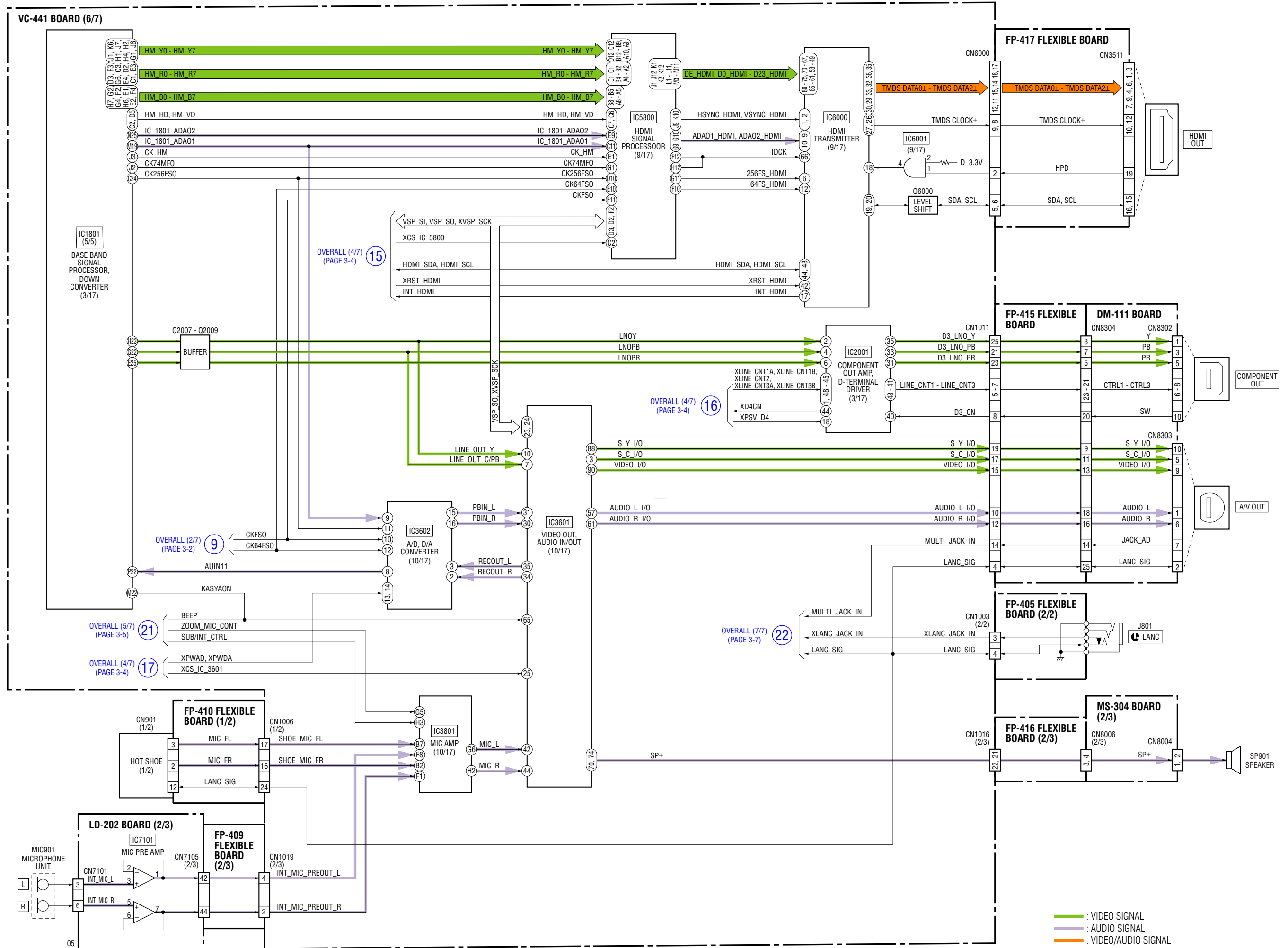


3-5. OVERALL BLOCK DIAGRAM (5/7) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.



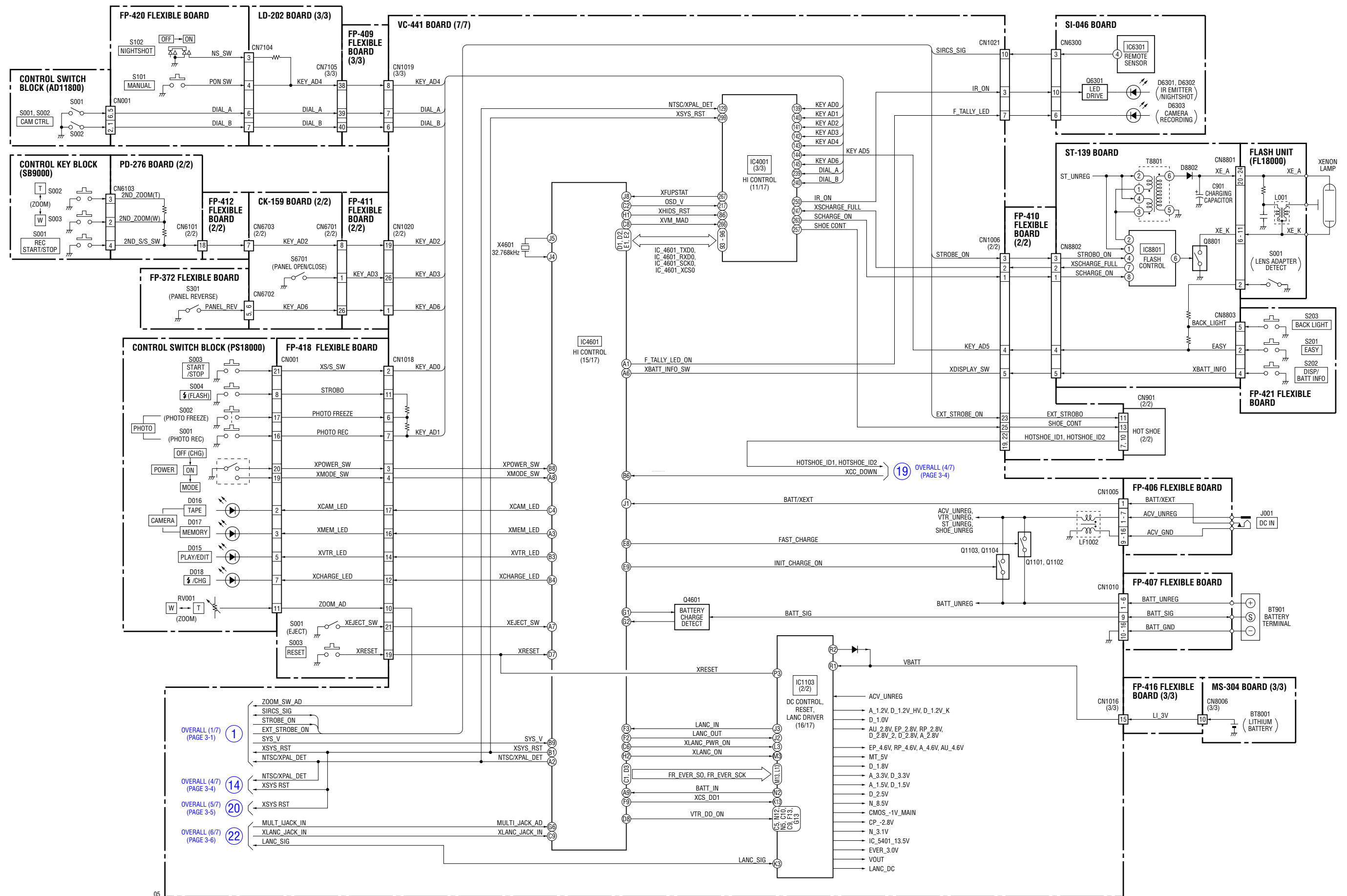
05

3-6. OVERALL BLOCK DIAGRAM (6/7) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.

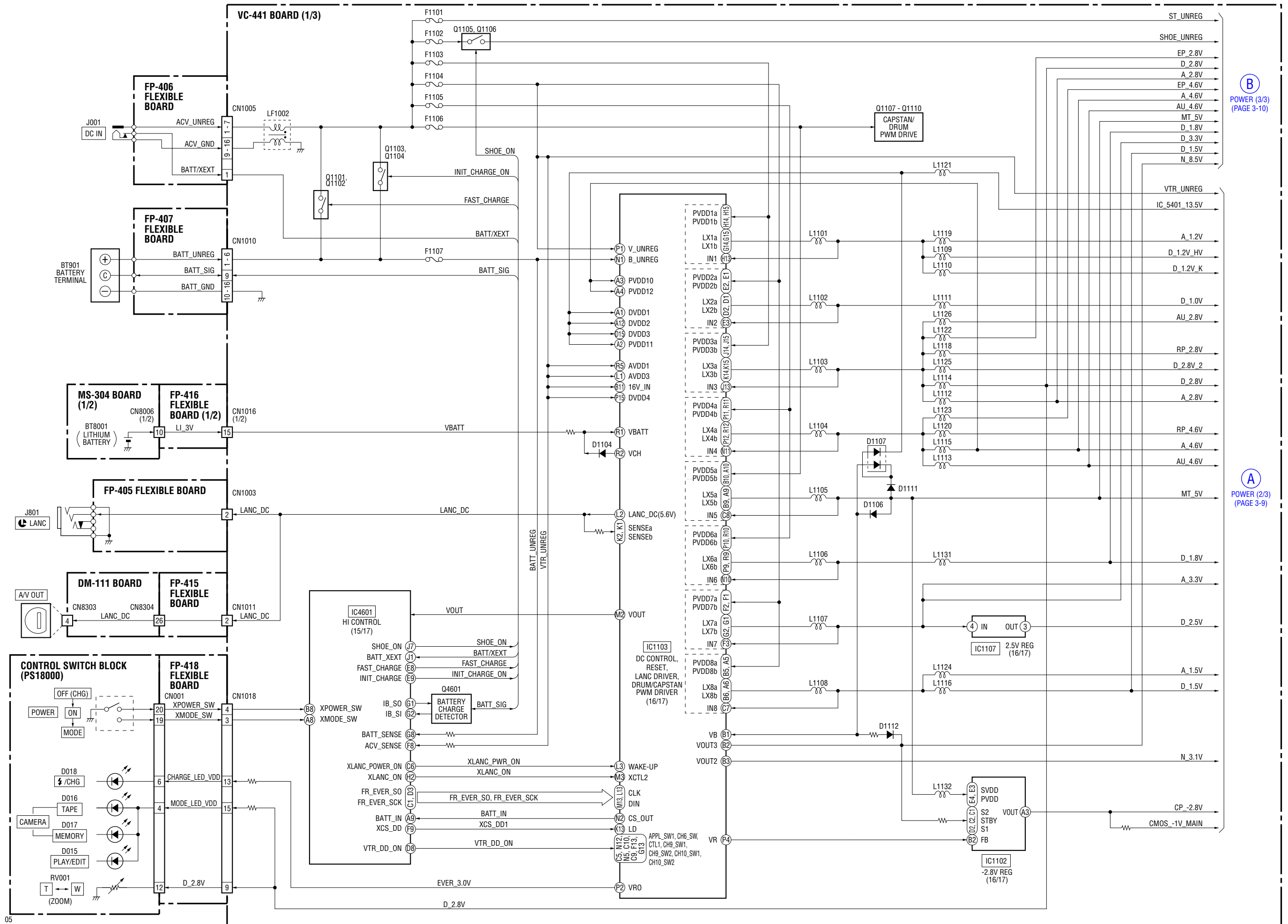


— : VIDEO SIGNAL
— : AUDIO SIGNAL
— : VIDEO/AUDIO SIGNAL

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



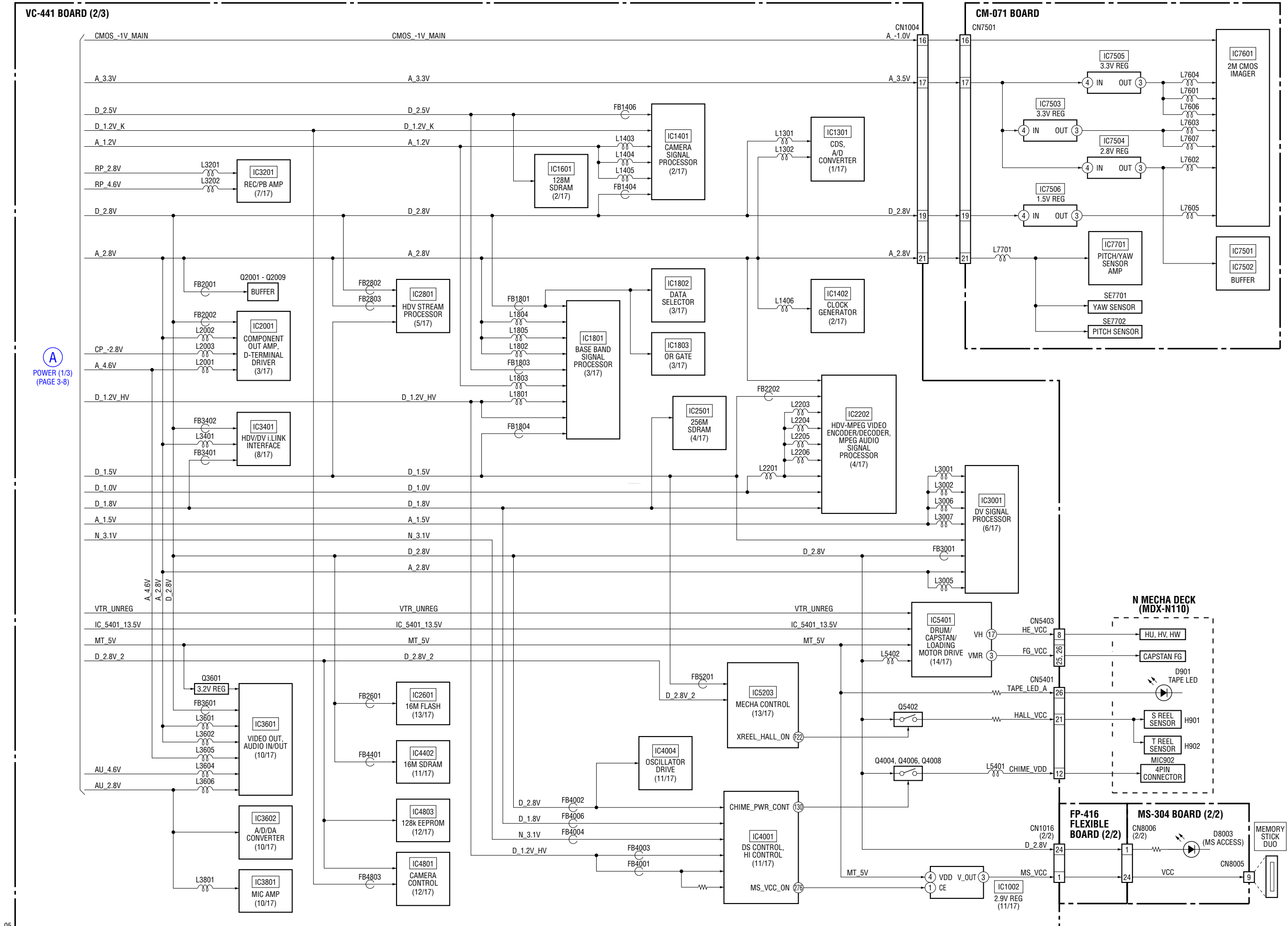
3-8. POWER BLOCK DIAGRAM (1/3) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.



(B) POWER (3/3) (PAGE 3-10)

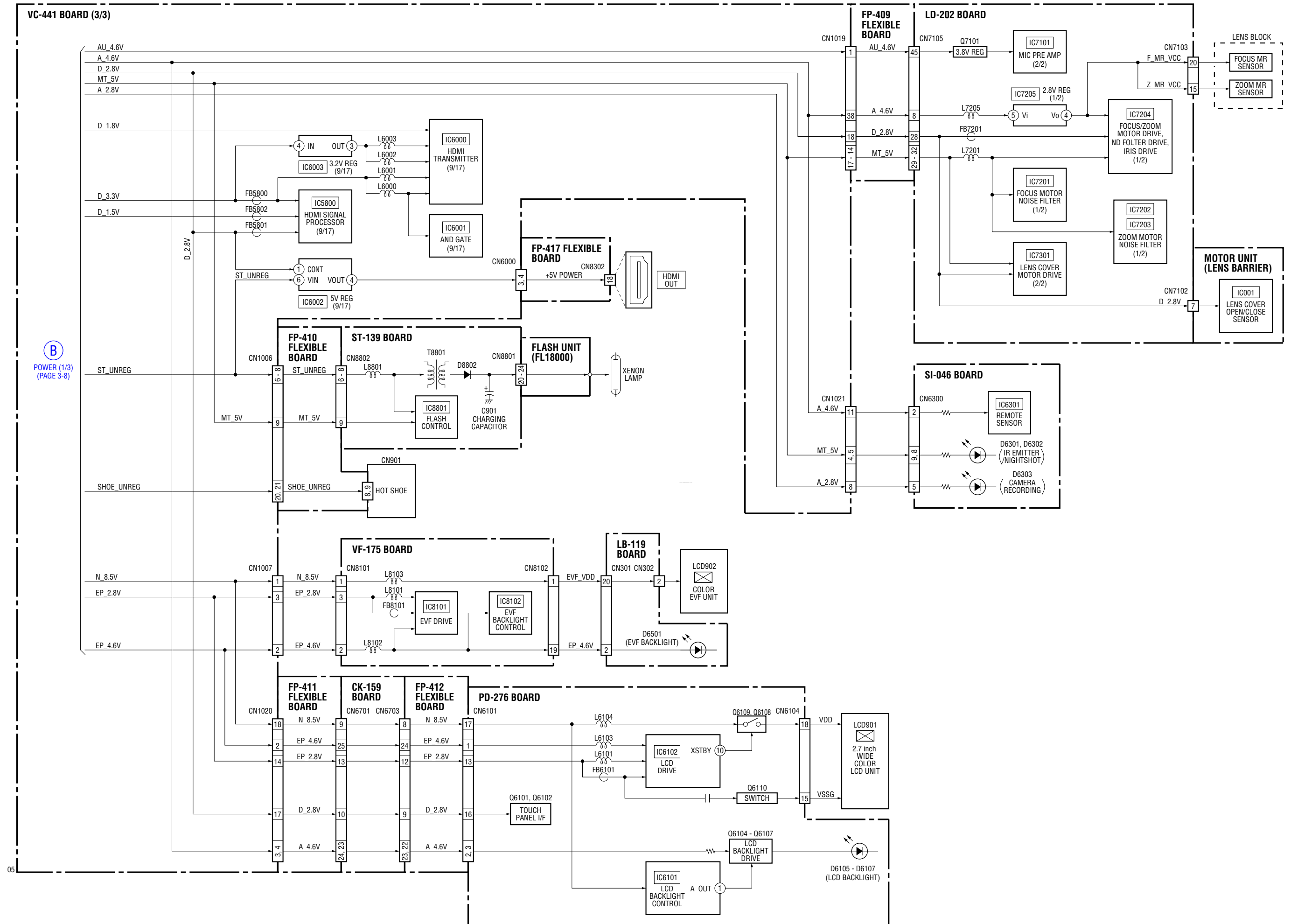
(A) POWER (2/3) (PAGE 3-9)

3-9. POWER BLOCK DIAGRAM (2/3) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.



3-10. POWER BLOCK DIAGRAM (3/3)

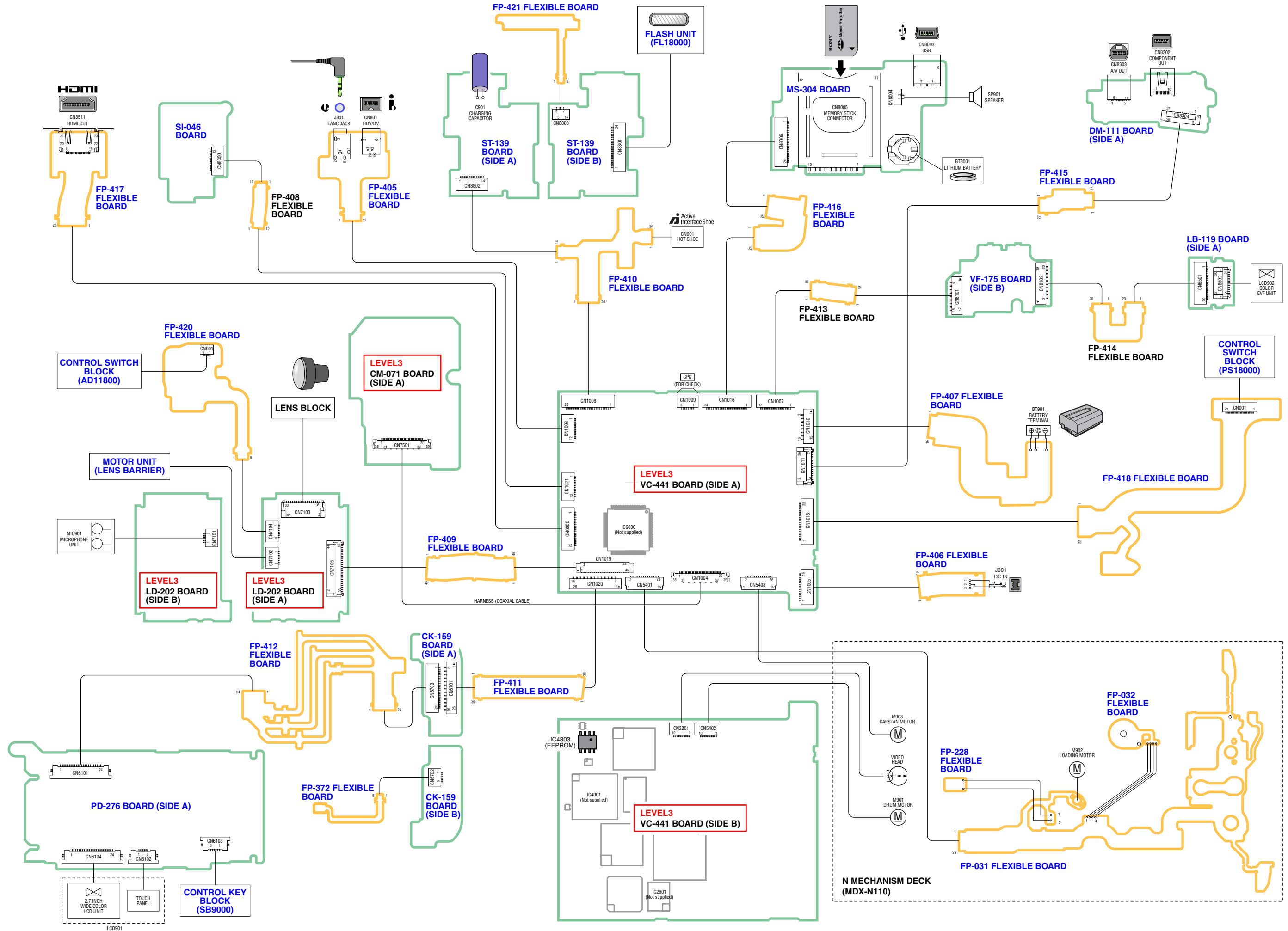
() : Number in parenthesis () indicates the division number of schematic diagram where the component is located.



(B)
POWER (1/3)
(PAGE 3-8)

4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM



4-2. SCHEMATIC DIAGRAMS

Link

• PD-276 BOARD (LCD DRIVE)	• MS-304 BOARD (USB/MS CONNECTOR)
• CONTROL KEY BLOCK (SB9000)	• FP-416 FLEXIBLE BOARD
• CK-159 BOARD (PANEL OPEN/CLOSE)	• DM-111 BOARD (AV/COMPONENT CONNECTOR)
• FP-372 FLEXIBLE BOARD (PANEL REVERSE)	• FP-415 FLEXIBLE BOARD
• FP-411 FLEXIBLE BOARD	• FP-405 FLEXIBLE BOARD (HDV/DV CONNECTOR, LANC JACK)
• FP-412 FLEXIBLE BOARD	• FP-406 FLEXIBLE BOARD (DC IN)
• VF-175 BOARD (EVF DRIVE)	• FP-407 FLEXIBLE BOARD (BATTERY TERMINAL)
• LB-119 BOARD (EVF, EVF BACKLIGHT)	• FP-417 FLEXIBLE BOARD (HDMI CONNECTOR)
• ST-139 BOARD (FLASH DRIVE)	• FP-409 FLEXIBLE BOARD (LD-VC CONNECTION)
• FP-410 FLEXIBLE BOARD (HOT SHOE)	• FP-420 FLEXIBLE BOARD (CONTROL SWITCH)
• FP-421 FLEXIBLE BOARD (FUNCTION SWITCH)	• CONTROL SWITCH BLOCK (AD11800)
• FLASH UNIT (FL18000)	• FP-418 FLEXIBLE BOARD (RESET, EJECT)
• SI-046 BOARD (REMOTE SENSOR, IR EMITTER)	• CONTROL SWITCH BLOCK (PS18000)
• MOTOR UNIT (LENS BARRIER)	• FP-031, FP-032, FP-228 FLEXIBLE BOARD

• COMMON NOTE FOR SCHEMATIC DIAGRAMS

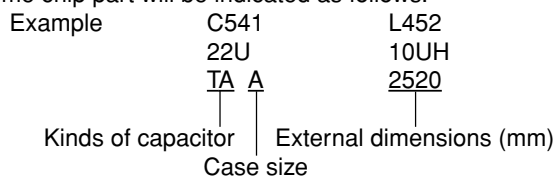
4-2. SCHEMATIC DIAGRAMS
(ENGLISH)









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. $\text{pF} : \mu\text{F}$. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. $\text{k}\Omega=1000 \Omega$, $\text{M}\Omega=1000 \text{k}\Omega$.
- 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.



- 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 \star 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 \rightarrow EDIT PB/XREC \rightarrow PB/REC
- : non flammable resistor
- : fusible resistor
- : panel designation
- : B+ Line
- : B- Line
- : IN/OUT direction of (+,-) B LINE.
- : adjustment for repair.
- : not use circuit

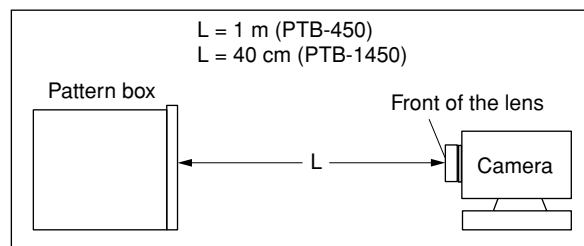
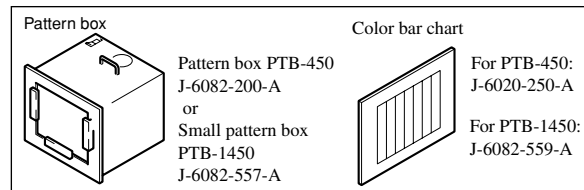
(Measuring conditions voltage and waveform)

- 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 M Ω 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.

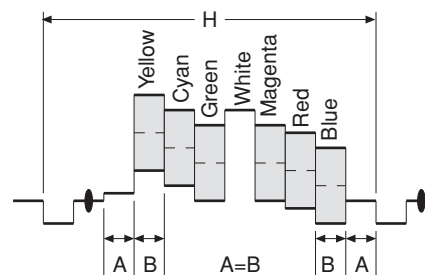


Fig. a (Video output terminal output waveform)

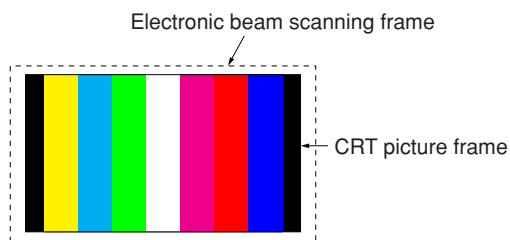


Fig.b (Picture on monitor TV)

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

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

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

(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。
k Ω = 1000 Ω , M Ω = 1000k Ω
- ・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 → EDIT PB/XREC → PB/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。

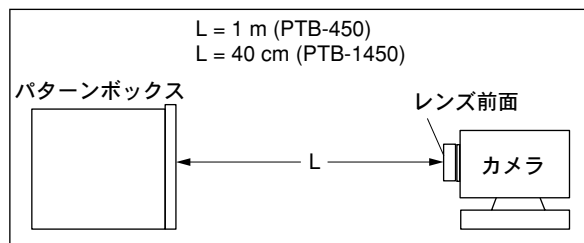
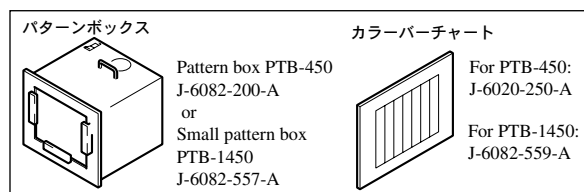
【電圧・波形測定条件ノート】

- ・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对アース間の参考値。
(デジタルマルチメータ; 入力インピーダンス DC10M Ω 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。

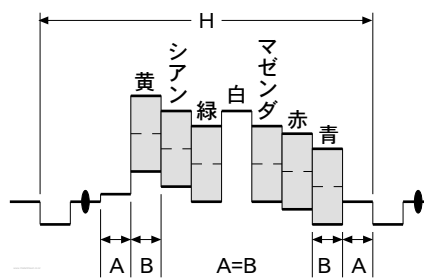
イメージ交換時の注意

- ・イメージを交換した場合は、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

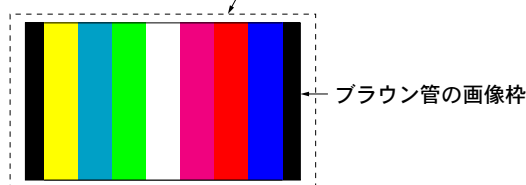


2. 図a及び図bの波形が得られるように画枠調整して下さい。



図a (映像入出力端子出力波形)

電子ビーム走査線



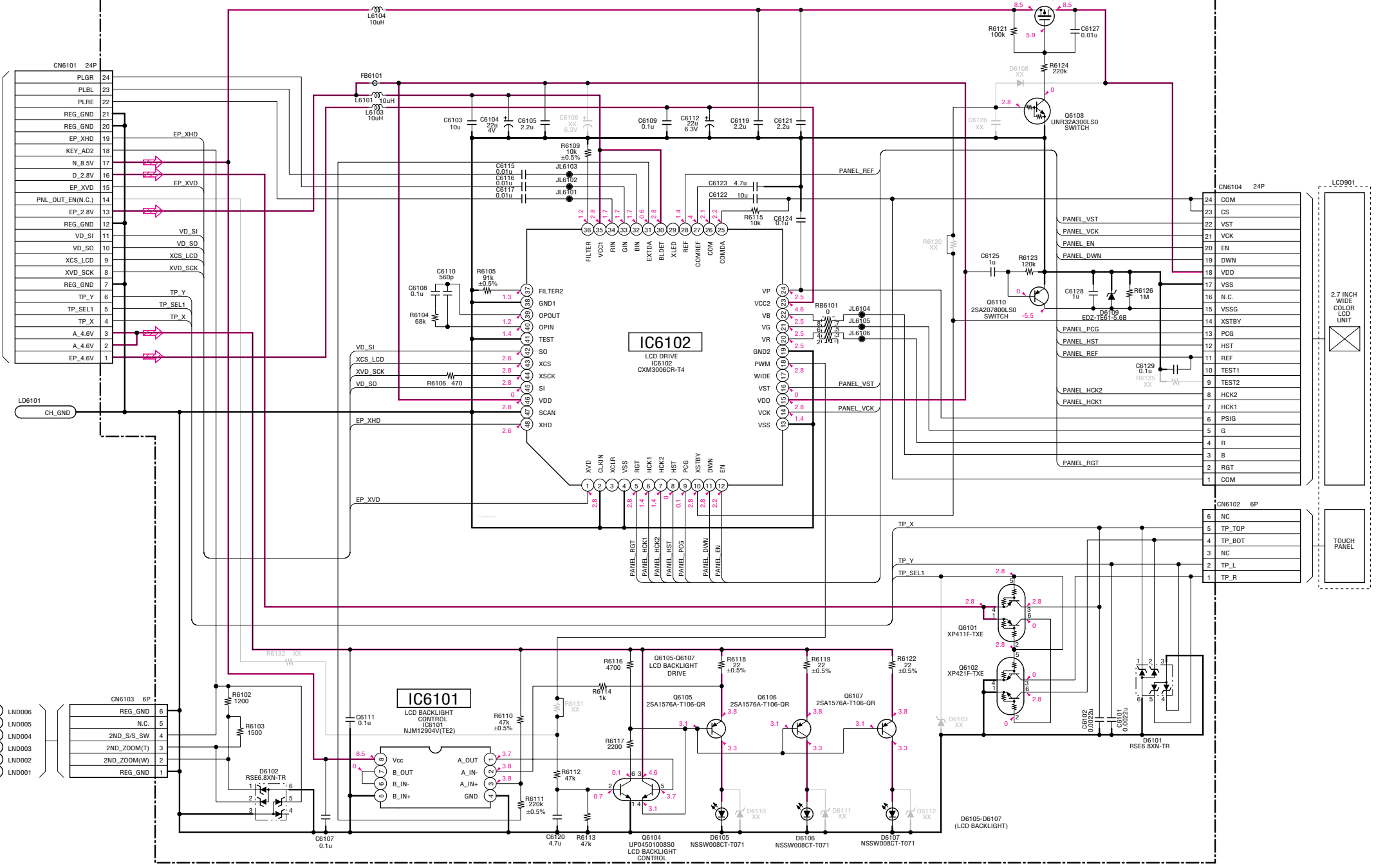
図b (テレビモニタの映像)

△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。

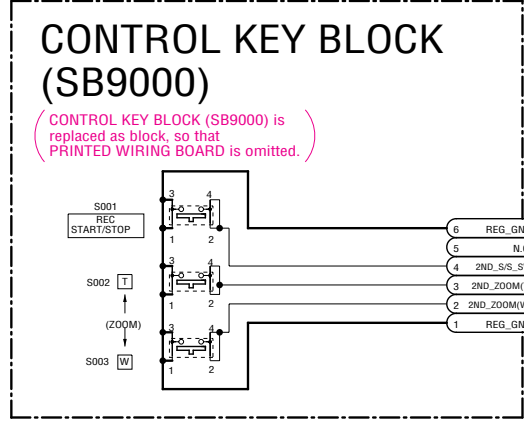
お願い
図面番号で部品を指定するときは基板名又はブロックを併せて指定して下さい。

Schematic diagrams of the CM-071, VC-441 and LD-202 boards are not shown.
Pages from 4-5 to 4-24 are not shown.

PD-276 BOARD
LCD DRIVE
XX MARK:NO MOUNT
NO MARK:REC/PB MODE



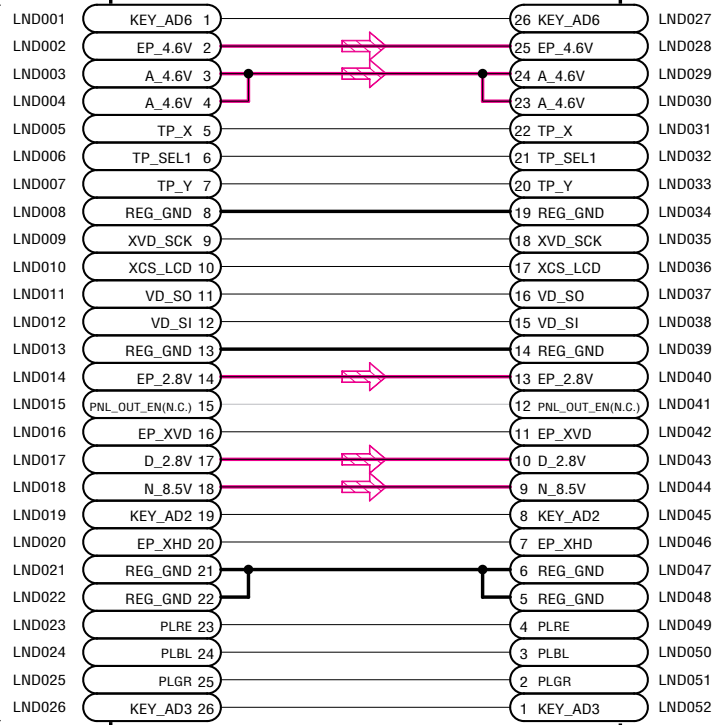
FP-412 FLEXIBLE LND001-LND024 (Page 4-26 of Level 2)



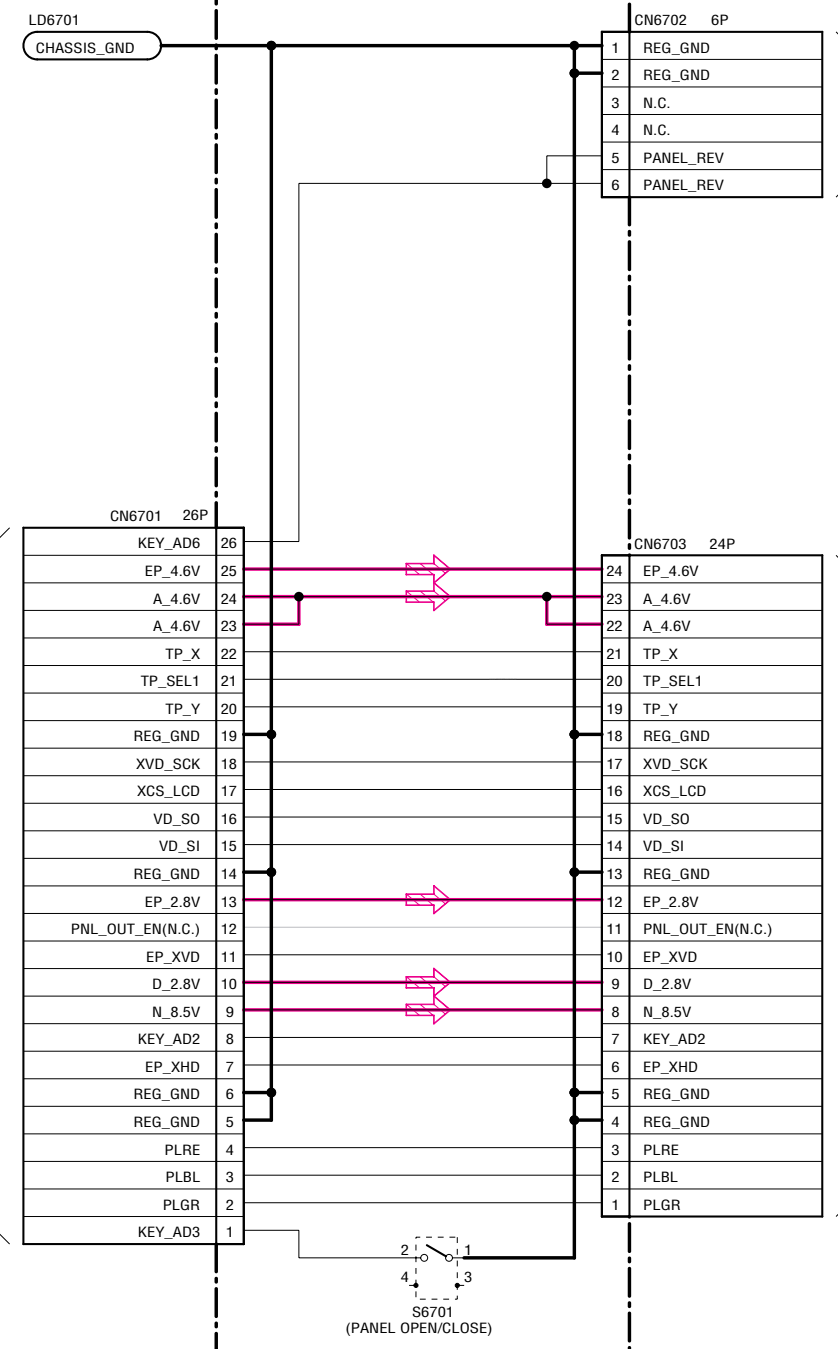
VC-441
(17/17)
CN1020
(Page 4-22
of Level 3)

FP-411 FLEXIBLE BOARD

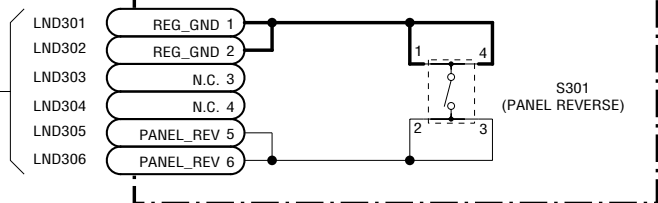
(PRINTED WIRING BOARD
is omitted.)



CK-159 BOARD PANEL OPEN/CLOSE

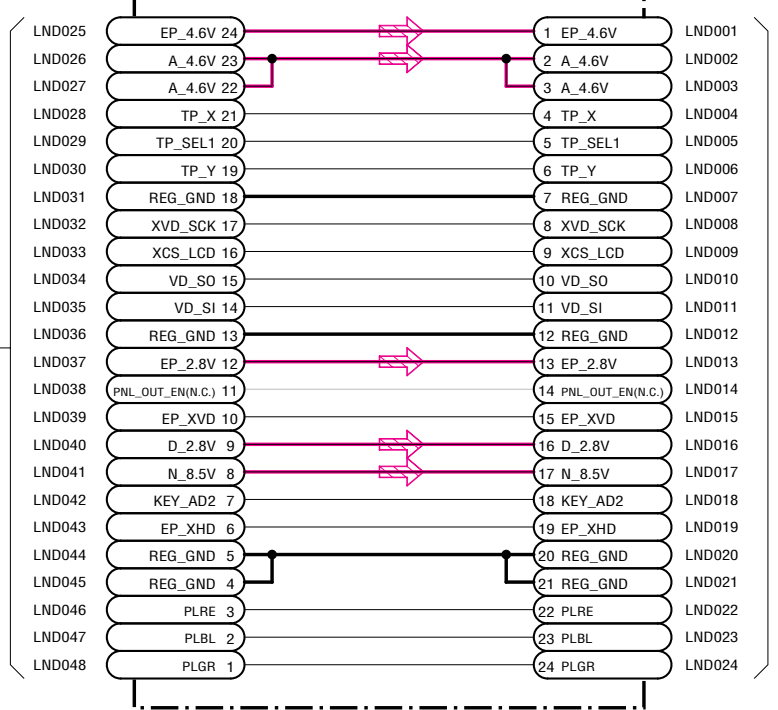


FP-372 FLEXIBLE BOARD PANEL REVERSE

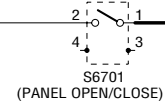


FP-412 FLEXIBLE BOARD

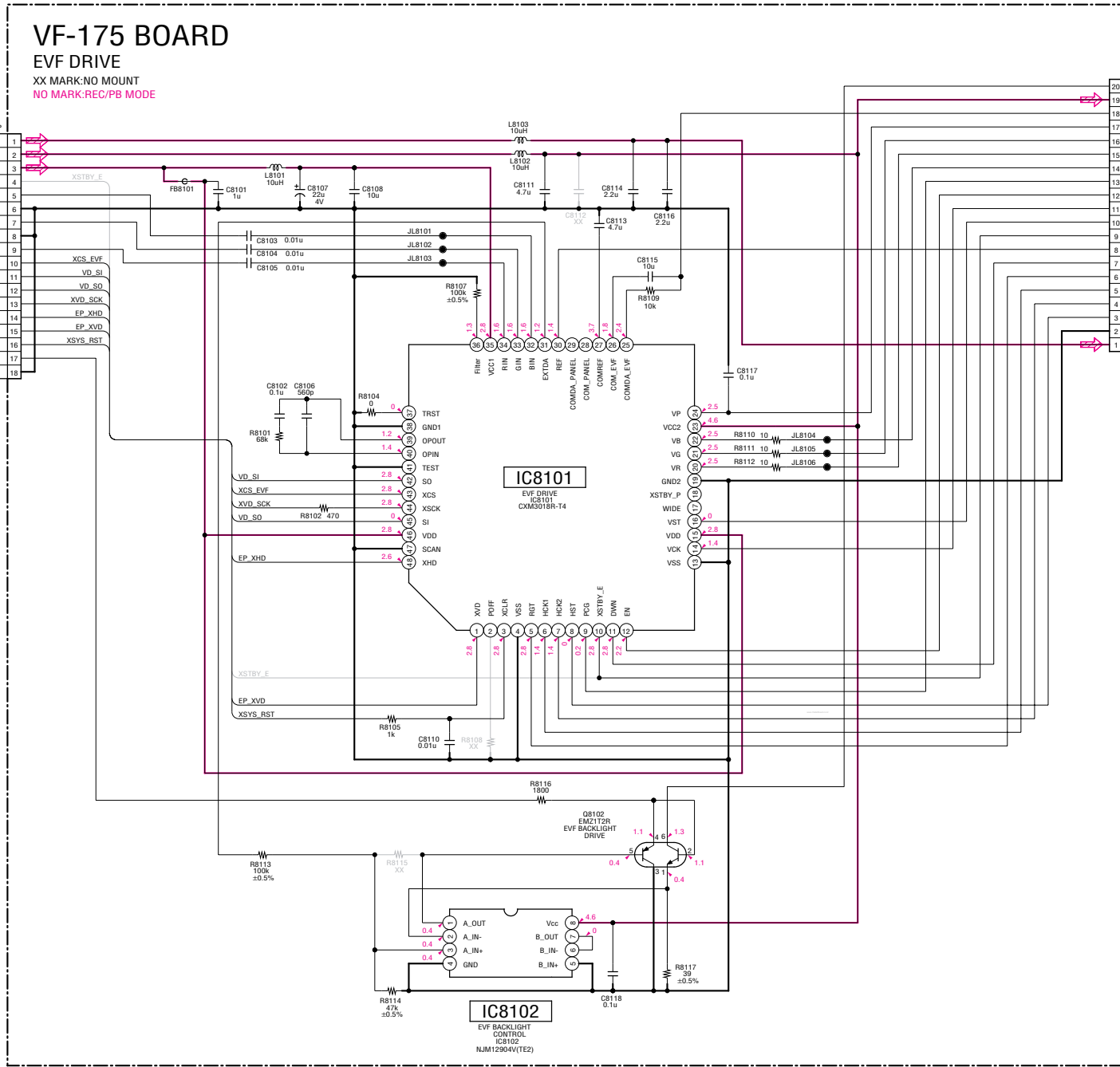
(PRINTED WIRING BOARD
is omitted.)



PD-276
CN6101
(Page 4-25
of Level 2)

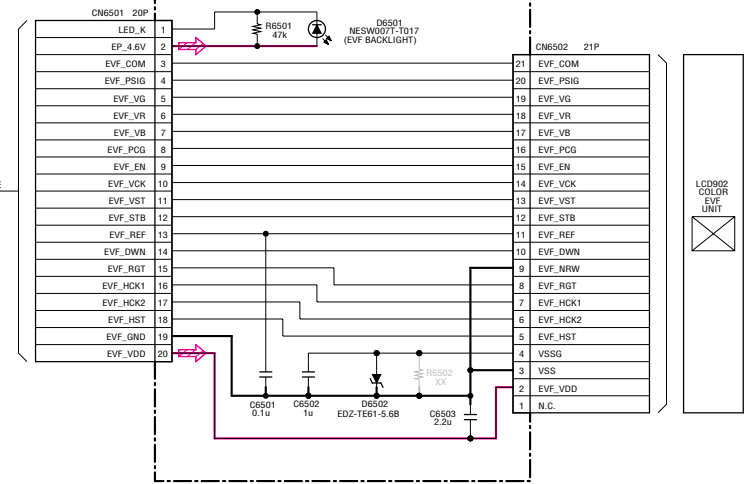


A
B
C
D
E
F
G
H
I
J
K



LB-119 BOARD

EVF, EVF BACKLIGHT
XX MARK:NO MOUNT
NO MARK:REC/PB MODE



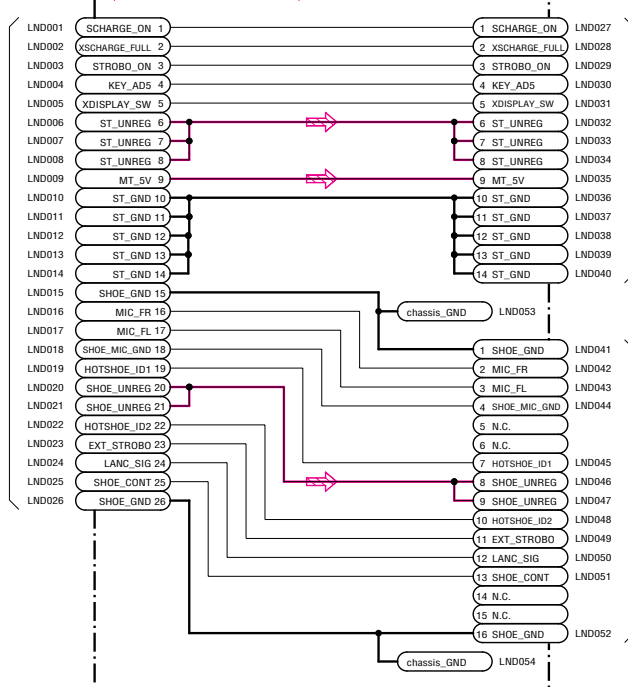
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

A
B
C
D
E
F
G
H
I

VC-441
(17/17)
CN1006
(Page 4-22
of Level 3)

FP-410 FLEXIBLE BOARD HOT SHOE

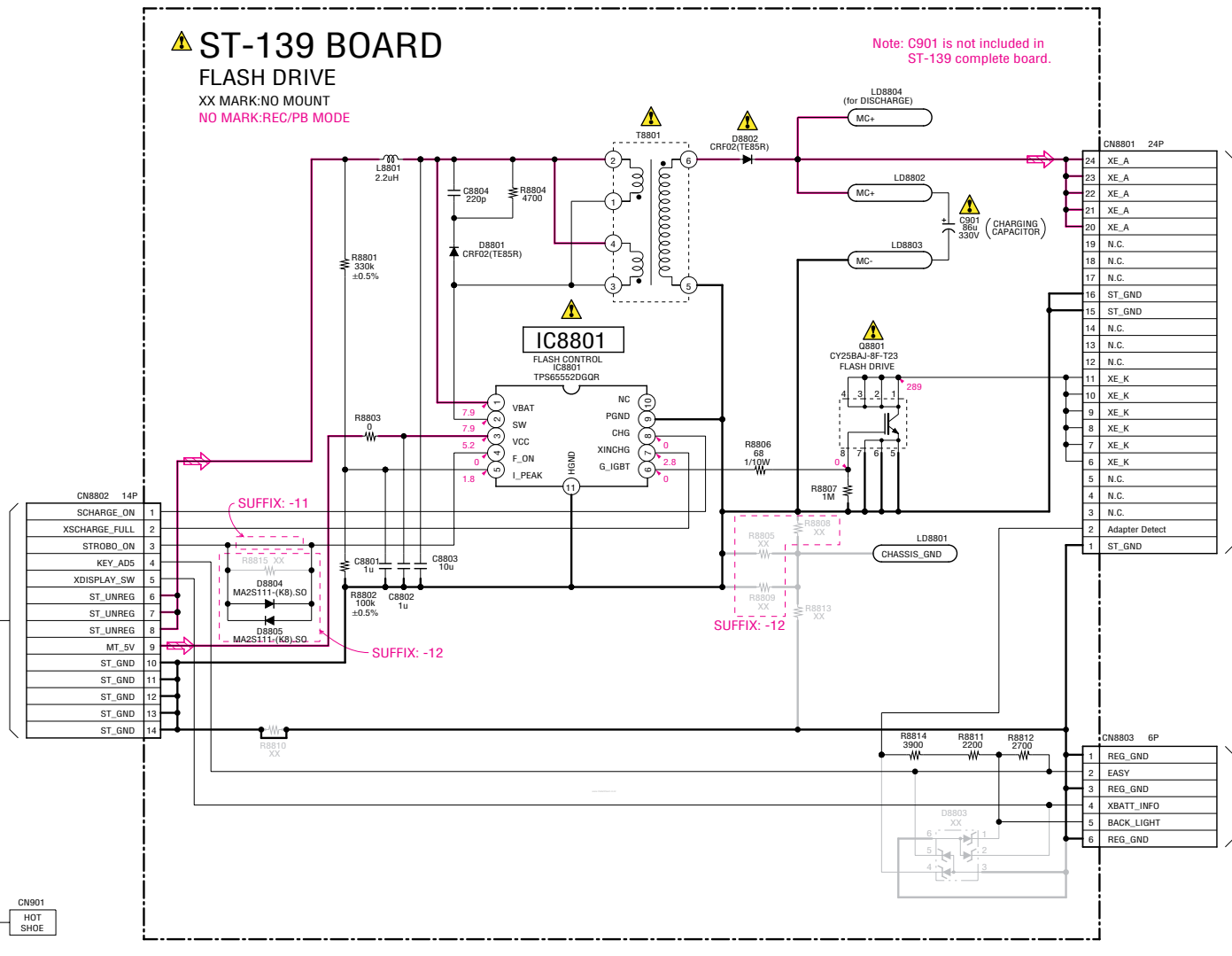
(PRINTED WIRING BOARD) is omitted.



ST-139 BOARD FLASH DRIVE

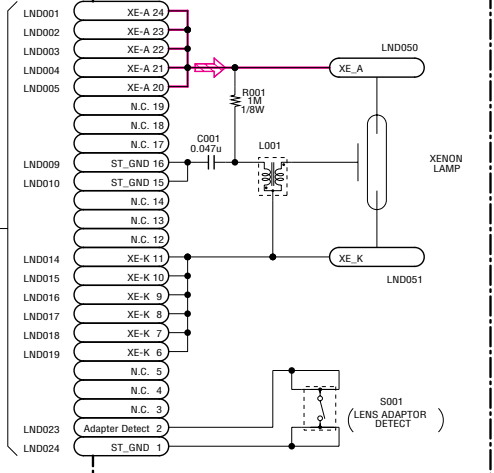
XX MARK:NO MOUNT
NO MARK:REC/PB MODE

Note: C901 is not included in ST-139 complete board.

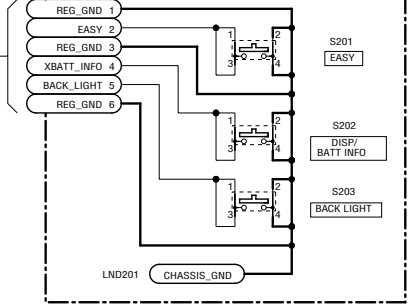


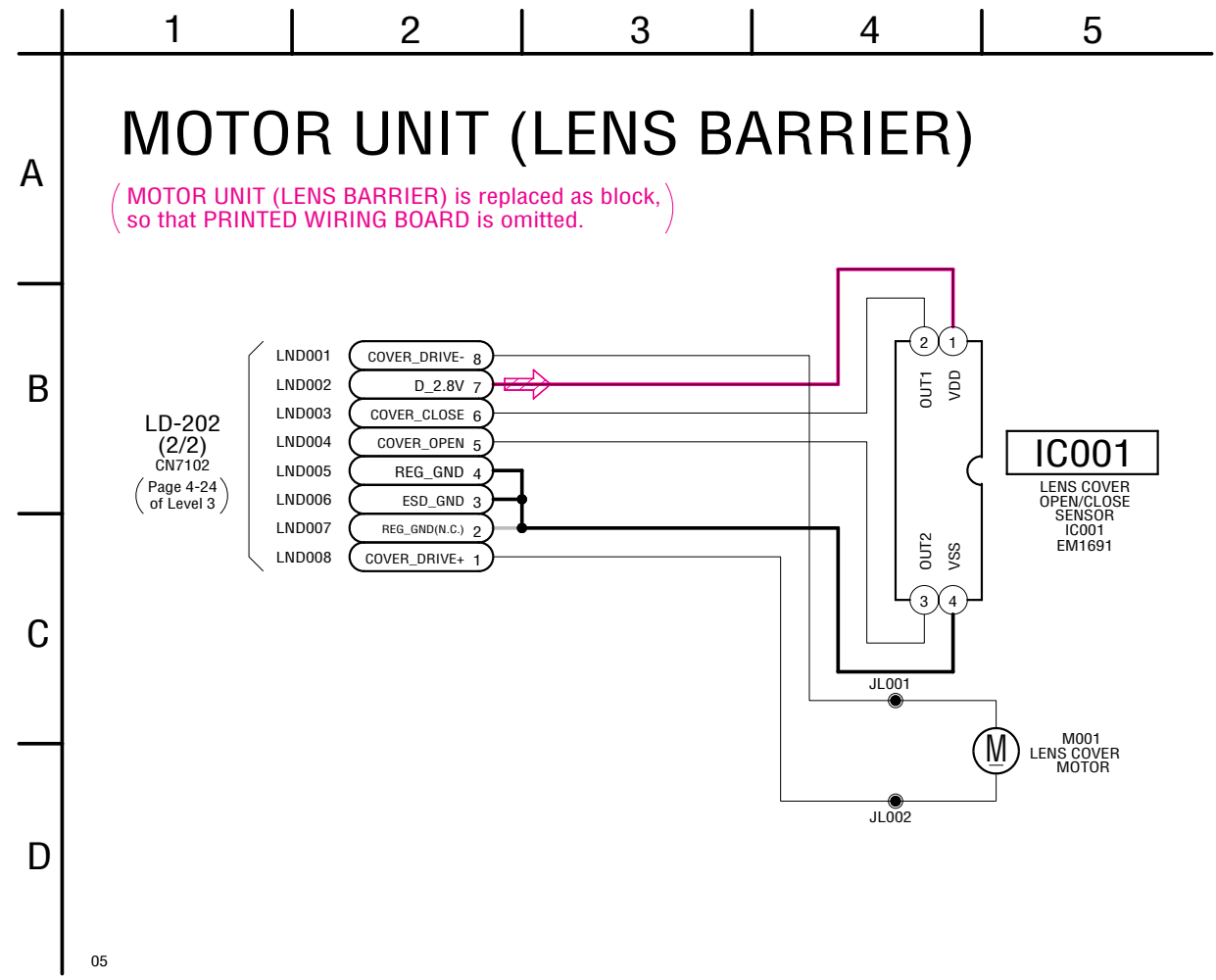
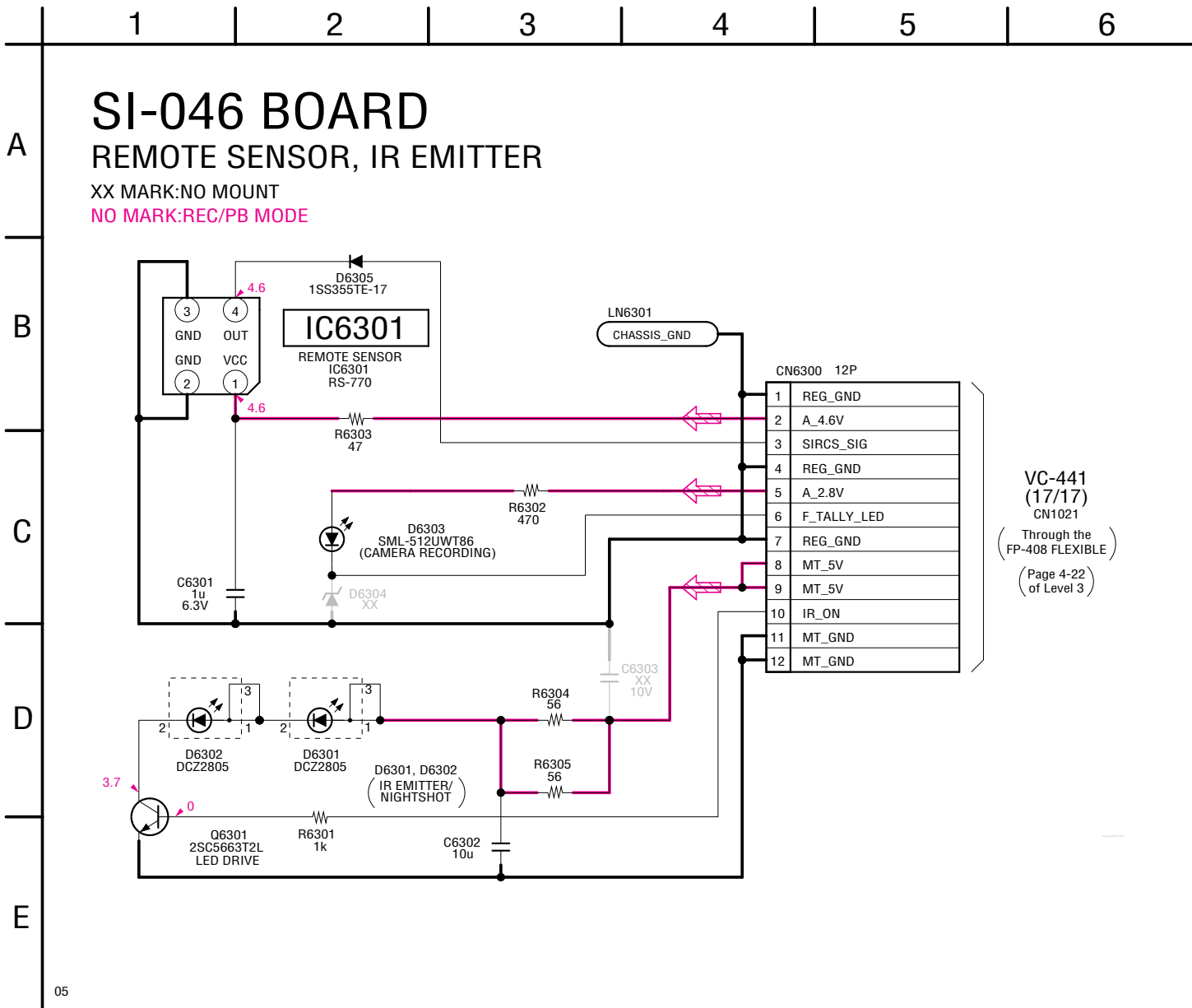
FLASH UNIT (FL18000)

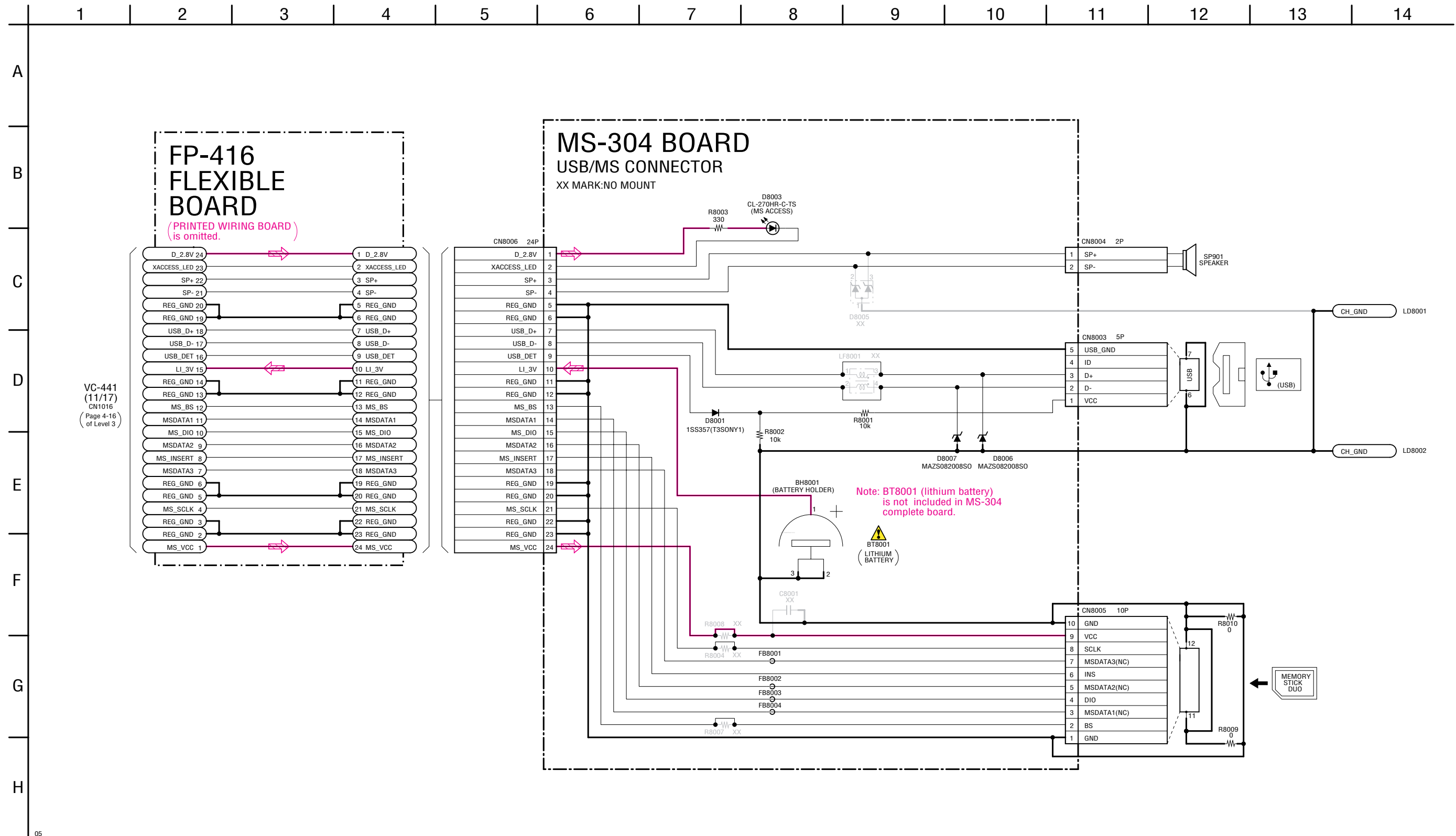
(FLASH UNIT (FL18000) is replaced as block, so that PRINTED WIRING BOARD is omitted.)



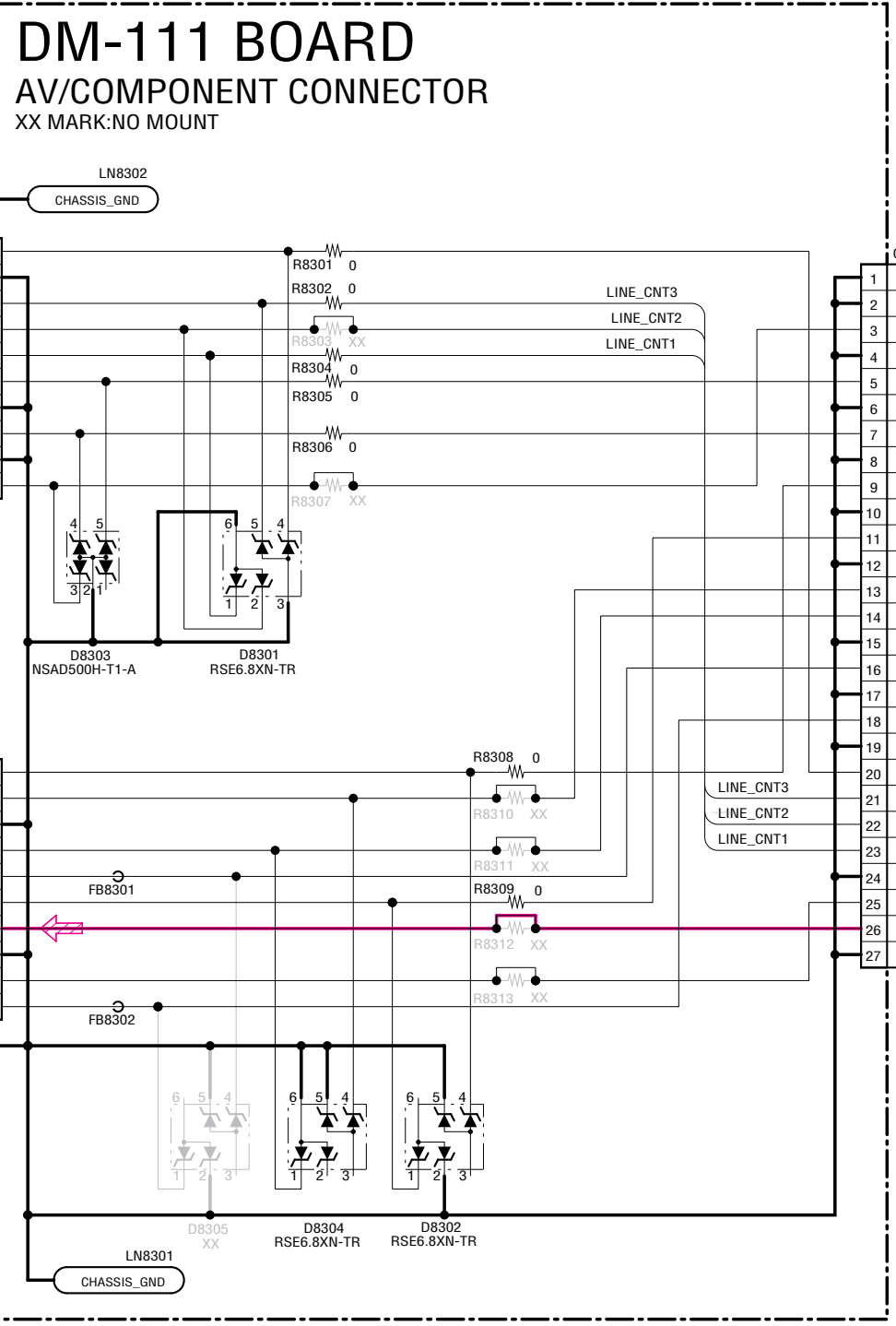
FP-421 FLEXIBLE BOARD FUNCTION SWITCH





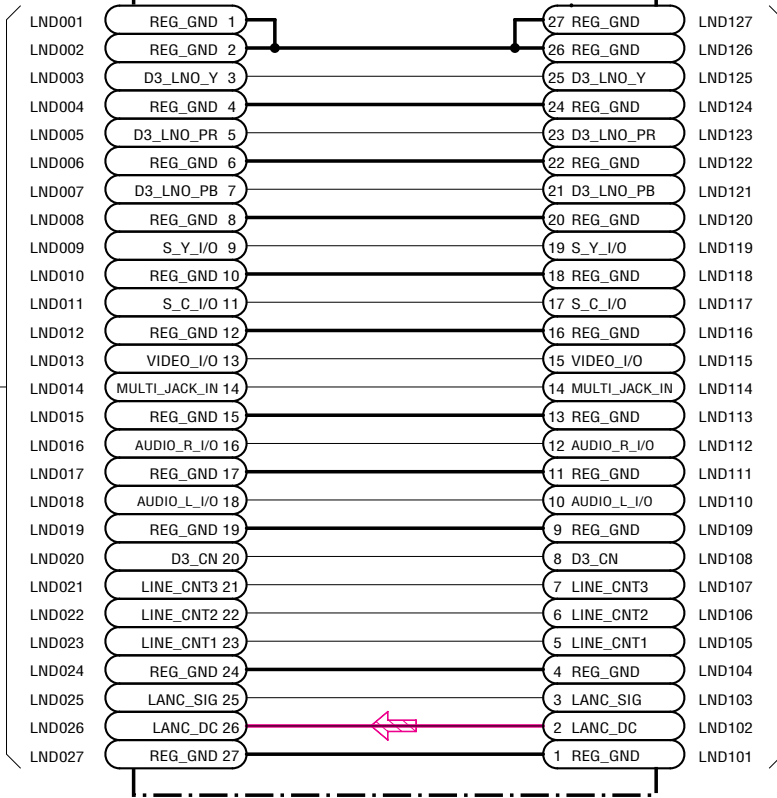


A
B
C
D
E
F
G

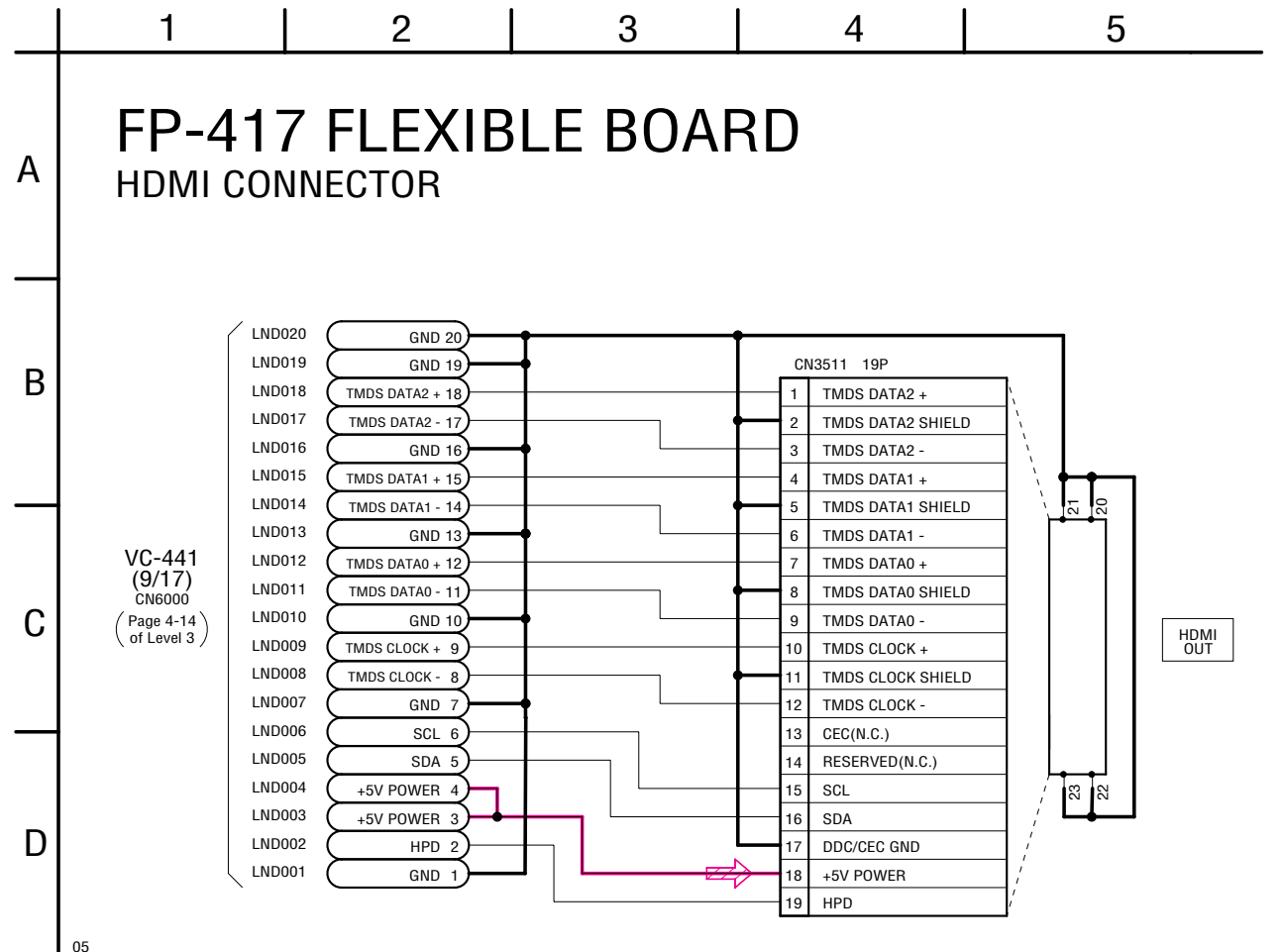
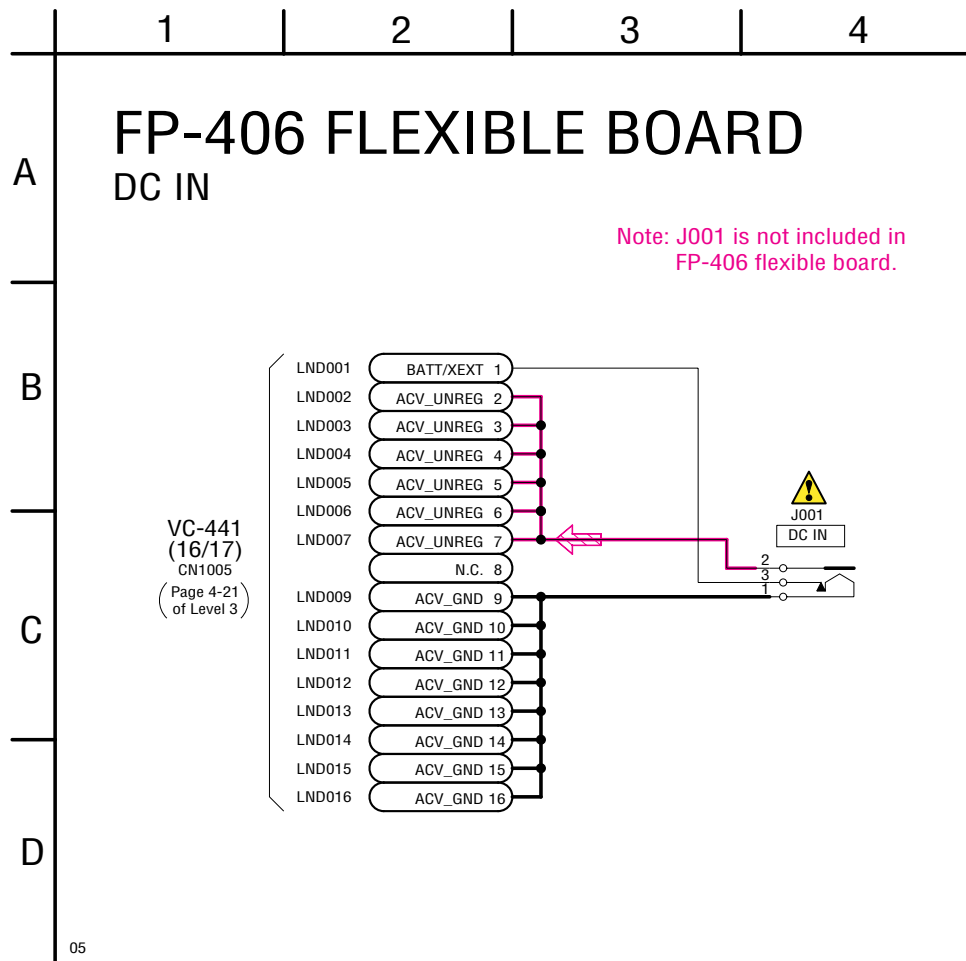
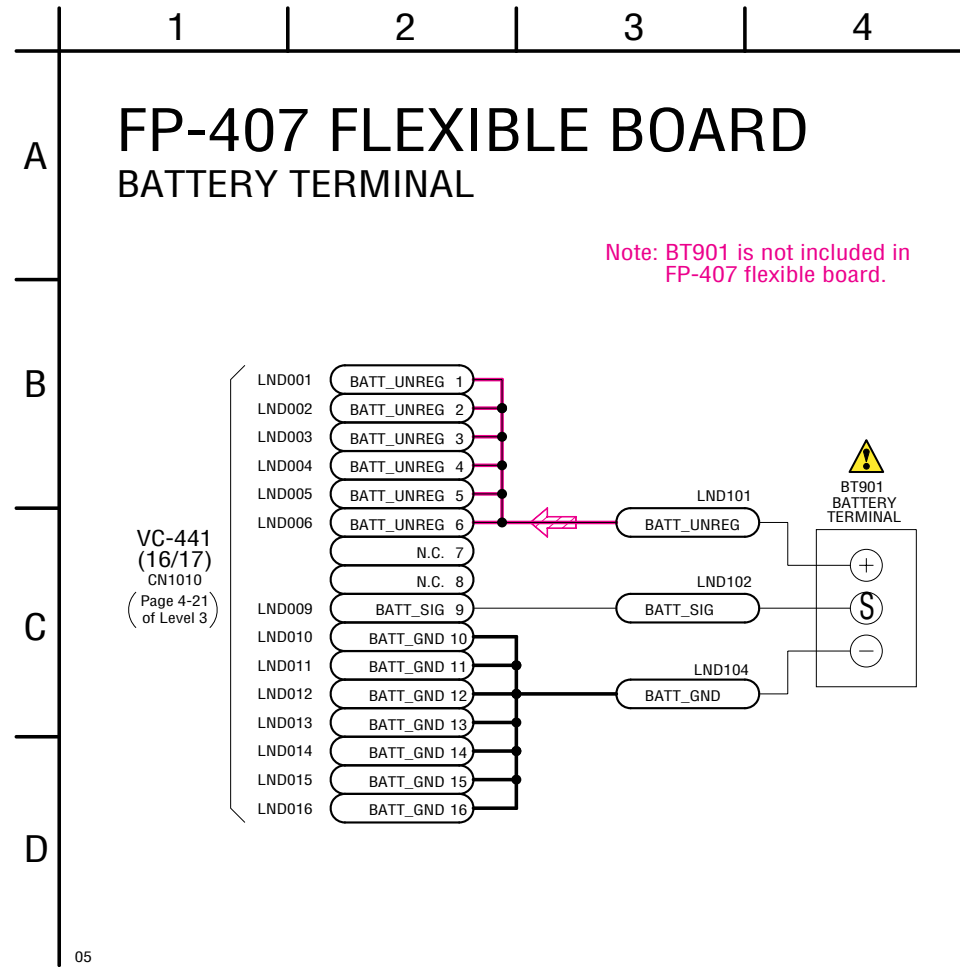
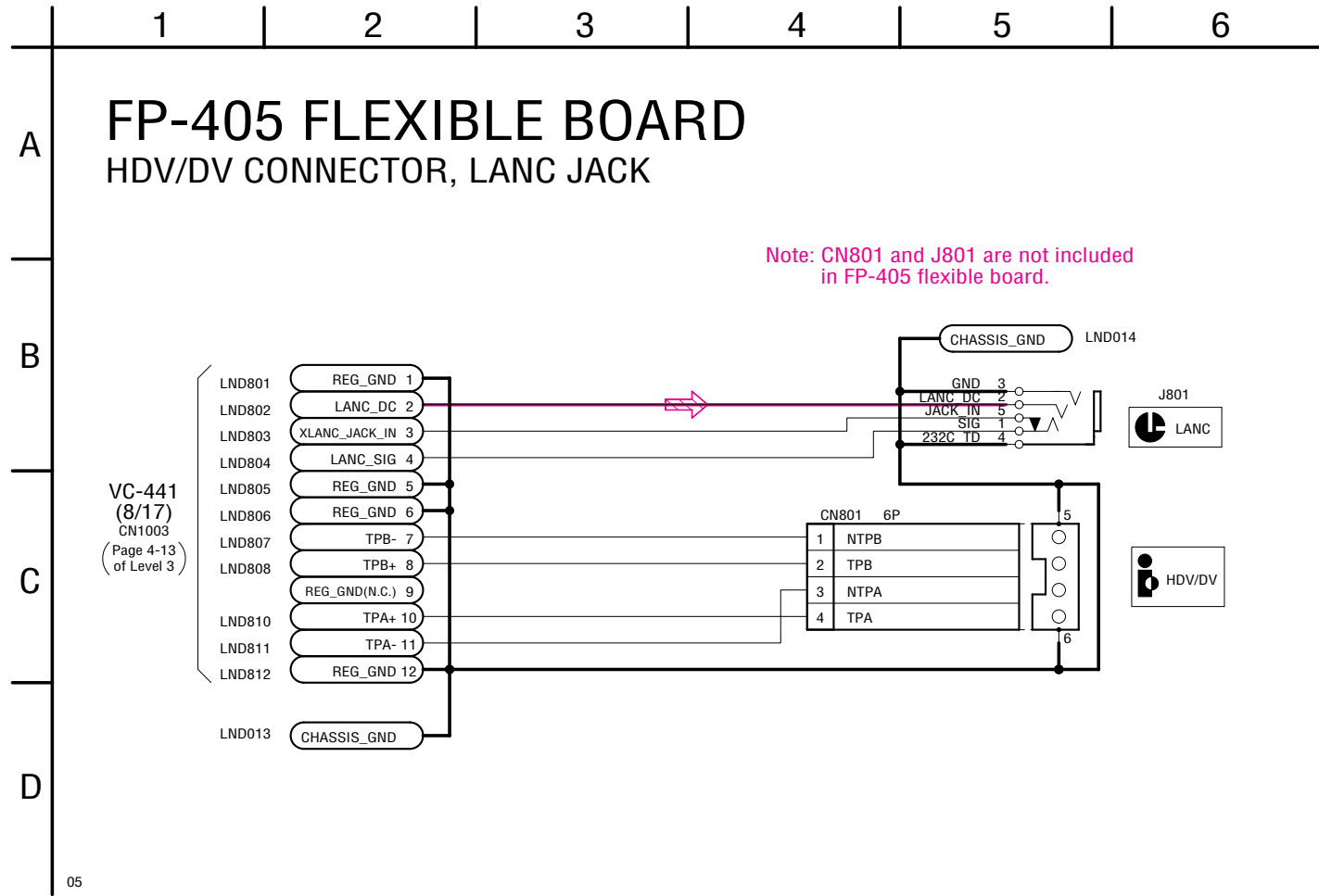


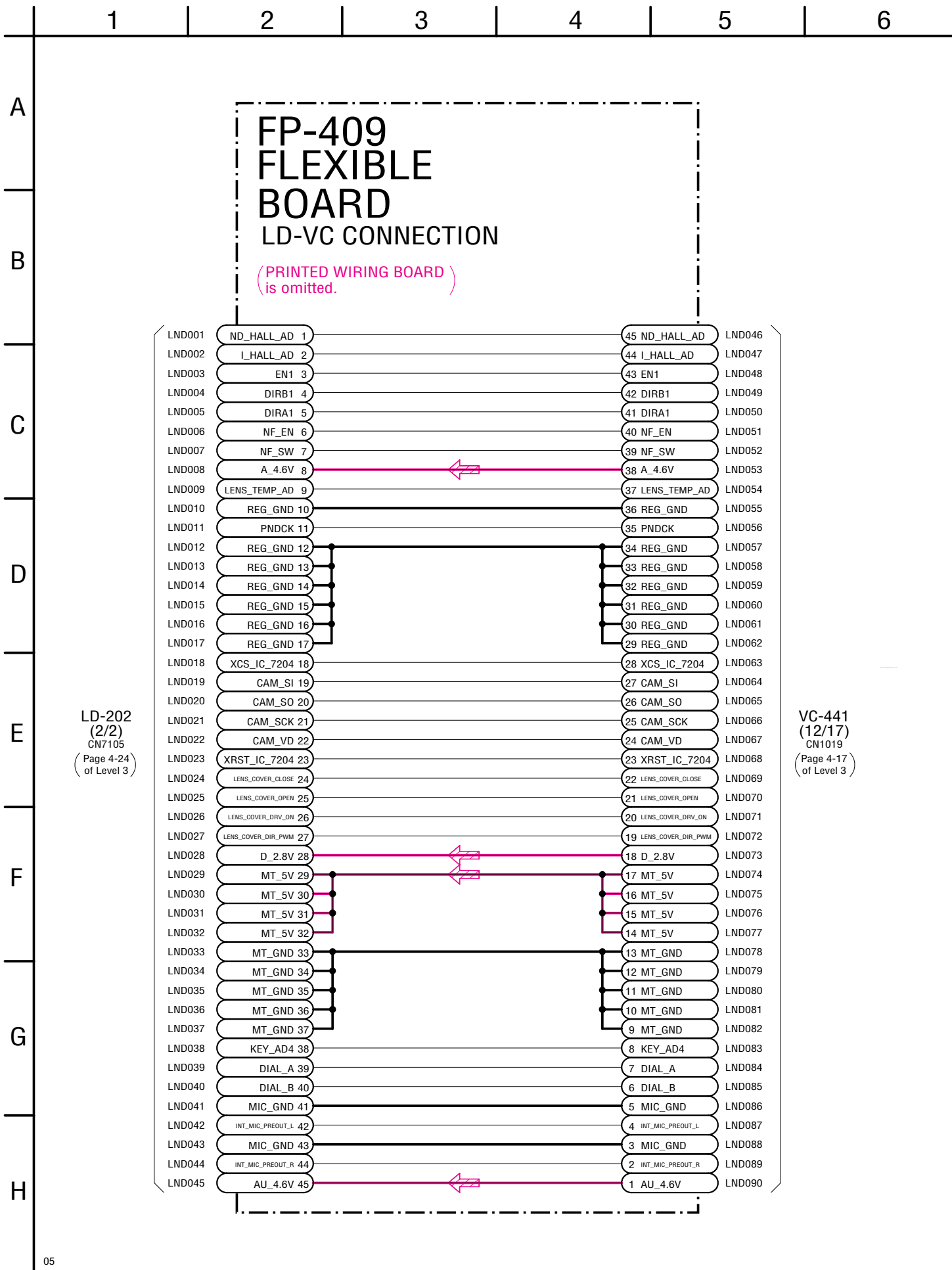
FP-415 FLEXIBLE BOARD

(PRINTED WIRING BOARD is omitted.)



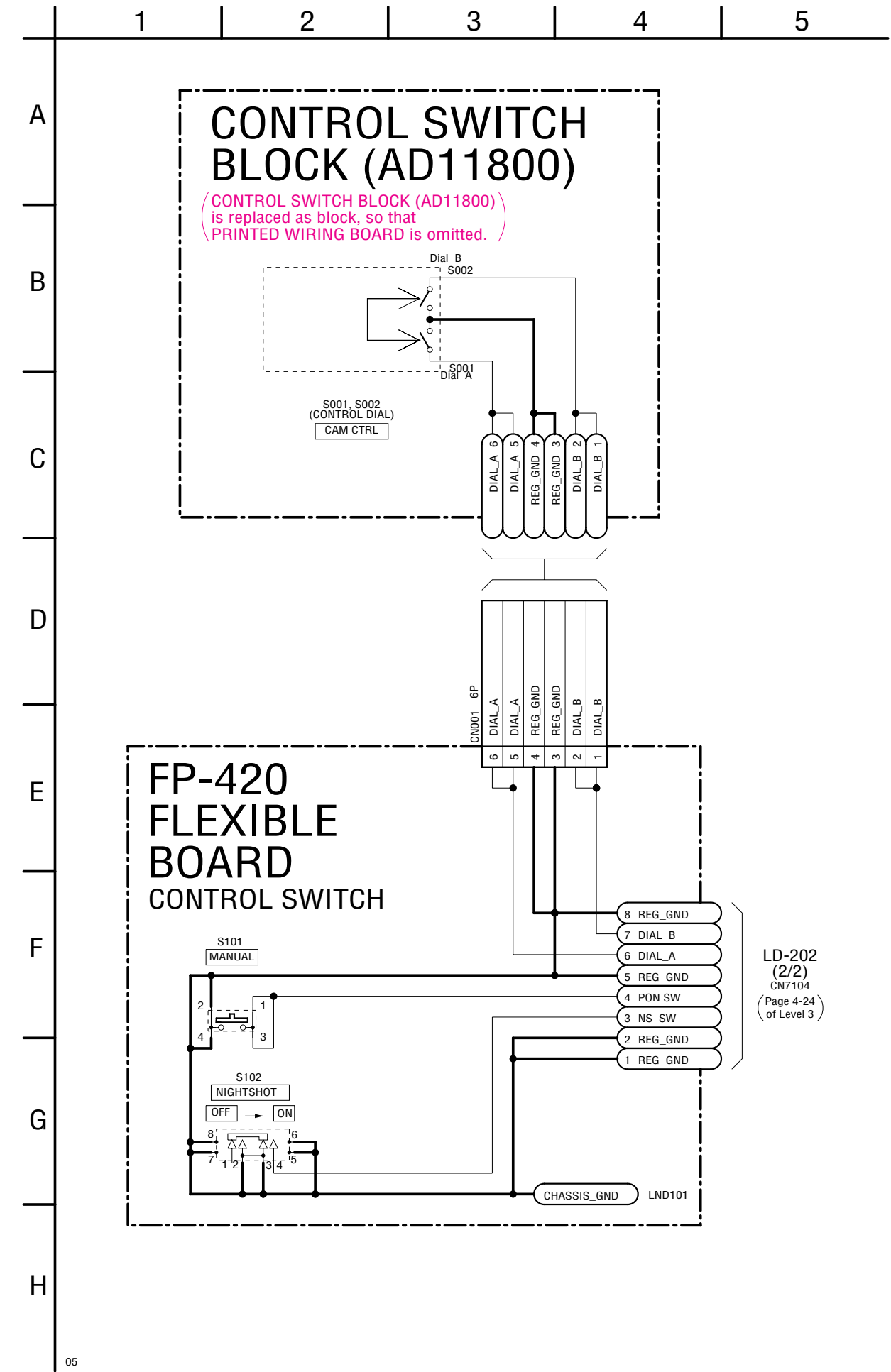
VC-441
(17/17)
CN1011
(Page 4-22
of Level 3)



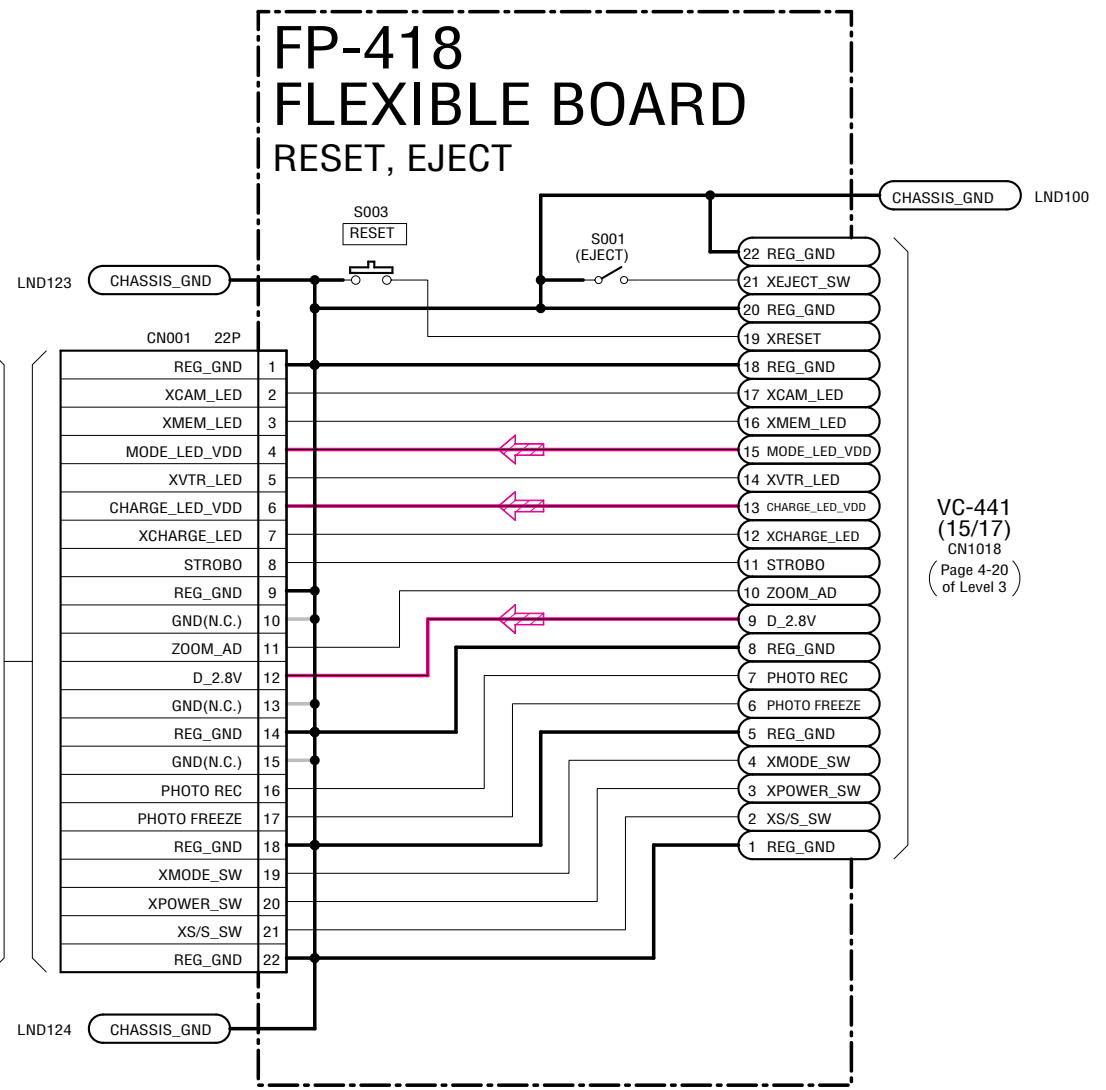
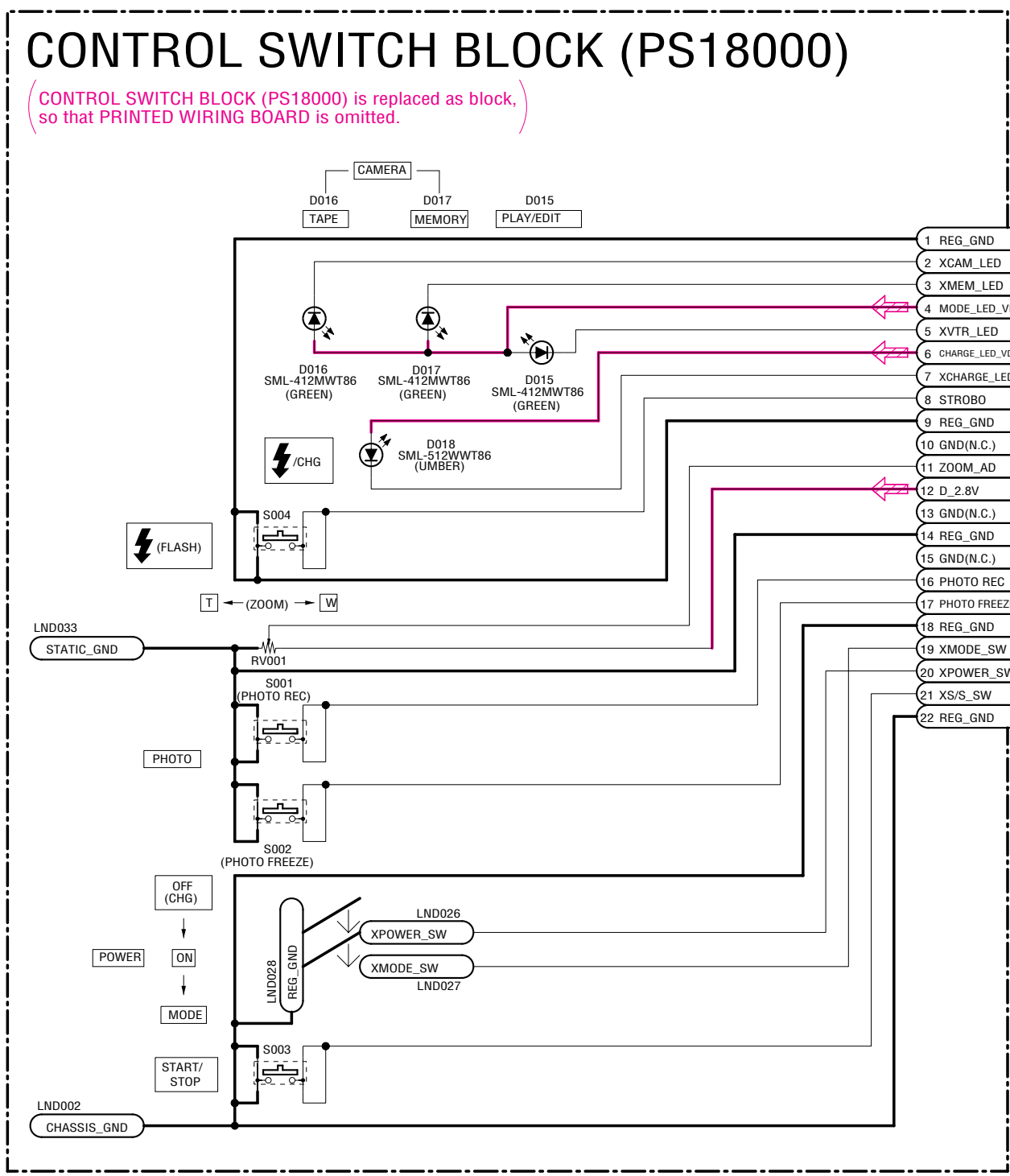


LD-202 (2/2) CN7105 (Page 4-24) of Level 3

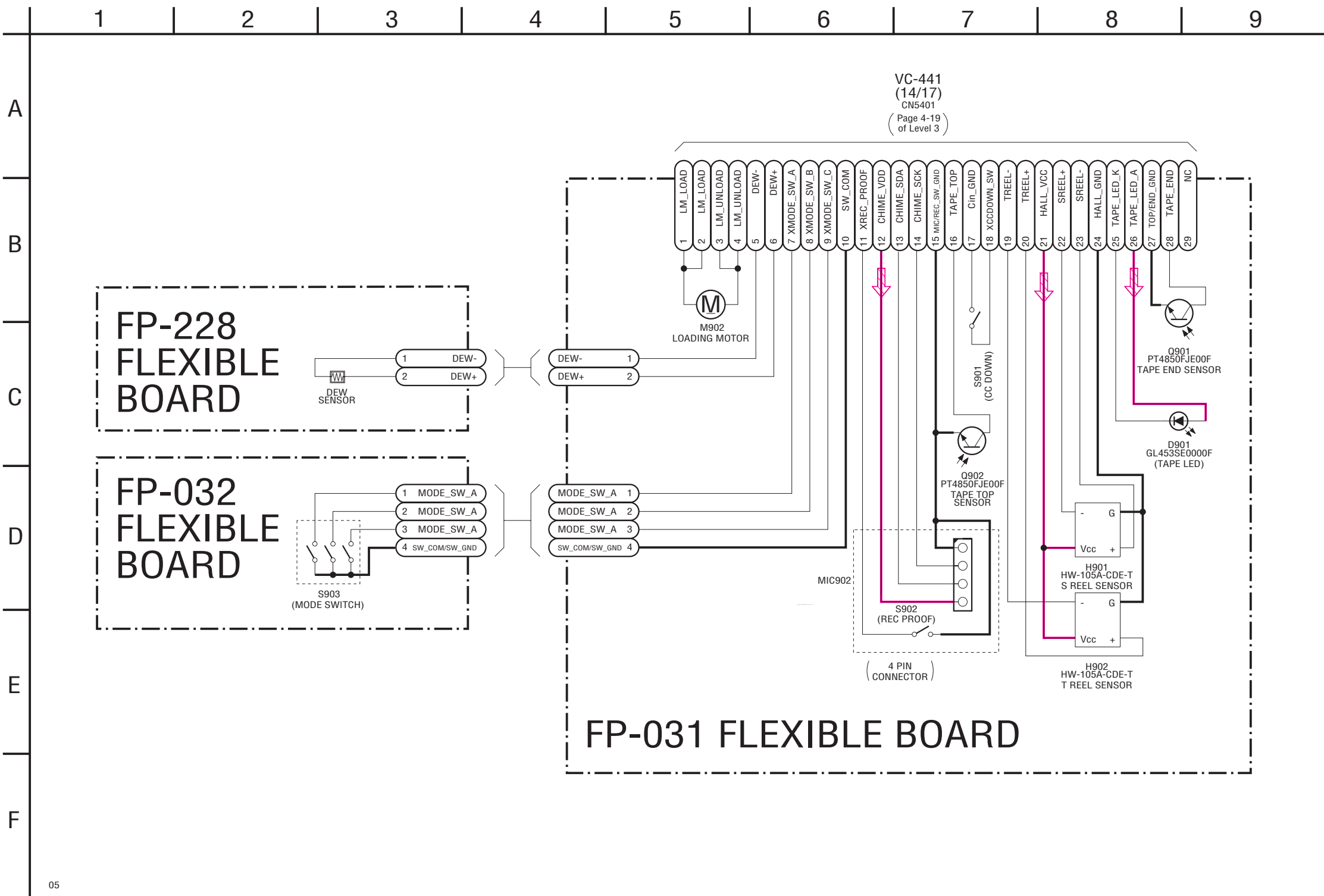
VC-441 (12/17) CN1019 (Page 4-17) of Level 3



LD-202 (2/2) CN7104 (Page 4-24) of Level 3



VC-441
(15/17)
CN1018
(Page 4-20
of Level 3)



05

4-3. PRINTED WIRING BOARDS

Link

• PD-276 BOARD (SIDE A)	• MS-304 BOARD
• PD-276 BOARD (SIDE B)	• DM-111 BOARD
• CK-159 BOARD	• FP-405 FLEXIBLE BOARD
• FP-372 FLEXIBLE BOARD	• FP-406 FLEXIBLE BOARD
• VF-175 BOARD	• FP-407 FLEXIBLE BOARD
• LB-119 BOARD	• FP-417 FLEXIBLE BOARD
• ST-139 BOARD	• FP-420 FLEXIBLE BOARD
• FP-421 FLEXIBLE BOARD	• FP-418 FLEXIBLE BOARD
• SI-046 BOARD	• FP-031, FP-032, FP-228 FLEXIBLE BOARD

[• COMMON NOTE FOR PRINTED WIRING BOARDS](#)

[• MOUNTED PARTS LOCATION](#)

4-3. PRINTED WIRING BOARDS

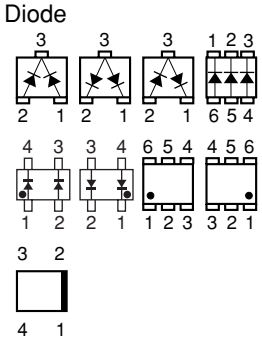
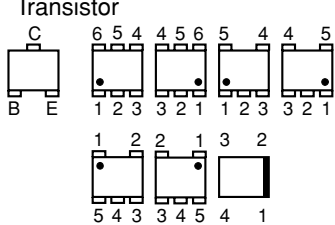
4-3. PRINTED WIRING BOARDS

(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.



(JAPANESE)

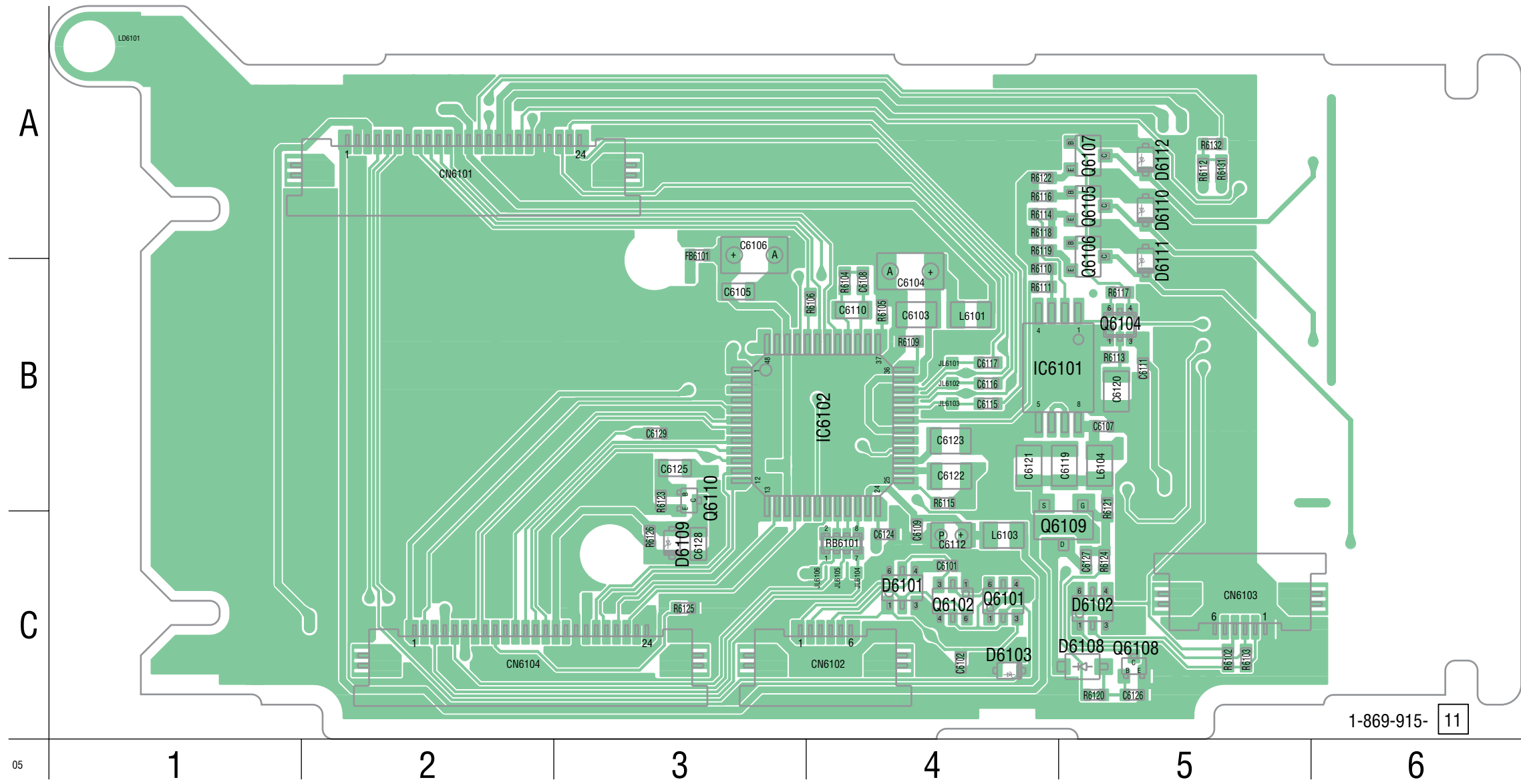
プリント図共通ノート

【プリント図ノート】

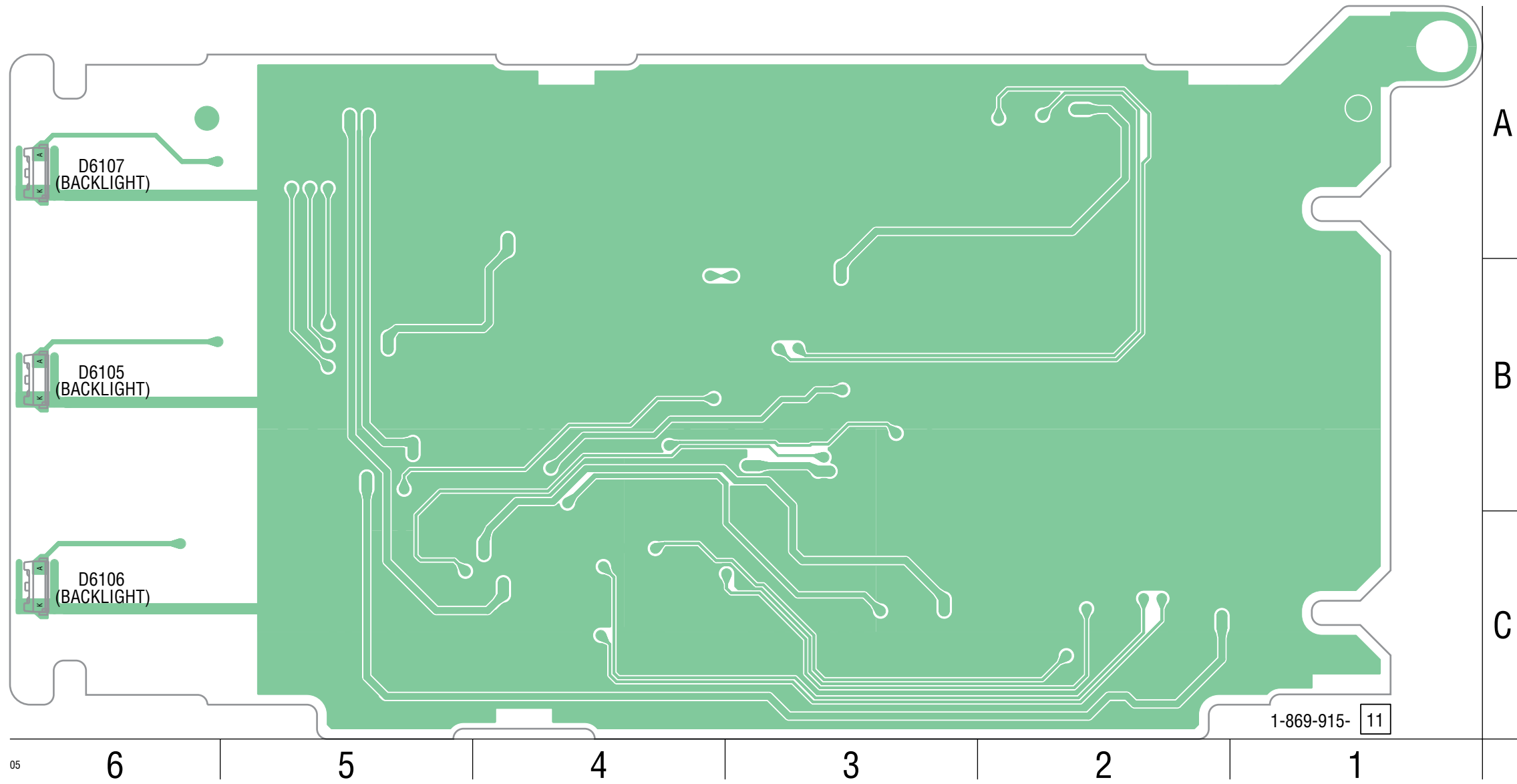
- : 無鉛半田を使用しています。
- : 基板
- : フレキシブル配線板
- : 見ている面側のパターン。
- : 裏側のパターン
(他のパターンについては表示されていません)
- スルーホールは省略。
- プリント図には、本機で使用していない部品が記載されている場合があります。
- はパネル表示名称。

Printed wiring boards of the CM-071, VC-441 and LD-202 boards are not shown.
Pages from 4-39 to 4-42 are not shown.

PD-276 BOARD (SIDE A)

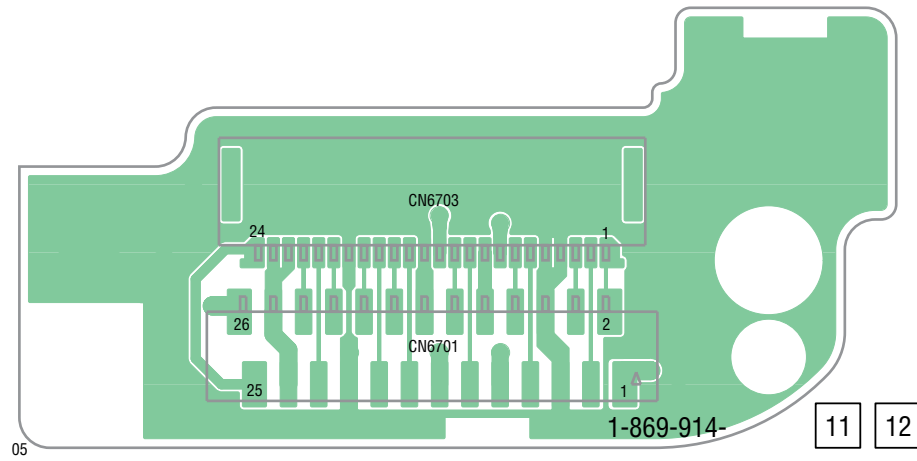


PD-276 BOARD (SIDE B)

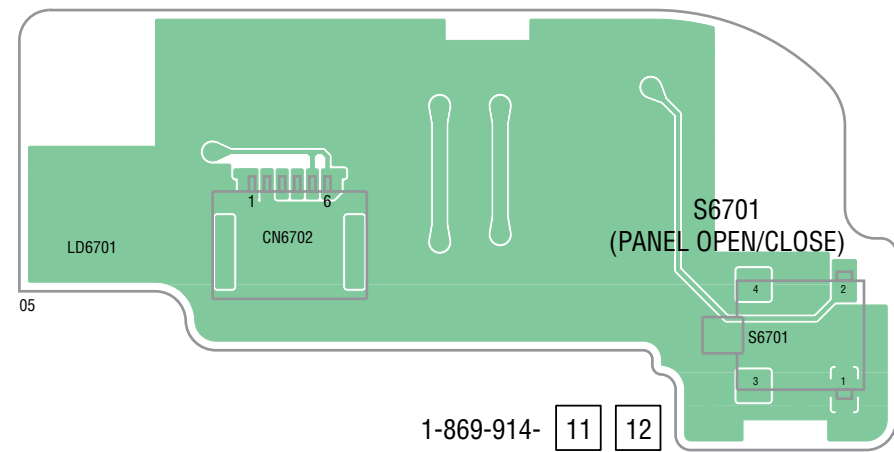


: Uses unleaded solder.

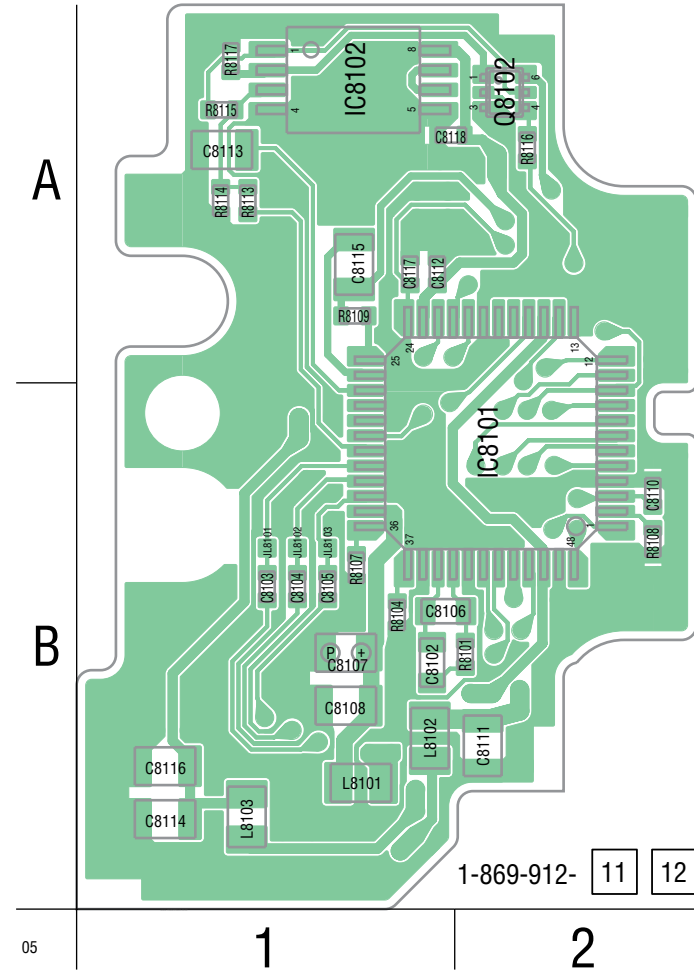
CK-159 BOARD (SIDE A)



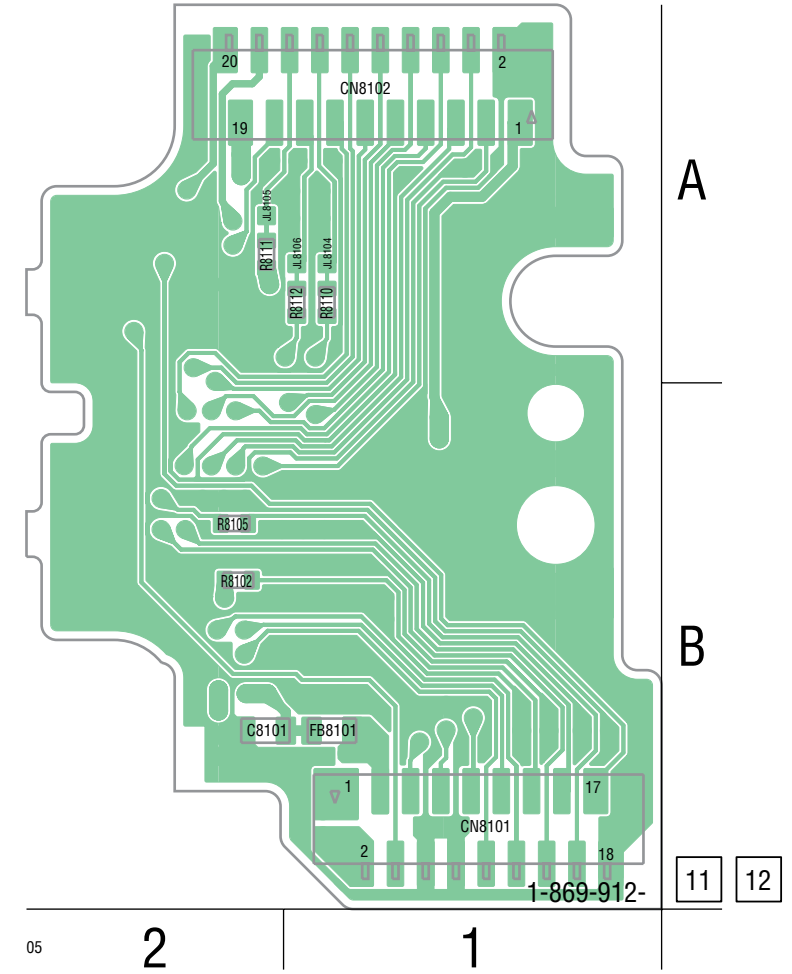
CK-159 BOARD (SIDE B)



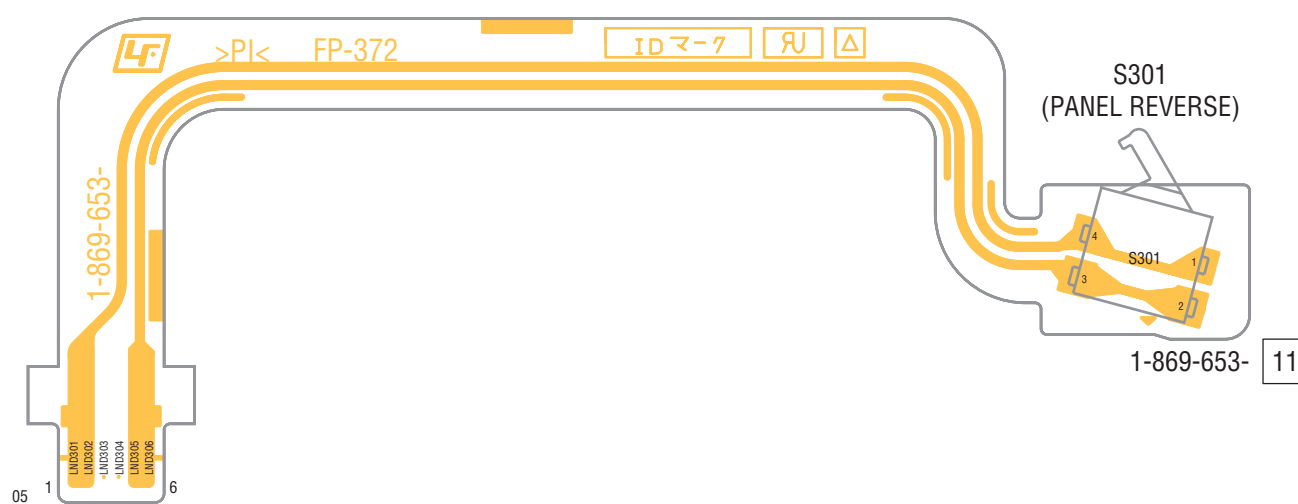
VF-175 BOARD (SIDE A)



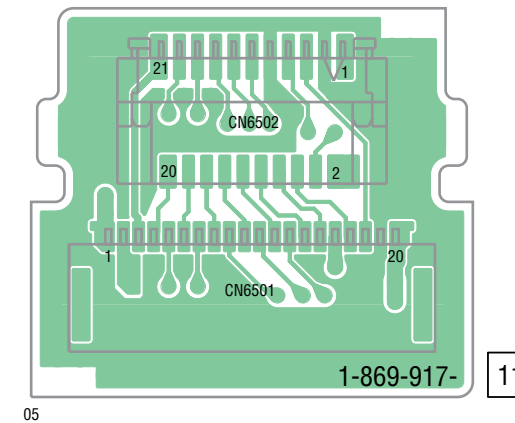
VF-175 BOARD (SIDE B)



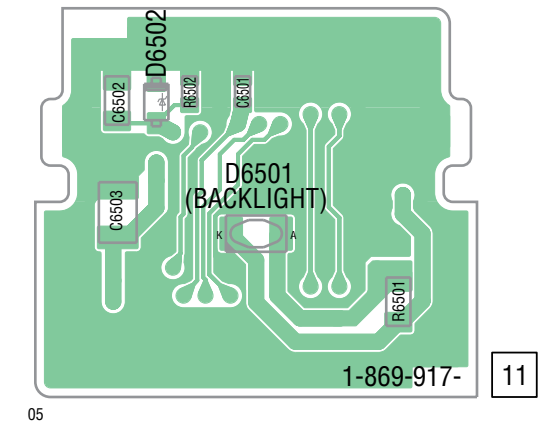
FP-372 FLEXIBLE BOARD



LB-119 BOARD (SIDE A)



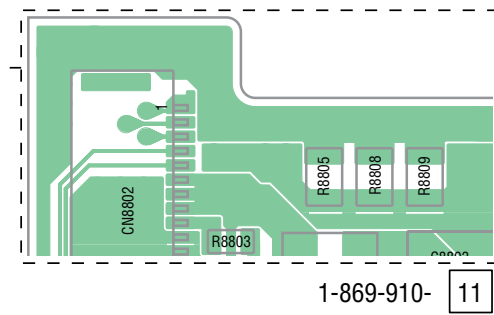
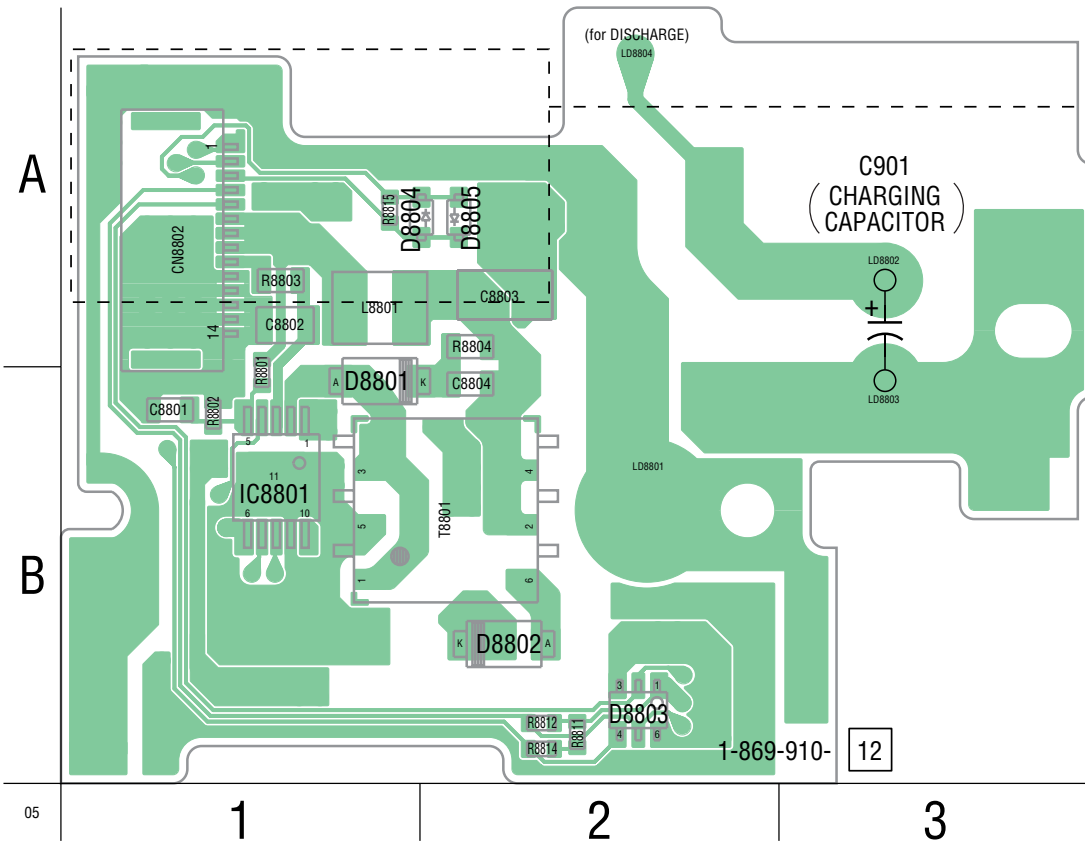
LB-119 BOARD (SIDE B)



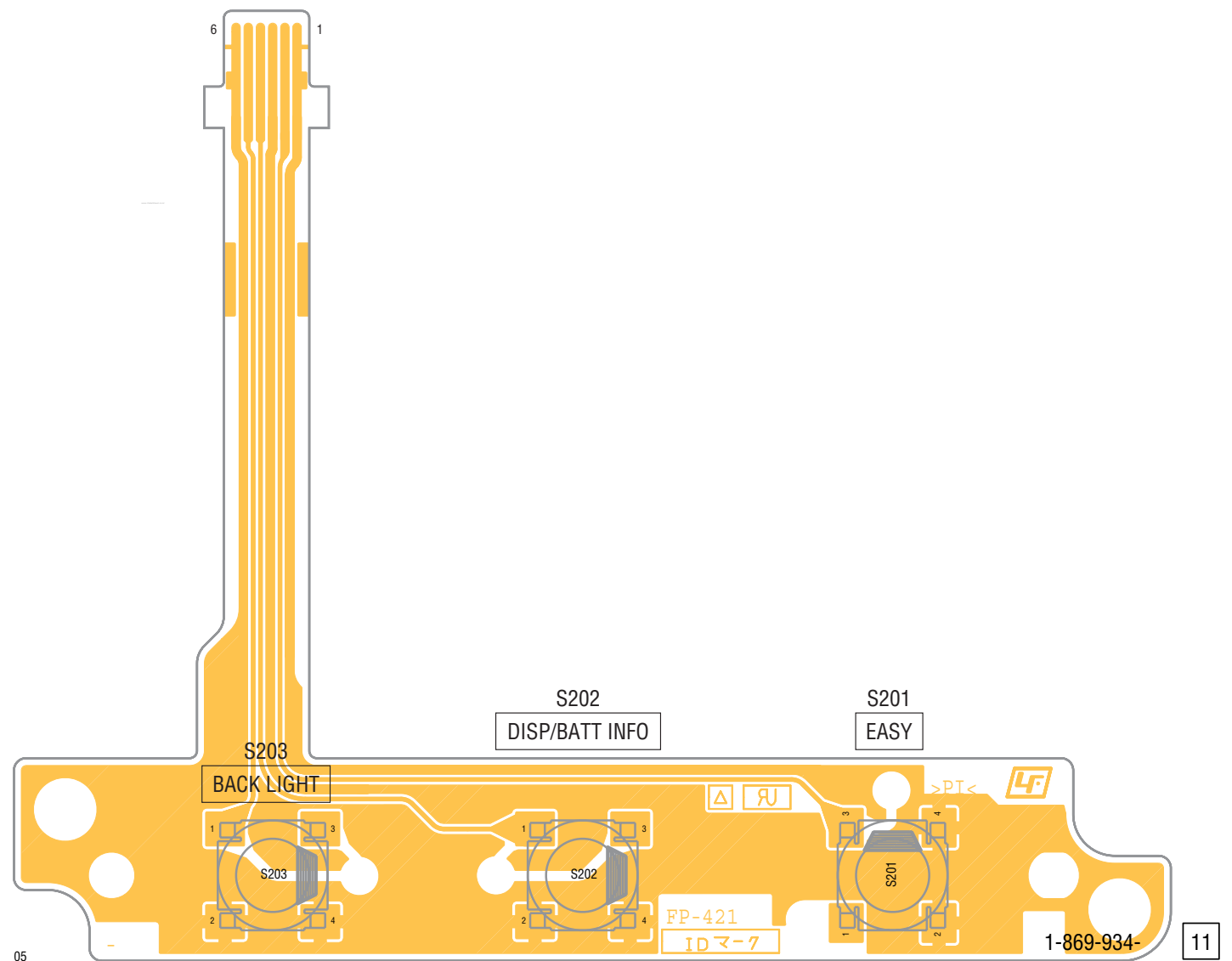
 : Uses unleaded solder.

ST-139 BOARD (SIDE A)

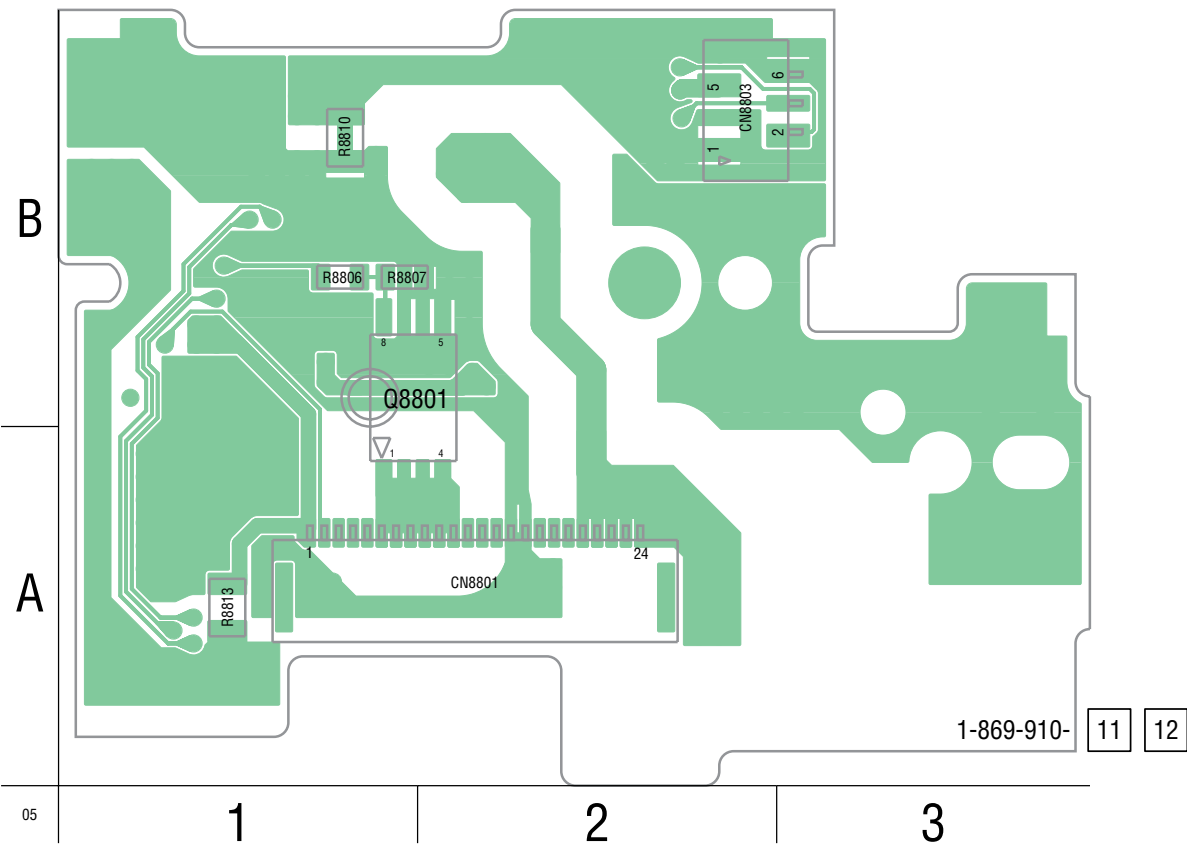
Note: C901 is not included in ST-139 complete board.



FP-421 FLEXIBLE BOARD

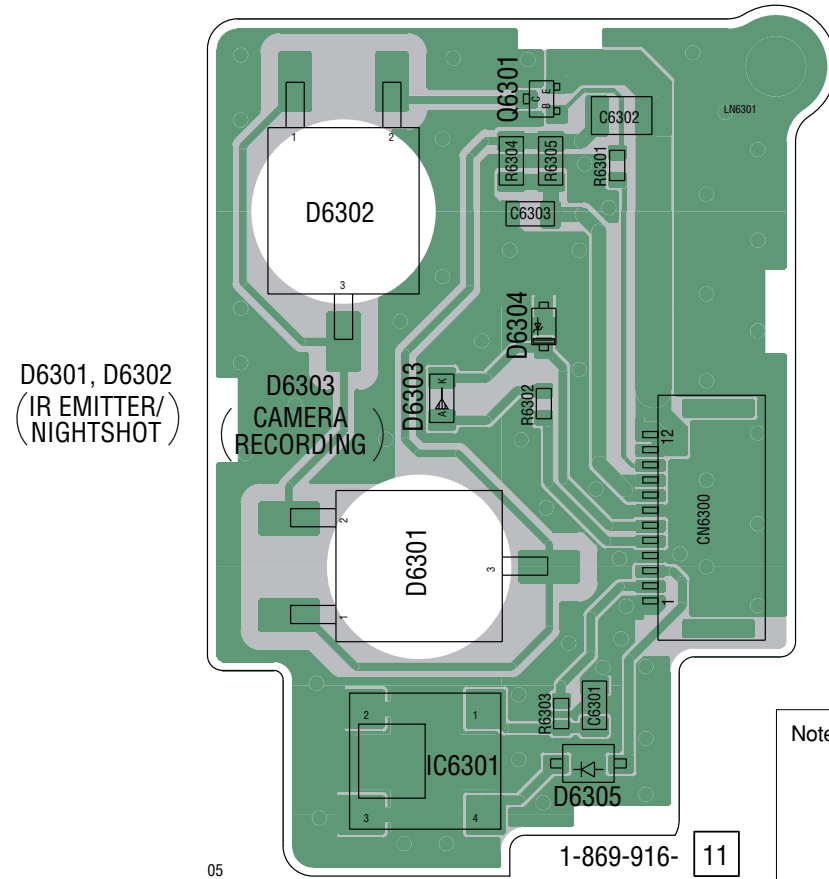


ST-139 BOARD (SIDE B)



 : Uses unleaded solder.

SI-046 BOARD



Note: Replace the battery holder (BH8001) together when replacing the lithium battery (BT8001) on the MS-304 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.

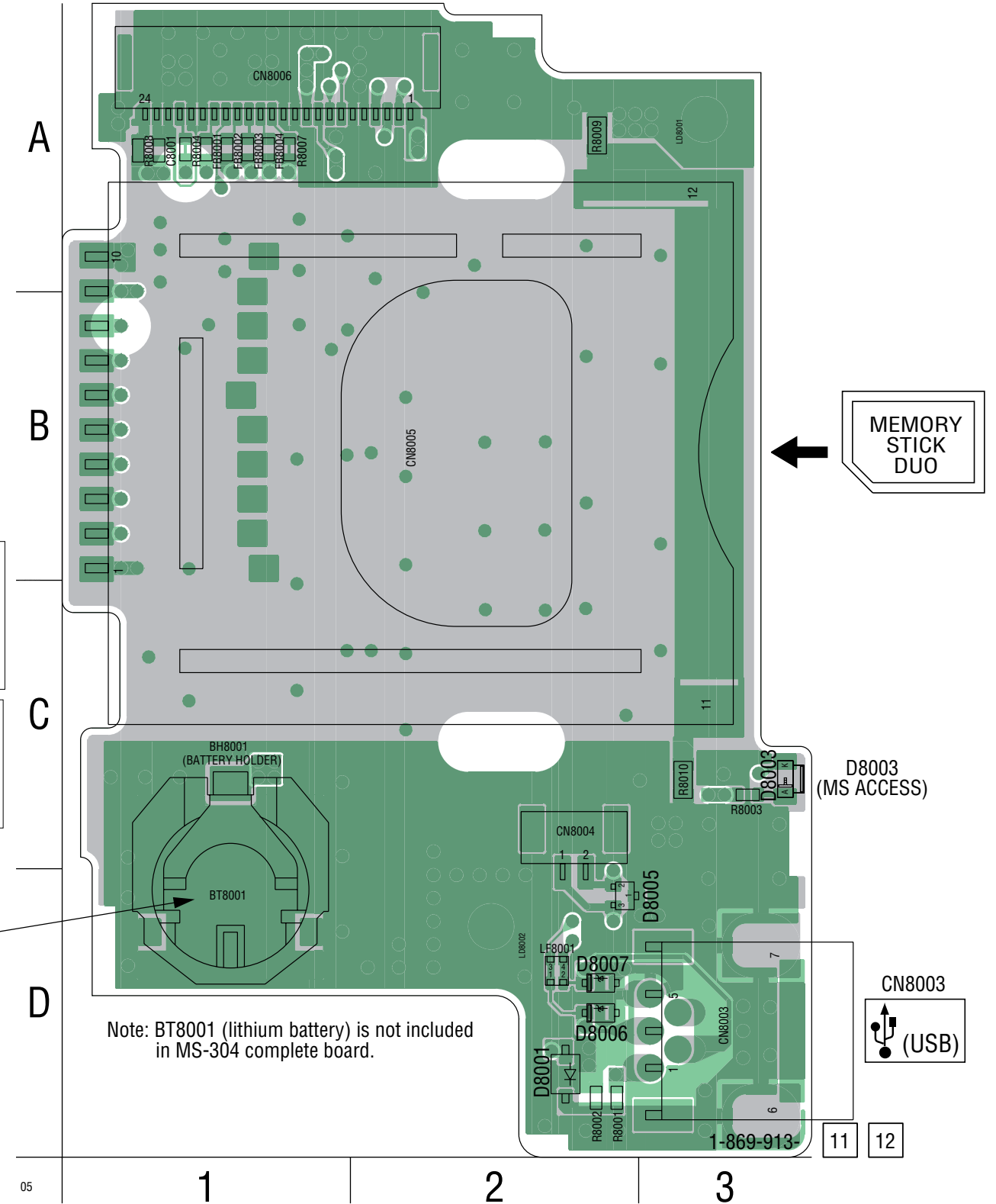
ノート: MS-304基板のリチウム電池 (BT8001) を交換する場合はバッテリーホルダ (BH8001) も同時に新品に交換して下さい。(一度使用したバッテリーホルダは再使用できません。)
部品取り付けの際は、先にバッテリーホルダを取り付けてからリチウム電池を装着して下さい。

BT8001
BATTERY,
LITHIUM SECONDARY

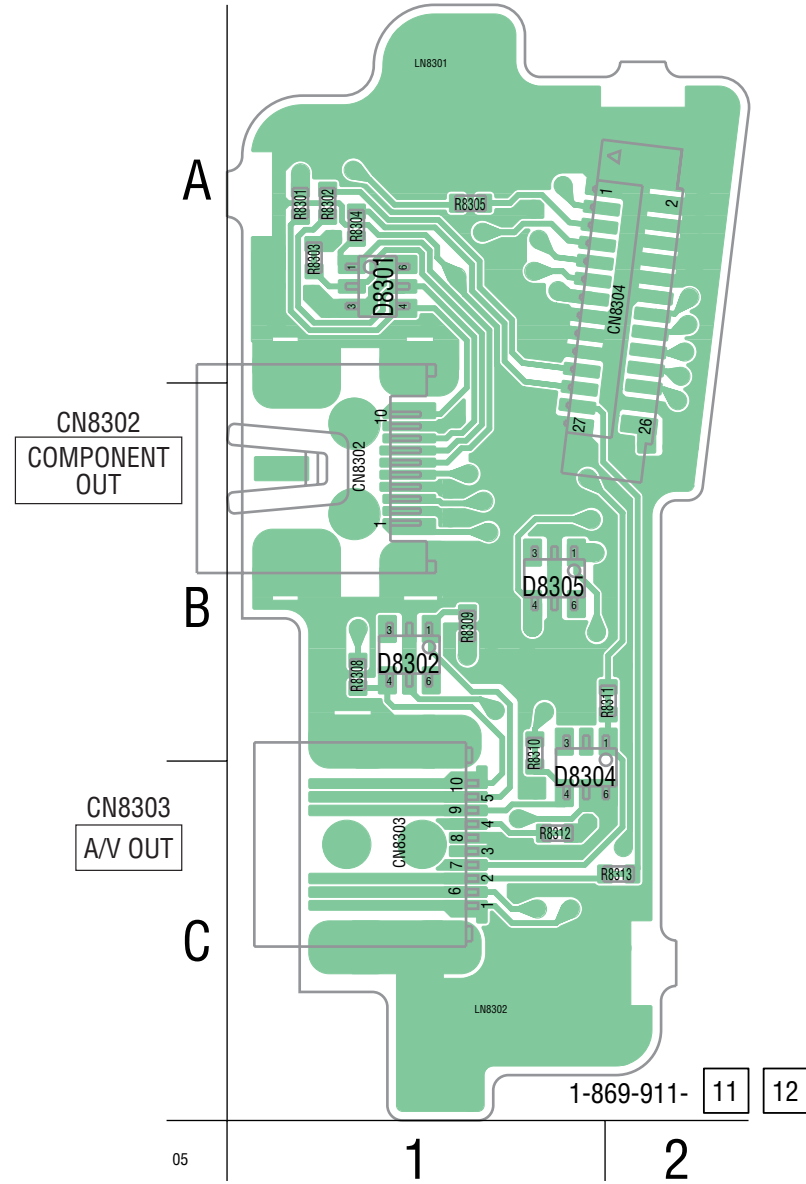
CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

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。

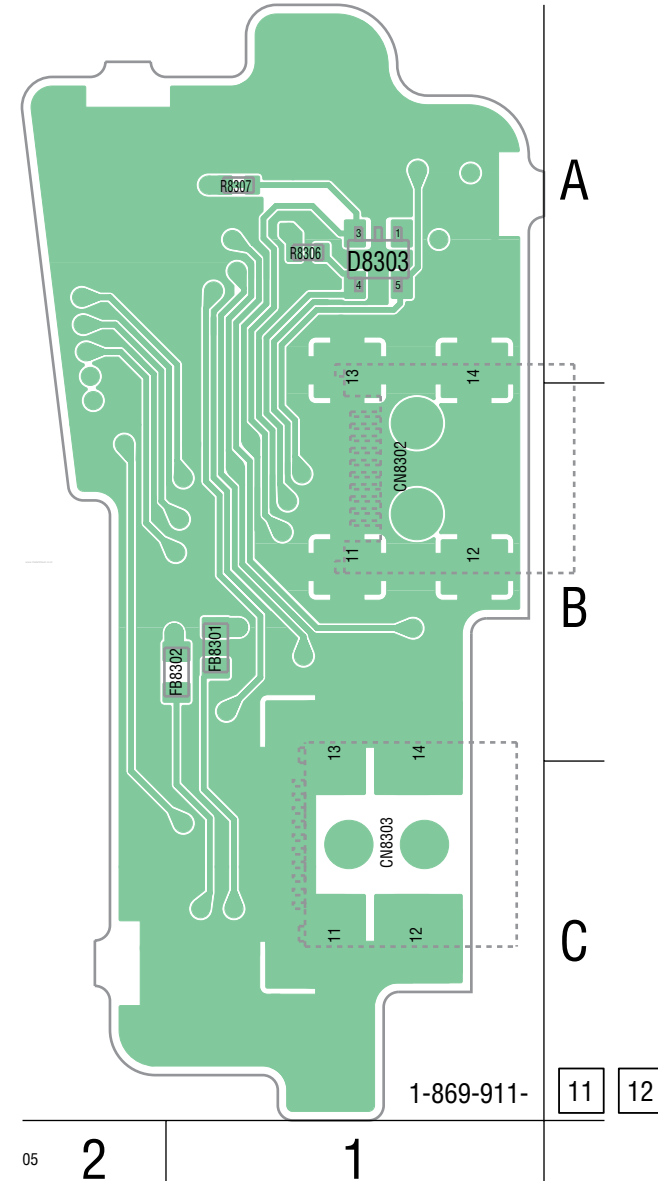
MS-304 BOARD



DM-111 BOARD (SIDE A)



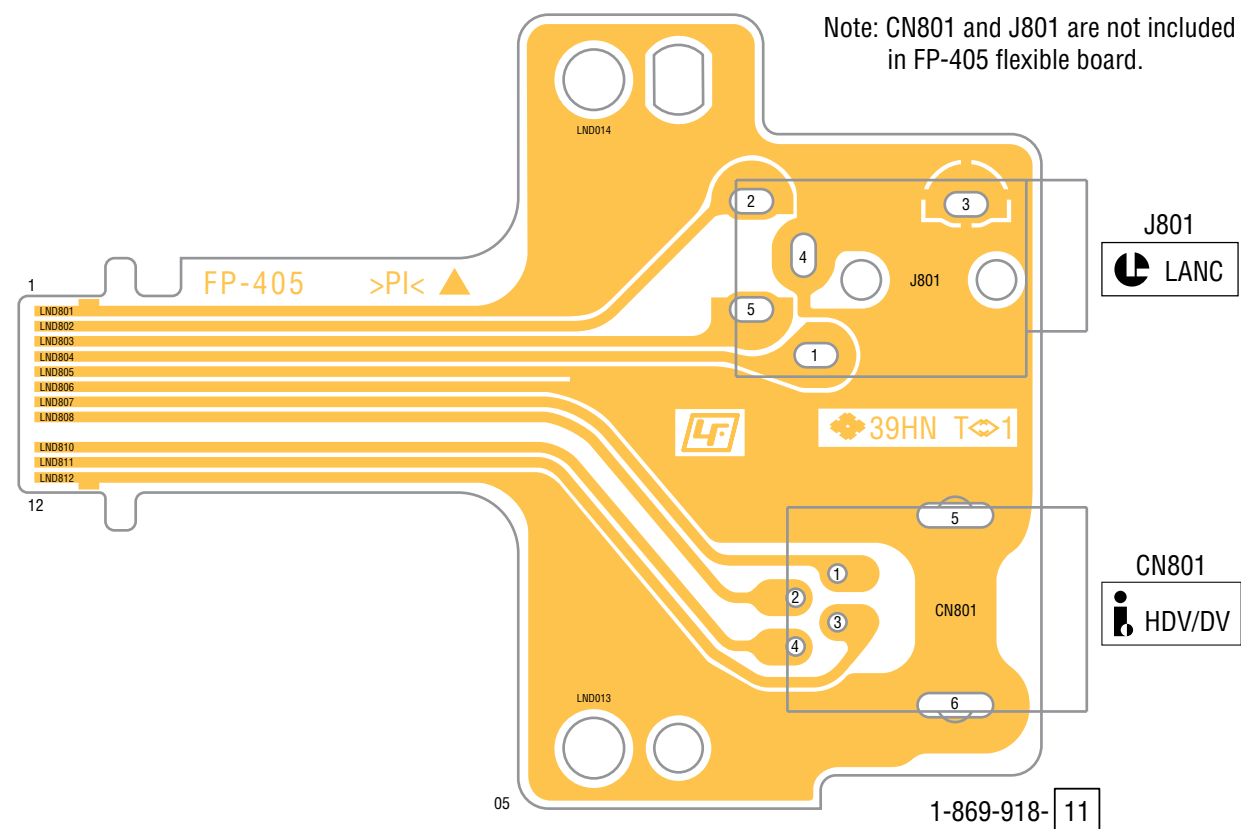
DM-111 BOARD (SIDE B)



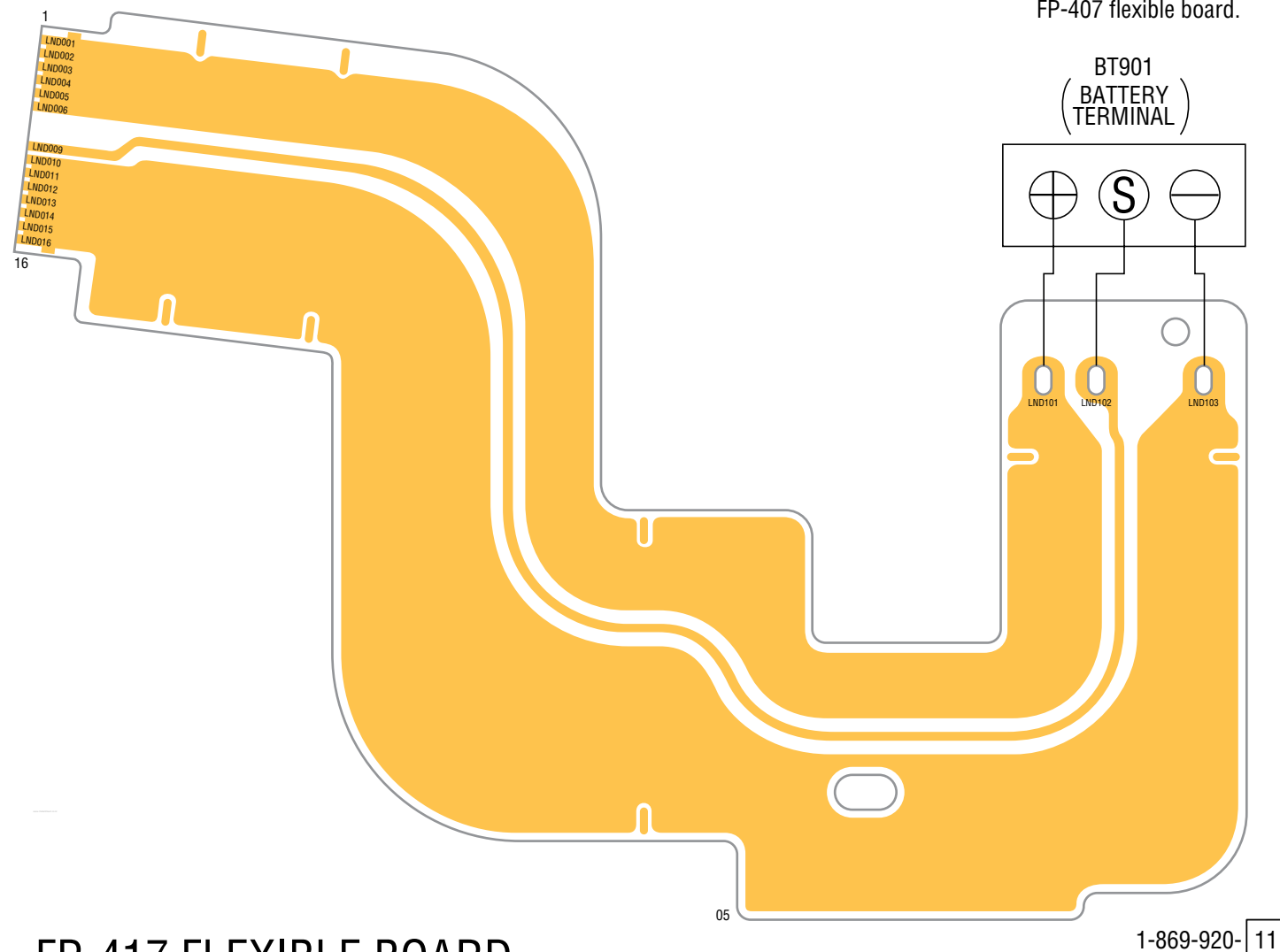
FP-405 (1 layer), FP-406 (1 layer), FP-407 (1 layer), FP-417 (2 layers)

LF : Uses unleaded solder.

FP-405 FLEXIBLE BOARD

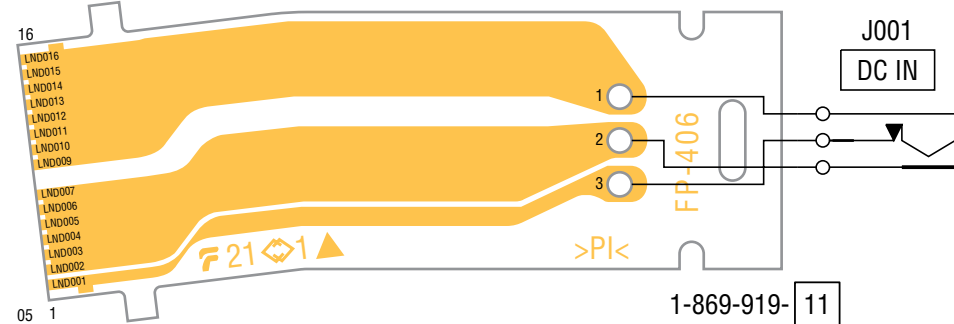


FP-407 FLEXIBLE BOARD

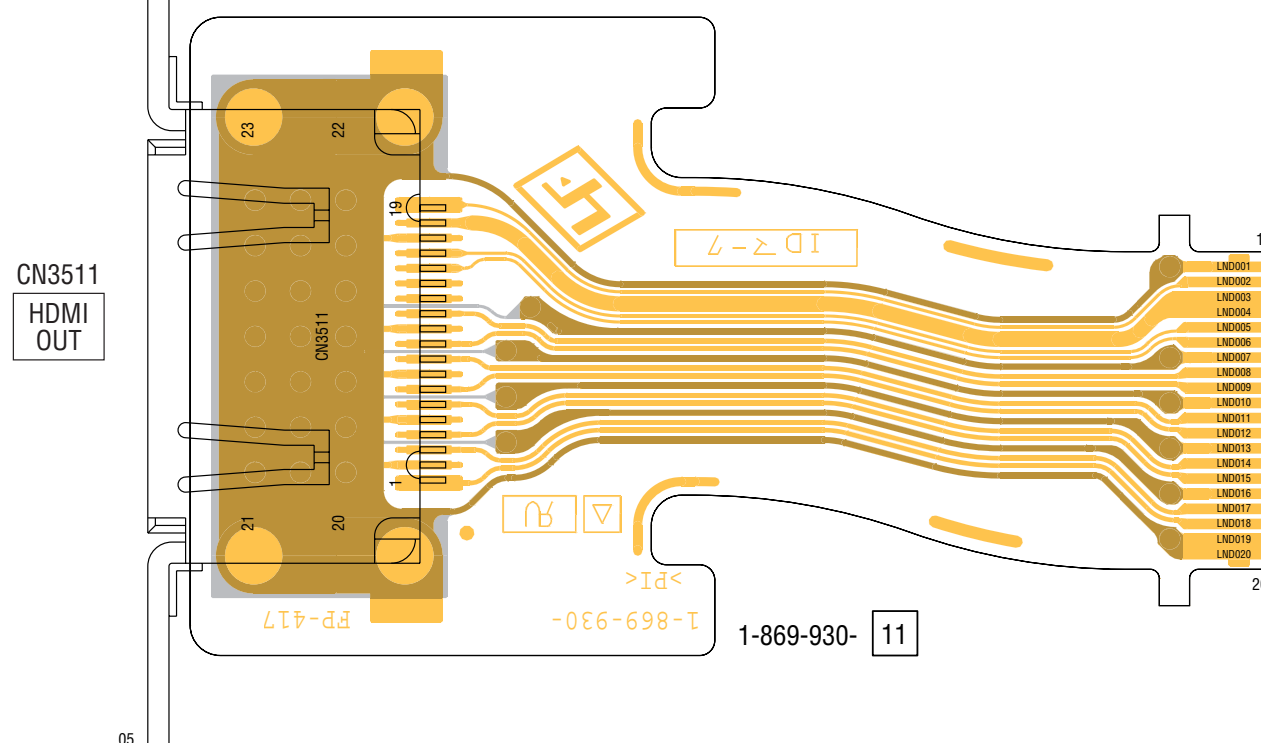


FP-406 FLEXIBLE BOARD

Note: J001 is not included in FP-406 flexible board.

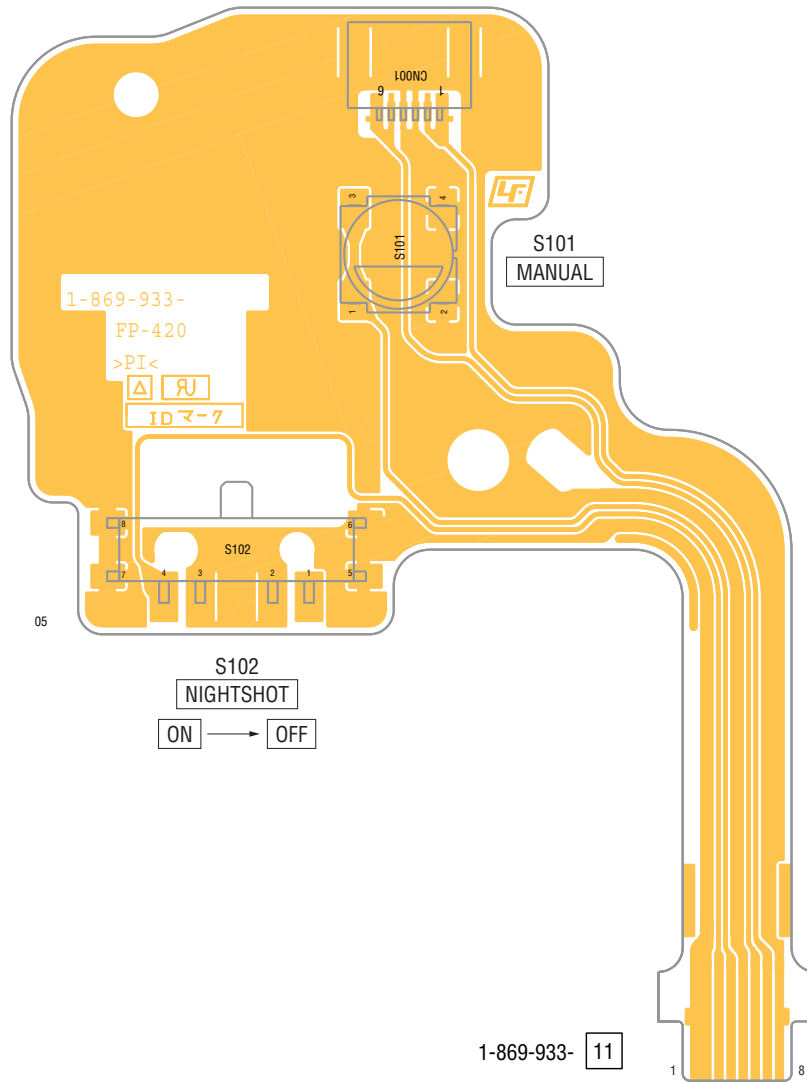


FP-417 FLEXIBLE BOARD

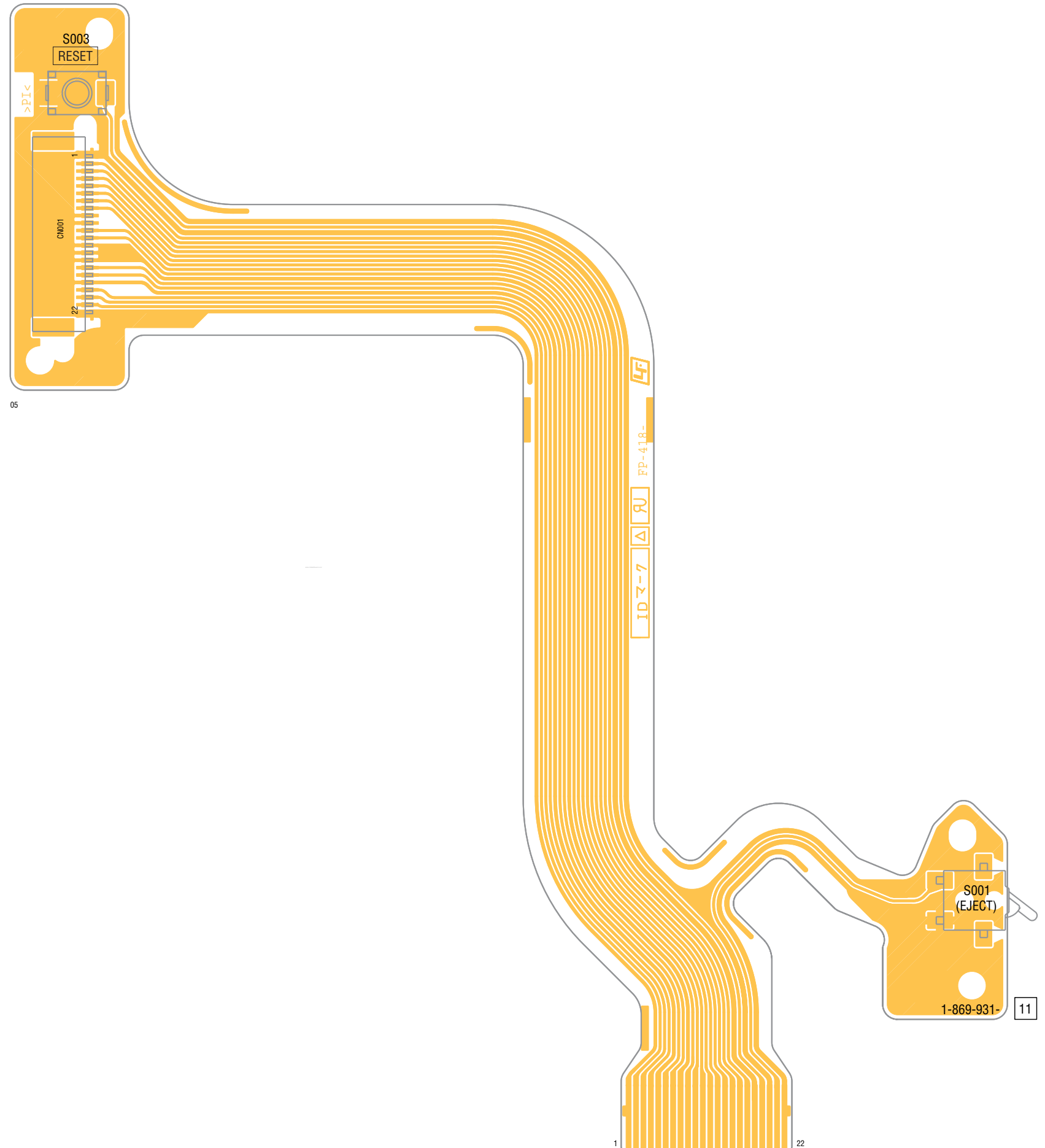


 : Uses unleaded solder.

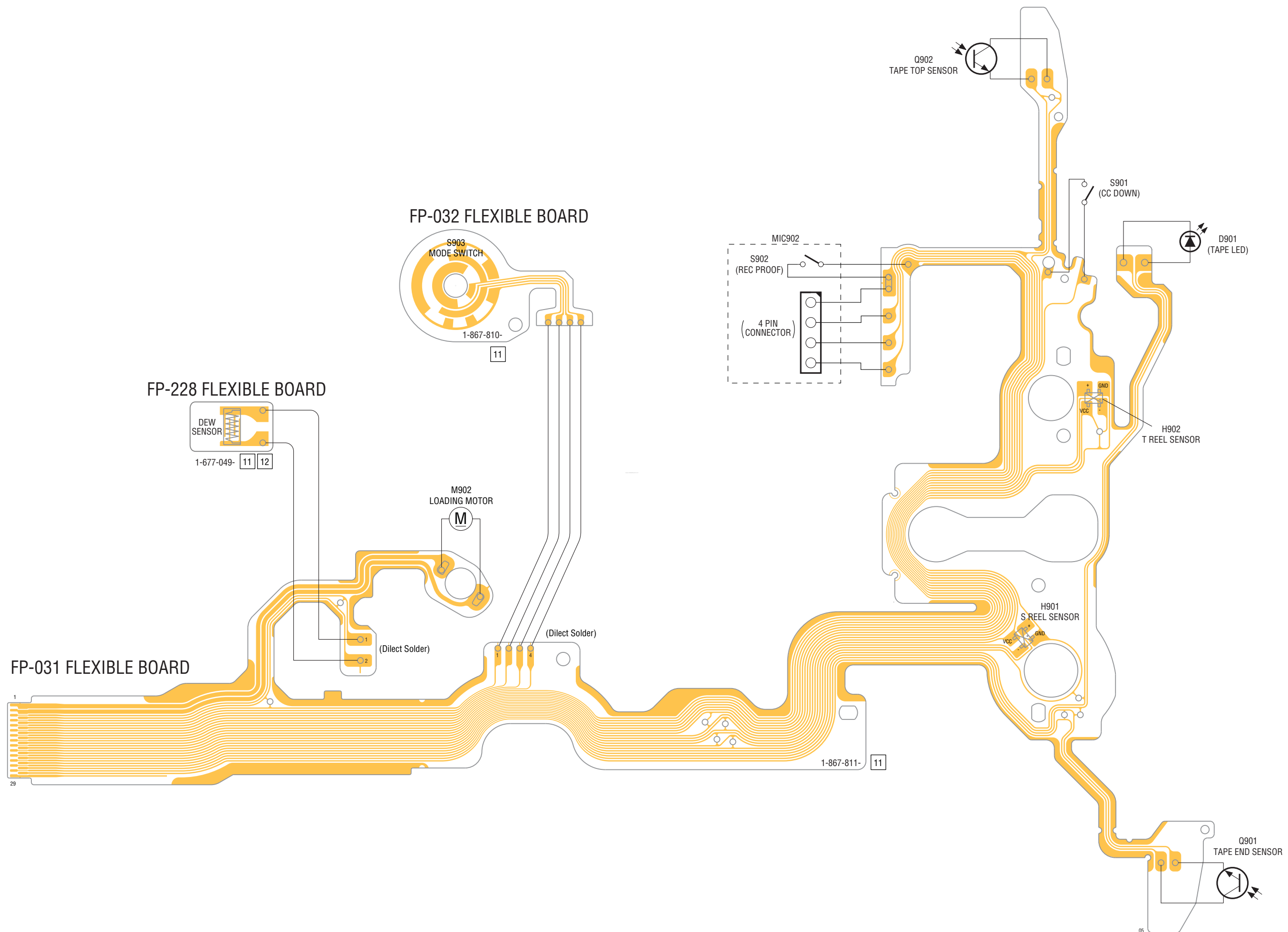
FP-420 FLEXIBLE BOARD



FP-418 FLEXIBLE BOARD



 : Uses unleaded solder.



Mounted parts location of the CM-071, VC-441 and LD-202 boards are not shown.
Pages 4-53 to 4-55 are not shown.


4-3. PRINTED WIRING BOARDS

4-4. MOUNTED PARTS LOCATION

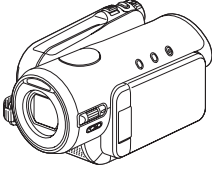
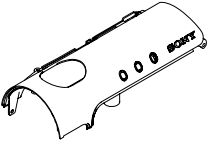
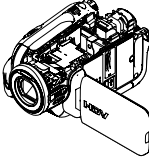
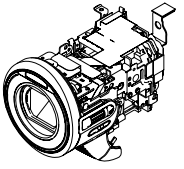
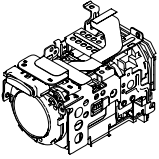
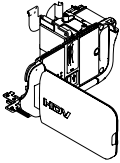
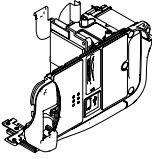
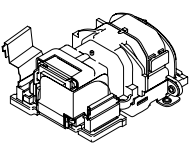
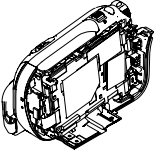
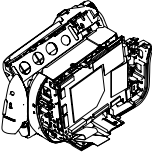
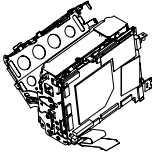
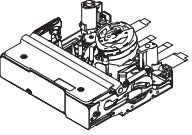
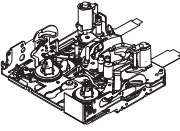
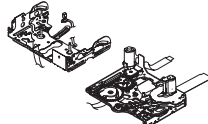
no mark : side A
* mark : side B

PD-276 BOARD	VF-175 BOARD	ST-139 BOARD	MS-304 BOARD	DM-111 BOARD
C6101 C-4	* C8101 B-2	C901 A-3	BH8001 D-1	CN8302 B-1
C6102 C-4	C8102 B-1	C8801 B-1		CN8303 C-1
C6103 B-4	C8103 B-1	C8802 A-1	BT8001 D-1	CN8304 A-2
C6104 B-4	C8104 B-1	C8803 A-2		
C6105 B-3	C8105 B-1	C8804 B-2	CN8003 D-3	D8301 A-1
C6107 B-5	C8106 B-1		CN8004 C-2	D8302 B-1
C6108 B-4	C8107 B-1	* CN8801 A-2	CN8005 B-2	* D8303 A-1
C6109 C-4	C8108 B-1	CN8802 A-1	CN8006 A-1	D8304 C-1
C6110 B-4	C8110 B-2	* CN8803 B-2		
C6111 B-5	C8111 B-2		D8001 D-2	* FB8301 B-1
C6112 C-4	C8113 A-1	D8801 B-1	D8003 C-3	* FB8302 B-1
C6115 B-4	C8114 B-1	D8802 B-2	D8006 D-2	
C6116 B-4	C8115 A-1	D8804 A-1	D8007 D-2	R8301 A-1
C6117 B-4	C8116 B-1	D8805 A-2		R8302 A-1
C6119 B-5	C8117 A-1		FB8001 A-1	R8304 A-1
C6120 B-5	C8118 A-1	IC8801 B-1	FB8002 A-1	R8305 A-1
C6121 B-4			FB8003 A-1	* R8306 A-1
C6122 B-4	* CN8101 B-1	L8801 A-1	FB8004 A-1	R8308 B-1
C6123 B-4	* CN8102 A-1			R8309 B-1
C6124 C-4		* Q8801 B-1	R8001 D-2	
C6125 B-3	* FB8101 B-1		R8002 D-2	
C6127 C-5		R8801 B-1	R8003 C-3	
C6128 C-3	IC8101 B-2	R8802 B-1	R8009 A-2	
C6129 B-3	IC8102 A-1	R8803 A-1	R8010 C-3	
		R8804 A-2		
CN6101 A-2	L8101 B-1	* R8806 B-1		
CN6102 C-4	L8102 B-1	* R8807 B-1		
CN6103 C-5	L8103 B-1	R8811 B-2		
CN6104 C-2		R8812 B-2		
	Q8102 A-2	R8814 B-2		
D6101 C-4		T8801 B-2		
D6102 C-5	R8101 B-2			
* D6105 B-6	* R8102 B-2			
* D6106 C-6	R8104 B-1			
* D6107 A-6	* R8105 B-2			
D6109 C-3	R8107 B-1			
	R8109 A-1			
FB6101 A-3	* R8110 A-1			
	* R8111 A-2			
IC6101 B-4	* R8112 A-1			
IC6102 B-4	R8113 A-1			
	R8114 A-1			
L6101 B-4	R8116 A-2			
L6103 C-4	R8117 A-1			
L6104 B-5				
Q6101 C-4				
Q6102 C-4				
Q6104 B-5				
Q6105 A-5				
Q6106 A-5				
Q6107 A-5				
Q6108 C-5				
Q6109 C-5				
Q6110 B-3				
R6102 C-5				
R6103 C-5				
R6104 B-4				
R6105 B-4				
R6106 B-4				
R6109 B-4				
R6110 B-4				
R6111 B-4				
R6112 A-5				
R6113 B-5				
R6114 A-4				
R6115 B-4				
R6116 A-4				
R6117 B-5				
R6118 A-4				
R6119 A-4				
R6121 B-5				
R6122 A-4				
R6123 B-3				
R6124 C-5				
R6126 C-3				
RB6101 C-4				

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	 B	 C	 D
OVERALL ASSEMBLY-1	TOP CABINET BLOCK	OVERALL ASSEMBLY-2	FRONT PANEL BLOCK
 E	 F	 G	 H
LENS BLOCK	LCD PANEL BLOCK	CABINET (R) BLOCK	EVF BLOCK
 I	 J	 K	 L
CABINET (L) BLOCK-1	CABINET (L) BLOCK-2	MD FRAME BLOCK	MECHANISM DECK SECTION
 M	 N		
LS/MECHANICAL CHASSIS BLOCK ASSEMBLY-1	LS/MECHANICAL CHASSIS BLOCK ASSEMBLY-2		

5. REPAIR PARTS LIST (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

ELECTRICAL PARTS LIST

ACCESSORIES

• CK-159 BOARD F	• FP-406 FLEXIBLE BOARD K	• LB-119 BOARD H
• DM-111 BOARD J	• FP-407 FLEXIBLE BOARD G	• MS-304 BOARD G
• FP-031 FLEXIBLE BOARD N	• FP-417 FLEXIBLE BOARD J	• PD-276 BOARD F
• FP-032 FLEXIBLE BOARD N	• FP-418 FLEXIBLE BOARD K	• SI-046 BOARD J
• FP-228 FLEXIBLE BOARD N	• FP-420 FLEXIBLE BOARD D	• ST-139 BOARD B
• FP-372 FLEXIBLE BOARD F	• FP-421 FLEXIBLE BOARD B	• VF-175 BOARD H
• FP-405 FLEXIBLE BOARD J		

5. REPAIR PARTS LIST

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: μ F
- COILS
uH: μ H
- 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...: μ A..., uPA..., μ PA...,
uPB..., μ PB..., uPC..., μ PC...,
uPD..., μ PD...

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

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

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

(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いません。
- コンデンサの単位でuFは μ F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 μ Hを示します。
- 半導体の名称でuA..., uPA..., uPB..., uPC..., uPD...等はそれぞれ μ A..., μ PA..., μ PB..., μ PC..., μ PD...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。

\triangle 印の部品、または \triangle 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。

- 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

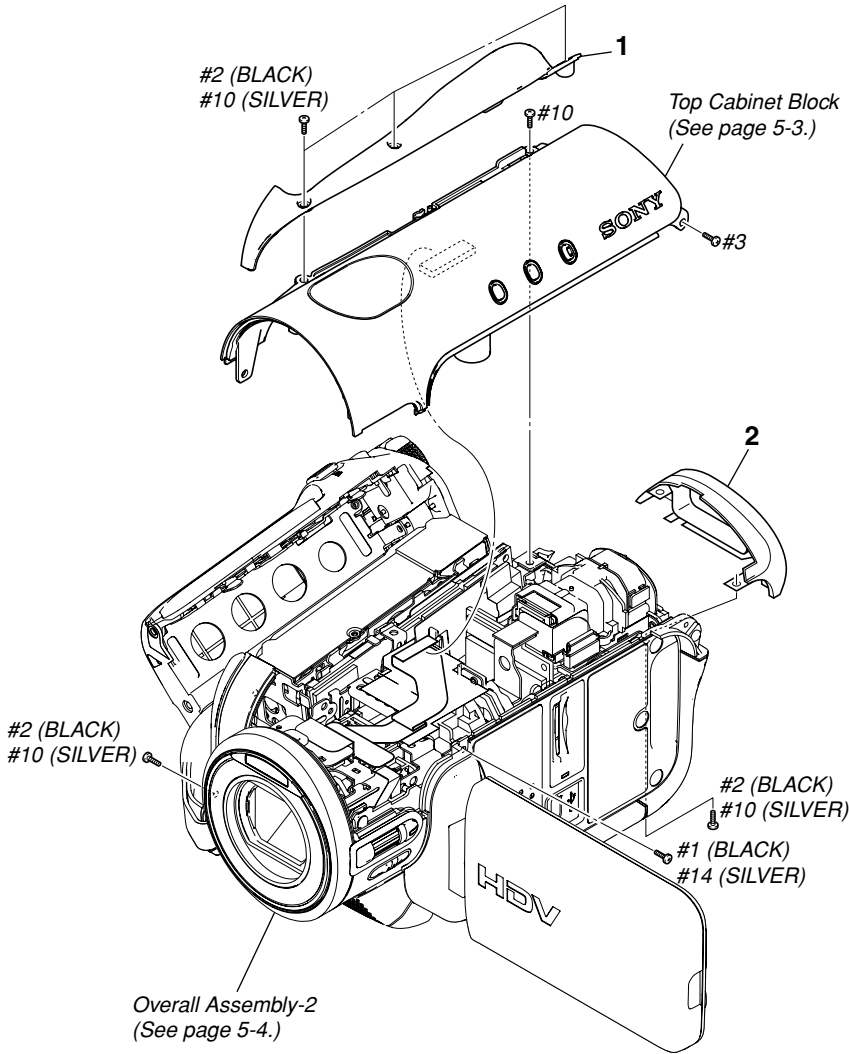
5. REPAIR PARTS LIST

DISASSEMBLY

HARDWARE LIST

5-1. EXPLODED VIEWS

5-1-1. OVERALL ASSEMBLY-1



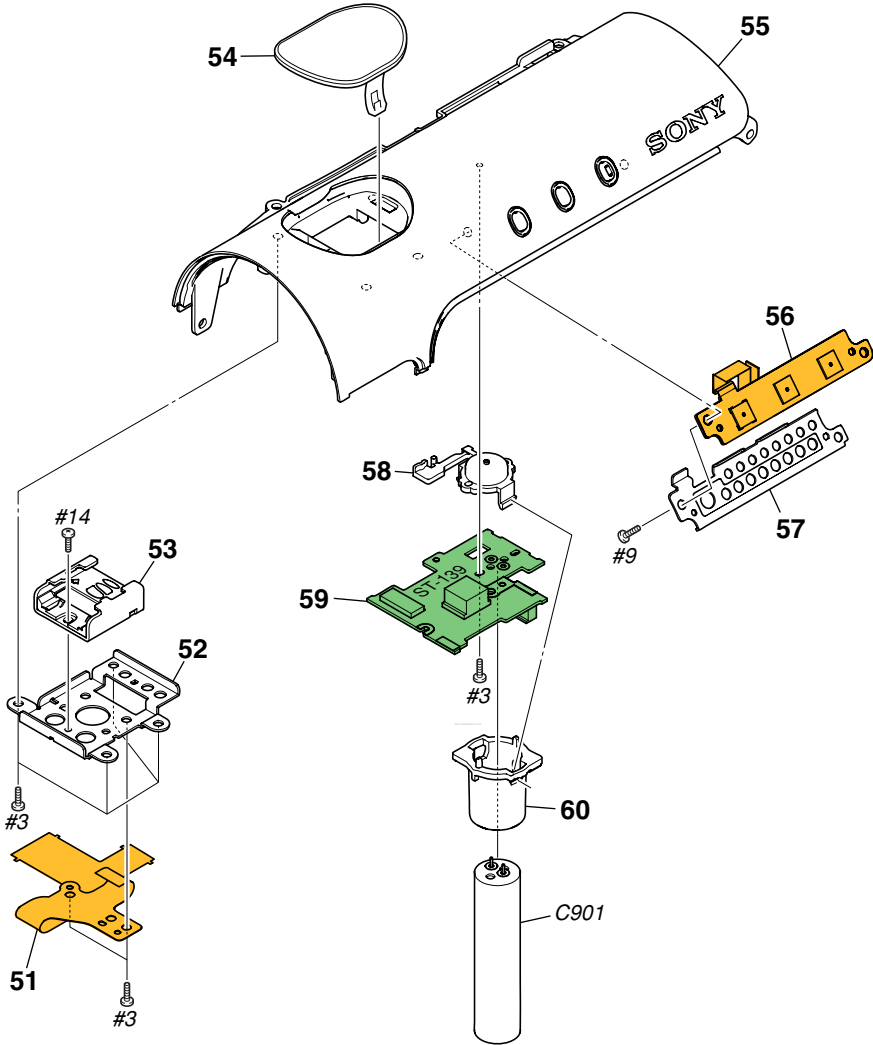
Ref. No.	Part No.	Description
1	X-2108-837-1	COVER ASSY, GRIP (SILVER)
1	X-2108-838-1	COVER ASSY, GRIP (BLACK)
2	X-2103-639-1	EYE CUP ASSY (BLACK)
2	X-2108-836-1	EYE CUP ASSY (SILVER)

Ref. No.	Part No.	Description
#1	2-635-562-11	SCREW (M1.7) (Black)
#2	2-635-562-31	SCREW (M1.7) (Black)
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)
#10	2-599-475-31	SCREW (M1.7) (Silver)
#14	2-599-475-11	SCREW (M1.7) (Silver)

5. REPAIR PARTS LIST

HARDWARE LIST

5-1-2. TOP CABINET BLOCK



• Refer to page 5-1 for mark △.

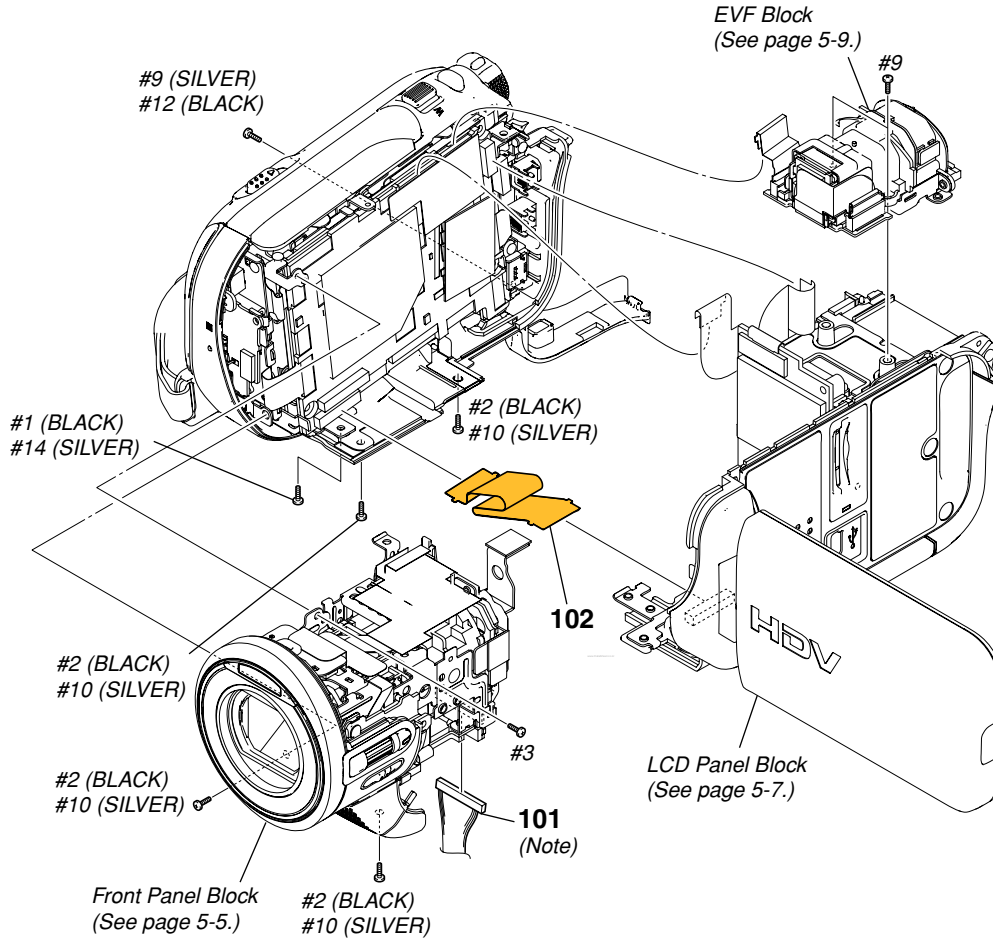
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
* 51	1-869-923-11	FP-410 FLEXIBLE BOARD	* 57	2-672-267-01	RETAINER, CF
* 52	2-672-265-01	FRAME, SHOE	* 58	2-672-269-01	CAP, CAPACITOR
53	1-818-890-11	CONNECTOR, EXTERNAL (HOT SHOE)	△ 59	A-1174-639-A	ST-139 BOARD, COMPLETE
54	X-2108-834-1	COVER ASSY, SHOE (SILVER)	* 60	2-672-268-01	HOLDER, CAPACITOR
54	X-2108-835-1	COVER ASSY, SHOE (BLACK)	△* C901	1-112-765-11	CAP, ELECT 86uF 330V
55	X-2108-035-1	CABINET ASSY, TOP (J: BLACK)	#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)
55	X-2108-036-1	CABINET ASSY, TOP (EXCEPT J)	#9	3-078-890-21	SCREW, TAPPING (Silver)
55	X-2108-833-1	CABINET ASSY, TOP (J: SILVER)	#14	2-599-475-11	SCREW (M1.7) (Silver)
56	A-1174-649-A	FP-421 FLEXIBLE BOARD, COMPLETE			

5. REPAIR PARTS LIST

DISASSEMBLY

HARDWARE LIST

5-1-3. OVERALL ASSEMBLY-2



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

Ref. No.	Part No.	Description
101	1-963-577-11	HARNESS (COAXIAL CABLE) (Note)
* 102	1-869-924-11	FP-411 FLEXIBLE BOARD
#1	2-635-562-11	SCREW (M1.7) (Black)
#2	2-635-562-31	SCREW (M1.7) (Black)
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)

Ref. No.	Part No.	Description
#9	3-078-890-21	SCREW, TAPPING (Silver)
#10	2-599-475-31	SCREW (M1.7) (Silver)
#12	3-080-204-21	SCREW, TAPPING, P2 (Black)
#14	2-599-475-11	SCREW (M1.7) (Silver)

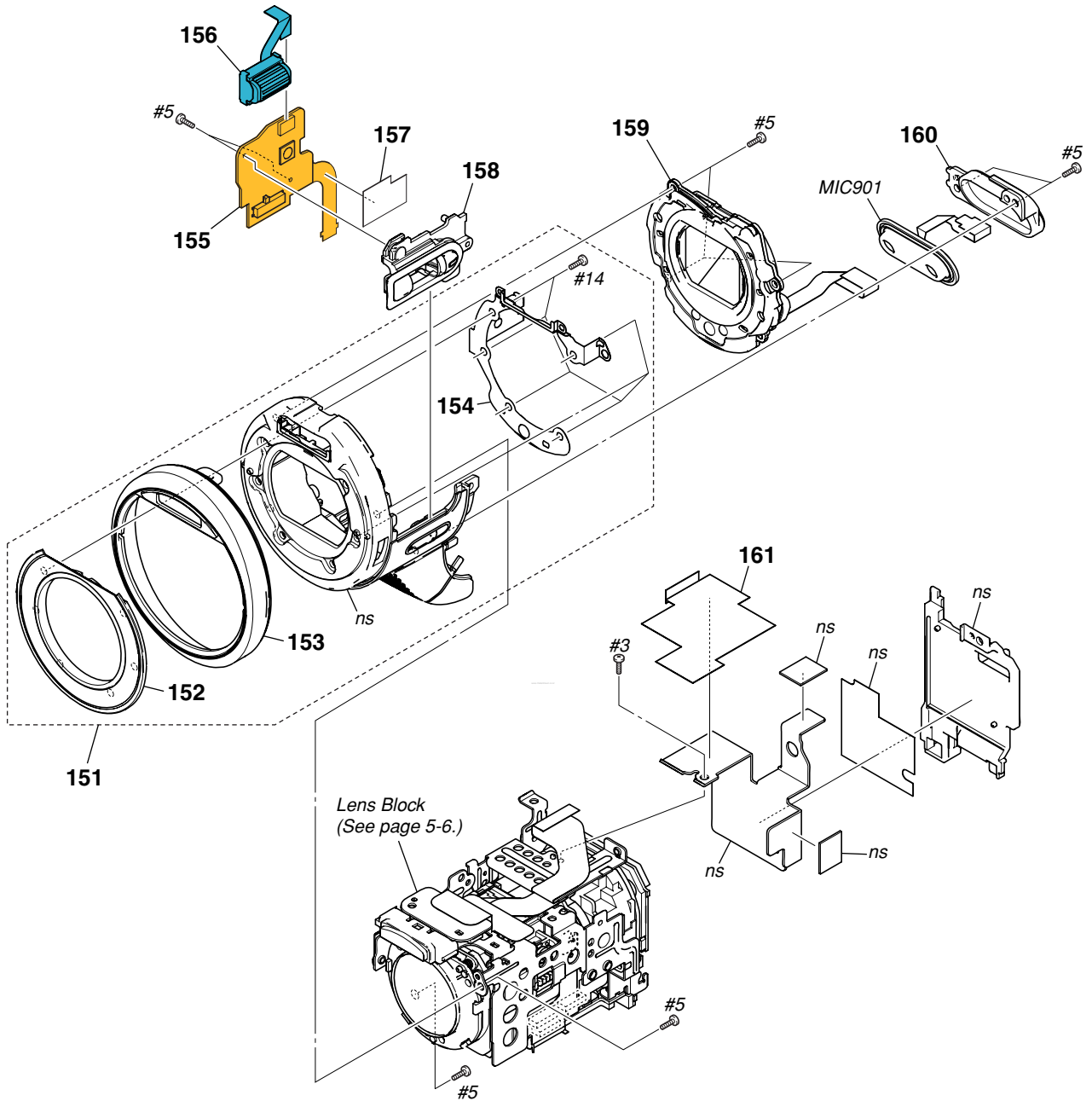
5. REPAIR PARTS LIST

DISASSEMBLY

HARDWARE LIST

5-1-4. FRONT PANEL BLOCK

ns: not supplied



Ref. No.	Part No.	Description
151	X-2108-818-1	PANEL ASSY, F (J: SILVER)
151	X-2108-819-1	PANEL ASSY, F (J: BLACK)
151	X-2108-820-1	PANEL ASSY, F (EXCEPT J)
152	2-672-242-01	SCREW, FILTER
153	2-672-234-01	RING, F (SILVER)
153	2-672-234-11	RING, F (BLACK)
154	2-672-237-01	PLATE F, ORNAMENTAL
155	A-1174-648-A	FP-420 FLEXIBLE BOARD, COMPLETE
156	1-479-004-21	SWITCH BLOCK, CONTROL (AD11800)
* 157	2-675-939-01	SHEET, FLEXIBLE GUARD

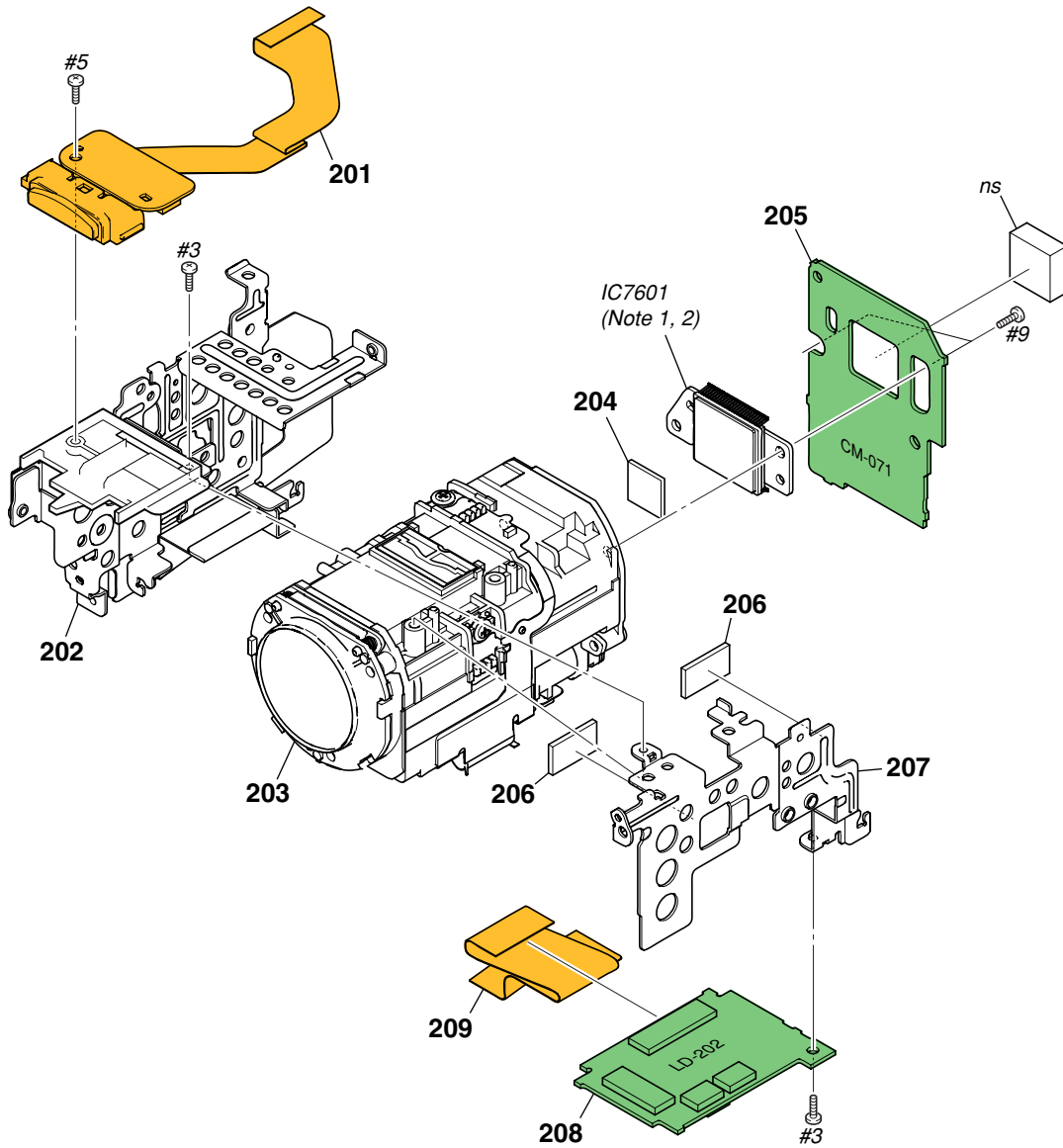
Ref. No.	Part No.	Description
158	X-2108-821-1	BUTTON ASSY, AD
159	1-787-398-11	MOTOR UNIT (LENS BARRIER)
* 160	2-672-282-01	RETAINER, MICROPHONE
* 161	2-676-469-01	SHEET (ST), GUARD
MIC901	1-542-658-11	MIC UNIT
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)
#5	3-080-204-01	SCREW, TAPPING, P2 (Black)
#14	2-599-475-11	SCREW (M1.7) (Silver)

5. REPAIR PARTS LIST

HARDWARE LIST

5-1-5. LENS BLOCK

ns: not supplied



Note 1: IC7601はマウント済CM-071基板には含まれません。

Note 1: IC7601 is not included in CM-071 complete board.

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。

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

• Refer to page 5-1 for mark △.

Ref. No.	Part No.	Description
△ 201	1-479-514-11	FLASH UNIT (FL18000)
202	X-2108-822-1	FRAME (L) ASSY, LENS
203	8-848-803-01	LSV-942B
204	1-788-382-11	OPTICAL FILTERBLOCK (OFB-03-26)
205	A-1174-638-A	CM-071 BOARD, COMPLETE
* 206	2-676-470-01	LENS, CUSHION
207	X-2108-824-1	FRAME (R) ASSY, LENS

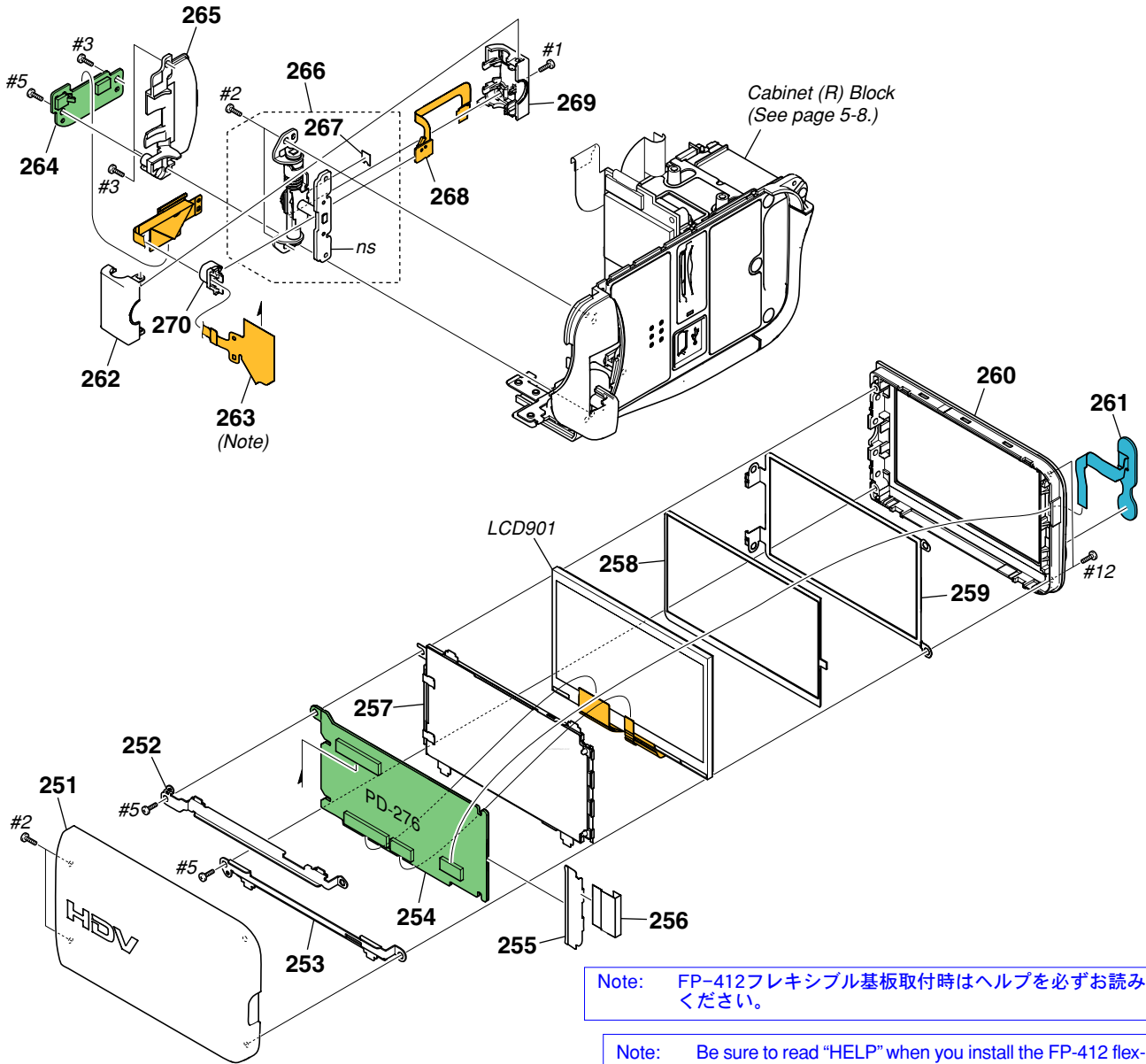
Ref. No.	Part No.	Description
208	A-1174-637-A	LD-202 BOARD, COMPLETE
* 209	1-869-922-11	FP-409 FLEXIBLE BOARD
IC7601	A-1172-742-A	CMOS BLOCK ASSY (Note 1, 2)
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)
#5	3-080-204-01	SCREW, TAPPING, P2 (Black)
#9	3-078-890-21	SCREW, TAPPING (Silver)

5. REPAIR PARTS LIST

DISASSEMBLY

HARDWARE LIST

5-1-6. LCD PANEL BLOCK



Note: FP-412フレキシブル基板取付時はヘルプを必ずお読みください。

Note: Be sure to read "HELP" when you install the FP-412 flexible board.

Ref. No.	Part No.	Description
251	X-2108-816-1	CABINET (R) ASSY, P (SILVER)
251	X-2108-817-1	CABINET (R) ASSY, P (BLACK)
* 252	2-672-279-01	FRAME (UPPER), P
* 253	2-672-280-01	FRAME (LOWER), P
254	A-1174-643-A	PD-276 BOARD, COMPLETE
* 255	2-638-780-01	CLIP
* 256	2-676-471-01	SHEET, P
257	A-1153-648-A	BLOCK (2.7), LIGHT GUIDE PLATE
* 258	2-672-277-01	CUSHION, TP
* 259	2-672-272-01	PLATE (P), GROUND
260	2-672-271-01	CABINET (L), P (J)
260	2-672-271-11	CABINET (L), P (EXCEPT J)
261	1-479-063-21	KEY BLOCK, CONTROL (SB9000)
262	2-672-273-01	COVER (FRONT), HINGE (SILVER)
262	2-672-273-11	COVER (FRONT), HINGE (BLACK)
* 263	1-869-925-11	FP-412 FLEXIBLE BOARD (Note)

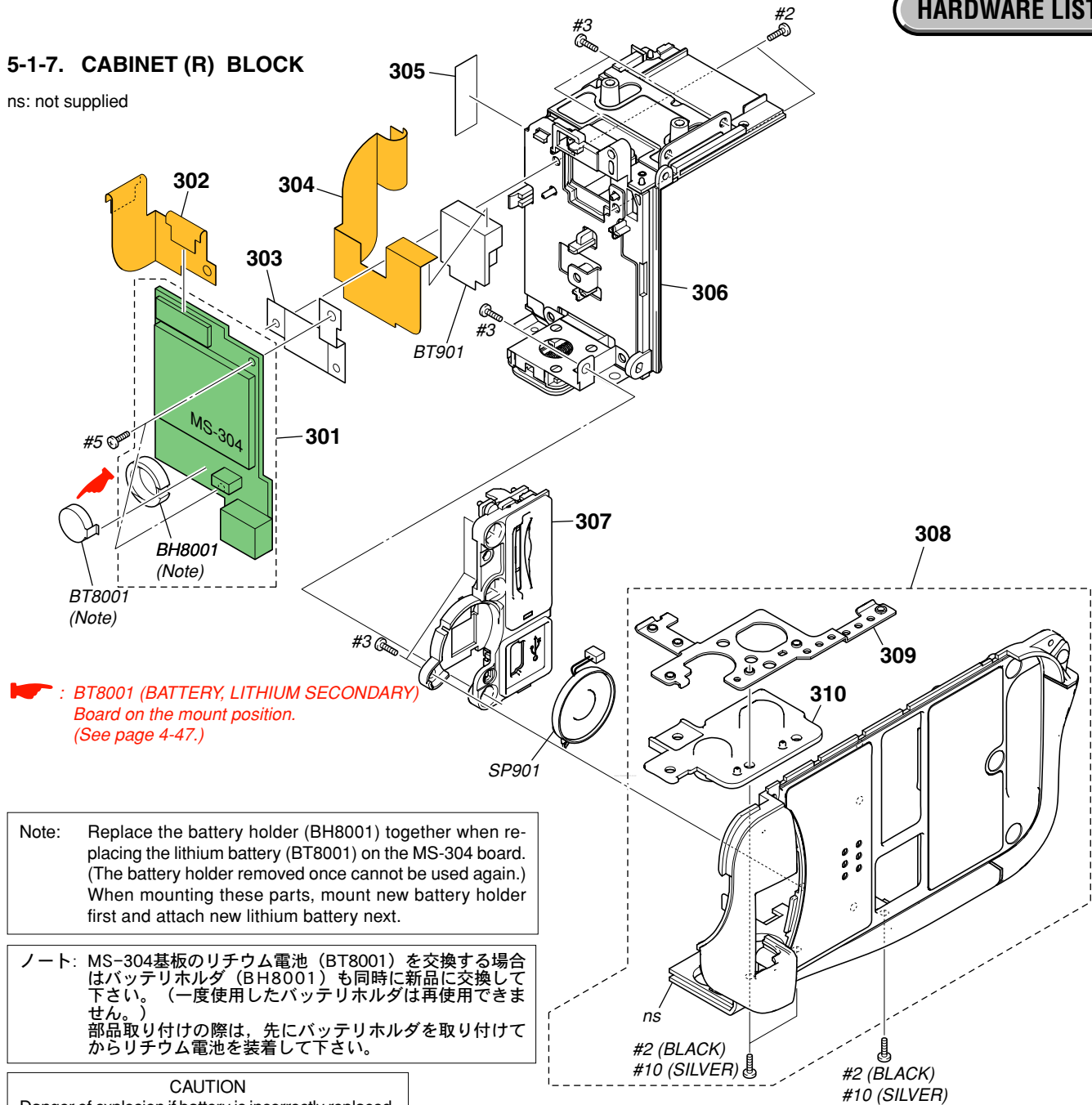
Ref. No.	Part No.	Description
264	A-1174-642-A	CK-159 BOARD, COMPLETE
265	2-672-275-01	BLIND, HINGE (SILVER)
265	2-672-275-11	BLIND, HINGE (BLACK)
266	X-2108-475-1	HINGE ASSY
267	2-649-300-01	SHEET, ADHESIVE
268	A-1174-647-A	FP-372 FLEXIBLE BOARD, COMPLETE
269	2-672-274-01	COVER (REAR), HINGE (SILVER)
269	2-672-274-11	COVER (REAR), HINGE (BLACK)
270	2-668-087-01	CLAMP, FLEXIBLE
LCD901	A-1149-659-A	TP BLOCK ASSY (27STGU06)
#1	2-635-562-11	SCREW (M1.7) (Black)
#2	2-635-562-31	SCREW (M1.7) (Black)
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)
#5	3-080-204-01	SCREW, TAPPING, P2 (Black)
#12	3-080-204-21	SCREW, TAPPING, P2 (Black)

5. REPAIR PARTS LIST

HARDWARE LIST

5-1-7. CABINET (R) BLOCK

ns: not supplied



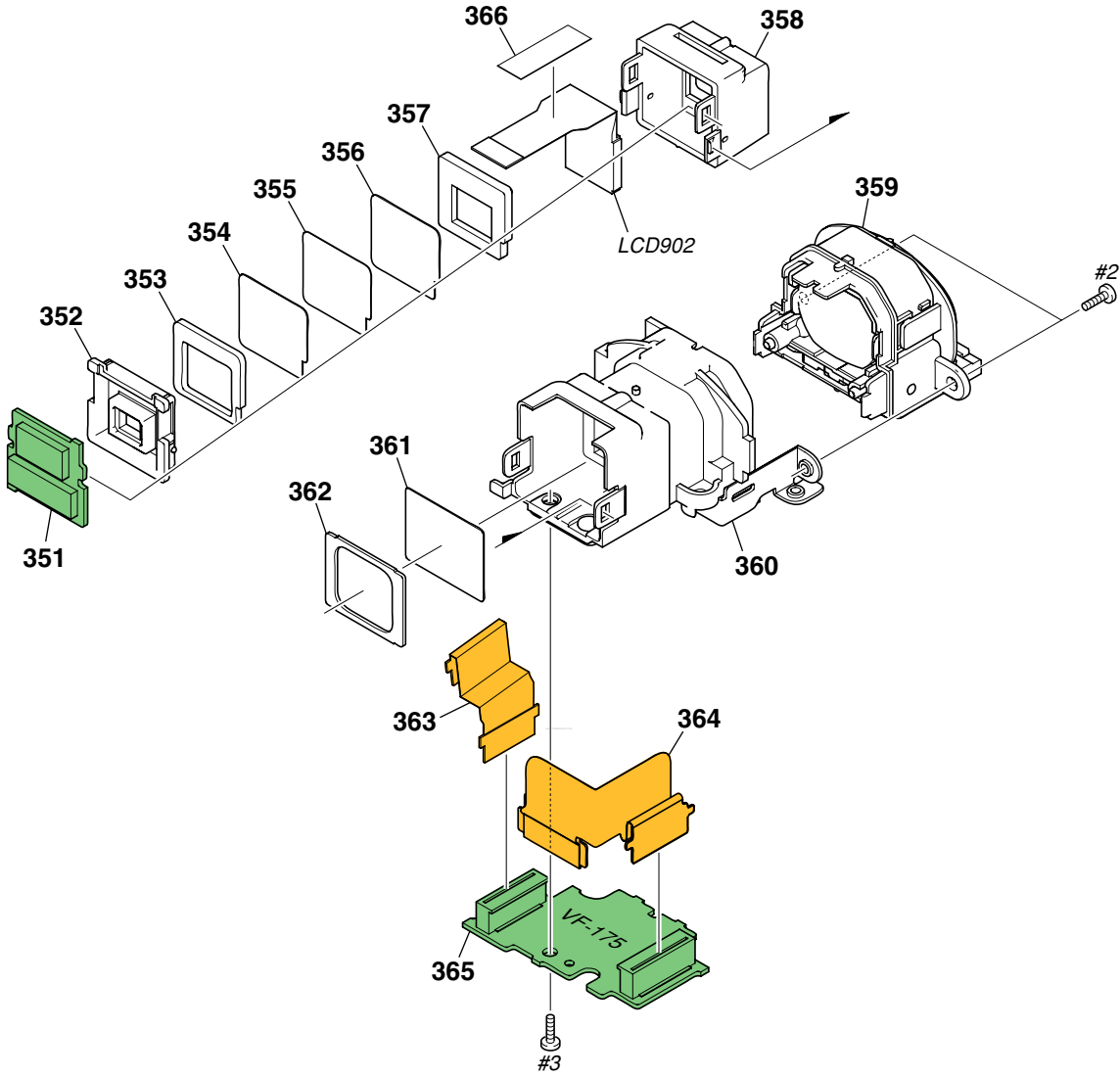
• Refer to page 5-1 for mark △.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
301	A-1174-641-A	MS-304 BOARD, COMPLETE	309	2-672-263-01	RETAINER, TRIPOD
* 302	1-869-929-11	FP-416 FLEXIBLE BOARD	310	2-672-262-01	TRIPOD
* 303	2-672-276-01	RETAINER, BT TERMINAL	BH8001	1-756-615-21	HOLDER, BATTERY (Note)
* 304	1-869-920-11	FP-407 FLEXIBLE BOARD	△ BT8001	1-756-134-12	BATTERY, STORAGE, LITHIUM (Note)
* 305	2-676-318-01	SHEET, BT	△ BT901	1-780-064-21	BATTERY TERMINAL BOARD
306	X-2108-812-1	PANEL ASSY, BT	SP901	1-825-260-23	LOUD SPEAKER (1.6CM)
307	X-2108-814-1	HOLDER ASSY, MS (SILVER)	#2	2-635-562-31	SCREW (M1.7) (Black)
307	X-2108-815-1	HOLDER ASSY, MS (BLACK)	#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)
308	X-2108-809-1	CABINET (R) ASSY (SILVER)	#5	3-080-204-01	SCREW, TAPPING, P2 (Black)
308	X-2108-810-1	CABINET (R) ASSY (BLACK)	#10	2-599-475-31	SCREW (M1.7) (Silver)

5. REPAIR PARTS LIST

HARDWARE LIST

5-1-8. EVF BLOCK



Ref. No.	Part No.	Description
351	A-1174-644-A	LB-119 BOARD, COMPLETE
352	2-664-672-01	GUIDE, LAMP
* 353	2-638-819-01	CUSHION, LCD
* 354	2-638-818-01	ILLUMINATOR
* 355	2-638-817-01	SHEET, PRISM
* 356	2-638-816-01	PLATE (TFT), DEFLECTION
* 357	2-664-671-01	SPACER, LCD
358	2-672-270-01	CABINET, VF INNER
359	X-2108-831-1	LENS ASSY, VF
360	X-2108-832-1	CABINET ASSY, VF

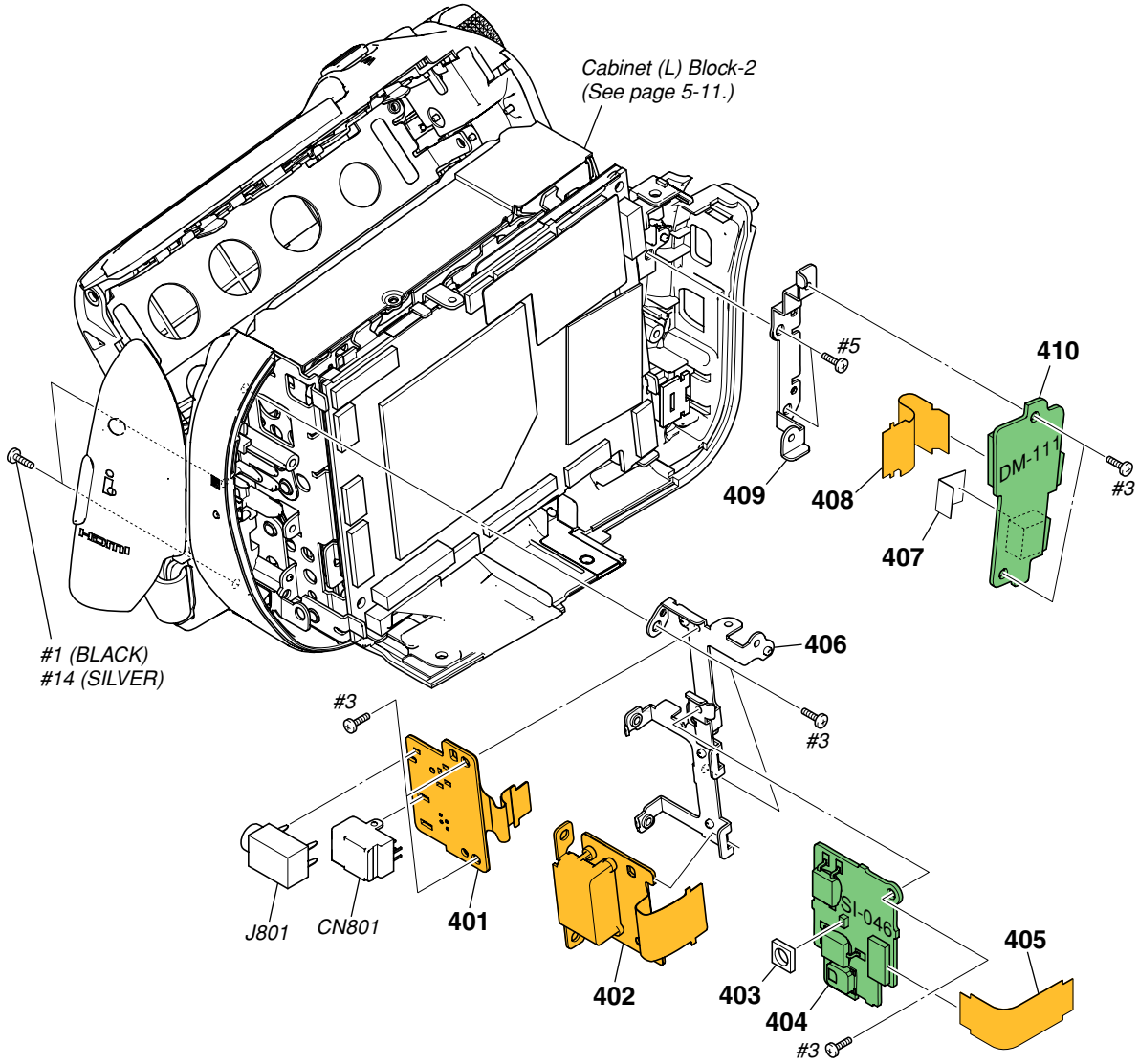
Ref. No.	Part No.	Description
* 361	2-638-813-01	PLATE (CF), DEFLECTION
* 362	2-676-472-01	PLATE, LIGHT INTERCEPTION
* 363	1-869-926-11	FP-413 FLEXIBLE BOARD
* 364	1-869-927-11	FP-414 FLEXIBLE BOARD
365	A-1174-640-A	VF-175 BOARD, COMPLETE
366	3-941-343-01	TAPE (A)
LCD902	8-753-241-14	LCX076AKE-1
#2	2-635-562-31	SCREW (M1.7) (Black)
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)

5. REPAIR PARTS LIST

DISASSEMBLY

HARDWARE LIST

5-1-9. CABINET (L) BLOCK-1



Ref. No.	Part No.	Description
* 401	1-869-918-11	FP-405 FLEXIBLE BOARD
* 402	A-1174-645-A	FP-417 FLEXIBLE BOARD, COMPLETE
* 403	2-676-473-01	LED SHEET
* 404	A-1174-636-A	SI-046 BOARD, COMPLETE
* 405	1-869-921-11	FP-408 FLEXIBLE BOARD
* 406	2-672-286-01	FRAME, LI
* 407	2-676-474-01	SHEET (DM), GUARD
* 408	1-869-928-11	FP-415 FLEXIBLE BOARD
* 409	2-672-287-01	FRAME, DM

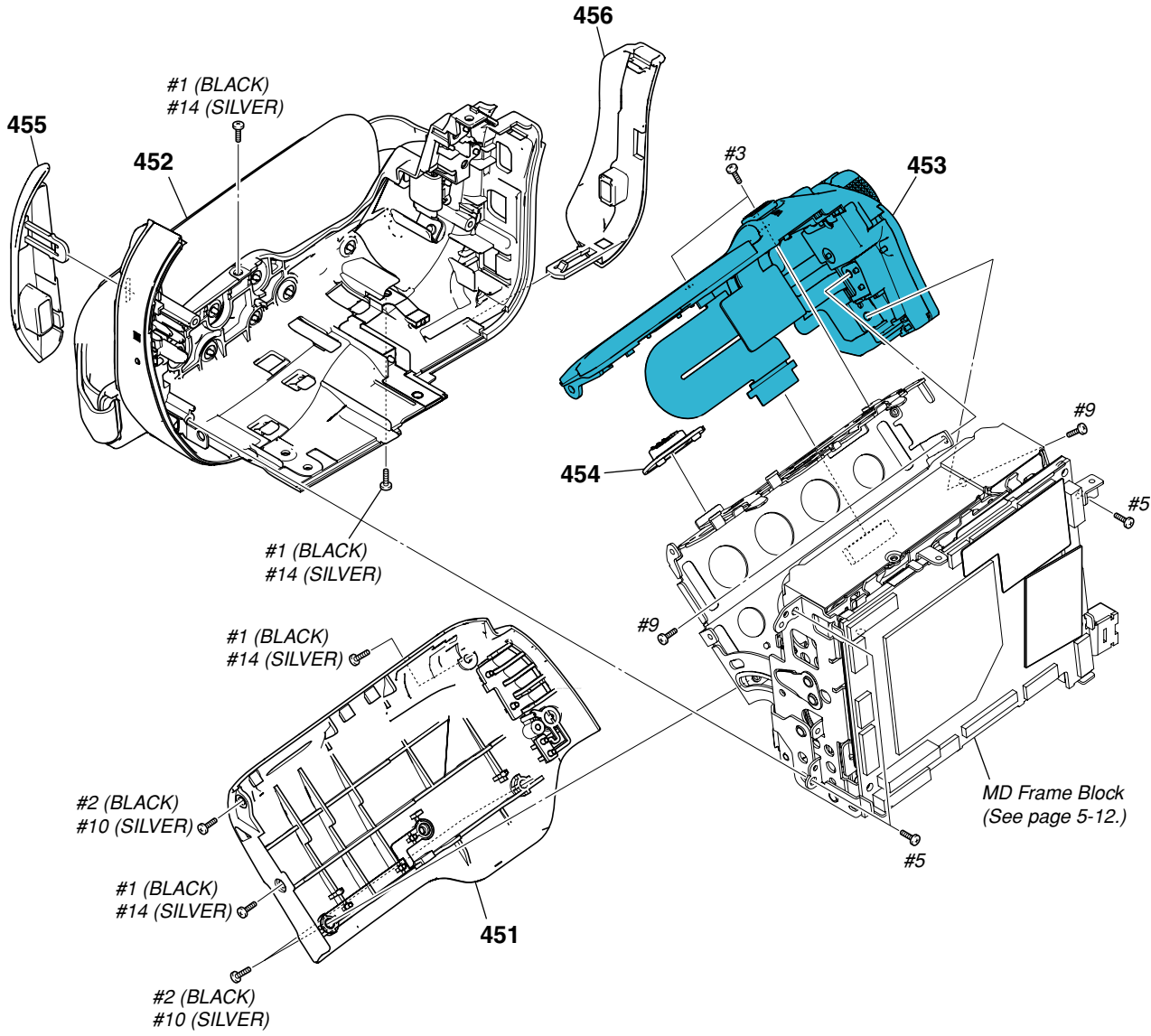
Ref. No.	Part No.	Description
410	A-1174-635-A	DM-111 BOARD, COMPLETE
CN801	1-794-276-11	CONNECTOR, SQUARE TYPE 4P (HDV/DV)
J801	1-793-995-11	JACK, SUPER SMALL TYPE (LANC)
#1	2-635-562-11	SCREW (M1.7) (Black)
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)
#5	3-080-204-01	SCREW, TAPPING, P2 (Black)
#14	2-599-475-11	SCREW (M1.7) (Silver)

5. REPAIR PARTS LIST

DISASSEMBLY

HARDWARE LIST

5-1-10. CABINET (L) BLOCK-2



Ref. No.	Part No.	Description
451	X-2108-825-1	CABINET (G) ASSY (J: SILVER)
451	X-2108-826-1	CABINET (G) ASSY (J: BLACK)
451	X-2108-827-1	CABINET (G) ASSY (EXCEPT J)
452	X-2108-828-1	CABINET (L) ASSY (SILVER)
452	X-2108-829-1	CABINET (L) ASSY (BLACK)
453	1-479-491-11	SWITCH BLOCK, CONTROL (PS18000) (J: SILVER)
453	1-479-491-21	SWITCH BLOCK, CONTROL (PS18000) (J: BLACK)
453	1-479-491-31	SWITCH BLOCK, CONTROL (PS18000) (EXCEPT J)
454	2-672-295-01	KNOB, EJECT (SILVER)
454	2-672-295-11	KNOB, EJECT (BLACK)

Ref. No.	Part No.	Description
455	2-672-283-01	COVER (F), JACK (SILVER)
455	2-672-283-11	COVER (F), JACK (BLACK)
456	2-672-285-01	COVER (R), JACK (SILVER)
456	2-672-285-11	COVER (R), JACK (BLACK)
#1	2-635-562-11	SCREW (M1.7) (Black)
#2	2-635-562-31	SCREW (M1.7) (Black)
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)
#5	3-080-204-01	SCREW, TAPPING, P2 (Black)
#9	3-078-890-21	SCREW, TAPPING (Silver)
#10	2-599-475-31	SCREW (M1.7) (Silver)
#14	2-599-475-11	SCREW (M1.7) (Silver)

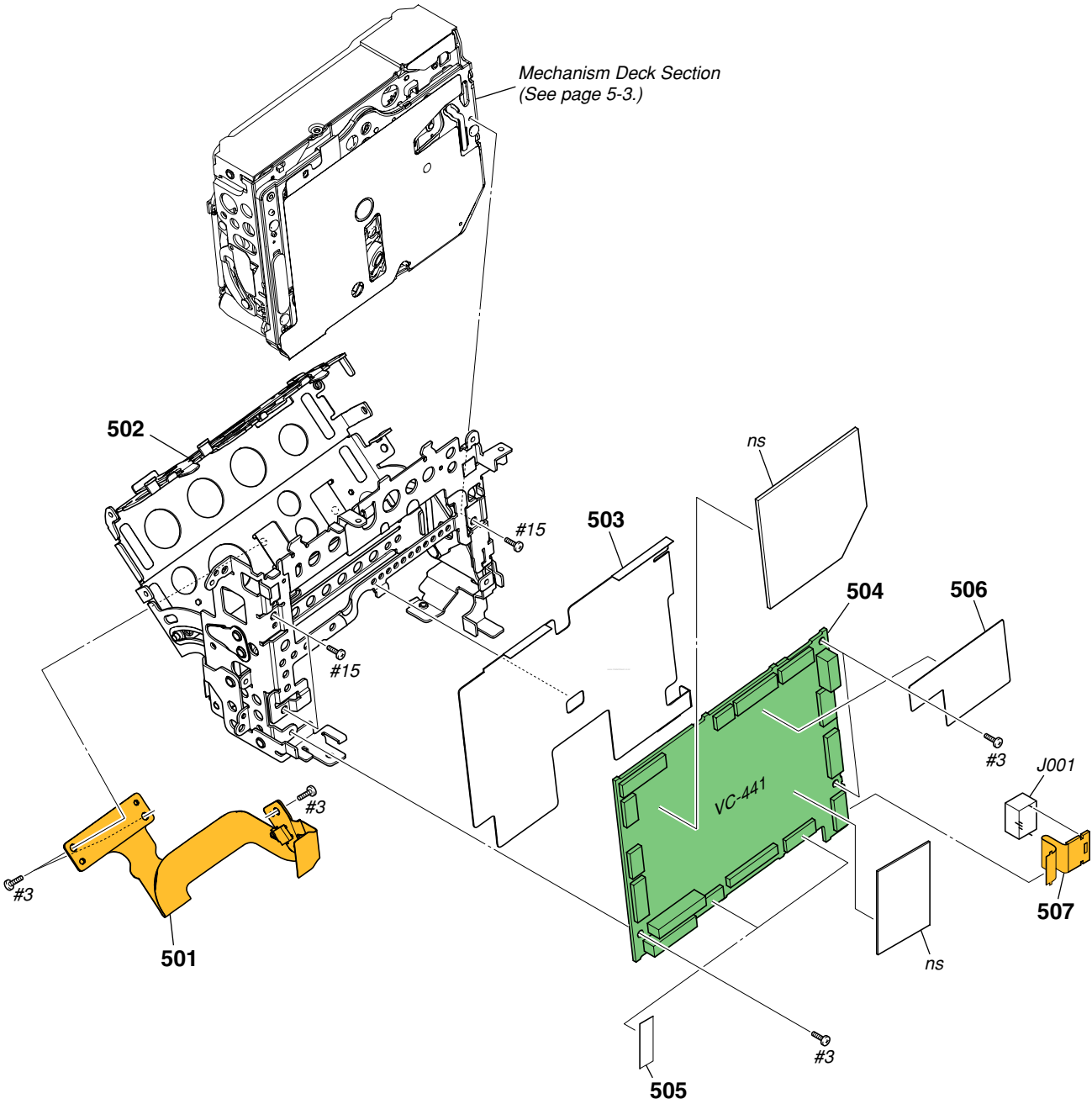
5. REPAIR PARTS LIST

DISASSEMBLY

HARDWARE LIST

5-1-11. MD FRAME BLOCK

ns: not supplied



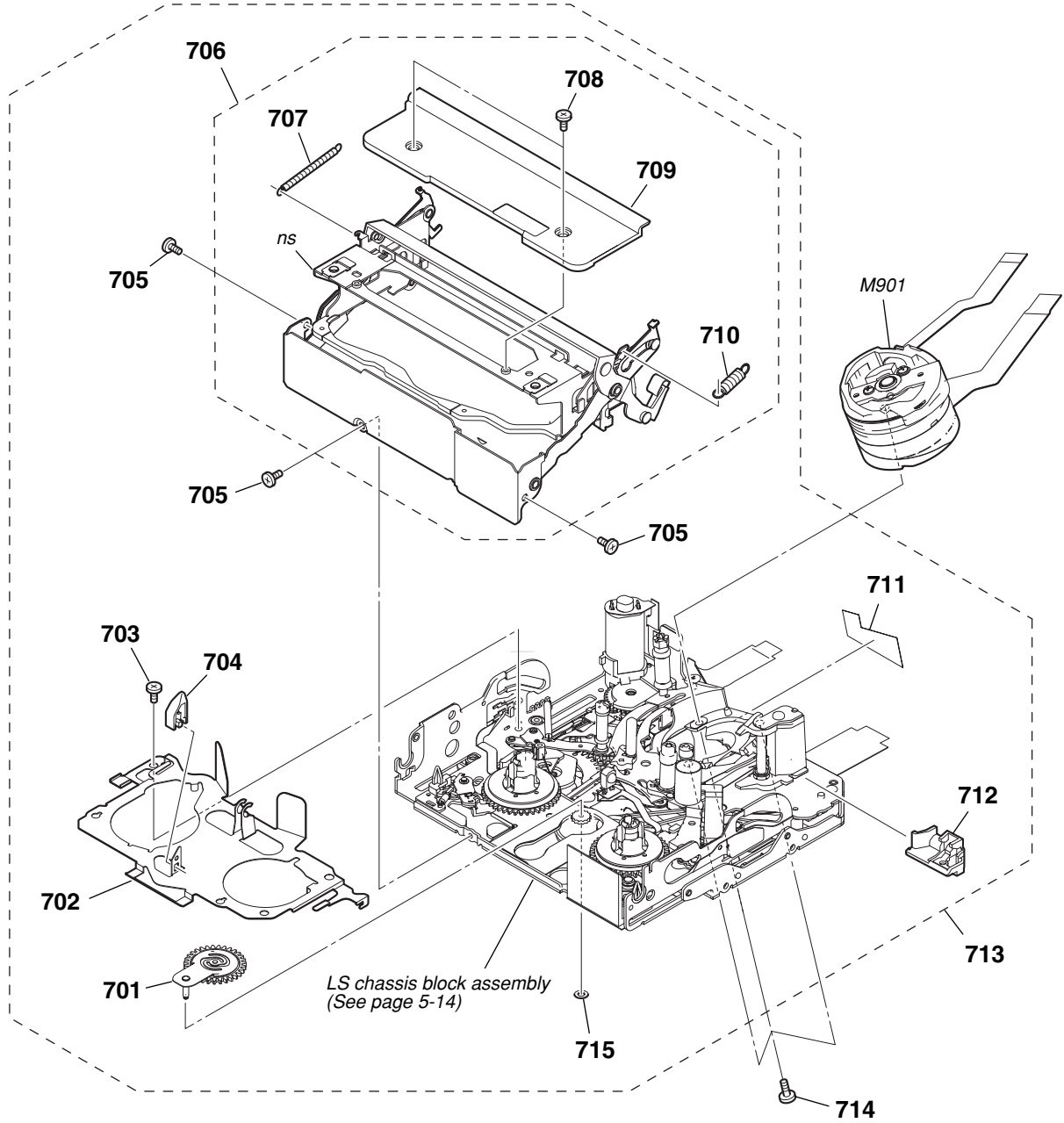
• Refer to page 5-1 for mark \triangle .

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
501	A-1174-646-A	FP-418 FLEXIBLE BOARD, COMPLETE	505	3-941-343-01	TAPE (A)
502	X-2108-830-1	FRAME ASSY, MD	* 506	2-672-294-01	LABEL, FUSE
* 503	2-672-293-01	SHEET, MD	* 507	1-869-919-11	FP-406 FLEXIBLE BOARD
504	A-1176-207-A	VC-441 BOARD, COMPLETE (SERVICE) (HC3/HC3K)	\triangle J001	1-815-792-11	CONNECTOR, DC-IN (7.2V)
504	A-1176-208-A	VC-441 BOARD, COMPLETE (SERVICE) (HC3E/HC3EK)	#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)
			#15	3-062-214-01	SCREW (M1.4X1.5)

5. REPAIR PARTS LIST

5-1-12. MECHANISM DECK SECTION

ns: not supplied



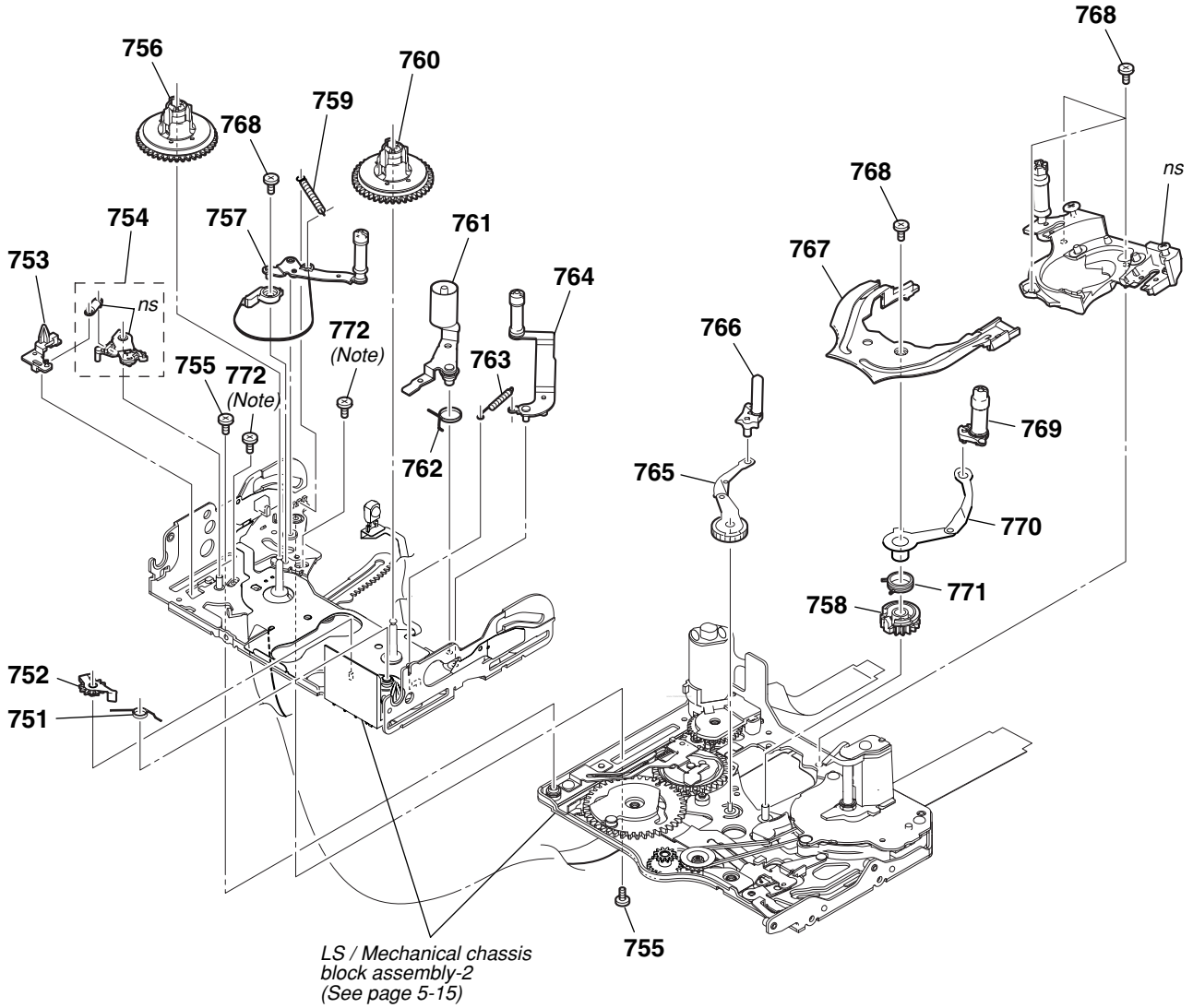
Ref. No.	Part No.	Description
701	X-2024-478-1	PENDULUM ASSY
702	2-342-917-02	LED BASE
703	7-627-850-77	SCREW, PRECISION +P 1.4X1.8
704	3-079-366-11	RELEASE, REEL LOCK
705	3-703-816-08	SCREW (M1.4X1.4), SPECIAL HEAD
706	X-2024-450-3	COMPARTMENT ASSY, CASSETTE
707	2-342-926-01	SPRING (ARM S), TENSION COIL
708	2-546-417-01	SCREW (M1.4)

Ref. No.	Part No.	Description
709	2-342-933-01	PLATE, TOP
710	2-342-927-01	SPRING (ARM T), TENSION COIL
711	2-541-585-01	SHEET, FLEXIBLE ADHESIVE
712	2-342-918-01	TG6 CATCHER
713	A-1080-997-A	MD (N100) SUB ASSY A
714	3-703-816-13	SCREW (M1.4X2.0), SPECIAL HEAD
715	3-315-414-31	WASHER
M901	A-1154-545-A	DRUM (DEH-33E-R)

5. REPAIR PARTS LIST

5-1-13. LS/MECHANICAL CHASSIS BLOCK ASSEMBLY-1

ns: not supplied



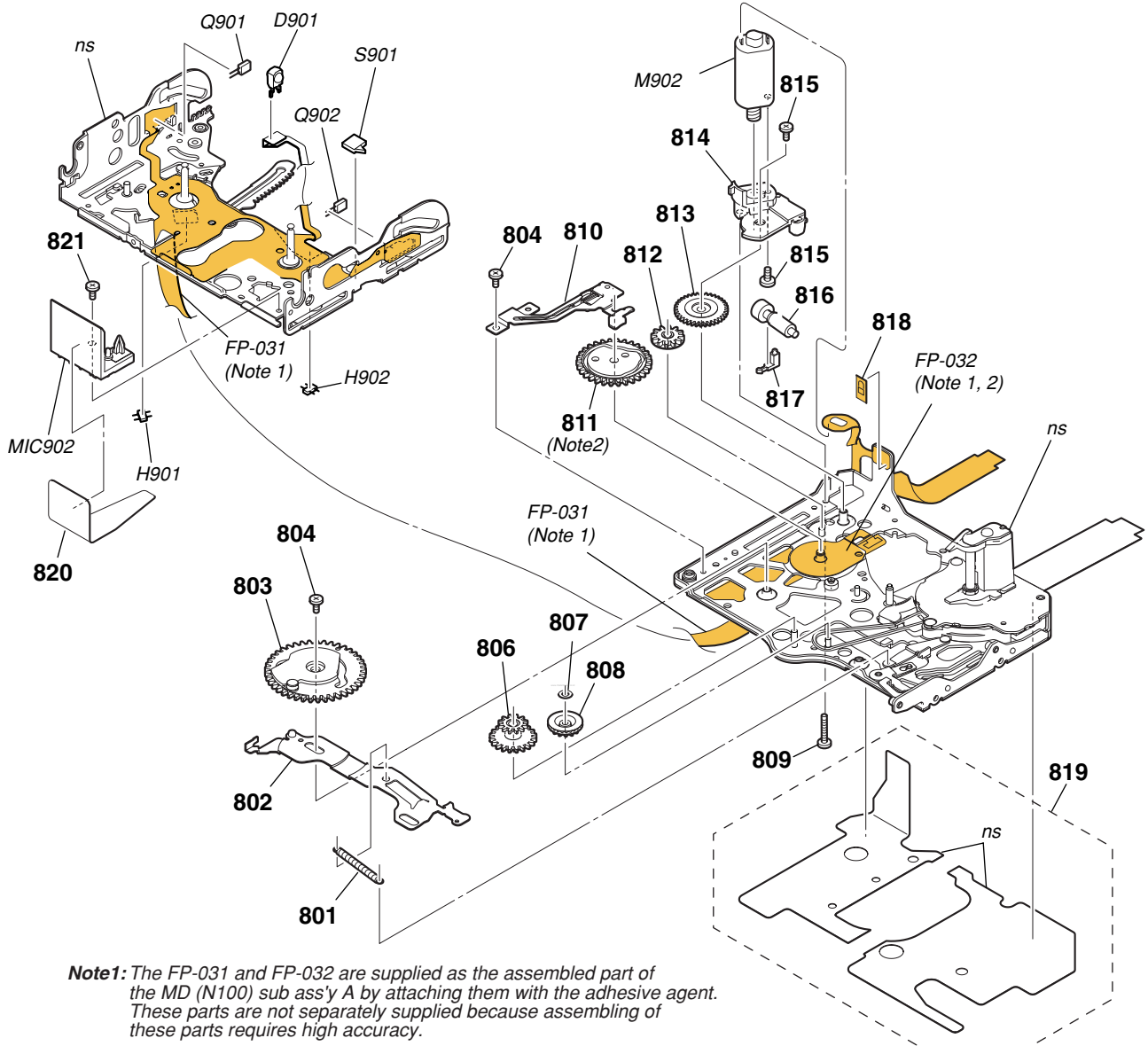
Note: These two screws are the fixing screws of the LS cam plate.
 These two fixing screws are used for adjusting the LS cam plate position.
 (refer to 4-2. LS cam adjustment of DV mechanical adjustment manual IX)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
751	2-342-759-01	SPRING, RVS BRAKE	762	2-342-906-01	SPRING (PINCH RETURN), TORSION
752	A-1083-005-A	BLOCK ASSY, RVS BRAKE	763	2-342-626-01	SPRING (RETURN TG6), EXTENSION
753	2-342-731-01	POSITIONING, S	764	A-1083-002-A	BLOCK ASSY, TG6
754	A-1083-006-A	BLOCK ASSY, S BRAKE	765	X-2024-468-3	ARM ASSY (S), GL
755	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD	766	X-2024-465-1	COASTER (S) ASSY
756	X-2024-473-1	TABLE ASSY, S REEL	767	2-342-612-01	RAIL
757	A-1083-007-B	BLOCKASSY, TENSION REGULATOR	768	3-703-816-13	SCREW (M1.4X2.0), SPECIAL HEAD
758	2-342-705-01	GEAR (T), GL	769	X-2024-466-1	COASTER (T) ASSY
759	2-342-902-01	SPRING, TENSION REGULATOR	770	X-2024-469-1	ARM (T) ASSY, GL
760	X-2024-474-1	TABLE ASSY, T REEL	771	2-342-716-01	SPRING (T), TORSION COIL
761	X-2024-476-1	ARM ASSY, PINCH	772	3-703-816-08	SCREW (M1.4X1.4), SPECIAL HEAD (for adjustment)

5. REPAIR PARTS LIST

5-1-14. LS/MECHANICAL CHASSIS BLOCK ASSEMBLY-2

ns: not supplied



Note1: The FP-031 and FP-032 are supplied as the assembled part of the MD (N100) sub ass'y A by attaching them with the adhesive agent. These parts are not separately supplied because assembling of these parts requires high accuracy.

Note2: The mode switch (S903) function works when the contactor of the FP-032 contacts with the bottom surface of wiper of the mode gear ass'y.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
801	2-342-624-01	SPRING (PINCH LIMITTER), EXTENSION	816	2-342-689-01	WORM SHAFT (2J)
802	X-2024-463-2	SLIDER ASSY, MODE	817	2-342-690-02	BASE, MOTOR HOLDER
803	X-2024-462-1	GEAR ASSY, CAM	818	1-677-049-11	FP-228 FLEXIBLE BOARD (DEW SENSOR)
804	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD	819	2-342-686-01	COVER, CAPSTAN
806	2-342-621-01	GEAR, RELAY	820	2-541-984-01	MIC COVER
807	3-315-414-31	WASHER	821	3-703-816-13	SCREW (M1.4X2.0), SPECIAL HEAD
808	2-342-620-01	GEAR, CONVERSION	D901	6-500-652-01	DIODE GL453SE000F (TAPE LED)
809	3-084-377-01	HEAD (SCREW M1.2)	H901	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (S REEL)
810	X-2024-460-1	BASE ASSY, CAM	H902	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (T REEL)
811	X-2024-461-1	GEAR ASSY, MODE	M902	X-2024-464-1	MOTOR ASSY (LOADING)
812	2-342-615-01	GEAR, NO.2	MIC902	1-818-576-11	PIN, CONNECTOR (WITH DETECTION SWITCH)
813	2-342-691-01	GEAR, NO.1	Q901	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE END)
814	2-637-945-01	MOTOR HOLDER	Q902	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE TOP)
815	3-895-822-71	SCREW (M1.2X2), SPECIAL, 0	S901	1-786-448-22	SWITCH, PUSH (1 KEY) (CC DOWN)

CK-159

5-2. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
	A-1174-642-A	CK-159 BOARD, COMPLETE *****
< CONNECTOR >		
CN6701	1-779-337-51	CONNECTOR, FFC/FPC 26P
* CN6702	1-816-654-51	FFC/FPC CONNECTOR (LIF) 6P
* CN6703	1-816-650-51	FFC/FPC CONNECTOR (LIF) 24P
< SWITCH >		
S6701	1-786-148-11	SWITCH, PUSH (1 KEY) (PANEL OPEN/CLOSE)

Electrical parts list of the CM-071 board is not shown.
Pages 5-17 and 5-18 are not shown.

Ref. No.	Part No.	Description
	A-1174-635-A	DM-111 BOARD, COMPLETE *****
		< CONNECTOR >
CN8302	1-818-607-12	CONNECTOR, SQUARE TYPE 10P (COMPONENT OUT)
CN8303	1-815-794-13	CONNECTOR (MULTIPLE) (A/V OUT)
* CN8304	1-819-780-51	CONNECTOR, FPC (ZIF) 27P
		< DIODE >
D8301	6-500-044-01	DIODE DF6A6.8FU (TE85R)
D8302	6-500-044-01	DIODE DF6A6.8FU (TE85R)
D8303	6-500-750-01	DIODE NSAD500H-T1-A
D8304	6-500-044-01	DIODE DF6A6.8FU (TE85R)
		< FERRITE BEAD >
FB8301	1-414-760-21	BEAD, FERRITE (CHIP) (1608)
FB8302	1-414-760-21	BEAD, FERRITE (CHIP) (1608)
		< RESISTOR >
R8301	1-218-990-81	SHORT CHIP 0
R8302	1-218-990-81	SHORT CHIP 0
R8304	1-218-990-81	SHORT CHIP 0
R8305	1-218-990-81	SHORT CHIP 0
R8306	1-218-990-81	SHORT CHIP 0
R8308	1-218-990-81	SHORT CHIP 0
R8309	1-218-990-81	SHORT CHIP 0
		(Not supplied) FP-031 FLEXIBLE BOARD ***** (This flexible board is included in MD (N100) SUB ASSY A (A-1080-997-A).)
		< DIODE >
D901	6-500-652-01	DIODE GL453SE0000F (TAPE LED)
		< HOLE ELEMENT >
H901	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (S REEL)
H902	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (T REEL)
		< MICROPHONE >
MIC902	1-818-576-11	PIN, CONNECTOR (WITH DETECTION)
		< TRANSISTOR >
Q901	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE END)
Q902	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE TOP)
		< SWITCH >
S901	1-786-448-22	SWITCH, PUSH (1 KEY) (CC DOWN)
		(Not supplied) FP-032 FLEXIBLE BOARD ***** (This flexible board with S903 is included in MD (N100) SUB ASSY A (A-1080-997-A).)

Ref. No.	Part No.	Description
	1-677-049-11	FP-228 FLEXIBLE BOARD (DEW SENSOR) *****
		A-1174-647-A FP-372 FLEXIBLE BOARD, COMPLETE *****
		< SWITCH >
S301	1-786-680-21	SWITCH, DETECTION (SMD) (PANEL REVERS)
		* 1-869-918-11 FP-405 FLEXIBLE BOARD ***** (CN801 and J801 are not included in FP-405 flexible board.)
		< CONNECTOR >
CN801	1-794-276-11	CONNECTOR, SQUARE TYPE 4P (HDV/DV)
		< JACK >
J801	1-793-995-11	JACK, SUPER SMALL TYPE (LANC)
		* 1-869-919-11 FP-406 FLEXIBLE BOARD ***** (J001 is not included in FP-406 flexible board.)
		< JACK >
△J001	1-815-792-11	CONNECTOR, DC-IN (7.2V) (DC IN)
		* 1-869-920-11 FP-407 FLEXIBLE BOARD ***** (BT901 is not included in FP-407 flexible board.)
		< BATTERY TERMINAL >
△BT901	1-780-064-21	BATTERY TERMINAL BOARD
		A-1174-645-A FP-417 FLEXIBLE BOARD, COMPLETE *****
		< CONNECTOR >
* CN3511	1-819-696-21	CONNECTOR, HDMI (HDMI OUT)
		A-1174-646-A FP-418 FLEXIBLE BOARD, COMPLETE *****
		< CONNECTOR >
* CN001	1-816-649-51	FFC/FPC CONNECTOR (LIF) 22P
		< SWITCH >
S001	1-786-180-31	SWITCH, PUSH (1KEY) (EJECT)
S003	1-786-515-21	SWITCH, TACTILE (RESET)

• Refer to page 5-1 for mark △.

FP-420

FP-421

LB-119

Ref. No.	Part No.	Description
	A-1174-648-A	FP-420 FLEXIBLE BOARD, COMPLETE *****

< CONNECTOR >

* CN001	1-816-654-51	FFC/FPC CONNECTOR (LIF) 6P
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< SWITCH >

S101	1-786-157-31	TACTILE SWITCH (MANUAL)
S102	1-762-650-21	SWITCH, SLIDE (NIGHTSHOT)

A-1174-649-A	FP-421 FLEXIBLE BOARD, COMPLETE *****
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< SWITCH >

S201	1-771-138-82	SWITCH, KEY BOARD (EASY)
S202	1-771-138-82	SWITCH, KEY BOARD (DISP/ BATT INFO)
S203	1-771-138-82	SWITCH, KEY BOARD (BACK LIGHT)

A-1174-644-A	LB-119 BOARD, COMPLETE *****
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< CAPACITOR >

C6501	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6502	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6503	1-164-505-11	CERAMIC CHIP	2.2uF		16V

< CONNECTOR >

* CN6501	1-816-648-51	FFC/FPC CONNECTOR (LIF) 20P
* CN6502	1-817-560-51	CONNECTOR, FPC (ZIP) 21P

< DIODE >

* D6501	6-501-325-01	DIODE NESW007T-T017 (EVF BACKLIGHT)
D6502	8-719-074-67	DIODE EDZ-TE61-5.6B

< RESISTOR >

R6501	1-216-841-11	METAL CHIP	47K	5%	1/10W
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Electrical parts list of the LD-202 board is not shown.
Pages 5-21 and 5-22 are not shown.

Ref. No.	Part No.	Description
	A-1174-641-A	MS-304 BOARD, COMPLETE ***** (BT8001 (lithium battery) is not included in MS-304 complete board.)
△BT8001	1-756-134-12	BATTERY, STORAGE, LITHIUM (Note) < BATTERY HOLDER >
BH8001	1-756-615-21	HOLDER, BATTERY (Note) < CONNECTOR >
CN8003	1-794-962-11	CONNECTOR, SQUARE TYPE (USB 5P) (USB)
CN8004	1-794-057-21	PIN, CONNECTOR (PC BOARD) 2P
CN8005	1-817-913-41	MEMORY STICK DUO CONNECTOR 10P
* CN8006	1-816-650-51	FFC/FPC CONNECTOR (LIF) 24P < DIODE >
D8001	8-719-078-02	DIODE 1SS357 (T3SONY1)
D8003	6-501-216-01	DIODE CL-271HR-C-TS (MS ACCESS)
D8006	8-719-056-61	DIODE MAZS082008SO
D8007	8-719-056-61	DIODE MAZS082008SO < FERRITE BEAD >
FB8001	1-469-581-21	INDUCTOR, FERRITE BEAD (1005)
FB8002	1-469-581-21	INDUCTOR, FERRITE BEAD (1005)
FB8003	1-469-581-21	INDUCTOR, FERRITE BEAD (1005)
FB8004	1-469-581-21	INDUCTOR, FERRITE BEAD (1005) < RESISTOR >
R8001	1-218-965-11	RES-CHIP 10K 5% 1/16W
R8002	1-218-965-11	RES-CHIP 10K 5% 1/16W
R8003	1-218-947-11	RES-CHIP 330 5% 1/16W
R8009	1-216-864-11	SHORT CHIP 0
R8010	1-216-864-11	SHORT CHIP 0

	A-1174-643-A	PD-276 BOARD, COMPLETE ***** < CAPACITOR >
C6101	1-164-939-11	CERAMIC CHIP 0.0022uF 10% 50V
C6102	1-164-939-11	CERAMIC CHIP 0.0022uF 10% 50V
C6103	1-137-710-11	CERAMIC CHIP 10uF 20% 6.3V
C6104	1-125-841-91	TANTAL. CHIP 22uF 20% 4V
C6105	1-165-884-91	CERAMIC CHIP 2.2uF 10% 6.3V

Note: Replace the battery holder (BH8001) together when replacing the lithium battery (BT8001) on the MS-304 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.

ノート: MS-304基板のリチウム電池 (BT8001) を交換する場合はバッテリーホルダ (BH8001) も同時に新品に交換して下さい。(一度使用したバッテリーホルダは再使用できません。) 部品取り付けの際は、先にバッテリー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。

Ref. No.	Part No.	Description
C6107	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V
C6108	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V
C6109	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V
C6110	1-164-739-11	CERAMIC CHIP 560PF 5% 50V
C6111	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V
C6112	1-100-786-91	TANTAL. CHIP 22uF 20% 6.3V
C6115	1-164-943-81	CERAMIC CHIP 0.01uF 10% 16V
C6116	1-164-943-81	CERAMIC CHIP 0.01uF 10% 16V
C6117	1-164-943-81	CERAMIC CHIP 0.01uF 10% 16V
C6119	1-125-889-91	CERAMIC CHIP 2.2uF 10% 10V
C6120	1-127-760-11	CERAMIC CHIP 4.7uF 10% 6.3V
C6121	1-125-889-91	CERAMIC CHIP 2.2uF 10% 10V
C6122	1-137-710-11	CERAMIC CHIP 10uF 20% 6.3V
C6123	1-127-760-11	CERAMIC CHIP 4.7uF 10% 6.3V
C6124	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V
C6125	1-165-908-11	CERAMIC CHIP 1uF 10% 10V
C6127	1-164-943-81	CERAMIC CHIP 0.01uF 10% 16V
C6128	1-165-908-11	CERAMIC CHIP 1uF 10% 10V
C6129	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V < CONNECTOR >
* CN6101	1-785-905-51	CONNECTOR, FFC/FPC (ZIF) 24P
* CN6102	1-794-322-51	CONNECTOR, FFC/FPC (ZIF) 6P
* CN6103	1-818-246-51	CONNECTOR, FFC/FPC (ZIF) 6P
* CN6104	1-785-905-51	CONNECTOR, FFC/FPC (ZIF) 24P < DIODE >
D6101	6-500-044-01	DIODE DF6A6.8FU (TE85R)
D6102	6-500-044-01	DIODE DF6A6.8FU (TE85R)
* D6105	6-501-476-01	DIODE NSSW008CT-T071 (LCD BACKLIGHT)
* D6106	6-501-476-01	DIODE NSSW008CT-T071 (LCD BACKLIGHT)
* D6107	6-501-476-01	DIODE NSSW008CT-T071 (LCD BACKLIGHT)
D6109	8-719-074-67	DIODE EDZ-TE61-5.6B < FERRITE BEAD >
FB6101	1-400-331-11	FERRITE, EMI (SMD) (1005) < IC >
IC6101	8-759-693-13	IC NJM12904V (TE2)
IC6102	8-753-229-98	IC CXM3006CR-T4 < COIL >
L6101	1-400-588-11	INDUCTOR, LAMINATE CHIP 10uH
L6103	1-400-588-11	INDUCTOR, LAMINATE CHIP 10uH
L6104	1-400-588-11	INDUCTOR, LAMINATE CHIP 10uH < TRANSISTOR >
Q6101	8-729-427-37	TRANSISTOR XP411F-TXE
Q6102	8-729-427-67	TRANSISTOR XP421F-TXE
Q6104	8-729-054-50	TRANSISTOR UP04501008S0
Q6105	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR
Q6106	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR
Q6107	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR
Q6108	6-550-234-01	TRANSISTOR UNR32A300LS0
Q6109	8-729-041-23	TRANSISTOR NDS356AP
Q6110	6-550-232-01	TRANSISTOR 2SA2029T2LQ/R

• Refer to page 5-1 for mark △.

Ref. No.	Part No.	Description			
< RESISTOR >					
R6102	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R6103	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R6104	1-218-975-11	RES-CHIP	68K	5%	1/16W
R6105	1-208-934-11	METAL CHIP	91K	0.5%	1/16W
R6106	1-218-949-11	RES-CHIP	470	5%	1/16W
R6109	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R6110	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R6111	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R6112	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6113	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6114	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6115	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6116	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R6117	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R6118	1-208-643-11	METAL CHIP	22	0.5%	1/16W
R6119	1-208-643-11	METAL CHIP	22	0.5%	1/16W
R6121	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6122	1-208-643-11	METAL CHIP	22	0.5%	1/16W
R6123	1-218-978-11	RES-CHIP	120K	5%	1/16W
R6124	1-218-981-11	RES-CHIP	220K	5%	1/16W
R6126	1-218-989-11	RES-CHIP	1M	5%	1/16W
< COMPOSITION CIRCUIT BLOCK >					
RB6101	1-234-400-21	CONDUCTOR, NETWORK	(2010 x4)		
A-1174-636-A	SI-046 BOARD, COMPLETE *****				
< CAPACITOR >					
C6301	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C6302	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
< CONNECTOR >					
* CN6300	1-816-644-51	FFC/FPC CONNECTOR (LIF) 12P			
< DIODE >					
D6301	8-719-079-78	DIODE DCZ2805 (IR EMITTER/NIGHTSHOT)			
D6302	8-719-079-78	DIODE DCZ2805 (IR EMITTER/NIGHTSHOT)			
D6303	6-500-817-01	DIODE SML-512UWT86 (CAMERA RECORDING)			
D6305	8-719-988-61	DIODE 1SS355TE-17			
< IC >					
IC6301	6-600-163-01	IC RS-770			
< TRANSISTOR >					
Q6301	6-550-102-01	TRANSISTOR 2SC5663T2L			
< RESISTOR >					
R6301	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6302	1-218-949-11	RES-CHIP	470	5%	1/16W
R6303	1-218-937-11	RES-CHIP	47	5%	1/16W
R6304	1-216-806-11	METAL CHIP	56	5%	1/10W
R6305	1-216-806-11	METAL CHIP	56	5%	1/10W

Ref. No.	Part No.	Description			
△	A-1174-639-A	ST-139 BOARD, COMPLETE ***** (C901 is not included in ST-139 complete board.)			
< CAPACITOR >					
△ C901	1-112-765-11	CAP, ELECT	86uF		330V
C8801	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C8802	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C8803	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C8804	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
< CONNECTOR >					
* CN8801	1-816-650-51	FFC/FPC CONNECTOR (LIF) 24P			
* CN8802	1-816-645-51	FFC/FPC CONNECTOR (LIF) 14P			
CN8803	1-779-327-51	CONNECTOR, FFC/FPC 6P			
< DIODE >					
D8801	6-501-096-01	DIODE CRF02 (TE85R)			
△ D8802	6-501-096-01	DIODE CRF02 (TE85R)			
D8804	8-719-056-23	DIODE MA2S111- (K8). SO (SUFFIX: -12)			
D8805	8-719-056-23	DIODE MA2S111- (K8). SO (SUFFIX: -12)			
< IC >					
△ IC8801	6-707-554-01	IC TPS65552DQQR			
< COIL >					
L8801	1-412-027-11	INDUCTOR 2.2uH			
< TRANSISTOR >					
△ Q8801	6-550-656-01	TRANSISTOR CY25BAJ-8F-T23			
< RESISTOR >					
R8801	1-208-947-11	METAL CHIP	330K	0.5%	1/16W
R8802	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R8803	1-216-864-11	SHORT CHIP 0			
R8804	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8806	1-216-807-11	METAL CHIP	68	5%	1/10W
R8807	1-216-857-11	METAL CHIP	1M	5%	1/10W
R8811	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R8812	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R8814	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
< TRANSFORMER >					
△ T8801	1-443-568-21	TRANSFORMER, D.C.-D.C.CONVERTER			

Electrical parts list of the VC-441 board is not shown.
Pages 5-25 to 5-34 are not shown.

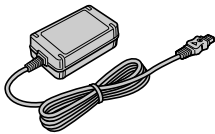
Ref. No.	Part No.	Description			
	A-1174-640-A	VF-175 BOARD, COMPLETE			

		< CAPACITOR >			
C8101	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8102	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C8103	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C8104	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C8105	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C8106	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C8107	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C8108	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C8110	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C8111	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C8113	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C8114	1-125-889-91	CERAMIC CHIP	2.2uF	10%	10V
C8115	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C8116	1-125-889-91	CERAMIC CHIP	2.2uF	10%	10V
C8117	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8118	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		< CONNECTOR >			
* CN8101	1-779-333-51	CONNECTOR, FFC/FPC 18P			
CN8102	1-779-334-51	CONNECTOR, FFC/FPC 20P			
		< FERRITE BEAD >			
FB8101	1-400-619-11	BEAD, FERRITE (CHIP) (1608)			
		< IC >			
* IC8101	8-753-242-24	IC CXM3018R-T4			
IC8102	8-759-693-13	IC NJM12904V (TE2)			
		< COIL >			
L8101	1-400-588-11	INDUCTOR, LAMINATE CHIP	10uH		
L8102	1-400-588-11	INDUCTOR, LAMINATE CHIP	10uH		
L8103	1-400-588-11	INDUCTOR, LAMINATE CHIP	10uH		
		< TRANSISTOR >			
Q8102	8-729-054-48	TRANSISTOR	UP04601008S0		
		< RESISTOR >			
R8101	1-218-975-11	RES-CHIP	68K	5%	1/16W
R8102	1-218-949-11	RES-CHIP	470	5%	1/16W
R8104	1-218-990-81	SHORT CHIP	0		
R8105	1-218-953-11	RES-CHIP	1K	5%	1/16W
R8107	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R8109	1-218-965-11	RES-CHIP	10K	5%	1/16W
R8110	1-218-929-11	RES-CHIP	10	5%	1/16W
R8111	1-218-929-11	RES-CHIP	10	5%	1/16W
R8112	1-218-929-11	RES-CHIP	10	5%	1/16W
R8113	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R8114	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R8116	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R8117	1-220-884-81	METAL CHIP	39	0.5%	1/16W

• EXCEPT J MODEL

Checking supplied accessories.

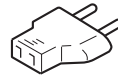
to J MODEL



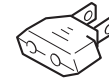
AC Adaptor
(AC-L200)
△ 1-479-285-12



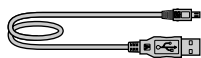
Power Cord
△ 1-555-074-71 (AUS)
△ 1-782-476-41 (CH)
△ 1-783-374-22 (HK)
△ 1-790-107-51 (US, CND)
△ 1-792-549-31 (JE)
△ 1-823-947-51 (KR)
△ 1-824-910-31 (AEP, NE, E: PAL)
△ 1-827-269-22 (UK)
△ 1-830-518-31 (E: NTSC)



Conversion (2P) Adaptor
△ 1-569-007-12 (E: NTSC, JE)



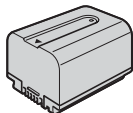
Conversion (2P) Adaptor
△ 1-569-008-12 (HK)



USB Cable
1-829-868-31



A/V Connection Cable
1-823-156-51



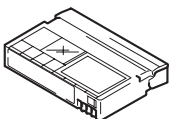
Rechargeable Battery Pack
NP-FP60
△ A-1144-873-A (US, CND)
△ A-1144-874-A
(EXCEPT US, CND, CH)
△ A-1144-875-A (CH)



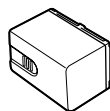
Component Video Cable
1-829-414-61



Wireless Remote Commander
RMT-831
1-478-495-41



DV Cassette Tape
DVM-4CLD J
8-883-121-64 (JE)



Battery Terminal Cover
2-676-622-01

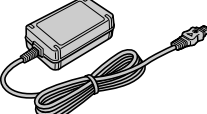
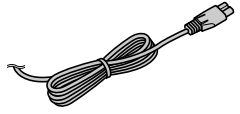
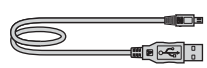
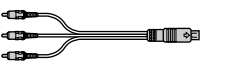
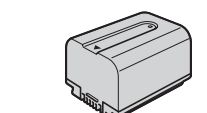


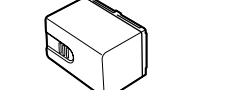
Other accessories

- 2-661-355-11 MANUAL, INSTRUCTION (ENGLISH) (HC3/HC3K)
(US, CND, E, JE)
- 2-661-355-21 MANUAL, INSTRUCTION (FRENCH) (HC3) (CND)
- 2-661-355-31 MANUAL, INSTRUCTION (SPANISH) (HC3/HC3K)
(E, JE)
- 2-661-355-41 MANUAL, INSTRUCTION (PORTUGUESE) (HC3K) (JE)
- 2-661-355-51 MANUAL, INSTRUCTION (TRADITIONAL CHINESE)
(HC3) (E)
- 2-661-355-61 MANUAL, INSTRUCTION (KOREAN) (HC3/HC3K)
(KR, JE)
- 2-661-356-11 MANUAL, INSTRUCTION (ENGLISH) (HC3E/HC3EK)
(AEP, UK, E, HK, AUS, JE)
- 2-661-356-21 MANUAL, INSTRUCTION (FRENCH) (HC3E) (AEP, E)
- 2-661-356-31 MANUAL, INSTRUCTION (GERMAN, DUTCH) (HC3E)
(AEP)
- 2-661-356-51 MANUAL, INSTRUCTION (SPANISH, PORTUGUESE)
(HC3E) (AEP)
- 2-661-356-61 MANUAL, INSTRUCTION (ITALIAN, GREEK) (HC3E)
(AEP)
- 2-661-356-71 MANUAL, INSTRUCTION (SWEDISH, RUSSIAN)
(HC3E/HC3EK) (NE, JE)
- 2-661-356-81 MANUAL, INSTRUCTION (DANISH, FINNISH)
(HC3E/HC3EK) (NE)
- 2-661-356-91 MANUAL, INSTRUCTION (SIMPLIFIED CHINESE)
(HC3E/HC3EK) (E, CH, JE)
- 2-661-357-41 MANUAL, INSTRUCTION (HC3E)
(TRADITIONAL CHINESE) (HK)
- 2-661-357-51 MANUAL, INSTRUCTION (HC3E)
(ARABIC, PERSIAN) (E)

• Refer to page 5-1 for mark △.

● J MODEL

付属品

		図面 番号	部品コード	部品名
AC アダプター (AC-L200) △ 1-479-285-12	電源コード △ 1-792-549-31		2-661-355-01	取扱説明書
				
USB ケーブル 1-829-868-31	A/V 接続ケーブル 1-823-156-51			
				
リチャージャブル バッテリーパック (NP-FP60) △ A-1144-872-A	D端子コンポーネント ビデオケーブル 1-829-414-11			
				
ワイヤレスリモコン RMT-831 1-478-495-31	バッテリー端子カバー 2-676-622-01			

● △マークについては、5-1ページを参照して下さい。

HDR-HC3/HC3E/HC3K/HC3EK

RMT-831

SONY®

LEVEL 2

SERVICE MANUAL

Ver 1.2 2006.08

US Model
Canadian Model
AEP Model
UK Model
North European Model
E Model
Australian Model
Chinese Model
Hong Kong Model
Korea Model
Tourist Model
Japanese Model

SUPPLEMENT-1

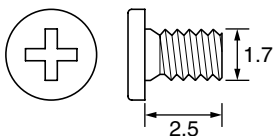
File this supplement with the service manual.
(DI06-052)

- Change of Disassembly
- Change of Board's Suffix No.
- Change of Repair Parts

- Suffix No. of FP-031 flexible board has been changed from 11 into 12.
About suffix No. 11 and 12, there are no changes of schematic diagram and printed wiring board.
- Suffix No. of FP-406 flexible board has been changed from 11 into 12.
About suffix No. 11 and 12, there are no changes of schematic diagram and printed wiring board.
- Suffix No. of FP-420 flexible board has been changed from 11 into 12.
About suffix No. 11 and 12, there are no changes of schematic diagram and printed wiring board.
- [Precaution on Replacing the VC-441 Board](#)

HARDWARE LIST

#48: M1.7 X 2.5
(Silver)
3-973-497-91



1. SERVICE NOTE

1-7. PRECAUTION ON REPLACING THE VC-441 BOARD

Beware of the combination between VC-441 board and ST-139 board according to the suffix No.

ST-139 Board and VC-441 Board Combination Table

		VC-441 board (suffix-11)	VC-441 board (suffix-12)
ST-139 board (suffix-11)		○	○
ST-153 board (Note)		○	×
ST-139 board (suffix-12)	Former	○	×
	New	○	○

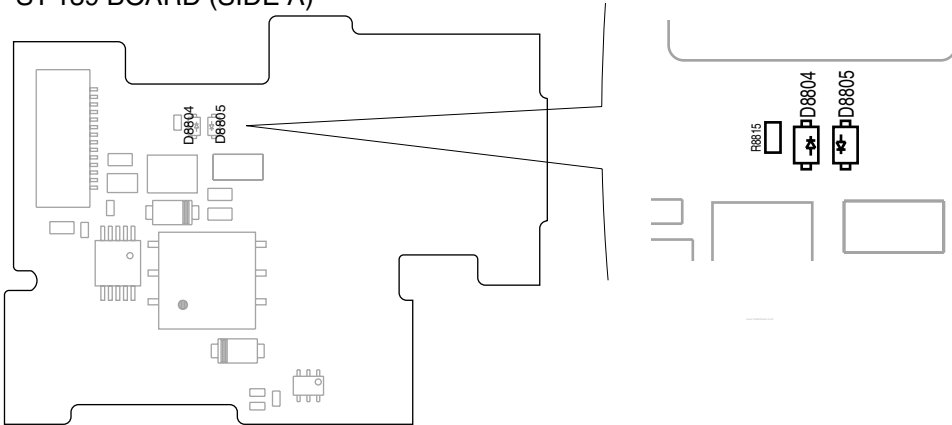
Note: The ST-153 board corresponds to the ST-139 board (suffix-12 (former type)).
When repairing the ST-153 board, replace it with the ST-139 board (suffix-12).

Differences of Mounted Parts on the ST-139 Board (Suffix-12)

	Former	New
D8804	MA2S111-(K8).SO	XX
D8805	MA2S111-(K8).SO	XX
R8815	XX	0

XX: No mount

ST-139 BOARD (SIDE A)



1-7. VC-441基板交換時の注意

VC-441基板は末尾により、ST-139基板との組み合わせがあります。

ST-139, VC-441基板組み合わせ表

		VC-441基板 (末尾-11)	VC-441基板 (末尾-12)
ST-139基板 (末尾-11)		○	○
ST-153基板 (注意)		○	×
ST-139 基板 (末尾-12)	旧	○	×
	新	○	○

注意：ST-153基板はST-139基板（末尾-12（旧タイプ））に相当する基板です。

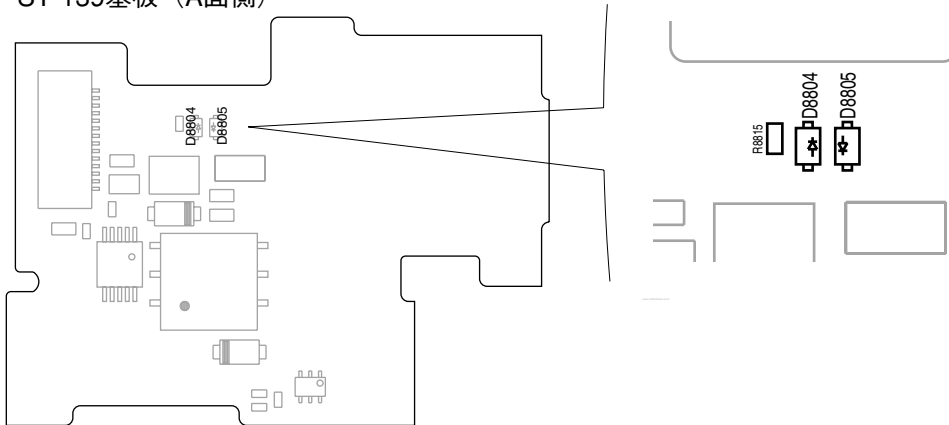
ST-153基板を修理する際は、ST-139基板（末尾-12）へ交換してください。

ST-139基板（末尾-12）の相違部品

	旧	新
D8804	MA2S111-(K8).SO	XX
D8805	MA2S111-(K8).SO	XX
R8815	XX	0

XX: 未使用

ST-139基板（A面側）

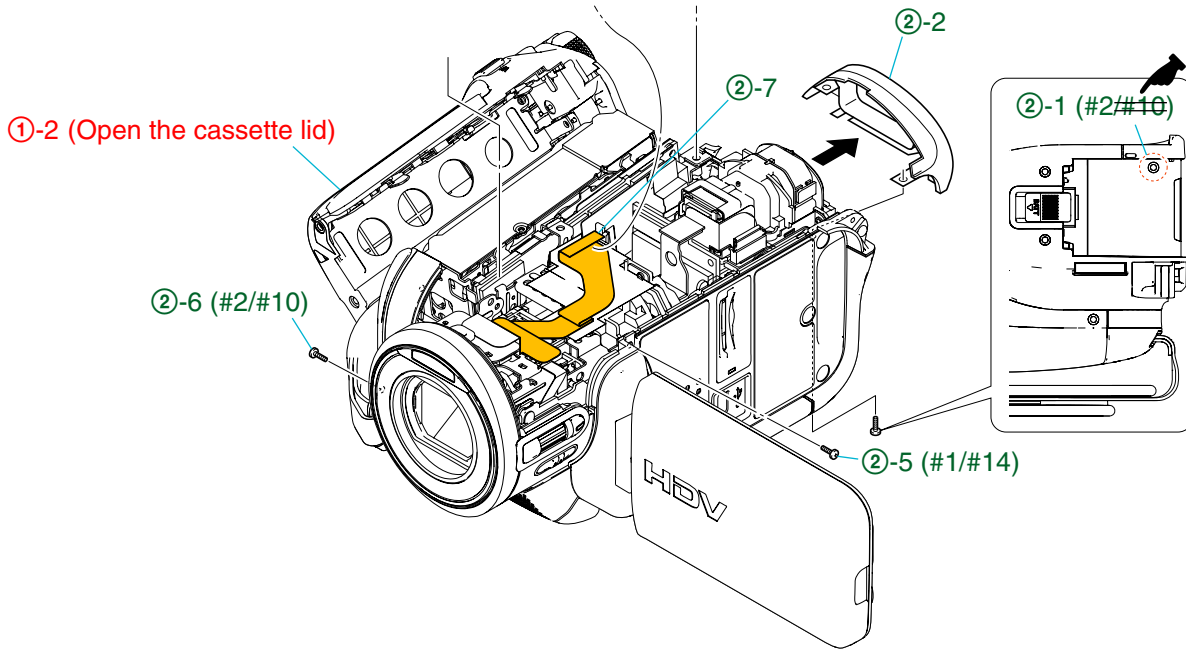


2. DISASSEMBLY

2-1. DISASSEMBLY

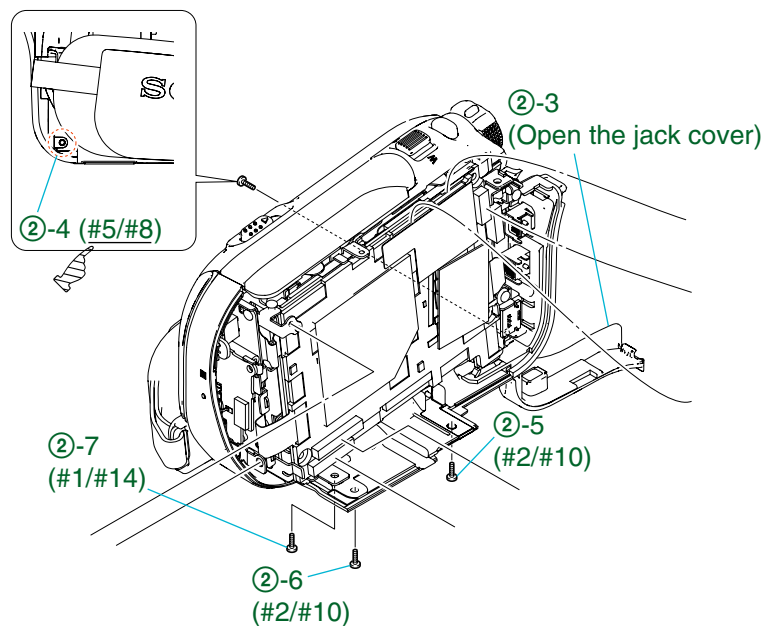
2-1-1. OVERALL ASSEMBLY-1

 : Points deleted portion.



2-1-2. OVERALL ASSEMBLY-2

 : Points changed portion.



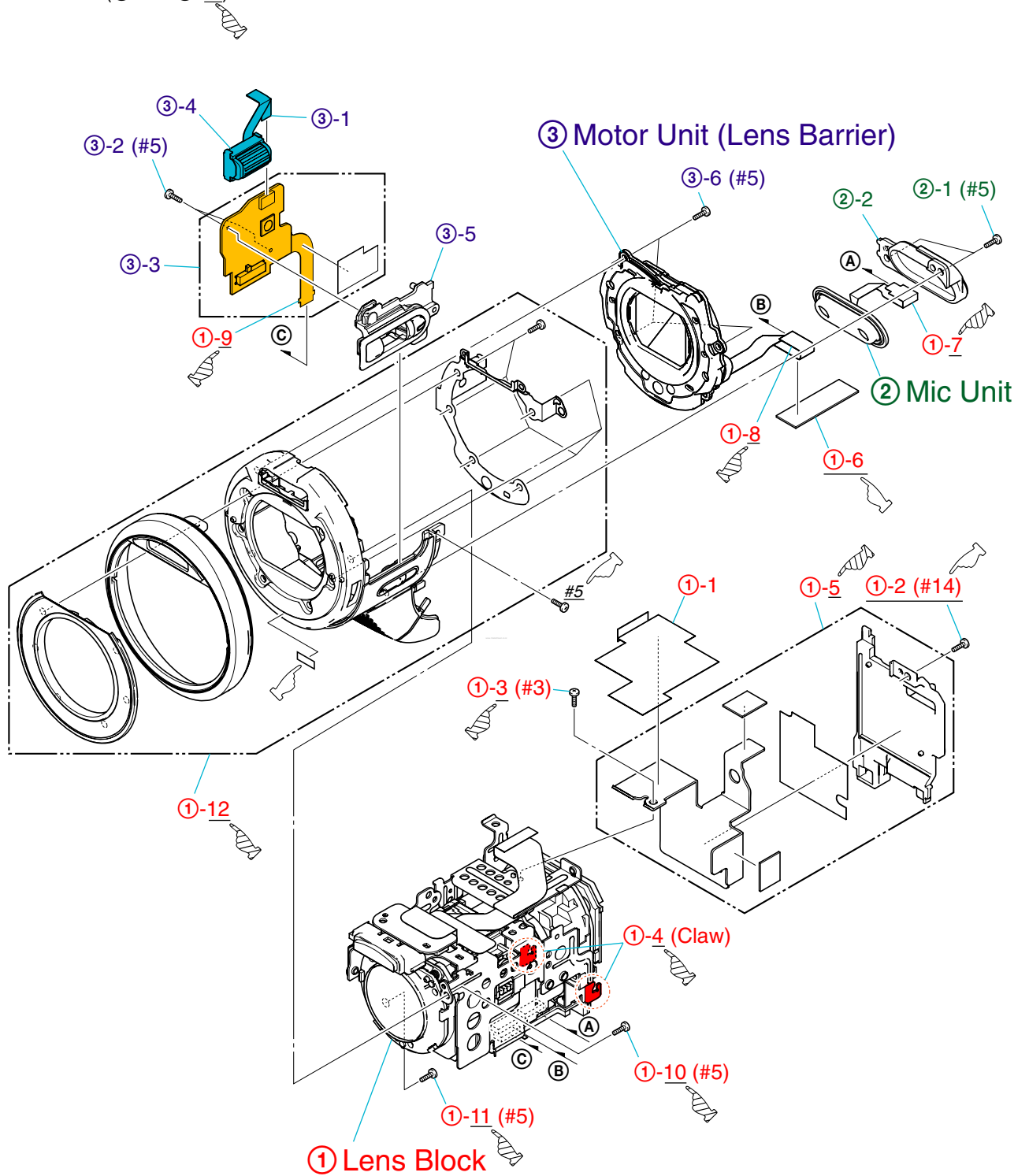
2-1-3. FRONT PANEL BLOCK

 : Points added portion.

 : Points changed portion.


Follow the disassembly in the numerical order given.

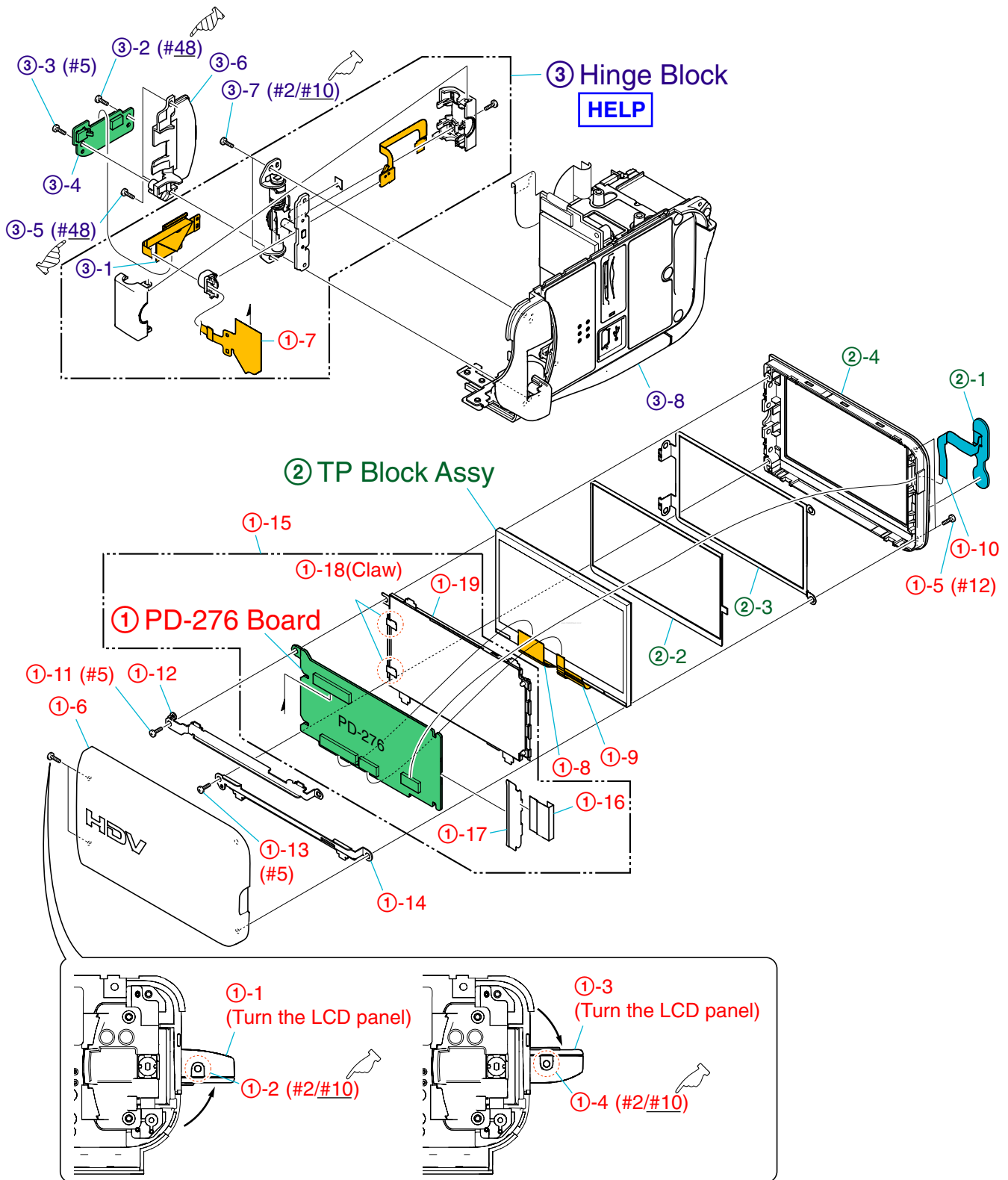
① Lens block (①-1 to ①-12)



2-1-4. LCD PANEL BLOCK


 : Points added portion.

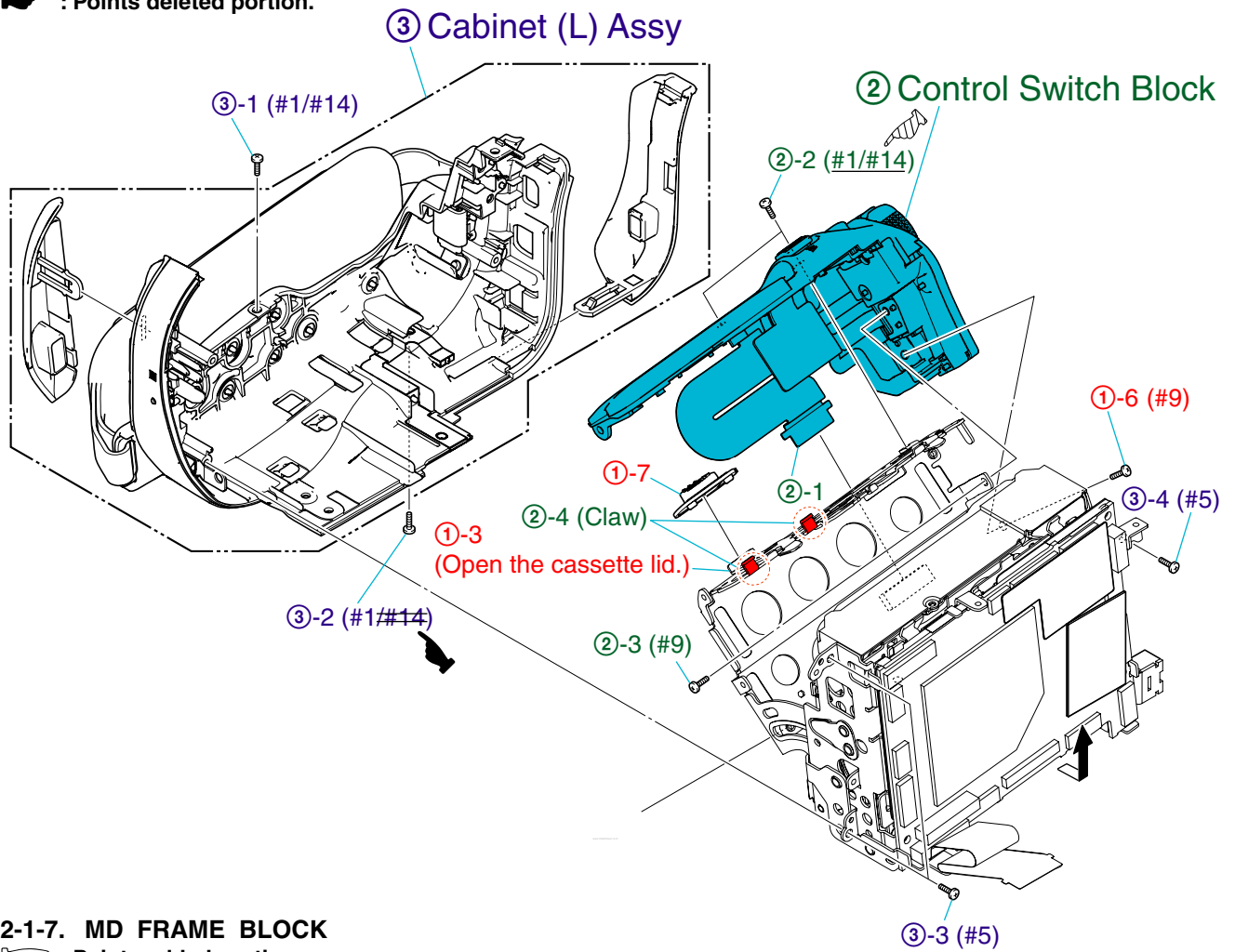
 : Points changed portion.



2-1-6. CABINET (L) BLOCK-2


 : Points added portion.

 : Points deleted portion.



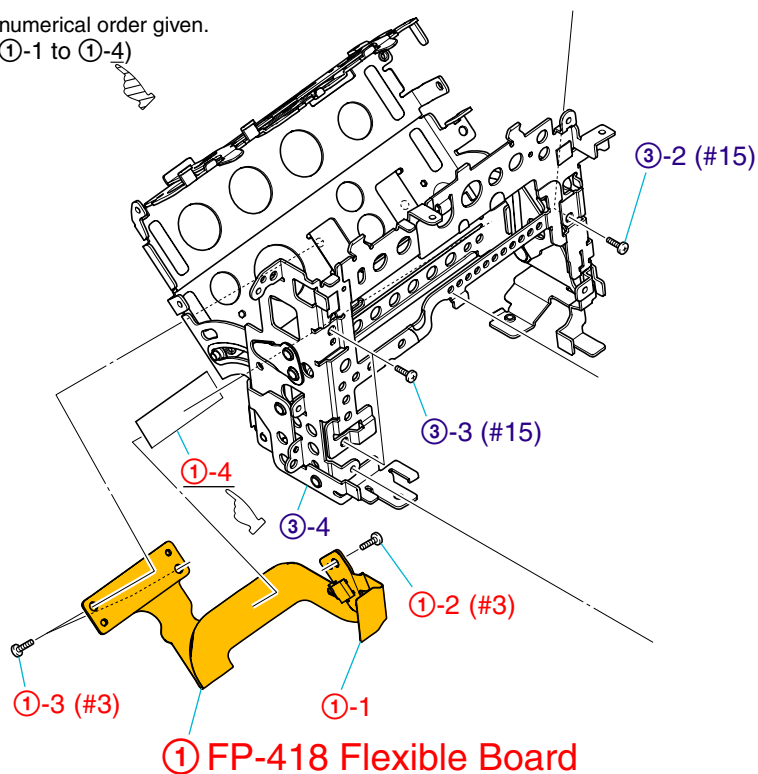
2-1-7. MD FRAME BLOCK

 : Points added portion.

 : Points changed portion.

Follow the disassembly in the numerical order given.

① FP-418 flexible board (①-1 to ①-4)

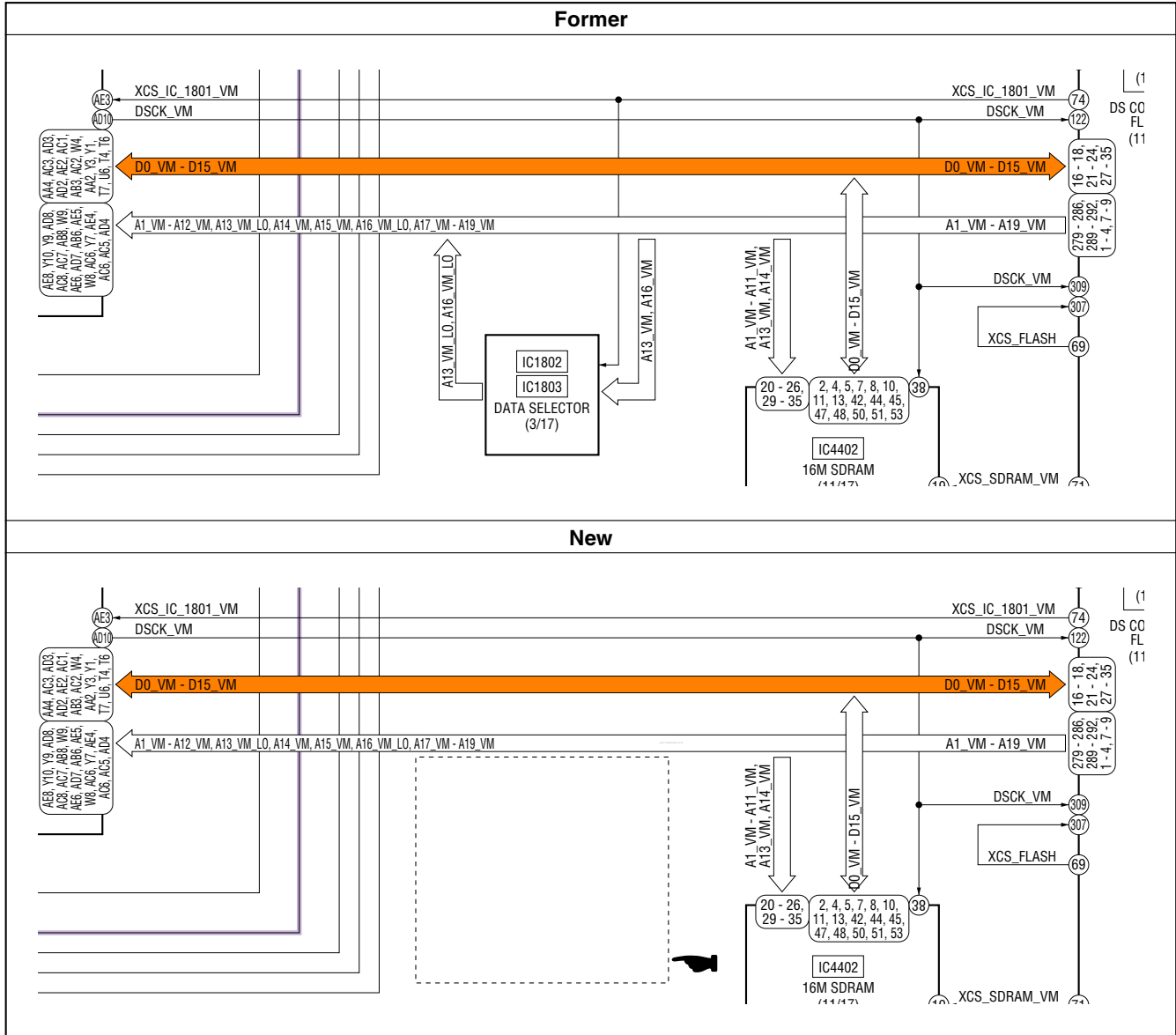


3. BLOCK DIAGRAM

 : Points deleted portion.

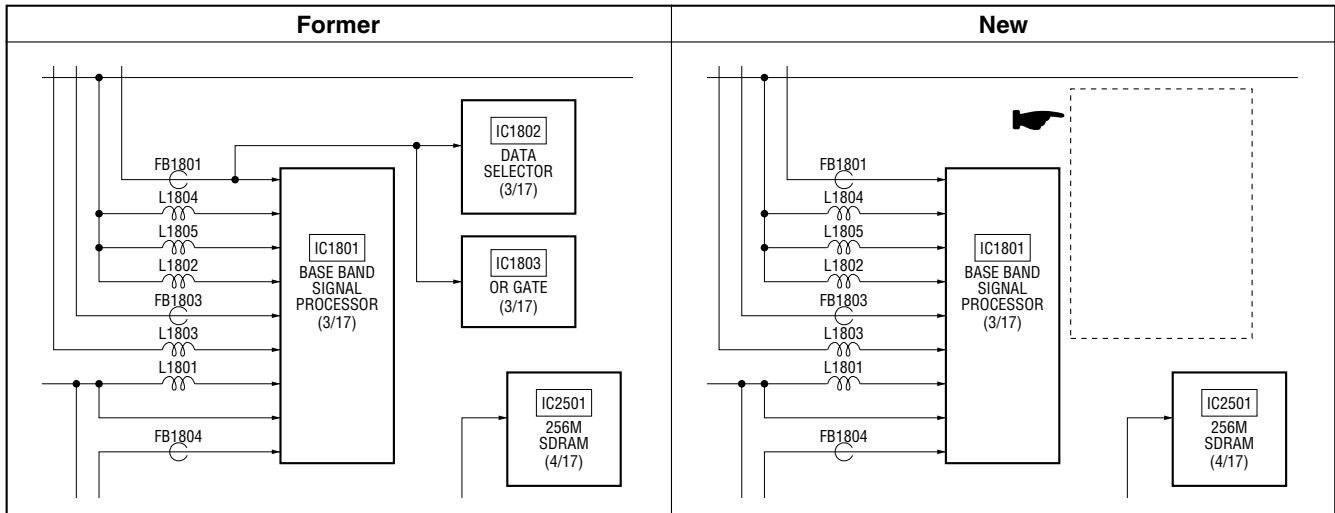
3-3. OVERALL BLOCK DIAGRAM (3/7)

(Service manual page 3-3)



3-9. POWER BLOCK DIAGRAM (2/3)

(Service manual page 3-9)



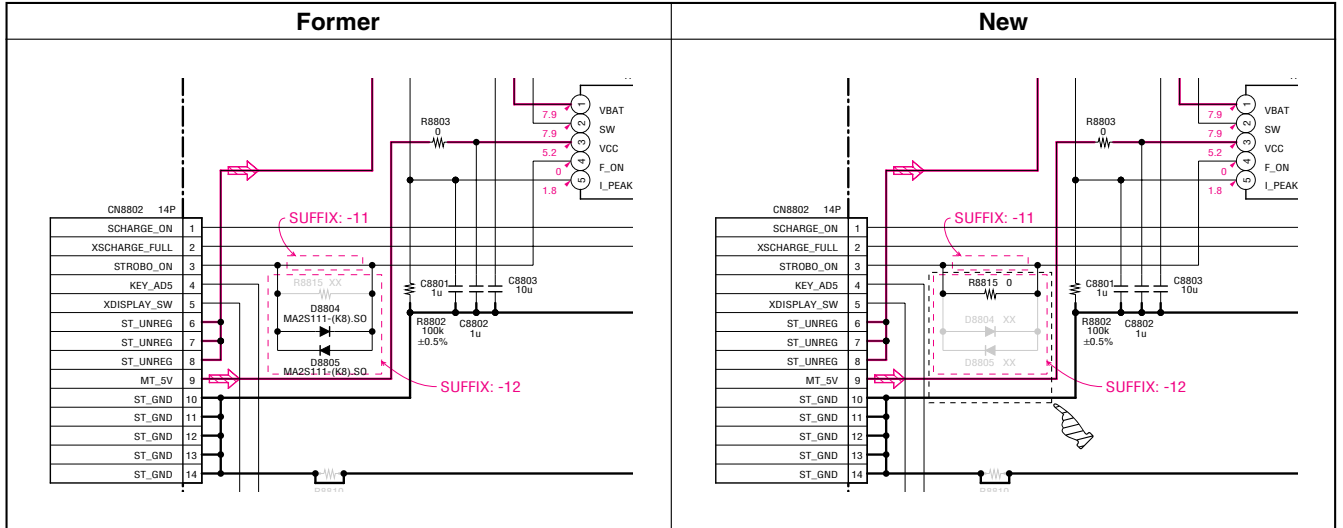
4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

 : Points changed portion.

4-2. SCHEMATIC DIAGRAMS

ST-139 BOARD (FLASH DRIVE)

(Service manual page 4-28, Location D-6 to F-9)



4-4. MOUNTED PARTS LOCATION

Page	Former	New
4-56	ST-139 BOARD	ST-139 BOARD
	D8804 A-1 D8805 A-2 _____	_____ _____ R8815 A-1

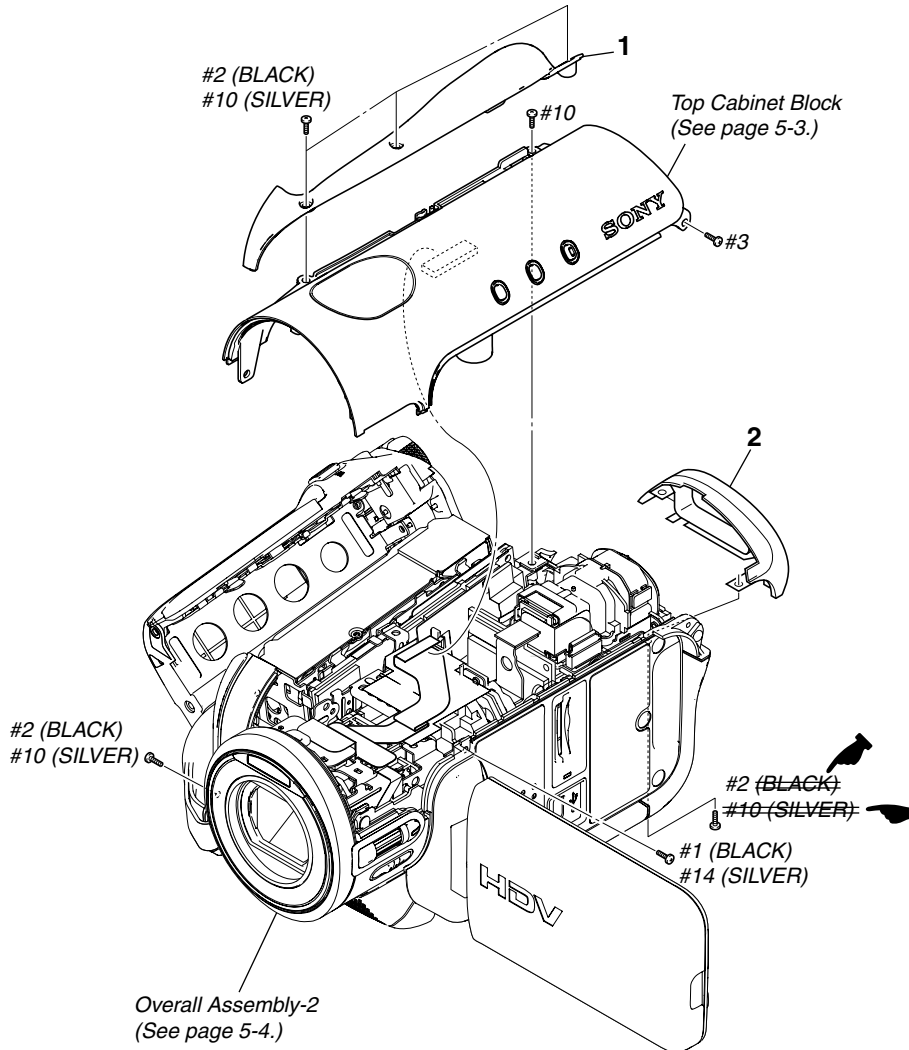
5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

5-1-1. OVERALL ASSEMBLY-1




 : Points changed portion.

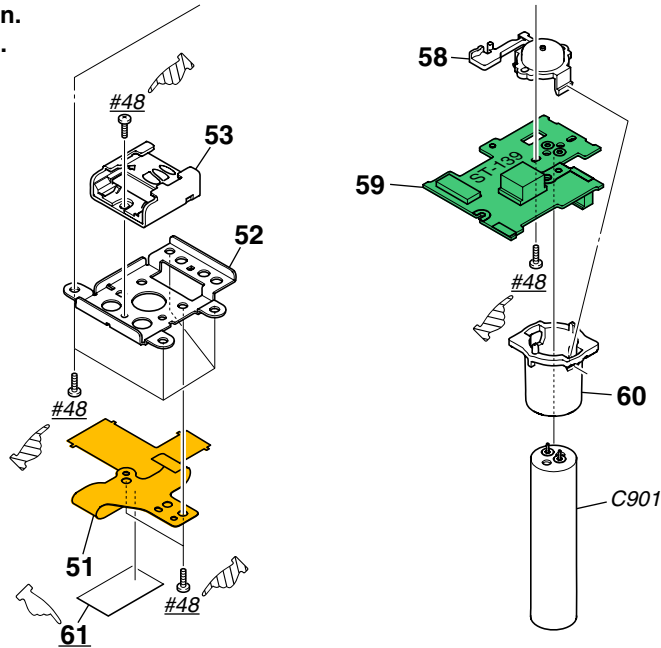
 : Points deleted portion.







Former			New		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	X-2108-837-1	COVER ASSY, GRIP (SILVER)	1	X-2108-837-3	COVER ASSY, GRIP (SILVER)
1	X-2108-838-1	COVER ASSY, GRIP (BLACK)	1	X-2108-838-3	COVER ASSY, GRIP (BLACK)


5-1-2. TOP CABINET BLOCK

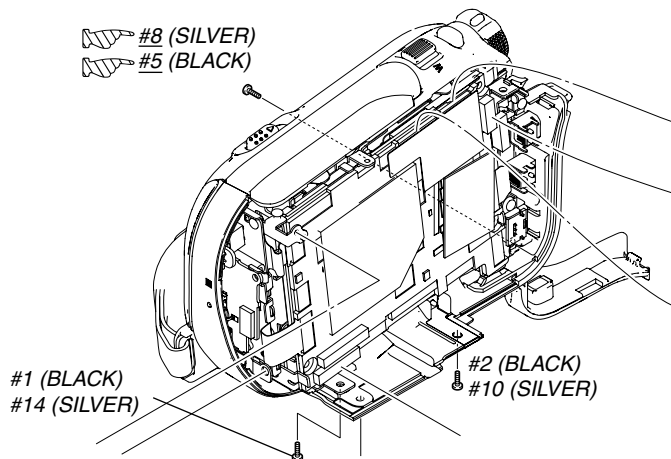
-  : Points added portion.
-  : Points changed portion.
-  : Points deleted portion.







Former			New		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
—	—	—	61	3-941-343-01	TAPE (A) 
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)	—	—	— 
#14	2-599-475-11	SCREW (M1.7) (Silver)	—	—	— 
—	—	—	#48	3-973-497-91	SCREW (M1.7), 0-NO. +P 2 (Silver) 


5-1-3. OVERALL ASSEMBLY-2

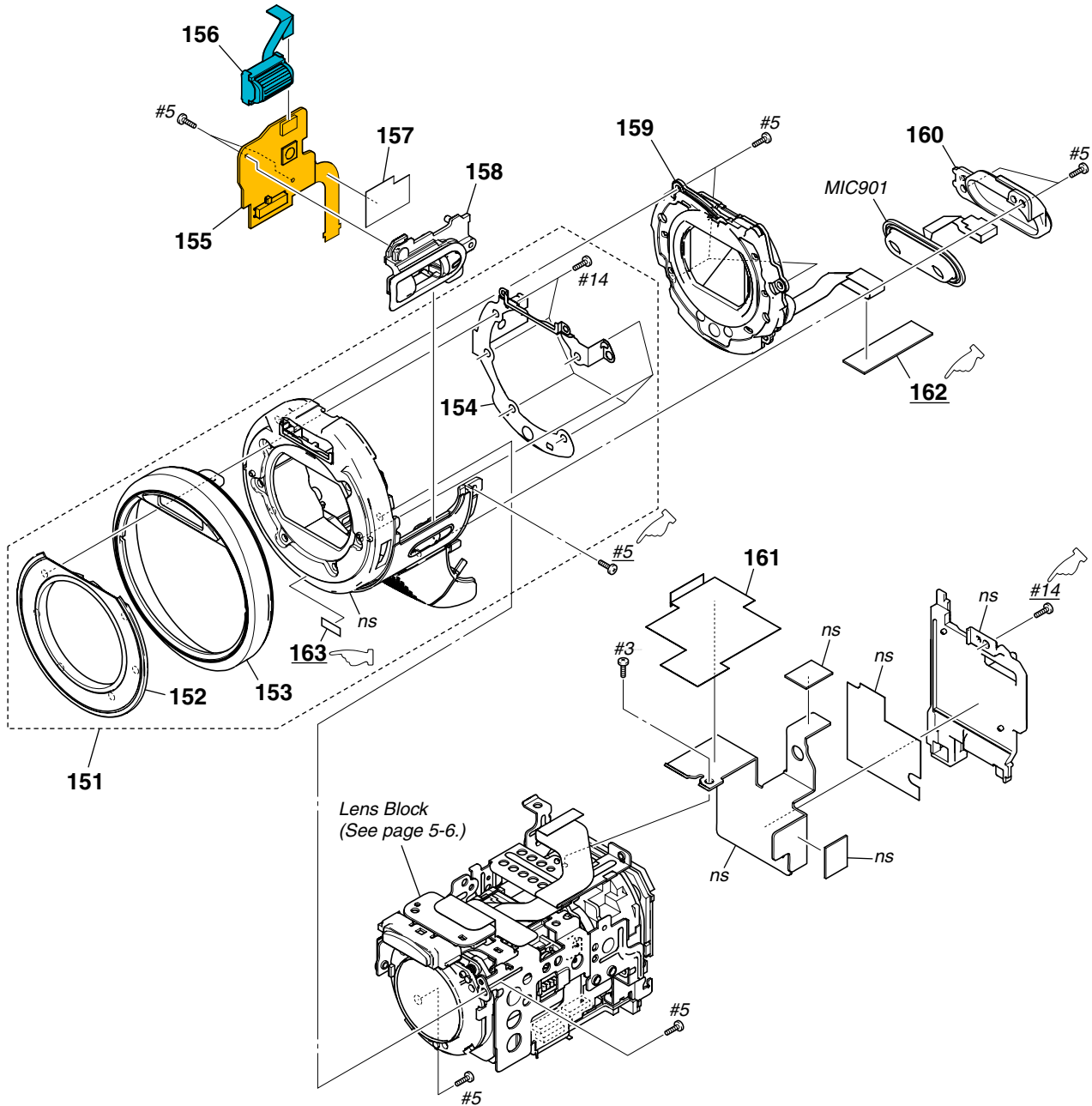
-  : Points added portion.
-  : Points changed portion.
-  : Points deleted portion.





Former			New		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
101	1-963-577-11	HARNES (COAXIAL CABLE)	101	1-963-577-21	HARNES (COAXIAL CABLE) 
—	—	—	#5	3-080-204-01	SCREW, TAPPING, P2 (Black) 
—	—	—	#8	3-078-890-01	SCREW, TAPPING (Silver) 
#12	3-080-204-21	SCREW, TAPPING, P2 (Black)	—	—	— 

5-1-4. FRONT PANEL BLOCK

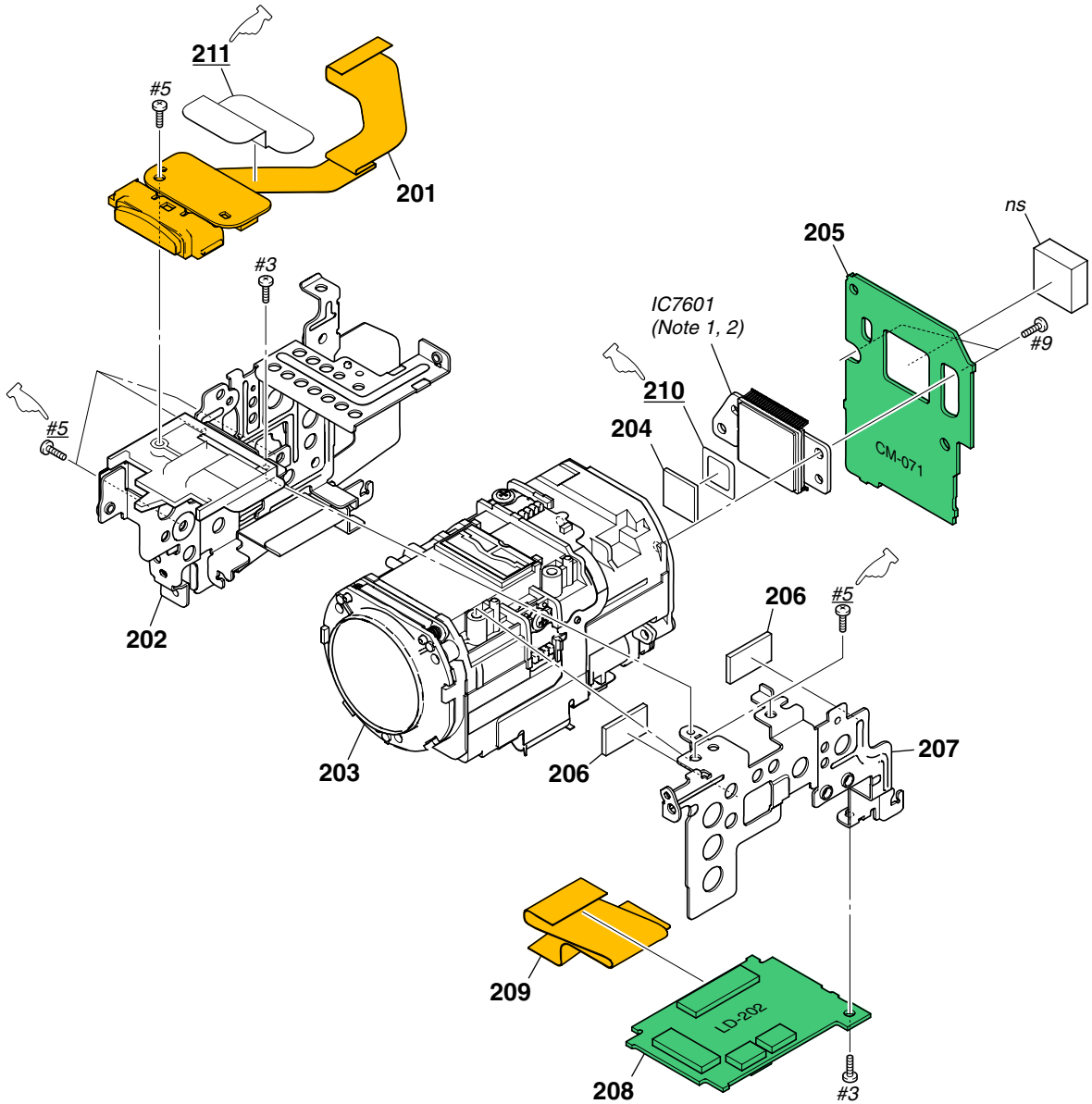
 : Points added portion.





Former			New		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
—	—	—	162	3-941-343-01	TAPE (A) 
—	—	—	* 163	2-694-090-01	SHEET, FG 

5-1-5. LENS BLOCK

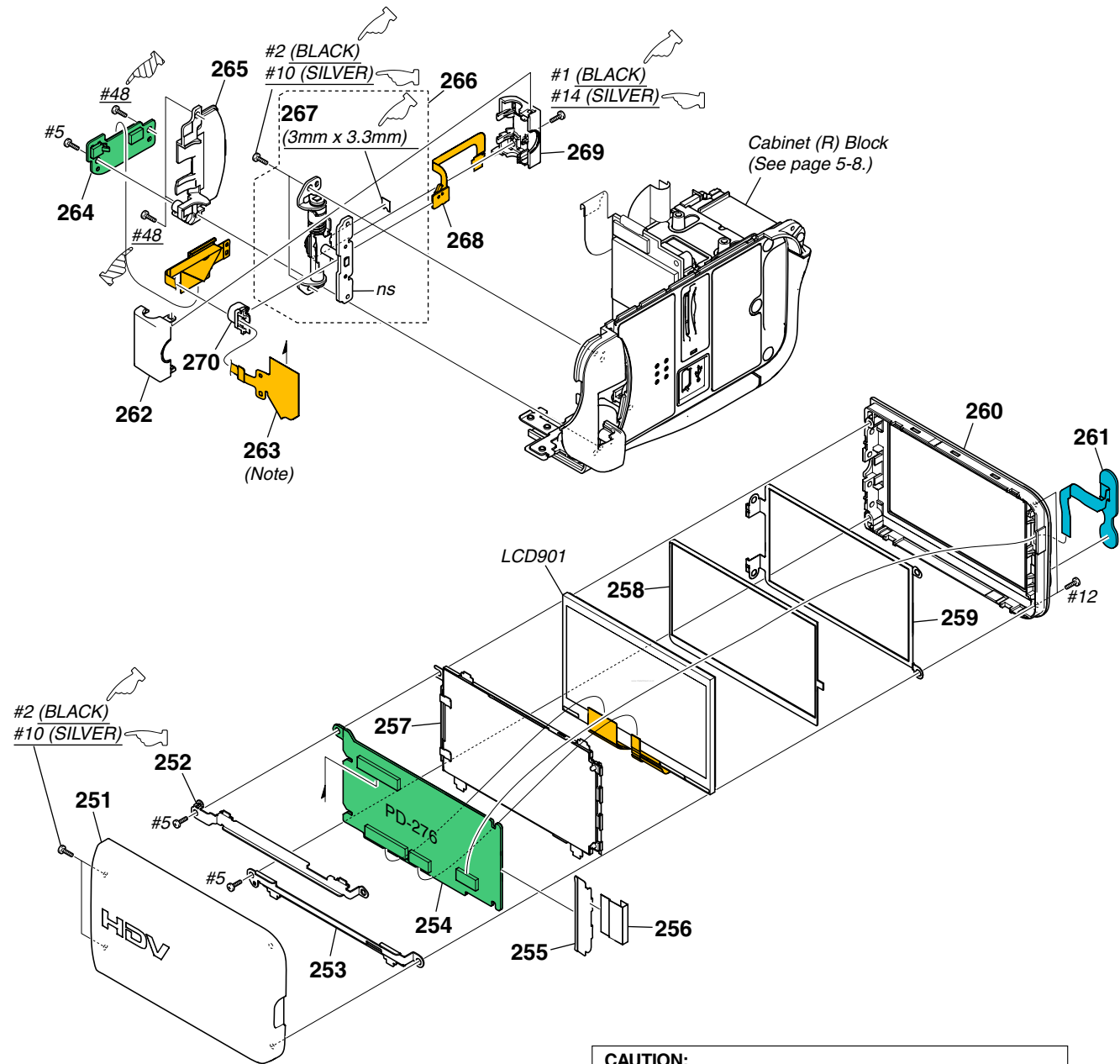
 : Points added portion.



Former			New		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
—	—	—	210	2-629-086-01	RUBBER (871), SEAL 
—	—	—	* 211	2-682-025-01	SHEET, SD 

5-1-6. LCD PANEL BLOCK

- : Points added portion.
- : Points changed portion.
- : Points deleted portion.






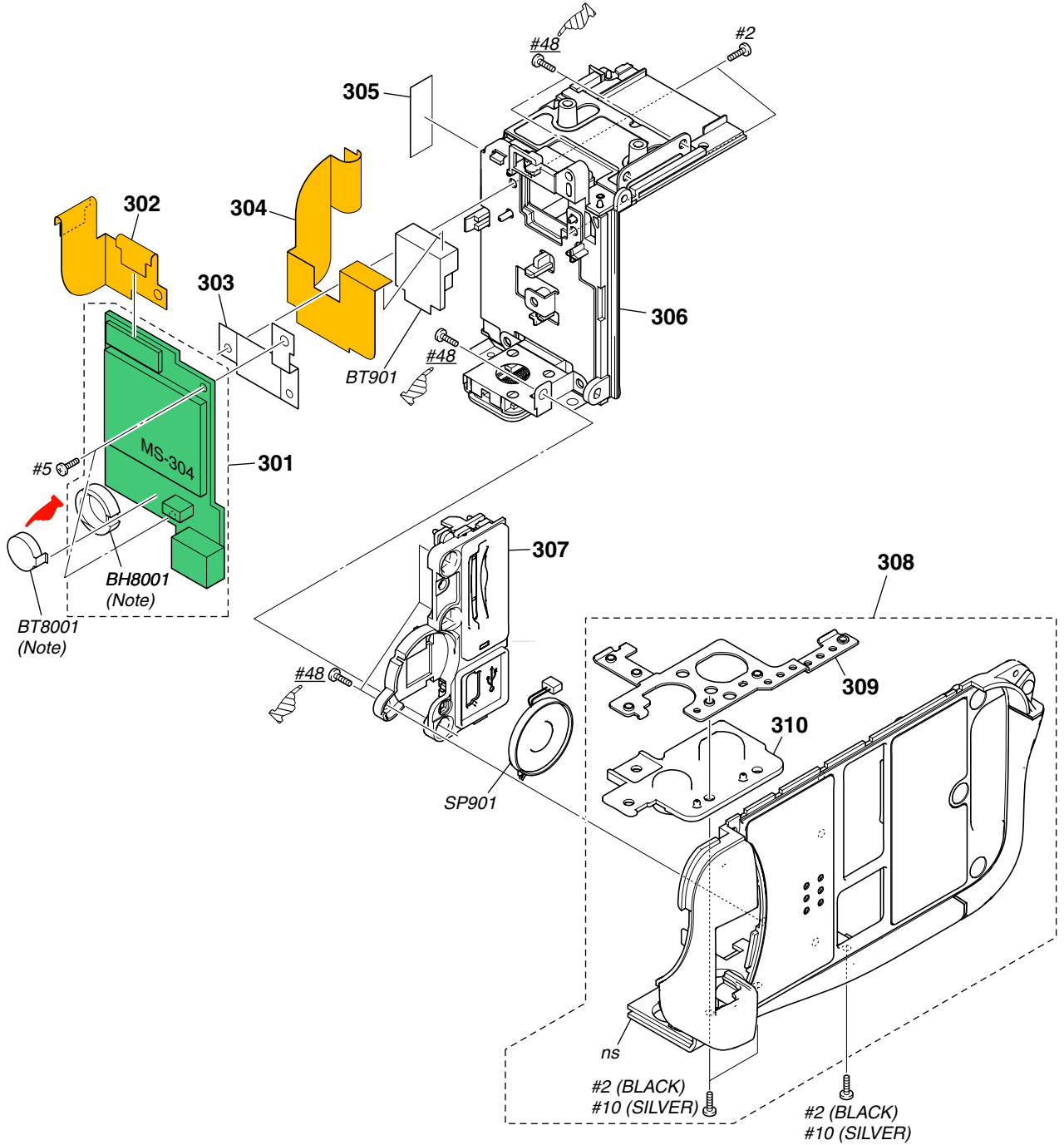
CAUTION:
 For the part of 255: SHEET, ADHESIVE, HINGE (3-089-465-01), cut SHEET, ADHESIVE (2-649-300-01).

注意:
 ヒンジ接着紙 (3-089-465-01) は、接着紙 (2-649-300-01) を切って使用。

Former			New		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
267	2-649-300-01	SHEET, ADHESIVE	267	CAUTION	SHEET, ADHESIVE, HINGE
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)	—	—	—
—	—	—	#10	2-599-475-31	SCREW (M1.7) (Silver)
—	—	—	#14	2-599-475-11	SCREW (M1.7) (Silver)
—	—	—	#48	3-973-497-91	SCREW (M1.7), 0-NO. +P 2 (Silver)


5-1-7. CABINET (R) BLOCK

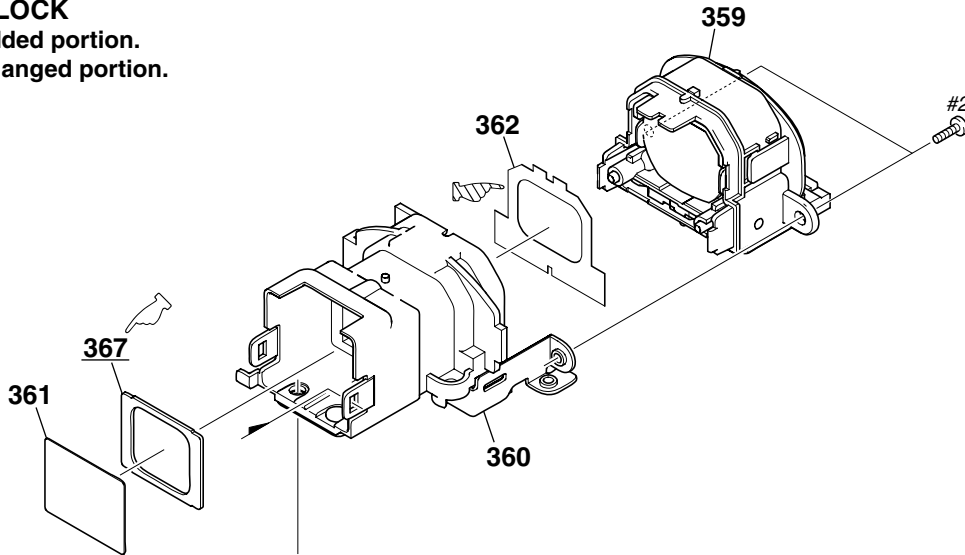
-  : Points added portion.
-  : Points changed portion.
-  : Points deleted portion.




Former			New		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)			
			#48	3-973-497-91	SCREW (M1.7), 0-NO. +P 2 (Silver)

5-1-8. EVF BLOCK

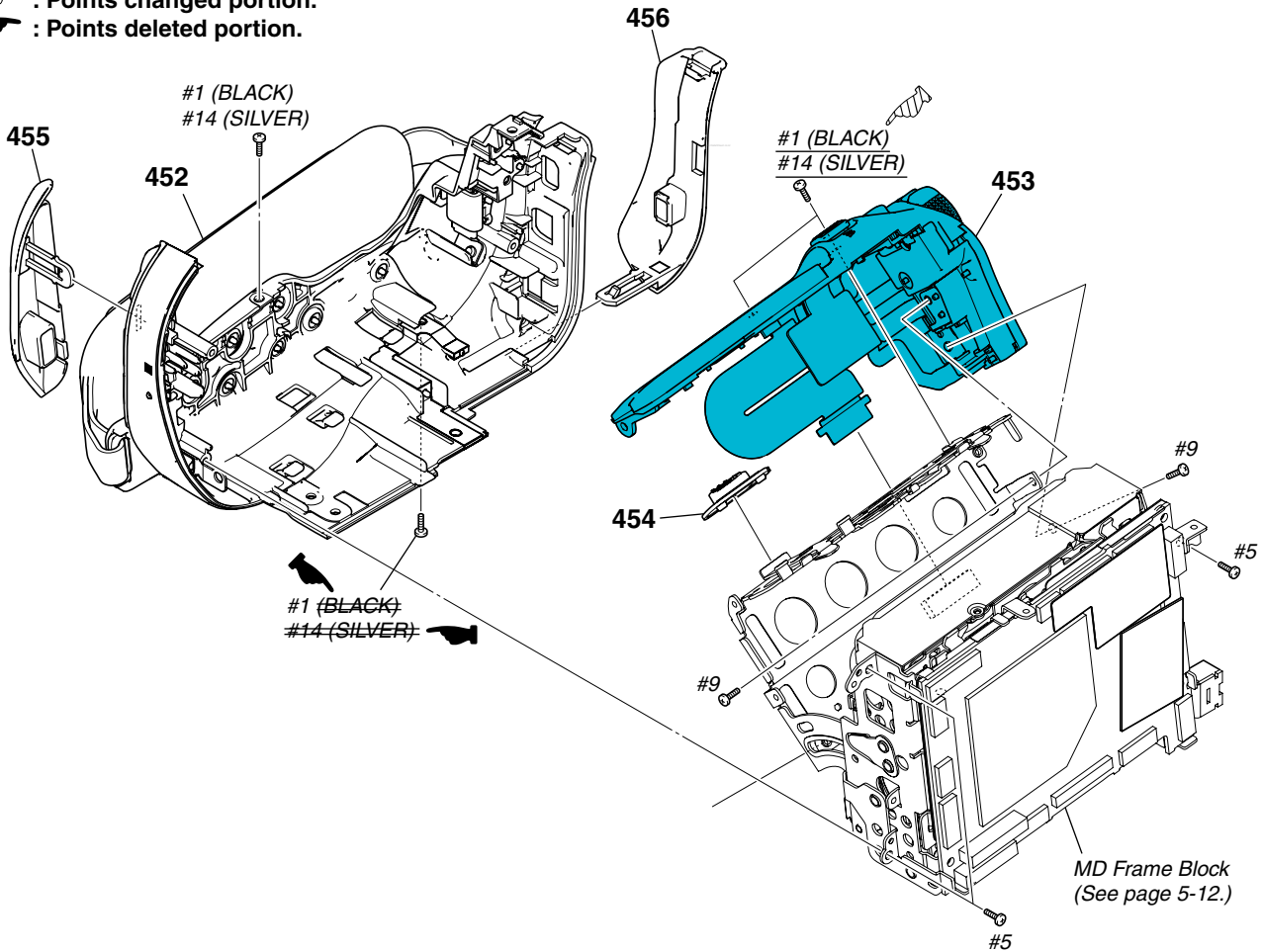
 : Points added portion.
 : Points changed portion.




Former			New		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
—	—	—	* 367	2-654-871-01	CUSHION (CF) 


5-1-10. CABINET (L) BLOCK-2

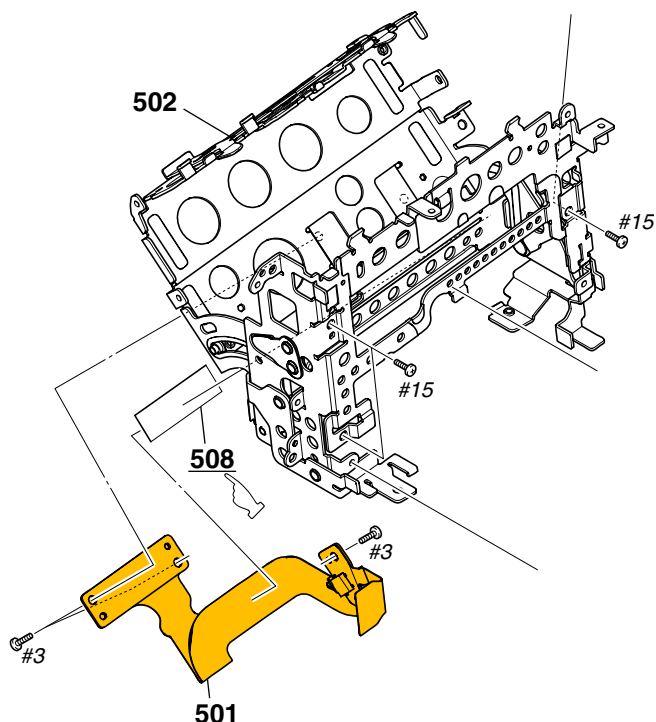
 : Points changed portion.
 : Points deleted portion.




Former			New		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)	—	—	

5-1-11. MD FRAME BLOCK

 : Points added portion.



Former			New		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
—	—	—	* 508	2-890-969-01	TAPE (18000), DOUBLE STICK 

5-2. ELECTRICAL PARTS LIST

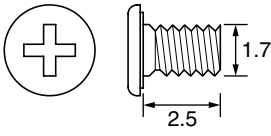
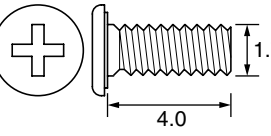
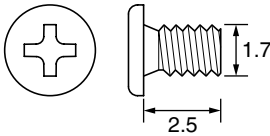
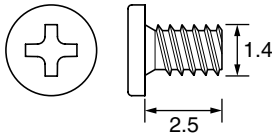
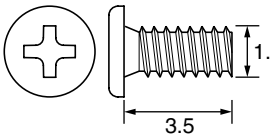
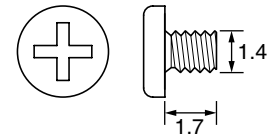
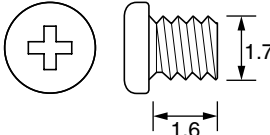
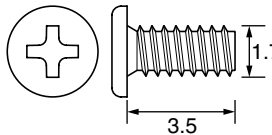
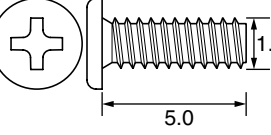
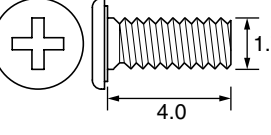
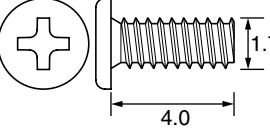
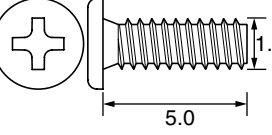
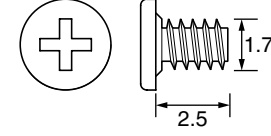
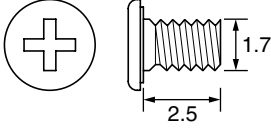
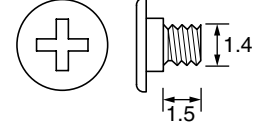
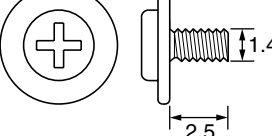
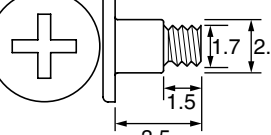
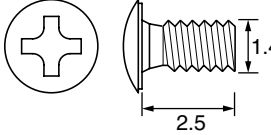
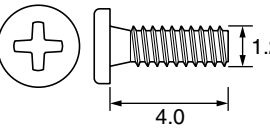
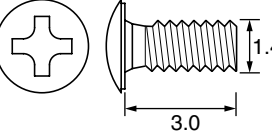
Page	Former			New			
	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	
5-24	△	A-1174-639-A	ST-139 BOARD, COMPLETE *****	△	A-1174-639-A	ST-139 BOARD, COMPLETE *****	
			< DIODE >				
		D8804	8-719-056-23	DIODE MA2S111- (K8). SO (SUFFIX: -12)			
		D8805	8-719-056-23	DIODE MA2S111- (K8). SO (SUFFIX: -12)			
						< RESISTOR >	
				R8815	1-218-990-81	SHORT CHIP 0	

△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。

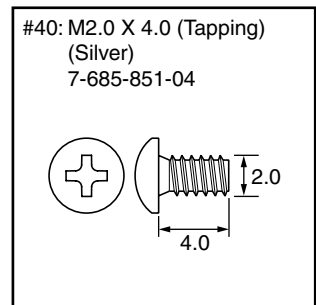
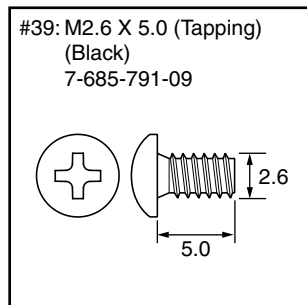
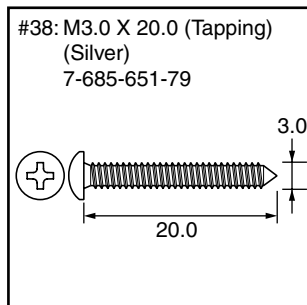
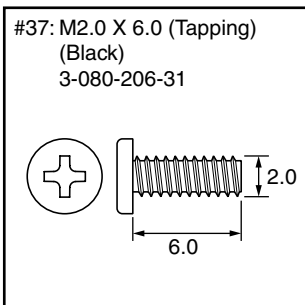
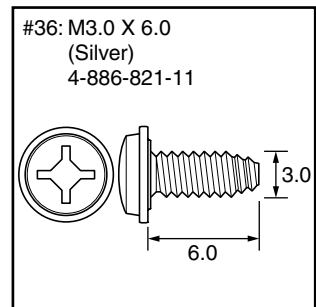
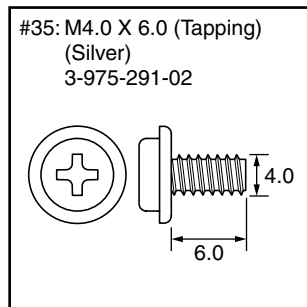
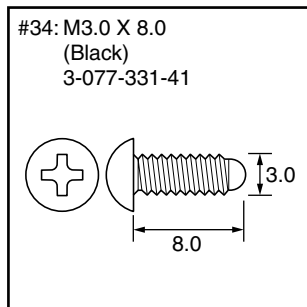
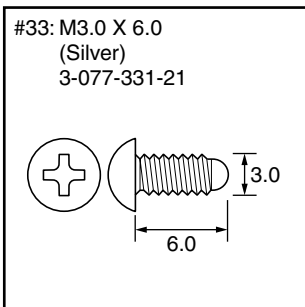
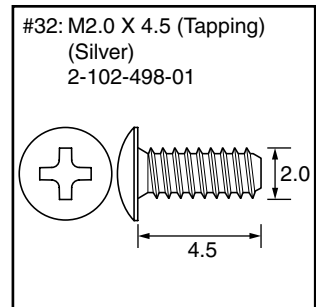
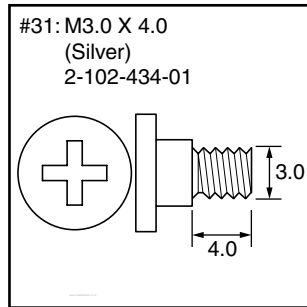
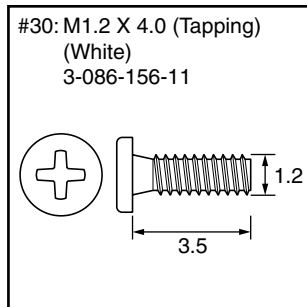
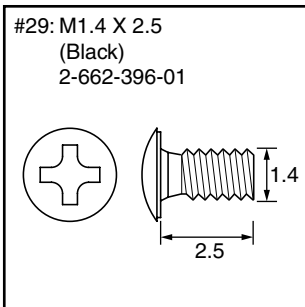
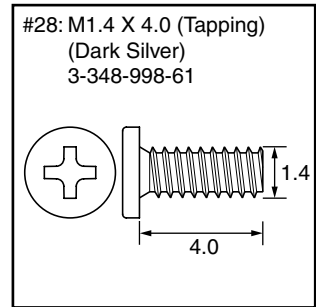
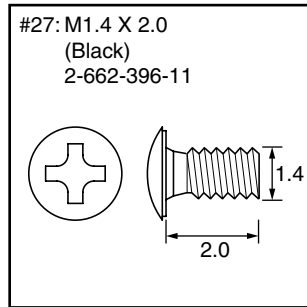
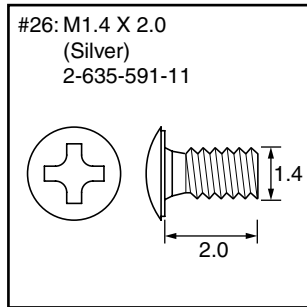
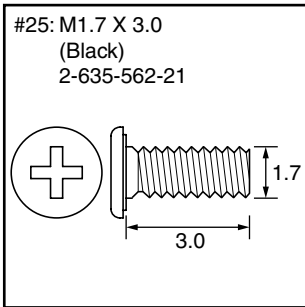
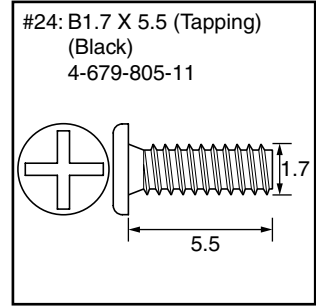
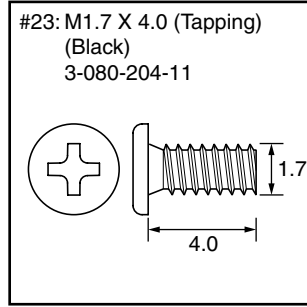
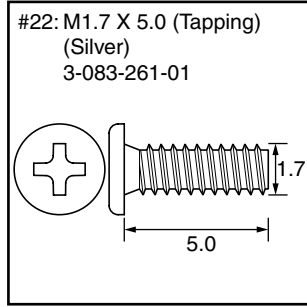
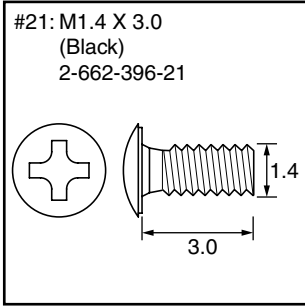
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

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

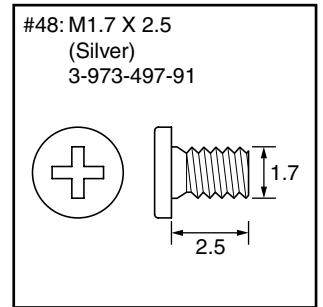
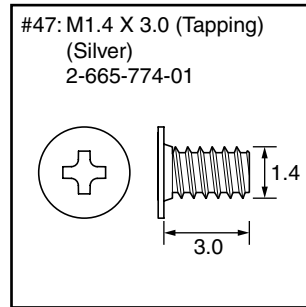
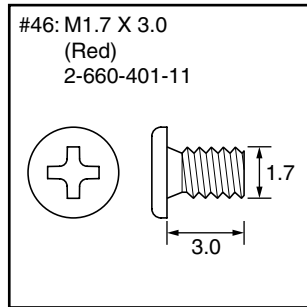
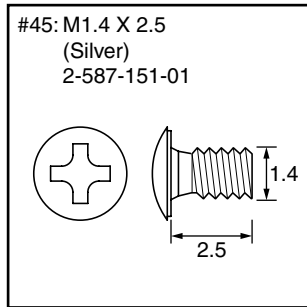
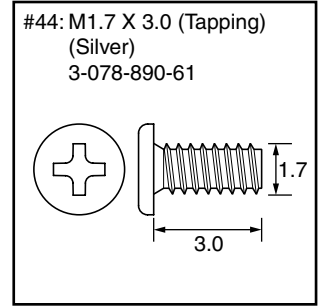
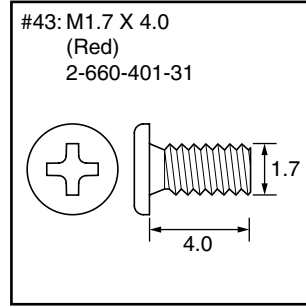
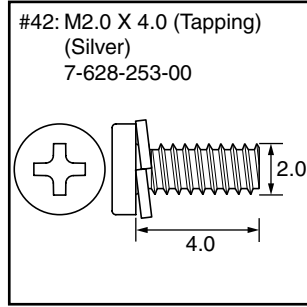
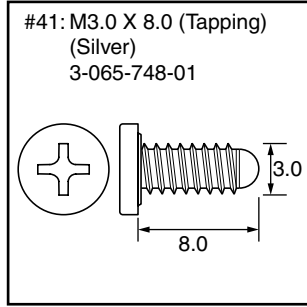
HARDWARE LIST (1/3)

<p>#1: M1.7 X 2.5 (Black) 2-635-562-11</p> 	<p>#2: M1.7 X 4.0 (Black) 2-635-562-31</p> 	<p>#3: M1.7 X 2.5 (Red) 2-660-401-01</p> 	<p>#4: M1.4 X 2.5 (Tapping) (Dark Silver) 3-348-998-81</p> 
<p>#5: M1.7 X 3.5 (Tapping) (Black) 3-080-204-01</p> 	<p>#6: M1.4 X 1.7 (Silver) 2-598-474-01</p> 	<p>#7: M1.7 X 1.6 (Black) 7-627-552-18</p> 	<p>#8: M1.7 X 3.5 (Tapping) (Silver) 3-078-890-01</p> 
<p>#9: M1.7 X 5.0 (Tapping) (Silver) 3-078-890-21</p> 	<p>#10: M1.7 X 4.0 (Silver) 2-599-475-31</p> 	<p>#11: M1.7 X 4.0 (Tapping) (Silver) 3-078-890-11</p> 	<p>#12: M1.7 X 5.0 (Tapping) (Black) 3-080-204-21</p> 
<p>#13: M1.7 X 2.5 (Tapping) (Silver) 3-085-397-01</p> 	<p>#14: M1.7 X 2.5 (Silver) 2-599-475-11</p> 	<p>#15: M1.4 X 1.5 (Silver) 3-062-214-01</p> 	<p>#16: M1.4 X 2.5 (Silver) 2-586-337-01</p> 
<p>#17: M1.7 X 1.5 (Silver) 2-586-389-01</p> 	<p>#18: M1.4 X 2.5 (Silver) 2-635-591-21</p> 	<p>#19: M1.2 X 4.0 (Tapping) (Red) 3-086-156-21</p> 	<p>#20: M1.4 X 3.0 (Silver) 2-635-591-31</p> 

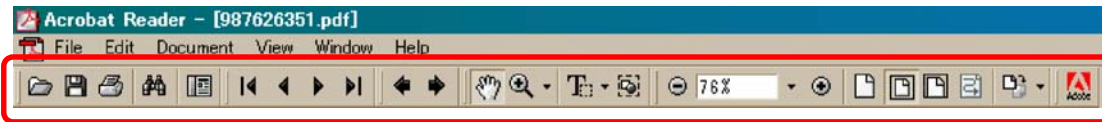
HARDWARE LIST (2/3)




HARDWARE LIST (3/3)




[Description of main button functions on toolbar of the Adobe Acrobat Reader Ver5.0 (for Windows)]





Printing a text

1. Click the Print button .
2. Specify a printer, print range, number of copies, and other options, and then click [OK].

Application of printing:

To set a range to be printed within a page, select the graphic selection tool  and drag on the page to enclose a range to be printed, and then click the Print button.


Reversing the screens displayed once

- To reverse the previous screens (operation) one by one, click the .
- To advance the reversed screens (operation) one by one, click the .

Application to the Service Manual:

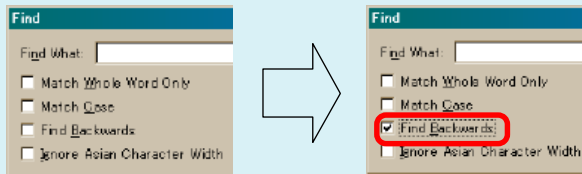
This function allows you to go and back between circuit diagram and printed circuit board diagram, and accordingly it will be convenient for the voltage check.

Finding a text

1. Click the Find button .
2. Enter a character string to be found into a text box, and click the [Find]. (Specify the find options as necessary)

Application to the Service Manual:

To execute "find" from current page toward the previous pages, select the check box "Find Backwards" and then click the "Find".








3. Open the find dialog box again, and click the [Find Again] and you can find the matched character strings displayed next. (Character strings entered previously are displayed as they are in the text box.)

Application to the Service Manual:


The parts on the drawing pages (block diagrams, circuit diagrams, printed circuit boards) and parts list pages in a text can be found using this find function. For example, find a Ref. No. of IC on the block diagram, and click the [Find Again] continuously, so that you can move to the Ref. No. of IC on the circuit diagram or printed circuit board diagram successively.


Note: The find function may not be applied to the Service Manual depending on the date of issue.

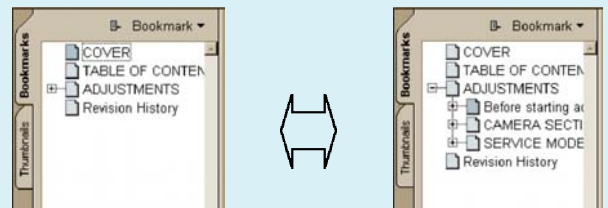
Moving with link

1. Select either palm tool , zoom tool , text selection tool , or graphic selection tool .
2. Place the pointer in the position in a text where the link exists (such as a button on cover and the table of contents page, or blue characters on the removal flowchart page or drawing page), and the pointer will change to the forefinger form .
3. Then, click the link. (You will go to the link destination.)

Moving with bookmark:



Click an item (text) on the bookmark pallet, and you can move to the link destination. Also, clicking  can display the hidden items.

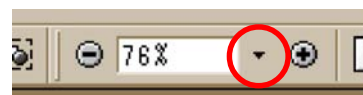
(To go back to original state, click )




Zooming or rotating the screen display

"Zoom in/out"

- Click the triangle button in the zoom control box to select the display magnification. Or, you may click  or  for zooming in or out.







"Rotate"

- Click rotate tool , and the page then rotates 90 degrees each.

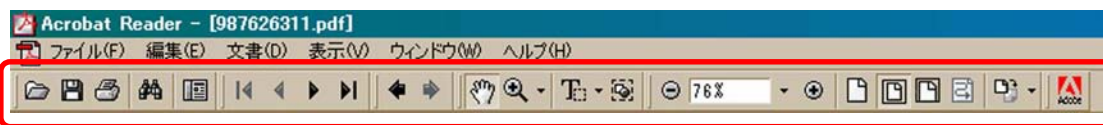
Application to the Service Manual:

The printed circuit board diagram you see now can be changed to the same direction as the set.


Switching a page

- To move to the first page, click the .
- To move to the last page, click the .
- To move to the previous page, click the .
- To move to the next page, click the .


【Adobe Acrobat Reader Ver 5.0(for Windows)ツールバーにある主なボタンの機能説明】




文章を印刷する

1. 印刷ボタンをクリックする。
2. プリンター、印刷範囲、印刷部数、および他のオプションを指定して「OK」をクリックする。

印刷の応用：

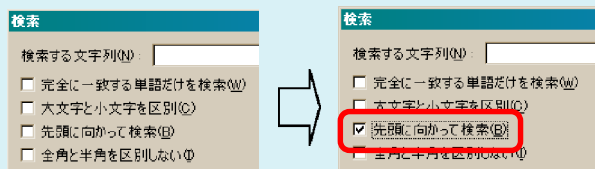
ページ内で印刷したい範囲を設定するには、グラフィック選択ツールを選択し、ページ上をドラッグして印刷したい範囲を囲ってから印刷ボタンをクリックする。

文章内を検索する

1. 検索ボタンをクリックする。
2. 検索したい文字列をテキストボックスに入力して「検索」をクリックする。(必要に応じて検索オプションを指定する)

サービスマニュアルへの応用：

現在のページから前ページに向かって検索する場合は「先頭に向かって検索」のチェックボックスを選択してから「検索」をクリックする。







3. 検索ダイアログボックスをもう一度開き、「次を検索」をクリックすると次に出てくる一致文字列を検索することができる。(前回入力した文字列が、テキストボックスにそのまま表示されている)

サービスマニュアルへの応用：



文章内にある図面ページ(ブロックダイアグラム、回路図、プリント図)および部品表ページなどは、この検索機能を使って部品検索することができる。例えば、ブロックダイアグラム上でICのRef. No.を検索し、「次を検索」を続けることによって回路図、プリント図上にあるICのRef. No.へ次々と移動する。

注意:発行年月日によって検索できない場合もあります。

ページを切り換える

- 最初のページに移動する場合、をクリックする。
- 最後のページに移動する場合、をクリックする。
- 前のページに移動する場合、をクリックする。
- 次のページに移動する場合、をクリックする。






一度表示した画面へ逆戻りする

- 前の画面(操作)へ1つずつ逆戻りする場合、をクリックする。
- 戻した画面(操作)を1つずつ前に進める場合、をクリックする。

サービスマニュアルへの応用：

回路図とプリント図を行き来できるので電圧チェックに便利です。

リンクを使用して移動する

1. 手のひらツール、ズームツール、テキスト選択ツール、グラフィック選択ツールのいずれかを選択する。
2. 文章内のリンクのある場所(表紙および章目次ページのボタン、外し方のフローページ、図面ページでは文字が青色になっているところなど)にポインタを置くと、ポインタが人差し指の形に変わる。
3. そのままリンクをクリックする。(リンク先へ移動する)



しおりを利用して移動する：

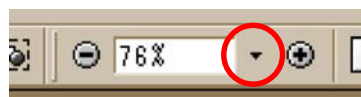
しおりパレット上の項目(テキスト)をクリックするとリンク先へ移動することができる。また、「+」をクリックすると隠れている項目を表示することができる。(「-」をクリックすると元に戻る)




画面の表示を拡大、縮小または回転させる

「拡大/縮小」

- 倍率ボックスの三角矢印ボタンをクリックし、表示倍率を選択する。または, をクリックしても使えます。



「回転」

- 回転ツールをクリックすると、ページが90度ずつ回転する。

サービスマニュアルへの応用：

見ているプリント図をセットと同じ向きに変えられます。

Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2006.02	Official Release	—	—
1.1	2006.07	Correction-1 (C1)	<ul style="list-style-type: none"> • Correction of Page Numbers • Addition of Note when Lithium Battery is Exchanged • Correction of Disassembly • Correction of Repair Parts S.M. correction: Page 2-5 , Page 4-47 , Page 5-8 , Page 5-15 , Page 5-23 , Page 5-36 , Page 5-37	Yes
1.2	2006.08	Supplement-1 (S1 DI06-052)	<ul style="list-style-type: none"> • Change of Disassembly • Change of Board's Suffix No. • Change of Repair Parts 	No
			—	