DSC-W130

SERVICE MANUAL

LEVEL 2

Ver. 1.0 2008.01
Revision History

Internal memory
ON BOARD

US Model
Canadian Model
AEP Model
UK Model
E Model
Hong Kong Model
Chinese Model
Korea Model
Argentine Model
Brazilian Model

Photo: Silver

Link

- SPECIFICATIONS
- BLOCK DIAGRAMS
- PRINTED WIRING BOARDS
- SERVICE NOTE
- FRAME SCHEMATIC DIAGRAM
- REPAIR PARTS LIST
- DISASSEMBLY
- SCHEMATIC DIAGRAMS

- Precaution on Replacing the SY-190 Board

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.

DIGITAL STILL CAMERA

SONY®

DSC-W130_L2
9-852-263-31

Sony EMCS Co.

2008A0500-1

Published by Kohda TEC

Self Diagnosis Supported model

Cyber-shot

MEMORY STICK ™

InfoLITHIUM ™ G TYPE

SPECIFICATIONS

Camera

[System]

Image device:

7.18 mm (1/2.5 type) color CCD, Primary color filter

Total pixel number of camera:

Approx. 8.3 Megapixels

Effective pixel number of camera:

Approx. 8.1 Megapixels

Lens: Carl Zeiss Vario-Tessar 4× zoom lens
f = 5.35 – 21.4 mm (32 – 128 mm (35 mm film equivalent)) F2.8 (W) – F5.8 (T)

Exposure control: Automatic exposure, Scene Selection (9 modes)

White balance: Automatic, Daylight, Cloudy, Fluorescent 1,2,3, Incandescent, Flash

File format (DCF compliant):
Still images: Exif Ver. 2.21 JPEG compliant, DPOF compatible
Movies: MPEG1 compliant (Monaural)

Recording media: Internal Memory (approx. 15 MB), “Memory Stick Duo”

Flash: Flash range (ISO sensitivity (Recommended exposure Index) set to Auto):
Approx. 0.2 to 3.9 m (7 7/8 inches to 12 feet 9 5/8 inches) (W)/approx. 0.5 to 1.9 m (1 feet 7 3/4 inches to 6 feet 2 7/8 inches) (T)

[Input and Output connectors]

Multi connector: Video output
Audio output (Monaural)
USB communication

USB communication: Hi-Speed USB (USB 2.0 compliant)

[LCD screen]

LCD panel: 6.2 cm (2.5 type) TFT drive

Total number of dots: 115 200 (480 × 240) dots

[Power, general]

Power: Rechargeable battery pack
NP-BG1, 3.6 V
NP-FG1 (not supplied), 3.6 V
AC-LS5K AC Adaptor (not supplied), 4.2 V

Power consumption (during shooting, LCD screen on): 1.0 W

Operating temperature: 0 to 40°C (32 to 104°F)

Storage temperature: –20 to +60°C (–4 to +140°F)

Dimensions:

88.2 × 57.2 × 22.9 mm (3 1/2 × 2 3/8 × 29/32 inches) (W/H/D, excluding protrusions)

Mass:

Approx. 156 g (5.5 oz) (including NP-BG1 battery pack, strap, etc.)

Microphone: Monaural

Speaker: Monaural

Exif Print: Compatible

PRINT Image Matching III: Compatible

PictBridge: Compatible

BC-CSGB/BC-CSGC battery charger

Power requirements: AC 100 V to 240 V, 50/60 Hz, 2 W (BC-CSGC)/ 2.6 W (BC-CSGB)

Output voltage: DC 4.2 V, 0.25 A

Operating temperature: 0 to 40°C (32 to 104°F)

Storage temperature: –20 to +60°C (–4 to +140°F)

Dimensions: Approx. 62 × 24 × 91 mm (2 1/2 × 31/32 × 3 5/8 inches) (W/H/D)

Mass: Approx. 75 g (2.7 oz)

Rechargeable battery pack NP-BG1

Used battery: Lithium-ion battery

Maximum voltage: DC 4.2 V

Nominal voltage: DC 3.6 V

Capacity: 3.4 Wh (960 mAh)

Design and specifications are subject to change without notice.

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

SAFETY-RELATED COMPONENT WARNING!!

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

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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

SAFETY CHECK-OUT

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

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

Unleaded solder

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

: LEAD FREE MARK

Unleaded solder has the following characteristics.

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

1. SERVICE NOTE

1-1. PRECAUTION ON REPLACING THE SY-190 BOARD

DESTINATION DATA

When you replace to the repairing board, the written destination data of repairing board also might be changed to original setting.
Refer to Service Manual ADJ, and perform “DESTINATION DATA WRITE”.

USB SERIAL No.

The set is shipped with a unique ID (USB Serial No.) written in it.
This ID has not been written in a new board for service, and therefore it must be entered after the board replacement.
Refer to Service Manual ADJ, and perform “USB SERIAL No. INPUT”.

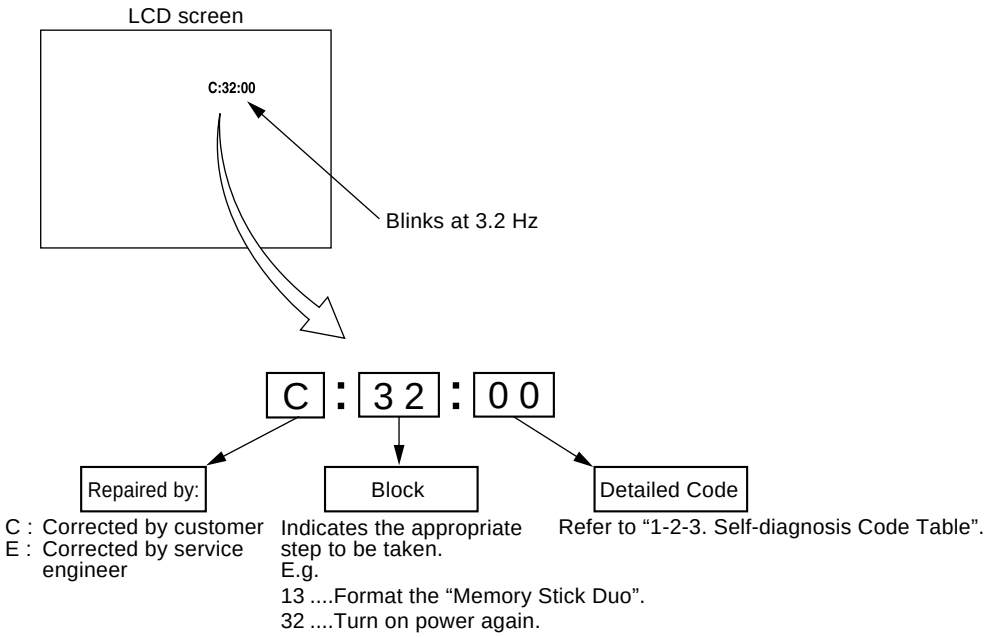
1-2. SELF-DIAGNOSIS FUNCTION

1-2-1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the LCD screen what to do.
Details of the self-diagnosis functions are provided in the Instruction manual.

1-2-2. Self-diagnosis Display

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



1-2-3. Self-diagnosis Code Table

Self-diagnosis Code					Symptom/State	Correction
Repaired by:	Block Function		Detailed Code			
C	1	3	0	1	The internal memory has experienced a format error.	Format the internal memory.
					"Memory Stick Duo" is unformatted.	Format the "Memory Stick Duo".
					"Memory Stick Duo" is broken.	Insert a new "Memory Stick Duo".
					"Memory Stick Duo" type error	Insert a supported "Memory Stick Duo".
					The camera cannot read or write data on the "Memory Stick Duo".	Turn the power off and on again, or taking out and inserting the "Memory Stick Duo" several times.
C	3	2	0	1	Trouble with hardware	Turn the power off and on again.
E	6	1	0	0	Difficult to adjust focus (Cannot initialize focus)	Retry turn the power on by the power switch. If it does not recover, check the focus reset sensor of lens block (pin ㊺ of CN403 on the SY-190 board). If it is OK, check the focus motor drive IC (IC401 on the SY-190 board).
E	6	1	1	0	Zoom operations fault (Cannot initialize zoom lens.)	Retry turn the power on by the power switch. Check the zoom reset sensor of lens block (pin ㉘ of CN403 on the SY-190 board) when zooming is performed when the zoom button is operated. If it is OK, check the zoom motor drive IC (IC401 on the SY-190 board).
E	6	2	0	2	Abnormality of IC for steadyshot.	Check or replacement of the IC for steadyshot (IC503 on the SY-190 board).
E	6	2	1	0	Lens initializing failure.	Check or replacement of the IC for steadyshot (IC503 on the SY-190 board).
E	6	2	1	1	Lens overheating (PITCH).	Check the HALL element (PITCH) of optical image stabilizer (pin ⑬, ⑮ of CN403 on the SY-190 board). If it is OK, check PITCH angular velocity sensor (SE502 on the SY-190 board) peripheral circuits.
E	6	2	1	2	Lens overheating (YAW).	Check the HALL element (YAW) of optical image stabilizer (pin ⑯, ⑱ of CN403 on the SY-190 board). If it is OK, check YAW angular velocity sensor (SE501 on the SY-190 board) peripheral circuits.
E	6	2	2	0	Abnormality of thermistor.	Check the OIS temp sensor of optical image stabilizer (pin ⑪ of CN403 on the SY-190 board).
E	9	1	0	1	Abnormality when flash is being charged.	Checking of flash unit or replacement of flash unit. (Note)
E	9	2	0	0	Non-standard battery is used.	Use the compatible battery only.

Note: After repair, be sure to perform "1-3. PROCESS AFTER FIXING FLASH ERROR".

1-3. PROCESS AFTER FIXING FLASH ERROR

When "FLASH error" (Self-diagnosis Code E : 91 : 01) 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. Flash error code can be initialized by the operations on the HOME screen.

Method for Initializing the Flash Error Code

Initialize

Initializes the setting to the default setting. Even if you execute this function, the images stored in the internal memory are retained.

① Select [Initialize] with ▲/▼ on the control button, then press ●.
The message "Reset to default settings" appears.

② Select [OK] with ▲, then press ●.
The settings are reset to the default setting.

To cancel initializing

Select [Cancel] in step ②, then press ●.

• Be sure not to power off the camera while initializing.

1-4. METHOD FOR COPYING OR ERASING THE DATA IN INTERNAL MEMORY

The data can be copied/erased by the operations on the HOME screen. (When erasing the data, execute formatting the internal memory.)

Note 1: When replacing the SY-190 board, erase the data in internal memory of the board before replacement.
Note 2: When replacing the SY-190 board, execute formatting and initialize the internal memory after replacement.

Method for Copying the Data in Internal Memory

Copy

Copies all images in the internal memory to a “Memory Stick Duo”.

① Insert a “Memory Stick Duo” having sufficient free capacity.

② Select [Copy] with ▲/▼ on the control button, then press ●.
The message “All data on internal memory will be copied” appears.

③ Select [OK] with ▲, then press ●.
Copying starts.

To cancel copying

Select [Cancel] in step ③, then press ●.

- Use a fully charged battery pack. If you attempt to copy image files using a battery pack with little remaining charge, the battery pack may run out, causing copying to fail or possibly corrupting the data.
- You cannot select images to copy.
- The original images in the internal memory are retained even after copying. To delete the contents of the internal memory, remove the “Memory Stick Duo” after copying, then format the internal memory ([Format] in [Internal Memory Tool]).
- A new folder is created on the “Memory Stick Duo” and all the data will be copied to it. You cannot choose a specific folder and copy images to it.
- The DPOF (Print order) marks on the images are not copied.

Method for Formatting the Internal Memory

This item does not appear when a “Memory Stick Duo” is inserted in the camera.

Format

Formats the internal memory.

- Note that formatting permanently erases all data in the internal memory, including even protected images.

① Select [Format] with ▲/▼ on the control button, then press ●.
The message “All data on internal memory will be erased” appears.

② Select [OK] with ▲, then press ●.
Formatting starts.

To cancel formatting

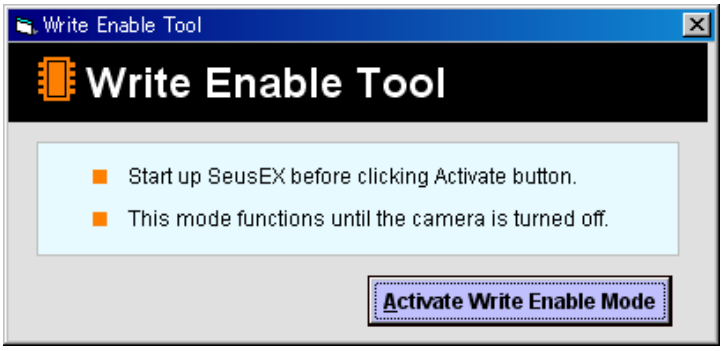
Select [Cancel] in step ②, then press ●.

1-5. HOW TO WRITE DATA TO INTERNAL MEMORY

Usually, the camera has been set so as to disable the data writing from the PC to the internal memory of the camera.
This setting must be changed temporarily when the data is to be written to the internal memory such as a case after the board replacement.
To change the setting, use the write enable tool “WriteEnableTool.exe”.

Data writing method

1) Connect the PC to the camera (USB mode: Mass Storage), and switch the driver to the “Sony Seus USB Driver”.
2) Start the Write Enable Tool and the SeusEX.
3) Click the [Activate Write Enable Mode] button of the Write Enable Tool.



4) Upon completion of the setting change, the following message will be displayed.

5) Return the driver to the original one, and connect the PC to the camera (USB mode: Mass Storage).
6) Write the data read out into the PC to the internal memory of the camera.
7) Disconnect the PC from the camera, and turn off the camera.

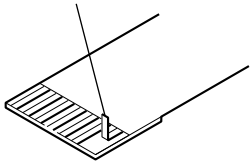
Note: By turning off the camera, the write enable setting is reset.

2. DISASSEMBLY

NOTE FOR REPAIR

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

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

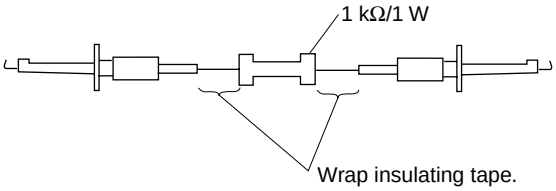


DISCHARGING OF THE CHARGING CAPACITOR (C901)

The charging capacitor (C901) is charged up to the maximum 300 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.

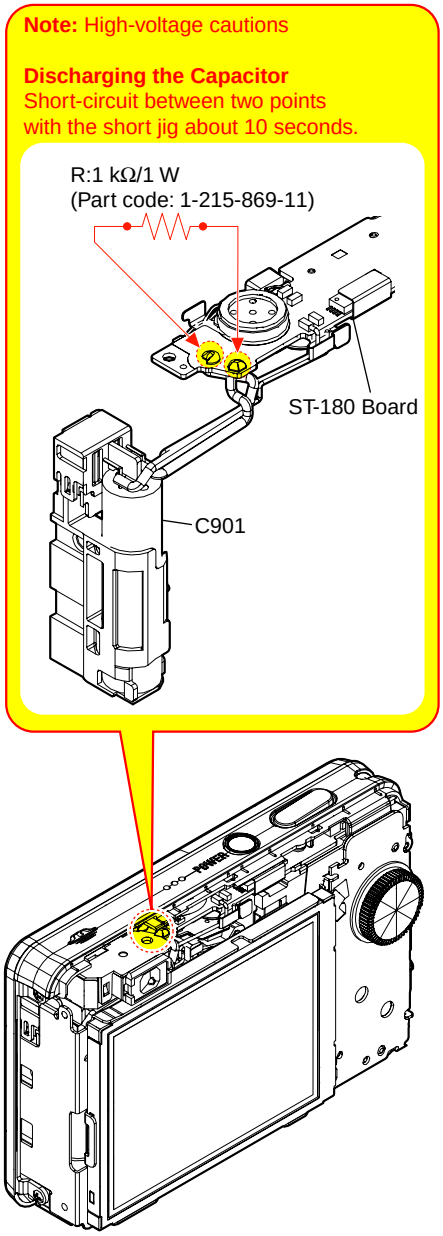
Preparing the Short Jig

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

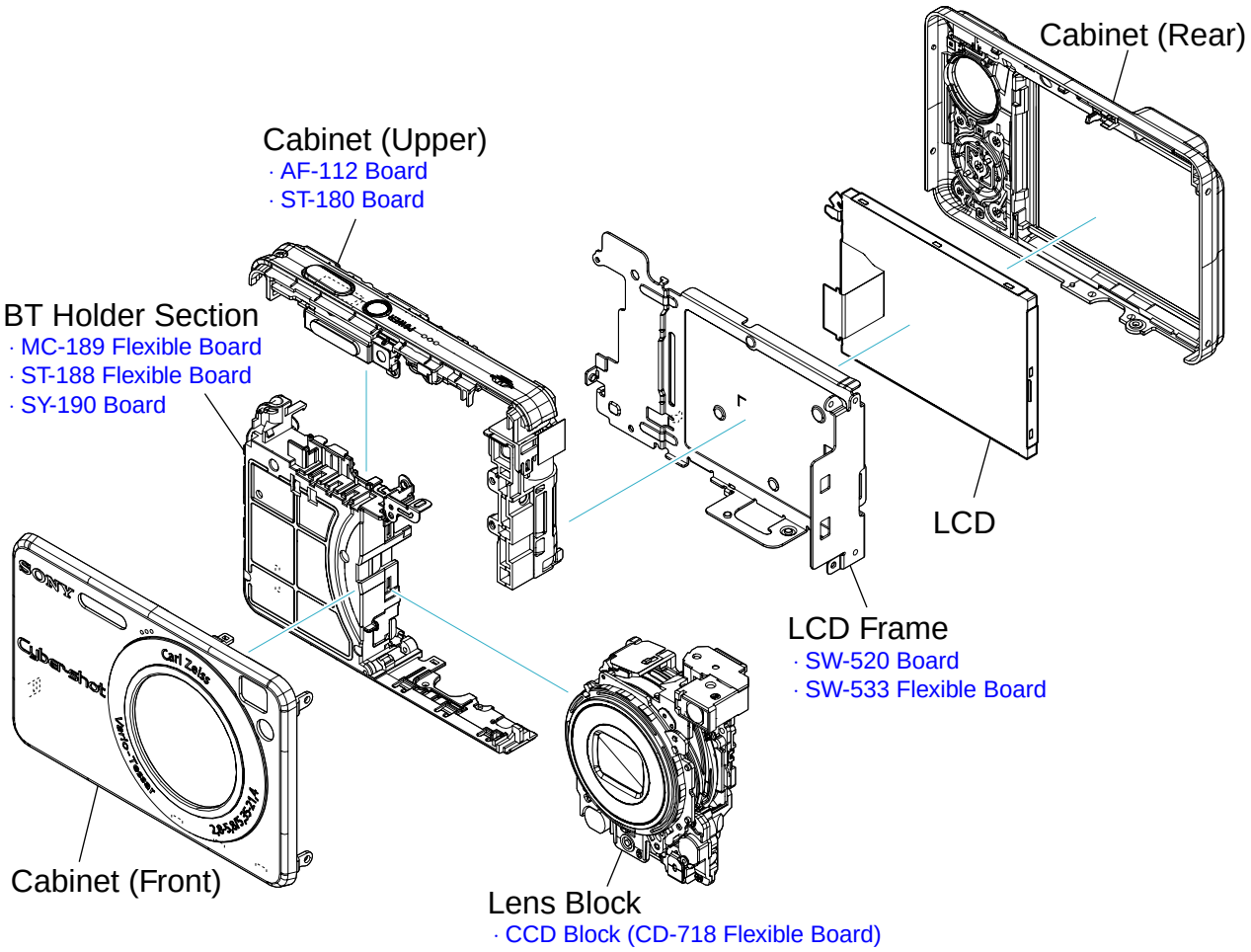


Note: High-voltage cautions

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



2-1. IDENTIFYING PARTS



- DISASSEMBLY FLOW -

2-2-1. LCD SECTION
- Cabinet (Rear)
- LCD

2-2-2. FRONT SECTION
- Cabinet (Front)
- Lens Block

2-2-3. BT HOLDER SECTION
- Cabinet (Upper) Block
- SY-190 Board

2-2. DISASSEMBLY

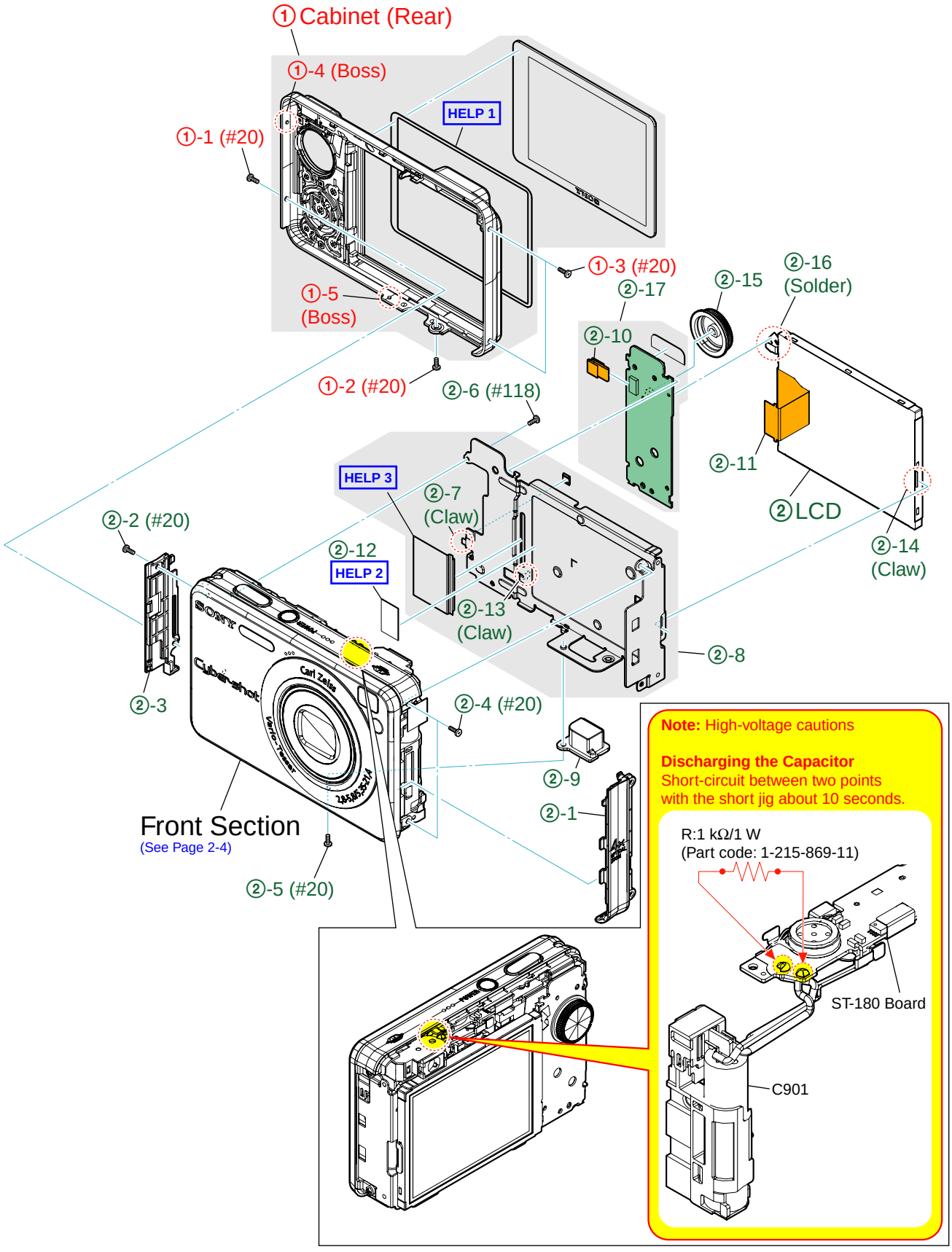
EXPLODED VIEW HARDWARE LIST

2-2-1. LCD SECTION

Follow the disassembly in the numerical order given.

① Cabinet (Rear) (①-1 to ①-5)

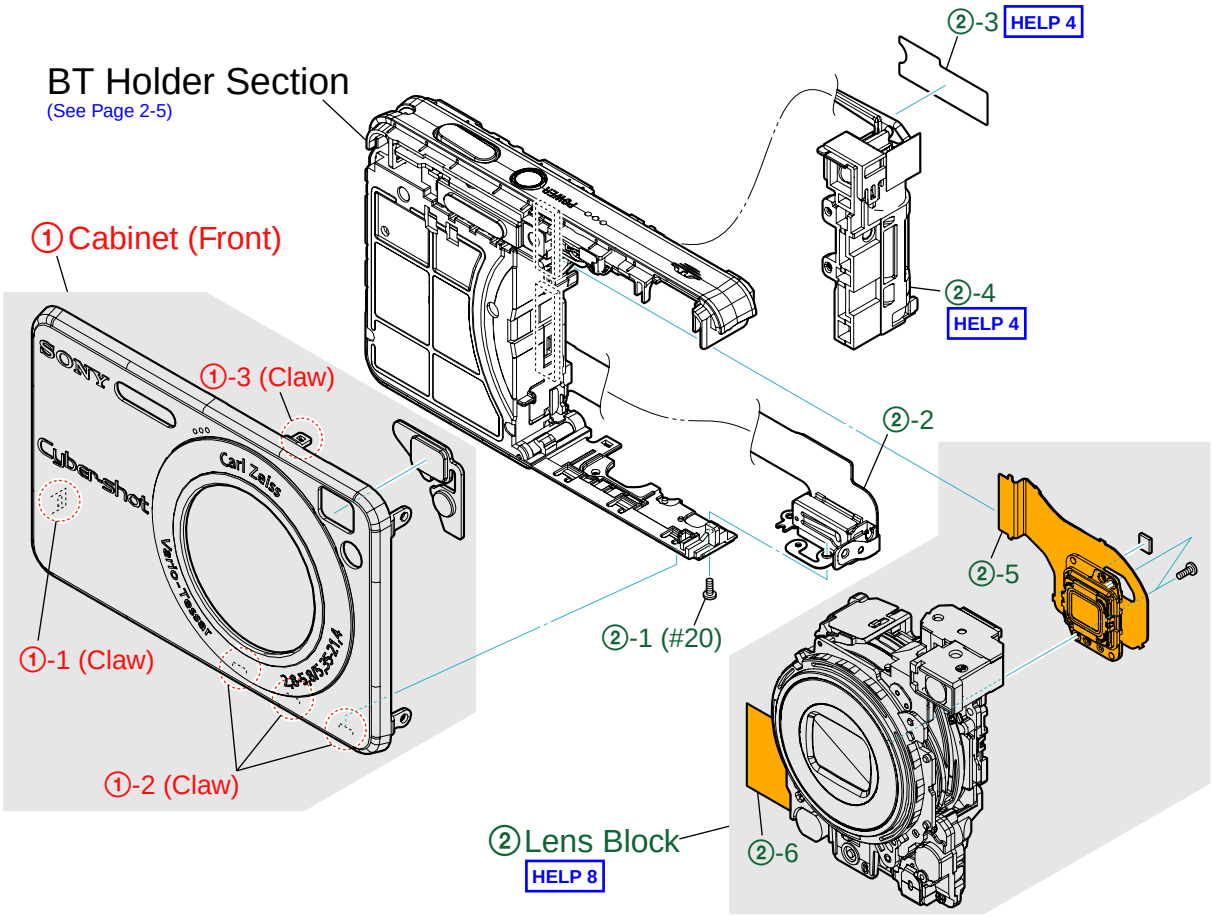
② LCD (②-1 to ②-17)



2-2-2. FRONT SECTION

EXPLODED VIEW HARDWARE LIST

Follow the disassembly in the numerical order given.
① Cabinet (Front) (①-1 to ①-3)
② Lens Block (②-1 to ②-6)



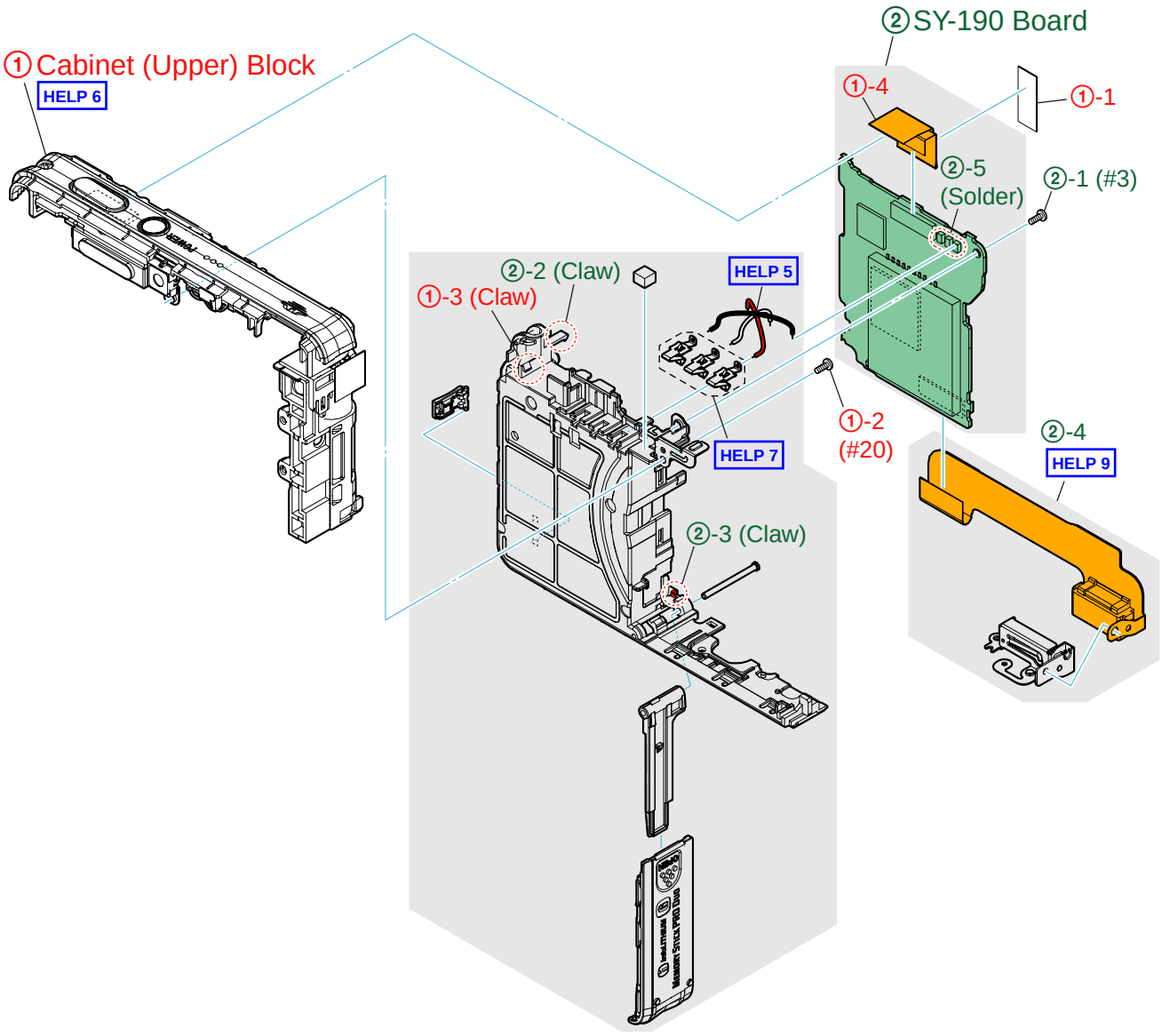
2-2-3. BT HOLDER SECTION

Follow the disassembly in the numerical order given.

① Cabinet (Upper) Block (①-1 to ①-4)

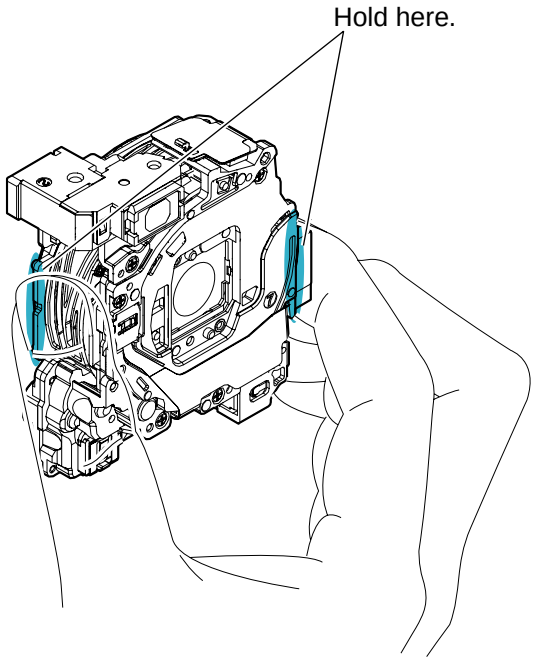
② SY-190 Board (②-1 to ②-5)

EXPLODED VIEW HARDWARE LIST

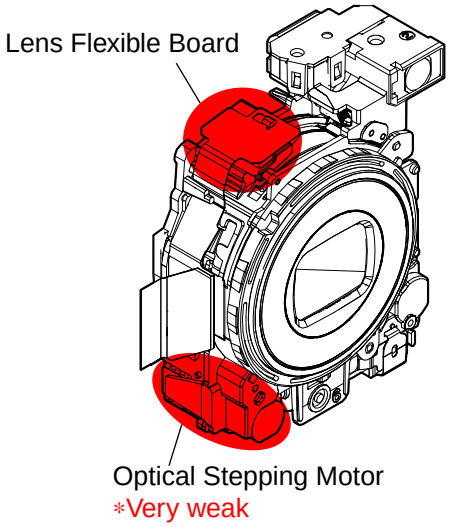


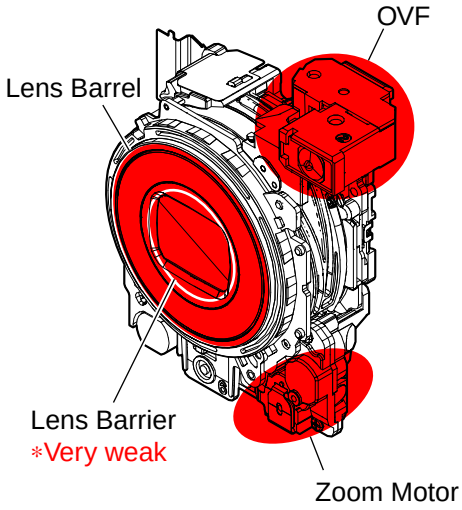
2-3. PRECAUTIONS WHEN HOLDING THE LENS BLOCK

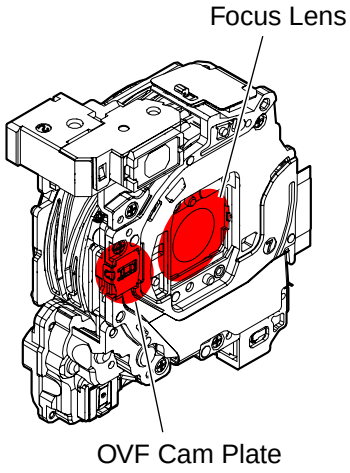
- **Hold the Lens Block at the center of both sides.**



- **Do not hold the following part.**



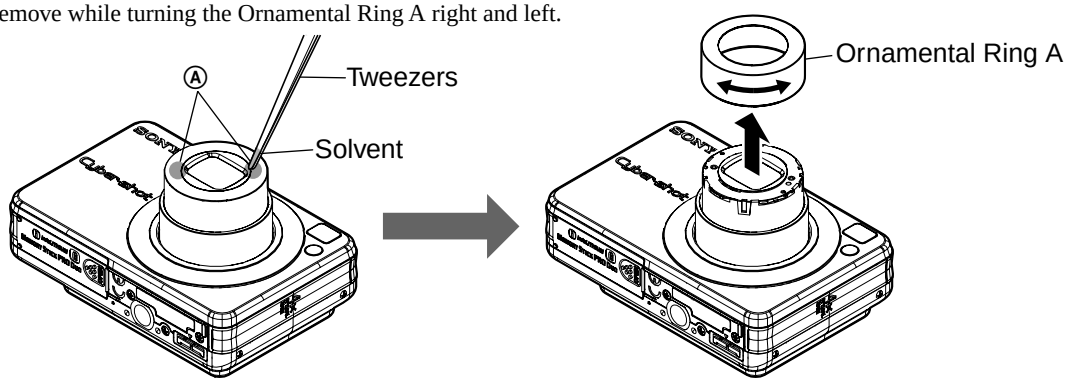




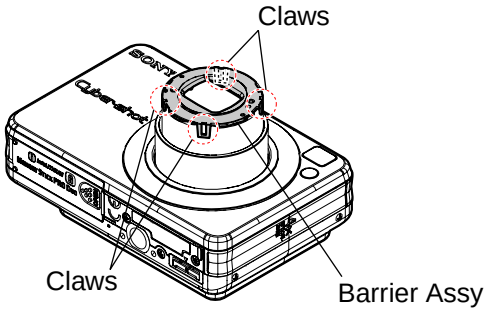
2-4. BARRIER ASSY REPLACING METHOD

Removal

① Turn on the power switch and extend the lens.
② Detach the battery.
③ Pour a solvent such as alcohol from two places Ⓐ to the tweezers or a needle shown below into a gap of Ornamental Ring A.
④ Remove while turning the Ornamental Ring A right and left.

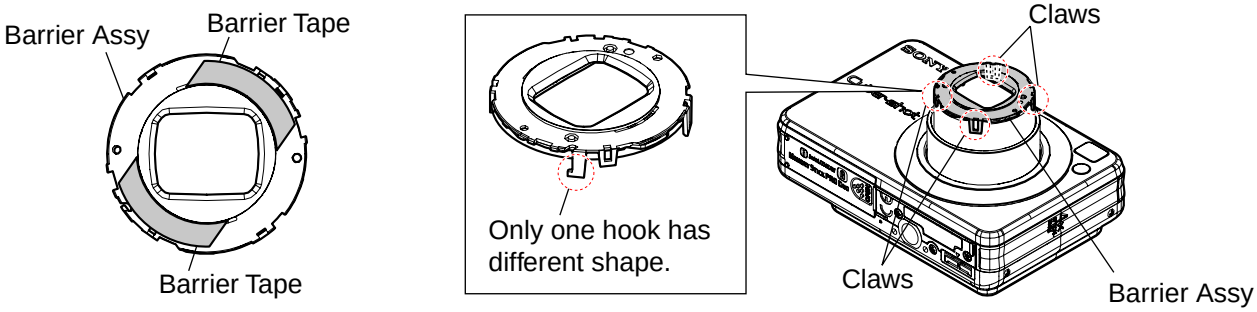


⑤ Remove Barrier Assy by disengaging four claws.

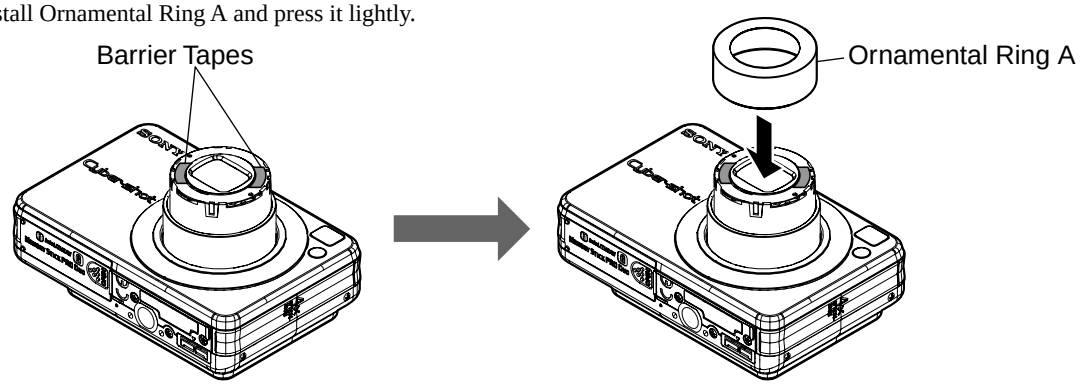


Installation

① Affix two Barrier Tapes to Barrier Assy.
Note: The tape must not be wrinkled.
② With four claws fitted in position, install the Barrier Assy.



③ Peel off release papers of Barrier Tapes.
④ Install Ornamental Ring A and press it lightly.



2-5. LENS MOTOR REPLACING METHOD

Replace the parts if the following events appear when the power switch is turned on.

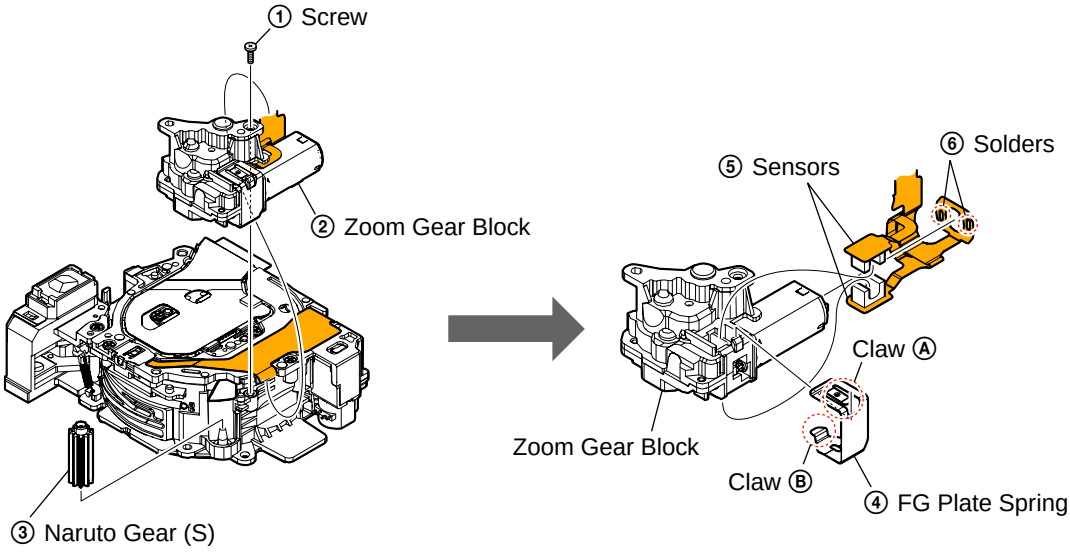
① "Turn off and on the power" is displayed without performing the zoom operation.
Replace Zoom Gear Block if a damage of lens barrel due to a drop of camera is not found.
(See "2-5-1. Zoom Gear Block Replacing Method")
Replace Lens Block if such replacement does not improve the failure.

② "Turn off and on the power" is displayed after the "lens zooming in and out" operation over its full stroke was repeated 3 times.
Replace Optical Stepping Motor. (See "2-5-2. Optical Stepping Motor Replacing Method")
Replace Lens Block if such replacement does not improve the failure.

2-5-1. Zoom Gear Block Replacing Method

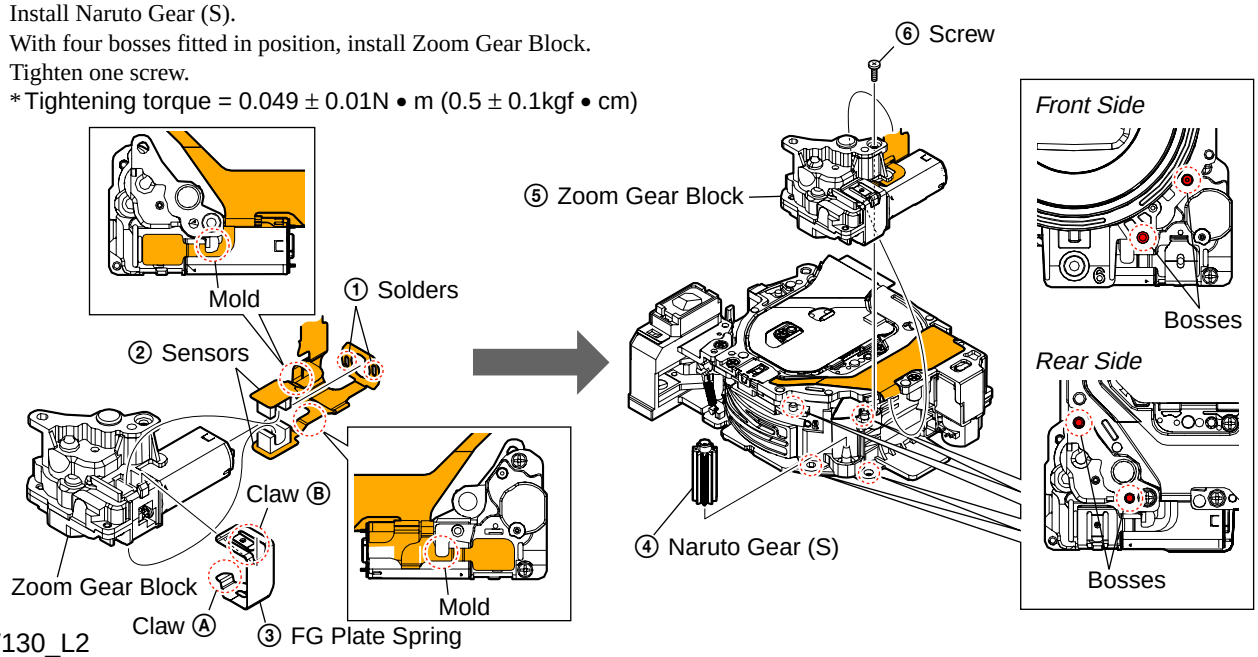
Removal

① Remove one screw.
② Remove Zoom Gear Block upward.
③ Remove Naruto Gear (S).
④ Disengage two claws Ⓐ and Ⓑ in this order to remove FG Plate Spring.
Note: The FG Plate Spring cannot be reused.
⑤ Remove two sensors on the lens flexible board.
⑥ Break two solders, and remove the lens flexible board.



Installation

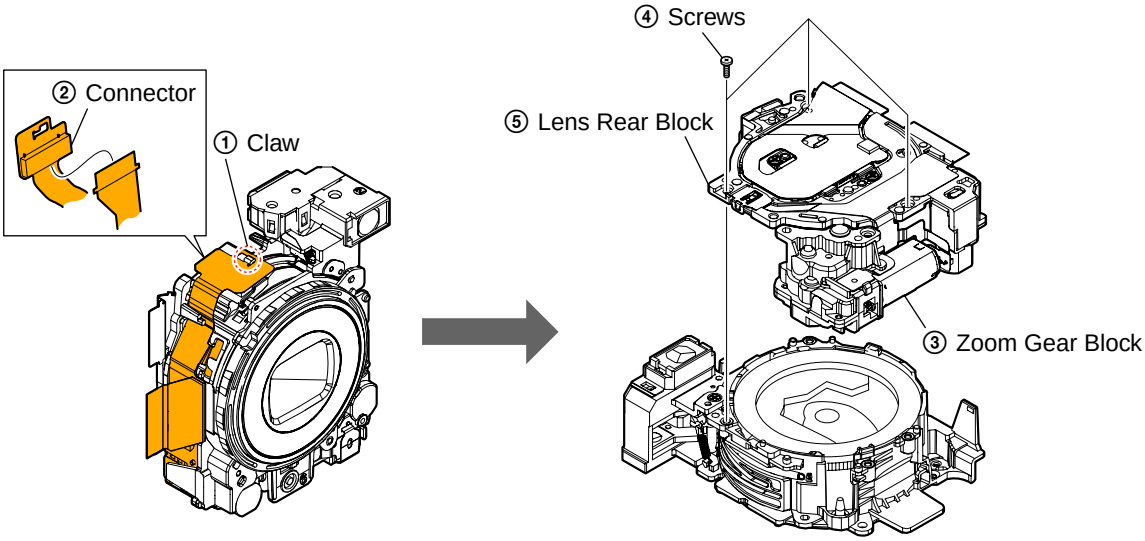
① Confirm the direction of Zoom Gear Block, and install the lens flexible board with two solders.
② Pass the lens flexible board through the mold of Zoom Gear Block to install two sensors.
③ Engage two claws Ⓐ and Ⓑ in this order to install FG Plate Spring.
⑥ Install Naruto Gear (S).
⑥ With four bosses fitted in position, install Zoom Gear Block.
⑥ Tighten one screw.
＊Tightening torque = 0.049 ± 0.01N • m (0.5 ± 0.1kgf • cm)



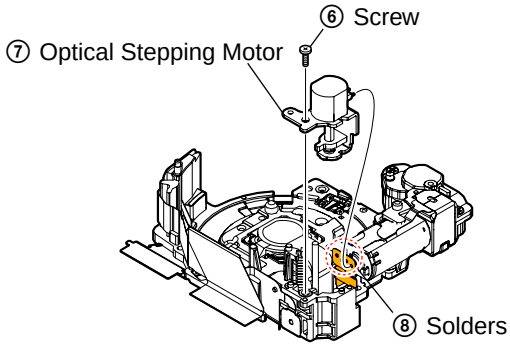
2-5-2. Optical Stepping Motor Replacing Method

Removal

① Disengage the lens flexible board from the claw.
② Disconnect the connector of the lens flexible board.
③ Remove Zoom Gear Block by referring to the removal ① to ③ in "2-5-1. Zoom Gear Block Replacing Method".
④ Remove three screws.
⑤ Remove the lens rear block.

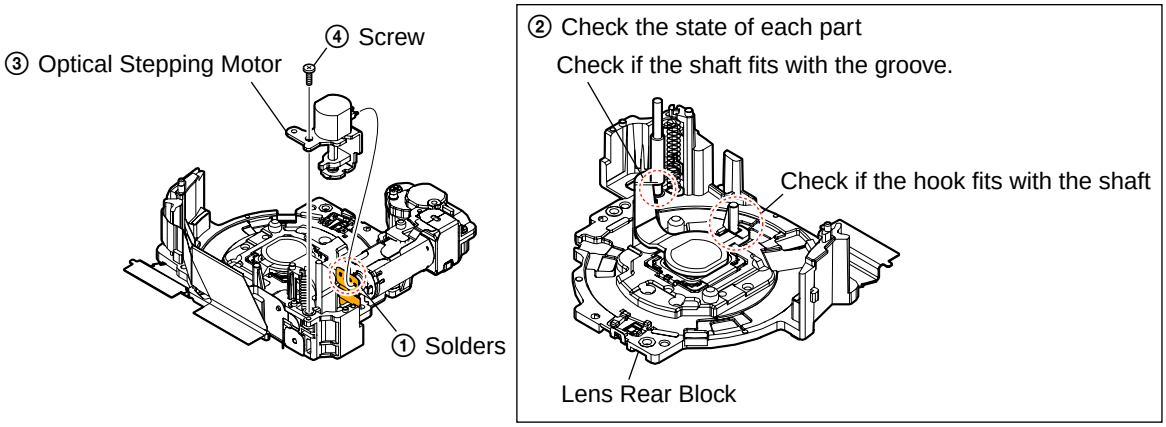


⑥ Remove one screw.
⑦ Remove Optical Stepping Motor.
⑧ Break four solders to remove the lens flexible board.

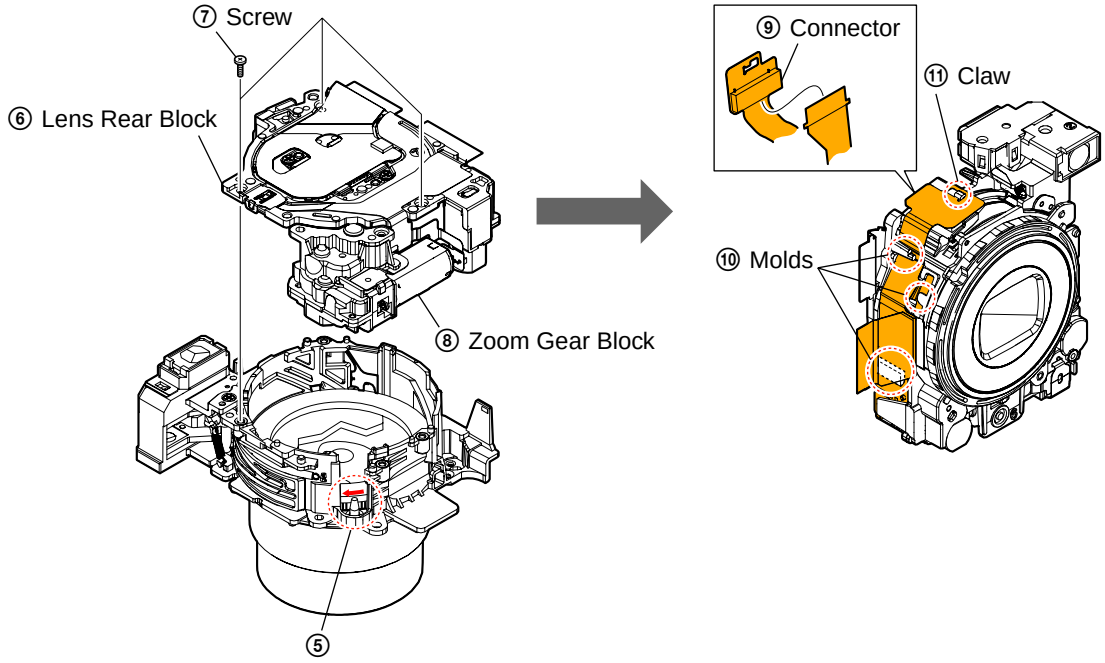


Installation

① Install the lens flexible board with four solders.
② Referring to the following figure, check each part state of lens rear block.
③ Install Optical Stepping Motor.
④ Tighten one screw.
*Tightening torque = 0.049 ± 0.01N • m (0.5 ± 0.1kgf • cm)



⑤ Rotate the gear of lens barrel in arrow direction to extend the lens.
⑥ Check the inside of lens barrel and the lens for dust or stain, and then install the lens rear block.
⑦ Tighten three screws.
*Tightening torque = 0.049 ± 0.01N • m (0.5 ± 0.1kgf • cm)
⑧ Install Zoom Gear Block by referring to the installation ④ to ⑥ in "2-5-1. Zoom Gear Block Replacing Method".
⑨ Connect the connector of lens flexible board.
⑩ Assemble the lens flexible board with the mold of Lens Block.
⑪ Engage the lens flexible board with the claw.



2-5-3. FINAL INSPECTION (NO FAULT IN ACTUAL MOTION/ACTUAL SCREEN)

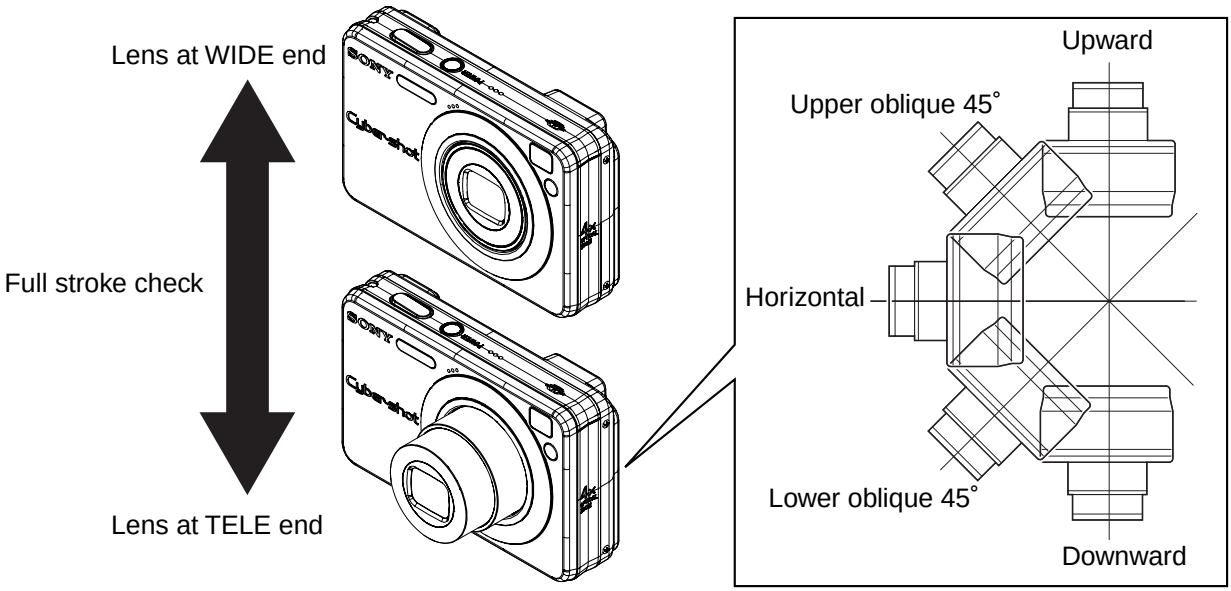
① Zoom motion (Check five postures: horizontal, upward/downward, upper/lower oblique 45º)
No abnormal sound or motion must be found over full stroke between TELE end and WIDE end.

② Zoom image
No abnormality such as a skipped image or wavy image must be found in the image through LCD or finder over full stroke between TELE end and WIDE end.

③ Barrier (Check five postures: horizontal, upward/downward, upper/lower oblique 45º)
The barrier must be opened and closed fully, free from a sticking in the midway.
No abnormal sound must be heard during the operation.

④ Appearance condition
Scratches or stains must not be noticeable, except that the customer permits them.

⑤ Foreign matters on the lens
The lens condition must not be worse than that when the camera was received from the customer.

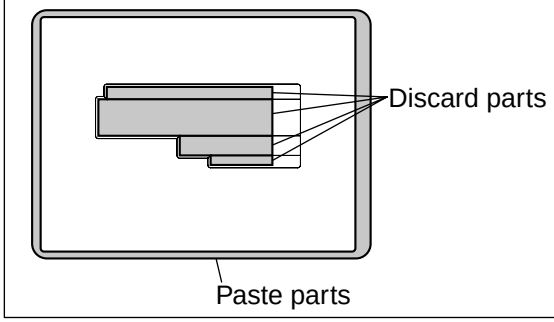


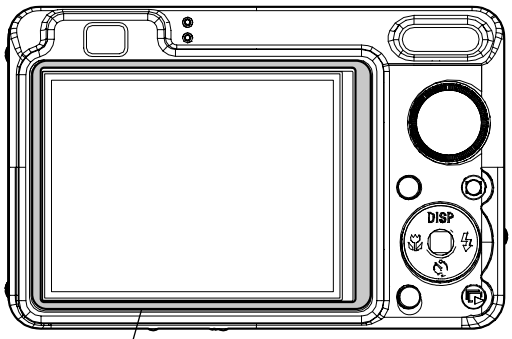
HELP

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

HELP 1: LCD Window Adhesive Sheet Kit

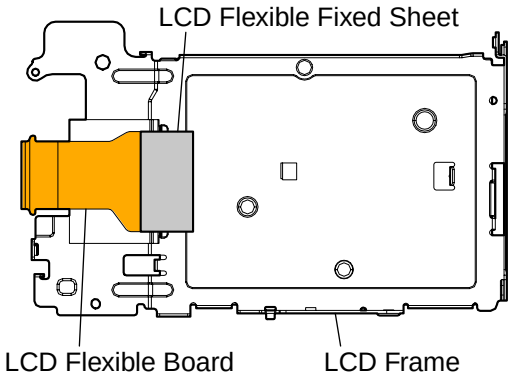
LCD Window Adhesive Sheet Kit must use only the part of LCD window edge.
Please discard other parts.





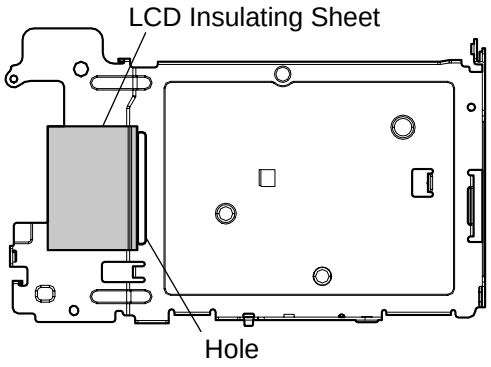
LCD Window Adhesive Sheet Kit

HELP 2: LCD Flexible Fixed Sheet

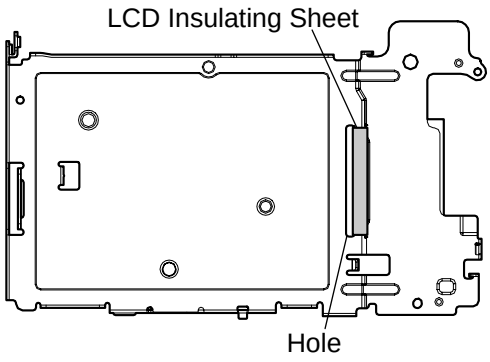


HELP 3: LCD Insulating Sheet

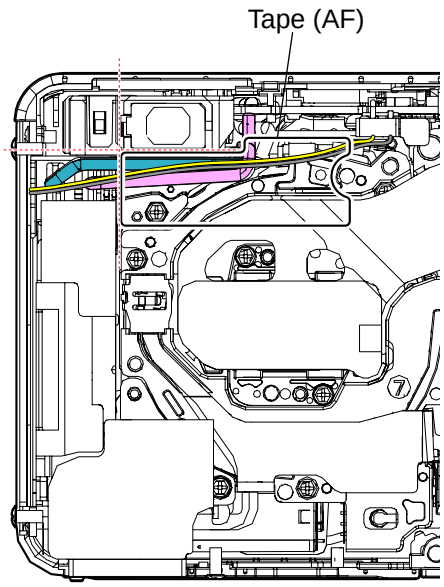
- Front Side -

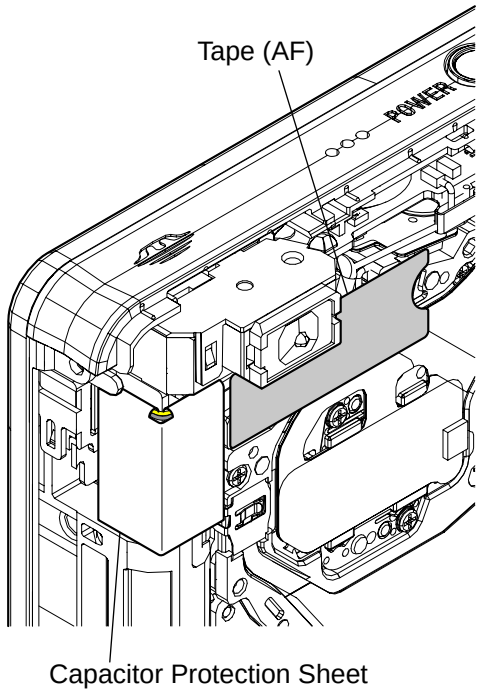


- Rear Side -

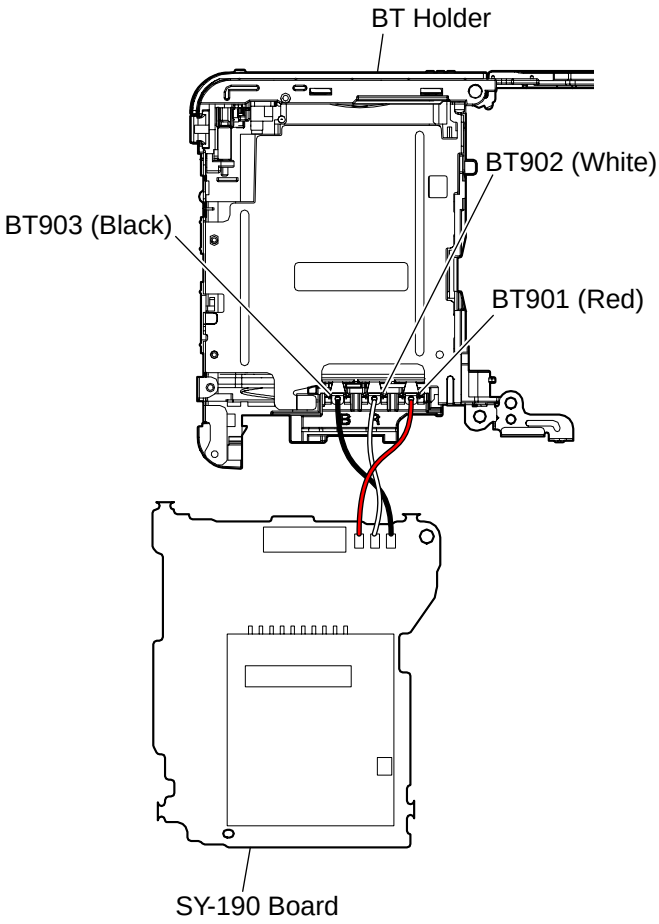


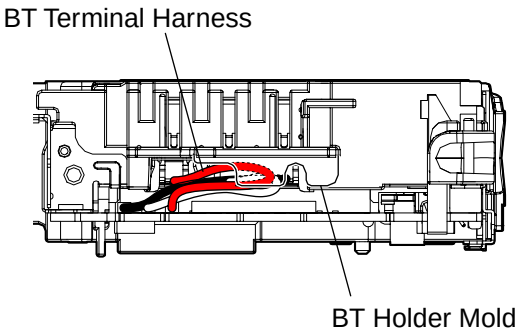
HELP 4: Tape (AF)/Capacitor Protection Sheet





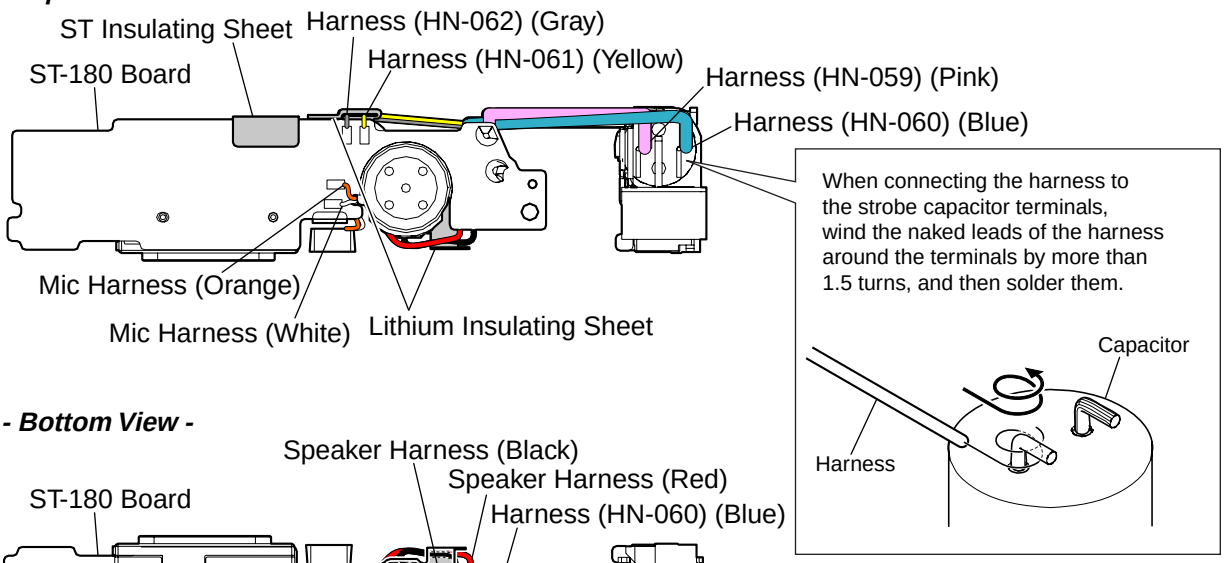
HELP 5: BT Terminal Harness



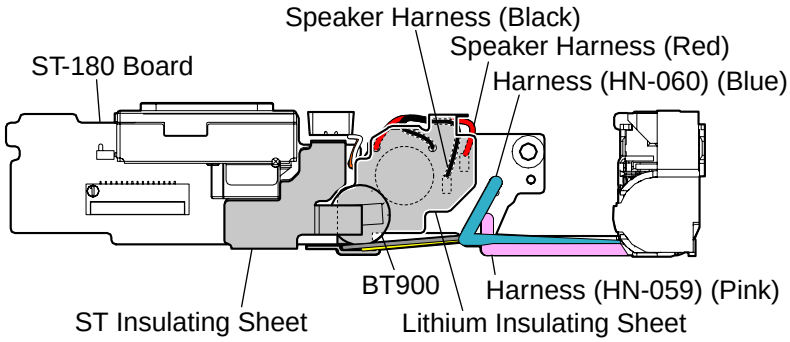


HELP 6: Sheets and Harness of ST-180 Board

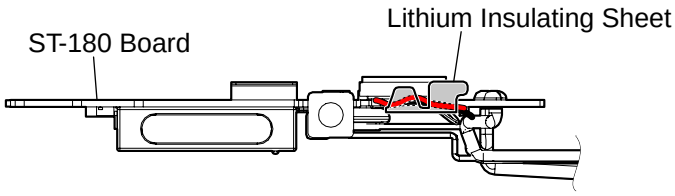
- Top View -



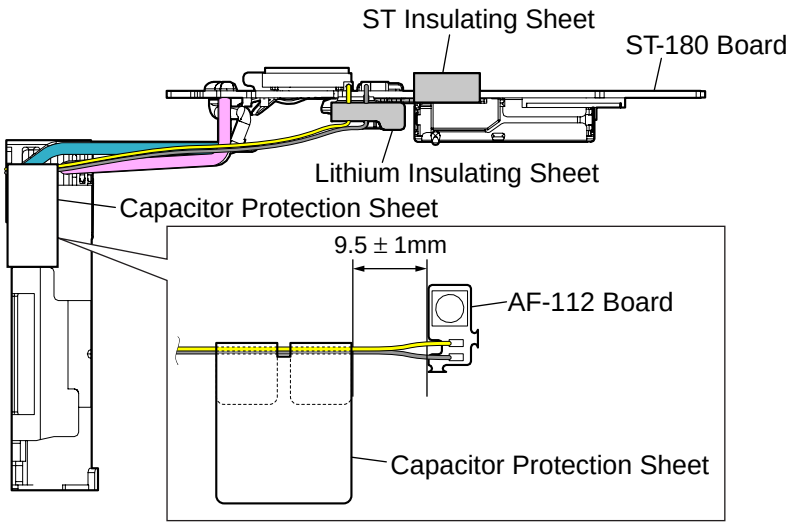
- Bottom View -



- Front View -

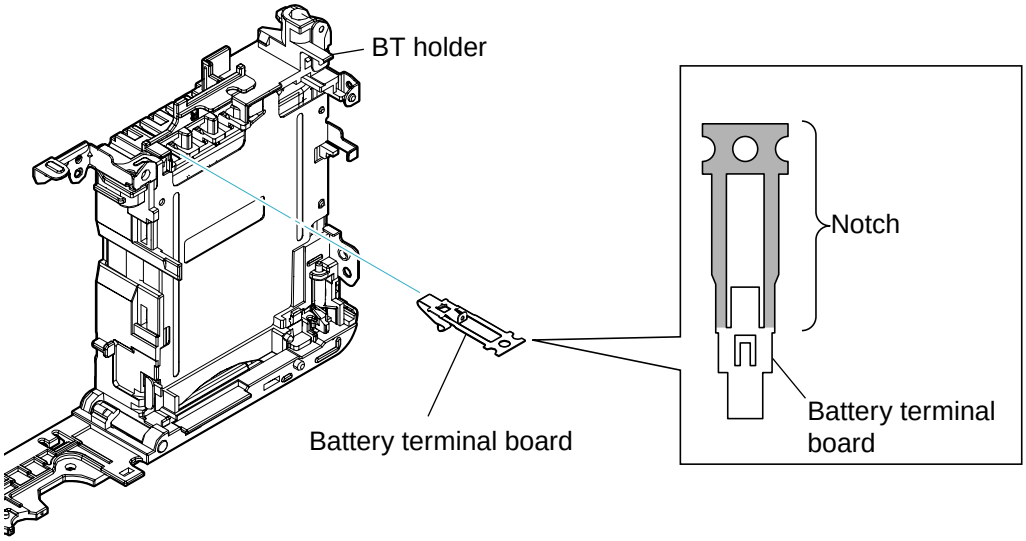


- Rear View -

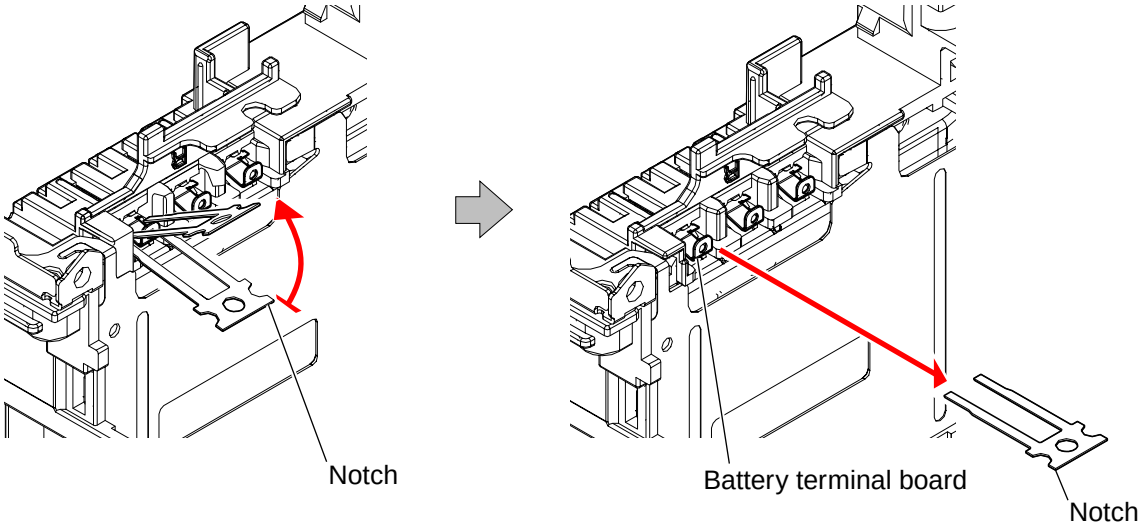


HELP 7: Installation Method of Battery Terminal Board

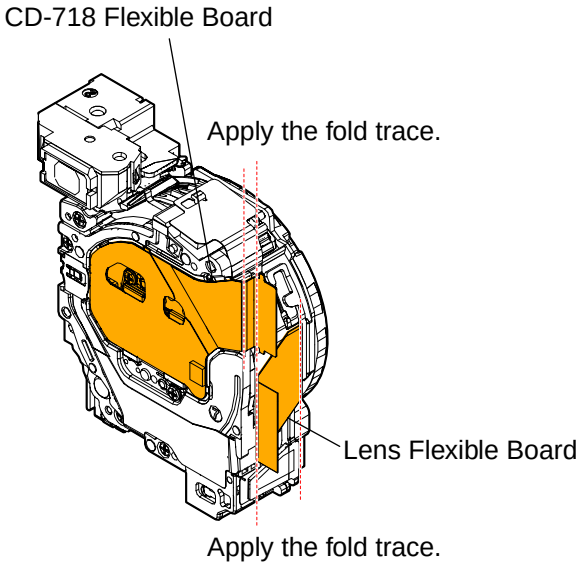
① Insert the battery terminal board into a slit in the BT holder to install.
*The battery terminal board is attached with the notch for installation.



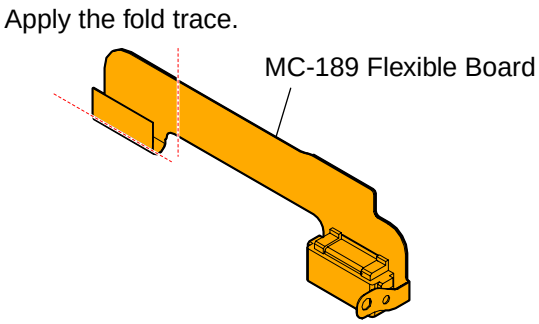
② Fold the notch 3 or 4 times repeatedly to break.



HELP 8: Lens Flexible Board/CD-718 Flexible Board



HELP 9: MC-189 Flexible Board



3. BLOCK DIAGRAMS

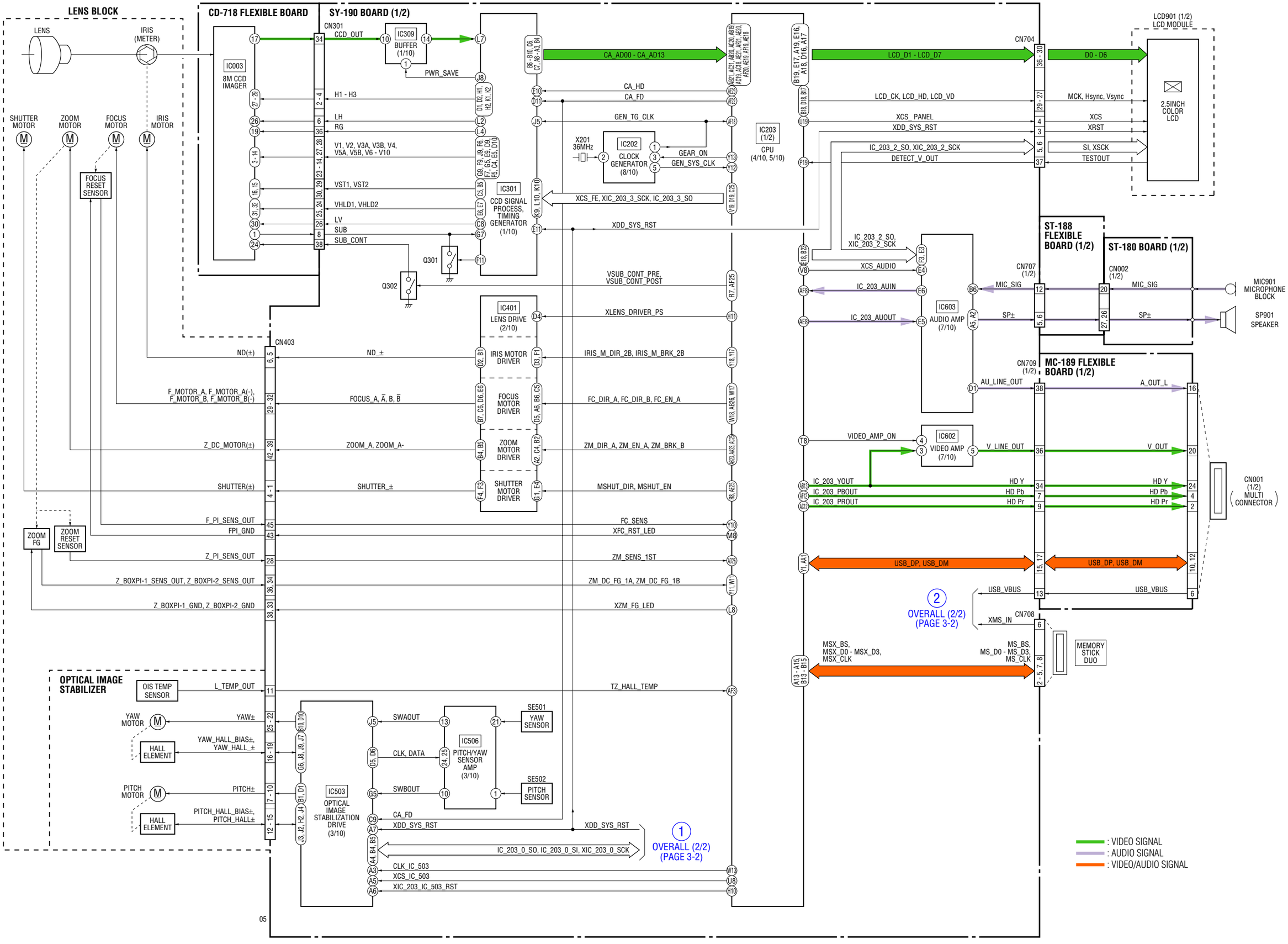
Link

- OVERALL BLOCK DIAGRAM (1/2)
- POWER BLOCK DIAGRAM (1/2)
- OVERALL BLOCK DIAGRAM (2/2)
- POWER BLOCK DIAGRAM (2/2)

3. BLOCK DIAGRAMS

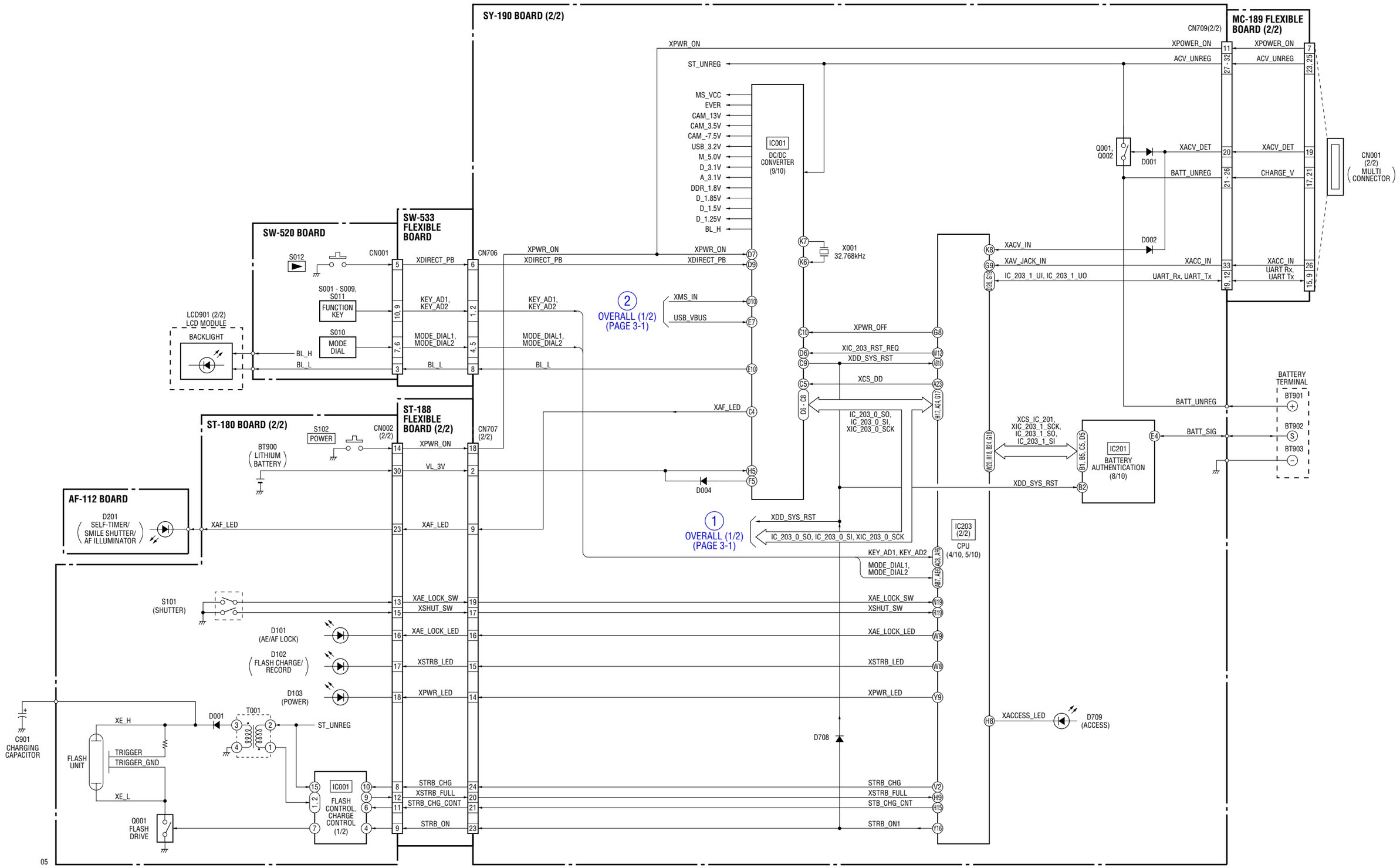
3-1. OVERALL BLOCK DIAGRAM (1/2)

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



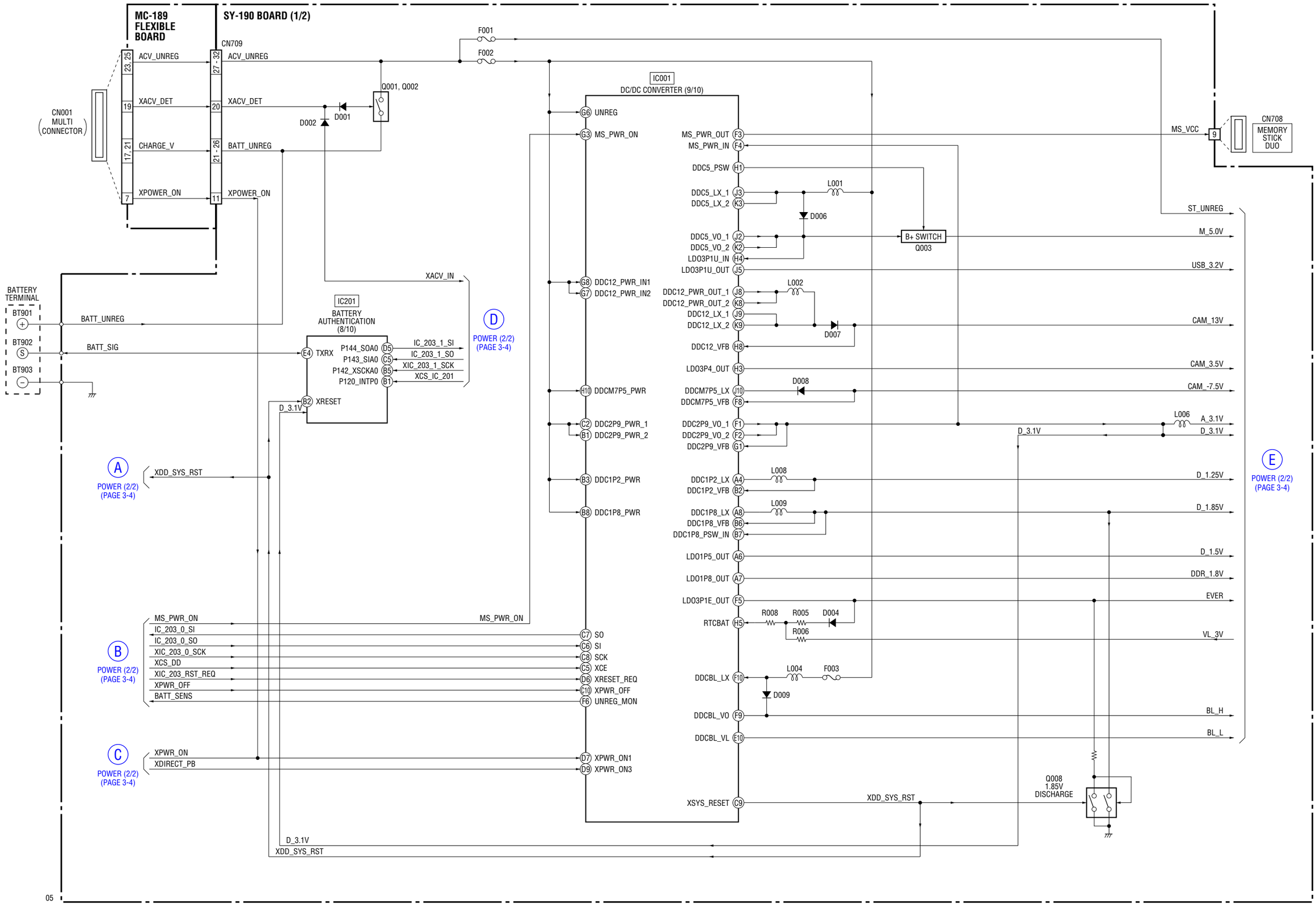
3-2. OVERALL BLOCK DIAGRAM (2/2)

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



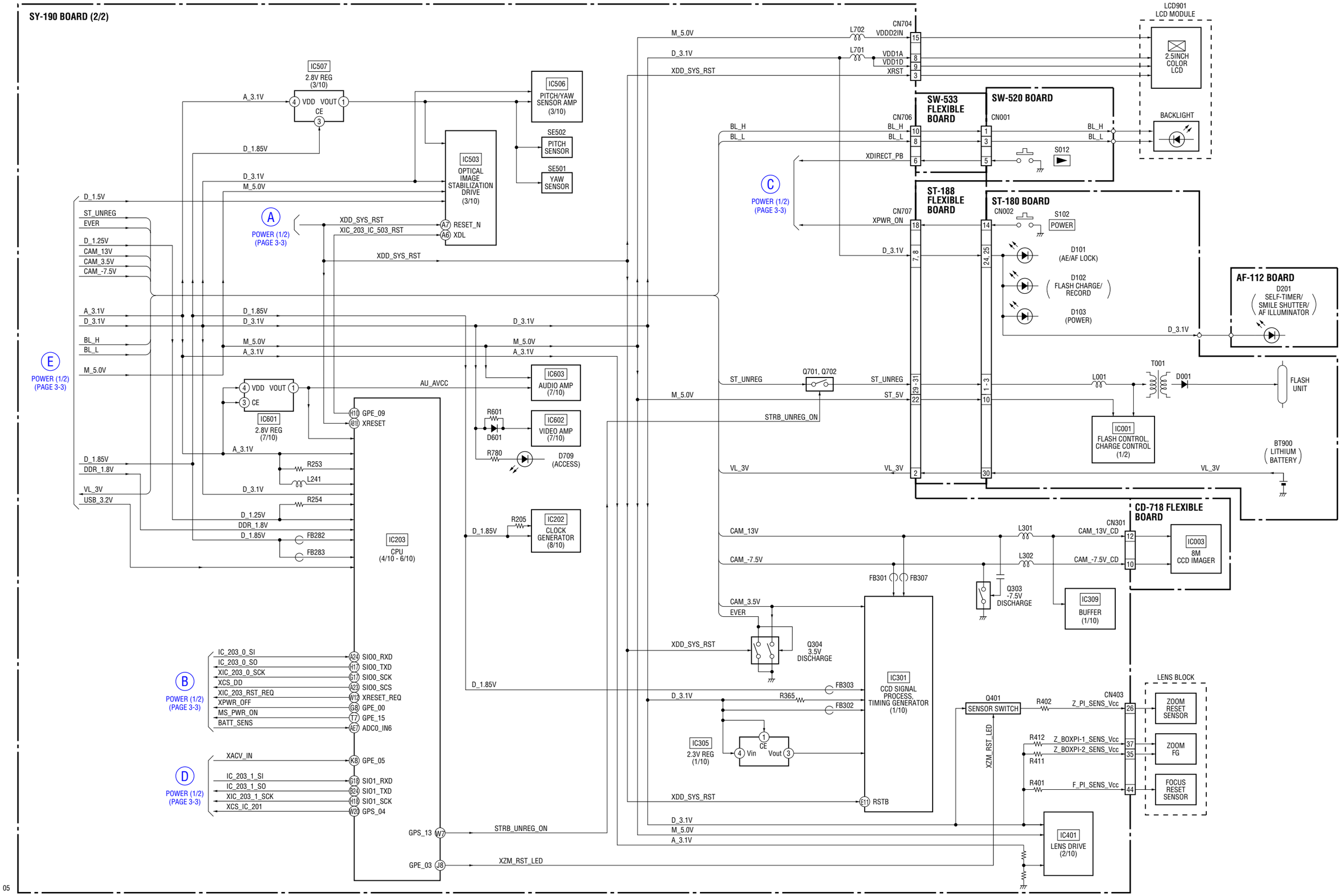
3-3. POWER BLOCK DIAGRAM (1/2)

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



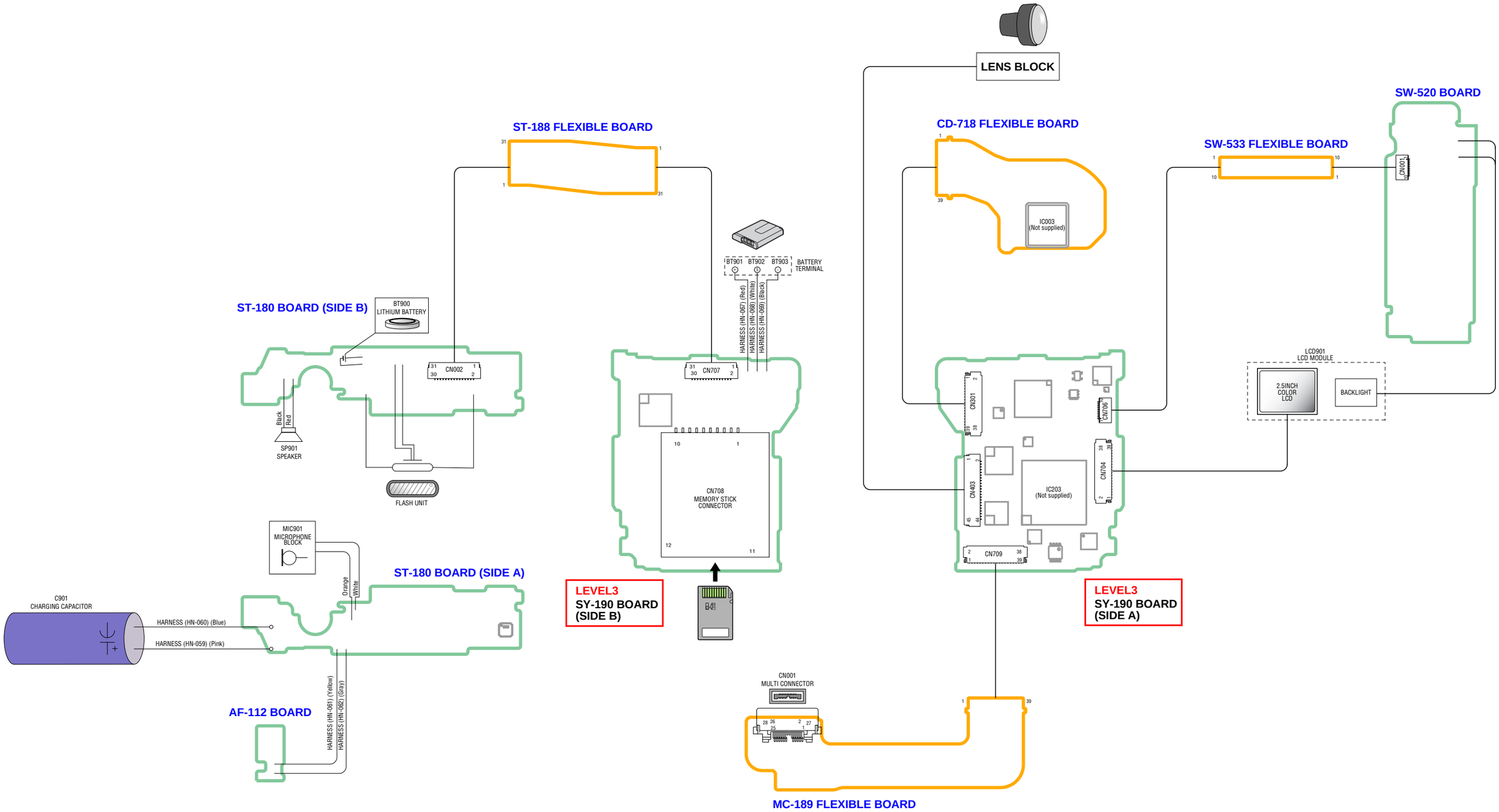
3-4. POWER BLOCK DIAGRAM (2/2)

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



4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM



4-2. SCHEMATIC DIAGRAMS

Link

4-2. SCHEMATIC DIAGRAMS

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

(For schematic diagrams)

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

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

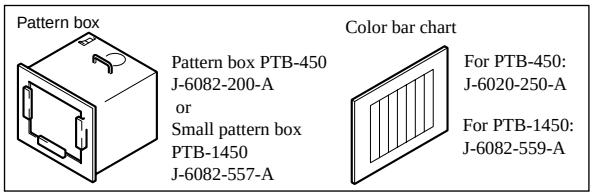
(Measuring conditions voltage and waveform)

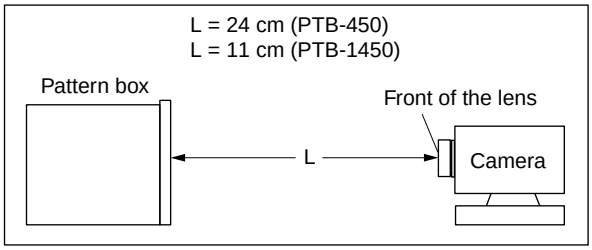
- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms.
  (VOM of DC 10 MΩ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

Precautions for Replacement of Imager

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

1. Connection





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

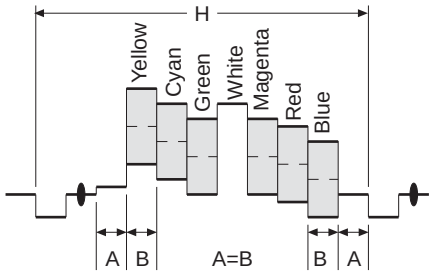


Fig. a (Video output terminal output waveform)

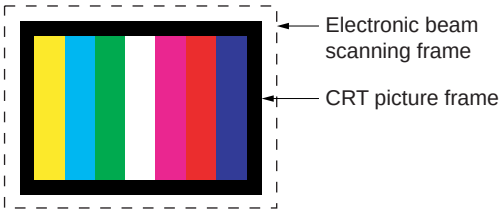
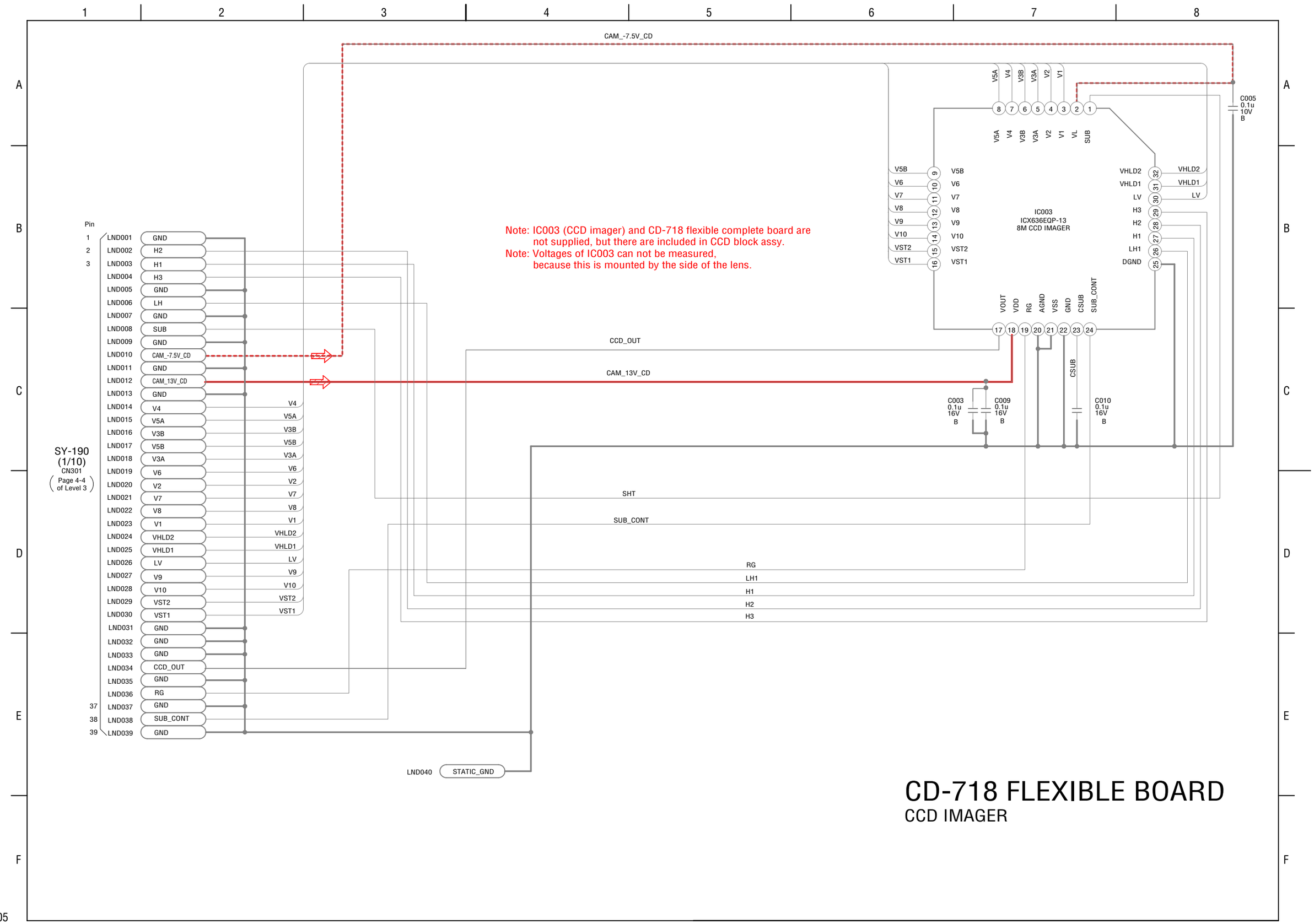


Fig.b (Picture on monitor TV)

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

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

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

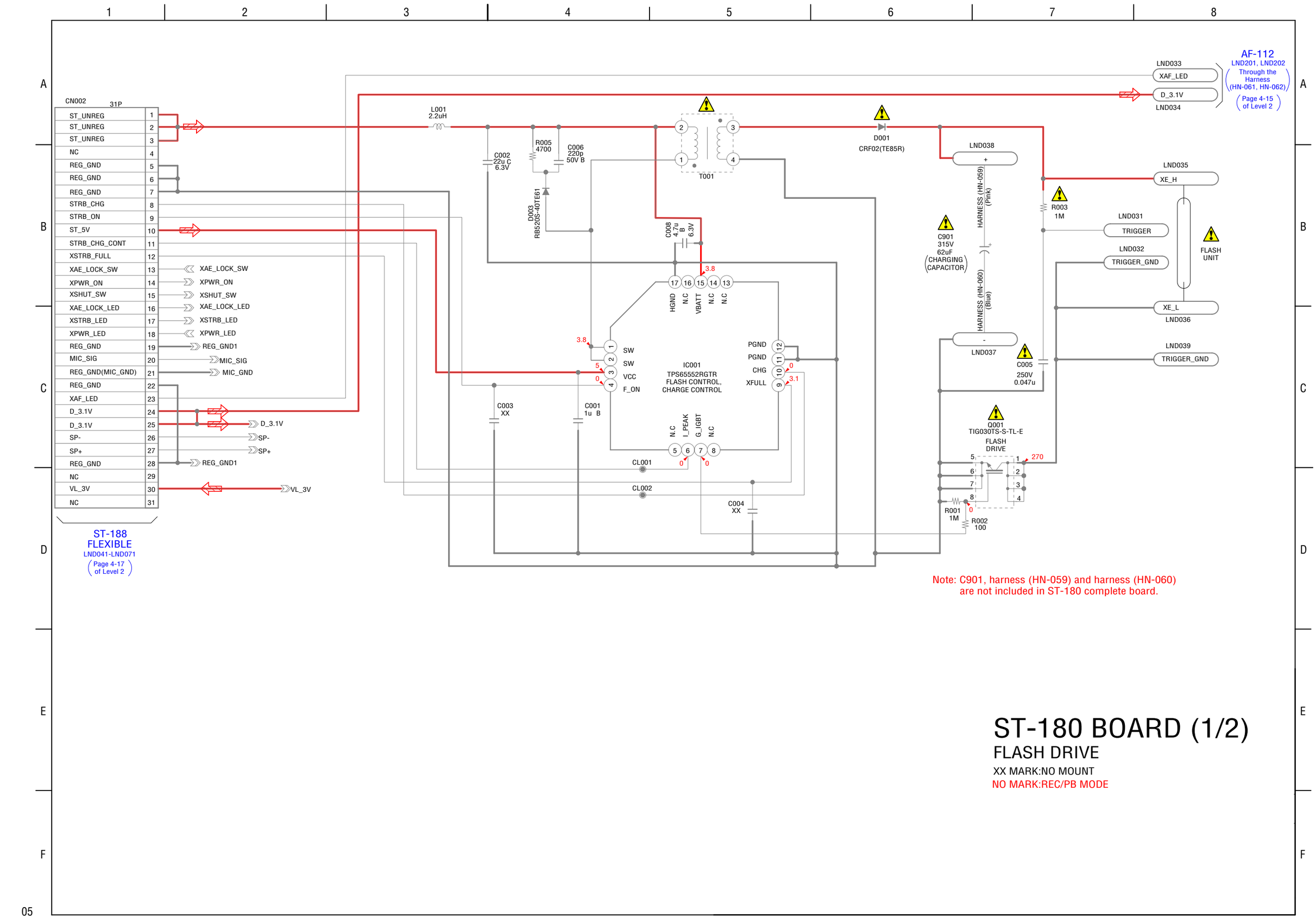


CD-718 FLEXIBLE BOARD

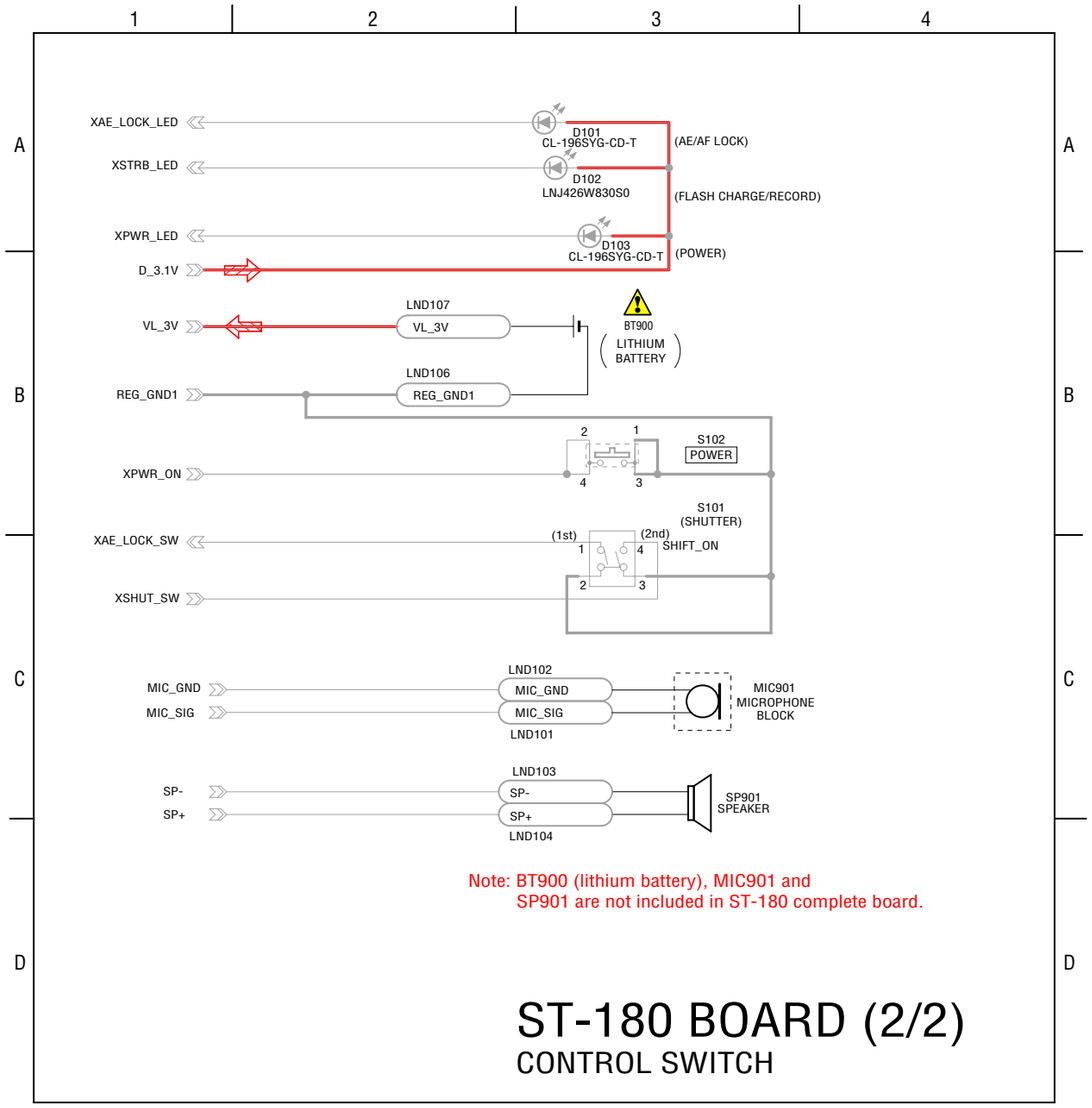
CCD IMAGER

Schematic diagrams of the SY-190 board are not shown.
Pages from 4-4 to 4-13 are not shown.

• Refer to page 4-2 for mark ⚠.

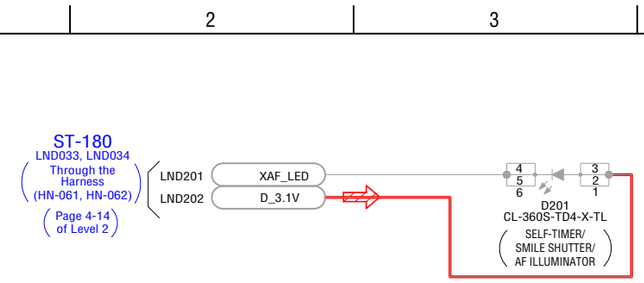


• Refer to page 4-2 for mark ⚠.

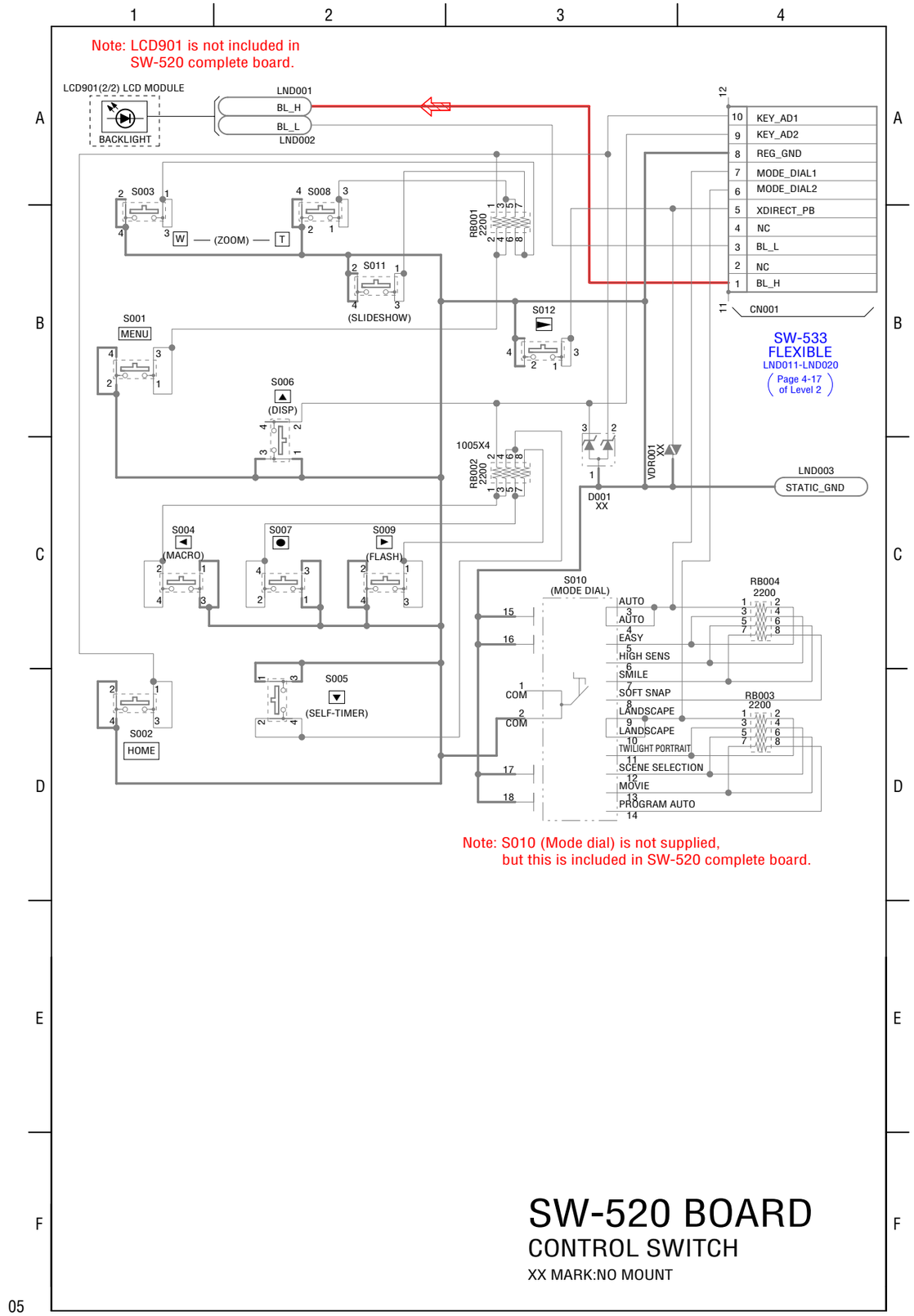


Note: BT900 (lithium battery), MIC901 and SP901 are not included in ST-180 complete board.

ST-180 BOARD (2/2)
CONTROL SWITCH

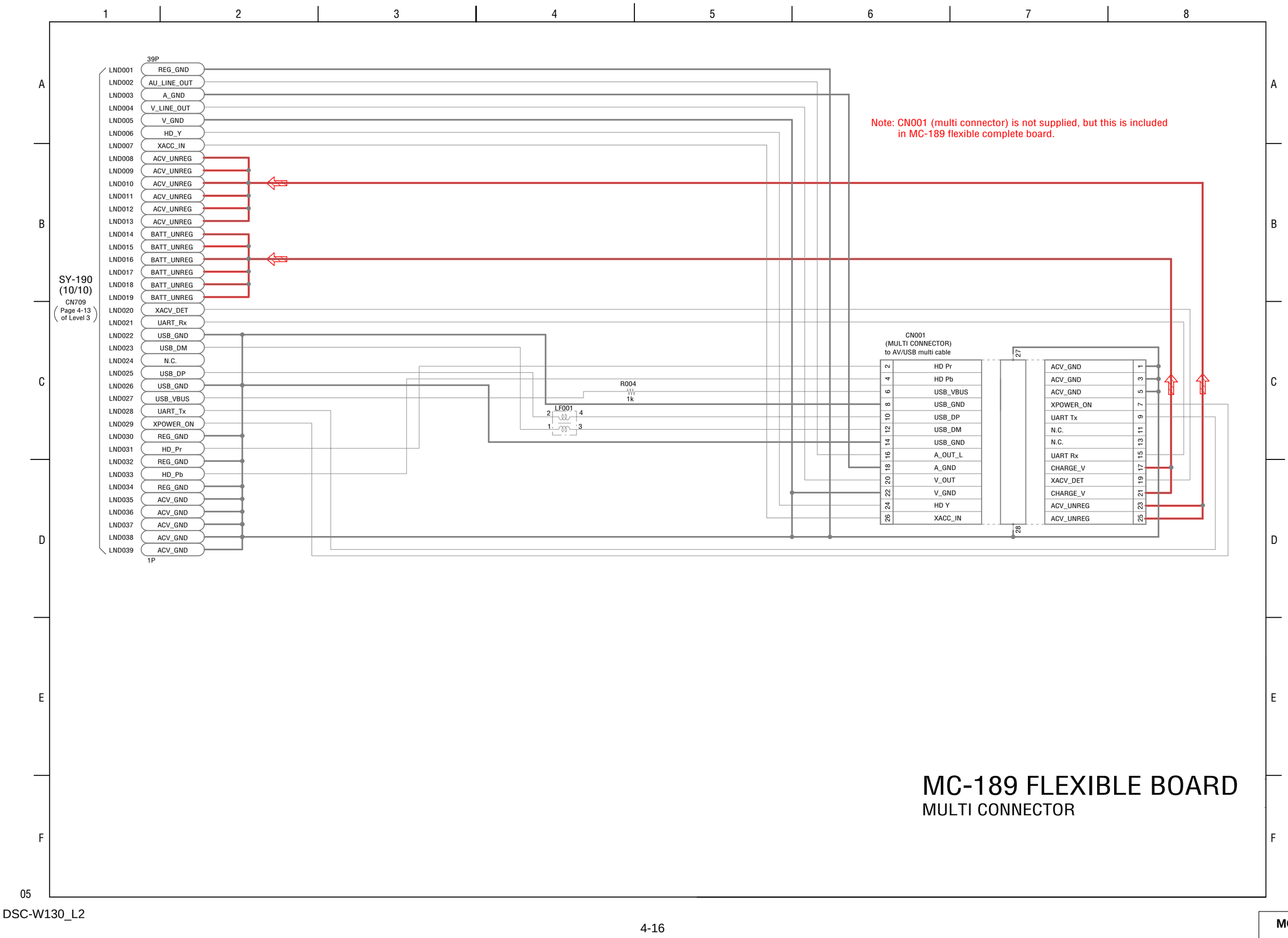


AF-112 BOARD
AF ILLUMINATOR

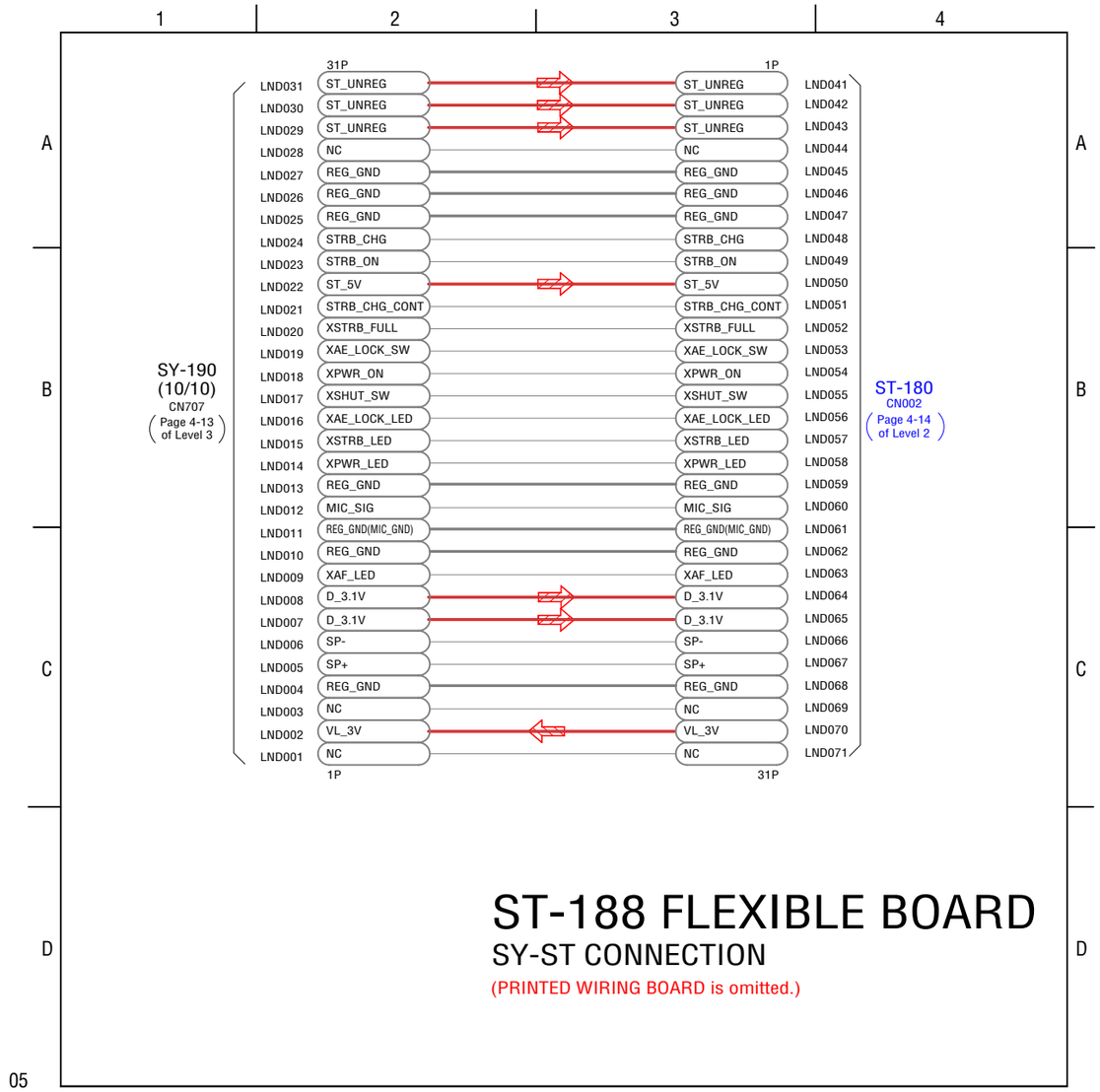


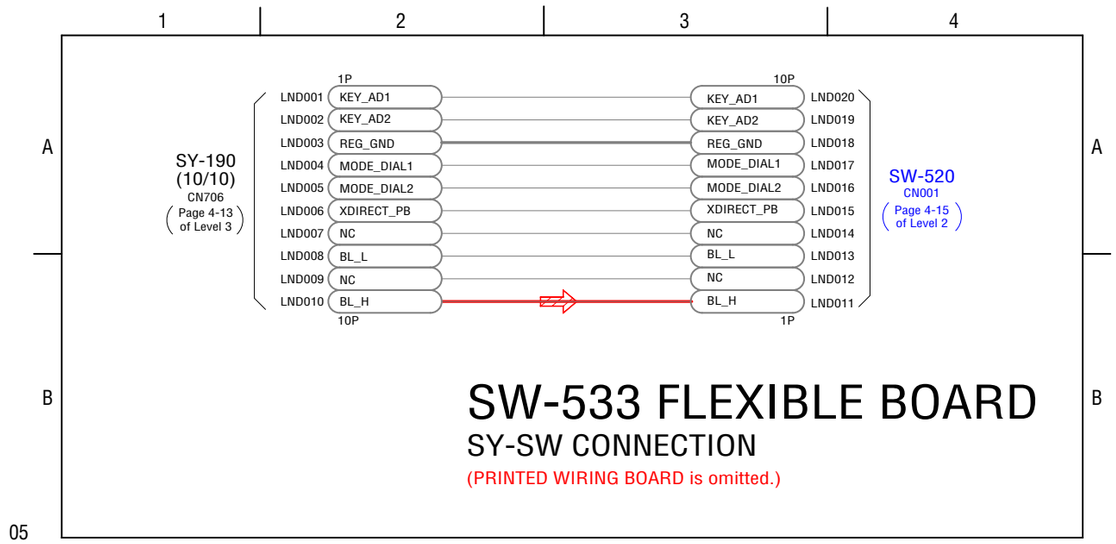
Note: S010 (Mode dial) is not supplied, but this is included in SW-520 complete board.

SW-520 BOARD
CONTROL SWITCH
XX MARK:NO MOUNT



MC-189 FLEXIBLE BOARD
MULTI CONNECTOR


1
2
3
4
A
B
C
D
31P
1P
SY-190
(10/10)
CN707
Page 4-13
of Level 3
LND031 ST_UNREG
LND030 ST_UNREG
LND029 ST_UNREG
LND028 NC
LND027 REG_GND
LND026 REG_GND
LND025 REG_GND
LND024 STRB_CHG
LND023 STRB_ON
LND022 ST_5V
LND021 STRB_CHG_CONT
LND020 XSTRB_FULL
LND019 XAE_LOCK_SW
LND018 XPWR_ON
LND017 XSHUT_SW
LND016 XAE_LOCK_LED
LND015 XSTRB_LED
LND014 XPWR_LED
LND013 REG_GND
LND012 MIC_SIG
LND011 REG_GND(MIC_GND)
LND010 REG_GND
LND009 XAF_LED
LND008 D_3.1V
LND007 D_3.1V
LND006 SP-
LND005 SP+
LND004 REG_GND
LND003 NC
LND002 VL_3V
LND001 NC
1P
31P
ST_UNREG LND041
ST_UNREG LND042
ST_UNREG LND043
NC LND044
REG_GND LND045
REG_GND LND046
REG_GND LND047
STRB_CHG LND048
STRB_ON LND049
ST_5V LND050
STRB_CHG_CONT LND051
XSTRB_FULL LND052
XAE_LOCK_SW LND053
XPWR_ON LND054
XSHUT_SW LND055
XAE_LOCK_LED LND056
XSTRB_LED LND057
XPWR_LED LND058
REG_GND LND059
MIC_SIG LND060
REG_GND(MIC_GND) LND061
REG_GND LND062
XAF_LED LND063
D_3.1V LND064
D_3.1V LND065
SP- LND066
SP+ LND067
REG_GND LND068
NC LND069
VL_3V LND070
NC LND071
ST-180
CN002
Page 4-14
of Level 2
ST-188 FLEXIBLE BOARD
SY-ST CONNECTION
(PRINTED WIRING BOARD is omitted.)
05


1
2
3
4
A
B
1P
10P
SY-190
(10/10)
CN706
Page 4-13
of Level 3
LND001 KEY_AD1
LND002 KEY_AD2
LND003 REG_GND
LND004 MODE_DIAL1
LND005 MODE_DIAL2
LND006 XDIRECT_PB
LND007 NC
LND008 BL_L
LND009 NC
LND010 BL_H
10P
1P
KEY_AD1 LND020
KEY_AD2 LND019
REG_GND LND018
MODE_DIAL1 LND017
MODE_DIAL2 LND016
XDIRECT_PB LND015
NC LND014
BL_L LND013
NC LND012
BL_H LND011
SW-520
CN001
Page 4-15
of Level 2
SW-533 FLEXIBLE BOARD
SY-SW CONNECTION
(PRINTED WIRING BOARD is omitted.)
05

4-3. PRINTED WIRING BOARDS

Link

- CD-718 FLEXIBLE BOARD
- SW-520 BOARD
- ST-180 BOARD
- MC-189 FLEXIBLE BOARD
- AF-112 BOARD
- COMMON NOTE FOR PRINTED WIRING BOARDS

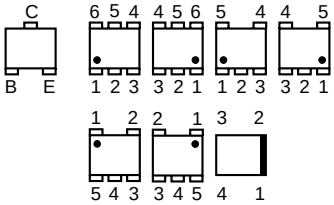
4-3. PRINTED WIRING BOARDS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS

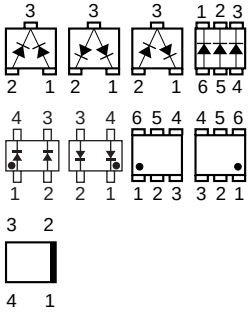
- : Uses unleaded solder.
- : Circuit board
  : Flexible board
  Pattern from the side which enables seeing.
  : pattern of the rear side
  (The other layers' patterns are not indicated)
- Through hole is omitted.
- There are a few cases that the part printed on diagram isn't mounted in this model.
-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

- Chip parts.

Transistor



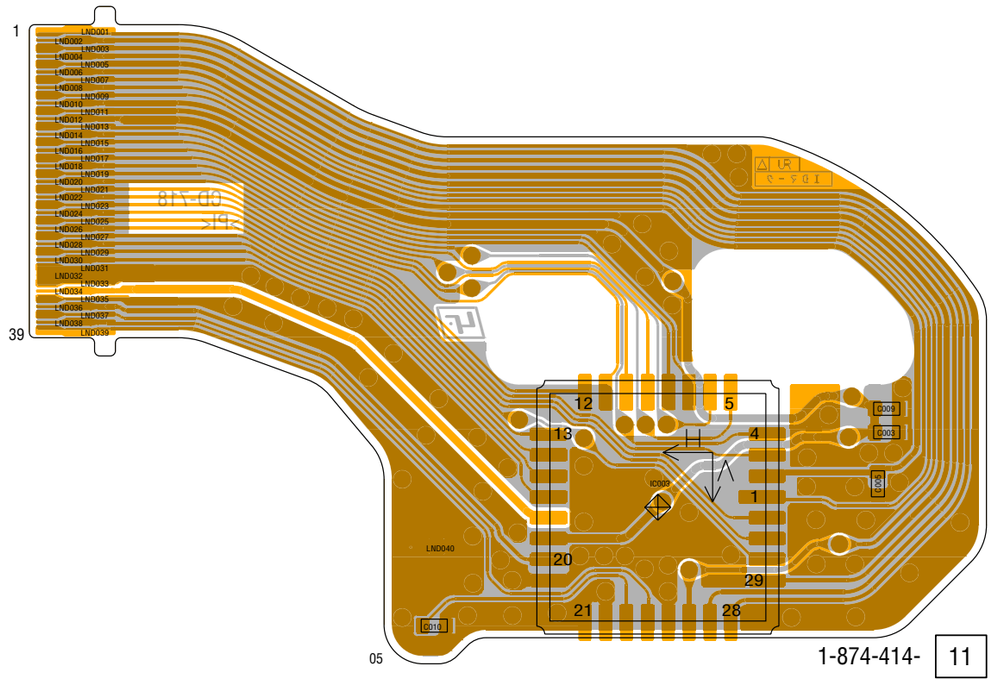
Diode



CD-718 (2 layers)

: Uses unleaded solder.

CD-718 FLEXIBLE BOARD

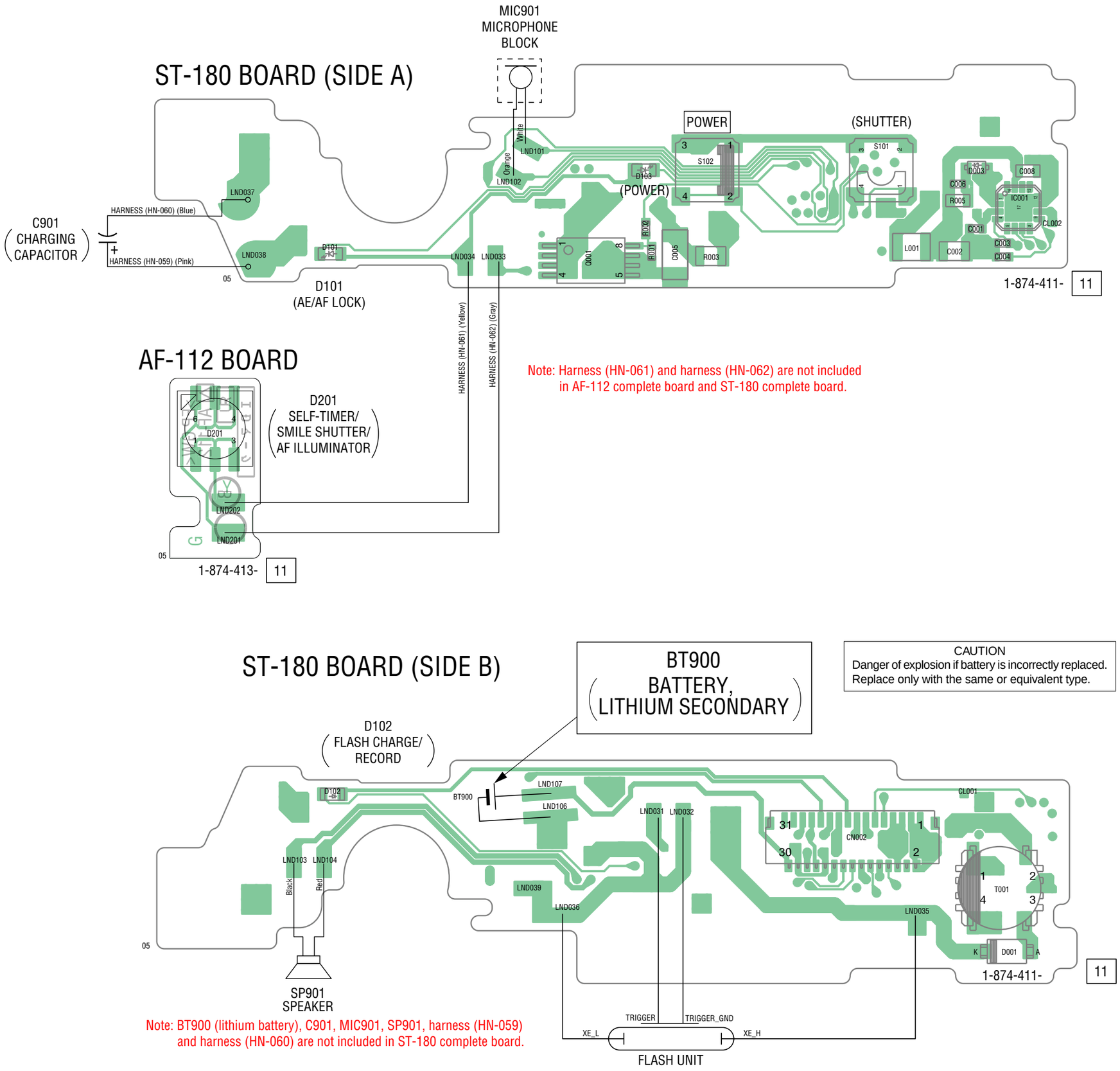


Note: IC003 (CCD imager) and CD-718 flexible complete board are not supplied, but there are included in CCD block assy.

Printed wiring board of the SY-190 board is not shown.
Page 4-20 is not shown.

ST-180 (4 layers), AF-112 (2 layers)

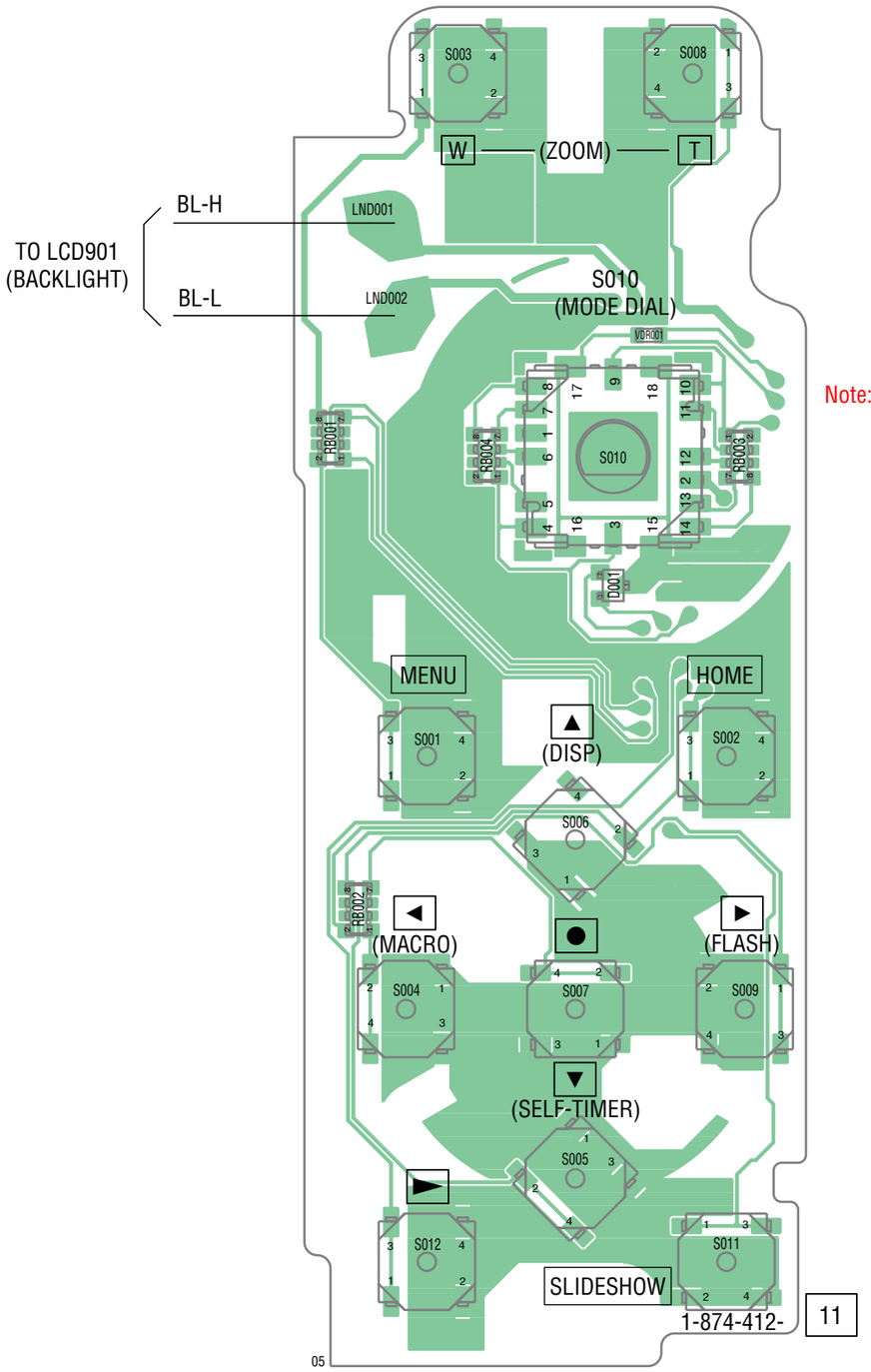
: Uses unleaded solder.



SW-520 (2 layers)

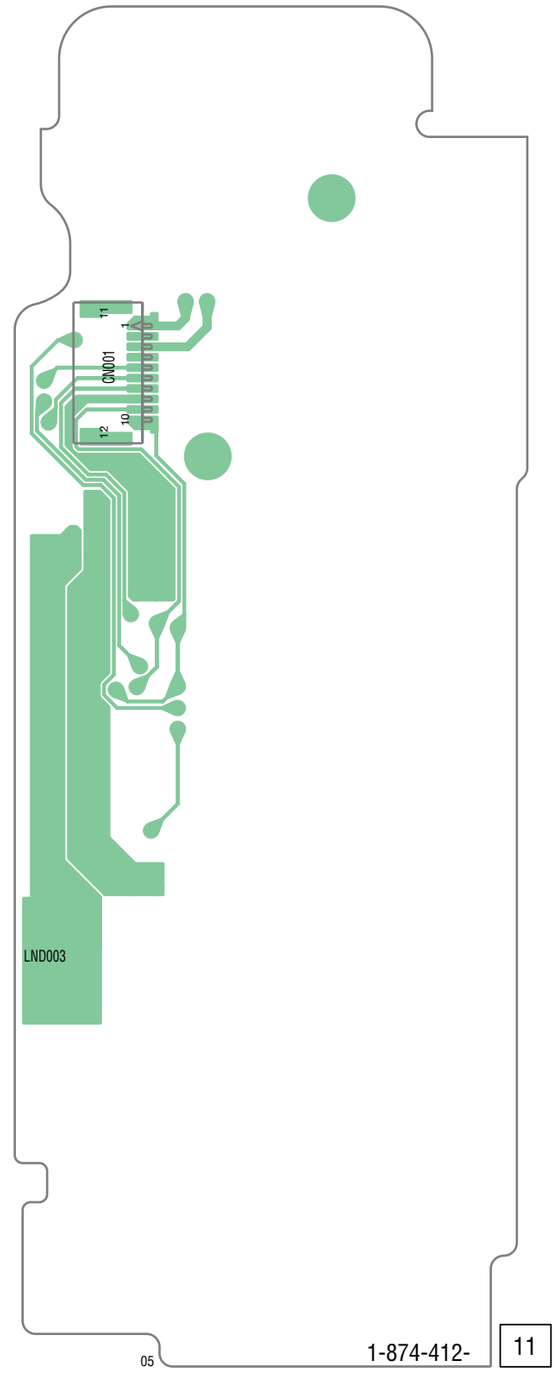
: Uses unleaded solder.

SW-520 BOARD (SIDE A)



Note: S010 (Mode dial) is not supplied, but this is included in SW-520 complete board.

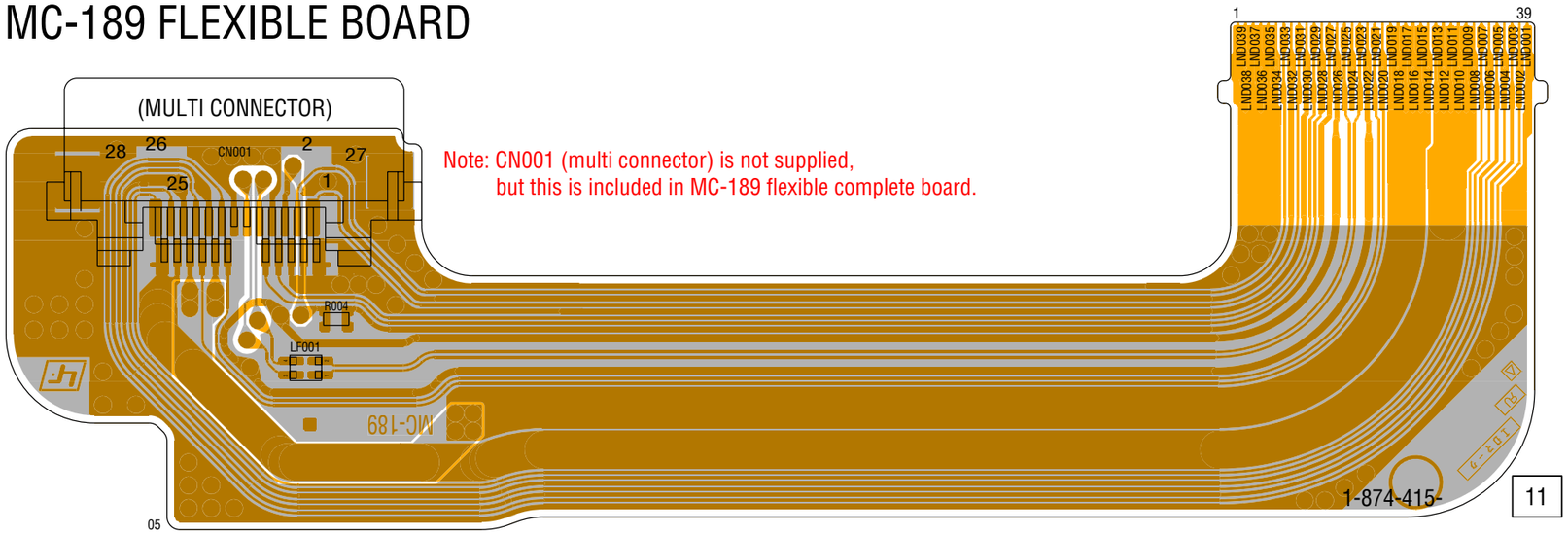
SW-520 BOARD (SIDE B)



MC-189 (2 layers)

: Uses unleaded solder.

MC-189 FLEXIBLE BOARD



Note: CN001 (multi connector) is not supplied,
but this is included in MC-189 flexible complete board.

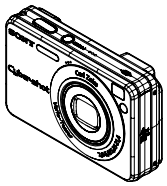
NOTE

5. REPAIR PARTS LIST

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

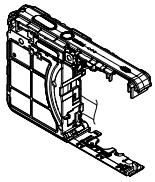


A

LCD SECTION

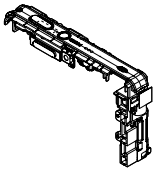
B

FRONT SECTION



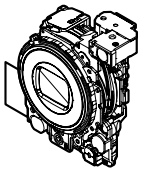
C

BT HOLDER SECTION



D

CABINET (UPPER) SECTION



E

LENS SECTION

Link

ELECTRICAL PARTS LIST

ACCESSORIES

AF-112 BOARD D	MC-189 FLEXIBLE BOARD C	SW-520 BOARD A
CD-718 FLEXIBLE BOARD B	ST-180 BOARD D	

5. REPAIR PARTS LIST

NOTE:

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

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

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

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

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

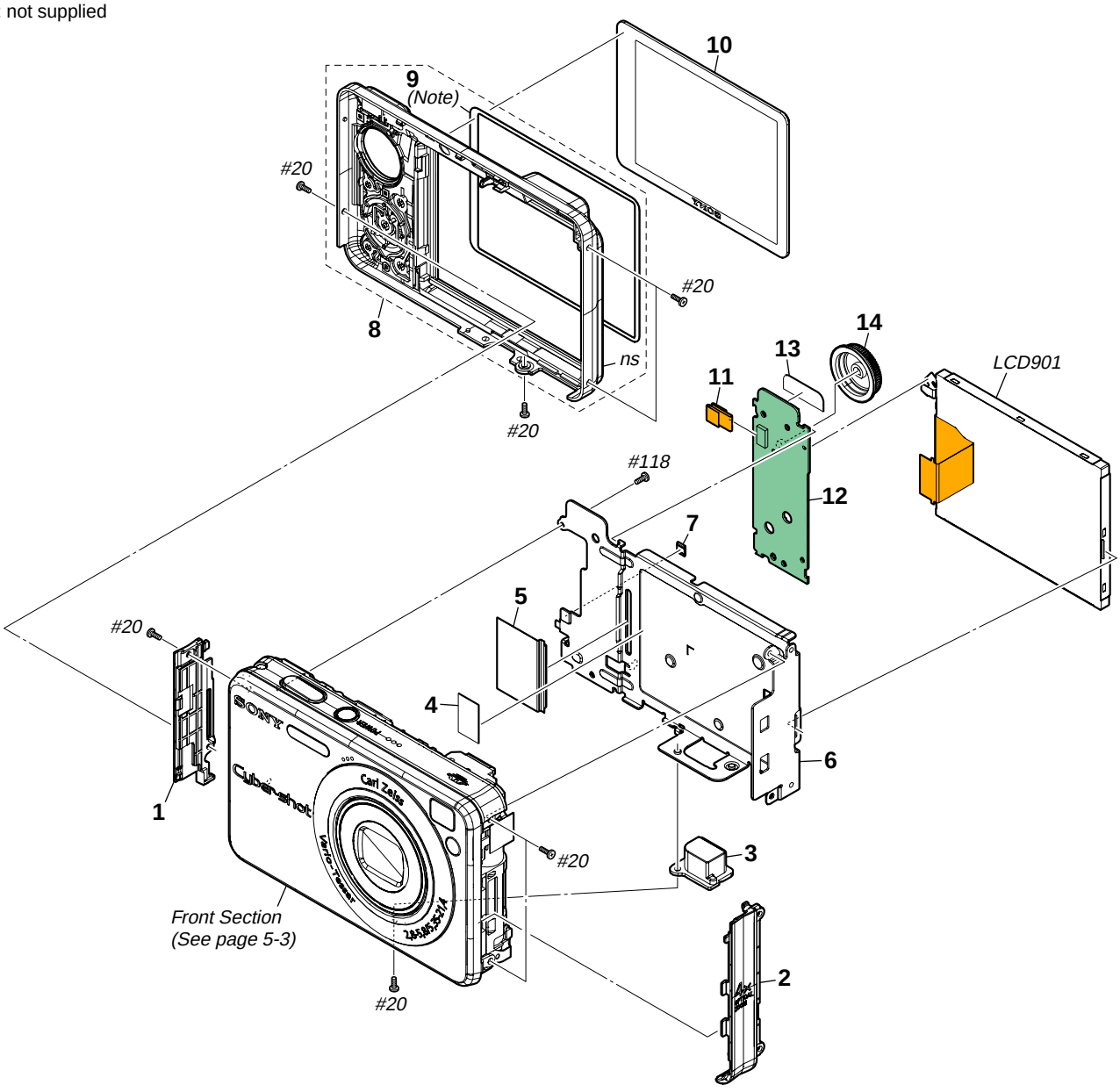
5. REPAIR PARTS LIST

DISASSEMBLY | HARDWARE LIST

5-1. EXPLODED VIEWS

5-1-1. LCD SECTION

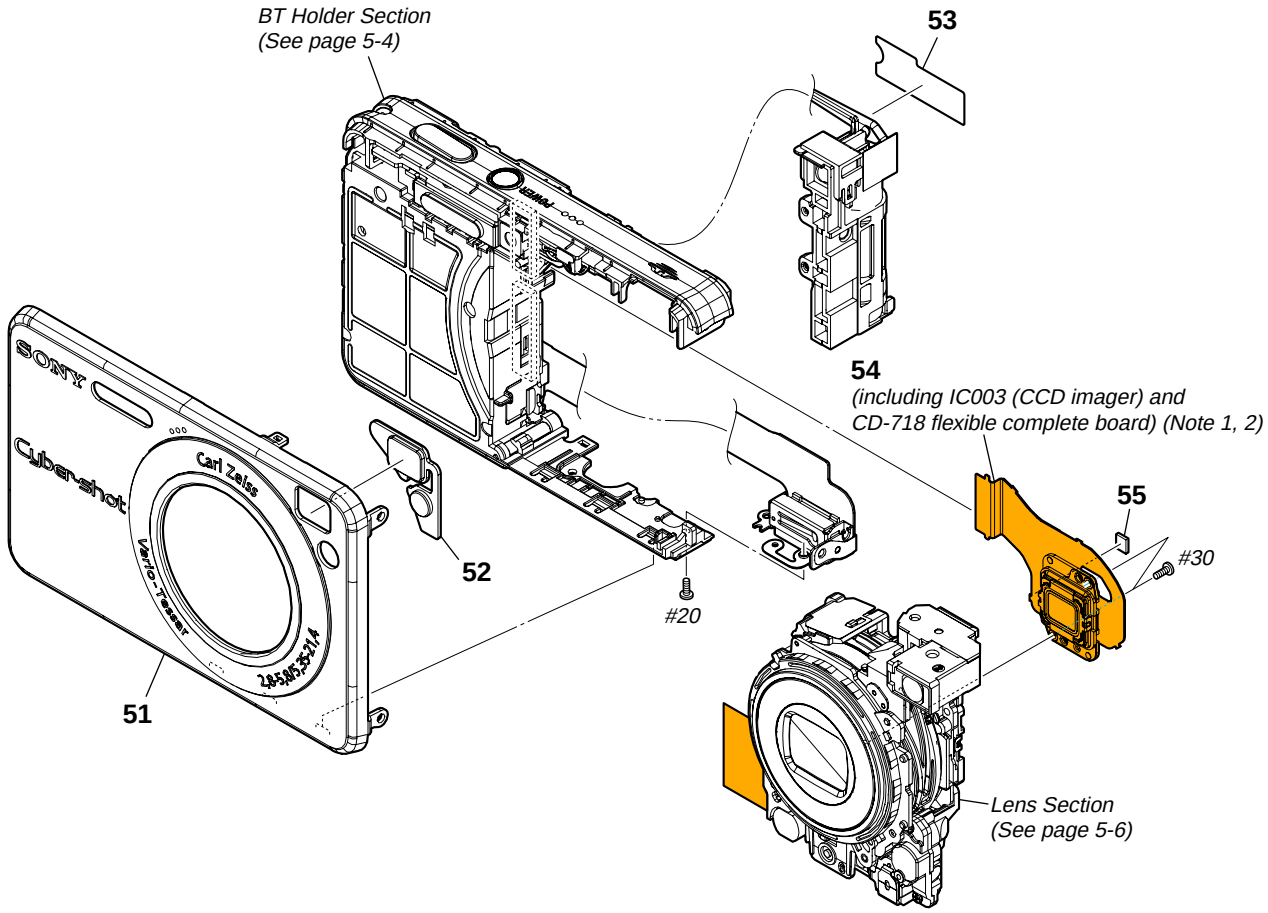
ns: not supplied



Note: Refer to "HELP 1: LCD Window Adhesive Sheet Kit" when replace the LCD window adhesive sheet kit.

Ref. No.	Part No.	Description
1	3-289-769-01	CABINET (L), SIDE (SILVER/BLACK)
1	3-289-769-21	CABINET (L), SIDE (PINK)
2	3-289-776-01	CABINET (R), SIDE (SILVER/BLACK)
2	3-289-776-21	CABINET (R), SIDE (PINK)
3	3-289-757-01	SCREW, TRIPOD
* 4	3-289-782-01	SHEET, LCD FLEXIBLE FIXED
* 5	3-289-763-01	SHEET, LCD INSULATING
* 6	3-289-759-01	FRAME, LCD
* 7	3-093-800-01	GASKET (230)
8	X-2188-887-1	CABINET (REAR (130SL)) ASSY (SILVER)
8	X-2188-888-1	CABINET (REAR (130BK)) ASSY (BLACK)
8	X-2188-889-1	CABINET (REAR (130PK)) ASSY (PINK)
9	3-289-745-01	SHEET KIT, LCD WINDOW ADHESIVE (Note)
10	3-289-766-01	WINDOW, LCD
11	1-875-540-11	SW-533 FLEXIBLE BOARD
12	A-1494-316-A	SW-520 BOARD, COMPLETE
* 13	3-289-767-01	SHEET, ZOOM BLIND
14	3-289-762-01	DIAL, MODE
LCD901	8-753-296-94	ACX358AKR-3
#20	2-635-591-31	SCREW (M1.4), NEW TRUSTAR P2 (Silver)
#118	2-655-580-01	SCREW 0+P2 M1.4 NEWTRU-STAR (Black)

5-1-2. FRONT SECTION



Note 1: Be sure to read “Precuations for Replacement of Imager” on page 4-2.

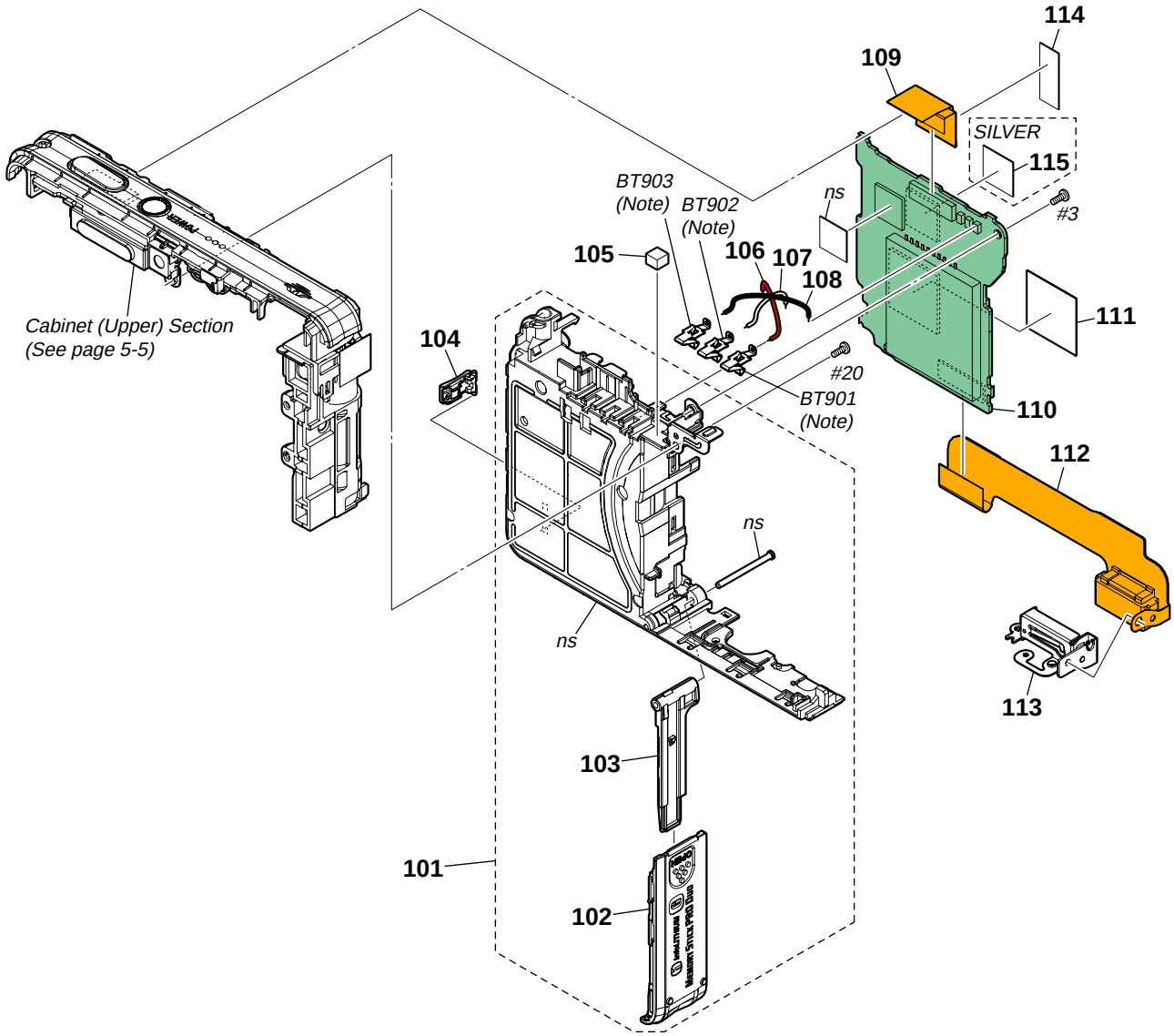
Note 2: There are two types of modules used in the CCD BLOCK ASSY.
They are interchangeability and only one type is available for repair part.

Ref. No.	Part No.	Description
51	X-2188-880-1	CABINET (FRONT (8.1SL)) ASSY (SILVER)
51	X-2188-881-1	CABINET (FRONT (8.1BK)) ASSY (BLACK)
51	X-2188-882-1	CABINET (FRONT (8.1PK)) ASSY (PINK)
52	3-289-768-01	WINDOW, OVF
* 53	3-289-781-01	TAPE (AF)
54	A-1543-223-A	SERVICE, CCD BLOCK ASSY (including IC003 (CCD imager) and CD-718 flexible complete board) (Note 1, 2)

Ref. No.	Part No.	Description
* 55	3-289-764-01	GASKET (280)
#20	2-635-591-31	SCREW (M1.4), NEW TRUSTAR P2 (Silver)
#30	3-086-156-11	SCREW B1.2 (White)

5-1-3. BT HOLDER SECTION

ns: not supplied



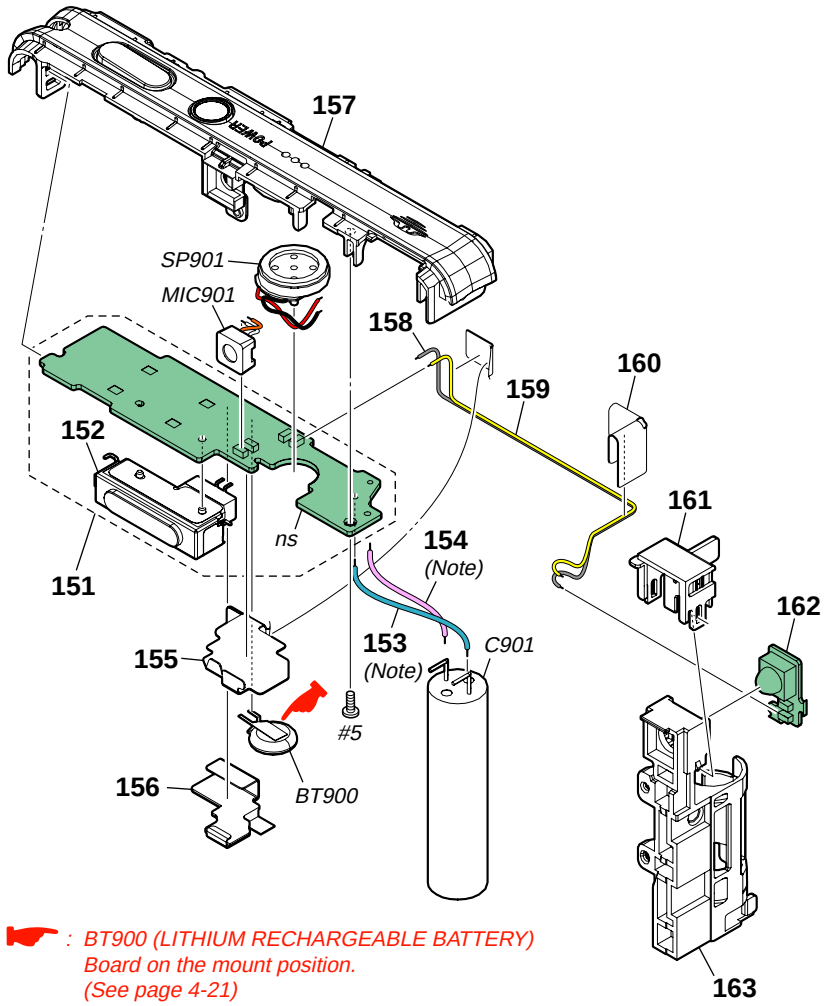
Note: Refer to "HELP 7: Installation method of battery terminal board" when changing the battery terminal board.

Ref. No.	Part No.	Description
101	X-2188-901-1	HOLDER (SL) ASSY, BT (SILVER)
101	X-2188-902-1	HOLDER (BK) ASSY, BT (BLACK)
101	X-2188-904-1	HOLDER (PK) ASSY, BT (PINK)
* 102	3-288-271-01	LID, BT (SILVER)
* 102	3-288-271-11	LID, BT (BLACK)
* 102	3-288-271-31	LID, BT (PINK)
* 103	3-288-272-01	PLATE, BT HINGE
* 104	3-289-756-01	LID, DC (SILVER/BLACK)
* 104	3-289-756-21	LID, DC (PINK)
* 105	3-292-292-01	CUSHION, ST LIGHT INTERCEPTION
106	1-965-766-11	HARNESS (HN-067) (Red)
107	1-965-767-11	HARNESS (HN-068) (White)
108	1-965-768-11	HARNESS (HN-069) (Black)
109	1-874-856-11	ST-188 FLEXIBLE BOARD
110	A-1512-916-A	SY-190 BOARD, COMPLETE (SERVICE)
* 111	3-289-783-01	SHEET (SY), RADIATION
112	A-1494-320-A	MC-189 FLEXIBLE BOARD, COMPLETE
* 113	3-289-758-01	SHEET METAL, MULTI FIXED
* 114	3-298-230-01	TAPE (N2)
* 115	3-300-951-01	SHEET (60280SL), ELECTROSTATIC (SILVER)
BT901	1-780-456-21	TERMINAL BOARD, BATTERY (Note)
BT902	1-780-456-21	TERMINAL BOARD, BATTERY (Note)
BT903	1-780-456-21	TERMINAL BOARD, BATTERY (Note)
#3	2-660-401-01	SCREW (M1.7), NEW TRU-STAR, P2 (Red)
#20	2-635-591-31	SCREW (M1.4), NEW TRUSTAR P2 (Silver)

HARDWARE LIST

5-1-4. CABINET (UPPER) SECTION

ns: not supplied



☛ : BT900 (LITHIUM RECHARGEABLE BATTERY) Board on the mount position. (See page 4-21)

Note: Refer to "HELP 6: Sheets and Harness of ST-180 Board" when replace harness (HN-059/060).

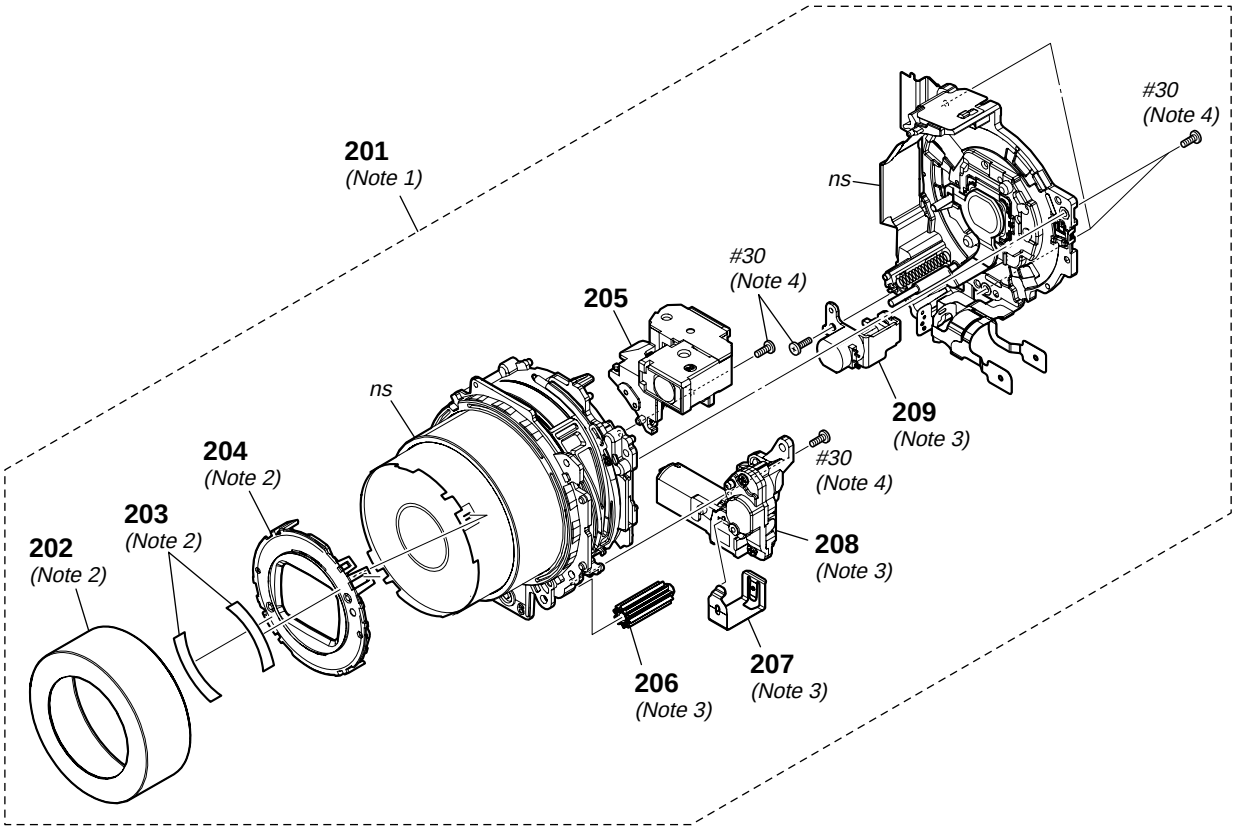
CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description
151	A-1494-315-A	ST-180 BOARD, COMPLETE
⚠*152	1-480-556-11	FLASH UNIT
153	1-965-681-11	HARNESS (HN-060) (Blue) (Note)
154	1-965-680-11	HARNESS (HN-059) (Pink) (Note)
* 155	3-289-779-01	SHEET, LITHIUM INSULATING
* 156	3-289-778-01	SHEET, ST INSULATING
157	X-2188-898-1	CABINET (UPPER (SL/BK)) ASSY (SILVER/BLACK)
157	X-2188-900-1	CABINET (UPPER (PK)) ASSY (PINK)
158	1-965-683-11	HARNESS (HN-062) (Gray)
159	1-965-682-11	HARNESS (HN-061) (Yellow)
* 160	3-289-765-01	SHEET, CAPACITOR PROTECTION
* 161	3-289-761-01	RETAINER, AF
162	A-1494-317-A	AF-112 BOARD, COMPLETE
* 163	3-289-760-01	HOLDER, CAPACITOR
⚠BT900	1-756-710-12	LITHIUM RECHARGEABLE BATTERY
⚠*C901	1-114-606-11	ELECT 62uF 315V
MIC901	1-542-721-21	MICROPHONE BLOCK
SP901	1-826-403-61	LOUDSPEAKER (1.0CM)
#5	3-080-204-01	SCREW, TAPPING, P2 (Black)

5-1-5. LENS SECTION

ns: not supplied



Note 1: Refer to "2-3. Precuations when Holding the Lens Block" on page 2-6 when detach or replace the lens block.

Note 2: Refer to "2-4. Barrier Assy Replacing Method" on page 2-7 when replace the barrier assy.

Note 3: Refer to "2-5. Lens Motor Replacing Method" on page 2-8 when replace the zoom gear block or the optical stepping motor.

Note 4: Tightening torque = 0.049 ± 0.01 N•m (0.5 ± 0.1 kgf•cm)

Ref. No.	Part No.	Description
201	A-1512-913-A	LSV-1250A (SERVICE) (Note 1)
202	3-278-941-01	RING A (Y), ORNAMENTAL (Note 2)
203	2-691-890-11	TAPE, BARRIER (Note 2)
204	A-1437-489-A	BARRIER ASSY (SDPW) (Note 2)
205	1-788-635-11	FINDER, OPTICAL (1250)
206	X-2187-865-1	GEAR (S), NARUTO (Note 3)
207	3-268-545-01	PLATE SPRING, FG (Note 3)
208	1-480-381-11	GEAR BLOCK, ZOOM (1250) (Note 3)
209	1-787-672-11	STEPPING MOTOR, OPTICAL (F1250) (Note 3)
#30	3-086-156-11	SCREW B1.2 (White) (Note 4)

5-2. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description			
	A-1494-317-A	AF-112 BOARD, COMPLETE			
		**********			
		< DIODE >			
* D201	6-501-861-01	DIODE CL-360S-TD4-X-TL (SELF-TIMER/SMILE SHUTTER/AF ILLUMINATOR)			
	A-1543-223-A	SERVICE, CCD BLOCK ASSY (Note 1, 2)			
	(Not supplied)	CD-718 FLEXIBLE BOARD, COMPLETE			
		**********			
		(IC003 (CCD imager) and CD-718 flexible complete board are not supplied, but there are included in CCD block assy.)			
		< CAPACITOR >			
* C003	1-114-582-11	CERAMIC CHIP	0.1uF	10%	16V
C005	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C009	1-114-582-11	CERAMIC CHIP	0.1uF	10%	16V
* C010	1-114-582-11	CERAMIC CHIP	0.1uF	10%	16V
		< IC >			
IC003	(Not supplied)	ICX636EQP-H (Note 1) (IC003 is supplied including in the CCD block assy.)			
	A-1494-320-A	MC-189 FLEXIBLE BOARD, COMPLETE			
		**********			
		(CN001 (multi connector) is not supplied, but this is included in MC-189 flexible complete board.)			
		< CONNECTOR >			
CN001	(Not supplied)	CONNECTOR, MULTIPLE (SOCKET) (MULTI CONNECTOR)			
		< LINE FILTER >			
LF001	1-457-223-11	COMMON MODE CHOKE COIL			
		< RESISTOR >			
R004	1-218-953-11	RES-CHIP	1K	5%	1/16W
	A-1494-315-A	ST-180 BOARD, COMPLETE			
		**********			
		(BT900 (lithium battery) is not included in ST-180 complete board.)			
⚠*	1-480-556-11	FLASH UNIT			
		< BATTERY >			
⚠BT900	1-756-710-12	LITHIUM RECHARGEABLE BATTERY			
		< CAPACITOR >			
C001	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C002	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
⚠C005	1-100-758-11	CERAMIC CHIP	0.047uF	10%	250V
C006	1-164-933-11	CERAMIC CHIP	220PF	10%	50V
* C008	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V

Ref. No.	Part No.	Description			
		< CONNECTOR >			
* CN002	1-817-391-81	CONNECTOR, FPC (ZIF) 31P			
		< DIODE >			
⚠D001	6-501-096-01	DIODE CRF02 (TE85R)			
D003	6-500-619-01	DIODE RB520S-40TE61			
D101	6-500-594-01	DIODE CL-196SYG-CD-T (AE/AF LOCK)			
* D102	6-502-311-01	DIODE LNJ426W830S0 (FLASH CHARGE/RECORD)			
D103	6-500-594-01	DIODE CL-196SYG-CD-T (POWER)			
		< IC >			
IC001	6-707-555-01	IC TPS65552RGTR			
		< COIL >			
* L001	1-400-820-11	INDUCTOR	2.2uH		
		< TRANSISTOR >			
⚠*Q001	6-551-686-01	TRANSISTOR	TIG030TS-S-TL-E		
		< RESISTOR >			
R001	1-218-989-11	RES-CHIP	1M	5%	1/16W
R002	1-218-941-81	RES-CHIP	100	5%	1/16W
⚠R003	1-216-121-11	RES-CHIP	1M	5%	1/10W
R005	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
		< SWITCH >			
S101	1-786-819-22	TACTILE SWITCH (SHUTTER)			
S102	1-771-844-21	SWITCH, TACTILE (SMD) (POWER)			
		< TRANSFORMER >			
⚠T001	1-445-108-21	TRANSFORMER, D.C-D.C CONVERTER			

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

Note 1: Be sure to read “Precuations for Replacement of Imager” on page 4-2 when changing the imager.

Note 2: There are two types of modules used in the CCD BLOCK ASSY.
They are interchangeability and only one type is available for repair part.

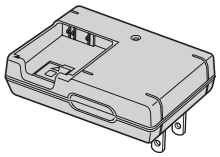
• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description
	A-1494-316-A	SW-520 BOARD, COMPLETE
		**********
		(S010 (Mode dial) is not supplied, but this is included in SW-520 complete board.)
		< CONNECTOR >
* CN001	1-820-634-51	CONNECTOR, FPC (LIF (NON-ZIF))
		< COMPOSITION CIRCUIT BLOCK >
RB001	1-234-376-11	RES, NETWORK 2.2K (1005X4)
RB002	1-234-376-11	RES, NETWORK 2.2K (1005X4)
RB003	1-234-376-11	RES, NETWORK 2.2K (1005X4)
RB004	1-234-376-11	RES, NETWORK 2.2K (1005X4)
		< SWITCH >
* S001	1-786-914-31	SWITCH, TACTILE (MENU)
* S002	1-786-914-31	SWITCH, TACTILE (HOME)
* S003	1-786-914-31	SWITCH, TACTILE (W (ZOOM))
* S004	1-786-914-31	SWITCH, TACTILE (◄ (MACRO))
* S005	1-786-914-31	SWITCH, TACTILE (▼ (SELF-TIMER))
* S006	1-786-914-31	SWITCH, TACTILE (▲ (DISP))
* S007	1-786-914-31	SWITCH, TACTILE (●)
* S008	1-786-914-31	SWITCH, TACTILE (T (ZOOM))
* S009	1-786-914-31	SWITCH, TACTILE (► (FLASH))
S010	(Not supplied)	ROTARY SWITCH (MODE DIAL)
* S011	1-786-914-31	SWITCH, TACTILE (SLIDESHOW)
* S012	1-786-914-31	SWITCH, TACTILE (►)

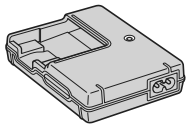
Electrical parts list of the SY-190 board is not shown.
Pages 5-9 to 5-12 are not shown.

Checking supplied accessories.

Note: This item is supplied with the unit as an accessory, but is not prepared as a service part.



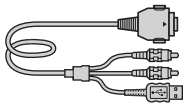
Battery Charger
BC-CSGB/BC-CSGC
⚠ 1-480-175-21 (US, CND)



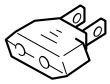
Battery Charger
BC-CSGB/BC-CSGC
⚠ 1-480-175-31
(EXCEPT US, CND)

Instruction Manual
3-286-605-11 (ENGLISH) (CND, AEP, UK, E, HK)
3-286-605-21 (FRENCH, ITALIAN) (CND, AEP)
3-286-605-31 (SPANISH, PORTUGUESE) (AEP, E, AR)
3-286-605-41 (GERMAN, DUTCH) (AEP)
3-286-605-51 (TRADITIONAL CHINESE, SIMPLIFIED CHINESE) (E, HK)
3-286-605-61 (RUSSIAN, UKRAINIAN) (AEP)
3-286-605-71 (ARABIC, PERSIAN) (E)
3-286-605-81 (KOREAN) (KR)
3-286-605-91 (POLISH, CZECH) (AEP)
3-286-606-11 (HUNGARIAN, SLOVAK) (AEP)
3-286-606-21 (SWEDISH, FINNISH) (AEP)
3-286-606-31 (NORWEGIAN, DANISH) (AEP)
3-286-606-41 (THAI, MALAY) (E)
3-286-606-51 (TURKISH, GREEK) (AEP)
3-286-606-61 (ENGLISH, SPANISH) (US)
3-286-606-71 (SIMPLIFIED CHINESE) (CH)

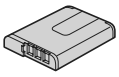
Power Cord
⚠ 1-783-952-61 (AR)
⚠ 1-824-910-71 (AEP, E)
⚠ 1-832-121-31 (CH)
⚠ 1-827-269-12 (UK, HK)
⚠ 1-833-892-21 (KR)



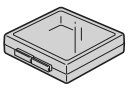
USB, A/V Cable for
Multi-use Terminal
1-834-813-11



Conversion (2P) Adaptor
⚠ 1-569-008-12 (E: NTSC)

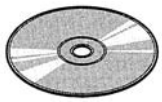


Rechargeable Battery Pack
NP-BG1
(Note)



Battery Case
(Note)

Wrist Strap
2-050-981-01



CD-ROM
“Cyber-shot application software”
“Cyber-shot Handbook”
“Cyber-shot Step-up Guide”
3-286-601-01

Cyber-shot Handbook (PDF)

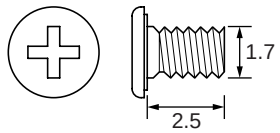
The CD-ROM supplied contains all of language version of the Cyber-shot Handbook (PDF) for printing.
・The printed matter is not supplied. If required, please order it with the part number below.
・(Only for destination Japanese model)
日本国内については日本語のみが印刷での部品供給可能です。

＊ 3-286-602-01 (JAPANESE)
＊ 3-286-602-11 (ENGLISH)
＊ 3-286-602-21 (FRENCH)
＊ 3-286-602-31 (ITALIAN)
＊ 3-286-602-41 (SPANISH)
＊ 3-286-602-51 (PORTUGUESE)
＊ 3-286-602-61 (GERMAN)
＊ 3-286-602-71 (DUTCH)
＊ 3-286-602-81 (TRADITIONAL CHINESE)
＊ 3-286-602-91 (SIMPLIFIED CHINESE)
＊ 3-286-603-11 (RUSSIAN)
＊ 3-286-603-21 (ARABIC)
＊ 3-286-603-31 (PERSIAN)
＊ 3-286-603-41 (KOREAN)
＊ 3-286-603-51 (POLISH)
＊ 3-286-603-61 (CZECH)
＊ 3-286-603-71 (HUNGARIAN)
＊ 3-286-603-81 (SLOVAK)
＊ 3-286-603-91 (SWEDISH)
＊ 3-286-604-11 (FINNISH)
＊ 3-286-604-21 (NORWEGIAN)
＊ 3-286-604-31 (DANISH)
＊ 3-286-604-41 (THAI)
＊ 3-286-604-51 (MALAY)
＊ 3-286-604-61 (TURKISH)
＊ 3-286-604-71 (GREEK)
＊ 3-286-604-81 (UKRAINIAN)

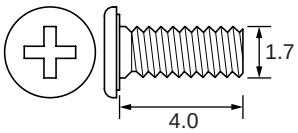
• Refer to page 5-1 for mark ⚠.

HARDWARE LIST (1/7)

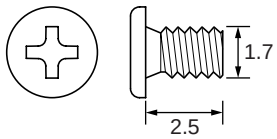
#1: M1.7 X 2.5
(Black)
2-635-562-11



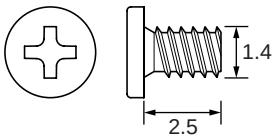
#2: M1.7 X 4.0
(Black)
2-635-562-31



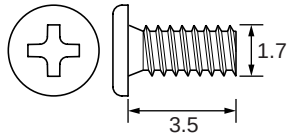
#3: M1.7 X 2.5
(Red)
2-660-401-01



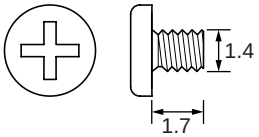
#4: M1.4 X 2.5 (Tapping)
(Dark Silver)
3-348-998-81



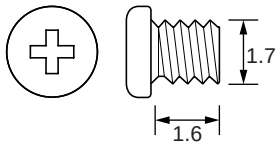
#5: M1.7 X 3.5 (Tapping)
(Black)
3-080-204-01



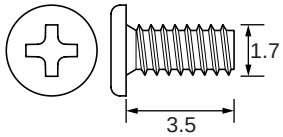
#6: M1.4 X 1.7
(Silver)
2-598-474-01



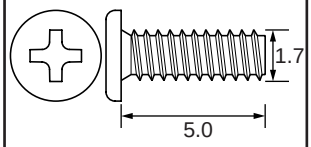
#7: M1.7 X 1.6
(Black)
7-627-552-18



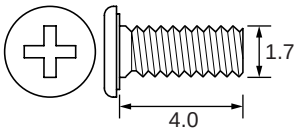
#8: M1.7 X 3.5 (Tapping)
(Silver)
3-078-890-01



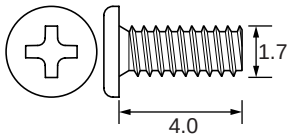
#9: M1.7 X 5.0 (Tapping)
(Silver)
3-078-890-21



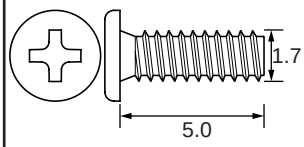
#10: M1.7 X 4.0
(Silver)
2-599-475-31



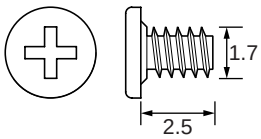
#11: M1.7 X 4.0 (Tapping)
(Silver)
3-078-890-11



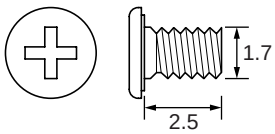
#12: M1.7 X 5.0 (Tapping)
(Black)
3-080-204-21



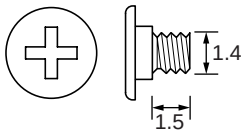
#13: M1.7 X 2.5 (Tapping)
(Silver)
3-085-397-01



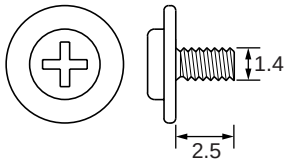
#14: M1.7 X 2.5
(Silver)
2-599-475-11



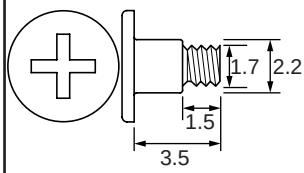
#15: M1.4 X 1.5
(Silver)
3-062-214-01



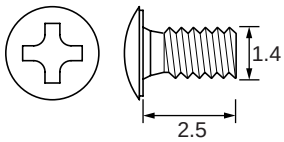
#16: M1.4 X 2.5
(Silver)
2-586-337-01



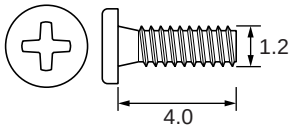
#17: M1.7 X 1.5
(Silver)
2-586-389-01



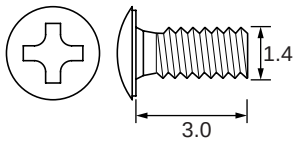
#18: M1.4 X 2.5
(Silver)
2-635-591-21



#19: M1.2 X 4.0 (Tapping)
(Red)
3-086-156-21

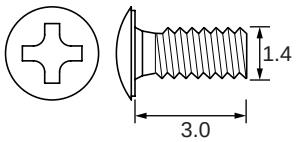


#20: M1.4 X 3.0
(Silver)
2-635-591-31

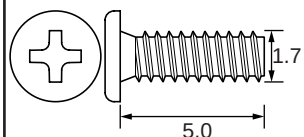


HARDWARE LIST (2/7)

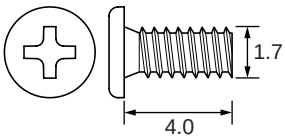
#21: M1.4 X 3.0
(Black)
2-662-396-21



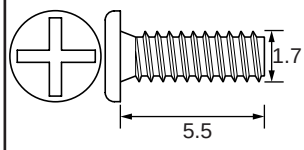
#22: M1.7 X 5.0 (Tapping)
(Silver)
3-083-261-01



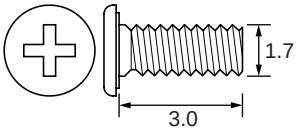
#23: M1.7 X 4.0 (Tapping)
(Black)
3-080-204-11



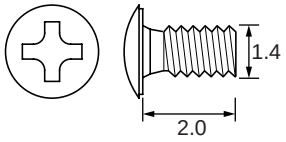
#24: B1.7 X 5.5 (Tapping)
(Black)
4-679-805-11



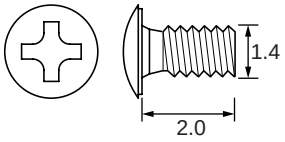
#25: M1.7 X 3.0
(Black)
2-635-562-21



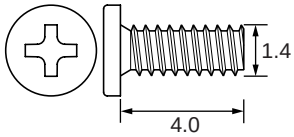
#26: M1.4 X 2.0
(Silver)
2-635-591-11



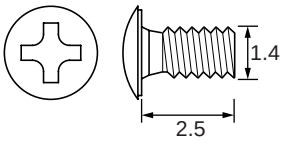
#27: M1.4 X 2.0
(Black)
2-662-396-11



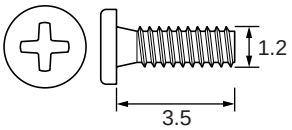
#28: M1.4 X 4.0 (Tapping)
(Silver)
3-348-998-61



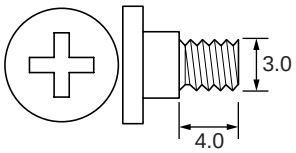
#29: M1.4 X 2.5
(Black)
2-662-396-01



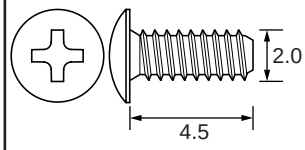
#30: M1.2 X 4.0 (Tapping)
(White)
3-086-156-11



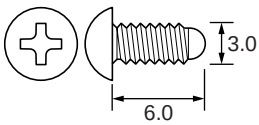
#31: M3.0 X 4.0
(Silver)
2-102-434-01



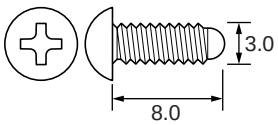
#32: M2.0 X 4.5 (Tapping)
(Silver)
2-102-498-01



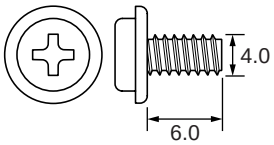
#33: M3.0 X 6.0
(Silver)
3-077-331-21



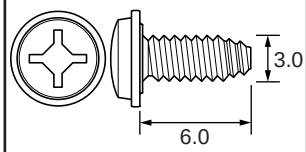
#34: M3.0 X 8.0
(Black)
3-077-331-41



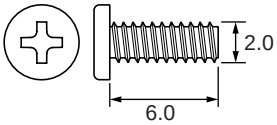
#35: M4.0 X 6.0 (Tapping)
(Silver)
3-975-291-02



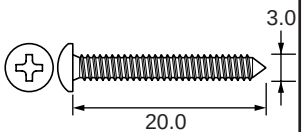
#36: M3.0 X 6.0
(Silver)
4-886-821-11



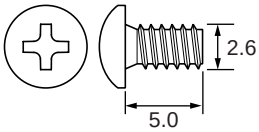
#37: M2.0 X 6.0 (Tapping)
(Black)
3-080-206-31



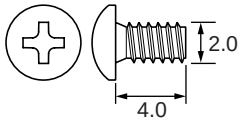
#38: M3.0 X 20.0 (Tapping)
(Silver)
7-685-651-79



#39: M2.6 X 5.0 (Tapping)
(Black)
7-685-791-09

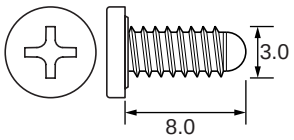


#40: M2.0 X 4.0 (Tapping)
(Silver)
7-685-851-04

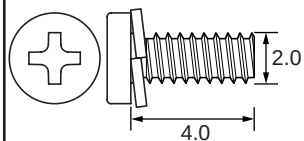


HARDWARE LIST (3/7)

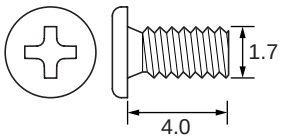
#41: M3.0 X 8.0 (Tapping)
(Silver)
3-065-748-01



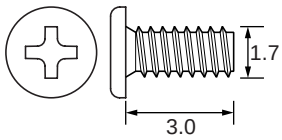
#42: M2.0 X 4.0 (Tapping)
(Silver)
7-628-253-00



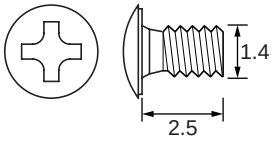
#43: M1.7 X 4.0
(Red)
2-660-401-31



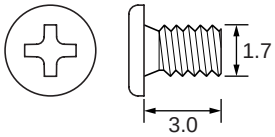
#44: M1.7 X 3.0 (Tapping)
(Silver)
3-078-890-61



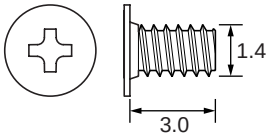
#45: M1.4 X 2.5
(Silver)
2-587-151-01



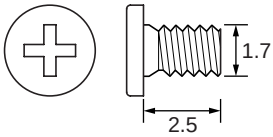
#46: M1.7 X 3.0
(Red)
2-660-401-11



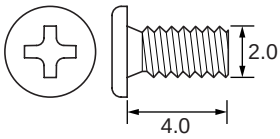
#47: M1.4 X 3.0 (Tapping)
(Silver)
2-665-774-01



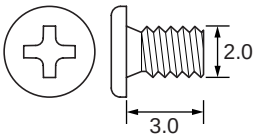
#48: M1.7 X 2.5
(Silver)
3-973-497-91



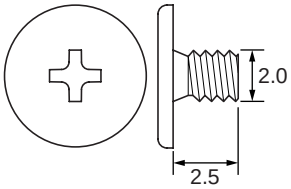
#49: M2.0 X 4.0
(Black)
2-630-005-31



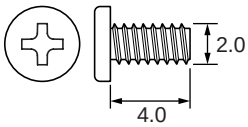
#50: M2.0 X 3.0
(Red)
2-891-494-11



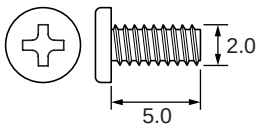
#51: M2.0 X 2.5
(Silver)
3-073-686-01



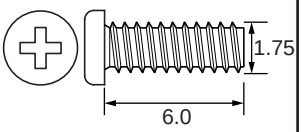
#52: M2.0 X 4.0 (Tapping)
(Black)
3-080-206-11



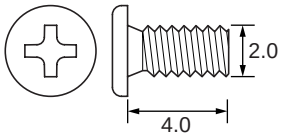
#53: M2.0 X 5.0 (Tapping)
(Black)
3-080-206-21



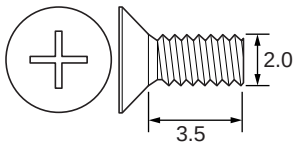
#54: M1.75 X 6.0 (Tapping)
(Black)
3-318-203-11



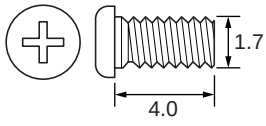
#55: M2.0 X 4.0
(Silver)
2-655-582-11



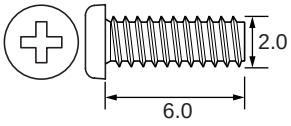
#56: M2.0 X 3.5
(Silver)
3-067-187-11



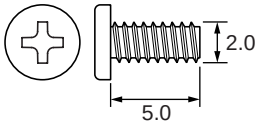
#57: M1.7 X 4.0
(Black)
7-627-852-18



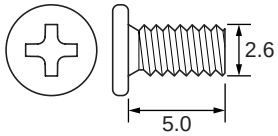
#58: M2.0 X 6.0 (Tapping)
(Silver)
3-719-408-11



#59: M2.0 X 5.0 (Tapping)
(Silver)
3-080-205-21

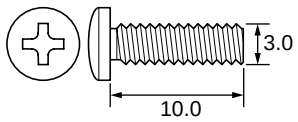


#60: M2.6 X 5.0
(Black)
3-061-062-11

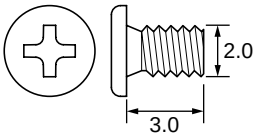


HARDWARE LIST (4/7)

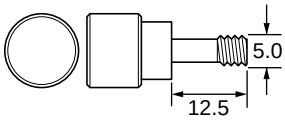
#61: M3.0 X 10.0
(Black)
7-682-549-09



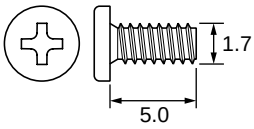
#62: M2.0 X 3.0
(Silver)
3-080-202-21



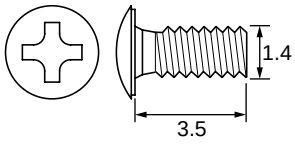
#63: M5.0 X 12.5
(Black)
3-060-811-21



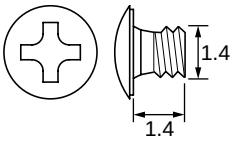
#64: M1.7 X 5.0 (Tapping)
(Silver)
2-666-551-21



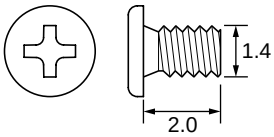
#65: M1.4 X 3.5
(Silver)
2-635-591-01



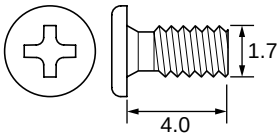
#66: M1.4 X 1.4
(Silver)
2-635-591-41



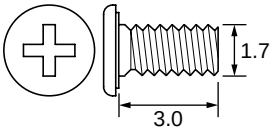
#67: M1.4 X 2.0
(Silver)
3-389-523-16



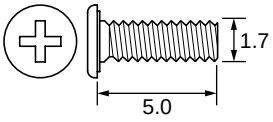
#68: M1.7 X 4.0
(Silver)
2-655-581-01



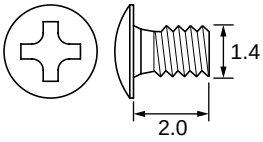
#69: M1.7 X 3.0
(Silver)
2-599-475-21



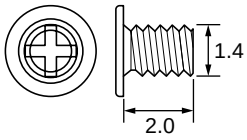
#70: M1.7 X 5.0
(Silver)
2-599-475-41



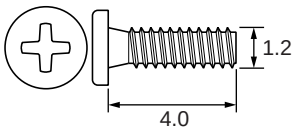
#71: M1.4 X 2.0
(Red)
3-208-537-01



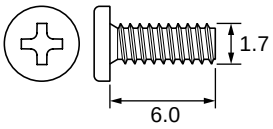
#72: M1.4 X 2.0
(Silver)
4-663-621-41



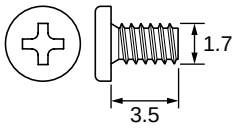
#73: M1.2 X 4.0 (Tapping)
(Black)
3-086-156-61



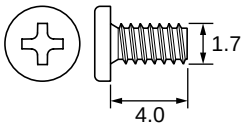
#74: M1.7 X 6.0 (Tapping)
(Silver)
2-666-551-31



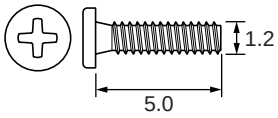
#75: M1.7 X 3.5 (Tapping)
(Silver)
2-666-551-01



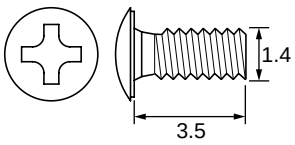
#76: M1.7 X 4.0 (Tapping)
(Silver)
2-666-551-11



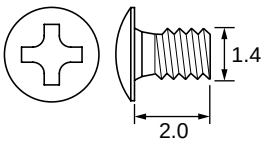
#77: M1.2 X 5.0 (Tapping)
(Silver)
3-086-156-31



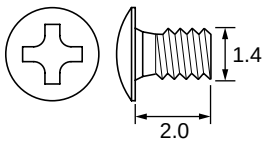
#78: M1.4 X 3.5
(Red)
3-208-537-11



#79: M1.4X 2.0
(Silver)
2-587-151-11

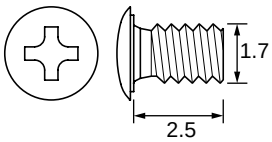


#80: M1.4X 2.0
(Black)
3-279-411-01

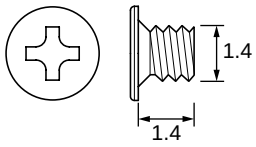


HARDWARE LIST (5/7)

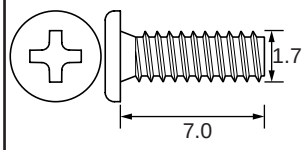
#81: M1.7 X 2.5
(Silver)
2-515-756-01



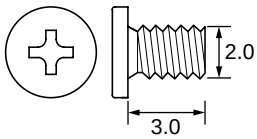
#82: M1.4 X 1.4
(Silver)
3-272-251-01



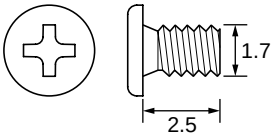
#83: M1.7 X 7.0 (Tapping)
(Black)
3-080-204-41



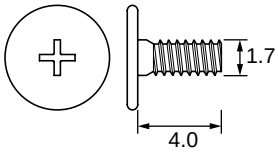
#84: M2.0 X 3.0
(Silver)
3-072-453-11



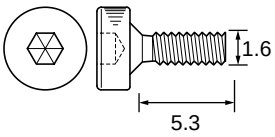
#85: M1.7 X 2.5
(Black)
2-515-483-11



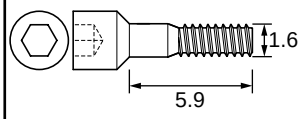
#86: M1.7 X 4.0 (Tapping)
(Silver)
2-695-434-21



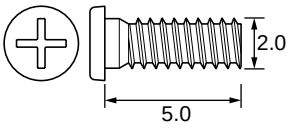
#87: M1.6 X 5.3
(Black)
2-689-328-01



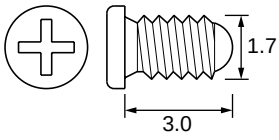
#88: M1.6 X 5.9 (Tapping)
(Silver)
2-689-015-01



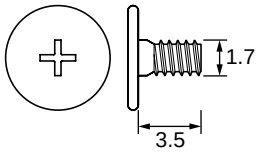
#89: M2.0 X 5.5 (Tapping)
(Silver)
2-695-575-01



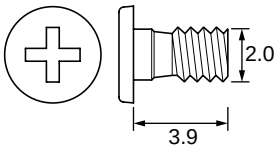
#90: M1.7 X 3.0
(Silver)
3-271-395-01



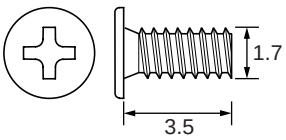
#91: M1.7 X 3.0 (Tapping)
(Silver)
2-695-434-11



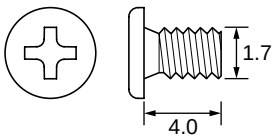
#92: M2.0 X 3.9
(Black)
3-268-954-01



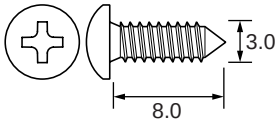
#93: M1.7 X 3.5 (Tapping)
(Silver)
3-254-082-01



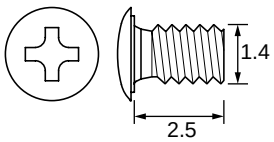
#94: M1.7 X 4.0
(Black)
2-515-483-31



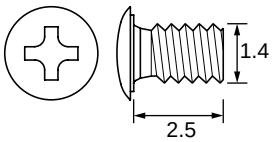
#95: M3.0 X 8.0 (Tapping)
(Black)
7-685-646-79



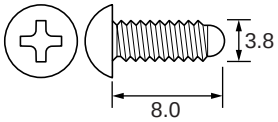
#96: M1.4 X 2.5
(Silver)
2-587-151-21



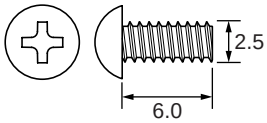
#97: M1.4 X 2.5
(Black)
2-662-396-31



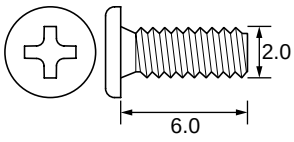
#98: M3.0 X 8.0
(Silver)
3-077-331-01



#99: M2.5 X 6.0 (Tapping)
(Silver)
3-776-750-02

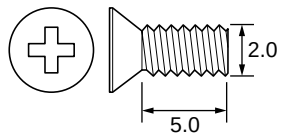


#100: M2.0 X 6.0
(Black)
3-080-203-51

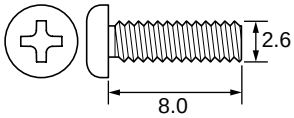


HARDWARE LIST (6/7)

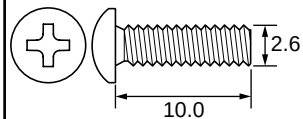
#101: M2.0 X 5.0
(Silver)
7-621-555-39



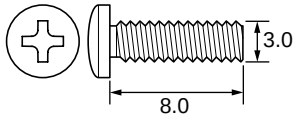
#102: M2.6 X 8.0
(Black)
7-621-284-30



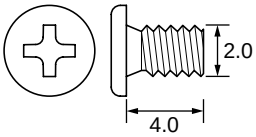
#103: M2.6 X 10.0
(Silver)
7-685-794-09



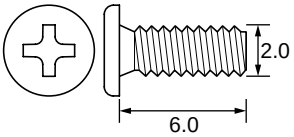
#104: M3.0 X 8.0
(Black)
7-682-548-09



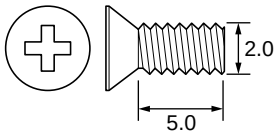
#105: M2.0 X 4.0
(Red)
2-891-494-31



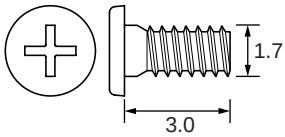
#106: M2.0 X 6.0
(Black)
3-713-786-11



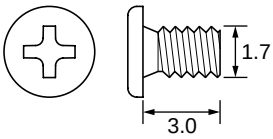
#107: M2.0 X 5.0
(Silver)
3-032-750-01



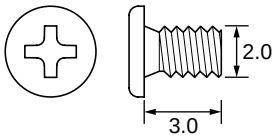
#108: M1.7 X 3.0 (Tapping)
(Black)
2-695-430-01



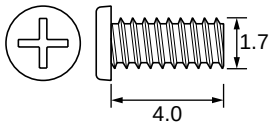
#109: M1.7 X 3.0
(Black)
2-515-483-21



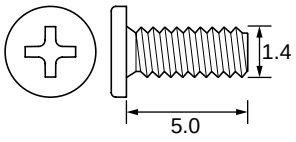
#110: M2.0 X 3.0
(Black)
2-630-005-21



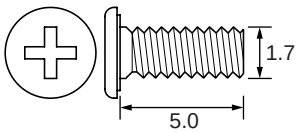
#111: M1.7 X 4.0 (Tapping)
(Black)
2-887-124-01



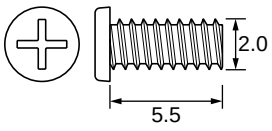
#112: M1.4 X 5.0
(Black)
2-178-410-11



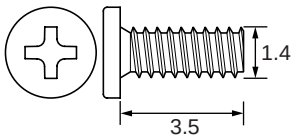
#113: M1.7 X 5.0
(Black)
2-635-562-41



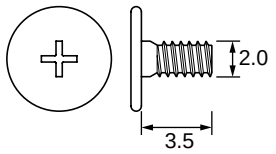
#114: M2.0 X 5.5 (Tapping)
(Silver)
2-698-464-01



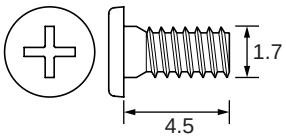
#115: M1.4 X 3.5 (Tapping)
(Silver)
3-348-998-51



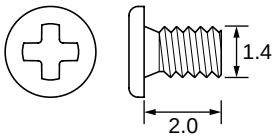
#116: M2.0 X 3.5 (Tapping)
(Silver)
2-695-435-01



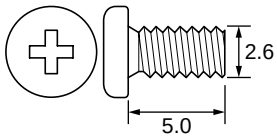
#117: M1.7 X 4.5 (Tapping)
(Silver)
2-695-429-31



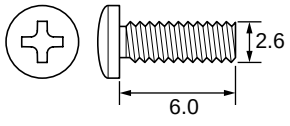
#118: M1.4 X 2.0
(Black)
2-655-580-01



#119: M2.6 X 5.0
(Black)
7-627-556-58

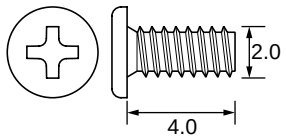


#120: M2.6 X 6.0
(Silver)
7-621-770-67

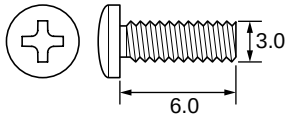


HARDWARE LIST (7/7)

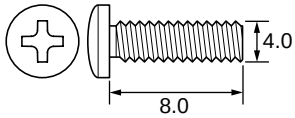
#121: M2.0 X 4.0 (Tapping)
(Silver)
3-080-205-11



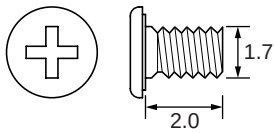
#122: M3.0 X 6.0
(Black)
7-682-547-09



#123: M4.0 X 8.0
(Black)
7-682-561-09



#124: M1.7 X 2.0
(Silver)
2-599-475-01



Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2008.01	Official Release	—	—