DSC-S650

SERVICE MANUAL

Ver 1.1 2007.02
Revision History

How to use Acrobat Reader

Internal memory ON BOARD

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Hong Kong Model
Chinese Model
Korea Model
Brazilian Model
Tourist Model

Link

SPECIFICATIONS	DISASSEMBLY	REPAIR PARTS LIST
SERVICE NOTE	BLOCK DIAGRAMS	

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.

In case of the lens assembly, main board, or main frame assembly failure, contact your local Sony Service Headquarter for the measures.

DIGITAL STILL CAMERA

SONY®

DSC-S650
9-852-182-11
Sony EMCS Co.
2007B0800-1
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Published by Kohda TEC

Cyber-shot MEMORY STICK ™

SPECIFICATIONS

[System]

Image device: 7.20 mm (1/2.5 type) color CCD, Primary color filter
Total pixel number of camera: Approx. 7 410 000 pixels
Effective pixel number of camera: Approx. 7 201 000 pixels
Lens: 3× zoom lens f = 5.8 – 17.4 mm (35 – 105 mm when converted to a 35 mm still camera) F2.8 ~ 4.8
Exposure control: Automatic exposure, Scene Selection (7 modes)
White balance: Automatic, Daylight, Cloudy, Fluorescent, Incandescent, Flash
File format (DCF compliant): Still images: Exif Ver. 2.21 JPEG compliant, DPOF compatible
Movies: AVI (Motion JPEG)
Recording media: Internal Memory (approx. 24 MB), “Memory Stick Duo ”
Flash: Flash range (ISO sensitivity (Recommended Exposure Index) set to Auto): approx. 0.5 to 3.5 m (19 3/4 inches to 137 7/8 inches) (W)/approx. 0.5 to 2.0 m (19 3/4 inches to 78 3/4 inches) (T)

[Input and Output connectors]

•⊷ (USB)•A/V OUT terminal: Video, Audio (Monaural), USB communication
USB communication: Full-Speed USB (USB 2.0 compliant)

[LCD screen]

LCD panel: 5.1 cm (2.0 type) TFT drive
Total number of dots: 115 200 (480×240) dots

[Power, general]

Power: LR6 (size AA) Alkaline batteries (2), 3 V
HR15/51: HR6 (size AA) Nickel-Metal Hydride batteries (2) (not supplied), 2.4 V
ZR6 (size AA) Oxy Nickel Primary Battery (2) (not supplied), 3 V
AC-LS5K AC Adaptor (not supplied), 4.2 V
Power consumption (during shooting): 1.2 W
Operating temperature: 0 to 40 °C (32 to 104 °F)
Storage temperature: –20 to +60 °C (–4 to +140 °F)
Dimensions: 91.0×61.0×26.5 mm (3 5/8×2 1/2×1 1/16 inches) (W/H/D, excluding protrusions)
Mass: Approx. 178 g (6.3 oz) (including two batteries and wrist strap, etc.)
Microphone: Monaural
Buzzer
Exif Print: Compatible
PRINT Image Matching III: Compatible
PictBridge: Compatible

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.

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1. SERVICE NOTE

1-1. PROCESS AFTER FIXING FLASH ERROR

Method for Initializing the Flash Error

Initialize

Initializes the setting to the default setting.

① Select [OK] with ▲ on the control button, then press ●.
The message “Initialize all settings Ready?” appears.

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

To cancel the resetting

Select [Cancel] in step ① or ②, then press ●.

• Make sure that the power is not disconnected during resetting.

1-2. METHOD FOR COPYING OR ERASING THE DATA IN INTERNAL MEMORY

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

Note: When replacing the camera, erase the data in internal memory of the board before replacement.

Method for Copying the Data in Internal Memory

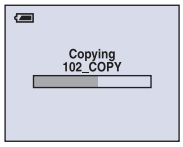
Copy

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

① Insert a “Memory Stick Duo” having 32 MB or larger capacity.

② Select [OK] with ▲ on the control button, then press ●.
The message “All data in internal memory will be copied Ready?” appears.

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



To cancel the copying

Select [Cancel] in step ② or ③, then press ●.

• Use batteries with enough capacity or the AC Adaptor (not supplied). If you attempt to copy image files using batteries with little remaining charge, the batteries may run out, causing copying to fail or possibly corrupting the data.
• You cannot copy individual images.
• 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 execute the [Format] command in (Internal Memory Tool) (page 48).
• When you copy the data in the internal Memory to the “Memory Stick Duo”, all the data will be copied. You cannot choose a specific folder on the “Memory Stick Duo” as the destination for the data to be copied.
• Even if you copy data, a (Print order) mark is 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 irrevocably erases all data in the internal memory, including even protected images.

① Select [OK] with ▲ on the control button, then press ●.
The message “All data in internal memory will be erased Ready?” appears.

② Select [OK] with ▲, then press ●.
The format is complete.

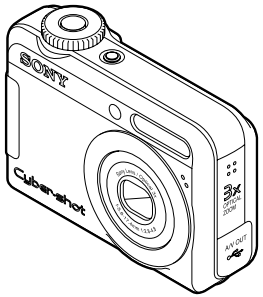
To cancel the formatting

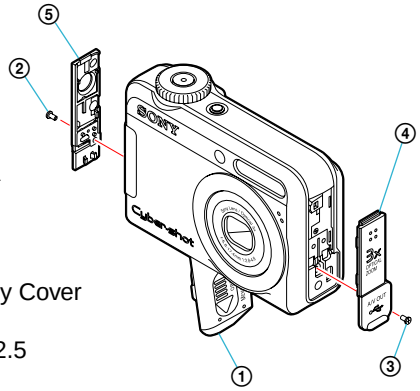
Select [Cancel] in step ① or ②, then press ●.

2. DISASSEMBLY

The following flow chart shows the disassembly procedure.

2-1. DISASSEMBLY





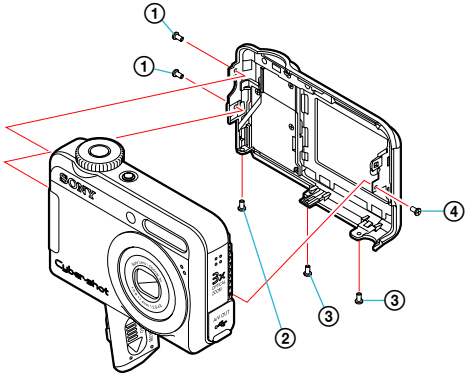
① Open the Battery Cover

② Screw TP1.4 × 2.5

③ Screw TP1.7 × 3

④ Middle Cover (Right)

⑤ Middle Cover (Left) Assy



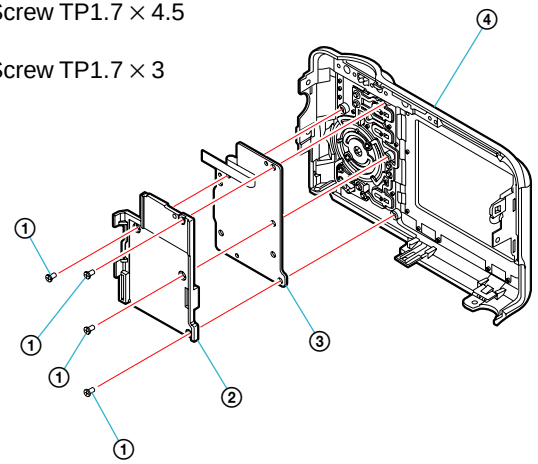
① Screw TP1.4 × 3

② Screw TP1.4 × 2.5

③ Screw TP1.7 × 4.5

④ Screw TP1.7 × 3

Front Section
(See Page 2-2)



① Screw TP1.4 × 2.5

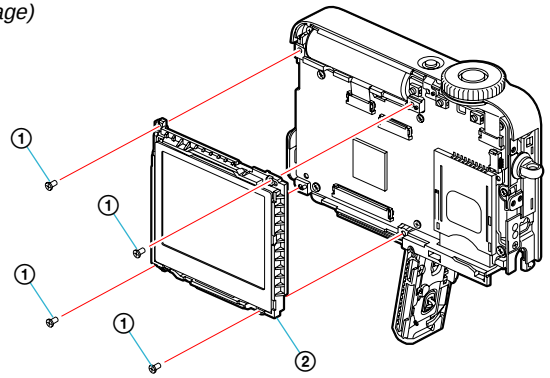
② Frame, SW

③ SW Board, Complete

④ Cabinet (Rear) Assy

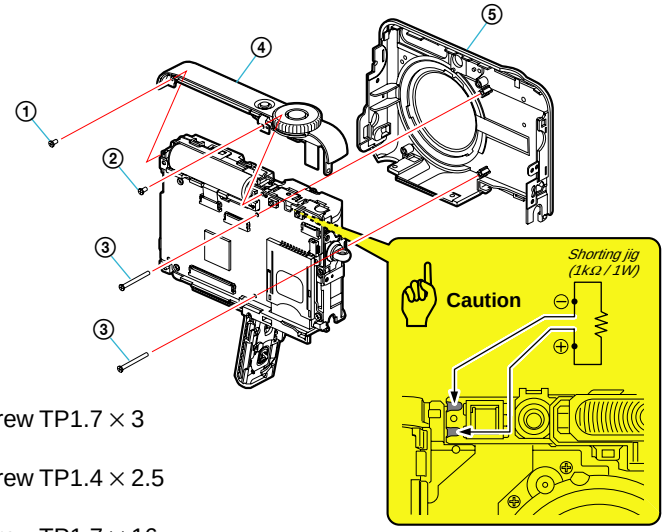
2. DISASSEMBLY

(From 2-1 Page)



① Screw TP1.7 × 3

② LCD Block Assy



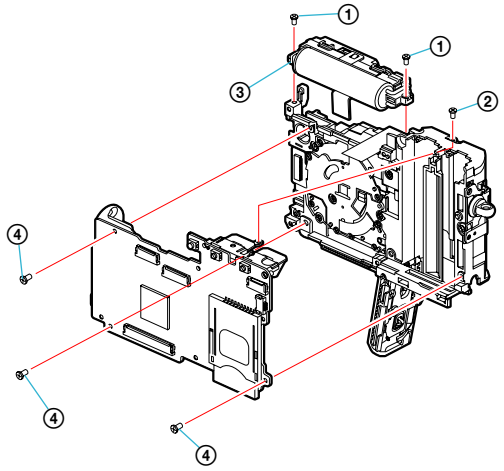
① Screw TP1.7 × 3

② Screw TP1.4 × 2.5

③ Screw TP1.7 × 16

④ Cabinet Upper Block Assy

⑤ Cabinet Front Assy

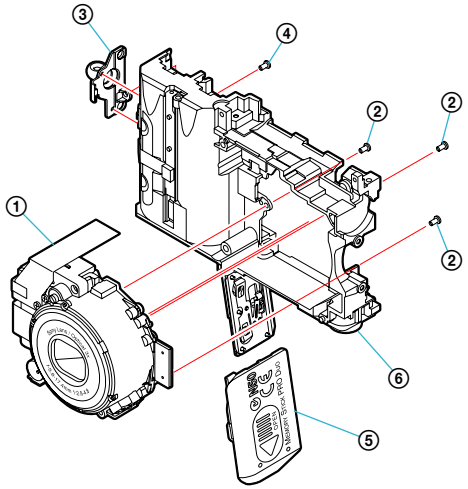


① Screw TP1.7 × 3

② Screw TP1.4 × 2.5

③ ST Board, Complete

④ Screw TP1.7 × 3



① Lens Assy

② Screw TP1.4 × 3

③ Strap Bracket

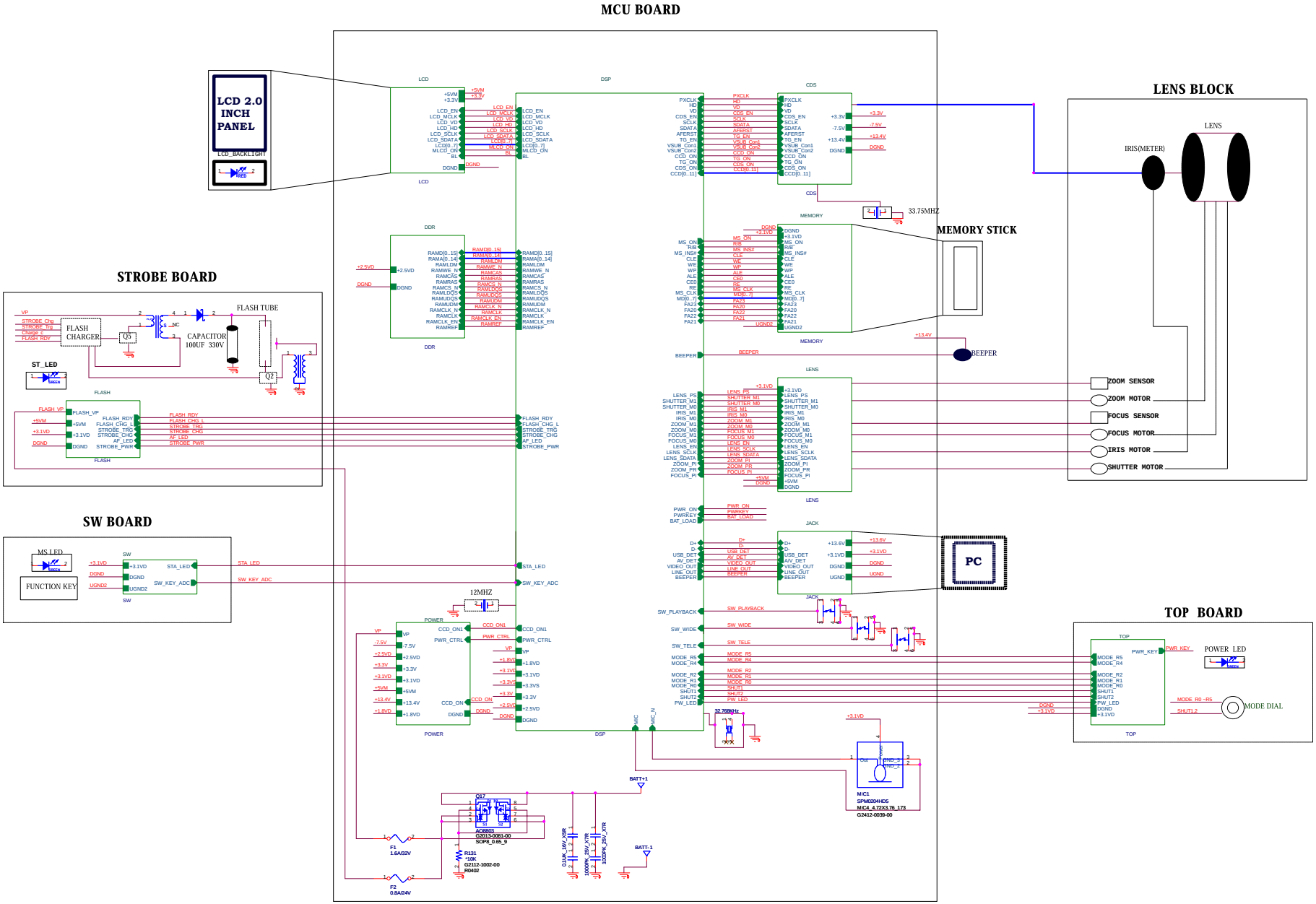
④ Screw TP1.4 × 2.5

⑤ Battery Cover

⑥ Main Frame Assy

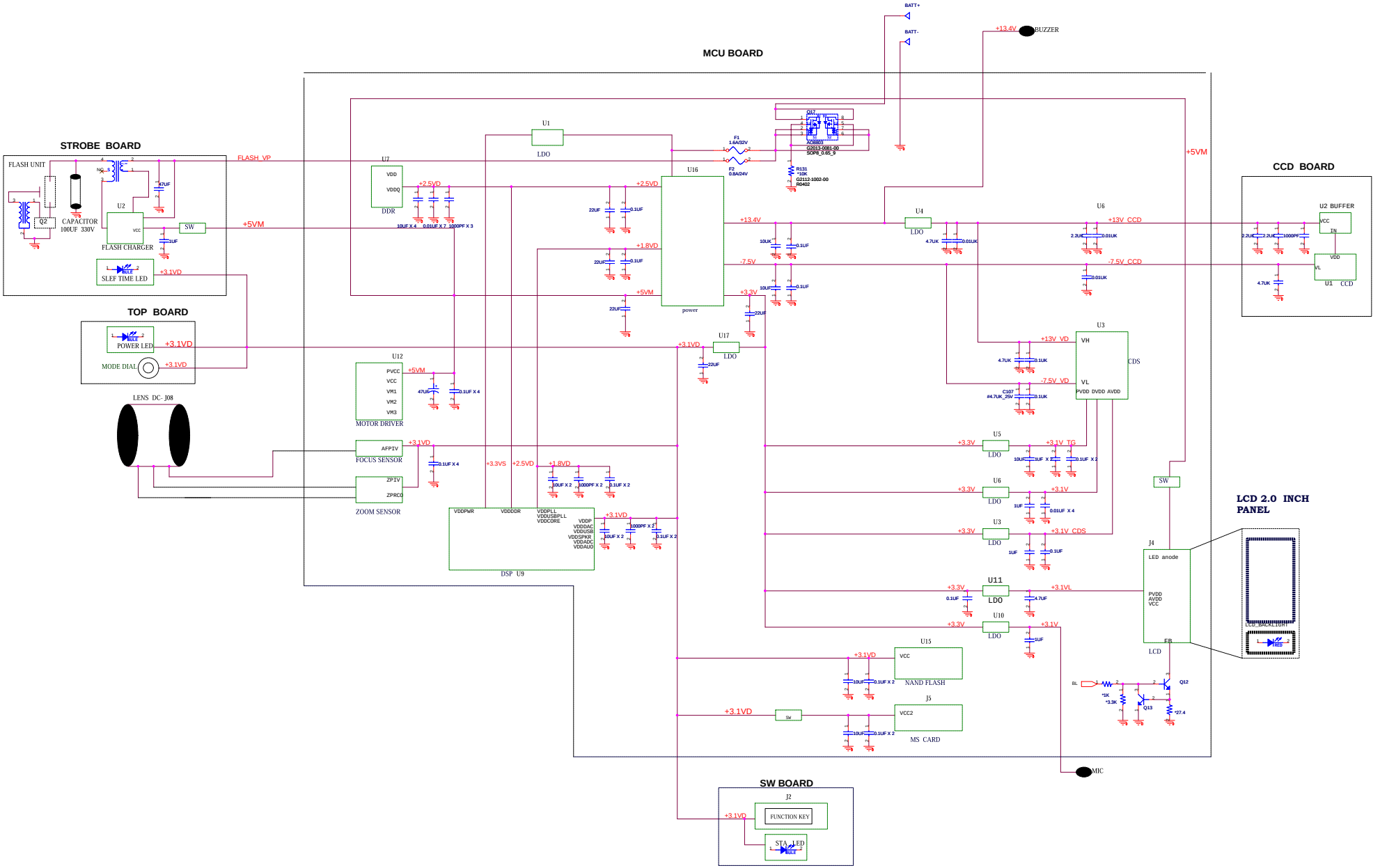
3. BLOCK DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM



3. BLOCK DIAGRAMS

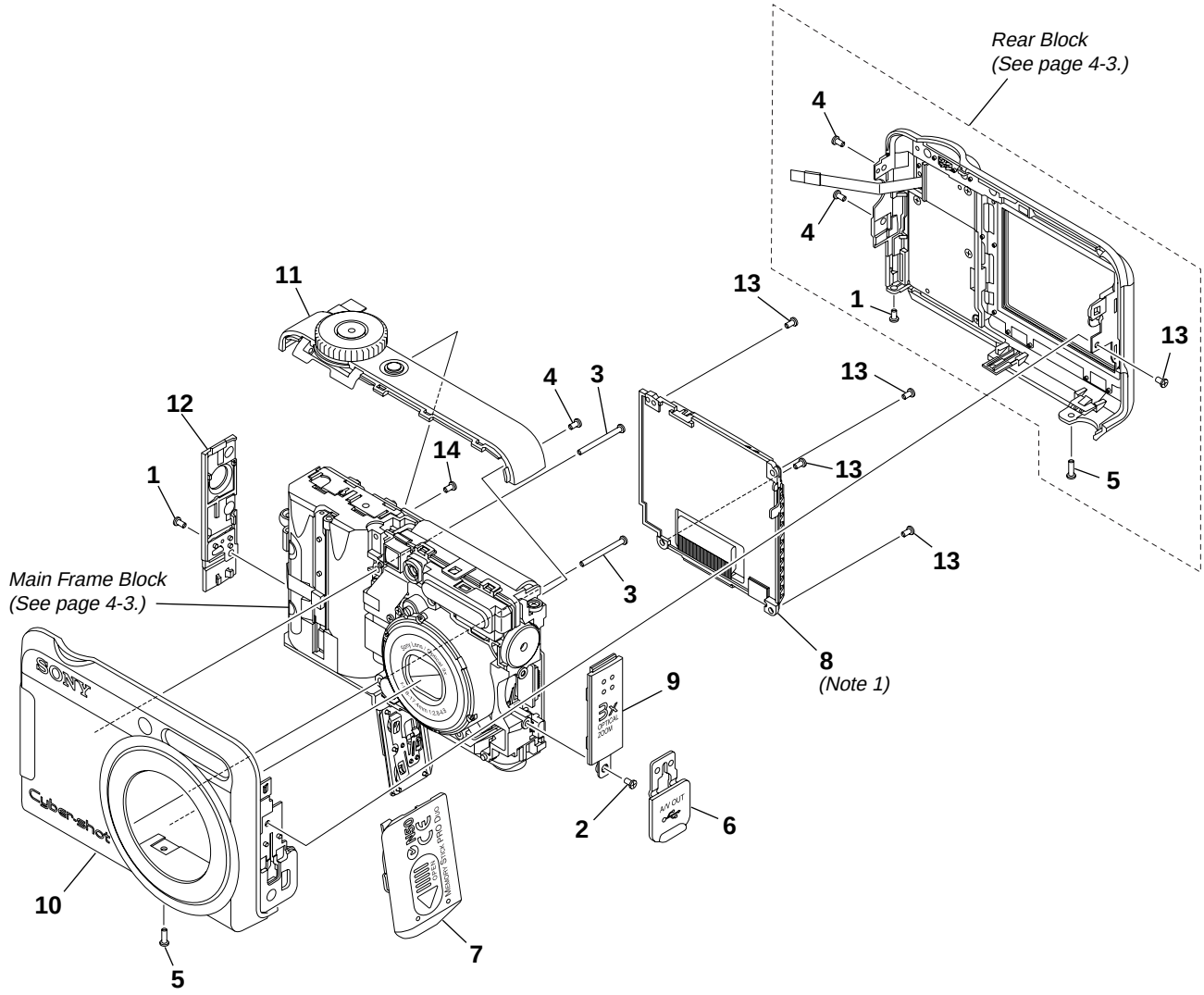
3-2. POWER BLOCK DIAGRAM



4. REPAIR PARTS LIST

4-1. EXPLODED VIEWS

4-1-1. OVERALL SECTION



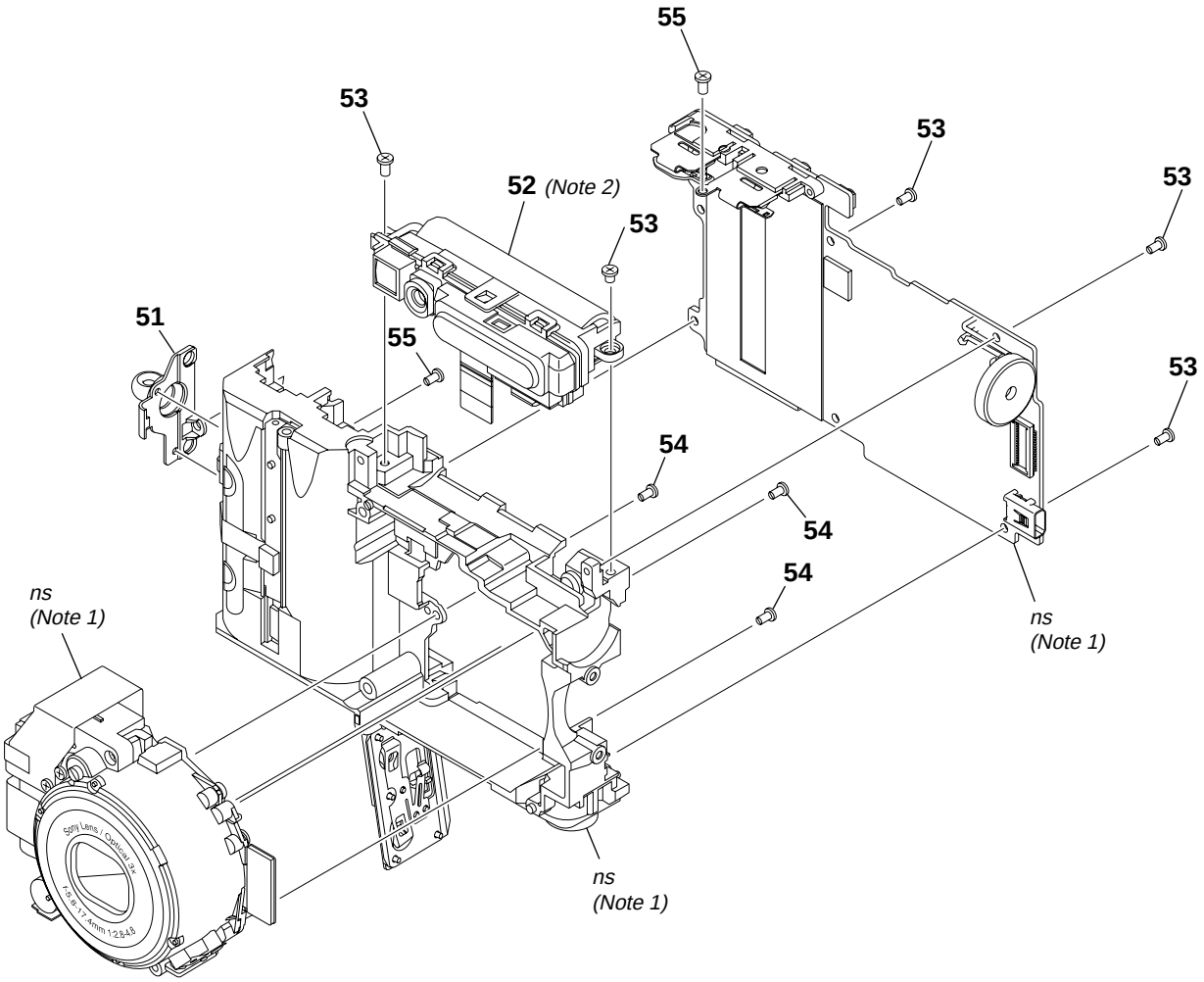
(Note 1)	The adjustment is not required after replacing the LCD block assembly.

Ref. No.	Part No.	Description
1	3-113-001-01	SCREW TP1.4*2.5
2	3-113-005-01	SCREW TP1.7*3
3	3-209-039-01	SCREW TP1.7*16
4	3-113-002-01	SCREW TP1.4*3
5	3-209-037-01	SCREW TP1.7*3
6	3-106-992-01	LID, JK
7	3-106-990-01	LID, BT
8	A-1249-952-A	LCD BLOCK ASSY (Note1)
9	3-106-991-01	MIDDLE COVER (RIGHT)
10	X-2177-476-1	CABINET (FRONT) ASSY
11	A-1249-951-A	CABINET (UPPER) BLOCK ASSY
12	X-2177-477-1	MIDDLE COVER (LEFT) ASSY
13	3-209-036-01	SCREW TP1.7*3
14	3-209-038-01	SCREW TP1.4*2.5

4. REPAIR PARTS LIST

4-1-2. FRONT BLOCK

ns: not supplied



(Note 1)	In case of the lens assembly, main board, or main frame assembly failure, contact your local Sony Service Headquarter for the measures.

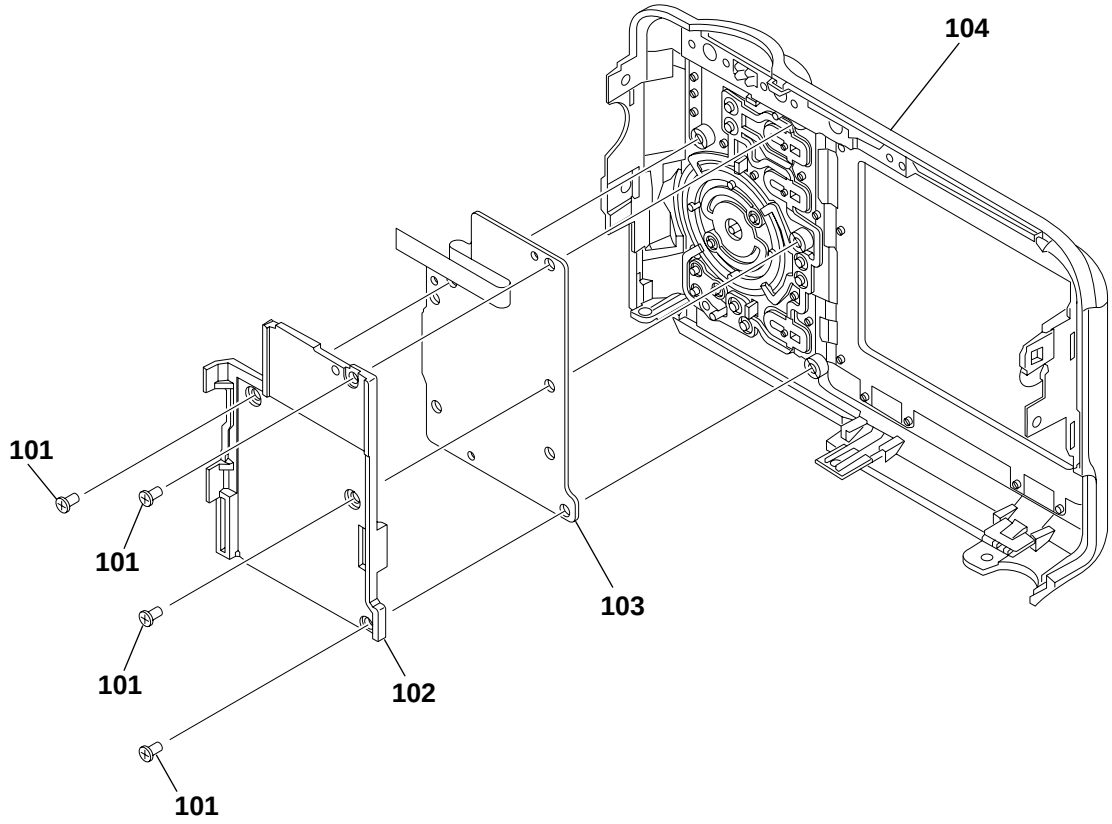
(Note 2)	The adjustment is not required after replacing the ST block assembly.

• Refer to cover for mark ⚠.

Ref. No.	Part No.	Description
51	3-106-993-01	BRACKET, STRAP
⚠52	A-1249-950-A	ST BLOCK ASSY (Note 2)
53	3-209-036-01	SCREW TP1.7*3
54	3-113-002-01	SCREW TP1.4*3
55	3-209-038-01	SCREW TP1.4*2.5

4. REPAIR PARTS LIST

4-1-3. MAIN FRAME BLOCK

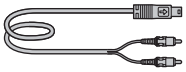


Ref. No.	Part No.	Description
101	3-209-038-01	SCREW TP1.4*2.5
102	3-106-994-01	FRAME, SW
103	A-1249-953-A	FLEXIBLE BLOCK ASSY,SW
104	X-2177-478-1	CABINET (REAR) ASSY

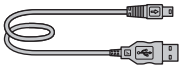
4. REPAIR PARTS LIST

4-2. ACCESSORIES

Checking supplied accessories.



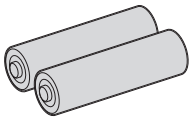
A/V cable
3-196-980-01



USB cable
3-196-981-01

Wrist strap
2-050-981-01

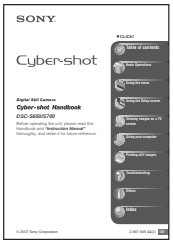
CD-ROM
(Cyber-shot Application Software,
handbook “Cyber-shot Handbook”)
2-897-942-01 (EXCEPT US)
2-897-943-01 (US)



LR6 (size AA) Alkaline Battery
(Note 1)

Note 1: This item is supplied with the unit as an accessory, but is not prepared as a service part.

Instruction Manual
2-897-955-11 (ENGLISH) (CND, AEP, UK, E, HK, AUS, JE)
2-897-955-21 (FRENCH, ITALIAN) (AEP, CND)
2-897-955-31 (SPANISH, PORTUGUESE) (AEP, E)
2-897-955-41 (GERMAN, DUTCH) (AEP)
2-897-955-51 (TRADITIONAL CHINESE, SIMPLIFIED CHINESE) (E, CH, HK)
2-897-955-61 (RUSSIAN) (AEP)
2-897-955-71 (ARABIC, PERSIAN) (E)
2-897-955-81 (KOREAN) (KR, JE)
2-897-955-91 (CZECH, POLISH) (AEP)
2-897-956-11 (HUNGARIAN, SLOVAK) (AEP)
2-897-956-21 (SWEDISH, FINNISH) (AEP)
2-897-956-31 (DANISH, NORWEGIAN) (AEP)
2-897-956-41 (THAI, MALAYSIAN) (E)
2-897-956-51 (TURKISH, GREEK) (AEP)
2-897-956-61 (ENGLISH, SPANISH) (US)

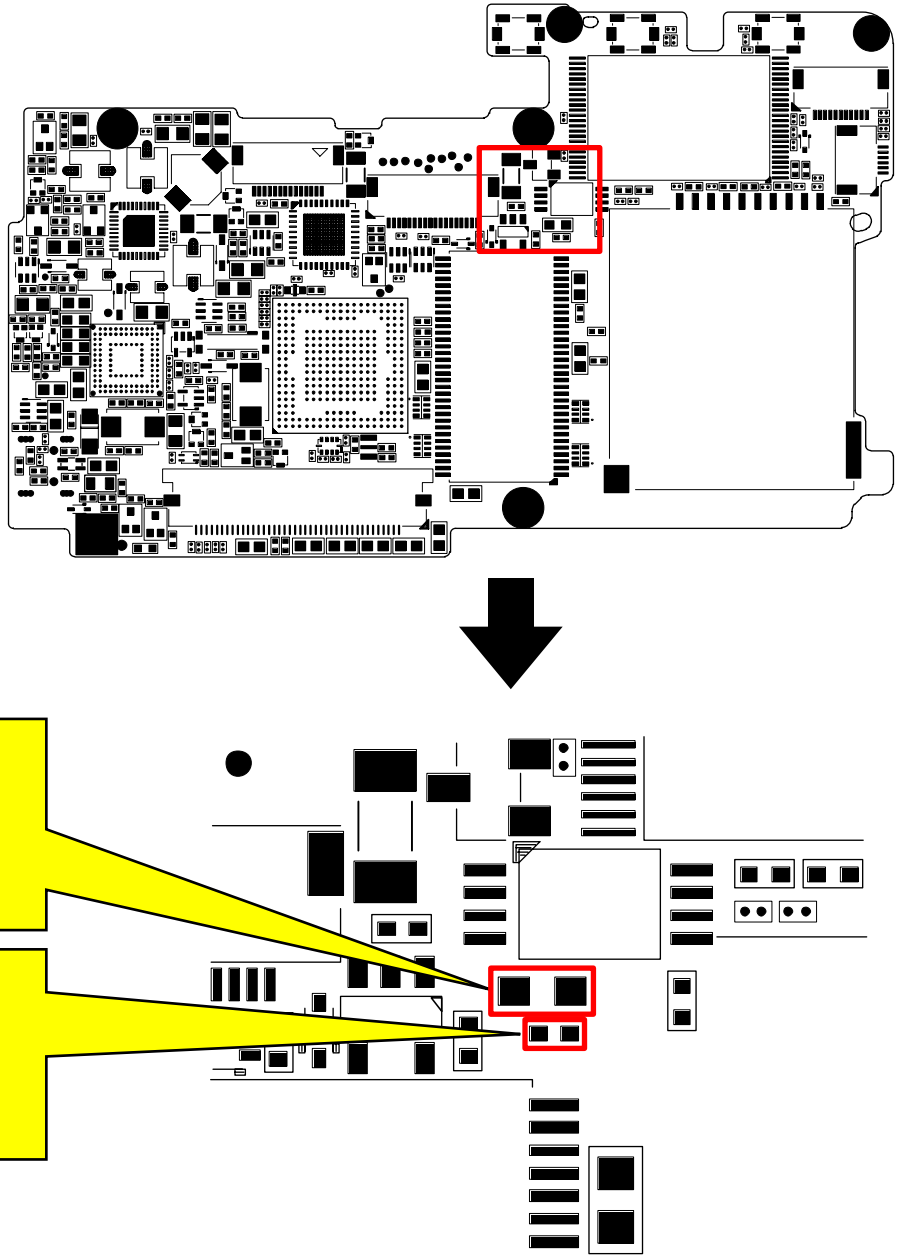


Cyber-shot Handbook (PDF) (Note 2)
(not supplied with DSC-S650)
2-897-945-11 (ENGLISH)
2-897-945-21 (FRENCH)
2-897-945-31 (ITALIAN)
2-897-945-41 (SPANISH)
2-897-945-51 (PORTUGUESE)
2-897-945-61 (GERMAN)
2-897-945-71 (DUTCH)
2-897-945-81 (TRADITIONAL CHINESE)
2-897-945-91 (SIMPLIFIED CHINESE)
2-897-953-11 (RUSSIAN)
2-897-953-21 (ARABIC)
2-897-953-31 (PERSIAN)
2-897-953-41 (KOREAN)
2-897-953-51 (POLISH)
2-897-953-61 (CZECH)
2-897-953-71 (HUNGARIAN)
2-897-953-81 (SLOVAK)
2-897-953-91 (SWEDISH)
2-897-954-11 (FINNISH)
2-897-954-21 (NORWEGIAN)
2-897-954-31 (DANISH)
2-897-954-41 (THAI)
2-897-954-51 (MALAYSIAN)
2-897-954-61 (TURKISH)
2-897-954-71 (GREEK)

Note 2: Handbooks (PDF) of each language are included in CD-ROM (Cyber-shot Application Software).

[Regarding Fuse]

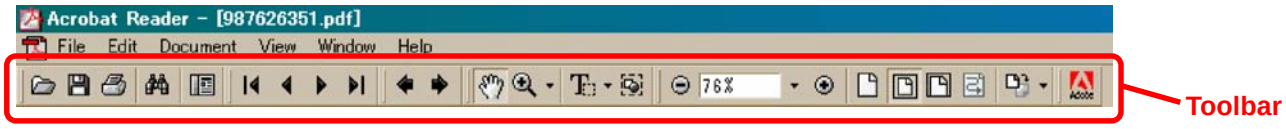
- MCU BOARD



Ref. No : F1
MANUFACTURER: KAMAYA ELECTRIC CO.,LTD.
TYPE: FCC16 162AD
RATING: 1.6A

Ref. No : F2
MANUFACTURER: KAMAYA ELECTRIC CO.,LTD.
TYPE: FCC10 801AD
RATING: 800mA

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



Printing a text

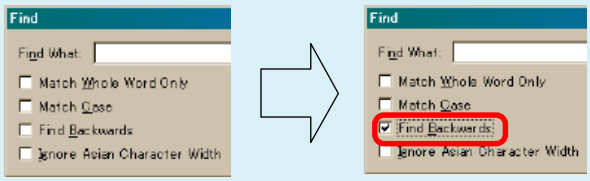
1. Click the Print button .
2. Specify a printer, print range, number of copies, and other options, and then click [OK].

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

Finding a text

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

Application to the Service Manual:
To execute "find" from current page toward the previous pages, select the check box "Find Backward" and then click the "Find".



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

Application to the Service Manual:
The parts on the drawing pages (block diagrams, circuit diagrams, printed circuit boards) and parts list pages in a text can be found using this find function. For example, find a Ref. No. of IC on the block diagram, and click the [Find Again] continuously, so that you can move to the Ref. No. of IC on the circuit diagram or printed circuit board diagram successively.
Note: The find function may not be applied to the Service Manual depending on the date of issue.

Switching a page

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

Reversing the screens displayed once

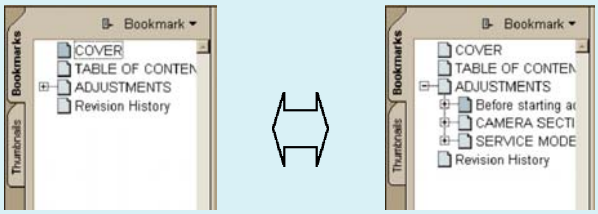
- To reverse the previous screens (operation) one by one, click the .
- To advance the reversed screens (operation) one by one, click the .

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

Moving with link

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

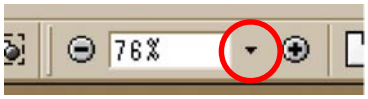
Moving with bookmark:
Click an item (text) on the bookmark pallet, and you can move to the link destination. Also, clicking can display the hidden items.
(To go back to original state, click)



Zooming or rotating the screen display

"Zoom in/out"

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



"Rotate"

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

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

Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2007.01	Official Release	—	—
1.1	2007.02	Correction-1 (C1)	• Correction of DISASSEMBLY S.M Correction : Page 2-2	Yes