

PRS-300

SERVICE MANUAL

Ver. 1.0 2009.07

*US Model
Canadian Model
UK Model
French Model
German Model
Netherlands Model*

**Note:**

Be sure to keep your PC used for service and checking of this unit always updated with the latest version of your anti-virus software. In case a virus affected unit was found during service, contact your Service Headquarters.

- SONY and the SONY logo are registered trademarks of Sony Corporation.
- BBEB, BBEB Book, and their logos are trademarks of Sony Corporation.
- Bitstream is a registered trademark, and Dutch, Font Fusion, and Swiss are trademarks, of Bitstream Inc.
- Microsoft, Windows, Windows Vista and Windows Media are trademarks or registered trademarks of Microsoft Corporation in the United States and / or other countries.
- Macintosh and Mac OS are trademarks of Apple Inc., registered in the U.S. and other countries.
- Adobe, the Adobe logo, Reader and PDF are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<<http://www.openssl.org/>>) Copyright © 1998-2006 The OpenSSL Project. All rights reserved. This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com). For details on OpenSSL License, refer to "openssl.txt" on the Reader.

All other system names and product names appearing in this document are generally the registered trademarks or trademarks of their respective manufacturers. Further, the trademark TM and registered trademark ® symbols are not indicated throughout this document.

Program ©2009 Sony Corporation
Documentation ©2009 Sony Corporation

SPECIFICATIONS

Power source

Built-in rechargeable battery: DC 3.7 V
AC adapter: DC 5.2 V

Battery life (continuous playback)

Maximum Battery:

Approx. 7,500 pages with BBEB Book contents *
Approx. 6,800 pages with EPUB contents*

* Measured using a fully charged battery and counting consecutive page-turns at approx 1 page per sec. Actual battery life may vary based on usage patterns and specific device.

User available capacity

Approx. 440MB
Available storage capacity of the Reader may vary.

Operating temperature

5 to 35 °C (41 to 95 °F)

Dimensions (w/h/d)

Approx. 4 1/4 × 6 1/4 × 13/32 inches (107.8 × 157.5 × 10.2 mm)
(maximum)

Mass

Approx. 7.76 oz (220 g)

Supplied accessories

USB cable (1)
Sleeve (1)
Quick Start (1)
Flyers

Design and specifications are subject to change without notice.

DIGITAL BOOK READER

9-889-601-01
2009G0500-1
© 2009.07

Sony Corporation
New Mobile Division
Published by Sony Techno Create Corporation

SONY®

Flexible Circuit Board Repairing

- Keep the temperature of 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.

CAUTION

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

SECTION 1 SERVICING NOTES

NOTE THE EACH BOARDS REPAIRING

The mount parts on each boards installed in this set cannot exchange with single. When the each board are damaged, exchange the entire mounted board.

REWRITING THE LUT

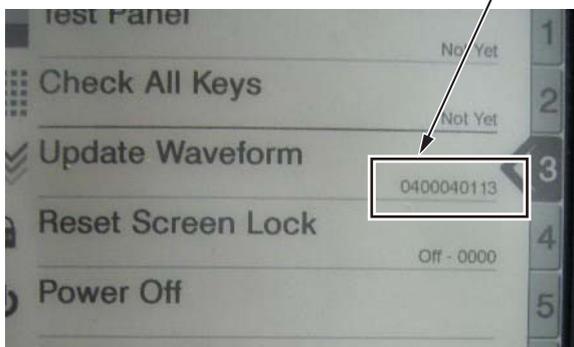
The LUT is exclusive for each lot number of the ELEMENT INK INDICATOR 5 INCH(L). Therefore, when replacing the complete MAIN board or LGD PANEL ASSY, you need to rewrite the LUT. However, rewriting is not required if the lot number is the same.

Location where the LUT is stored:

- IC1203

How to check the version of the stored LUT:

- Enters the test mode referring to "HOW TO ENTER THE TEST MODE" (page 8) in TEST MODE. Check the current LUT version displayed at the right side of "Update Waveform" as in the screen below. The LUT version is "0400040113" in this example.

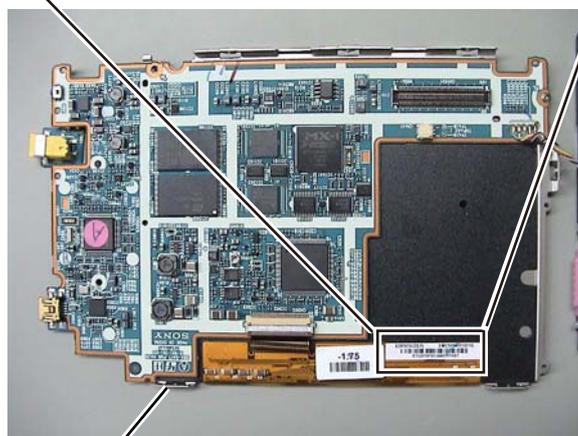


(Screen display)

How to check the lot number of the ink (indication)

ELEMENT ASSY:

- The lot number is written on the label on the flexible card wire. The lot number is "B19" in the picture below.



MAIN board

How to change the LUT:

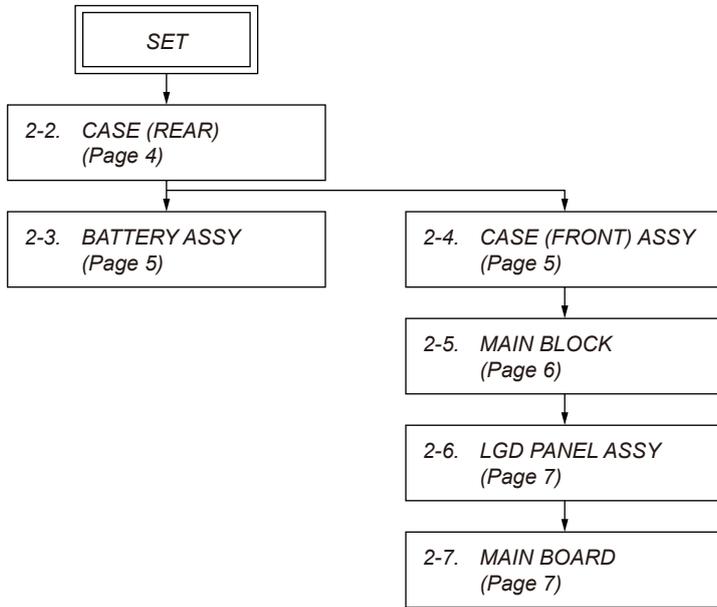
1. Connect this set with PC by the USB cable.
 2. Unzip the application for the test mode, and the "Sony Reader" folder is made.
- Note:** Confirm the method of obtaining the application for the test mode to each service headquarters.
3. Execute the copy of the "Sony Reader" folder made in step 2 to the Reader's drive on the My Computer.
 4. Copy the LUT file you want to update to the folder under "/ Sony Reader/software" in the Reader's drive, and then change the name to "lut.bin".
 5. Release the connection of this set and PC and it enters the test mode.
 6. The current LUT version displayed at the right side of Update Waveform on TEST MODE MENU.
 7. In the state that a Update Waveform tab is selected if it is press the [3] button, next press the [ENTER] button, it starts rewriting LUT version.
- Note:** It is necessary to match the LUT version to the version in relation to the lot number of the ELEMENT INK INDICATOR 5INCH (L). Refer to Technical News about details.
8. After a few minutes (about 10 seconds), the screen display is refreshed, a LUT version display of the right side of Update Waveform on TEST MODE MENU is refreshed.

Note: For the VCOM adjustment value of RV1801 for each lot, refer to ELECTRICAL ADJUSTMENT (Page 9).

SECTION 2 DISASSEMBLY

- This set can be disassembled in the order shown below.

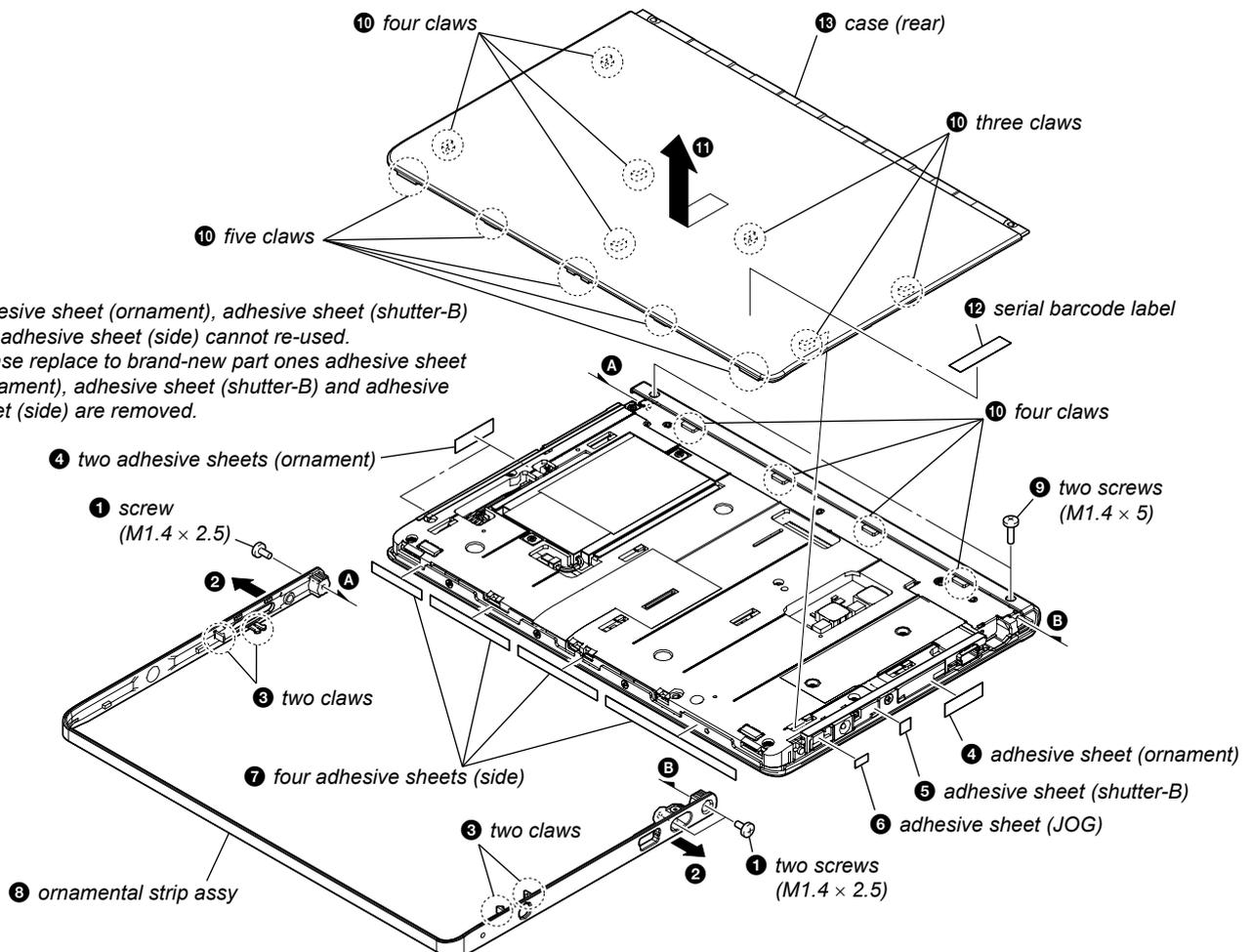
2-1. DISASSEMBLY FLOW



Note: Follow the disassembly procedure in the numerical order given.

2-2. CASE (REAR)

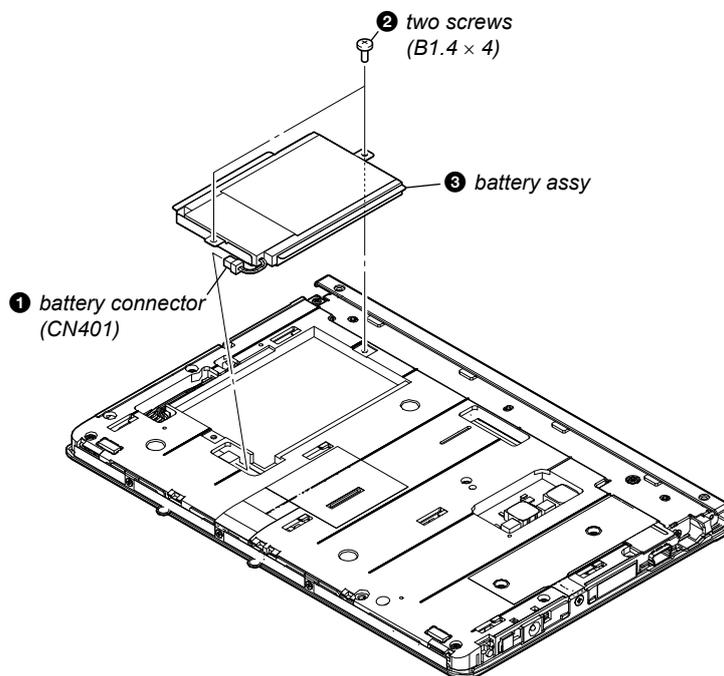
Note: This illustration sees the set from rear side.



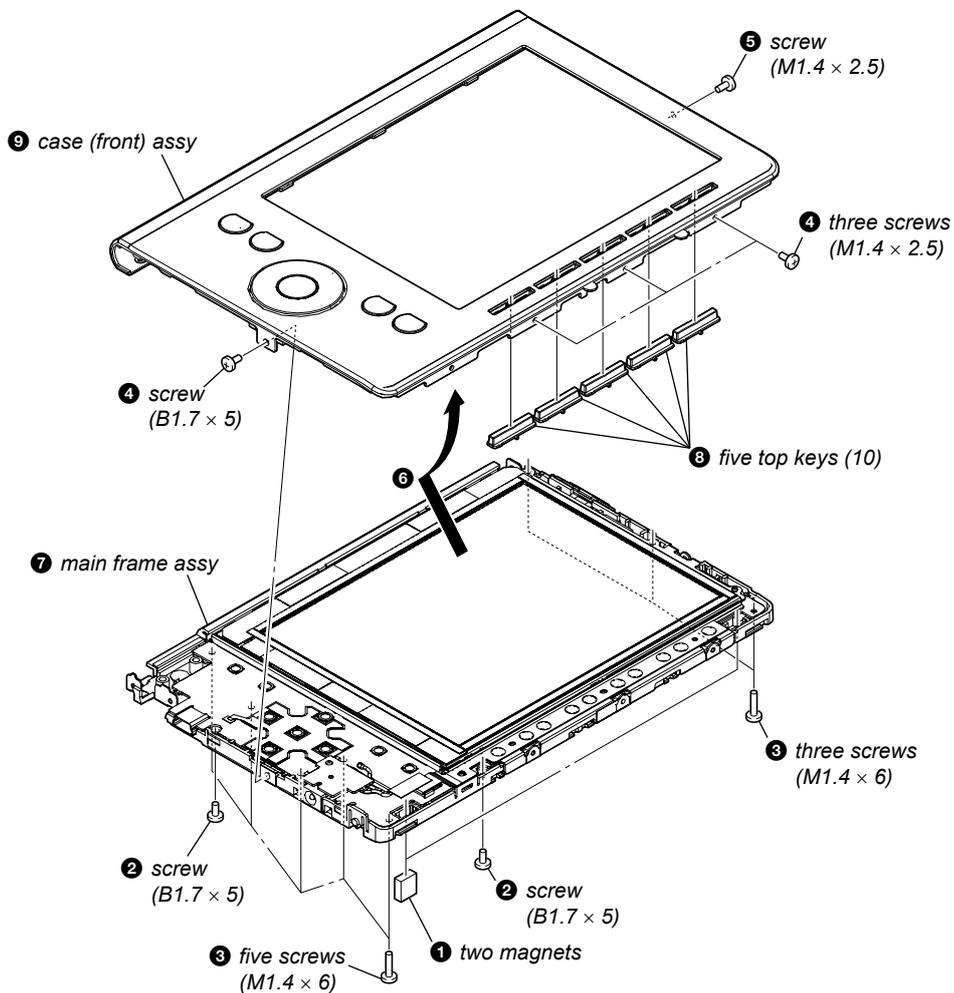
Note: Adhesive sheet (ornament), adhesive sheet (shutter-B) and adhesive sheet (side) cannot re-used. Please replace to brand-new part ones adhesive sheet (ornament), adhesive sheet (shutter-B) and adhesive sheet (side) are removed.

2-3. BATTERY ASSY

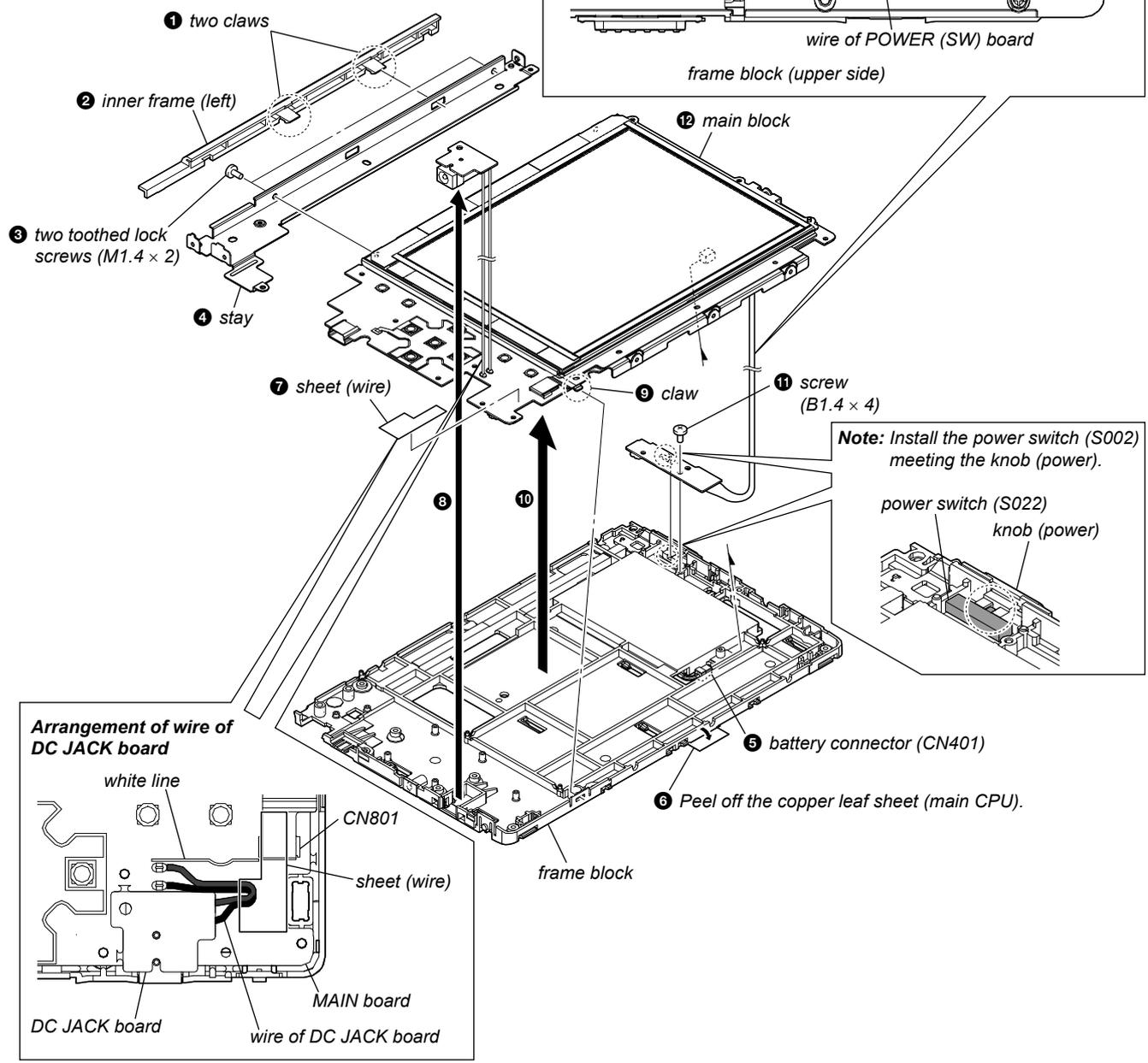
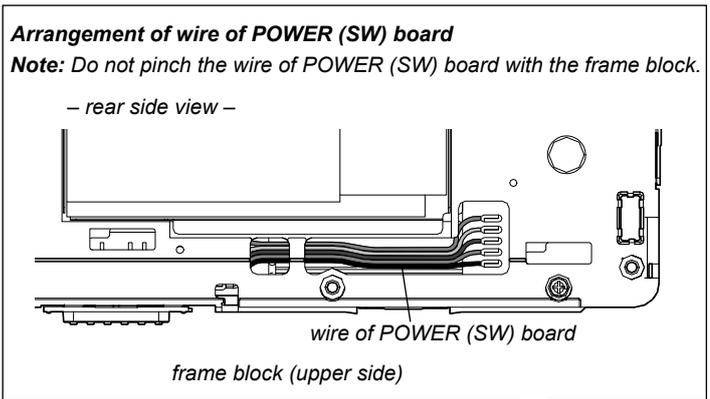
Note: This illustration sees the set from rear side.



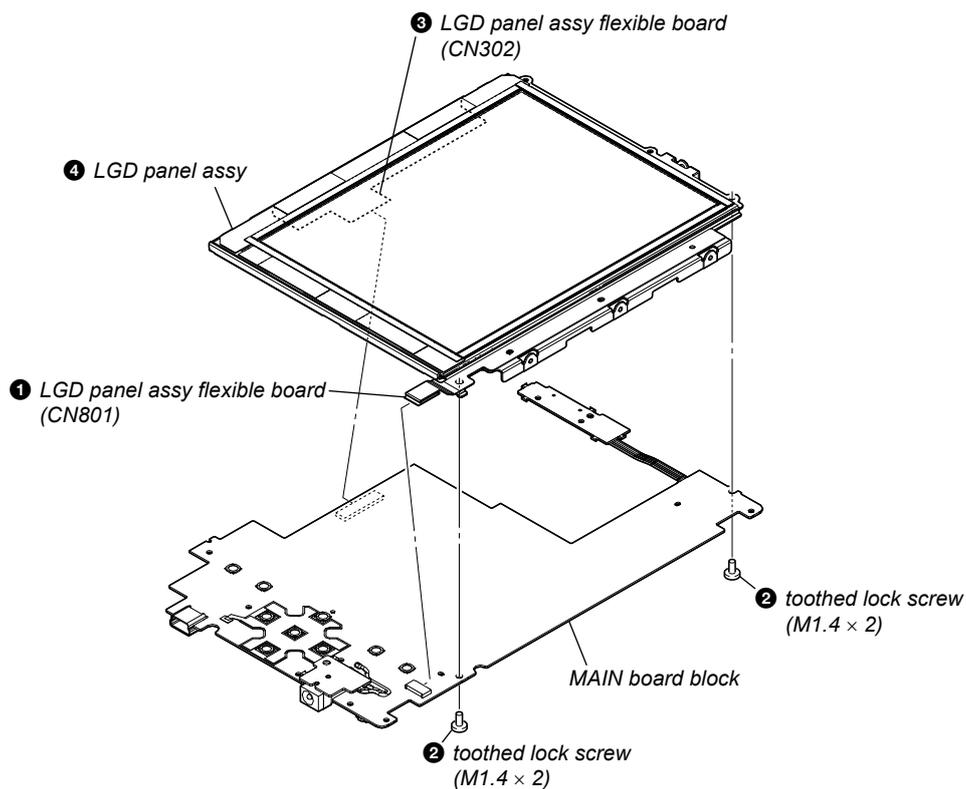
2-4. CASE (FRONT) ASSY



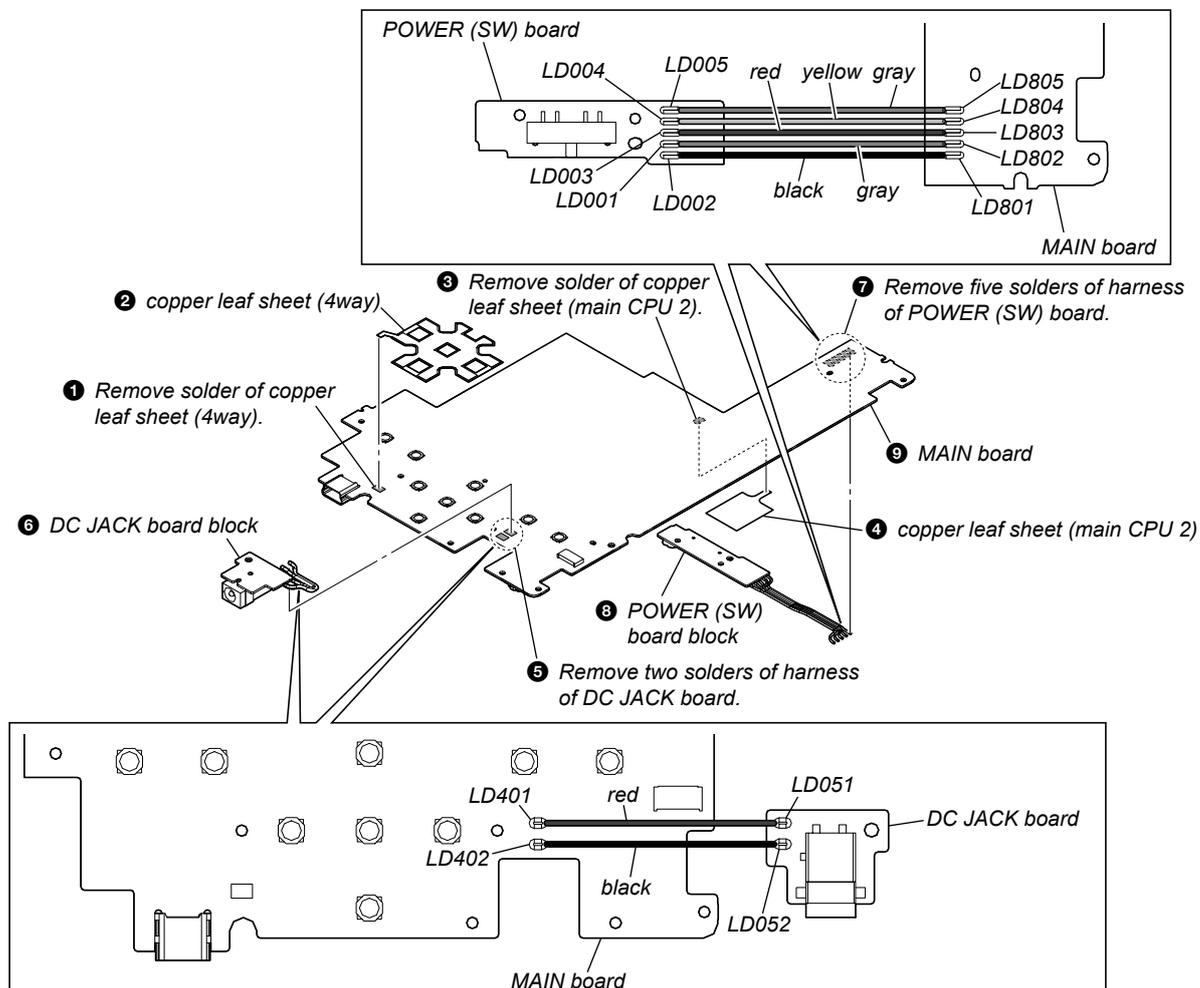
2-5. MAIN BLOCK



2-6. LGD PANEL ASSY



2-7. MAIN BOARD



SECTION 3 TEST MODE

HOW TO ENTER THE TEST MODE

Procedure:

1. Connect this set with PC by the USB cable.
2. Unzip the application for the test mode, and the “Sony Reader” folder is made.

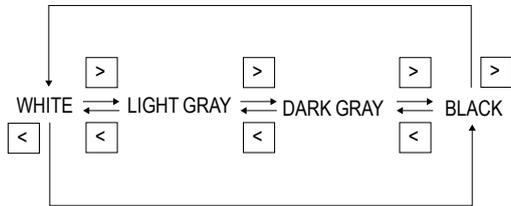
Note: Confirm the method of obtaining the application for the test mode to each service headquarters.

3. Execute the copy of the “Sony Reader” folder made in step 2 to the Reader’s drive on the My Computer.
4. Release the connection of this set and PC and it enters the test mode.

1. Test Panel

Procedure:

1. While the machine selected tab “Test Panel” in test mode menu, press the [ENTER] button or [1] button.
2. Screen is changed to the Test Panel.
3. The display is changed so bellow with each time of pushing the [>] button or [<] button of [PAGE].

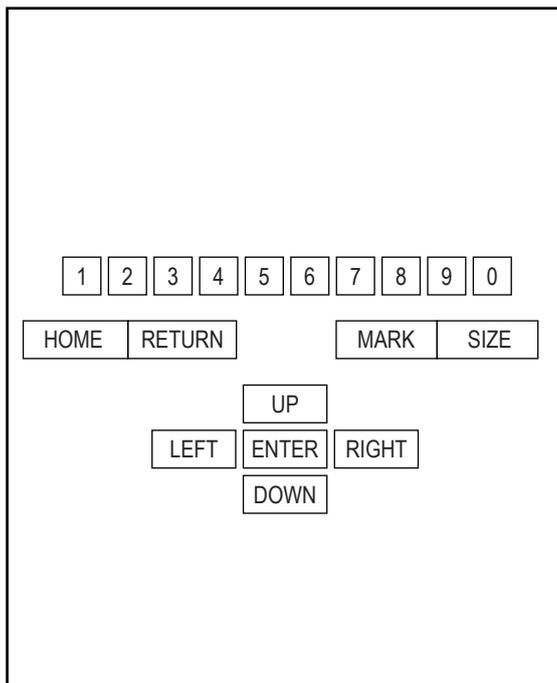


4. It’s back to TEST MODE MENU when the [MENU] button.
5. After the end of test, a display of Test Panel on TEST MODE MENU is changed to “Done” from “Not Yet”.

2. Check All Key

Procedure:

1. In the state that a Check All Key tab of TEST MODE MENU is selected, press the [ENTER] button or [2] button.
2. The screen is switched into the Check All Key state.



3. The display invert when each button is pushed, and the display is back to the all button.
4. After the end of test, a display of the right side of Test Panel on TEST MODE MENU is changed to “Done” from “Not Yet”.

3. Update Waveform

In this mode, it is possible to confirm the version of LUT (Look Up Table) and rewrite. The change of the LUT is required when the LGD PANEL ASSY or complete MAIN board are replaced. However, the ELEMENT INK INDICATOR 5 INCH (L) is different from parameter by each lot number, therefore, rewriting is not required if the lot number is the same. The lot number is written on the label on the flexible board.



Procedure:

1. Connect this set with PC by the USB cable.
2. Unzip the application for the test mode, and the “Sony Reader” folder is made.

Note: Confirm the method of obtaining the application for the test mode to each service headquarters.

3. Execute the copy of the “Sony Reader” folder made in step 2 to the Reader’s drive on the My Computer.
4. Copy the LUT file you want to update to the folder under “/ Sony Reader/software” in the Reader’s drive, and then change the name to “lut.bin”.
5. Release the connection of this set and PC and it enters the test mode.
6. The current LUT version displayed at the right side of Update Waveform on TEST MODE MENU.
7. In the state that a Update Waveform tab is selected if it is press the [3] button, next press the [ENTER] button, it starts rewriting LUT version.

Note: It is necessary to match the LUT version to the version in relation to the lot number of the ELEMENT INK INDICATOR 5 INCH (L). Refer to Technical News about details.

8. After a few minutes (about 10 seconds), the screen display is refreshed, a LUT version display of the right side of Update Waveform on TEST MODE MENU is refreshed.

4. Reset Screen Lock

The screen lock can be compulsorily released.

Not used for the servicing.

5. Power Off

Procedure:

1. In the state of a Power Off tab of TEST MODE MENU, press the [ENTER] button or [5] button.
2. After a while, the screen display is changed white, so power is turned off.

6. Factory Initialize

Procedure:

It return to the state various setting are shipped in the factory. The file of Flash ROM deletes all files except file the factory is shipped. Please note it enough you operate this mode.

1. In the state of a Factory Initialize tab of TEST MODE MENU, press the [ENTER] button or [6] button.
2. Initialize end. After a while, the screen display is changed white, so power is turned off.

SECTION 4 ELECTRICAL ADJUSTMENT

VCOM VOLTAGE ADJUSTMENT

Vcom voltage for the display panel varies for each panel. VCOM adjustment is required when replacing a board or panel.

Preparation:

Voltage is generated only when the screen is changed, so the adjustment needs to be performed while changing the screen. Use the slideshow function to change the screen sequentially.

1. With the “Settings” tab in the menu selected, press the [ENTER] button or the [0] button.
2. With the “Slideshow” tab selected, press the [ENTER] button or the [3] button.
3. Set “Turn On, Slide Duration 05 seconds”, and press the [ENTER] button on OK.

Procedure:

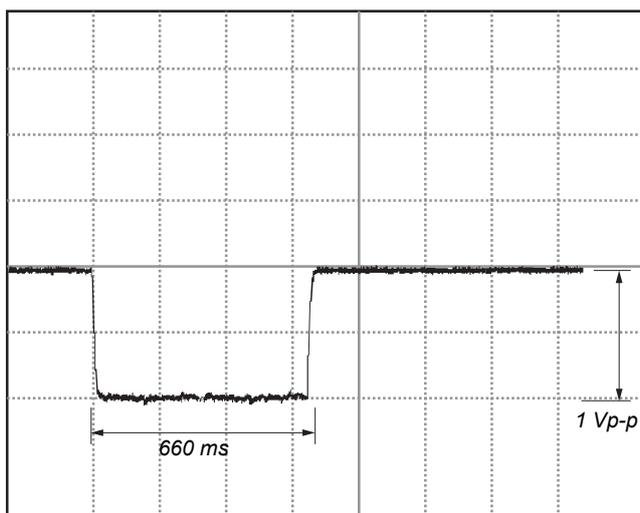
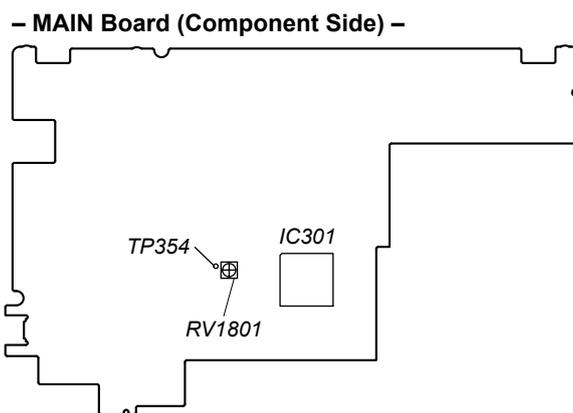
1. With the “Pictures” tab in the menu selected, press the [ENTER] button or the [9] button.
2. Specify a desired screen, and press the [ENTER] button to check that the slideshow starts.
3. Observe the TP354 on an oscilloscope (refer to Fig.2), and use RV1801 to adjust the voltage that is generated when the screen is changed so that it satisfies the standard.

Standard: Written on the flexible card wire of the display panel with a marker. (-1 V to -2.5 V) (Refer to following Fig.1)
(In case of Fig.1: The value of VCOM is -1.75 V.)



Fig. 1

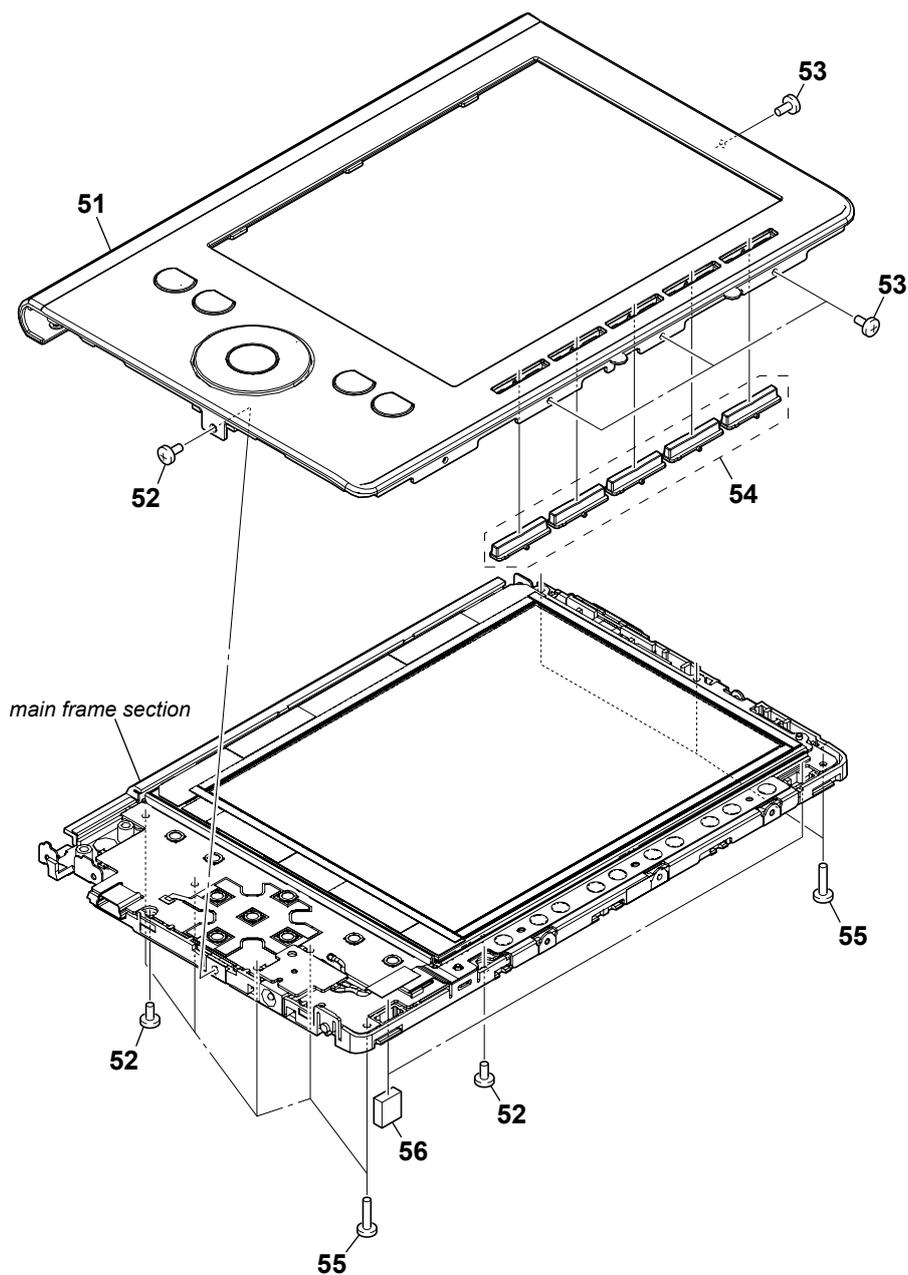
Adjustment Location:



500 mV/DIV, 200 ms/DIV

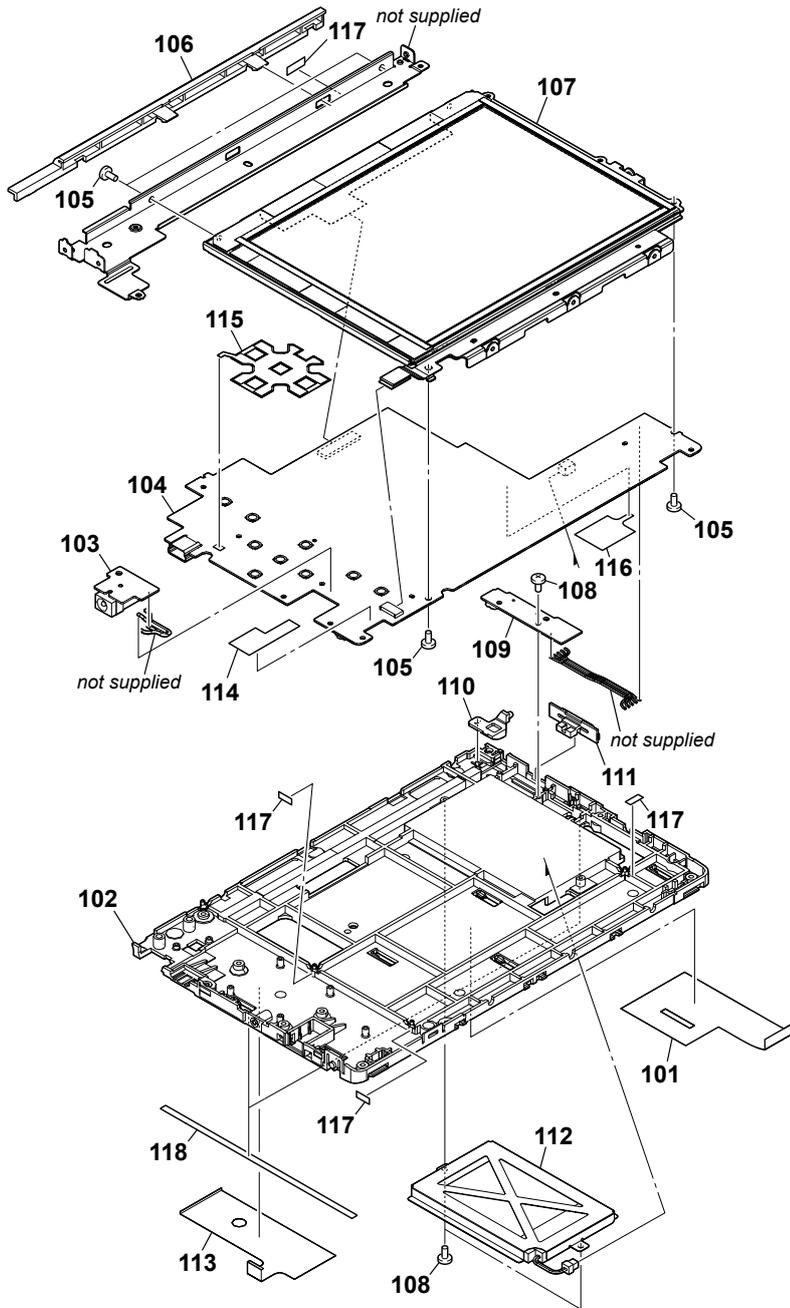
Fig. 2

5-2. CASE (FRONT) SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	A-1716-434-A	CASE (FRONT) ASSY (SILVER)		54	4-138-771-01	KEY TOP (10) (SILVER)	
51	A-1731-599-A	CASE (FRONT) ASSY (BLACK)		54	4-138-771-11	KEY TOP (10) (BLACK)	
51	A-1731-609-A	CASE (FRONT) ASSY (RED)		54	4-138-771-21	KEY TOP (10) (RED)	
52	3-254-083-01	SCREW		55	3-703-816-81	SCREW (M1.4X6.0), SPECIAL HEAD	
53	3-225-996-11	SCREW (M1.4) (EG), PRECISION PAN		56	4-138-851-01	MAGNET	

5-3. MAIN FRAME SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	4-153-238-01	SHEET (MAIN CPU), COPPER LEAF		107	A-1731-387-A	LGD PANEL ASSY	
102	4-138-772-01	FRAME		108	3-254-135-01	SCREW (B1.4)	
103	A-1716-441-A	DC JACK BOARD, COMPLETE		109	A-1716-440-A	POWER (SW) BOARD, COMPLETE	
104	X-2514-316-1	MAIN BOARD, COMPLETE (for SERVICE) (for SILVER) (US, CND)		110	4-138-773-01	PLATE, LIGHT GUIDE	
104	X-2514-317-1	MAIN BOARD, COMPLETE (for SERVICE) (for BLACK) (US, CND)		111	4-134-931-01	KNOB (POWER) (SILVER)	
104	X-2514-322-1	MAIN BOARD, COMPLETE (for SERVICE) (for RED) (US, CND)		111	4-134-931-11	KNOB (POWER) (BLACK)	
104	X-2514-324-1	MAIN BOARD, COMPLETE (for SERVICE) (for SILVER) (CE7)		111	4-134-931-21	KNOB (POWER) (RED)	
104	X-2514-325-1	MAIN BOARD, COMPLETE (for SERVICE) (for BLACK) (CE7)		112	X-2514-315-1	BATTERY ASSY (US, CND)	
104	X-2514-326-1	MAIN BOARD, COMPLETE (for SERVICE) (for RED) (CE7)		112	X-2514-323-1	BATTERY ASSY (CE7)	
105	3-335-797-01	SCREW (M1.4X2), TOOTHED LOCK		113	4-153-239-01	SHEET (SUB CPU), COPPER LEAF	
106	4-143-320-01	FRAME (LEFT), INNER		114	4-156-921-01	SHEET (WIRE)	
				115	4-153-240-01	SHEET (4WAY), COPPER LEAF	
				116	4-158-798-01	SHEET (MAIN CPU2), COPPER LEAF	
				117	3-274-373-01	SHEET (B), ADHESIVE	
				118	4-160-819-01	CUSHION (FRAME)	

SECTION 6 ACCESSORIES

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
	1-829-882-12	CORD, CONNECTION (USB) (USB cable)	
	4-151-149-12	GUIDE, QUICK START (ENGLISH, FRENCH)	
	4-151-149-31	GUIDE, QUICK START (GERMAN, DUTCH) (CE7)	

- Abbreviation

CE7 : UK, French, German and Netherlands models

