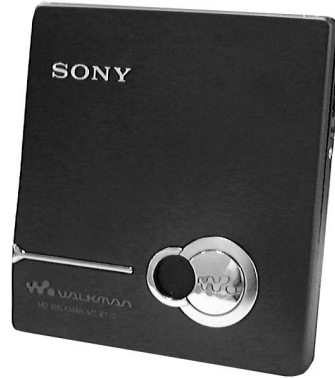


MZ-E710

SERVICE MANUAL

Ver 1.0 2002.10

Hong Kong Model
Tourist Model



US and foreign patents licensed from Dolby Laboratories Licensing Corporation

Model Name Using Similar Mechanism	NEW
MD Mechanism Type	MT-MZE710-183
Optical Pick-up Mechanism Type	ABX-1E

SPECIFICATIONS

Audio playing system

MiniDisc digital audio system

Laser diode properties

Material: GaAlAs

Wavelength: $\lambda = 790 \text{ nm}$

Emission duration: continuous

Laser output: less than $44.6 \mu\text{W}^*$

* This output is the value measured at a distance of 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.

Revolutions

Approx. 300 rpm to 2,700 rpm

Error correction

ACIRC (Advanced Cross Interleave Reed Solomon Code)

Sampling frequency

44.1 kHz

Coding

ATRAC (Adaptive TRansform Acoustic Coding)

ATRAC3: LP2/LP4

Modulation system

EFM (Eight to Fourteen Modulation)

Number of channels

2 stereo channels

1 monaural channel

Frequency response

20 to 20,000 Hz $\pm 3 \text{ dB}$

Outputs

Headphones/earphones: stereo mini-jack, output level

5 mW + 5 mW load impedance 16 ohms

Power requirements

Nickel metal hydride rechargeable battery

One NH-14WM(A)(supplied): 1.2 V, 1,350 mAh

One LR6 (size AA) battery (not supplied)

External power jack (for the battery charging stand):

Power rating 3V DC

Battery life¹⁾

(Unit: Approx. hours) (JEITA²⁾)

Batteries	SP Stereo (normal)	LP2 Stereo	LP4 Stereo
Ni-MH rechargeable battery NH-14WM(A) ³⁾	36	46	56
LR6 (SG)	60	77	93
Sony Alkaline dry battery ⁴⁾ LR6 (SG) ⁴⁾ and NH-14WM(A) ³⁾	96	123	148

¹⁾ Measured with the power save function on (see "Preserving battery power").

²⁾ Measured in accordance with the JEITA (Japan Electronics and Information Technology Industries Association) standard (using a Sony MDW-series Mini-disc).

³⁾ With a fully charged battery

⁴⁾ When using a Sony LR6 (SG) "STAMINA" alkaline dry battery (produced in Japan).

Note

The battery life may be shorter than that specified, depending on the temperature of the location, the operating conditions, and the type of battery being used.

PORTABLE MINIDISC PLAYER

9-874-216-01

2002J0200-1

© 2002.10

Sony Corporation

Personal Audio Company

Published by Sony Engineering Corporation

SONY®

Dimensions

Approx. 71.5 x 77.9 x 13.9 mm (w/h/d) (2 ⁷/₈ x 3 ¹/₈ x ⁹/₁₆ in.)
(not including projecting parts and controls)

Mass

Approx. 66 g (2.3 oz) (the player only)

Supplied accessories

- Headphones/earphones with a remote control (1)
- Battery charging stand (1)
- AC power adaptor (for the supplied battery charging stand) (1)
- Rechargeable battery (1)
- Rechargeable battery carrying case (1)
- Dry battery case (1)
- Carrying pouch (1)

US and foreign patents licensed from Dolby Laboratories.

Design and specifications are subject to change without notice.

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8. ELECTRICAL PARTS LIST	35
● 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.)	

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK Δ OR DOTTED LINE WITH MARK Δ 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.

* Replacement of SN761058ZQL (IC501) and LC896442-VH4-16-E (IC601) used in this set requires a special tool.

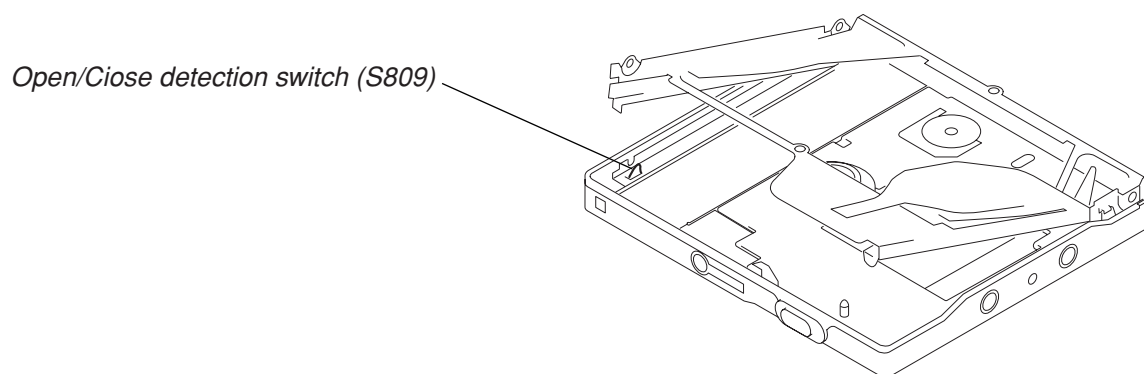
: LEAD FREE MARK

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.

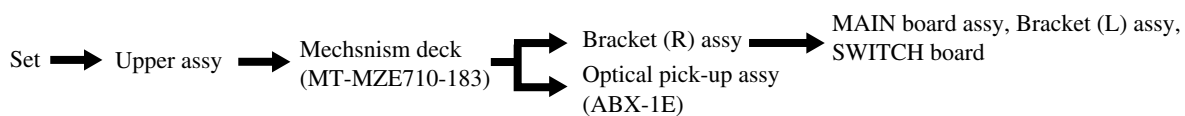
SECTION 1 SERVICING NOTE

When repairing this device with the power on, if you remove the main board, this device stops working.
In this case, you work without the device stopping by fastening the hook of the Open/Close detection switch (S809).



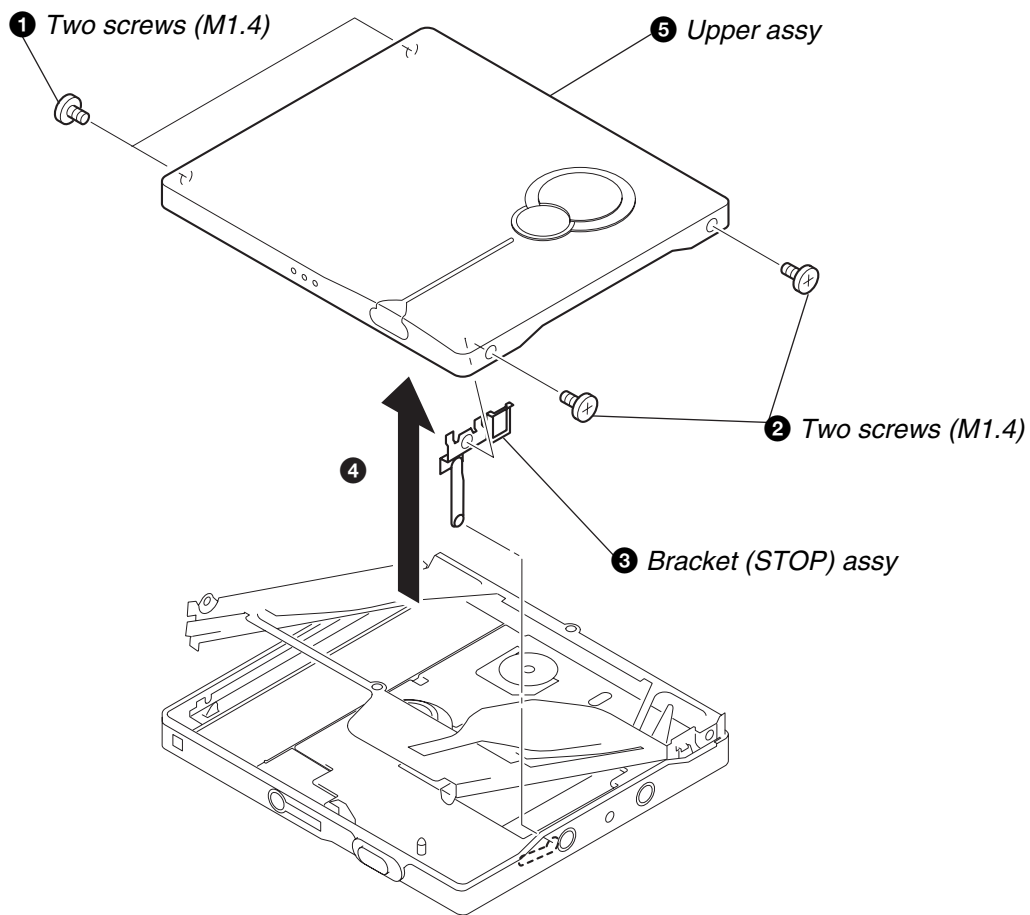
SECTION 3 DISASSEMBLY

- The equipment can be removed using the following procedure.



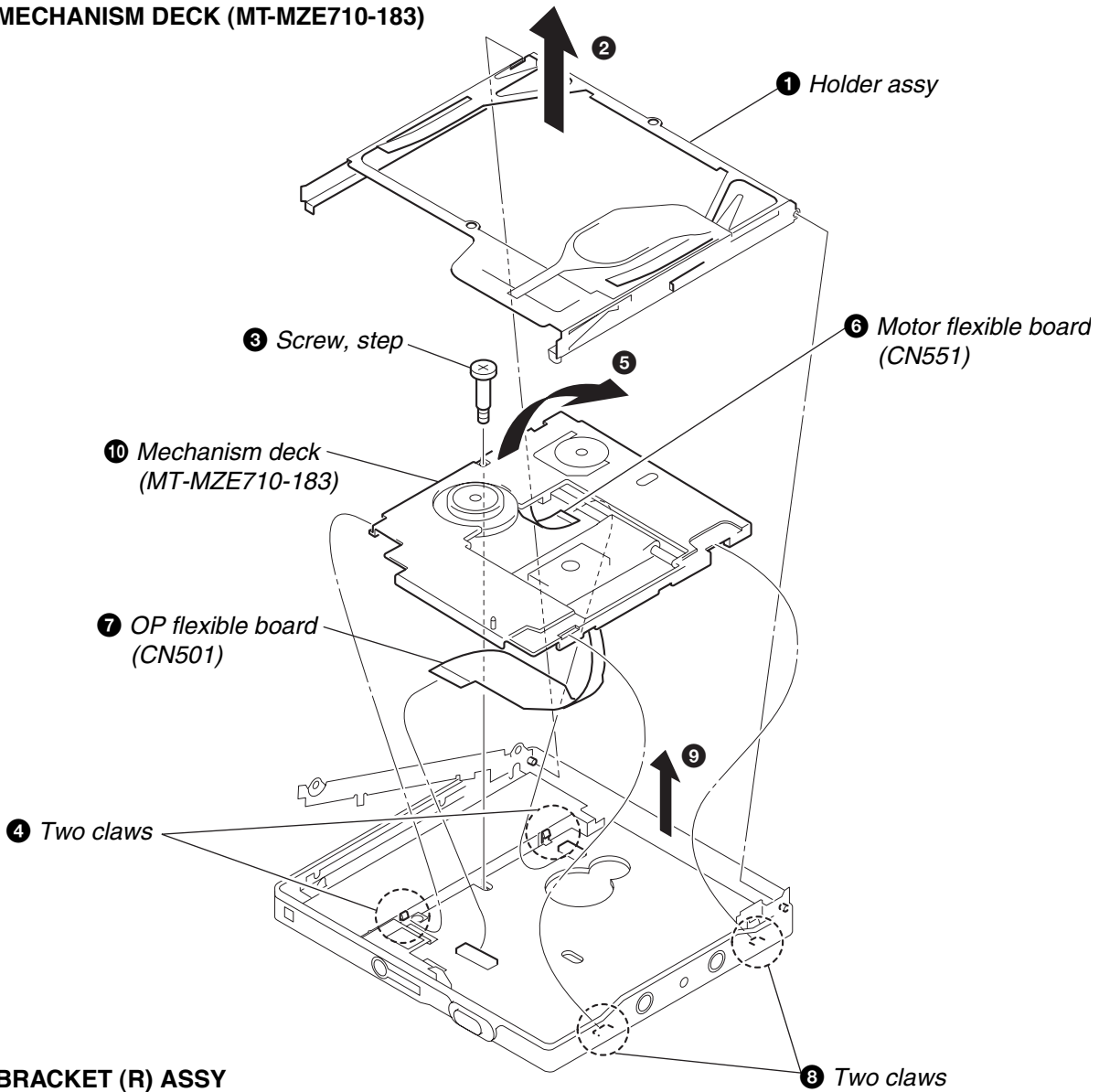
Note : Follow the disassembly procedure in the numerical order given.

3-1. UPPER ASSY

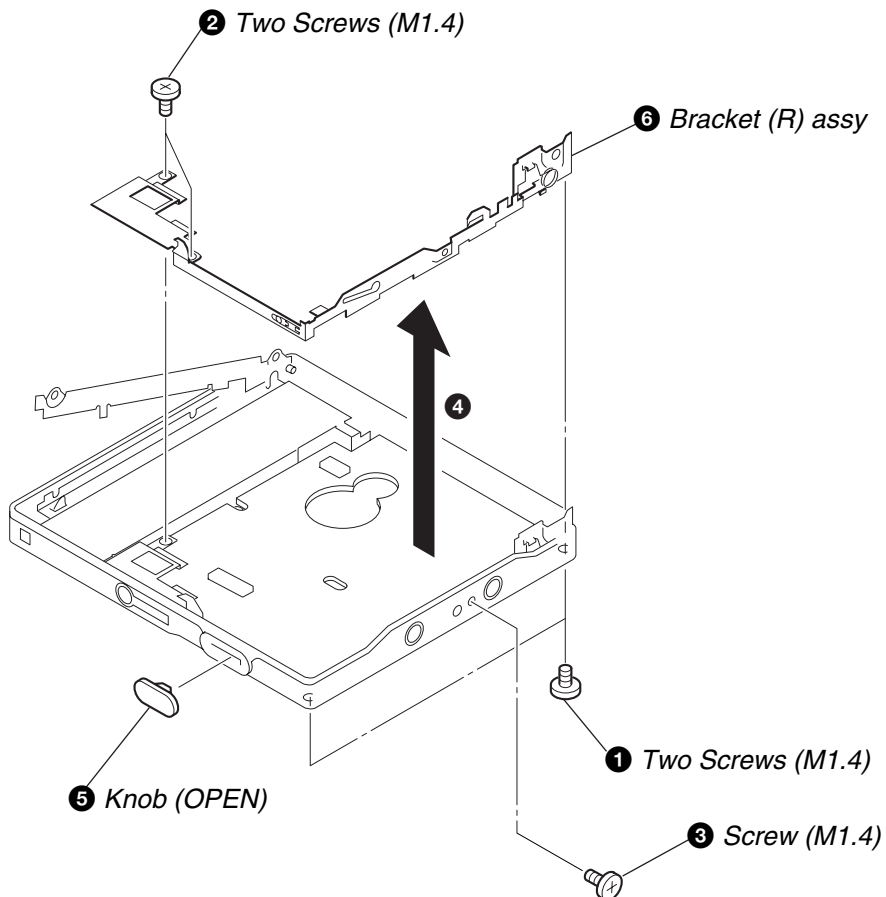


MZ-E710

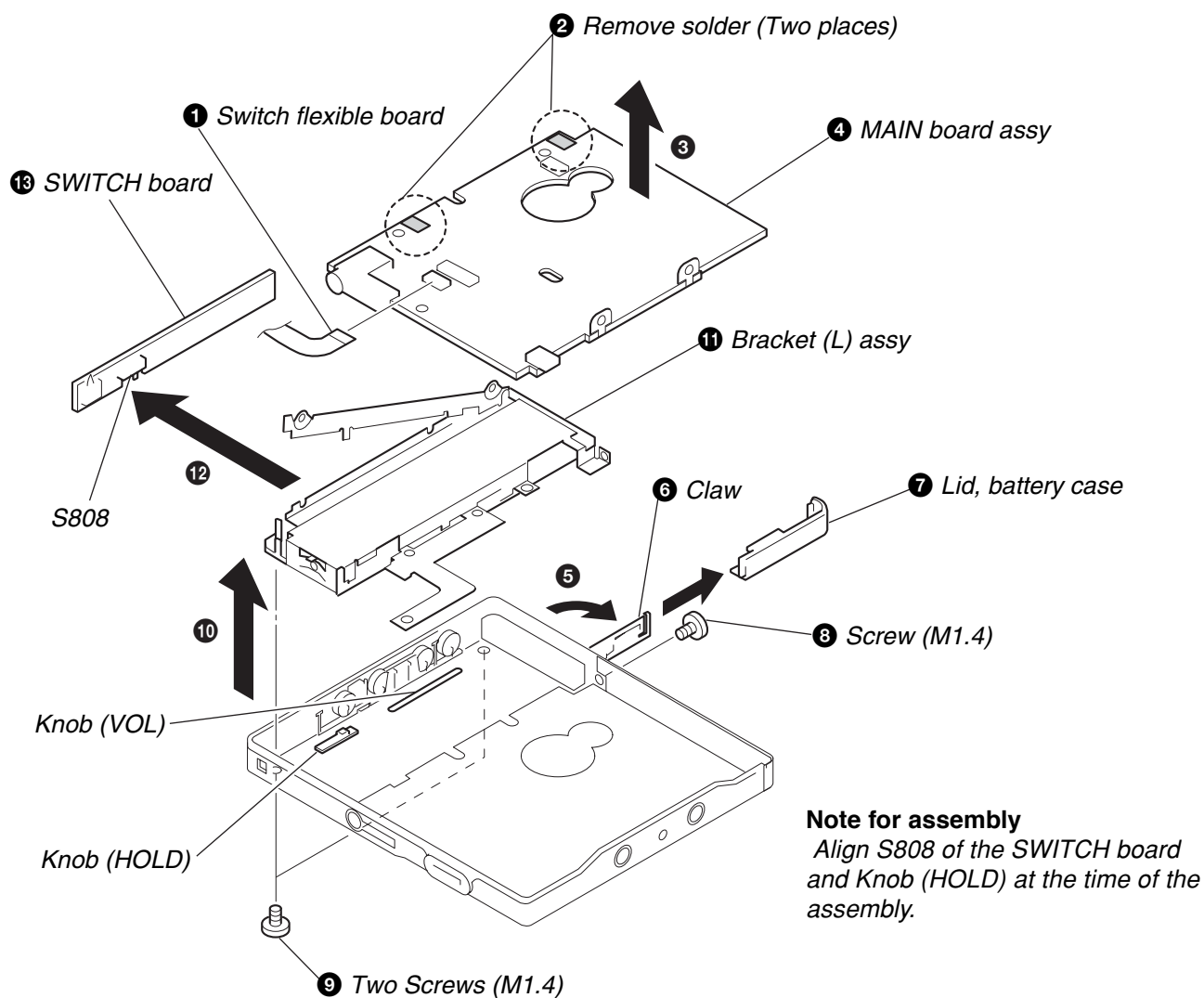
3-2. MECHANISM DECK (MT-MZE710-183)



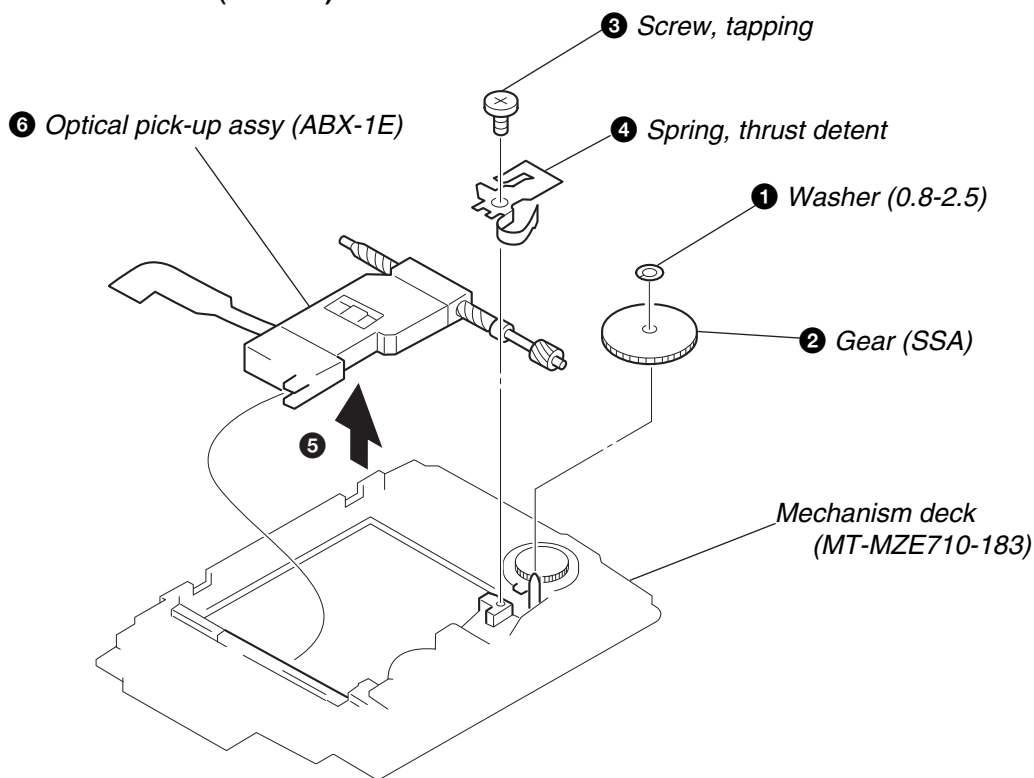
3-3. BRACKET (R) ASSY



3-4. MAIN BOARD ASSY, BRACKET (L) ASSY, SWITCH BOARD



3-5. OPTICAL PICK-UP ASSY (ABX-1E)



SECTION 4 TEST MODE

4-1. GENERAL

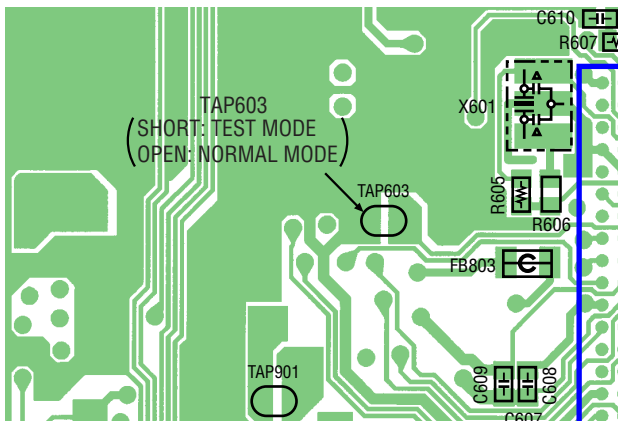
- When entered in the TEST MODE, this set provides the Overall Adjustment mode which allows CD and MO discs to be automatically adjusted. In the Overall Adjustment mode, the system discriminates between CD and MO discs, performs adjustments in sequence automatically, and displays the faulty location if any fault is found. In the Manual mode, selected adjustments can be performed automatically.
- The attached remote control is used to operate the TEST MODE. Unless otherwise specified in the text, the key means that on the remote control.

4-2. SETTING THE TEST MODE

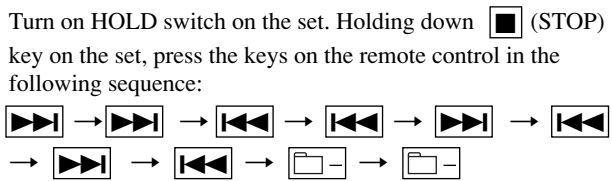
4-2-1. How to set the TEST MODE

- To set the TEST MODE, two methods are available.
- Solder bridge and short TAP603 (TEST) on the main board. Then turn on the power.

MAIN BOARD (SIDE A)



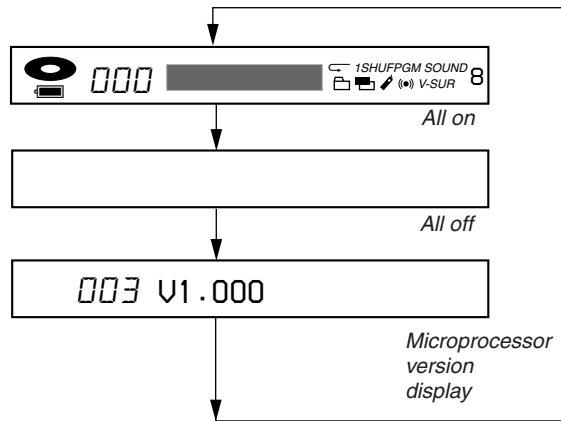
- In the normal mode, operate the keys on the set and those on the remote control as specified below:



4-2-2. Operations when the TEST MODE is set

When the TEST MODE is entered, the system switches to the display check mode within the TEST MODE. From this mode, the other Test modes can be accessed. When the TEST MODE is set, the LCD repeats a cycle of the following displays:

Remote control LCD

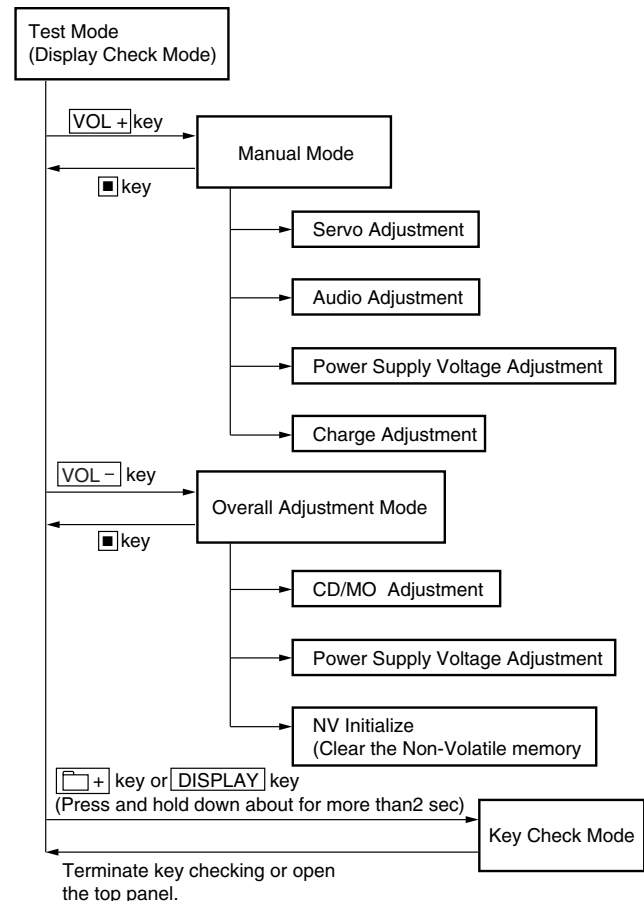


- Press and hold down to hold the current display while the key is being pressed.

4-2-3. How to release the TEST MODE

- When method ① was used:
Turn off the power and open the solder bridge on TAP603 on the main board.
Note: The solder should be removed clean. The remaining solder may make a short with the chassis and other part.
- When method ② was used:
Turn off the power.
Note: If electrical adjustment (see page 11) has not been finished completely, always start in the test mode.

4-3. TEST MODE STRUCTURE



4-4. MANUAL MODE

4-4-1. Outline of the function

The Manual mode is designed to perform adjustments and operational checks on the set's operation according to each individual function.

Usually, no adjustments are made in this mode.

However, the Manual mode is used to clear the memory before performing automatic adjustments in the Overall Adjustment mode.

4-4-2. How to set the Manual mode

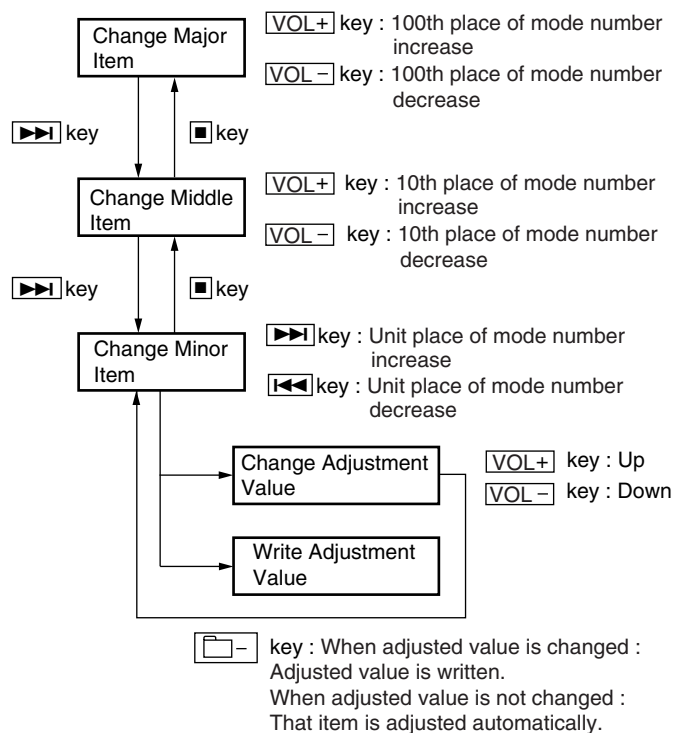
1. Set the TEST MODE and press **[VOL +]** key to set the Manual mode.

Remote control LCD display

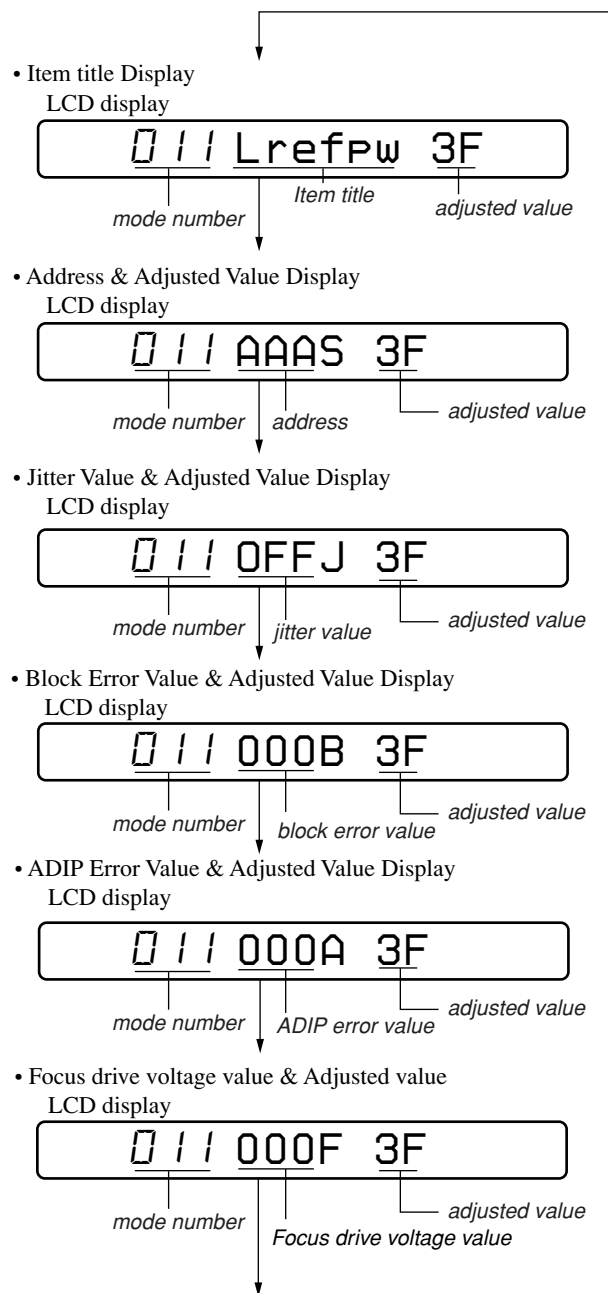


2. During each test, press and hold down **[▶▶]** key or **[◀◀]** key for a while to move the optical pickup on the sled outer or inner perimeter.
3. Each test item is assigned with a three-digit item number. The 100th place is a major item, 10th place is a middle item, and unit place is a minor item.

Note: Changes in adjustment item settings are written into the non-volatile memory.



4. During each test mode, the display is changed from one to another each time **[DISPLAY]** key is pressed.



Note: In the Power mode, the item title display is only displayed.

5. To terminate the Manual mode and return to the TEST MODE, press **[◻]** key.

4-5. OVERALL ADJUSTMENT MODE

4-5-1. Outline of the function

This mode is designed to adjust the servo system automatically by going through all the adjustment items.

Usually, this mode is used to perform automatic adjustments when servicing the set.

For further information, refer to section 5. ELECTRICAL ADJUSTMENTS. (See page 11)

4-6. KEY CHECK MODE

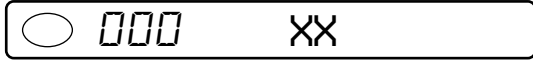
4-6-1. Outline of the function

This mode is used to check to make sure that each of the keys (including the slide switch) on the set operates normally.

4-6-2. Setting the Key Check mode

1. Set the TEST MODE. Press and hold down **DISPLAY** key (for more than 2 sec) to set the Key Check mode.

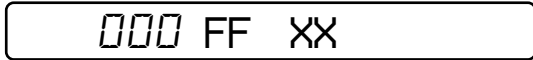
LCD display




2. When each key on the set and on remote control is pressed, its name is displayed on the LCD. (The operated position is displayed for 4 sec after the slide switch is operated. If any other key is pressed during this display, the LCD switches to its name display)

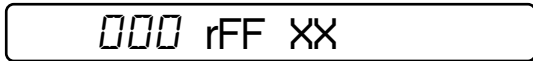
Example: When  key on the set is pressed:

LCD display



Example: When  key on the remote control is pressed:

LCD display

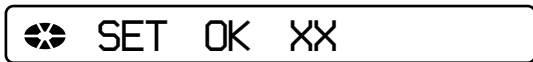


XX: AD value of the remote control key (hexadecimal 00 to FF)

3. When all the keys on the set and on the remote control are considered as OK, the following displays are shown for 2 sec. (The key pressed to enter the Key Check mode has been checked even if it is not pressed in this mode)

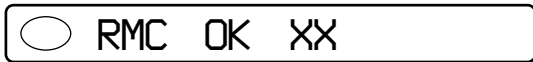
Example: When the keys on the set are considered as OK:

LCD display



Example: When the keys on the remote control are considered as OK:

LCD display



4. When all the key have been checked or when the top panel is opened during this checking, the system terminates the Key Check mode and return to the TEST MODE.

Note: Slide switch can checked as OK by ON → OFF → ON (or reverse) operation.

SECTION 5 ELECTRICAL ADJUSTMENTS

5-1. GENERAL

In this set, CD and MO discs can be automatically adjusted by setting the Overall Adjustment mode within the TEST MODE. Before performing these automatic adjustments, it is necessary to clear the memory, adjust the power charge and temperature in the Manual mode.

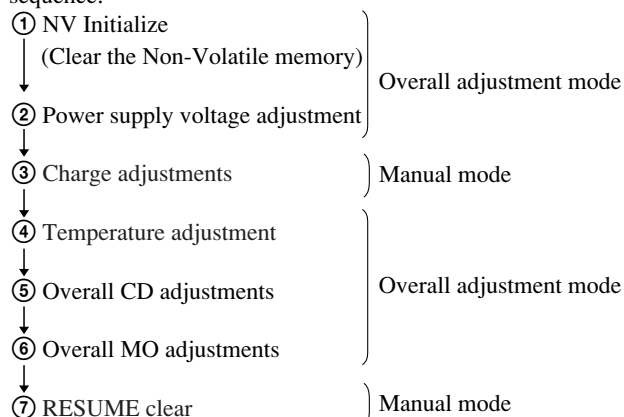
5-2. NOTES FOR ADJUSTMENT

5-2-1. Jigs

- CD disc TDYS-1 (part code: 4-963-646-01)
- MO disc PTDM-1 (part code: J-2501-054-A)
- Digital voltmeter
- Thermometer

5-2-2. Adjustment sequence

The adjustments should be always performed in the following sequence:



5-2-3. Power

The power is supplied with 3.0 V DC from the charge stand. Note: Be sure to place the set horizontally on the overall adjustment.

5-3. NV Initialize (Clear the Non-volatile memory)

5-3-1. How to NV Initialize

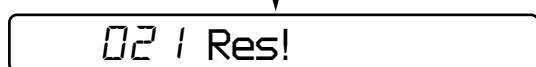
1. Set the Test mode.
2. Press the **VOL -** key and set the Overall adjustment.
3. Press **[] +** key on the remote control.
LCD display



4. Press **[] +** key on the remote control again.
LCD display



↓ After initialize is completed.



5. Press **[]** key. to terminate the Manual mode and return to the Overall adjustment mode.

Note: The power, charging and temperature adjustment settings are not cleared during NV initialize.

5-3-2. Changing Adjustment values

Adjustment settings are cleared when NV initialize is performed. So right after performing NV initialize you must rewrite the correct data according to the microcomputer version.

- Adjustment value change method

5-3-3 Adjustment value change method

(when using Version 1.000)

1. In test mode press the **VOL +** key and then switch to Manual mode.
2. Set 861 as the item number.
LCD display



3. Press the **[] -** key.
4. Press the **[]** key and set 862 as the item number.
LCD display



5. Press the **[] +** key, and set in Adjustment Change mode.



This section (address) flashes.

6. Press the **[]** key.
LCD display



This section (data) flashes.

7. Press the **VOL +** and **VOL -** keys and set the value in the flashing data section while referring to the adjustment data change list.
LCD display



Data value.

8. Press the **[] -** key. and the address section starts flashing.
9. Press the **VOL +** key and set the next adjustment address.
LCD display



This section (address) flashes.

10. Press the **[]** key.
LCD display



This section (data) flashes.

11. Repeat the adjustments in items 6 - 9 and set up through address 88D1 while referring to the Adjustment Data Change List.

12. Press the key. (Address section starts flashing.)
LCD display



This section (address) flashes.

13. Press the key to return to Manual mode.
LCD display



14. Press the key and write in the correction data.
15. Turn off the power.

Note: Always turn off the power after changing the adjustment settings.

Adjustment Data Change List

Version 1.000	
Address	Adjustment Data
88C6	2B
88C7	03
88C8	D6
88C9	22
88CA	C0
88CB	4E
88CC	6E
88CD	FC
88CE	71
88CF	FC
88D0	07
88D1	8D

5-4. POWER SUPPLY VOLTAGE ADJUSTMENTS

5-4-1. Adjustment sequence

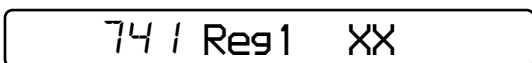
The adjustments should be always performed in the following sequence:

- ① REG1 adjustment (item No.:741)
- ② VC1 adjustment (item No.:742)
- ③ VC2 adjustment (item No.:743)
- ④ Class-D power supply adjustment (item No.:744)

5-4-2. REG1 adjustment method

1. Supply power (DC 3.0 volts) from the charging terminal CN951.
2. Set the Test mode.
3. Set the overall adjustment mode and press key, item No. will change to 741.

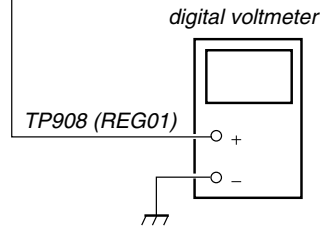
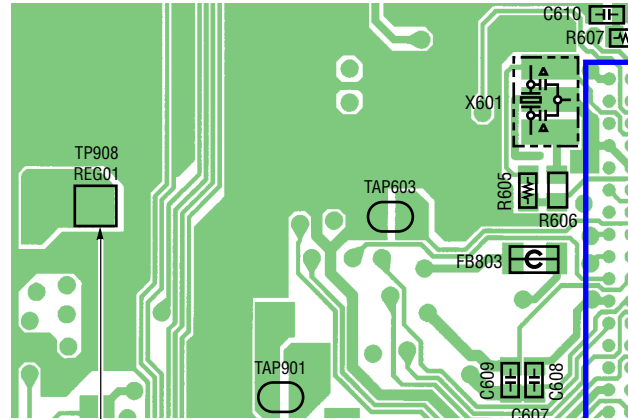
LCD display



4. Connect a digital voltmeter to TP908 (REG01) on the main board and adjust (voltage up) key and (voltage down)key on the remote control.

Adjustment value:1.05V
Standard value:1.04 to 1.055V

MAIN BOARD (SIDE A)

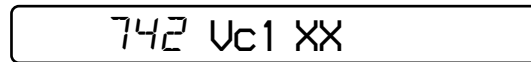


5. Press key to write the adjustment value, item No.will change to 742.

5-4-3. VC1 adjustment method

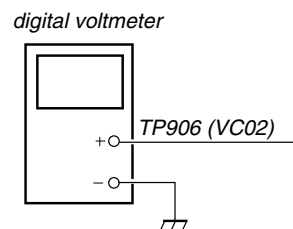
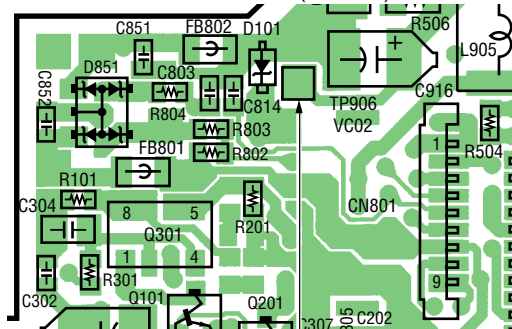
1. Set the overall adjustment mode and set the item No. to 742.

LCD display



2. Connect a digital voltmeter to TP906 (VC02) on the main board and adjust key (Voltage up) and key (Voltage down) on the remote control.
Adjustment value:2.15V
Standard value:2.14 to 2.155V

MAIN BOARD (SIDE A)

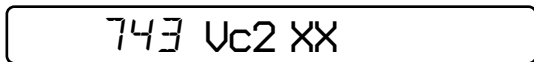


- Press key to write the adjustment value, item No. will change to 743.

5-4-4. VC2 adjustment method

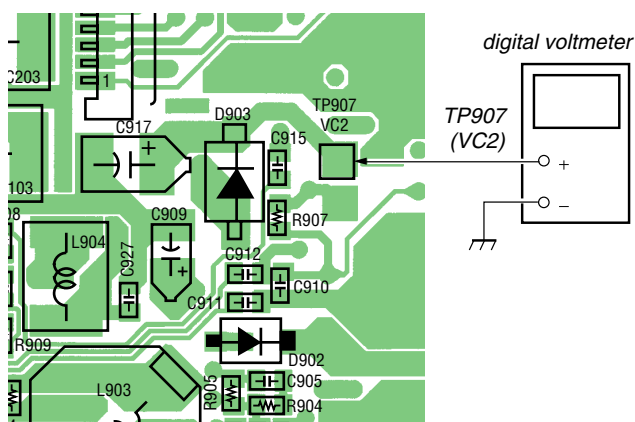
- Set the overall adjustment mode and set the item No. to 743.

LCD display



- Connect a digital voltmeter to TP907(VC2) on the main board and adjust key (Voltage down) and key (Voltage up) on the remote control.
Adjustment value:1.15V
Standard value:1.15 to 1.18V

MAIN BOARD (SIDE A)

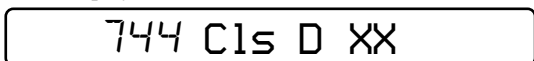


- Press key to write the adjustment value, item No. will change to 744.

5-4-5. Class-D power supply adjustment method

- Set the overall adjustment mode and set the item No. to 744.

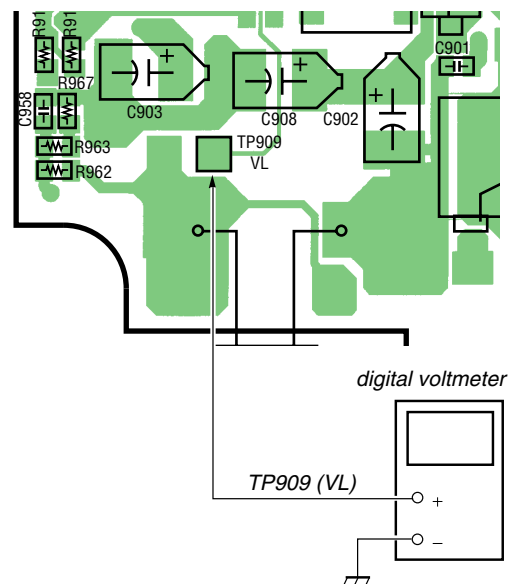
LCD display



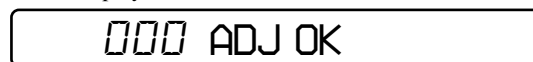
- Connect a digital voltmeter to TP909 (VL) on the main board and adjust key (Voltage up) and key (Voltage down) on the remote control.

Adjustment value:1.75V
Standard value:1.75 to 1.800V

MAIN BOARD (SIDE A)



- Press key to write the adjustment value, LCD display.



- Press the key and return to the test mode. LCD display.

5-5. CHARGE ADJUSTMENTS

Note: Always remove the external batteries before making charging adjustments.

5-5-1. Adjustment sequence

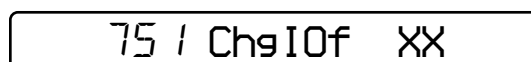
The adjustments should be always performed in the following sequence:

- ① Current amplifier offset adjustment (item No.:751)
- ↓
- ② Change voltage (L) adjustment (item No.:754)
- ↓
- ③ Change voltage (H) adjustment (item No.:755)
- ↓
- ④ Current Amplifier (L) adjustment (item No.:752)
- ↓
- ⑤ Current Amplifier (H) adjustment (item No.:753)

5-5-2. Current amplifier offset adjustment

- The power supply of 3V is supplied to TP965 on the main board.
- Set the Test mode.
- Set the manualmode, item No.will change to 751.

LCD display



- Press key to write the adjustment value.

5-5-3. Vc PWM Duty (L) adjustment method

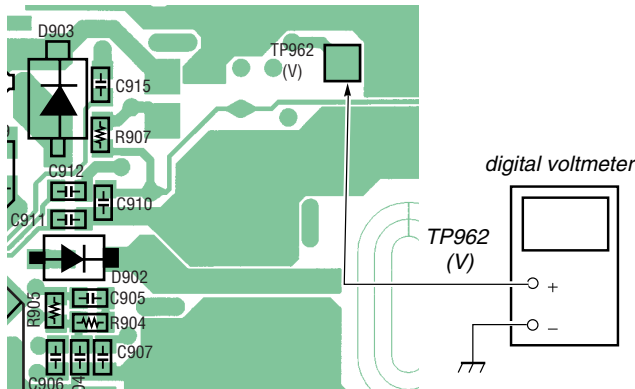
1. Set the Test mode.
2. Set the manual mode, item No. will change to 754.

LCD display



3. Connect a digital voltmeter to TP962 (V) on the main board and adjust **VOL +** (voltage up) key and **VOL -** (voltage down)key on the remote control.
Adjustment value:1.35V
Standard value:1.345 to 1.355V

MAIN BOARD (SIDE A)



4. Press **[-]** key to write the adjustment value.

5-5-4. Charge voltage (H) adjustment method

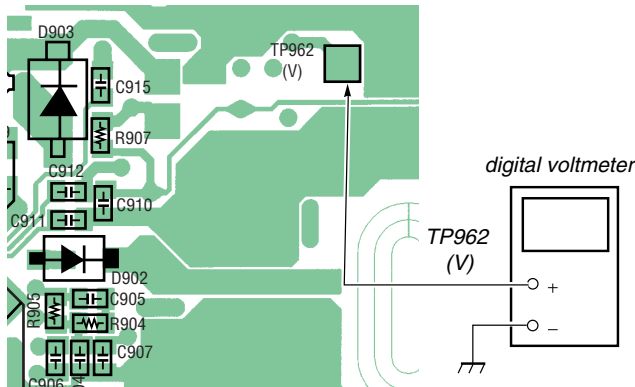
1. Set the Manual mode and set the item No. to 755.

LCD display



2. Connect a digital voltmeter to TP962(V) on the main board and adjust **VOL +** key (Voltage down) and **VOL -** key (Voltage up) on the remote control.
Adjustment value:1.80V
Standard value:1.795 to 1.805V

MAIN BOARD (SIDE A)



3. Press **[-]** key to write the adjustment value.

5-5-5. Current Amplifier (L) adjustment method

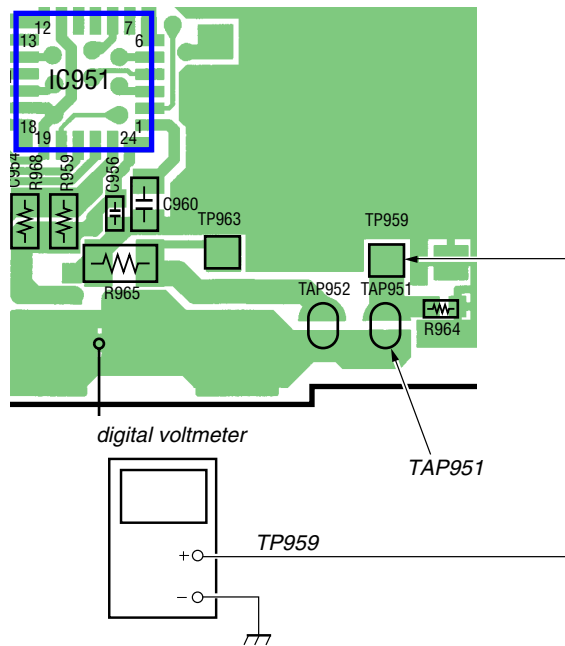
1. Make a solder bridge to short out TAP951 on the main board and turn on the power.
2. Set the test mode.
3. Set the Manual mode and set the item No. to 752.

LCD display



4. Connect a digital voltmeter to TP959 on the main board and adjust **VOL +** key (Voltage up) and **VOL -** key (Voltage down) on the remote control.
Adjustment value:1.41V
Standard value:1.405 to 1.415V

MAIN BOARD (SIDE A)



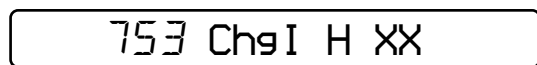
Note: Even when a measurement voltage doesn't make it in the standard value, it surely presses more than once the **VOL +** key or the **VOL -** key.
But, adjustment value is made to protect the inside of the standard range.

5. Press **[-]** key to write the adjustment value.
6. Turn off the power and open the solder bridge on TAP951 on the main board.

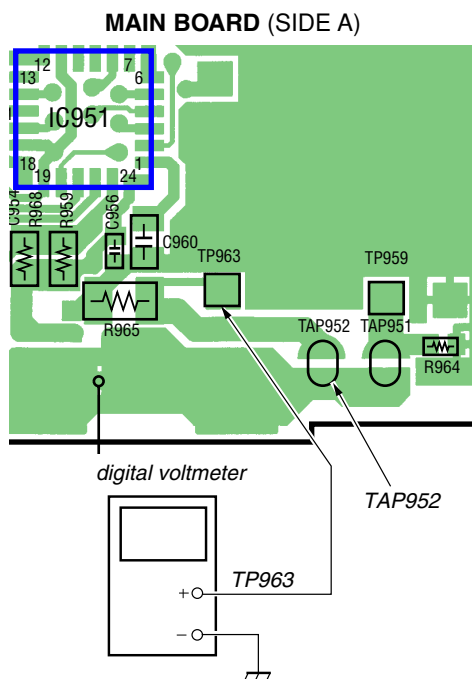
5-5-6. Current Amplifier (H) adjustment method

1. Make a solder bridge to short out TAP952 on the main board and turn on the power.
2. Set the test mode.
3. Set the overall adjustment mode and set the item No. to 753.

LCD display



- Connect a digital voltmeter to TP963 (V) on the main board and adjust **[VOL +]** key (Voltage down) and **[VOL -]** key (Voltage up) on the remote control.
Adjustment value: 1.40V
Standard value: 1.395 to 1.405V



Note: Even when a measurement voltage doesn't make it in the standard value, it surely presses more than once the **[VOL +]** key or the **[VOL -]** key.
But, adjustment value is made to protect the inside of the standard range.

- Press **[] -** key to write the adjustment value.
- Turn off the power and open the solder bridge on the TAP952 on the main board.

5-5-7 Confirm current amplifier offset adjustment value

- Set the Test mode
- See the manual mode, item No. will change to 751. Make a note of adjusted value.
LCD display



Adjusted value

- Press the **[▶▶]** key, item No. will change to 752. Make a note of adjusted value.
LCD display



Adjusted value

- Press the **[▶▶]** key, item No. will change to 753. Make a note of adjusted value.
LCD display



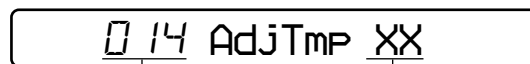
Adjusted value

- It confirms that the adjustment value of each current amplifier adjustment item is (The measurement value of the item number 751) < (The measurement value of the item number 752) < (The measurement value of the item number 753).
If it is not according to condition, the adjustment of 5-5-2 again.

5-6. TEMPERATURE ADJUSTMENT

[Temperature adjustment method]

- Set in Test mode.
- Set in Manual mode and set the item number 014.
LCD display



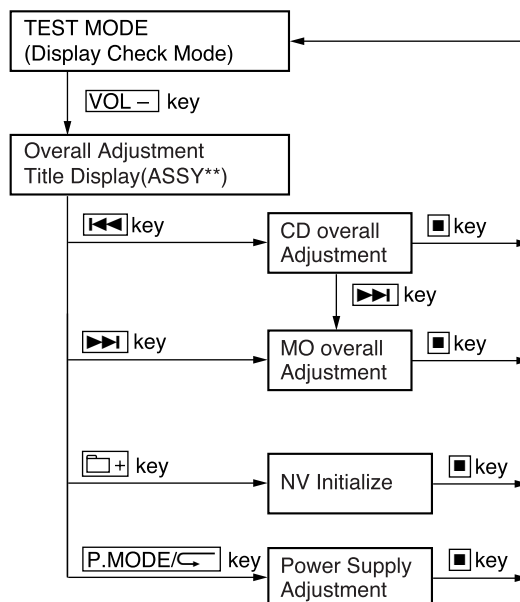
Item No.

Adjustment setting

- Measure the temperature.
- Adjust with the remote control **[VOL +]** and **[VOL -]** keys so that the temperature value is at room temperature.
Reset value: 19h = 25 °C
Adjustment range: 80h to 7Fh = -128 °C to +127 °C
- Press the **[] -** key and write in the adjustment value.

5-7. OVERALL ADJUSTMENT MODE

5-7-1. Overall adjustment mode structure



Note: The overall adjustments should be always performed in the sequence of CD → MO adjustments.

5-7-2. Total Adjust mode title display

Switching to Total Adjust Mode sets the following All Adjust mode title display on the LCD.

LCD display



○ : Disk mark (outer) lights up when power adjustment is complete.

** : Left side is MO alignment information

F* : MO total alignment is complete

1* : Manual alignment (not part of total adjustment)

0* : Not adjusted

Right side is CD alignment information

F* : CD total alignment is complete

1* : Manual alignment (not part of total adjustment)

0* : Not adjusted

5-7-3. Overall CD and MO adjustment method

1. Set the TEST MODE and press **[VOL-]** key to set the Overall Adjustment mode.

LCD display



2. Insert CD disc in the set, and press **[◀▶]** key to set the Overall CD Adjustment mode.

Automatic adjustments are made.

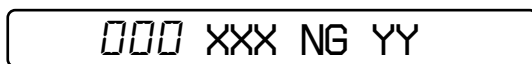
LCD display



XXX: Item No. for which an adjustment is being executed.

3. If NG in the overall CD adjustments, return to Reset NV and perform from the overall CD adjustment again.

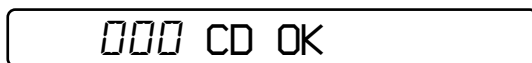
LCD display



XXX: NG item No.
YY: adjusted valve.

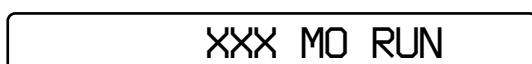
4. If OK through the overall CD adjustments, then perform overall MO adjustments.

LCD display



5. Insert MO disc in the set, and press **[▶▶]** key to set the Overall MO Adjustment mode. Automatic adjustments are made.

LCD display

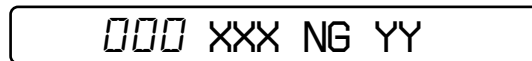


XXX: Item No. for which an adjustment is being executed.

6. If NG in the overall MO adjustments, return to NV initial and

perform from the overall CD adjustments again.

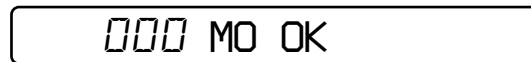
LCD display



XXX: NG item No.
YY: adjusted valve.

7. If OK through the overall MO adjustments, press **[■]** key to return to the test mode.

LCD display



5-7-4. Resume clear method

1. Setting the testmode.
2. Set the Manual mode and set the item No.043(RESUME Clear).

LCD display



3. Press the **[□-]** key.

LCD display



After reset is completed

LCD display



5-7-5. Overall CD and MO adjustment items

1. Overall CD adjustment items

Item No.	Contents
312	ALFA offset adjustment
313	IJ offset adjustment
314	FE offset adjustment
320	Focus servo ON
324	TE offset adjustment
321	TE gain adjustment
328	TWPP gain adjustment
824	twpp-gain[H]+4 → twpp-gain[L]
324	TE offset adjustment
330	Tracking servo ON
336	ABCD gain adjustment
337	KF gain adjustment
338	RF gain adjustment
344	CD focus gain adjustment
345	CD tracking gain adjustment
521	CD two-axis sensitivity adjustment (inside)
522	CD two-axis sensitivity adjustment (outside)

2. Overall MO adjustment items

Item No.	Contents
112	ALFA offset adjustment
113	IJ offset adjustment
114	FE offset adjustment
118	AW DW OFFSET
224	TE offset adjustment
221	TE gain adjustment
224	TE offset adjustment
236	ABCD gain adjustment
237	KF gain adjustment
238	RF gain adjustment
244	Focus gain adjustment
245	Tracking gain adjustment
120	Focus servo ON
122	TE offset adjustment (TON)
121	TE gain adjustment
122	TE offset adjustment (TON)
123	TE offset adjustment (TEIN)
124	TE offset adjustment (TWPP)
130	Tracking servo ON
131	TE offset adjustment (TWPP/RF)
136	ABCD gain adjustment
137	KF gain adjustment
144	FCS gain adjustment
145	Tracking gain adjustment
139	BPF fo adjustment
134	TWPP gain adjustment
131	TE offset adjustment (TWPP/RF)
132	TE offset adjustment (TWPP/DSP)
35	GOD offset correction.

5-8. REWEITING BATCH DATA AFTER REPLACING THE NONVOLATILE MEMORY

Rewrite the program correction data after replacing the nonvolatile memory.

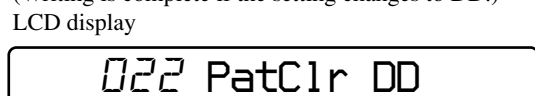
5-8-1 Method for rewriting the corrected data
(when using Version 1.000)

1. Set in Test mode.
2. Set in Manual mode and enter the item number 022.

LCD display



3. Press the key to reset the batch data.
(Writing is complete if the setting changes to DD.)



4. Press the key and enter the item number 023.



5. Press the key and set the adjustment setting to 01.



6. Press the key.

LCD display



This section (address) flashes.

7. Press the key.

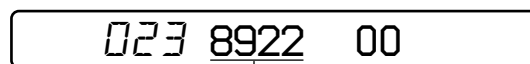
(The data section flashes.)

8. Press the and keys and set the adjustment data while referring to the batch data list.

9. Press the key and the address section flashes.

10. Press the keys and set the address value in the next address for adjustment.

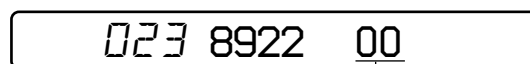
LCD display



This section (address) flashes.

11. Press the key.

LCD display



This section (data) flashes.

12. While referring to the batch data table repeat the data correction write procedure from steps 8 through 11 until the address 899E is set.

13. Press the key.

(The address value flashes.)

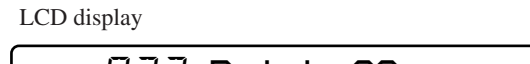
14. Press the key to quit the batch data write mode.

LCD display

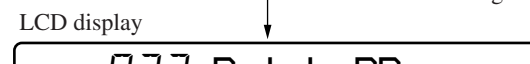


15. Press the key.

LCD display



After finished writing data.



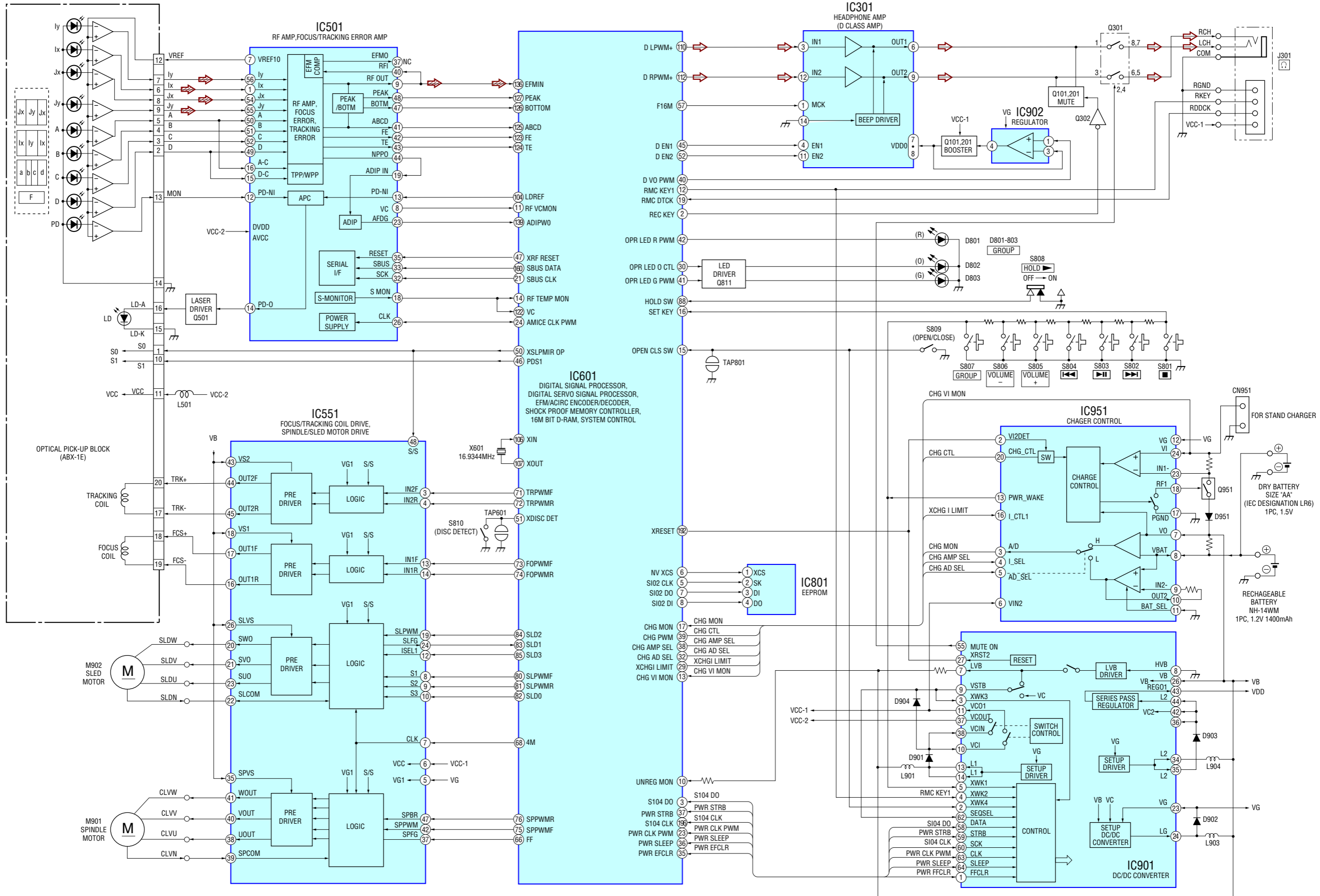
16. Turn off the power.

Version 1.000	
Address	Data
8921	02
8922	55
8923	ED
8924	02
8925	06
8926	A9
8928	02
8929	91
892A	EE
892B	02
892C	06
892D	B3
8931	03
8932	2A
8933	FD
8934	01
8935	12
8936	06
8937	BD
8938	02
8939	15
893A	95
893B	02
893C	0A
893D	66
8941	81
8942	B2
8943	81
8944	BE
8945	81
8946	C8
8947	90
8948	87
8949	94
894A	E0
894B	44
894C	10
894D	F0
894E	90
8951	87
8952	75
8953	E0
8954	22
8955	90
8956	82
8957	D6
8958	F0
8959	E4
895A	90
895B	87
895C	75
895D	F0


Address	Data
895E	22
8961	C0
8962	E0
8963	12
8964	20
8965	7D
8966	8C
8967	E3
8968	03
8969	E5
896A	81
896B	C3
896C	94
896D	05
896E	F8
8971	76
8972	2E
8973	08
8974	76
8975	FD
8976	D0
8977	E0
8978	B4
8979	02
897A	02
897B	D3
897C	22
897D	C3
897E	22
8981	6C
8982	05
8983	0A
899E	01

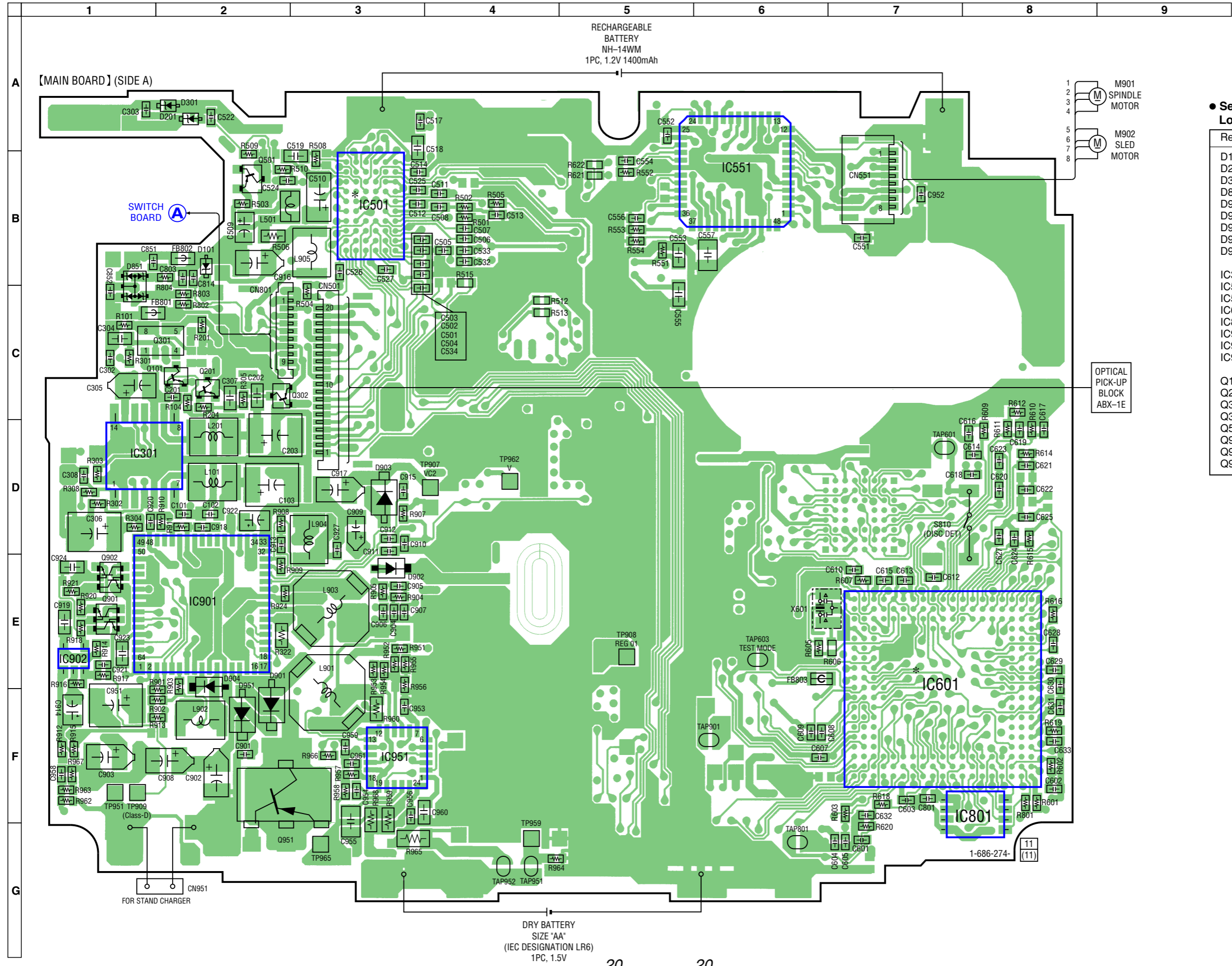
SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM



• Signal path.
 ⇨ : Analog
 ⇨ : Digital

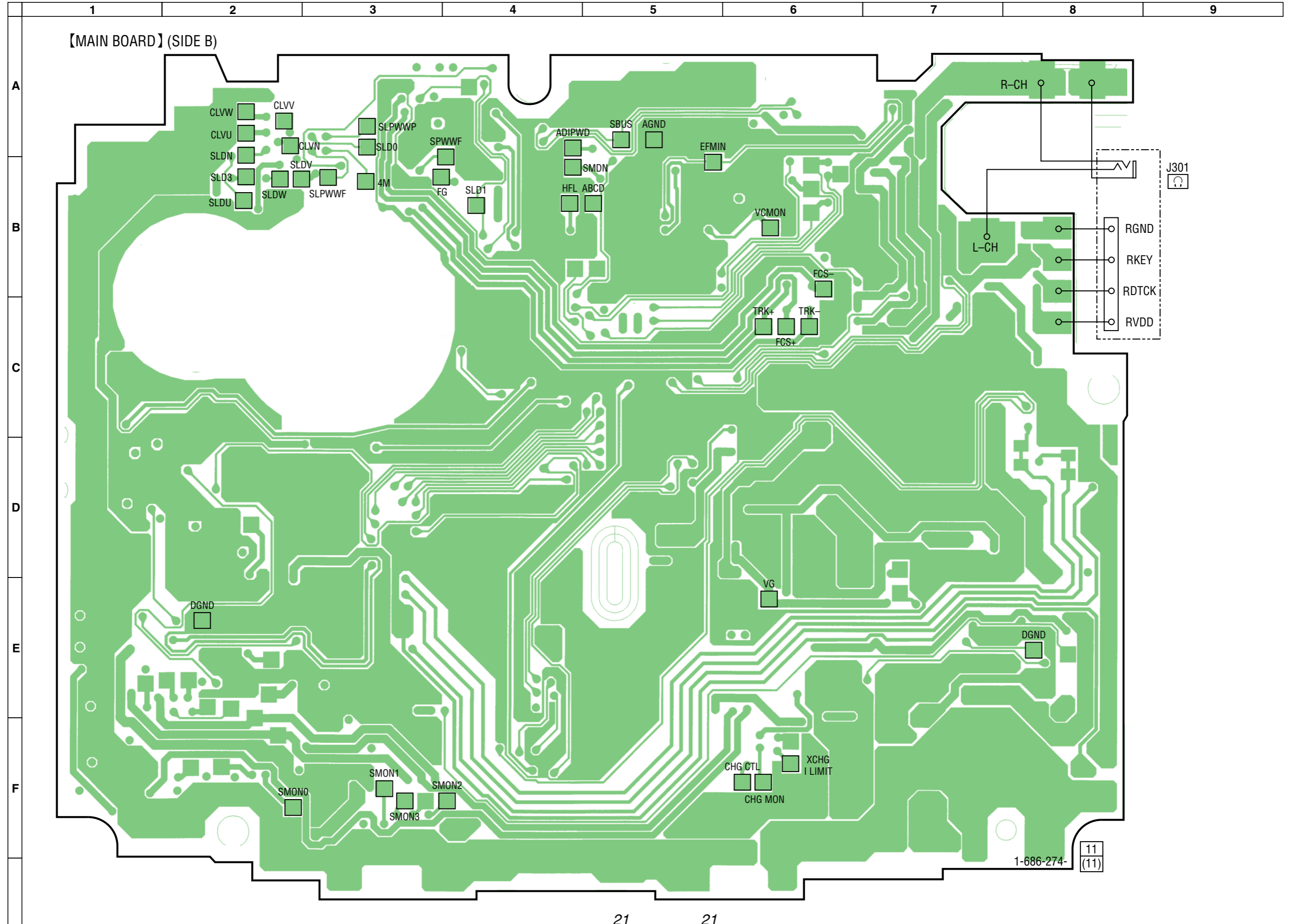
6-2. PRINTED WIRING BOARDS – MAIN SECTION (SIDE A) –  : Uses unleaded solder. ● See page 26 for Notes.



● Semiconductor Location


Ref. No.	Location
D101	B-2
D201	A-2
D301	A-2
D851	B-1
D901	F-2
D902	E-2
D903	D-3
D904	E-2
D951	F-2
IC301	D-1
IC501	B-3
IC551	B-6
IC601	F-7
IC801	F-8
IC901	E-2
IC902	E-1
IC951	F-3
Q101	C-2
Q201	C-2
Q301	C-2
Q302	C-2
Q501	B-2
Q901	E-1
Q902	E-1
Q951	F-2

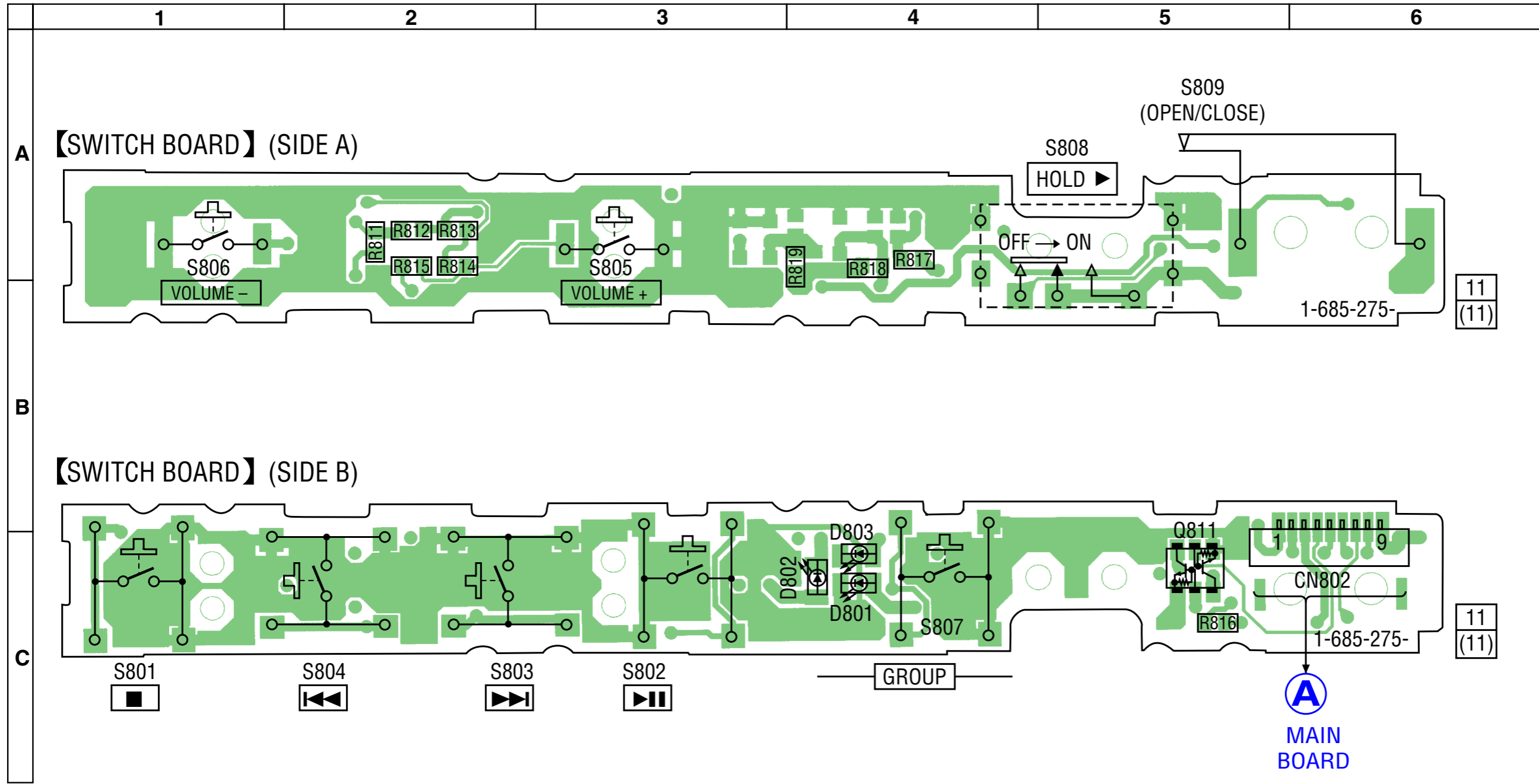
- MAIN SECTION (SIDE B) -  : Uses unleaded solder. • See page 26 for Notes.



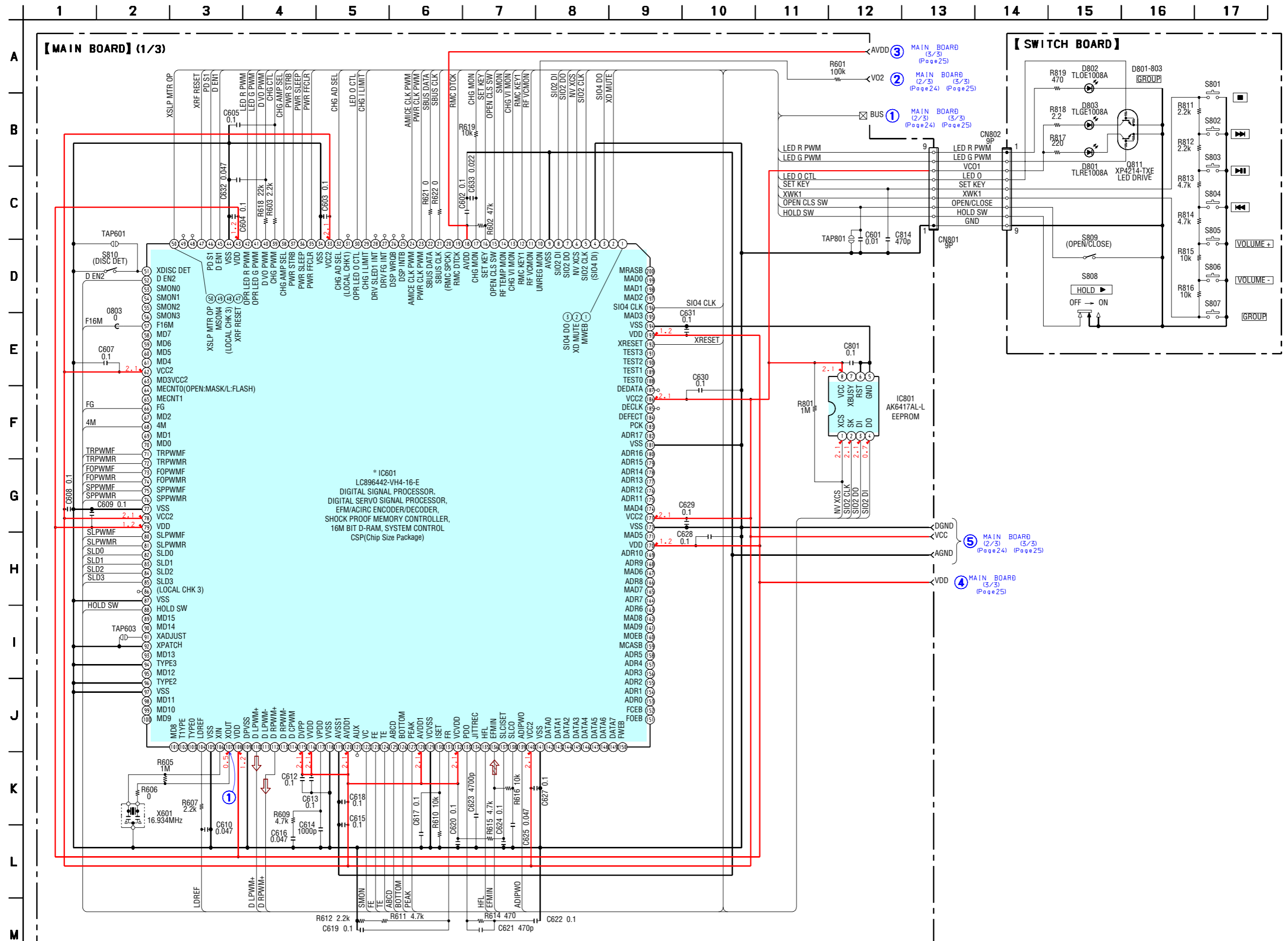
1-686-274-

11
(11)

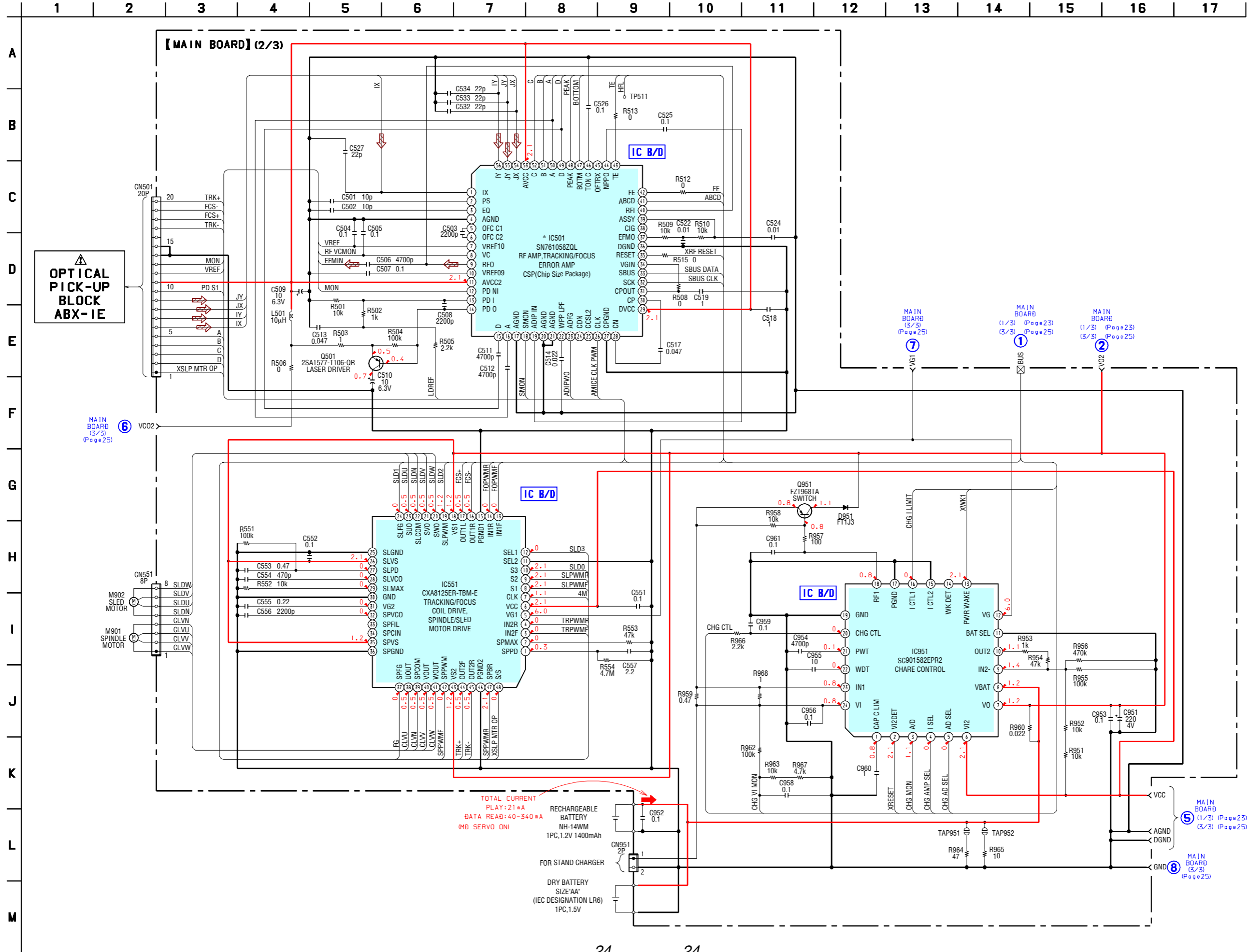
6-3. PRINTED WIRING BOARDS – SWITCH SECTION –  : Uses unleaded solder. • See page 26 for Notes.



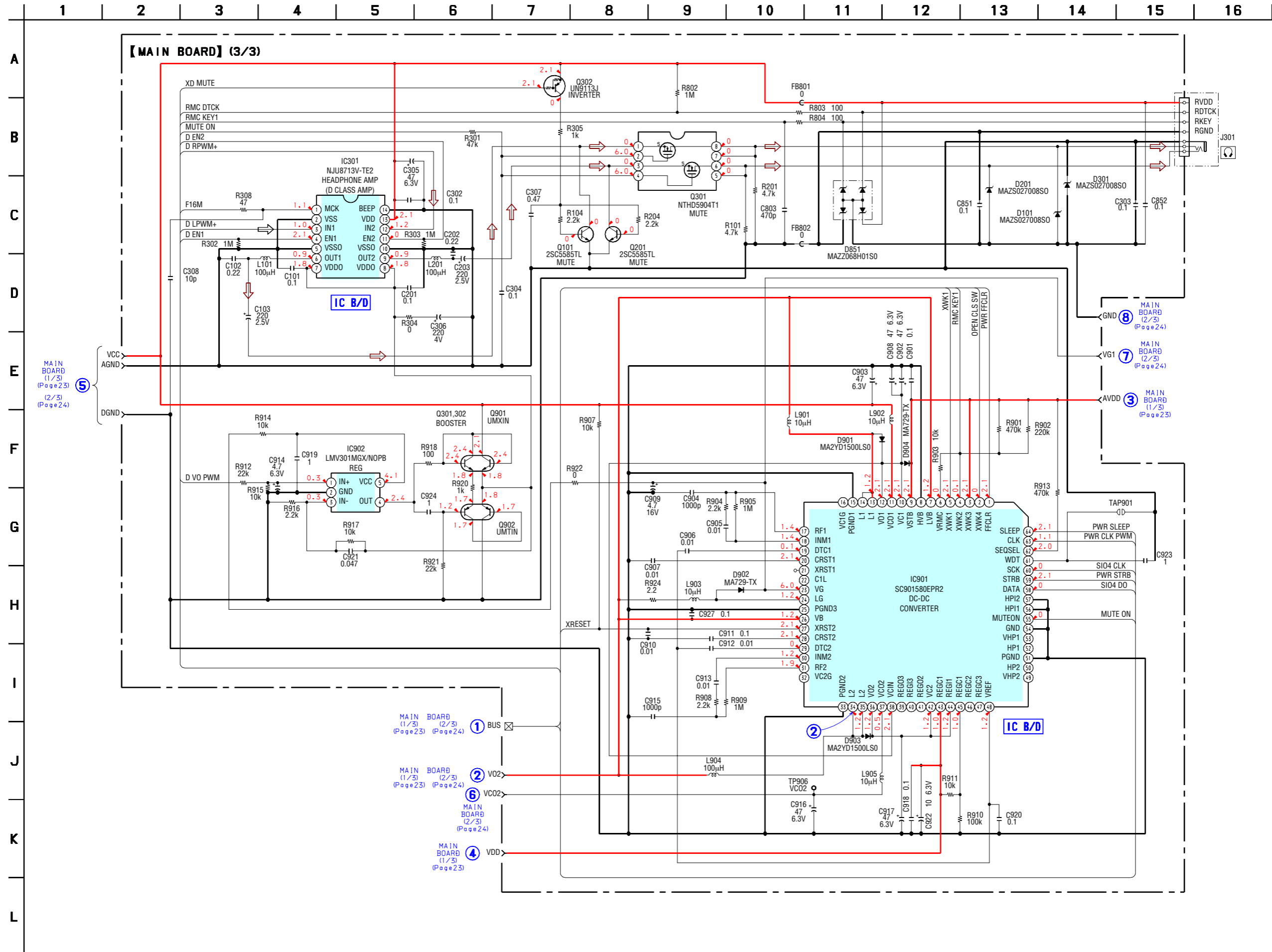
6-4. SCHEMATIC DIAGRAM – MAIN SECTION (1/3) – See page 26 for Notes. See page 24 for IC Pin Function Description.



6-5. SCHEMATIC DIAGRAM – MAIN SECTION (2/3) – See page 26 for Notes.



6-6. SCHEMATIC DIAGRAM – MAIN SECTION (3/3) – See page 26 for Notes.



MZ-E710

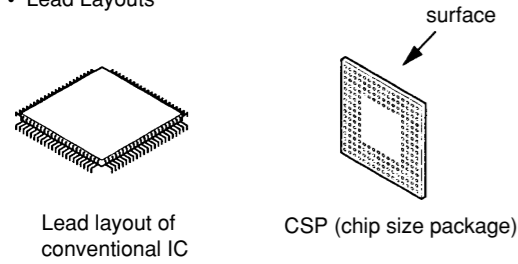
Note on Printed Wiring Boards

- : parts extracted from the component side.
- : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

Caution:
 Pattern face side: Parts on the pattern face side seen from the (Side B) pattern face are indicated.
 Parts face side: Parts on the parts face side seen from the (Side A) parts face are indicated.

- Main boards is four-layer printed board. However, the patterns of layer 2 and 3 have not been included in this diagrams.
- Replacement of IC501 and IC601 used in this set requires a special tool.

Lead Layouts



Note on Schematic Diagram

- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- Δ : internal component.

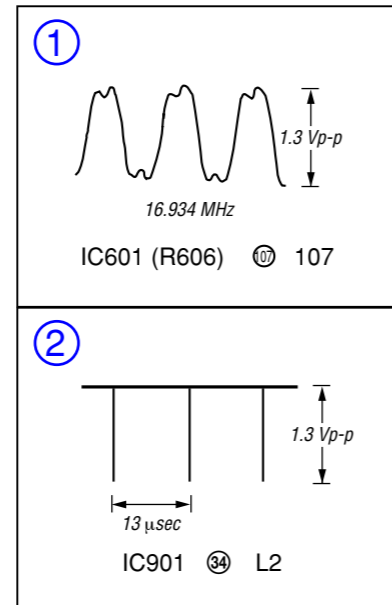
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- : B+ Line.
- Power voltage is dc 1.5V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- no mark : PLAY
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- ⇒ : Analog
- ⇒ : Digital

* Replacement of IC501 and IC601 used in this set requires a special tool.

- The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different form that of conventional IC.

● WAVEFORMS



6-7. IC PIN FUNCTION DESCRIPTION

- IC601 LC-896442-VH4-16-E (DIGITAL SIGNAL PROCESSOR, DIGITAL SERVO SIGNAL PROCESSOR, EFM/ACIRC ENCODER/DECODER, SHOCK PROOF MEMORY CONTROLLER, 16M BIT D-RAM, SYSTEM CONTROL) (MAIN BOARD)

Pin No.	Pin Name	I/O	Description
1	MWEB	-	Not used (open)
2	XD_MUTE	O	Mute signal output to Headphone
3	SIO4 DO	O	Serial data output to DC-DC convertor (SC901580EPR2)
4	(SIO4 DI)	I	Not used (Connected to ground)
5	SIO2 CLK	O	Serial clock output to EEPROM
6	NV_XCS	O	Chip select signal output to EEPROM
7	SIO2 DO	O	Serial data output to EEPROM
8	SIO2 DI	I	Serial data input from EEPROM
9	AVSS	-	Ground
10	UNREG MON	I	UNREG voltage monitor input
11	RF_VCMON	I	Reference voltage (VC) input from RF AMP (SN761058ZQL)
12	RMC_KEY1	I	Remoto control key signal input
13	CHG_VI_MON	I	AC adapter voltage input
14	RF_TMP_MON	I	signal monitor input
15	OPEN_CLS_SW	I	Cassette lid open/close signal input
16	SET_KEY	I	Key signal input
17	CHG_MON	I	Battery charge ΔV detect and charge current monitor input
18	AVDD	-	Power supply
19	RMC_DTCK	I/O	Serial data input/output
20	(RMC_SPCK)	-	Not used (open)
21	SBUS_CLK	O	Serial clock output to RF AMP (SN761058ZQL)
22	SBUS_DATA	I/O	Serial data input/output to RF AMP (SN761058ZQL)
23	PWR_CLK_PWM	O	Clock output to DC-DC converter (SC901580EPR2)
24	AMICE_CLK_PWM	O	PWM signal output to RF AMP (SN761058ZQL)
25	DSP_INTB	-	Not used (open)
26	DSP_WRQB	-	Not used (open)
27	DRV_FG_INT	-	Not used (open)
28	DRV_SLEDI_INT	-	Not used (open)
29	XCHG_I_LIMIT	O	Limit charge current control signal
30	OPR_LED_O_CTL	O	LED (orange) control signal output
31	(LOCAL_CHK1)	-	Not used (open)
32	CHG_AD_SEL	O	Monitor control of charge A/D signal
33	VCC2	-	Power supply
34	VSS	-	Ground
35	PWR_FFCLR	O	Latch and clear signal output to DC/DC converter (SC91580EPR2)
36	PWR_SLEEP	O	Sleep signal output to DC/DC converter (SC91580EPR2)
37	PWR_STRB	O	Strobe signal output to DC/DC converter (SC91580EPR2)
38	CHG_AMP_SEL	O	Select signal output of charge control
39	CHG_PWM	O	Charge control PWM signal output
40	D_VO_PWM	O	Power supply control PWM signal output of Headphone AMP (NJU8713V-TE2)
41	OPR_LED_G_PWM	O	LED (green) control signal output
42	OPR_LED_R_PWM	O	LED (red) control signal output
43	VDD	-	Power supply
44	VSS	-	Ground
45	D_EN1	O	Drive control signal output to Headphone AMP (NJU-8713V-TE2)
46	PD_S1	O	PD-IC mode select signal output to optical pick-up
47	XRF_RESET	O	Reset signal output to RF AMP (SN761058ZQL)
48	(LOCAL_CHK2)	-	Not used (open)
49	SMON4	-	Not used (open)

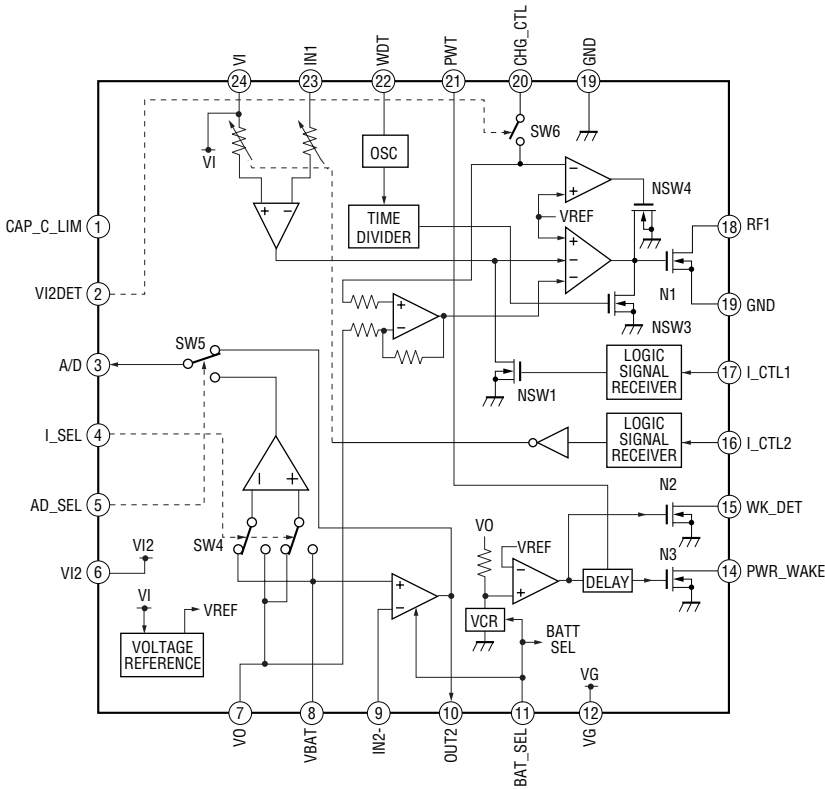
Pin No.	Pin Name	I/O	Description
50	XSLP MTR OP	O	Start/stop signal output to motor drive (CXA8125ER-TBM-E)
51	XDISC DET	I	Not used (connected to ground)
52	D_EN2	O	Drive control signal output to Headphone AMP (NJU-8713V-TE2)
53 to 56	SMON 0 to 3	-	Not used (open)
57	F16M	O	Clock (16.9344MHz) output to Headphone AMP (NJU-8713V-TE2)
58 to 61	MD 7 to 4	-	Not used (open)
62	VCC2	-	Power supply
63	MD3	-	Not used (open)
64	MECNT0	I	Not used (open)
65	MECNT1	-	Not used (open)
66	FG	I	Spindle FG signal input from motor drive (CXA8125ER-TBM-E)
67	MD2	-	Not used (open)
68	4M	O	Clock output to motor drive (CXA8125ER-TBM-E)
69	MD1	-	Not used (open)
70	MD0	-	Not used (open)
71	TRPWMF	O	Tracking PWM signal output to motor drive (CXA8125ER-TBM-E)
72	TRPWMR	O	Tracking PWM signal output to motor drive (CXA8125ER-TBM-E)
73	FOPWMF	O	Focus PWM signal output to motor drive (CXA8125ER-TBM-E)
74	FOPWMR	O	Focus PWM signal output to motor drive (CXA8125ER-TBM-E)
75	SPPWMF	O	Spindle PWM signal output to motor drive (CXA8125ER-TBM-E)
76	SPPWMR	O	Spindle PWM signal output to motor drive (CXA8125ER-TBM-E)
77	VSS	-	Ground
78	VCC2	-	Power supply
79	VDD	-	Power supply
80	SLPWMF	O	Sled PWM signal output to motor drive (CXA8125ER-TBM-E)
81	SLPWMR	O	Sled PWM signal output to motor drive (CXA8125ER-TBM-E)
82	SLD0	O	Sled stepping control signal output to motor drive (CXA8125ER-TBM-E)
83	SLD1	I	Sled FG signal input from motor drive (CXA8125ER-TBM-E)
84	SLD2	O	Sled control signal output to motor drive (CXA8125ER-TBM-E)
85	SLD3	O	Stepping /DC change signal output to motor drive (CXA8125ER-TBM-E)
86	(LOCAL CHK3)	-	Not used (open)
87	VSS	-	Ground
88	HOLD SW	I	HOLD switch signal input
89	MD15	-	Not used
90	MD14	-	Not used
91	XADJUST	I	Test mode set input
92	XPATCH	I	Not used (connected to ground)
93	MD13	-	Not used (open)
94	TYPE3	I	Not used (connected to ground)
95	MD12	-	Not used (open)
96	TYPE2	I	Not used (connected to ground)
97	VSS	-	Ground
98 to 101	MD11 to 8	-	Not used (open)
102	TYPE1	I	Not used (connected to ground)
103	TYPE0	I	Not used (open)
104	LDREF	O	Laser control signal output to RF AMP (SN761058ZQL)
105	VSS	-	Ground
106	XIN	I	System clock input (16.9344MHz)
107	XOUT	O	System clock output (16.9344MHz)
108	VDD	-	Power supply
109	DPVSS	-	Ground

Pin No.	Pin Name	I/O	Description
110	D LPWM+	O	L-CH audio signal output
111	D PWM-	O	Not used (open)
112	D RPWM+	O	R-CH audio signal output
113	D RPWM-	O	Not used (open)
114	D CPWM	O	Not used (open)
115	DPVDD	-	Power supply
116	VVDD	-	Power supply
117	VPDO	O	Not used
118	VVSS	-	Ground
119	AVSS1	-	Ground
120	AVDD1	-	Power supply
121	AUX	I	Not used
122	VC	I	VC monitor input to RF AMP (SN761058ZQL)
123	FE	I	FE signal input to RF AMP (SN761058ZQL)
124	TE	I	TE signal input to RF AMP (SN761058ZQL)
125	ABCD	I	ABCD signal input to RF AMP (SN761068)
126	BOTTOM	I	RF/ABCD bottom hold signal to RF AMP (SN761058ZQL)
127	PEAK	I	RF/ABCD peak hold signal to RF AMP (SN761058ZQL)
128	AVDD	-	Power supply
129	VC VSS	-	Ground
130	ISET	I	Bias resistor connect terminal of charge pump
131	FR	I	Bias resistor connect terminal of oscillator
132	VC VDD	-	Power supply
133	PDO	O	Charge pump (VCEC) output
134	JITTERC	O	Capacitor connect terminal of jitter measurement
135	HFL	I	Track detect signal input from RF AMP (SN761058ZQL)
136	EFMIN	I	EFM signal input from RF AMP (SN761058ZQL)
137	SLCISSET	O	Bias resistor connect terminal of slice level amplifier
138	SLCO	O	Slice level of EFM signal output
139	ADIPWO	I	ADIP signal input from RF AMP (SN761058ZQL)
140	VCC2	-	Power supply
141	VSS	-	Ground
142 to 149	DATA0 to 7	I/O	Not used
150	FWEB	-	Not used
151	FOEB	-	Not used
152	FCEB	-	Not used
153 to 158	ADR 0 to 5	-	Not used
159	MCASB	-	Not used
160	MOEB	-	Not used
161	MAD9	-	Not used
162	MAD8	-	Not used
163	ADR6	-	Not used
164	ADR7	-	Not used
165	MAD7	-	Not used
166	MDR8	-	Not used
167	MAD6	-	Not used
168	ADR9	-	Not used
169	ADR10	-	Not used
170	VDD	-	Power supply
171	MAD5	-	Not used
172	VSS	-	Ground

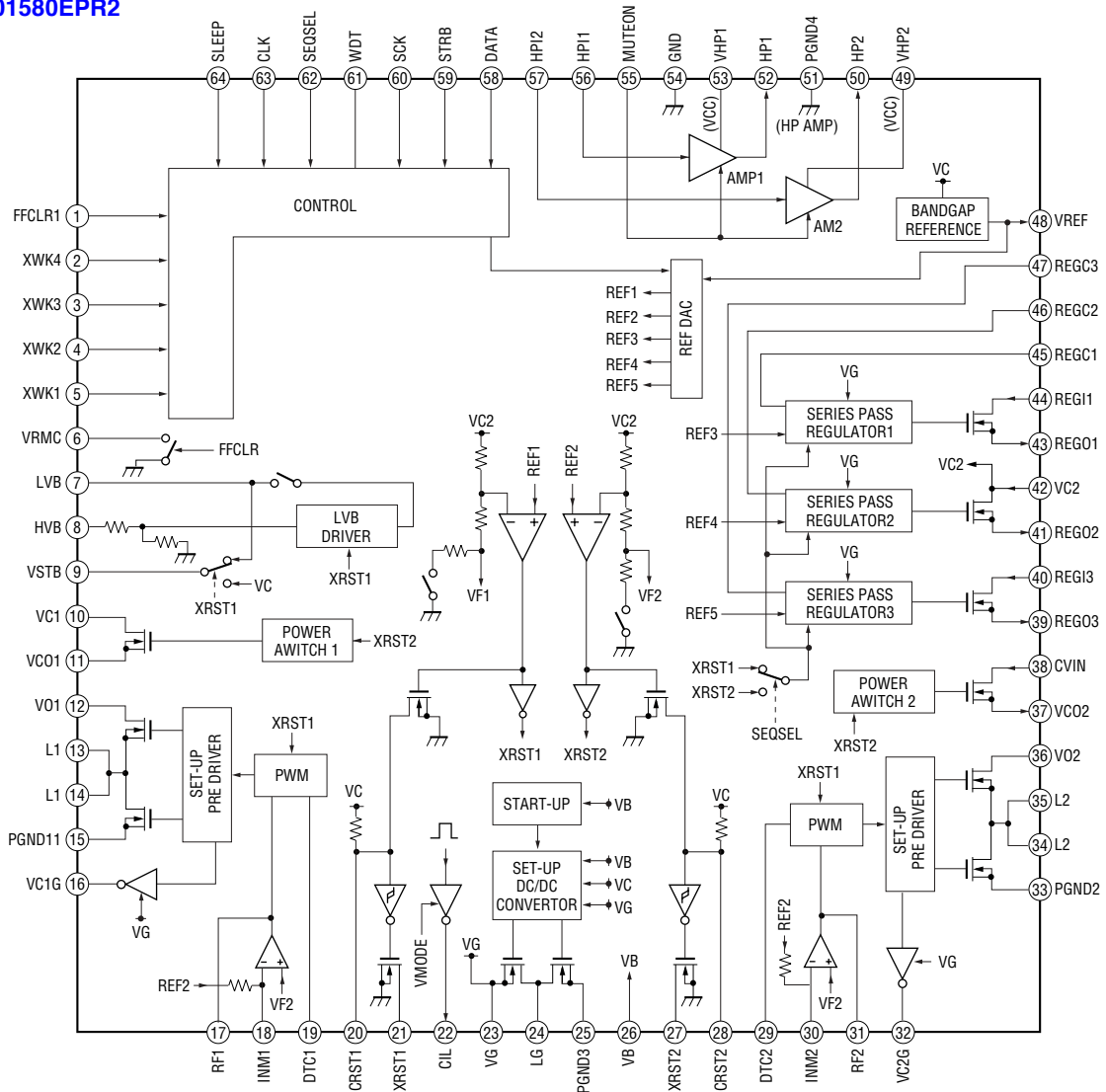
Pin No.	Pin Name	I/O	Description
173	VCC2	–	Power supply
174	MAD4	–	Not used
175 to 180	ADR11 to 16	–	Not used
181	VSS	–	Ground
182	ADR17	–	Not used
183	PCK	–	Not used (open)
184	DEFECT	–	Not used (open)
185	DECLK	–	Not used (open)
186	VCC2	–	Ground
187	DEDATA	–	Not used (open)
188 to 191	TEST0 to 3	I	Not used (open)
192	XRESET	I	System reset signal input
193	VDD	–	Power supply
194	VSS	–	Ground
195	MAD3	–	Not used
196	SIO4 CLK	O	System clock output to DC/DC converter (SC901580EPR2)
197	MAD2	–	Not used (open)
198	MAD1	–	Not used (open)
199	MAD0	–	Not used (open)
200	MRASB	–	Not used (open)

6-8. IC BLOCK DIAGRAMS

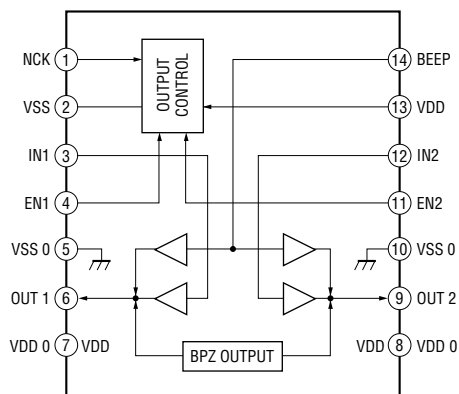
IC951 SC901582EPR2



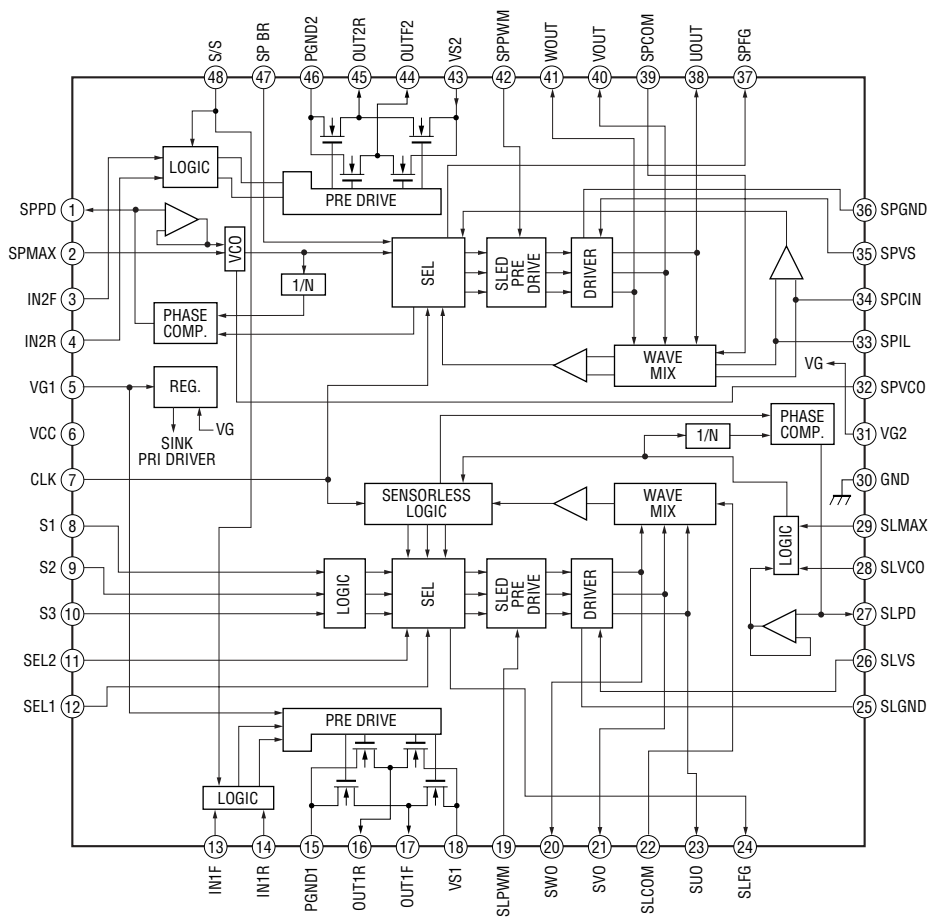
IC901 SC901580EPR2



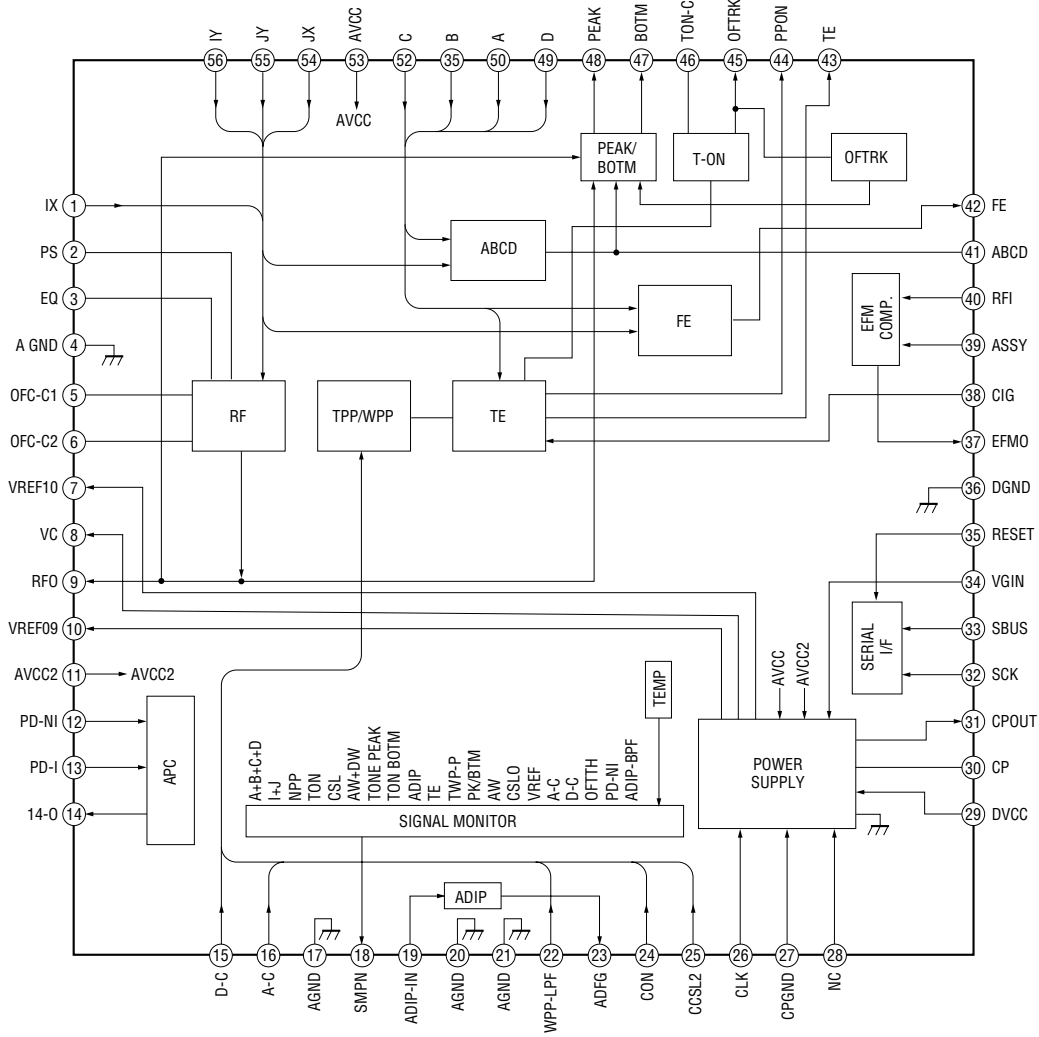
IC301 NJU8713V-TE2



IC551 CXA8125ER-TBM-E



IC501 SN761058ZQL



SECTION 7 EXPLODED VIEWS

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.

- Color indication of Appearance Parts
Example :
KNOB, BALANCE (WHITE) ... (RED)

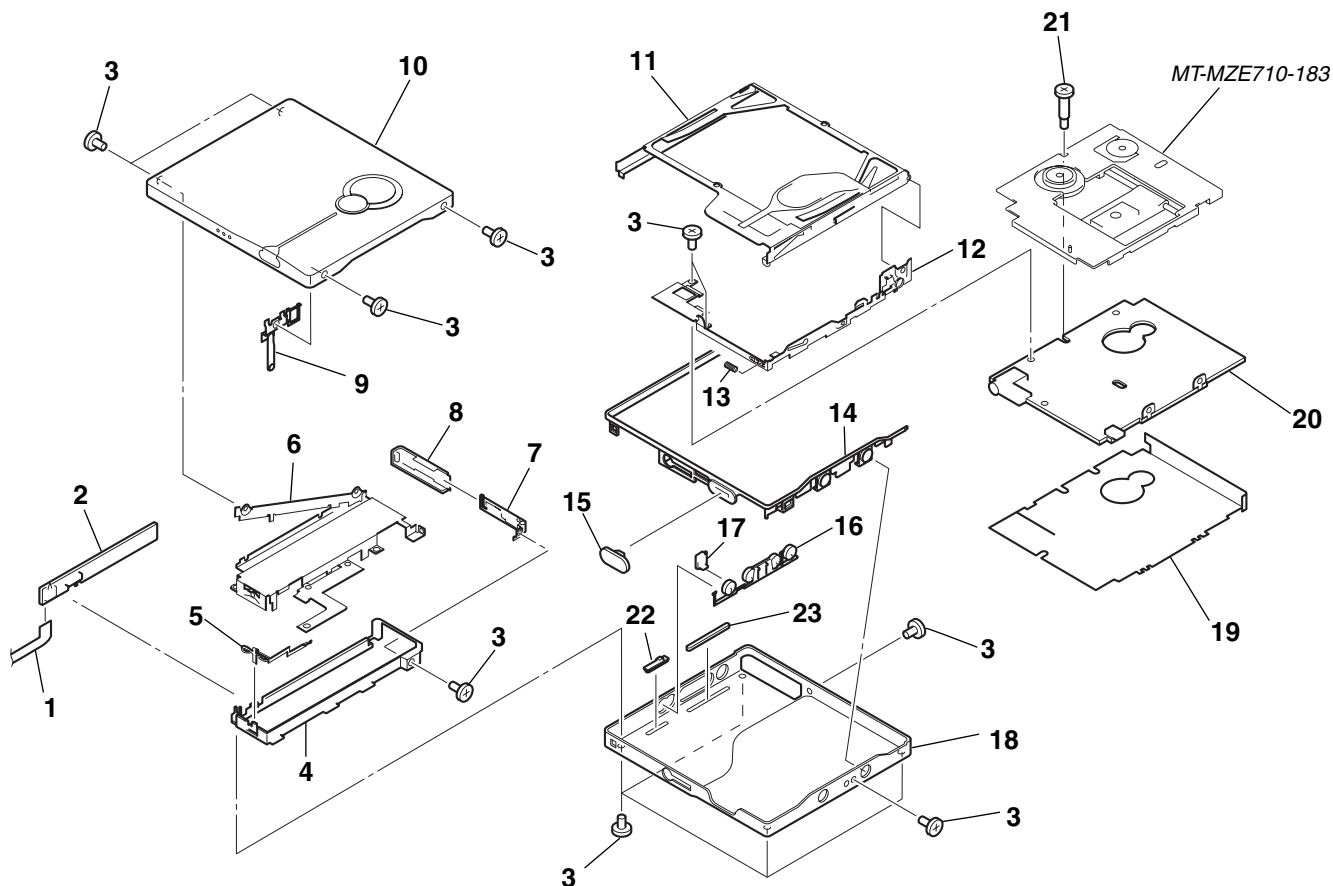
↑ ↑
 Parts color Cabinet's color

- 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.
- Hardware (# mark) list and accessories are given in the last of this parts list.
- Abbreviation
HK : Hong Kong
JEW : Tourist

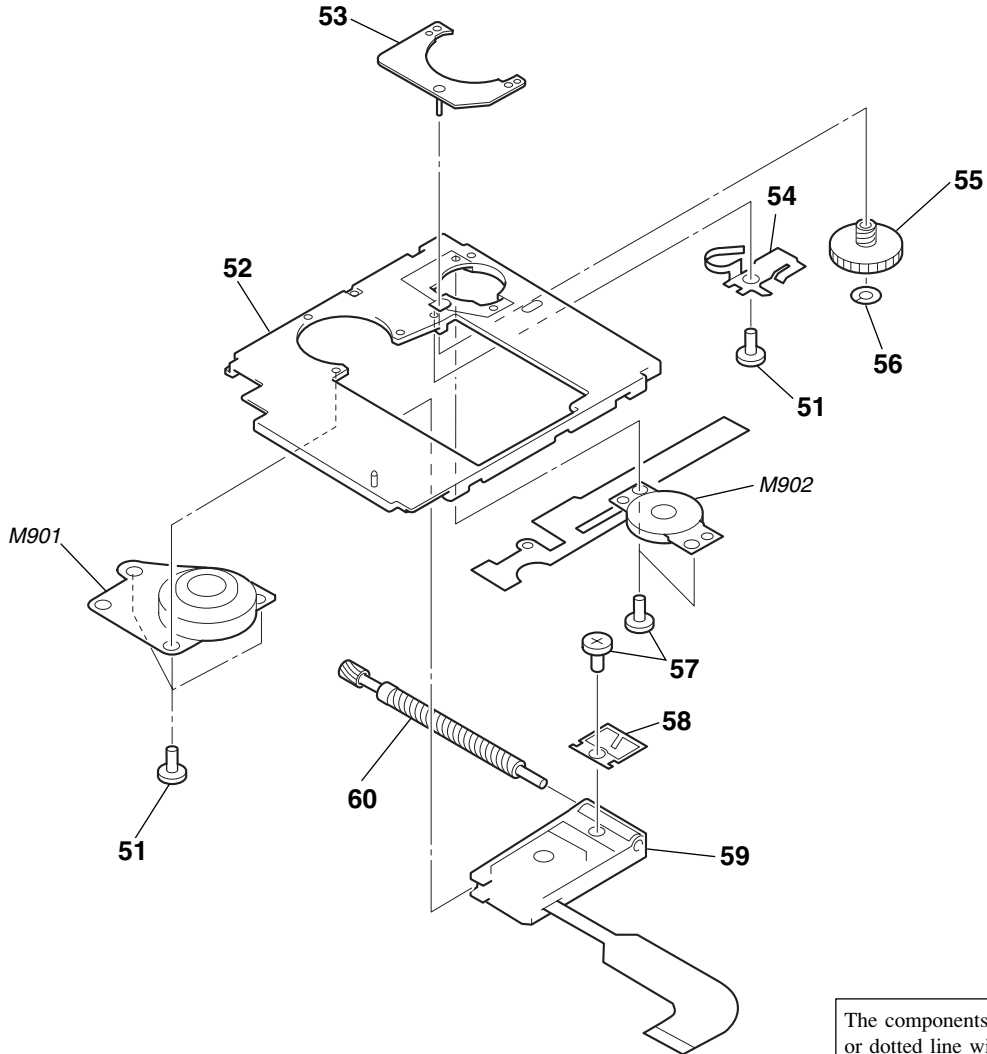
The components identified by mark \triangle or dotted line with mark \triangle are critical for safety.
Replace only with part number specified.

7-1. MAIN SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	1-686-276-11	SWITCH FLEXIBLE BOARD		14	3-246-186-01	STRIP, ORNAMENTAL (SILVER)	
* 2	A-3178-946-A	SWITCH BOARD, COMPLETE		14	3-246-186-11	STRIP, ORNAMENTAL (BLUE)	
3	3-234-449-11	SCREW (M1.4)		15	3-246-187-01	KNOB (OPEN)	
4	3-246-189-01	CASE, BATTERY		16	3-246-183-01	BUTTON (CONTROL)	
5	3-246-198-01	BOARD (MINUS), TERMINAL					
6	X-3382-615-1	BRACKET (L) ASSY		17	3-246-182-01	WINDOW (LED)	
7	X-3382-618-1	TERMINAL (PLUS) ASSY, BATTERY		18	3-246-181-41	PANEL, BOTTOM (SILVER) (JEW)	
8	3-246-185-01	LID, BATTERY CASE (SILVER)		18	3-246-181-51	PANEL, BOTTOM (BLUE) (JEW)	
8	3-246-185-11	LID, BATTERY CASE (BLUE)		18	3-246-181-61	PANEL, BOTTOM (SILVER) (HK)	
9	X-3382-617-1	BRACKET (STOP) ASSY		18	3-246-181-71	PANEL, BOTTOM (BLUE) (HK)	
10	X-3382-729-1	UPPER ASSY (S) (SILVER)		19	3-246-184-01	SHEET (INSULATED)	
10	X-3382-730-1	UPPER ASSY (L) (BLUE)		* 20	A-3178-944-A	MAIN BOARD ASSY	
11	X-3382-614-1	HOLDER ASSY (S) (SILVER)		21	3-246-203-11	SCREW, STEP	
11	X-3382-736-1	HOLDER ASSY (L) (BLUE)		22	3-222-249-01	KNOB (HOLD) (SILVER)	
12	X-3382-616-1	BRACKET (R) ASSY		22	3-222-249-71	KNOB (HOLD) (BLUE)	
13	3-238-834-01	SPRING (OPEN), COMPRESSION		23	3-234-182-41	KNOB (VOL) (SILVER)	
				23	3-234-182-31	KNOB (VOL) (BLUE)	

7-2. MECHANISM DECK SECTION
(MT-MZE710-183)



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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-225-278-02	SCREW, TAPPING		57	3-225-996-17	SCREW (M1.4)(EG),PRECISION PAN	
* 52	3-244-865-01	CHASSIS		58	3-244-879-01	SPRING, RACK	
53	X-3382-399-1	BASE ASSY, MOTOR		Δ 59	X-3383-262-1	OPTICAL PICK-UP ASSY (ABX-1E)	
54	3-244-880-01	SPRING, THRUST DETENT		60	A-3174-607-A	SCREW BLOCK ASSY, LEAD	
55	3-244-868-01	GEAR (SSA)		M901	8-835-782-01	MOTOR, DC SSM18D (SPINDLE)	
56	3-338-645-31	WASHER (0.8-2.5)		M902	8-835-784-01	MOTOR, DC SSM22B (SLED)	

SECTION 8 ELECTRICAL PARTS LIST

MAIN

NOTE :

- 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.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE :Metal oxide-film resistor
F : nonflammable
- Items marked “ * ”are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- SEMICONDUCTORS
In each case, u : μ , for example :
uA.... : μ A.... , uPA.... : μ PA....
uPB.... : μ PB.... , uPC.... : μ PC....
uPD.... : μ PD....
- CAPACITORS
uF : μ F
- COILS
uH : μ H
- Abbreviation
HK : Hong Kong
JEW : Tourist

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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3178-944-A	MAIN BOARD ASSY *****		C551	1-107-820-11	CERAMIC CHIP 0.1uF	16V
	3-246-195-01	BOARD (*3), TERMINAL < CAPACITOR >		C552	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C101	1-107-820-11	CERAMIC CHIP 0.1uF	16V	C553	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C102	1-127-715-91	CERAMIC CHIP 0.22uF 10%	16V	C554	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
C103	1-135-868-91	TANTAL. CHIP 220uF 20%	2.5V	C555	1-127-715-91	CERAMIC CHIP 0.22uF 10%	16V
C201	1-107-820-11	CERAMIC CHIP 0.1uF	16V	C556	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V
C202	1-127-715-91	CERAMIC CHIP 0.22uF 10%	16V	C557	1-125-838-11	CERAMIC CHIP 2.2uF 10%	6.3V
C203	1-135-868-91	TANTAL. CHIP 220uF 20%	2.5V	C601	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C302	1-107-820-11	CERAMIC CHIP 0.1uF	16V	C602	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C303	1-107-820-11	CERAMIC CHIP 0.1uF	16V	C603	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C304	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C604	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C305	1-137-858-11	TANTAL. CHIP 47uF 20%	6.3V	C605	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C306	1-137-859-11	TANTAL. CHIP 220uF 20%	4V	C607	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C307	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V	C608	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C308	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V	C609	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C501	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V	C610	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C502	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V	C612	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C503	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C613	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C504	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C614	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C505	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C615	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C506	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C616	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C507	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C617	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C508	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C618	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C509	1-117-919-11	TANTAL. CHIP 10uF 20%	6.3V	C619	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C510	1-165-851-91	TANTAL. CHIP 10uF 20%	6.3V	C620	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C511	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C621	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
C512	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C622	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C513	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V	C623	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C514	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V	C624	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C517	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V	C625	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C518	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	C627	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C519	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	C628	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C522	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V	C629	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C524	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V	C630	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C525	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C631	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C526	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C632	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C527	1-164-858-11	CERAMIC CHIP 22PF 5%	50V	C633	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V
C532	1-164-858-11	CERAMIC CHIP 22PF 5%	50V	C801	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C533	1-164-858-11	CERAMIC CHIP 22PF 5%	50V	C803	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
C534	1-164-858-11	CERAMIC CHIP 22PF 5%	50V	C814	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
				C851	1-107-820-11	CERAMIC CHIP 0.1uF	16V
				C852	1-107-820-11	CERAMIC CHIP 0.1uF	16V
				C901	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V

Ref. No.	Part No.	Description	Remark
C902	1-137-858-11	TANTAL. CHIP 47uF 20%	6.3V
C903	1-137-858-11	TANTAL. CHIP 47uF 20%	6.3V
C904	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C905	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C906	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C907	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C908	1-137-858-11	TANTAL. CHIP 47uF 20%	6.3V
C909	1-100-396-91	TANTAL. CHIP 4.7uF 20%	16V
C910	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C911	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C912	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C913	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C914	1-125-926-91	TANTAL. CHIP 4.7uF 20%	6.3V
C915	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C916	1-137-858-11	TANTAL. CHIP 47uF 20%	6.3V
C917	1-137-858-11	TANTAL. CHIP 47uF 20%	6.3V
C918	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C919	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V
C920	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C921	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C922	1-117-919-11	TANTAL. CHIP 10uF 20%	6.3V
C923	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V
C924	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V
C927	1-107-820-11	CERAMIC CHIP 0.1uF 10%	16V
C951	1-137-859-11	TANTAL. CHIP 220uF 20%	4V
C952	1-107-820-11	CERAMIC CHIP 0.1uF 10%	16V
C953	1-107-820-11	CERAMIC CHIP 0.1uF 10%	16V
C954	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C955	1-137-710-11	CERAMIC CHIP 10uF 20%	6.3V
C956	1-107-820-11	CERAMIC CHIP 0.1uF 10%	16V
C958	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C959	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C960	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V
C961	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
< CONNECTOR >			
CN951	1-816-868-21	CONNECTOR (POWER JACK)	
< DIODE >			
D101	8-719-056-58	DIODE MAZS027008SO	
D201	8-719-056-58	DIODE MAZS027008SO	
D301	8-719-056-58	DIODE MAZS027008SO	
D851	8-719-077-43	DIODE MAZZ068H01SO	
D901	8-719-081-33	DIODE MA2YD1500LSO	
D902	8-719-420-51	DIODE MA729	
D903	8-719-081-33	DIODE MA2YD1500LSO	
D904	8-719-420-51	DIODE MA729	
D951	6-500-369-01	DIODE FT1J3TP	
< FERRITE BEAD >			
FB801	1-414-228-11	FERRITE 0uH	
FB802	1-414-228-11	FERRITE 0uH	
FB803	1-414-227-11	FERRITE 0uH	
< IC >			
IC301	6-703-631-01	IC NJU8713V-TE2	
@ IC501	6-702-869-01	IC SN761058ZQLR	
IC551	8-835-792-01	IC CXA8125ER-TBM-E	

Ref. No.	Part No.	Description	Remark
@ IC601	6-802-226-01	IC LC896442-VH4-16-E	
IC801	8-759-680-85	IC AK6417AL-L	
IC901	6-702-865-01	IC SC901580EPR2	
IC902	6-703-652-01	IC LMV301MGX/NOPB	
IC951	6-702-867-01	IC SC901582EPR2	
< JACK >			
J301	1-816-944-11	CONNECTOR (⊘)	
< COIL >			
L101	1-412-032-11	INDUCTOR CHIP 100uH	
L201	1-412-032-11	INDUCTOR CHIP 100uH	
L501	1-469-570-21	INDUCTOR 10uH	
L901	1-456-178-21	INDUCTOR 100uH	
L902	1-414-398-11	INDUCTOR 10uH	
L903	1-456-178-21	INDUCTOR 100uH	
L904	1-469-426-21	INDUCTOR 100uH	
L905	1-414-398-11	INDUCTOR 10uH	
< TRANSISTOR >			
Q101	8-729-050-32	TRANSISTOR 2SC5585TL	
Q201	8-729-050-32	TRANSISTOR 2SC5585TL	
Q301	6-550-527-01	TRANSISTOR NTHD5904T1	
Q302	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	
Q501	8-729-922-10	TRANSISTOR 2SA1577-QR	
Q901	6-550-376-01	TRANSISTOR UMX1N-TN	
Q902	8-729-055-85	TRANSISTOR UMT1N-TN	
Q951	6-550-326-01	TRANSISTOR FZT968TA	
< RESISTOR >			
R101	1-218-961-11	RES-CHIP 4.7K 5%	1/16W
R104	1-218-957-11	RES-CHIP 2.2K 5%	1/16W
R201	1-218-961-11	RES-CHIP 4.7K 5%	1/16W
R204	1-218-957-11	RES-CHIP 2.2K 5%	1/16W
R301	1-218-973-11	RES-CHIP 47K 5%	1/16W
R302	1-218-989-11	RES-CHIP 1M 5%	1/16W
R303	1-218-989-11	RES-CHIP 1M 5%	1/16W
R304	1-218-990-11	SHORT CHIP 0	
R305	1-218-953-11	RES-CHIP 1K 5%	1/16W
R308	1-218-937-11	RES-CHIP 47 5%	1/16W
R501	1-208-707-11	METAL CHIP 10K 0.50%	1/16W
R502	1-208-683-11	METAL CHIP 1K 0.50%	1/16W
R503	1-242-967-81	RES-CHIP 1 5%	1/16W
R504	1-218-977-11	RES-CHIP 100K 5%	1/16W
R505	1-208-691-11	METAL CHIP 2.2K 0.50%	1/16W
R506	1-216-864-11	METAL CHIP 0 5%	1/10W
R508	1-218-990-11	SHORT CHIP 0	
R509	1-218-965-11	RES-CHIP 10K 5%	1/16W
R510	1-218-965-11	RES-CHIP 10K 5%	1/16W
R512	1-218-990-11	SHORT CHIP 0	
R513	1-218-990-11	SHORT CHIP 0	
R515	1-218-990-11	SHORT CHIP 0	
R551	1-218-977-11	RES-CHIP 100K 5%	1/16W
R552	1-218-965-11	RES-CHIP 10K 5%	1/16W
R553	1-218-973-11	RES-CHIP 47K 5%	1/16W
R554	1-243-975-81	METAL CHIP 4.7M 5%	1/16W
R601	1-218-977-11	RES-CHIP 100K 5%	1/16W

@ Replacement of IC501 and IC601 used in this set requires a special tool.

MAIN

SWITCH

Ref. No.	Part No.	Description	Remark
R602	1-218-973-11	RES-CHIP 47K	5% 1/16W
R603	1-218-957-11	RES-CHIP 2.2K	5% 1/16W
R605	1-218-989-11	RES-CHIP 1M	5% 1/16W
R606	1-218-990-11	SHORT CHIP 0	
R607	1-208-691-11	METAL CHIP 2.2K	0.50% 1/16W
R609	1-218-961-11	RES-CHIP 4.7K	5% 1/16W
R610	1-218-965-11	RES-CHIP 10K	5% 1/16W
R611	1-218-961-11	RES-CHIP 4.7K	5% 1/16W
R612	1-218-957-11	RES-CHIP 2.2K	5% 1/16W
R614	1-218-949-11	RES-CHIP 470	5% 1/16W
R615	1-218-961-11	RES-CHIP 4.7K	5% 1/16W
R616	1-218-965-11	RES-CHIP 10K	5% 1/16W
R618	1-218-969-11	RES-CHIP 22K	5% 1/16W
R619	1-218-965-11	RES-CHIP 10K	5% 1/16W
R621	1-218-990-11	SHORT CHIP 0	
R622	1-218-990-11	SHORT CHIP 0	
R801	1-218-989-11	RES-CHIP 1M	5% 1/16W
R802	1-218-989-11	RES-CHIP 1M	5% 1/16W
R803	1-218-941-81	RES-CHIP 100	5% 1/16W
R804	1-218-941-81	RES-CHIP 100	5% 1/16W
R901	1-218-985-11	RES-CHIP 470K	5% 1/16W
R902	1-218-981-11	RES-CHIP 220K	5% 1/16W
R903	1-208-707-11	METAL CHIP 10K	0.50% 1/16W
R904	1-218-957-11	RES-CHIP 2.2K	5% 1/16W
R905	1-218-989-11	RES-CHIP 1M	5% 1/16W
R907	1-218-965-11	RES-CHIP 10K	5% 1/16W
R908	1-218-957-11	RES-CHIP 2.2K	5% 1/16W
R909	1-218-989-11	RES-CHIP 1M	5% 1/16W
R910	1-218-977-11	RES-CHIP 100K	5% 1/16W
R911	1-218-965-11	RES-CHIP 10K	5% 1/16W
R912	1-218-969-11	RES-CHIP 22K	5% 1/16W
R913	1-218-985-11	RES-CHIP 470K	5% 1/16W
R914	1-218-965-11	RES-CHIP 10K	5% 1/16W
R915	1-218-965-11	RES-CHIP 10K	5% 1/16W
R916	1-218-957-11	RES-CHIP 2.2K	5% 1/16W
R917	1-218-965-11	RES-CHIP 10K	5% 1/16W
R918	1-218-941-81	RES-CHIP 100	5% 1/16W
R920	1-218-953-11	RES-CHIP 1K	5% 1/16W
R921	1-218-969-11	RES-CHIP 22K	5% 1/16W
R922	1-216-864-11	METAL CHIP 0	5% 1/10W
R924	1-244-161-81	RES-CHIP 2.2	5% 1/16W
R951	1-208-707-11	METAL CHIP 10K	0.50% 1/16W
R952	1-208-707-11	METAL CHIP 10K	0.50% 1/16W
R953	1-208-683-11	METAL CHIP 1K	0.50% 1/16W
R954	1-208-927-11	METAL CHIP 47K	0.50% 1/16W
R955	1-208-935-11	METAL CHIP 100K	0.50% 1/16W
R956	1-218-985-11	METAL CHIP 470K	0.50% 1/16W
R957	1-218-941-81	RES-CHIP 100	5% 1/16W
R958	1-218-965-11	RES-CHIP 10K	5% 1/16W
R959	1-245-455-21	METAL FILM(SMD) 0.47(1608)	
R960	1-245-454-21	METAL FILM(SMD) 0.022(1608)	
R962	1-218-977-11	RES-CHIP 100K	5% 1/16W
R963	1-218-965-11	RES-CHIP 10K	5% 1/16W
R964	1-208-855-81	METAL CHIP 47	0.50% 1/16W
R965	1-240-234-11	METAL CHIP 10	1% 1/4W
R966	1-218-957-11	RES-CHIP 2.2K	5% 1/16W
R967	1-218-961-11	RES-CHIP 4.7K	5% 1/16W
R968	1-245-456-21	METAL FILM (SMD) 1.0(1608)	

Ref. No.	Part No.	Description	Remark
< SWITCH >			
S810	1-786-414-21	SWITCH, DETECTION (DISC DET)	
< VIBRATOR >			
X601	1-795-561-21	VIBRATOR, CERAMIC (16.9344MHz)	

*	A-3178-946-A	SWITCH BOARD, COMPLETE	*****
< DIODE >			
D801	6-500-444-01	DIODE TLRE1008A(T04) (GROUP)	
D802	6-500-445-01	DIODE TLOE1008A(T04) (GROUP)	
D803	6-500-446-01	DIODE TLGE1008A(T04) (GROUP)	
< TRANSISTOR >			
Q811	8-729-427-49	TRANSISTOR XP4214-TXE	
< RESISTOR >			
R811	1-218-957-11	RES-CHIP 2.2K	5% 1/16W
R812	1-218-957-11	RES-CHIP 2.2K	5% 1/16W
R813	1-218-961-11	RES-CHIP 4.7K	5% 1/16W
R814	1-218-961-11	RES-CHIP 4.7K	5% 1/16W
R815	1-218-965-11	RES-CHIP 10K	5% 1/16W
R816	1-218-965-11	RES-CHIP 10K	5% 1/16W
R817	1-218-945-11	RES-CHIP 220	5% 1/16W
R818	1-244-161-81	RES-CHIP 2.2	5% 1/16W
R819	1-218-949-11	RES-CHIP 470	5% 1/16W
< SWITCH >			
S801	1-786-033-21	SWITCH, TACTILE (■)	
S802	1-786-033-21	SWITCH, TACTILE (▶▶I)	
S803	1-786-033-21	SWITCH, TACTILE (▶▶II)	
S804	1-786-033-21	SWITCH, TACTILE (I◀◀)	
S805	1-786-293-21	SWITCH, TACTILE (VOLUME +)	
S806	1-786-293-21	SWITCH, TACTILE (VOLUME -)	
S807	1-786-033-21	SWITCH, TACTILE (GROUP)	
S808	1-572-922-11	SWITCH, SLIDE (HOLD ▶)	
S809	1-771-483-61	SWITCH, PUSH (1 KEY) (OPEN/CLOSE)	

MISCELLANEOUS			

1	1-686-276-11	PWB, SWITCH FLEXIBLE	
△59	X-3383-262-1	OPTICAL PICK-UP ASSY (ABX-1E)	
M901	8-835-782-01	MOTOR, DC SSM18D (SPIMDLE)	
M902	8-835-784-01	MOTOR, DC SSM22B (SLED)	

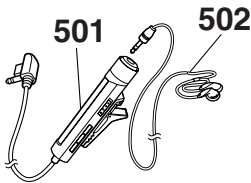
The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

MZ-E710

Ref. No.	Part No.	Description	Remark
		ACCESSORIES *****	
501	1-477-573-11	REMOTE CONTROL UNIT	
502	8-954-008-90	RECEIVER, EAR MDR-E808SP	
503	A-3180-736-A	ATTACHMENT BLOCK ASSY	
△ 504	1-477-562-11	ADAPTOR, AC (AC-ES305K) (JEW)	
△ 504	1-477-566-11	ADAPTOR, AC (AC-ES305K) (HK)	
505	3-220-749-01	CASE, CARRYING	
506	1-756-120-22	BATTERY, NICKEL HYDROGEN	
507	3-008-521-01	CASE, BATTERY CHARGE (HK)	
507	3-008-521-21	CASE, BATTERY CHARGE (JEW)	
508	1-251-895-11	BATTERY CASE	
△	1-543-798-11	FILTER, CLAMP (FERRITE CORE)	
△	1-569-007-11	ADAPTOR, CONVERSION 2P (JEW)	
	3-247-812-01	MANUAL, INSTRUCTION (JAPANESE) (JEW)	
	3-247-812-11	MANUAL, INSTRUCTION (ENGLISH)	
	3-247-812-21	MANUAL, INSTRUCTION (FRENCH) (JEW)	
	3-247-812-31	MANUAL, INSTRUCTION (SPANISH) (JEW)	
	3-247-812-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE)	
	3-247-812-51	MANUAL, INSTRUCTION (KOREAN)	

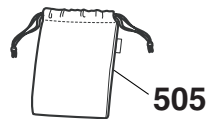
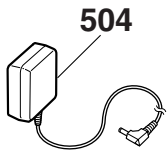
• Headphnes/earphones
with a remote control

• Battery charging stand



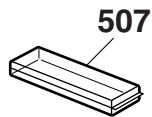
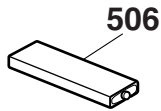
• AC adaptor
(for the supplied battery
charging stand)

• Carrying pouch

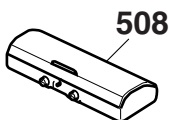


• Rechargeable battery

• Rechargeable battery
carrying case



• Dry battery case



Note : The component name in a figure just mentions a component name in instruction manual.

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

MEMO

