

MZ-E10

SERVICE MANUAL

Ver 1.0 2002.11

US Model
Canadian Model
AEP Model
UK Model
E Model
Tourist Model



US and foreign patents licensed from Dolby Laboratories Licensing Corporation

Model Name Using Similar Mechanism	NEW
MD Mechanism Type	MT-MZE10-184
Optical Pick-up Mechanism Type	ABX-1ES

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: dedicated headphone/ remote control jack,

output level 5 mW + 5 mW (US model) load impedance 16 ohms,

5 mW + 5 mW (Other models)

load impedance 16 ohms

Power requirements

Lithium-ion rechargeable battery (Built-in: LIP- 3WMB, 3.7 V,

340 mAh, Li-ion)

External power jack (for the battery charging stand): Power rating 6 V

DC

Battery life¹⁾

(Unit: Approx. hours) (JEITA²⁾)

Batteries	SP Stereo	LP2	LP4
	(normal)	Stereo	Stereo
Lithium-ion built-in rechargeable battery ³⁾	23	33	40

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.

Note

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

Dimensions

Approx. 81.9 x 72.2 x 9.9 mm (w/h/d) ($3 \frac{1}{4} \times 2 \frac{7}{8} \times \frac{13}{32} \text{ in.}$)
(not including projecting parts and controls)

Mass

Approx. 55 g (1.6 oz) (including the built-in rechargeable battery)

Supplied accessories

Headphones/earphones with a remote control (1)

Battery charging stand (1)

AC power adaptor (for the supplied battery charging stand) (1)

Headphone adaptor (1)

Carrying pouch (1)

Design and specifications are subject to change without notice.

PORTABLE MINIDISC PLAYER

9-874-219-01
2002K0200-1
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Sony Corporation
Personal Audio Company
Published by Sony Engineering Corporation

SONY®

CAUTION

Danger of explosion if battery is incorrectly replaced.
 Replace only with the same or equivalent type recommended by the manufacturer.
 Discard used batteries according to the manufacturer's instructions.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
 Udskiftning må kun ske med batteri af samme fabrikat og type.
 Levér det brugte batteri tilbage til leverandøren.

ADVARSEL

Ekspløsjonsfare ved feilaktig skifte av batteri.
 Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
 Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

WARNING

Explosionsfara vid felaktigt batteribyte.
 Använd samma batterityp eller en likvärdig typ som rekommenderas av apparattillverkaren.
 Kassera använt batteri enligt gällande föreskrifter.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
 Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

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

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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

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● 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.)



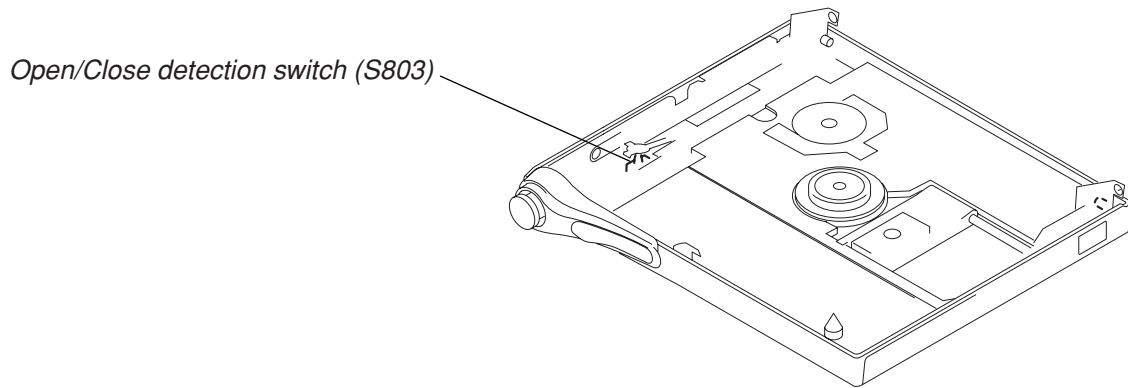
Unleaded solder has the following characteristics.

- 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.

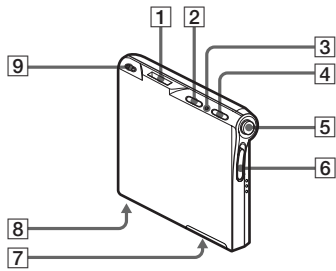
* Replacement of SN761058ZQL (IC501) and LC896442-VH4-16-E (IC601) used in this set requires a special tool.

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 (S803).



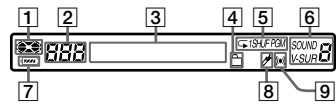
The Player



- 1 Headphones/earphones jack
- 2 GROUP button
- 3 "3-color info-LED"
- 4 HOLD (Locking the control) switch
- 5 5-way control key (◀◀◀▶▶▶▶▶*
• ■ • VOL +, -)
- 6 OPEN switch
- 7 BUILT-IN BATTERY switch (at the bottom)
- 8 Terminals for charging stand (at the bottom)
- 9 Hand strap hole
Use the hole to attach your strap

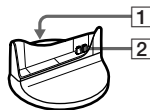
* ▶ has a tactile dot.

The display window of the remote control



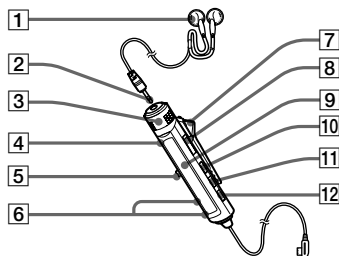
- 1 Disc indication
- 2 Track number display
- 3 Character information display
- 4 Group play indication
- 5 Play mode indication
- 6 Virtual Surround/6-band equalizer indications
- 7 Battery level indication
- 8 Bookmark indication
- 9 Alarm indication

The battery charging stand



- 1 DC IN (6V jack) (at the bottom)
- 2 Terminals for charging

The headphones/earphones with a remote control

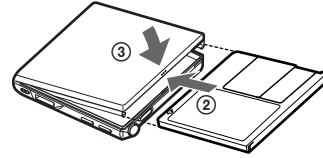
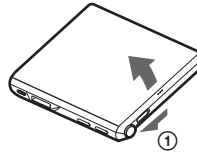


- 1 Headphones/earphones
- 2 Stereo mini plug
- 3 Control VOL +, -
Turn to adjust the volume .
- 4 ■ (stop) button
- 5 Jog lever (◀◀◀▶▶▶▶▶)
- 6 (Group) +, - button
- 7 Clip
- 8 HOLD switch
- 9 Display window
- 10 DISPLAY button
- 11 P MODE / (play mode/repeat) button
- 12 SOUND button

Playing an MD

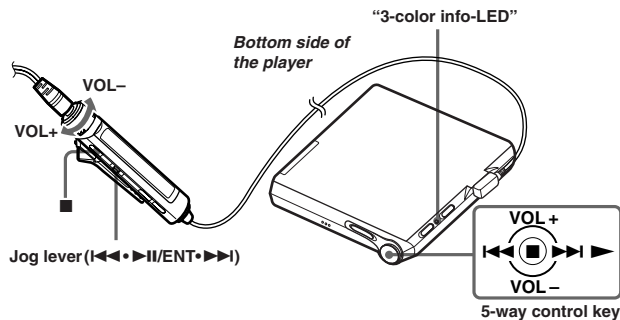
1 Insert an MD.

- ① Slide OPEN to open the lid.
- ② Insert an MD.
- ③ Close the lid.



Insert an MD with the label side facing up, pushing the MD to the direction of the arrow in the illustration.

2 Play an MD.



- ① Press the jog lever (▶▶) on the remote control. (Press towards ▶▶▶▶▶ on the player.)
A short beep sounds in the headphones/earphones. The LED lights up.
- ② Turn the control towards VOL + or - on the remote control to adjust the volume. (Press towards VOL + or - on the player.)
The volume indicator appears in the display, allowing you to check the volume level.

To stop play, press ■.

A long beep sounds in the headphones/earphones. Playback starts from the point you last stopped playing. To start playback from the beginning of the disc, press and hold the jog lever (▶▶) for 2 seconds or more on the remote control (Press and hold towards ▶▶▶▶▶ for 2 seconds or more on the player).

To	Do this (Beeps in the headphones/earphones)
Pause	Press the jog lever (▶▶) on the remote control (continuous short beeps). Press the jog lever (▶▶) again to resume play.
Cue to the current track or the previous track	Slide the jog lever towards ◀◀◀ on the remote control (three short beeps). (Press towards ◀◀◀ on the player.)
Cue to the next track	Slide the jog lever towards ▶▶▶ on the remote control (two short beeps). (Press towards ▶▶▶ on the player.)
Go backwards or forward while playing	Slide and hold the jog lever towards ◀◀◀ or ▶▶▶ on the remote control. (Press and hold towards ◀◀◀ or ▶▶▶ on the player.)
Searching for a specific position while viewing a elapsed time (Time search)	While the player is paused, slide and hold the jog lever towards ◀◀◀ or ▶▶▶ on the remote control.
Searching for a specific track while viewing track numbers or track names (Index search)	While the player is stopped, slide and hold the jog lever towards ◀◀◀ or ▶▶▶ on the remote control.
Cue to the beginning of every 10th track (only during playback of the disc with no group settings ¹⁾)	Press (Group) + or - button.
Remove the MD	Press ■, and then slide OPEN ²⁾ .

¹⁾ For more details, see "Using the group function."

²⁾ Once you open the lid, the point to start play will change to the beginning of the first track (except when the disc information has been stored in the personal disc memory).

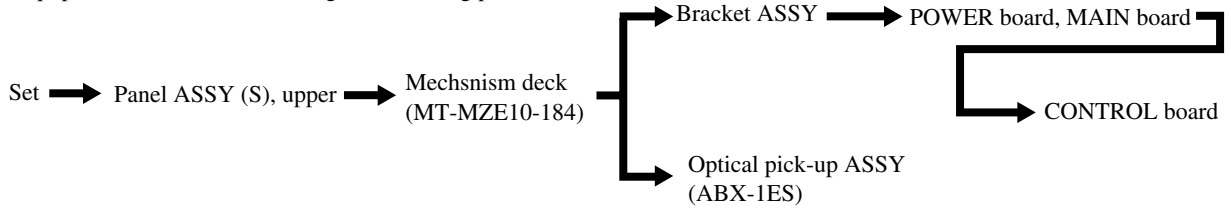
About the "3-color info-LED"

The LED indicates the current operating mode, charging status, and battery condition. For details about the charging status, see "Getting started." For details about the battery condition, see "When to recharge the built-in battery" on the back page.

LED color	Operating status
Red	Playing a disc with no group settings
Green	Playing a disc with group settings
Orange	Cueing to the another group (Group Skip)

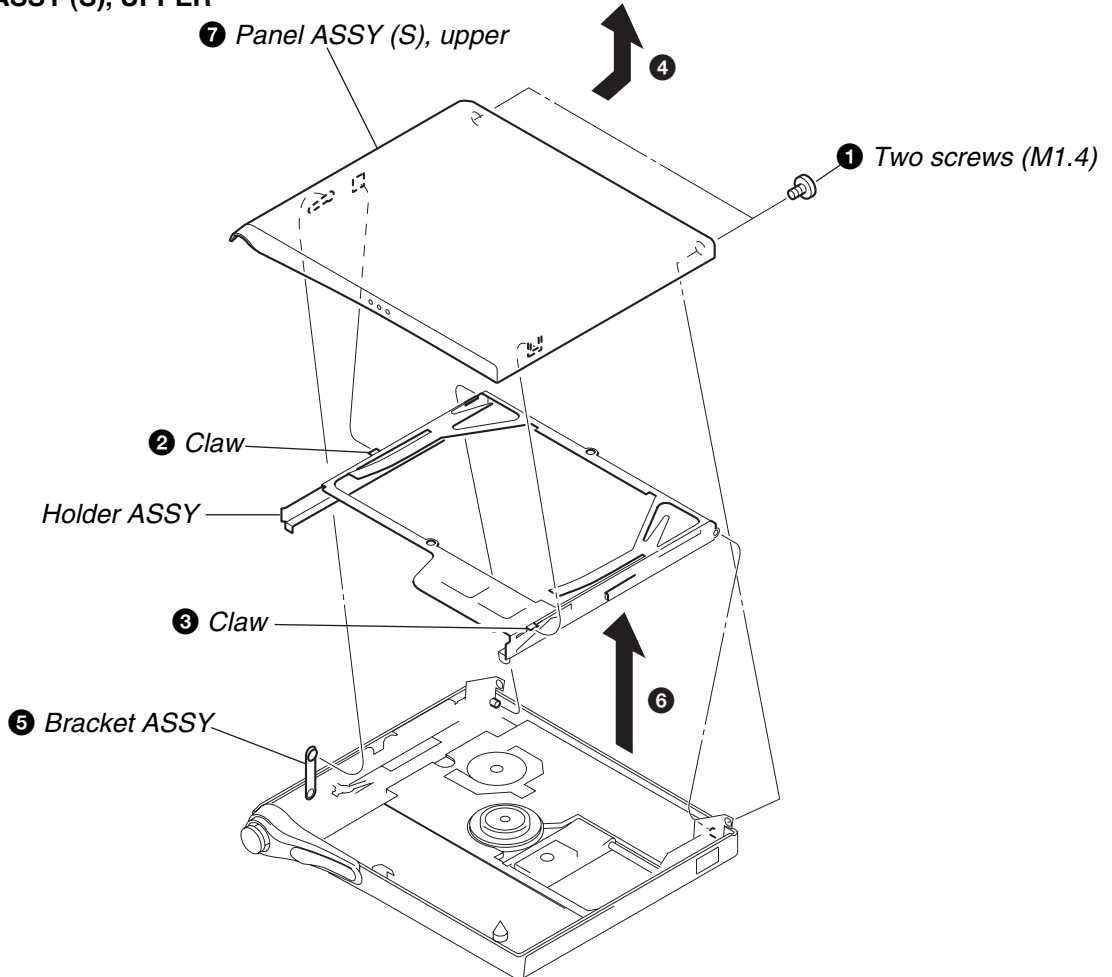
SECTION 3 DISASSEMBLY

• The equipment can be removed using the following procedure.

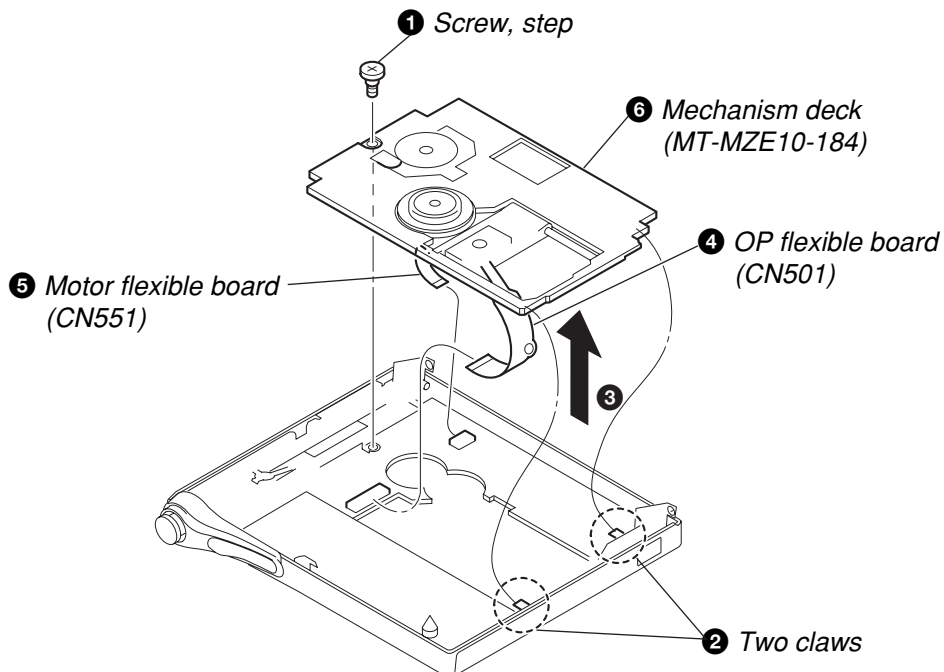


Note : Follow the disassembly procedure in the numerical order given.

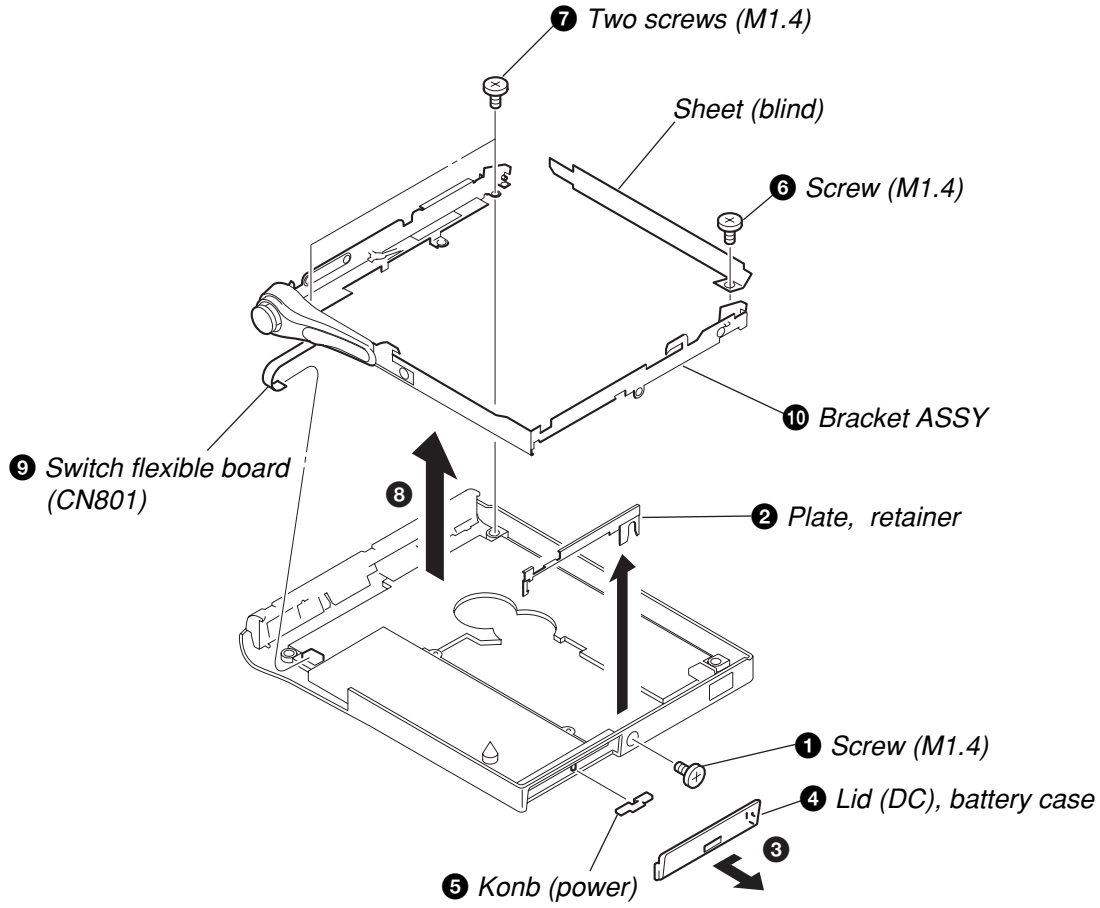
3-1. PANEL ASSY (S), UPPER



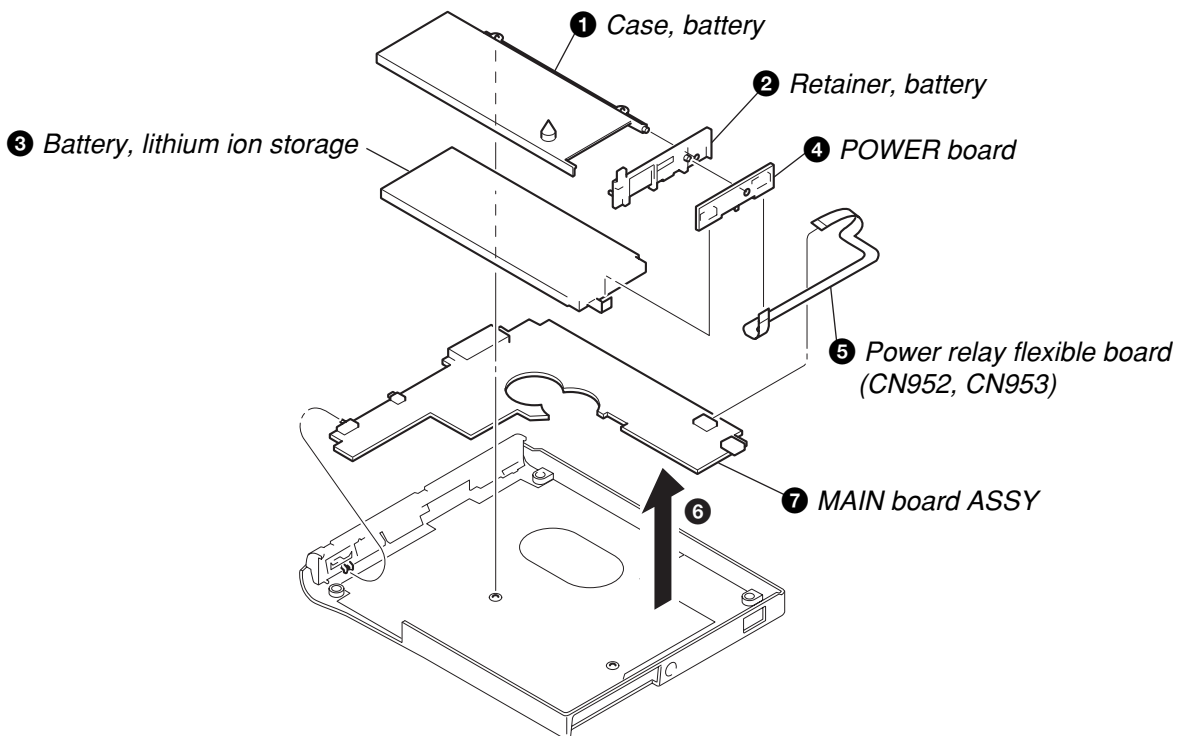
3-2. MECHANISM DECK (MT-MZE10-184)



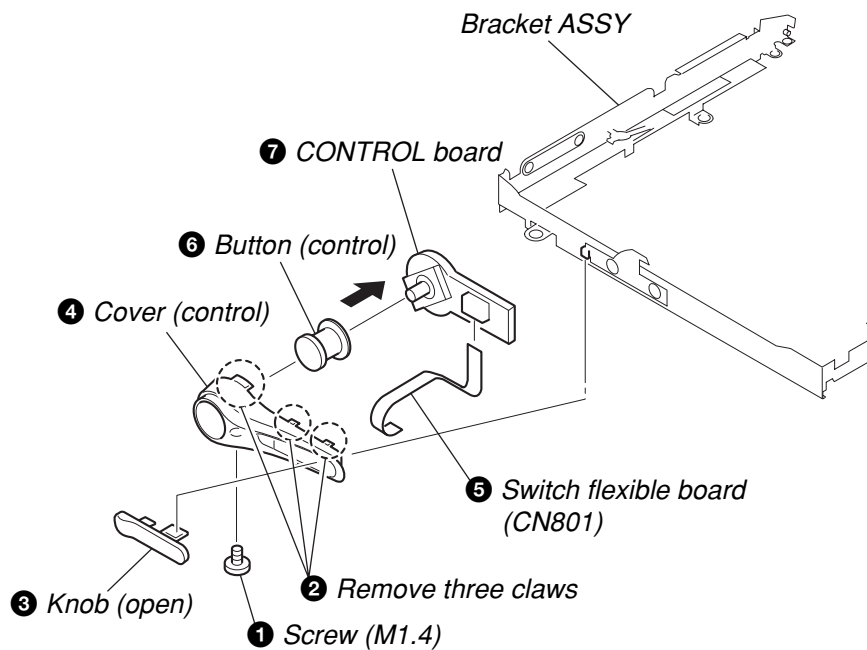
3-3. BRACKET ASSY



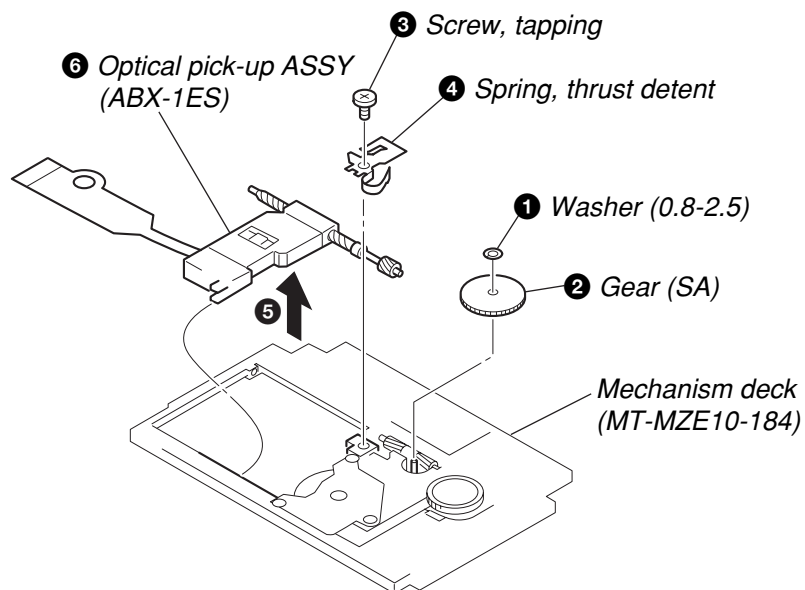
3-4. POWER BOARD, MAIN BOARD



3-5. CONTROL BOARD



3-6. OPTICAL PICK-UP ASSY (ABX-1ES)



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.

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

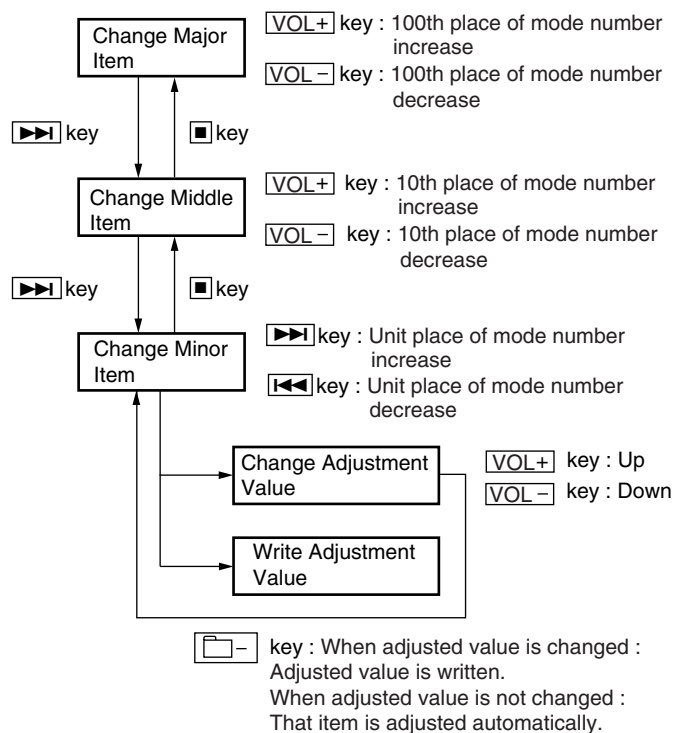
1. Set the TEST MODE and press **VOL +** key to set the Manual mode.

Remote control LCD display

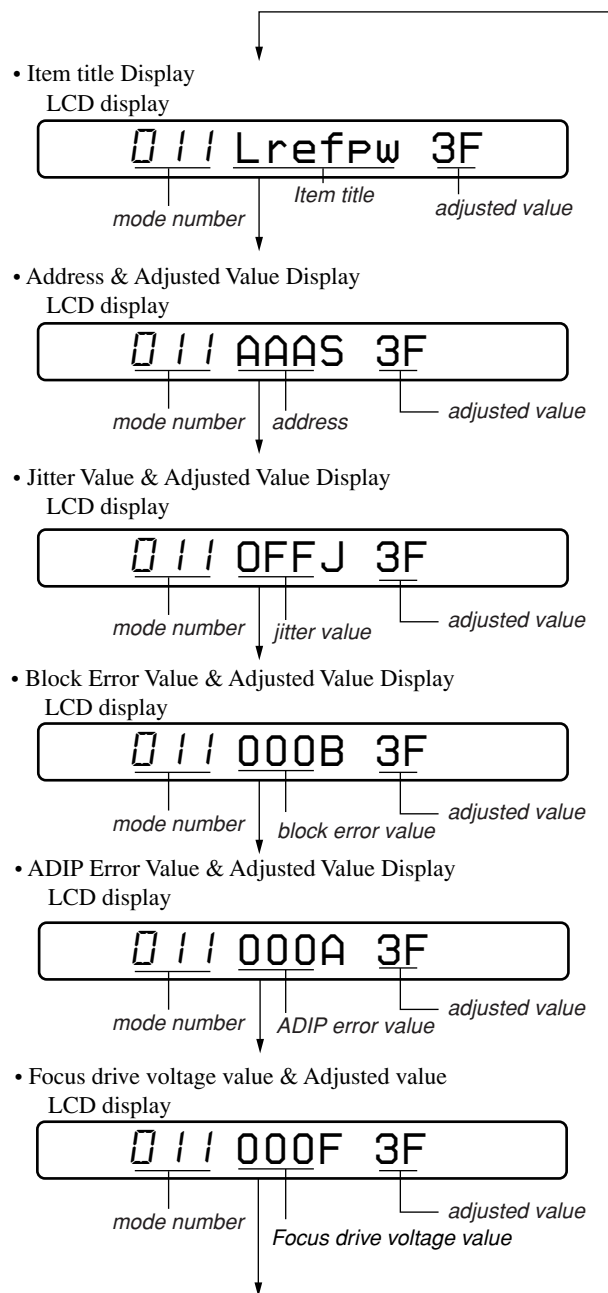


2. During each test, press and hold down **▶▶** key or **◀◀** key for a while to move the optical pickup on the sled outer or inner perimeter.
3. Each test item is assigned with a three-digit item number. The 100th place is a major item, 10th place is a middle item, and unit place is a minor item.

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

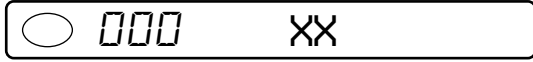
4-6-1. Outline of the function

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.

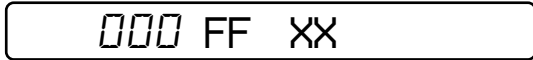
LCD display




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)

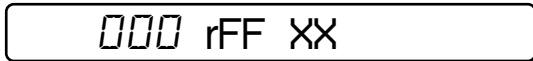
Example: When  key on the set is pressed:

LCD display



Example: When  key on the remote control is pressed:

LCD display

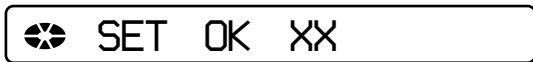


XX: AD value of the remote control key (hexadecimal 00 to FF)

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

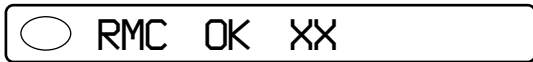
Example: When the keys on the set are considered as OK:

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.

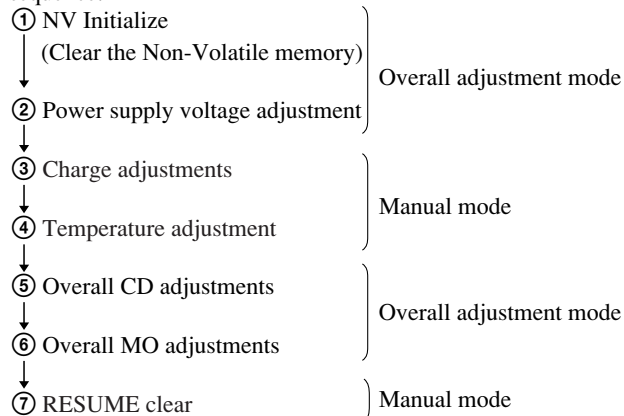
5-2. NOTES FOR ADJUSTMENT

5-2-1. Jigs

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

5-2-2. Adjustment sequence

The adjustments should be always performed in the following sequence:



5-2-3. Power

In overall adjustment, the power is supplied from the internal battery (Li-Ion) and the charging stand simultaneously. Turn S901 (BUILT-IN BATTERY) to ON.

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

000 Res OK?

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

LCD display

000 Res ***

↓
After initialize is completed.

000 Reset

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 1
- Adjustment value change method 2
(Perform after the 7 charging adjustment)

5-3-3 Adjustment value change method 1

(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

861 VarB1k 00

3. Press the **[]-** key.

4. Press the **[]▶** key and set 862 as the item number.

LCD display

862 VarWrt 00

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

862 88C6 FF

This section (address) flashes.

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

LCD display

862 88C6 FF

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

862 88C6 3F

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

862 88C7 FF

This section (address) flashes.

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

LCD display

862 88C7 FF

This section (data) flashes.

11. Repeat the adjustments in items 6 - 9 and set up through address 88D3 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. Press the key and 862 as the item number.
LCD display



Data value.

16. Press the key, and set in Adjustment change mode.
LCD display



This section (address) flashes.

17. Press the key . (FF section (data) flashes)
18. Press the and key and set the value in the flashing data section while referring to the adjustment data change list.
LCD display



Data value.

19. Press the key, and the address section starts flashing.
20. Press the key and set the next adjustment address.
LCD display



This section (address) flashes.

21. Press the key . (FF section (data) flashes)
LCD display
22. Press the and key and set the value in the flashing data section while referring to the adjustment data change list.
LCD display



Data value.

23. Press the key, and the address section starts flashing.

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



Data value.

25. Press the key and write in the correction data.
26. Turn off the power.

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

Adjustment Data Change List

If adjustment data is VarWrt is 00 If adjustment data is VarWrt is 01

Version 1.000		Version 1.000	
Address	Adjustment Data	Address	Adjustment Data
88C6	3F	88C6	07
88C7	03	88C7	8D
88C8	D6	88C8	FF
88C9	22	88C9	FF
88CA	C4	88CA	FF
88CB	37	88CB	FF
88CC	C2	88CC	FF
88CD	04	88CD	FF
88CE	E8	88CE	FF
88CF	42	88CF	FF
88D0	6E	88D0	FF
88D1	FC	88D1	FF
88D2	71	88D2	FF
88D3	FC	88D3	FF

5-4. POWER SUPPLY VOLTAGE ADJUSTMENTS

5-4-1. Adjustment sequence

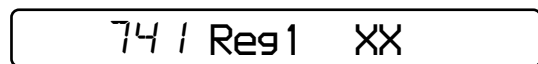
The adjustments should be always performed in the following sequence:

- ① LEG1 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 6.0 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.

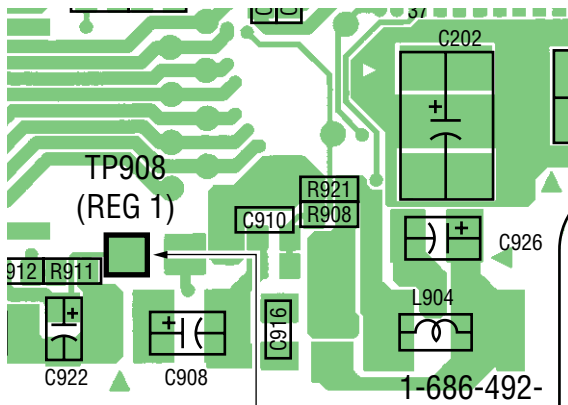
LCD display



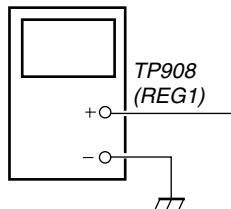
4. Connect a digital voltmeter to TP908 (REG1) on the main board and adjust (voltage up) key and (voltage down)key on the remote control.

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

MAIN BOARD (SIDE A)



digital voltmeter

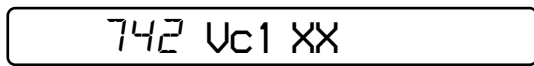


5. Press key to write the adjustment value, item No.will change to 742.

5-4-3. VC1 adjustment method

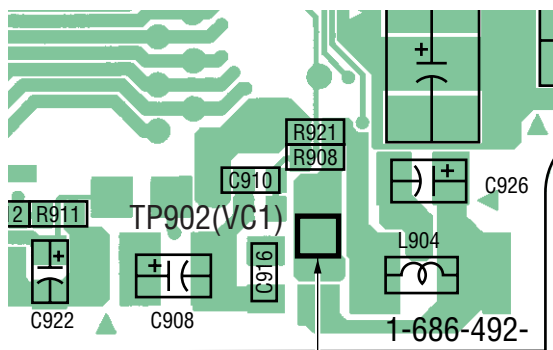
1. Set the overall adjustment mode and set the item No. to 742.

LCD display

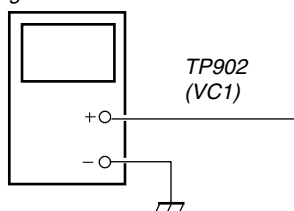


2. Connect a digital voltmeter to TP902 (VC1) on the main board and adjust key (Voltage up) and key (Voltage down) on the remote control.
Adjustment value:2.15V
Standard value:2.14 to 2.155V

MAIN BOARD (SIDE A)



digital voltmeter

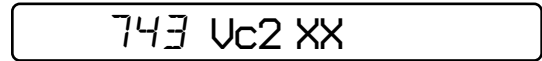


3. Press key to write the adjustment value, item No. will change to 743.

5-4-4. VC2 adjustment method

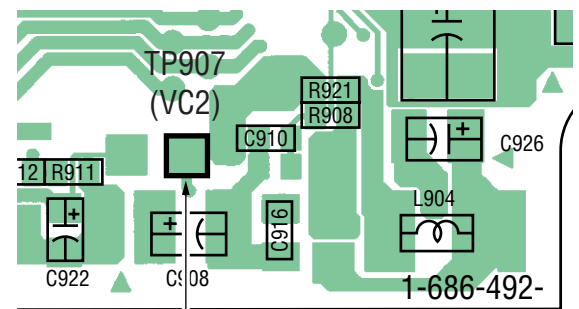
1. Set the overall adjustment mode and set the item No. to 743.

LCD display

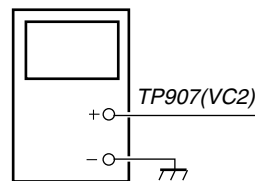


2. Connect a digital voltmeter to TP907(VC2) on the main board and adjust key (Voltage down) and key (Voltage up) on the remote control.
Adjustment value:1.15V
Standard value:1.15 to 1.18V

MAIN BOARD (SIDE A)



digital voltmeter

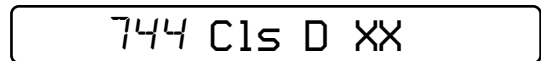


3. Press key to write the adjustment value, item No. will change to 744.

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

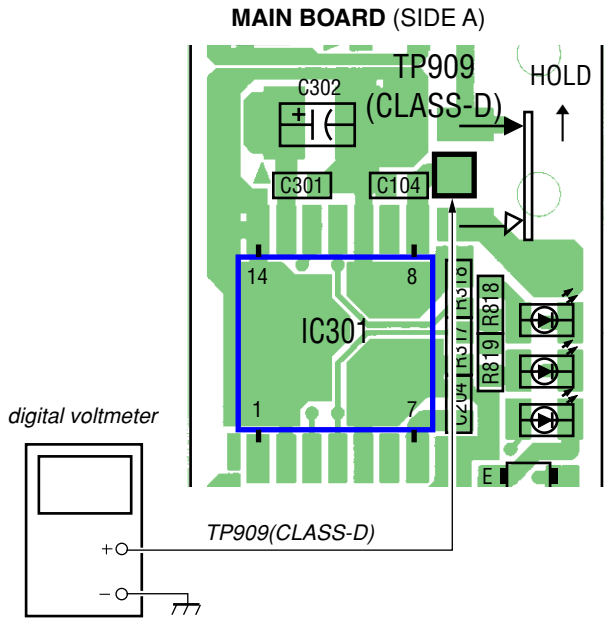
1. Set the overall adjustment mode and set the item No. to 744.

LCD display

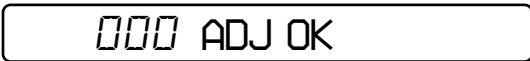


2. Connect a digital voltmeter to TP909 (Class-D) on the main board and adjust key (Voltage up) and key (Voltage down) on the remote control.

Adjustment value:1.75V
Standard value:1.75 to 1.80V



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



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

5-5. CHARGE ADJUSTMENTS

Note: Always remove the internal battery (Li-Ion) before making charging adjustments.

5-5-1. Adjustment sequence

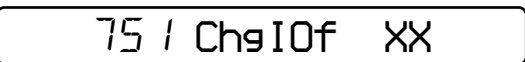
The adjustments should be always performed in the following sequence:

- 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)

5-5-2. Current amplifier offset adjustment

1. The power supply of 3V is supplied to TP951 on the main board.
2. Set the Test mode.
3. Set the manualmode, item No.will change to 751.

LCD display



4. 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.

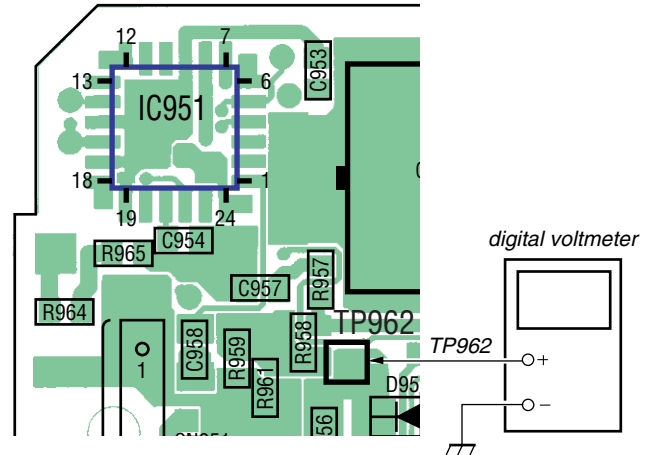
LCD display



3. Connect a digital voltmeter to TP962 on the main board and adjust (voltage up) key and (voltage down) key on the remote control.

Adjustment value:3.40V
Standard value:3.395 to 3.405V

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.

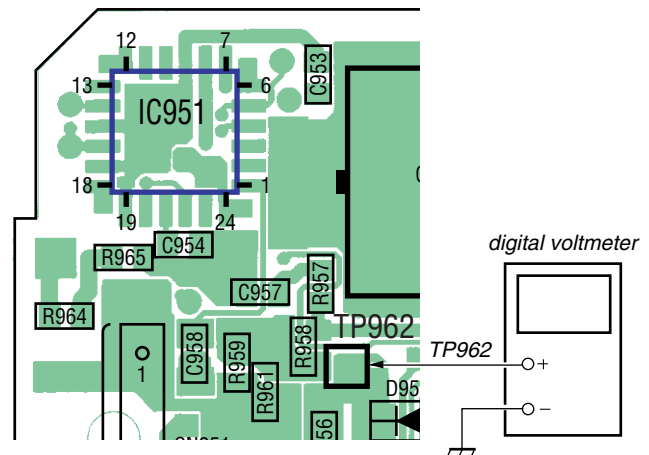
LCD display



2. Connect a digital voltmeter to TP962 on the main board and adjust key (Voltage down) and key (Voltage up) on the remote control.

Adjustment value:4.20V
Standard value:4.2 to 4.21V

MAIN BOARD (SIDE A)

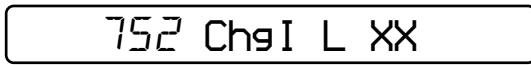


3. Press key to write the adjustment value.

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

1. Connect TP953 to TP959 on the main board.
2. Set the test mode.
3. Set the Manual mode and set the item No. to 752.

LCD display



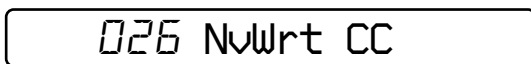
4. Press the [] key to write the adjustment value.

5-5-6. Adjustment value change method 2

(when using Version 1.000)

1. Set in Manual mode and then set item number 026.

LCD display



2. Press the [] key.

LCD display



This section (address) flashes.

3. Press the [] key (100th place) and the [VOL +] key (10th place) and set 828A in the flashing address section.

LCD display



4. Press the [] key.

LCD display



This section (data) flashes.

5. Press the [VOL +] and [VOL -] keys and set 00 in the flashing data section.

LCD display



6. Press the [] key.

7. Press the [] key to return to Manual mode.

LCD display



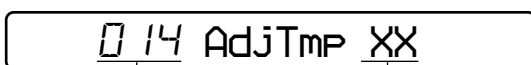
8. Press the [] key and write in the adjustment setting.

5-6. TEMPERATURE ADJUSTMENT

[Temperature adjustment method]

1. Set in Test mode.
2. Set in Manual mode and set the item number 014.

LCD display



Item No.

Adjustment setting

3. Measure the temperature.

4. Adjust with the remote control [VOL +] and [VOL -] keys so that the temperature value is at room temperature.

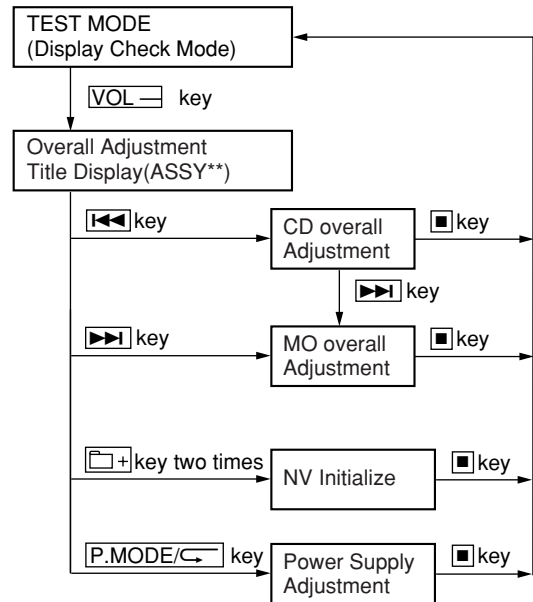
Reset value: 19h = 25 °C

Adjustment range: 80h to 7Fh = -128 °C to +127 °C

5. 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.

Disk mark (inner) not used

** : 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.

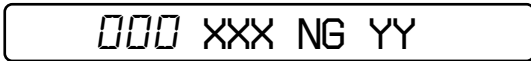
LCD display



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.

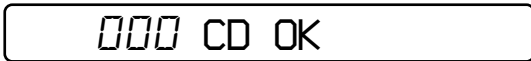
LCD display




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.

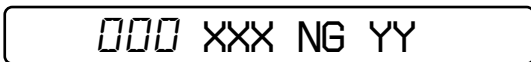
LCD display




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

When the battery exchange isn't being done.

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.Resume clear method

When the battery exchange was done.


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

LCD display



3. Press the  key two times, and set the adjustment value to 02.



4. Press the  key.

LCD display



After reset is completed

LCD display



5-7-6. 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)
138	RF gain adjustment
35	GOD offset correction.

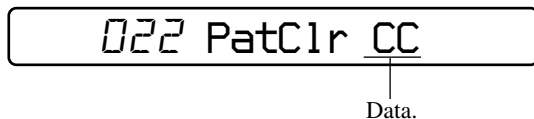
5-8. REWEITING PATCH DATA AFTER REPLACING THE NONVOLATILE MEMORY

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 patch data.
(Writing is complete if the setting changes to DD.)
LCD display



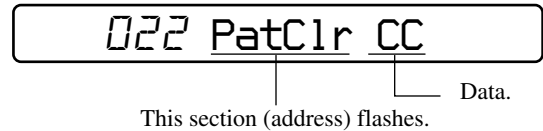
4. Press the [] key and enter the item number 023.
LCD display



5. Press the [VOL+] key and set the adjustment setting to 01.
LCD display

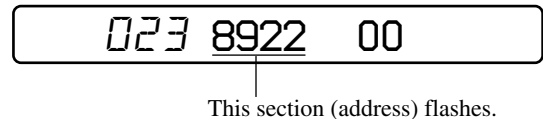


6. Press the []+ key.
LCD display

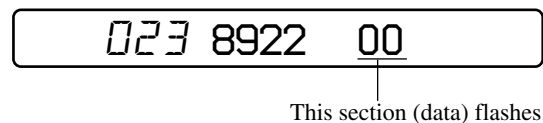


7. Press the [] key.
(The data section flashes.)
8. Press the [VOL+] and [VOL-] keys and set the adjustment data while referring to the patch data list.
9. Press the []- key and the address section flashes.
10. Press the [VOL+] keys and set the address value in the next address for adjustment.

LCD display



11. Press the [] key.
LCD display



12. While referring to the patch 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 patch data write mode.

LCD display



15. Press the []- key.
LCD display



After finished writing data.
LCD display



16. Turn off the power.

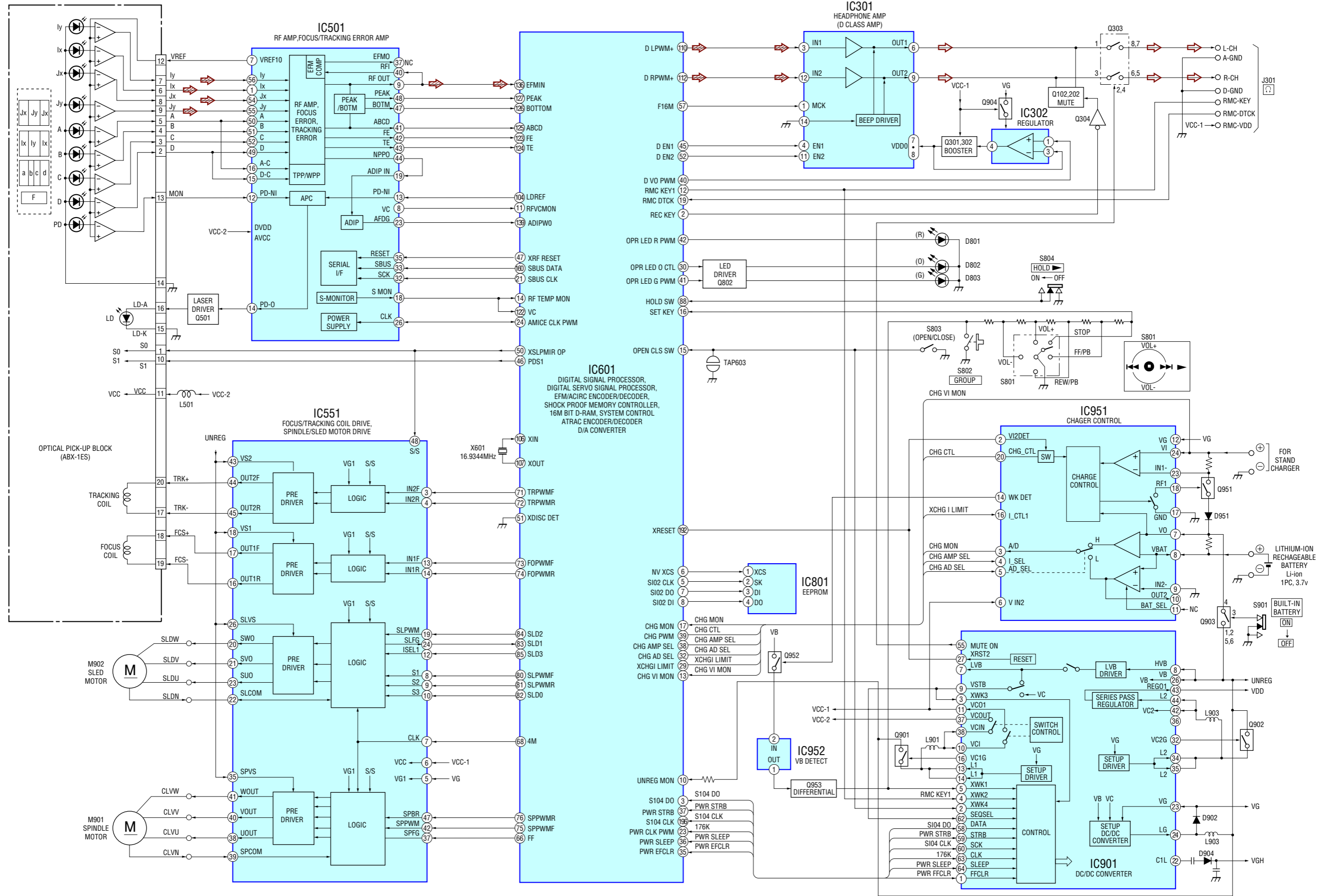
MZ-E10

Version 1.000	
Address	Data
8921	02
8922	F7
8923	F4
8924	02
8925	06
8926	A9
8928	03
8929	2A
892A	FD
892B	01
892C	12
892D	06
892E	B3
8931	02
8932	15
8933	95
8934	02
8935	0A
8936	66
8938	02
8939	D1
893A	B3
893B	02
893C	06
893D	BD
8941	81
8942	B2
8943	81
8944	C3
8945	81
8946	E2
8947	E4
8948	90
8949	87
894A	75
894B	F0
894C	E5
894D	81
894E	C3
8951	94
8952	04
8953	F8
8954	76
8955	19
8956	08
8957	76
8958	E9
8959	22
895A	C0
895B	E0
895C	12
895D	20
895E	7D
8961	8C


Address	Data
8962	DE
8963	03
8964	E5
8965	81
8966	C3
8967	94
8968	05
8969	F8
896A	76
896B	2E
896C	08
896D	76
896E	FD
8971	D0
8972	E0
8973	B4
8974	02
8975	02
8976	D3
8977	22
8978	C3
8979	22
897A	6C
897B	05
897C	0A
897D	30
897E	1A
8981	02
8982	74
8983	FF
8984	F8
8985	D0
8986	E0
8987	D0
8988	E0
8989	D0
898A	E0
898B	74
898C	F8
898D	C0
898E	E0
8991	74
8992	B3
8993	C0
8994	E0
8995	74
8996	02
8997	C0
8998	E0
8999	E8
899A	02
899B	06
899C	CF
899E	01

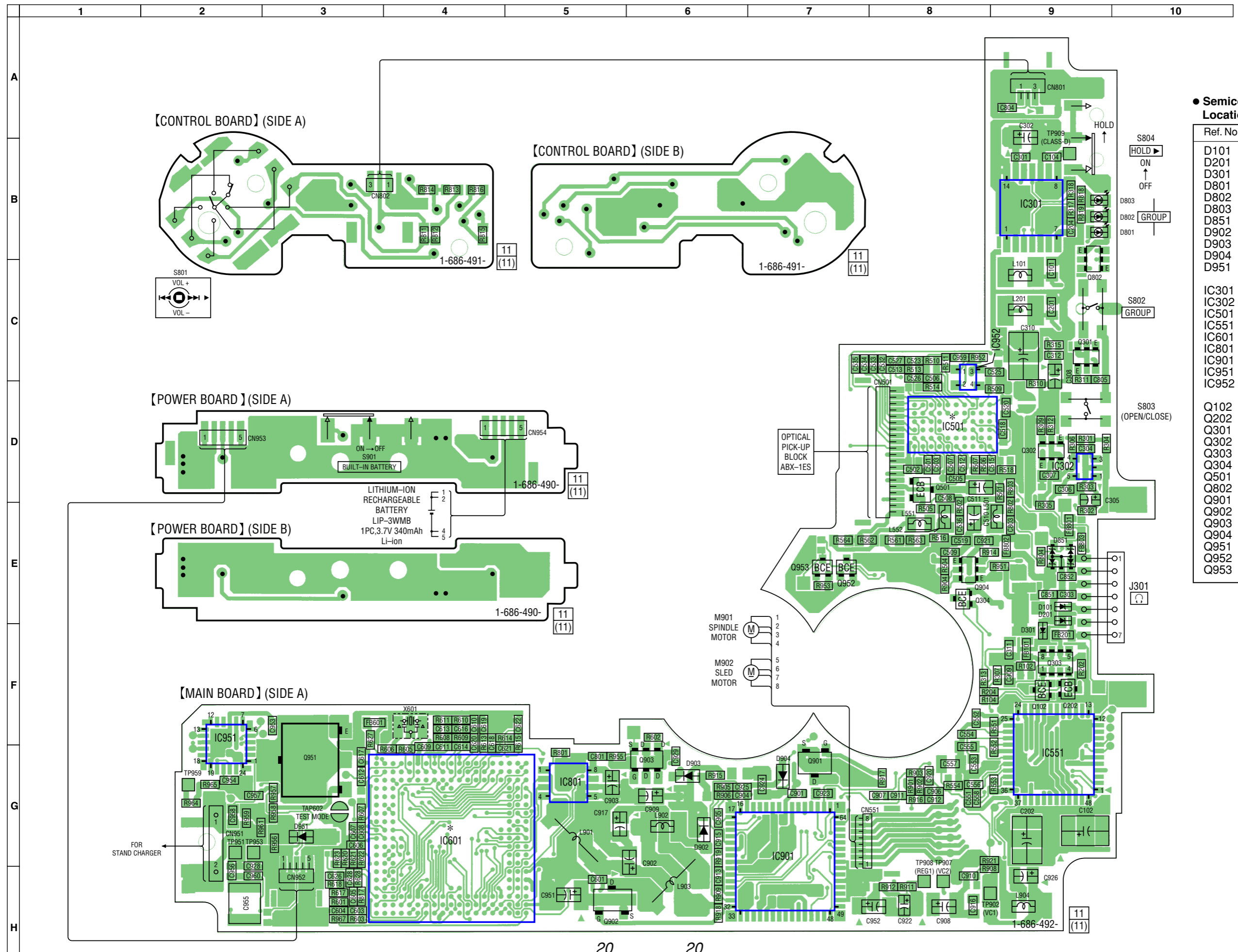
SECTION 6 DIAGRAMS

6-1. BLOCK DIAGRAMS




- Signal path.
- ➡ : Analog
- ➡ : Digital

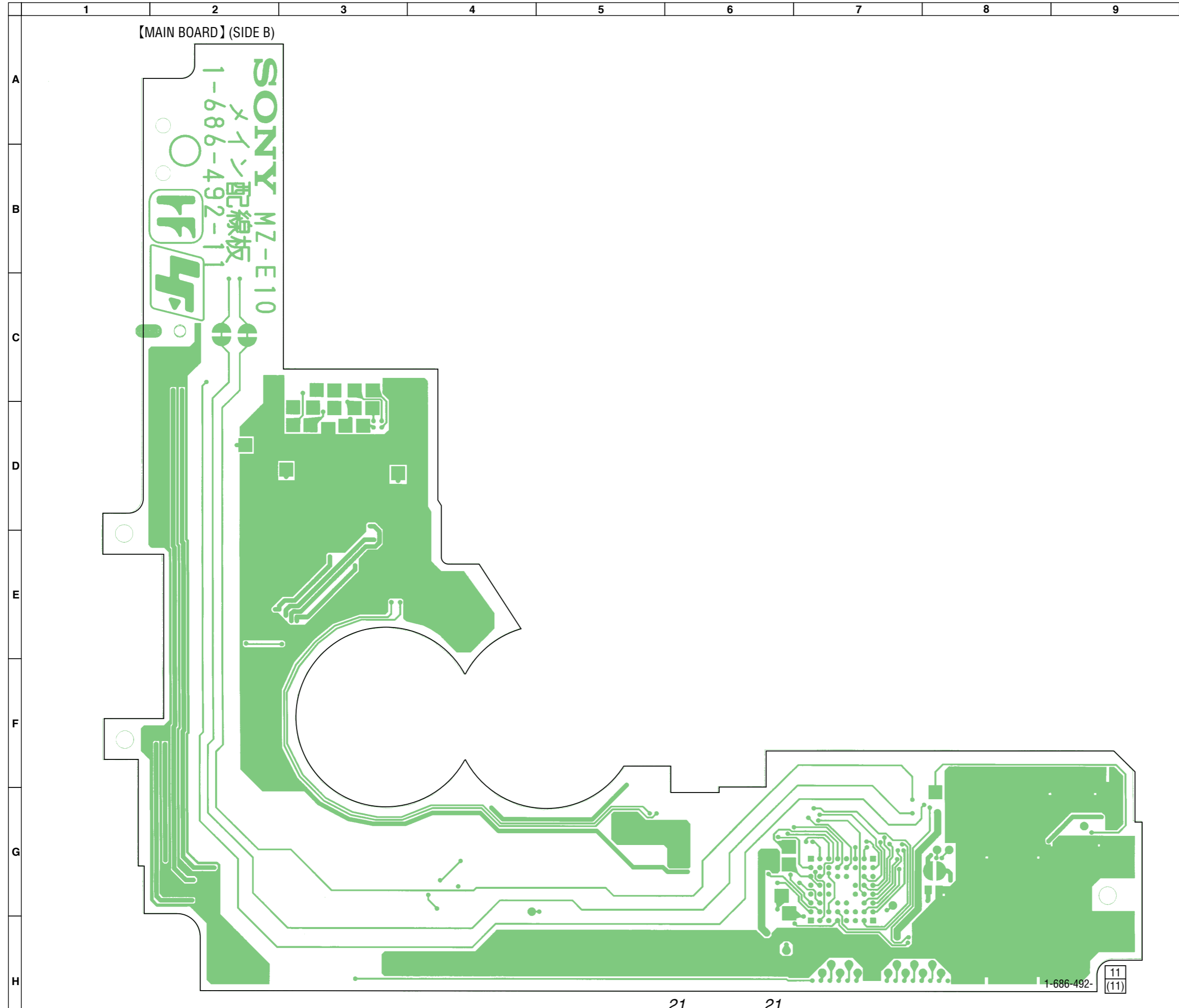
6-2. PRINTED WIRING BOARDS – MAIN SECTION (1/2) –  : Uses unleaded solder. • See page 25 for Notes.



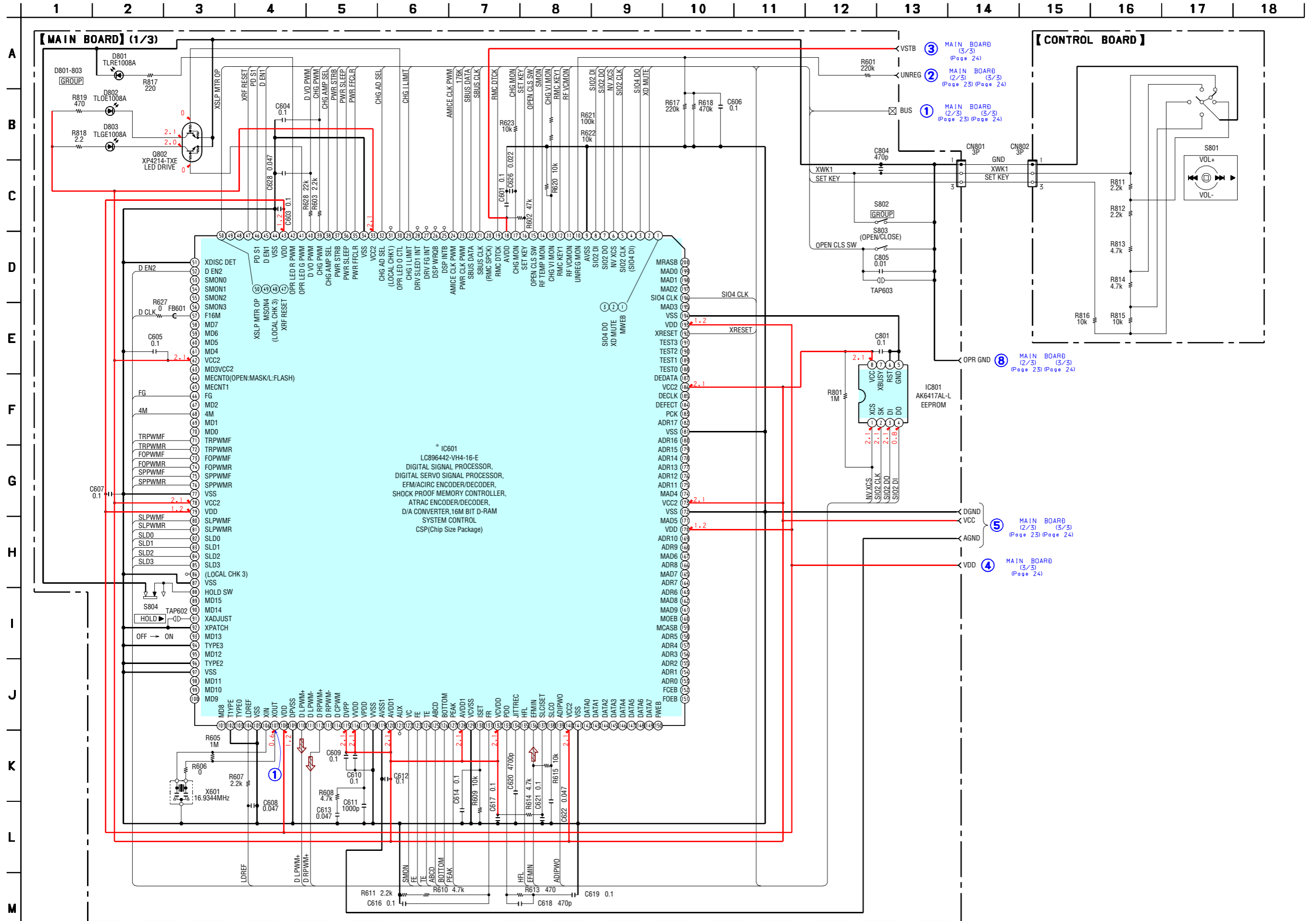
● Semiconductor Location

Ref. No.	Location
D101	E-9
D201	E-9
D301	F-9
D801	B-9
D802	B-9
D803	B-9
D851	E-9
D902	G-6
D903	G-6
D904	G-7
D951	G-3
IC301	B-9
IC302	D-9
IC501	D-8
IC551	G-9
IC601	G-4
IC801	G-5
IC901	G-7
IC951	F-2
IC952	C-8
Q102	F-9
Q202	F-9
Q301	C-9
Q302	D-9
Q303	F-9
Q304	E-8
Q501	D-8
Q802	C-9
Q901	G-7
Q902	H-5
Q903	G-6
Q904	E-8
Q951	G-3
Q952	E-7
Q953	E-7

6-3. PRINTED WIRING BOARDS – MAIN SECTION (2/2) –  : Uses unleaded solder. ● See page 25 for Notes.



6-4. SCHEMATIC DIAGRAM – MAIN SECTION (1/3) – ● See page 25 for Notes. ● See page 26 for IC Pin Function Description.

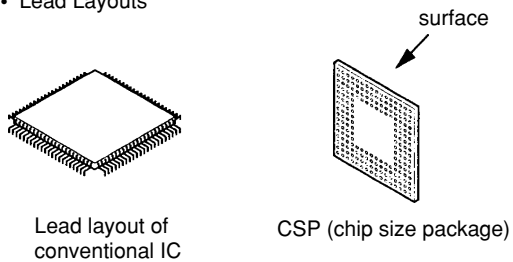


Note on Printed Wiring Boards

- : parts extracted from the component side.
- : Through hole.
- : 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 six-layer printed board. However, the patterns of layer 2 to 5 have not been included in this diagrams.
- Replacement of IC501 and IC601 used in this set requires a special tool.
- Lead Layouts



Lead layout of conventional IC

CSP (chip size package)

Note on Schematic Diagram

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

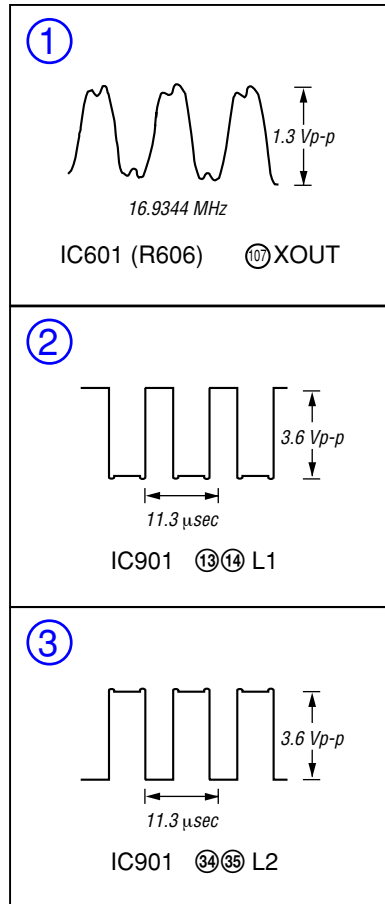
<p>Note: The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.</p>	<p>Note: Les composants identifiés par une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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- : B+ Line.
- Power voltage is dc 3.7V and fed with regulated dc power supply from connector (CN952).
- 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 a 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)

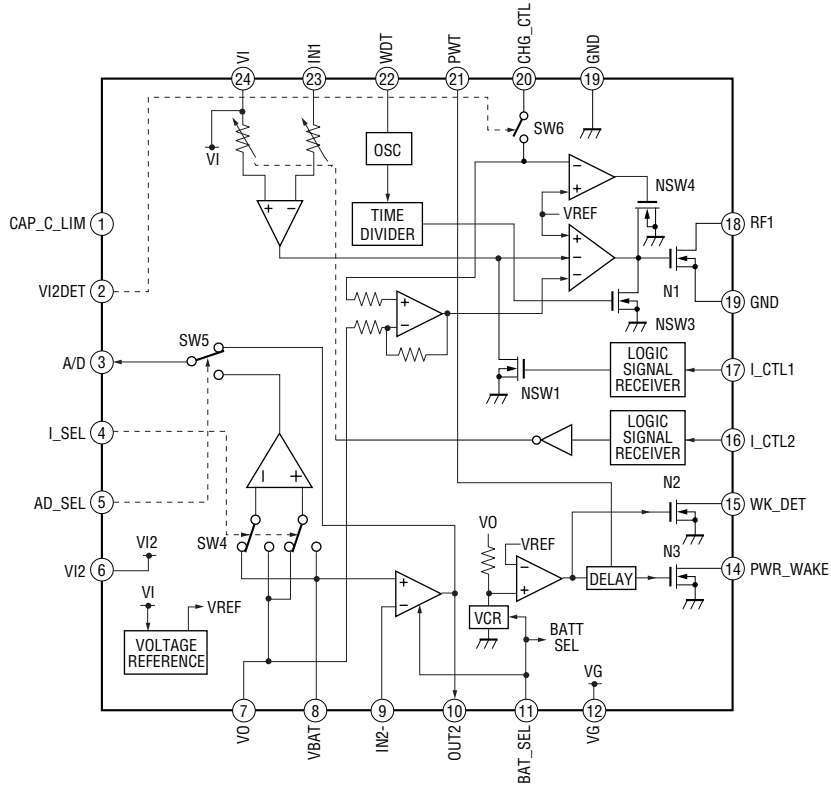
Pin No.	Pin Name	I/O	Description
50	XSLP MTR OP	O	Start/stop signal output to motor drive (CXA8125ER-TBM-E)
51	XDISC DET	I	Not used (connected to ground)
52	D_EN2	O	Drive control signal output to Headphone AMP (NJU-8713V-TE2)
53 to 56	SMON 0 to 3	-	Not used (open)
57	F16M	O	Clock (16.9344MHz) output 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

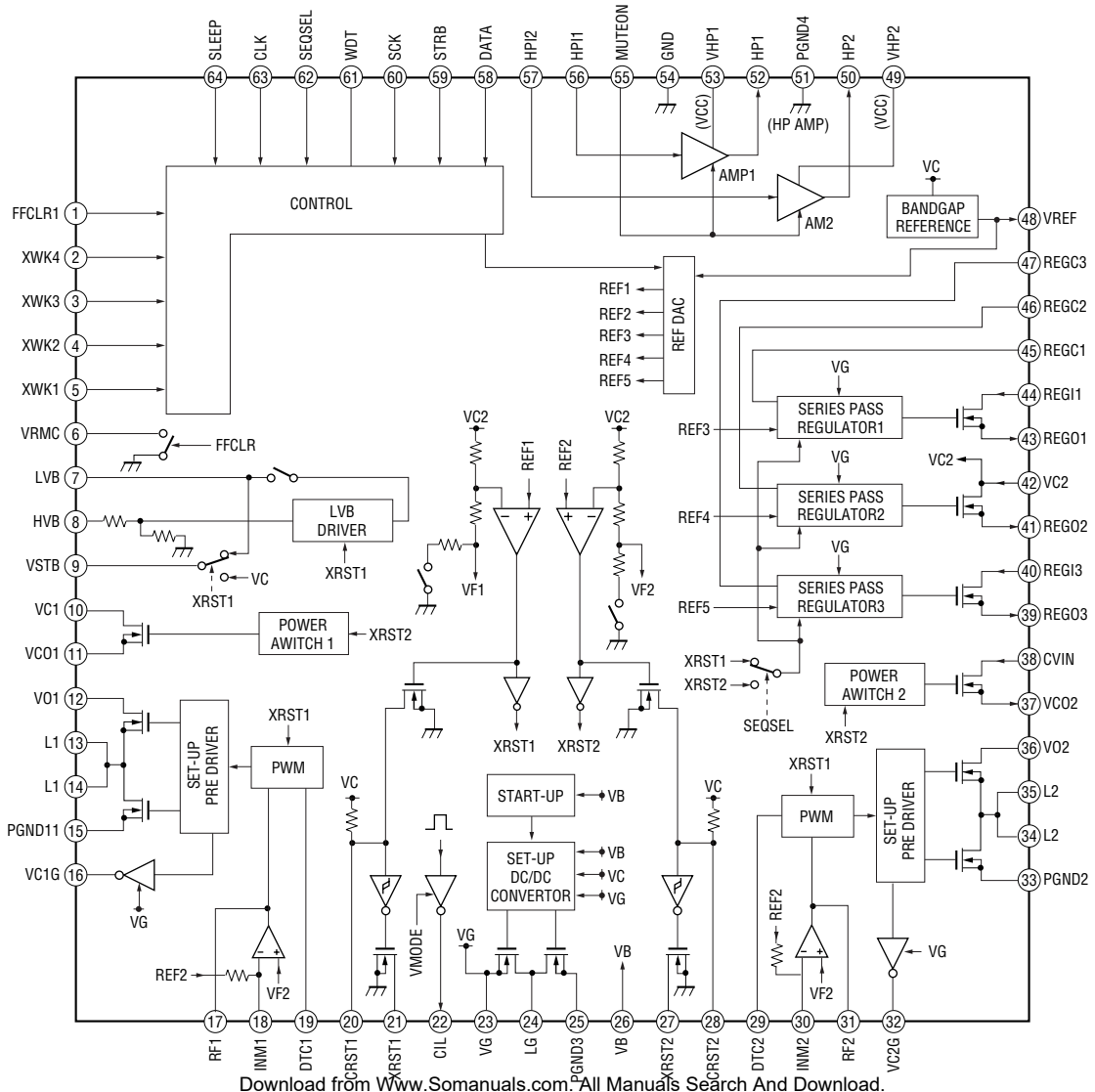
Pin No.	Pin Name	I/O	Description
173	VCC2	–	Power supply
174	MAD4	–	Not used
175 to 180	ADR11 to 16	–	Not used
181	VSS	–	Ground
182	ADR17	–	Not used
183	PCK	–	Not used (open)
184	DEFECT	–	Not used (open)
185	DECLK	–	Not used (open)
186	VCC2	–	Ground
187	DEDATA	–	Not used (open)
188 to 191	TEST0 to 3	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

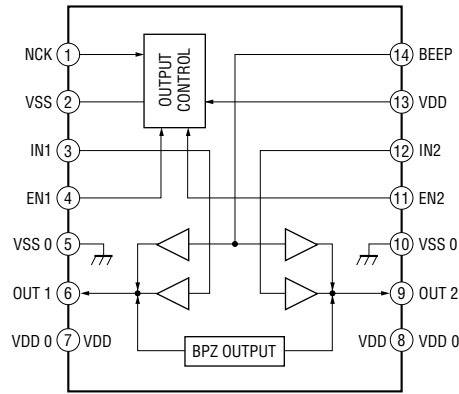
IC951 SC901582EPR2



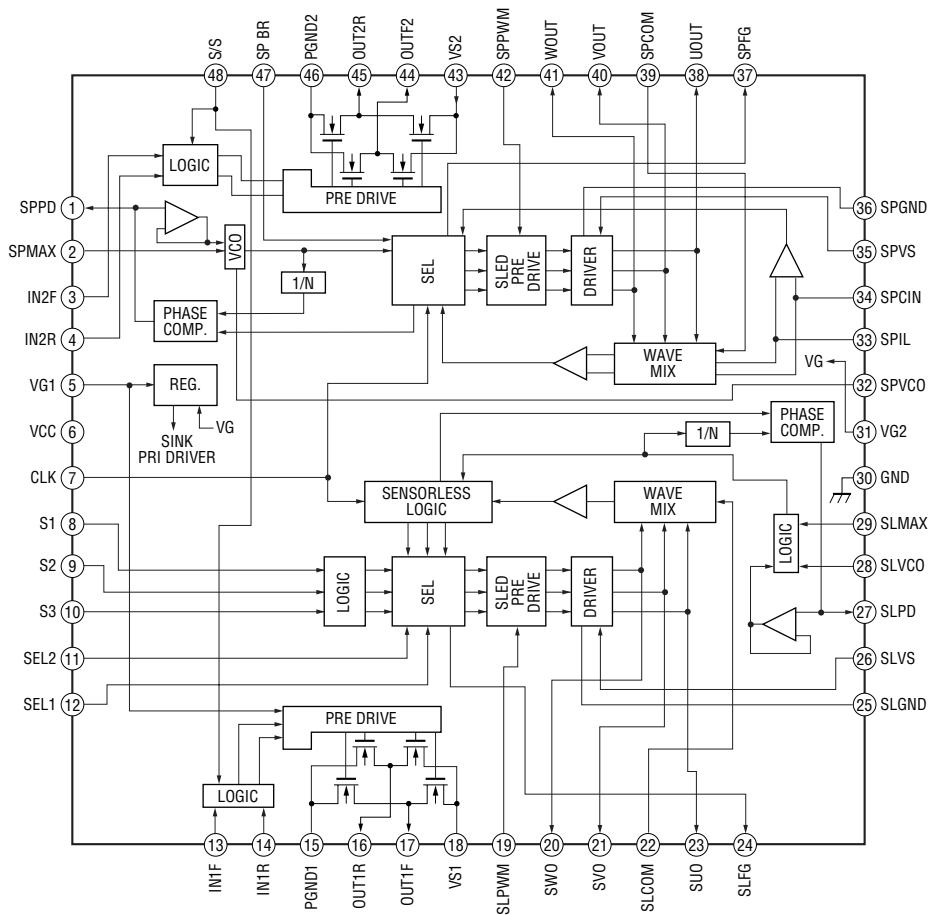
IC901 SC901580EPR2



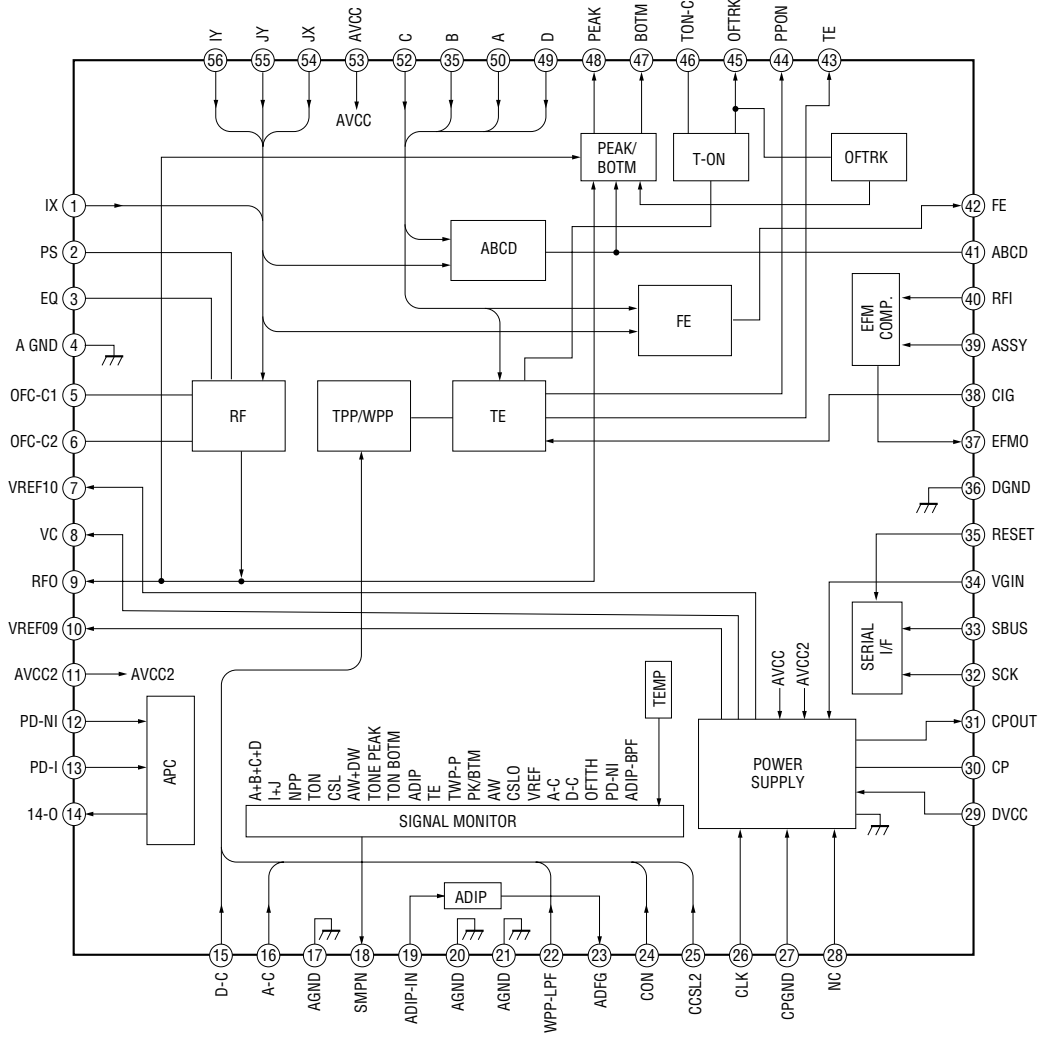
IC301 NJU8713V-TE2



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)

↑
↑

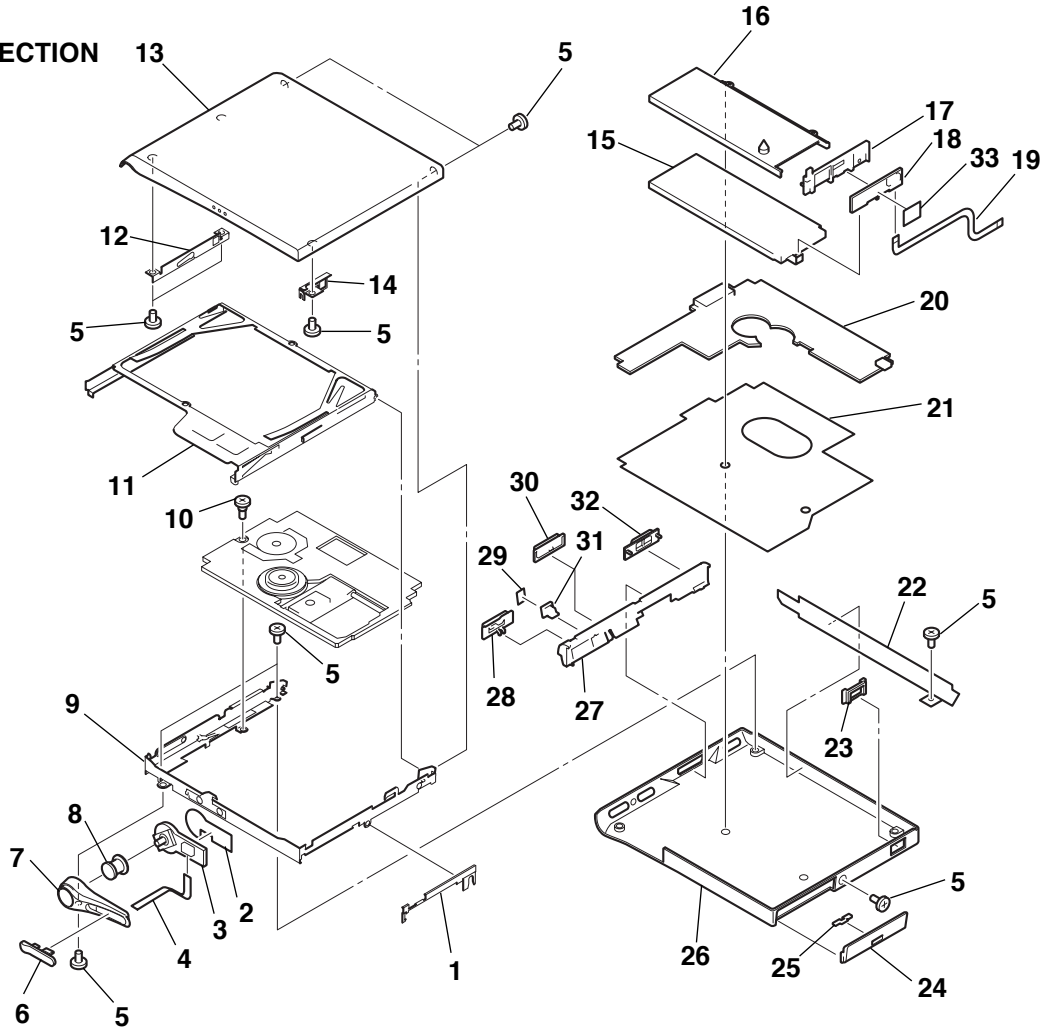
 Parts color Cabinet's color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- 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
 CND : Canadian
 HK : Hong Kong
 JEW : Tourist
 KR : Korean

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

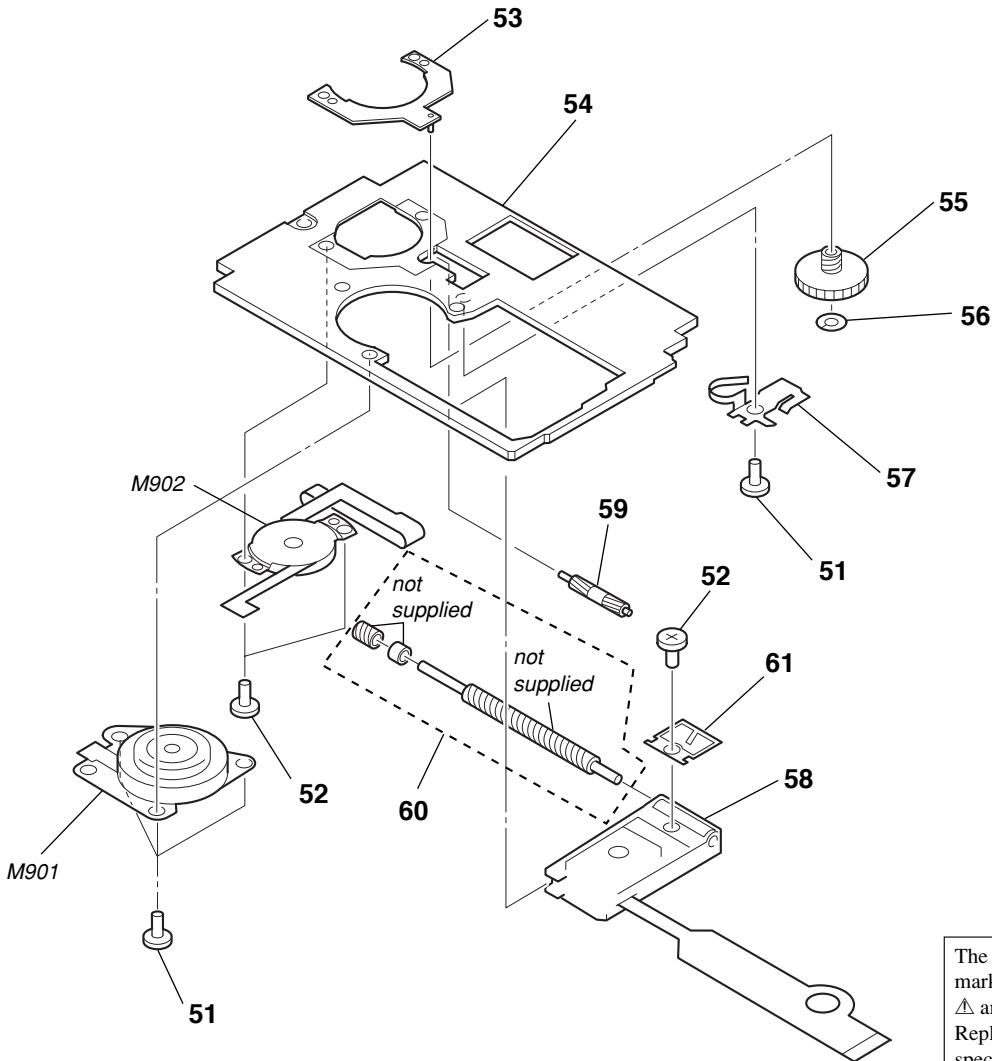
Les composants identifiés par une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. MAIN SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-248-142-01	PLATE, RETAINER		17	3-246-323-01	RETAINER, BATTERY	
2	3-246-315-01	SHEET (CONTROL)		* 18	A-3178-966-A	POWER BOARD, COMPLETE	
* 3	A-3178-965-A	CONTROL BOARD, COMPLETE		19	1-686-494-11	PWB, POWER RELAY FLEXIBLE	
4	1-686-493-11	PWB, SWITCH FLEXIBLE		* 20	A-3178-957-A	MAIN BOARD ASSY	
5	3-234-449-07	SCREW (M1.4)		21	3-246-305-01	SHEET (INSULATING)	
6	3-246-314-01	KNOB (OPEN)		22	3-250-833-01	SHEET (BLIND)	
7	3-246-313-01	COVER (CONTROL)		23	3-246-306-01	ESCUTCHEON	
8	3-246-312-01	BUTTON (CONTROL)		24	3-250-169-01	LID (DC), BATTERY CASE	
9	X-3382-635-1	BRACKET ASSY		25	3-246-325-01	KNOB (POWER)	
10	3-246-203-01	SCREW, STEP		26	3-246-304-21	PANEL (LOWER) (JEW,KR)	
11	X-3382-636-1	HOLDER ASSY		26	3-246-304-31	PANEL (LOWER) (AEP,UK,HK,US,CND)	
12	3-246-318-01	BRACKET (STOP)		27	3-246-310-01	COVER (L)	
13	X-3382-787-1	PANEL ASSY (S), UPPER		28	3-246-308-01	KNOB (HOLD)	
14	3-246-319-01	BRACKET (R)		29	3-249-753-01	SHEET (LED)	
15	1-756-318-21	BATTERY, LITHIUM ION STORAGE (US, CND)		30	3-246-307-01	BUTTON (GROUP)	
15	1-756-318-31	BATTERY, LITHIUM ION STORAGE (AEP, UK, HK, JEW, KR)		31	3-246-309-01	WINDOW (LED)	
16	3-246-322-01	CASE, BATTERY		32	3-246-311-01	STRAP HOLE	
				33	3-250-176-01	SHEET (POWER PC BOARD)	

7-2. MECHANISM DECK SECTION
(MT-MZE10-184)



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.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-225-278-02	SCREW, TAPPING		△ 58	X-3383-261-1	OPTICAL PICK-UP ASSY (ABX-1ES)	
52	3-225-996-17	SCREW (M1.4)(EG),PRECISION PAN		59	3-244-883-01	GEAR (SB)	
53	X-3382-398-1	BASE ASSY, MOTOR		60	A-3174-607-A	SCREW BLOCK ASSY, LEAD	
* 54	3-244-870-01	CHASSIS		61	3-244-879-01	SPRING, RACK	
55	3-244-882-01	GEAR (SA)		M901	8-835-782-01	MOTOR, DC SSM18D (SPINDLE)	
56	3-338-645-31	WASHER (0.8-2.5)		M902	8-835-783-01	MOTOR, DC SSM21B (SLED)	
57	3-244-880-01	SPRING, THRUST DETENT					

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
CND : Canadian
HK : Hong Kong
JEW : Tourist
KR : Korean

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

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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3178-957-A	MAIN BOARD ASSY *****		C527	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
	1-686-494-11	POWER RELAY FLEXIBLE BOARD		C532	1-164-858-11	CERAMIC CHIP 22PF 5%	50V
		< CAPACITOR >		C533	1-164-858-11	CERAMIC CHIP 22PF 5%	50V
C101	1-127-715-91	CERAMIC CHIP 0.22uF 10%	16V	C534	1-164-858-11	CERAMIC CHIP 22PF 5%	50V
C102	1-135-868-91	TANTAL. CHIP 220uF 20%	2.5V	C535	1-164-858-11	CERAMIC CHIP 22PF 5%	50V
C104	1-107-820-11	CERAMIC CHIP 0.1uF	16V	C536	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C201	1-127-715-91	CERAMIC CHIP 0.22uF 10%	16V	C551	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C202	1-135-868-91	TANTAL. CHIP 220uF 20%	2.5V	C552	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C204	1-107-820-11	CERAMIC CHIP 0.1uF	16V	C553	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C301	1-107-820-11	CERAMIC CHIP 0.1uF	16V	C554	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
C302	1-137-858-11	TANTAL. CHIP 47uF 20%	6.3V	C555	1-127-715-91	CERAMIC CHIP 0.22uF 10%	16V
C303	1-107-820-11	CERAMIC CHIP 0.1uF	16V	C556	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V
C304	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V	C557	1-125-838-11	CERAMIC CHIP 2.2uF 10%	6.3V
C305	1-137-701-11	TANTAL. CHIP 4.7uF 20%	10V	C558	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C306	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V	C601	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C307	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	C603	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C308	1-127-895-91	TANTAL. CHIP 22uF 20%	4V	C604	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C309	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C605	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C310	1-137-859-11	TANTAL. CHIP 220uF 20%	4V	C606	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C311	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V	C607	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C312	1-164-850-11	CERAMIC CHIP 10PF 0.50PF	50V	C608	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C501	1-164-850-11	CERAMIC CHIP 10PF 0.50PF	50V	C609	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C502	1-164-850-11	CERAMIC CHIP 10PF 0.50PF	50V	C610	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C503	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C611	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C505	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C612	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C506	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C613	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C507	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C614	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C508	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V	C616	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C509	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C617	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C510	1-117-919-11	TANTAL. CHIP 10uF 20%	6.3V	C618	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
C511	1-137-762-91	TANTALUM 10uF 20%	4V	C619	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C512	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C620	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C513	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V	C621	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C515	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V	C622	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C518	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V	C626	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V
C519	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	C628	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C520	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	C801	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C523	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V	C803	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
C525	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V	C804	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
C526	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V	C805	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
				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

MAIN

Ref. No.	Part No.	Description	Remark
C902	1-135-837-91	TANTAL. CHIP 22uF 20%	6.3V
C903	1-135-837-91	TANTAL. CHIP 22uF 20%	6.3V
C904	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
C905	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C906	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V
C907	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C908	1-137-858-11	TANTAL. CHIP 47uF 20%	6.3V
C909	1-100-396-91	TANTAL. CHIP 4.7uF 20%	16V
C910	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C911	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C912	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
C913	1-119-923-81	CERAMIC CHIP 0.047uF 10%	10V
C915	1-164-935-11	CERAMIC CHIP 470PF 10%	50V
C916	1-100-352-91	CHIP CERAMIC 1uF	16V
C917	1-135-837-91	TANTAL. CHIP 22uF 20%	6.3V
C920	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C921	1-100-352-91	CHIP CERAMIC 1uF	16V
C922	1-165-799-11	TANTAL. CHIP 22uF 20%	4V
C923	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V
C924	1-127-573-11	CERAMIC CHIP 1uF 10%	16V
C925	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C926	1-135-837-91	TANTAL. CHIP 22uF 20%	6.3V
C928	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C929	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C951	1-137-934-91	TANTAL. CHIP 47uF 20%	10V
C952	1-165-897-11	TANTAL. CHIP 22uF 20%	10V
C953	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C954	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C955	1-127-692-11	CERAMIC CHIP 10uF 10%	16V
C956	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C957	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C958	1-100-352-91	CHIP CERAMIC 1uF	16V
C959	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C960	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
< CONNECTOR >			
CN801	1-816-846-21	CONNECTOR, FPC (ZIF)	
CN951	1-816-868-21	CONNECTOR (POWER JACK)	
CN952	1-816-922-21	CONNECTOR, FPC (ZIF)	
< DIODE >			
D101	8-719-056-58	DIODE MAZS027008SO	
D201	8-719-056-58	DIODE MAZS027008SO	
D301	8-719-056-58	DIODE MAZS027008SO	
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)	
D851	8-719-077-43	DIODE MAZZ068H01SO	
D902	8-719-420-51	DIODE MA729	
D903	8-719-071-45	DIODE MA116-(TX).SO	
D904	8-719-071-45	DIODE MA116-(TX).SO	
D951	6-500-369-01	DIODE FT1J3TP	
< FERRITE BEAD >			
FB101	1-216-864-11	METAL CHIP 0 5%	1/10W
FB201	1-216-864-11	METAL CHIP 0 5%	1/10W
FB601	1-414-227-11	FERRITE 0uH	
FB801	1-414-228-11	FERRITE 0uH	
FB802	1-414-228-11	FERRITE 0uH	

Ref. No.	Part No.	Description	Remark
FB803	1-469-082-21	FERRITE 0uH	
< IC >			
IC301	6-703-631-01	IC NJU8713V-TE2	
IC302	6-703-652-01	IC LMV301MGX/NOPB	
@ IC501	6-702-869-01	IC SN761058ZQL	
IC551	8-835-792-01	IC CXA8125ER-TBM-E	
@ 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	
IC951	6-702-867-01	IC SC901582EPR2	
IC952	8-759-824-57	IC XC61CN3002NR	
< JACK >			
J301	1-816-845-21	JACK 7P (⊖)	
< COIL >			
L101	1-412-032-11	INDUCTOR CHIP 100uH	
L201	1-412-032-11	INDUCTOR CHIP 100uH	
L501	1-469-570-21	INDUCTOR 10uH	
L551	1-469-846-11	INDUCTOR 47uH	
L552	1-400-353-21	INDUCTOR 22uH	
L901	1-424-929-21	INDUCTOR 150uH	
L902	1-412-033-11	INDUCTOR CHIP 220uH	
L903	1-424-929-21	INDUCTOR 150uH	
L904	1-414-398-11	INDUCTOR 10uH	
< TRANSISTOR >			
Q102	8-729-050-32	TRANSISTOR 2SC5585TL	
Q202	8-729-050-32	TRANSISTOR 2SC5585TL	
Q301	6-550-376-01	TRANSISTOR UMX1N-TN	
Q302	8-729-055-85	TRANSISTOR UMT1N-TN	
Q303	6-550-527-01	TRANSISTOR NTHD5904T1	
Q304	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	
Q501	8-729-922-10	TRANSISTOR 2SA1577-QR	
Q802	8-729-427-49	TRANSISTOR XP4214-TXE	
Q901	6-550-561-01	TRANSISTOR MMBF0202PLT1	
Q902	6-550-561-01	TRANSISTOR MMBF0202PLT1	
Q903	8-729-048-92	TRANSISTOR HAT1043M-EL	
Q904	8-729-048-77	TRANSISTOR XP4313-(TX).SO	
Q951	6-550-326-01	TRANSISTOR FZT968TA	
Q952	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	
Q953	8-729-042-27	TRANSISTOR 2SD2216J-QR(TX).SO	
< RESISTOR >			
R102	1-218-961-11	RES-CHIP 4.7K 5%	1/16W
R104	1-218-957-11	RES-CHIP 2.2K 5%	1/16W
R202	1-218-961-11	RES-CHIP 4.7K 5%	1/16W
R204	1-218-957-11	RES-CHIP 2.2K 5%	1/16W
R301	1-218-965-11	RES-CHIP 10K 5%	1/16W
R302	1-218-969-11	RES-CHIP 22K 5%	1/16W
R303	1-218-965-11	RES-CHIP 10K 5%	1/16W
R304	1-218-957-11	RES-CHIP 2.2K 5%	1/16W
R305	1-218-965-11	RES-CHIP 10K 5%	1/16W
R306	1-218-941-81	RES-CHIP 100 5%	1/16W
R307	1-218-973-11	RES-CHIP 47K 5%	1/16W
R309	1-208-635-11	RES-CHIP 10 0.5%	1/16W

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

MAIN

POWER

CONTROL

Ref. No.	Part No.	Description	Quantity	Value	Remark	Ref. No.	Part No.	Description	Quantity	Value	Remark
R310	1-218-990-11	SHORT CHIP	0			R903	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R311	1-218-953-11	RES-CHIP	1K	5%	1/16W	R904	1-218-981-11	RES-CHIP	220K	5%	1/16W
R312	1-218-969-11	RES-CHIP	22K	5%	1/16W	R905	1-218-953-11	RES-CHIP	1K	5%	1/16W
R313	1-218-953-11	RES-CHIP	1K	5%	1/16W	R906	1-218-989-11	RES-CHIP	1M	5%	1/16W
R315	1-218-937-11	RES-CHIP	47	5%	1/16W	R908	1-218-965-11	RES-CHIP	10K	5%	1/16W
R317	1-218-989-11	RES-CHIP	1M	5%	1/16W	R909	1-218-953-11	RES-CHIP	1K	5%	1/16W
R318	1-218-989-11	RES-CHIP	1M	5%	1/16W	R911	1-218-977-11	RES-CHIP	100K	5%	1/16W
R501	1-208-707-11	METAL CHIP	10K	0.5%	1/16W	R912	1-218-965-11	RES-CHIP	10K	5%	1/16W
R502	1-208-683-11	METAL CHIP	1K	0.5%	1/16W	R914	1-218-990-11	SHORT CHIP	0		
R504	1-242-967-81	RES-CHIP	1	5%	1/16W	R915	1-218-990-11	SHORT CHIP	0		
R505	1-218-977-11	RES-CHIP	100K	5%	1/16W	R916	1-218-985-11	RES-CHIP	470K	5%	1/16W
R506	1-218-990-11	SHORT CHIP	0			R917	1-218-981-11	RES-CHIP	220K	5%	1/16W
R507	1-218-990-11	SHORT CHIP	0			R918	1-218-981-11	RES-CHIP	220K	5%	1/16W
R509	1-218-990-11	SHORT CHIP	0			R919	1-218-989-11	RES-CHIP	1M	5%	1/16W
R510	1-218-965-11	RES-CHIP	10K	5%	1/16W	R921	1-218-990-11	SHORT CHIP	0		
R511	1-218-965-11	RES-CHIP	10K	5%	1/16W	R951	1-218-990-11	SHORT CHIP	0		
R513	1-218-990-11	SHORT CHIP	0			R952	1-218-973-11	RES-CHIP	47K	5%	1/16W
R514	1-218-990-11	SHORT CHIP	0			R953	1-218-973-11	RES-CHIP	47K	5%	1/16W
R516	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W	R955	1-218-989-11	RES-CHIP	1M	5%	1/16W
R518	1-218-990-11	SHORT CHIP	0			R956	1-245-454-21	METAL FILM (SMD)			0.022(1608)
R551	1-218-977-11	RES-CHIP	100K	5%	1/16W	R957	1-218-941-81	RES-CHIP	100	5%	1/16W
R552	1-218-965-11	RES-CHIP	10K	5%	1/16W	R958	1-218-965-11	RES-CHIP	10K	5%	1/16W
R553	1-218-973-11	RES-CHIP	47K	5%	1/16W	R959	1-245-456-21	METAL FILM (SMD)			1.0(1608)
R554	1-243-975-81	METAL CHIP	4.7M	5%	1/16W	R961	1-245-457-21	METAL FILM (SMD)			2.2(1608)
R561	1-216-801-11	METAL CHIP	22	5%	1/10W	R964	1-218-941-11	METAL CHIP	100	0.5%	1/16W
R562	1-216-797-11	METAL CHIP	10	5%	1/10W	R965	1-218-945-11	METAL CHIP	220	0.5%	1/16W
R563	1-216-801-11	METAL CHIP	22	5%	1/10W	R967	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R564	1-216-805-11	METAL CHIP	47	5%	1/10W			< SWITCH >			
R601	1-208-943-11	METAL CHIP	220K	0.5%	1/16W	S802	1-786-424-21	SWITCH, TACTILE (GROUP)			
R602	1-218-973-11	RES-CHIP	47K	5%	1/16W	S803	1-786-443-21	SWITCH, DETECTION (OPEN/CLOSE)			
R603	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	S804	1-786-425-21	SWITCH, SLIDE (HOLD ►)			
R605	1-218-989-11	RES-CHIP	1M	5%	1/16W			< VIBRATOR >			
R606	1-218-990-11	SHORT CHIP	0			X601	1-795-561-21	VIBRATOR, CERAMIC (16.9344MHz)			
R607	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W	*****					
R608	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	*	A-3178-966-A	POWER BOARD, COMPLETE			
R609	1-218-965-11	RES-CHIP	10K	5%	1/16W	*****					
R610	1-218-961-11	RES-CHIP	4.7K	5%	1/16W			< CONNECTOR >			
R611	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	CN953	1-816-937-21	CONNECTOR, FPC (ZIF)			
R613	1-218-949-11	RES-CHIP	470	5%	1/16W	CN954	1-816-922-21	CONNECTOR, FPC (ZIF)			
R614	1-218-961-11	RES-CHIP	4.7K	5%	1/16W			< SWITCH >			
R615	1-218-965-11	RES-CHIP	10K	5%	1/16W	S901	1-786-425-21	SWITCH, SLIDE (BUILT-IN BATTERY)			
R617	1-208-943-11	METAL CHIP	220K	0.5%	1/16W	*****					
R618	1-218-985-11	METAL CHIP	470K	0.5%	1/16W	*	A-3178-965-A	CONTROL BOARD, COMPLETE			
R620	1-218-965-11	RES-CHIP	10K	5%	1/16W	*****					
R621	1-218-977-11	RES-CHIP	100K	5%	1/16W			< CONNECTOR >			
R622	1-218-965-11	RES-CHIP	10K	5%	1/16W	CN802	1-816-846-21	CONNECTOR, FPC (ZIF)			
R623	1-218-965-11	RES-CHIP	10K	5%	1/16W			< RESISTOR >			
R627	1-218-990-11	SHORT CHIP	0			R811	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R628	1-218-969-11	RES-CHIP	22K	5%	1/16W	R812	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R801	1-218-989-11	RES-CHIP	1M	5%	1/16W	R813	1-218-961-11	RES-CHIP	4.7K	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						
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						
R901	1-218-985-11	RES-CHIP	470K	5%	1/16W						
R902	1-218-981-11	RES-CHIP	220K	5%	1/16W						

CONTROL

Ref. No.	Part No.	Description	Remark
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
< SWITCH >			
S801	1-786-401-21	SWITCH, TACTILE (◀◀, ▶▶, ■, VOL-, VOL+)	

MISCELLANEOUS *****			
4	1-686-493-11	PWB, SWITCH FLEXIBLE	
16	1-756-318-11	BATTERY, LITHIUM ION STORAGE	
20	1-686-494-11	PWB, POWER RELAY FLEXIBLE	
△58	X-3383-261-1	OPTICAL PICK-UP ASSY (ABX-1ES)	
M901	8-835-782-01	MOTOR, DC SSM18D (SPINDLE)	
M902	8-835-783-01	MOTOR, DC SSM21B (SLED)	

ACCESSORIES *****			
△	1-477-536-11	ADAPTOR, AC (JEW,KR)	
△	1-477-537-11	ADAPTOR, AC (UK,HK)	
△	1-477-538-11	ADAPTOR, AC (AEP)	
△	1-477-539-11	ADAPTOR, AC (US,CND)	
	1-477-585-11	REMOTE CONTROL UNIT (RM-MC33ELU)	
△	1-569-007-11	ADAPTOR, CONVERSION 2P (JEW,KR)	
	1-756-303-11	STAND, CHARGE	
	1-816-921-11	ADAPTOR, HEADPHONE PC-WM10	
	3-220-749-01	CASE, CARRYING	
	3-247-809-01	MANUAL, INSTRUCTION (JAPANESE)(JEW,KR)	
	3-247-809-11	MANUAL, INSTRUCTION (ENGLISH)	
	3-247-809-21	MANUAL, INSTRUCTION (FRENCH) (AEP,JEW,KR)	
	3-247-809-41	MANUAL, INSTRUCTION (SPANISH) (AEP,JEW,KR)	
	3-247-809-51	MANUAL, INSTRUCTION (DUTCH) (AEP)	
	3-247-809-61	MANUAL, INSTRUCTION (SWEDISH) (AEP)	
	3-247-809-71	MANUAL, INSTRUCTION (ITALIAN) (AEP)	
	3-247-809-81	MANUAL, INSTRUCTION (PORTUGUESE)(AEP)	
	3-247-809-91	MANUAL, INSTRUCTION (FINNISH) (AEP)	
	3-247-810-11	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (UK,HK,JEW,KR)	
	3-247-810-21	MANUAL, INSTRUCTION (KOREAN) (JEW,KR)	
	8-953-218-91	RECEIVER MDR-E838SP	
	3-252-648-01	CLIP (REMOTE CONTROL)	

<p>The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.</p>
<p>Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>

MEMO

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