MZ-E800

SERVICE MANUAL

Ver 1.1 2001.02

E Model
Tourist Model

Photo: Silver type

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	NEW
MD Mechanism Type	MT-MZE800-170
Optical Pick-up Mechanism Type	LCX-2E

SPECIFICATIONS

System

Audio playing system
MiniDisc digital audio system
Laser diode properties
Material: GaAlAs
Wavelength: λ = 790 nm
Emission duration: continuous
Laser output: less than 44.6 µW*
* 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
600 rpm to 2250 rpm
Error correction
Advanced Cross Interleave Reed Solomon Code (ACIRC)
Sampling frequency
44.1 kHz
Coding
Adaptive TRansform Acoustic Coding (ATRAC)
Modulation system
EFM (Eight to Fourteen Modulation)
Number of channels
2 stereo channels
1 monaural channel
Frequency response
20 to 20,000 Hz ± 3 dB
Wow and Flutter
Below measurable limit
Outputs
Earphones: stereo mini-jack, maximum output level 5 mW + 5 mW, load impedance 16 ohms

General

Power requirements
Nickel metal hydride rechargeable battery
One NH-14WM (supplied): 1.2V, 1,400 mAh
One LR6 (size AA) battery (not supplied)
Sony AC Power Adaptor* (supplied) connected to the DC IN 3V jack
Battery operation time
Battery life*

Batteries	Playback
Ni-MH rechargeable battery (NH-14WM)	Approx. 24 hours*
One (size AA) alkaline battery**	Approx. 37 hours
One (size AA) alkaline battery** and a Ni-MH rechargeable battery (NH-14WM)	Approx. 64 hours

* With a fully charged battery
** When using a LR6 (SG) Sony "STAMINA" alkaline dry battery (produced in Japan).

Note
The battery life may be shorter depending on operating conditions, the surrounding temperature, and the battery type.

Dimensions
Approx. 79.5 × 76.7 × 17.0 mm (w/h/d) (not including projecting parts and controls)
Mass
Approx. 110g (the player only)
Supplied accessories
Earphones with a remote control (1)
Charging stand (1)
Nickel metal hydride rechargeable battery (1)
AC power adaptor (1)
Dry battery case (1)
Rechargeable battery carrying case (1)
Carrying pouch (1)

Design and specifications are subject to change without notice.

About power sources

- For use in your house or car: Use the supplied AC power adaptor or the DCC-E230 car battery cord (not supplied) to supply power to the player. Do not use any other power supply.

Polarity of the plug

PORTABLE MINIDISC PLAYER

9-927-939-12
2001B0500-1

Sony Corporation
Audio Entertainment Group
General Engineering Dept.

SONY

TABLE OF CONTENTS

Features

- **Compact body with newly developed head-loading system.**
  Insert or eject an MD with the slightest touch of a finger.
- **Simple-to-charge folding standup battery charger**
  Insert the MD player into the folding standup battery charger for simple, one-step charging. By connecting an optional car battery cord to the battery charger, you can listen to the player in the car without worrying about battery rundown.
- **LCD display built into player for easy viewing in the car**
  An easy-to-see LCD display built into the player allows you to monitor track numbers when the remote control display is out of view.
- **Personalized sound through Digital Sound Preset functions**
  You can store two sets of sound quality adjustments (made during playback) to two switches.
- **Small body almost the size of a MiniDisc jacket**
- **Low power-consumption design for extended battery life.**
- **Easy-to-operate earphones remote control with backlit LCD**
- **Shock-resistant memory offsets up to 40 seconds of optical read errors.**

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

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.

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.

SAFETY-RELATED COMPONENT WARNING!!

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

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

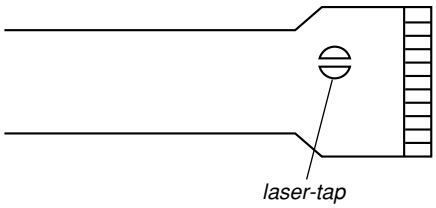
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

Never look into the laser diode emission from right above when checking it for adjustment. It is feared that you will lose your sight.

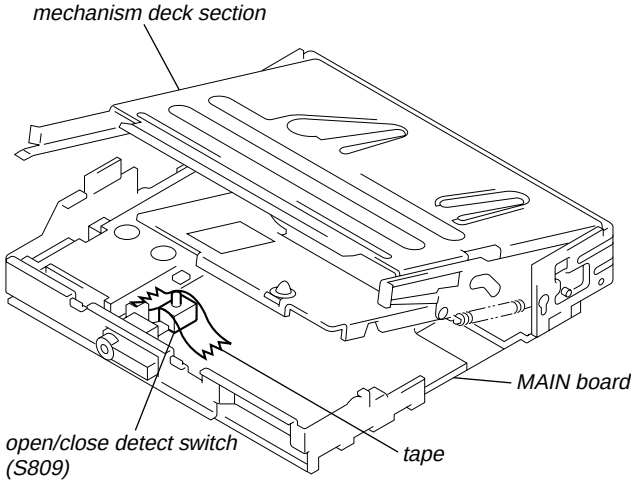
NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK (LCX-2E)

The laser diode in the optical pick-up block may suffer electrostatic break-down easily. When handling it, perform soldering bridge to the laser-tap on the flexible board. Also perform measures against electrostatic break-down sufficiently before the operation. The flexible board is easily damaged and should be handled with care.



OPTICAL PICK-UP FLEXIBLE BOARD

- In performing the repair with the power supplied to the set, removing the MAIN board causes the set to be disabled.
  In such a case, fix a convex part of the open/close detect switch (S809 on MAIN board) with a tape in advance.



- Replacement of CXD2661GA-2 (IC601) and CXR701080-016GA (IC801) used in this set requires a special tool. Therefore, they cannot be replaced.

- On the set having the microcomputer version 1.000, the NV reset failure will occur.
  Therefore, in executing the NV reset during electrical adjustment, follow the troubleshooting method of NV reset to perform the NV reset (see page 17).

OPERATION OF MECHANISM

• When a disc is loaded.

Open the shutter ①. (Fig. 1)

⇩

When a disc is inserted, the Eject lever ② moves in arrow ⓐ direction and the holder Assy ③ is unlocked. (Fig. 1 - Fig. 4)

⇩

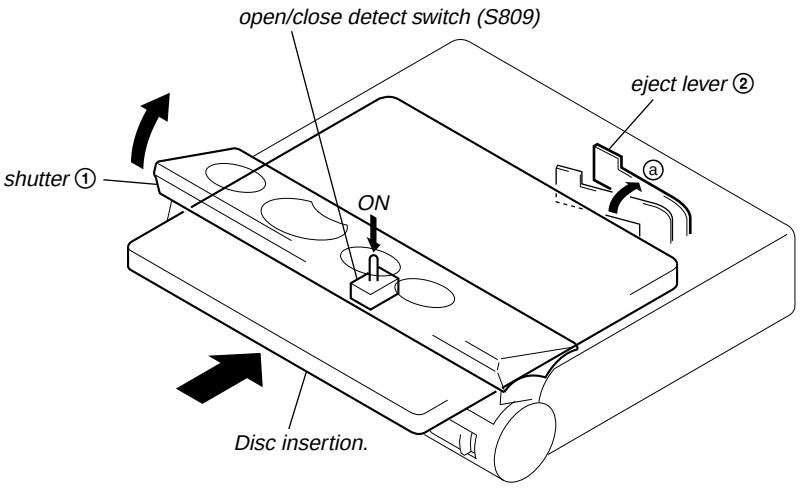
The slider ④ slides in arrow ⓑ direction, and the holder Assy ③ moves down to the MAIN board side (downward). (Fig. 4)

⇩

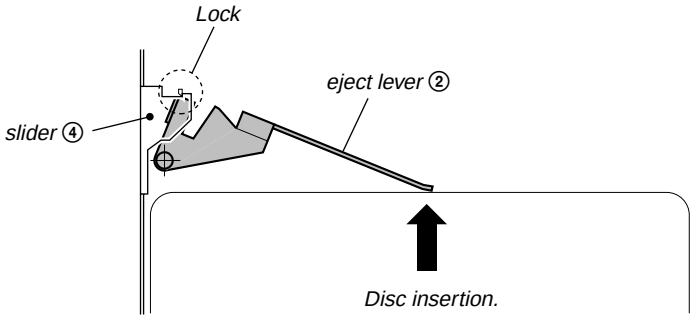
When a disc lowers, the open/close detect switch (S809) turns on. (Fig. 1)

⇩

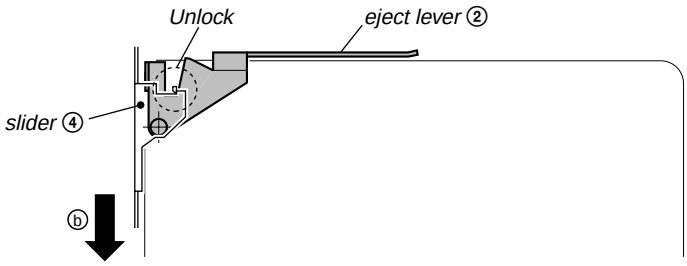
The Wake-up mode becomes active and the power circuit starts to operate.



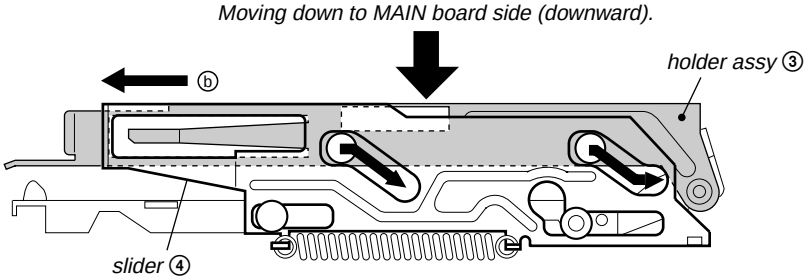
(Fig. 1)



(Fig. 2)



(Fig. 3)



(Fig. 4)

• **When a disc is unloaded.**

Open the shutter ①. (Fig. 5)

⇩

The slider ② slides in arrow ⓐ direction, and the holder Assy ③ moves up. (Fig. 6, Fig. 8)

⇩

When a disc rises, the open/close detect switch (S809) turns off. (Fig. 5)

⇩

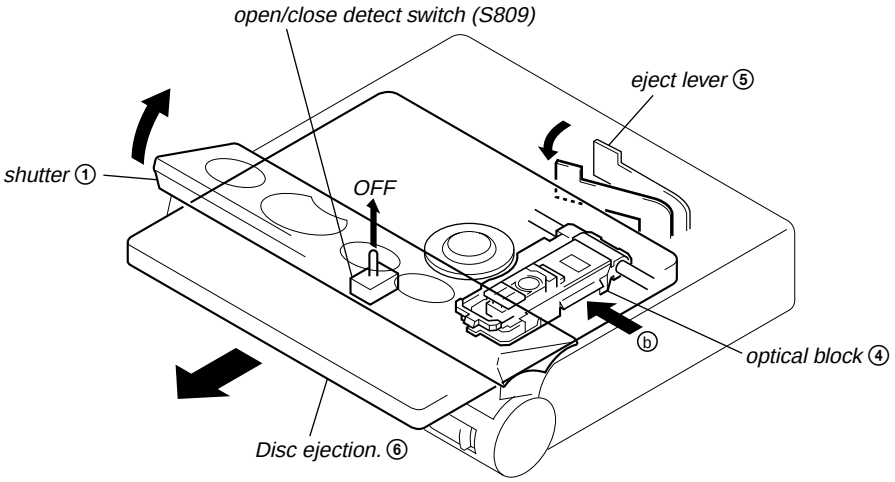
The optical block ④ moves in arrow ⓑ direction (inward). (Fig. 5)

⇩

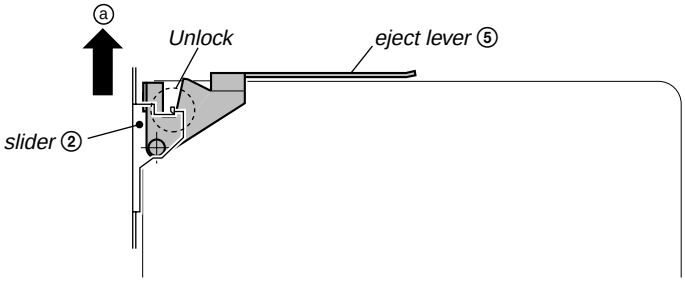
The disc ⑥ is pushed out by the Eject lever ⑤ and ejected from the holder Assy ③. (Fig. 7)

⇩

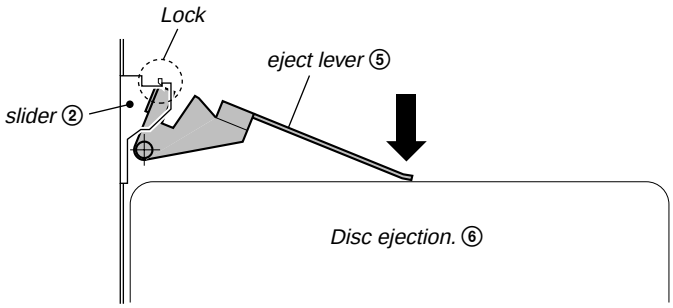
The Sleep mode becomes active and the power supply stops.



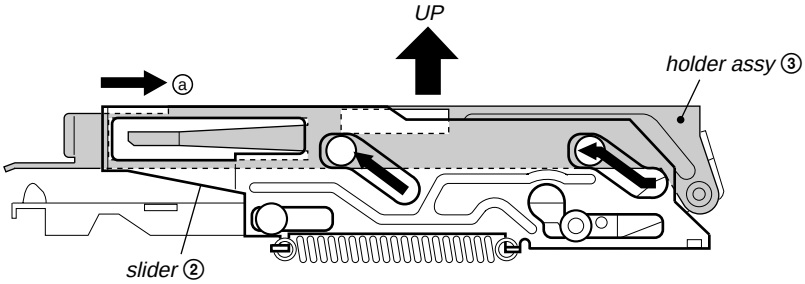
(Fig. 5)



(Fig. 6)



(Fig. 7)

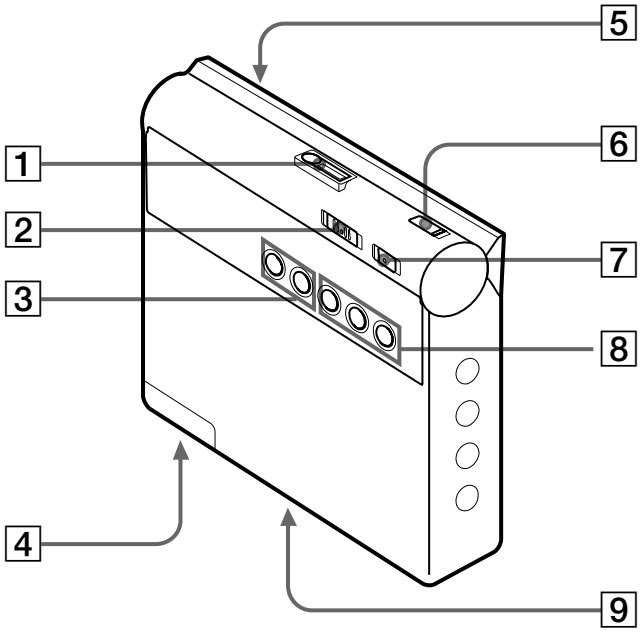


(Fig. 8)

This section is extracted from instruction manual.

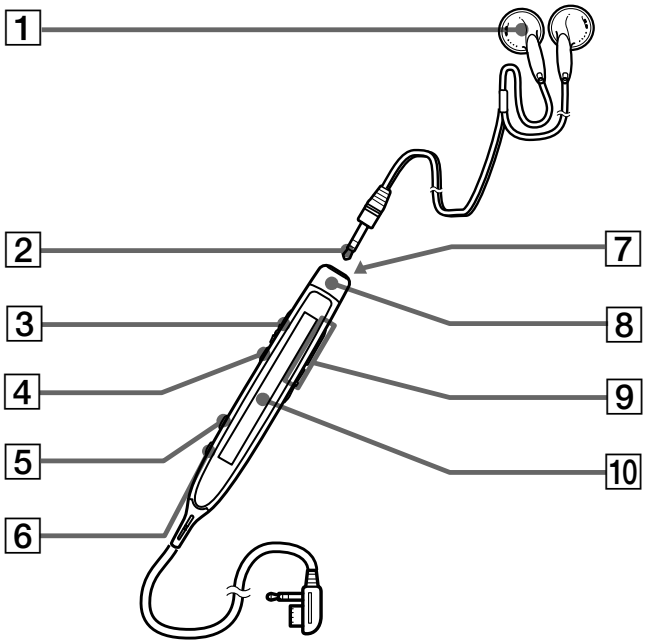
Parts and controls

The Player



1 ∩ (earphones) jack
2 DIGITAL SOUND PRESET switch
3 VOL (volume) +/– button
4 Battery compartment (at the bottom)
5 Mini-disc loading shutter (EJECT)
6 HOLD (Locking the control) switch
7 AVLS (Automatic Volume Limiter System) NORM/LIMIT switch
8 Mini-disc control button
9 Terminals for charging stand (at the bottom)

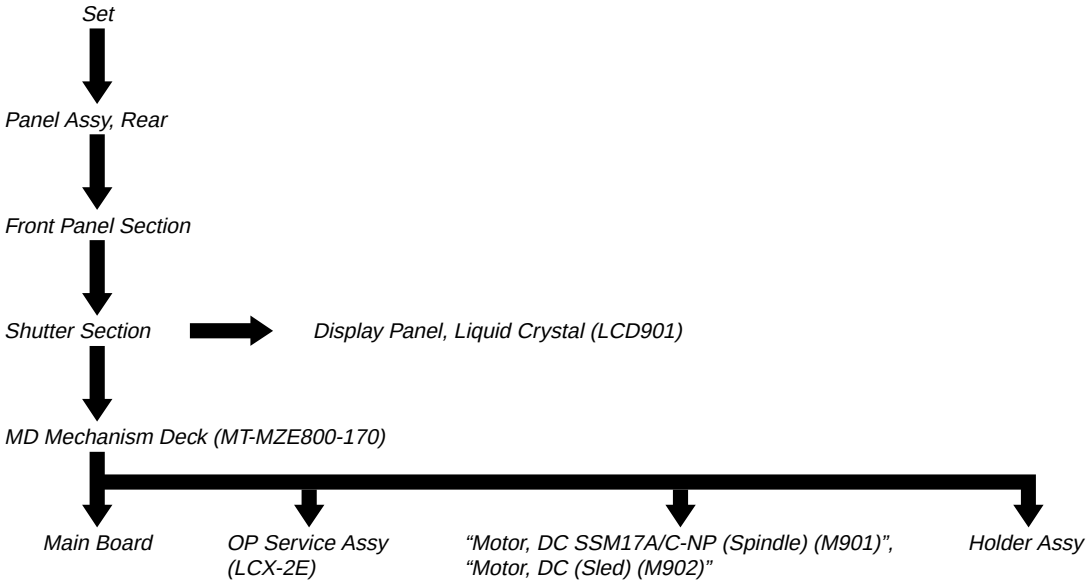
The earphones with a remote control



1 Earphones
Can be replaced with optional earphones.
2 Stereo mini plug
3 HOLD (Locking the control) switch
4 ❚❚ (pause) button
5 PLAYMODE button
6 DISPLAY button
7 ■ (stop) button
8 Control
To play, press towards ►/►►I during stop.
Press towards ►/►►I during play to search the beginning of the succeeding track; hold in this position to fast-foward.
Press towards I◄◄ during play to search the beginning of the preceding track; hold in this position to rewind.
9 VOL (volume) +/– button
10 Display window

SECTION 3
DISASSEMBLY

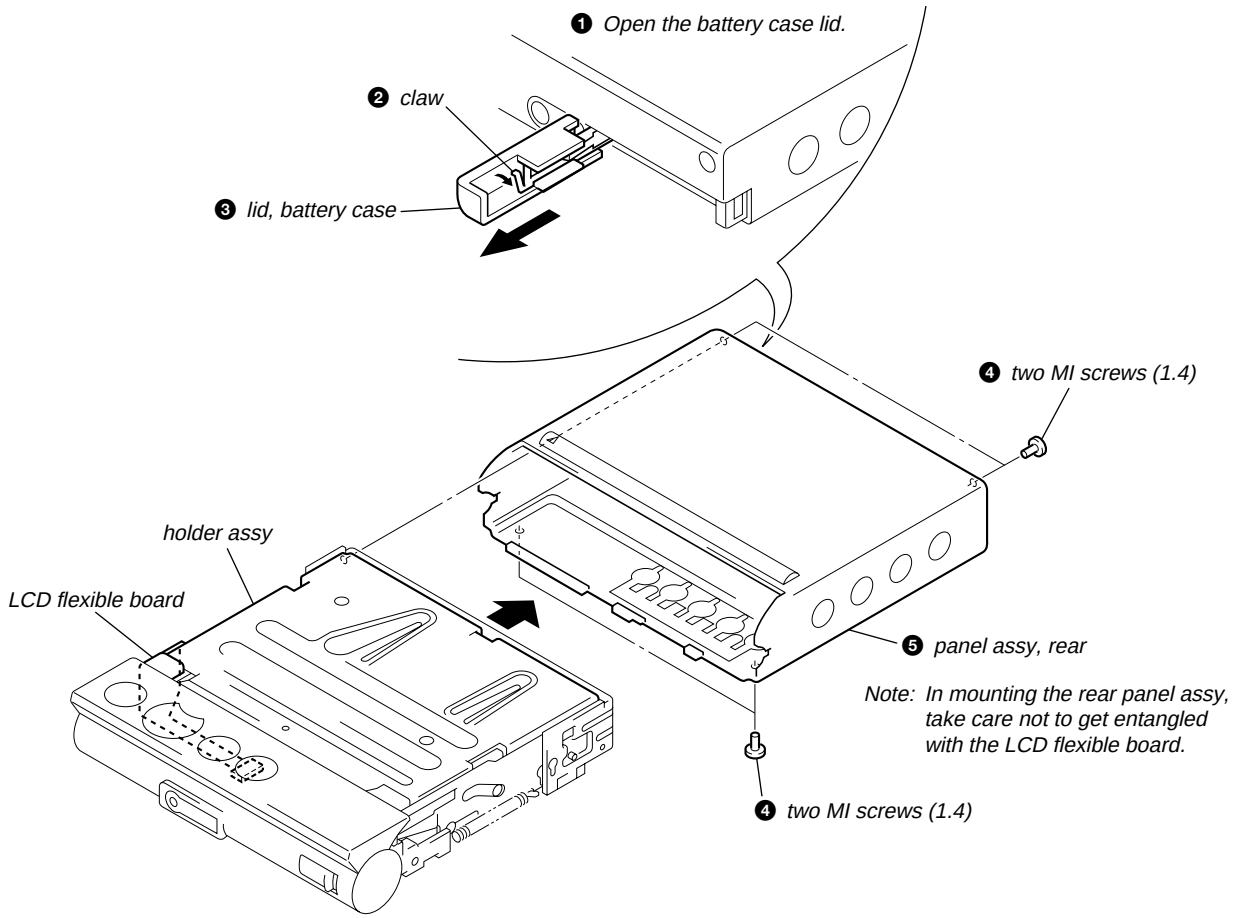
• This set can be disassemble in the order shown below.



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

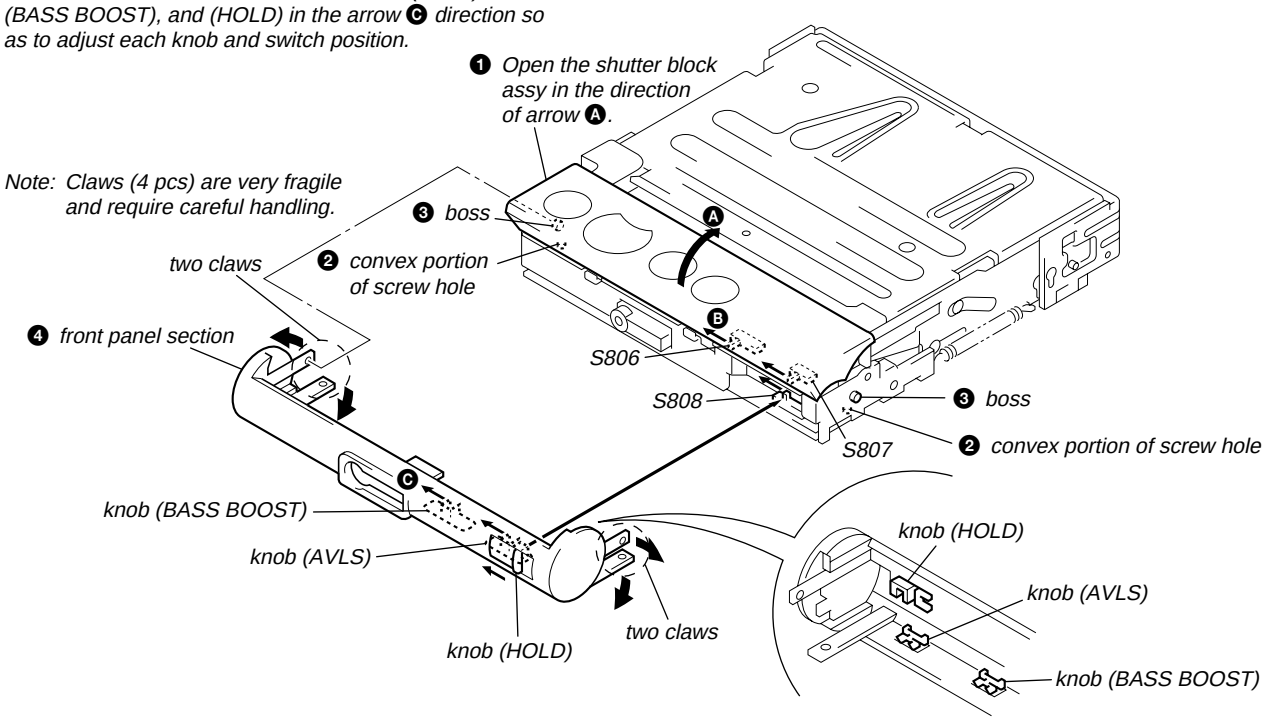
PANEL ASSY, REAR

Note: In removing or mounting the rear panel, insert a disc into the mechanism deck so as to keep the holder Assy in down position.



FRONT PANEL SECTION

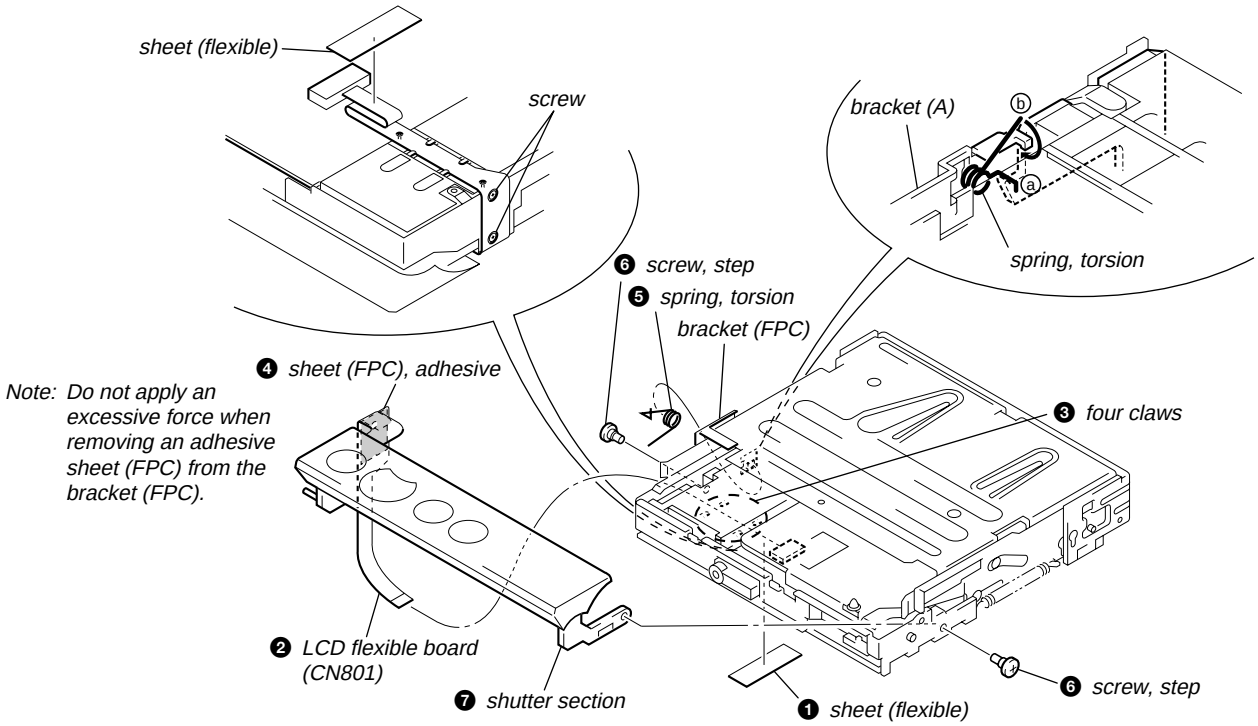
Note on installation front panel section:
When mounting, shift S806, S807, and S808 in the arrow ❽ direction, then shift the knobs (AVLS), (BASS BOOST), and (HOLD) in the arrow ❸ direction so as to adjust each knob and switch position.



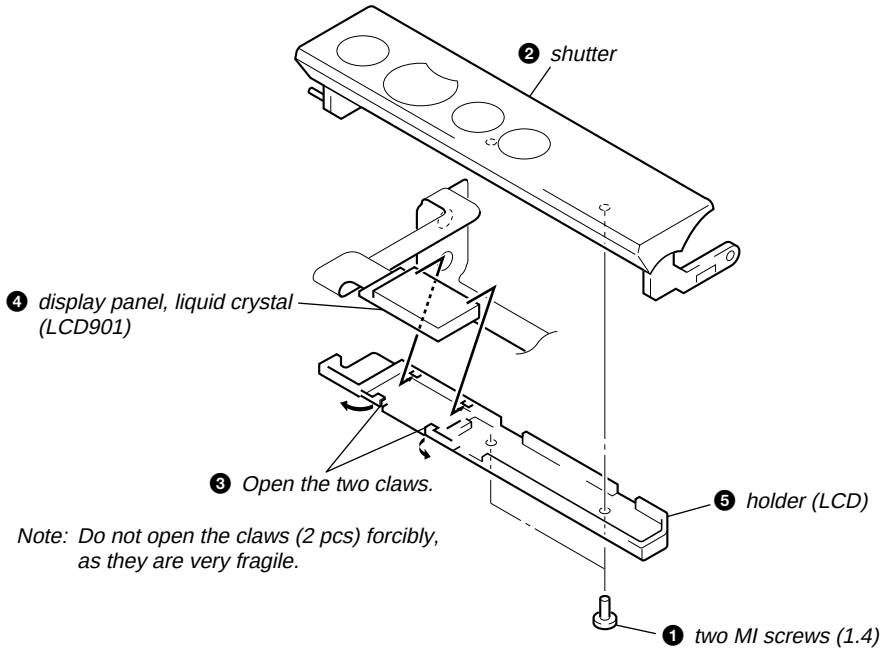
SHUTTER SECTION

- *LCD flexible board mounting method.*
  Meeting with the screw holes (2 pcs) and claws (4 pcs), mount the LCD flexible board and bend it into S shape before the connector (CN801), and then fix with the sheet (flexible) as shown in the figure.

- *Torsion spring mounting method.*
  Mount the torsion spring on the bracket (A), and hook the part ⓐ to the shutter leg, and then hook the part ⓑ to the bracket (A) as shown in the figure.



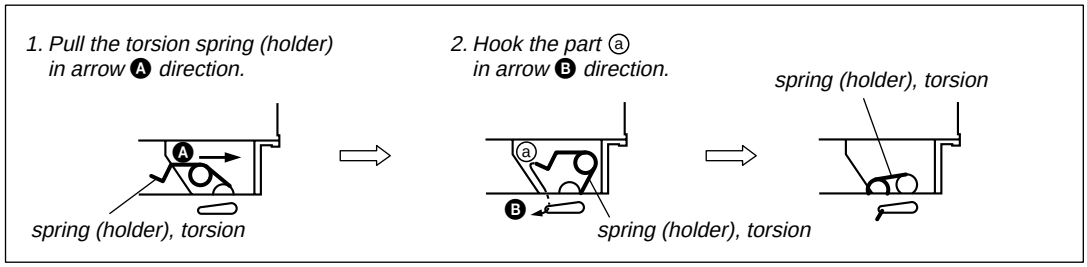
DISPLAY PANEL, LIQUID CRYSTAL (LCD901)

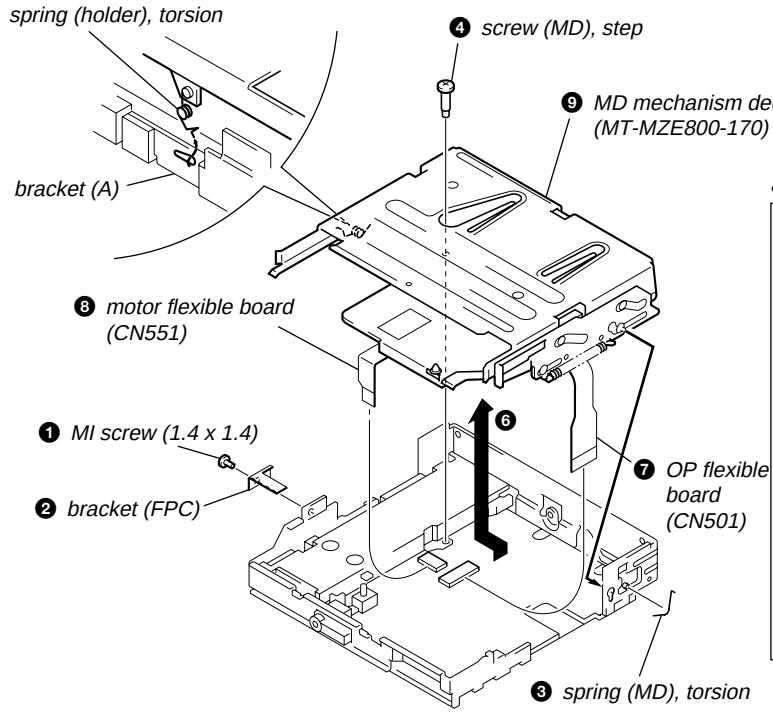


Note: Do not open the claws (2 pcs) forcibly, as they are very fragile.

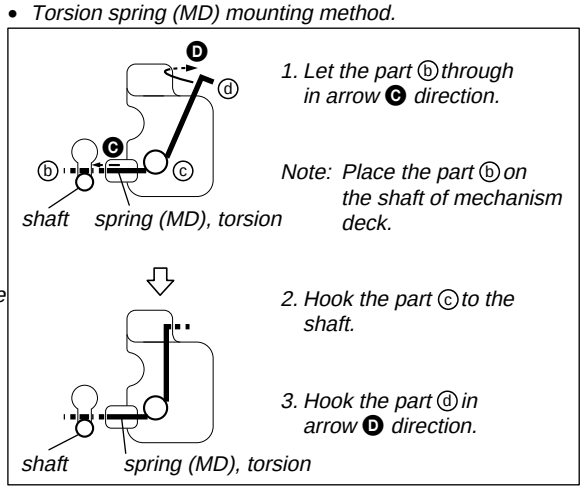
MD MECHANISM DECK (MT-MZE800-170)

• Torsion spring (holder) mounting method.

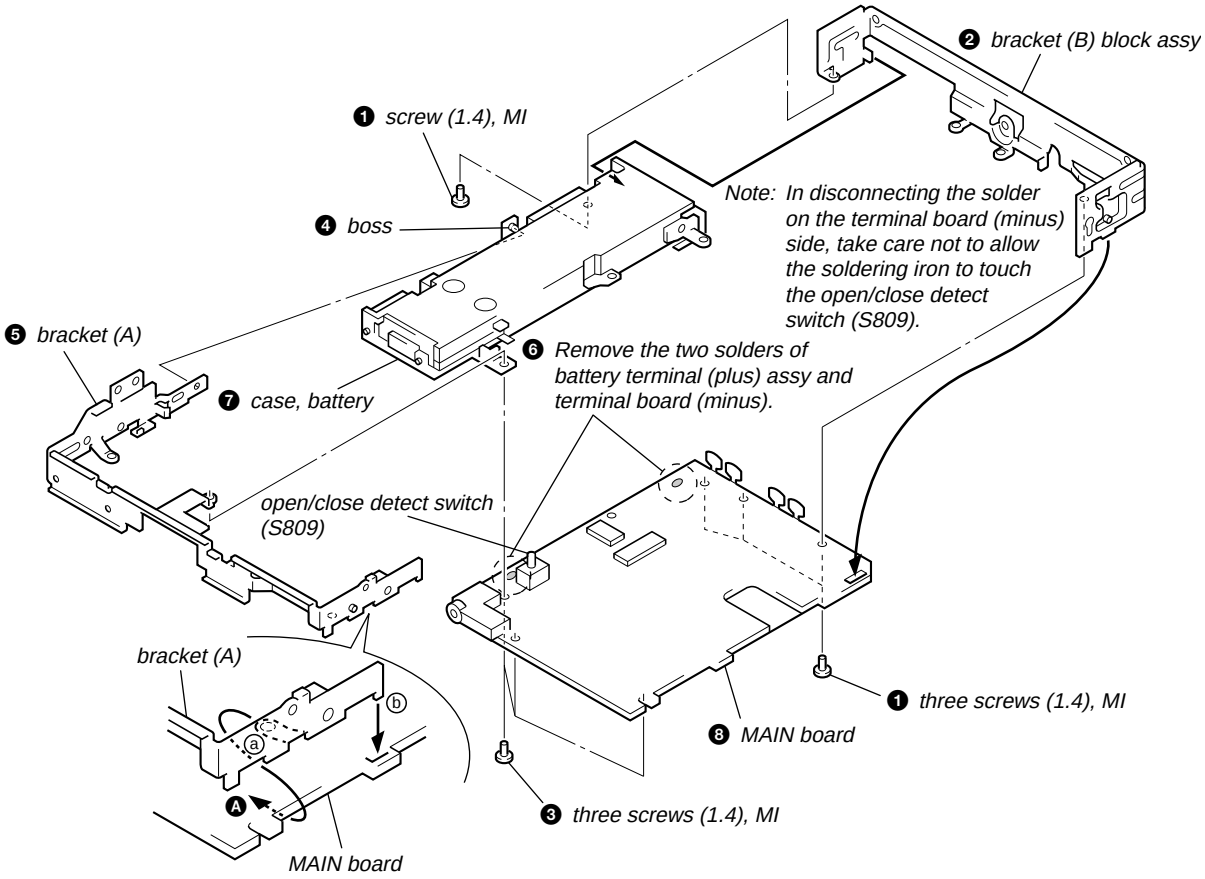




• Torsion spring (MD) mounting method.

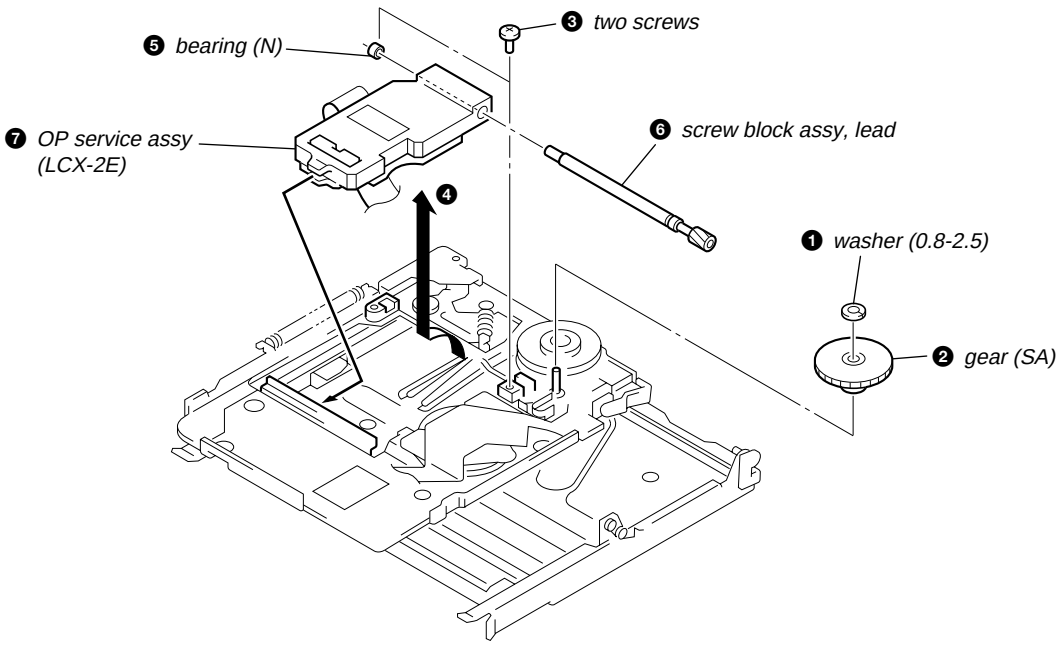


MAIN BOARD

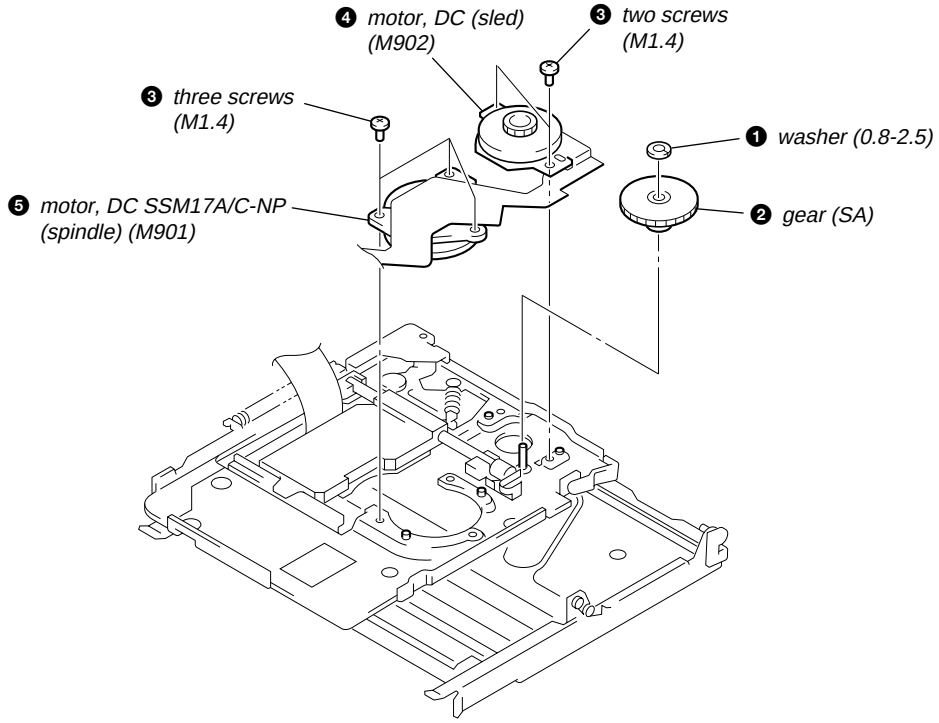


Note: In mounting the bracket (A) on the MAIN board, let the part ⓐ through under the MAIN board in arrow Ⓐ direction, and then insert the part ⓑ into the MAIN board.

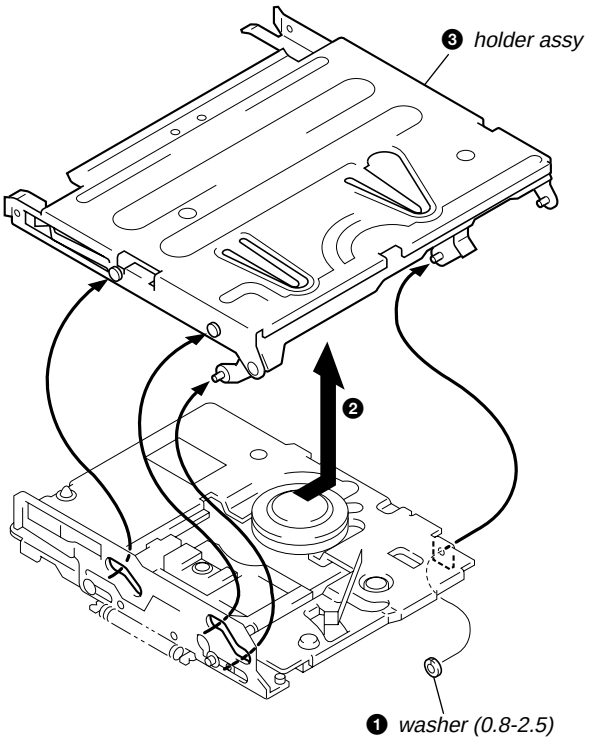
OP SERVICE ASSY (LCX-2E)



“MOTOR, DC SSM17A/C-NP (SPINDLE) (M901)”, “MOTOR, DC (SLED) (M902)”



HOLDER ASSY



SECTION 4
TEST MODE

Outline

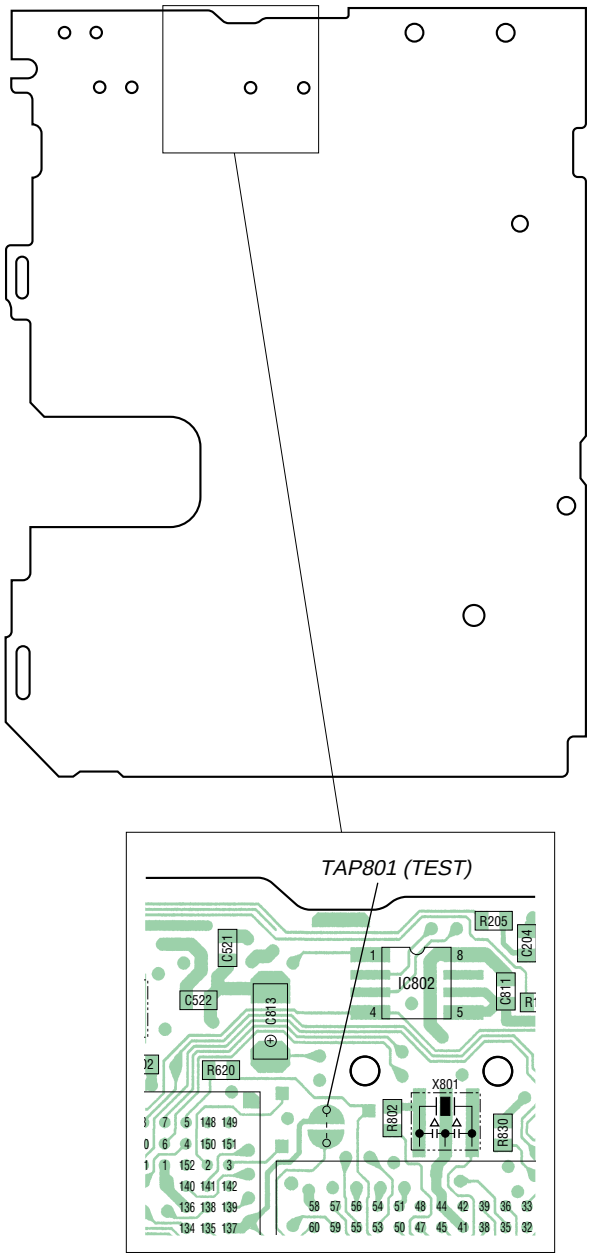
- This set provides the Overall adjustment mode that allows CD and MO discs to be automatically adjusted when in the test mode. In this overall adjustment mode, the disc is discriminate between CD and MO, and each adjustment is automatically executed in order. If a fault is found, the system displays its location. Also, the manual mode allows each individual adjustment to be automatically adjusted.
- Operation in the test mode is performed with the remote commander. A key having no particular description in the text, indicates a remote commander key.

Setting Method of Test Mode

There are two different methods to set the test mode:

① Short TAP801 (TEST) on the MAIN board with a solder bridge (connect pin ⑥⓪ of IC801 to the ground). Then, turn on the power.

– MAIN Board (Component Side) –



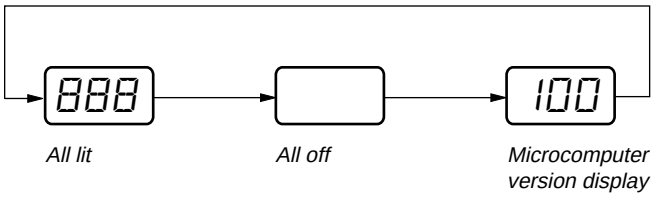
② In the normal mode, turn on the HOLD switch on the set. While pressing the ■ key on the set, press the following remote commander keys in the following order:

►►I → ►►I → I◄◄ → I◄◄ → ►►I →
I◄◄ → ►►I → I◄◄ → ❚❚ → ❚❚

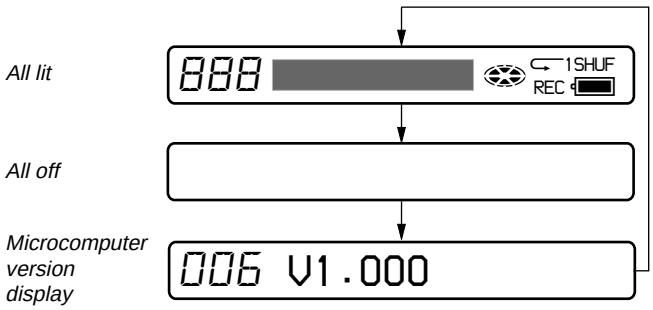
Operation in Setting the Test Mode

- When the test mode becomes active, first the display check mode is selected. (Press the ■ key once, when the display check mode is not active)
- Other mode can be selected from the display check mode.
- When the test mode is set, the LCD repeats the following display.

Set LCD display



Remote commander LCD display



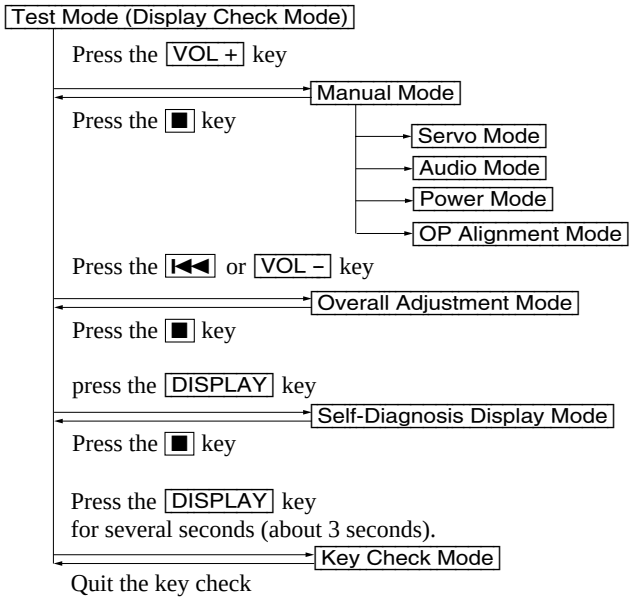
- When the ❚❚ key is pressed and hold down, the display at that time is held so that display can be checked.

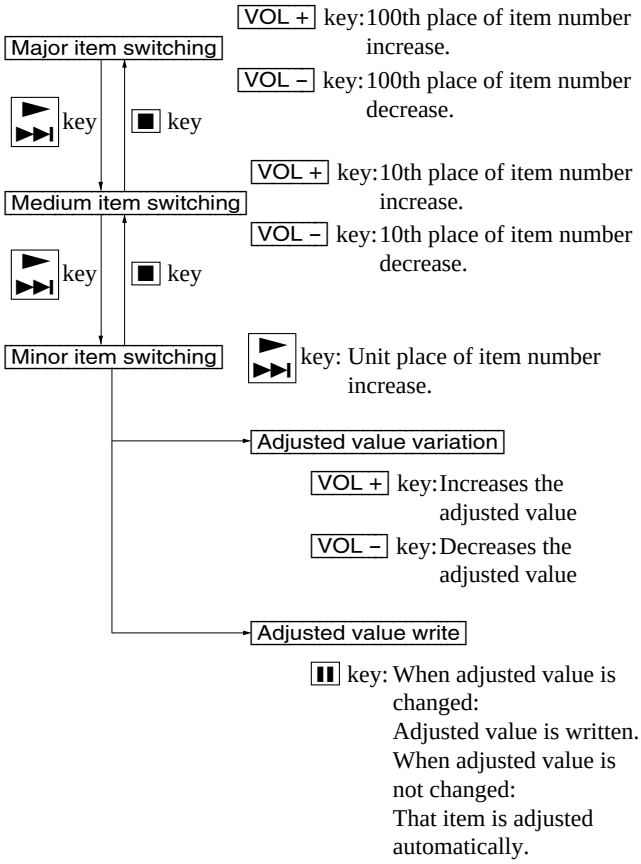
Caution: On the set having the microcomputer version 1.000, the NV reset failure will occur.
Therefore, in executing the NV reset during electrical adjustment, follow the troubleshooting method of NV reset to perform the NV reset (see page 17).

Releasing the Test Mode

For test mode set with the method ①:
Turn off the power and open the solder bridge on TAP801 (TEST) on the MAIN board.
Note: Remove the solders completely. Remaining could be shorted with the chassis, etc.
For test mode set with the method ②:
Turn off the power.
Note: If electrical adjustment (see page 17) has not been finished completely, always start in the test mode. (The set cannot start in normal mode)

Configuration of Test Mode





Manual Mode

Mode to adjust or check the operation of the set by function. Normally, the adjustment in this mode is not executed. However, the Manual mode is used to clear the memory and power supply/charging adjustments before performing automatic adjustments in the Overall Adjustment mode.

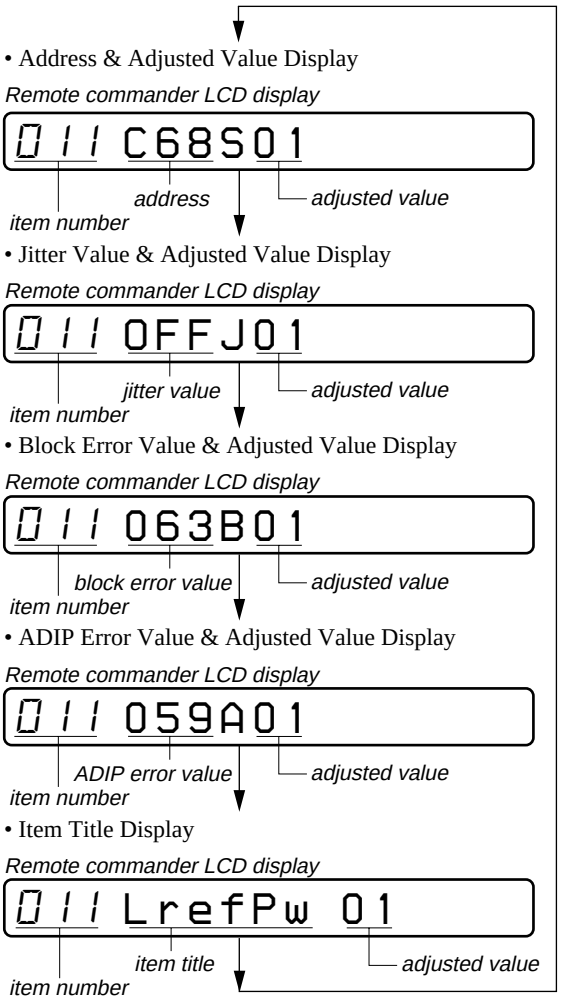
• Transition method in Manual Mode

1. Setting the test mode (see page 12).
2. Press the VOL + key activates the manual mode where the LCD display as shown below.

Remote commander LCD display

3. During each test, the optical pick-up moves outward or inward while the ⏭ or ⏮ key is pressed for several seconds respectively.
4. Each test item is assigned with a 3-digit item number; 100th place is a major item, 10th place is a medium item, and unit place is a minor item.

5. The display changes a shown below each time the DISPLAY key is pressed.



However in the power mode (item number 700's), only the item is displayed.

6. Quit the manual mode, and press the ■ key to return to the test mode (display check mode).

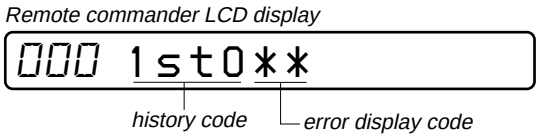
Overall Adjustment Mode

Mode to adjust the servo automatically in all items.
Normally, automatic adjustment is executed in this mode at the repair.
For further information, refer to "Section 5 Electrical Adjustments" (see page 17).

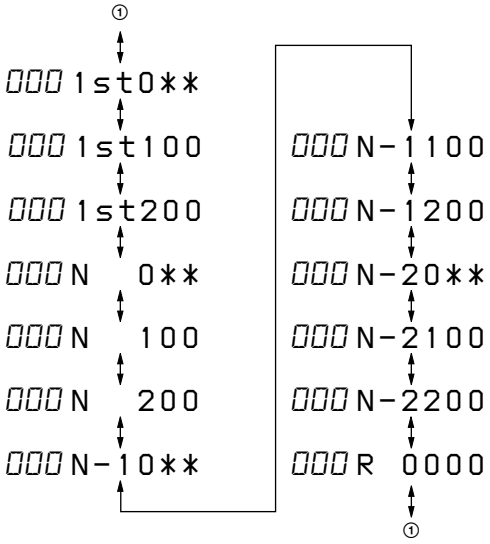
Self-Diagnosis Display Mode

- This set uses the self-diagnosis system in which if an error occurs in playback mode, the error is detected by the model control and power control blocks of the microprocessor and information on the cause is stored as history in EEPROM.
  By viewing this history in test mode, it helps you to analyze a fault and determine its location.

1. Setting the test mode (see page 12).
2. In the display check mode, press the DISPLAY key activates the self-diagnosis display mode where the LCD display as shown below.



3. Then, each time the ►►| key is pressed, LCD display descends by one as shown below. Also, the LCD display ascends by one when the |◄◄ key is pressed.



4. Quit the self-diagnosis display mode, and press the ■ key to return to the test mode (display check mode).

• Description of Indication History

History code number	Description
1st 0	The first error
1st 1	Displays “00”
1st 2	Displays “00”
N 0	The last error
N 1	Displays “00”
N 2	Displays “00”
N-1 0	One error before the last.
N-1 1	Displays “00”
N-1 2	Displays “00”
N-2 0	Two errors before the last.
N-2 1	Displays “00”
N-2 2	Displays “00”
R	Total recording time (Displays “0000” in this set)

• Description of Error Indication Codes

Problem	Indication code	Meaning of code	Description
No error	00	No error	Normal condition
Servo error	01	Illegal access target address was specified	Attempt to access an abnormal address
	02	High temperture	High temperture
	03	Focus error	Forcus could not be applied
	04	Spindle error	Abnormal lotation of disc
Power error	22	Low battery	Momentary interruption detected

Reset the error display code

After servicing, reset the error display code.

1. Setting the test mode (see page 12).
2. Press the DISPLAY key activates the self-diagnosis display mode.
3. To reset the error display code, press the ▮▮ key (2 times) when the code is displayed (except “R 0000”). (All the data on the 1st, N, N-1, and N-2 will be reset)

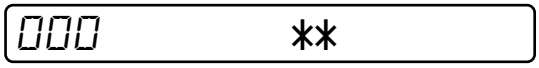
Key Check Mode

This set can check if the set and remote commander function normally.

• Setting Method of Key Check Mode

1. Setting the test mode (see page 12).
2. Press the DISPLAY key for several seconds (about 3 seconds) activates the key check mode. (At the last two digits, AD value of remote commander key line is displayed in hexadecimal)

Remote commander LCD display

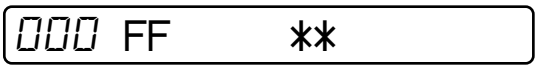


**: AD value of the remote commander key (hexadecimal 00 to FF)

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

Example1: When ►►I/► key on the set is pressed:

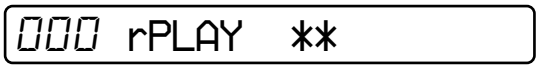
Remote commander LCD display



**: AD value of the remote commander key (hexadecimal 00 to FF)

Example2: When ► ►I key on the remote commander is pressed:

Remote commander LCD display



**: AD value of the remote commander key (hexadecimal 00 to FF)

4. When all the keys on the set and on the remote commander are considered as OK, the following displays are shown for 4 seconds.
(The key pressed to enter the Key Check mode has been checked even if it is not pressed in this mode)

Example1: When the keys on the set are considered as OK:

Set LCD display

All lit

Remote commander LCD display

**: AD value of the remote commander key (hexadecimal 00 to FF)

Example2: When the keys on the remote commander are considered as OK:

Set LCD display

All lit

Remote commander LCD display

**: AD value of the remote commander key (hexadecimal 00 to FF)

5. When all the key have been checked, the system terminates the Key Check mode and return to the test mode (display check mode).

SECTION 5
ELECTRICAL ADJUSTMENTS

Outline

- In this set, automatic adjustment of CD and MO can be performed by entering the test mode (see page 12).
  However, before starting automatic adjustment, the memory clear and power supply/charging adjustments must be performed in the manual mode.
- A key having no particular description in the text, indicates a remote commander key.

Precautions for Adjustment

1. Adjustment must be done in the test mode only.
   After adjusting, release the test mode.
2. Use the following tools and measuring instruments.
   - Test CD disc TDYS-1
     (Part No. : 4-963-646-01)
   - Recorded MO disc PTDM-1
     (Part No. : J-2501-054-A)

   Available SONY MO disc (recorded)
   - Digital voltmeter
3. Unless specified otherwise, supply DC 1.5V from the battery terminal.
4. Switch position
   AVLS switch ..... NORM
   DIGITAL SOUND PRESET switch ..... OFF
   HOLD switch ..... OFF

Adjustment Sequence

Adjustment must be done with the following steps.

1. NV Reset (Memory clear)
   ↓
2. Power Supply Manual Adjustment } Manual Mode
   ↓
3. Charging Manual Adjustment
   ↓
4. CD Overall Adjustment } Overall Mode
   ↓
5. MO Overall Adjustment

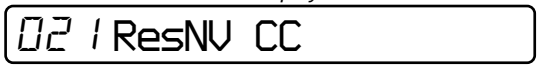
NV Reset

Caution: On the set having the microcomputer version 1.000, the NV reset failure will occur.
Therefore, in executing the NV reset during electrical adjustment, follow the troubleshooting method of NV reset to perform the NV reset.

• Setting method of NV reset

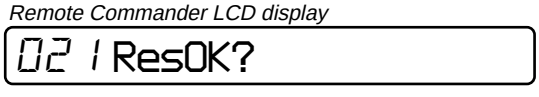
1. Select the manual mode of the test mode, and set item number 021NV Reset (see page 13).

   Remote commander LCD display

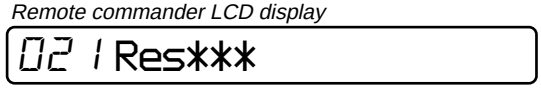
2. Press the II key.

   Remote Commander LCD display

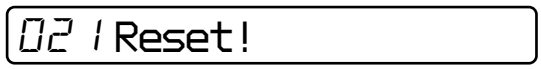
   

3. Press the II key once more.

   Remote commander LCD display

   NV reset (after several seconds)

4. Press the ■ key to quit the manual mode, and activate the test mode (display check mode).

• Troubleshooting method of NV reset

Executing the NV reset on the set having the microcomputer version 1.000 causes the adjusted values of item numbers 721, 722, and 757 to be cleared.
In executing the NV reset on the set having the microcomputer version 1.000, follow the steps given below.
This operation is not necessary for the set having the microcomputer version 1.100 or later.

1. Select the manual mode of the test mode (see page 13).
2. Set item number 757 and record the adjusted value.
3. Set item number 721 and record the adjusted value.
4. Set item number 722 and record the adjusted value.
5. Execute the NV reset.
6. Set item number 757, and change the value to the adjusted value recorded previously with VOL + key or VOL – key, and then press the II key.
7. Set item number 721, and change the value to the adjusted value recorded previously with VOL + key or VOL – key, and then press the II key.
8. Set item number 722, and change the value to the adjusted value recorded previously with VOL + key or VOL – key, and then press the II key.

Power Supply Manual Adjustment

• Adjustment sequence

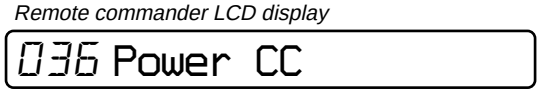
Adjustment must be done with the following steps.

1. Vc PWM Duty (L) adjustment (item number: 762)
   ↓
2. Vrem PWM Duty (L) adjsutment (item number: 764)
   ↓
3. Vc PWM Duty (H) adjustment (item number: 765)
   ↓
4. Vrem PWM Duty (H) adjustment (item number: 766)

• Setting method of power supply manual adjustment

1. Select the manual mode of the test mode, and set item number 036 (see page 13).

   Remote commander LCD display

2. Press the II key.
   (The item number changes to 762 when II key is pressed)

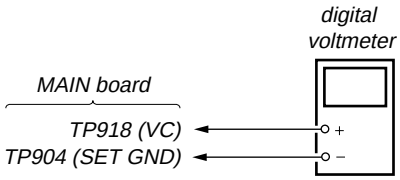
- **Adjustment method of Vc PWM Duty (L) (item number: 762)**

Remote commander LCD display

762 Vc1PWM **

**: Adjusted value*

1. Connect a digital voltmeter to the TP918 (VC) on the MAIN board, and adjust [VOL +] key (voltage up) or [VOL –] key (voltage down) so that the voltage becomes $2.305^{+0.06}_{-0}$ V.



2. Press the [II] key to write the adjusted value.
(The item number changes to 764 when [II] key is pressed)

Adjustment and Connection Location: MAIN board
(see page 19)

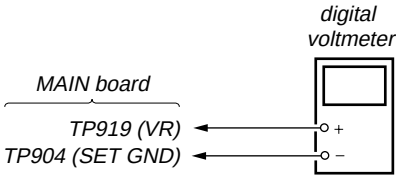
- **Adjustment method of Vrem PWM Duty (L) (item number: 764)**

Remote commander LCD display

764 Vr1Vc1 **

**: Adjusted value*

1. Connect a digital voltmeter to the TP919 (VR) on the MAIN board, and adjust [VOL +] key (voltage up) or [VOL –] key (voltage down) so that the voltage becomes $2.24^{+0.03}_{-0}$ V.



2. Press the [II] key to write the adjusted value.
(The item number changes to 765 when [II] key is pressed)

Adjustment and Connection Location: MAIN board
(see page 19)

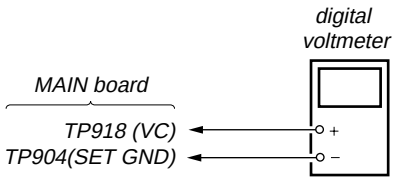
- **Adjustment method of Vc PWM Duty (H) (item number: 765)**

Remote commander LCD display

765 VchPWM **

**: Adjusted value*

1. Connect a digital voltmeter to the TP918 (VC) on the MAIN board, and adjust [VOL +] key (voltage up) or [VOL –] key (voltage down) so that the voltage becomes $2.715^{+0.075}_{-0}$ V.



2. Press the [II] key to write the adjusted value.
(The item number changes to 766 when [II] key is pressed)

Adjustment and Connection Location: MAIN board
(see page 19)

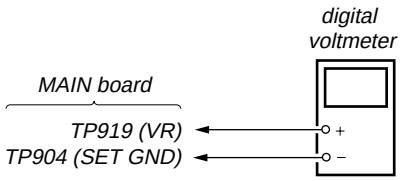
- **Adjustment method of Vrem PWM Duty (H) (item number: 766)**

Remote commander LCD display

766 VrhVch **

**: Adjusted value*

1. Connect a digital voltmeter to the TP919 (VR) on the MAIN board, and adjust [VOL +] key (voltage up) or [VOL –] key (voltage down) so that the voltage becomes $2.6^{+0.02}_{-0.01}$ V.



2. When press the [II] key to write the adjusted value, LCD displays as follows and power supply manual adjustment has completed.

Remote commander LCD display

036 ADJ OK

Adjustment and Connection Location: MAIN board
(see page 19)

Charging Manual Adjustment

- **Adjustment sequence**

Adjustment must be done with the following order.

1. Charging detection set value adjustment (item number 757)
↓
2. Normal charging current adjustment (item number 721)
↓
3. Trickle charging current adjustment (item number 722)

- **Adjustment method of charging detection set value (item number 757)**

1. Connect a resistor 2.4 Ω between TP901 (BATT+) and TP902 (BATT-) on the MAIN board.
2. Apply 2 V across TP901 (BATT+) and TP904 (SET GND), and across TP903 (2V IN) and TP904 (SET GND) on the MAIN board respectively.
3. Select the manual mode of the test mode, and set item number 757 (see page 13).

Remote commander LCD display

757 Chg-dV **

**: Adjusted value*

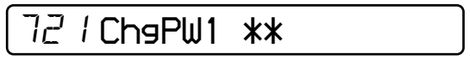
4. Adjust with [VOL +] key or [VOL –] key so that the adjusted value becomes 1.
If the adjusted value is already attained, go to the next adjustment item without pressing the [II] key.
5. Press the [II] key to write the adjusted value.

Adjustment and Connection Location: MAIN board
(see page 19)

- **Adjustment method of normal charging current (item number 721)**

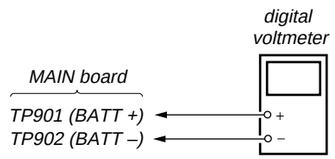
1. Select the manual mode of the test mode, and set item number 721 (see page 13).

Remote commander LCD display



**: Adjusted value*

2. Connect a digital voltmeter between TP901 (BATT+) and TP902 (BATT-) on the MAIN board, and adjust with [VOL +] key (voltage up) or [VOL –] key (voltage down) so that the voltage becomes 1.236±0.036 V.
If the voltage is already adjusted, go to the next adjustment item without pressing the [II] key.

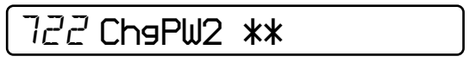


3. Press the [II] key to write the adjusted value.

- **Adjustment method of trickle charging current (item number 722)**

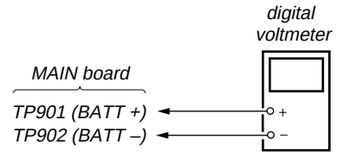
1. Select the manual mode of the test mode, and set item number 722 (see page 13).

Remote commander LCD display



**: Adjusted value*

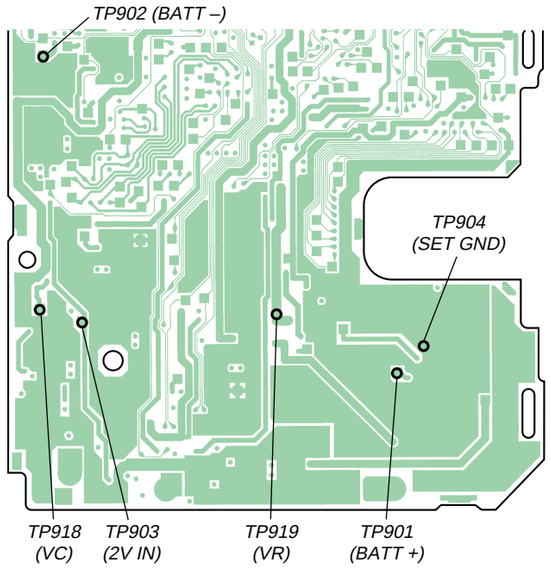
2. Connect a digital voltmeter between TP901 (BATT+) and TP902 (BATT-) on the MAIN board, and adjust with [VOL +] key (voltage up) or [VOL –] key (voltage down) so that the voltage becomes $0.168^{+0.036}_{-0}$ V.
If the voltage is already adjusted, go to the next adjustment item without pressing the [II] key.



3. Press the [II] key to write the adjusted value.

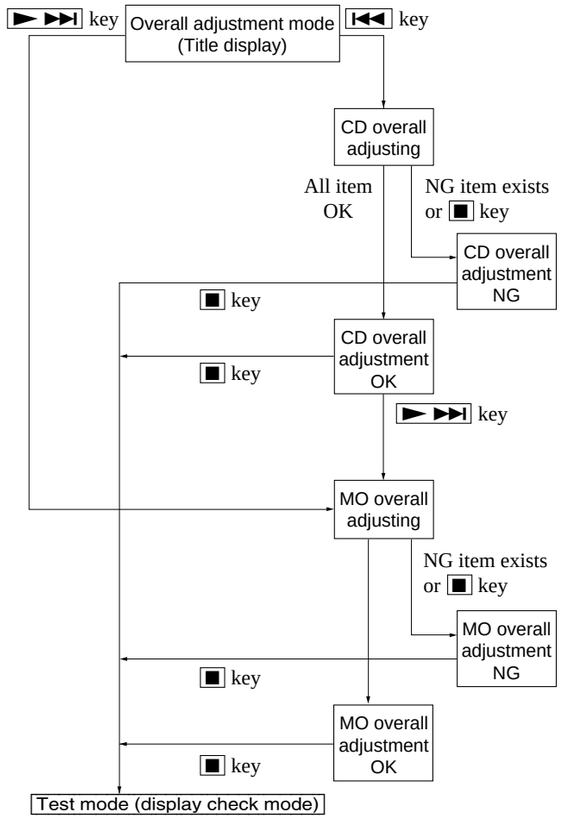
Adjustment and Connection Location:

– MAIN Board (Conductor side) –



Overall Adjustment Mode

- **Configuration of overall adjustment**

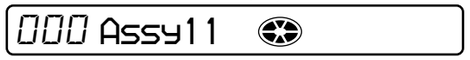


Note: Adjust the CD first, when performing adjustment.

- **Adjustment Method of Overall CD and MO Adjustment Mode**

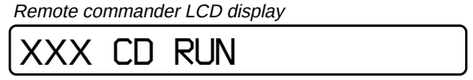
1. Setting the test mode (see page 12).
2. Press the [VOL –] key activates the overall adjustment mode.

Remote commander LCD display



3. Insert CD disc in the set, and press the [I◄◄] key to set the Overall CD Adjustment mode. Automatic adjustments are made.

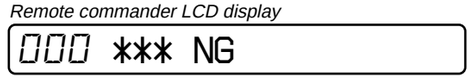
Remote commander LCD display



XXX: Item number for which an adjustment is being executed.

4. If NG in the overall CD adjustments, return to NV reset (see page 17) and perform the adjustment again.

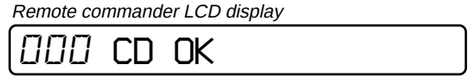
Remote commander LCD display



***: NG item number.

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

Remote commander LCD display



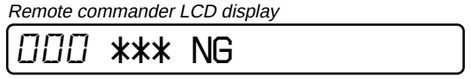
6. Insert MO disc in the set, and press the [►►I] key to set the Overall MO Adjustment mode. Automatic adjustments are made.

Remote commander LCD display

XXX: Item number for which an adjustment is being executed.

7. If NG in the overall MO adjustments, return to NV reset (see page 17) and perform the adjustment again.

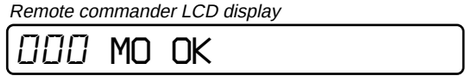
Remote commander LCD display



***: NG item number.

8. If OK through the overall MO adjustments, press the [■] key to return to the test mode and terminate the Overall Adjustment mode.

Remote commander LCD display



- **Overall CD and MO adjustment items**

1. Overall CD adjustment items

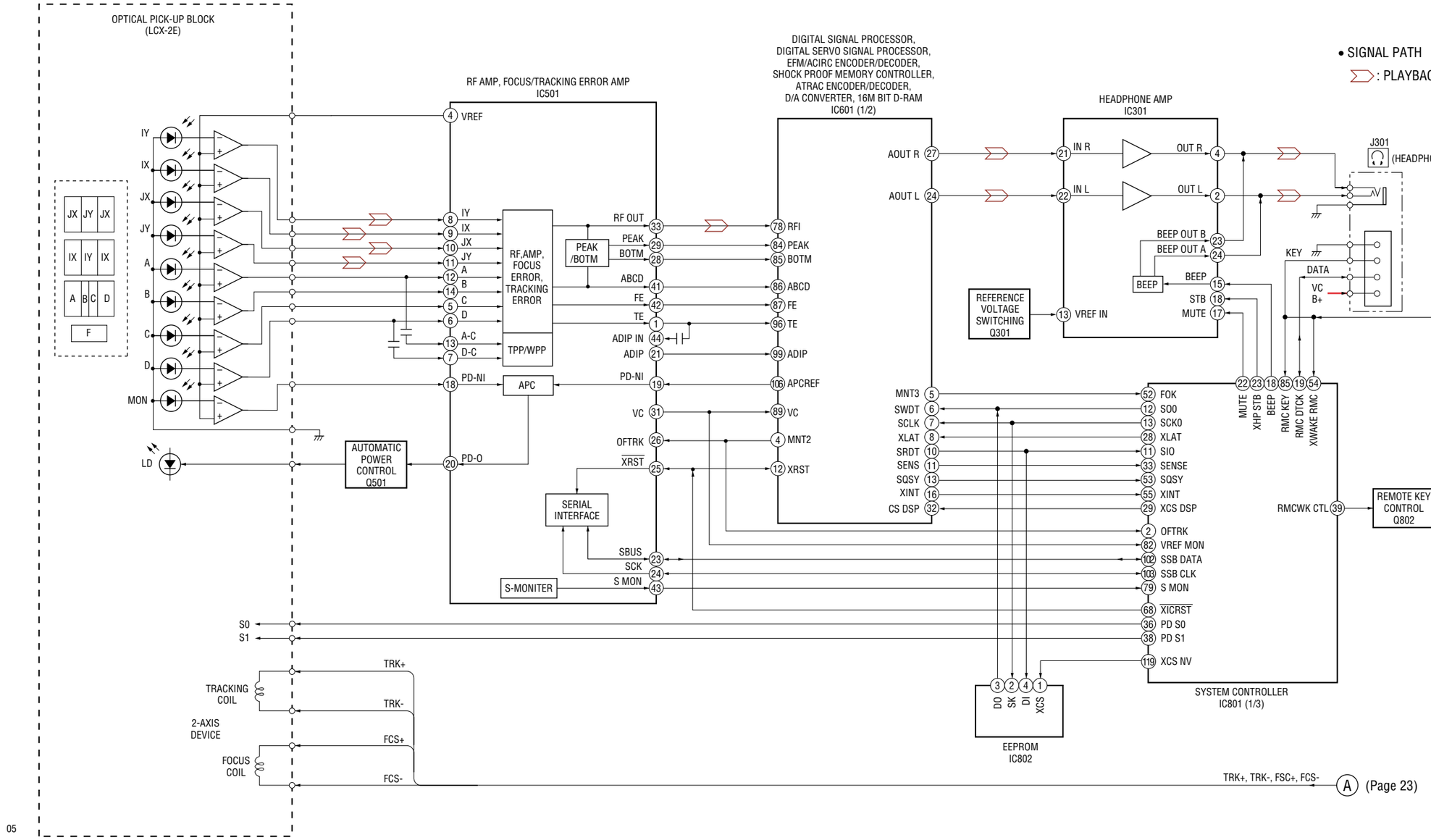
Item No.	Description
312 313 314	CD electrical offset adjustment
328	CD TWPP gain adjustment
321	CD tracking error gain adjustment
323 332	CD tracking error offset adjustment
336	CD ABCD level adjustment
344	CD focus gain adjustment
345	CD tracking gain adjustment
521 522	CD two-axis sensitivity adjustment
341	CD focus bias adjustment

2. Overall MO adjustment items

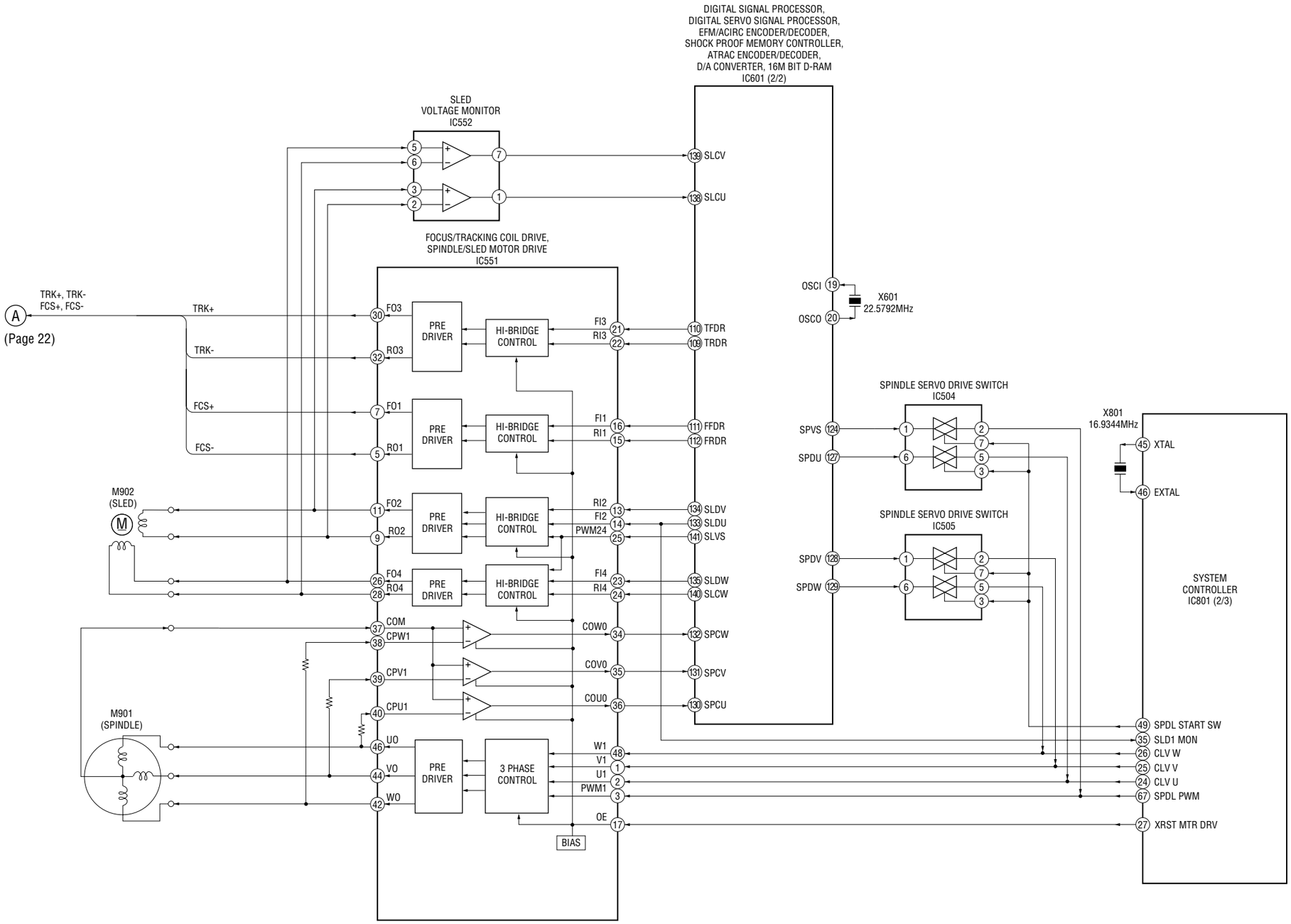
Item No.	Description
112 113 114 118	MO electrical offset adjustment
221	Low reflective CD tracking error gain adjustment
223 232	Low reflective CD tracking error offset adjustment
236	Low reflective CD ABCD level adjustment
244	Low reflective CD focus gain adjustment
245	Low reflective CD tracking gain adjustment
121	MO tracking error gain adjustment
122	MO tracking error offset adjustment
134	MO TWPP gain adjustment
131 132	MO TWPP offset adjustment
136	MO ABCD level adjustment
144	MO focus gain adjustment
145	MO tracking gain adjustment
141	MO focus bias adjustment

SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM – MAIN Section (1/2) –

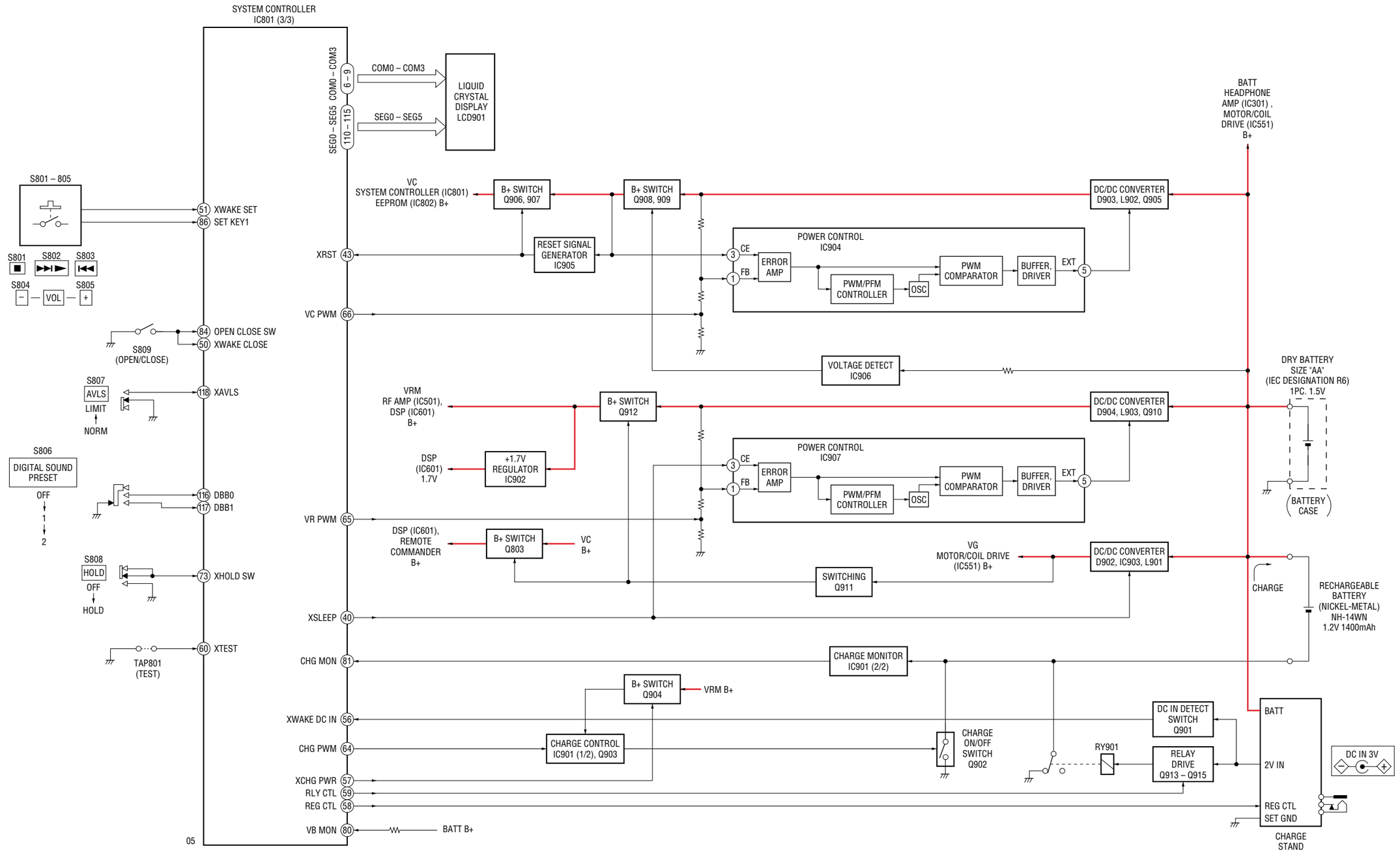


6-2. BLOCK DIAGRAM – MAIN Section (2/2) –

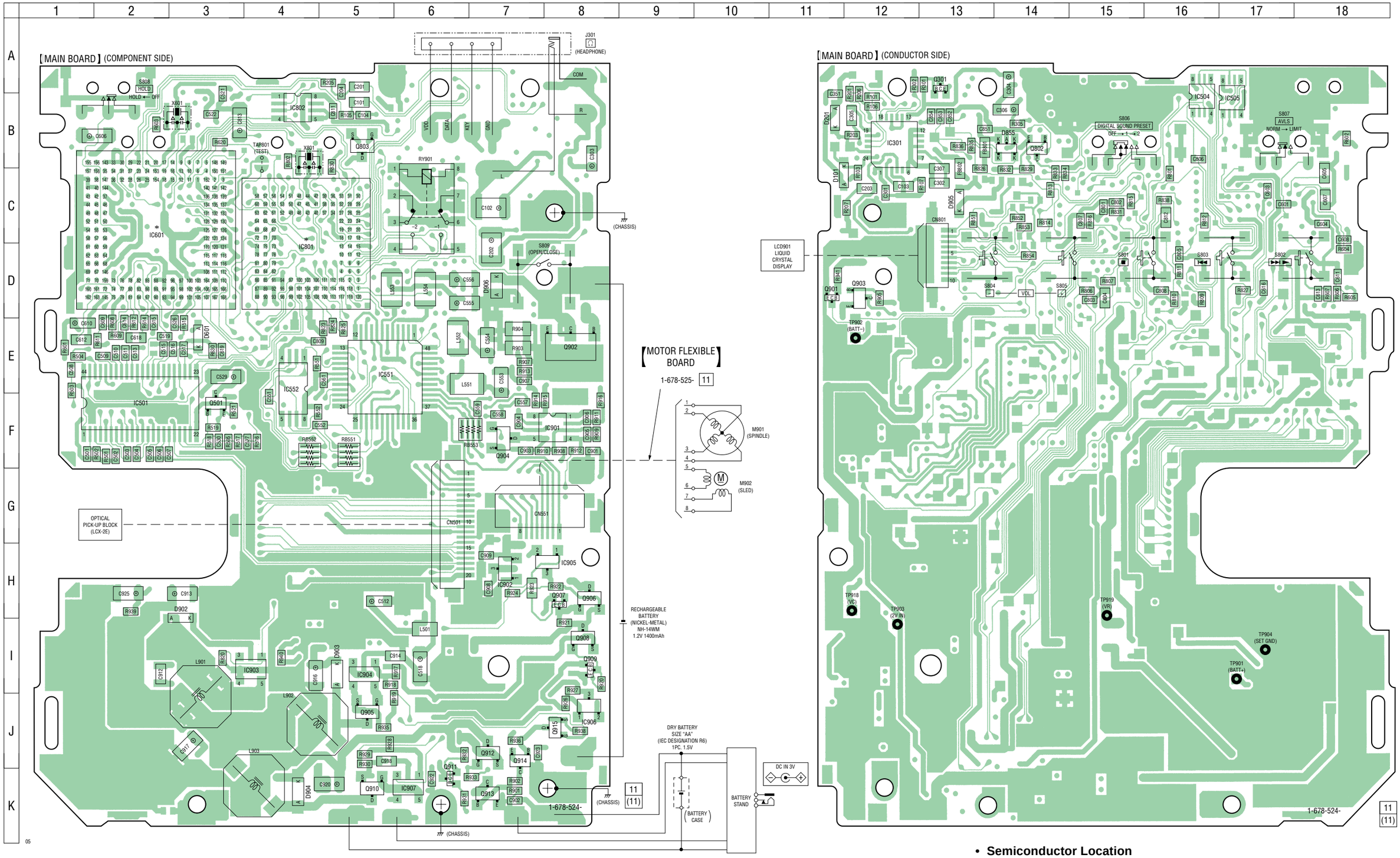


05

6-3. BLOCK DIAGRAM – DISPLAY/KEY CONTROL/POWER SUPPLY Section –



6-4. PRINTED WIRING BOARD



Note on Printed Wiring Board:

- ——— : parts extracted from the conductor side.
- △ : internal component.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

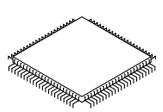
Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

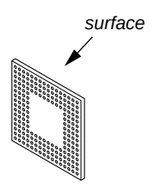
- MAIN board is four-layer printed board. However, the patterns of layers 2 and 3 have not been included in this diagrams.

* Replacement of IC601 and IC801 used in this set requires a special tool. Therefore, it cannnot be replaced.

- Lead Layouts



Lead layout of conventional IC



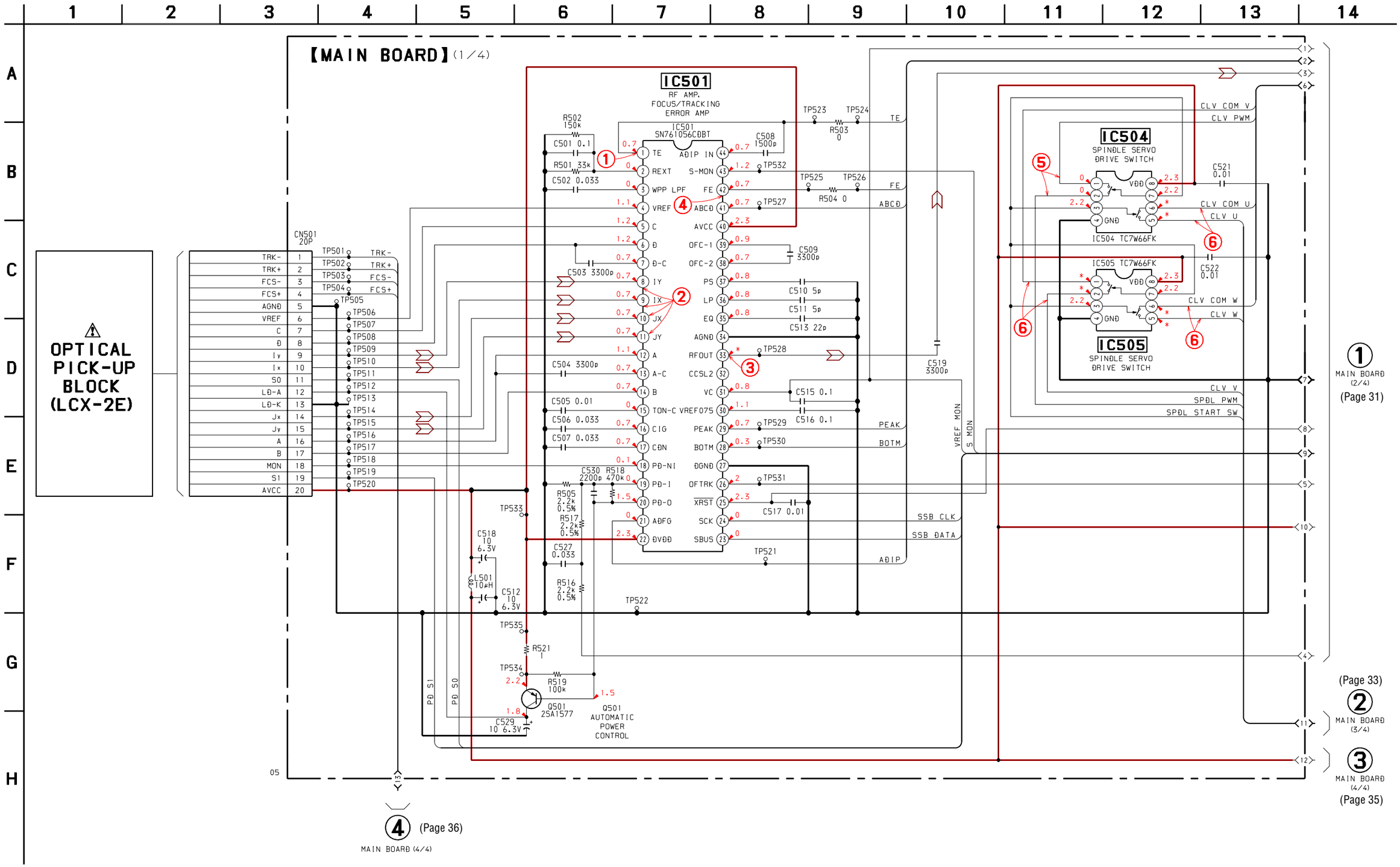
CSP (chip size package)

- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D101	C-11	IC504	B-16	IC906	J-8	Q906	H-8
D201	B-11	IC505	B-17	IC907	K-6	Q907	H-8
D601	E-3	IC551	E-5			Q908	I-8
D855	B-14	IC552	E-4	Q301	A-13	Q909	I-8
D902	H-3	IC601	C-2	Q501	F-3	Q910	K-5
D903	I-5	IC801	D-4	Q802	B-14	Q911	K-6
D904	K-4	IC802	B-4	Q803	B-5	Q912	J-7
D905	C-13	IC901	F-8	Q901	D-11	Q913	K-7
D906	D-8	IC902	H-7	Q902	E-8	Q914	J-7
		IC903	I-4	Q903	D-12	Q915	J-8
IC301	B-12	IC904	I-5	Q904	F-7		
IC501	F-2	IC905	H-8	Q905	J-5		

6-5. SCHEMATIC DIAGRAM – MAIN Board (1/4) –

• See page 37 for Waveforms. • See page 38 for IC Block Diagram.

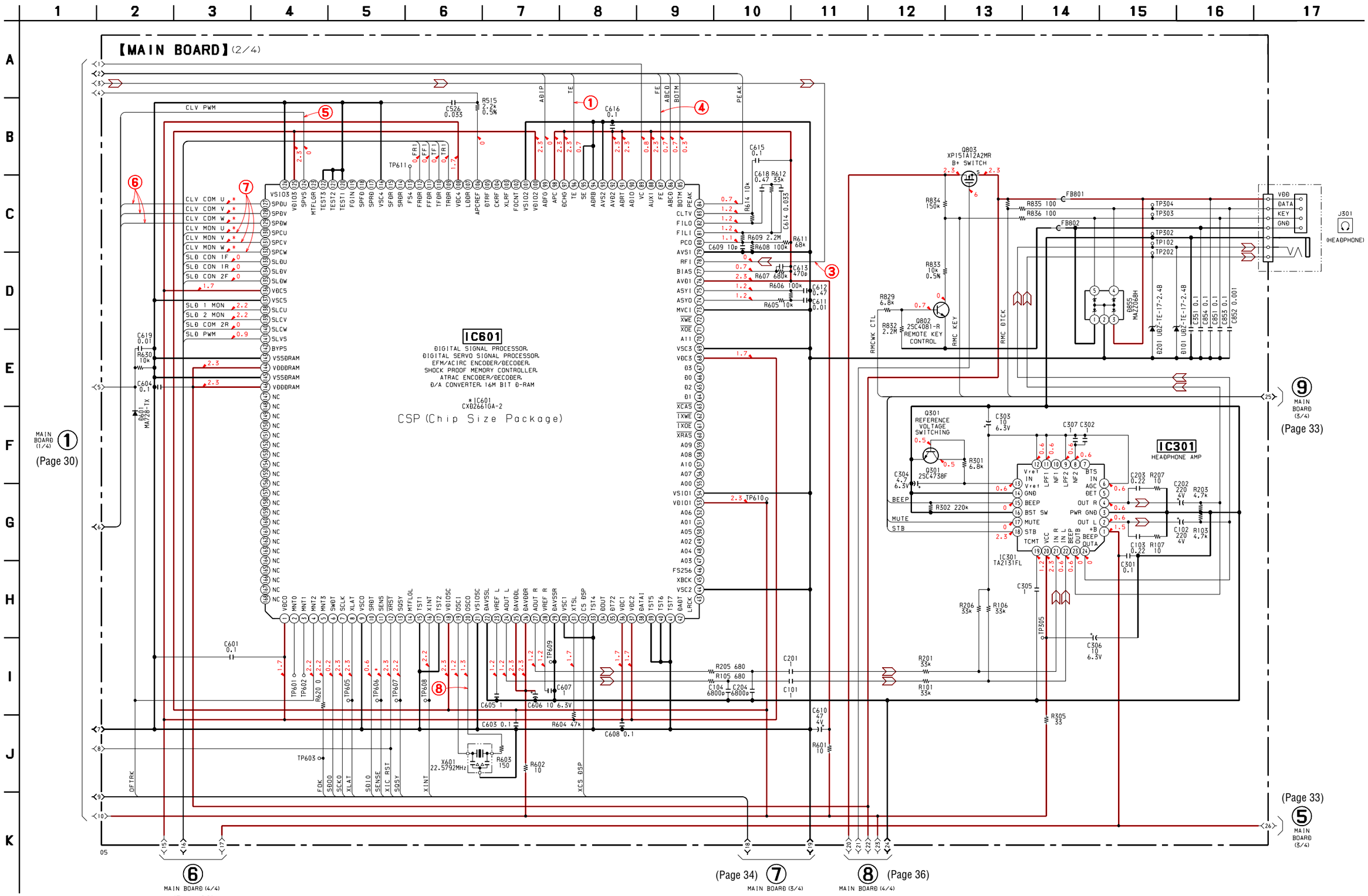


Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ 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 in playback mode.
  no mark : PLAYBACK
  ∗ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). 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.
  ⋁ : PLAYBACK



Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.
- ▬ : B+ Line.

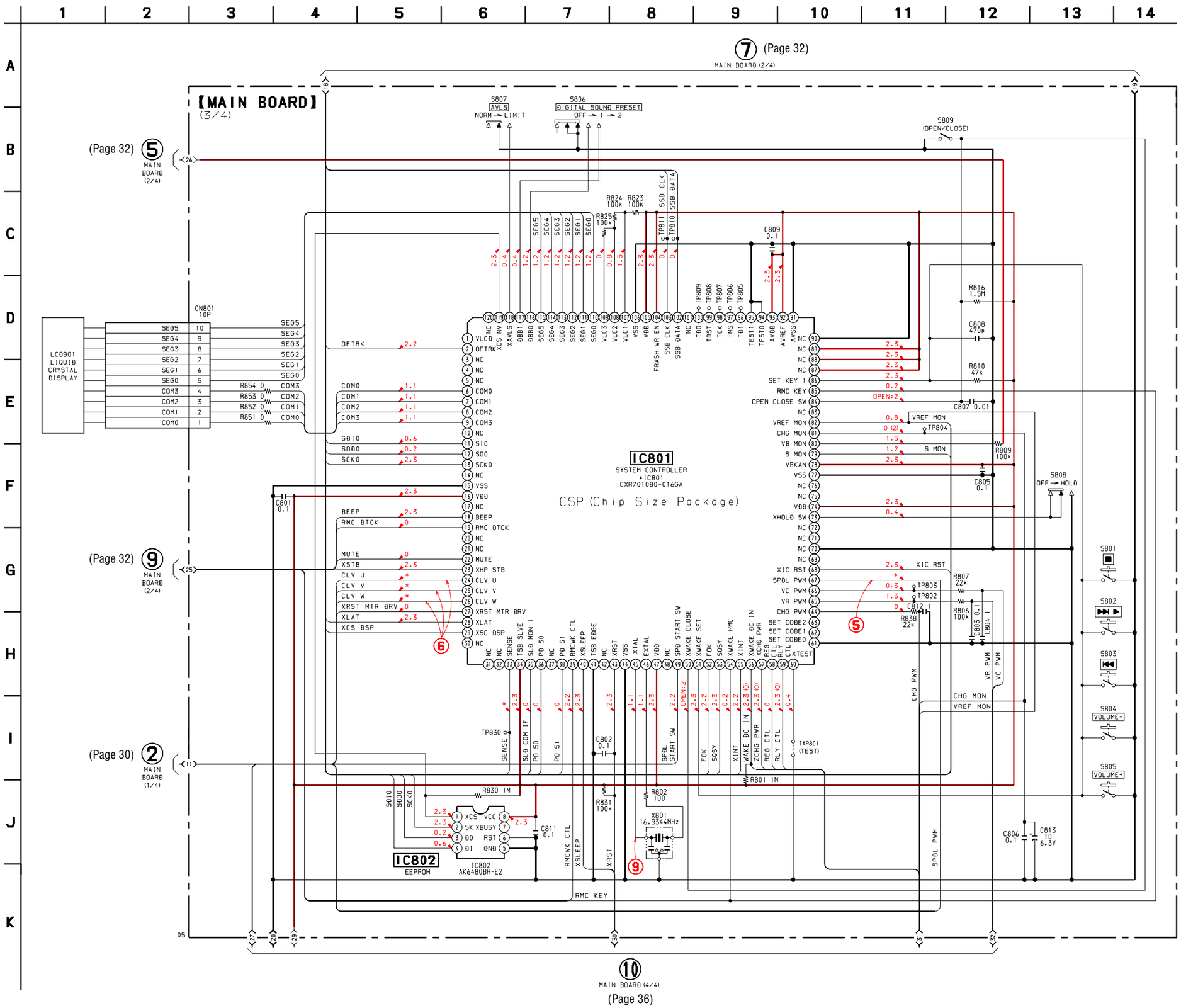
- Power voltage is dc 1.5V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground in playback mode.
  no mark : PLAYBACK
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due 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.
  ▷ : PLAYBACK

* Replacement of IC601 used in this set requires a special tool. Therefore, it cannnot be replaced.

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

6-7. SCHEMATIC DIAGRAM – MAIN Board (3/4) – • See page 37 for Waveforms.



Note on Schematic Diagram:

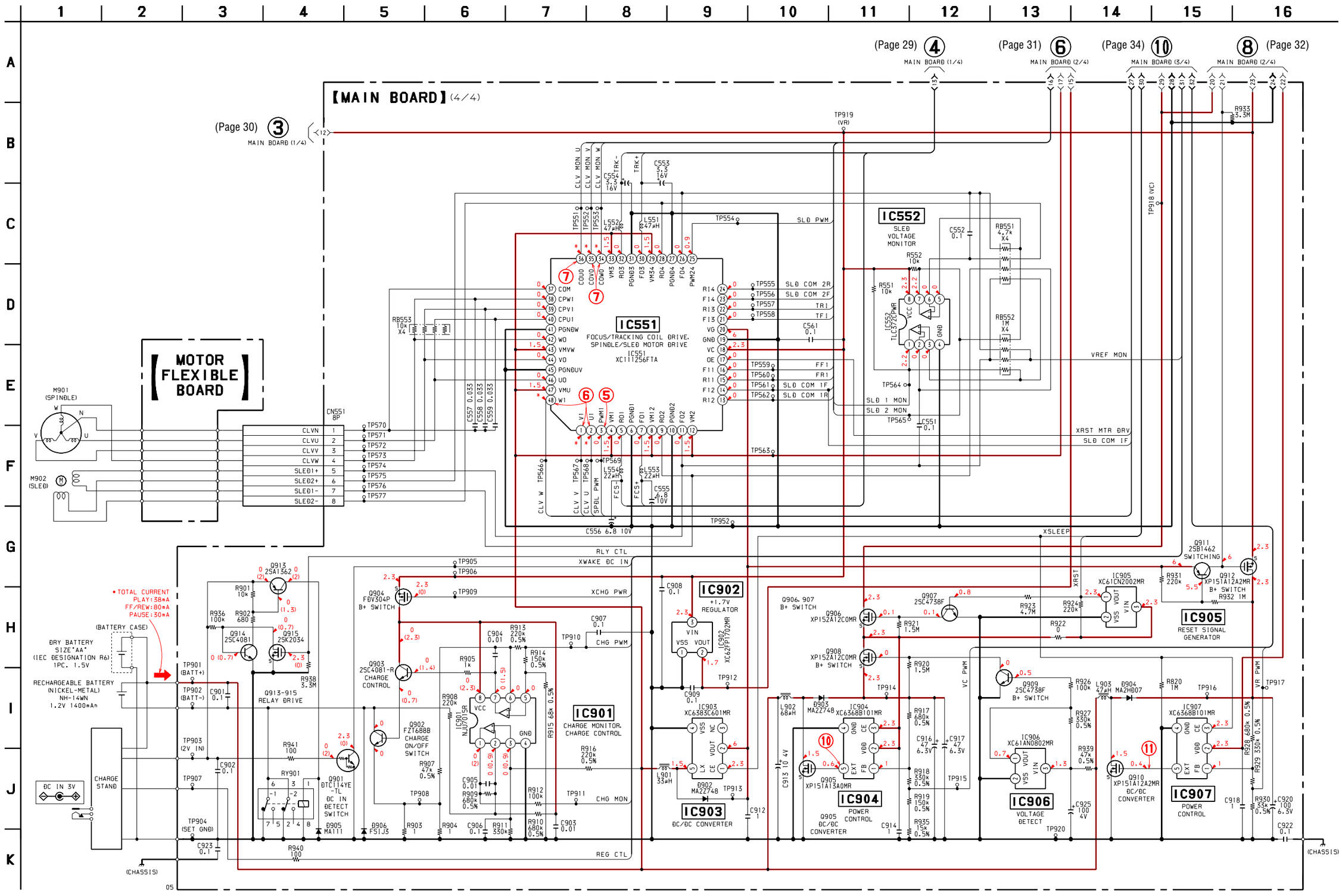
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- ▬ : B+ Line.
- Power voltage is dc 1.5V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground in playback mode.
  no mark : PLAYBACK
  ( ) : CHARGE
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). 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.

* Replacement of IC801 used in this set requires a special tool. Therefore, it cannnot be replaced.

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

6-8. SCHEMATIC DIAGRAM – MAIN Board (4/4) –

• See page 37 for Waveforms. • See page 39 for IC Block Diagrams.



Note on Schematic Diagram:

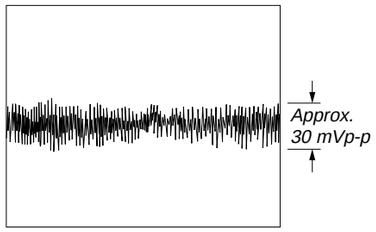
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- ▭ : panel designation.

- ▬ : B+ Line.
- Total current is measured with MD installed.
- 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 in playback mode.
  no mark : PLAYBACK
  ( ) : CHARGE
  ∗ : Impossible to measure

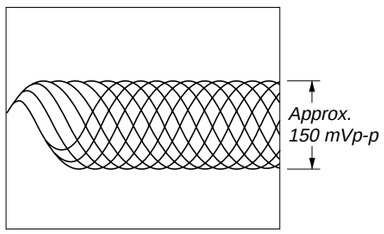
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

• Waveforms

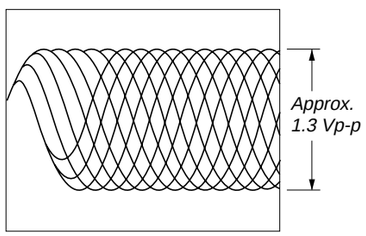
❶ IC501 ① (TE), IC601 ㊾ (TE)
(PLAYBACK mode)
200 mV/DIV, 50 ns/DIV



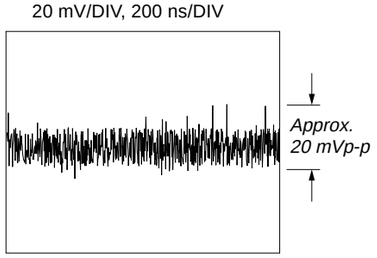
❷ IC501 ⑧, ⑨, ⑩, ⑪ (IY, IX, JX, JY)
(PLAYBACK mode)
100 mV/DIV, 1 µs/DIV



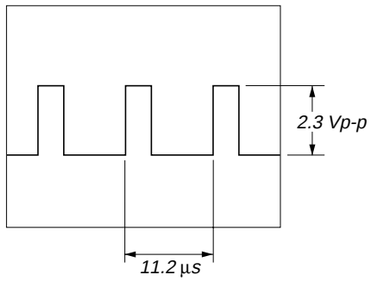
❸ IC501 ㉝ (RF OUT), IC601 ㊽ (RFI)
(PLAYBACK mode)
400 mV/DIV, 5 µs/DIV



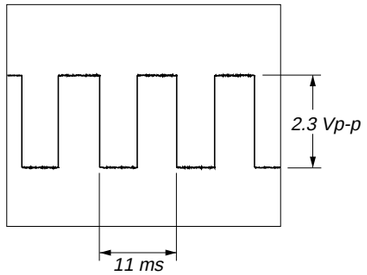
❹ IC501 ㊷ (FE), IC601 ㊼ (FE)
(PLAYBACK mode)
20 mV/DIV, 200 ns/DIV



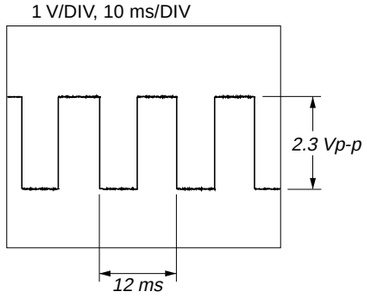
❺ IC504 ①, ②, IC551 ③ (PWM1),
IC601 ㉔ (SPVS),
IC801 ㊼ (SPDL PWM)
(PLAYBACK mode)
2 V/DIV, 10 µs/DIV



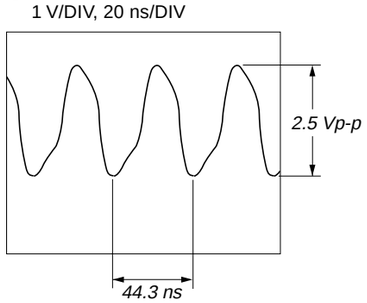
❻ IC504 ⑤, ⑥, IC505 ①, ②, ⑤, ⑥,
IC551 ①, ②, ㊽ (V1, U1, W1),
IC601 ⑰, ⑱, ⑲ (SPDU, SPDV, SPDW),
IC801 ㉔, ㉕, ㉖ (CLV U, CLV V, CLV W)
(PLAYBACK mode)
1 V/DIV, 10 ms/DIV



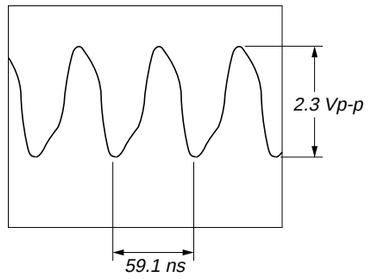
❼ IC551 ㉞, ㉟, ㊱ (COW0, COV0, COU0),
IC601 ⑬⓪, ⑬①, ⑬② (SPCU, SPCV, SPCW)
(PLAYBACK mode)
1 V/DIV, 10 ms/DIV



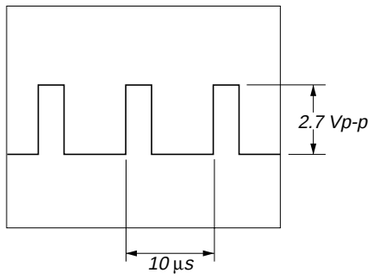
❽ IC601 ⑳ (OSCO)
1 V/DIV, 20 ns/DIV



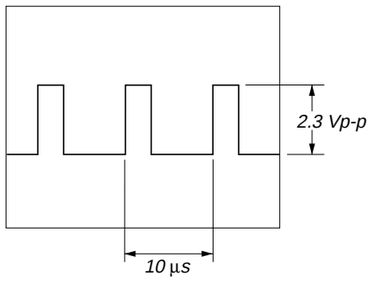
❾ IC801 ㊺ (XTAL)
1 V/DIV, 20 ns/DIV



❿ IC904 ⑤ (EXT)
1 V/DIV, 5 µs/DIV

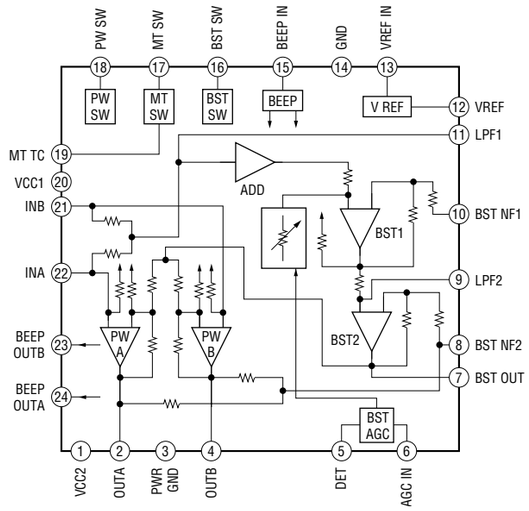


⓫ IC907 ⑤ (EXT)
1 V/DIV, 5 µs/DIV

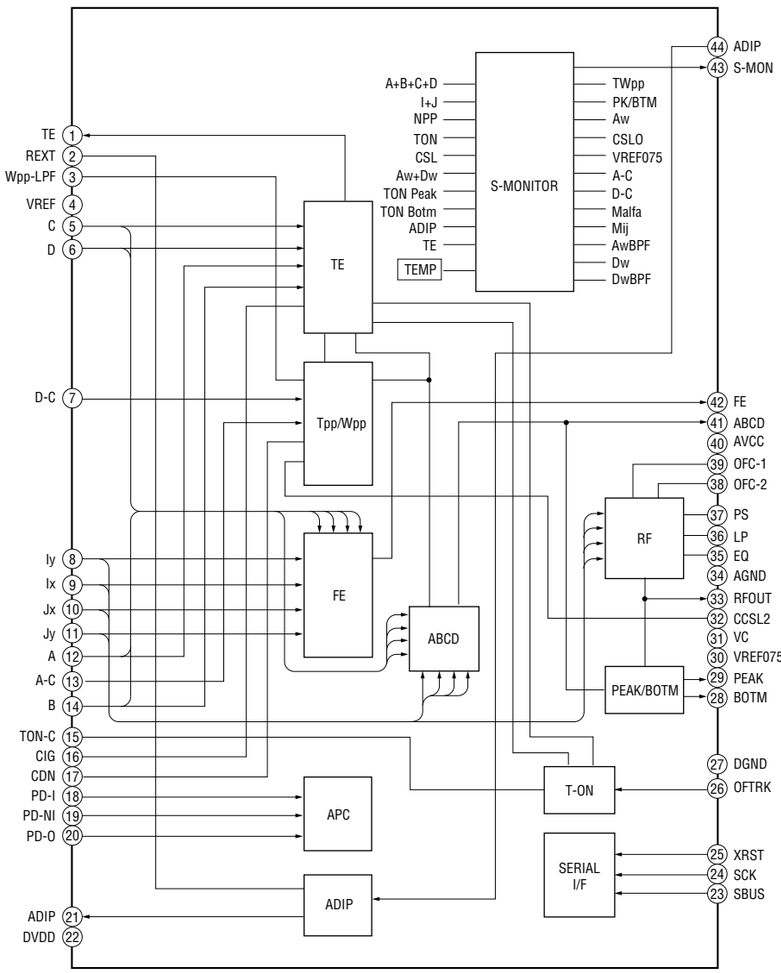


• IC Block Diagrams

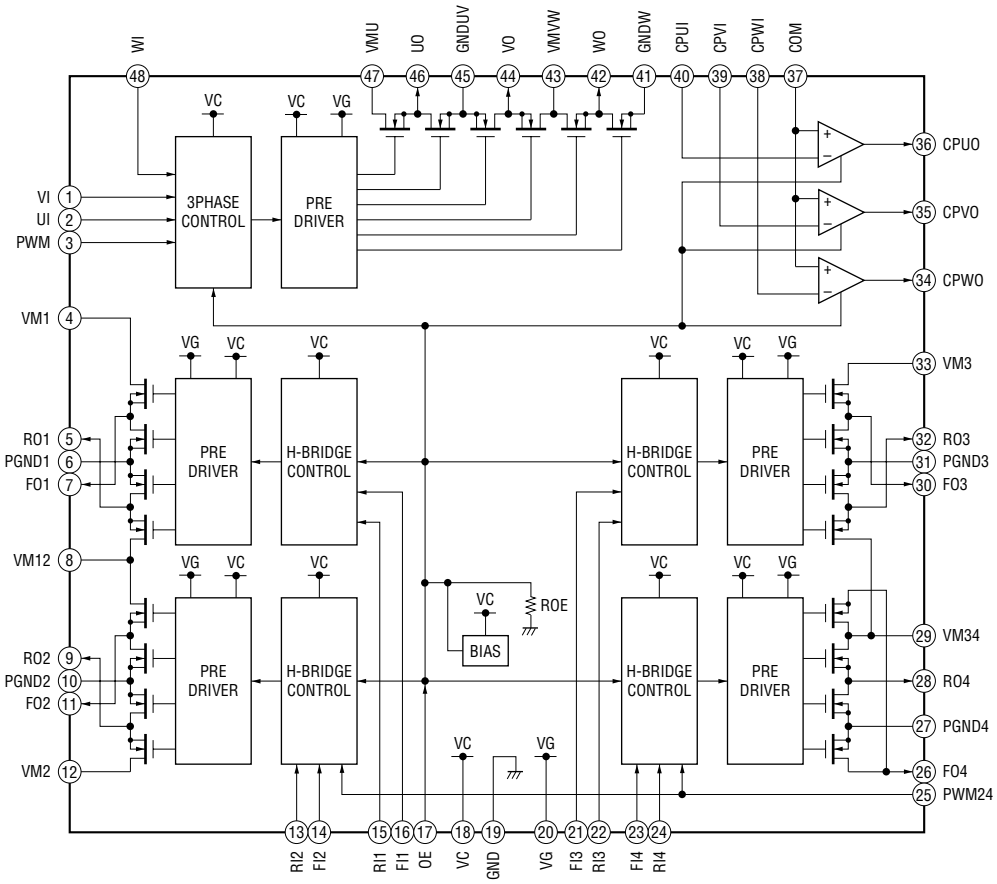
IC301 TA2131FL (EL)



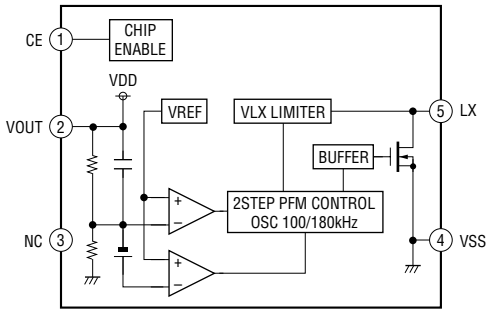
IC501 SN761056CDBT



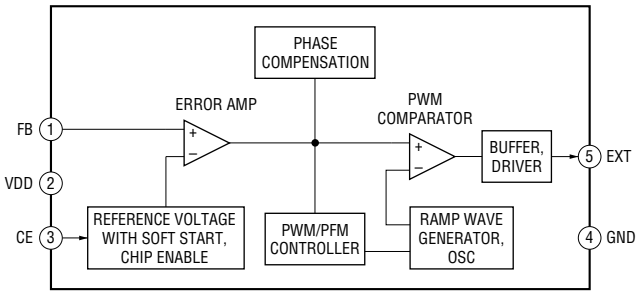
IC551 XC111256FTAEB



IC903 XC6383C601MR



IC904, 907 XC6368B101MR



6-9. IC PIN FUNCTION DESCRIPTION

• IC501 SN761056CDBT (RF AMP, FOCUS/TRACKING ERROR AMP)

Pin No.	Pin Name	I/O	Description
1	TE	O	Tracking error signal output to the CXD2661GA (IC601)
2	REXT	—	Connected to the external resistor for the ADIP amplifier control
3	WPPLPF	—	Connected to the external capacitor for low-pass filter of the TPP/WPP
4	VREF11	O	Reference voltage output terminal (+1.1V)
5	C	I	Signal (C) input from the optical pick-up detector
6	D	I	Signal (D) input from the optical pick-up detector
7	D-C	I	Signal (D) input from the optical pick-up detector (AC input)
8	IY	I	I-V converted RF signal (IY) input from the optical pick-up block detector
9	IX	I	I-V converted RF signal (IX) input from the optical pick-up block detector
10	JX	I	I-V converted RF signal (JX) input from the optical pick-up block detector
11	JY	I	I-V converted RF signal (JY) input from the optical pick-up block detector
12	A	I	Signal (A) input from the optical pick-up detector
13	A-C	I	Signal (A) input from the optical pick-up detector (AC input)
14	B	I	Signal (B) input from the optical pick-up detector
15	TON-C	—	Connected to the external capacitor for the TON hold
16	CIG	—	Connected to the external capacitor for low-pass filter of the NPP divider denominator
17	CDN	—	Connected to the external capacitor for low-pass filter of the CSL divider denominator
18	PD-NI	I	Light amount monitor input terminal (non-invert input)
19	PD-I	I	Light amount monitor input terminal (invert input)
20	PD-O	O	Light amount monitor output terminal
21	ADFG	O	ADIP duplex FM signal (22.05 kHz ± 1 kHz) output to the CXD2661GA (IC601)
22	DVDD	—	Power supply terminal (+2.4V) (digital system)
23	SBUS	I/O	Two-way SSB serial data bus with the system controller (IC801)
24	SCK	I	SSB serial clock signal input from the system controller (IC801)
25	$\overline{\text{XRST}}$	I	Reset signal input from the system controller (IC801) "L": reset
26	OFTRK	I	Off track signal input from the CXD2661GA (IC601)
27	DGND	—	Ground terminal (digital system)
28	BOTM	O	Light amount signal (RF/ABCD) bottom hold output to the CXD2661GA (IC601)
29	PEAK	O	Light amount signal (RF/ABCD) peak hold output to the CXD2661GA (IC601)
30	VREF075	—	Connected to the external capacitor for the internal reference voltage
31	VC	O	Middle point voltage (+1.2V) generation output terminal
32	CCSL2	—	Connected to the external capacitor for low-pass filter of the TPP/WPP
33	RF OUT	O	Playback EFM RF signal output to the CXD2661GA (IC601)
34	AGND	—	Ground terminal (analog system)
35	EQ	—	Connected to the external capacitor for the RF equalizer
36	LP	—	Connected to the external capacitor for the RF equalizer
37	PS	—	Connected to the external capacitor for the RF equalizer
38	OFC-2	—	Connected to the external capacitor for the RF AC coupling
39	OFC-1	—	Connected to the external capacitor for the RF AC coupling
40	AVCC	—	Power supply terminal (+2.4V) (analog system)
41	ABCD	O	Light amount signal (ABCD) output to the CXD2661GA (IC601)
42	FE	O	Focus error signal output to the CXD2661GA (IC601)
43	S-MON	O	Servo signal monitor output to the system controller (IC801)
44	ADIP-IN	I	ADIP duplex FM signal (22.05 kHz ± 1 kHz) input terminal (not used in this set)

• **IC601 CXD2661GA-2**

(DIGITAL SIGNAL PROCESSOR, DIGITAL SERVO SIGNAL PROCESSOR, EFM/ACIRC ENCODER/DECODER, SHOCK PROOF MEMORY CONTROLLER, ATRAC ENCODER/DECODER, D/A CONVERTER, 16M BIT D-RAM)

Pin No.	Pin Name	I/O	Description
1	VDCO	—	Power supply terminal (+1.7V) (for internal logic)
2, 3	MNT0, MNT1	O	Operation monitor signal output terminal Not used (open)
4	MNT2	O	Off track signal output to the SN761056CDBT (IC501) and system controller (IC801)
5	MNT3	O	Focus OK signal output to the system controller (IC801) "H" is output when focus is on ("L": NG)
6	SWDT	I	Serial data input from the system controller (IC801) and EEPROM (IC802)
7	SCLK	I	Serial clock signal input from the system controller (IC801)
8	XLAT	I	Serial data latch pulse input from the system controller (IC801)
9	VSCO	—	Ground terminal (for internal logic)
10	SRDT	O	Serial data output to the system controller (IC801) and EEPROM (IC802)
11	SENS	O	Internal status (SENSE) output to the system controller (IC801)
12	$\overline{\text{XRST}}$	I	Reset signal input from the system controller (IC801) "L": reset
13	SQSY	O	Subcode Q sync (SCOR) output to the system controller (IC801) "L" is output every 13.3 msec. Almost all, "H" is output
14	MTFLGL	O	Muting applied to analog signal input in non-signal status causes the signal to be "H" automatically Not used (open)
15	TST1	I	Input terminal for the test (normally : fixed at "L")
16	XINT	O	Interrupt status output to the system controller (IC801)
17	TST2	I	Input terminal for the test (normally : fixed at "L")
18	VDIOSC	—	Power supply terminal (+2.4V) (for oscillator cell)
19	OSCI	I	System clock input terminal (22.5792 MHz)
20	OSCO	O	System clock output terminal (22.5792 MHz)
21	VSIOSC	—	Ground terminal (for oscillator cell)
22	DAVSSL	—	Ground terminal (for internal D/A converter L-ch)
23	VREFL	O	Reference voltage output terminal (for internal D/A converter L-ch)
24	AOUTL	O	Playback analog signal (L-ch) output to the headphone amp (IC301)
25	DAVDDL	—	Power supply terminal (+2.4V) (for internal D/A converter L-ch)
26	DAVDDR	—	Power supply terminal (+2.4V) (for internal D/A converter R-ch)
27	AOUTR	O	Playback analog signal (R-ch) output to the headphone amp (IC301)
28	VREFR	O	Reference voltage output terminal (for internal D/A converter R-ch)
29	DAVSSR	—	Ground terminal (for internal D/A converter R-ch)
30	VSC1	—	Ground terminal (for internal logic)
31	XTSL	I	Input terminal for the system clock frequency setting "L": 45.1584 MHz, "H": 22.5792 MHz (fixed at "H" in this set)
32	CD DSP	I	Chip select signal input from the system controller (IC801)
33	TST4	I	Input terminal for the test (normally : fixed at "L")
34	DOUT	O	Digital audio signal output terminal when playback mode Not used (open)
35	DT72	O	Not used (open)
36, 37	VDC1, VDC2	—	Power supply terminal (+1.7V) (for internal logic)
38	DATAI	I	Input terminal of external audio data to the internal D/A converter Not used (open)
39 to 41	TST5 to TST7	I	Input terminal for the test (normally : fixed at "L")
42	DADT	O	Playback data signal output to the external D/A converter Not used (open)
43	LRCK	O	L/R sampling clock signal (44.1 kHz) output to the external D/A converter Not used (open)
44	VSC2	—	Ground terminal (for internal logic)
45	XBCK	O	Bit clock signal (2.8224 MHz) output to the external D/A converter Not used (open)
46	FS256	O	Clock signal (11.2896 MHz) output to the external D/A converter Not used (open)

Pin No.	Pin Name	I/O	Description
47 to 52	A03, A04, A02, A05, A01, A06	O	Address signal output to the external D-RAM Not used (open)
53	VDIO1	—	Power supply terminal (+2.4V) (for I/O cell)
54	VSIO1	—	Ground terminal (for I/O cell)
55 to 59	A00, A07, A10, A08, A09	O	Address signal output to the external D-RAM Not used (open)
60	$\overline{\text{XRAS}}$	O	Row address strobe signal output to the external D-RAM "L" active Not used (open)
61	$\overline{\text{IXOE}}$	O	Output enable signal output terminal "L" active Not used (open)
62	$\overline{\text{IXWE}}$	O	Data write enable signal output terminal "L" active Not used (open)
63	$\overline{\text{XCAS}}$	O	Column address strobe signal output to the external D-RAM "L" active Not used (open)
64 to 67	D1, D2, D0, D3	I/O	Two-way data bus with the external D-RAM Not used (open)
68	VDC3	—	Power supply terminal (+1.7V) (for internal logic)
69	VSC3	—	Ground terminal (for internal logic)
70	A11	O	Address signal output to the external D-RAM Not used (open)
71	$\overline{\text{XOE}}$	O	Output enable signal output to the external D-RAM "L" active Not used (open)
72	$\overline{\text{XWE}}$	O	Data write enable signal output to the external D-RAM "L" active Not used (open)
73	MVCI	I	Digital in PLL oscillation input from the external VCO Not used (fixed at "L")
74	ASYO	O	Playback EFM full-swing output terminal
75	ASYI	I	Playback EFM asymmetry comparator voltage input terminal
76	AVD1	—	Power supply terminal (+2.4V) (analog system)
77	BIAS	I	Playback EFM asymmetry circuit constant current input terminal
78	RFI	I	Playback EFM RF signal input from the SN761056CDBT (IC501)
79	AVS1	—	Ground terminal (analog system)
80	PCO	O	Phase comparison output for master clock of the recording/playback EFM master PLL
81	FILI	I	Filter input for master clock of the recording/playback EFM master PLL
82	FILO	O	Filter output for master clock of the recording/playback EFM master PLL
83	CLTV	I	Internal VCO control voltage input of the recording/playback EFM master PLL
84	PEAK	I	Light amount signal (RF/ABCD) peak hold input from the SN761056CDBT (IC501)
85	BOTM	I	Light amount signal (RF/ABCD) bottom hold input from the SN761056CDBT (IC501)
86	ABCD	I	Light amount signal input from the SN761056CDBT (IC501)
87	FE	I	Focus error signal input from the SN761056CDBT (IC501)
88	AUX1	I	Auxiliary signal input terminal Not used (fixed at "H")
89	VC	I	Middle point voltage (+1.2V) input terminal
90	ADIO	O	Monitor output of the A/D converter input signal Not used (open)
91	ADRT	I	A/D converter operational range upper limit voltage input terminal (fixed at "H" in this set)
92	AVD2	—	Power supply terminal (+2.4V) (analog system)
93	AVS2	—	Ground terminal (analog system)
94	ADRB	I	A/D converter operational range lower limit voltage input terminal (fixed at "L" in this set)
95	SE	I	Sled error signal input terminal Not used (fixed at "L")
96	TE	I	Tracking error signal input from the SN761056CDBT (IC501)
97	DCHG	I	Connected to the +2.4V power supply
98	APC	I	Error signal input for the laser automatic power control Not used (fixed at "H")
99	ADFG	I	ADIP duplex FM signal (22.05 kHz ± 1 kHz) input from the SN761056CDBT (IC501)
100	VDIO2	—	Power supply terminal (+2.2V) (for I/O cell)
101	VSIO2	—	Ground terminal (for I/O cell)
102	F0CNT	O	Center frequency control signal output terminal of internal circuit filter Not used (open)

Pin No.	Pin Name	I/O	Description
103	XLRF	O	Serial latch signal output terminal Not used (open)
104	CKRF	O	Serial clock signal output terminal Not used (open)
105	DTRF	O	Write data output terminal Not used (open)
106	APCREF	O	Control signal output to the reference voltage generator circuit for the laser automatic power control
107	LDDR	O	PWM signal output for the laser automatic power control Not used (open)
108	VDC4	—	Power supply terminal (+1.7V) (for internal logic)
109	TRDR	O	Tracking servo drive PWM signal (–) output to the XC111256FTA (IC551)
110	TFDR	O	Tracking servo drive PWM signal (+) output to the XC111256FTA (IC551)
111	FFDR	O	Focus servo drive PWM signal (+) output to the XC111256FTA (IC551)
112	FRDR	O	Focus servo drive PWM signal (–) output to the XC111256FTA (IC551)
113	FS4	O	Clock signal output terminal (X' tal system 176.4 kHz) Not used (open)
114	SRDR	O	Sled servo drive PWM signal (–) output terminal Not used (open)
115	SFDR	O	Sled servo drive PWM signal (+) output terminal Not used (open)
116	VSC4	—	Ground terminal (for internal logic)
117	SPRD	O	Spindle servo drive PWM signal (–) output terminal Not used (open)
118	SPFD	O	Spindle servo drive PWM signal (+) output terminal Not used (open)
119	FGIN	I	FG signal input terminal for spindle servo Not used (open)
120 to 122	TEST1 to TEST3	I	Input terminal for the test (normally : fixed at “L”)
123	MTFLGR	O	Muting applied to analog signal input in non-signal status causes the signal to be “H” automatically Not used (open)
124	SPVS	O	Spindle servo drive voltage control signal output to the XC111256FTA (IC551)
125	VDI03	—	Power supply terminal (+2.4V) (for I/O cell)
126	VSI03	—	Ground terminal (for I/O cell)
127	SPDU	O	Spindle servo (U) drive signal output to the XC111256FTA (IC551)
128	SPDV	O	Spindle servo (V) drive signal output to the XC111256FTA (IC551)
129	SPDW	O	Spindle servo (W) drive signal output to the XC111256FTA (IC551)
130	SPCU	I	Spindle servo (U) timing signal input from the XC111256FTA (IC551)
131	SPCV	I	Spindle servo (V) timing signal input from the XC111256FTA (IC551)
132	SPCW	I	Spindle servo (W) timing signal input from the XC111256FTA (IC551)
133	SLDU	O	Sled servo (1+) drive signal output to the XC111256FTA (IC551)
134	SLDV	O	Sled servo (1–) drive signal output to the XC111256FTA (IC551)
135	SLDW	O	Sled servo (2+) drive signal output to the XC111256FTA (IC551)
136	VDC5	—	Power supply terminal (+1.7V) (for internal logic)
137	VSC5	—	Ground terminal (for internal logic)
138	SLCU	I	Sled servo (1) timing signal input from the XC111256FTA (IC551)
139	SLCV	I	Sled servo (2) timing signal input from the XC111256FTA (IC551)
140	SLCW	O	Sled servo (2–) timing signal output to the XC111256FTA (IC551)
141	SLVS	O	Sled servo voltage control signal output to the XC111256FTA (IC551)
142	BYPS	O	By-pass transistor control signal output terminal Not used (open)
143	DVSSDRAM	—	Ground terminal (for internal 16M bit D-RAM)
144	DVDDDRAM	—	Power supply terminal (+2.4V) (for internal 16M bit D-RAM)
145	DVSSDRAM	—	Ground terminal (for internal 16M bit D-RAM)
146	DVDDDRAM	—	Power supply terminal (+2.4V) (for internal 16M bit D-RAM)
147 to 168	NC	—	Not used (open)

• **IC801 CXR701080-016GA (SYSTEM CONTROLLER)**

Pin No.	Pin Name	I/O	Description
1	VLCD	O	Not used (open)
2	OFTRK	I	Off track signal input from the CXD2661GA (IC601)
3, 4	NC	I	Not used (open)
5	NC	O	Not used (open)
6 to 9	COM0 to COM3	O	Common drive signal output to the liquid display module (LCD901)
10	NC	O	Not used (open)
11	SI0	I	Serial data input from the CXD2661GA (IC601)
12	SO0	O	Serial data output to the CXD2661GA (IC601)
13	SCK0	O	Serial clock signal output to the CXD2661GA (IC601) and EEPROM (IC802)
14	NC	I	Not used (open)
15	VSS	—	Ground terminal
16	VDD	—	Power supply terminal (+2.4V)
17	NC	O	Not used (open)
18	BEEP	O	Beep sound control signal output to the headphone amp (IC301)
19	RMC DTCK	I/O	TSB serial communication data input/output terminal for remote commander with headphone
20, 21	NC	O	Not used (open)
22	MUTE	O	Analog muting on/off control signal output to the headphone amp (IC301) "H": muting on
23	XHP STBY	O	Standby on/off control signal output to the headphone amp (IC301) "L": standby mode, "H": amp on
24	CLV U	O	Spindle servo (U) drive signal input from the XC111256FTA (IC551)
25	CLV V	O	Spindle servo (V) drive signal input from the XC111256FTA (IC551)
26	CLV W	O	Spindle servo (W) drive signal input from the XC111256FTA (IC551)
27	XRST MTR DRV	O	Reset signal output to the XC111256FTA (IC551) "L": reset
28	XLAT	O	Serial data latch pulse signal output to the CXD2661GA (IC601)
29	XCS DSP	O	Chip select signal output to the CXD2661GA (IC601)
30 to 32	NC	O	Not used (open)
33	SENSE	I	Internal status (SENSE) input from the CXD2661GA (IC601)
34	TSB SLVE	I	Not used (fixed at "H")
35	SLD MON 1	I	Sled servo timing signal input from the CXD2661GA (IC601)
36	PD S0	O	PD IC mode switching signal output to the optical pick-up block
37	NC	O	Not used (open)
38	PD S1	O	PD IC mode switching signal output to the optical pick-up block
39	RMC WK CTL	O	Starting signal output to the remote commander with headphone
40	XSLEEP	O	System sleep control signal output terminal "H": sleep on
41	TSB EDGE	I	Not used (fixed at "L")
42	NC	O	Not used (open)
43	XRST	I	System reset signal input from the reset signal generator (IC905) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
44	VSS	—	Ground terminal
45	XTAL	O	Main system clock output terminal (16.9344 MHz)
46	EXTAL	I	Main system clock input terminal (16.9344 MHz)
47	VDD	—	Power supply terminal (+2.4V)
48	NC	I/O	Not used (open)
49	SPDL START SW	O	Spindle servo start switching signal output terminal

Pin No.	Pin Name	I/O	Description
50	XWAKE CLOSE	I	Starting detect input (A/D input) from the open/close detect switch (S809) "L": close
51	XWAKE SET	I	Starting detect signal input (A/D input) from the set key
52	FOK	I	Focus OK signal input from the CXD2661GA (IC601) "H" is input when focus is on ("L": NG)
53	SQSY	I	Subcode Q sync (SCOR) input from the CXD2661GA (IC601) "L" is input every 13.3 msec. Almost all, "H" is input
54	XWAKE RMC	I	Starting detect input (A/D input) from the remote commander with headphone
55	XINT	I	Interrupt status input from the CXD2661GA (IC601)
56	XWAKE DC IN	I	DC IN detect input from the charge stand
57	XCHG PWR	O	Charge control signal output terminal
58	REC CTL	O	Regulator control signal output to the charge stand
59	RLY CTL	O	Control signal output to the relay (RY901)
60	XTEST	I	Setting terminal for the test mode "L": test mode (normally: open)
61	SET CODE0	I	Destination setting terminal for the test mode (fixed at "L" in this set)
62,63	SET CODE1, SET CODE2	I	Destination setting terminal for the test mode (open in this set)
64	CHG PWM	O	Control signal output to the charge circuit
65	VR PWM	O	VRM power supply voltage control signal output to the power control (IC907)
66	VC PWM	O	System power supply voltage control signal output to the power control (IC904)
67	SPDL PWM	O	Spindle servo drive voltage control signal output to the XC111256FTA (IC551)
68	XIC RST	O	Reset signal output to the SN761056CDBT (IC501) and CXD2661GA (IC601) "L": reset
69	NC	O	Not used (open)
70	NC	I	Not used (fixed at "L")
71, 72	NC	O	Not used (open)
73	XHOLD SW	I	HOLD switch (S808) input terminal "L": hold on
74	VDD	—	Power supply terminal (+2.4V)
75	NC	I	Not used (open)
76	NC	O	Not used (open)
77	VSS	—	Ground terminal
78	VBKAN	I	Sub power supply input terminal
79	S MON	I	Servo signal monitor input from the SN761056CDBT (IC501) (A/D input)
80	VB MON	I	Battery power supply voltage monitor input terminal (A/D input)
81	CHG MON	I	Charge voltage monitor input (A/D)
82	VREF MON	I	Reference voltage monitor input from the SN761056CDBT (IC501) (A/D input)
83	NC	I	Not used (open)
84	OPEN CLOSE SW	I	Open/close detect switch (S809) input (A/D input) "L": close
85	RMC KEY	I	Remote commander with headphone key input terminal (A/D input)
86	SET KEY 1	I	Set key (S801 to 805) input terminal (A/D input) (■, ▶▶I ►, I◀◀,VOL +/– keys input)
87 to 89	NC	I	Not used (fixed at "H")
90	NC	I	Not used (fixed at "L")
91	AVSS	—	Ground terminal (for A/D converter)
92	AVREF	I	Input terminal for power supply voltage adjustment reference voltage (+2.4V) (for A/D converter)
93	AVDD	—	Power supply terminal (+2.4V) (for A/D converter)
94, 95	TEST0, TEST1	I	Input terminal for the test (normally: fixed at "L")
96	TDI	I	Data input terminal for JTAG scan test Not used (open)

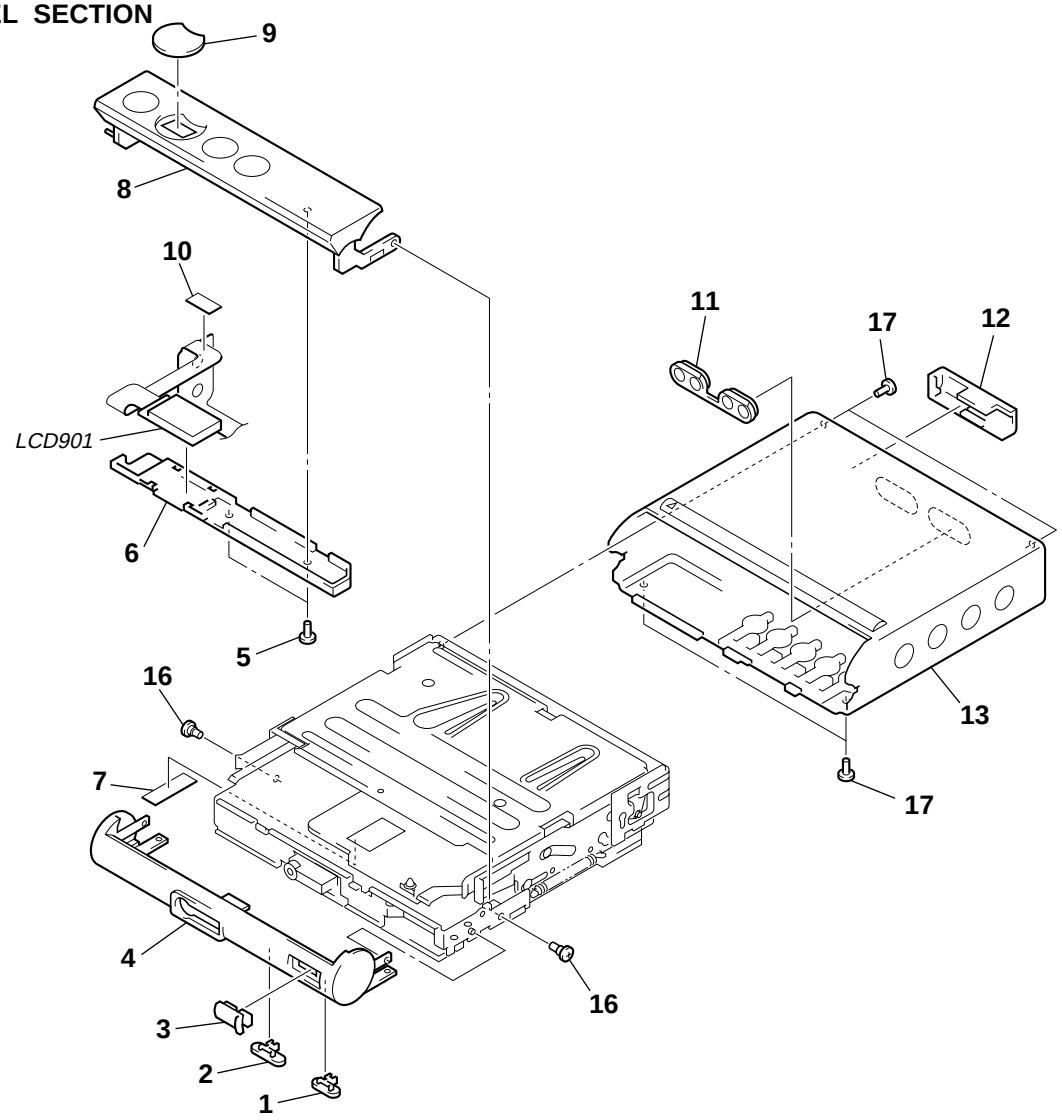
Pin No.	Pin Name	I/O	Description
97	TMS	I	Test mode control signal input terminal for JTAG scan test Not used (open)
98	TCX	I	Clock signal input terminal for JTAG scan test Not used (open)
99	XTRST	I	Reset signal input terminal for JTAG scan test Not used (fixed at “L”)
100	TDO	O	Data output terminal for JTAG scan test Not used (open)
101	NC	O	Not used (open)
102	SSB DATA	I/O	Two-way SSB serial data bus with the SN761056CDBT (IC501)
103	SSB CLK	O	SSB serial clock signal output to the SN761056CDBT (IC501)
104	FLASH WR EN	I	Write enable signal input terminal Not used (fixed at “H”)
105	VDD	—	Power supply terminal (+2.4V)
106	VSS	—	Ground terminal
107 to 109	VLC1 to VCL3	I	Not used (fixed at “H”)
110 to 115	SEG0 to SEG5	O	Segment drive signal output to the liquid display module (LCD901)
116	DBB0	I	Set switch (S806) input terminal (A/D input) (DIGITAL SOUND PRESET switch 1 input)
117	DBB1	I	Set switch (S806) input terminal (A/D input) (DIGITAL SOUND PRESET switch 2 input)
118	XAVLS	I	Set switch (S807) input terminal (A/D input) (AVLS switch input) “L”: limit
119	XCS NV	O	Chip select signal output to the EEPROM (IC802)
120	NC	O	Not used (open)

SECTION 7
EXPLODED VIEWS

NOTE:
- -XX and -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.
- Accessories and packing materials are given in the last of the electrical parts list.

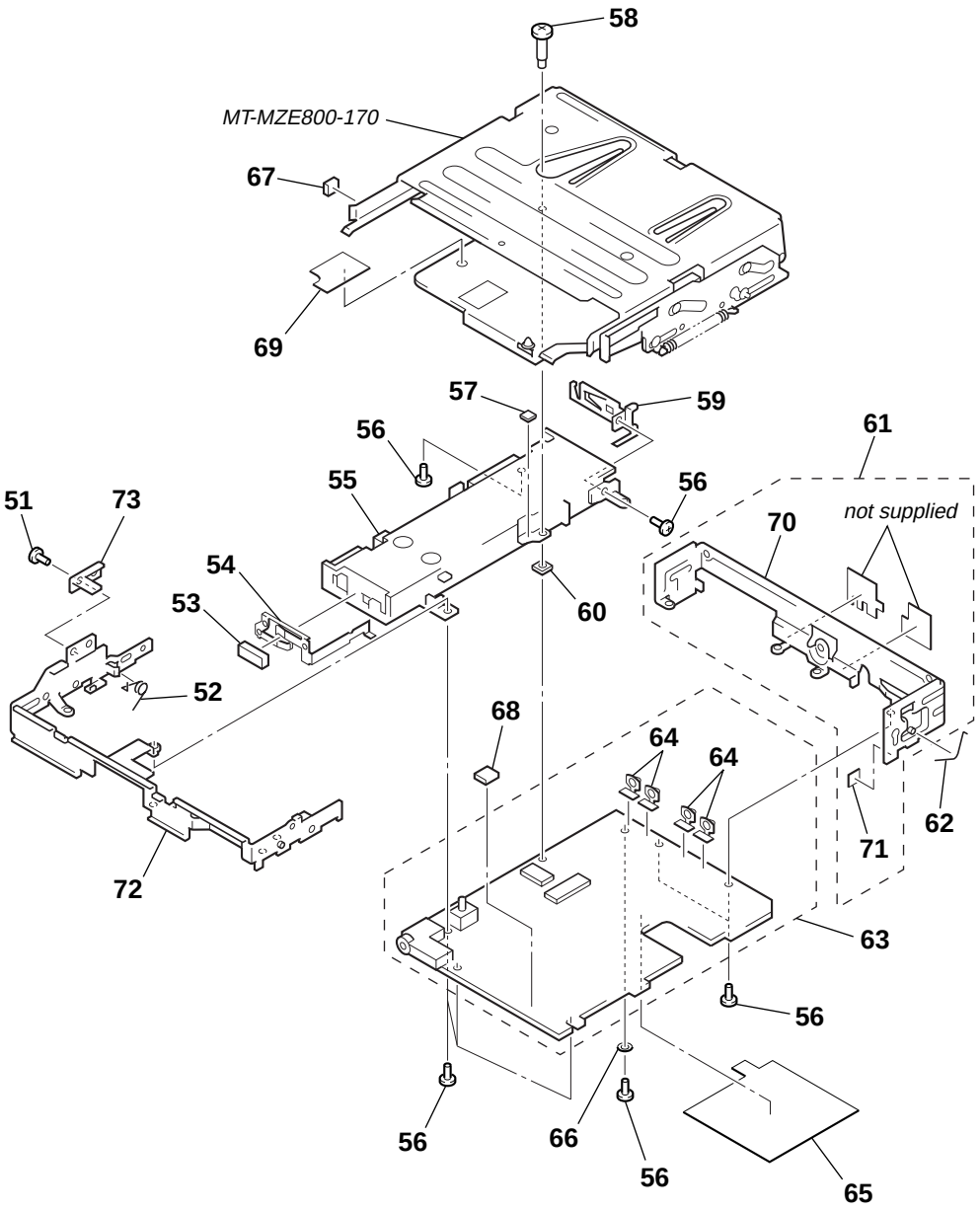
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

(1) PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	4-982-397-41	KNOB (AVLS)	
2	4-982-398-41	KNOB (BASS BOOST)	
3	3-049-035-01	KNOB (HOLD) (GREY)... (SILVER)	
3	3-049-035-11	KNOB (HOLD) (ORANGE)... (BLACK)	
3	3-049-035-21	KNOB (HOLD) (WHITE)... (GREEN)	
4	3-049-030-01	PANEL, FRONT (SILVER)	
4	3-049-030-11	PANEL, FRONT (BLACK)	
4	3-049-030-21	PANEL, FRONT (GREEN)	
5	4-218-233-13	SCREW (1.4), MI	
6	3-049-033-01	HOLDER (LCD)	
7	3-222-897-01	SHEET (FLEXIBLE)	
8	X-3379-492-1	SHUTTER ASSY (SILVER)	
8	X-3379-493-1	SHUTTER ASSY (BLACK)	
8	X-3379-494-1	SHUTTER ASSY (GREEN)	
9	3-049-032-01	WINDOW (LCD) (ORANGE)... (SILVER)	
9	3-049-032-11	WINDOW (LCD) (DARK ORANGE)... (BLACK)	
9	3-049-032-21	WINDOW (LCD) (WHITE)... (GREEN)	
10	3-223-250-01	SHEET	
11	3-049-042-01	ESCUTCHEON	
12	3-049-031-01	LID, BATTERY CASE (SILVER)	
12	3-049-031-11	LID, BATTERY CASE (BLACK)	
12	3-049-031-21	LID, BATTERY CASE (GREEN)	
13	X-3379-638-1	PANEL ASSY (S), REAR (SILVER)	
13	X-3379-639-1	PANEL ASSY (B), REAR (BLACK)	
13	X-3379-640-1	PANEL ASSY (G), REAR (GREEN)	
16	3-220-019-01	SCREW, STEP	
17	4-218-229-13	SCREW (1.4), MI (SILVER)... (SILVER, GREEN)	
17	4-218-229-15	SCREW (1.4), MI (BLACK)... (BLACK)	
LCD901	1-804-062-11	DISPLAY PANEL, LIQUID CRYSTAL	

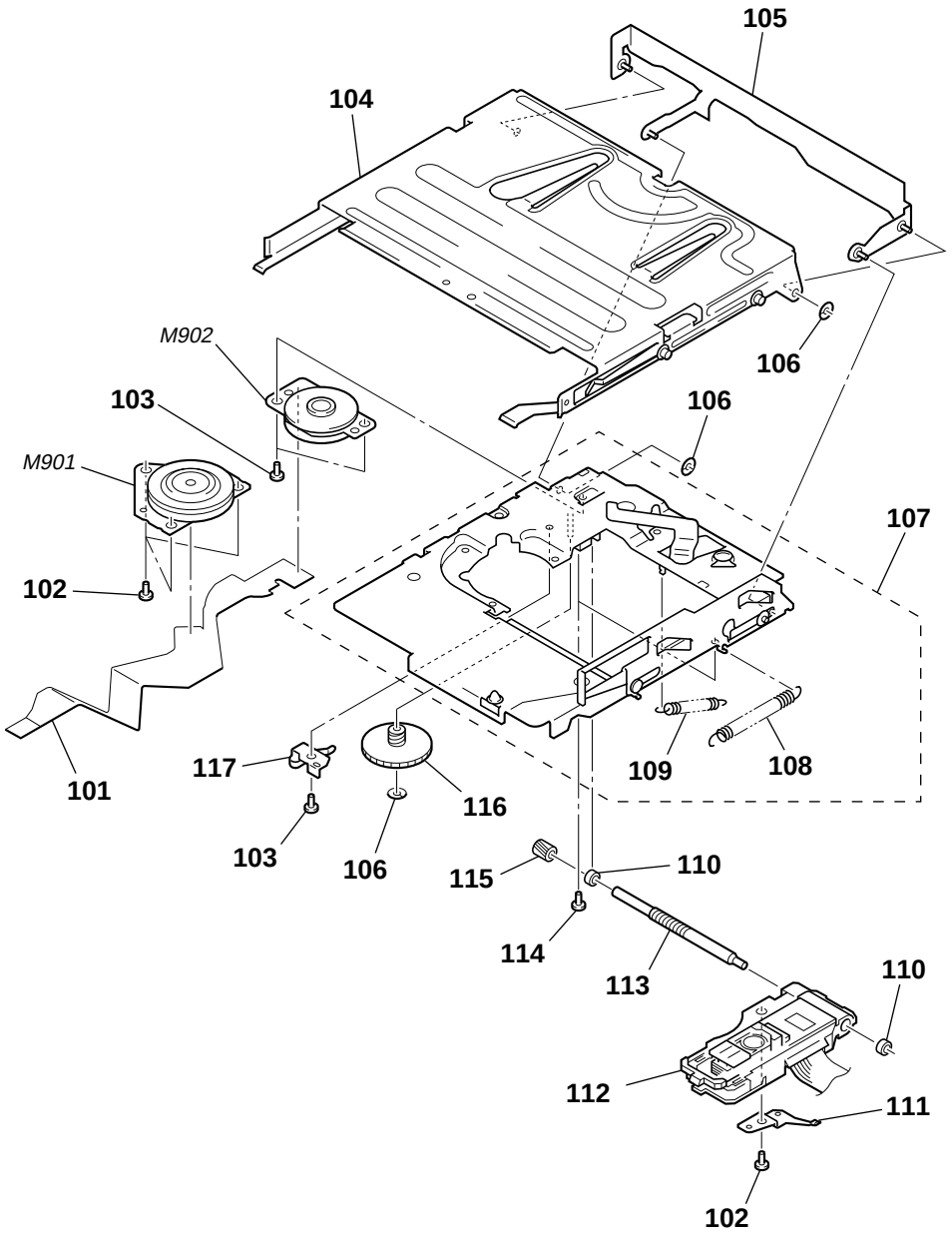
(2) MAIN SECTION



Ref. No.	Part No.	Description	Remark
51	4-218-233-05	SCREW (1.4), MI	
52	3-049-043-01	SPRING, TORSION	
53	4-214-158-01	DANPER (-)	
54	4-223-920-11	TERMINAL BOARD (MINUS)	
55	3-049-036-01	CASE, BATTERY	
56	4-218-233-13	SCREW (1.4), MI	
57	3-220-020-01	CUSHION (MD)	
58	3-049-051-01	SCREW (MD), STEP	
59	X-3379-178-1	TERMINAL (PLUS) ASSY, BATTERY	
60	3-221-591-01	NUT (M1.4)	
61	A-3364-237-A	BRACKET (B) BLOCK ASSY	
62	3-049-049-01	SPRING (MD), TORSION	

Ref. No.	Part No.	Description	Remark
63	A-3323-560-A	MAIN BOARD, COMPLETE	
64	3-049-041-01	TERMINAL BOARD	
65	3-049-752-01	SHEET (PC BOARD)	
66	3-222-937-01	WASHER (INSULATING)	
67	3-222-717-01	SPACER (HOLDER)	
68	3-222-716-01	SPACER (PC BOARD)	
69	3-221-683-01	SHEET (SWITCH)	
70	X-3379-366-1	BRACKET (B) ASSY	
71	3-223-565-01	SHEET (CHASSIS)	
72	3-049-026-01	BRACKET (A)	
73	3-049-044-01	BRACKET (FPC)	

(3) MD MECHANISM DECK SECTION (MT-MZE800-170)



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

Ref. No.	Part No.	Description	Remark
101	1-678-525-11	MOTOR FLEXIBLE BOARD	
102	4-963-883-31	SCREW (M1.4), PRECISION PAN	
103	4-963-883-42	SCREW (M1.4), PRECISION PAN	
104	X-3379-188-1	HOLDER ASSY	
105	X-3379-187-1	LEVER (FULCRUM) ASSY	
106	3-338-645-31	WASHER (0.8-2.5)	
107	X-3379-185-1	CHASSIS (S) ASSY	
108	4-993-253-01	SPRING (SLIDE), TENSION	
109	3-224-013-01	SPRING (EJECT), TENSION	
110	4-222-204-01	BEARING (N)	
111	3-049-336-01	SPRING (S), RACK	
⚠112	X-4952-387-1	OP SERVICE ASSY (LCX-2E)	
113	4-222-203-01	SCREW, LEAD	
114	3-349-825-21	SCREW	
115	4-222-208-01	GEAR (SB)	
116	4-222-216-01	GEAR (SA)	
117	4-222-206-01	SPRING, THRUST	
M901	8-835-699-01	MOTOR, DC SSM17A/C-NP (SPINDLE) (WITH TURN TABLE)	
M902	1-763-399-11	MOTOR, DC (SLED) (WITH PULLEY GEAR)	

MAIN

SECTION 8
ELECTRICAL PARTS LIST

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 and -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. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ 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
	A-3323-560-A	MAIN BOARD, COMPLETE			
		**********			
	3-049-041-01	TERMINAL BOARD			
		< CAPACITOR >			
C101	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C102	1-135-868-11	TANTALUM	220		2.5V
C103	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C104	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C201	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C202	1-135-868-11	TANTALUM	220		2.5V
C203	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C204	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C301	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C302	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C303	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C304	1-107-812-11	TANTALUM CHIP	4.7uF	20%	6.3V
C305	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C306	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C307	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C351	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C501	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C502	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C503	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C504	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C505	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C506	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C507	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C508	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	16V
C509	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C510	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	16V
C511	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	16V
C512	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C513	1-164-858-11	CERAMIC CHIP	22PF	5%	16V
C515	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C516	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C517	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C518	1-125-840-11	TANTALUM CHIP	10uF	20%	6.3V
C519	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C521	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C522	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C526	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C527	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C529	1-125-840-11	TANTALUM CHIP	10uF	20%	6.3V
C530	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C551	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C552	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C553	1-107-765-11	TANTALUM CHIP	3.3uF	20%	16V
C554	1-107-765-11	TANTALUM CHIP	3.3uF	20%	16V
C555	1-135-238-21	TANTALUM CHIP	6.8uF	20%	10V
C556	1-135-238-21	TANTALUM CHIP	6.8uF	20%	10V
C557	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C558	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C559	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C561	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C601	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C603	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C604	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C605	1-115-156-11	CERAMIC CHIP	1uF		10V
C606	1-135-259-11	TANTALUM CHIP	10uF	20%	6.3V
C607	1-115-156-11	CERAMIC CHIP	1uF		10V
C608	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C609	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V
C610	1-117-919-11	TANTALUM CHIP	10uF	20%	6.3V
C611	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C612	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C613	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C614	1-127-772-11	CERAMIC CHIP	33000PF	10%	10V
C615	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C616	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C618	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C619	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C801	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C802	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C803	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C804	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C805	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C806	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C807	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C808	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C809	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C811	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C812	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C813	1-135-259-11	TANTALUM CHIP	10uF	20%	6.3V
C851	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C852	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V

Ref. No.	Part No.	Description			Remark
C853	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C854	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C901	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C902	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C903	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C904	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C905	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C906	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C907	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C908	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C909	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C912	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C913	1-135-234-11	TANTALUM CHIP	10uF	20%	4V
C914	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C916	1-135-989-11	TANTALUM CHIP	47uF	20%	6.3V
C917	1-135-989-11	TANTALUM CHIP	47uF	20%	6.3V
C918	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C920	1-135-950-11	TANTALUM CHIP	100uF	20%	6.3V
C922	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C923	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C925	1-135-234-11	TANTALUM CHIP	10uF	20%	4V
		< CONNECTOR >			
* CN501	1-778-168-11	CONNECTOR, FFC/FPC (ZIF) 20P			
* CN551	1-793-124-21	CONNECTOR, FPC (ZIP) 8P			
* CN801	1-794-515-21	CONNECTOR, FFC/FPC (ZIF) 10P			
		< DIODE >			
D101	8-719-064-91	DIODE 02DZ2.4-Z (TPH3)			
D201	8-719-064-91	DIODE 02DZ2.4-Z (TPH3)			
D601	8-719-421-27	DIODE MA728			
D855	8-719-077-43	DIODE MAZZ068H01S0			
D902	8-719-072-27	DIODE MA2Z748001S0			
D903	8-719-072-27	DIODE MA2Z748001S0			
D904	8-719-066-18	DIODE MA2HD0700LSO			
D905	8-719-073-01	DIODE MA111-(K8). S0			
D906	8-719-072-26	DIODE FS1J3-TP			
		< FERRITE BEAD >			
FB801	1-414-228-11	FERRITE BEAD			
FB802	1-414-228-11	FERRITE BEAD			
		< IC >			
IC301	8-759-598-15	IC TA2131FL (EL)			
IC501	8-759-682-68	IC SN761056CDBT			
IC504	8-759-647-75	IC TC7W66FK (TE85R)			
IC505	8-759-647-75	IC TC7W66FK (TE85R)			
IC551	8-759-680-36	IC XC111256FTAEB			
IC552	8-759-358-40	IC TLC372CPW-E20			
@ IC601	8-752-400-59	IC CXD2661GA-2			
@ IC801	8-752-917-18	IC CXR701080-016GA			
IC802	8-759-566-18	IC AK6480BH-E2			
IC901	8-759-559-89	IC NJU7015R-TE2			
IC902	8-759-682-22	IC XC62FP1702MR			
IC903	8-759-682-23	IC XC6383C601MR			
IC904	8-759-657-26	IC XC6368B101MR			
IC905	8-759-682-21	IC XC61CN2002MR			
IC906	8-759-186-89	IC XC61AN0802MR			

Ref. No.	Part No.	Description			Remark
IC907	8-759-657-26	IC XC6368B101MR			
		< JACK >			
J301	1-793-288-61	JACK (∩ (HEADPHONE))			
		< COIL >			
L501	1-469-570-21	INDUCTOR	10uH		
L551	1-410-389-31	INDUCTOR CHIP	47uH		
L552	1-410-389-31	INDUCTOR CHIP	47uH		
L553	1-414-400-41	INDUCTOR	22uH		
L554	1-414-400-41	INDUCTOR	22uH		
L901	1-419-647-21	CHOKE COIL	33uH		
L902	1-419-258-21	CHOKE COIL	68uH		
L903	1-419-646-21	CHOKE COIL	47uH		
		< TRANSISTOR >			
Q301	8-729-037-52	TRANSISTOR	2SD2216J-QR (TX). SO		
Q501	8-729-922-10	TRANSISTOR	2SA1577-QR		
Q802	8-729-905-35	TRANSISTOR	2SC4081-R		
Q803	8-729-053-03	FET	XP151A12A2MR		
Q901	8-729-928-84	TRANSISTOR	DTC114YE		
Q902	8-729-047-10	TRANSISTOR	FZT688BTC		
Q903	8-729-905-35	TRANSISTOR	2SC4081-R		
Q904	8-729-046-49	FET	FDV304P		
Q905	8-759-052-37	FET	PALC22V10-CRCTRLV1		
Q906	8-729-051-50	FET	XP152A12C		
Q907	8-729-037-52	TRANSISTOR	2SD2216J-QR (TX). SO		
Q908	8-729-051-50	FET	XP152A12C		
Q909	8-729-037-52	TRANSISTOR	2SD2216J-QR (TX). SO		
Q910	8-729-053-03	FET	XP151A12A2MR		
Q911	8-729-037-53	TRANSISTOR	2SB1462J-QR (TX). SO		
Q912	8-729-053-03	FET	XP151A12A2MR		
Q913	8-729-230-72	TRANSISTOR	2SA1362YG		
Q914	8-729-905-35	TRANSISTOR	2SC4081-R		
Q915	8-729-031-34	FET	2SK2034		
		< RESISTOR >			
R101	1-218-971-11	RES-CHIP	33K	5%	1/16W
R103	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R105	1-218-951-11	RES-CHIP	680	5%	1/16W
R106	1-218-971-11	RES-CHIP	33K	5%	1/16W
R107	1-218-929-11	RES-CHIP	10	5%	1/16W
R201	1-218-971-11	RES-CHIP	33K	5%	1/16W
R203	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R205	1-218-951-11	RES-CHIP	680	5%	1/16W
R206	1-218-971-11	RES-CHIP	33K	5%	1/16W
R207	1-218-929-11	RES-CHIP	10	5%	1/16W
R301	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R302	1-218-981-11	RES-CHIP	220K	5%	1/16W
R305	1-218-935-11	RES-CHIP	33	5%	1/16W
R501	1-218-971-11	RES-CHIP	33K	5%	1/16W
R502	1-218-979-11	RES-CHIP	150K	5%	1/16W
R503	1-218-990-11	SHORT	0		
R504	1-218-990-11	SHORT	0		
R505	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W
R515	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W
R516	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W

@ Replacement of CXD2661GA-2 (IC601) and CXR701080-016GA (IC801) used in this set requires a special tool. Therefore, it cannnot be replaced.

MAIN

Ref. No.	Part No.	Description			Remark
R517	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W
R518	1-218-985-11	RES-CHIP	470K	5%	1/16W
R519	1-218-977-11	RES-CHIP	100K	5%	1/16W
R521	1-242-967-11	RES-CHIP	1	5%	1/16W
R551	1-218-965-11	RES-CHIP	10K	5%	1/16W
R552	1-218-965-11	RES-CHIP	10K	5%	1/16W
R601	1-218-929-11	RES-CHIP	10	5%	1/16W
R602	1-218-929-11	RES-CHIP	10	5%	1/16W
R603	1-218-943-11	RES-CHIP	150	5%	1/16W
R604	1-218-973-11	RES-CHIP	47K	5%	1/16W
R605	1-218-965-11	RES-CHIP	10K	5%	1/16W
R606	1-218-977-11	RES-CHIP	100K	5%	1/16W
R607	1-218-987-11	RES-CHIP	680K	5%	1/16W
R608	1-218-977-11	RES-CHIP	100K	5%	1/16W
R609	1-216-861-11	RES-CHIP	2.2M	5%	1/16W
R611	1-218-975-11	RES-CHIP	68K	5%	1/16W
R612	1-218-971-11	RES-CHIP	33K	5%	1/16W
R614	1-218-965-11	RES-CHIP	10K	5%	1/16W
R620	1-218-990-11	SHORT	0		
R630	1-218-965-11	RES-CHIP	10K	5%	1/16W
R801	1-218-989-11	RES-CHIP	1M	5%	1/16W
R802	1-218-941-11	RES-CHIP	100	5%	1/16W
R806	1-218-977-11	RES-CHIP	100K	5%	1/16W
R807	1-218-969-11	RES-CHIP	22K	5%	1/16W
R809	1-218-977-11	RES-CHIP	100K	5%	1/16W
R810	1-218-973-11	RES-CHIP	47K	5%	1/16W
R811	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R812	1-218-965-11	RES-CHIP	10K	5%	1/16W
R813	1-218-967-11	RES-CHIP	15K	5%	1/16W
R814	1-218-971-11	RES-CHIP	33K	5%	1/16W
R815	1-218-965-11	RES-CHIP	10K	5%	1/16W
R816	1-220-398-11	RES-CHIP	1.5M	5%	1/16W
R820	1-218-989-11	RES-CHIP	1M	5%	1/16W
R823	1-218-977-11	RES-CHIP	100K	5%	1/16W
R824	1-218-977-11	RES-CHIP	100K	5%	1/16W
R825	1-218-977-11	RES-CHIP	100K	5%	1/16W
R826	1-218-989-11	RES-CHIP	1M	5%	1/16W
R827	1-218-985-11	RES-CHIP	470K	5%	1/16W
R829	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R830	1-218-989-11	RES-CHIP	1M	5%	1/16W
R831	1-218-977-11	RES-CHIP	100K	5%	1/16W
R832	1-216-861-11	RES-CHIP	2.2M	5%	1/16W
R833	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R834	1-218-979-11	RES-CHIP	150K	5%	1/16W
R835	1-218-941-11	RES-CHIP	100	5%	1/16W
R836	1-218-941-11	RES-CHIP	100	5%	1/16W
R838	1-218-969-11	RES-CHIP	22K	5%	1/16W
R851	1-218-990-11	SHORT	0		
R852	1-218-990-11	SHORT	0		
R853	1-218-990-11	SHORT	0		
R854	1-218-990-11	SHORT	0		
R901	1-218-965-11	RES-CHIP	10K	5%	1/16W
R902	1-218-951-11	RES-CHIP	680	5%	1/16W
R903	1-217-671-11	METAL CHIP	1	5%	1/10W
R904	1-217-671-11	METAL CHIP	1	5%	1/10W
R905	1-218-953-11	RES-CHIP	1K	5%	1/16W
R907	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R908	1-218-981-11	RES-CHIP	220K	5%	1/16W
R909	1-208-955-11	METAL CHIP	680K	0.5%	1/16W
R910	1-208-955-11	METAL CHIP	680K	0.5%	1/16W
R911	1-218-983-11	RES-CHIP	330K	5%	1/16W
R912	1-218-977-11	RES-CHIP	100K	5%	1/16W
R913	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R914	1-208-939-11	METAL CHIP	150K	0.5%	1/16W
R915	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R916	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R917	1-208-955-11	METAL CHIP	680K	0.5%	1/16W
R918	1-208-947-11	METAL CHIP	330K	0.5%	1/16W
R919	1-208-939-11	METAL CHIP	150K	0.5%	1/16W
R920	1-220-398-11	RES-CHIP	1.5M	5%	1/16W
R921	1-220-398-11	RES-CHIP	1.5M	5%	1/16W
R922	1-218-990-11	SHORT	0		
R923	1-220-397-11	RES-CHIP	4.7M	5%	1/16W
R924	1-218-981-11	RES-CHIP	220K	5%	1/16W
R926	1-218-977-11	RES-CHIP	100K	5%	1/16W
R927	1-208-947-11	METAL CHIP	330K	0.5%	1/16W
R928	1-208-955-11	METAL CHIP	680K	0.5%	1/16W
R929	1-208-947-11	METAL CHIP	330K	0.5%	1/16W
R930	1-208-719-11	METAL CHIP	33K	0.5%	1/16W
R931	1-218-981-11	RES-CHIP	220K	5%	1/16W
R932	1-218-989-11	RES-CHIP	1M	5%	1/16W
R933	1-202-974-11	RES-CHIP	3.3M	5%	1/16W
R935	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R936	1-218-977-11	RES-CHIP	100K	5%	1/16W
R938	1-202-974-11	RES-CHIP	3.3M	5%	1/16W
R939	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R940	1-218-941-11	RES-CHIP	100	5%	1/16W
R941	1-218-941-11	RES-CHIP	100	5%	1/16W

< COMPOSITION CIRCUIT BLOCK >

RB551	1-233-965-11	RES, NETWORK (CHIP TYPE)	4.7K		
RB552	1-233-979-11	RES, NETWORK (CHIP TYPE)	1M		
RB553	1-233-967-11	RES, NETWORK (CHIP TYPE)	10K		

< RELAY >

RY901	1-755-405-21	RELAY

< SWITCH >

S801	1-771-844-21	SWITCH, TACTILE (SMD) (■)
S802	1-771-844-21	SWITCH, TACTILE (SMD) (▶▶I►)
S803	1-771-844-21	SWITCH, TACTILE (SMD) (I◀◀)
S804	1-771-844-21	SWITCH, TACTILE (SMD) (VOL–)
S805	1-771-844-21	SWITCH, TACTILE (SMD) (VOL+)
S806	1-692-605-31	SWITCH, SLIDE (DIGITAL SOUND PRESET)
S807	1-572-922-11	SWITCH, SLIDE (AVLS)
S808	1-771-843-21	SWITCH, SLIDE (HOLD)
S809	1-771-970-21	SWITCH, DETECTION (OPEN/CLOSE DETECT)

< VIBRATOR >

X601	1-781-654-21	VIBRATOR, CERAMIC (22.5792MHz)
X801	1-781-575-21	VIBRATOR, CERAMIC (16.9344MHz)

****

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
101	1-678-525-11	MOTOR FLEXIBLE BOARD	
⚠112	X-4952-387-1	OP SERVICE ASSY (LCX-2E)	
LCD901	1-804-062-11	DISPLAY PANEL, LIQUID CRYSTAL	
M901	8-835-699-01	MOTOR, DC SSM17A/C-NP (SPINDLE) (WITH TURN TABLE)	
M902	1-763-399-11	MOTOR, DC (SLED) (WITH PULLEY GEAR)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-251-895-11	BATTERY CASE	
⚠	1-418-028-12	ADAPTOR, AC (AC-MZR55) (Tourist)	
⚠	1-418-049-13	ADAPTOR, AC (AC-MZR55) (Hong Kong)	
	1-418-493-91	REMOTE CONTROL UNIT (RM-MZ3S)	
⚠	1-569-007-11	ADAPTOR, CONVERSION 2P (Tourist)	
	1-756-036-11	BATTERY, NICKEL HYDROGEN	
	1-756-099-11	STAND, CHARGE	
	3-008-521-01	CASE, BATTERY CHARGE (Hong Kong)	
	3-008-521-21	CASE, BATTERY CHARGE (Tourist)	
	3-043-060-01	CASE, CHARGE (C/D) (Tourist)	
	3-220-082-11	MANUAL, INSTRUCTION (ENGLISH, CHINESE)	
	3-220-082-21	MANUAL, INSTRUCTION (FRENCH, JAPANESE) (Tourist)	
	3-220-082-31	MANUAL, INSTRUCTION (SPANISH, KOREAN) (Tourist)	
	3-220-749-01	CASE, CARRYING	
	8-953-304-90	RECEIVER MDR-E805SP	

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

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.1	2001.02	Changing of parts supply classification. (Ref. No. 72, 73) (SPM-01002)
1.0	2000.07	New