MZ-E900

SERVICE MANUAL

Ver 1.1 2001.01

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

US and foreign patents licensed from Dolby Laboratories Licensing Corporation

Model Name Using Similar Mechanism	NEW
MD Mechanism Type	MT-MZE900-173
Optical Pick-up Mechanism Type	LCX-4E

SPECIFICATIONS

System

Audio playing system
MiniDisc digital audio system
Laser diode properties
Material: GaAlAs
Wavelength: l = 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
Approx. 300 rpm to 2,700 rpm
Error correction
ACIRC (Advanced Cross Interleave Reed Solomon Code)
Sampling frequency
44.1 kHz
Coding
ATRAC (Adaptive TRansform Acoustic Coding)
ATRAC3: LP2
ATRAC3: LP4
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 limits
Outputs
Headphones/earphones: stereo mini-jack, maximum output level 5 mW +5 mW, load impedance 16 ohms
Power requirements
Nickel metal hydride rechargeable battery
One NH-14WM(A) (supplied): 1.2V, 1,350 mAh (min)
One LR6 (size AA) battery (not supplied)
External power jack: Power rating 1.5V DC

Battery operation time [1) 2)]

Batteries	Stereo(normal)	LP2 Stereo	LP4 Stereo
Ni-MH rechargeable battery NH-14WM (A) [1)]	29	33	37
LR6 (SG) Sony alkaline dry battery [3)]	42	49	58
LR6 (SG) Sony alkaline dry battery [3)] and a Ni-MH rechargeable rechargeable battery [1)]	76	87	100

Unit:Approx. hours

1) With a fully charged battery
2) Measured in accordance with the EIAJ (Electronic Industries Association of Japan) standard (using a Sony MDW-series Mini-disc).
3) When using a Sony LR6 (SG) “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. 77.7 x 12.7 x 71.0 mm (w/h/d) (3 1/8 x 1/2 x 2 7/8 in.) (not including projecting parts and controls)
Mass
Approx. 58g (2.0 oz) (the player only)
Supplied accessories
Headphones/earphones with a remote control (1)
Battery charger (1) (EXCEPT Korean MODEL)
Rechargeable battery (1)
Rechargeable battery carrying case (1) (Tourist MODEL)
Dry battery case (1)
Carrying pouch (1) (EXCEPT US MODEL)
AC plug adaptor (1) (E33, Tourist model)

Design and specifications are subject to change without notice.

PORTABLE MINIDISC PLAYER

9-927-992-12
2001A0200-1

Sony Corporation
Audio Entertainment Group
General Engineering Dept.

SONY

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

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

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

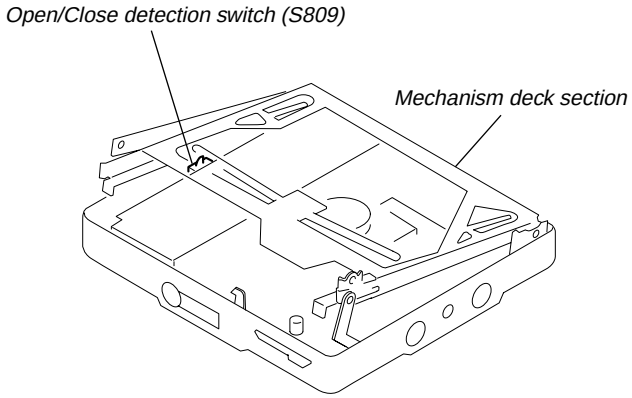
SAFETY-RELATED COMPONENT WARNING!!

**COMPONENTS IDENTIFIED BY MARK ⚠ 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.**

* Replacement of CXD2671-201GA (IC601) used in this set requires a special tool.

SECTION 1
SERVICING NOTE

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



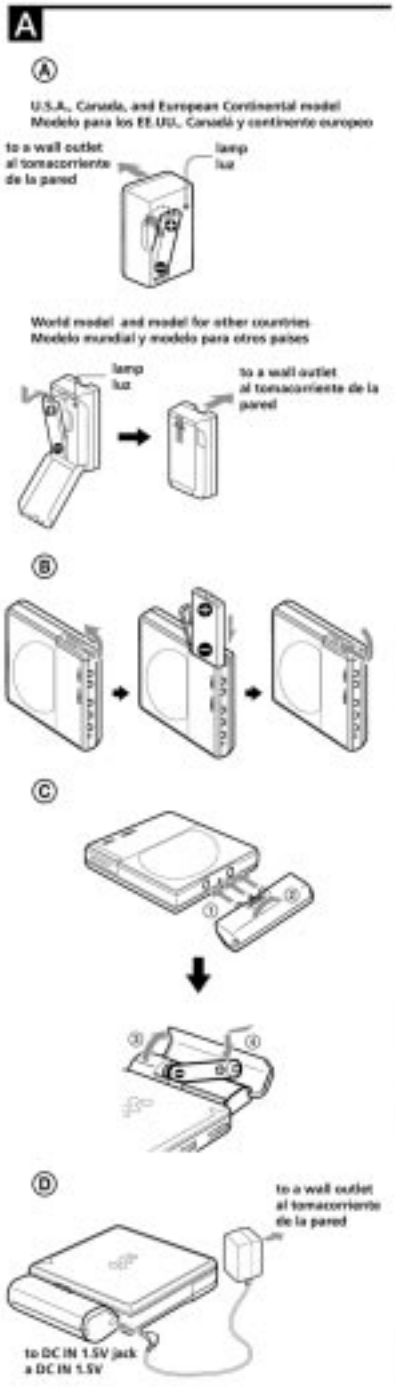
- **UNLEADED SOLDER**
  Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead. (Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

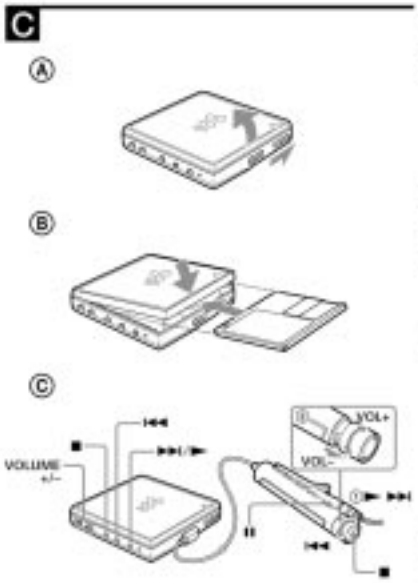
: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

This section is extracted from instruction manual.





Preparing a power source

Using on the rechargeable battery

Charge the supplied rechargeable battery before using it for the first time.

1 Charge the supplied rechargeable battery NH-14WM(A) with the supplied battery charger (See Fig. A-Ⓑ)
After about 1.5 hours, charging ends and the lamp on the charger turns off. (To get maximum performance from battery, continue charging it for another hour after the lamp turns off.)
Because of the fast charging rate of the battery charger, the charger and the battery may become temporarily hot while the battery is being charged or right after charging is completed. In this case, remove the battery from the charger for five minutes after the lamp turns off.

2 Open the rechargeable battery compartment lid and insert the charged battery with correct polarity. (See Fig. A-Ⓒ)
You can charge the battery about 300 times.

Using on a dry battery (See Fig. A-Ⓒ)

Attach the supplied battery case to the player, and then insert one LR6 (size AA) battery with correct polarity. Be sure to insert the battery (minus) end first.

When to replace or recharge the battery

You can check the battery condition with the battery indication on the remote control while using the player.

- Battery power decreasing
- Weak batteries
- The batteries have gone out. "LOW BATT" flashes in the display on the remote control, and the power goes off.

Battery life[1][2]

Batteries	Stereo (normal)	LP2 Stereo	LP4 Stereo
Ni-MH rechargeable battery NH-14WM(A)[3]	29	33	37
LR6 (SG) Sony Alkaline dry battery[4]	42	49	58
LR6 (SG) Sony Alkaline dry battery[4] and a Ni-MH rechargeable battery[3]	76	87	100

(Unit: Approx. hours)

1 With a fully charged battery
2 Measured in accordance with the EIAJ (Electronic Industries Association of Japan) standard (using a Sony MDW-series Mini-disc).
3 When using a Sony LR6 (SG) "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.

Using on house current (See Fig. A-Ⓓ)

1 Attach the supplied battery case to the player.
If the rechargeable battery is inserted in the player, remove it.

2 Connect the AC-E15HG AC power adaptor (not supplied) to the DC IN 1.5V jack of the battery case.

3 Connect the AC power adaptor to a wall outlet.

Note
The battery indication mark is displayed while using the AC power adaptor.

To connect the headphones/ earphones (See Fig. B)

1 Connect the supplied headphones/earphones to the remote control.
Connect the remote control to ⎍ jack of the player.
Slide HOLD on the remote control and the player to the direction of the arrows shown in the illustration.

▶*MD playing*

Playing an MD

1 Insert an MD.
① Slide OPEN. (See Fig. C-Ⓐ)
② Insert the MD with the label side facing up, and press the lid down to close. (See Fig. C-Ⓑ)

2 Play the MD. (See Fig. C-Ⓒ)
① Turn the control towards ⏮ or ⏭ on the remote control (or press ⏭/▶ on the player).
When using the remote control, a short beep sounds in the headphones/earphones.
② Pull and turn VOL +/– on the remote control (or press VOLUME +/– on the player) to adjust the volume.
The volume indicator appears on the remote control to allow you to check the volume.

▶*Other disc operation*

To	Do this (Beeps in the headphones/ earphones)
Stop	Press ■. (A Long beep)
Pause	Press II on the remote control. (Continuous short beeps) Press II on the remote control again to resume playback.[1]
Find the beginning of the current track	Turn the control towards ⏮ on the remote control. (Three short beeps) Press ⏮ on the player once.
Listen to the beginning of the previous track	Turn the control towards ⏮ on the remote control repeatedly. (Continuous three short beeps) Press ⏮ on the player repeatedly.
Listen to the beginning of the next track	Turn the control towards ⏭ on the remote control. (Two short beeps) Press ⏭/▶ on the player once.
Go backwards while playing[2]	Turn and hold the control towards ⏮ on the remote control. Hold down ⏮ on the player.
Go forward while playing[2]	Turn and hold the control towards ⏭ on the remote control. Hold down ⏭/▶ on the player.
Remove the MD	Press ■, and then slide OPEN.[3]

1 When you press ⏮ or ⏭/▶ on the player during pause, the player resumes playback.
If you turn and hold the control towards ⏮ or ⏭ on the remote control (or hold down ⏮ or ⏭/▶ on the player) during pause, you can fast forward/rewind without listening to the playback sound.
2 Once you open the lid, the point to start playback changes to the beginning of the first track.

Note
When removing the disc, make sure to press ■ first, and then slide OPEN.

Tips
- The player can play the track recorded by double or 4 times long mode (LP2 or LP4). Normal stereo playback, LP2 stereo playback, LP4 stereo playback or monaural playback is automatically selected to match the audio source.
- During the operation of the unit, the OPR lamp on the player turns on. After you press ■ to stop the playback, the OPR lamp turns off.
- The display on the remote control will turn off shortly after you press ■.

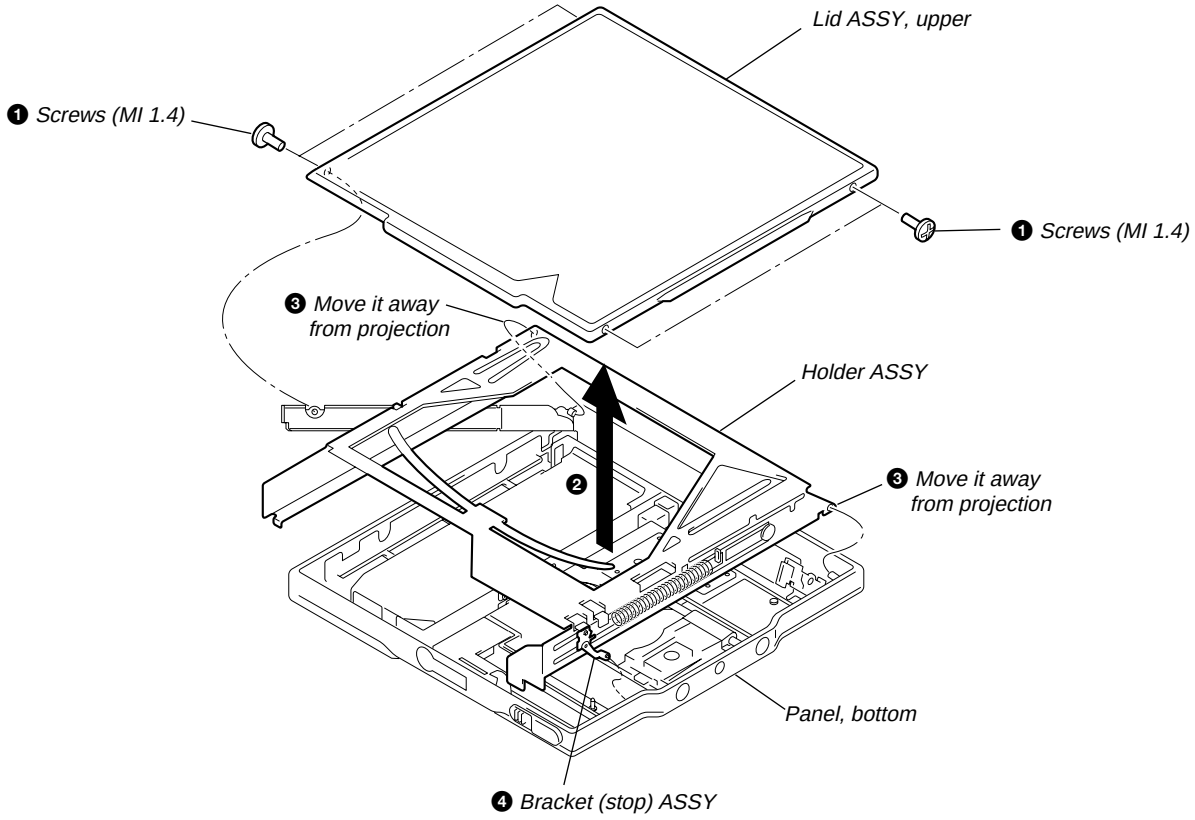
SECTION 3
DISASSEMBLY

● The equipment can be removed using the following procedure.

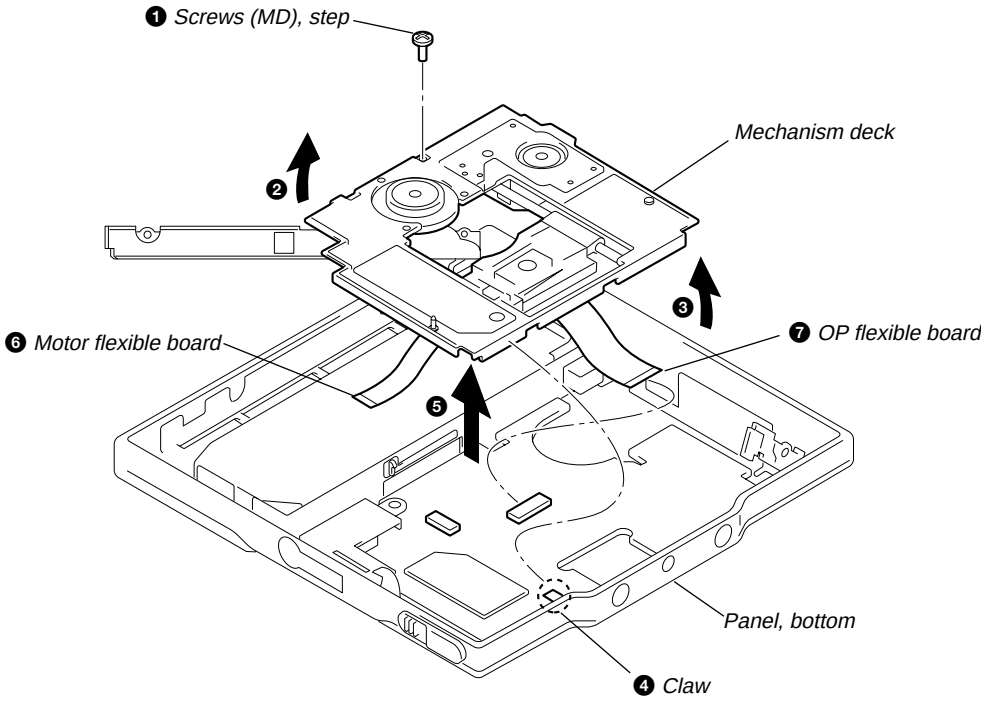
Set → "Lid ASSY, Upper", Holder ASSY → Mechanism deck → Audio board → Bracket (R) ASSY → Main board, Bracket (L) ASSY, SW board
Mechanism deck → Optical pick-up ASSY

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

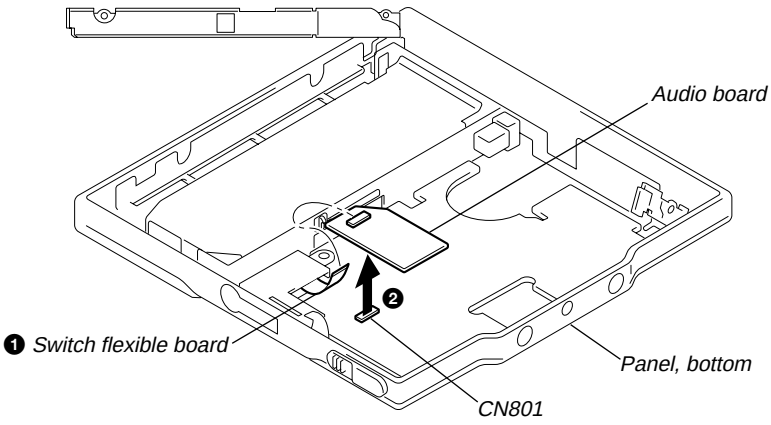
3-1. "LID ASSY, UPPER", HOLDER ASSY



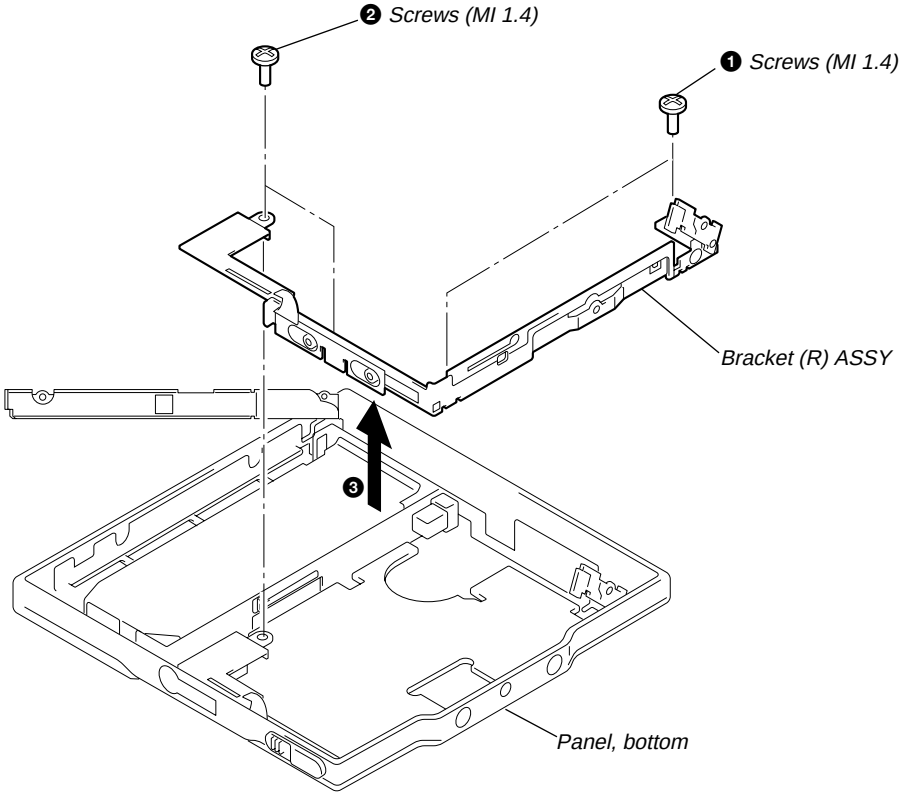
3-2. MECHANISM DECK



3-3. AUDIO BOARD

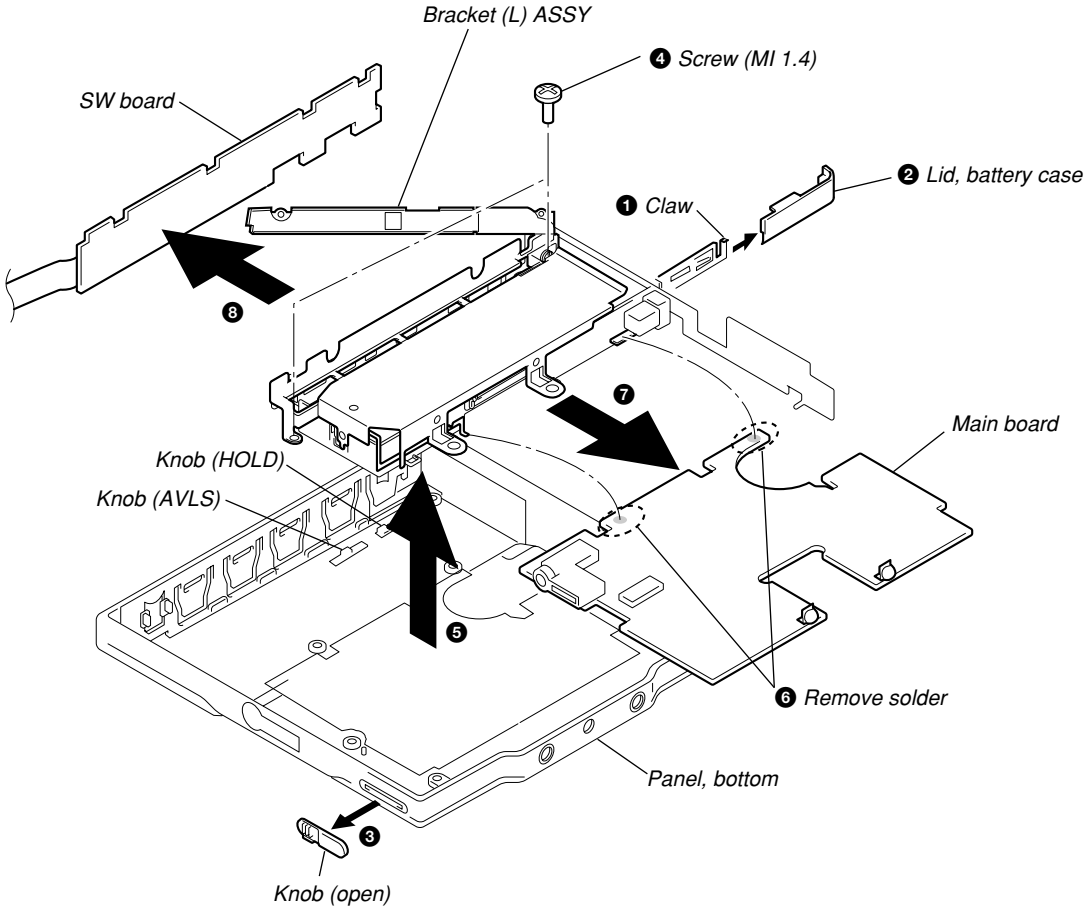


3-4. BRACKET (R) ASSY

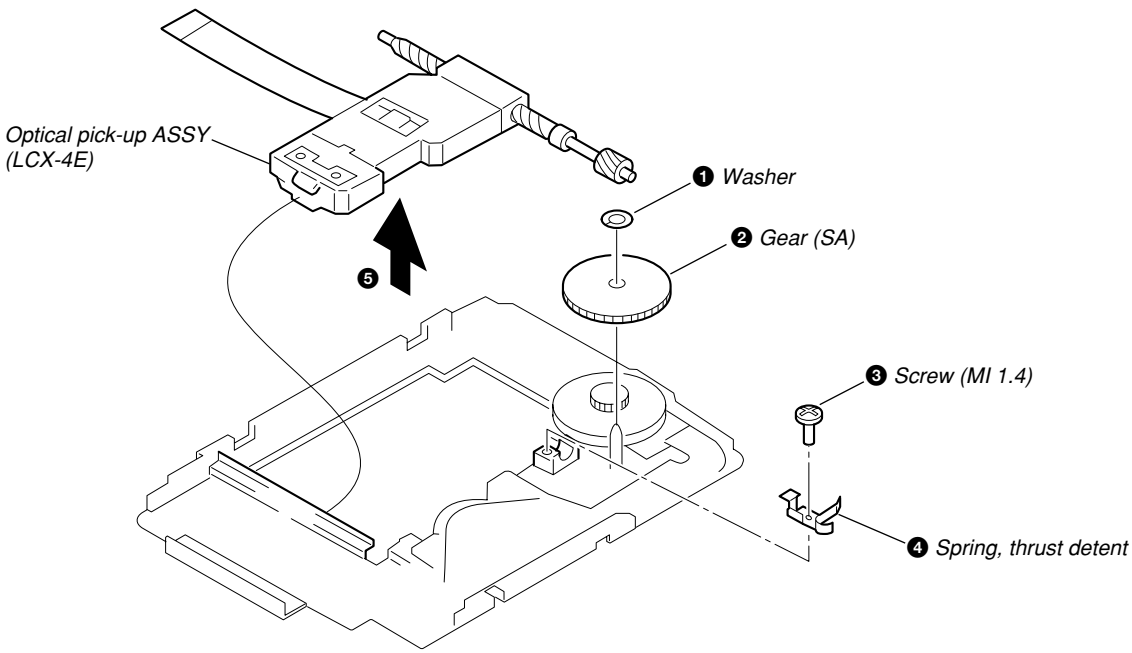


3-5. MAIN BOARD, BRACKET (L) ASSY, SW BOARD

Note : On installation of bottom panel assy, adjust the position of both two switches (S807, S808) and two knobs (AVLS, HOLD).



3-6. OPTICAL PICK-UP ASSY



SECTION 4
TEST MODE

4-1. GENERAL

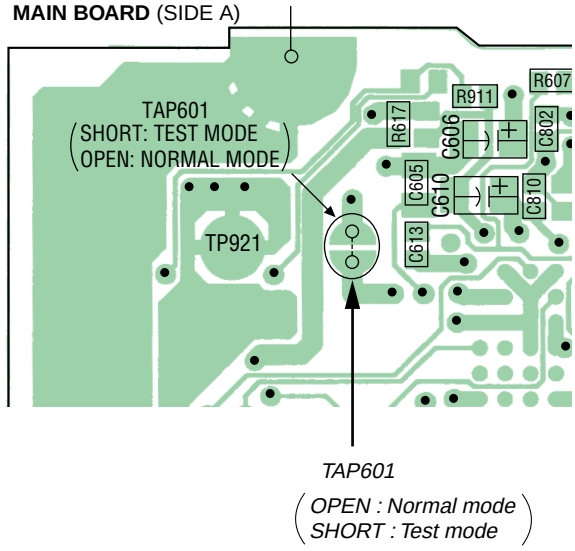
- When entered in the TEST MODE, this set provides the Overall Adjustment mode which allows CD and MO discs to be automatically adjusted. In the Overall Adjustment mode, the system discriminates between CD and MO discs, performs adjustments in sequence automatically, and displays the faulty location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

4-2. SETTING THE TEST MODE

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

To set the TEST MODE, two methods are available.

① Solder bridge and short TAP601 (TEST) on the main board. Then turn on the power.



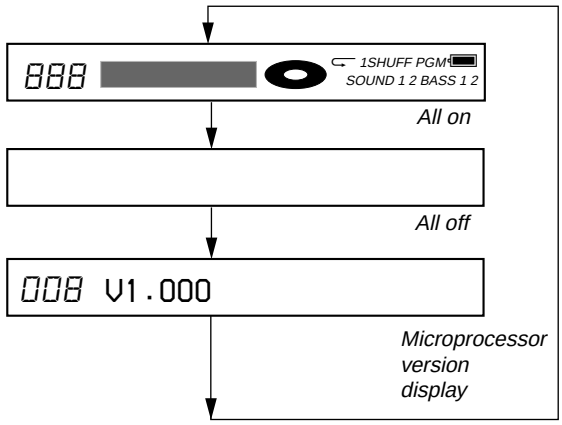
② In the normal mode, operate the keys on the set and those on the remote control as specified below:
Turn on HOLD switch on the set. Holding down ■(STOP) key on the set, press the keys on the remote control in the following sequence:

▶▶I → ▶▶I → I◀◀ → I◀◀ → ▶▶I → I◀◀ → ▶▶I → I◀◀ → ▶▶I → ❚❚ → ❚❚

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

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

Remote control LCD

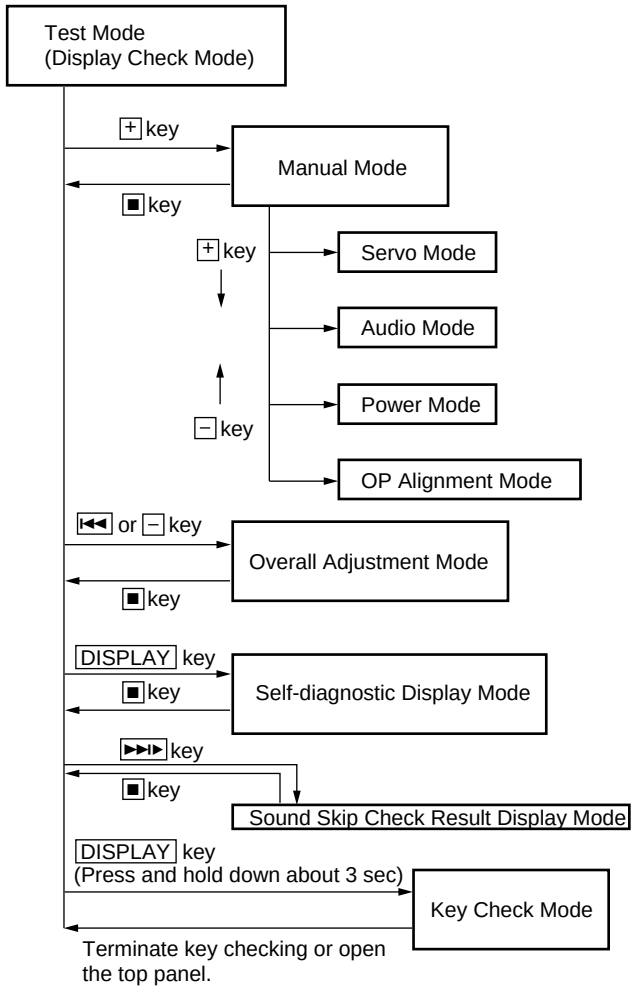


- Press and hold down ❚❚ to hold the current display while the key is being pressed.

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

When method ① was used:
Turn off the power and open the solder bridge on TAP601 on the main board.
Note: The solder should be removed clean. The remaining solder may make a short with the chassis and other part.
When method ② was used:
Turn off the power.
Note: If electrical adjustment (see page 11) has not been finished completely, always start in the test mode. (The set cannot start in normal mode)

4-3. TEST MODE STRUCTURE



4-4. MANUAL MODE

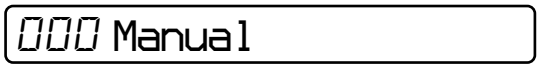
4-4-1. Outline of the function

The Manual mode is designed to perform adjustments and operational checks on the set's operation according to each individual function.
Usually, no adjustments are made in this mode.
However, the Manual mode is used to clear the memory before performing automatic adjustments in the Overall Adjustment mode.

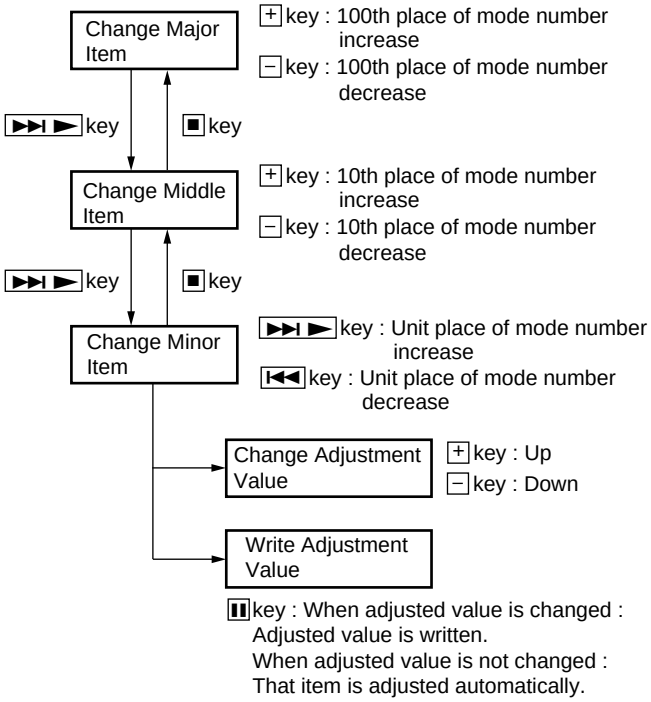
4-4-2. How to set the Manual mode

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

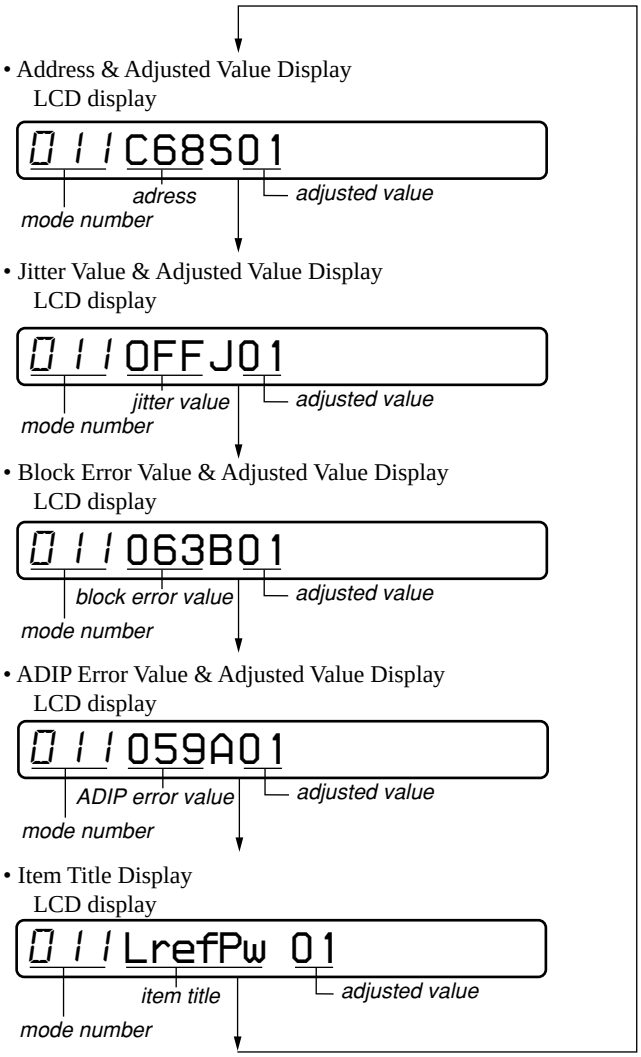
   Remote control LCD display

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



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



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

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

4-5. OVERALL ADJUSTMENT MODE

4-5-1. Outline of the function

This mode is designed to adjust the servo system automatically by going through all the adjustment items.
Usually, this mode is used to perform automatic adjustments when servicing the set.

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

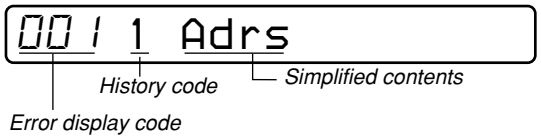
4-6. SELF-DIAGNOSTIC DISPLAY MODE

4-6-1. Outline of the function

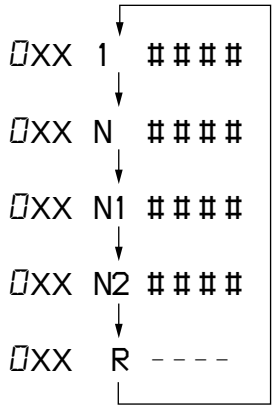
The Self-diagnostic system is used in this set. If an error occurs during playback, this system detects the fault through the microprocessor's mechanism and power control blocks and stores the cause in EEPROM in a history format.
This history, which can be viewed in the TEST MODE, provides the means of locating the fault in troubleshooting.

4-6-2. Self-diagnostic mode

1. Set the TEST MODE.
2. With all the LCD display segments blinking on the set, press DISPLAY key and the Self-diagnostic mode is entered.



3. Hereinafter, each time ▶▶I ► key is pressed, the reference information display changes as follows:



- Press I◀◀ key to go back to the previous display.

• Contents of the history codes

History code number	Contents
1	The first error that occurred.
N	The last error that occurred.
N-1	The first error from the last one.
N-2	The second error from the last one.
R	Total recording time (– – – – is displayed for MZ-E900)

• Description of the error display codes

Contents of fault	Display code	Meaning of code	Simplified contents	Description
No error	00	No error	– – – –	No error
Servo system error	01	Access target address illegally specified	Adrs	An attempt to access an abnormal address.
	02	HIGH TEMP	Temp	HIGH TEMP
	03	FOCUS ERROR	Fcus	Focus off-center.
	04	SPINDLE ERROR	Spdl	Abnormal rotation of disc
TOC error	11	TOC ERROR	TOC	
	12	READ DATA ERROR	Data	
Power system error	22	LOWBATT	LBat	Instantaneous interruption detected.
Offset error	31	OFFSET ERROR	Ofst	Offset error
	32	FE_ABCD_OFFSET_ERR	ABCD	FE ABCD Offset error
	33	TE_ABCD_OFFSET_ERR	TE	TE ABCD Offset error
	34	X1_TE_OFFSET_ERR	X1TE	X1 TE ABCD Offset error

4-6-3. Clearing the error display code

After servicing, reset the error display code.

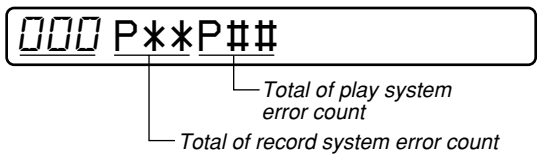
1. Set the TEST MODE.
2. Press the DISPLAY key on the remote control activates the self-diagnosis display mode.
3. To reset the error display code press ▮▮ key on the remote control when the code is displayed.(except for R - - - - display) (All the data on the 1st, N, N-1 and N-2 will be reset)
4. Press ▮▮ key on the remote control again.

4-7. Sound Skip Check Result Display Mode

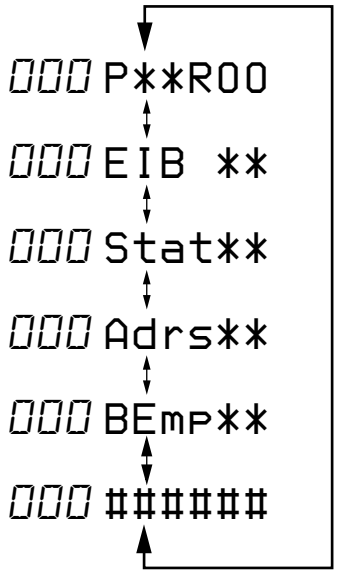
This set can display and check the error count occurring during play.

- Setting method of Sound Skip Check Result Display Mode

1. Setting the test mode.
2. Press the [▶▶I ►] key activates the sound skip check result display mode where the LCD displays as shown below.
   LCD display



3. When [▶▶I ►] key is pressed, the total of error count is displayed on the LCD, and each time the [▶▶I ►] key is pressed, the error count descents one by one as shown below. Also, when [I◀◀] key is pressed, the error count ascends by one.



P**R00 : Total of play system error and record system error count
** : Sound skip check items counter (hexadecimal)
: 6-digit address (hexadecimal) where a sound skipped

Error code

	Cause of error	Description of error
Playback	EIB	Sound error correction error
	Stat	Decorder status error
	Adrs	Cannot access the address
	BEmp	Buffer becomes empty

4. Quit the sound skip check result display mode, and press the [■] key to return to the test mode. (display check mode)

4-8. KEY CHECK MODE

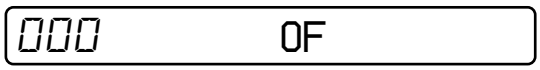
4-8-1. Outline of the function

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

4-8-2. Setting the Key Check mode

1. Set the TEST MODE. Press and hold down [DISPLAY] key (for more than 3 sec) to set the Key Check mode.

   LCD display



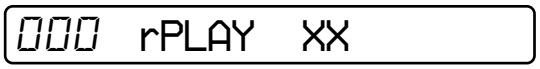
2. When each key on the set and on remote control is pressed, its name is displayed on the LCD. (The operated position is displayed for 4 sec after the slide switch is operated. If any other key is pressed during this display, the LCD switches to its name display)

   Example: When [▶▶I ►] key on the set is pressed:

   LCD display

   Example: When [▶▶I ►] key on the remote control is pressed:

   LCD display

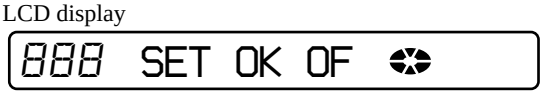


   XX: AD value of the remote control key (hexadecimal 00 to FF)

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

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

   LCD display



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

   LCD display

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

SECTION 5
ELECTRICAL ADJUSTMENTS

5-1. GENERAL

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

5-2. NOTES FOR ADJUSTMENT

5-2-1. Jigs

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

5-2-2. Adjustment sequence

The adjustments should be always performed in the following sequence:

① Reset NV (Clear the memory) ┐ Manual mode
↓ ② Manual power adjustments ┘
↓ ③ Electrical offset adjustments ┐
(Do not enter the disc) │
↓ ④ Overall CD adjustments │ Overall adjustment mode
↓ ⑤ Overall MO adjustments │
↓ ⑥ RESUME clear ┘

5-2-3. Power

The power is supplied with 1.5 V DC from the battery case.

5-3. RESET NV

5-3-1. How to reset NV

1. Set the TEST MODE.
2. Set the Manual mode and set the item No. 021, Reset NV.
   LCD display

   021 Res NV CC

3. Press [II] key on the remote control.
   LCD display

   021 Res OK?

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

   021 Res ***

   ↓ After reset is completed.

   021 Reset!

5. Press [■] key to terminate the Manual mode and return to the TEST MODE.

5-4. MANUAL POWER ADJUSTMENTS

5-4-1. Adjustment sequence

The adjustments should be always performed in the following sequence:

① Vc PWM Duty (L) adjustment (item No.:762)
↓
② Vc PWM duty (H) adjustment (item No.:763)
↓
③ Vl PWM Duty adjustment (item No.:764)

5-4-2. Vc PWM Duty (L) adjustment method

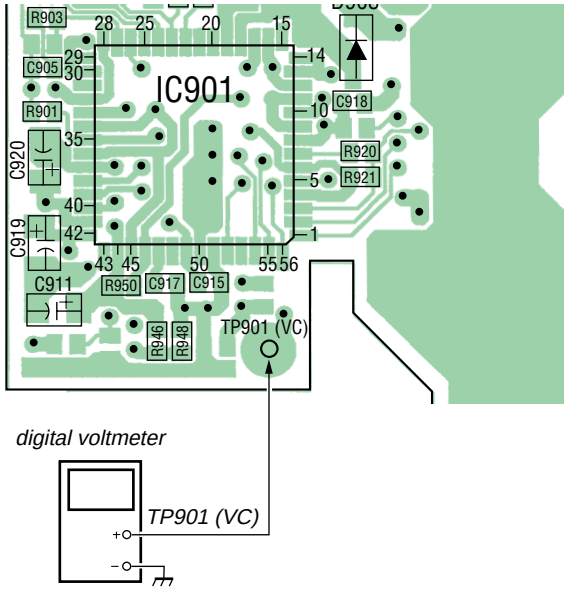
1. Confirm that the power voltage is at 1.5 V DC.
2. Set the TEST MODE.
3. Set the overall adjustment mode and press [PLAY MODE] key, item No. will change to 762.
   LCD display

   762 VclPWM XX

4. Connect a digital voltmeter to TP901 (VC) on the main board and adjust [+] key (voltage up) and [–] key (voltage down) on the remote control.

Adjustment value:2.36V
Standard value:2.35 to 2.365V

MAIN BOARD (SIDE A)



5. Press [II] key to write the adjustment value. Item No.will change to 763.

5-4-3. Vc PWM Duty (H) adjustment method

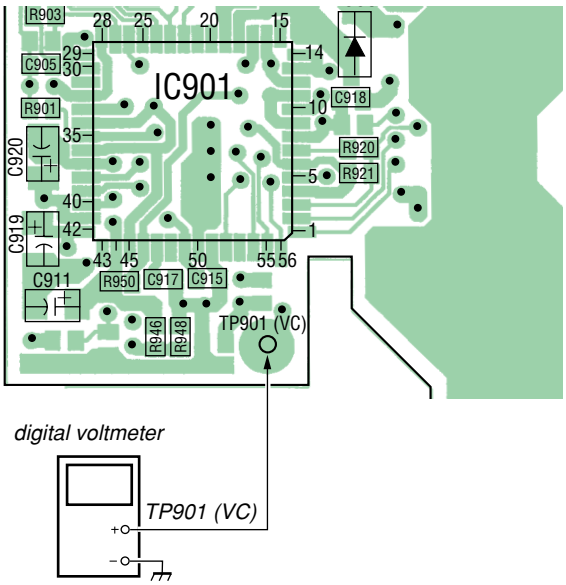
1. Set the Manual mode and set the item No. to 763.

   LCD display

   763 VchPWM XX

2. Connect a digital voltmeter to TP901(VC) on the main board and adjust + key and – key on the remote control.
   Adjustment value:2.75V
   Standard value:2.735 to 2.765V

MAIN BOARD (SIDE A)



3. Press ▮▮ key to write the adjustment value.

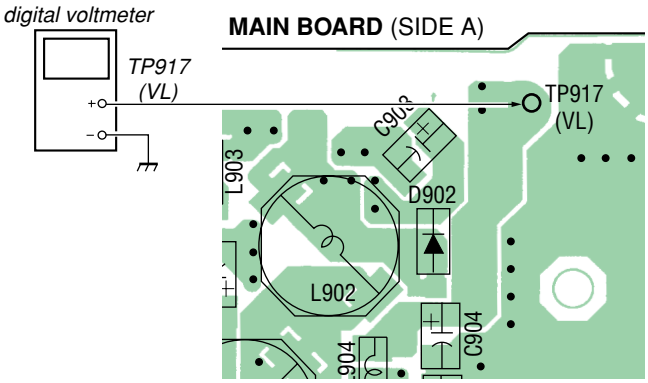
5-4-4. VI PWM Duty adjustment method

1. Set the Manual mode and set the item No. to 764.

   LCD display

   764 VIPWM XX

2. Connect a digital voltmeter to TP917 (VL) on the main board and adjust + key and – key on the remote control.
   Adjustment value:2.23V
   Standard value:2.22 to 2.235V



3. Press ▮▮ key to write the adjustment value.

   LCD display

   000 ADJ OK

5-4-5.Electrical offset adjustment method

Note: Doing adjustment by the state that a disc does not enter.

1. Confirm the power voltage is 1.5V.
2. Set to the test mode.
3. Press the – key activates the overall adjustment mode.
   LCD display

   000 Assy11

4. Press the DISPLAY key.
   LCD display

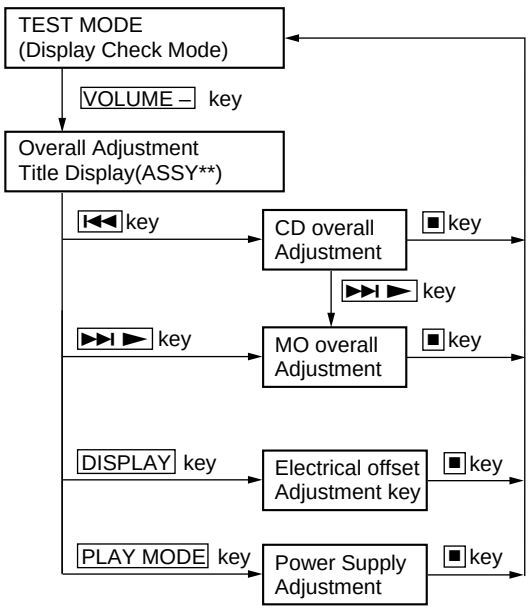
   030 Ofst**

5. If result of electrical offset adjustment is OK,the following display appears.
   LCD display

   030 OfstOK

5-5. OVERALL ADJUSTMENT MODE

5-5-1. Overall adjustment mode structure



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

5-5-2. Overall CD and MO adjustment method

1. Set the TEST MODE and press – key to set the Overall Adjustment mode.

   LCD display

   000 Assy11

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

   LCD display

   XXX CD RUN

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

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

   LCD display

   XXX NG

   XXX: NG item No.

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

   LCD display

   XXX CD OK

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

   LCD display

   XXX MO RUN

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

6. If NG in the overall MO adjustments, return to Reset NV and perform the adjustment again.

   LCD display

   000 XXX NG

   XXX: NG item No.

7. If OK through the overall MO adjustments, press ■ key to return to the TEST MODE and terminate the Overall Adjustment mode.

   LCD display

   000 MO OK

5-5-3.Resume clear method

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

   043 Resume CC

3. Press the ⏸ key.
   LCD display

   043 Res ***

   After reset is completed

   LCD display

   043 Res Clr

5-5-3. Overall CD and MO adjustment items

1. Overall offset adjustment

Item No.	Contents
030	GRV setting • Sarvo OFF • Head UP
035	Laser ON/OFF electrical offset difference measurement
Completed	

2. Overall CD adjustment items

Item No.	Contents
761	VC,VR power voltage High/Low selection
300	HPIT setting • Sarvo OFF
561	SLED move to inside
562	SLED move to outside
High reflection CD electrical offset adjustment	
312	Laser ON • Focus UP • VC correction ALFA offset adjustment
313	IJ offset adjustment
314	FE offset adjustment
HPIT adjustment	
320	Focus servo ON
324	TE offset adjustment 1
321	TE gain adjustment
328	TWPP gain adjustment
324	TE offset adjustment 1
332	TE offset adjustment 2
330	Tracking servo ON
336	ABCD gain adjustment
337	KF gain correction
338	RF gain adjustment
344	CD focus gain adjustment
345	CD tracking gain adjustment
521	CD two-axis sensitivity adjustment (inside)
522	CD two-axis sensitivity adjustment (outside)
341	CD focus bias adjustment
300	HPIT setting • servo OFF
completed	

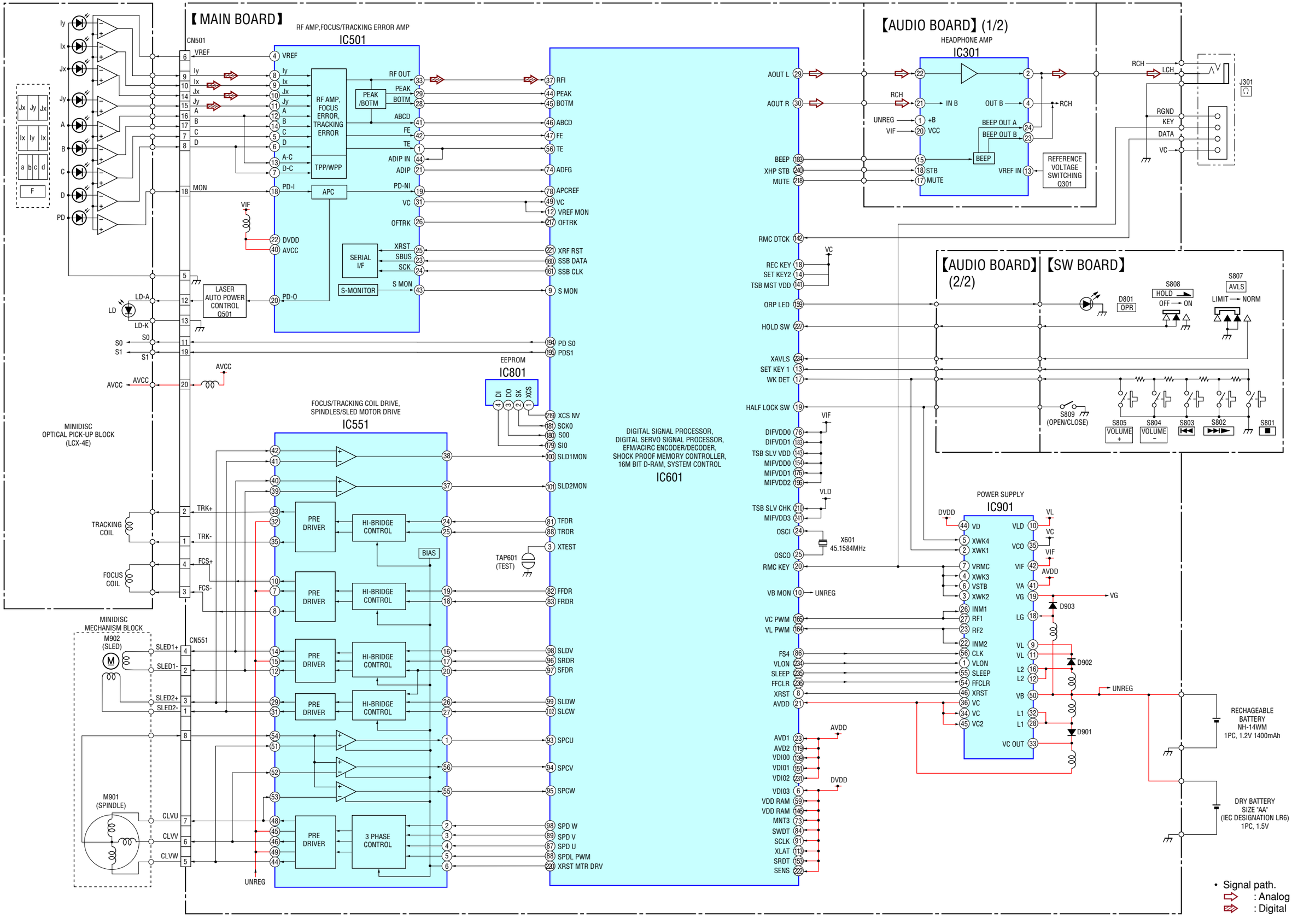
3. Overall MO adjustment items

Item No.	Contents
761	VC,VR power voltage High/Low selection
100	G RV setting
Low reflect MO offset adjustment	
112	Laser ON • Focus UP • EVC correction ALFA offset adjustment
113	IJ offset adjustment
114	FE offset adjustment
118	Wpp denominator adjustment
HPIT adjustmet	
200	LPIT setting • servo OFF
561	SLED move to inside
220	Focus servo ON
224	TE offset adjustment 1
221	TE gain adjustment
224	TE offset adjustment 1
232	TE offset adjustment 2

Item No.	Contents
230	Tracking servo ON
236	ABCD gain adjustment
237	KF gain adjustment
238	RF gain adjustment
244	FCS gain adjustment
245	TRK gain adjustment
READ GRV adjustment 1	
100	R GRV setting
562	SLED move to outside
120	Focus servo OFF
122	TON offset adjustment
121	TE gain adjustment
122	TON offset adjustment
123	TEIN offset adjustment
124	TWPP offset adjustment
130	Tracking servo ON
131	TWPP offset adjustment
136	ABCD gain adjustment
137	KF gain adjustment
139	ADIP BPF fo adjustment
144	FCS gain adjustment
145	TRK gain adjustment
134	TWPP gain adjustment
131	TWPP offset adjustment 1
132	TWPP offset adjustment 2
149	TWPP OP offset adjustment
138	RF gain adjustment
100	R GRV setting • Servo OFF

SECTION 6
DIAGRAMS

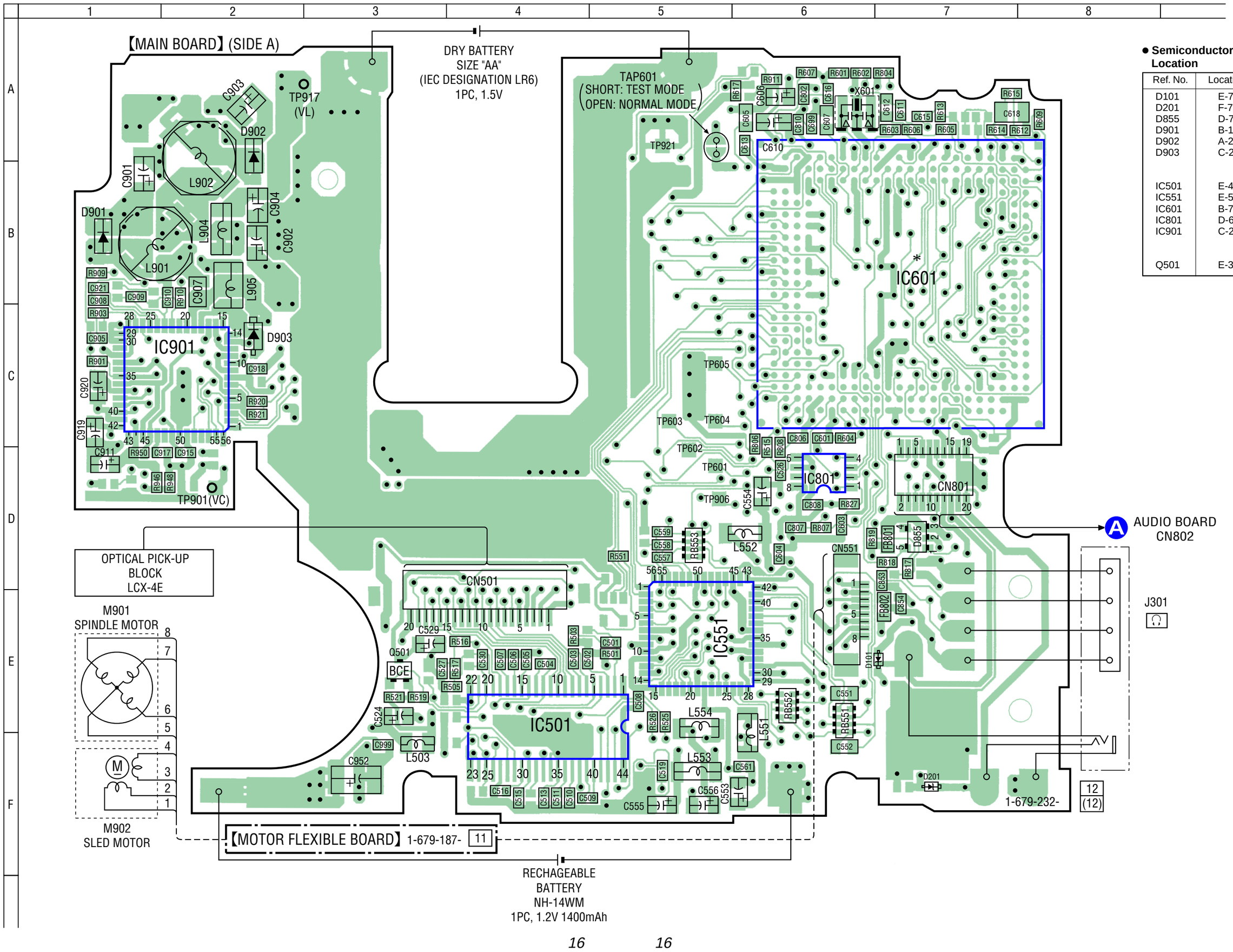
6-1. BLOCK DIAGRAMS



6-2. PRINTED WIRING BOARDS – MAIN SECTION (1/2) –

● Refer to page 22 for Notes.

: Uses unleaded solder.



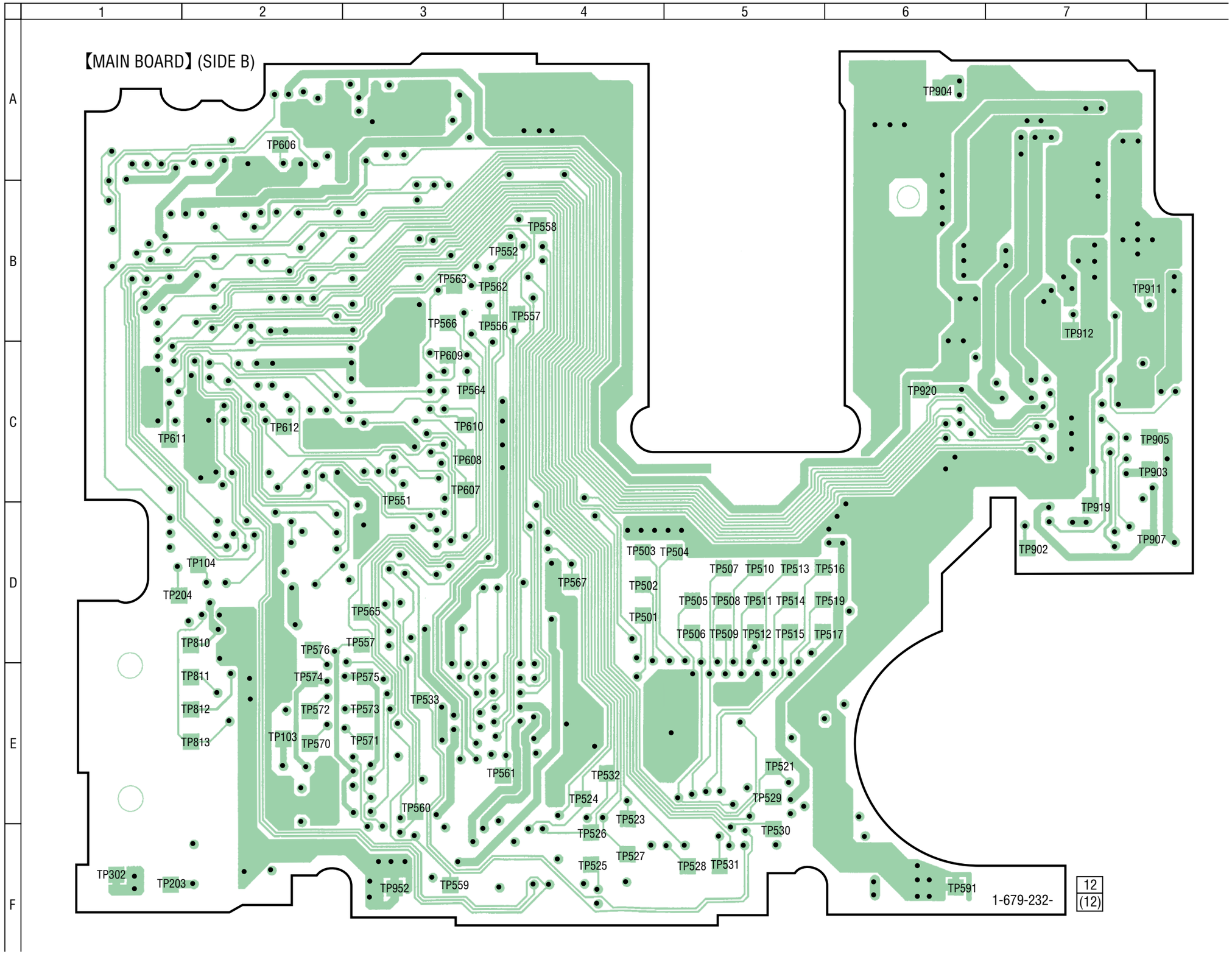
● **Semiconductor Location**

Ref. No.	Location
D101	E-7
D201	F-7
D855	D-7
D901	B-1
D902	A-2
D903	C-2
IC501	E-4
IC551	E-5
IC601	B-7
IC801	D-6
IC901	C-2
Q501	E-3

6-3. PRINTED WIRING BOARDS – MAIN SECTION (2/2) –

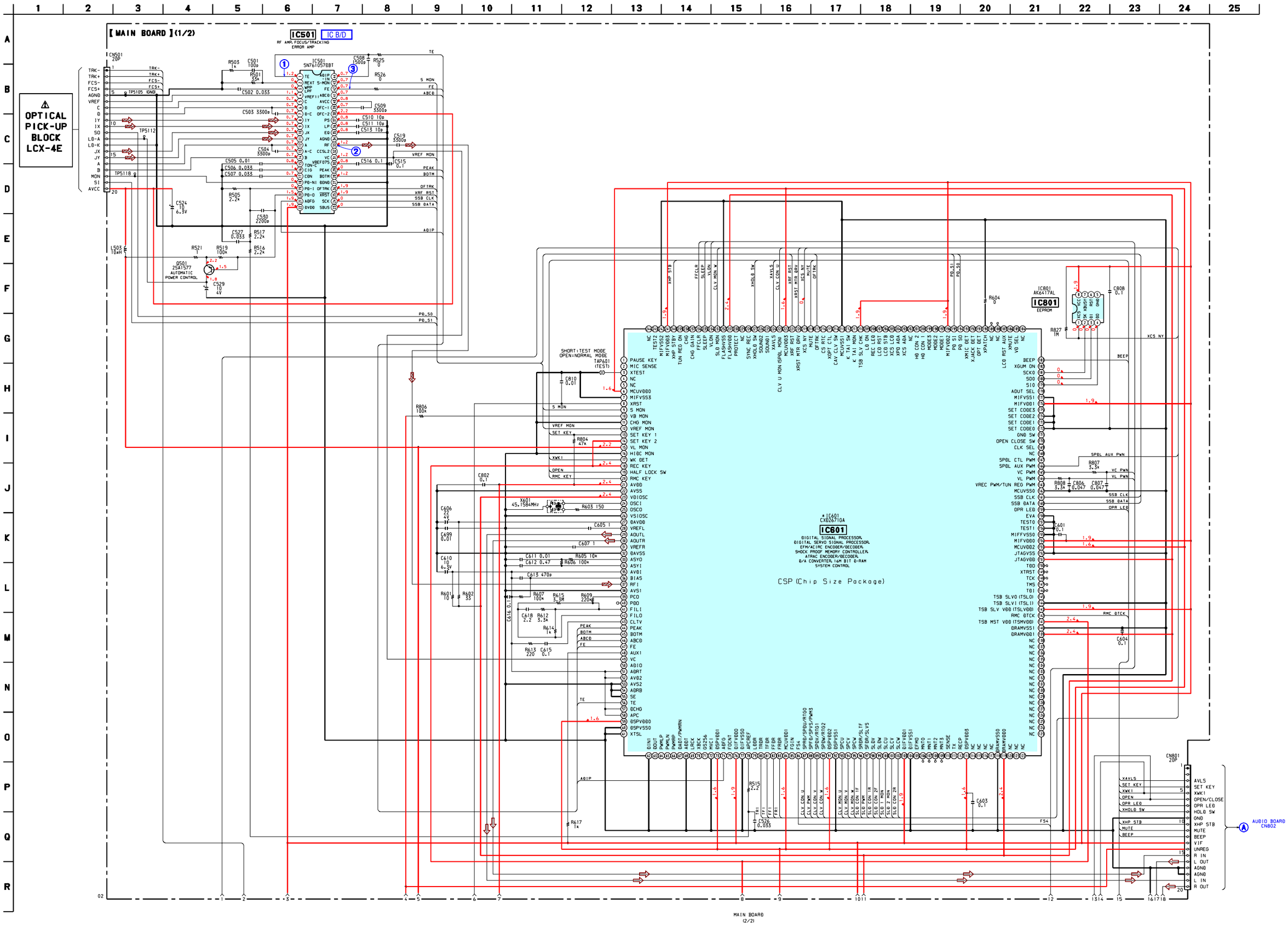
● Refer to page 22 for Notes.

: Uses unleaded solder.



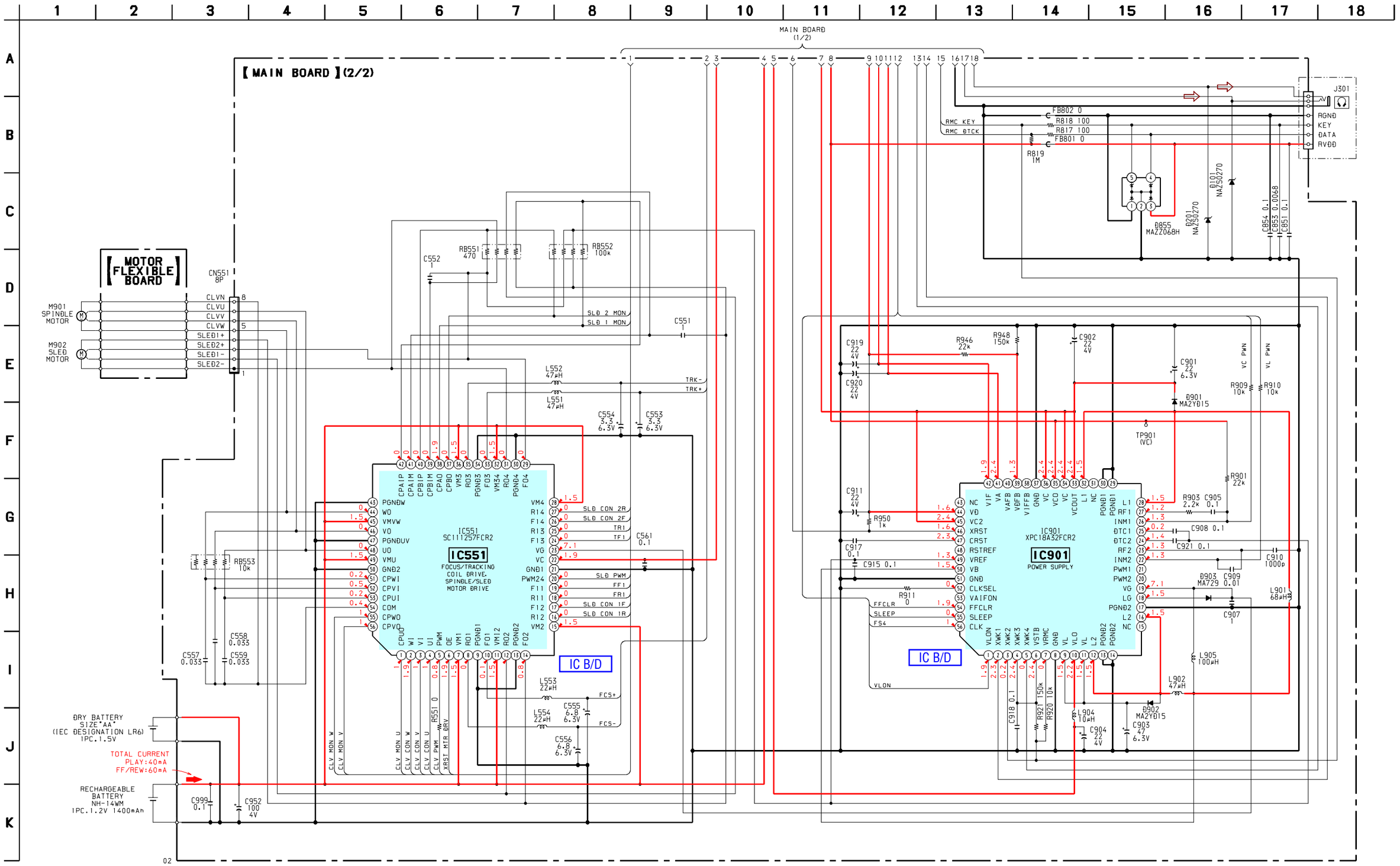
6-4. SCHEMATIC DIAGRAM – MAIN SECTION (1/2) –

● Refer to page 22 for Notes. ● Refer to page 22 – 24 for IC Block Diagrams. ● Refer to page 22 for Waveforms.



6-5. SCHEMATIC DIAGRAM – MAIN SECTION (2/2) –

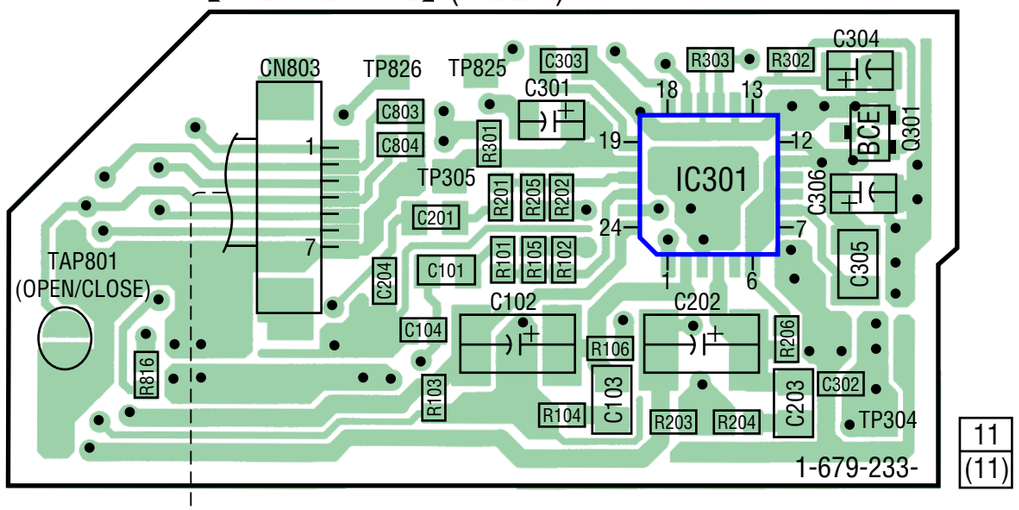
● Refer to page 22 for Notes. ● Refer to page 22 – 24 for IC Block Diagrams. ● Refer to page 22 for Waveforms.



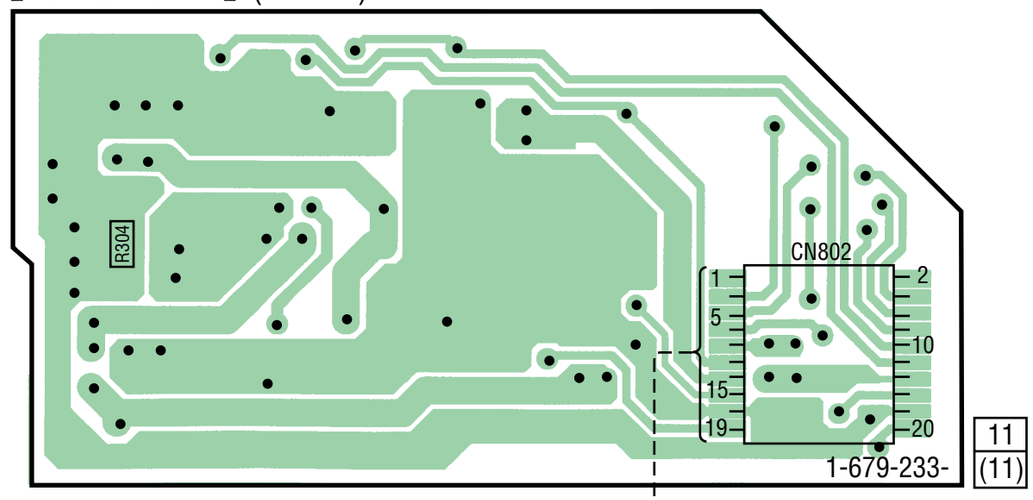
6-6. PRINTED WIRING BOARDS – AUDIO SECTION –

: Uses unleaded solder.

【AUDIO BOARD】(SIDE A)



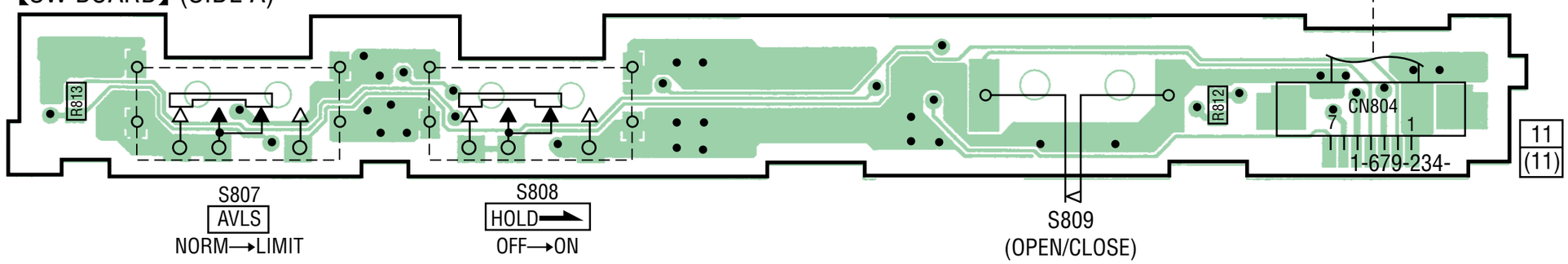
【AUDIO BOARD】(SIDE B)



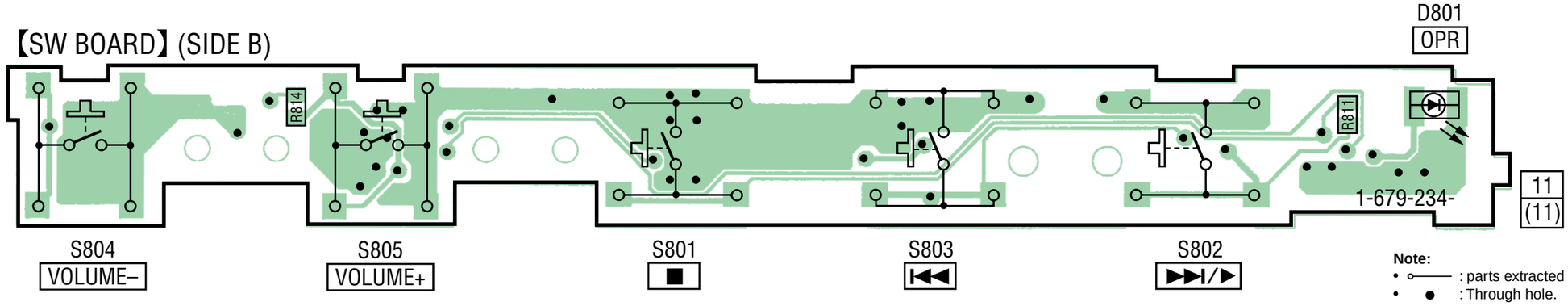
A MAIN BOARD CN801

【SWITCH FLEXIBLE BOARD】 1-679-235- 11

【SW BOARD】(SIDE A)



【SW BOARD】(SIDE B)



● **Semiconductor Location**

Ref. No.	Location
D801	D-6
IC301	A-3
Q301	A-3

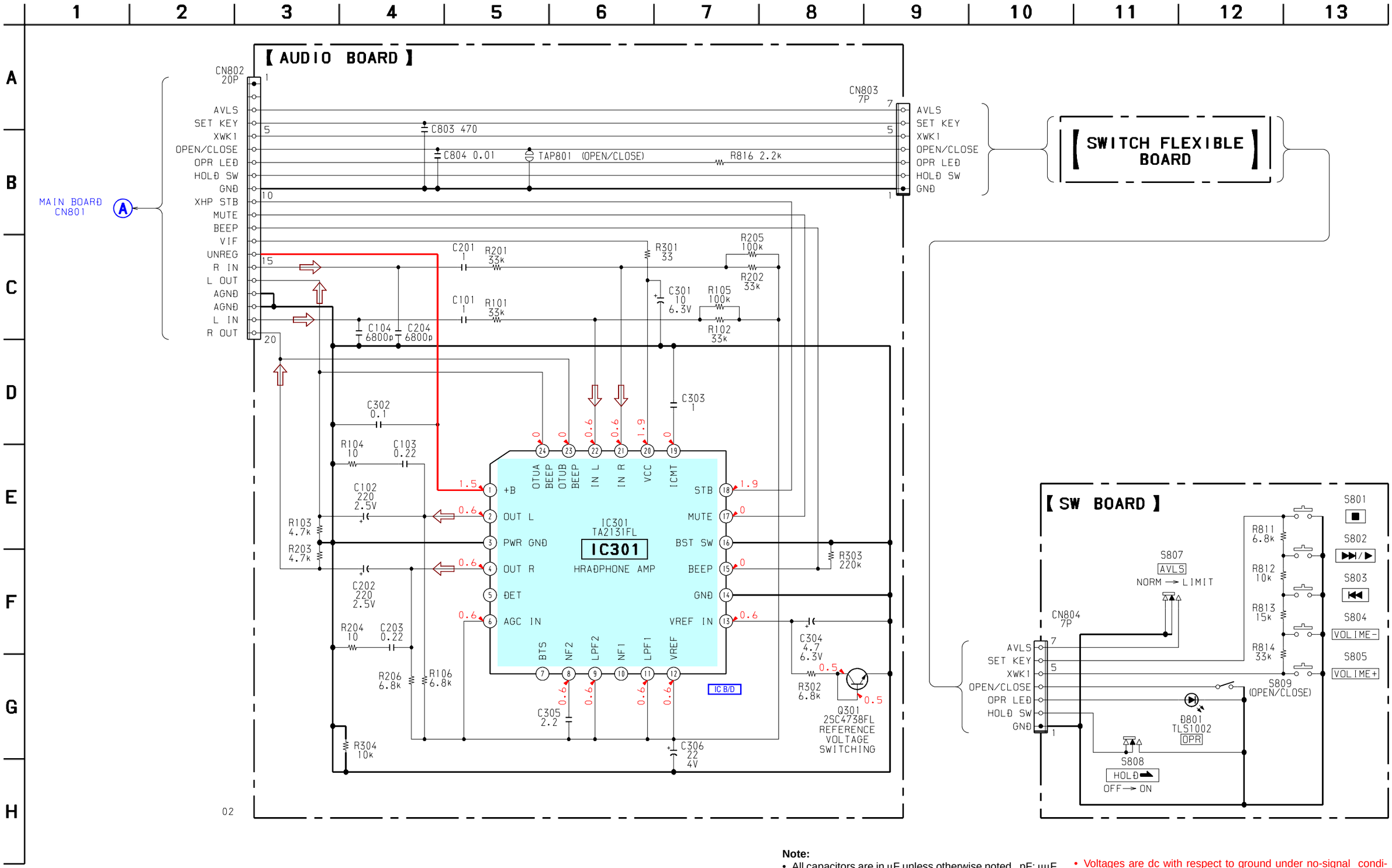
Note:
- ○——— : parts extracted from the component side.
- ● : Through hole.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:

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

6-7. SCHEMATIC DIAGRAM – AUDIO SECTION –



02

Note:

- 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.
- ▬ : B+ Line.
- Power voltage is dc 1.5V and fed with regulated dc power supply from battery terminal.
- Voltages are dc with respect to ground under no-signal conditions.
  no mark : PLAY
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.

Note on Printed Wiring Boards: MAIN SECTION

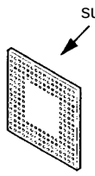
- ○——— : parts extracted from the component side.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

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

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

Lead layout of conventional IC



CSP (chip size package)

Note on Schematic Diagram: MAIN SECTION

- 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.

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 under no-signal conditions.
  no mark : PLAY
- 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.
  ⇨ : Analog
  ⇨ : Digital

- Replacement of IC601 used in this set requires a special tool.
- The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different form that of conventional IC.

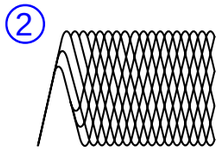
● WAVEFORMS

①

IC501 ① TE

VOLT/DIV : 5 mV AC
TIME/DIV : 1 µsec

②



IC501 ㉝ (RF)

VOLT/DIV : 0.5 V AC
TIME/DIV : 0.5 µsec

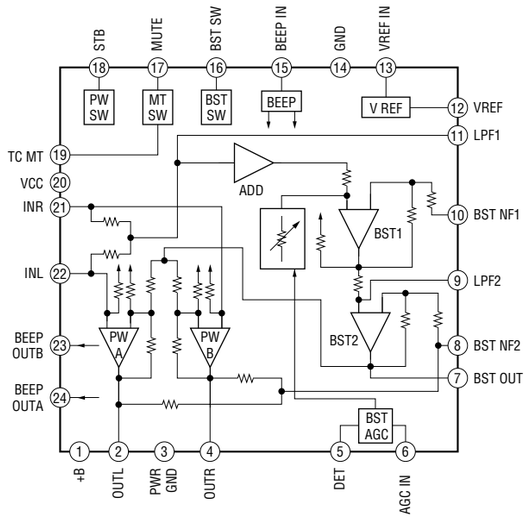
③

IC501 ㊷ (FE)

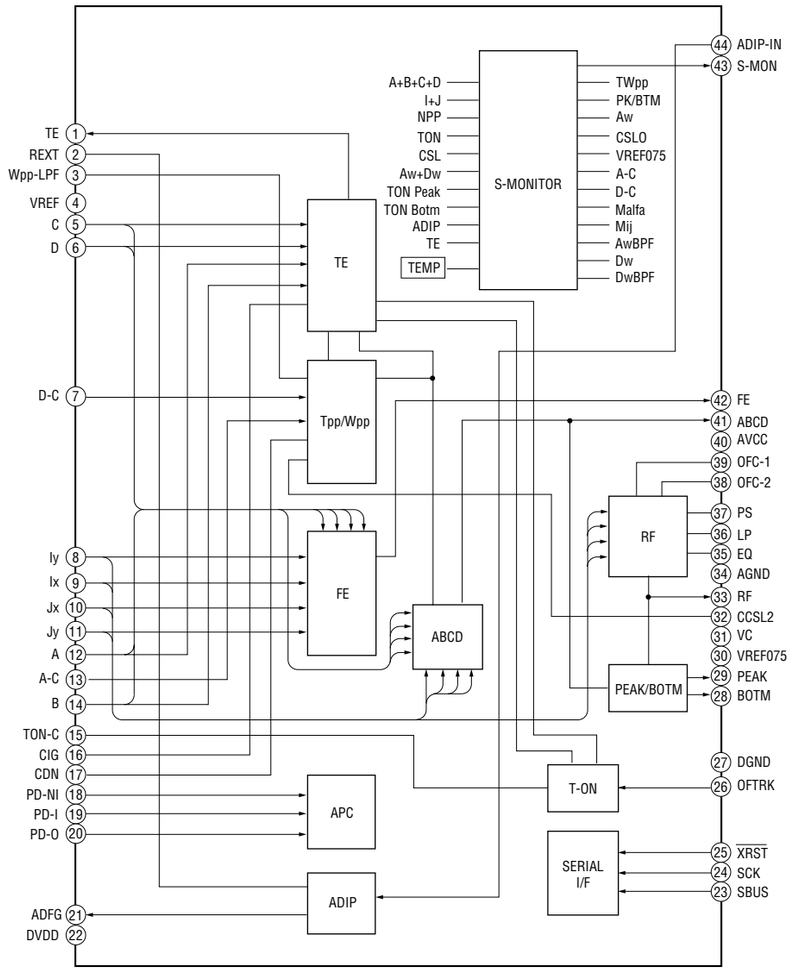
VOLT/DIV : 5 mV AC
TIME/DIV : 1 µsec

● IC BLOCK DIAGRAMS

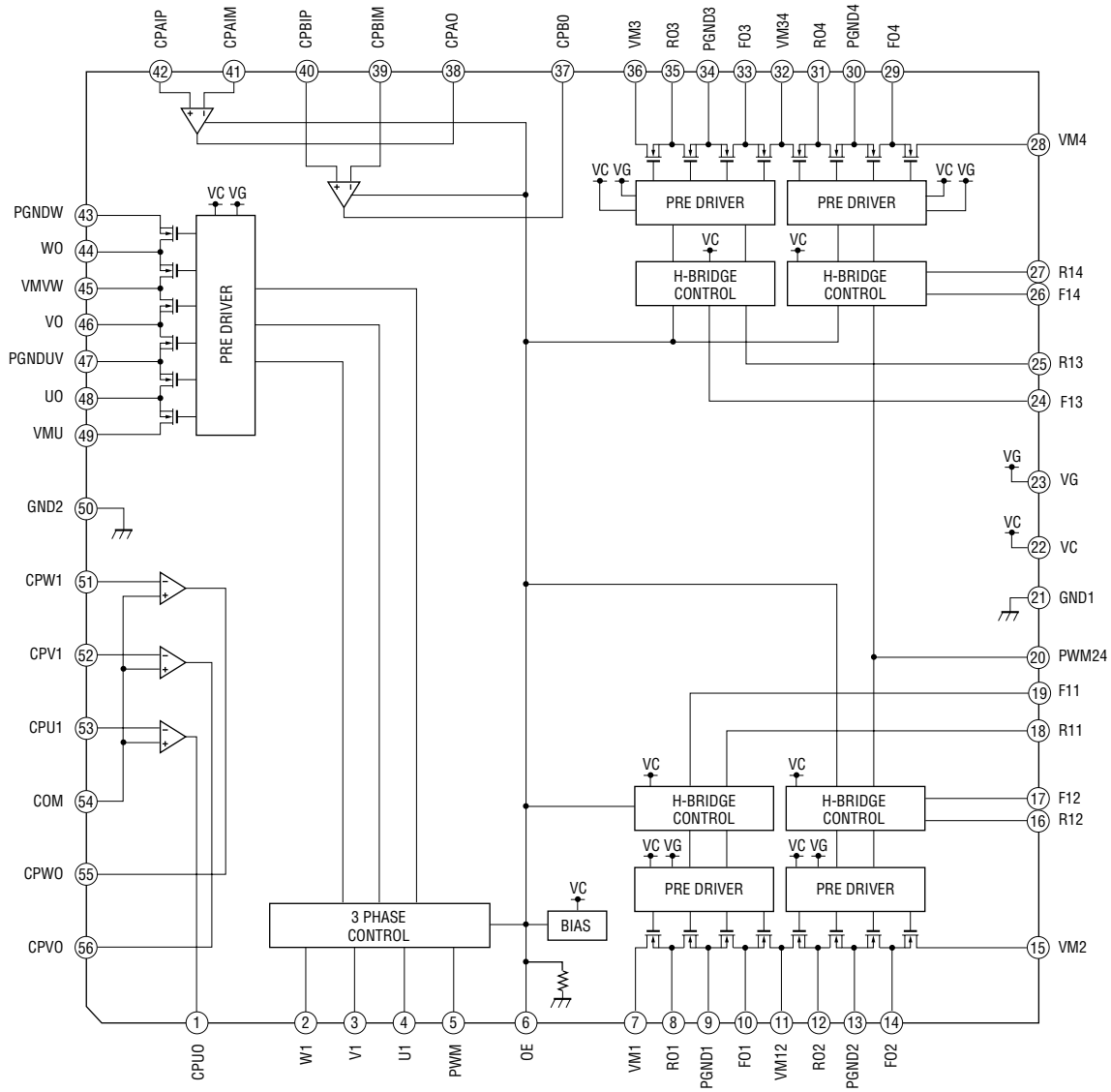
IC301 TA2131FL-EL



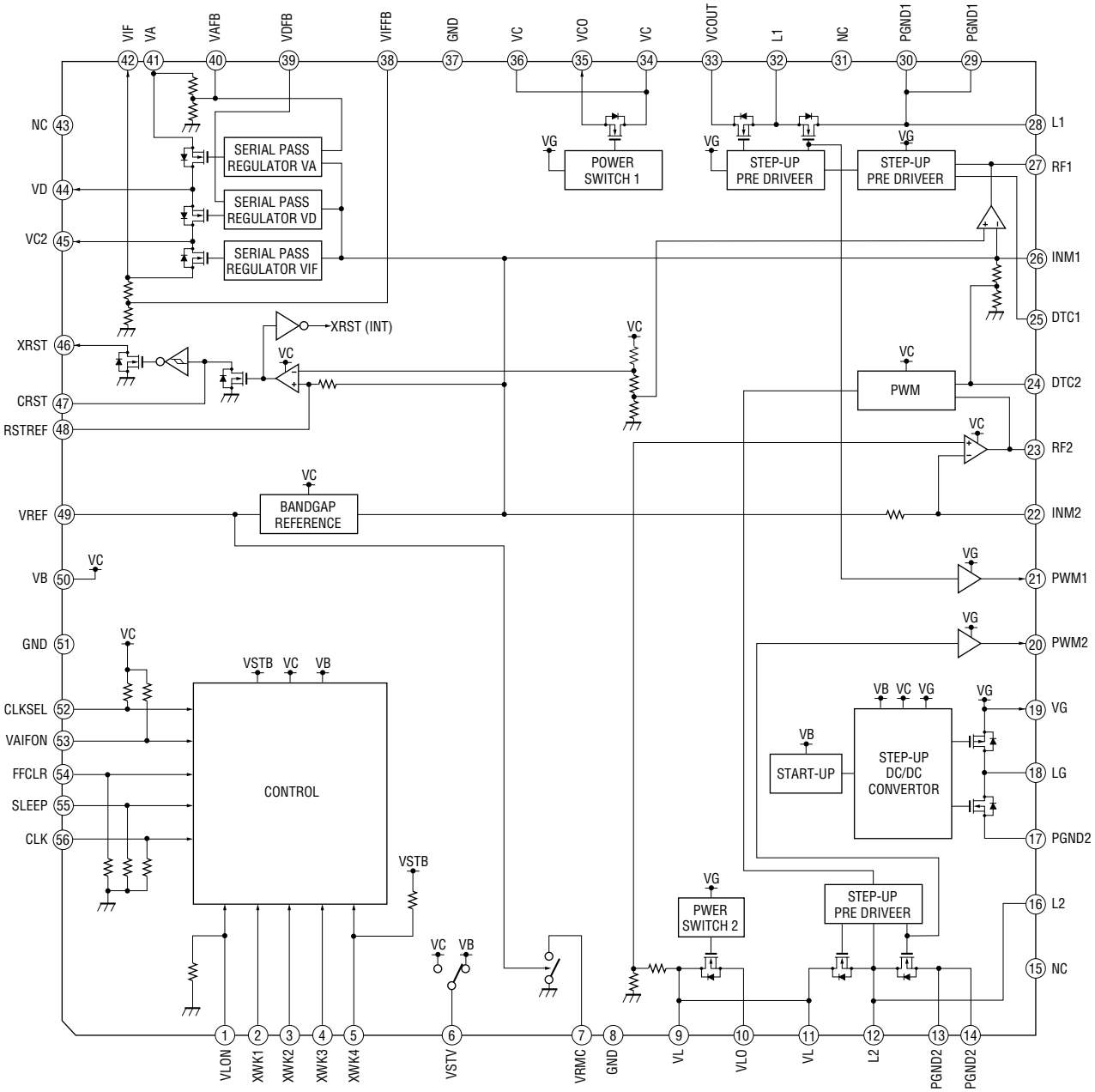
IC501 SN761057DBT



IC551 SC111257FCR2



IC901 XPC18A32FCR2



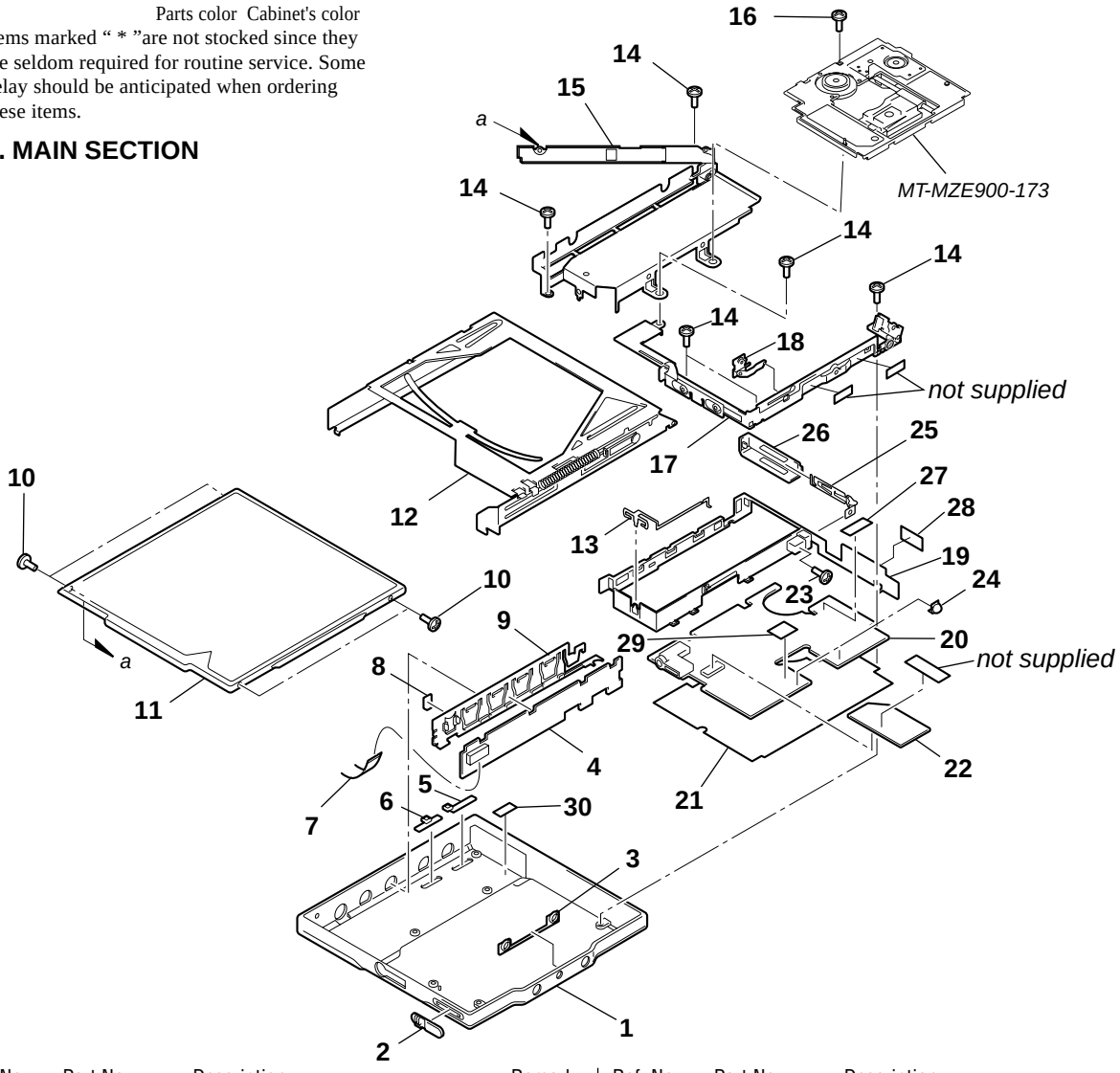
SECTION 7
EXPLODED VIEWS

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ••• (RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

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

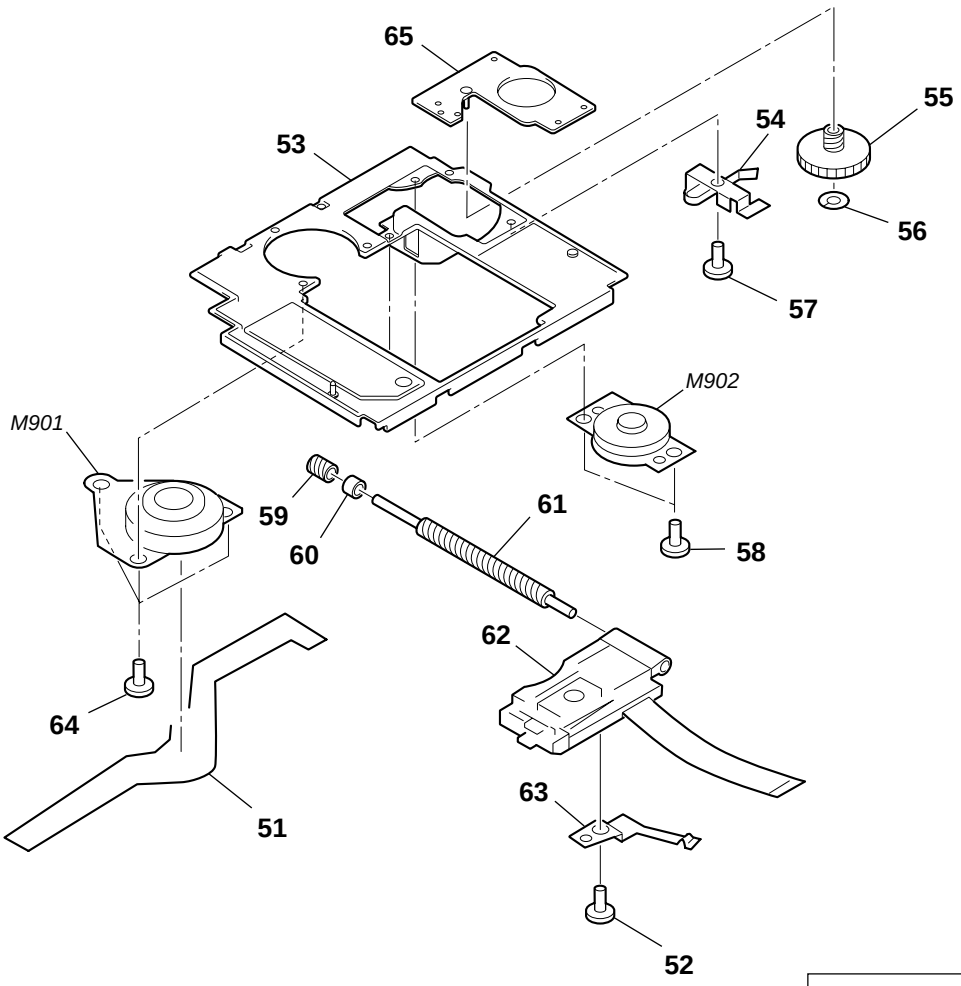
7-1. MAIN SECTION



Ref. No.	Part No.	Description	Remark
1	3-222-242-01	PANEL, BOTTOM ••• (SILVER)	
1	3-222-242-11	PANEL, BOTTOM ••• (BLUE)	
2	3-222-247-01	KNOB (OPEN)	
3	3-222-246-01	ESCUTCHEON	
* 4	A-3322-889-A	SW BOARD, COMPLETE	
5	3-222-248-01	KNOB (AVLS) ••• (SILVER)	
5	3-222-248-11	KNOB (AVLS) ••• (BLUE)	
6	3-222-249-01	KNOB (HOLD) ••• (SILVER)	
6	3-222-249-11	KNOB (HOLD) ••• (BLUE)	
7	1-679-235-11	SWITCH FLEXIBLE BOARD	
8	3-222-245-01	WINDOW (LED)	
9	3-222-244-01	BUTTON, CONTROL	
10	4-218-233-05	SCREW (1.7), MI ••• (SILVER)	
10	4-218-233-07	SCREW (1.7), MI ••• (BLUE)	
11	X-3380-091-1	LID ASSY, UPPER ••• (SILVER)	
11	X-3380-092-1	LID ASSY, UPPER ••• (BLUE)	
12	X-3379-511-1	HOLDER ASSY	
13	3-222-373-01	TERMINAL BOARD (MINUS)	
14	4-218-233-12	SCREW (1.4) MI	

Ref. No.	Part No.	Description	Remark
15	X-3379-504-1	BRACKET (L) ASSY	
16	3-049-051-01	SCREW (MD), STEP	
17	X-3379-505-1	BRACKET (R) ASSY	
18	X-3379-506-1	BRACKET (STOP) ASSY	
19	3-222-250-01	CASE, BATTERY ••• (SILVER)	
19	3-222-250-11	CASE, BATTERY ••• (BLUE)	
* 20	A-3323-599-A	MAIN BOARD, COMPLETE	
21	3-222-243-01	SHEET, INSULATING	
* 22	A-3322-892-A	AUDIO BOARD, COMPLETE	
23	4-963-883-21	SCREW (M1.4), PRECISION PAN	
24	3-049-041-01	TERMINAL BOARD	
25	X-3379-507-1	TERMINAL ASSY, BATTERY	
26	3-222-241-01	LID, BATTERY CASE ••• (SILVER)	
26	3-222-241-11	LID, BATTERY CASE ••• (BLUE)	
27	3-226-864-01	SHEET (PEACH 2)	
28	3-226-855-01	SHEET (BATTERY CASE)	
29	3-227-252-01	SPACER, BATTERY TERMINAL 2	
30	3-226-162-01	SHEET (BOTTOM)	

7-2. MECHANISM DECK SECTION (MT-MZE900-173)



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
51	1-679-187-11	MOTOR FLEXIBLE BOARD	
52	3-222-392-01	SCREW (M1.4), TAPPING	
53	3-222-394-01	CHASSIS	
54	3-224-779-01	SPRING, THRUST DETENT	
55	4-222-216-01	GEAR (SA)	
56	3-338-645-41	WASHER (0.8-2.5)	
57	4-218-233-13	SCREW (1.7), MI	
58	4-218-233-01	SCREW (1.4), MI	
59	4-222-208-01	GEAR (SB)	
60	4-222-204-01	BEARING (N)	
61	4-222-203-01	SCREW, LEAD	
⚠62	X-3379-869-1	OPTICAL PICK-UP ASSY(LCX-4E)	
63	3-222-391-01	SPRING (M), RACK	
64	3-225-278-11	SCREW, TAPPING	
65	X-3379-529-1	BASE ASSY, MOTOR	
M901	8-835-706-01	MOTOR, DC SSM18A (SPINDLE)	
M902	1-763-399-11	MOTOR, DC (SLED)(INCLUDING PULLY GEAR)	

SECTION 8
ELECTRICAL PARTS LIST

AUDIO MAIN

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE :Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ , for example :
  uA.... : µ A.... , uPA.... : µ PA....
  uPB.... : µ PB.... , uPC.... : µ PC....
  uPD.... : µ PD....
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  HK : Hong Kong
  JEW : Tourist
  FR : French
  KR : Korean

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-3322-892-A	AUDIO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-125-837-51	CERAMIC CHIP	1uF	10%	6.3V
C102	1-135-868-91	TANTAL. CHIP	220uF	20%	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	1-125-837-51	CERAMIC CHIP	1uF	10%	6.3V
C202	1-135-868-91	TANTAL. CHIP	220uF	20%	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	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C302	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C303	1-125-837-51	CERAMIC CHIP	1uF	10%	6.3V
C304	1-125-926-91	TANTAL. CHIP	4.7uF	20%	6.3V
C305	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C306	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C803	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C804	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
		< CONNECTOR >			
CN802	1-778-595-21	CONNECTOR, BOARD TO BOARD 20P			
* CN803	1-794-771-21	CONNECTOR, FFC/FPC (ZIF) 7P			
		< IC >			
IC301	8-759-598-15	IC TA2131FL-EL			
		< TRANSISTOR >			
Q301	8-729-037-52	TRANSISTOR	2SD2216J-QR(TX).SO		
		< RESISTOR >			
R101	1-218-971-11	RES-CHIP	33K	5%	1/16W
R102	1-218-971-11	RES-CHIP	33K	5%	1/16W
R103	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R104	1-218-929-11	RES-CHIP	10	5%	1/16W
R105	1-218-977-11	RES-CHIP	100K	5%	1/16W
R106	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R201	1-218-971-11	RES-CHIP	33K	5%	1/16W
R202	1-218-971-11	RES-CHIP	33K	5%	1/16W
R203	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R204	1-218-929-11	RES-CHIP	10	5%	1/16W
R205	1-218-977-11	RES-CHIP	100K	5%	1/16W
R206	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R301	1-218-935-11	RES-CHIP	33	5%	1/16W
R302	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R303	1-218-981-11	RES-CHIP	220K	5%	1/16W
R304	1-218-965-11	RES-CHIP	10K	5%	1/16W
R816	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
*	A-3323-599-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C501	1-164-931-11	CERAMIC CHIP	100PF	10%	16V
C502	1-127-772-81	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	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V
C507	1-127-772-81	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	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	16V
C511	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	16V
C513	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	16V
C515	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C516	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C519	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C524	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C526	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V
C527	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V
C529	1-137-762-11	TANTAL. CHIP	10uF	20%	4V
C530	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C551	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C552	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C553	1-127-578-91	TANTAL. CHIP	3.3uF	20%	6.3V
C554	1-127-578-91	TANTAL. CHIP	3.3uF	20%	6.3V
C555	1-131-621-91	TANTAL. CHIP	6.8uF	20%	6.3V
C556	1-131-621-91	TANTAL. CHIP	6.8uF	20%	6.3V
C557	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V
C558	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V
C559	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V
C561	1-107-820-11	CERAMIC CHIP	0.1uF		16V

MAIN

Ref. No.	Part No.	Description			Remark
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	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C607	1-115-156-11	CERAMIC CHIP	1uF		10V
C610	1-117-919-11	TANTAL. 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
C615	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C616	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C618	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C699	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C802	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C806	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C807	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C808	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C810	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C851	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C853	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C854	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C901	1-137-739-91	TANTALUM	22uF	20%	6.3V
C902	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C903	1-135-989-91	TANTAL. CHIP	47uF	20%	6.3V
C904	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C905	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C907	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C908	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C909	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C910	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C911	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C915	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C917	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C918	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C919	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C920	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C921	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C952	1-127-569-91	TANTAL. CHIP	100uF	20%	4V
C999	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
		< CONNECTOR >			
* CN501	1-794-772-21	CONNECTOR, FPC (ZIF) 20P			
* CN551	1-778-156-11	CONNECTOR, FFC/FPC (ZIF) 8P			
CN801	1-778-590-21	CONNECTOR, BOARD TO BOARD 20P			
		< DIODE >			
D101	8-719-056-58	DIODE MAZS027008SO			
D201	8-719-056-58	DIODE MAZS027008SO			
D855	8-719-077-43	DIODE MAZZ068H01S0			
D901	8-719-081-33	DIODE MA2YD1500LS0			
D902	8-719-081-33	DIODE MA2YD1500LS0			
D903	8-719-420-51	DIODE MA729			
		< FERRITE BEAD >			
FB801	1-414-228-11	INDUCTOR	0uH		
FB802	1-414-228-11	INDUCTOR	0uH		

Ref. No.	Part No.	Description			Remark
		< IC >			
IC501	8-759-689-67	IC SN761057DBT			
IC551	8-759-698-62	IC SC111257FCR2			
@ IC601	8-752-410-47	IC CXD2671-201GA			
IC801	8-759-680-85	IC AK6417AL-L			
IC901	8-759-698-61	IC XPC18A32FCR2			
		< JACK >			
J301	1-793-288-61	JACK (🎧)			
		< COIL >			
L503	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	1-419-258-21	INDUCTOR	68uH		
L902	1-419-646-21	INDUCTOR	47uH		
L904	1-414-398-11	INDUCTOR	10uH		
L905	1-414-404-41	INDUCTOR	100uH		
		< TRANSISTOR >			
Q501	8-729-922-10	TRANSISTOR	2SA1577-QR		
		< RESISTOR >			
R501	1-218-971-11	RES-CHIP	33K	5%	1/16W
R503	1-218-953-11	RES-CHIP	1K	5%	1/16W
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
R517	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W
R519	1-218-977-11	RES-CHIP	100K	5%	1/16W
R521	1-242-967-81	RES-CHIP	1	5%	1/16W
R525	1-218-990-11	SHORT	0		
R526	1-218-990-11	SHORT	0		
R551	1-218-990-11	SHORT	0		
R601	1-218-929-11	RES-CHIP	10	5%	1/16W
R602	1-218-935-11	RES-CHIP	33	5%	1/16W
R603	1-218-943-11	RES-CHIP	150	5%	1/16W
R604	1-218-990-11	SHORT	0		
R605	1-218-965-11	RES-CHIP	10K	5%	1/16W
R606	1-218-977-11	RES-CHIP	100K	5%	1/16W
R607	1-218-977-11	RES-CHIP	100K	5%	1/16W
R609	1-218-981-11	RES-CHIP	220K	5%	1/16W
R612	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R613	1-218-945-11	RES-CHIP	220	5%	1/16W
R614	1-218-953-11	RES-CHIP	1K	5%	1/16W
R615	1-202-974-11	RES-CHIP	3.3M	5%	1/16W
R617	1-218-953-11	RES-CHIP	1K	5%	1/16W
R804	1-218-973-11	RES-CHIP	47K	5%	1/16W
R806	1-218-977-11	RES-CHIP	100K	5%	1/16W
R807	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R808	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R817	1-218-941-11	RES-CHIP	100	5%	1/16W
R818	1-218-941-11	RES-CHIP	100	5%	1/16W
R819	1-218-989-11	RES-CHIP	1M	5%	1/16W
R827	1-218-989-11	RES-CHIP	1M	5%	1/16W

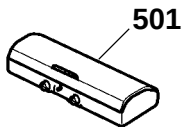
@ Replacement of IC601 used in this set requires a special tool.

Ref. No.	Part No.	Description			Remark
R901	1-218-969-11	RES-CHIP	22K	5%	1/16W
R903	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R909	1-218-965-11	RES-CHIP	10K	5%	1/16W
R910	1-218-965-11	RES-CHIP	10K	5%	1/16W
R911	1-218-990-11	SHORT	0		
R920	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R921	1-218-979-11	RES-CHIP	150K	5%	1/16W
R946	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R948	1-208-939-11	METAL CHIP	150K	0.5%	1/16W
R950	1-218-953-11	RES-CHIP	1K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB551	1-233-959-21	RES, NETWORK (CHIP TYPE) 470			
RB552	1-233-973-11	RES, NETWORK (CHIP TYPE) 100K			
RB553	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K			
		< VIBRATOR >			
X601	1-795-002-21	VIBRATOR, CERAMIC (45.1584MHz)			
**********					
*	A-3322-889-A	SW BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
* CN804	1-794-771-21	CONNECTOR, FFC/FPC (ZIF) 7P			
		< DIODE >			
D801	8-719-061-82	LED TLSU1002(TPX1,SONY) (OPR)			
		< RESISTOR >			
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
		< SWITCH >			
S801	1-786-033-21	SWITCH, TACTILE (■)			
S802	1-786-033-21	SWITCH, TACTILE (▶▶I/▶)			
S803	1-786-033-21	SWITCH, TACTILE (I◀◀)			
S804	1-786-033-21	SWITCH, TACTILE (VOLUME-)			
S805	1-786-033-21	SWITCH, TACTILE (VOLUME+)			
S807	1-572-922-11	SWITCH, SLIDE (AVLS)			
S808	1-572-922-11	SWITCH, SLIDE (HOLD ▬)			
S809	1-771-483-61	SWITCH, PUSH (1 KEY) (OPEN/CLOSE)			
**********					

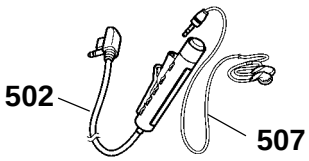
Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
7	1-679-235-11	SWITCH FLEXIBLE BOARD	
51	1-679-187-11	MOTOR FLEXIBLE BOARD	
⚠62	X-3379-869-1	OPTICAL PICK-UP ASSY(LCX-4E)	
M901	8-835-706-01	MOTOR, DC SSM18A (SPINDLE)	
M902	1-763-399-11	MOTOR, DC (SLED)(INCLUDING PULLY GEAR)	
**********			

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
501	1-251-895-21	BATTERY CASE	
502	1-476-395-11	REMOTE CONTROL UNIT	
⚠503	1-528-580-21	BATTERY CHARGER (BC-7HT) (E33,JEW)	
⚠503	1-528-865-12	BATTERY CHARGER (BC-9HY2) (AEP,FR)	
⚠503	1-528-866-11	BATTERY CHARGER (BC-9HP2) (UK,HK)	
⚠503	1-528-891-12	CHARGER, BATTERY (BC-9HU2) (US,Canadian)	
⚠	1-569-007-11	ADAPTOR, CONVERSION 2P (E33,JEW)	
504	1-756-120-11	BATTERY, NICKEL HYDROGEN (JEW)	
504	1-756-120-21	BATTERY, NICKEL HYDROGEN	(US,Canadian,AEP,FR,UK,E33,HK,KR)
505	3-008-521-01	CASE, BATTERY CHARGE	(US,Canadian,AEP,FR,UK,E33,HK,KR)
505	3-008-521-21	CASE, BATTERY CHARGE (JEW)	
	3-021-018-11	LABEL, FRANCE (FR)	
	3-220-299-12	MANUAL, INSTRUCTION (ENGLISH, SPANISH)	(US,Canadian,AEP,UK,E33,HK,JEW)
	3-220-299-22	MANUAL, INSTRUCTION (FRENCH, GERMAN)	(Canadian,AEP,FR,JEW)
	3-220-299-31	MANUAL, INSTRUCTION (DUTCH, SWEDISH)	(AEP)
	3-220-299-41	MANUAL, INSTRUCTION (ITALIAN, PORTUGUESE)	(AEP)
	3-220-299-51	MANUAL, INSTRUCTION (FINNISH, RUSSIAN)	(AEP)
	3-220-299-62	MANUAL, INSTRUCTION (TRADITIONAL CHINESE, JAPANESE, KOREAN)	(E33,HK,JEW)
	3-220-299-71	MANUAL, INSTRUCTION (KOREAN, ENGLISH)	(KR)
506	3-220-749-01	CASE, CARRYING	(Canadian,AEP,FR,UK,E33,HK,KR,JEW)
507	8-953-278-90	HEADPHONE MDR-A34SP (US)	
507	8-953-304-91	RECEIVER,EAR MDR-E805SP	(Canadian,AEP,FR,UK,E33,HK,KR,JEW)

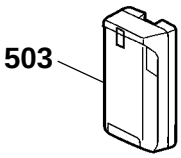
• Dry Battery Case



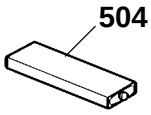
• Headphones/earphones with a remote control



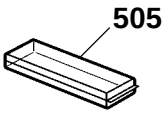
• Battery Charger



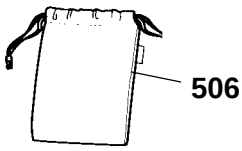
• Rechargeable Battery



• Rechargeable Battery Carrying Case



• Carrying Pouch



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

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

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	2001.01	US, Canadian, AEP and UK model has been added. Correct the General section. Lead free mark note added. Change the main board. Change the exploded views. Change the electrical parts list. Change the accessories & packing materials.
1.0	2000.10	New