

SHARP SERVICE MANUAL

No. S4913MDMT821/

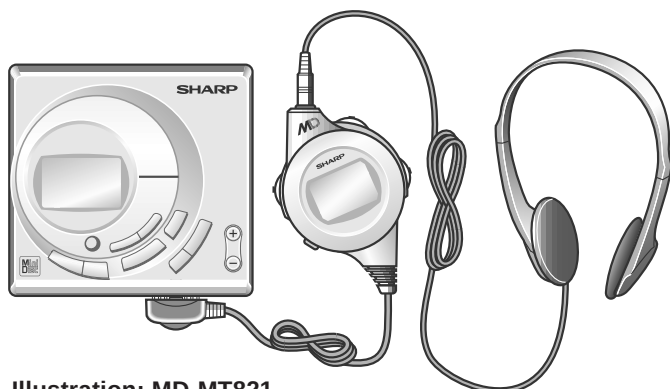


Illustration: MD-MT821

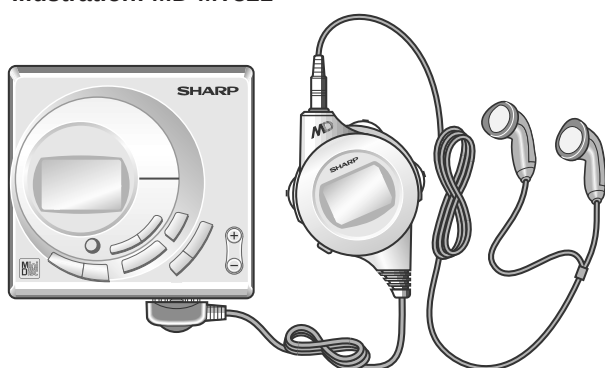


Illustration: MD-MT821W

MD-MT821(GL) MD-MT821W(BL) MD-MT821W(GL)

• In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.



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SAFETY PRECAUTION FOR SERVICE MANUAL (MD-MT821W ONLY)

Precaution to be taken when replacing and servicing the Laser Pickup.

The AEL (Accessible Emission Level) of Laser Power Output for this model is specified to be lower than Class I Requirements. However, the following precautions must be observed during servicing to protect your eyes against exposure to the laser beam.

- (1) When the cabinet has been removed, the power is turned on without a compact disc, and the Pickup is on a position outer than the lead-in position, the Laser will light for several seconds to detect a disc. Do not look into the Pickup Lens.
- (2) The Laser Power Output of the Pickup inside the unit and replacement service parts have already been adjusted prior to shipping.
- (3) No adjustment to the Laser Power should be attempted when replacing or servicing the Pickup.
- (4) Under no circumstances look directly into the Pickup Lens at any time.
- (5) CAUTION - Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

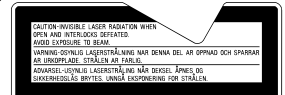
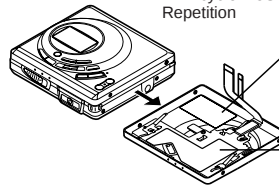
CAUTION

CLASS 1 LASER PRODUCT
APPAREIL À LASER DE CLASSE 1
PRODUCTO LASER DE CLASE 1

- This Portable MiniDisc Recorder is classified as a CLASS 1 LASER product.
- The CLASS 1 LASER PRODUCT label is located on the bottom.
- Use the portable minidisc recorder only in accordance with the instructions given in this manual and do not attempt to interfere with the interlock switch or make any other adjustment as this may result in exposure to hazardous radiation.

Laser Diode Properties

- Material: GaAlAs
- Wavelength: 785 nm
- Pulse time:
Read mode; 0.8 mW Continuous
Write mode; max. 10 mW 0.5S
min. cycle 1.5S
Repetition



Precaution to be taken when replacing and servicing the laser pickup.

The following precautions must be observed during servicing to protect your eyes against exposure to the laser.

Warning of possible eye damage when repairing:

If the AC adaptor or batteries are connected when the top housing (disc cover) of the unit is removed, and the PLAY key is pressed, the laser will light up during disc access (2-3 seconds). (Fig. 2-1) During the operation, the laser will leak from the opening between the magnetic head and the mechanical chassis (Fig. 2-2). In order to protect your eyes, you must not look at the laser during repair. Before repairing be sure to disconnect the AC adaptor and remove the batteries.

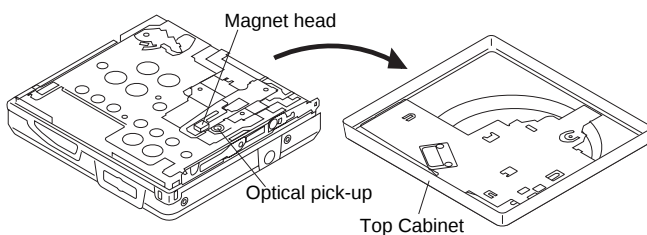


Figure 2-1

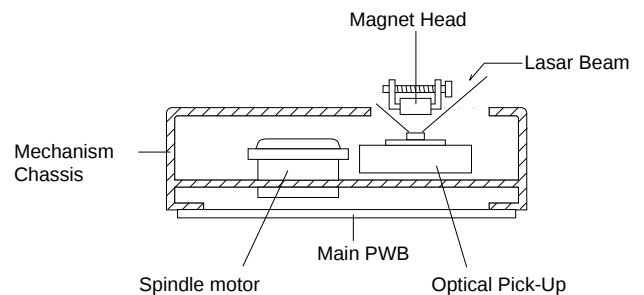


Figure 2-2

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

SPECIFICATIONS

● General

Power source: (MT821)

- DC 3.6 V : Rechargeable lithium-ion battery x 1
 DC 5 V : AC adaptor (AC 120V, 60 Hz)
 DC 3.4V: Battery case (commercially available, "AA" size, alkaline battery x 1)
 DC 4.5V: Separately available car adaptor, AD-CA20X (for cars with a 12-24V DC negative ground electrical system)

Power source: (MT821W)

- DC 3.6 V : Rechargeable lithium-ion battery x 1
 DC 5 V : AC adaptor (AC 110 - 240V, 50/60 Hz)
 DC 3.4V: Battery case (commercially available, "AA" size, alkaline battery x 1)
 DC 4.5V: Separately available car adaptor, AD-CA20X (for cars with a 12-24V DC negative earth electrical system)

Power consumption: 7 W (AC adaptor)

(MT821)

Power consumption: 0.15A (AC adaptor)

(MT821W)

Output power: RMS; 20 mW (10 mW + 10mW) (0.2% T.H.D.)

Charging time: Approx. 3 hours
 (When using the AC adaptor included with the unit)

Battery life:

When using the rechargeable battery (fully charged) included with the unit	When using one, commercially available, high capacity, "AA" size, alkaline battery (in the battery case)	When using one, commercially available, high capacity, "AA" size battery with the rechargeable battery (fully charged)
Continuous recording: Approx. 8 hours	Continuous recording: Approx. 3 hours	Continuous recording: Approx. 11 hours
Continuous play: Approx. 11.5 hours	Continuous play: Approx. 6.5 hours	Continuous play: Approx. 18 hours

- The continuous recording time is for analogue inputs when the volume level is set to "VOL 0".
- The continuous play time shows the value when the volume level is set to "VOL 15".
- The above values are the standard values when the unit is charged and used at an ambient temperature of 20°C.
- The operating time when using an alkaline battery may be different, depending on the type and manufacturer of the battery, and on the operating temperature.

Input sensitivity:

Recording level	Reference input level	Input impedance
MIC H	0.25 mV	10 k ohms
MIC L	2.5 mV	10 k ohms
LINE	100 mV	20 k ohms

Output level: (MT821)

	Specified output	Maximum output level	Load impedance
Headphones	—	10 mW + 10 mW	16 ohms
LINE	250 mV (-12dB)	—	10 k ohms

Output level: (MT821W)

	Specified output	Maximum output level	Load impedance
Earphones	—	10 mW + 10 mW	32 ohms
LINE	250 mV (-12dB)	—	10 k ohms

Dimensions:

Width: 3-1/4" (82.5 mm)

Height: 13/16" (20.7 mm)

Depth: 3-1/16" (77.9 mm)

Weight:

0.39 lbs. (177 g) with rechargeable battery

Input socket:

Line/optical digital, microphone (powered by the main unit)

Output socket: (MT821)

Headphones (impedance: 19 ohms)/ remote control unit

Output socket: (MT821W)

Earphones (impedance: 32 ohms)/ remote control unit

● MiniDisc Recorder

Type:

Portable MiniDisc recorder

Signal readout:

Non-contact, 3-beam semi-conductor laser pick-up

Audio channels:

Stereo 2 channels/monaural (long-play mode) 1 channel

Frequency response:

20 - 20,000 Hz (± 3 dB)

Rotation speed:

Approx. 400 - 900 rpm

Error correction:

ACIRC (Advanced Cross Interleave Reed-Solomon Code)

Coding:

ATRAC (Adaptive TRAnsform Acoustic Coding), 24-bit computed type

Recording method:

Magnetic modulation overwrite method

Sampling frequency:

44.1 kHz (32 kHz and 48 kHz signals are converted to 44.1 kHz, and then recorded.)

Wow and flutter:

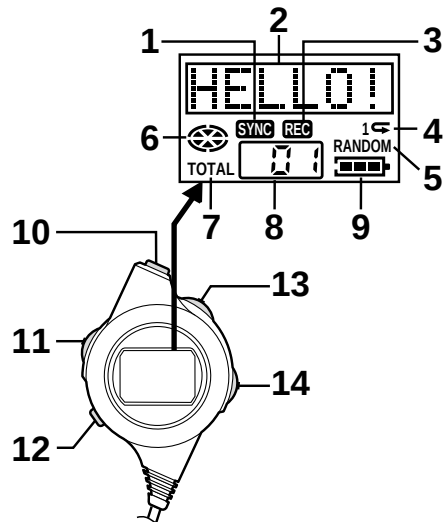
Unmeasurable (less than $\pm 0.001\%$ W.peak)

Specifications for this model are subject to change without prior notice

NAMES OF PARTS

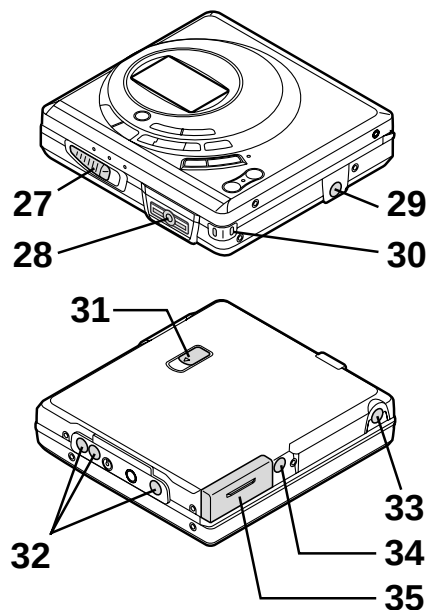
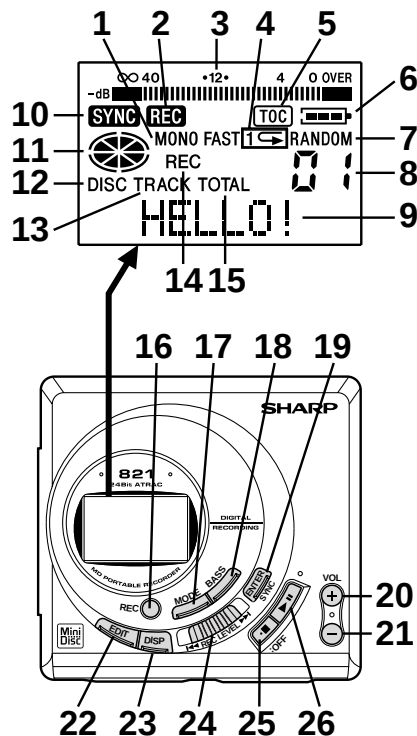
■ Remote control unit

1. Synchro Recording Indicator
2. Character/Time Information Indicator
3. Record Indicator
4. Repeat Indicator: 
5. Random Indicator
6. Disc Mode Indicator
7. Total Track Number Indicator
8. Track Number Indicator
9. Battery Indicator: 
10. Headphones Jack (MT821)
10. Earphones Socket (MT821W)
11. Display/Volume Shuttle Switch
12. Hold Switch
13. Play/Pause/Fast Reverse/ Fast Forward Shuttle Switch
14. Stop/Power Off/Bass/Play Mode Shuttle Switch



■ Main unit

1. Monaural Long-Play Mode Indicator
2. Record Indicator
3. Level Meter
4. Repeat Indicator: 
5. TOC Indicator
6. Battery Indicator: 
7. Random Indicator
8. Track Number Indicator
9. Character/Time Information Indicator
10. Synchro Recording Indicator
11. Disc Mode Indicator
12. Disc Name Indicator
13. Track Name Indicator
14. Remaining Recording Time Indicator
15. Total Track Number Indicator
16. Record/Track Mark Button
17. Mode Button
18. Bass/Delete Button
19. Enter/Fast Play/Synchro Button
20. Volume/Cursor Up Button: +
21. Volume/Cursor Down Button: -
22. Edit/Auto Mark/Time Mark Button
23. Display/Character Select Button
24. Fast Reverse/Fast Forward/Record-ing Level Control/ Name Select Shuttle Switch
25. Stop/Power Off Button: :OFF
26. Play/Pause Button: 
27. Open Lever
28. Headphones Jack (MT821)
28. Earphones Socket (MT821W)
29. Optical/Line Input Jack (MT821)
29. Optical/Line Input Socket (MT821W)
30. Handstrap Holder
31. Hold Switch
32. Battery Case Connection Terminals
33. Microphone Input Jack (MT821)
33. Microphone Input Socket (MT821W)
34. 5V DC Input Jack (MT821)
34. 5V DC Input Socket (MT821W)
35. Rechargeable Lithium-Ion Battery Compartment



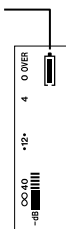
OPERATION MANUAL

CONVENIENT OPERATION OF THE UNIT

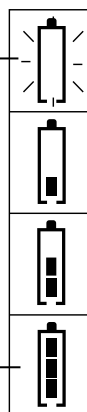
■ Checking the remaining amount of battery charge

The remaining amount of battery charge is shown by the battery indicator () during operation.

Battery indicator



< How to read the battery indicator >
When the battery is completely charged



When the battery needs charging, it is impossible to start recording or editing.

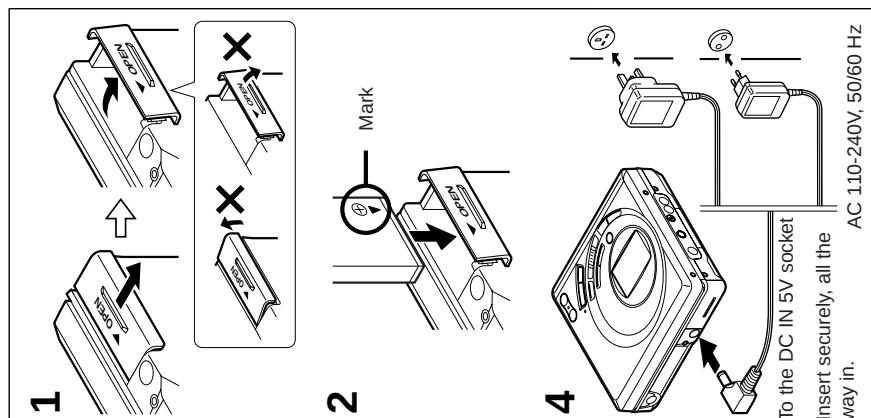
- When the battery is completely discharged, the whole battery indicator will flash. Recharge the battery or replace the alkaline battery with a new one.
- When the battery has run completely out, "BATT EMPTY" (main unit) and "Lo BATT" (remote control unit) will appear. Then, the power will be disconnected automatically.

This unit can be used with 4 different power sources: a rechargeable battery, an AC adaptor, a battery case, and a separately available car adaptor (AD-CA20X).

■ Rechargeable battery power

When the rechargeable battery is used for the first time or when you want to use it after a long period of disuse, be sure to charge it fully.

- 1 Open the rechargeable battery compartment cover.
- 2 Insert the rechargeable battery.
 - Insert the side with the arrow first.
- 3 Close the rechargeable battery compartment cover.
- 4 Plug the AC adaptor into the AC socket, and then insert the plug on the AC adaptor lead into the DC IN 5V socket.
 - About 4 seconds later, "  " will flash, and the battery will begin charging.
 - Battery charging will be complete in 3.0 hours. When the charging is complete, "  " will go out.



Notes:

- After charging has been completed, the AC adaptor may be left connected. (For example, when charging at night)
- If the rechargeable battery is in the unit, it will be charged, even whilst operating the unit. (Float charge)
- Do not force open the rechargeable battery cover too wide.
- When the AC adaptor plug is inserted and a MiniDisc has already been inserted, playback may start automatically. In this case, press the  / OFF button twice to turn the power off.

Notes:

- When using the unit with an alkaline battery or a rechargeable battery, the battery indicator will not correctly display the remaining capacity for approximately 20 seconds after the power has been turned on.
- When the AC adaptor included with this unit or a separately available car adaptor is used, the battery indicator will not be shown.
- The number of bars shown in the battery indicator may increase or decrease, depending on the operation being performed. This is normal.
- When the rechargeable battery and the alkaline battery are used at the same time, the rechargeable battery is used first, then the alkaline battery.

Since the battery indicator shows the remaining amount of the particular battery being used, the number of bars will increase when the unit switches to the alkaline battery.

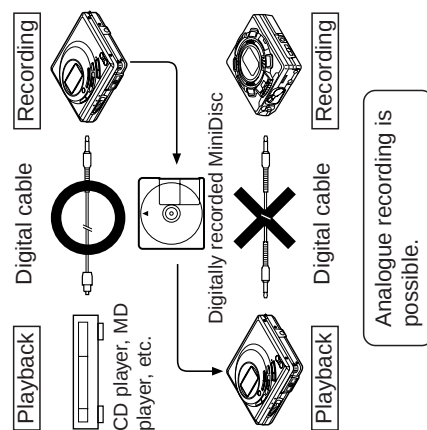
RECORDING USING THE OPTICAL DIGITAL CABLE

There are cases where digital recording may be impossible.

In the following cases digital recording is impossible, even if you are using digital cables.

When you attempt to make a new digital recording from a track that was digitally recorded on a MiniDisc.

- MiniDiscs are designed so that only first generation digital copies can be made. Further digital copies are prevented by the SCMS (Serial Copy Management System).



TROUBLESHOOTING

■ Moisture condensation

In the following cases, condensation may form inside the unit.

- Shortly after turning on a heater.
- When the unit is placed in a room where there is excessive steam or moisture.
- When the unit is moved from a cool place to a warm place.

Many potential "problems" can be resolved by the owner without calling a service technician.

If something seems to be wrong with this product, check the following before calling your authorised SHARP dealer or service centre.

When the unit has condensation inside, the disc signals cannot be read, and the unit may not function properly.

- If this happens, remove the disc. The condensation should evaporate in approximately 1 hour. The unit will then function properly.

PROBLEM	CAUSE
The unit does not turn on.	● Is the AC adaptor disconnected? ● Is the battery exhausted? ● Is the unit in the hold mode? ● Has condensation formed inside the unit? ● Is the unit being influenced by mechanical shock or by static electricity?
No sound is heard from the earphones.	● Is the volume set too low? ● Is the remote control unit or the earphones plugged in? ● Are you trying to play a MiniDisc with data on it instead of a MiniDisc containing music?
When the operation buttons are pressed, the unit does not respond.	● Is the unit in the hold mode? ● Is the battery exhausted? ● Is the remote control unit plug or the earphone plug inserted firmly?
Some sounds are skipped.	● Is the battery exhausted? ● Is the unit being subjected to excessive vibration?
The MiniDisc cannot be ejected.	● Has the track number or character information been written on the disc yet? ● Is the unit in the recording or editing mode?
Recording and editing are impossible.	● Is the MiniDisc protected against accidental erasure? ● Is the unit connected properly to the other equipment? ● Is the AC adaptor unplugged or did a power failure occur whilst recording or editing? ● Is the unit in the hold mode? ● Is an optical signal being output from the external equipment? Read the operation manual for the external equipment.

■ If trouble occurs

When this product is subjected to strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.) or if it is operated incorrectly, it may malfunction. If such a problem occurs, do the following:

1. Unplug the AC adaptor from the AC socket.
2. Remove the battery.
3. Leave the unit completely unpowered for approximately 30 seconds.

4. Plug the AC adaptor back into the AC socket and retry the operation.

If strange sounds, smell or smoke come out of the unit or an object is dropped into the unit, remove the AC adaptor from the AC socket immediately and contact an authorised SHARP service centre.

MINIDISC SYSTEM LIMITATIONS

MiniDiscs are recorded using a different system than is used for cassette tapes or DAT recordings. Therefore, the following conditions may be encountered, depending on how the disc has been recorded or edited. These are due to system limitations, and should be considered normal.

Even if the maximum recording time of a MiniDisc has not been reached, "DISC FULL" or "TOC FULL" may be displayed.	When the number of tracks used reaches the limit, regardless of the remaining recording time, further recording will be impossible. (Maximum number of tracks: 255) If a MiniDisc has been recorded or edited repeatedly or if a MiniDisc has scratches on it, it may not be possible to record the maximum number of tracks on it.
Even if the number of tracks and the recording time have not reached the limit, "DISC FULL" may be displayed.	If there are scratches on a disc, the unit will automatically avoid recording in those areas. The recording time will be reduced.
Even if several short tracks are erased, the remaining recording time may not show an increase.	When the remaining recording time of a disc is displayed, short tracks less than 12 seconds long may not be included in the total.
Two tracks may not be combined in editing.	For MiniDiscs on which repeated recording and editing operations were performed, the COMBINE function may not work.
The total of the recorded time and time remaining on a disc may not add up to the maximum possible recording time.	A cluster (about 2 seconds) is normally the minimum unit of recording. So, even if a track is less than 2 seconds long, it will use about 2 seconds of space on the disc. Therefore, the time actually available for recording may be less than the remaining time displayed. If there are scratches on discs, those sections will be automatically avoided (no recording will be placed in those sections). Therefore, the recording time will be reduced.
When recorded tracks are played back using the cue and review operations, some sounds may be skipped.	For MiniDiscs on which repeated recording and editing were performed, some sounds may be skipped whilst cueing and reviewing.
A track number can be created in the middle of a track.	If there are scratches or dust on a MiniDisc, the track numbers following that track will be increased by one.

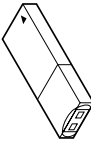
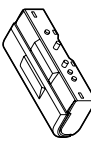
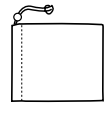
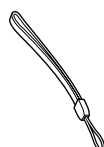
ERROR MESSAGES

Error messages	Meaning	Remedy
BATT EMPTY (Lo BATT)	The battery run down.	- Charge the rechargeable battery or replace the alkaline battery (or use the AC adaptor for power). - Replace the disc with a recorded disc.
BLANK DISC (BLANK)	Nothing is recorded.	Record using the analog cable.
Can't COPY (Not REC)	No copy can be made because of the SCMS copyright system.	Change the stop position of the track and then try editing it.
Can't EDIT	A track cannot be edited.	Re-record or replace it with another recordable disc.
Can't REC (Not REC)	Recording cannot be performed correctly due to vibration or shock in the unit.	Check the number of tracks.
Can't WRITE	Editing is impossible.	- If the sound you hear is not right, try recording again. - Replace the disc with another recordable disc.
DEFECT (DEFECT)	The disc is scratched.	Connect the digital cable securely.
Din UNLOCK (UNLOCK)	Poor connection of the digital cable.	Replace it with another recordable disc.
DISC FULL	The disc is out of recording space.	Return the HOLD switch to its original position.
HOLD (HOLD)	The unit is in the hold mode.	Turn off the power and remove the MiniDisc.
LOCKED LOCK ERROR	The EJECT lever was moved during recording or editing.	Load a disc.
NO DISC	A disc has not been loaded.	Replace it with a recordable disc.
PB DISC	You tried to record on a playback- only disc.	Use one of the specified power sources.
POWER ?	Improper power is being supplied.	- Move the write protection knob back to its original position. - Load a recordable MD. - Replace it with a recordable MD.
PROTECTED	- The MD is write protected. - You tried to record without loading an MD. - A playback-only MD was loaded and the REC button was pressed when the power was off.	- Reload the disc or replace it. - Replace it with another recorded disc.
READ ERROR (E-READ)	The disc is damaged.	Wait for a while and try the operation again.
SORRY (SORRY)	Since a track number is currently being located or written to, the unit cannot accept your command.	- To have it repaired, go to the distributor where you purchased the unit. - Turn off the power, and wait for a while.
SYSTEM ERR (E-SYS)	You have come to the conclusion that the unit is out of order.	Replace it with another recorded disc.
TEMP OVER (E-TEMP)	The temperature is too high.	Replace it with another recorded disc.
TOC ERROR (E-TOC)	A large portion of the disc has been damaged.	Replace it with another recorded disc.
TOC FULL	There is no space left for recording character information (track names, disc names, etc.).	Edit the track with the device on which it was recorded.
Tr. Protect	The track has been protected from being erased.	- Replace it with another recorded disc. - Erase all of the signal errors, and then try recording again.
U TOC ERROR (E-UTOC)	- A large portion of the disc has been damaged. - There is an error in the recorded signal.	- A disc which contains non-music data cannot be played. - Replace it with another recorded disc.
? DISC (?DISC)	- A disc which contains data other than music was played. - There is an error in the signal from the disc.	

(): Error messages seen on the remote control.

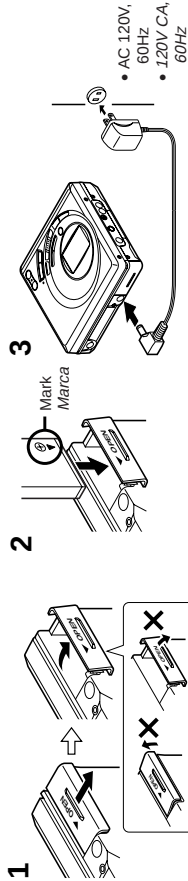
QUICK GUIDE (MD-MT821 ONLY)

1 Check the supplied accessories / Compruebe los accesorios suministrados

				
● Remote Control Unit x 1 ● Controlador remoto x 1	● Headphones x 1 ● Auriculares x 1	● AC Adaptor x 1 ● Adaptador de CA x 1	● Rechargeable Lithium-Ion Battery x 1 ● Batería recargable de litio-ion x 1	● Battery Case x 1 ● Caja de la pila x 1
				
● Optical Digital Cable x 1 ● Cable óptico digital x 1	● Analog Cable x 1 ● Cable analógico x 1	● Carrying Bag x 1 ● Caja para el transporte x 1	● Handstrap x 1 ● Correa para la muñeca x 1	

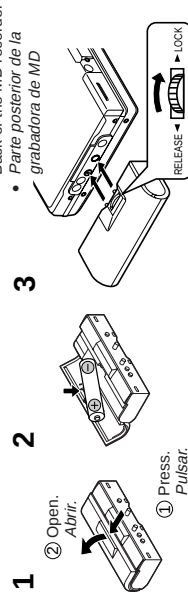
2 Power source / Alimentación

- Rechargeable battery power
- Alimentación de la batería recargable



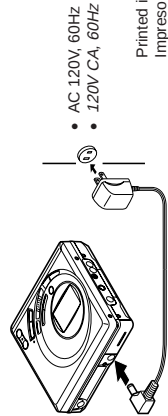
■ Alkaline battery power

- Alimentación de la pila alcalina
- Make sure that a fully charged rechargeable battery is inserted.
- Do not use the unit if it only has an alkaline battery in it.
- Asegúrese de que se ha insertado una batería completamente cargada.
- No emplee el aparato si sólo tiene una pila alcalina instalada.



■ AC power

■ Alimentación de CA

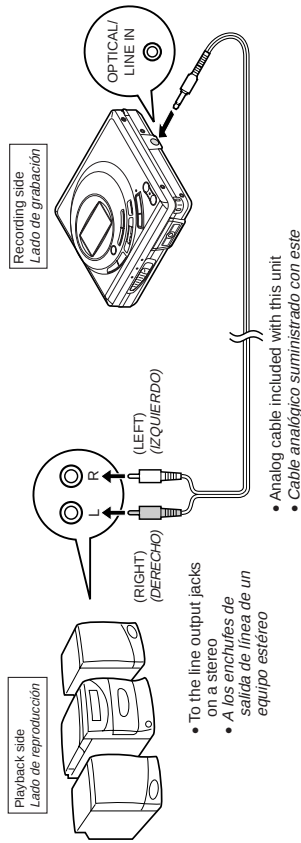


Printed in Japan
Impreso en Japón

3 Connection / Conexión

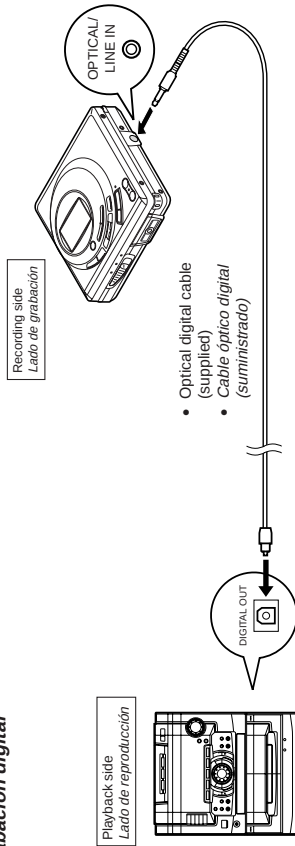
■ Analog recording

■ Grabación analógica



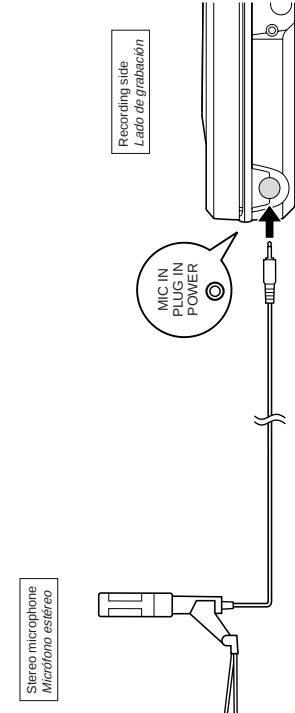
■ Digital recording

■ Grabación digital



■ Microphone

■ Micrófono



4 Recording / Grabación

- Recording from CDs or MDs (Synchro recording)
- Grabación de discos compactos o minidisks (Grabación sincronizada)

- 1** Connect the external equipment.
Conecte el equipo externo.
- 2** Insert a recordable MiniDisc.
Inserte un minidisco grabable.
- 3** Press the **REC** button.
Pulse el botón **REC**.
- 4** While playing sound from the external equipment connected to this unit, move the shuttle switch up or down to adjust the recording level.
Mientras se reproduce el sonido del equipo externo conectado a este aparato, mueva el selector de mando de lanzadera hacia arriba o abajo para ajustar el nivel de grabación.
- 5** Press the **ENTER/SYNC** button.
Pulse el botón **ENTER/SYNC**.
- 6** Begin playback on the source equipment.
Inicie la reproducción en el equipo fuente.

- Recording from the microphone (Mic synchro recording)
- Grabación de un micrófono (Grabación sincronizada con micrófono)

- 1** Connect the stereo microphone to the **MIC IN** jack.
Conecte el micrófono estéreo al enchufe **MIC IN** del aparato principal.
- 2** Insert a recordable MiniDisc.
Inserte un minidisco grabable.
- 3** Press the **REC** button.
Pulse el botón **REC**.
- 4** Move the shuttle switch up or down to adjust the recording level.
Mueva el selector de mando de lanzadera hacia arriba o abajo para ajustar el nivel de grabación.
- 5** Press the **ENTER/SYNC** button to select the synchro recording level. (This level can be changed, even while recording.)
Pulse el botón **ENTER/SYNC** para seleccionar el nivel de la grabación sincronizada. (Este nivel podrá cambiarse incluso durante la grabación.)
- 6** When a noise, such as a person speaking, is picked up by the microphone, recording will begin automatically.
Cuando el micrófono capte un ruido, el de una persona que hable por ejemplo, la grabación empezará automáticamente.

To stop recording:
Para detener la grabación:
Press the **OFF** button.
Pulse el botón **OFF**.

After recording:
Después de la grabación:
Press the **OFF** button while in the stop mode.
Pulse el botón **OFF** estando en el modo de parada.

5 Playing a MiniDisc / Reproducción de un minidisco

- 1** Insert the headphones plug firmly into the headphones jack on the remote control unit.
Inserte firmemente la clavija de los auriculares en el enchufe de auriculares del controlador remoto.
- 2** Plug the remote control unit into the **⌂** jack on the main unit. Push the plug all the way in.
Enchufe el controlador remoto en el enchufe **⌂** del aparato principal. Empuje completamente hacia adentro la clavija.
- 3** Load a MiniDisc in the direction indicated by the arrow on the MiniDisc, with the label side facing up.
Cargue un minidisco en el sentido indicado por la flecha del minidisco, con el lado de la etiqueta hacia arriba.

- The power will be turned on automatically, and playback will start from the first track. (Auto-play function)
- La alimentación se conectará automáticamente, y la reproducción empezará desde la primera pista. (Función de reproducción automática)

Playback does not start when a MiniDisc is inserted: La reproducción no empieza cuando se inserta un minidisco:

Press the **⏮** button.
En los siguientes casos, la función de reproducción automática no se activará.

- When the recordable MiniDisc write protection tab is closed
- When the auto-play function has been canceled

Pulse el botón **⏮**.

- Cuando esté cerrada la lengüeta de protección contra escritura del minidisco grabable
- Cuando haya sido cancelada la función de reproducción automática

To interrupt playback: Para interrumpir la reproducción:

Press the **⏮** button during playback.
• To resume playback, press the **⏮** button again.
Pulse el botón **⏮** durante la reproducción.
• Para reanudar la reproducción, pulse de nuevo el botón **⏮**

To stop playback: Para detener la reproducción:

Press the **⏮** button.
Pulse el botón **⏮**.

To turn off the power: Para desconectar la alimentación:

Press the **⏮** button while in the stop mode.
Pulse el botón **⏮** estando en el modo de parada.

6 Sound control / Control del sonido

Adjust the volume.
From the main unit:
Press the **+** button to increase the volume and the **-** button to decrease the volume.
From the remote control unit:
Move the Shuttle switch up once to increase the volume, and move it down once to decrease the volume.

Ajuste el volumen.
Desde el aparato principal:
Pulse el botón **+** para aumentar el volumen y el botón **-** para reducirlo.
Desde el controlador remoto:
Mueva el selector de mando de lanzadera una vez hacia arriba para aumentar el volumen, y muévelo hacia abajo para reducirlo.

Adjust the bass level.
Each time the **BASS** button is pressed, the tone will be switched as follows:
Ajuste el nivel de los graves.
Cada vez que pulse el botón **BASS**, el tono cambiará de la forma siguiente:

BASS 1 Bass sounds are emphasized slightly.
BASS 2 Bass sounds are emphasized more.
BASS 3 Bass sounds are emphasized even more.
BASS OFF Bass emphasis is canceled.

BASS 1 Los sonidos graves se realzan ligeramente.
BASS 2 Los sonidos graves se realzan más.
BASS 3 Los sonidos graves se realzan aún más.
BASS OFF El realce de los graves se cancela.

DISASSEMBLY

Cares before disassembling

When assembling the machine after disassembling or repair, observe the following requirements so as to ensure safety and performance.

1. Remove the batteries from the machine, and take out the mini-disc.
2. When assembling after repair, be sure to restore the initial location of wires.
Since the screws are small, incorrect fixing may result in malfunction.
3. When repairing, pay utmost attention to static electricity of IC.

STEP	REMOVAL	PROCEDURE	FIGURE
1	Bottom Lid	1. Screw (A1) x5	10-1
2	Top Cabinet	1. Open the disc lid 2. Screw (B1) x4 3. Flexible PWB (B2) x2	10-1 10-3
3	Center Cabinet A	1. Hook (C1) x2	10-2
4	Center Cabinet B	1. Remove in the arrow direction.	10-2
5	Main PWB	1. Flexible PWB (D1) x2 2. Soldering (D2) x2 3. Screw (D3) x1	10-3
6	Mechanism Unit	1. Raise the rear part, and remove in the arrow direction.	10-4

— Note —

Open or close the battery cover as shown below.

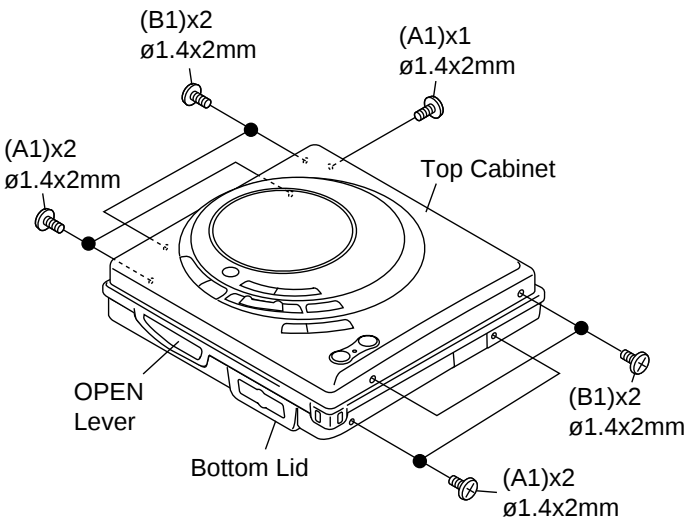
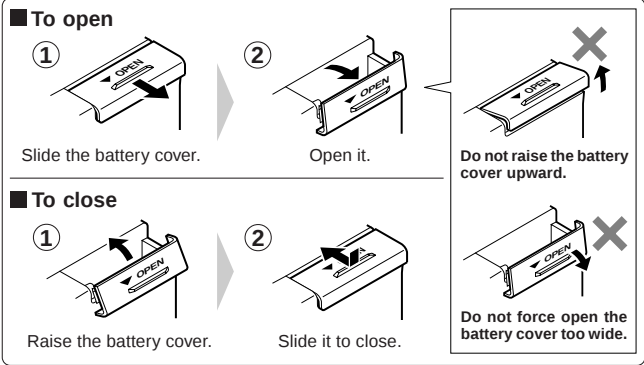


Figure 10-1

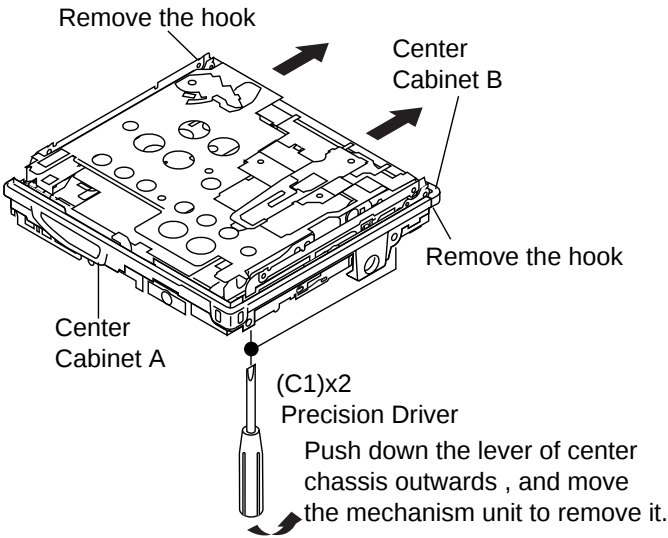


Figure 10-2

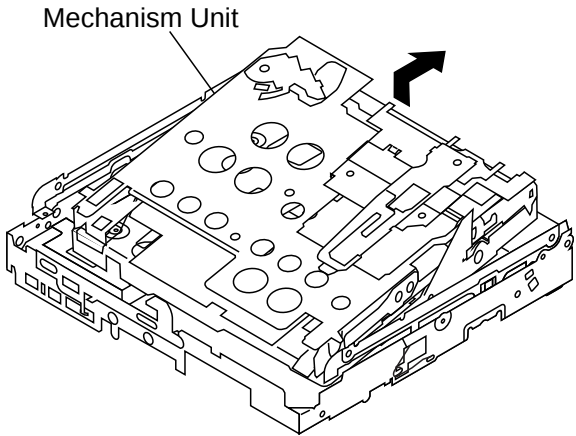
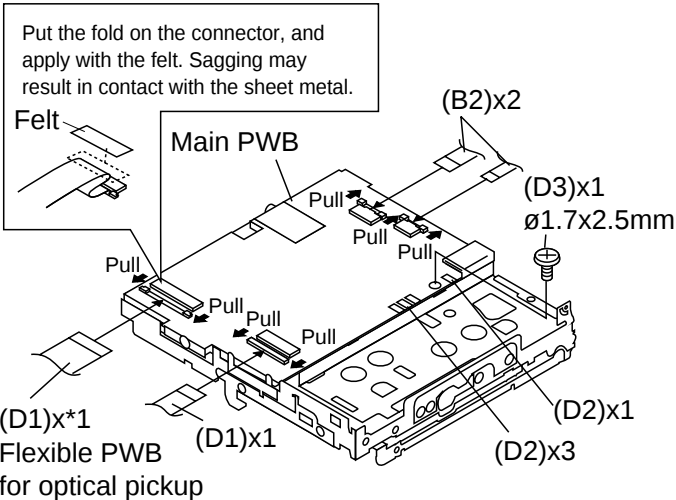


Figure 10-4



Caution:
Carefully handle the main PWB and flexible PWB. After removing the flexible PWB (*1) for the optical pickup from the connector, do not touch directly the front end of flexible PWB with your hand so as to prevent damage of optical pickup by static electricity.

Figure 10-3

REMOVING AND REINSTALLING THE MAIN PARTS

Remove the mechanism according to the disassembling methods 1 to 6. (See Page 10.)

How to remove the spindle motor (See Fig. 11-1.)

1. Remove the solder joint (A1) x 1 of flexible PWB.
2. Remove the screws (A2) x 3 pcs., and remove the spindle motor.

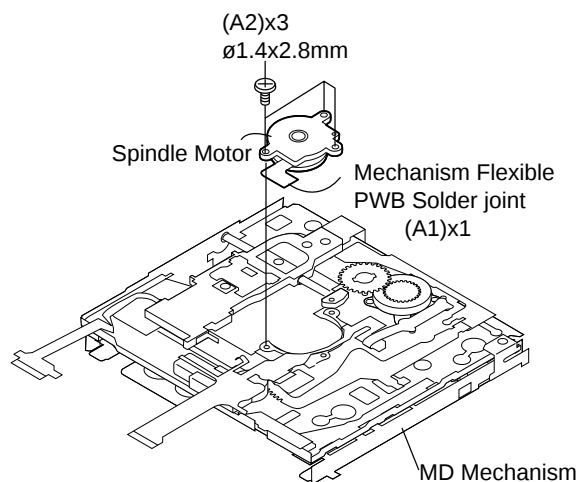


Figure 11-1

How to remove the lift motor (See Fig. 11-2.)

1. Remove the solder joint (B1) x 2 of lift motor lead wire.
2. Remove the screw (B2) x 1 pc., and remove the flexible PWB.
3. Remove the screw (B3) x 1 pc., and remove the lift motor.

Note:

Take care so that the motor gear is not damaged.
(If the gear is damaged, noise is caused.)

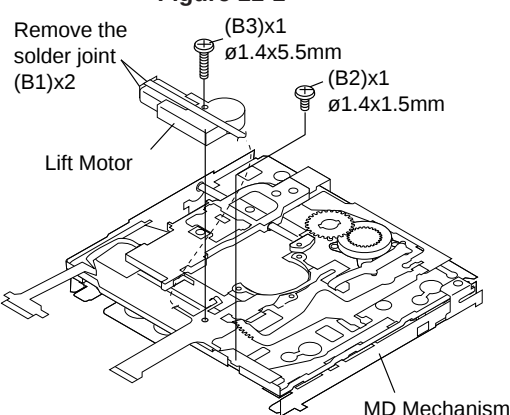


Figure 11-2

How to remove the magnetic head (See Fig. 11-4.)

1. Remove the screws (D1) x4 which connects the magnetic head to the head relay flexible PWB, remove the spring washers (D2) x 2 and remove the soldering joints (D3) x 2.

Note:

Mount carefully so as not to damage the magnetic head.
(If the gear is damaged, noise is caused.)

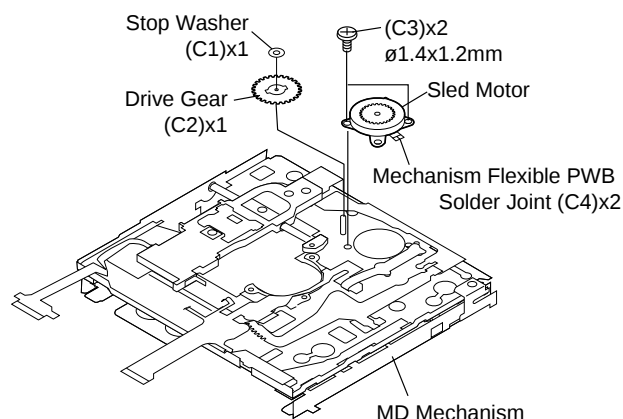


Figure 11-3

How to reinstall the optical pickup unit (See Fig. 11-5.)

1. Remove the screw (E1) x 1 pc.
2. Slowly raise the optical pickup.

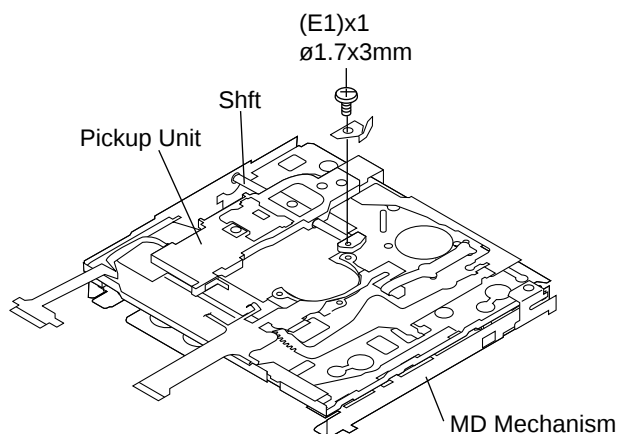


Figure 11-5

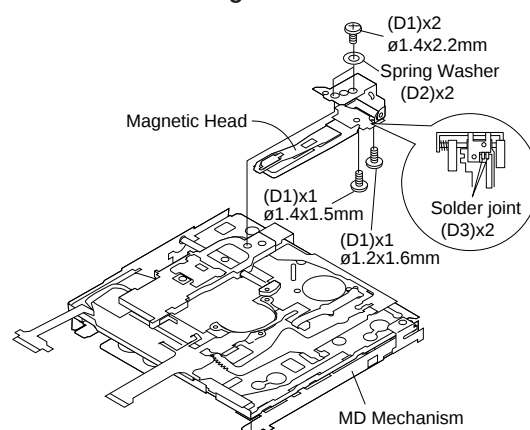


Figure 11-4

ADJUSTMENT

● Test disc

MD adjustment needs two types of disc, namely recording disc (low reflection disc) and playback-only disc (high reflection disc).

	Type	Test disc	Parts No.
1	High reflection disc	MMD-110 (TEAC Test MD)	88GMMD-110
2	Low reflection disc	MMD-212 (TEAC Test MD)	88GMMD-212
3	Low reflection disc	Recording minidisc	UDSKM0001AFZZ

Note: Use the low reflection disc on which music has been recorded.

● Entering the TEST mode

1. Setting at port (in standby state, disc-free state or power nonconnected state)

(1) Set the port as follows.

TEST1 : "Low"

TEST0 : "High"

(2) Press the PLAY button in the standby state (it is allowed to insert the disc or to connect the power supply).

(3) Test Mode STOP [T E S T _]

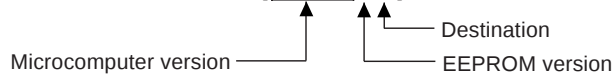
2. Setting by special button operation (in standby state)

(1) Holding down the DISP button and ENTER button, press the PLAY button.

(2) Normal mode setting initialization (BASS setting, VOL setting, etc.)

*Since the unit is changed to the setting for production line inspection, be sure to set it to the default setting state in the following default setting procedure before returning it to the user.

(3) Indication of microcomputer version for one second [X X X X X X]



(4) Whole LCD lighting for 2 seconds

(5) Test Mode STOP [T E S T _]

*When the PLAY button is pressed during indication (3) and (4), the process proceeds to (5).

● Leaving the TEST mode

(1) Press the STOP button in the TEST mode stop state or version indicating state or whole LCD lighting state.

(2) EEPROM rewrite-enable area updating, adjustment error setting.

(3) Change to standby state

● Shipping setting method

Holding down simultaneously the VOLUME-DOWN Button and PLAY Button of the set unit without disc, supply the power from the DC IN plug. After the indication "INIT" -> "BYE OK" disappears, release the power supply of DC IN.

● Test Mode

1. AUTO 1 Mode	- Perform preliminary automatic adjustment. - If the combination of mechanism and pickup PWB has been changed, be sure to start from AUTO1.
2. AUTO 2 Mode	- Perform ATT (attenuator) automatic adjustment. - Perform continuous playback (error rate display, jump test)
3. TEST-PLAY Mode	- Continuous playback from the specified address is performed. 1 line, 10 lines or 384 lines manual jump is performed. - C1 error rate display (pit section), ADIP error rate display (groove section) - The temperature correction is performed only when servo start is performed, but the posture correction is not performed during continuous playback.
4. TEST-REC Mode	- Continuous record from the specified address is performed. - Change of record laser output(servo gain is also changed according to laser output). - The temperature correction is performed only when servo start is performed, but the posture correction is not performed during continuous recording.
5. MANUAL 1 Mode	- Temperature is displayed. (Updating in real time) - Seeing the displayed adjustment value, perform preliminary manual adjustment. (Error rate indication, jump test)
6. MANUAL 2 Mode	- Temperature is displayed. (Updating in real time) - Seeing the displayed adjustment value perform manually the preliminary adjustment. (Error rate indication, jump test) - Continuous playback is performed (error rate display, jump test).

7. RESULT 1 Mode	- The value adjusted in AUTO1 or MANUAL1 is indicated. (Execution in servo "OFF" state).
8. RESULT 2 Mode	- The value adjusted in AUTO 2 or MANUAL 2 is indicated. - Adjustment value is changed manually. (error rate display, jump test).
9. DIGITAL INPUT Mode	Digital input information is displayed.
10. ERROR INFORMATION Mode	- Error information is displayed. - Error information is initialized
11. NORMAL Mode	- The mode is changed from the TEST mode to the normal mode without adjustment. - In the normal mode the internal operation mode, memory capacity, etc. are indicated. - In the normal mode both temperature correction and posture correction are performed.
12. EEPROM Mode	- Factors of digital servo are changed manually. (Each servo is turned on individually.) - Cut-off frequency of BASS1, BASS2 and BASS3 is selected manually. - Temperature detection terminal voltage is measured, and the reference value is set. - Defaults are selected and set. - Setting of EEPROM protect area is updated. (In case of protect releasing)
13. INNER Mode	- Determine the position where the INNER switch is turned on. (only high reflection disc). - The temperature correction is performed only when servo start is performed, but the posture correction is not performed.

● Operation in each TEST mode

1. AUTO1 Mode

- When the STOP button is pressed while the AUTO1 menu appears or during automatic adjustment, the mode changes to the TEST mode stop state. At this time the adjustment value is not output.
- Be sure to adjust, using the specified disc MMD-212.
At this time release the EEPROM (IC402) protection. (Refer to EEPROM write procedure.)
- Adjustment NG; Adjustment item out of range, focus ON failure, and adjustment error
- When the PLAY button is pressed while ADJ. OK is displayed, AUTO2 is executed.

2. AUTO2 Mode

- When the STOP button is pressed while the AUTO2 menu appears or during automatic adjustment, the mode changes to the TEST mode stop state. At this time the adjustment value is not output.
- Adjustment NG; Adjustment item out of range, and adjustment error.
- When the PLAY button is pressed while ADJ. OK is displayed, TEST_PLAY is executed.

3. MANUAL1 Mode

- Adjustment item to be made in AUTO1 mode is performed manually.
- When the VOL UP button is pressed during adjustment, the setting increases, and the new setting is output.
- If the VOL DOWN button is pressed during adjustment, the setting decreases and the new setting is output.
- If the VOL UP/DOWN button is held down, the setting changes continuously with 100 ms cycle.
- *In this operation, the setting change is performed for each digit. The digit is changed by pressing the MODE button.
- If the setting is within the allowable range, the RANDOM display lights.
- When the STOP button is pressed during MANUAL1 MENU or measurement or adjustment, the state is changed to the TEST mode stop state.

4. MANUAL2 Mode

- Adjustment item to be made in AUTO2 mode is performed manually.
- When the VOL UP button is pressed during adjustment, the setting increases, and the new setting is output.
- If the VOL DOWN button is pressed during adjustment, the setting decreases and the new setting is output.
- If the VOL UP/DOWN button is held down, the setting changes continuously with 100 ms cycle.
- *In this operation, the setting change is performed for each digit. The digit is changed by pressing the MODE button.
- If the setting is within the allowable range, the RANDOM display lights.
- When the STOP button is pressed during MANUAL2 MENU or measurement or adjustment, the state is changed to the TEST mode stop state.
- When the PLAY button is pressed in B-ATT set state, the mode is changed to the continuous playback mode.
- As for operation during continuous playback refer to "TEST-PLAY mode explanation".

5. RESULT1 Mode

- The measurement value and set value of adjustment items for AUTO1 and MANUAL 1 are displayed.
- If the VOL UP button is pressed during setting indication, the setting increases. If the VOL DOWN button is pressed, the setting reduces. And then the new setting is stored in the RAM.
- When the VOL UP/DOWN button is held down, the setting changes continuously, one cycle being 100 ms.
- *In this operation, the setting change is performed for each digit. The digit is changed by pressing the MODE button.
- If the STOP button is pressed during RESULT1 menu or measurement value indication or set value indication, the state is changed to the TEST mode STOP state.

6. RESULT2 Mode

- The measurement value and set value of adjustment items for AUTO2 and MANUAL 2 are displayed.
- If the VOL UP button is pressed during setting indication, the setting increases. If the VOL DOWN button is pressed, the setting reduces. And then the new setting is stored in the RAM.
- When the VOL UP/DOWN button is held down, the setting changes continuously, one cycle being 100 ms.
- *In this operation, the setting change is performed for each digit. The digit is changed by pressing the MODE button.
- If the STOP button is pressed during RESULT2 menu or measurement value indication or set value indication, the state is changed to the TEST mode STOP state.

7. TEST-PLAY Mode

- When the STOP button is pressed while the TEST-PLAY menu appears, or in TEST-PLAY or continuous playback mode, the mode changes to the TEST mode stop state.
- When the PLAY button is pressed while the TEST-PLAY menu appears, continuous playback is initiated from the current pickup position.
- Whenever the DISP button is pressed in the TEST-PLAY menu, the target address changes as follows.
0050 — 03C0 — 0700 — 08A0 — 0950 — 0050 —
When the PLAY button is pressed while a target address is displayed, continuous playback is performed after searching that address.
- Each time the MODE button is pressed while the TEST-PLAY mode target address is displayed, the digit which is changed by pressing the SKIP UP/DOWN button is changed as follows.
0050 — 0050 — 0050 — 0050 —
- When the SKIP UP button is pressed in the TEST-PLAY mode target address is displayed, the digit of address specified by the MODE button is set to +1h. (0 to F)
- When the SKIP DOWN button is pressed in the TEST-PLAY mode target address is displayed, the digit of address specified by the MODE button is set to -1h. (0 to F)
- * When the SKIP UP/DOWN button is held down, the setting changes continuously, one cycle being 100 ms.
- When the BASS button is pressed in the continuous playback mode, the number of jump lines changes as follows.
1 — 10 — 384 — 1
- * After the number of jump lines is indicated for one second, the address indication is restored. [▲▲▲T R _]

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- When the SKIP UP button is pressed in the continuous playback mode, the specified number of lines is jumped in the FWD direction.
- When the SKIP DOWN button is pressed in the continuous playback mode, the specified number of lines is jumped in the REV direction.
 - * When the SKIP UP/DOWN button is held down, jump is repeated every approx. 100 ms.
- Whenever the DISP button is pressed in the continuous playback mode, the indication changes as follows.

* Pre-mastered disc	
Continuous playback (SUBQ address indication)	[S Q □□□□]
Continuous playback (C1 error indication)	[C E ☆☆☆☆]
Continuous playback (SUBQ address indication)	[S Q □□□□]
* Recordable disc	
Continuous playback (ADIP address indication)	[A P □□□□]
Continuous playback (C1 error indication)	[C E ☆☆☆☆]
Continuous playback (ADIP error indication)	[A E ★★★★★]
Continuous playback (ADIP address indication)	[A P □□□□]

8. TEST-REC Mode

- When the STOP button is pressed while the TEST-REC menu appears, or in the TEST-REC mode or continuous record mode, the mode changes to the TEST mode stop state.
- When the PLAY button is pressed while the TEST-REC menu appears, the continuous record is initiated from the current pickup position.
- Whenever the DISP button is pressed in the TEST-REC menu, the target address changes as follows.

0032 — 03C0 — 0700 — 08A0 — 0950 — 0032 —

When the PLAY button is pressed while a target address is displayed, continuous playback is performed after searching that address.

- Whenever the MODE button is pressed in the TEST-REC mode target address is displayed, the digit which is changed by the SKIP UP/DOWN button changes as follows.

0032 — 0032 — 0032 — 0320 —

- When the SKIP UP button is pressed in the TEST-REC mode target address is displayed, the digit of address specified by the BASS button is set to +1h. (0 to F)
- When the SKIP DOWN button is pressed in the TEST-REC mode target address is displayed, the digit of address specified by the BASS button is set to -1h. (0 to F)

* When the SKIP UP/DOWN button is held down, the setting changes continuously, one cycle being 100 ms.

- When the VOL UP/DOWN button is pressed in the TEST-REC mode or continuous record mode, the laser record power changes. (Servo gain changes also according to record power.)

* After the laser record power is indicated for one second, the address indication is restored. [R P W _ ▽ ▽]

- □□□□: Address
- ▽ ▽ : Laser power cord
- Operation is disabled if the premastered disc or disc is in miserase-protected state.

9. NORMAL Mode

- When the STOP button is pressed while the NORMAL menu appears, the mode changes to the TEST mode stop state.

- Indication during operation

Indication of memory capacity on main unit LCD [□□ _ ※※※※ _ ※※] + Level meter

□□ : Internal mode

※※※※ : Address (Cluster section)

※※ : Address (Sector section)

- Selection of sound volume, BASS, etc. is possible (without indication)
- Recording is also possible.
- If the STOP button is pressed during operation in the NORMAL mode, the NORMAL mode is canceled, and the power is turned off.

10. Digital input display Mode (Din Mon)

- When the STOP button is pressed while the digital input indication menu appears or during digital input information indication, the mode changes to the TEST mode stop state.
- In case of analog input or digital input unlocking the indication data is _.

11. Error data display Mode

- Reversing when SKIP DOWN button is pressed
- When the STOP button is pressed while the error data indication menu appears or during error data indication, the mode changes to the TEST mode stop state.
- Error data 0 is the latest error.
- Error which occurred in the TEST mode is also stored in the memory.
- When the DISP button is pressed while the error data indication menu appears, the error data is initialized. [C L E A R _]
- ◇◇: Error Code

● Explanation of error history code

12h : RF side FG, TG, and TCRS adjustment termination failure
13h : Adjustment servo retraction excessive retrieval
16h : C. IN detection time-over
17h : A, B, E, F, and TCRSO offset measurement value out of tolerable range

21h : Focus retraction completion allowable time-over
23h : Track search completion allowable time-over
24h : Disc linear speed measurement failure
32h : P-TOC read failure
42h : U-TOC read failure

44h : U-TOC write data write disabled/read check error
 52h : SD write data write disabled
 71h : Pickup position initialization time-over
 72h : EEPROM data read check sum error
 73h : Record head drive disabled (by EJECT lever)
 82h : Power overvoltage detection
 91h : Ambient temperature is higher than the allowable temperature.

12. INNER Mode

- when the STOP button is pressed on the INNER menu (SQ□□□□), the state is changed to the TEST mode STOP state.
- □□□□ : Address

EEPROM (IC402) writing procedure

1. Procedure to replace EEPROM and write initial value of microcomputer in EEPROM

- (1) Replace EEPROM.
- (2) Deprive EEPROM of protection (connect the pins 8 and 6 of IC402).
- (3) Refer to the latest EEPROM data list.
- (4) Press the Display/Lower-case Character button, Enter/Synchro button and Play/Pause button to start the test mode.
- (5) Version display
 [V e r . * * * * *]
 ↑ ↑
 EEPROM version (C ~ Z)
 Microcomputer ROM version
- (6) The whole LCD lights.
- (7) Test mode stop state.
 [T E S T]
- (8) Press the "BASS" button, and press twice the "SKIP DOWN" button.
 [E E P R O M]
- (9) Perform the operation to display "EEPROM SETTING MODE CHART", compare the EEPROM DATA LIST with the display, and set according to the EEPROM DATA LIST with the VOL UP or VOL DOWN key.
- (10) Set the temperature reference. (Refer to the Temperature Reference Setting Method.)
- (11) Set according to the EEPROM DATA LIST.
- (12) Press the Stop button.
 [T E S T]
- (13) Press the Stop button.
- (14) After data is written in EEPROM, turn off power.
- (15) Restore protection of EEPROM (Disconnect connection made in Step (2) above).

2. Temperature reference setting method

[1] Measurement, calculation and setting procedure

- (1) Set the TEST mode.
 - Set TEST 1, 0 = '01', and turn on power (or set PLAY ON in standby state).
- (2) Start the EEPROM mode 'Temp' menu.
 - Key operation in order of BASS, SKIP-DOWN x 2 times, PLAY, PLAY in the test mode STOP state.
 - 'TM\$\$\$%' is displayed. (\$\$ = Temperature code, %% = Temperature reference)
- (3) Once press SKIP-UP, and determine the displayed microcomputer TEMP input AD value.
 - 'TPin##' is displayed. (## = TEMP input AD value)
- (4) At the ambient temperature, determine the temperature corrected value from the temperature measurement value correction table.
- (5) Determine the temperature reference, using the following formula.
 - Temperature reference = Microcomputer TEMP input AD value + Temperature corrected value
- (6) Set the temperature reference value by button operation, and check whether the temperature code indication corresponds to "Temperature Code Identification Table".

[2] Temperature measurement value correction table

Ambient temperature	Temperature correction	Center temperature
+ 9°C ~ +11°C	- 05h	+ 10.0°C
+12°C ~ +14°C	- 04h	+ 12.7°C
+15°C ~ +16°C	- 03h	+ 15.4°C
+17°C ~ +19°C	- 02h	+ 18.2°C
+20°C ~ +22°C	- 01h	+ 20.9°C
+23°C ~ +24°C	± 00h	+ 23.6°C
+25°C ~ +27°C	+ 01h	+ 26.3°C
+28°C ~ +30°C	+ 02h	+ 29.0°C
+31°C ~ +33°C	+ 03h	+ 31.8°C

Ambient temperature	Temperature correction	Center temperature
- 9°C ~ +10°C	08h	+ 0.5°C
+ 3°C ~ +21°C	07h	+ 12.5°C
+15°C ~ +33°C	06h	+ 23.6°C
+26°C ~ +43°C	05h	+ 35.0°C

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● EEPROM DATA LIST (EEPROM version d)

TEMP setting

Item display	Set values
T M _ _ ○ ○	Calculate values

Fucus setting

Item display	Set values
F G _ _ ○ ○	6 3 H
F F 1 _ ○ ○	7 0 H
F F 2 _ ○ ○	E 8 H
F Z H _ ○ ○	E D H
F L n _ ○ ○	0 A H
D J G _ ○ ○	1 4 H
F L V _ ○ ○	2 0 H
W T f _ ○ ○	2 0 H
F S S _ ○ ○	A A H

Tracking setting

Item display	Set values
T G _ _ ○ ○	2 6 H
T F 1 _ ○ ○	7 0 H
T F 2 _ ○ ○	E 0 H
T F S _ ○ ○	0 0 H
T B o _ ○ ○	2 B H
T B t _ ○ ○	1 4 H
T K o _ ○ ○	2 B H
T K t _ ○ ○	1 2 H
T D o _ ○ ○	6 7 H
T D t _ ○ ○	3 4 H
T G R _ ○ ○	0 0 H
S C t _ ○ ○	4 0 H
S C m _ ○ ○	5 3 H
C L p _ ○ ○	1 8 H
C L r _ ○ ○	2 8 H
J P I _ ○ ○	0 0 H
K 1 0 _ ○ ○	6 5 H

Spindle setting

Item display	Set values
S P G _ ○ ○	1 4 H
S P i _ ○ ○	A A H
S P m _ ○ ○	7 9 H
S P o _ ○ ○	4 F H
S P 1 _ ○ ○	1 0 H
S P 2 _ ○ ○	6 0 H
S P 3 _ ○ ○	F 2 H
S P 4 _ ○ ○	F 2 H
S P 5 _ ○ ○	1 0 H
S P D _ ○ ○	4 8 H
S P K _ ○ ○	6 B H

BASS setting

Item display	Set values
B S 1 _ ○ ○	0 0 H
B S 2 _ ○ ○	2 D H
B S 3 _ ○ ○	4 B H

Sled setting

Item display	Set values
S L G _ ○ ○	8 D H
S L 2 _ ○ ○	2 0 H
S L M _ ○ ○	6 F H
S L V _ ○ ○	8 7 H
S K k _ ○ ○	4 8 H
S K t _ ○ ○	4 8 H
S K m _ ○ ○	4 D H
W T m _ ○ ○	2 4 H
M V 1 _ ○ ○	4 A H
M V 2 _ ○ ○	A A H
S R V _ ○ ○	0 0 H

ADJ. SET setting

Item display	Set values
C O K _ ○ ○	A 0 H
F A T _ ○ ○	C 0 H
T A T _ ○ ○	3 E H
C A T _ ○ ○	2 0 H
F A B _ ○ ○	E 0 H

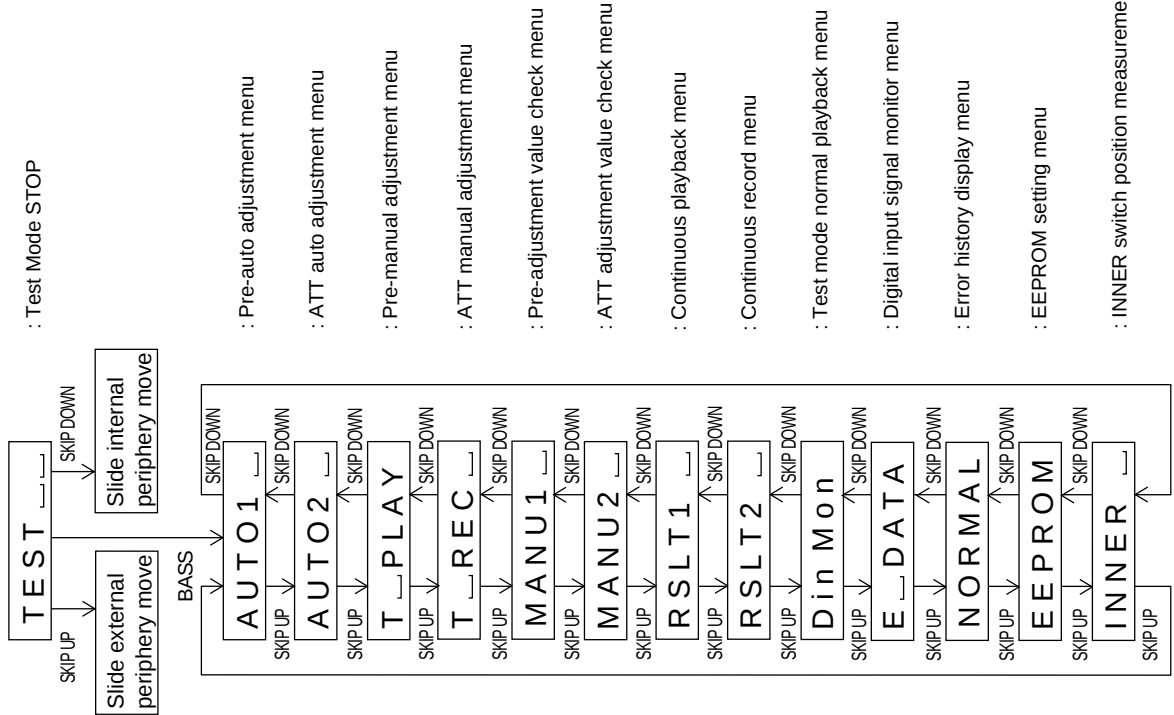
EQ. SET setting

Item display	Set values
H Q 1 _ ○ ○	9 0 H
H Q 2 _ ○ ○	9 0 H
H S G _ ○ ○	1 1 H
H S O _ ○ ○	F D H
L Q 1 _ ○ ○	9 0 H
L Q 2 _ ○ ○	9 0 H
L S G _ ○ ○	1 1 H
L S O _ ○ ○	0 0 H
G Q 1 _ ○ ○	9 8 H
G Q 2 _ ○ ○	8 4 H
G S G _ ○ ○	1 1 H
F L p _ ○ ○	0 9 H

Control setting

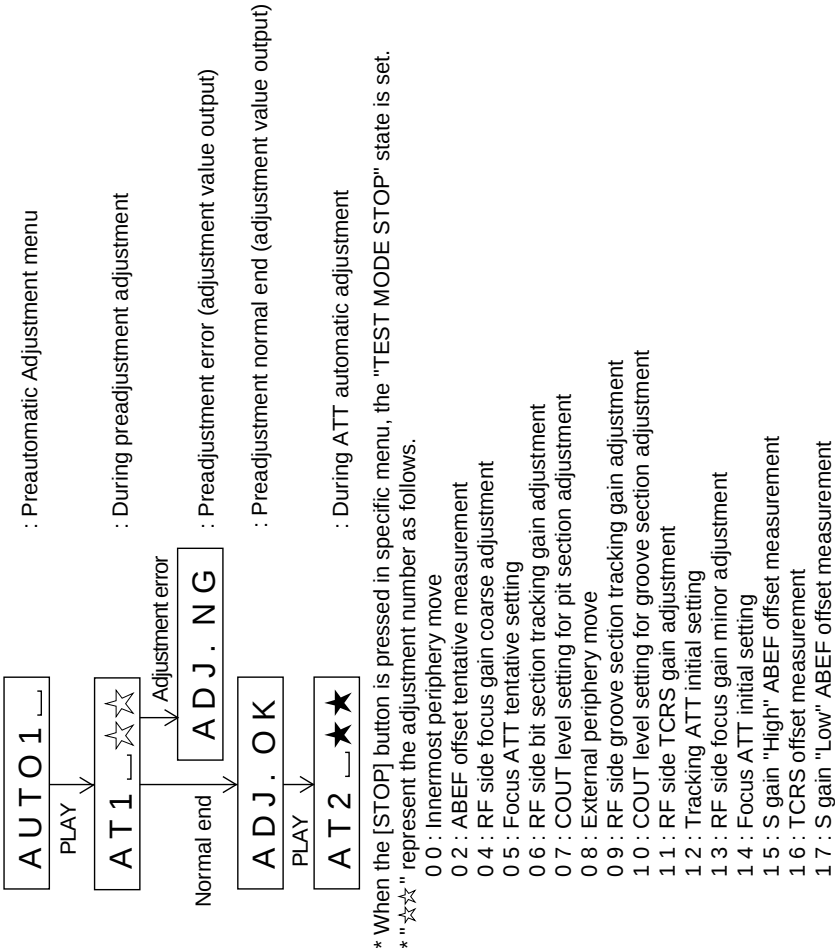
Item display	Set values
C T 0 _ ○ ○	0 3 H
C T 1 _ ○ ○	1 1 H
C T 2 _ ○ ○	4 0 H
C T 3 _ ○ ○	3 0 H
R C 0 _ ○ ○	C 0 H
R C 1 _ ○ ○	F E H
S Y C _ ○ ○	A 6 H
P W C _ ○ ○	1 2 H
P W L _ ○ ○	2 6 H
D R 1 _ ○ ○	0 9 H
D R 2 _ ○ ○	8 5 H
I N 1 _ ○ ○	5 4 H
I N 2 _ ○ ○	9 D H
I N H _ ○ ○	6 4 H
D R H _ ○ ○	7 4 H
P L E _ ○ ○	9 6 H
R C E _ ○ ○	9 4 H
E L T _ ○ ○	7 0 H
S L T _ ○ ○	4 4 H
S P M _ ○ ○	0 0 H
M S L _ ○ ○	0 0 H
U S 0 _ ○ ○	0 0 H
U S 1 _ ○ ○	0 0 H
U S 2 _ ○ ○	0 0 H

Test Mode Change Chart
Tset Mode Menu



* When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
* When the [PLAY] button operation is performed in the specific menu, the operation of this menu is executed.

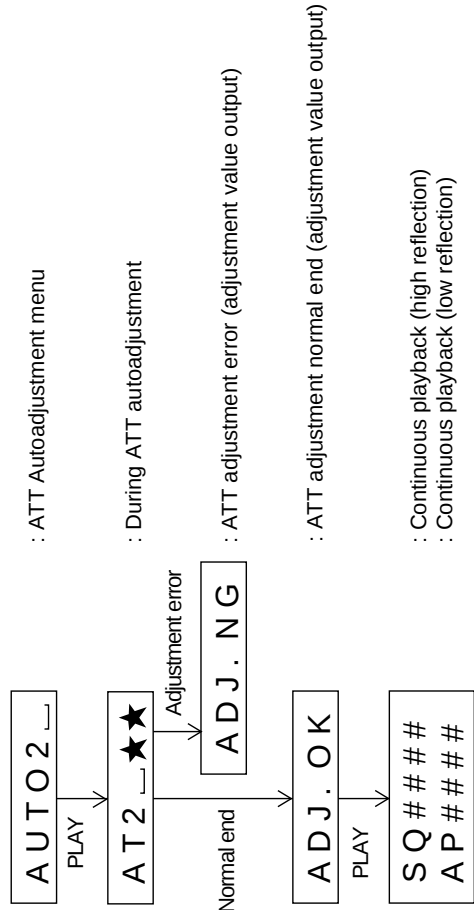
Preautomatic Adjustment



* When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
* "☆☆" represent the adjustment number as follows.

- 00 : Innermost periphery move
- 02 : ABEF offset tentative measurement
- 04 : RF side focus gain coarse adjustment
- 05 : Focus ATT tentative setting
- 06 : RF side bit section tracking gain adjustment
- 07 : COUT level setting for pit section adjustment
- 08 : External periphery move
- 09 : RF side groove section tracking gain adjustment
- 10 : COUT level setting for groove section adjustment
- 11 : RF side TCRS gain adjustment
- 12 : Tracking ATT initial setting
- 13 : RF side focus gain minor adjustment
- 14 : Focus ATT initial setting
- 15 : S gain "High" ABEF offset measurement
- 16 : TCRS offset measurement
- 17 : S gain "Low" ABEF offset measurement

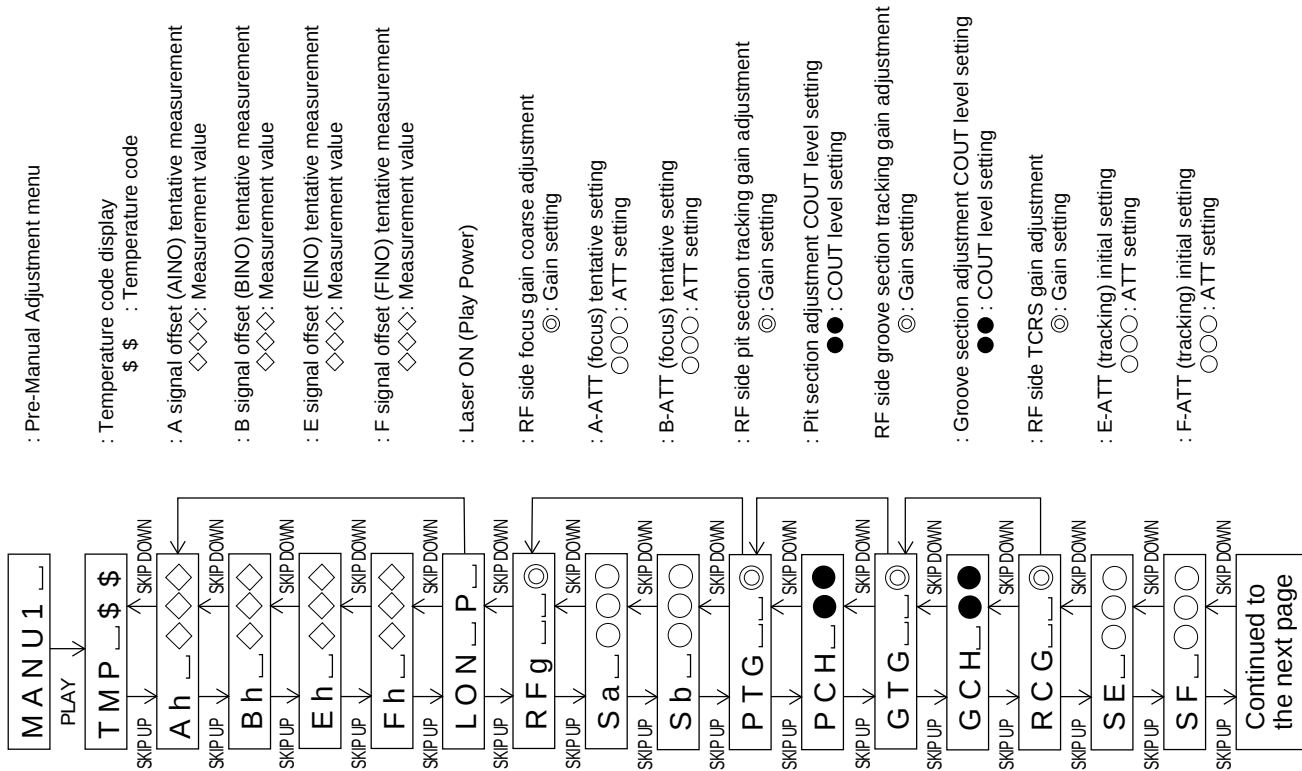
ATT Auto Adjustment



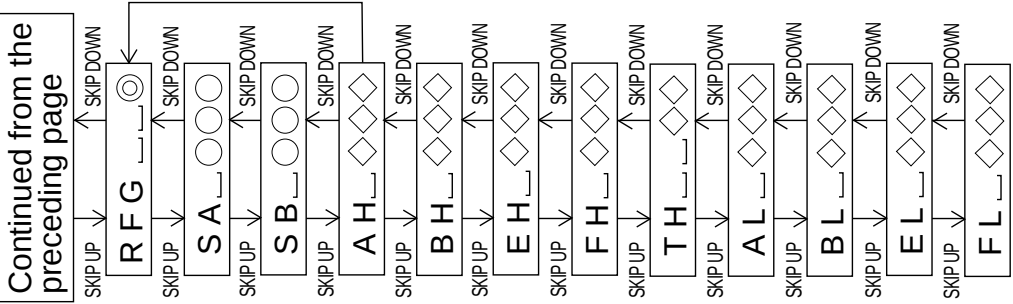
* When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
* "★★" represent the adjustment number as follows.

- 0 0 : Innermost periphery move
 - 0 3 : Pit section tracking ATT setting
 - 0 4 : Pit section focus ATT setting
 - 0 6 : External periphery move
 - 0 7 : TCRS ATT setting
 - 0 8 : Groove section tracking ATT setting
 - 0 9 : Groove section focus ATT setting
- (low reflection only)
- (low reflection only)
- (low reflection only)
- (low reflection only)

Pre-Manual Adjustment



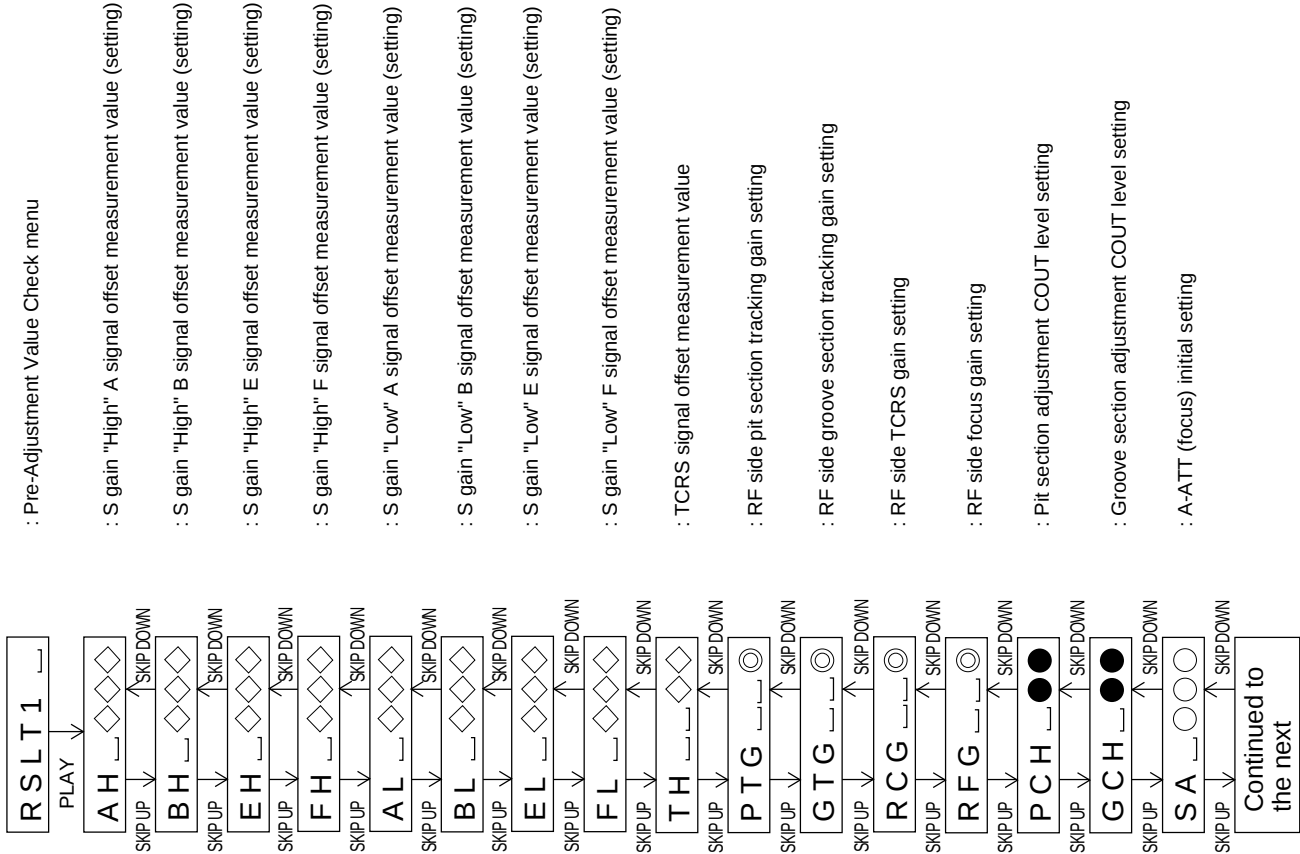
ATT Manual Adjustment



- : RF side focus gain minor adjustment
⊙ : Gain setting
- : A-ATT (focus) initial setting
: ATT setting
- : B-ATT (focus) initial setting
○○○ : ATT setting
- : S gain "High" A signal offset (AINO) measurement
◇◇◇ : Measurement value
- : S gain "High" B signal offset (BINO) measurement
◇◇◇ : Measurement value
- : S gain "High" E signal offset (EINO) measurement
◇◇◇ : Measurement value
- : S gain "High" F signal offset (FINO) measurement
◇◇◇ : Measurement value
- TCRS signal offset (TCRSO) measurement
◇◇ : ATT setting
- : S gain "Low" A signal offset (AINO) measurement
◇◇◇ : Measurement value
- : S gain "Low" B signal offset (BINO) measurement
◇◇◇ : Measurement value
- : S gain "Low" E signal offset (EINO) measurement
◇◇◇ : Measurement value
- : S gain "Low" F signal offset (FINO) measurement
◇◇◇ : Measurement value

- : ATT manual adjustment menu
- : Temperature code display
\$ \$: Temperature code
- : Laser ON (Play Power)
- : Pit section E-ATT (tracking) setting
○○○ : ATT setting
- : Pit section F-ATT (tracking) setting
○○○ : ATT setting
- : High reflection: A-ATT (focus) setting
: Low reflection: A-ATT (focus) setting
○○○ : ATT setting
- : High reflection: B-ATT (focus) setting
: Low reflection: B-ATT (focus) setting
○○○ : ATT setting
- : TCRS ATT setting
○○ : ATT setting
- : Groove section E-ATT (tracking) setting
○○○ : ATT setting
- : Groove section F-ATT (tracking) setting
○○○ : ATT setting
- : Low reflection: A-ATT (focus) setting
○○○ : ATT setting
- : Low reflection: B-ATT (focus) setting
○○○ : ATT setting

Pre-Adjustment Value Check

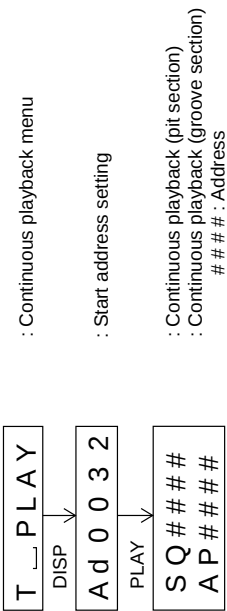


Continuous Playback

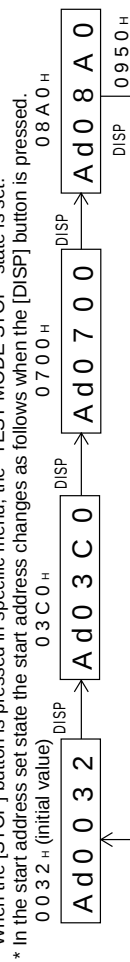
- Continuous playback from current pickup position



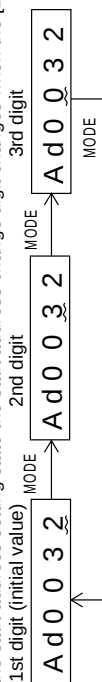
- Continuous playback from any address



- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.

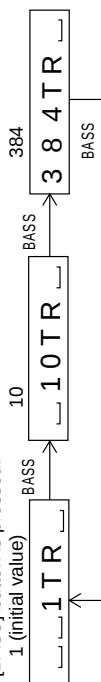


- * In the start address setting state the start address change digit changes when the [BASS] button is pressed.



- * In the start address set state the value of selection digit changes in the range of "0h to Fh" when the [SKIP UP/DOWN] button is pressed

- * In the continuous playback state the number of jump lines changes as follows shown the [BASS] button is pressed.



- * When the [SKIP UP] button is pressed in the continued playback mode, jump of specified number of lines occurs in the external periphery direction.

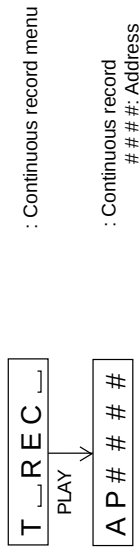
- * If the key is held down jump occurs continuously (100 ms cycle).

- * When the [SKIP DOWN] button is pressed in the continuous playback mode, jump of specified number of lines occurs in the internal periphery direction.

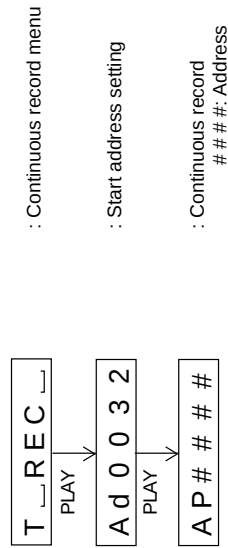
- * If the key is held down, jump occurs continuously (100 ms cycle).

Continuous Rrecord

- Continuous record from the current pickup position

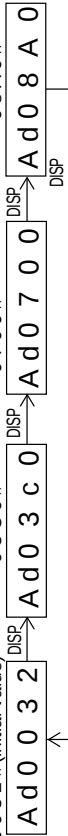


- Continuous record playback from any address

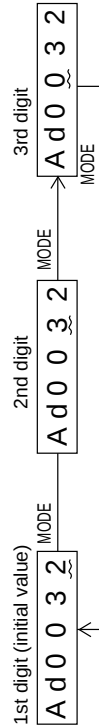


- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.

- * In the start address set state the start address changes as follows when the [DISP] button is pressed.



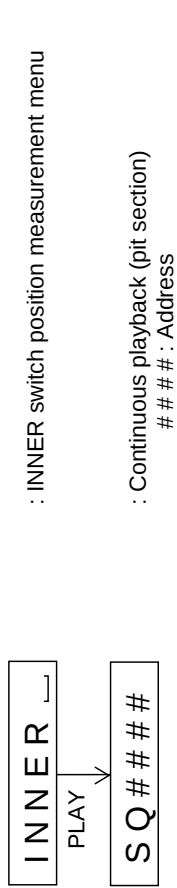
- * In the start address setting state the start address change digit changes when the [BASS] button is pressed.



- * In the start address set state the value of selection digit changes in the range of 0h to Fh when the [SKIP UP/DOWN] button is pressed.

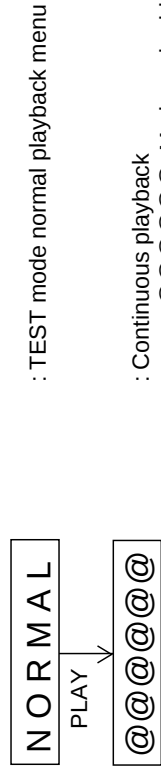
- * In the continuous record state and start address set state the record laser power changes in the range of "0h to Fh" when the [VOL UP/DOWN] button is pressed.

Inner Switch Position Measurement



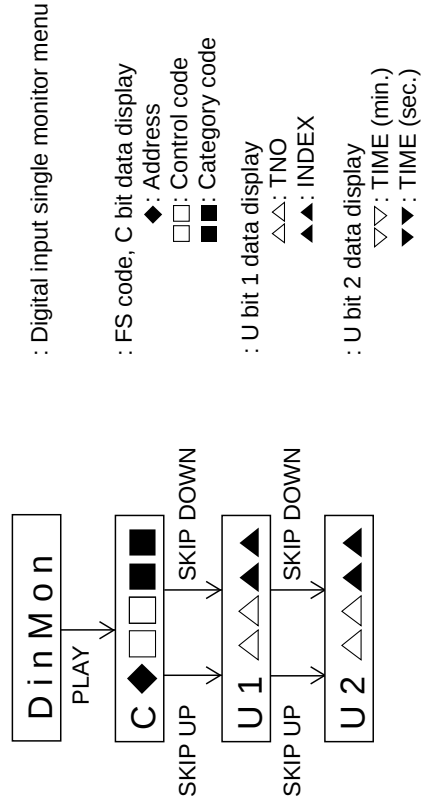
* When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.

Test Mode Normal Playback



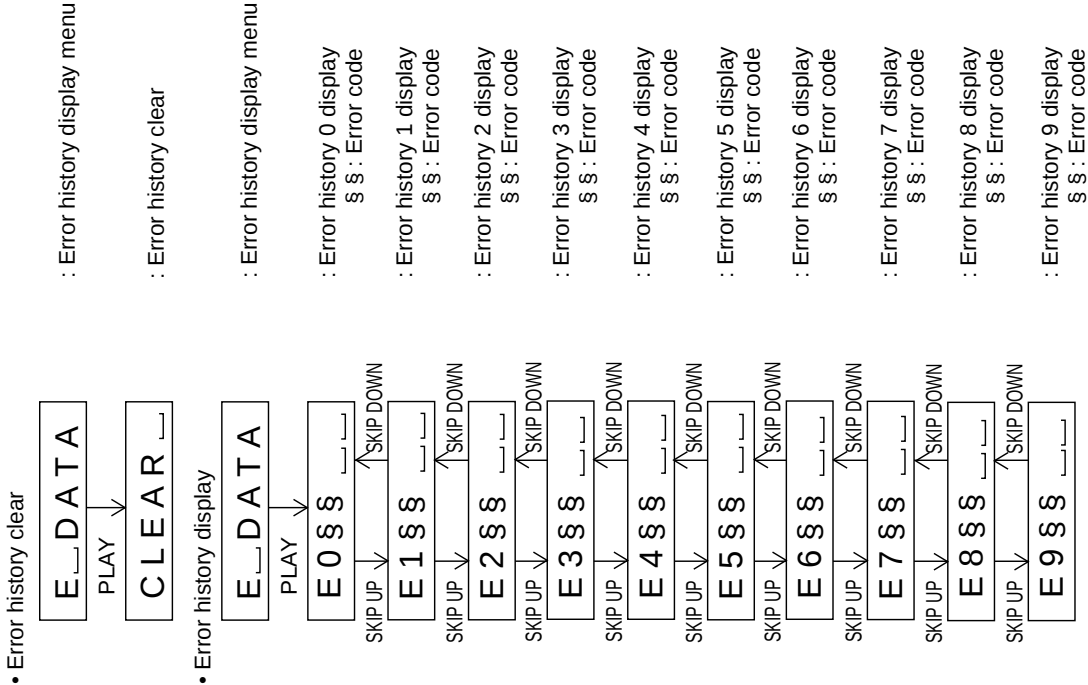
* When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
* When the NORMAL mode is canceled, the power is turned off.

Digital Input Signal Monitor



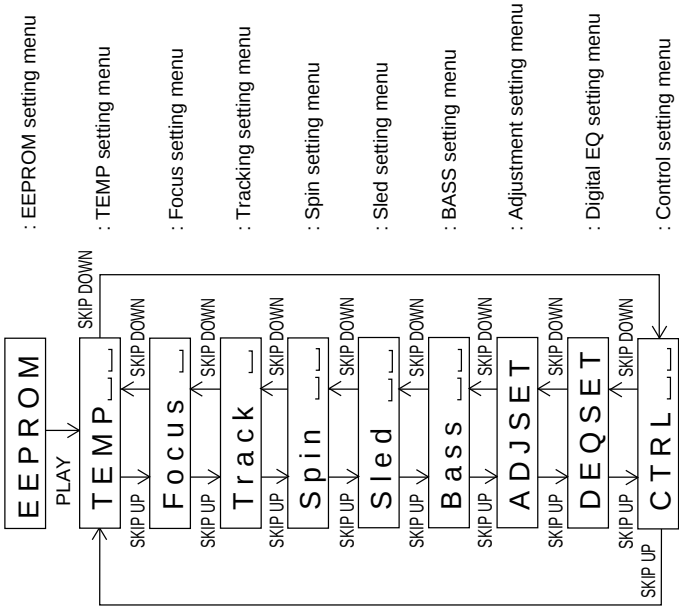
* When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.

Error History Display



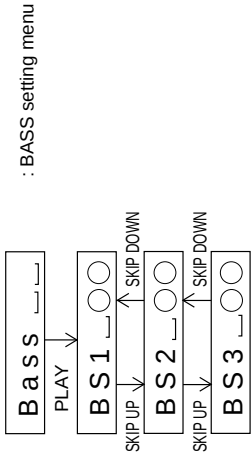
* When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.

EEPROM Setting



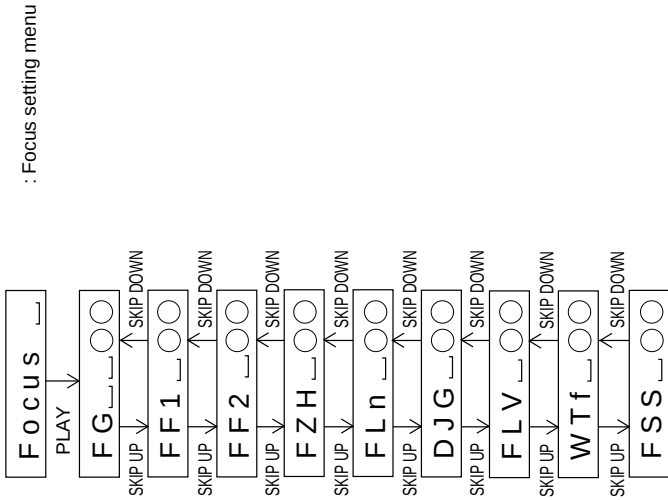
- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
- * When the [PLAY] button operation is performed in the specific state, the specific setting menu is set.

BASS Setting



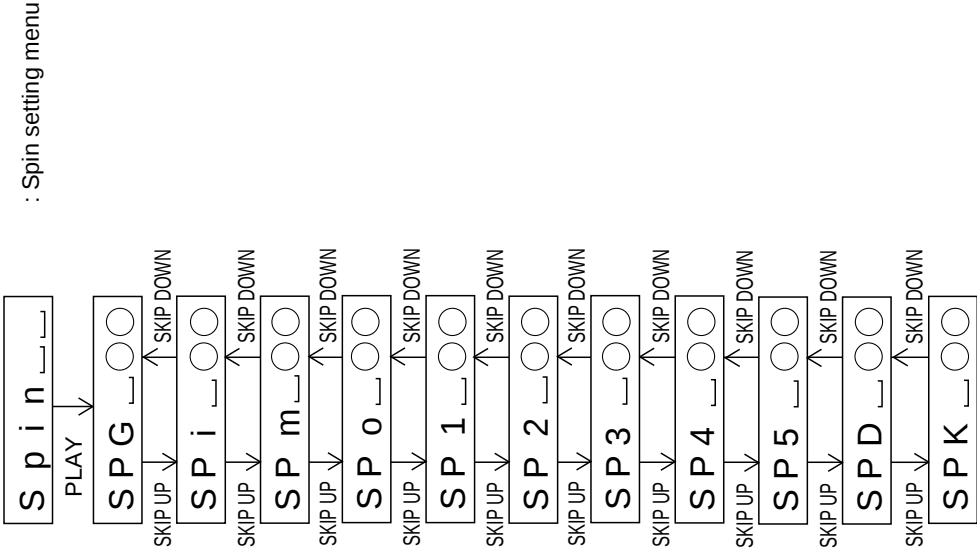
- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
- * When the [DISP] button operation is performed in the specific state, the menu changes to "TEMP SETTING menu".
- * In the specific state the setting changes in the range of "00h to FFh" when the [VOL UP/DOWN] button is pressed.
- (The upper limit varies depending on the items)
- * When the [MODE] button is pressed in each state, the set digit is changed.

Focus Setting



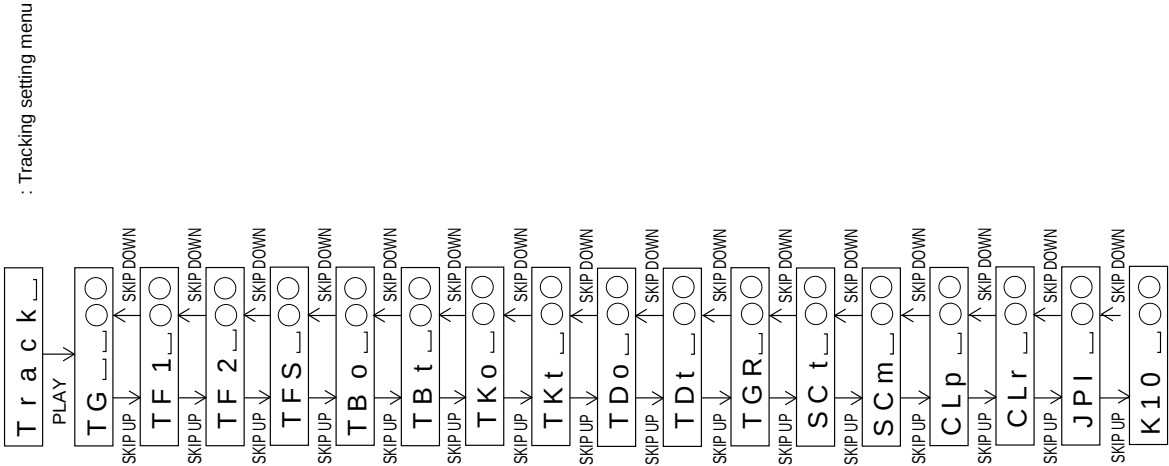
- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
- * When the [DISP] button operation is performed in the specific state, the menu changes to "TEMP SETTING menu".
- * In specific state the setting changed in the range of "00h to FFh" when the [VOL UP/DOWN] button is pressed.
- (The upper limit varies depending on the items)
- * When the [MODE] button is pressed in each state, the set digit is changed.

Spin Setting



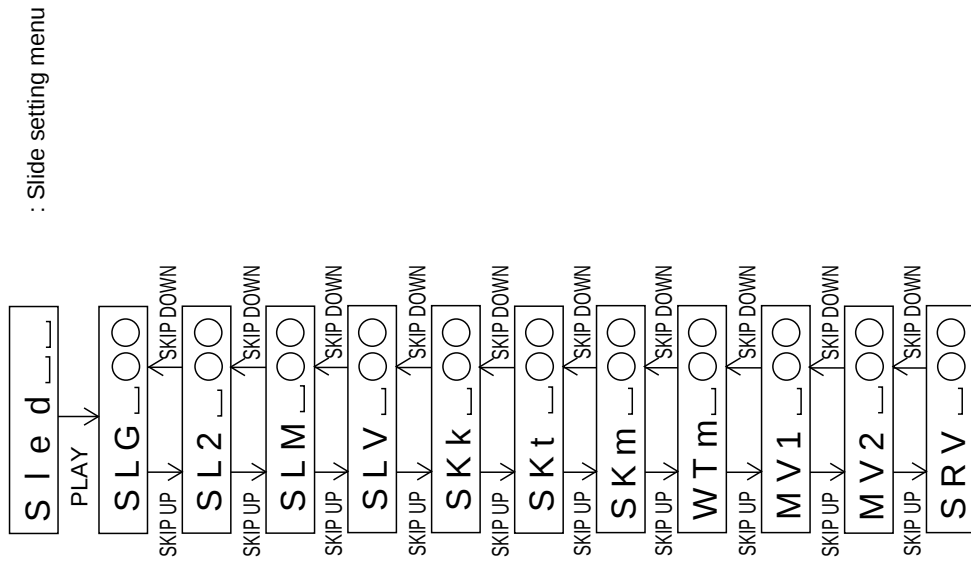
- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
- * When the [DISP] button operation is performed in the specific state, the menu changes to "TEMP SETTING menu".
- * In specific state the setting changed in the range of "00h to FFh" when the [VOL UP/DOWN] button is pressed. (The upper limit varies depending on the items)

Tracking Setting



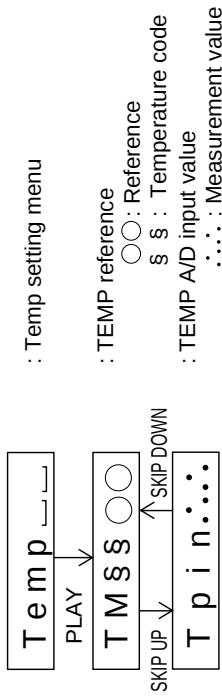
- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
- * When the [DISP] button operation is performed in the specific state, the menu changes to "TEMP SETTING menu".
- * In the specific state the setting changes in the range of "00h to FFh" when the [VOL UP/DOWN] button is pressed. (The upper limit varies depending on the items)

Sled Setting



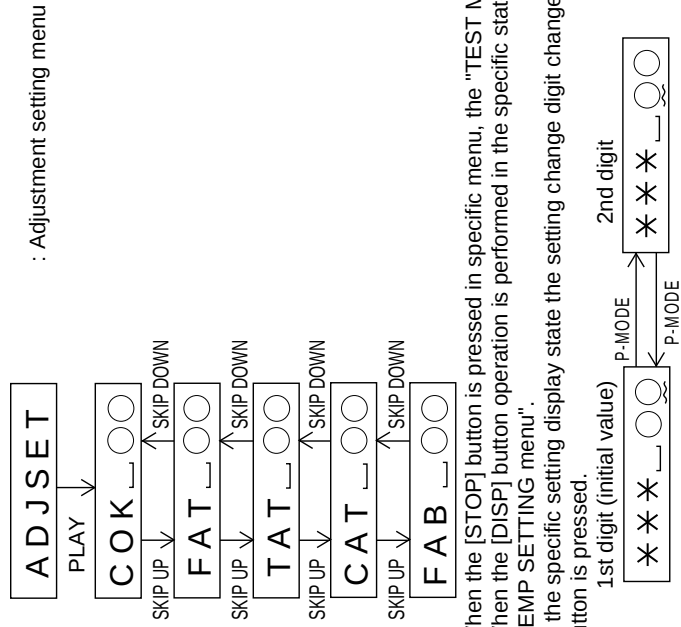
- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
- * When the [DISP] button operation is performed in the specific state, the menu changes to "TEMP SETTING menu".
- * In the specific state the setting changes in the range of "00h to FFh" when the [VOL UP/DOWN] button is pressed.
(The upper limit varies depending on the items)
- * When the [MODE] button is pressed in each state, the set digit is changed.

TEMP Setting



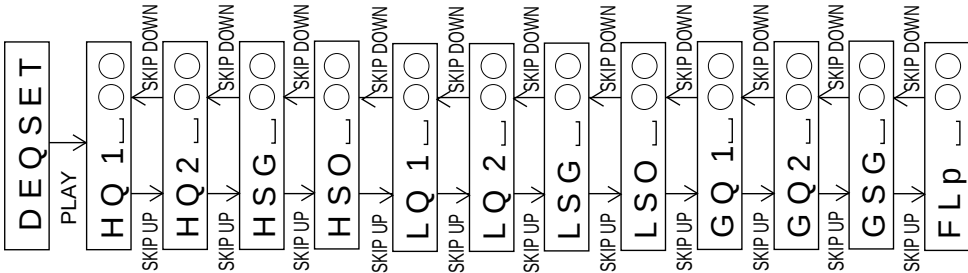
- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
- * When the [DISP] button operation is performed in the specific state, the menu changes to "TEMP SETTING menu".
- * In the specific state the setting changes in the range of "00h to FFh" when the [VOL UP/DOWN] button is pressed.
- * When the [MODE] button is pressed in each state, the set digit is changed.

Adjustment Setting



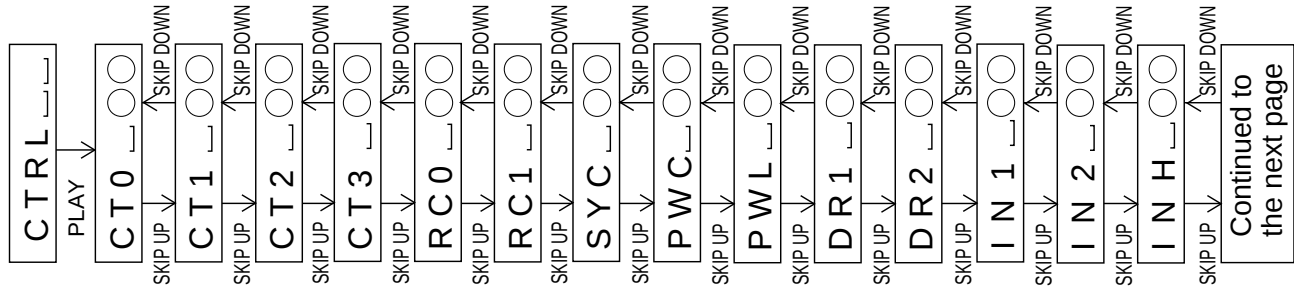
- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
- * When the [DISP] button operation is performed in the specific state, the menu changes to "TEMP SETTING menu".
- * In the specific setting display state the setting change digit changes when the [P-MODE] button is pressed.
- * In the specific state the setting changes in the range of "0h to Fh" when the [VOL UP/DOWN] button is pressed.
- * When the [MODE] button is pressed in each state, the set digit is changed.

Digital EQ Setting



: Digital EQ setting menu

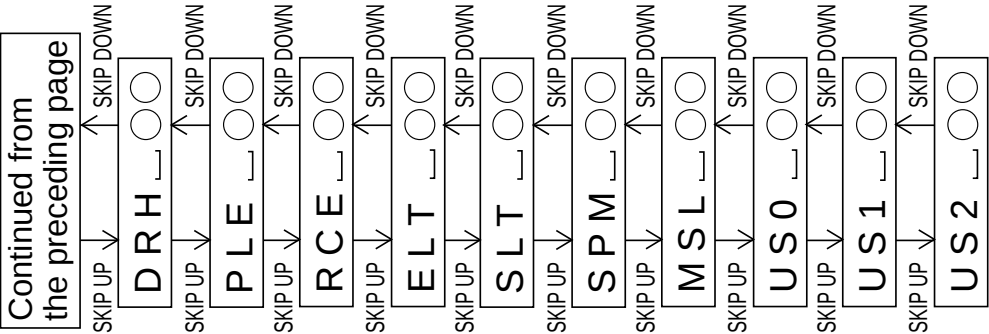
Control Setting



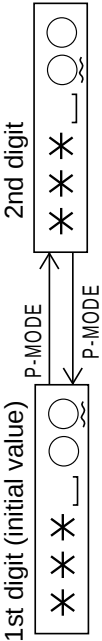
: Control setting menu

- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
- * When the [DISP] button operation is performed in the specific state, the menu changes to "TEMP SETTING menu".
- * In the specific setting display state the setting change digit changes when the [P-MODE] button is pressed.
- 1st digit (initial value) 2nd digit

P-MODE P-MODE
- * In the specific state the setting changes in the range of "0h to Fh" when the [VOL UP/DOWN] button is pressed.
- * When the [MODE] button is pressed in each state, the set digit is changed.



- * When the [STOP] button is pressed in specific menu, the "TEST MODE STOP" state is set.
- * When the [DISP] button operation is performed in the specific state, the menu changes to "TEMP SETTING menu".
- * In the specific setting display state the setting change digit changes when the [P-MODE] button is pressed.



- * In the specific state the setting changes in the range of "0h to Fh" when the [VOL UP/DOWN] button is pressed.
- * When the [MODE] button is pressed in each state, the set digit is changed.

NOTES ON SCHEMATIC DIAGRAM

- Resistor:
To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with "Fusible" is a fuse type.
- Capacitor:
To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression "capacitance/withstand voltage" is used.
(CH), (TH), (RH), (UJ): Temperature compensation
(ML): Mylar type

- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
- Parts marked with "⚠" (⎓ = ⎓ = ⎓) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
SW401	EJECT	<u>OFF</u> —ON
SW402	HOLD	<u>OFF</u> —ON
SW403	DISC IN	<u>OFF</u> —ON
SW902	DISC PROTECT	<u>OFF</u> —ON

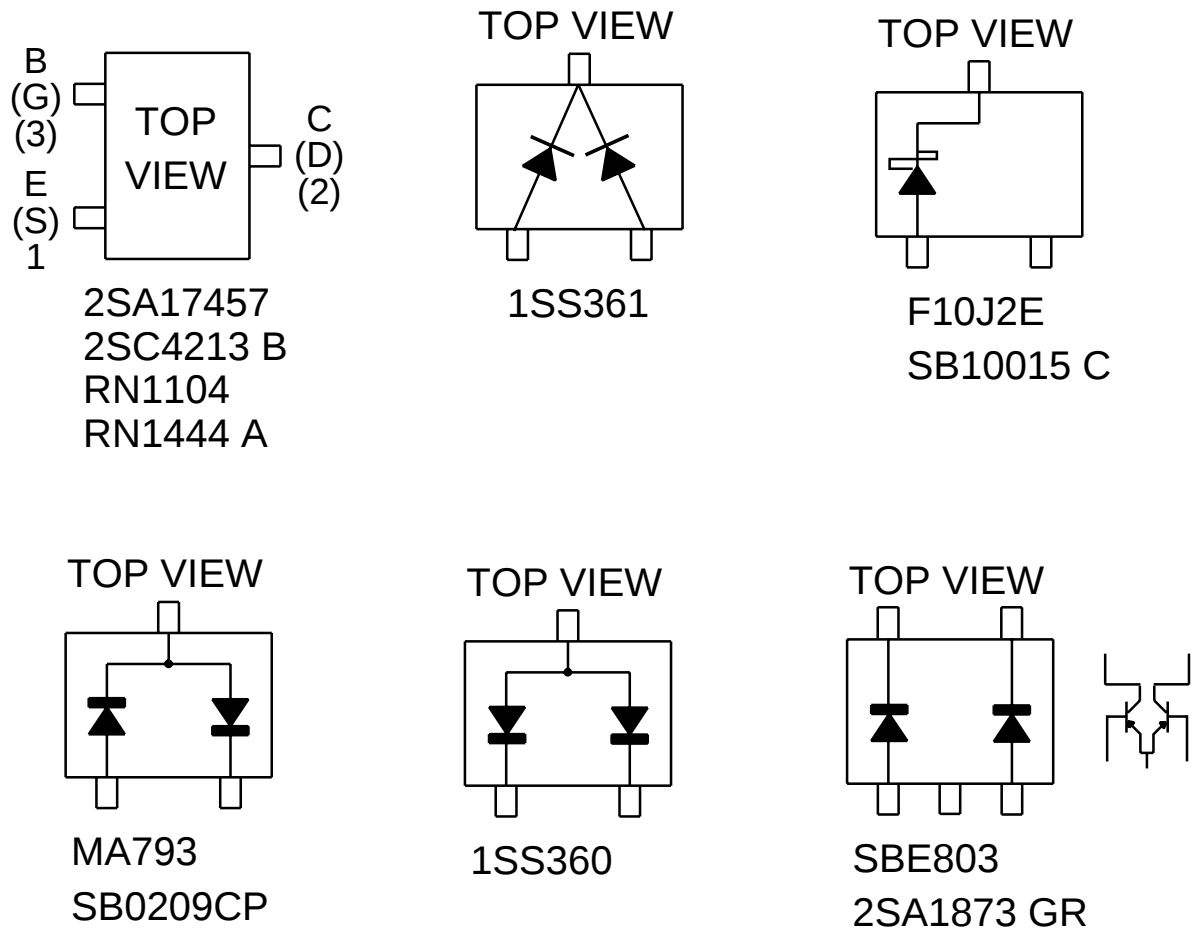


Figure 28 TYPES OF TRANSISTOR AND DIODE

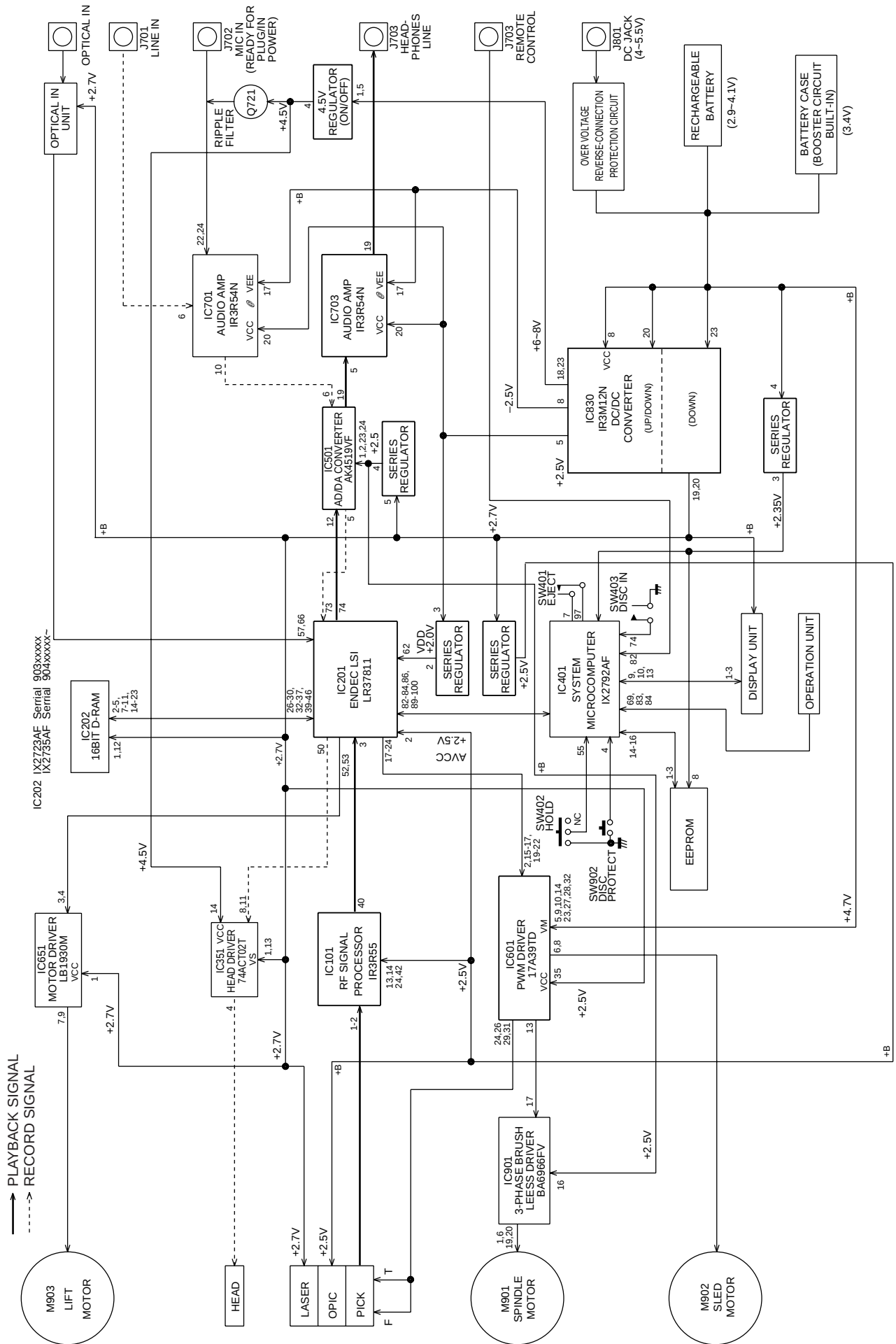


Figure 29 BLOCK DIAGRAM

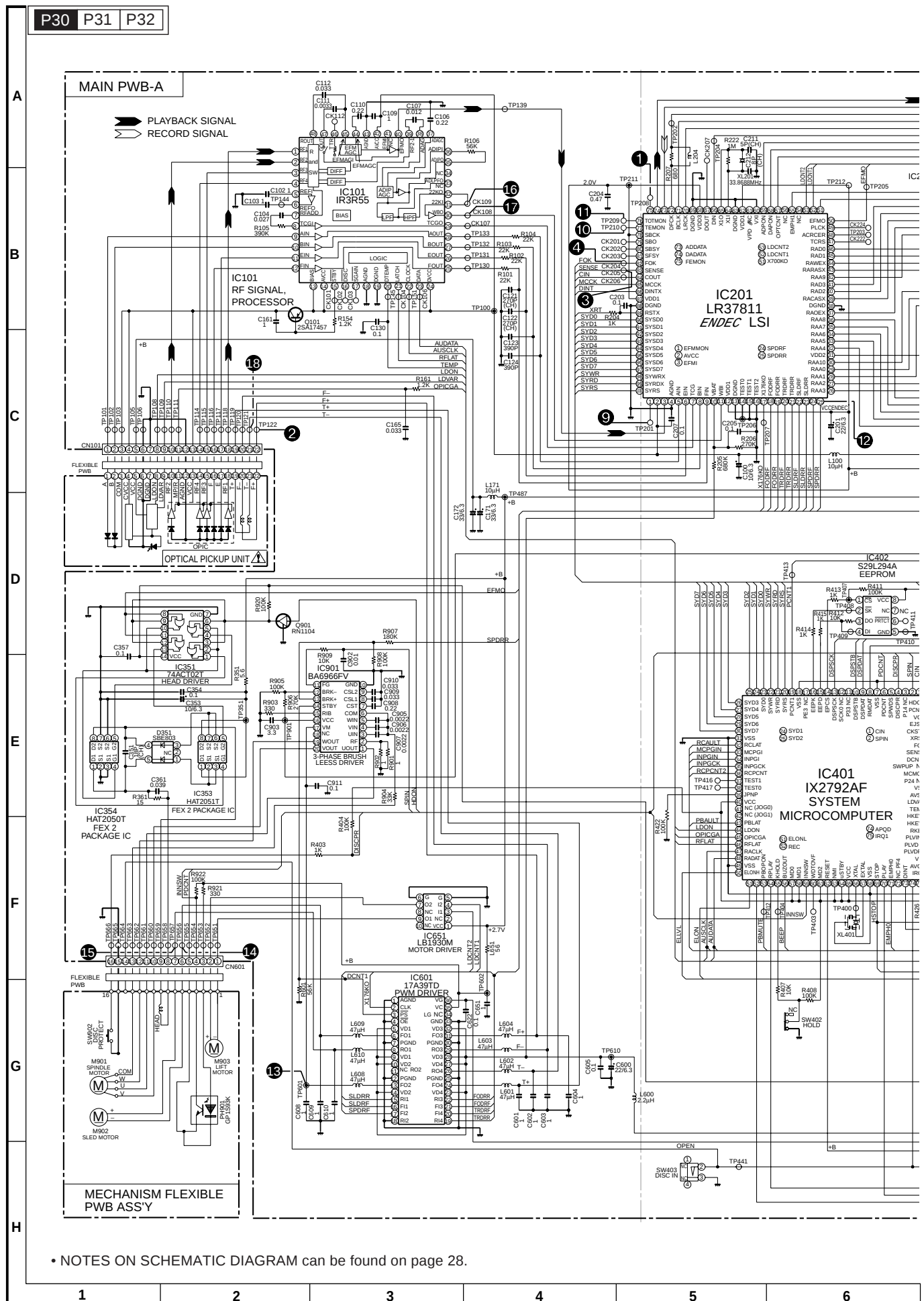
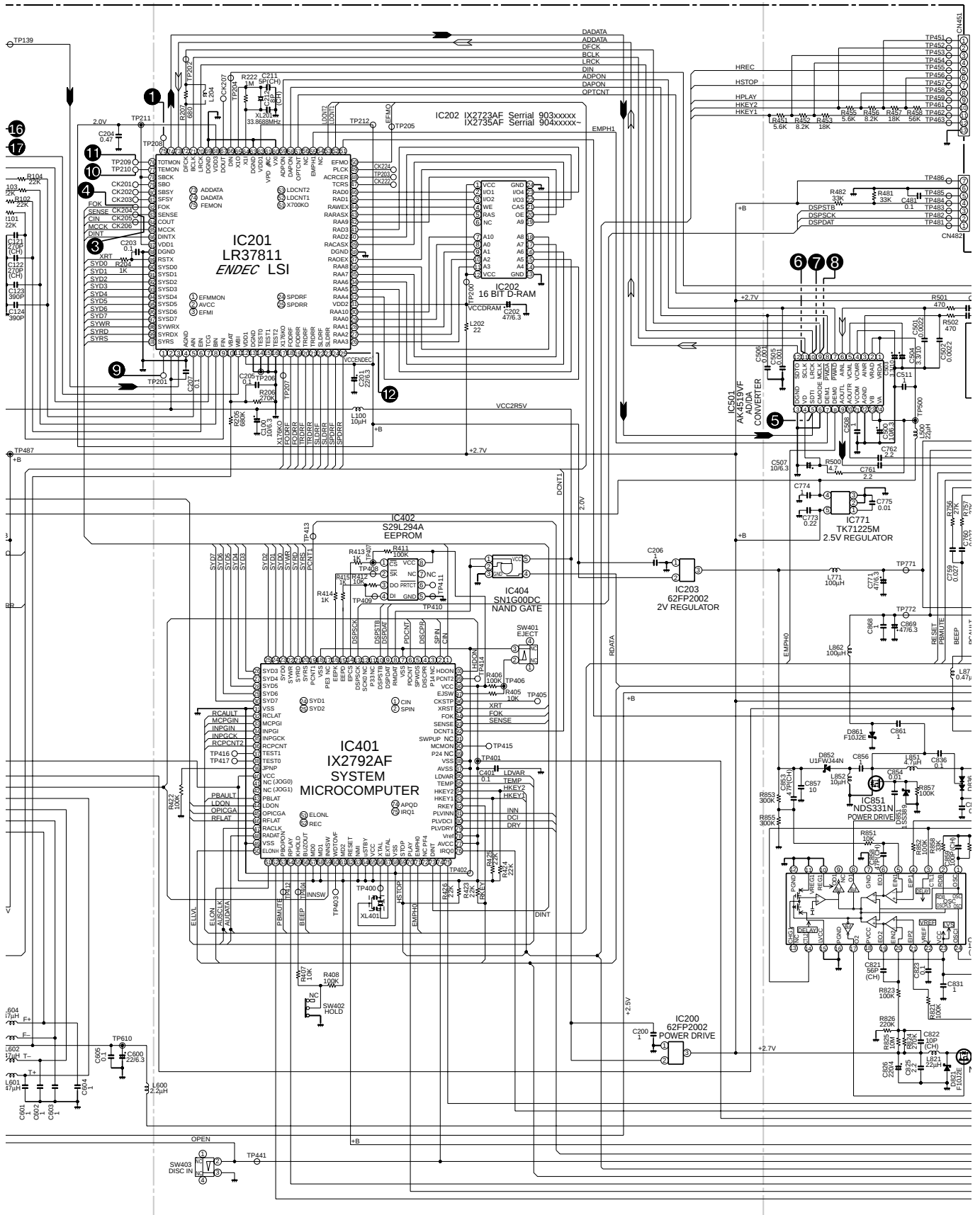


Figure 30 SCHEMATIC DIAGRAM (1/4)

P30 P31 P32



• The numbers 1 to 18 are waveform numbers shown in page 37.

Figure 31 SCHEMATIC DIAGRAM (2/4)



IC101		IC201				IC401				IC501		IC701		IC830	
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	0.4V	1	0.88V	51	1V	1	0V	51	0V	1	2.51V	1	0V	1	1.25V
2	0.4V	2	2.5V	52	0V	2	2.5V	52	0V	2	2.51V	2	0V	2	1.23V
3	0.4V	3	1.27V	53	0V	3	0V	53	2.37V	3	0V	3	0V	3	2.37V
4	0.4V	4	0V	54	0V	4	2.35V	54	0V	4	0V	4	0V	4	1.22V
5	1.25V	5	1.25V	55	0V	5	NC	55	2.34V	5	0V	5	0V	5	1.25V
6	1.26V	6	1.25V	56	2V	6	0V	56	0V	6	0V	6	0V	6	1.06V
7	0.4V	7	1.26V	57	0V	7	0V	57	2.37V	7	0V	7	0V	7	0V
8	1.26V	8	1.25V	58	0V	8	0.23V	58	2.37V	8	0V	8	0V	8	0.53V
9	1.26V	9	1.26V	59	0V	9	0V	59	2.69V	9	1V	9	0V	9	0V
10	1.26V	10	1.3V	60	0V	10	2.24V	60	2.37V	10	1V	10	0V	10	0V
11	1.26V	11	1.58V	61	0.14V	11	0V	61	2.37V	11	1V	11	0V	11	0V
12	1.26V	12	2V	62	2V	12	2.04V	62	2.3V	12	0V	12	0V	12	0V
13	2.5V	13	0V	63	0V	13	2.31V	63	2.37V	13	0V	13	0V	13	0.87V
14	2.5V	14	0V	64	0.9V	14	2.32V	64	2.37V	14	2.51V	14	0V	14	2.36V
15	0.18V	15	0V	65	0.89V	15	0.35V	65	2.37V	15	0V	15	0V	15	0V
16	2.5V	16	0V	66	1.66V	16	0V	66	1.07V	16	0V	16	0V	16	0V
17	2.5V	17	1V	67	1V	17	0V	67	1.15V	17	0V	17	-2.45V	17	2.0V
18	0V	18	0V	68	2V	18	0V	68	0V	18	0V	18	0V	18	4.7V
19	0V	19	0V	69	0V	19	2.36V	69	2.36V	19	0V	19	0V	19	1.22V
20	1.49V	20	0V	70	1V	20	0V	70	2.35V	20	0V	20	2.37V	20	1.25V
21	2.37V	21	0V	71	1V	21	2.36V	71	0V	21	0V	21	0.97V	21	1.22V
22	0V	22	0V	72	0V	22	2.27V	72	0V	22	0V	22	0V	22	1.24V
23	0V	23	0V	73	0V	23	1.4V	73	2.0V	23	2.51V	23	0V	23	4.7V
24	2.5V	24	0V	74	0V	24	-1.65V	74	2.35V	24	2.51V	24	0V	24	0.38V
25	1.26V	25	0V	75	1V	25	0V	75	0V						
26	1.26V	26	0.51V	76	1V	26	0.1V	76	0.64V						
27	1.26V	27	0.51V	77	1V	27	0.37V	77	2.37V						
28	1.26V	28	0.49V	78	2V	28	0V	78	2.37V						
29	1.26V	29	1.44V	79	0V	29	1.76V	79	0V						
30	1.58V	30	1.13V	80	2V	30	0.32V	80	1.51V						
31	1.26V	31	2.56V	81	1V	31	0V	81	1.42V						
32	1.26V	32	0.52V	82	2V	32	0V	82	2.14V						
33	1.26V	33	0.82V	83	0V	33	2.16V	83	2.36V						
34	NC	34	0.8V	84	0V	34	2.71V	84	2.36V						
35	1.26V	35	0.199V	85	1V	35	2.71V	85	1.49V						
36	1.26V	36	0.199V	86	2V	36	0V	86	0V						
37	0V	37	1.85V	87	2V	37	0V	87	0V						
38	1.25V	38	1.92V	88	0V	38	2.36V	88	0V						
39	1.26V	39	3.1V	89	2.36V	39	2.35V	89	0V						
40	1.27V	40	1.69V	90	1.41V	40	2.37V	90	0V						
41	1.25V	41	1.56V	91	1.65V	41	2.36V	91	0V						
42	2.5V	42	1.1V	92	0V	42	2.36V	92	2.35V						
43	0V	43	1.75V	93	0.1V	43	2.37V	93	0V						
44	0V	44	2.57V	94	0.37V	44	0V	94	2V						
45	1.26V	45	1.74V	95	0V	45	0V	95	0V						
46	1.25V	46	1.19V	96	1.76V	46	2.37V	96	0V						
47	1.26V	47	0V	97	0.32V	47	0V	97	0V						
48	0V	48	1.93V	98	2.27V	48	0V	98	2.37V						
		49	1V	99	2.36V	49	0V	99	-						
		50	0.91V	100	0V	50	2.18V	100	0V						

Preform the measurement on the IC401 pin 37 in the TEST mode with GND short-circuited. (LCD is in "TEST" state.)

IC202		IC351		IC404		IC354	
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	2.59V	1	0V	1	0.22V	1	-
2	1.2V	2	0V	2	0.22V	2	0V
3	1.55V	3	4.51V	3	0V	3	0V
4	2.42V	4	0V	4	2.24V	4	0V
5	1.92V	5	0V	5	2.51V	5	0V
6	NC	6	4.51V			6	0V
7	0.93V	7	0V			7	0V
8	1.43V	8	0.91V			8	-
9	0.59V	9	4.51V				
10	0.61V	10	0V				
11	0.60V	11	0.91V				
12	2.56V	12	4.46V				
13	0V	13	0V				
14	0.52V	14	4.55V				
15	0.82V						
16	0.99V						
17	0.99V						
18	0.99V						
19	1.13V						
20	1.85V						
21	2.1V						
22	1.69V						
23	1.73V						
24	0V						

IC871		IC353		IC651	
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	0V	1	2.73V	1	2.73V
2	0V	2	0.12V	2	0V
3	0V	3	0V	3	0V
4	4.56V	4	0V	4	0V
5	11.56V	5	0V	5	0V
		6	0V	6	0V
		7	0V	7	-
		8	2.73V	8	0V
				9	0V
				10	0V

IC771		IC801	
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	1.26V	1	0V
2	0V	2	0.2V
3	0V	3	0V
4	2.51V	4	0V
5	2.73V	5	0.73V
		6	0.73V

IC802		IC901	
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	0V	1	0V
2	5.1V	2	0V
3	0V	3	0V
4	5.1V	4	0V
5	5.1V	5	0V
6	5.1V	6	0V
		7	0.9V
		8	2.34V
		9	2V
		10	0V
		11	2.51V
		12	0.67V
		13	0V
		14	2.35V
		15	0V
		16	2.5V
		17	0V
		18	0V
		19	0V
		20	0V

7	8	9	10	11	12
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Figure 33 SCHEMATIC DIAGRAM (4/4)

- 33 -

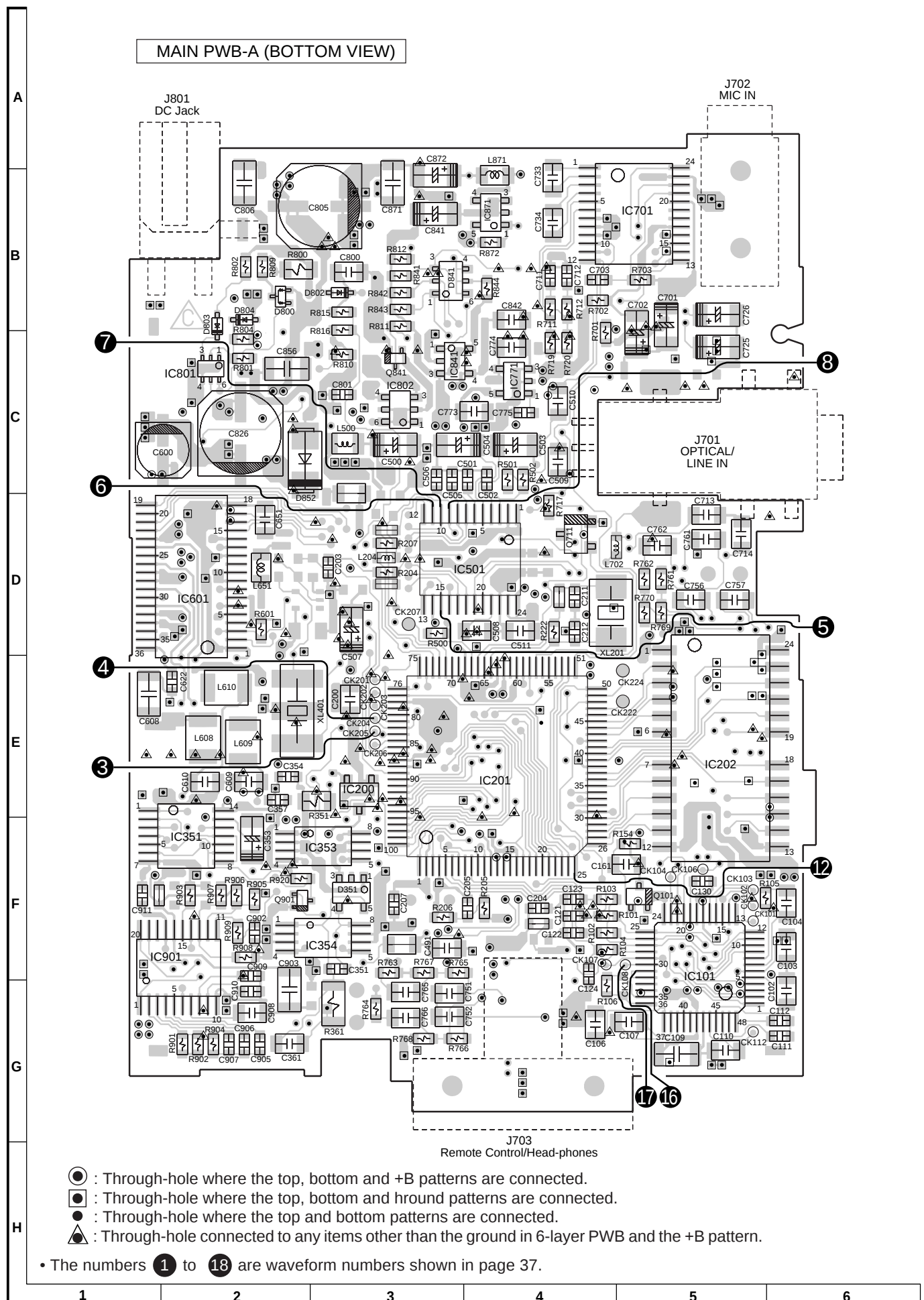


Figure 34 WIRING OF P.W.BOARD (1/3)

MAIN PWB-A(TOP VIEW)

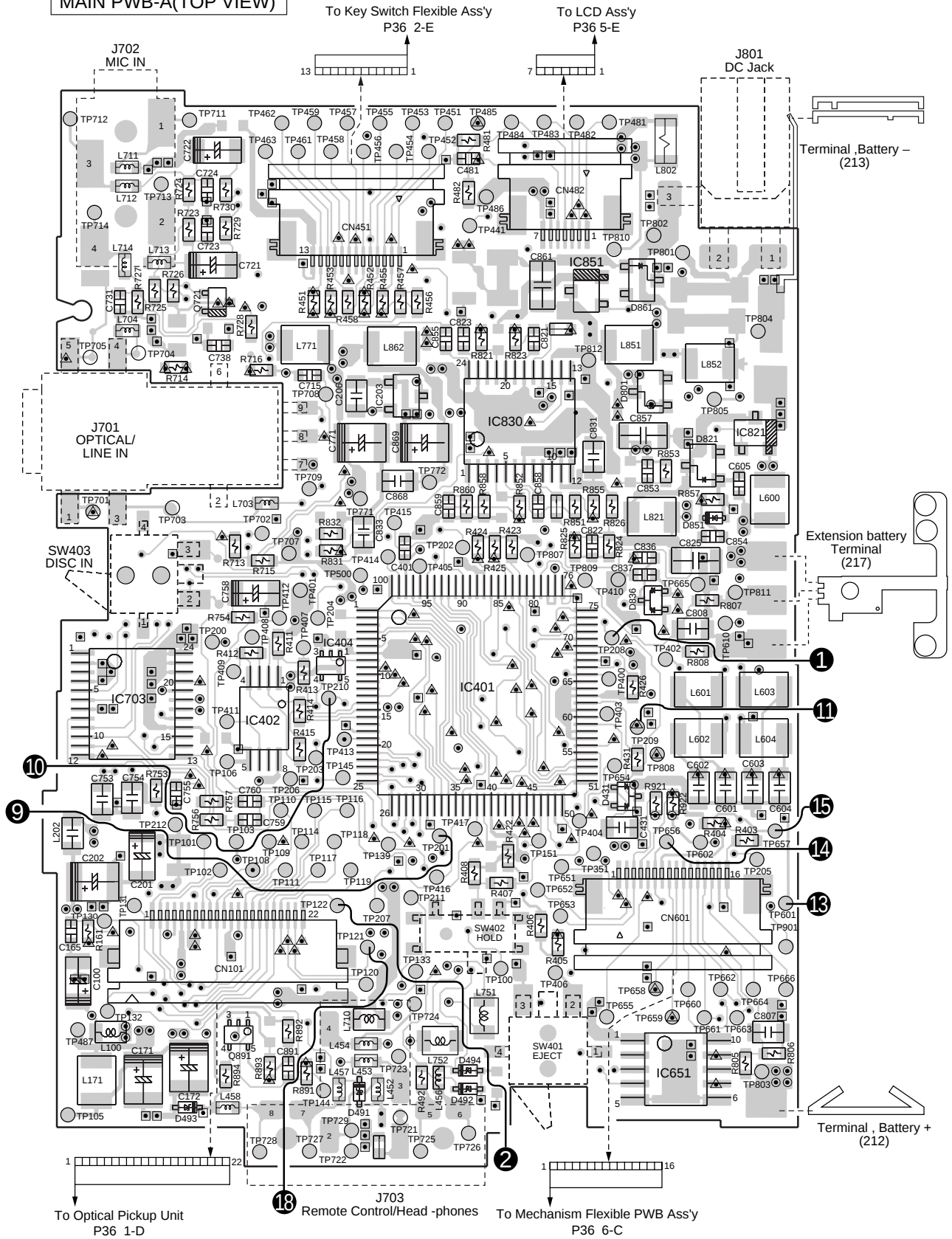


Figure 35 WIRING OF P.W.BOARD (2/3)

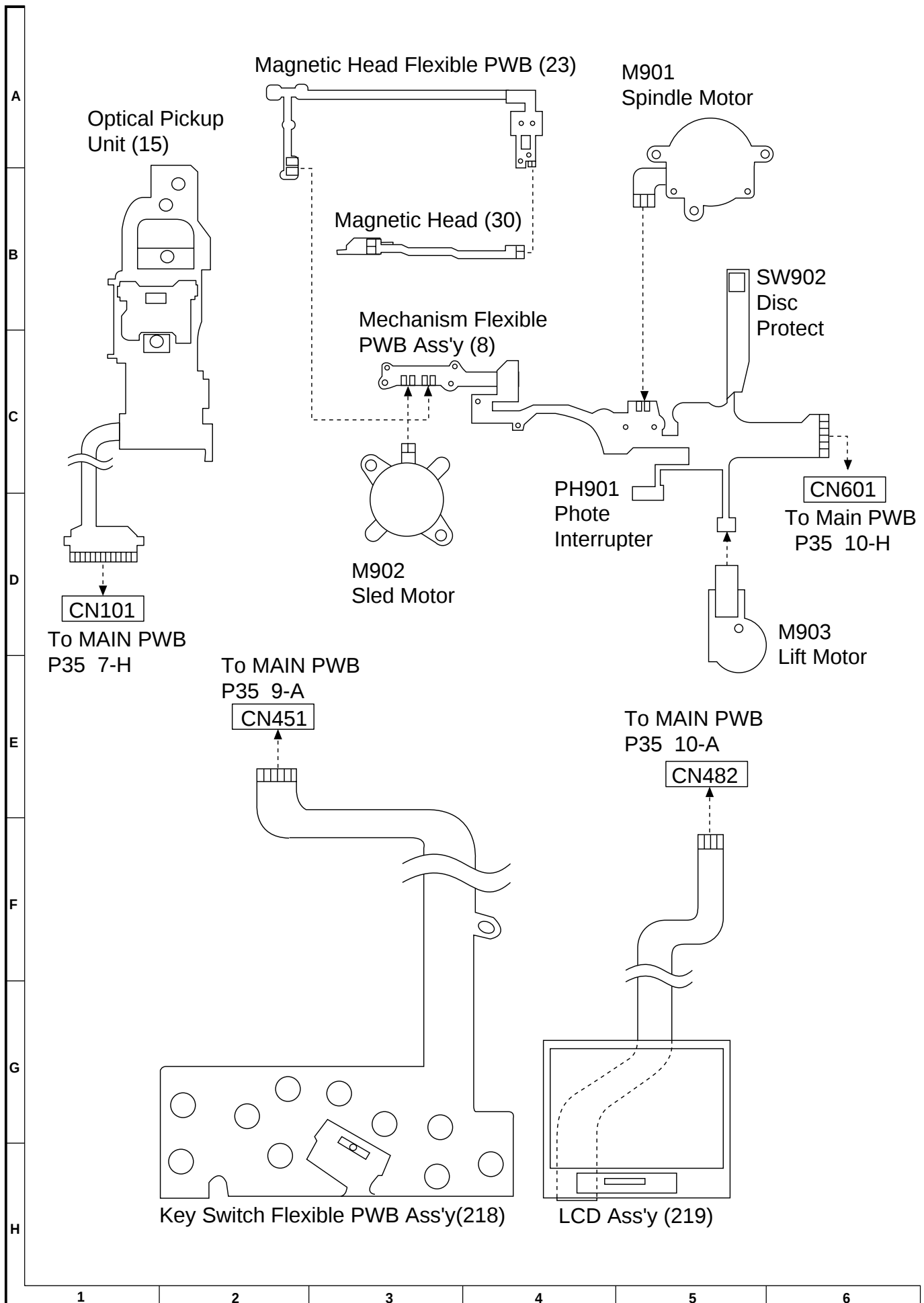
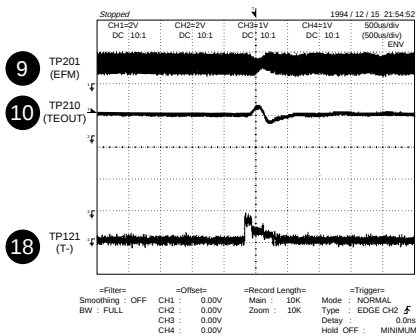
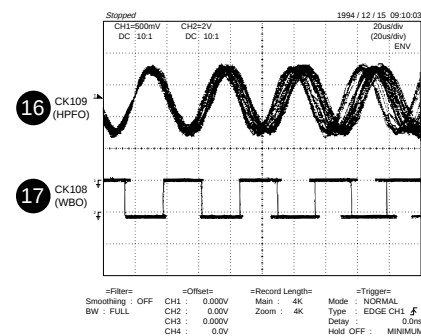
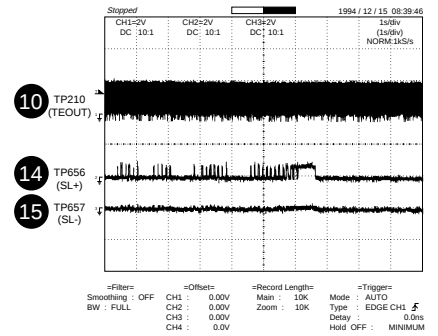
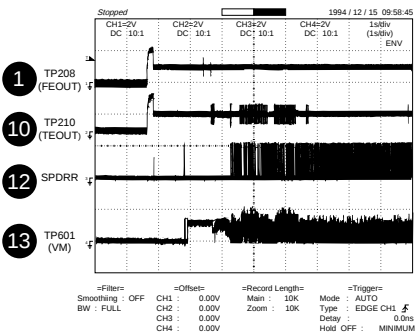
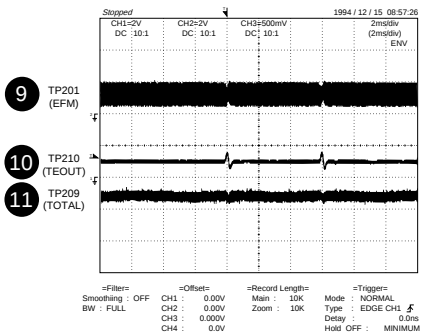
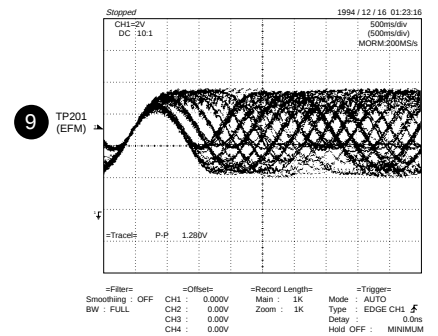
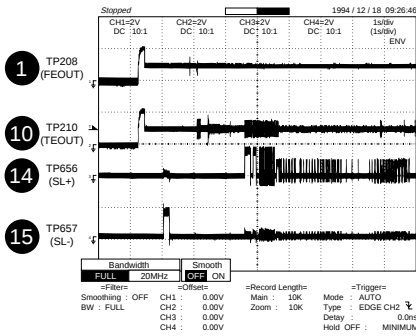
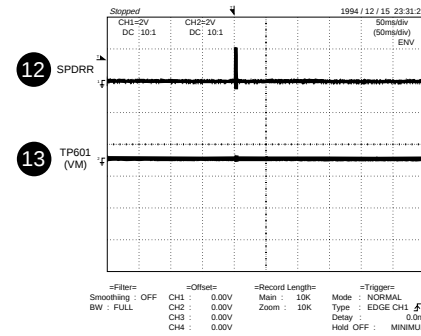
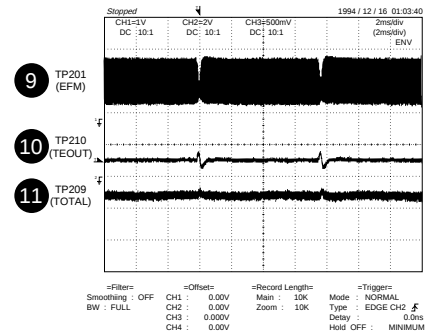
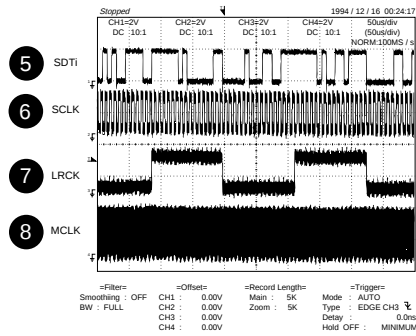
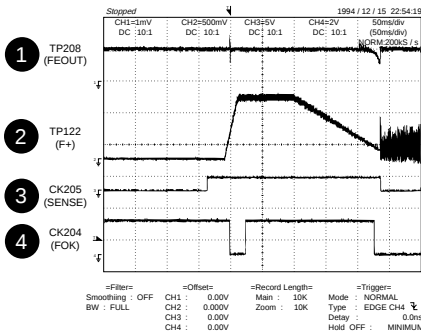
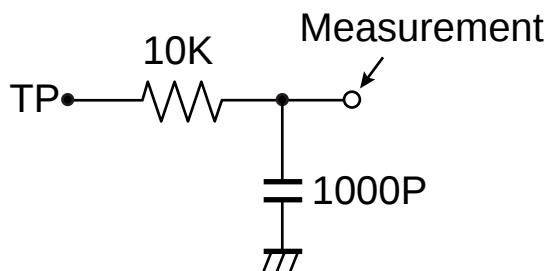


Figure 36 WIRING OF P.W.BOARD (3/3)

WAVEFORMS OF MD CIRCUIT



For TP208, TP209, and TP210, use the specific LPF, and observe the waveform.



When watching the EEM monitor (TP201)
Set MSL from 00H to 80H with EEPROM control setting. After completion restore 00H.

TROUBLE SHOOTING

It is advisable to use the TEST mode (refer to Error Data Display Mode, P13) indicating the causes of troubles before starting repair. Causes of operation errors (up to 10 errors) are recorded as error codes. This information is useful for repair.

When does not function

When the CD section does not operate When the objective lens of the optical pickup is dirty, this section may not operate. Clean the objective lens, and check the playback operation. When this section does not operate even after the above step is taken, check the following items.

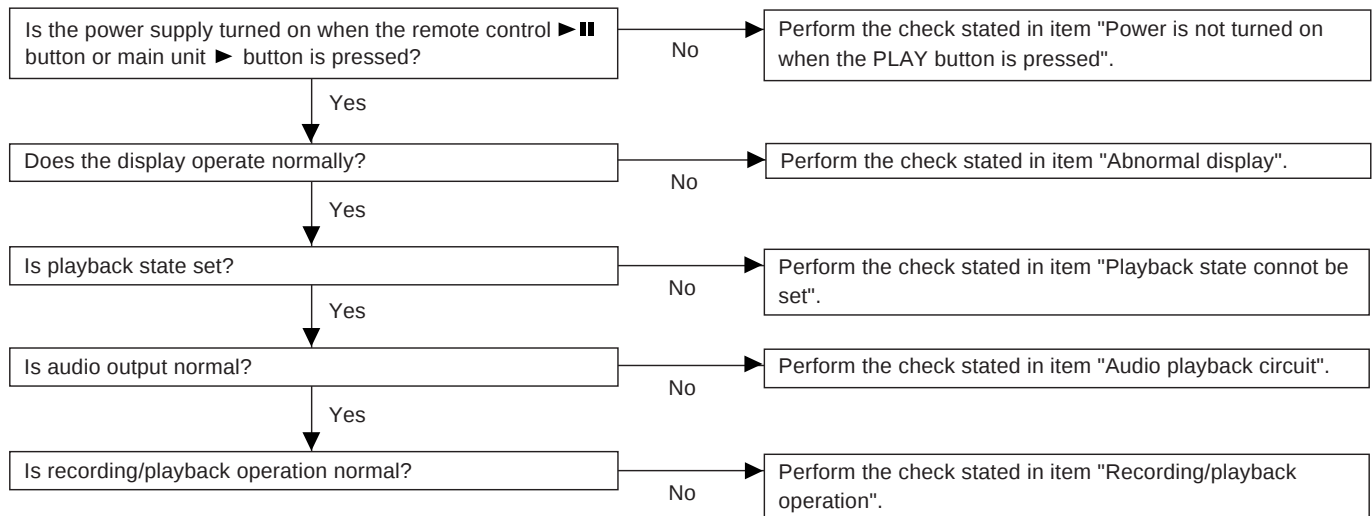
Remove the cabinet and follow the troubleshooting instructions.

"Track skipping and/or no TOC (Table Of Contents) may be caused by build up of dust or other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

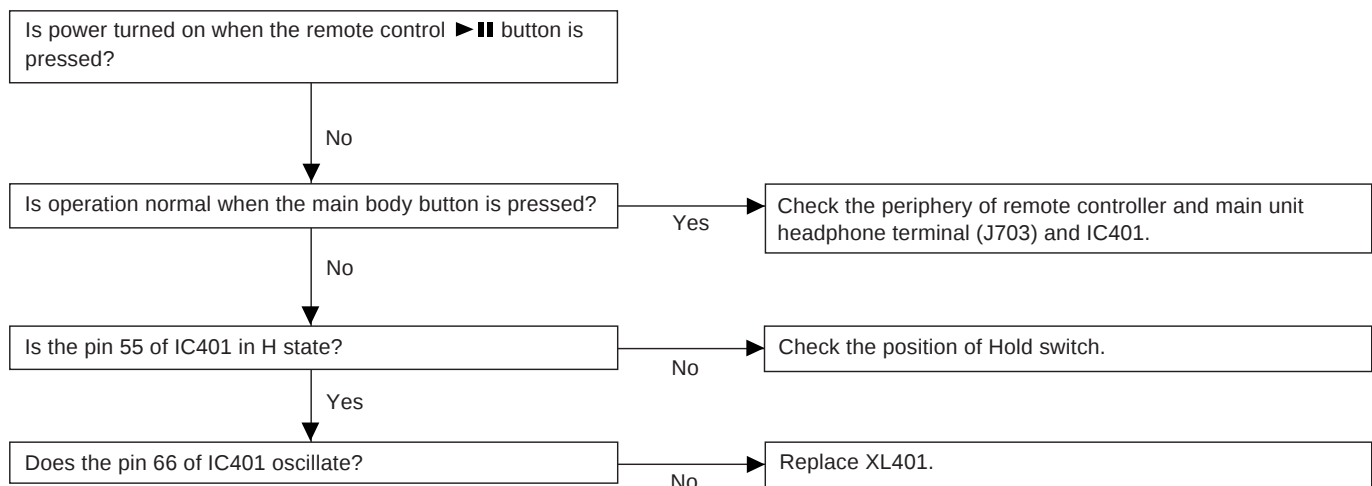
Turn the power off.

Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.

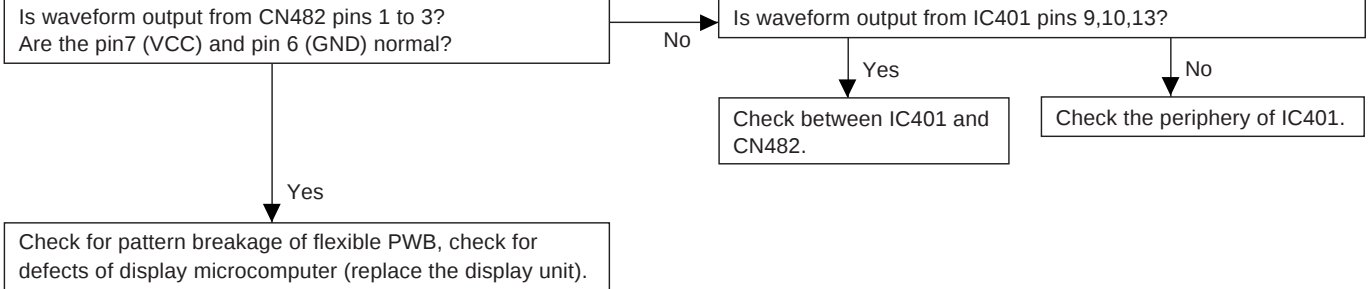
Do not touch the lens with the bare hand.



• Power is not turned on when the ► / ►|| button is pressed.

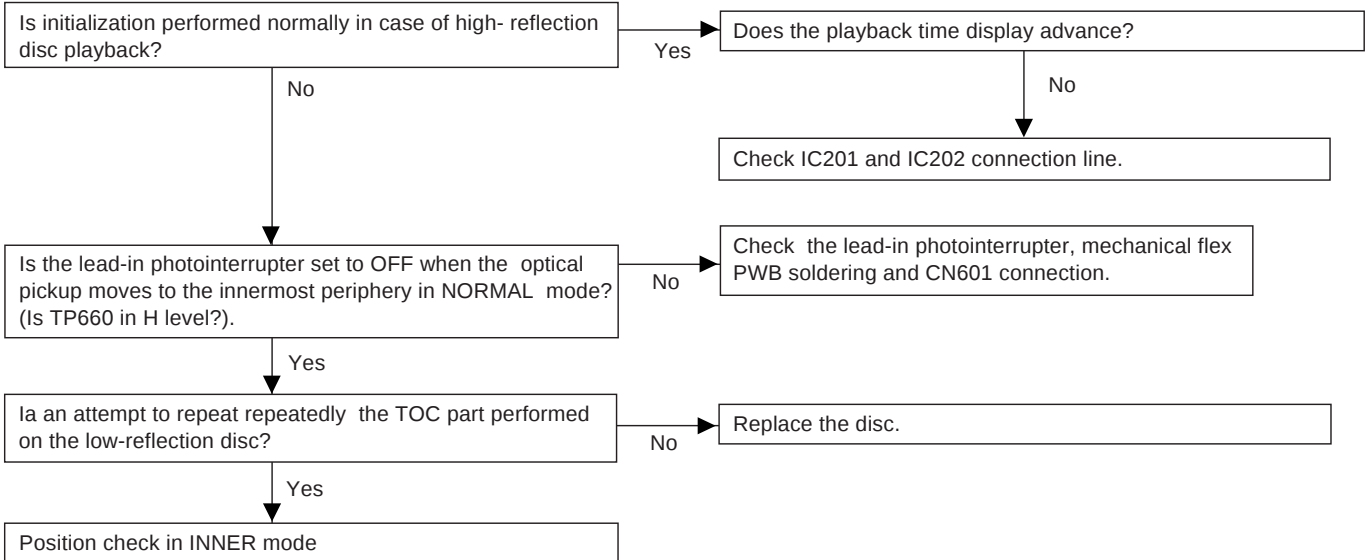


• Abnormal display



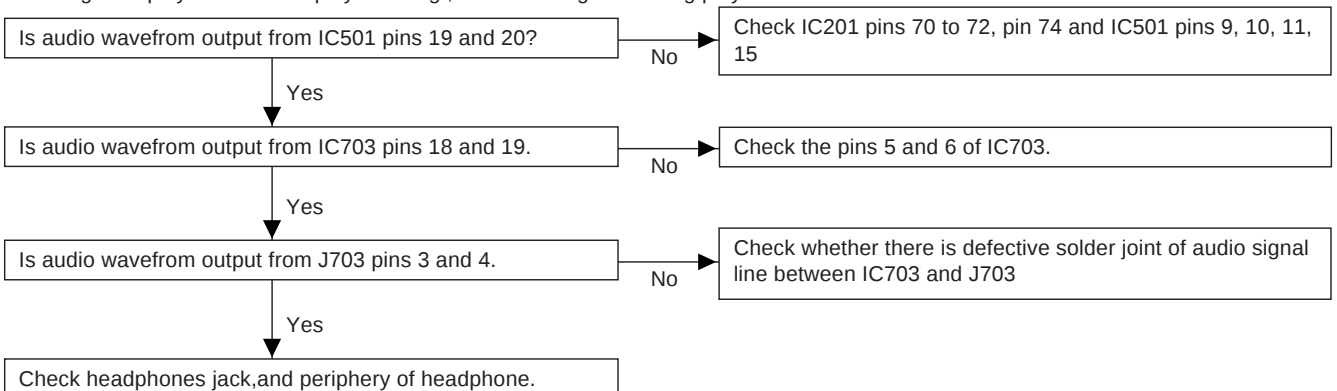
• Playback state cannot be set

When it has been ascertained that the address up to cluster address is normal in the TEST mode.



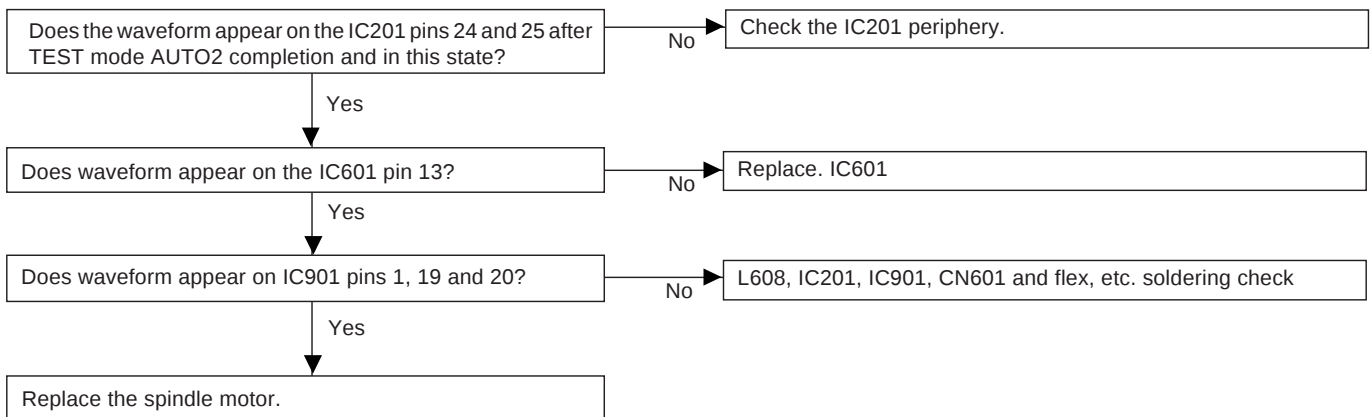
• Audio playback circuit

Although the playback time display is acting., no sound is given during playback in the normal mode.



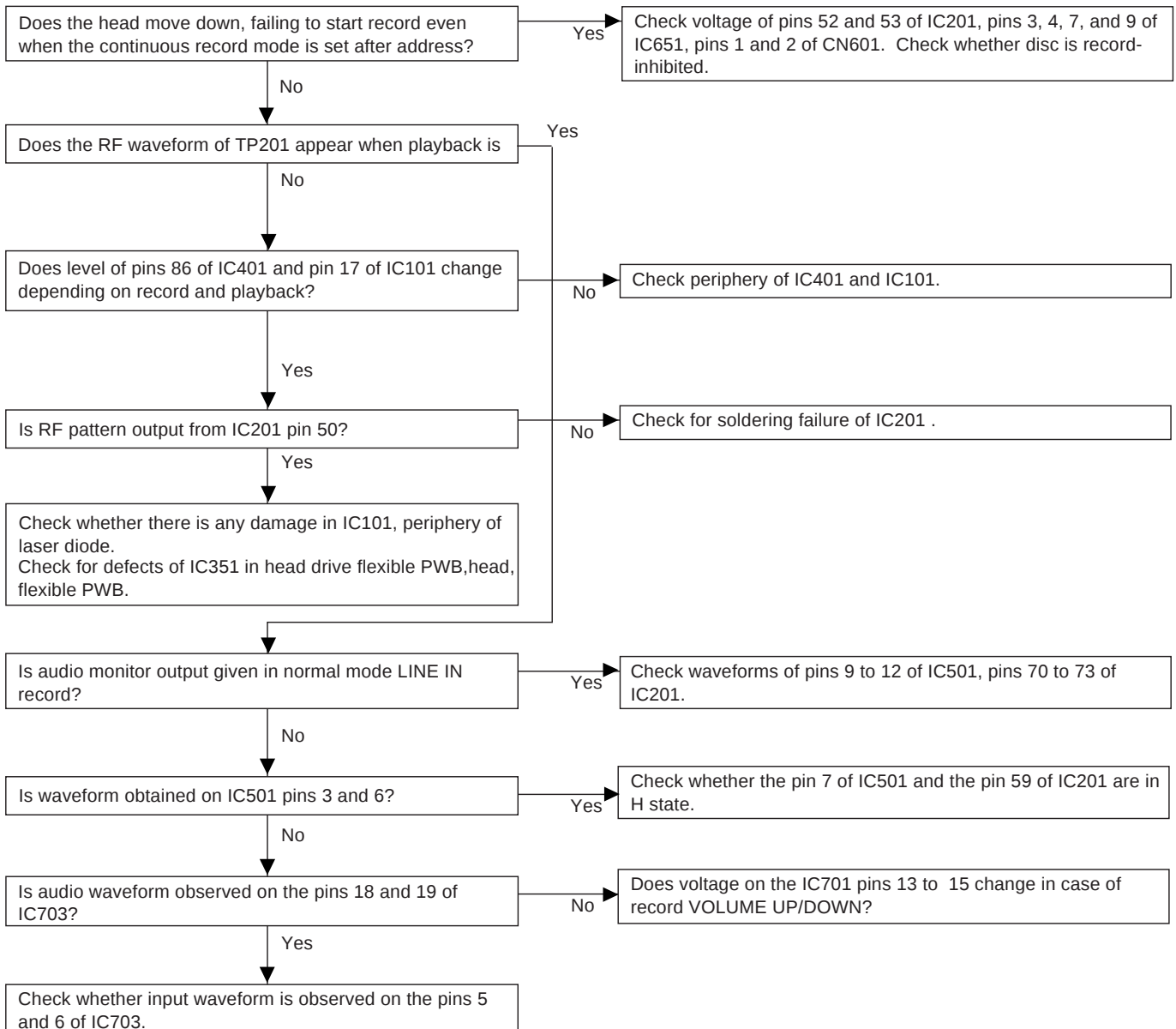
MD-MT821/W

• The spindle motor fails to run.Does the head move



• Recording/playback operation

Insert a low reflection disc, and ascertain audio output by normal playback, and then set TEST REC mode.



FUNCTION TABLE OF IC

IC401 RH-iX2792AF02(IX2792AF):System Microcomputer (1/2)

Pin No.	Port Name	Terminal Name	Input/Output	Function
1	P12/TCLKA	CIN	Input	Track cross signal/focus drive detection
2	TCLKB	SPIN	Input	Spindle motor FG pulse detection input
3*	P14	P14	Output	(not used)
4	P15	DISCPR	Input	Disc record inhibition switch input
5*	TIOCA2	SPWDS	Input	Spindle motor FG pulse width detection
6	P17	PDCNT	Output	Inner detection PD current control output
7	Vss	VSS	—	Ground potential
8	TxD0	RMDAT	Output	Remote control indication data output
9	TxD1	DSPDAT	Output	Unit indication data output
10	P32	DSPSTB	Output	Unit indication strobe output
11*	P33	P33	Output	Spare(not used)
12*	SCK0	SCK0	Output	Serial I/O clock output (not used)
13	SCK1	DSPSCK	Output	Unit indication data clock output
14	PE0	_EPCS	Output	EEPROM chip selection output
15	PE1	EEPD	Input/Output	EEPROM serial data input/output
16	PE2	EEPK	Output	EEPROM serial clock output
17*	PE3	PE3	Output	(not used)
18	Vss	VSS	—	Ground potential
19	PE4	PCNT1	Outout	Vref supply control output of power IC
20	PE5	SYRS	Output	System LSI register selection output
21	PE6	_SYRD	Output	System LSI read enable output
22	PE7	_SYWR	Output	System LSI write enable output
23-30	PD0-PD7	SYD0-SYD7	Input/Output	System LSI parallel data bus
31	Vss	VSS	—	Ground potential
32	PC0	PCLAT	Output	Record audio IC data latch output
33	PC1	_MCPGI	Input	Microphone plug insertion detection input
34	PC2	_INPGI	Input	Line/digital plug insertion detection
35	PC3	INPGCK	Input	Line/digital plug type detection
36	PC4	RCPCNT	Input/Output	Record circuit power control output
37	PC5	TEST1	Input	Test mode setting input 1
38	PC6	TEST0	Input	Test mode setting input 0
39	PC7	JPNP	Input	Kana conversion/Kana input existence/nonexistence discrimination
40	Vcc	VCC	—	Positive power supply
41*	PB0	JOG0	Input	A spare 0 for JOG
42*	PB1	JOG1	Input	A spare 1 for JOG
43	PB2	PBLAT	Output	Audio IC data latch output
44	PB3	LDON	Output	P.U. laser ON/OFF control output
45	PB4	OPICGA	Output	P.U. detection sensitivity selection output
46	PB5	RFLAT	Output	RF amplifier IC data latch output
47	PB6	RACLK	Output	RF/Audio IC data clock output
48	PB7	RADAT	Output	RF/Audio IC serial data output
49	Vss	VSS	—	Ground potential
50	PA0	_ELONH	Output	EL lighting control output H
51	PA1	_ELONL	Output	EL lighting control output L
52	PA2	_REC	Input	Unit REC button operation detection input
53	PA3	PBOPON	Output	Audio IC output stage control output
54	P20	RPLAY	Input	Remote control PLAY button operation detection input
55	P21	_KHOLD	Input	Unit key hold switch input
56	TIOCC3	BUZOUT	Output	Beep sound pulse output
57	MD0	MD0	Input	Operation mode selection input 0

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

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IC401 RH-iX2792AF02(IX2792AF):System Microcomputer (2/2)

Pin No.	Port Name	Terminal Name	Input/Output	Function
58	MD1	MD1	Input	Operation mode selection input 1
59	P23	INNSW	Input	Mechanism inner SW position detection input
60	$\overline{\text{WDTOVF}}$	WDTOVF	Output	Watch dog timer (not used)
61	MD2	MD2	Input	Operation mode selection input 2
62	RES	_RESET	Input	Microcomputer hard reset input
63	NMI	_NMI	Input	Nonmaskable interruption (not used)
64	$\overline{\text{STBY}}$	_STBY	Input	Microcomputer standby input (not used)
65	Vcc	VCC	—	Positive power supply
66	XTAL	XTAL	—	Crystal connection terminal
67	EXTAL	EXTAL	—	Crystal connection terminal
68	Vss	VSS	—	Ground potential
69	PF7	_STOP	Input	Unit STOP button operation detection input
70	PF6	_PLAY	Input	Unit PLAY button operation detection input
71	PF5	EMPH0	Output	Audio emphasis control output 0
72*	PF4	PF4	Output	Spare
73	PF3	_DINT	Input	System LSI interruption
74	PF2	_ARQD	Input	Disk cap opens and closes detection/it is started and required
75	PF1	_ARQP	Input	It is started by DC-IN, requirement
76	IRQ0	_ARQK	Input	It is started by the button input, requirement
77	AVcc	AVCC	—	A/D and D/A converter positive power supply
78	Vref	VREF	—	A/D and D/A converter reference voltage
79	AN0	PLVDRY	Input	Dry battery voltage detection input
80	AN1	PLVDCI	Input	DC jack voltage detection input
81	AN2	PLVINN	Input	Lithium battery voltage detection input
82	AN3	RKEY	Input	Remote control key operation detection input
83	AN4	HKEY1	Input	Unit key operation detection input 1
84	AN5	HKEY2	Input	Unit key operation detection input 2
85	AN6	TEMP	Input	Ambient temperature detection input
86	DA1	LDVAR	Output	P.U. laser power setting output
87	AVss	AVSS	—	A/D and D/A converter ground potential
88	Vss	VSS	—	Ground potential
89*	P24	P24	Output	(not used)
90	TIOCB4	MCMON	Output	Internal operation status monitor
91*	P26	P26	Output	Spare
92	P27	DCNT1M	Output	Mechanism driver enable output
93	PG0	SENSE	Input	System LSI servo sense input
94	PG1	_FOK	Input	Focus OK signal input
95	PG2	_XRST	Output	System LSI hard reset output
96	PG3	CKSTP	Output	Microcomputer standby operation monitor output
97	PG4	_EJSW	Input	Ejection lever operation detection input
98	Vcc	VDD	—	Positive power supply
99	P10	PCNT2	Output	Vcc supply control output of power IC
100	P11	HDON	Output	Recording head current control output

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

SHARP PARTS GUIDE

MODEL **MD-MT821(GL)**
MD-MT821W(BL)
MD-MT821W(GL)

“HOW TO ORDER REPLACEMENT PARTS”

To have your order filled promptly and correctly, please furnish the following information.

- | | |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. No. |
| 3. PART NO. | 4. DESCRIPTION |

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC Ceramic type
VCK Ceramic type
VCT Semiconductor type
VC •• MF Cylindrical type (without lead wire)
VC •• MN Cylindrical type (without lead wire)
VC •• TV Square type (without lead wire)
VC •• TQ Square type (without lead wire)
VC •• CY Square type (without lead wire)
VC •• CZ Square type (without lead wire)
VC J .. The 13th character represents capacity difference.
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

Resistors

VRD Carbon-film type
VRS Carbon-film type
VRN Metal-film type
VR •• MF Cylindrical type (without lead wire)
VR •• MN Cylindrical type (without lead wire)
VR •• TV Square type (without lead wire)
VR •• TQ Square type (without lead wire)
VR •• CY Square type (without lead wire)
VR •• CZ Square type (without lead wire)
VR J .. The 13th character represents error.
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

NOTE:

Parts marked with “△” are important for maintaining the safety of the set.
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

MD-MT821/W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
INTEGRATED CIRCUITS				
IC101	VHIIR3R55/-1	J	AQ	RF Signal, Processor, IR3R55
IC200	VHI62FP2502-1	J	AE	Power Drive, 62FP2002
IC201	VHILR37811/-1	J	BB	ENDEC LSI, LR37811
IC202	RH-IX2723AFZZ	J	BC	16Bit D-RAM, IX2723AF (Serial 903xxxxx)
IC202	RH-IX2735AFZZ	J	AX	16Bit D-RAM, IX2735AF (Serial 904xxxxx~)
IC203	VHI62FP2002-1	J	AE	2V Regulator, 62FP2002
IC351	VHI74ACT02T-1	J	AE	Head Driver, 74ACT02T
IC353	VHIHAT2051T-1	J	AF	FET X2 Package IC, HAT2051T
IC354	VHIHAT2050T-1	J	AF	FET X2 Package IC, HAT2050T
IC401	RH-IX2792AF02	J	AW	System Microcomputer, IX2792AF
IC402	VHIS29L294A-1	J	AH	EEPROM, S29L294A
IC404	VHISN1G00DC-1	J	AD	NAND Gate, SN1G00DC
IC501	VHIAK4519VF-1	J	AQ	AD/DA Converter, AK4519VF
IC601	VHI17A39TD/-1	J	AP	PWM Driver, 17A39TD
IC651	VHILB1930M/-1	J	AH	Motor Driver, LB1930M
IC701	VHIIR3R54N/-1	J	AQ	Audio Amp., IR3R54N
IC703	VHIIR3R54N/-1	J	AQ	Audio Amp., IR3R54N
IC771	VHITK71225M-1	J	AE	2.5V Regulator, TK71225M
IC801	VHIHN1C01FU-1	J	AD	Power Transistor, HN1C01FU
IC802	VHIFDC634P/-1	J	AG	Constant Current Drive, FDC634P
IC821	VHINDS332P/-1	J	AD	Power Drive, NDS332P
IC830	VHIIR3M12N/-1	J	AM	DC/DC Converter, IR3M12N
IC841	VHIXC66DS01-1	J	AF	Reset 2.35V Regulator, XC66DS01
IC851	VHINDS331N/-1	J	AD	Power Drive, NDS331N
IC871	VHITK71345M-1	J	AE	4.5V Regulator (ON/OFF), TK71345M
IC901	VHIBA6966FV-1	J	AM	3-Phase Brush Leess Driver, BA6966FV
TRANSISTORS				
Q101	VS2SA17457/-1	J	AB	Silicon, PNP, 2SA17457
Q711	VSRN1444A/-1	J	AC	Digital, NPN, RN1444 A
Q721	VS2SC4213B/-1	J	AC	Silicon, NPN, 2SC4213 B
Q841	VSRN1104/-1	J	AB	Digital, NPN, RN1104
Q891	VS2SA1873GR-1	J	AC	Silicon, PNP, 2SA1873 GR
Q901	VSRN1104/-1	J	AB	Digital, NPN, RN1104
DIODES				
D351	VHDSBE803/-1	J	AD	Silicon, SBE803
D431	VHD1SS361/-1	J	AB	Silicon, 1SS361
D491	VHE015Z5R1Y-1	J	AD	Zener, 5.1V, 015Z5.1Y
D492	VHE15AZ7R5Y-1	J	AC	Zener, 7.5V, 15AZ7.5Y
D493	VHE015Z5R1Y-1	J	AD	Zener, 5.1V, 015Z5.1Y
D494	VHE15AZ7R5Y-1	J	AC	Zener, 7.5V, 15AZ7.5Y
D800	VHD1SS360/-1	J	AB	Silicon, 1SS360
D801	VHDSB10015C-1	J	AD	Silicon, SB10015C
D802	VHE015Z5R1Y-1	J	AD	Zener, 5.1V, 015Z5.1Y
D803,804	VHD1SS400/-1	J	AB	Silicon, 1SS400
D821	VHDF10J2E/-1	J	AC	Silicon, F10J2E
D836	VHDMA793/-1	J	AC	Silicon, MA793
D841	VHDRB731U/-1	J	AC	Silicon, RB731U
D851	VHD1SS389/-1	J	AB	Silicon, 1SS389
D852	VH DU1FWJ44N-1	J	AD	Silicon, U1FWJ44N
D861	VHDF10J2E/-1	J	AC	Silicon, F10J2E
PH901	VHPGP1S93K/-1	J	AF	Photo Interrupter, GP1S93K
COILS				
L100	VPBNN100M0000	J	AC	10 μH
L171	RCILC0356AFZZ	J	AC	10 μH, Choke
L204	RCILC0353AFZZ	J	AB	Tip Solid Induction, 100mA
L452	RCILC0352AFZZ	J	AB	Tip Impeder, 150mA
L453,454	RCILC0353AFZZ	J	AB	Tip Solid Induction, 100mA
L456~458	RCILC0353AFZZ	J	AB	Tip Solid Induction, 100mA
L500	VPCBM220K0000	J	AC	22 μH
L600	RCILC0331AFZZ	J	AC	2.2 μH, Choke
L601~604	RCILC0358AFZZ	J	AC	47 μH, Choke
L608~610	RCILC0358AFZZ	J	AC	47 μH, Choke
L702,703	RCILC0353AFZZ	J	AB	Tip Solid Induction, 100mA
L704	RCILC0352AFZZ	J	AB	Tip Impeder, 150mA
L711	RCILC0352AFZZ	J	AB	Tip Impeder, 150mA
L712~714	RCILC0353AFZZ	J	AB	Tip Solid Induction, 100mA

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
L751,752	VPBNN100M0000	J	AC	10 μH
L771	RCILC0359AFZZ	J	AC	100 μH, Choke
L821	RCILC0282AFZZ	J	AC	22 μH, Choke
L851	RCILC0332AFZZ	J	AC	4.7 μH, Choke
L852	RCILC0333AFZZ	J	AC	10 μH, Choke
L862	RCILC0359AFZZ	J	AC	100 μH, Choke
L871	VPBNNR47M0000	J	AC	0.47 μH
VIBRATORS				
XL201	RCRSC0027AFZZ	J	AH	Crystal, 33.8688 MHz
XL401	RCRM-0199AFZZ	J	AD	Ceramic, 4.194 MHz
CAPACITORS				
C100	VCSATA0JJ106M	J	AD	10 μF, 6.3V, Electrolytic, Tantalum
C102,103	RC-KZ1183AFZZ	J	AC	1 μF, 10V
C104	VCKYTV1EB273K	J	AB	0.027 μF, 25V
C106	RC-KZ1204AFZZ	J	AB	0.22 μF, 10V
C107	VCKYTV1EB123K	J	AB	0.012 μF, 25V
C109	RC-KZ1184AFZZ	J	AC	1 μF, 16V
C110	RC-KZ1204AFZZ	J	AB	0.22 μF, 10V
C111	VCKYCY1HB332K	J	AA	0.0033 μF, 50V
C112	VCKYCY1CB333K	J	AA	0.033 μF, 16V
C121,122	VCCCCY1HH271J	J	AA	270 pF (CH), 50V
C123,124	VCCSCY1HL391J	J	AA	390 pF, 50V
C130	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C161	RC-KZ1183AFZZ	J	AC	1 μF, 10V
C165	VCKYCY1CB333K	J	AA	0.033 μF, 16V
C171,172	RC-SZ1144AFZZ	J	AD	33 μF, 6.3V, Electrolytic, Tantalum
C200	RC-KZ1183AFZZ	J	AC	1 μF, 10V
C201	VCSATA0JJ226M	J	AD	22 μF, 6.3V, Electrolytic, Tantalum
C202	VCSATE0JJ476M	J	AD	47 μF, 6.3V, Electrolytic, Tantalum
C203	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C204	VCKYCY1AB474K	J	AC	0.47 μF, 10V
C205	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C206	RC-KZ1183AFZZ	J	AC	1 μF, 10V
C207	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C211	VCCCCY1HH5R0C	J	AA	5 pF (CH), 50V
C212	VCCCCY1HH8R0D	J	AA	8 pF (CH), 50V
C351	VCCCCY1HH180J	J	AA	18 pF (CH), 50V
C353	VCSAFA0JJ106M	J	AD	10 μF, 6.3V, Electrolytic, Tantalum
C354	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C357	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C361	VCKYTV1HB393K	J	AB	0.039 μF, 50V
C401	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C431	RC-KZ1206AFZZ	J	AC	0.47 μF, 10V
C481	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C491	RC-KZ1182AFZZ	J	AB	0.1 μF, 16V
C500	VCSATA0JJ106M	J	AD	10 μF, 6.3V, Electrolytic, Tantalum
C501,502	VCKYCY1HB222K	J	AA	0.0022 μF, 50V
C503,504	VCSATA1AJ335M	J	AB	3.3 μF, 10V, Electrolytic, Tantalum
C505,506	VCKYCY1HB102K	J	AA	0.001 μF, 50V
C507	VCSATA0JJ106M	J	AD	10 μF, 6.3V, Electrolytic, Tantalum
C508	RC-KZ1183AFZZ	J	AC	1 μF, 10V
C509,510	VCKYTV1CF225Z	J	AC	2.2 μF, 16V
C511	RC-KZ1183AFZZ	J	AC	1 μF, 10V
C600	VCEAPW0JW226M	J	AC	22 μF, 6.3V, Electrolytic
C601~604	RC-KZ1183AFZZ	J	AC	1 μF, 10V
C605	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C608	RC-KZ1184AFZZ	J	AC	1 μF, 16V
C609,610	RC-KZ1183AFZZ	J	AC	1 μF, 10V
C622	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C651	VCKYTV1CF105Z	J	AB	1 μF, 16V
C701,702	VCSATN0JJ106M	J	AC	10 μF, 6.3V, Electrolytic, Tantalum
C703	VCKYCY1EB103K	J	AA	0.01 μF, 25V
C711,712	VCCCCY1HH101J	J	AA	100 pF (CH), 50V
C713,714	RC-KZ1183AFZZ	J	AC	1 μF, 10V
C715	VCKYCY1CB104K	J	AB	0.1 μF, 16V
C721,722	VCSATA1AJ335M	J	AB	3.3 μF, 10V, Electrolytic, Tantalum
C723,724	VCKYCY1HB102K	J	AA	0.001 μF, 50V
C725,726	VCSATA1AJ335M	J	AB	3.3 μF, 10V, Electrolytic, Tantalum
C731	VCKYCY1CF224Z	J	AB	0.22 μF, 16V
C733,734	RC-KZ1182AFZZ	J	AB	0.1 μF, 16V
C738	VCKYCY1EB223K	J	AB	0.022 μF, 25V
C751,752	VCKYTV1CB823K	J	AB	0.082 μF, 16V
C753,754	VCKYTV1CF105Z	J	AB	1 μF, 16V
C755	VCKYCY1EB103K	J	AA	0.01 μF, 25V
C756,757	VCKYTV1AB684K	J	AC	0.68 μF, 10V
C758	VCSATA1AJ335M	J	AB	3.3 μF, 10V, Electrolytic, Tantalum
C759,760	VCKYCY1CB273K	J	AA	0.027 μF, 16V
C761,762	VCKYTV1CF225Z	J	AC	2.2 μF, 16V

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION	NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C765,766	RC-KZ1205AFZZ	J	AB	0.33 μ F,10V	R481,482	VRN-CY1JD333D	J	AA	33 kohms,1/16W,1%,Metal Film
C771	VCSATE0JJ476M	J	AD	47 μ F,6.3V,Electrolytic,Tantalum	R492	VRS-CY1JB102J	J	AA	1 kohm,1/16W
C773	RC-KZ1204AFZZ	J	AB	0.22 μ F,10V	R500	VRS-CY1JB4R7J	J	AA	4.7 ohms,1/16W
C774	VCKYTV1CF105Z	J	AB	1 μ F,16V	R501,502	VRS-CY1JB471J	J	AA	470 ohms,1/16W
C775	VCKYCY1EB103K	J	AA	0.01 μ F,25V	R601	VRS-CY1JB563J	J	AA	56 kohms,1/16W
C800	RC-KZ1183AFZZ	J	AC	1 μ F,10V	R701,702	VRS-CY1JB220J	J	AA	22 ohms,1/16W
C801	VCKYCY1CB104K	J	AB	0.1 μ F,16V	R703	VRS-CY1JB104J	J	AA	100 kohm,1/16W
C805	VCEAPW0JW107M	J	AD	100 μ F,6.3V,Electrolytic	R711,712	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
C806	RC-KZ1186AFZZ	J	AD	3.3 μ F,10V	R713,714	VRS-CY1JB103J	J	AA	10 kohm,1/16W
C807	VCKYTV1EB103K	J	AA	0.01 μ F,25V	R715,716	VRS-CY1JB104J	J	AA	100 kohm,1/16W
C808	RC-KZ1183AFZZ	J	AC	1 μ F,10V	R717	VRS-CY1JB102J	J	AA	1 kohm,1/16W
C821	VCCCCY1HH560J	J	AA	56 pF (CH),50V	R719,720	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
C822	VCCCCY1HH100D	J	AA	10 pF (CH),50V	R723,724	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
C823	VCKYCY1CB104K	J	AB	0.1 μ F,16V	R725	VRS-CY1JB101J	J	AA	100 ohm,1/16W
C825	RC-KZ1185AFZZ	J	AD	2.2 μ F,10V	R726	VRS-CY1JB393J	J	AA	39 kohms,1/16W
C826	VCEAPW0GW227M	J	AD	220 μ F,4.0V,Electrolytic	R727	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
C831	RC-KZ1183AFZZ	J	AC	1 μ F,10V	R728	VRS-CY1JB102J	J	AA	1 kohm,1/16W
C833	RC-KZ1205AFZZ	J	AB	0.33 μ F,10V	R729,730	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
C836,837	VCKYCY1CB104K	J	AB	0.1 μ F,16V	R753	VRS-CY1JB104J	J	AA	100 kohm,1/16W
C841	VCSAFA0JJ106M	J	AD	10 μ F,6.3V,Electrolytic,Tantalum	R754	VRS-CY1JB274J	J	AA	270 kohms,1/16W
C842	RC-KZ1183AFZZ	J	AC	1 μ F,10V	R756,757	VRS-CY1JB273J	J	AA	27 kohms,1/16W
C853	VCCCCY1HH470J	J	AA	47 pF (CH),50V	R761,762	VRS-CY1JB432J	J	AA	4.3 kohms,1/16W
C854	VCKYCY1EB103K	J	AA	0.01 μ F,25V	R763,764	VRS-CY1JB680J	J	AA	68 ohms,1/16W
C855	VCCCCY1HH181J	J	AA	180 pF (CH),50V	R765,766	VRS-CY1JB180J	J	AA	18 ohms,1/16W [MT821W]
C856	RC-KZ1184AFZZ	J	AC	1 μ F,16V	R765,766	VRS-CY1JB8R2J	J	AA	8.2 ohms,1/16W [MT821]
C857	VCKYTV0JB106K	J	AE	10 μ F,6.3V	R767,768	VRS-CY1JB102J	J	AA	1 kohm,1/16W
C858	VCCCCY1HH470J	J	AA	47 pF (CH),50V	R769,770	VRS-CY1JB153J	J	AA	15 kohms,1/16W
C859	VCCCCY1HH101J	J	AA	100 pF (CH),50V	R800	VRS-TV2AB223J	J	AA	22 kohms,1/10W
C861	RC-KZ1184AFZZ	J	AC	1 μ F,16V	R801	VRN-CY1JD222D	J	AA	2.2 kohms,1/16W,1%,Metal Film
C868	VCKYTV1CF105Z	J	AB	1 μ F,16V	R802	VRS-CY1JB102J	J	AA	1 kohm,1/16W
C869	VCSATE0JJ476M	J	AD	47 μ F,6.3V,Electrolytic,Tantalum	R804	VRN-CY1JD681D	J	AA	680 ohms,1/16W,1%,Metal Film
C871	RC-KZ1184AFZZ	J	AC	1 μ F,16V	R805	VRS-CY1JB684D	J	AA	680 kohms,1/16W
C872	VCSATA1AJ106M	J	AE	10 μ F,10V,Electrolytic,Tantalum	R806	VRS-CY1JB304D	J	AA	300 kohms,1/16W
C891	VCKYCY1AB474K	J	AC	0.47 μ F,10V	R807	VRN-CY1JD104D	J	AA	100 kohm,1/16W,1%,Metal Film
C902	VCKYCY1EB103K	J	AA	0.01 μ F,25V	R808	VRS-CY1JB105D	J	AA	1 Mohm,1/16W
C903	RC-KZ1186AFZZ	J	AD	3.3 μ F,10V	R809	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
C905-907	VCKYCY1HB222K	J	AA	0.0022 μ F,50V	R810	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
C908	RC-KZ1204AFZZ	J	AB	0.22 μ F,10V	R811,812	VRN-CY1JD104D	J	AA	100 kohm,1/16W,1%,Metal Film
C909,910	VCKYCY1CB333K	J	AA	0.033 μ F,16V	R815	VRN-CY1JD563D	J	AA	56 kohms,1/16W,1%,Metal Film
C911	VCKYCY1CB104K	J	AB	0.1 μ F,16V	R816	VRN-CY1JD243D	J	AA	24 kohms,1/16W,1%,Metal Film
RESISTORS					R821	VRS-CY1JB104J	J	AA	100 kohm,1/16W
	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm, Green	R823	VRS-CY1JB104J	J	AA	100 kohm,1/16W
	VRS-TV2AB000J	J	AA	0 ohm,Jumper,1.25×2mm,Green	R824	VRN-CY1JD274D	J	AA	270 kohms,1/16W,1%,Metal Film
L202	VRS-TV2AB220J	J	AA	22 ohms,1/10W	R825	VRS-CY1JB106J	J	AA	10 Mohm,1/16W
L651	VRS-TV2AB560J	J	AA	56 ohms,1/10W	R826	VRN-CY1JD224D	J	AA	220 kohms,1/16W,1%,Metal Film
L710	VRS-TV2AB470J	J	AA	47 ohms,1/10W	R831	VRN-CY1JD184D	J	AA	180 kohms,1/16W,1%,Metal Film
R101-104	VRS-CY1JB223J	J	AA	22 kohms,1/16W	R832	VRN-CY1JD204D	J	AA	200 kohms,1/16W,1%,Metal Film
R105	VRS-CY1JB394J	J	AA	390 kohms,1/16W	R841-843	VRN-CY1JD104D	J	AA	100 kohm,1/16W,1%,Metal Film
R106	VRS-CY1JB563J	J	AA	56 kohms,1/16W	R844	VRS-CY1JB564J	J	AA	560 kohms,1/16W
R154	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W	R851	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R161	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W	R852	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R204	VRS-CY1JB102J	J	AA	1 kohm,1/16W	R853	VRN-CY1JD304D	J	AA	300 kohms,1/16W,1%,Metal Film
R205	VRS-CY1JB684D	J	AA	680 kohms,1/16W	R855	VRN-CY1JD304D	J	AA	300 kohms,1/16W,1%,Metal Film
R206	VRS-CY1JB274D	J	AA	270 kohms,1/16W	R857	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R207	VRS-CY1JB681J	J	AA	680 ohms,1/16W	R858	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R222	VRS-CY1JB105J	J	AA	1 Mohm,1/16W	R860	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R351	VRS-TV2AB5R6J	J	AA	5.6 ohms,1/10W	R872	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R361	VRS-TQ2BB150J	J	AA	15 ohms,1/8W	R891	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R403	VRS-CY1JB102J	J	AA	1 kohm,1/16W	R892	VRS-CY1JB820J	J	AA	82 ohms,1/16W
R404	VRS-CY1JB104J	J	AA	100 kohm,1/16W	R893	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R405	VRS-CY1JB103J	J	AA	10 kohm,1/16W	R894	VRS-CY1JB220J	J	AA	22 ohms,1/16W
R406	VRS-CY1JB104J	J	AA	100 kohm,1/16W	R901,902	VRS-CY1JB1R0J	J	AA	1 ohm,1/16W
R407	VRS-CY1JB103J	J	AA	10 kohm,1/16W	R903	VRS-CY1JB331J	J	AA	330 ohms,1/16W
R408	VRS-CY1JB104J	J	AA	100 kohm,1/16W	R904	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R411	VRS-CY1JB104J	J	AA	100 kohm,1/16W	R905	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R412	VRS-CY1JB103J	J	AA	10 kohm,1/16W	R906	VRS-CY1JB274J	J	AA	270 kohms,1/16W
R413-415	VRS-CY1JB102J	J	AA	1 kohm,1/16W	R907	VRS-CY1JB184J	J	AA	180 kohms,1/16W
R422	VRS-CY1JB104J	J	AA	100 kohm,1/16W	R908	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R423	VRN-CY1JD223D	J	AA	22 kohms,1/16W,1%,Metal Film	R909	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R424,425	VRS-CY1JB223J	J	AA	22 kohms,1/16W	R920	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R426	VRN-CY1JD223D	J	AA	22 kohms,1/16W,1%,Metal Film	R921	VRS-CY1JB331J	J	AA	330 ohms,1/16W
R431	VRS-CY1JB334J	J	AA	330 kohms,1/16W	R922	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R451	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W	OTHER CIRCUITRY PARTS				
R452	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W	CN101	QCNCW801XAFZZ	J	AH	Socket,22Pin
R453	VRS-CY1JB183J	J	AA	18 kohms,1/16W	CN451	QCNCW804NAFZZ	J	AE	Socket,13Pin
R455	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W	CN482	QCNCW804GAFZZ	J	AD	Socket,7Pin
R456	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W	CN601	QCNCW716RAFZZ	J	AF	Socket,16Pin
R457	VRS-CY1JB183J	J	AA	18 kohms,1/16W	△F800	QFS-L102AAFNO	J	AQ	Fuse,T1A L 250V
R458	VRS-CY1JB563J	J	AA	56 kohms,1/16W	J701	VHLGP1FB201-1	J	AQ	Jack,Optical/LINE IN
					J702	QJAKM0189AFZZ	J	AE	Jack,MIC IN

MD-MT821/W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
J703	QJAKM0205AFZZ	J	AH	Jack,Remote Control/Head-phones
J801	QJAKC0142AFZZ	J	AE	Jack,DC
M901	RMOTV0524AFZZ	J	AS	Motor Ass'y [Spindle]
M902	RMOTV0511AFZZ	J	AT	Motor Ass'y [Sled]
M903	RMOTV0512AFM1	J	AR	Motor Ass'y [Lift]
SW401	QSW-M0001AWZZ	J	AD	Switch,Push Type [EJECT]
SW402	QSW-S0948AFZZ	J	AC	Switch,Slide Type [HOLD]
SW403	QSW-M0172AFZZ	J	AD	Switch,Push Type [Disc In]
SW902	QSW-M0170AFZZ	J	AD	Switch,Push Type [Disc Protect]

MECHANICAL PARTS

1	NGERH0597AFZZ	J	AC	Wheel,Drive
2	NSFTD0334AFZZ	J	AD	Screw,Drive
3	LHLDX3141AFM1	J	AP	Cartridge Holder Ass'y
4	MSPRT1625AFFJ	J	AD	Spring,Eject Lever
5	LANGF1610AFFW	J	AD	Bracket,Cancel
6	LCHSM0944AFM1	J	AT	Main Chassis Ass'y
7	PCUSG0599AFZZ	J	AB	Cushion
8	QPWBH0337AFM1	J	AN	Mechanism Flexible PWB Ass'y
8- 1	—	—	—	Mechanism Flexible PWB (Not Replacement Item)
8- 2(SW902)	QSW-M0170AFZZ	J	AD	Switch,Push Type [Disc Protect]
8- 3(PH901)	VHPGP1S93K/-1	J	AF	Photo Interrupter,GP1S93K
9	MSPRP0925AFFJ	J	AD	Bracket,Driver Screw
10	PCOVP1339AFZZ	J	AD	Cover,Mechanism
11	MARMM0170AFM1	J	AK	Magnetic Field Block
13	NGERH0603AFZZ	J	AE	Gear,Drive
△ 15	RCTRH8175AFZZ	J	BM	Optical Pickup Unit [MT821W]
△ 15	RCTRH8175AF10	J	BM	Optical Pickup Unit [MT821]
16	MSPRP0922AFFJ	J	AD	Spring,Drive Grip
17	MSPRP0923AFFJ	J	AD	Spring,Thrust Plate
18	NSFTM0292AFFW	J	AC	Shaft,Guide
20	MLEVF2641AFFW	J	AD	Lever,Eject
23	QPWBH0338AFZZ	J	AH	Magnetic Head Flexible PWB
25	MLEVF2637AFM1	J	AH	Lift Working Lever Ass'y
26	MLEVF2638AFFW	J	AD	Lever,Block
27	MLEVF2639AFFW	J	AD	Lever,Lift Joint
28	MLEVF2640AFFW	J	AE	Lever,Lift
29	MSPRD1362AFFJ	J	AD	Spring,Lift Lever
30	RCILH0112AFZZ	J	AM	Magnetic Head
501	LX-BZ0804AFFF	J	AA	Screw,ø1.4×2.2mm
502	LX-JZ0154AFZZ	J	AA	Screw,ø1.4×2.8mm
503	LX-BZ0823AFZZ	J	AA	Screw,ø1.4×1.2mm
504	LX-WZ9290AFZZ	J	AA	Washer,ø0.8×ø2.4×0.2mm
505	LX-BZ0800AFZZ	J	AA	Screw,ø1.4×2.5mm
506	XSPSN14P01500	J	AA	Screw,ø1.4×1.5mm
508	LX-JZ0148AFZZ	J	AA	Screw,ø1.7×3mm
509	XWSSD14-05000	J	AA	Washer,ø1.4×0.5mm
510	LX-BZ0960AFZZ	J	AB	Screw,ø1.4×1.5mm
511	LX-WZ9296AFZZ	J	AA	Washer,ø1.5×ø3.5×0.25mm
512	LX-BZ0974AFZZ	J	AB	Screw,ø1.4×5.5mm
513	LX-BZ0991AFZZ	J	AB	Screw,ø1.2×1.6mm
M901	RMOTV0524AFZZ	J	AS	Motor Ass'y [Spindle]
M902	RMOTV0511AFZZ	J	AT	Motor Ass'y [Sled]
M903	RMOTV0512AFM1	J	AR	Motor Ass'y [Lift]

CABINET PARTS

201	GFTAC3147AFM3	J	AX	Top Cabinet Ass'y [MT821W(BL)]
201	GFTAC3147AFM4	J	AX	Top Cabinet Ass'y [MT821 (GL)/MT821W (GL)]
202	GCABA2898AFSA	J	AN	Center Cabinet A
203	GCABA2899AFSA	J	AH	Center Cabinet B
204	CCABD4395AF05	J		Bottom Lid Ass'y [MT821 (GL)]
204	CCABD4401AF03	J		Bottom Lid Ass'y [MT821W (BL)]
204	CCABD4401AF05	J		Bottom Lid Ass'y [MT821W (GL)]
204- 1	—	—	—	Bottom Lid (Not Replacement Item)
204- 2	GCOVA2307AFSA	J	AC	Cover,DC Jack
204- 3	JKNBZ2113AFSA	J	AE	Knob,Hold
204- 4	PSHET0413AFZZ	J	AC	Sheet,Insulation
205	GCOVA2306AFSA	J	AC	Cover,Extension Battery Terminal
206	JKNBZ2178AFSA	J	AE	Knob,Eject
207	LHLDZ1756AFSA	J	AC	Cover,+ Terminal
208	LHLDZ3186AFM1	J	AS	Main Frame Ass'y
209	PCUSG0534AFZZ	J	AC	Insulator
210	PCUSG0641AFSA	J	AB	Insulator

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
211	PSHEZ1022AFZZ	J	AB	Sheet,Extension Battery Terminal
212	QTANB9401AFFQ	J	AC	Terminal,Battery +
213	QTANB9402AFFQ	J	AB	Terminal,Battery -
214	PFLT-1145AFZZ	J	AB	Pickup Flexible PWB Protect Felt
215	GFTAB1365AFSC	J	AE	Lid,Battery [MT821W (BL)]
215	GFTAB1365AFSF	J	AE	Lid,Battery [MT821 (GL)]/MT821W (GL)]
216	PCUSG0690AFZZ	J	AB	Cushion,Mechanism A
217	QTANZ9168AFFQ	J	AG	Extension Battery Terminal
218	RUNTK0504AFZZ	J	AT	Key Switch Flexible PWB Ass'y
219	RUNTZ0719AFZZ	J	AY	LCD Ass'y
221	PCUSG0689AFZZ	J	AB	Cushion,Preventive Vibration
222	PSHET0419AFZZ	J	AB	Sheet,Insulation
223	HDECQ0595AFSA	J	AH	Plate,Decoration
225	JKNBZ2173AFSA	J	AH	Knob,Search
226	JKNBZ2170AFSA	J	AH	Button,Function A
227	JKNBZ2171AFSA	J	AH	Button,Function B
228	JKNBZ2172AFSA	J	AH	Button,Function C
229	JKNBZ2175AFSA	J	AC	Button,REC
230	PSHEZ1018AFZZ	J	AB	Sheet,Function Button A
231	PSHEZ1019AFZZ	J	AB	Sheet,Function Button B
232	PSHEZ1020AFZZ	J	AB	Sheet,Function Button C
233	LANGT1957AFM1	J	AG	Bracket,Display Ass'y
234	PCUSG0688AFZZ	J	AB	Cushion,Display Bracket
235	PFLT-1127AFZZ	J	AA	Flexible Felt
236	PFLT-1147AFZZ	J	AB	IC Felt
238	PSHET0421AFZZ	J	AB	Sheet,Search Knob
239	PCUSG0691AFZZ	J	AB	Cushion Mechanism B
240	PSHET0423AFZZ	J	AB	Sheet,Display Bracket
241	PSHEZ1068AFZZ	J	AB	Sheet,LCD
242	PSHEZ1070AFZZ	J	AB	Sheet,LCD Insulation
244	TLABS0504AFZZ	J	AD	Caution,Laser [For MT821W Only]
246	TLABS0505AFZZ	J	AD	Label,Laser [For MT821W Only]
601	LX-BZ0908AFF3	J	AA	Screw,ø1.4×2.0mm
602	LX-BZ0805AFFN	J	AB	Screw,ø1.7×2.5mm
603	LX-BZ0967AFFC	J	AB	Screw,ø1.4×2mm
604	LX-CZ0107AFFF	J	AA	Screw,ø1.2×2.5mm

PACKING PARTS (MD-MT821W Only)

SPAKA2679AFZZ	J	AD	Packing Add. [MT821W]
SPAKA2704AFZZ	J	AD	Packing Add. [MT821]
SPAKC6691AFZZ	J		Packing Case [MT821W (GL)]
SPAKC6790AFZZ	J		Packing Case [MT821W (BL)]
SPAKZ0465AFZZ	J	AD	Pad,AC Adaptor [MT821W]
SPAKZ0489AFZZ	J		Pad,AC Adaptor [MT821]

ACCESSORIES

GCASZ0086AFSA	J	AX	Battery Case
PCAPH8107AFZZ	J	AD	Headphones Rubber Cap
QCNWG0382AFZZ	J	AK	Connecting Cord,RCA Type
QCNWG0422AFZZ	J	AQ	Connecting Cord,Optical Type
QPLGA0250AFZZ	J	AF	Plug,AC Adaptor [MT821W for Central South America/Saudi Arabia/Philippines/Brasil Only]
△ RADPA3489AFZZ	J	AV	AC Adaptor [MT821]
△ RADPA5402AFZZ	J	BF	AC Adaptor [MT821W Except for Taiwan/Hong Kong]
△ RADPA5403AFZZ	J	BF	AC Adaptor [MT821W for Taiwan]
△ RADPA8493AFZZ	J	BH	AC Adaptor [MT821W for Hong Kong]
RPHOH0176AFZZ	J	AR	Earphones [MT821W]
RPHOH0185AFZZ	J	AW	Headphones [MT821]
RRMCW0043AFSC	J	BB	Remote Control [MT821W (BL)]
RRMCW0043AFSD	J	BB	Remote Control [MT821/MT821W (GL)]
TCAUH0341AFZZ	J	AD	Caution,Headphones [MT821]
TCAUZ0450AFZZ	J	AD	Label,Operation Manual [MT821W for Taiwan]
TCAUZ0475AFZZ	J	AD	Lid Battery Attention Card Warranty Card [MT821W for Philippines]
TGANE1230AFZZ	J		Warranty Card [MT821W (BL) for Taiwan]
TGANZ1096AF05	J		Warranty Card [MT821W (GL) for Taiwan]
TGANZ1096AF06	J		Warranty Card [MT821W (GL) for Taiwan]

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
	TINSZ1393AFZZ	J	AH	Operation Manual [MT821]
	TINSZ1394AFZZ	J	AE	Quick Guide [MT821 Only]
	TINSZ1395AFZZ	J	AR	Operation Manual [MT821W]
	TLABG0527AFZZ	J	AC	Label,Hong Kong [MT821W for Hong Kong]
	TLABG0527AFZ1	J	AC	Label,Hong Kong [MT821W for Hong Kong]
	TLABH0699AFZZ	J		Label,Translation [MT821W for Taiwan]
	TLABM0659AFZZ	J		Label,Specification [MT821W (BL)]
	TLABM0660AFZZ	J		Label,Specification [MT821W (GL)]
	TLABR1049AFZZ	J		Label,Bar Code [MT821W (GL) for Central South America/Brasil]
	TLABR1050AFZZ	J		Label,Bar Code [MT821W (BL) for Central South America/Brasil]
	TLABS0478AFZZ	J	AC	Label,CPA [MT821W]
	TLABZ2560AFZZ	J		Label,Import Company [MT821W (BL) for Taiwan]
	TLABZ2561AFZZ	J		Label,Import Company [MT821W (GL) for Taiwan]
	TLSTS0126AFZZ	J		Service Station [MT821W for Taiwan]
	TLSTS0127AFZZ	J		Service Station [MT821W for Philippines]
	UBAGC0083AFSA	J	AH	Carrying Case
	UBATI0088AFSA	J	BD	Rechargeable,Battery
	UBNDT0086AFSA	J	AF	Strap [MT821/MT821W (GL)]
	UBNDT0086AFSD	J	AF	Strap [MT821W (BL)]

P.W.B. ASSEMBLY (Not Replacement Item)

PWB-A	DCYO-3103AF93	J	—	Main (Combined Ass'y) [MT821]
PWB-A	DCYO-3105AF93	J	—	Main (Combined Ass'y) [MT821W]

OTHER SERVICE PARTS

UDSKM0001AFZZ	J	AZ	Recording Mini Disc
88GMMD-110	J	BV	High Reflection Disc MMD-110 (TEAC Test MD)
88GMMD-212	J	BU	Low Reflection Disc MMD-212 (TEAC Test MD)

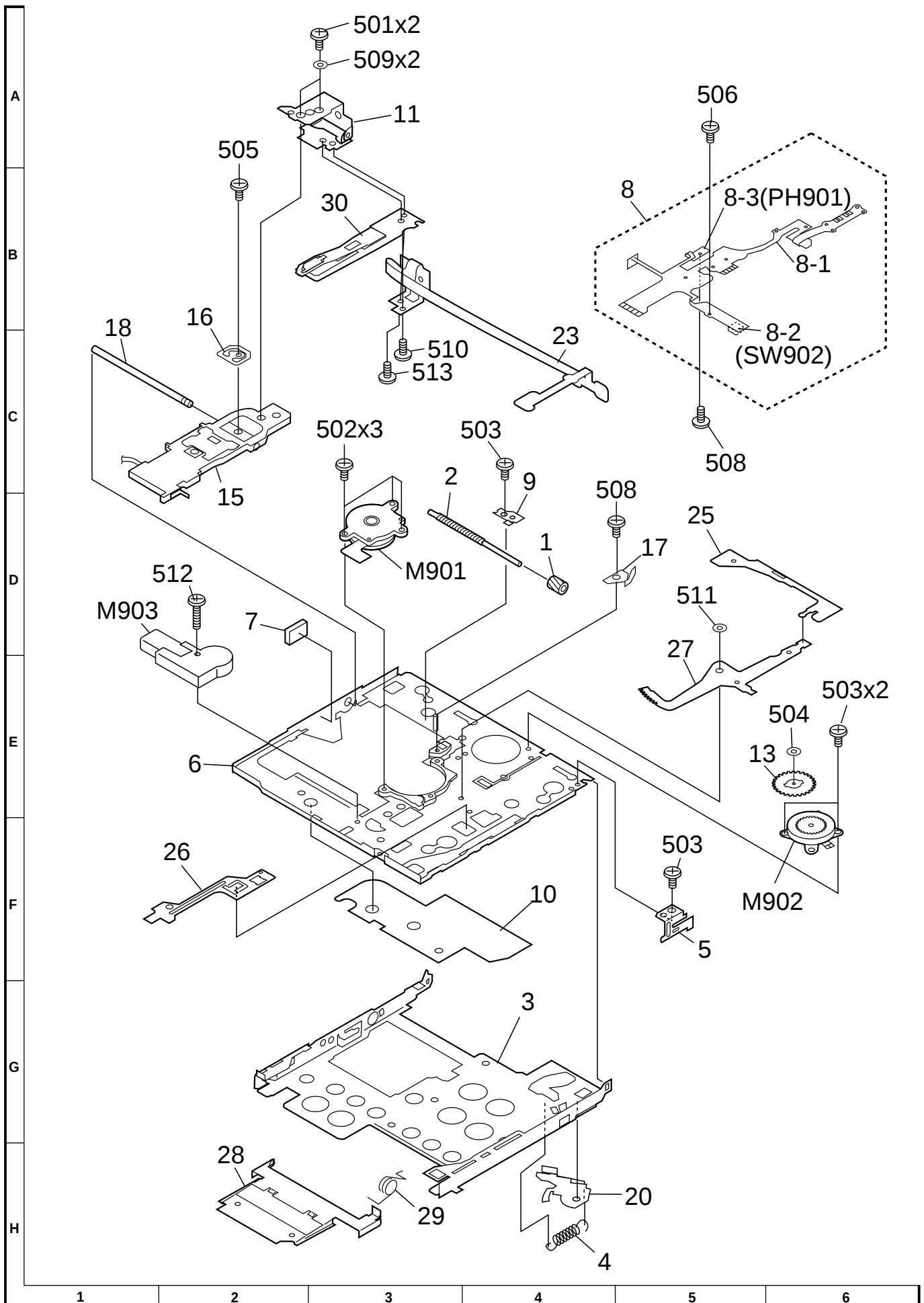


Figure 5 MD MECHANISM EXPLODED VIEW

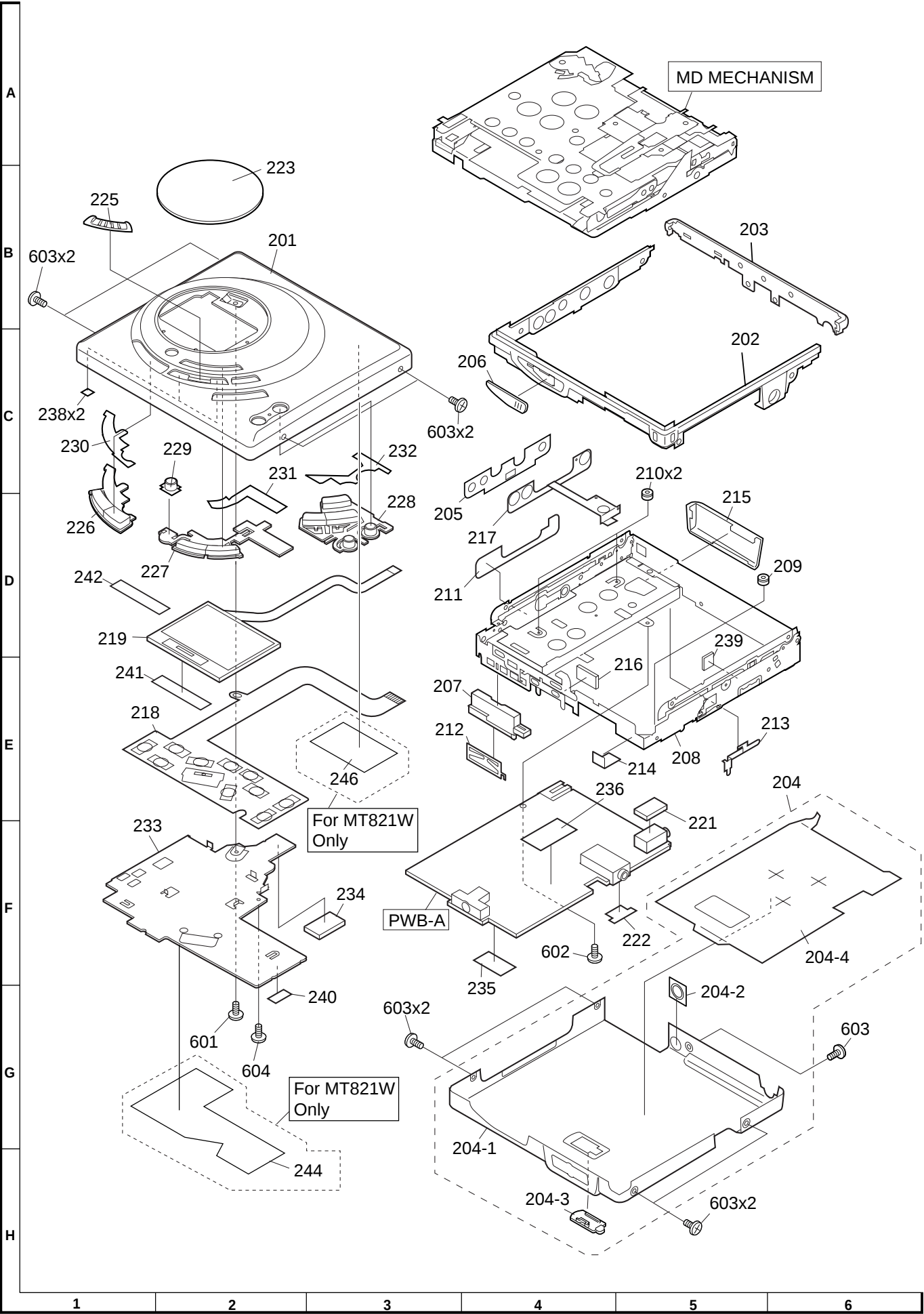
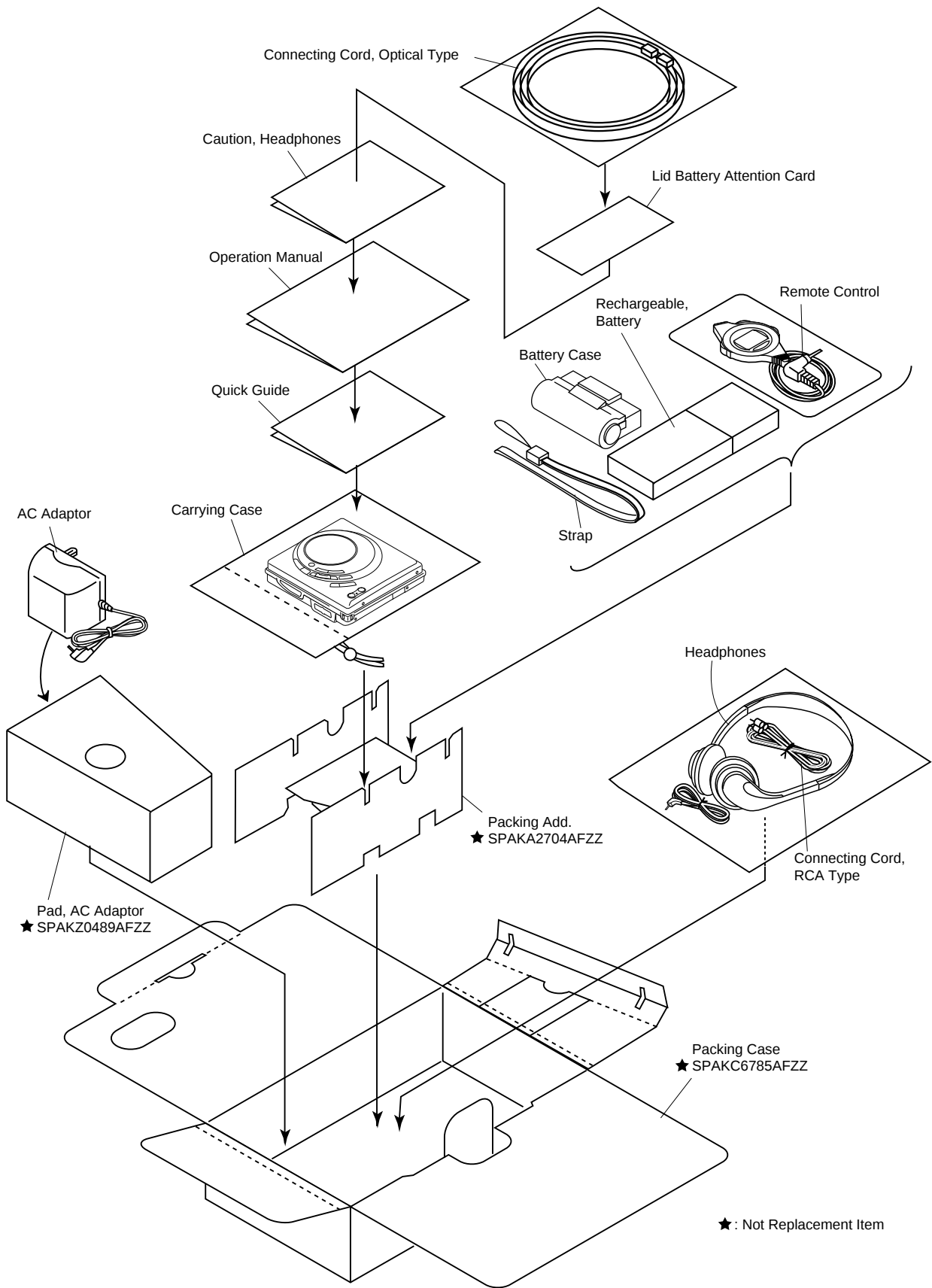


Figure 6 CABINET EXPLODED VIEW

PACKING OF THE SET (MD-MT821 ONLY)

SETTING POSITION OF SWITCHES AND KNOBS		
UNIT	HOLD	OFF
Remote Control	HOLD	CANSEL



— M E M O —

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