

HCD-XB6K

SERVICE MANUAL

E Model



HCD-XB6K is the tuner, deck, CD and amplifier section in LBT-XB6K.

CD Section	Model Name Using Similar Mechanism	HCD-XB6
	CD Mechanism Type	CDM37L-5BD29AL
	Base Unit Name	BU-5BD29AL
	Optical Pick-up Name	KSS-213D/Q-NP
Tape deck Section	Model Name Using Similar Mechanism	HCD-XB6
	Tape Transport Mechanism Type	TCM-220WR2

SPECIFICATIONS

Amplifier section

Continuous RMS power output

100+100 watts
(8 ohms at 1kHz, 10% THD)

Peak music power output

1400 watts

Inputs

PHONO IN (phono jacks):

sensitivity 3 mV, impedance 47 kilohms

VIDEO (AUDIO) IN (phono jacks): sensitivity 250 mV, impedance 47 kilohms

MIX MIC (phono jack):

sensitivity 1 mV, impedance 10 kilohms

Outputs

PHONES (stereo phone jack):

accepts headphones of 8 ohms or more

SPEAKER:

accepts impedance of 8 to 16 ohms

SURROUND SPEAKER:

accepts impedance of 16 ohms

CD player section

System

Compact disc and digital audio system

Laser

Semiconductor laser ($\lambda = 780\text{nm}$).

Emission duration: continuous

Laser output

Max. 44.6 μF *

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

Wavelength

780 - 790 nm

Frequency response

2 Hz - 20 kHz (± 0.5 dB)

Signal-to-noise ratio

More than 90 dB

Dynamic range

More than 90 dB

Tape player section

Recording system

4-track 2-channel stereo

Frequency response (DOLBY NR OFF)

60 - 13,000 Hz (± 3 dB), using a Sony TYPE I cassette

60 - 14,000 Hz (± 3 dB), using a Sony TYPE II cassette

— Continued on next page —

COMPACT DISC DECK RECEIVER



SONY®

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range 87.5 -108.0 MHz (50 kHz step)

Antenna FM wire antenna

Antenna terminals 75 ohm unbalanced

Intermediate frequency 10.7 MHz

AM tuner section

Tuning range 531 - 1,602 kHz
(with the tuning interval set at 9 kHz)

530 - 1,710 KHz
(with the tuning interval set at 10 kHz)

Antenna AM loop antenna, External antenna terminals

Intermediate frequency 450 kHz

General

Power requirements

Malaysian model: 220 - 240 V AC, 50/60 Hz

Other models: 110 - 120 V or 220 - 240 V AC, 50/60 Hz

Adjustable with voltage selector

Power consumption 190 watts

Dimensions (w/h/d) Approx. 355 x 425 x 435 mm (14 x 16 ³/₄ x 17 ¹/₄ in) incl. projecting parts and controls

Mass Approx. 12.5 kg (27 lb 9 oz.)

Supplied accessories: AM loop antenna (1)

Remote RM-SD70 (1)

Sony SUM-3 (NS) batteries (2)

FM wire antenna (1)

Speaker cords (2)

Design and specifications are subject to change without notice.

CAUTION

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

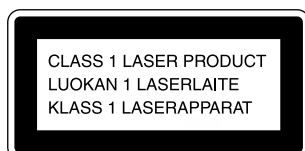
Notes on chip component replacement

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

Flexible Circuit Board Repairing

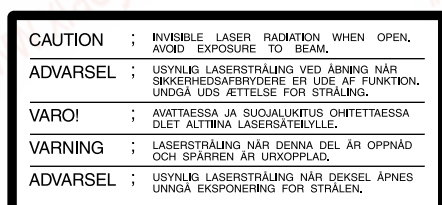
- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.



Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside the unit.



Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

“DOLBY” and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

SAFETY-RELATED COMPONENT WARNING!!

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

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SERVICING NOTES

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

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.

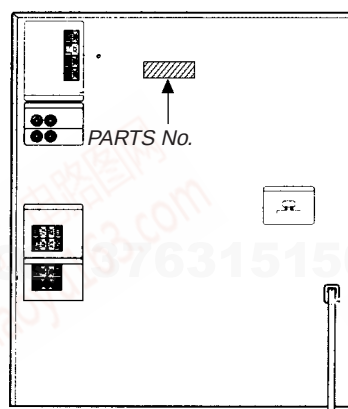
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

MODEL IDENTIFICATION

– BACK PANEL –



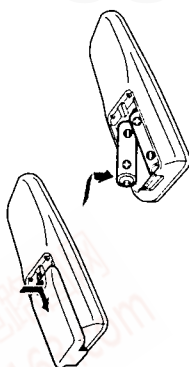
MODEL	PARTS No.
E, Indonesia models	4-987-926-4□
Saudi Arabia model	4-987-926-5□
Singapore model	4-987-926-6□
Malaysian model	4-987-926-7□

SECTION 1 GENERAL

This section is extracted from instruction manual.

5

Inserting two size AA (R6) batteries into the remote



Tips

- With normal use, the batteries should last for about six months. When the remote no longer operates the system, replace both batteries with new ones.
- When you set the time, the demonstration is deactivated.

To activate the demonstration again, press DISPLAY/DEMO while the system power is off.

Note

If you do not use the remote for a long period of time, remove the batteries to avoid possible damage from battery leakage.

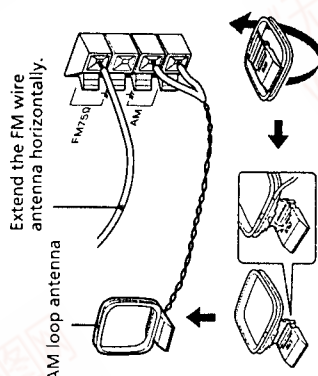
When carrying this system

Do the following to protect the CD mechanism.

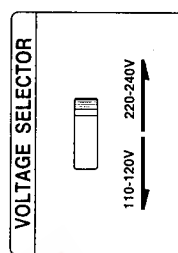
- 1 Press FUNCTION repeatedly until "CD" appears in the display.
- 2 Hold down PLAY MODE and press POWER to turn off the power.

2 Connect the FM/AM antennas.

Set up the AM loop antenna, then connect it.



3 Set VOLTAGE SELECTOR to the position of your local power line voltage (except for North American, Malaysian, Mexican, and Australian models).



4 Connect the power cord to a wall outlet.

The demonstration appears in the display.

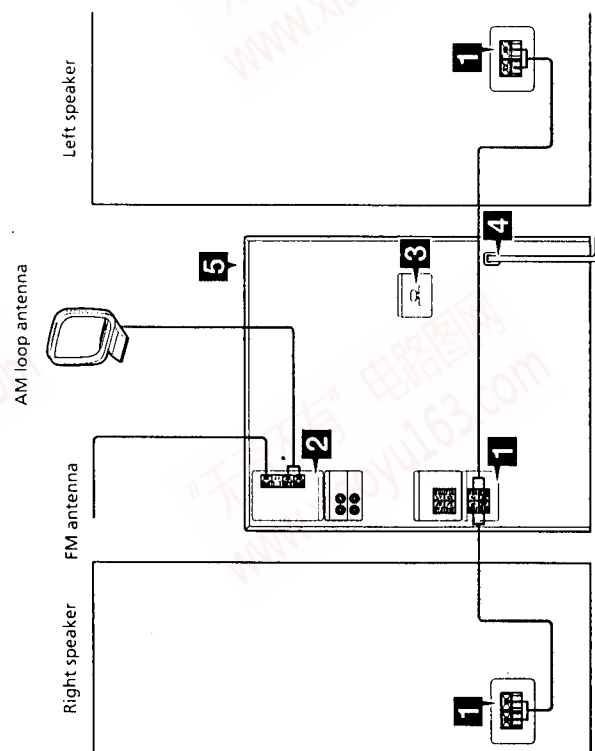
If the plug on this unit does not fit your wall outlet, detach the supplied adapter from the plug (except for North and South American countries, Australia, and Malaysia).

5 Deactivate the demonstration mode by pressing DISPLAY/DEMO while the system power is off.

Getting Started

Step 1: Hooking up the system

Follow steps 1 through 5 to hook up your system using the supplied cords and accessories.



The above illustration is of the LBT-XB6K.

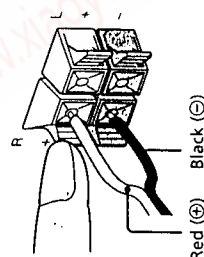
1 Connect the speakers.

- 1 Connect the speaker cords to SPEAKER jacks of the same color. Keep the speaker cords away from the antennas to prevent noise.

- 2 Insert only the stripped portion of the cord. Inserting the vinyl portion will interfere with the speaker connection and no sound will come from the speaker.

Note

The speakers for LBT-D290/G3300/XB3/XB3K do not have the speaker jacks. Connect the speaker cords to the speaker jacks on the unit.

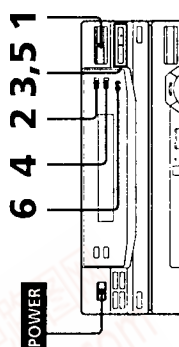


Red (R) Black (L)

4

Step 3: Presetting radio stations

You can preset up to 30 stations, 20 for FM and 10 for AM.



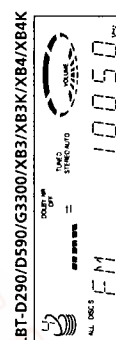
- 1 Press TUNER/BAND repeatedly until the band you want appears in the display.

Each time you press this button, the band changes as follows:
FM ↔ AM

- 2 Press TUNING MODE repeatedly until "AUTO" appears in the display.

- 3 Press TUNING + / -.

The frequency indication changes and scanning stops when the system tunes in a station. "TUNED" and "STEREO" (for a stereo program) appear.

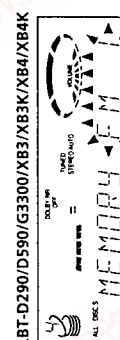


LBT-D690/XB600/XB6/XB6K



- 4 Press TUNER MEMORY.

A preset number flashes in the display.

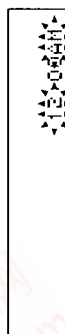


LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K

- 5 Press ENTER/NEXT.
The clock starts.

LBT-D690/XB600/XB6/XB6K only

- 1 Press ○/CLOCK SET.
The hour indication flashes.



- 2 Press TUNING + / - to set the hour.
The clock uses the 12-hour system.



- 3 Press ENTER/NEXT.
The minutes indication flashes.



- 4 Press TUNING + / - to set the minutes.



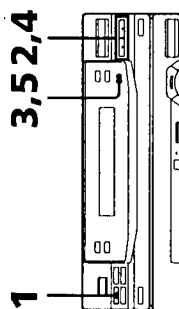
- 5 Press ENTER/NEXT.
The clock starts.

Tip

If you make a mistake, start over from step 1.

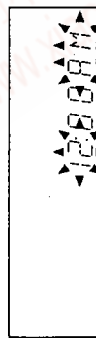
Step 2: Setting the time

You must set the time before using the timer functions.



LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K only

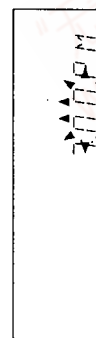
- 1 Press ○/CLOCK SET.
The hour indication flashes.



- 2 Press TUNING + / - to set the hour.
The clock uses the 12-hour system.



- 3 Press ENTER/NEXT.
The minutes indication flashes.



- 4 Press TUNING + / - to set the minutes.



QQ 376315150 892498299

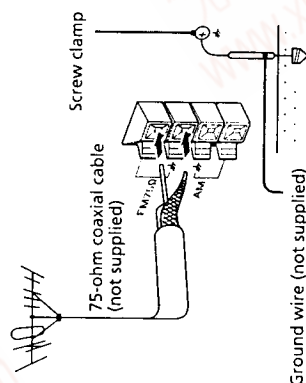
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Connecting outdoor antennas

Connect an outdoor antenna to improve the reception.

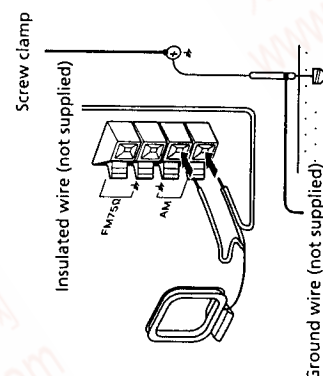
FM antenna

Connect an optional FM outdoor antenna. You can also use the TV antenna instead.



AM antenna

Connect a 6 to 15 meter (20 to 50 feet) insulated wire to the AM antenna terminal. Leave the supplied AM loop antenna connected.

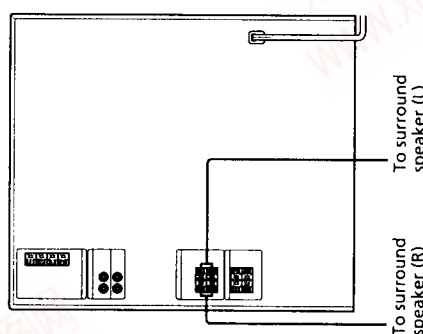


Important

If you connect an outdoor antenna, connect a ground wire to the Δ terminal with the screw clamp. To prevent a gas explosion, do not connect the ground wire to a gas pipe.

Connecting surround speakers (LBT-D590/D690/XB600/XB600/XB6K only)

You can connect optional surround speakers.



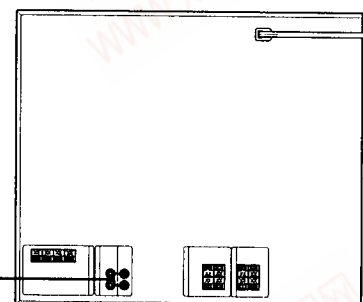
Note

You need to connect both left and right surround speakers. Otherwise, the sound will not be heard.

Connecting a VCR

Be sure to match the color of the plugs and the connectors. To listen to the sound from the connected VCR, press FUNCTION repeatedly until "VIDEO" appears.

To the audio output of the VCR



Connecting optional AV components

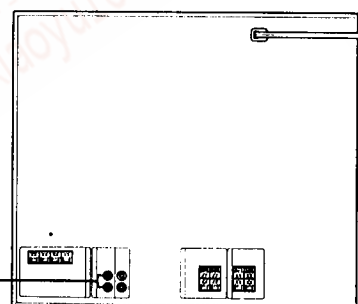
To enhance your system, you can connect optional components. Refer to the instructions included with each component for details.

Connecting audio components

Connecting a turntable

Be sure to match the color of the plugs and the connectors. To listen to the sound from the connected turntable, press FUNCTION repeatedly until "PHONO" appears.

To the audio output of the turntable



Note

Using the turntable at high volume may cause distortion or howling. This is often caused by the bass sound from the speakers. The bass sound may be picked up by the needle of the turntable, and produce the distortion or howling. To avoid this, do the following:

- 1 Keep some distance between the speakers and the turntable.
- 2 Stop using the surround effect.
- 3 Install the speakers or the turntable on a firm and stable surface.
- 4 Press DBFB repeatedly until "DBFB" appears from the display (LBT-D290/G3300/XB3/XB3K only). Press SUPER WOOFER repeatedly until the indicator on this button goes off (except for LBT-D290/G3300/XB3/XB3K).

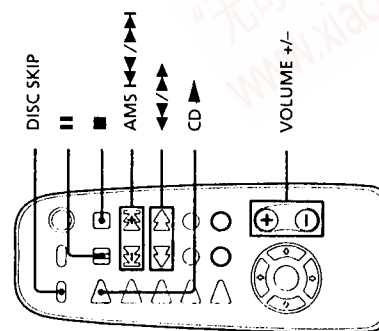
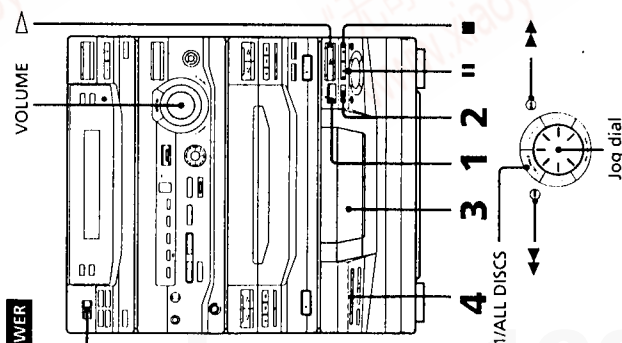
8

Basic Operations

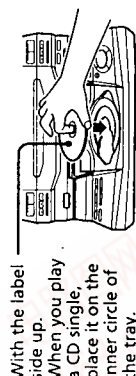
Playing a CD

— Normal Play

You can play up to five CDs in a row.



- 1 Press **▲** OPEN and place a CD on the disc tray.
If the disc is not placed properly it will not be recognized.



- 2 Press **DISC SKIP** to place up to four more CDs on the tray.
The disc tray rotates so you can insert other CDs.

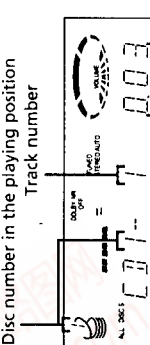
- 3 Close the front cover.

- 4 Press one of the **DIRECT PLAY** buttons.

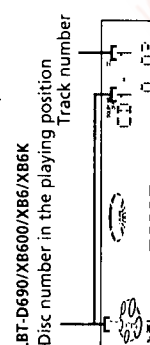
Playback starts.

If you press **▷** (or **CD ▲** on the remote), playback starts from the CD in the playing position.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K



Elapsed time



To Do this

Stop playback	Press ■ .
Pause	Press . Press again to resume playback.
Select a track	During playback or pause, turn the jog dial clockwise (to go forward) or counterclockwise (to go backward) and release it when you reach the desired track. Or press AMS* ▷▶▶ (to go forward) or AMS* ◀◀◀ (to go backward) on the remote.
Find a point in a track	Press and hold ▷▶▶ or ◀◀◀ during playback, and release at the desired point.
Select a CD	Press one of the DIRECT PLAY buttons (or DISC SKIP).
Play only the CD you have selected	Press 1/ALL DISCS repeatedly until "1 DISC" appears.
Play all CDs	Press 1/ALL DISCS repeatedly until "ALL DISCS" appears.
Remove or change the CDs	Press ▲ OPEN.
Adjust the volume	Turn VOLUME (or press VOLUME +/- on the remote).

* AMS: Automatic Music Sensor.

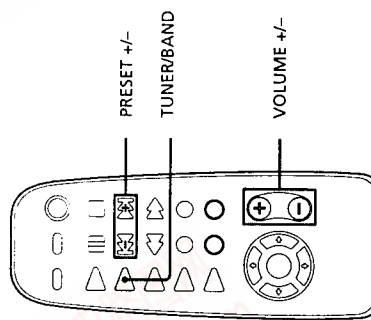
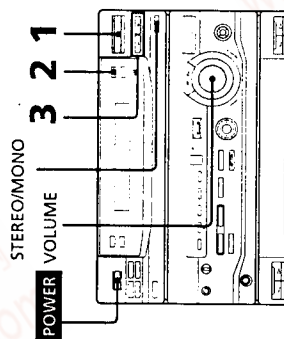
Tips

- Pressing **▷** while the power is off automatically turns the power on and starts CD playback if there is a CD on the tray (One Touch Play).
- You can switch from another source to the CD player and start playing a CD just by pressing **▷** or one of the **DIRECT PLAY** buttons (Automatic Source Selection).
- If there is no CD in the player, "NO DISC" appears in the display.
- You can change the CD in the loading position during playback.

Listening to the radio

— Preset Tuning

Before using this function, preset radio stations in the tuner's memory (see "Step 3: Presetting radio stations").



- 1** Press TUNER/BAND repeatedly until the band you want appears in the display.

Each time you press this button, the band changes as follows:

FM $\leftrightarrow$ AM

- 2** Press TUNING MODE repeatedly until "PRESET" appears in the display.
MANUAL → AUTO → PRESET

- 3** Close the front cover.

- 4** Press DISC SKIP repeatedly until the disc number you want to record appears in the playing position indicator.

- 5 Press CD SYNC.** Deck B stands by for recording and the CD player stands by for playback, and the indicator on the Δ button (for the front side) lights up green.

- 6** Press DIRECTION repeatedly to select $\longleftrightarrow$ to record on one side or $\longleftrightarrow$ (or RELAY) to record on both sides.

- 7** Press **II** on deck B.
Recording starts.

To stop recording

Press ■ on deck B or on the CD player.

Tips

- If you want to record on the reverse side, press **▷** so the indicator on the **▷** button (for the reverse side) lights up green.
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side. When you want to reduce the hiss noise in low-level high-frequency signals, press **DOLBY NR** before step 7 so "DOLBY NR B" appears in the display.
- To record with the surround effect, press **SURROUND** so "SUR [|||||]" appears in the display.
- The equalizer settings will not be recorded.

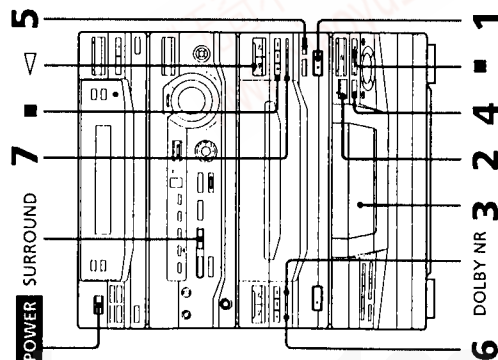
Vote

You cannot listen to other sources while recording.

Recording a CD

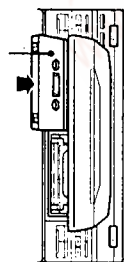
— CD Synchro Recording

This function lets you record from a CD to a tape easily. You can use TYPE I (normal) or TYPE II (CrO₂) tapes. The recording level is adjusted automatically.



- 1** Press **▲** EJECT and insert a blank tape into deck B.

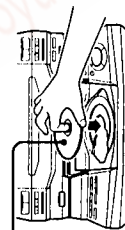
With the side you want to record on facing forward



- 2** Press $\blacktriangle$ OPEN and place a CD.

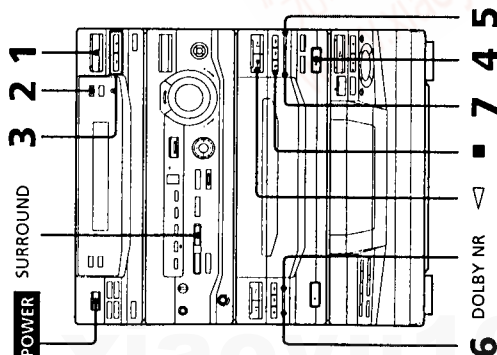
With the label –
side up.

When you play a CD single, place it on the inner circle of the tray.



Recording from the radio

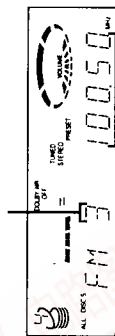
You can record a radio program on a tape by tuning in a preset station. You can use TYPE I (normal) or TYPE II (CrO₂) tapes. The recording level is automatically adjusted.



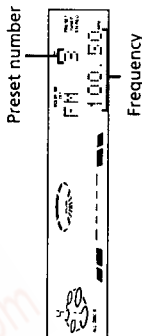
- 1 Press TUNER/BAND repeatedly until the band you want appears in the display.
- 2 Press TUNING MODE repeatedly until "PRESET" appears in the display.

- 3 Press TUNING +/- to tune in a preset station.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K
Preset number

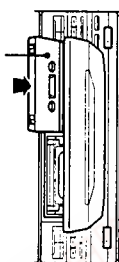


LBT-D690/XB600/XB6/XB6K
Preset number



- 4 Press EJECT and insert a blank tape into deck B.

With the side you want to record on facing forward



- 5 Press REC. Deck B stands by for recording, and the indicator on the button (for the front side) lights up green.

- 6 Press DIRECTION repeatedly to select to record on one side or (or RELAY) to record on both sides.

- 7 Press on deck B. Recording starts.

To stop recording

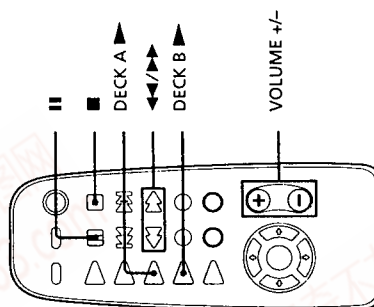
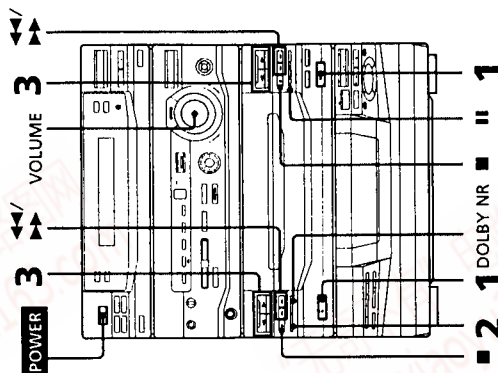
Press on deck B.

Tips

- If you want to record on the reverse side, press so the indicator on the button (for the reverse side) lights up green.
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- To record non-preset stations, select "MANUAL" in step 2, then press TUNING +/- to tune in the desired station.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR before step 7 so "DOLBY NR B" appears in the display.
- To record with surround effect, press SURROUND so "SUR (H)" appears in the display. The equalizer settings will not be recorded.
- If noise is heard while recording from the radio, move the appropriate antenna to reduce the noise.

Playing a tape

You can play any type of tape, TYPE I (normal), TYPE II (CrO₂) or TYPE IV (metal). The deck automatically detects the tape type. To select either deck A or B, press DECK A or DECK B on the remote.

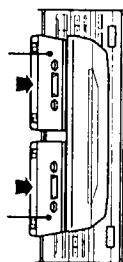


continued

Playing a Tape (continued)

- 1 Press **EJECT** and insert a recorded tape in deck A or B.

With the side you want to play facing forward



- 2 Press **DIRECTION** repeatedly to select **==>** to play one side, **<==>** to play both sides, or **RELAY** (Relay Play)** to play both decks in succession.

- 3 Press **<**

Press **<** to play the reverse side. The tape starts playing.

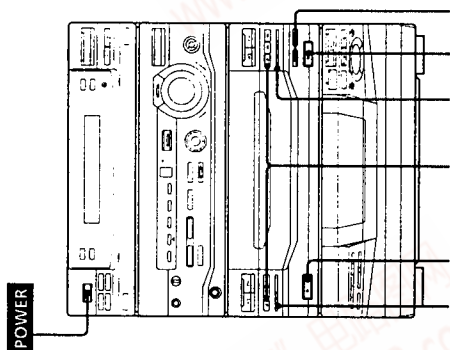
- The deck stops automatically after playing both sides five times.
- ** Relay Play always plays according to the following sequence:
Deck A (front side), Deck A (reverse side), Deck B (front side), Deck B (reverse side).

To	Do this
Stop play	Press ■
Pause (Deck B only)	Press II . Press again to resume play.
Fast forward	Press ▶▶ while playing the front side or ▶▶▶ while playing the reverse side.
Rewind	Press ◀◀ while playing the front side or ◀◀◀ while playing the reverse side.
Remove the cassette	Press EJECT .
Adjust the volume	Turn VOLUME (or press VOLUME +/- on the remote).

Recording from a tape

— High-speed Dubbing

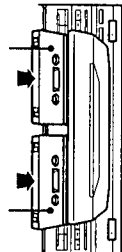
You can use **TYPE I** (normal) or **TYPE II** (CrO₂) tapes. The recording level is automatically adjusted.



3 1 ■ 4 1 2

- 1 Press **EJECT** and insert a recorded tape in deck A and a blank tape in deck B.

With the side you want to play/record on facing forward



- 2 Press **H SPEED DUB**.
Deck B stands by for recording.
- 3 Press **DIRECTION** repeatedly to select **==>** to record on one side, or **<==>** (or **RELAY**) to record on both sides.

- 4 Press **II**.
Dubbing starts.
When dubbing ends, decks A and B automatically stop.

To stop dubbing

Press **■** on deck A or B.

Tips

- When you dub on both sides, start recording from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- If you set **DIRECTION** to **<==>** when the tapes you use have different lengths, the tape in each deck reverses independently. If you select **RELAY**, the tapes in both decks reverse together.
- You don't have to set **DOLBY NR**, since the tape in deck B is automatically recorded in the same state as the tape in deck A.

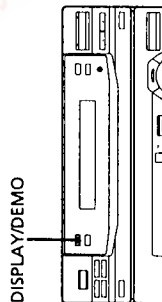
Note

You cannot record the surround effect.

The CD Player

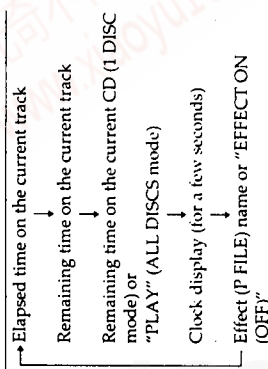
Using the CD display

You can check the remaining time of the current track or the whole CD.



→ Press DISPLAY/DEMO during playback.

Each time you press this button in Normal Play, the display changes as follows:



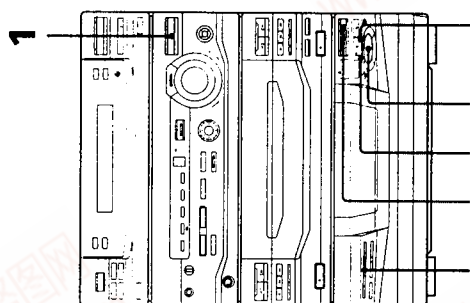
To check the total playing time and the number of tracks on a CD

Press DISPLAY/DEMO in stop mode. If you press DISPLAY/DEMO again, the clock display appears for a few seconds then the display returns to the previous indication.

Playing CD tracks in random order

— Shuffle Play

You can play all the tracks on one CD or all the CDs in random order.



DIRECT PLAY 4 3 Jog dial 2

- 1 Press FUNCTION repeatedly until "CD" appears in the display.
- 2 Press PLAY MODE repeatedly until "SHUFFLE" appears in the display.
- 3 Press 1/ALL DISCS to choose "1 DISC" or "ALL DISCS."
"All DISCS" shuffles the tracks on all the CDs in the player. "1 DISC" shuffles the tracks on the CD in the playing position.
- 4 Press ▷.
"CD" appears and all the tracks play in random order.

To cancel Shuffle Play

Press PLAY MODE repeatedly until "SHUFFLE" or "PROGRAM" disappears from the display. The tracks continue playing in their original order.

To select a desired CD

Press one of the DIRECT PLAY buttons during 1 Disc Shuffle Play.

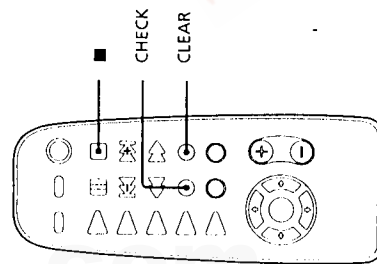
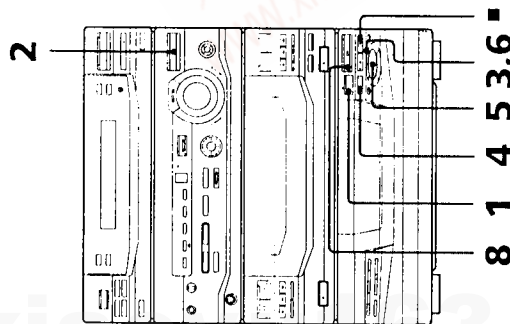
Tips

- You can start Shuffle Play during Normal Play by pressing PLAY MODE repeatedly until "SHUFFLE" appears in the display.
- To skip a track, turn the jog dial clockwise (or press AMS ►►) on the remote).

Programming CD tracks

— Program Play

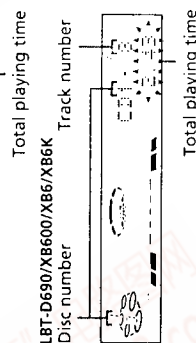
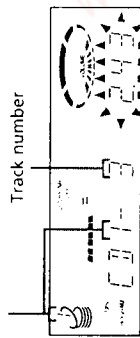
You can create a program of up to 32 tracks from all the CDs in the order you want them to be played.



1 Place CDs and close the front cover.

- 2 Press FUNCTION repeatedly until "CD" appears in the display.
- 3 Press PLAY MODE repeatedly until "PROGRAM" appears in the display.
- 4 Press DISC SKIP to select a CD.
- 5 Turn the jog dial until the desired track appears in the display.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K
Disc number

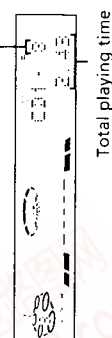


- 6 Press PLAY MODE once. The track is programmed. "STEP" and the programmed playing order appear, followed by the total playing time.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K
The last programmed track



LBT-D690/XB600/XB6/XB6K
The last programmed track



- 7 To program additional tracks, repeat steps 4 through 6. Skip step 4 to select tracks from the same disc.

- 8 Press Δ . All the tracks play in the order you selected.

To cancel Program Play

Press PLAY MODE repeatedly until "PROGRAM" or "SHUFFLE" disappears from the display.

To	Press
Check the program	CHECK on the remote repeatedly. After the last track, "CHECK END" appears.
Clear the last selected track	CLEAR on the remote in stop mode.
Clear a specific track	CHECK on the remote repeatedly until the number of the track to be cleared lights up, then press CLEAR.
Add a track to the program	1 Press DISC SKIP to select a CD. 2 Turn the jog dial to select a track. 3 Press PLAY MODE.
Clear the entire program	■ once in stop mode or twice while playing.

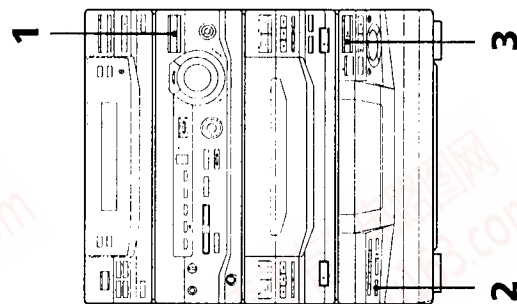
Tips

- The program you created remains in the CD player's memory even after it has been played. Press Δ to play the same program again.
- If "..." appears instead of the total playing time while programming, this means:
 - you have programmed a track numbered over 20, or
 - the total playing time has exceeded 100 minutes.

Playing CDs without interruption

— Non-Stop Play

You can play CDs without pausing between tracks.



- 1 Press FUNCTION repeatedly until "CD" appears in the display.
- 2 Press NON-STOP so the indicator on this button lights up.
- 3 Press Δ .

To cancel Non-Stop Play

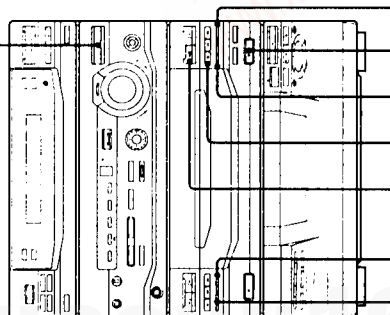
Press NON-STOP so the indicator on this button goes off.

The Tape Deck

Recording on a tape manually

You can record from CDs, tapes, or the radio as you like. For example, you can record just the songs you want or begin recording from the middle of the tape. The recording level is adjusted automatically.

2



4 DOLBY NR

1 Insert a blank tape into deck B.

2 Press FUNCTION repeatedly until the source you want to record (e.g., CD) appears in the display.

3 Press ● REC.

Deck B stands by for recording, and the indicator on the [RECORD] button (for the front side) lights up green.

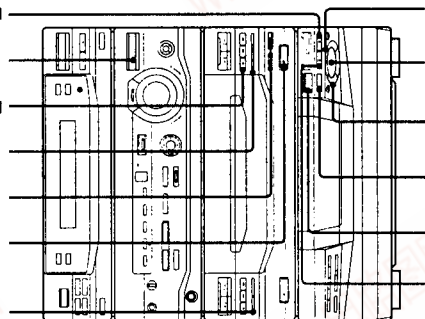
4 Press DIRECTION repeatedly to select [RECORD] to record on one side or [REVERSE] (or RELAY) to record on both sides.

Recording CDs by specifying the track order

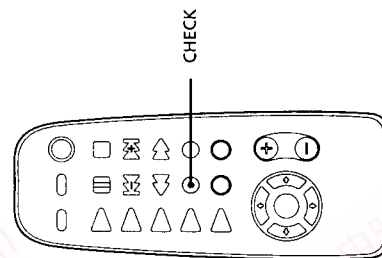
— Program Edit

You can record tracks from all the CDs in the order you want. When programming, make sure the playing times for each side do not exceed the length of one side of the tape.

12 2 1 1 1 3 3



9 1 5 EDIT 6 4,7



1 Place CDs and close the front cover.

2 Insert a blank tape into deck B.

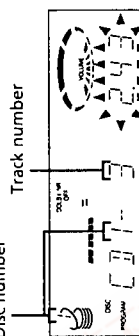
3 Press FUNCTION repeatedly until "CD" appears in the display.

4 Press PLAY MODE repeatedly until "PROGRAM" appears in the display.

5 Press DISC SKIP to select a CD.

6 Turn the jog dial until the desired track appears in the display.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K
Disc number



Total playing time
(including selected track)

LBT-D690/XB600/XB6/XB6K
Disc number



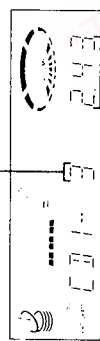
Total playing time
(including selected track)

Recording CDs by specifying the track order (continued)

7 Press PLAY MODE once.

The track is programmed. "STEP" and the programmed playing order appear, followed by the total playing time.

LBT-D590/D590/G3300/XB3/XB3K/XB4/XB4K
The last programmed track



Previously selected track
LBT-D590/XB600/XB6/XB6K
The last programmed track



Previously selected track

8 Repeat steps 5 through 7 to program additional tracks to be recorded on side A.

Skip step 5 to select tracks from the same disc.

9 Press II to insert a pause at the end of side A.

"P" appears in the display, and the total playing time resets to "0:00" in the display.

10 Repeat steps 5 through 7 to program the tracks to be recorded on side B.

Skip step 5 to select tracks from the same disc.

11 Press CD SYNC.

Deck B stands by for recording, the CD player stands by for playback, and the indicator on the > button (for the front side) lights up green.

12 Press DIRECTION repeatedly to select < to record on one side or > (or RELAY) to record on both sides.

13 Press II on deck B.

Recording starts.

To stop recording

Press ■ on deck B or on the CD player.

To check the order

Press CHECK on the remote repeatedly. After the last track, "CHECK END" appears.

To cancel Program Edit

Press PLAY MODE repeatedly until "PROGRAM" or "SHUFFLE" disappears from the display.

Selecting the tape length automatically

— Tape Select Edit

You can check the most suitable tape length for recording a CD. Note that you cannot use Tape Select Edit for discs containing more than 20 tracks.

After inserting a CD, press EDIT once so "EDIT" flashes.

The required tape length for the CD in the playing position appears, followed by the total playing time for sides A and B.

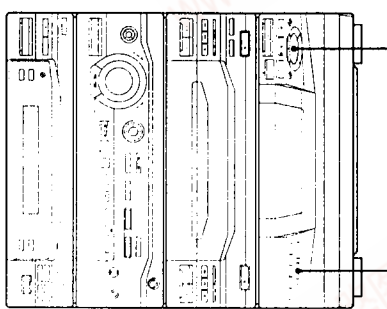
Note
You cannot use this function when Program Play mode has been set. After clearing the entire program (see "To clear the entire program" on page 21), follow the above procedure.

DJ Effects

Looping part of a CD

— Loop

With the loop function, you can repeat part of a CD during playback. This lets you create original recordings.



LOOP Jog dial

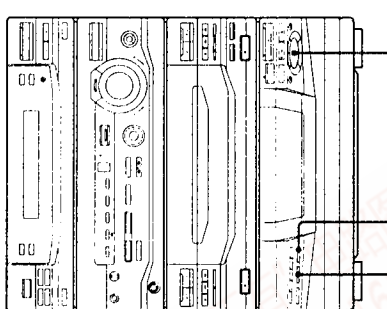
Press and hold LOOP during playback at the point you want to start the Loop function, and release to resume normal playback.

To adjust the loop length
Turn the jog dial while holding LOOP (or press MUSIC MENU </> while holding LOOP on the remote) to select different loop lengths.

Flashing part of a CD

— Flash

With the flash function, you can "flash" the CD sound during playback. This lets you create original recordings.



FLASH Jog dial

Press and hold FLASH during playback at the point you want to start the Flash function, and release to resume normal playback.

To adjust the flash length
Turn the jog dial while holding FLASH (or press MUSIC MENU </> while holding FLASH on the remote) to select different flash lengths.

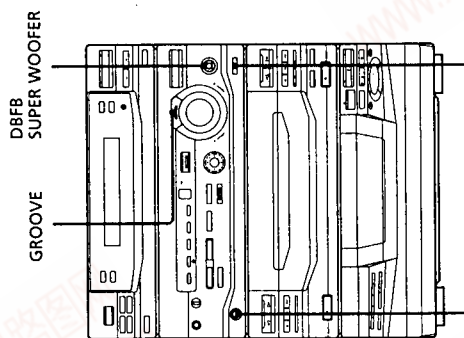
To use LOOP and FLASH together
Press and hold both LOOP and FLASH at the same time.

Note
The loop and flash length cannot be adjusted in stop mode. Adjust the loop and flash lengths during operation.

Sound Adjustment

Adjusting the sound

You can reinforce the bass, create a more powerful sound, and listen with headphones.



PHONES SUPER W MODE

To reinforce the bass (DBFB) (LBT-D290/G3300/XB3/XB3K only)

Press DBFB.

Each time you press this button, the DBFB level display changes as follows:

DBFB ■■■ → DBFB ■■■■ → display off

"DBFB ■■■■" reinforces the bass more than "DBFB ■■■".

• DBFB = Dynamic Bass Feedback

To reinforce the bass from the super woofer (SUPER WOOFER) (except for LBT-D290/G3300/XB3/XB3K)

Press SUPER WOOFER.

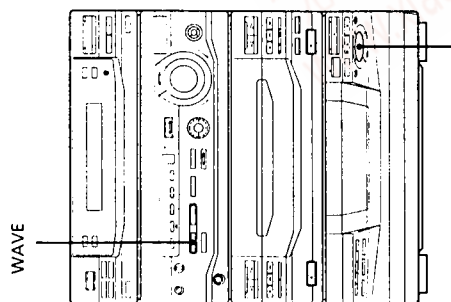
Each time you press this button, the super woofer level display changes as follows:

SUPER WOOFER FLAT → LOW → HIGH

Waving the equalizer

— Wave

With the Wave function, you can fluctuate the graphic equalizer automatically while listening to a source. This effect can be used with any source, but it cannot be recorded.



Jog dial

➔ Press and hold WAVE while listening to a source at the point you want to start the Wave function, and release to resume normal playback.

To adjust the wave length

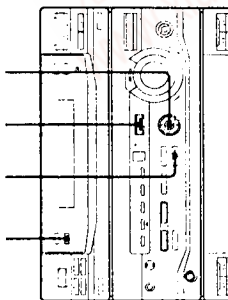
Turn the jog dial while holding WAVE to select different wave lengths.

Selecting the audio emphasis

The audio emphasis menu lets you select the sound characteristics according to the music you are listening to.

The personal file function (see "Making a personal audio emphasis file (Personal File)") lets you store your own effects.

SPECTRUM ANALYZER 3 EFFECT 1,2



1 Press GEQ $\blacktriangle/\blacktriangledown$ (or MUSIC MENU $\blacktriangle/\blacktriangledown$ on the remote) repeatedly to select MENU 1 or MENU 2.

See the chart "Music menu options" below. The last audio emphasis chosen from that menu appears in the display.

2 Press GEQ $\blacktriangle/\blacktriangledown$ (or MUSIC MENU $\blacktriangle/\blacktriangledown$ on the remote) repeatedly to select the audio emphasis you desire.

The audio emphasis name appears in the display.

3 Press ENTER.

You don't need to press ENTER when you use the remote.

To cancel the audio emphasis

Press EFFECT (or MUSIC MENU ON/OFF on the remote) repeatedly so the indicator on the EFFECT button goes off.

Music menu options

"SUR (|||||)" appears if you select an audio emphasis with a surround effect.

Press	To select
GEQ $\blacktriangle/\blacktriangledown$	MENU 1
GEQ $\blacktriangle/\blacktriangledown$	MENU 2
GEQ $\blacktriangle/\blacktriangledown$	ROCK
GEQ $\blacktriangle/\blacktriangledown$	MOVIE
GEQ $\blacktriangle/\blacktriangledown$	POP
GEQ $\blacktriangle/\blacktriangledown$	GAME
GEQ $\blacktriangle/\blacktriangledown$	JAZZ
GEQ $\blacktriangle/\blacktriangledown$	NIGHT
GEQ $\blacktriangle/\blacktriangledown$	DANCE
GEQ $\blacktriangle/\blacktriangledown$	PARTY
GEQ $\blacktriangle/\blacktriangledown$	SALSA
GEQ $\blacktriangle/\blacktriangledown$	RELAX

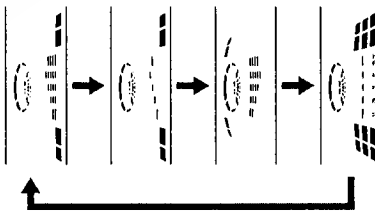
To change the equalizer display

Each time you press SPECTRUM ANALYZER, the equalizer display changes to show one of the four displays below.

LBT-D290/DS590/
G3300/XB3/XB3K/
XB4/XB4K



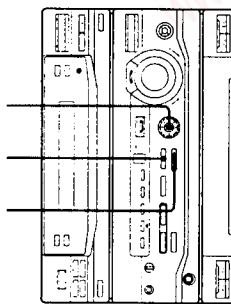
LBT-D690/XB600/XB6/XB6K



Adjusting the audio emphasis

You can adjust the audio emphasis using the graphic equalizer and surround effect.

6 2 3,4



Adjusting the graphic equalizer

You can adjust the sound by raising or lowering the levels of specific frequency ranges.

Before operation, first select the basic audio emphasis you want for your sound.

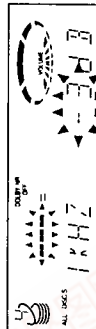
1 Select the basic audio emphasis you want for your sound.
(see "Selecting the audio emphasis.")

2 Press GEQ CONTROL.

The frequency range appears and the level value flashes in the display.

3 Press GEQ $\blacktriangle/\blacktriangledown$ repeatedly to select a frequency band.

LBT-D290/DS590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K



4 Press GEQ $\blacktriangle/\blacktriangledown$ to adjust the level.



LBT-D290/DS590/G3300/XB3/XB3K/XB4/XB4K



5 Repeat steps 3 and 4 to adjust the other frequency bands.

6 Press ENTER when finished.

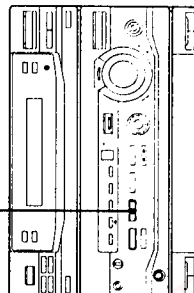
Note

If you choose another audio emphasis (other than "EFFECT OFF"), the adjusted sound effect is lost. To retain the adjusted sound effect for future use, store it in a personal file (see "Making a personal audio emphasis file").

Activating the surround effect

You can enjoy the surround effect.

SURROUND



Press SURROUND so "SUR (|||||)" appears in the display.

Note

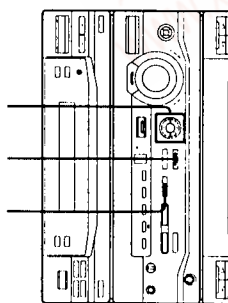
If you choose other sound effects, the surround effect will be canceled. To retain the effect, store it in a personal file (see "Making a personal audio emphasis file").

Making a personal audio emphasis file

— Personal File

You can create personal files of audio patterns (surround effect and graphic equalizer) and store them in the unit's memory. Later call up an audio pattern to play a favorite tape, CD, or radio program. You can create up to five audio files. Before operation, first select the basic audio emphasis you want for your sound.

2 4 3

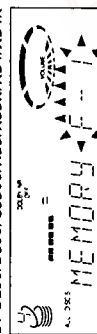


1 Create the sound effect you want by using the graphic equalizer and surround effect (see "Adjusting the audio emphasis").

2 Press P FILE MEMORY.

A personal file number appears in the display.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K



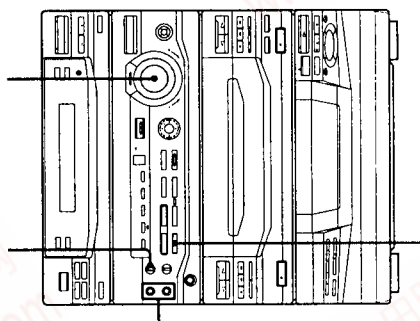
3 Press GEQ +/- to select the file number (P FILE) where you want to store the sound effect.

Other Features

Singing along: Karaoke

You can sing along with any stereo CD or tape by turning down the singer's voice. You need to connect an optional microphone.

1,5 4



2 3

1 Turn MIC LEVEL to MIN to turn down the microphone level.

2 Connect an optional microphone to the MIC (MIC 1*) jack.

When you use two microphones at the same time, connect the other one to the MIC 2* jack.
(* LBT-XB3K/XB4K/XB6K only)

3 Press KARAOKE PON/MPX repeatedly to obtain the desired karaoke effect.

Each time you press this button, the display changes as follows:

KARAOKE PON → MPX R → MPX L
↑ EFFECT OFF (ON) ↓
"A" appears in the display when the karaoke mode is activated.

To	Select
Reduce the singer's voice on a CD or tape	KARAOKE PON
Reduce the right channel on a multiplex CD or tape.	MPX R
Reduce the left channel on a multiplex CD or tape.	MPX L

4 Start playing the music and adjust the volume.

5 Turn MIC LEVEL to adjust the microphone volume.

When you are done

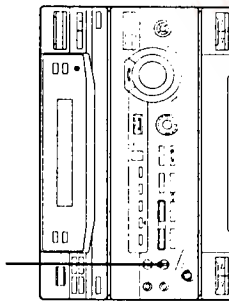
Turn MIC LEVEL to MIN and disconnect the microphone from MIC, then press KARAOKE PON/MPX repeatedly until "A" disappears from the display.

*Singing along: Karaoke
(continued)*

Adjusting the microphone echo

(LBT-XB3K/XB4K/XB6K only)

ECHO LEVEL



→ Turn ECHO LEVEL to adjust the echo effect.

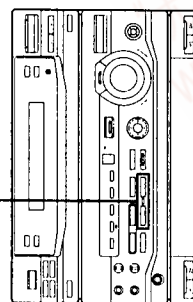
To cancel the echoing

Turn ECHO LEVEL to MIN.

Adjusting the key

(LBT-XB3K/XB4K/XB6K only)

#/b

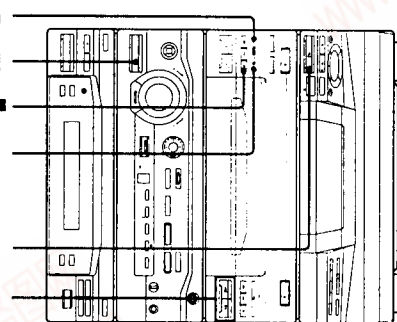


→ Press **b** or **#**.

You can adjust the key higher or lower in 13 half-tone steps (-3.0 to 3.0).

Mixing and recording sounds

5 5 4 2 3



1 Prepare the microphone and the karaoke effect. Then, insert a blank tape in deck B.

2 Press FUNCTION repeatedly to select the source you desire and set it to pause mode.

3 Press **REC**.

4 Press **II**.

5 Press **▷** to start playing the CD (or tape in deck A).
Playback starts.
Start singing along with the music.

To stop recording

Press **■** on deck B.

Tips

- If acoustic feedback (howling) occurs, move the microphone away from the speakers or change the direction of the microphone.
- If you want to record your voice through the microphone only, you can do so by selecting the CD source and not playing a CD.

Notes

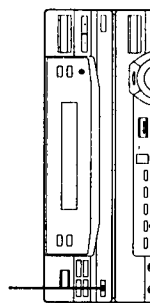
- If you press EFFECT or select a sound effect. The karaoke mode is canceled.
- The instrumental sound may be reduced as well as the singer's voice when the source sound was recorded monaurally.
- The singer's voice may not be reduced when:
 - only a few instruments are playing
 - a duet is being sung
 - the source has strong echoes or chorus
 - the singer's voice deviates from the center.
 - the voice on the source is singing high soprano or tenor notes.

Falling asleep to music

— Sleep Timer

You can set the system to turn off at a preset time, so you can fall asleep listening to music. You can preset the remaining time in 10 minute increments.

SLEEP



→ Press SLEEP.

Each time you press this button, the minutes display (the remaining time) changes as follows:

AUTO → 90min → 80min → 70min
↑
OFF ← 10min 50min ← 60min

When you choose AUTO

The power turns off when the current CD or tape finishes playback (up to 100 minutes). The power turns off if you manually stop playing a CD or tape.

To check the remaining time

Press SLEEP once.

To change the remaining time

Press SLEEP repeatedly to select the time you want.

To cancel the Sleep Timer function

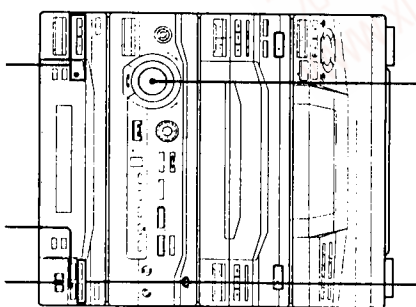
Press SLEEP repeatedly until "SLEEP OFF" appears in the display.

Waking up to music

— Wake-up Timer

You can wake up to music at a preset time every day. Make sure you have set the clock (see "Step 2: Setting the time").

9 3 4,5,6,7,8



DAILY 1/DAILY 2

2

1 Prepare the music source you want to play.

- CD: Insert a CD. To start from a specific track, create a program (see "Programming CD tracks").
- Tape: Insert a tape with the side you want to play facing forward.
- Radio: Tune in the preset station you want (see "Step 3: Presetting radio stations").

2 Turn VOLUME to adjust the volume.

3 Press $\odot$ /CLOCK SET.

"SET" appears and "DAILY 1" flashes in the display.

To check the setting

- 1 Press the timer button you have set, DAILY 1 or DAILY 2.
- 2 "TIMER OFF" appears in the display.
- 3 Press DAILY 1 or DAILY 2 again.

To cancel the timer operation

- 1 Press the timer button you have set, DAILY 1 or DAILY 2.
- 2 "TIMER OFF" appears in the display.

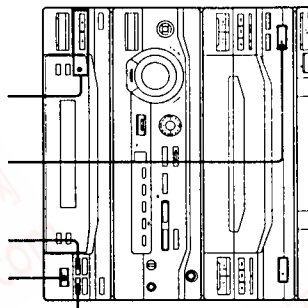
Notes

- The system turns on 15 seconds before the preset time.
- You cannot activate DAILY 1 and DAILY 2 at the same time.
- You cannot set the timer if the timer on and off times are the same.
- When you set the Sleep Timer, the Wake-up Timer will not turn on the system until the Sleep Timer turns it off.
- You cannot activate the Wake-up Timer and Timer-recording at the same time.

Timer-recording radio programs

To timer-record, you must preset the radio station (see "Step 3: Presetting radio stations") and set the clock (see "Step 2: Setting the time") beforehand.

2 7 REC 6 3,4,5



1 Tune in the preset radio station (see "Listening to the radio").

2 Press $\odot$ /CLOCK SET.

"SET" appears and "DAILY 1" flashes in the display.

3 Press TUNING +/- to select REC, then press ENTER/NEXT. "ON" appears and the hour indication flashes in the display.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K

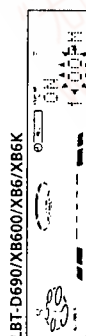


continued

Timer-recording radio programs (continued)

- 4** Set the time to start recording.
Press TUNING +/- to set the hour, then press ENTER/NEXT.
The minutes indication flashes.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



Press TUNING +/- to set the minutes, then press ENTER/NEXT.
The hour indication flashes again.

- 5** Set the time to stop recording following the above procedure.
The start time, the stop time, the recording source, and the preset station appear in turn before the original display returns.

- 6** Insert a blank tape in deck B.

- 7** Turn off the power.
When recording starts, the volume level is set to the minimum.

Additional Information

Precautions

On operating voltage

Before operating the system, check that the operating voltage of your system is identical with the voltage of your local power supply.

On safety

- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Unplug the system from the wall outlet (mains) if it is not to be used for an extended period of time. To disconnect the cord (mains lead), pull it out by the plug. Never pull the cord itself.
- Should any solid object or liquid fall into the component, unplug the stereo system and have the component checked by qualified personnel before operating it any further.
- The AC power cord must be changed only at the qualified service shop.

On placement

- Place the stereo system in a location with adequate ventilation to prevent heat build-up in the stereo system.
- Do not place the unit in an inclined position.
- Do not place the unit in locations where it is;
 - Extremely hot or cold
 - Dusty or dirty
 - Very humid
- Vibrating
 - Subject to direct sunlight

On operation

- If the stereo system is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the CD player. Should this occur, the system will not operate properly. Remove the CD and leave the system turned on for about an hour until the moisture evaporates.
- When you move the system, take out any discs.

If you have any questions or problems concerning your stereo system, please consult your nearest Sony dealer.

Notes on CDs

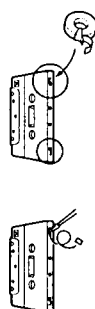
- Before playing, clean the CD with a cleaning cloth. Wipe the CD from the center out.
- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.
- Do not expose the CD to direct sunlight or heat sources such as hot air ducts, nor leave it in a car parked in direct sunlight.

Cleaning the cabinet

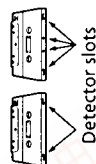
Use a soft cloth slightly moistened with mild detergent solution.

To save a tape permanently

To prevent a tape from being accidentally recorded over, break off the cassette tab from side A or B as illustrated. If you later want to reuse the tape for recording, cover the broken tab with adhesive tape.



When you are using a TYPE II (CrO₂) or TYPE IV (metal) cassette, be careful not to cover the detector slots which allow the tape player to automatically detect the type of tape.



Before placing a cassette in the tape deck

Take up any slack in the tape. Otherwise the tape may get entangled in the parts of the tape deck and become damaged.

When using a tape longer than 90 minutes

The tape is very elastic. Do not change the tape operations such as play, stop, and fast-winding etc. frequently. The tape may get entangled in the tape deck.

Cleaning the tape heads

Clean the tape heads after every 10 hours of use.

- When the tape heads become dirty
 - the sound is distorted
 - there is a decrease in sound level
 - the sound drops out
 - the tape does not erase completely
 - the tape does not record

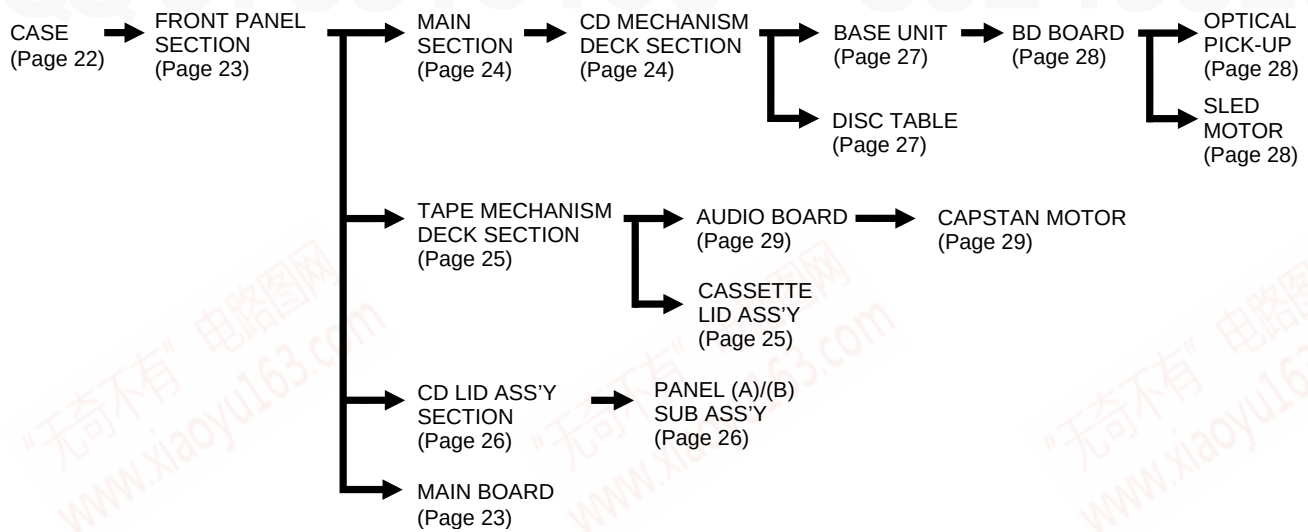
Make sure to clean the tape heads before you start an important recording or after playing an old tape. Use separately sold dry-type or wet-type cleaning cassette. For details, refer to the instructions of the cleaning cassette.

Demagnetizing the tape heads

Demagnetize the tape heads and the metal parts that have contact with the tape every 20 to 30 hours of use with a separately sold demagnetizing cassette. For details, refer to the instructions of the demagnetizing cassette.

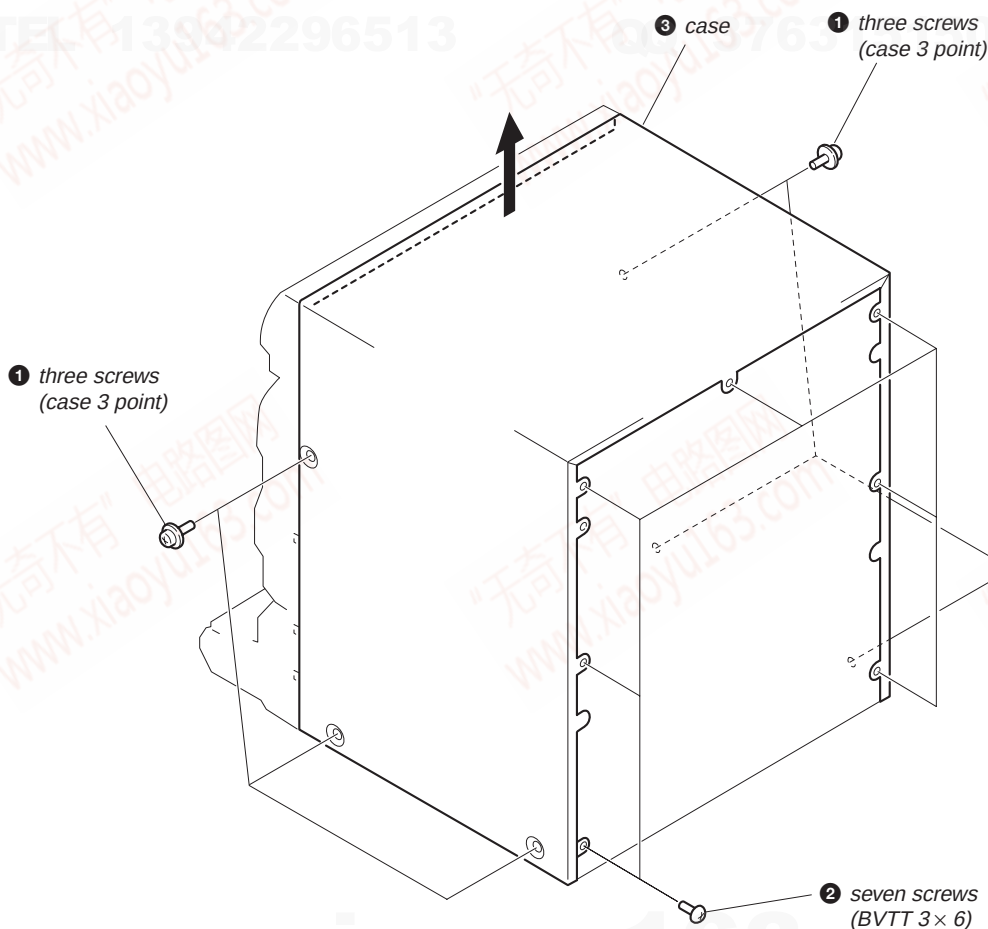
SECTION 2 DISASSEMBLY

- This set can be disassembled in the order shown below.

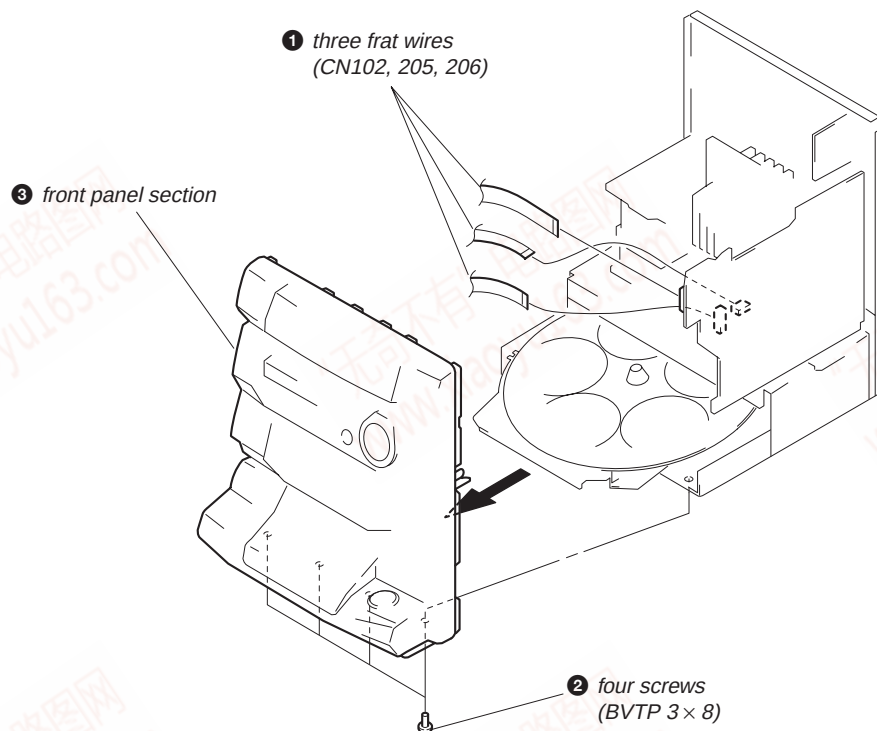


Note: Follow the disassembly procedure in the numerical order given.

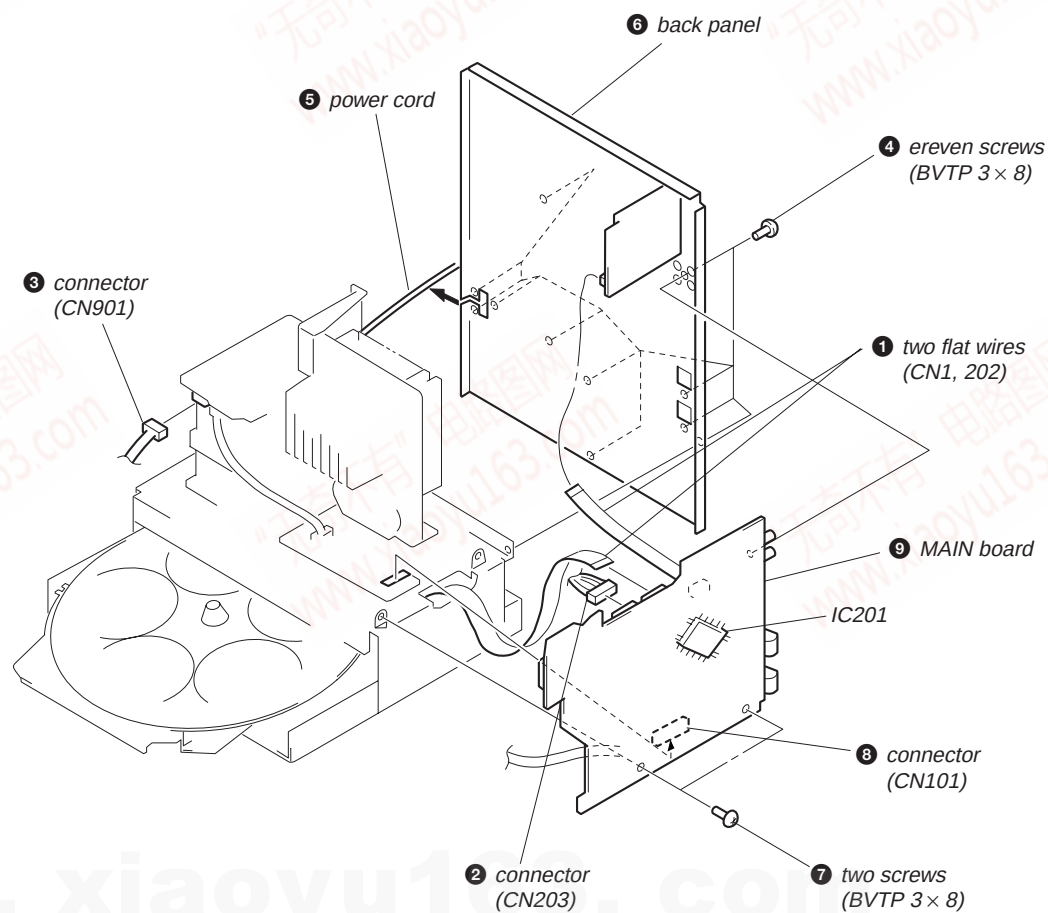
CASE



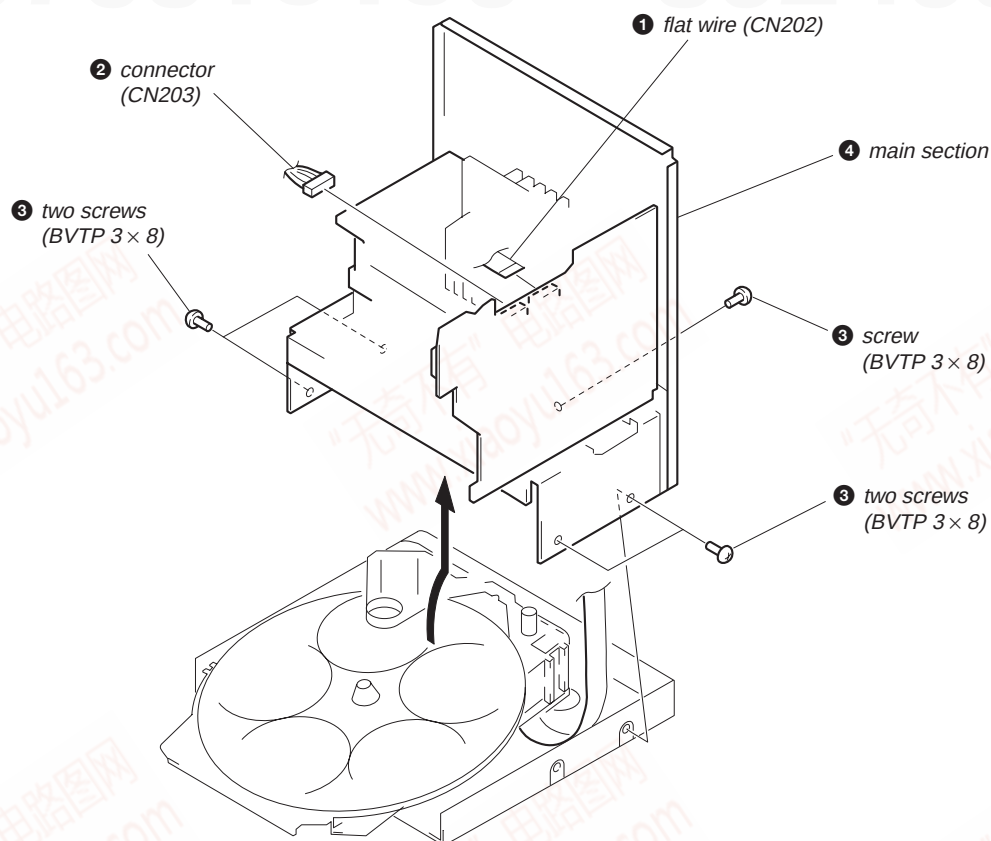
FRONT PANEL SECTION



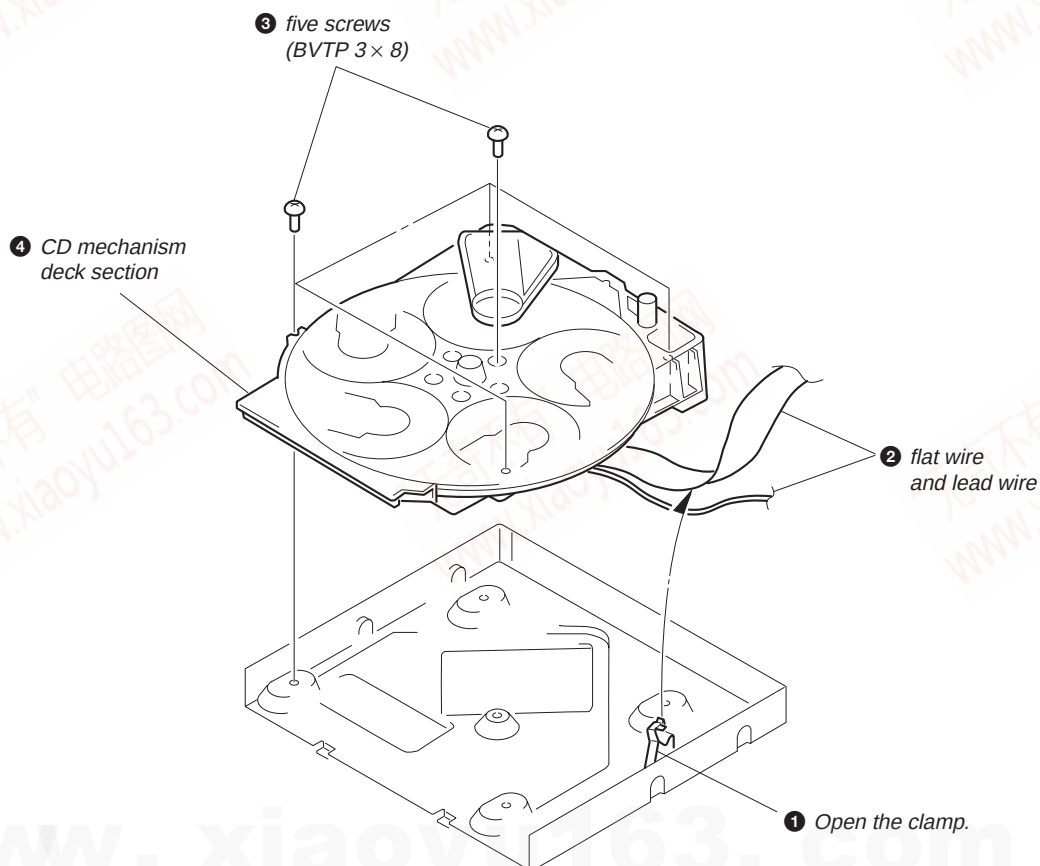
MAIN BOARD



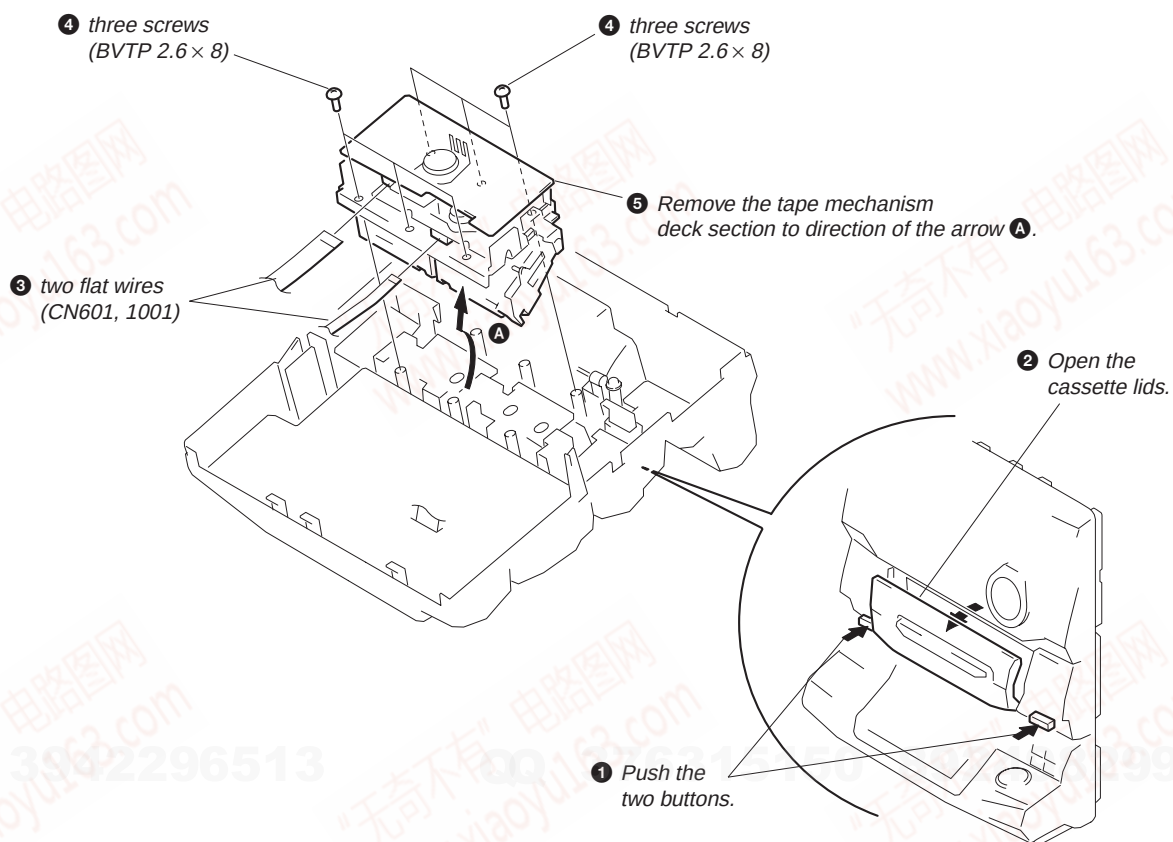
MAIN SECTION



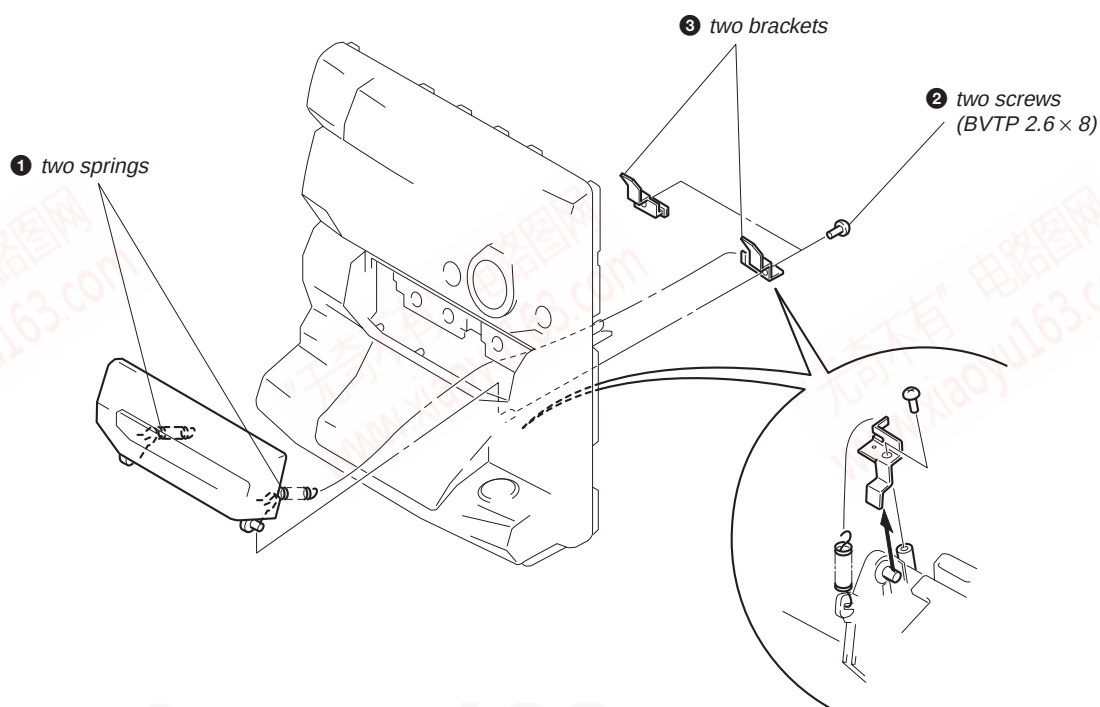
CD MECHANISM DECK SECTION



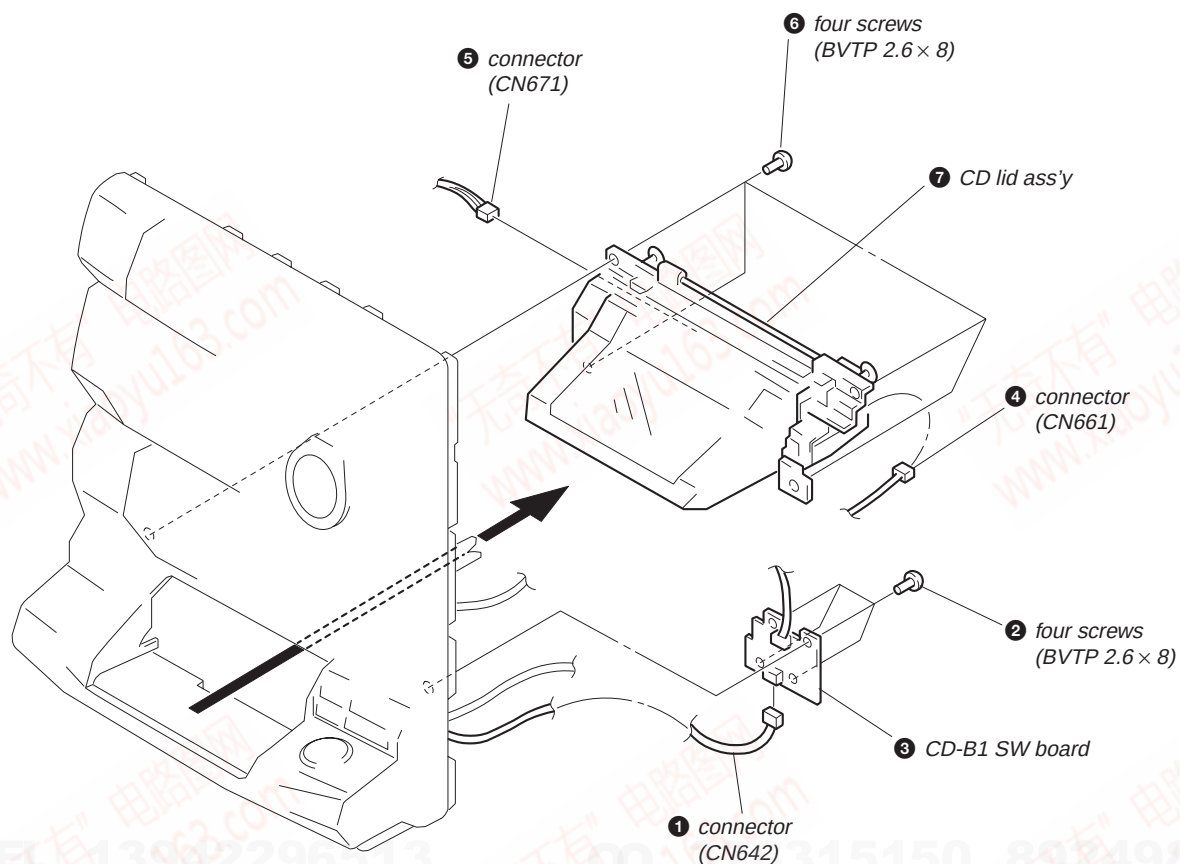
TAPE MECHANISM DECK SECTION



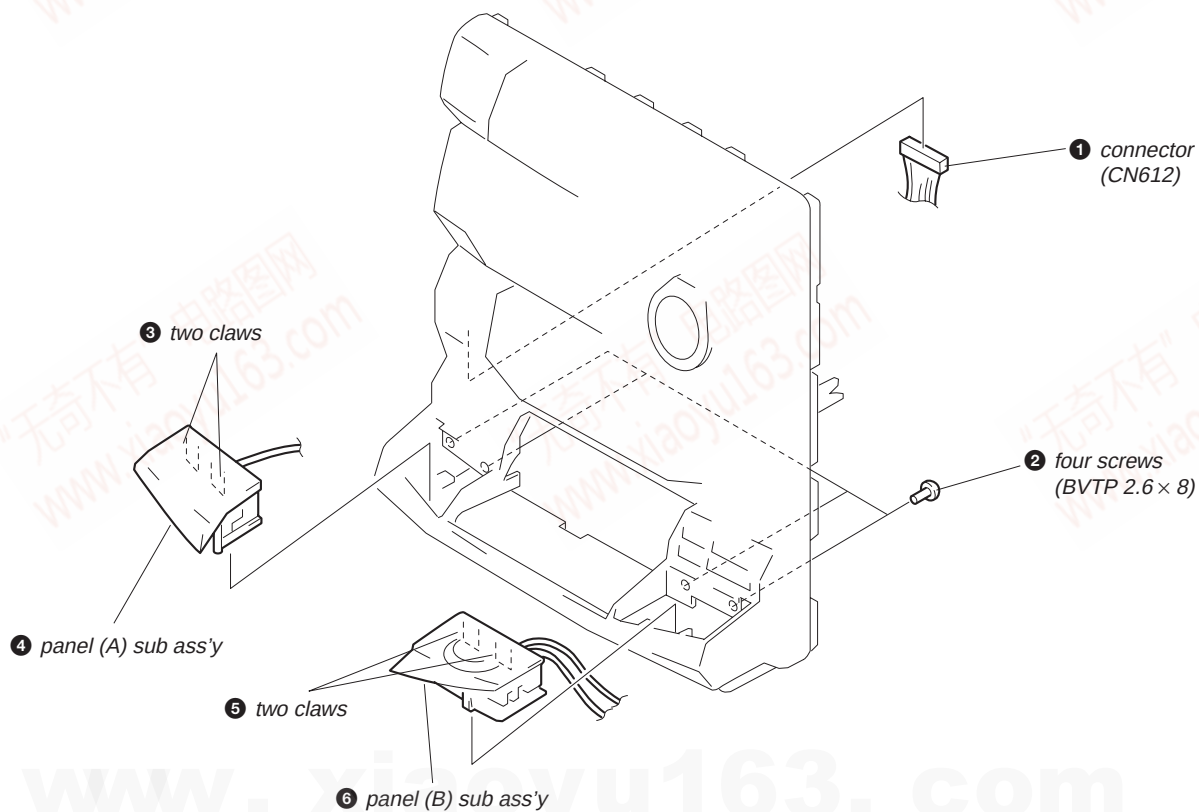
CASSETTE LID ASS'Y



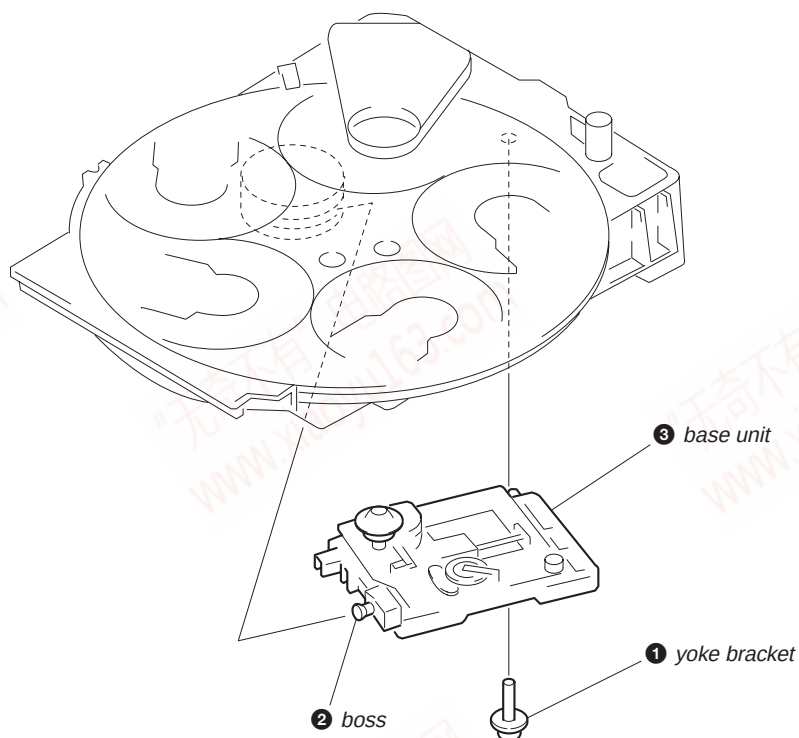
CD LID ASS'Y SECTION



PANEL (A) / (B) SUB ASS'Y



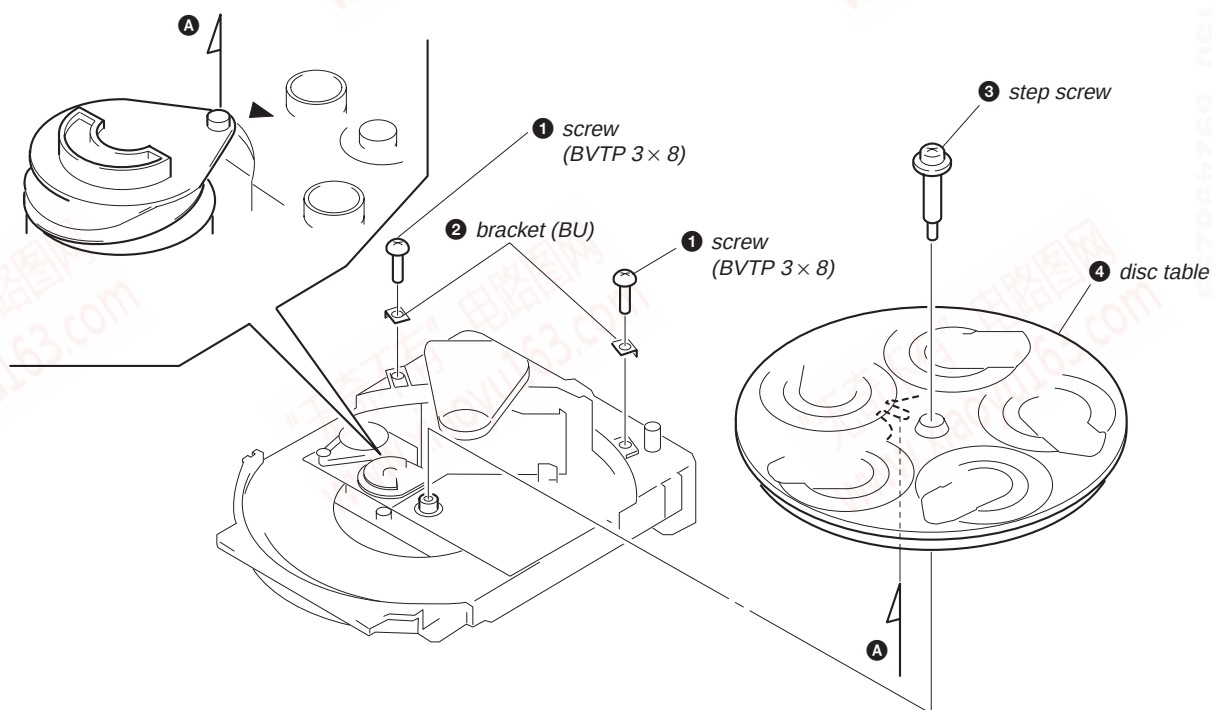
BASE UNIT



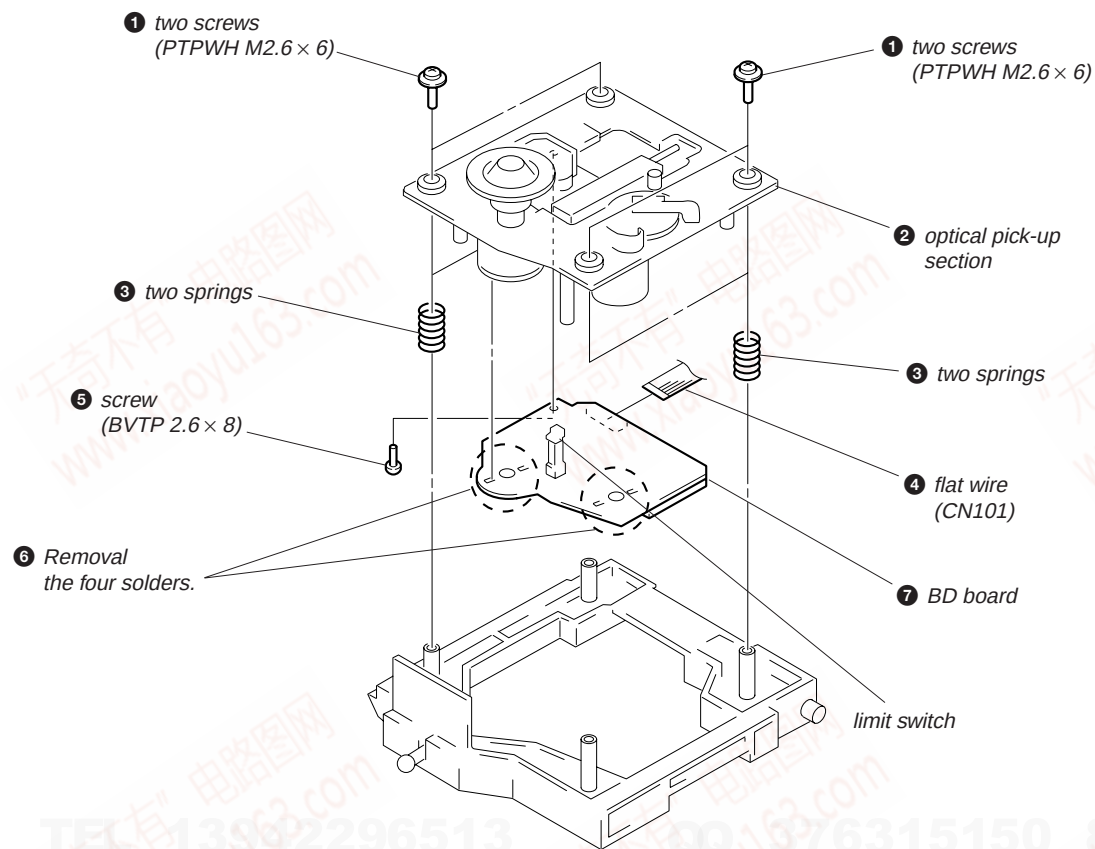
DISC TABLE

Note:

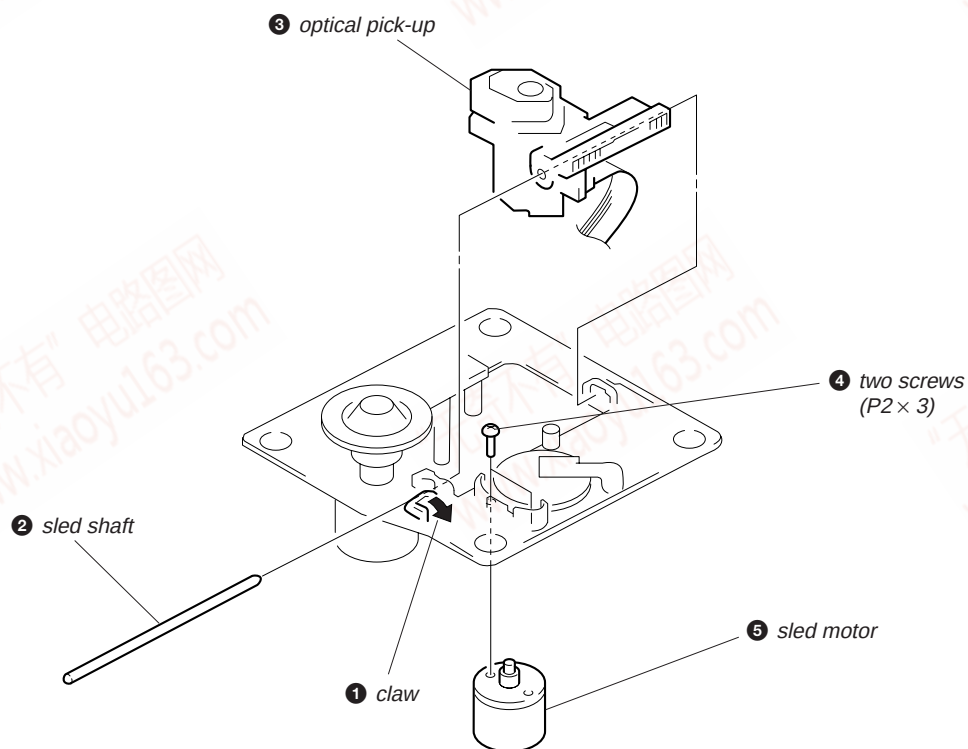
When the disc table is installed, adjust the positions of roller cam and mark ► as shown in the figure, then set to the groove of disc table.



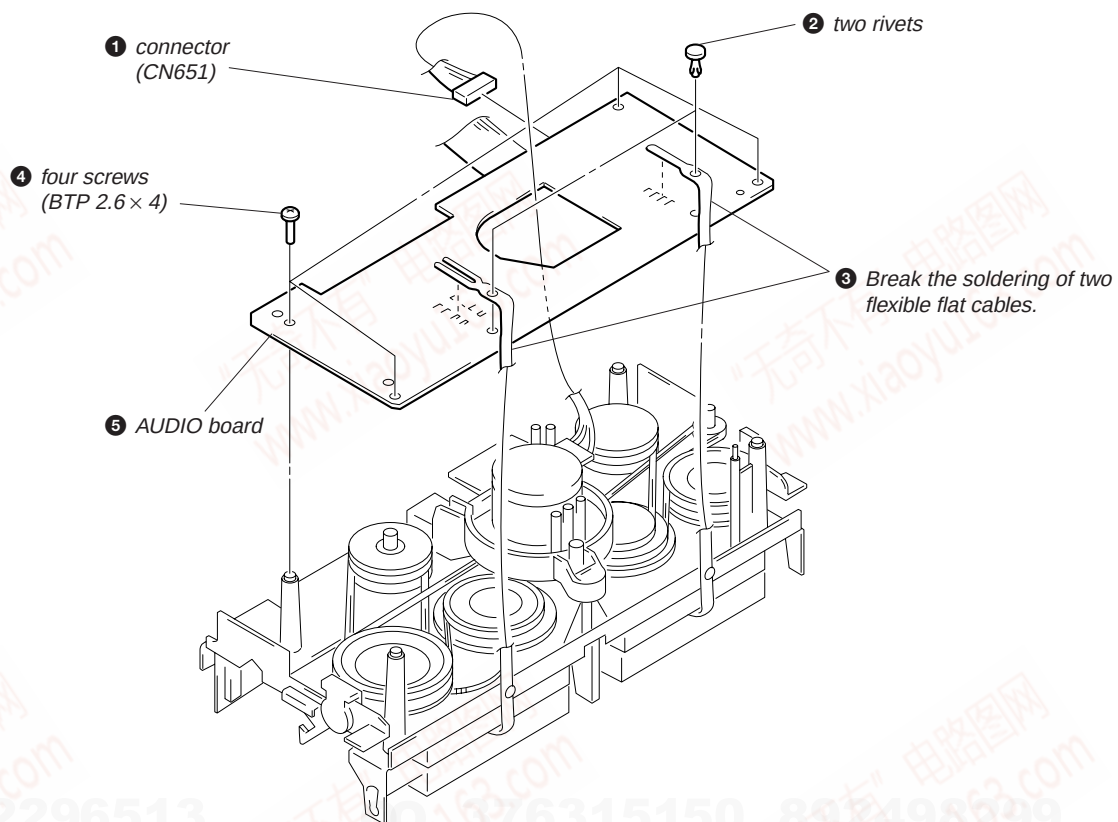
BD BOARD



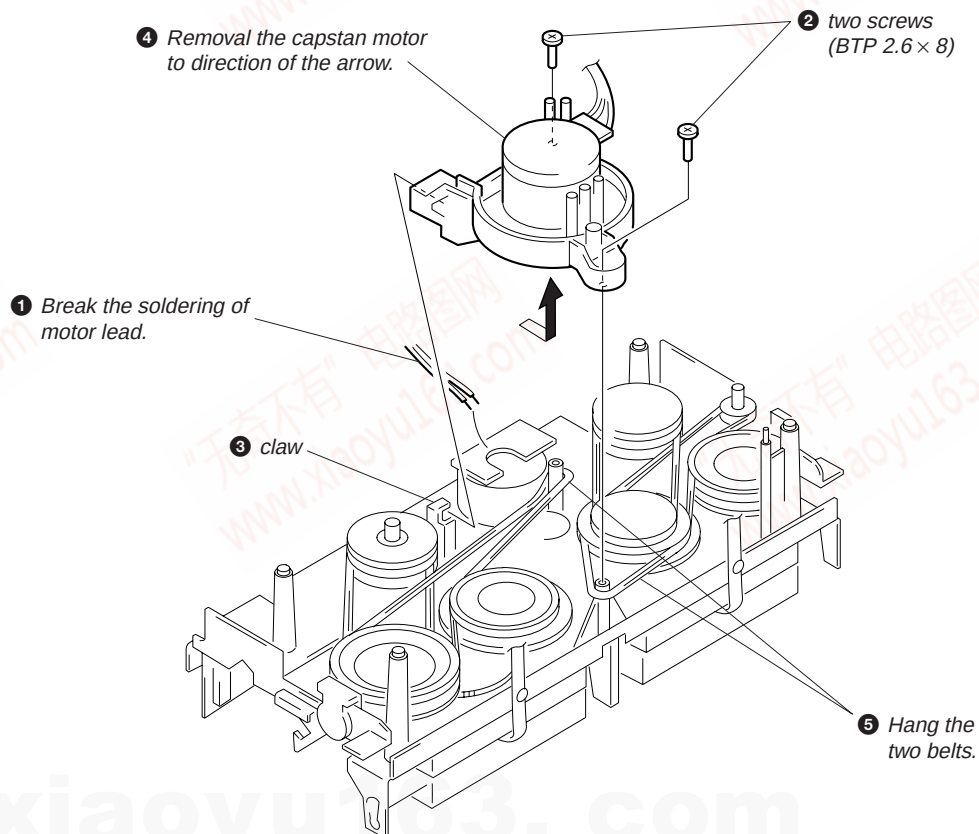
OPTICAL PICK-UP, SLED MOTOR



AUDIO BOARD



CAPSTAN MOTOR



SECTION 3 TEST MODE

[MC Cold Reset]

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Press three buttons **[SPECTRUM ANALYZER]**, **[ENTER]**, and **[DISC 1]** simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

[CD Delivery Mode]

- This mode moves the pick-up to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press **[POWER]** button to turn the set ON.
2. Press **[PLAY MODE]** button and **[POWER]** button simultaneously.
3. A message "LOCK" is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

[MC Hot Reset]

- This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure:

1. Press three buttons **[SPECTRUM ANALYZER]**, **[ENTER]**, and **[DISC 2]** simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

[Sled Servo Mode]

- This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pick-up.

Procedure:

1. Select the function "CD".
2. Press three buttons **[SPECTRUM ANALYZER]**, **[ENTER]**, and **[FUNCTION]** simultaneously.
3. The Sled Servo mode is selected, if "CD" is blanking on the fluorescent indicator tube.
4. With the CD in stop status, press **[▶▶]** button in CD section to move the pick-up to outside track, or **[◀◀]** button to inside track.
5. To exit from this mode, perform as follows:
 - 1) Move the pick-up to the most inside track.
 - 2) Press three buttons in the same manner as step 2.

Note:

- Always move the pick-up to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
- Do not run the sled motor excessively, otherwise the gear can be chipped.

[Change-over of AM Tuner Step between 9kHz and 10kHz]

- A step of AM channels can be changed over between 9kHz and 10kHz.

Procedure:

1. Press **[POWER]** button to turn the set ON.
2. Select the function "TUNER", and press **[TUNER/BAND]** button to select the BAND "AM".
3. Press **[POWER]** button to turn the set OFF.
4. Press **[ENTER/NEXT]** and **[POWER]** buttons simultaneously, and the display of fluorescent indicator tube changes to "AM 9k STEP" or "AM 10k STEP", and thus the channel step is changed over.

[LED and Fluorescent Indicator Tube All Lit, Key Check Mode]

Procedure:

1. Press three buttons **[SPECTRUM ANALYZER]**, **[ENTER]**, and **[DISC 3]** simultaneously.
2. LEDs and fluorescent indicator tube are all turned on. Press **[DISC 2]** button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays "K 1 V0 J0". Each time a button is pressed, "K" value increases. However, once a button is pressed, it is no longer taken into account.
"J" Value increases like 1, 2, 3 ... if rotating **[JOG]** knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "-" direction.
"V" Value increases like 1, 2, 3 ... if rotating **[VOLUME]** knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "-" direction.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

SECTION 4 MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Torque	Torque Meter	Meter Reading
Forward	CQ-102C	36 to 61g•cm (0.50 – 0.84 oz•inch)
Forward Back Tension	CQ-102C	2 to 6g•cm (0.026 – 0.082 oz•inch)
Reverse	CQ-102RC	36 to 61g•cm (0.50 – 0.84 oz•inch)
Reverse Back Tension	CQ-102RC	2 to 6g•cm (0.026 – 0.082 oz•inch)
FF, REW	CQ-201B	61 to 143g•cm (0.85 – 1.98 oz•inch)

• Tape Tension Measurement

Torque	Tension Meter	Meter Reading
Forward	CQ-403A	more than 100 g (3.52 oz)
Reverse	CQ-403R	more than 100 g (3.52 oz)

SECTION 5 ELECTRICAL ADJUSTMENTS

DECK SECTION

0 dB=0.775 V

- Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjust.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.
- The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
- The adjustments should be performed for both L-CH and R-ch.
- Switches and controls should be set as follows unless otherwise specified.
- Set to test mode.
(Press key switch same time **SPECTRUM ANALYZER** **ENTER** and **EFFECT** button.)

• Test Tape

Tape	Signal	Used for
P-4-A100	10 kHz, -10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

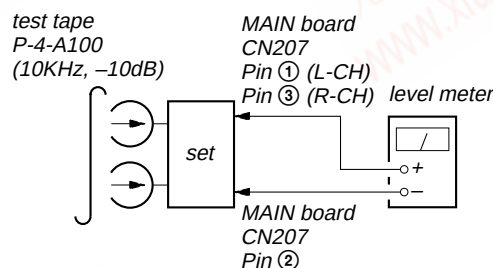
Record/Playback Head Azimuth Adjustment

DECK A

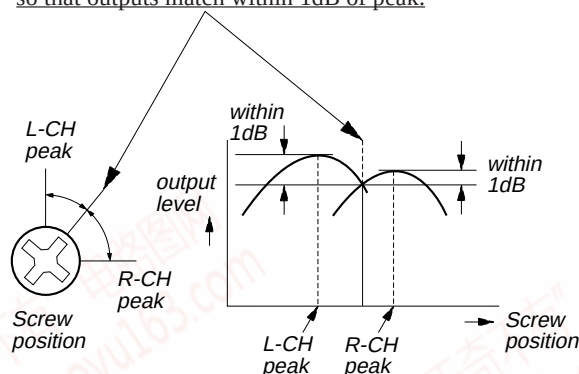
DECK B

Note: Perform this adjustments for both decks

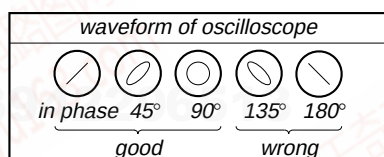
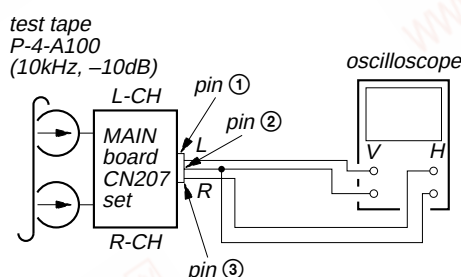
Procedure:



1. Mode: Playback (FWD)
2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.

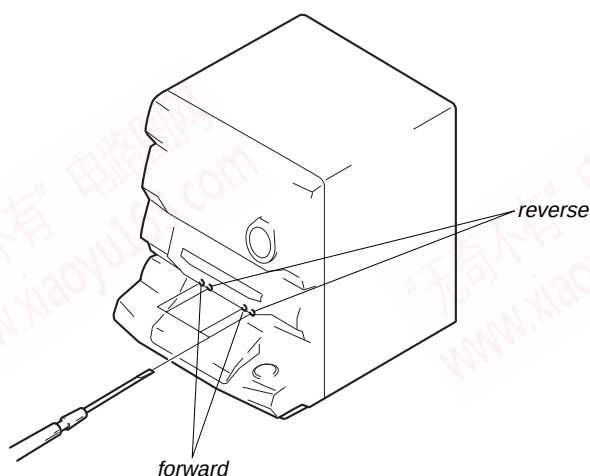


3. Mode: Playback (FWD)



4. Repeat steps 1 to 3 in playback (REV) mode.
5. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Record/Playback Head (Deck A and B) and MAIN board.



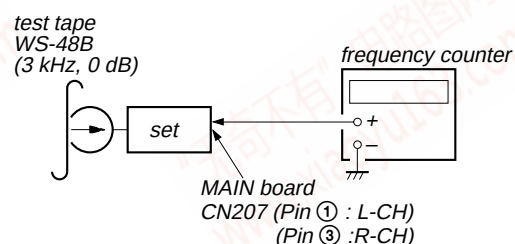
Tape Speed Adjustment **DECK A**

Note: Start the Tape Speed adjustment as below after setting to the test mode.

In the test mode, the tape speed is high during pressing the **H. SPEED DUBB** button.

Procedure:

1. Turn the power switch on.
 2. Press the **SPECTRUMANALYZER** button, **ENTER** button and **EFFECT** button simultaneously.
- To exit from the test mode, press the **POWER** button.
- Mode: Playback (FWD)



1. Insert the WS-48B into the deck A and the blank tape into the deck B.
2. Press the **REC** button and **▶** button on the deck B. Then the deck B is at recording mode.
3. Set the deck A to playback mode.
4. Keep pressing the **H. SPEED DUBB** button in playback mode. Then at HIGH speed mode.
5. Adjust RV652 on the AUDIO board so that frequency counter reads $6,000 \pm 90$ Hz.
6. Take off the **H. SPEED DUBB** button. Then at NORMAL speed mode.
7. Adjust RV651 on the AUDIO board so that frequency counter reads $3,000 \pm 90$ Hz.
8. Frequency difference between deck A and deck B the beginning of the tape should be within $\pm 1.5\%$.

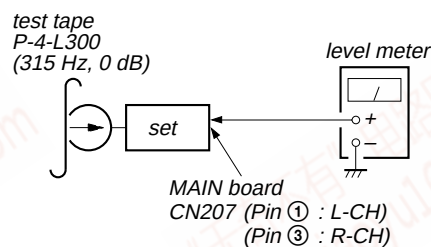
Adjustment Location: AUDIO board

Sample Value of Wow and flutter: 0.3% or less W.RMS (WS-48B)

Playback level Adjustment **DECK A** **DECK B**

Procedure:

Mode: Playback (FWD)



Deck A is RV311 (L-CH) and RV411 (R-CH), Deck B is RV301 (L-CH) and RV401 (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level:

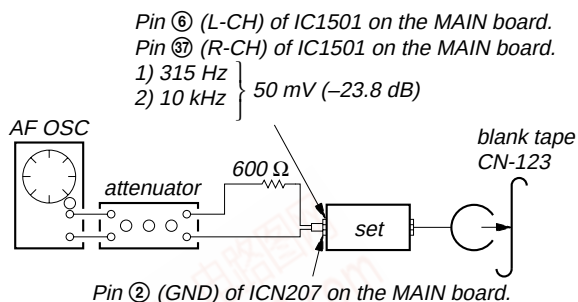
CN207 PB level: 301.5 to 338.3 mV (-8.2 to -7.2 dB) level difference between the channels: within ± 0.5 dB

Adjustment Location: AUDIO and MAIN boards

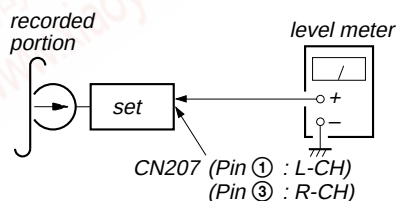
Record bias Current Adjustment **DECK B**

Procedure:

1. Mode: Record



2. Mode: Playback



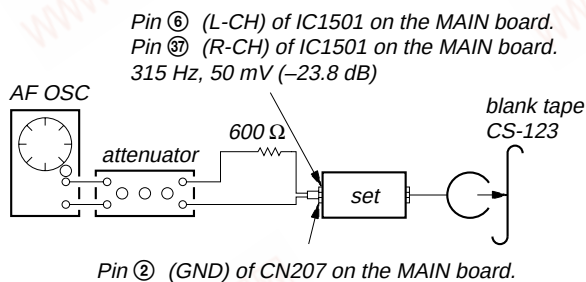
Confirm playback the signal recorded in step 1 become adjustable limits as follows.

If these levels do not adjustable limits, adjustment the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 1 and 2.

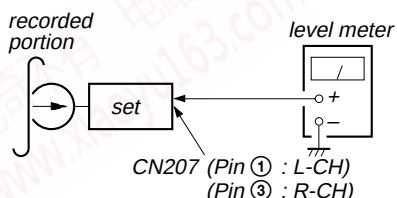
Adjustable limits: Playback output of 315 Hz to playback output of 10kHz: 0±0.5 dB

Adjustment Location: AUDIO and MAIN boards

Record Level Adjustment **DECK B**



Procedure:



1. Mode: Record

2. Mode: Playback

Confirm playback the signal recorded in step 1 become adjustable limits as follows.

If these levels do not adjustable limits, adjustment the RV1501 (L-CH) and RV1551 (R-CH) on the MAIN board to repeat steps 1 and 2.

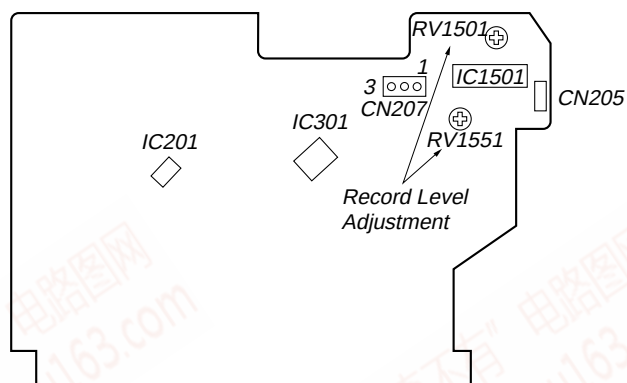
Adjustable limits:

CN207 PB level: 47.3 to 53.1 mV (−24.3 to −23.3 dB)

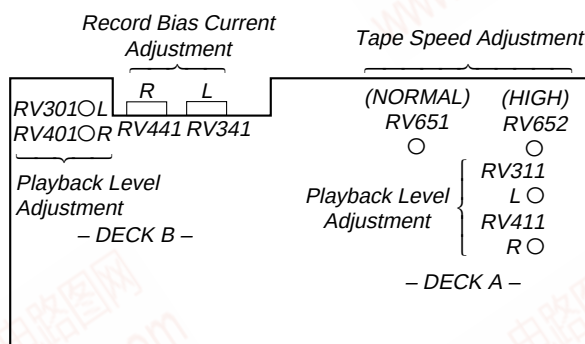
Adjustment Location: MAIN board

Adjustment Location:

[MAIN BOARD] (Component Side)



[AUDIO BOARD] (Conductor Side)



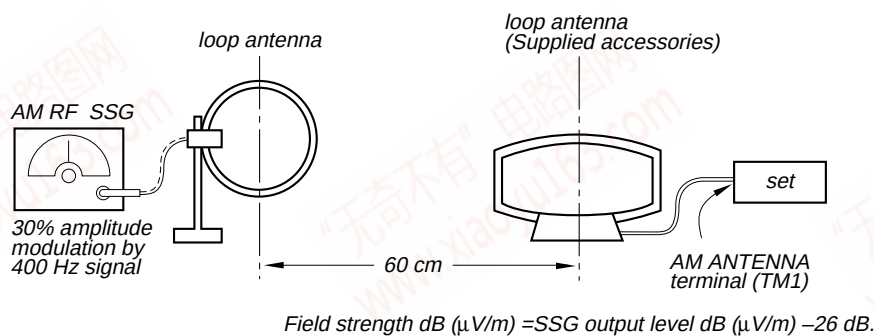
TUNER SECTION

0dB=1μV

Note: As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

AM Section Adjustment

Setting:



AM Tuned Level Adjustment

Band: AM

Procedure:

1. Set the output of SSG so that the input level of the set becomes 55 dB.
2. Tune the set to 999 kHz.
3. Adjust RV42 to the point (moment) when the TUNED indicator will change from going off to going on.

Adjustment Location:

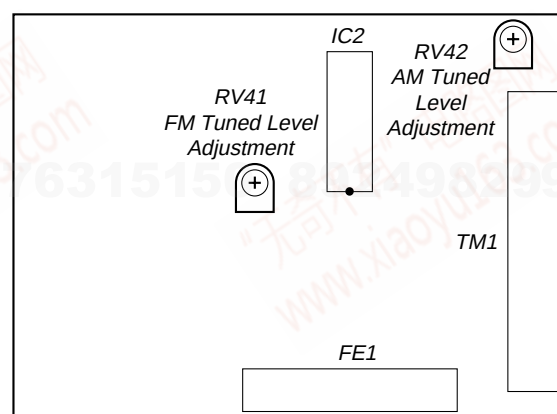
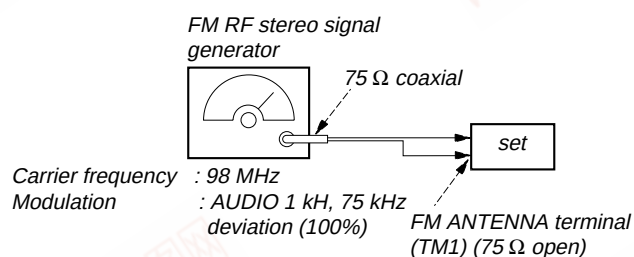
[TCB BOARD] (Component Side)

Adjustment Location : TCB board

FM Section Adjustment

Note: This adjustment should be performed after the AM Tuned Level Adjustment due to the same adjustment element.

Setting:



FM Tuned Level Adjustment

Band: FM

Procedure:

1. Supply a 25dBμ 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. If the TUNED indicator does not light, adjust RV41 to the point (moment) when the TUNED indicator will change from going off to going on.

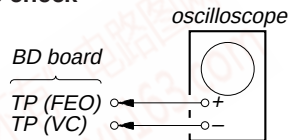
Adjustment Location: TCB board

CD SECTION

Note:

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10M impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

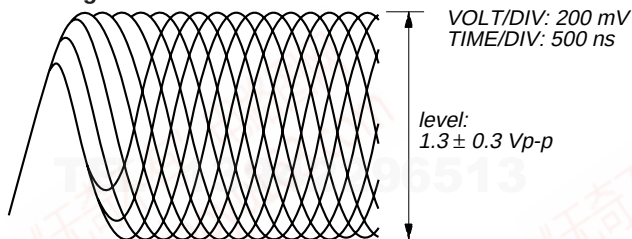
Focus Bias check



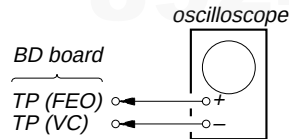
Procedure:

1. Connect oscilloscope to test point TP (RF). (GND terminal : VC)
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that the shape “◇” can be clearly distinguished at the center of the waveform and check the RF signal level.

• RF signal



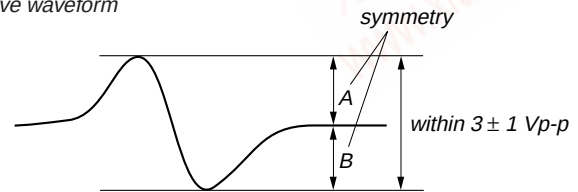
S Curve Check



Procedure:

1. Connect oscilloscope to test point TP (FEO).
2. Connect between test point TP (FOK) and GND by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak level within 3 ± 1 Vp-p.

S-curve waveform

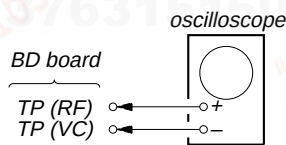


6. After check, remove the lead wire connected in step 2.

Note: • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.

- Take sweep time as long as possible and light up the brightness to obtain best waveform.

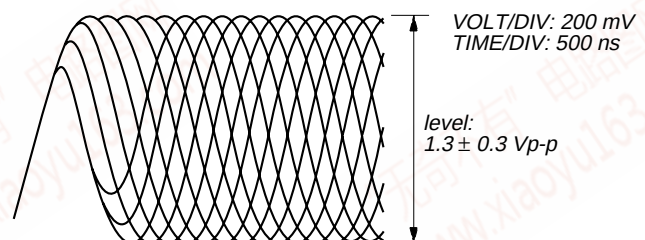
RF Level Check



Procedure:

1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

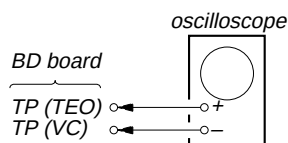
• RF signal



Note:

Clear RF signal waveform means that the shape “◇” can be clearly distinguished at the center of the waveform.

E-F Balance (1 Track Jump) check (Without remote commander)



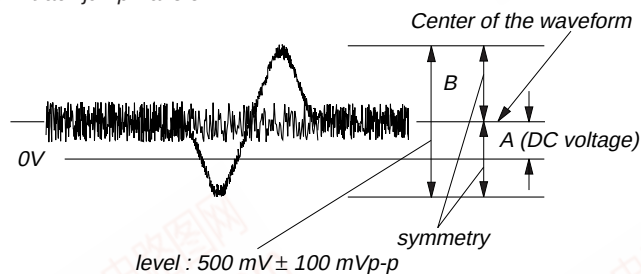
Procedure:

1. Connect oscilloscope to test point TP (TEO) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the "||| (Pause)" button. (Becomes the 1 track jump mode)
5. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform.

Confirm the following:

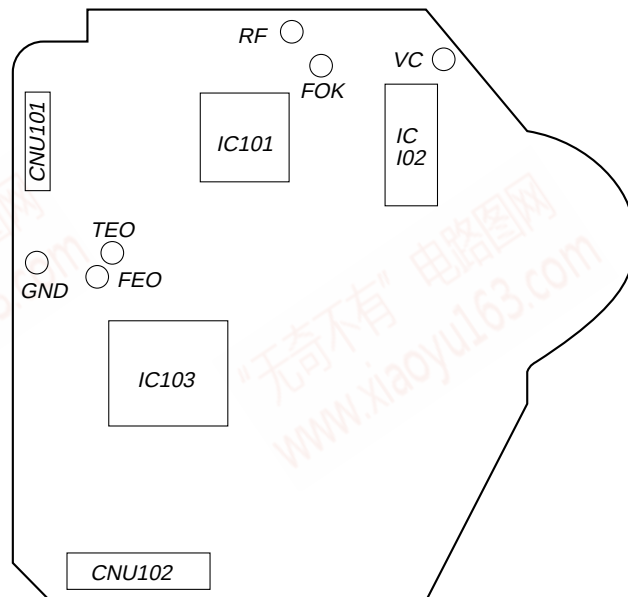
$$\frac{A - B}{2(A + B)} \times 100 = \pm 7 (\%)$$

1 track jump waveform



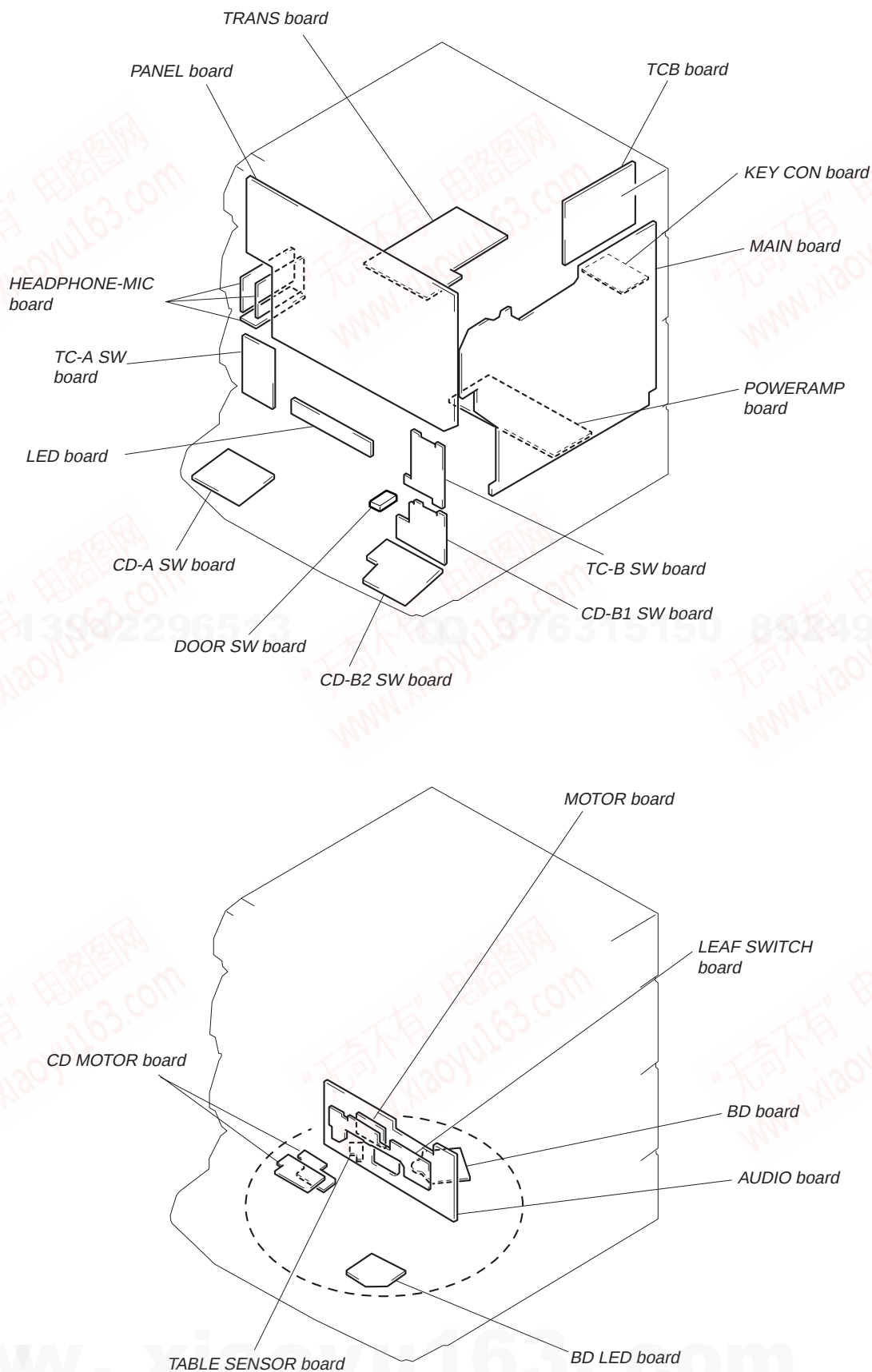
Adjustment Location:

[BD BOARD] (Conductor Side)



SECTION 6 DIAGRAMS

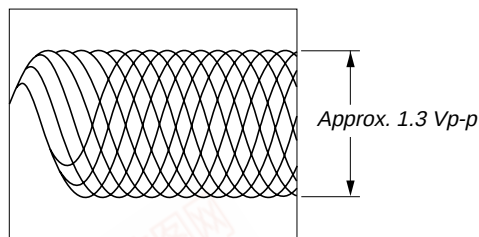
• Circuit Board Location



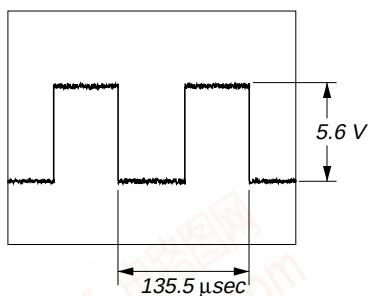
• Waveforms

— BD Section—

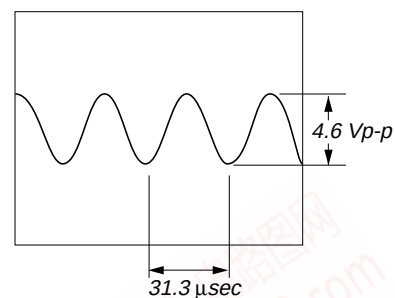
① IC101 ③③ pin (PLAY MODE)



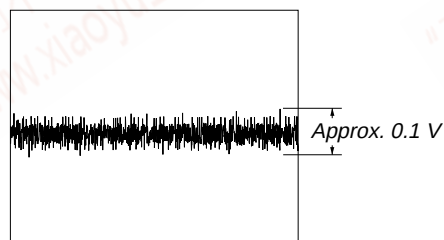
⑥ IC103 ⑥② pin (RFCK)



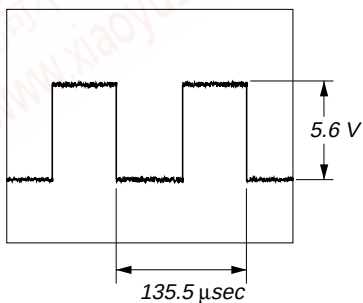
⑪ IC301 ⑬ pin (XT2)



② IC101 ② pin (FEI) (PLAY MODE)

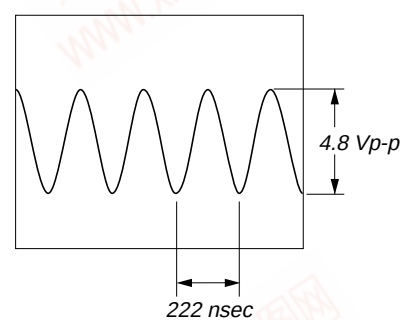


⑦ IC103 ⑦④ pin (WFCK)

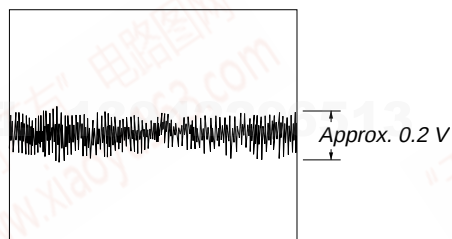


— TUNER Section—

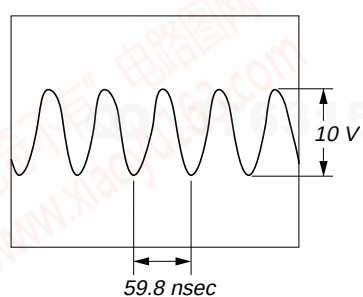
⑫ IC1 ②④ pin (XOUT)



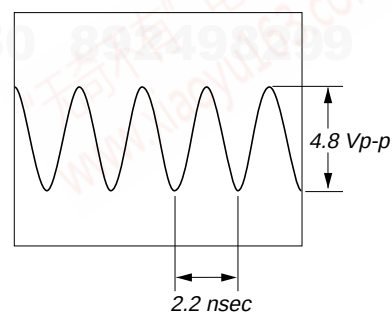
③ IC101 ④⑦ pin (TEI) (PLAY MODE)



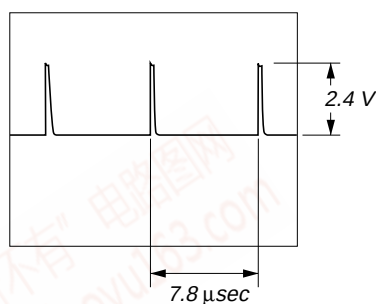
⑧ IC103 ⑧⑨ pin (XTAI)



⑬ IC2 ②③ pin (VCO)

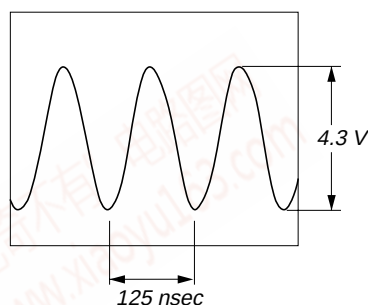


④ IC103 ②⑦ pin (MDP)

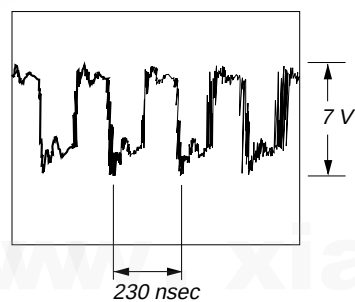


— PANEL Section—

⑨ IC601 ⑪ pin (X-OUT)

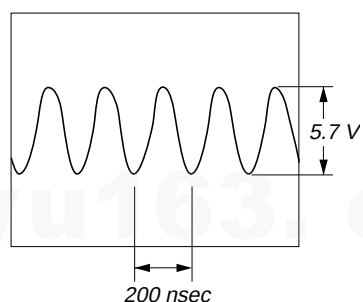


⑤ IC103 ⑥⑥ pin (XPCK)

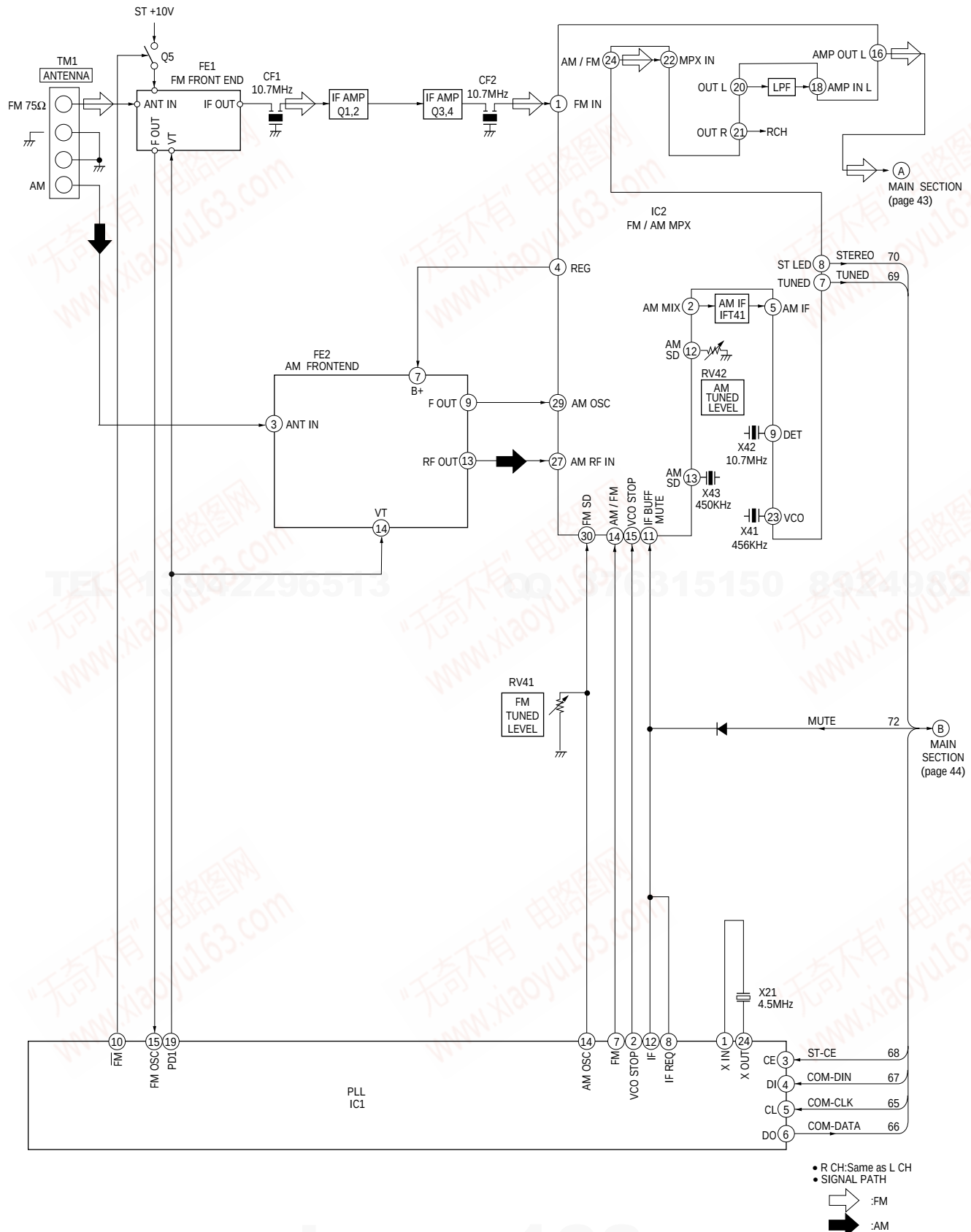


— MAIN Section—

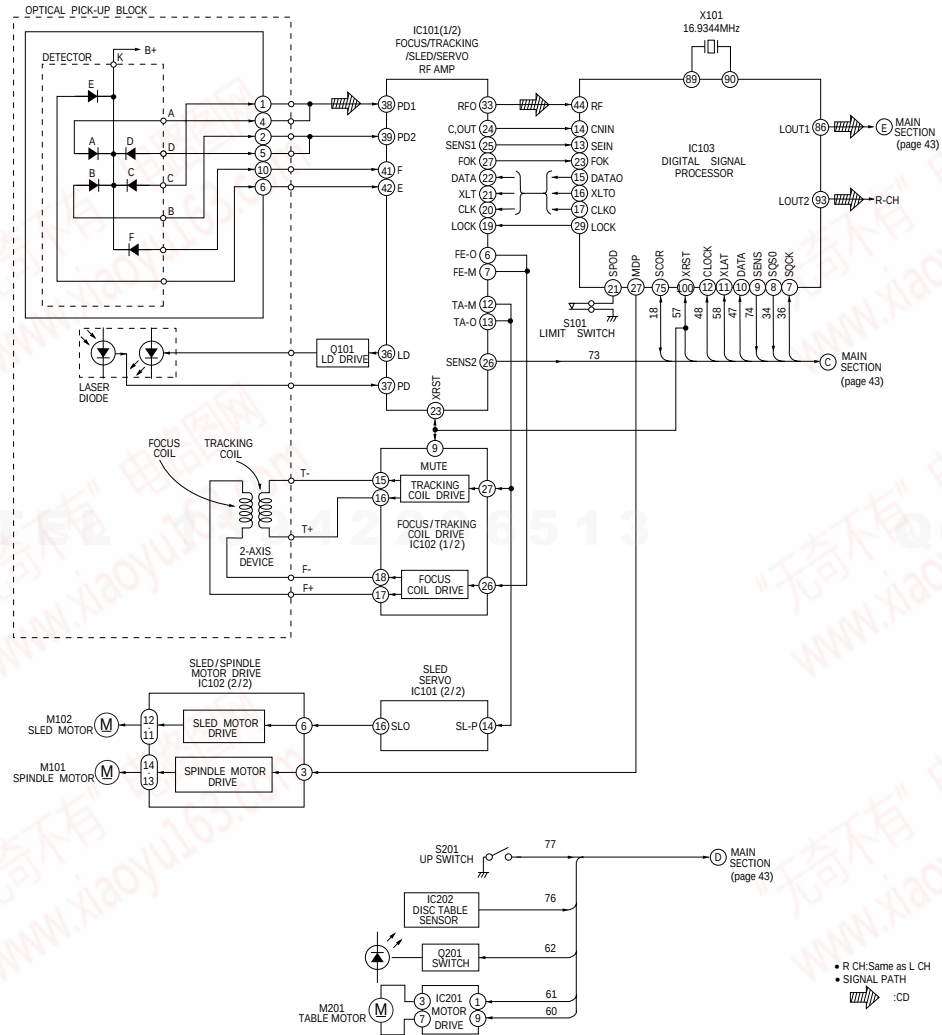
⑩ IC301 ⑩ pin (X2)



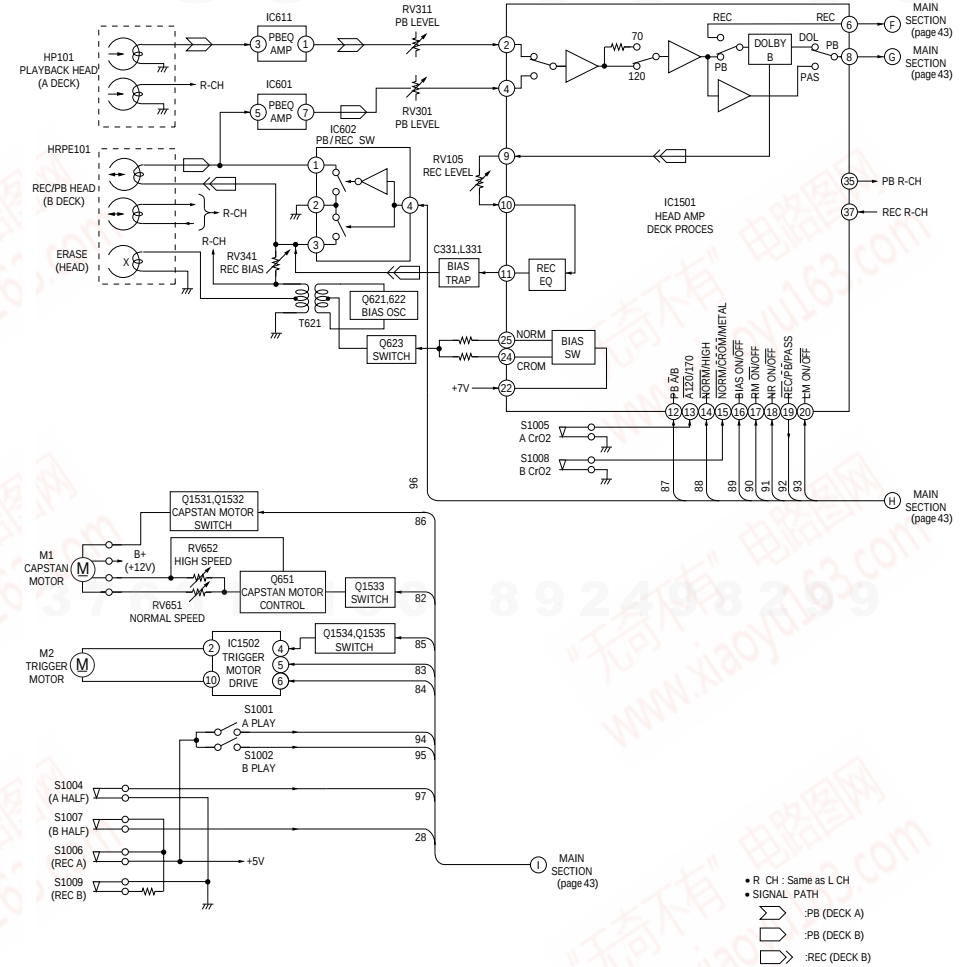
6-1. BLOCK DIAGRAMS **- TUNER SECTION -**



- CD SECTION -



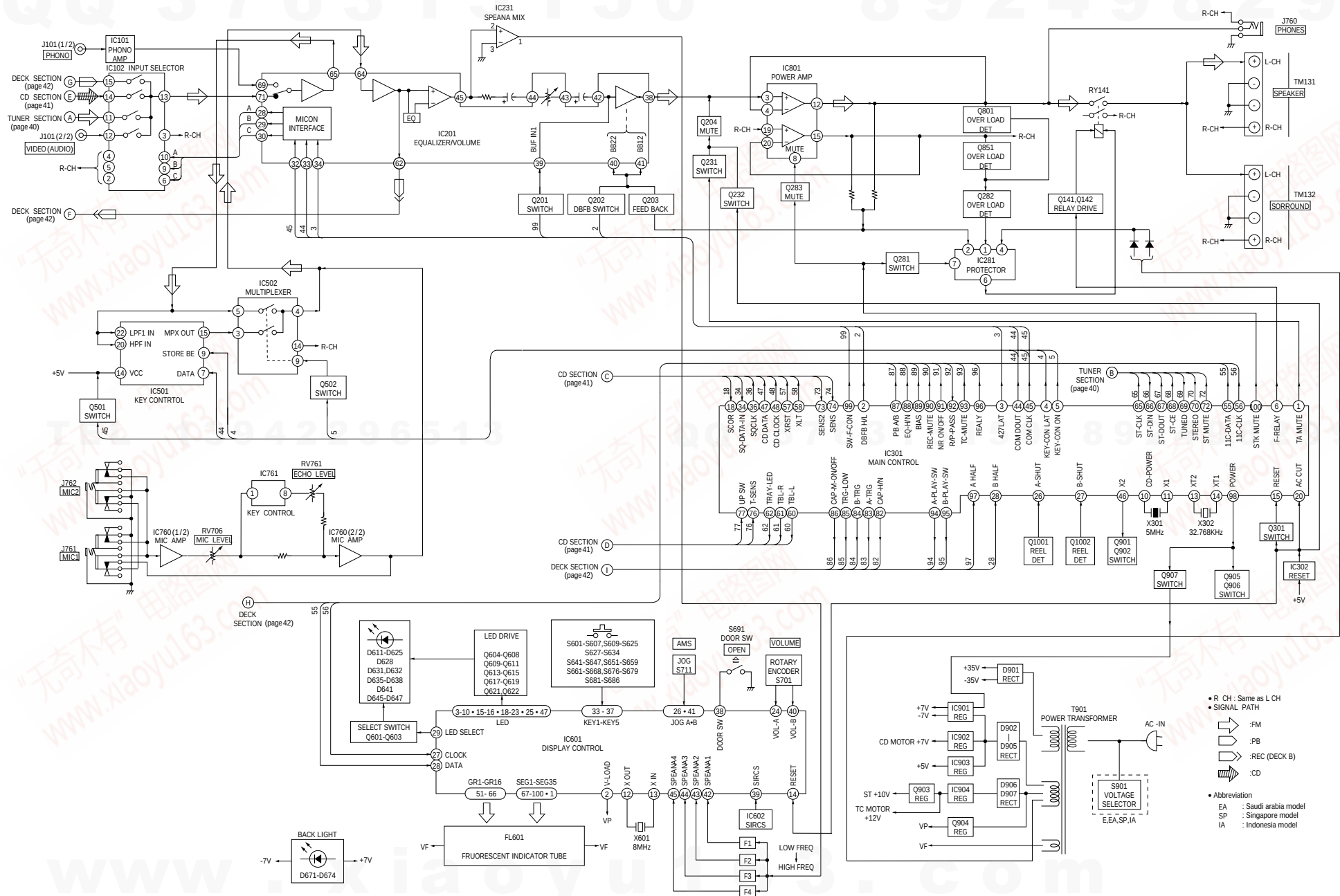
- DECK SECTION -



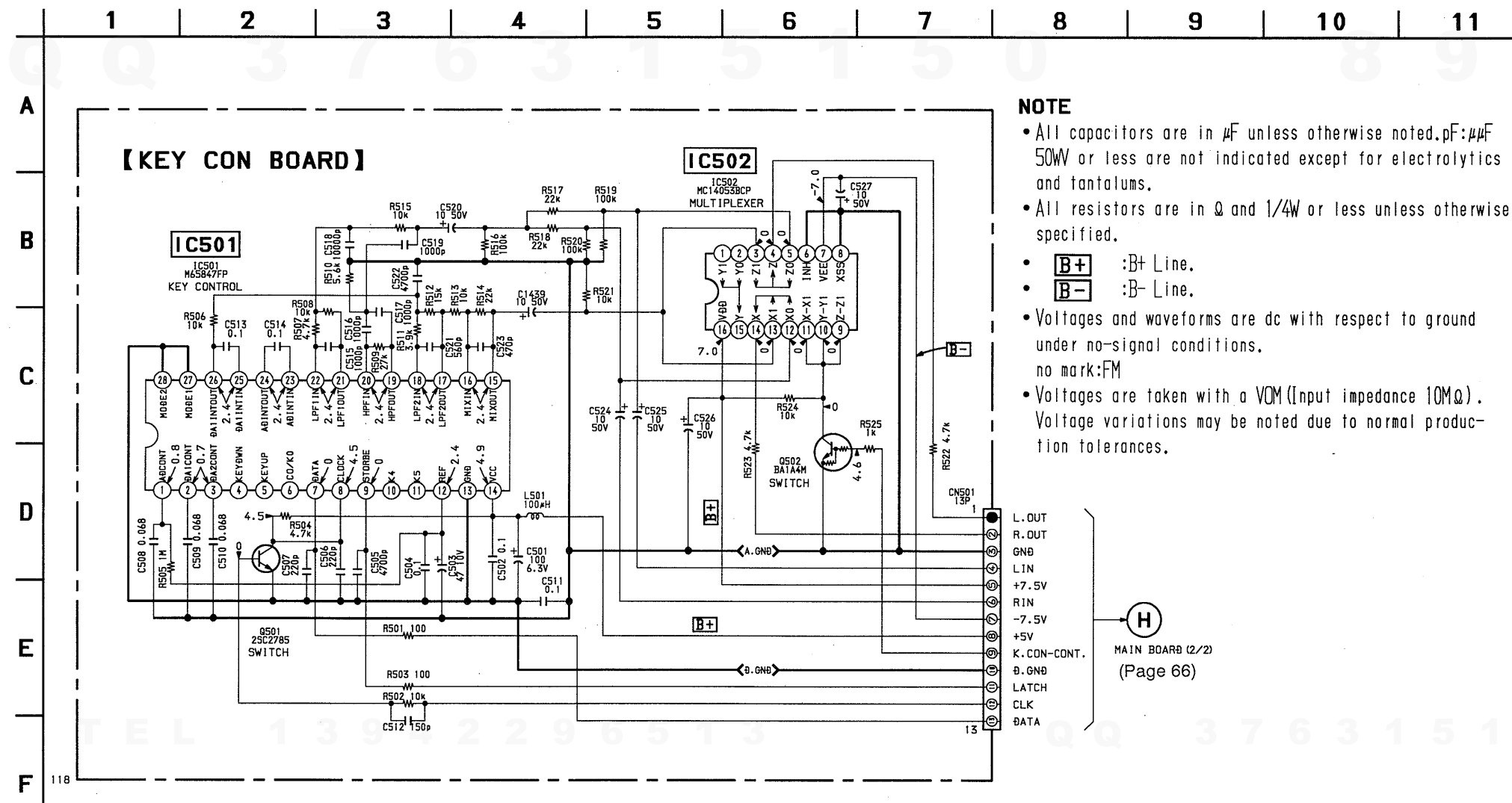
• R CH: Same as L CH
• SIGNAL PATH
: CD

• R CH : Same as L CH
• SIGNAL PATH
:PB (DECK A)
:PB (DECK B)
:REC (DECK B)

- MAIN SECTION -



6-2. SCHEMATIC DIAGRAM – KEY CONTROL Section –



NOTE

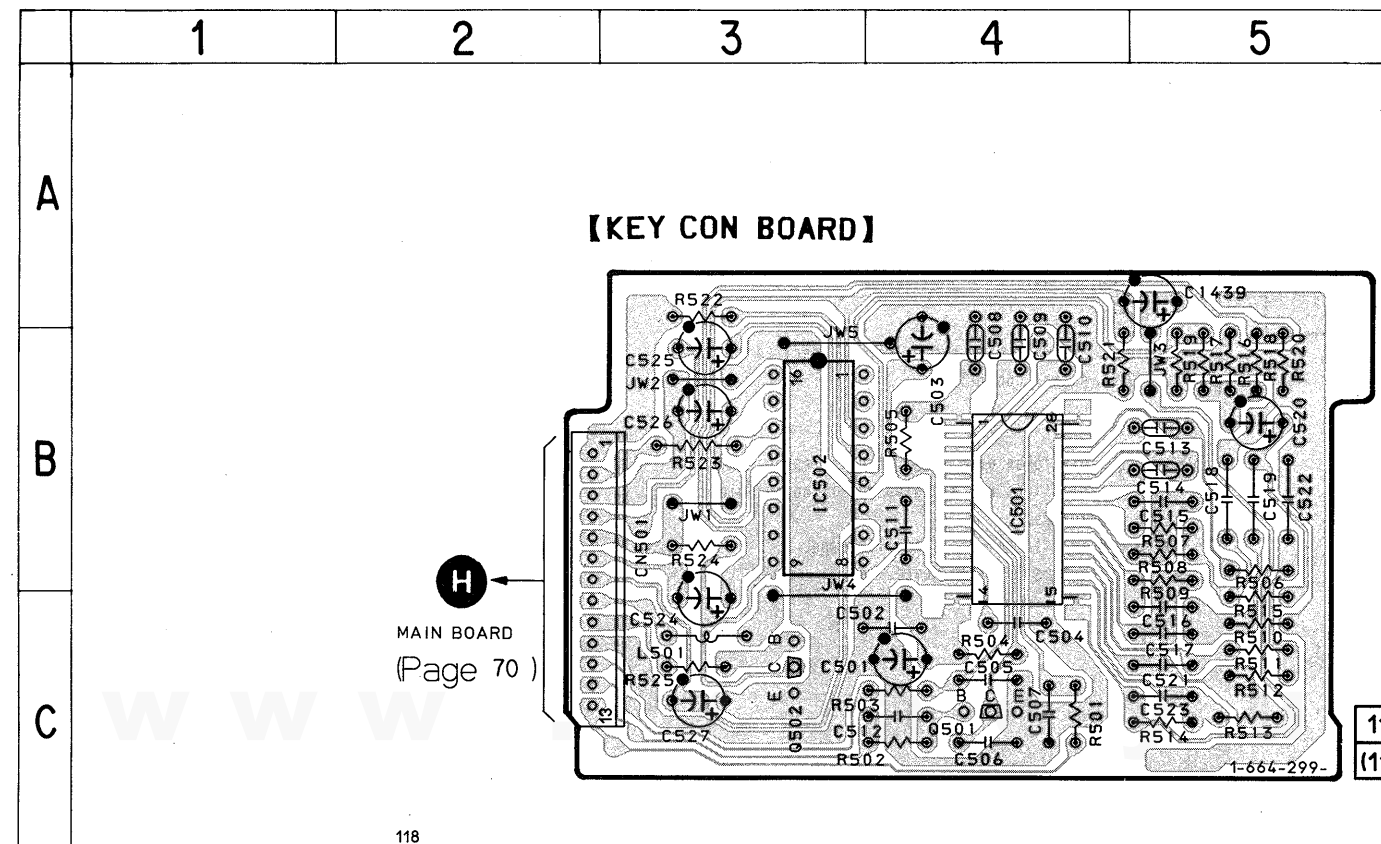
- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\text{F} / 100$.
50W or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
-  : B+ Line.
-  : B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark: FM
- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$).
Voltage variations may be noted due to normal production tolerances.

L. OUT
R. OUT
GND
LIN
+7.5V
RIN
-7.5V
+5V
K. CON-CONT.
D. GND

H

MAIN BOARD (2/2)
(Page 66)

6-3. PRINTED WIRING BOARD –KEY CONTROL Section – • See page 38 for Circuit Boards Location.



- **Semiconductor Location**

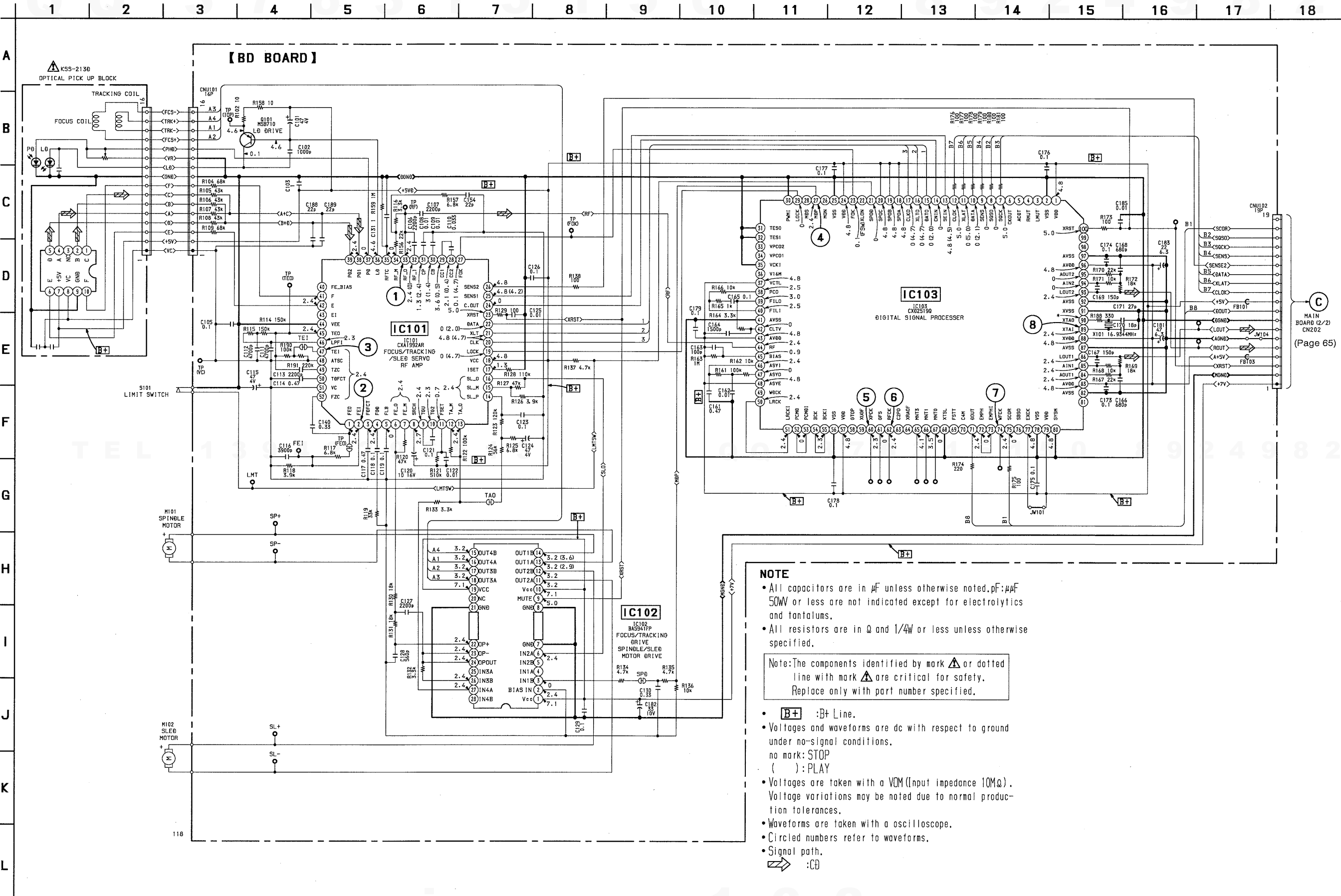
Ref. No.	Location
IC501	B-4
IC502	B-3
Q501	C-4
Q502	C-3

Note

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

6-4. SCHEMATIC DIAGRAM – BD Section –

• See page 39 for Waveforms. • See page 83 for IC Block Diagrams.



NOTE

- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\text{F} \times 10^{-6}$. 50W or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.

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

- **B+**: B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark: STOP
(): PLAY
- Voltages are taken with a VOM (input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
 $\Rightarrow$: CB

MAIN BOARD (2/2) CN202 (Page 65)

6-5. PRINTED WIRING BOARD -BD Section - • See page 38 for Circuit Boards Location.

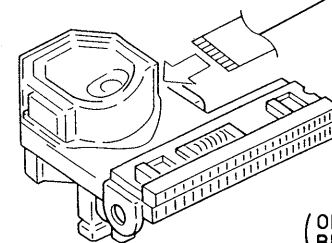


• Semiconductor Location

Ref. No.	Location
IC101	D-7
IC102	C-7
IC103	E-9
Q101	D-5

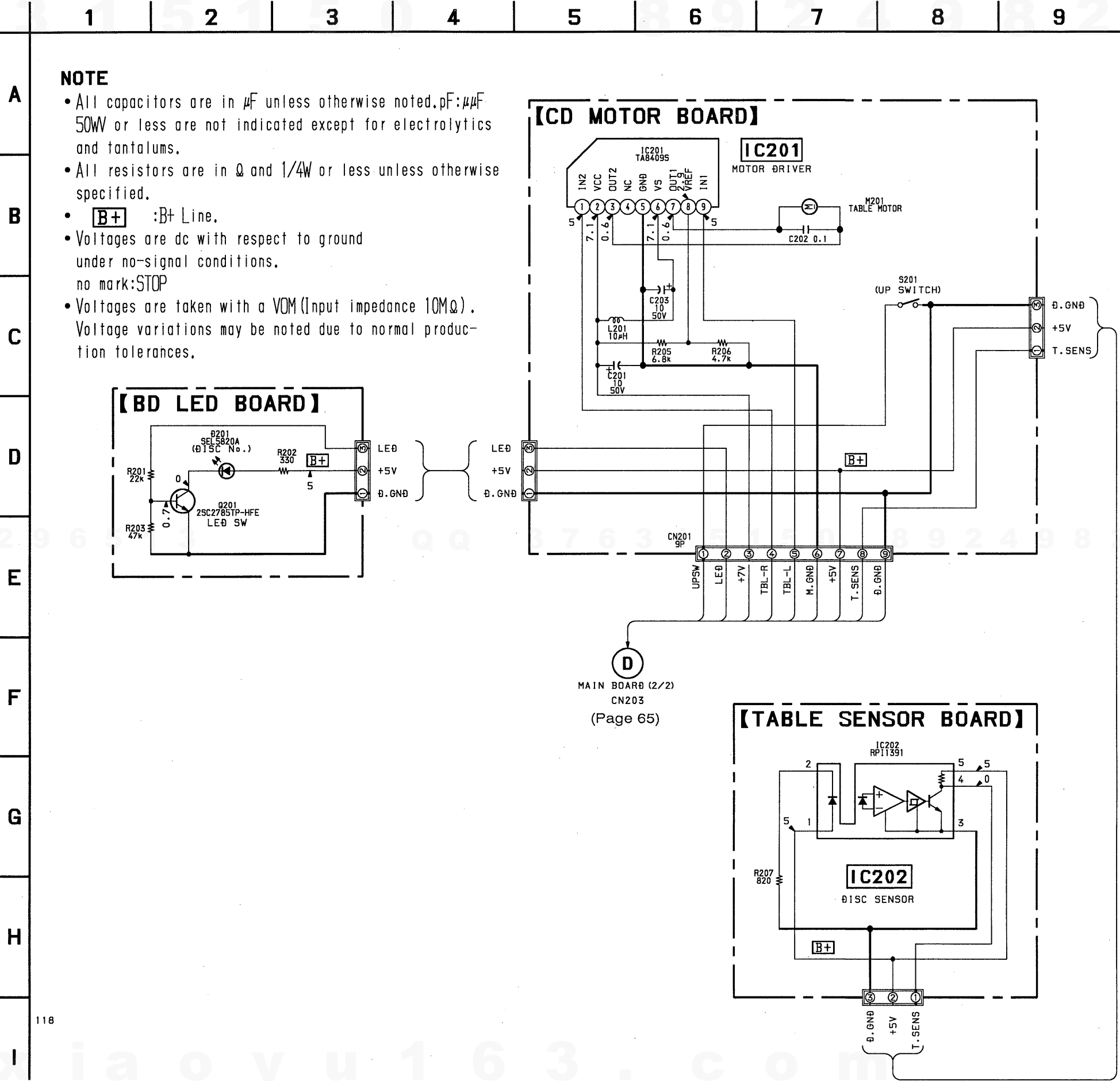
Note

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

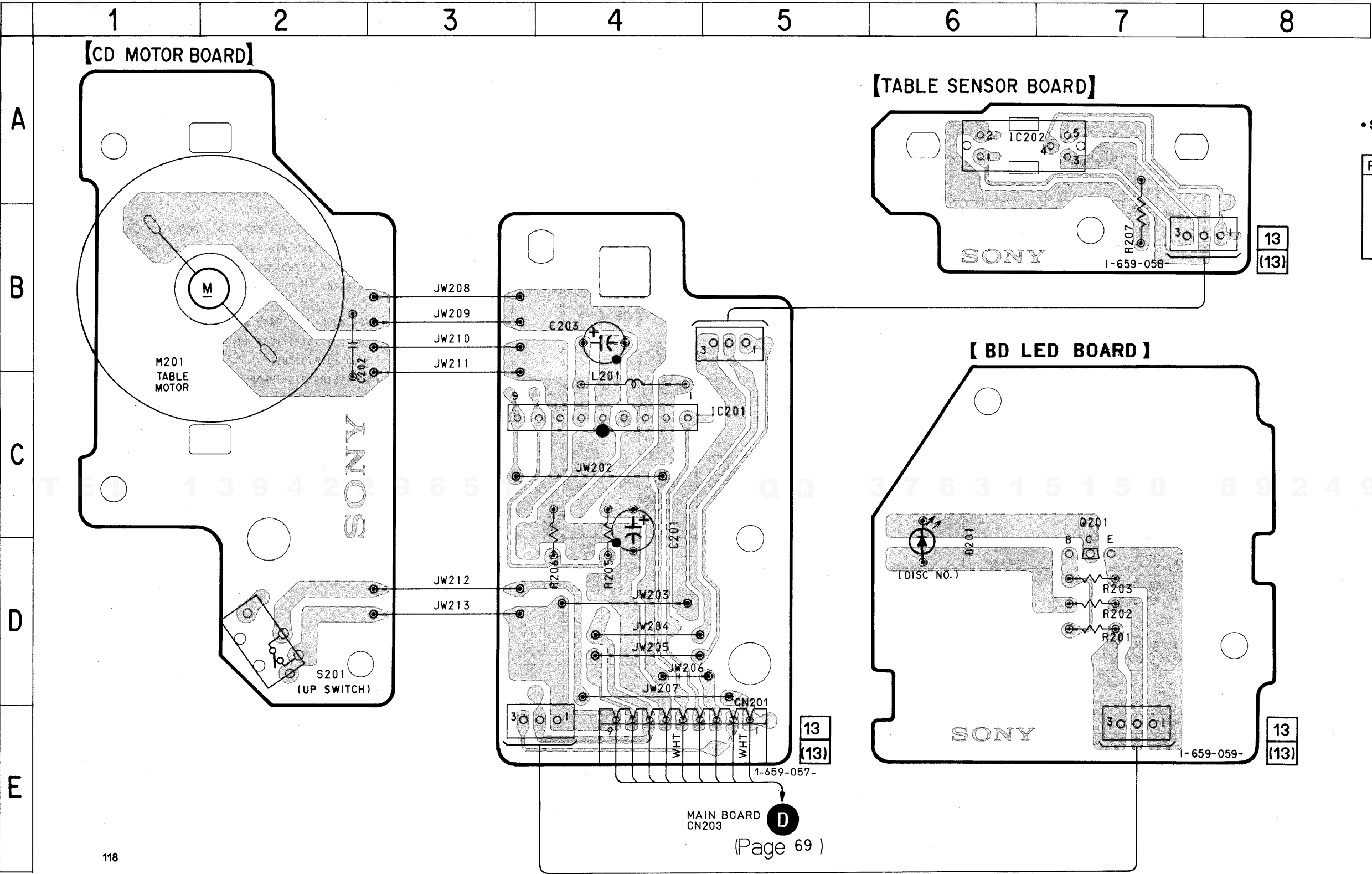


(OPTICAL PICK-UP)
(BLOCK KISS-213D)

6-6. SCHEMATIC DIAGRAM – CD MOTOR Section –
• See page 85 for IC Block Diagrams.



6-7. PRINTED WIRING BOARDS – CD MOTOR Section – • See page 38 for Circuit Boards Location.



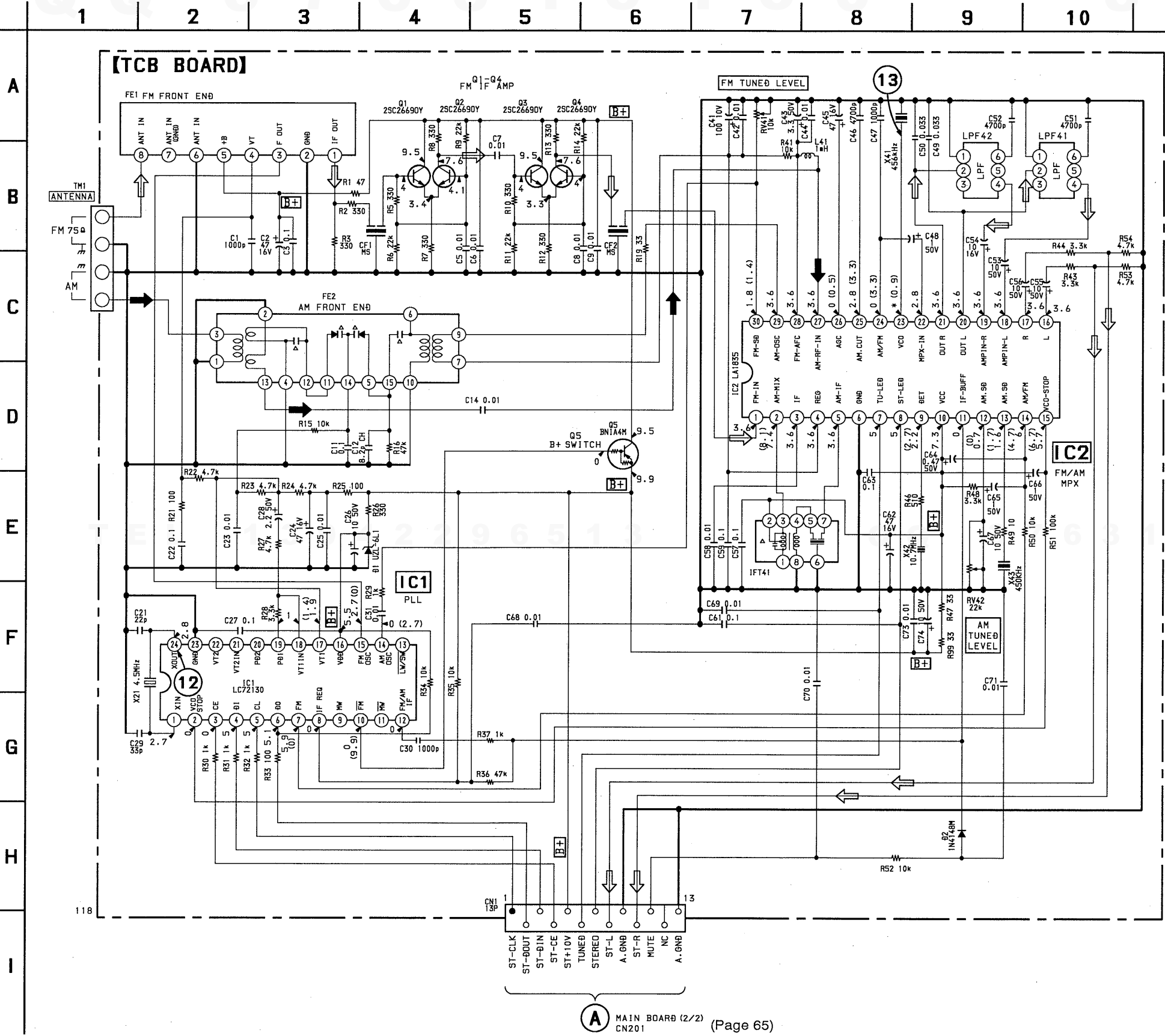
• Semiconductor Location

Ref. No.	Location
D201	D-6
IC201	C-4
IC202	A-6
Q201	D-7

Note

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

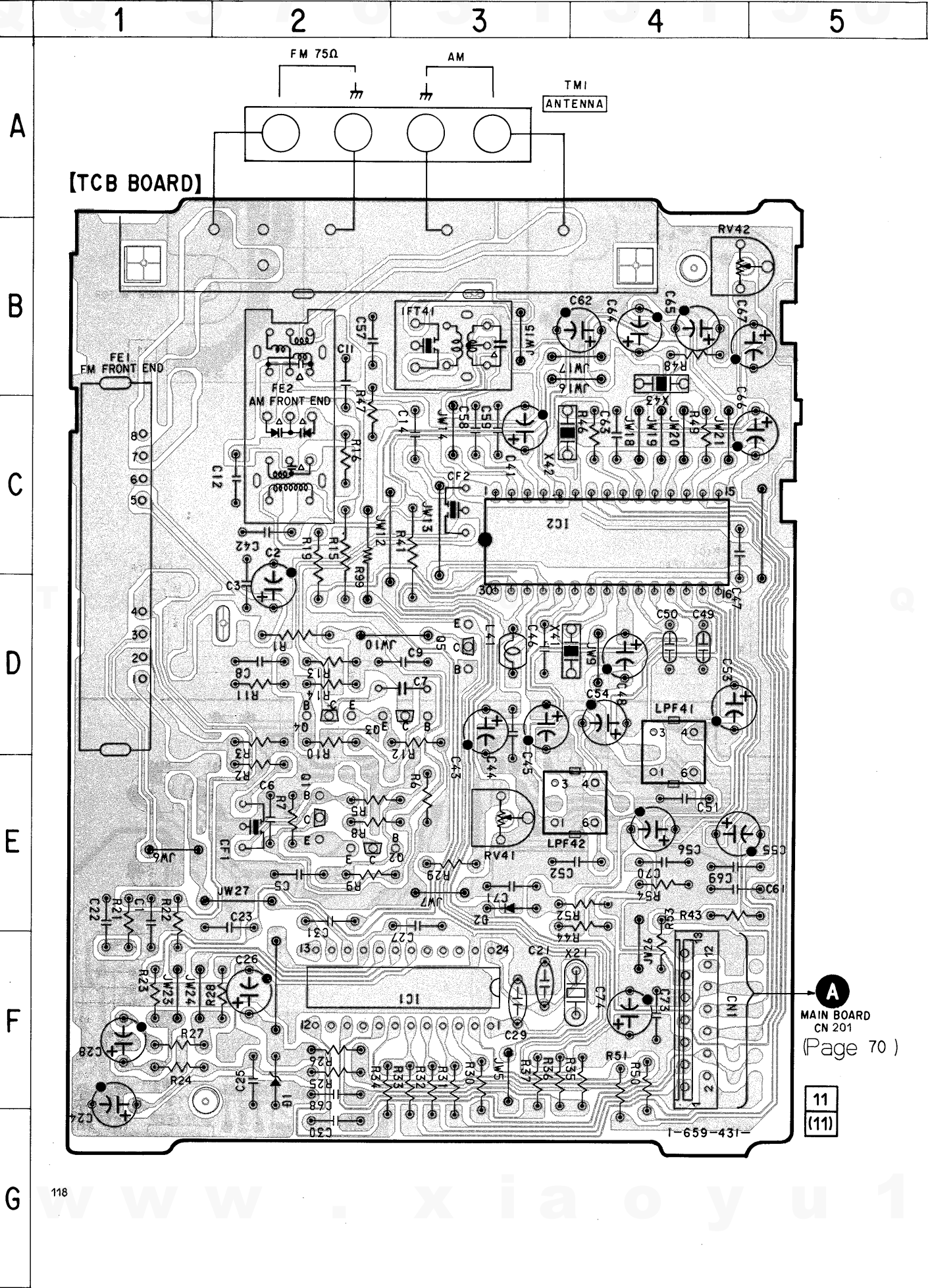
6-8. SCHEMATIC DIAGRAM – TUNER Section –
• See page 39 for Waveforms. • See page 85 for IC Block Diagrams.



NOTE

- All capacitors are in μF unless otherwise noted. $\text{pF}:\mu\text{F}$ 50W or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- Δ : internal component.
- $\square$: panel designation.
- B+ : B+ Line.
- $\square$: adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark: FM
() : AM
- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
 $\rightarrow$: FM
 $\rightarrow$: AM

6-9. PRINTED WIRING BOARD – TUNER Section –
• See page 38 for Circuit Boards Location.



• Semiconductor Location

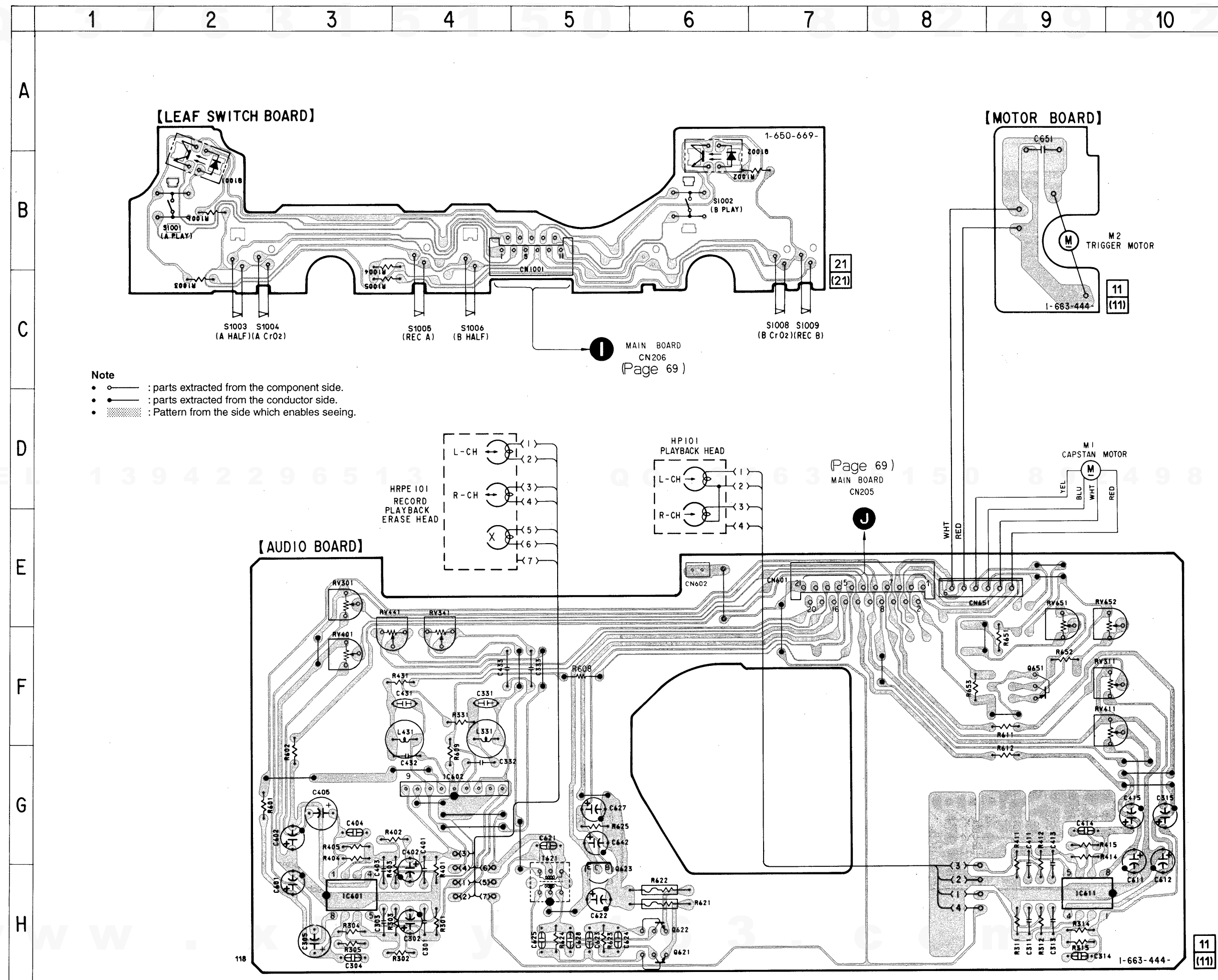
Ref. No.	Location
D1	F-2
D2	E-3
IC1	F-3
IC2	C-4
Q1	E-2
Q2	E-2
Q3	D-3
Q4	D-2
Q5	D-3

- Note
- : parts extracted from the component side.
 - Δ : internal component.
 - : Pattern from the side which enables seeing.

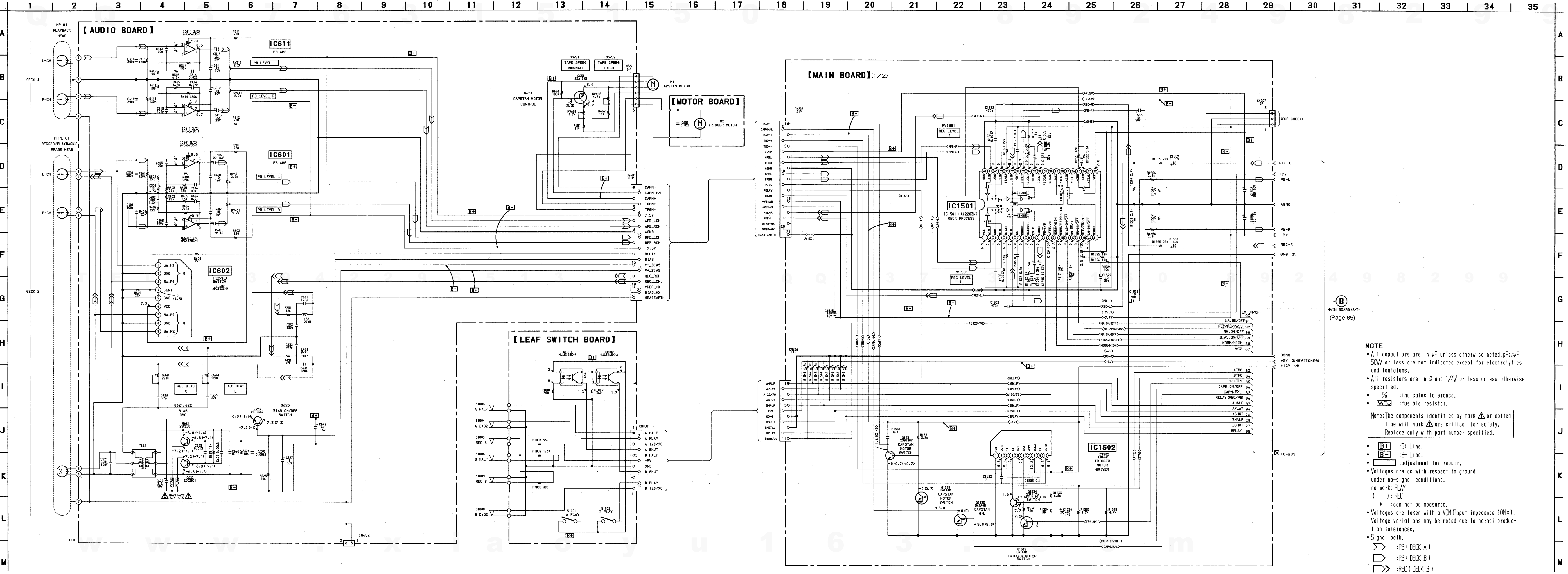
6-10. PRINTED WIRING BOARDS – DECK Section – • See page 38 for Circuit Boards Location.

- **Semiconductor Location**

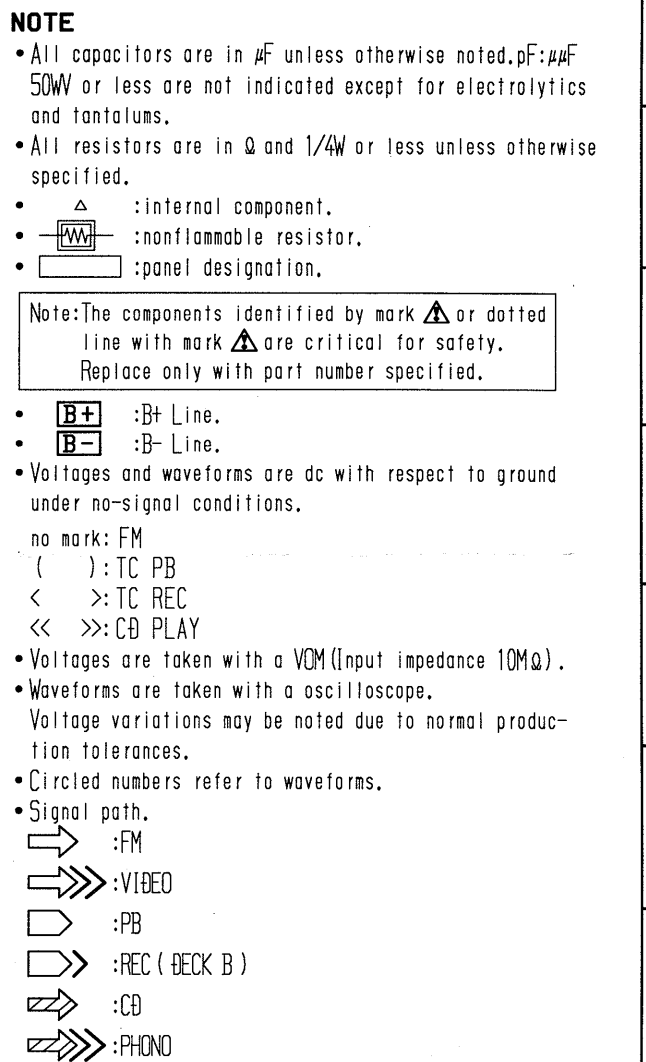
Ref. No.	Location
IC601	H-3
IC602	G-4
IC611	H-9
Q621	H-6
Q622	H-6
Q623	H-5
Q651	F-9
Q1001	B-2
Q1002	B-6

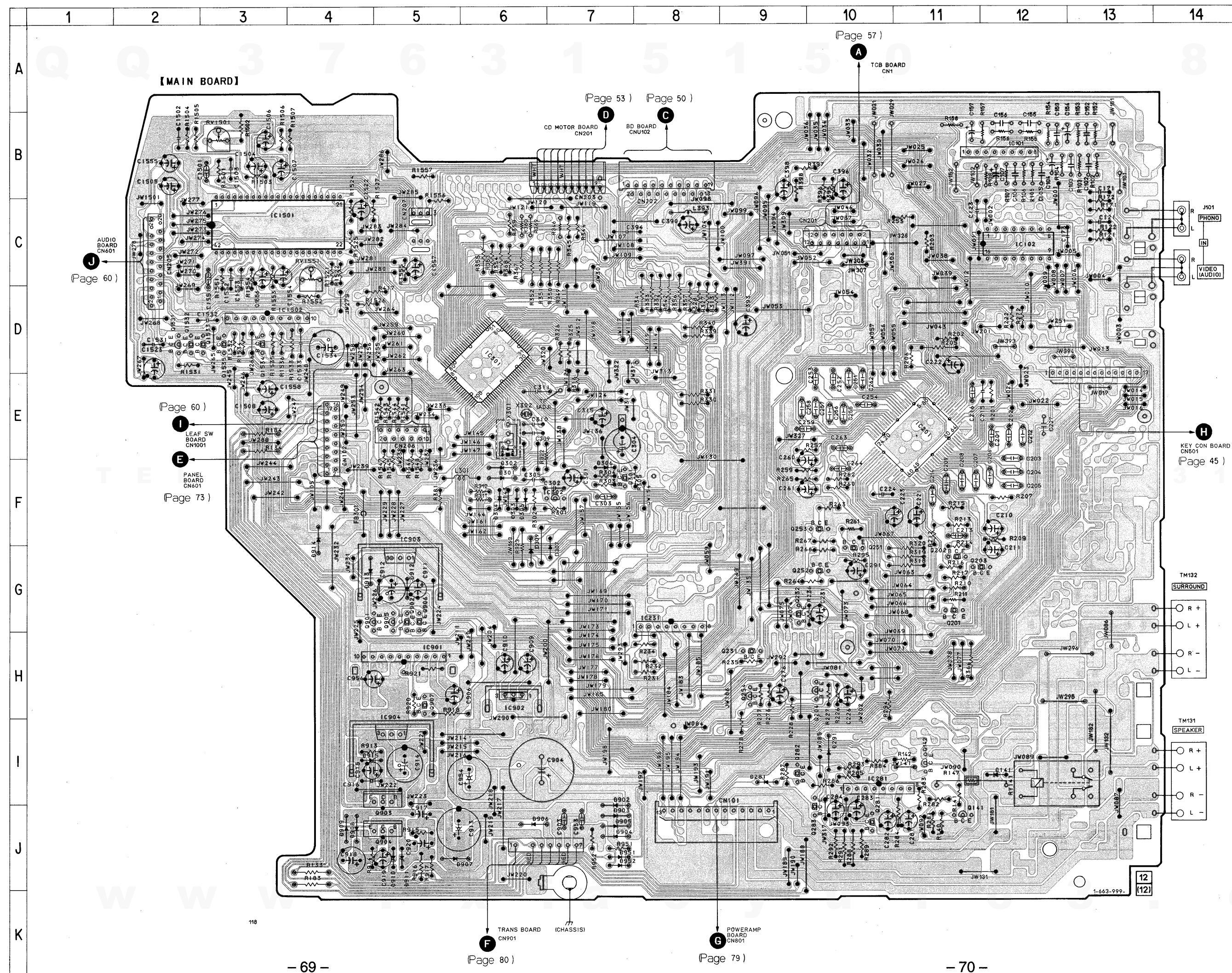


6-11. SCHEMATIC DIAGRAM - DECK section - See page 69 for Printed Wiring Board. (MAIN BOARD)



- See page 39 for Waveforms.
- See page 87 for IC Block Diagrams.
- See page 89 to 91 for IC Pin Function Description





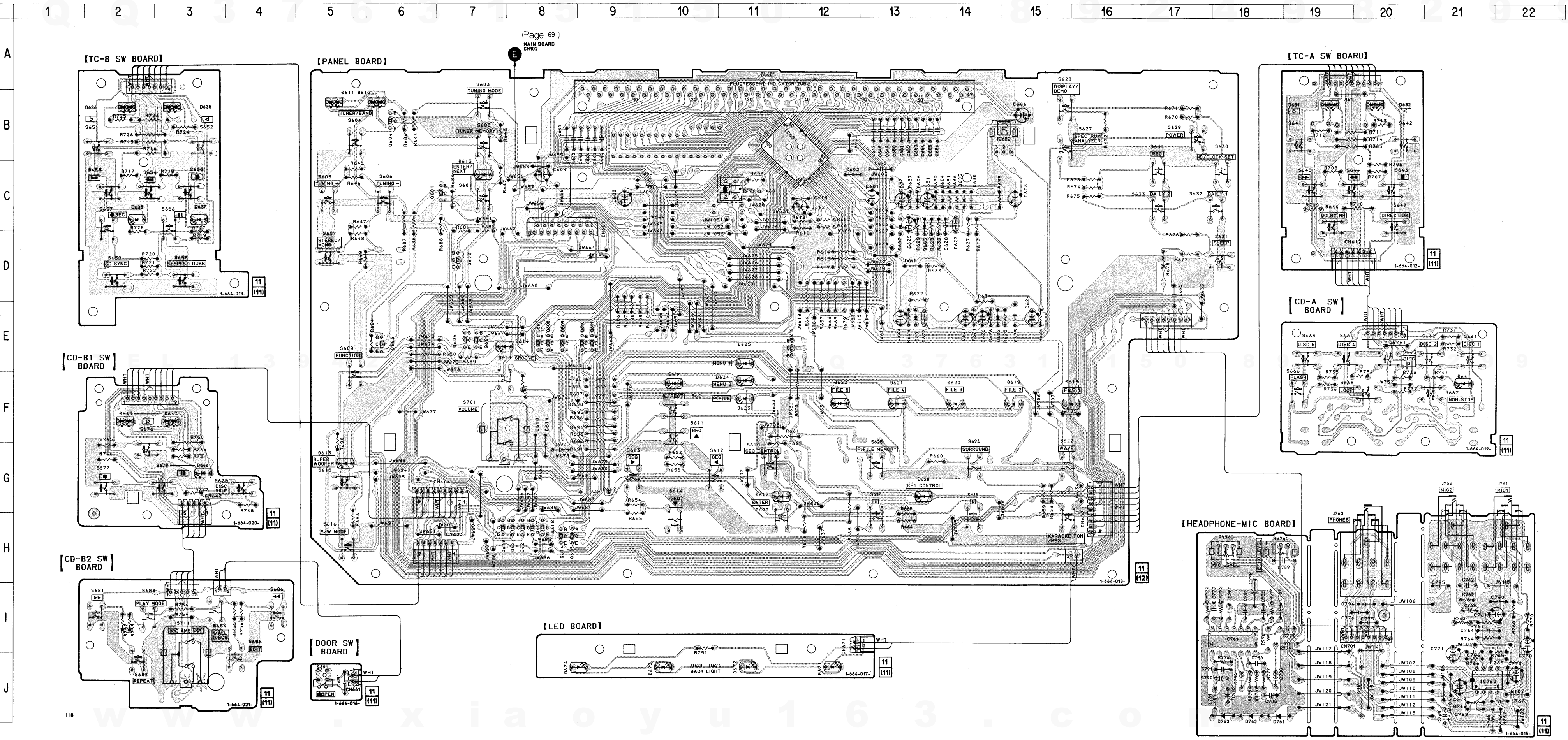
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D141	I-12	IC901	H-5
D281	I-9	IC902	H-6
D291	I-10	IC903	G-5
D301	F-6	IC904	I-5
D302	F-6	IC1501	C-3
D303	F-6	IC1502	D-3
D304	F-6		
D305	F-6	Q141	J-11
D306	F-7	Q142	I-11
D307	G-7	Q201	G-11
D309	G-6	Q202	G-11
D902	J-7	Q203	G-11
D903	J-7	Q204	H-10
D904	J-7	Q231	H-9
D905	J-7	Q232	G-9
D906	J-6	Q251	G-10
D907	J-5	Q252	G-10
D908	J-4	Q253	F-10
D909	J-4	Q254	H-9
D910	J-5	Q281	J-10
D911	J-5	Q282	I-9
D912	G-5	Q283	J-10
D913	G-4	Q301	F-7
D914	G-4	Q901	G-4
D915	I-4	Q902	G-5
D951	J-7	Q903	J-5
D952	J-7	Q904	J-5
		Q905	G-5
		Q906	G-5
IC101	B-12	Q907	H-5
IC102	C-12	Q1531	D-2
IC201	E-11	Q1532	D-2
IC231	G-8	Q1533	D-3
IC281	I-10	Q1534	D-3
IC301	D-6	Q1535	D-3
IC302	F-7		

Note

- : parts extracted from the component side.
- Δ : internal component.
- : Pattern from the side which enables seeing.

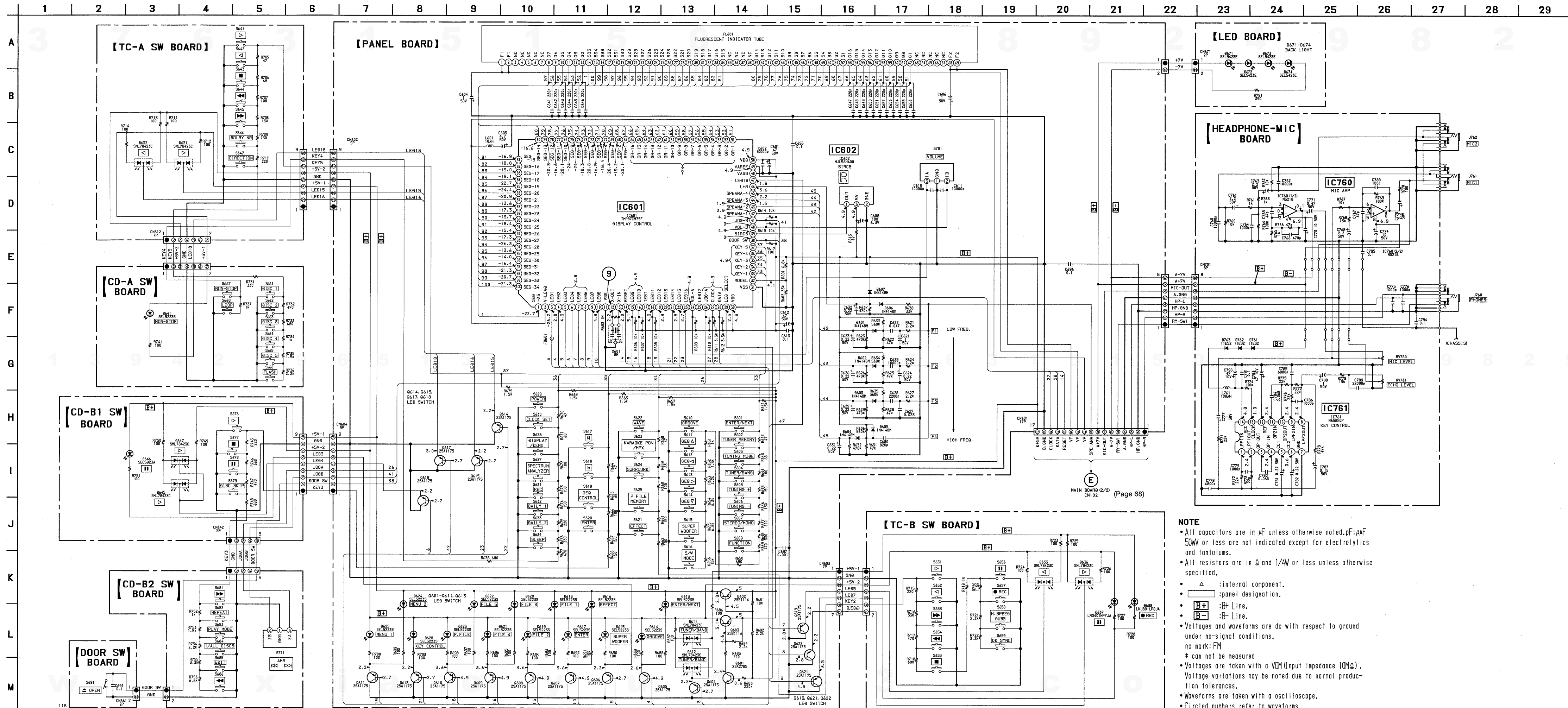
6-14. PRINTED WIRING BOARDS – PANEL Section –
• See page 38 for Circuit Boards Location.



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D601	E-13	D671	J-12
D602	E-14	D672	J-11
D603	C-13	D673	J-10
D604	C-14	D674	J-8
D605	C-14	D671	J-18
D606	C-13	D672	J-18
D607	C-13	D673	J-18
D611	B-5		
D612	B-6	IC601	B-12
D613	C-7	IC602	B-15
D614	E-7	IC603	E-6
D615	G-5	IC604	E-7
D616	F-10	IC605	E-7
D617	G-11	IC606	E-7
D618	F-16	IC607	E-8
D619	F-15	IC608	E-8
D620	F-14	IC609	E-8
D621	F-13	IC610	E-9
D622	F-12	IC611	E-9
D623	F-11	IC612	E-12
D624	F-11	Q601	C-7
D625	E-11	Q602	D-7
D628	G-13	Q603	E-6
D631	B-19	Q604	B-6
D632	B-20	Q605	E-7
D635	B-3	Q606	E-7
D636	B-2	Q607	E-8
D637	C-3	Q608	E-8
D638	C-2	Q609	E-8
D641	F-21	Q610	E-9
D645	F-2	Q611	E-9
D646	G-3	Q612	E-12
D647	F-3	Q613	H-8
		Q614	H-8
		Q615	H-8
		Q616	H-8
		Q617	H-8
		Q618	H-8
		Q619	H-7
		Q621	H-8
		Q622	H-8

- Note
- : parts extracted from the component side.
 - Δ : internal component.
 - : Pattern from the side which enables seeing.

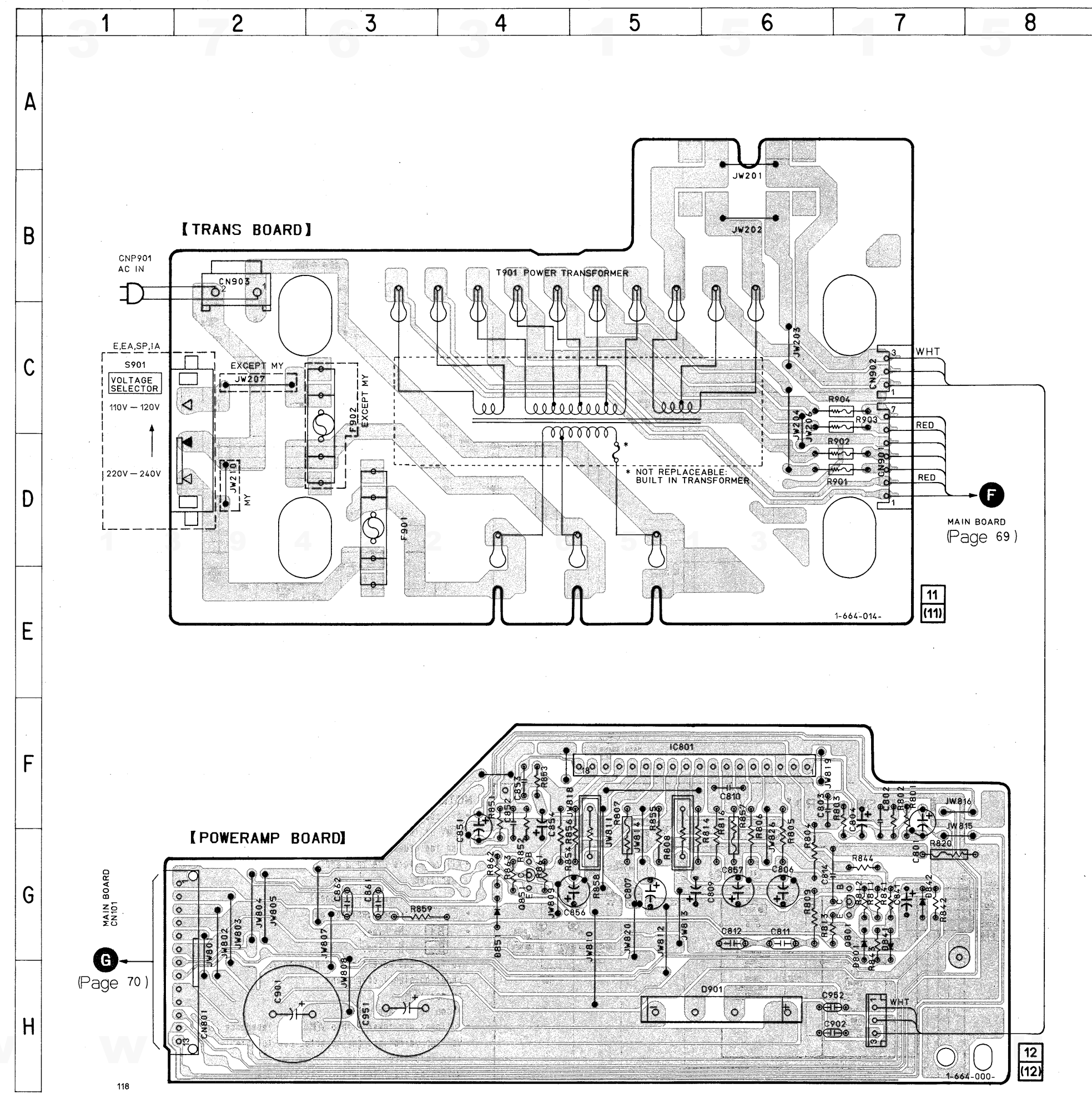


- NOTE
- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\text{F}$ 50WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
 - Δ : internal component.
 - B+ : panel designation.
 - B+ : B+ Line.
 - B- : B- Line.
 - Voltages and waveforms are dc with respect to ground under no-signal conditions.
 - * can not be measured
 - Voltages are taken with a VOM (input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
 - Waveforms are taken with a oscilloscope.
 - Circled numbers refer to waveforms.

6-16. PRINTED WIRING BOARDS – POWER Section –
• See page 38 for Circuit Boards Location.

• Semiconductor Location

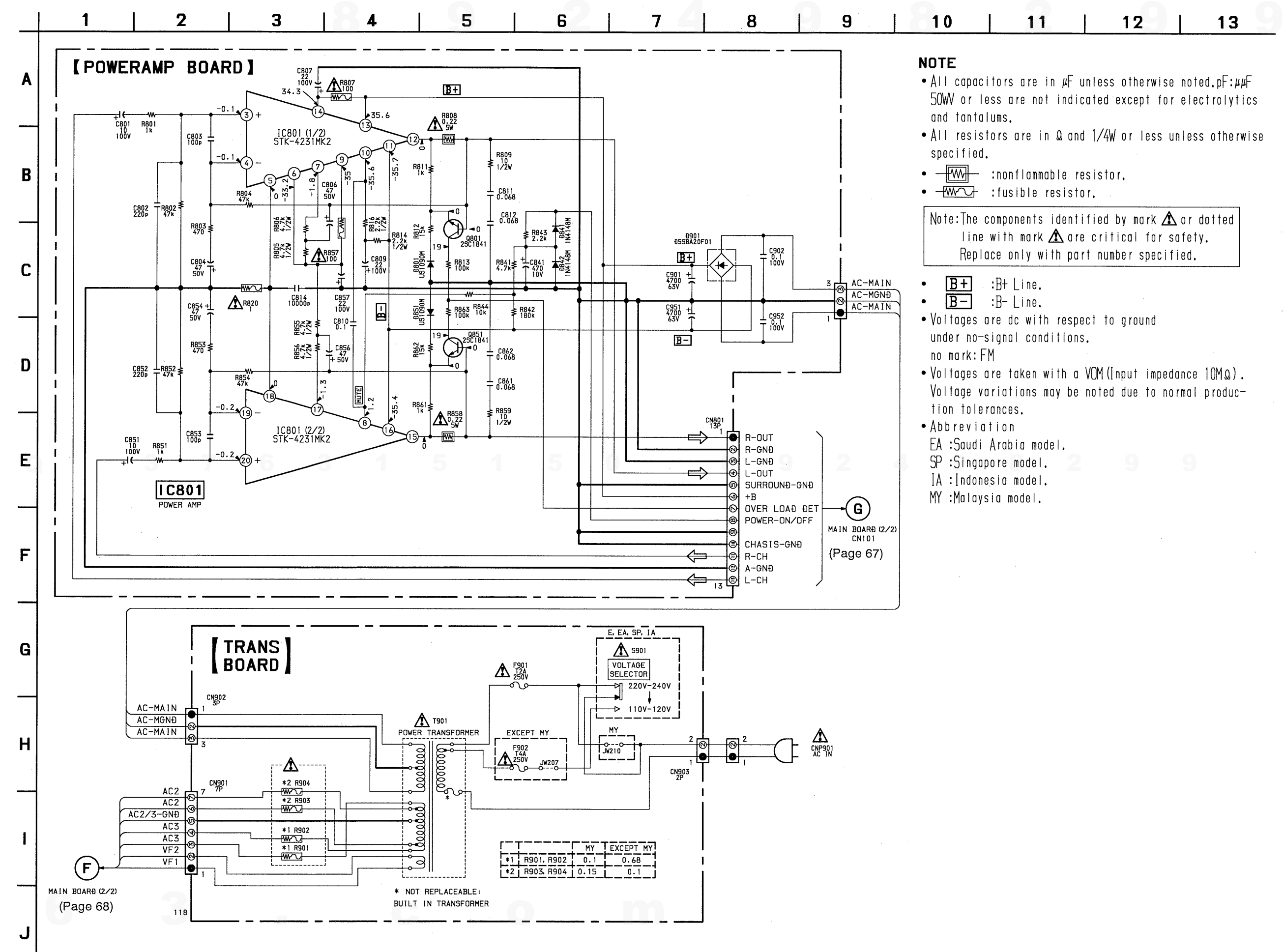
Ref. No.	Location
D801	G-7
D841	G-7
D842	G-7
D851	G-4
D901	H-6
IC801	F-5
Q801	G-7
Q851	G-4



Note

- : parts extracted from the component side.
- : Pattern from the side which enables seeing.
- Abbreviation
- EA : Saudi Arabia model
- IA : Indonesia model
- SP : Singapore model
- MY : Malaysia model

6-17. SCHEMATIC DIAGRAM – POWER Section –



NOTE

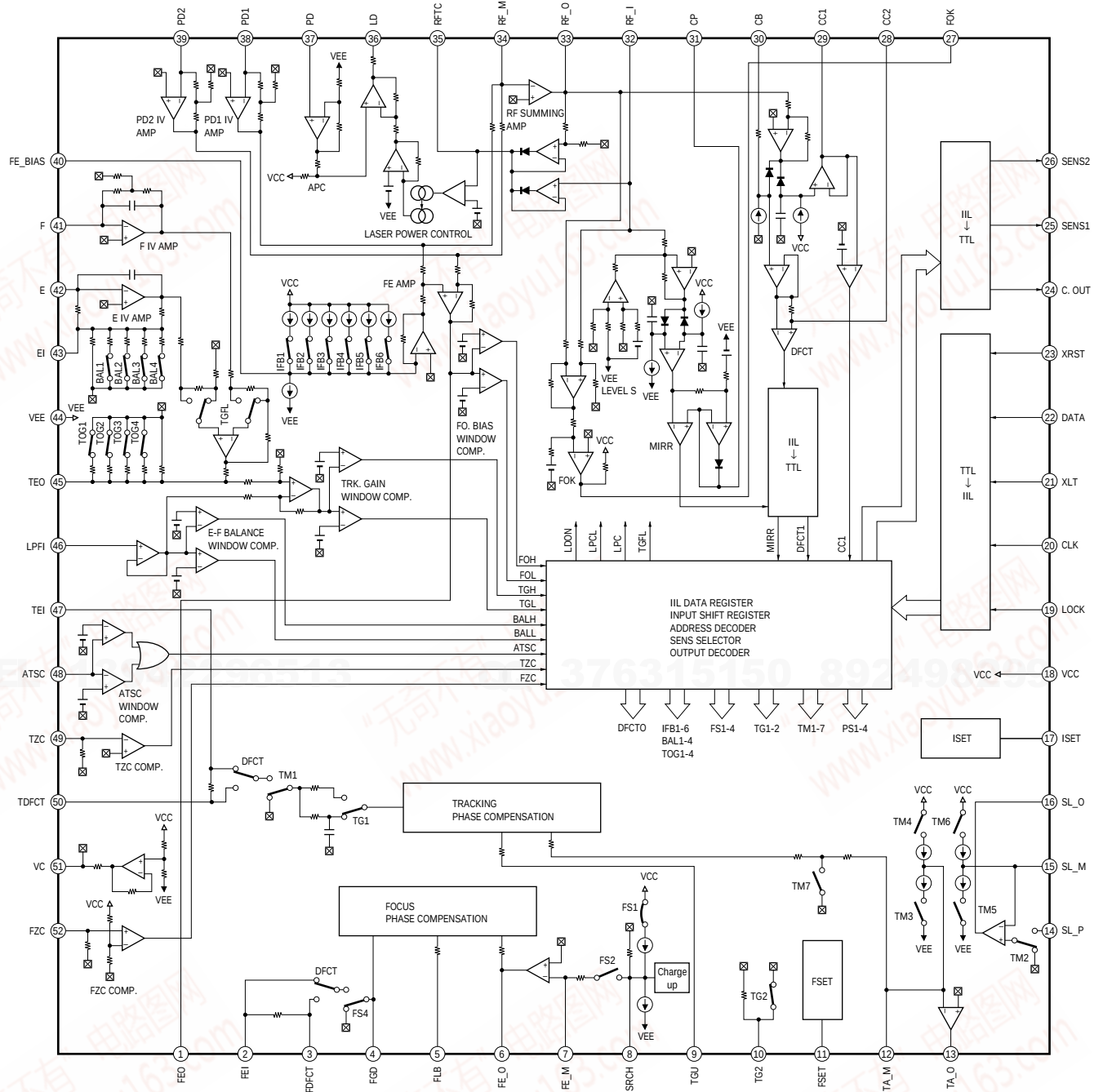
- All capacitors are in μF unless otherwise noted, $pF: \mu F$ 50W or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4W$ or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.

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

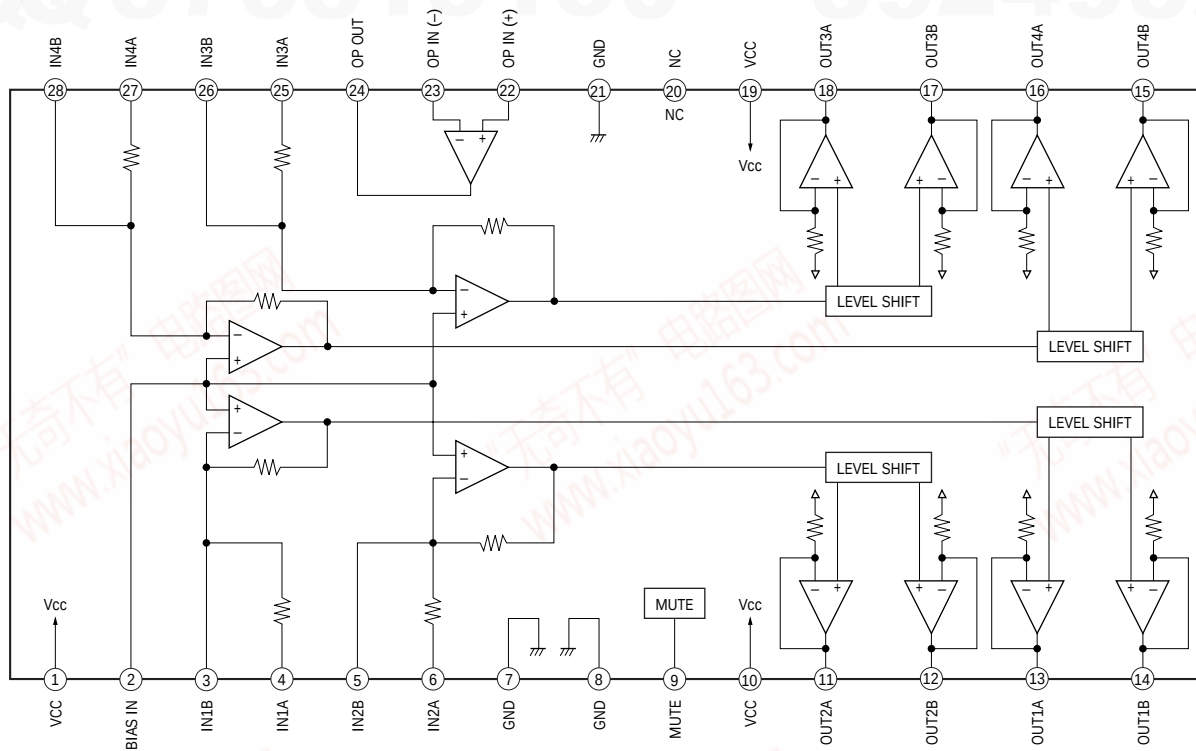
- B+ : B+ Line.
- B- : B- Line.
- Voltages are dc with respect to ground under no-signal conditions. no mark: FM
- Voltages are taken with a VOM (Input impedance $10M\Omega$). Voltage variations may be noted due to normal production tolerances.
- Abbreviation
- EA : Saudi Arabia model.
- SP : Singapore model.
- IA : Indonesia model.
- MY : Malaysia model.

• IC Block Diagrams –BD Section –

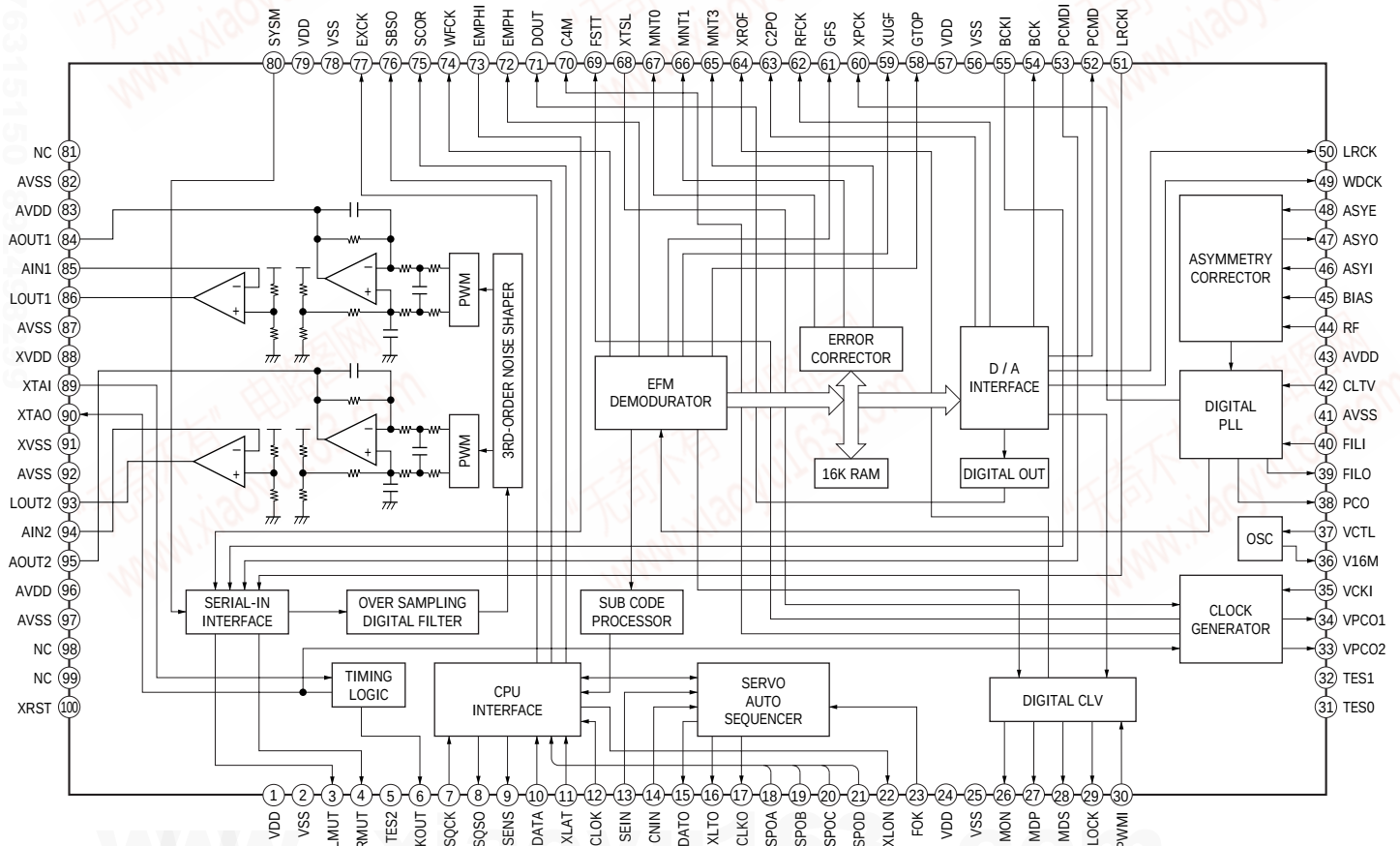
IC101 CXA1992AR



IC102 BA5941FP

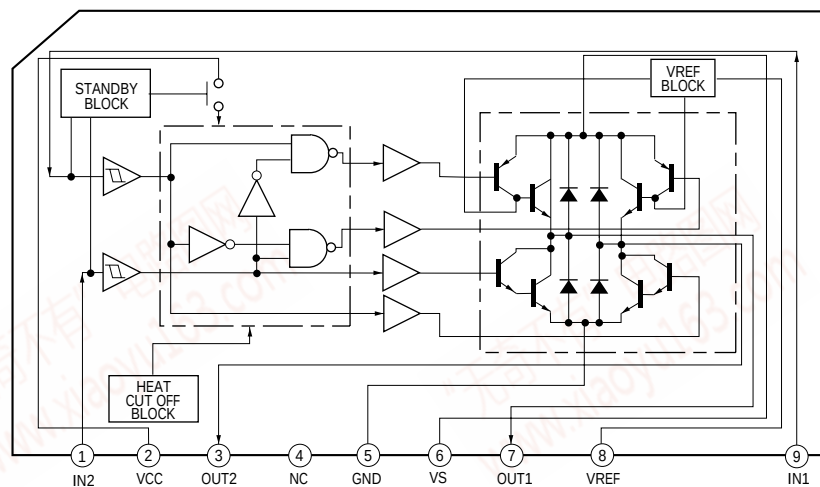


IC103 CXD2519Q



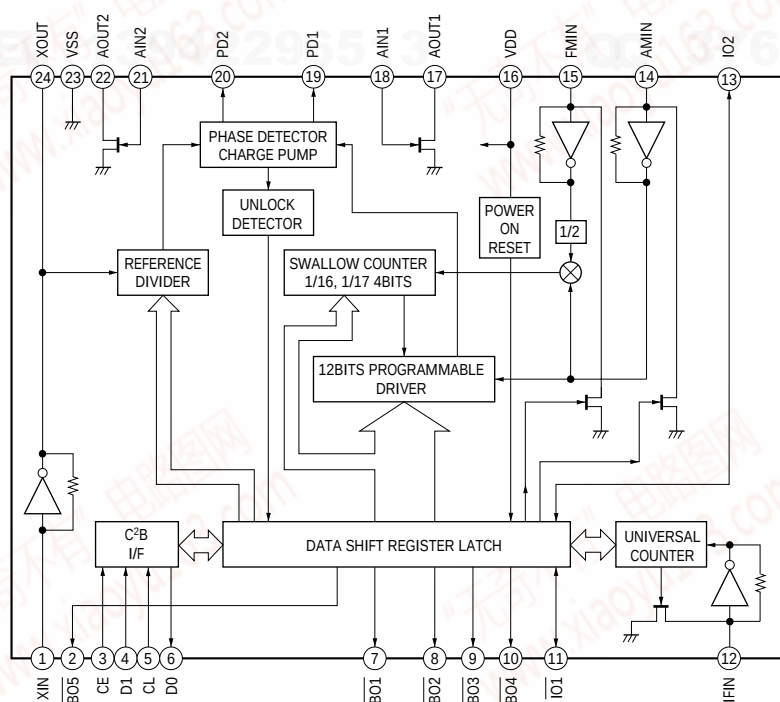
– CD MOTOR Section –

IC201 TA8409S

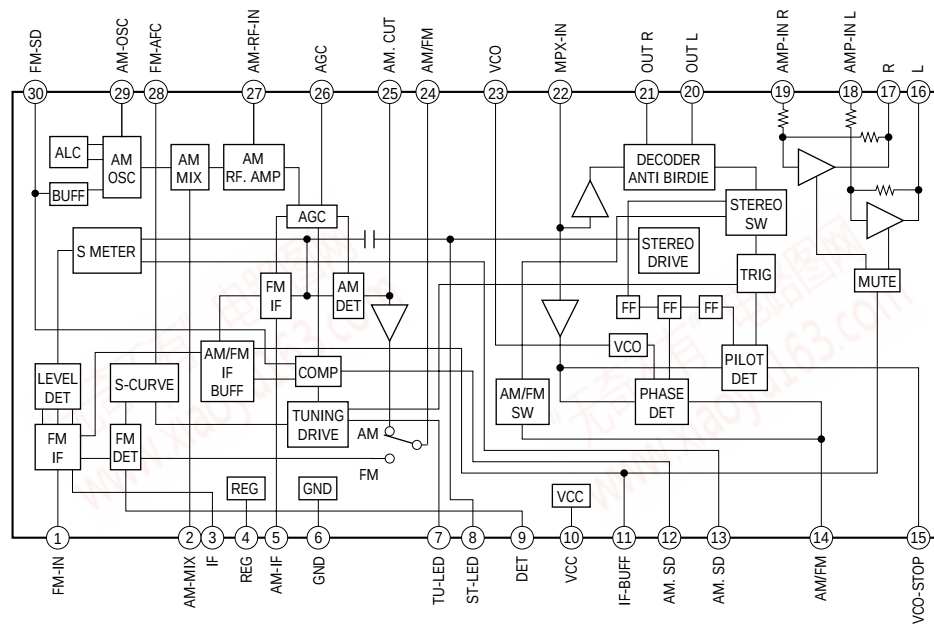


– TUNER Section –

IC1 LC72130

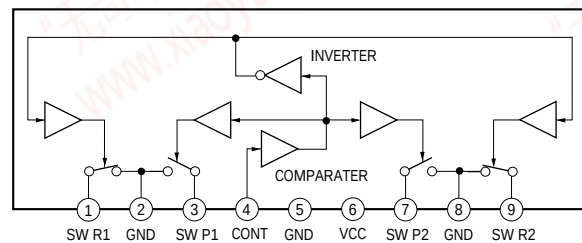


IC2 LA1835

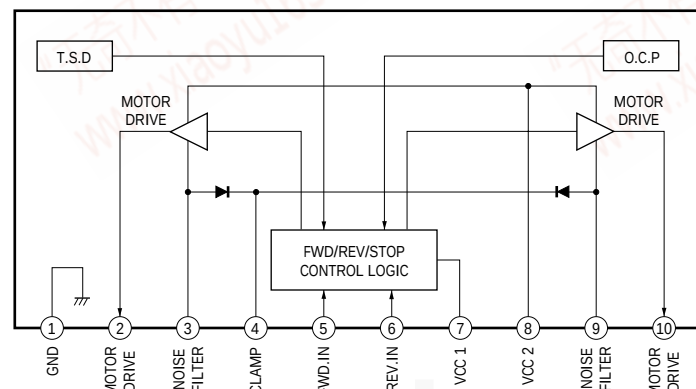


- DECK Section -

IC602 μ PC1330HA

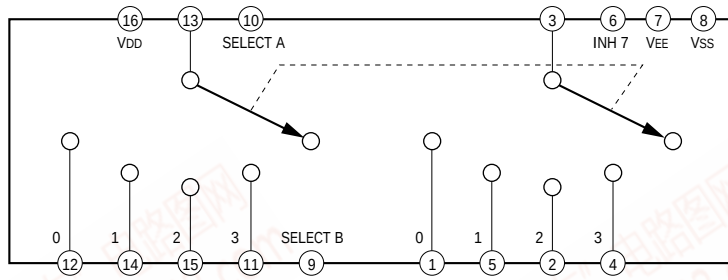


IC1502 LB1641

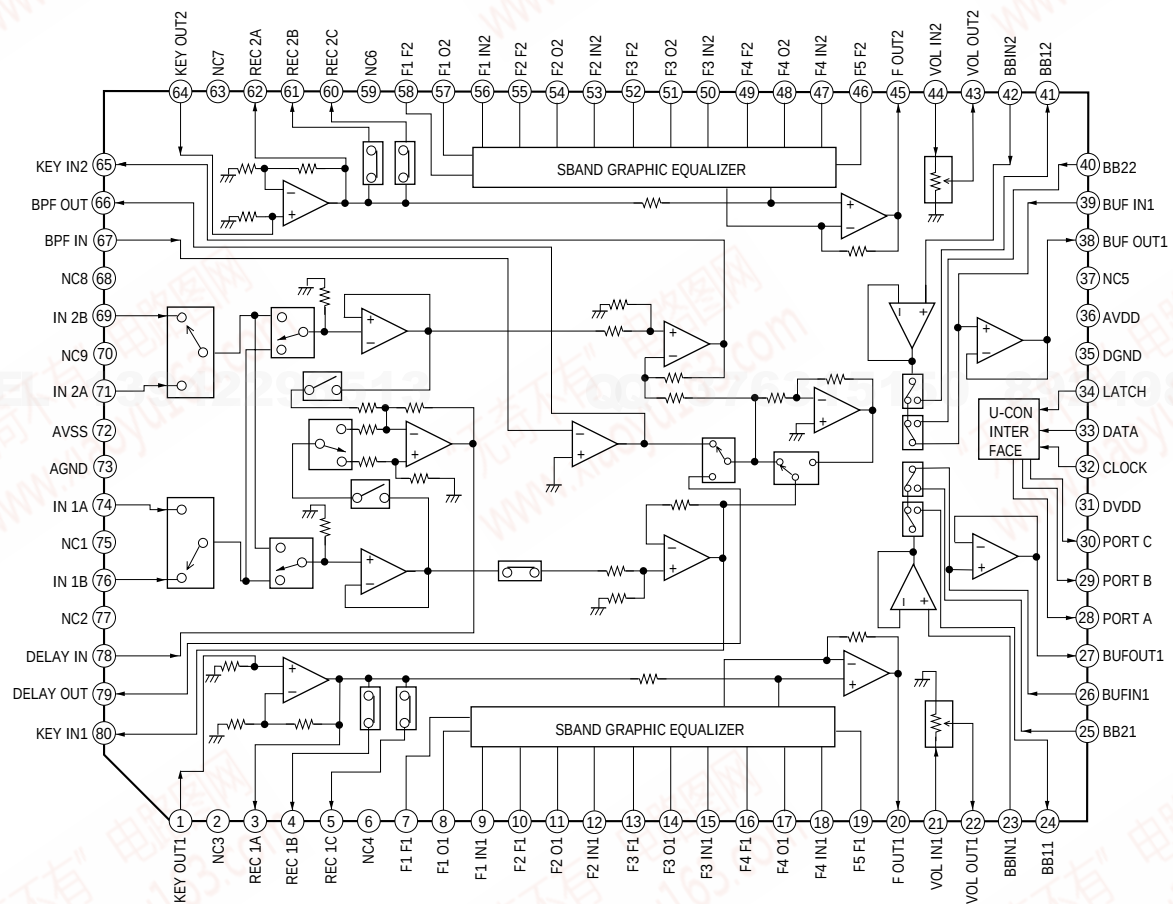


– MAIN Section –

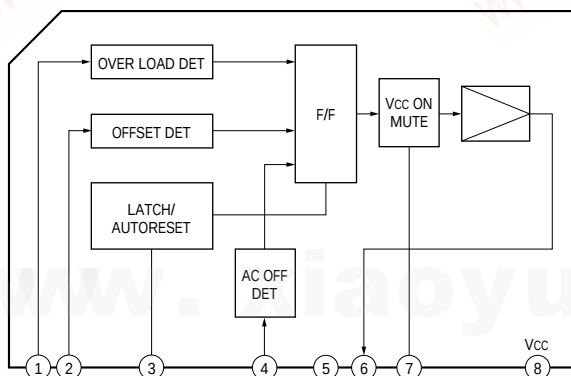
IC102 MC14052BCP



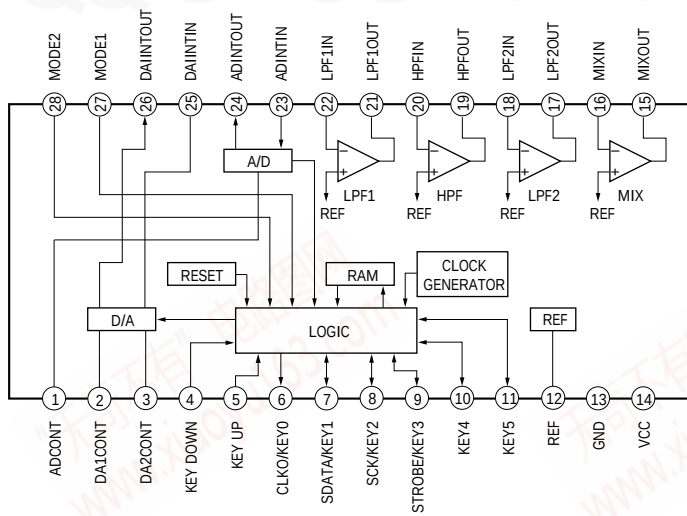
IC201 M6247FP



IC281 μ PC1237HA

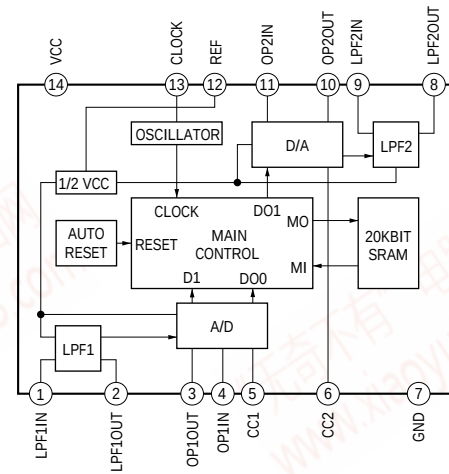


IC501 M65847FP-TP

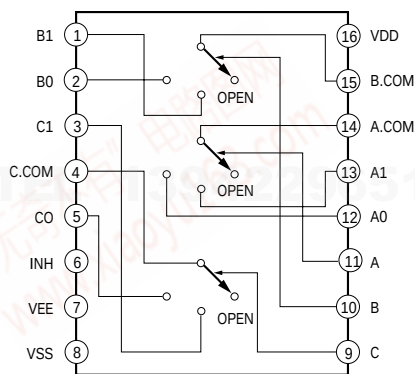


- PANEL Section -

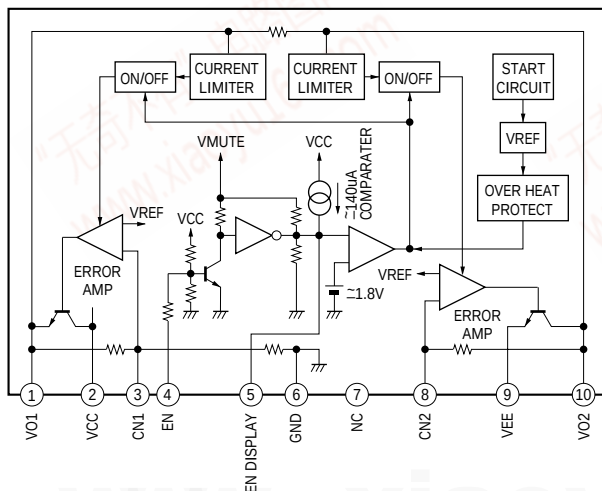
IC761 M65850P



IC502 MC14053BCP



IC901 LA5617



6-18. IC PIN FUNCTION DESCRIPTION

MAIN BOARD IC301 μ PD780018Y (MAIN CONTROL)

Pin No.	Pin Name	I/O	Function
1	TA-MUTE	O	Line mute signal output
2	DBFB-H/L	O	DBFB H/L select signal output
3	427-LT	O	Latch signal output for IC201 (62427)
4	KCON-LT	O	Latch signal output for IC501 (Key Control)
5	KCON-ON/OFF	O	Key control ON/OFF signal output
6	F-RELAY	O	Front speaker relay control output
7	R-RELAY	O	Not used
8	PL-RELAY	O	
9	TEST	I	Connected ground
10	X2	O	X'tal (5MHz)
11	X1	I	
12	VDD	–	Power supply (+5V)
13	XT2	O	X'tal (32.768 KHz)
14	XT1	I	
15	RESET	I	Reset signal input
16	INT/IN	I	Connected ground
17	INT/IN/OUT	I	
18	SCOR	O	Subcode data request signal output
19	SOFT-TEST	O	Software test port
20	AC-CUT	I	Back up signal input
21	RDS-INT	I	Not used
22	RDS-DATA	I	
23	VDD	–	Power supply (+5V)
24	AVDD	I	Analog reference voltage input
25	ADJ	I	CD adjust point port
26	A-SHUT	I	A Deck reel pulse detector
27	B-SHUT	I	B Deck reel pulse detector
28	B-HALF	I	Half detector signal input
29	CLK-CHECK	I	Connected ground
30	SPEC-IN	I	Version select signal input
31	ADJ 2	I	Connected ground
32	DEMO-MODE	I	Connected ground
33	AVss	–	Ground
34	SQ-DATA-IN	I	Subcode Q data input
35	—	–	Not used
36	SQ-CLK	I	Subcode Q data clock input
37	SW-ON/OFF	O	Not used
38, 39	FUNC 1, 2	I	Connected ground
40	Vss	–	Ground
41	VOL-LAT	O	Not used
42	PL-LAT	O	
43	COM-DIN	I	Connected ground
44	COM-DOUT	O	Common serial data output

Pin No.	Pin Name	I/O	Function
45	COM-CLK	O	Common serial clock output
46	CD-POWER	O	CD power on signal output
47	CD-DATA	O	CD data output
48	CD-CLOCK	O	CD clock output
49	MSM-CMD	O	Not used
50	MSM-BUSY	I	Connected ground
51	MSM-LT	O	Not used
52	MSM-NAR	I	
53	MSM-CH	O	
54	INPUT-CHANGE	O	Not used
55	11C-DATA	O	Data output for IC601
56	11C-CLK	O	Clock output for IC601
57	XRST	O	CD reset signal output
58	XLT	O	CD latch signal output
59	FOUCUS-SW	O	Not used
60	TBL-L	O	Table motor control output
61	TBL-R	O	
62	TRAY-LED	O	CD tray LED ON/OFF output
63	LOAD-OUT	O	Not used
64	LOAD-IN	O	
65	ST-CLK	O	Tuner clock output
66	ST-DIN	I	Tuner data input
67	ST-DOUT	O	Tuner data output
68	ST-CE	O	Tuner chip enable output
69	TUNED	I	Tuned detection for tuner
70	STEREO	I	Stereo detection for tuner
71	Vss	–	Ground
72	ST-MUTE	O	Tuner mute signal output
73	SENS2	I	BD Condition signal input
74	SENS	I	
75	DISC-SENS	I	Not used
76	T-SENS	I	CD table detection signal input
77	UP-SW	I	Up SW (S201) signal input
78	ENC 3	I	Not used
79	ENC 2	I	
80	ENC 1	I	
81	OUT-OPEN	I	Not used
82	CAP-M-H/N	O	Capstan motor H/N speed select signal output
83	B-TRG	O	Trigger motor control output
84	A-TRG	O	Trigger motor control output
85	TRG-LOW	O	Trigger motor control output
86	CAP-M-ON/OFF	O	Capstan motor ON/OFF signal output
87	PB-A/B	O	PB Deck A/Deck B select output

Pin No.	Pin Name	I/O	Function
88	EQ-H/N	O	Equalizer H/N select output
89	BIAS	O	Bias ON/OFF signal output
90	REC-MUTE	O	REC mute ON/OFF selection output
91	NR-ON/OFF	O	NR ON/OFF signal output
92	R/P-PASS	O	REC/PB/PASS selection output
93	TC-MUTE	O	TC mute ON/OFF selection output
94	A-PLAY-SW	I	Deck A play detect
95	B-PLAY-SW	I	Deck B play detect
96	TC-RELAY	O	REC/PB head selection output for IC602
97	A-HALF	I	Deck A cassette detect
98	POWER	O	POWER ON/OFF signal output
99	SW-F-CHG	O	Super woofer mode signal output
100	STK-MUTE	O	Power amp ON/OFF signal output

PANEL BOARD IC601 TMP87CM75 (DISPLAY CONTROL)

Pin No.	Pin Name	I/O	Function
1	SEG-35	O	FL segment signal output
2	V-LOAD	–	–25V driving power for FL
3-10	LED1-LED8	O	LED driver signal output
11	Vss	–	Ground
12	X-OUT	O	X'tal (8MHz)
13	X-IN	I	X'tal (8MHz)
14	RESET	I	Reset signal input
15.16	LED9•10	O	LED driver signal output
17	TEST	I	Conected ground
18-23	LED11-16	O	LED driver signal output
24	VOL-A	I	Volume encoder signal input
25	LED17	O	LED driver signal output
26	JOG-A	I	Jog dial encoder signal input
27	CLOCK	I	Serial clock input from main comtroller
28	DATA	I	Serial data input from main comtroller
29	LED SELECT	O	LED select signal output
30	VDD	–	+5V
31	VSS	–	Ground
32	MODEL	I	Version select signal input
33-37	KEY1-KEY5	I	Key matrix input
38	DOOR SW	I	Door swith ON/OFF signal input
39	SIRCS	I	Remote commander signal input
40	VOL-B	I	Volume encoder signal input
41	JOG-B	I	Jog dial encoder signal input
42-45	SPEANA1-4	I	Spectrum analyzer input
46	L+R	I	Spectrum analyzer (L,R) input
47	LED18	O	LED driver signal output
48	VASS	–	Ground
49	VA REF	–	Analog reference volltage (+5v)
50	VDD	–	+5V
51-66	GR1-16	O	FL grid signal output
67-100	SEG1-34	O	FL segment signal output

SECTION 7 EXPLODED VIEWS

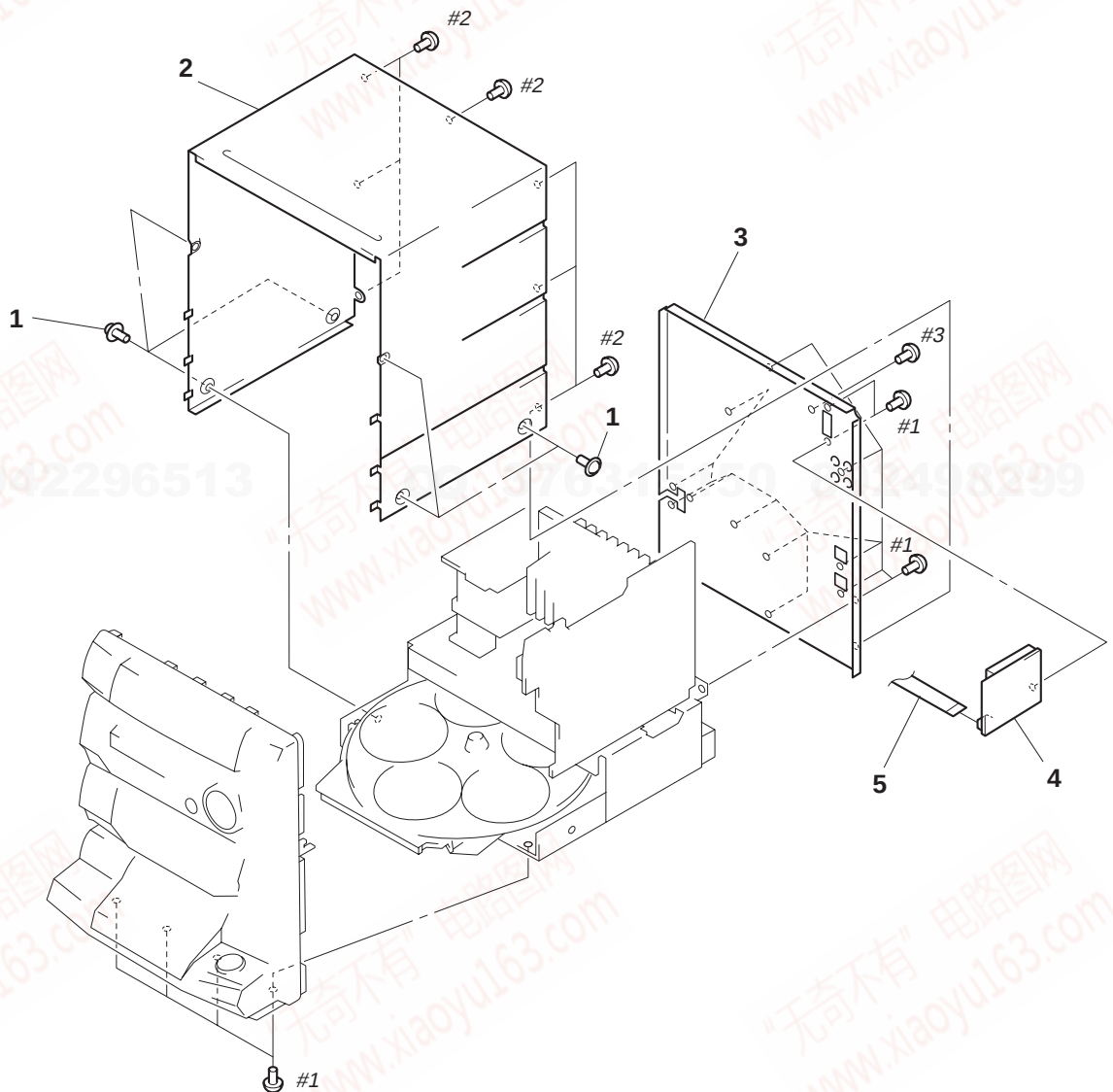
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

- Abbreviation
EA : Saudi Arabia model
SP : Singapore model
IA : Indonesian model
MY : Malaysia model

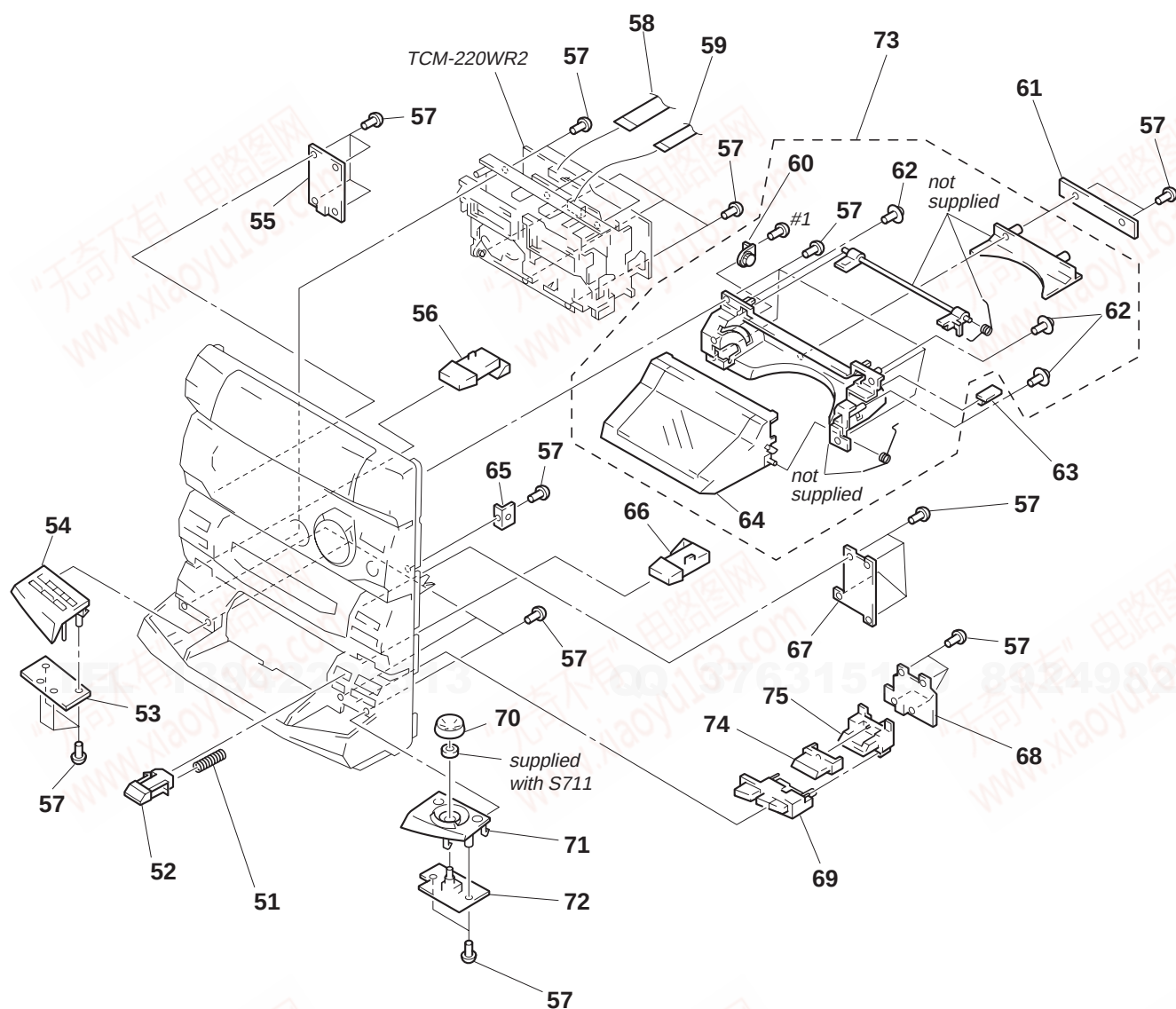
The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

(1) CASE, REAR PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-929-973-01	SCREW (CASE, 3 POINT)		* 3	4-987-926-61	PANEL, BACK (SP)	
* 2	4-987-052-31	CASE		* 3	4-987-926-71	PANEL, BACK (MY)	
* 3	4-987-926-41	PANEL, BACK (E,IA)		* 4	A-4303-512-A	TCB BOARD, COMPLETE	
* 3	4-987-926-51	PANEL, BACK (EA)		5	1-769-974-11	WIRE (FLAT TYPE) (13 CORE)	

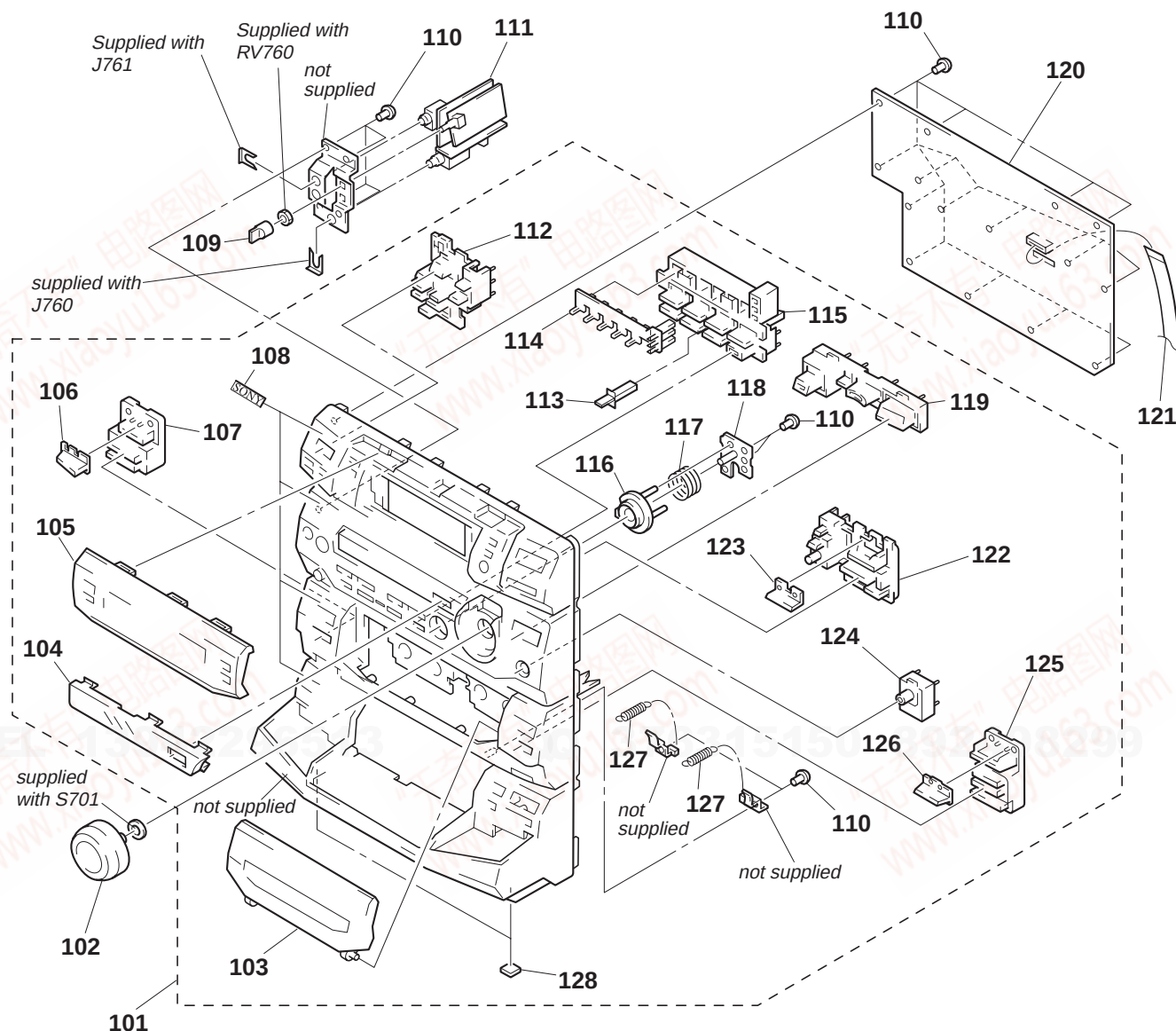
(2) FRONT PANEL SECTION-1



Ref. No.	Part No.	Description	Remark
51	4-987-995-01	SPRING (CD EJECT), COMPRESSION	
52	4-987-001-01	BUTTON (EJECT CD)	
* 53	1-664-019-11	CD-A SW BOARD	
54	X-4948-348-1	PANEL (A) SUB ASSY	
* 55	1-664-012-11	TC-A SW BOARD	
56	4-986-999-02	BUTTON (EJECT A)	
57	4-951-620-01	SCREW (2.6X8), +BVTP	
58	1-773-161-11	WIRE (FLAT TYPE) (21 CORE)	
59	1-769-949-11	WIRE (FLAT TYPE) (11 CORE)	
60	3-354-963-01	DAMPER	
* 61	1-664-017-11	LED BOARD	
62	4-957-577-01	SCREW PTP WH (2.6X8) (DIA. 10)	
* 63	1-664-016-11	DOOR SW BOARD	

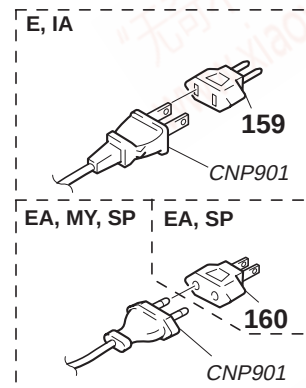
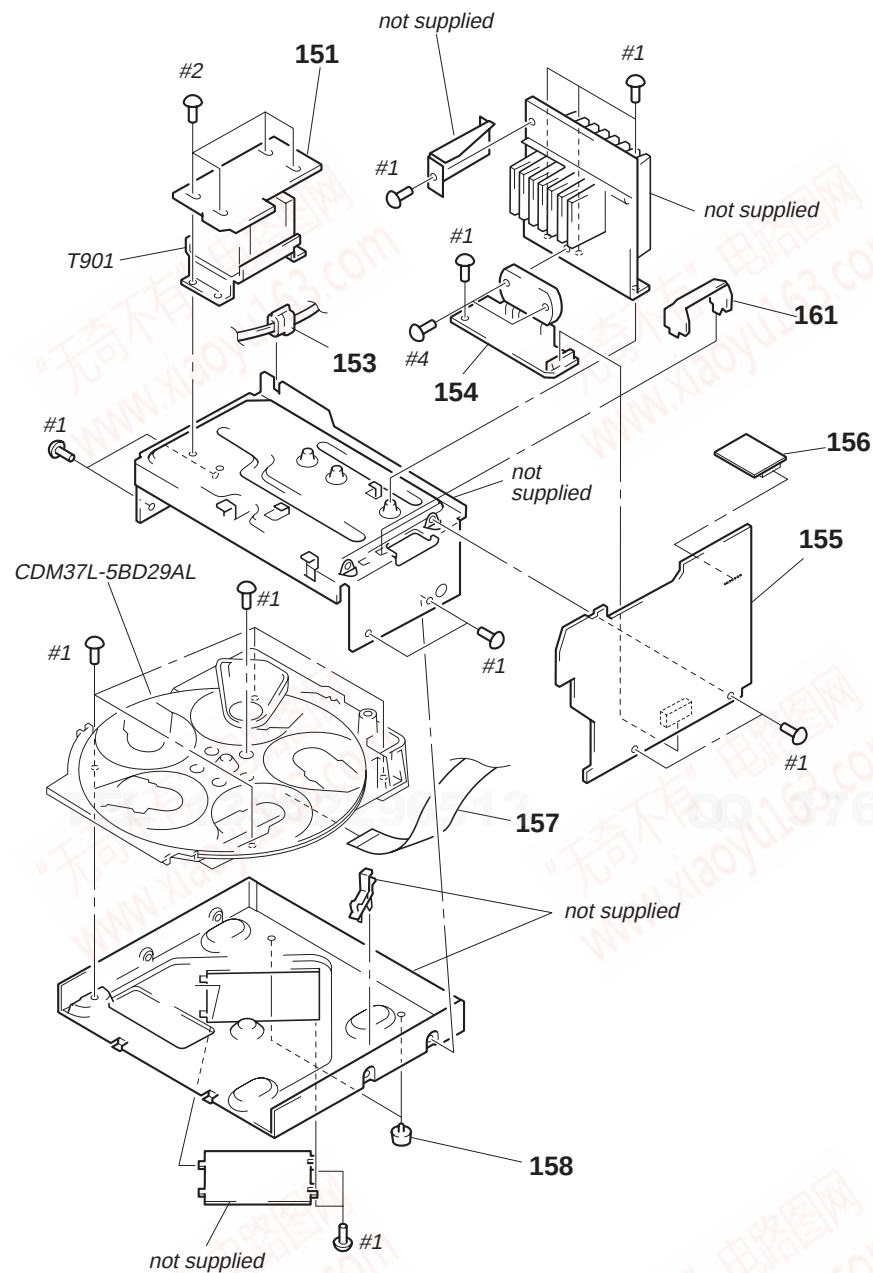
Ref. No.	Part No.	Description	Remark
64	4-987-038-31	LID DISK	
* 65	4-987-933-01	BRACKET (TA)	
66	4-987-000-02	BUTTON (EJECT B)	
* 67	1-664-013-11	TC-B SW BOARD	
* 68	1-664-020-11	CD-B1 SW BOARD	
69	X-4947-969-1	BUTTON (CD STOP) ASSY	
70	4-987-037-01	KNOB (JOG)	
71	X-4948-296-1	PANEL (B) SUB ASSY	
* 72	1-664-021-11	CD-B2 SW BOARD	
73	A-4384-681-A	LID ASSY, CD	
74	4-987-014-01	INDICATOR (CD)	
75	4-987-002-01	BUTTON (CD,PLAY)	

(3) FRONT PANEL SECTION-2



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	A-4384-405-A	PANEL ASSY, FRONT (E,EA,SP,IA)		115	X-4947-965-1	BUTTON (SOUND) ASSY	
101	A-4384-729-A	PANEL ASSY, FRONT (MY)		116	4-986-990-01	BUTTON (CURSOR)	
102	4-987-036-01	KNOB (VOL)		117	4-978-683-01	SPRING, COMPRESSION	
103	X-4947-961-1	LID ASSY, CASSETTE		* 118	4-987-041-01	COVER, CURSOR	
104	4-987-032-01	DISPLAY (TA)		119	X-4947-963-1	BUTTON (FUNCTION) ASSY	
105	4-987-028-01	DISPLAY (ST)		* 120	A-4392-472-A	PANEL BOARD, COMPLETE	
106	4-987-021-01	INDICATOR (TC A)		121	1-773-051-11	WIRE (FLAT TYPE) (17 CORE)	
107	4-986-997-01	BUTTON (DECK.A)		122	X-4947-962-1	BUTTON (TUNER) ASSY	
108	4-963-404-21	EMBLEM (5-A), SONY		123	4-987-013-01	INDICATOR (TUNER)	
109	4-973-644-01	KNOB (MIC)		124	X-4947-968-1	BUTTON (WOOFER) ASSY	
110	4-951-620-01	SCREW (2.6X8), +BVTP		125	X-4947-967-1	BUTTON (DECK B) ASSY	
* 111	A-4398-651-A	HEADPHONE-MIC BOARD, COMPLETE		126	4-987-022-01	INDICATOR (TC B)	
112	4-986-986-01	BUTTON (POWER)		127	4-987-996-01	SPRING (TC LID), TENSION	
113	4-987-017-01	INDICATOR (KEY CONTROL)		128	4-948-236-01	CUSHION (107)	
114	4-987-012-01	INDICATOR (TA)					

(4) CHASSIS SECTION

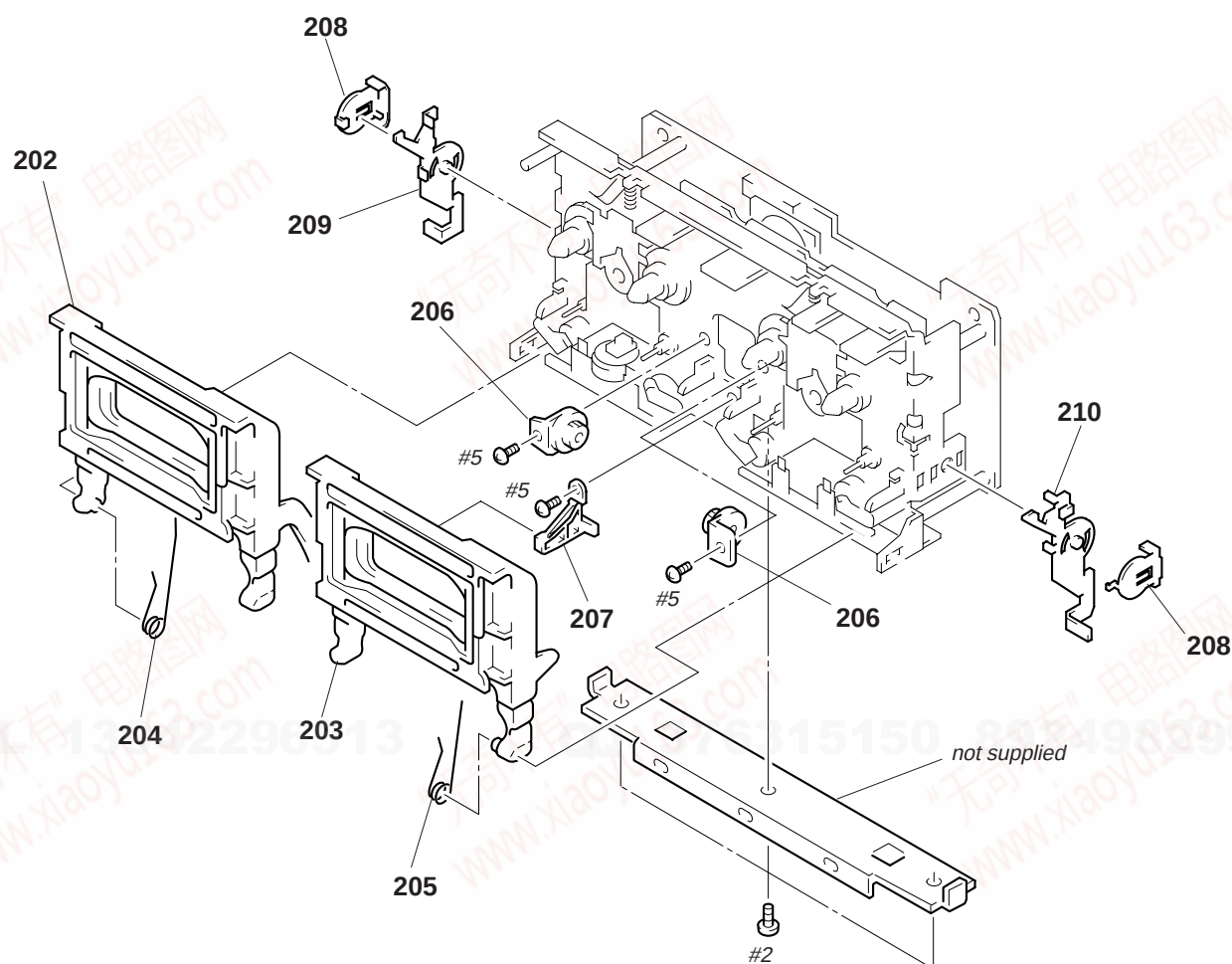


The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 151	1-664-014-11	TRANS BOARD	
153	3-703-244-00	BUSHING (FBS001), CORD (MY)	
153	4-966-266-01	BUSHING (S) (FBS002), CORD (EXCEPT MY)	
* 154	A-4392-436-A	POWERAMP BOARD, COMPLETE	
* 155	A-4392-469-A	MAIN BOARD, COMPLETE	
* 156	A-4392-488-A	KEY CON BOARD	
157	1-777-868-11	WIRE (FLAT TYPE) (19 CORE)	
158	X-4941-228-1	FOOT (F22125H-M)	

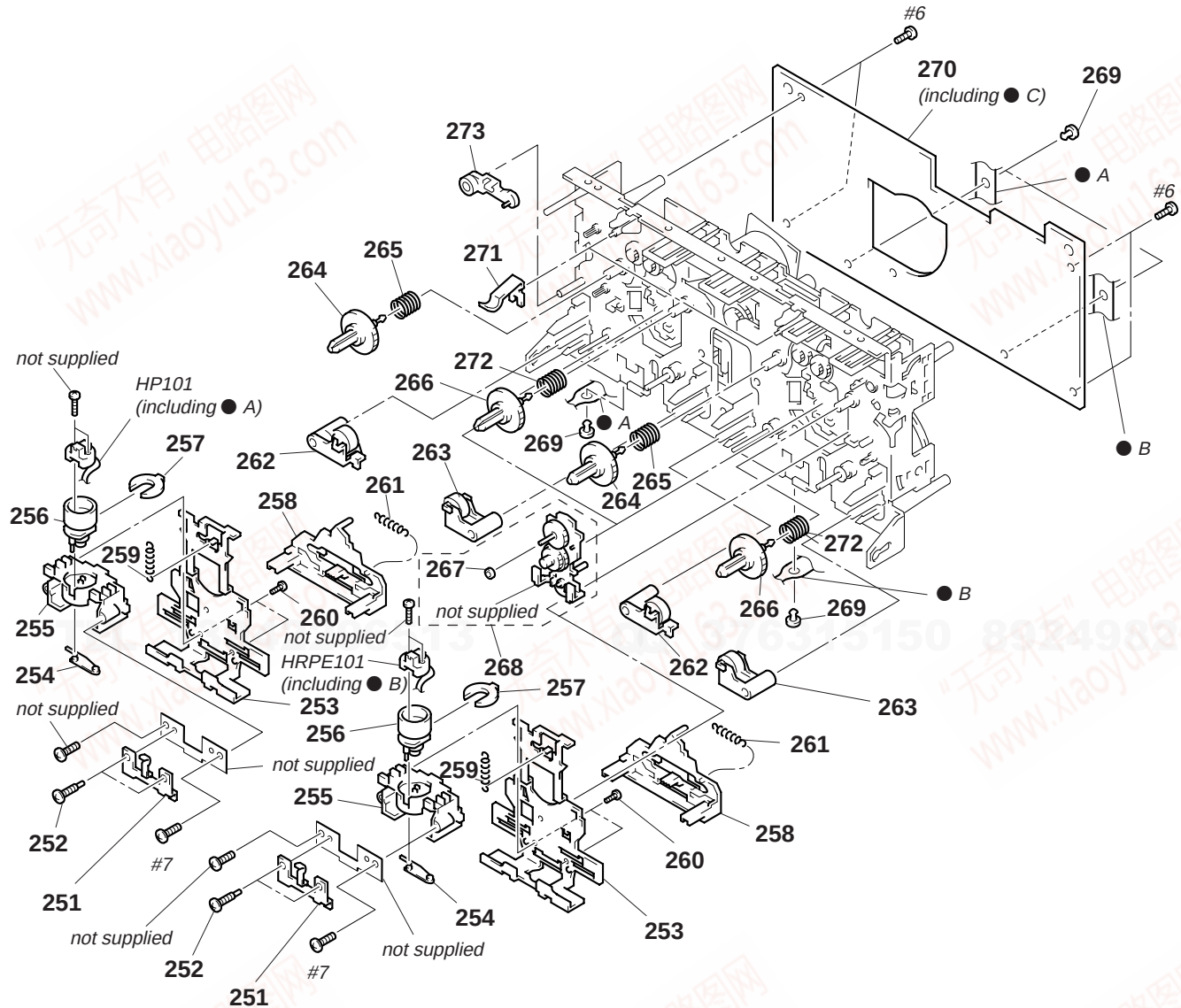
Ref. No.	Part No.	Description	Remark
159	1-569-007-11	ADAPTOR, CONVERSION 2P (E,IA)	
160	1-569-008-11	ADAPTOR, CONVERSION 2P (EA,SP)	
* 161	4-988-533-01	HOLDER, PCB (MALAYSIA PRODUCT)	
* 161	4-988-533-11	HOLDER, PCB (EXCEPT MALAYSIA PRODUCT)	
Δ CNP901	1-558-943-41	CORD, POWER (E,IA)	
Δ CNP901	1-575-651-21	CORD, POWER (EA,SP,MY)	
Δ T901	1-431-052-11	TRANSFORMER, POWER	

(5) TAPE MECHANISM DECK SECTION-1
(TCM-220WR2)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
202	X-4947-943-1	HOLDER (L) ASSY, CASSETTE		* 207	4-980-439-01	FULCRUM, HOLDER	
203	X-4947-944-1	HOLDER (R) ASSY, CASSETTE		208	3-354-957-01	JOINT (LOCK LEVER)	
204	4-959-231-11	SPRING (L), TORSION		209	3-354-953-01	LEVER (LOCK LEVER L)	
205	4-959-232-11	SPRING (R), TORSION		210	3-354-954-01	LEVER (LOCK LEVER R)	
206	3-354-963-01	DAMPER					

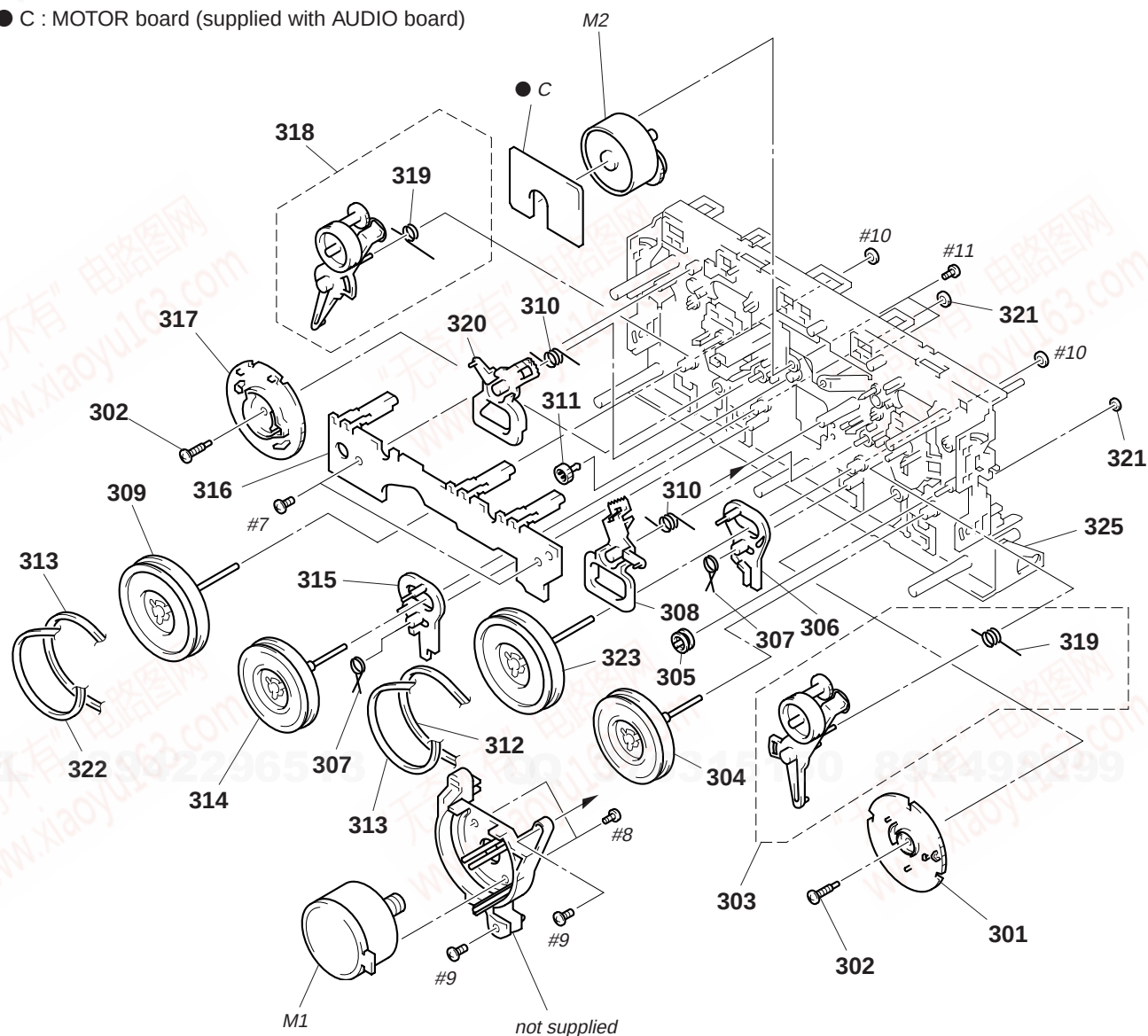
(6) TAPE MECHANISM DECK SECTION-2 (TCM-220WR2)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
251	3-908-560-01	SPRING, AZIMUTH ADJUSTMENT		263	X-3369-908-1	PINCH LEVER (FWD) ASSY	
252	3-919-684-01	SCREW, AZIMUTH ADJUSTMENT		264	3-908-613-01	GEAR (S), REEL	
253	X-3373-113-1	SLIDER (HEAD) ASSY		265	3-917-141-01	SPRING, COMPRESSION	
254	3-908-556-01	SPRING, HEAD TOGGLE		266	X-3371-305-1	REEL (T) ASSY	
255	3-908-558-02	FITTING BLOCK, HEAD		267	3-669-465-01	WASHER (1.5), STOPPER	
256	3-908-557-02	ROTARY BLOCK, HEAD		268	X-3370-173-1	TU ASSY	
* 257	3-908-559-01	STOPPER, AZIMUTH		269	3-939-862-01	CLIP	
258	3-908-555-01	SLIDER (REV SLIDER)		* 270	A-2007-131-A	AUDIO BOARD, COMPLETE	
259	3-917-143-11	SPRING, TENSION		271	3-930-972-01	DETENT, HALF	
260	3-388-848-01	SCREW (P2X6) (B TIGHT)		272	3-917-142-01	SPRING, COMPRESSION	
261	3-939-371-01	SPRING (1), TENSION		273	3-938-863-01	STOPPER	
262	X-3369-909-1	PINCH LEVER (REV) ASSY		HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK)	
				HRPE101	1-500-094-11	HEAD, MAGNETIC (REC/PB/ERASE)	

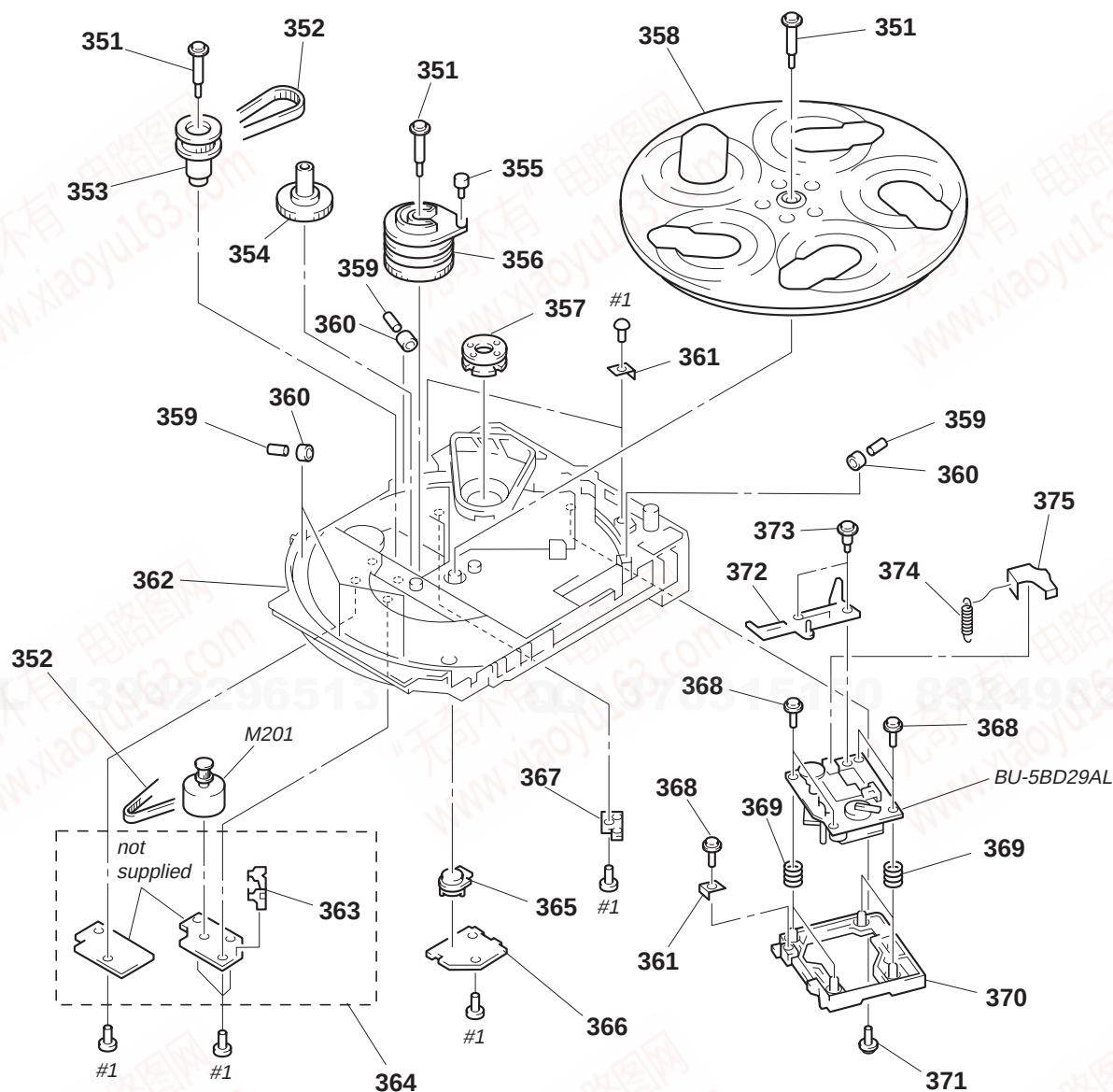
(7) TAPE MECHANISM DECK SECTION-3 (TCM-220WR2)

● C : MOTOR board (supplied with AUDIO board)



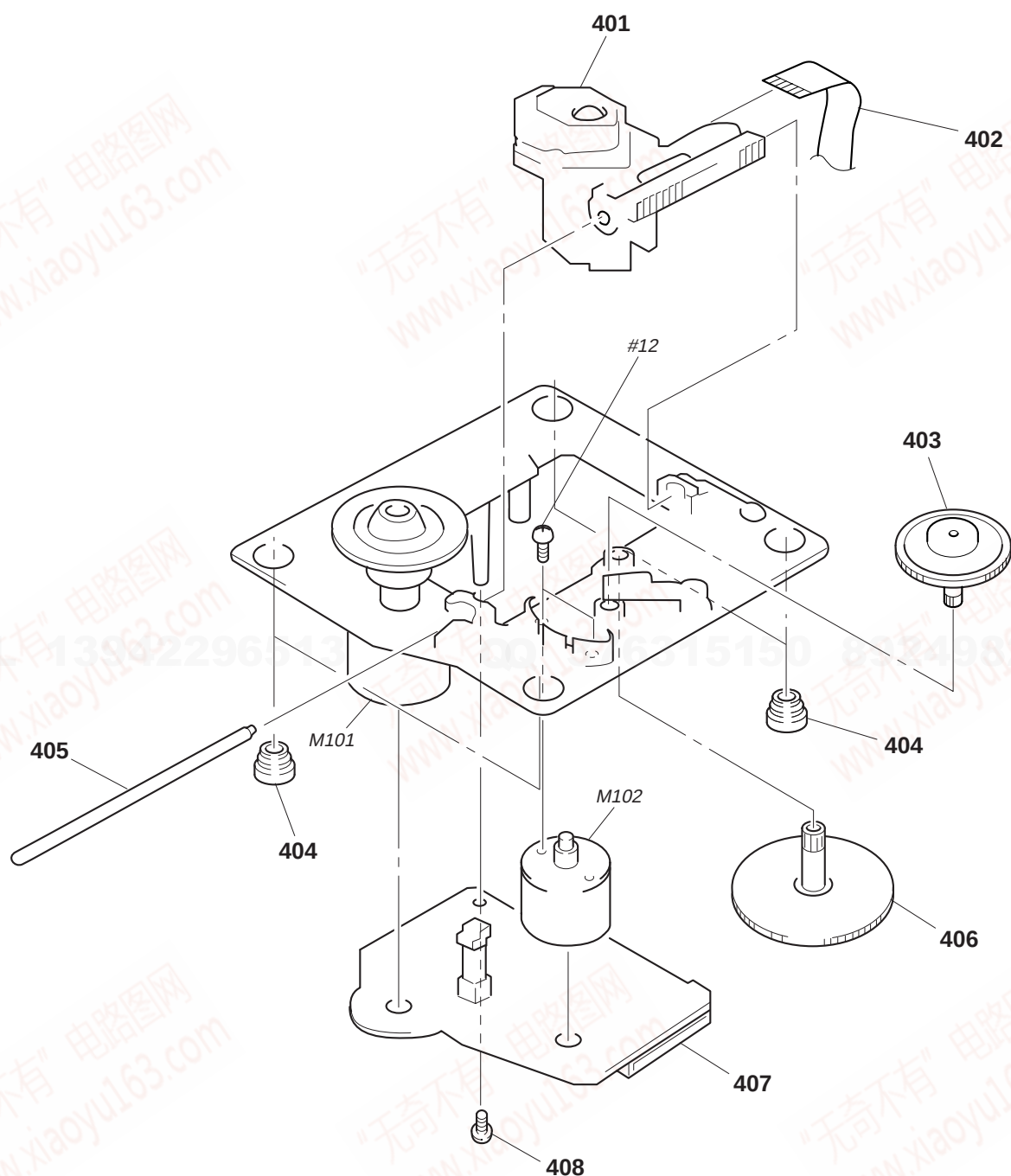
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
301	3-908-597-01	CAM (A)		315	3-908-600-01	LEVER (REV-B)	
302	3-908-608-11	SCREW, STEP		* 316	1-650-669-11	LEAF SWITCH BOARD	
303	X-3372-930-1	ARM (A) ASSY, FR		317	3-908-598-01	CAM (B)	
304	X-3370-882-1	FLYWHEEL (AR) ASSY		318	X-3372-931-1	ARM (B) ASSY, FR	
305	3-928-047-01	PULLEY, TENSION		319	3-914-111-01	SPRING (FR), TORSION	
306	3-908-599-01	LEVER (REV-A)		320	3-908-604-01	LEVER (TRIGGER B)	
307	3-908-601-01	SPRING (REV LEVER), TORSION		321	3-911-115-01	WASHER, STOPPER	
308	3-908-603-01	LEVER (TRIGGER A)		322	3-917-176-11	BELT (B)	
309	X-3367-108-1	FLYWHEEL (BF) ASSY		323	X-3370-172-1	FLYWHEEL (AF) ASSY	
310	3-908-605-01	SPRING (TRIGGER), TORSION		325	X-3371-441-1	CHASSIS ASSY, MECHANICAL	
311	3-908-609-01	GEAR, TRIGGER		M1	X-3371-223-1	MOTOR ASSY, CAPSTAN	
312	3-913-845-11	BELT (A)		M2	A-2004-410-A	MOTOR ASSY, DC (TRIGGER)	
313	3-913-846-11	BELT (FR)					
314	X-3370-171-1	FLYWHEEL (BR) ASSY					

(8) CD MECHANISM DECK SECTION (CDM37L-5BD29AL)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
351	4-987-976-01	SCREW, STEP		* 364	A-4673-765-A	CD MOTOR BOARD, COMPLETE	
352	4-944-490-01	BELT (TIMING)		365	4-978-426-01	INDICATOR (NO.)	
353	A-4660-978-A	GEAR (PULLEY) ASSY		* 366	1-659-059-13	BD LED BOARD	
354	4-978-421-01	GEAR (MID)		* 367	1-659-058-13	TABLE SENSOR BOARD	
355	4-978-425-01	ROLLER (CAM)		368	4-933-134-01	SCREW (+PTPWH M2.6X6)	
356	4-978-420-01	CAM (HOLDER)		369	4-958-593-01	SPRING (BU), COMPRESSION	
357	1-452-538-11	MAGNET		* 370	4-978-419-01	HOLDER (BU-5)	
358	4-978-417-01	TABLE, DISC		371	4-917-583-71	BRACKET, YOKE	
359	4-934-376-01	SHAFT (ROLLER)		* 372	4-989-493-01	SLIDER (37)	
360	X-4924-457-1	ROLLER ASSY		373	4-989-494-01	SCREW (SLIDER), STEP	
* 361	4-978-583-01	BRACKET (BU)		374	4-989-819-01	SPRING, TENSION	
* 362	4-978-418-01	CHASSIS		* 375	4-989-491-21	COVER, LENS	
* 363	4-980-385-01	HOLDER(SW)		M201	A-4660-977-A	MOTOR ASSY (TABLE)	

(9) BASE UNIT SECTION
(BU-5BD29AL)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
△ 401	8-820-020-01	OPTICAL PICK-UP KSS-213D/Q-NP		406	4-917-564-01	GEAR (P), FLATNESS	
402	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)		* 407	A-4699-522-A	BD BOARD, COMPLETE	
403	4-917-567-21	GEAR (M)		408	4-951-620-01	SCREW (2.6X8), +BVTP	
404	4-951-940-01	INSULATOR (BU)		M101	X-4917-504-1	MOTOR ASSY (SPINDLE)	
405	4-917-565-01	SHAFT, SLED		M102	X-4917-523-4	MOTOR ASSY (SLED)	

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

AUDIO

SECTION 8 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
Some delay should be anticipated when ordering these items.

SEMICONDUCTORS

In each case, u: μ , for example:

uA. . . : μ A. . . uPA. . . : μ PA. .
uPB. . . : μ PB. . . uPC. . . : μ PC. .
uPD. . . : μ PD. .

CAPACITORS

uF: μ F

COILS

uH: μ H

Abbreviation

EA : Saudi arabia
SP : Singapore
IA : Indonesia
MY : Malaysia

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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-2007-131-A	AUDIO BOARD, COMPLETE ***** (including MOTOR BOARD)				< CONNECTOR >	
		< CAPACITOR >		CN601	1-695-382-31	PIN, CONNECTOR (PC BOARD) 21P	
C301	1-162-289-31	CERAMIC 390PF 10% 50V		CN602	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P	
C302	1-126-968-11	ELECT 100uF 20% 6.3V		* CN651	1-564-521-11	PLUG, CONNECTOR 6P	
C303	1-162-282-31	CERAMIC 100PF 10% 50V				< IC >	
C304	1-130-483-00	MYLAR 0.01uF 5% 50V		IC601	8-759-111-44	IC uPC4570C-1	
C305	1-107-715-11	ELECT 22uF 20% 16V		IC602	8-759-143-54	IC uPC1330HA	
				IC611	8-759-111-44	IC uPC4570C-1	
C311	1-162-289-31	CERAMIC 390PF 10% 50V				< COIL >	
C313	1-162-282-31	CERAMIC 100PF 10% 50V		L331	1-410-780-11	INDUCTOR 27mH	
C314	1-130-487-00	MYLAR 0.022uF 5% 50V		L431	1-410-780-11	INDUCTOR 27mH	
C315	1-126-233-11	ELECT 22uF 20% 50V				< TRANSISTOR >	
C331	1-137-427-11	FILM 120PF 5% 50V		Q621	8-729-142-46	TRANSISTOR 2SC2001-LK	
C332	1-162-288-31	CERAMIC 330PF 10% 50V		Q622	8-729-142-46	TRANSISTOR 2SC2001-LK	
C333	1-162-209-31	CERAMIC 27PF 5% 50V		Q623	8-729-801-93	TRANSISTOR 2SD1387	
C401	1-162-289-31	CERAMIC 390PF 10% 50V		Q651	8-729-900-65	TRANSISTOR DTA144ES	
C402	1-126-968-11	ELECT 100uF 20% 6.3V				< RESISTOR >	
C403	1-162-282-31	CERAMIC 00PF 10% 50V		R301	1-247-881-00	CARBON 120K 5% 1/4W	
C404	1-130-483-00	MYLAR 0.01uF 5% 50V		R302	1-249-409-11	CARBON 220 5% 1/4W	
C405	1-107-715-11	ELECT 22uF 20% 16V		R303	1-249-433-11	CARBON 22K 5% 1/4W	
C411	1-162-289-31	CERAMIC 390PF 10% 50V		R304	1-247-889-00	CARBON 270K 5% 1/4W	
C413	1-162-282-31	CERAMIC 100PF 10% 50V		R305	1-247-858-11	CARBON 13K 5% 1/4W	
C414	1-130-487-00	MYLAR 0.022uF 5% 50V		R311	1-247-881-00	CARBON 120K 5% 1/4W	
C415	1-126-233-11	ELECT 22uF 20% 50V		R312	1-247-807-31	CARBON 100 5% 1/4W	
C431	1-137-427-11	FILM 120PF 5% 50V		R314	1-247-882-11	CARBON 130K 5% 1/4W	
C432	1-162-288-31	CERAMIC 330PF 10% 50V		R315	1-247-850-11	CARBON 6.2K 5% 1/4W	
C433	1-162-209-31	CERAMIC 27PF 5% 50V		R331	1-249-430-11	CARBON 12K 5% 1/4W	
C601	1-104-396-11	ELECT 10uF 20% 16V		R401	1-247-881-00	CARBON 120K 5% 1/4W	
C602	1-104-396-11	ELECT 10uF 20% 16V		R402	1-249-409-11	CARBON 220 5% 1/4W	
C611	1-124-907-11	ELECT 10uF 20% 50V		R403	1-249-433-11	CARBON 22K 5% 1/4W	
C612	1-124-907-11	ELECT 10uF 20% 50V		R404	1-247-889-00	CARBON 270K 5% 1/4W	
C621	1-137-150-11	FILM 0.01uF 5% 100V		R405	1-247-858-11	CARBON 13K 5% 1/4W	
C622	1-126-961-11	ELECT 2.2uF 20% 50V		R411	1-247-881-00	CARBON 120K 5% 1/4W	
C623	1-136-155-00	FILM 0.015uF 5% 50V		R412	1-247-807-31	CARBON 100 5% 1/4W	
C624	1-130-481-00	MYLAR 0.0068uF 5% 50V		R414	1-247-882-11	CARBON 130K 5% 1/4W	
C625	1-130-481-00	MYLAR 0.0068uF 5% 50V		R415	1-247-850-11	CARBON 6.2K 5% 1/4W	
C627	1-124-903-11	ELECT 1uF 20% 50V		R431	1-249-430-11	CARBON 12K 5% 1/4W	
C628	1-136-153-00	FILM 0.01uF 5% 50V		R601	1-249-409-11	CARBON 220 5% 1/4W	
C642	1-104-664-11	ELECT 47uF 20% 16V		R602	1-249-409-11	CARBON 220 5% 1/4W	
C651	1-161-494-00	CERAMIC 0.022uF 25V					

AUDIO
BD

Ref. No.	Part No.	Description	Remark
R608	1-249-409-11	CARBON 220	5% 1/4W
R609	1-249-433-11	CARBON 22K	5% 1/4W
R611	1-249-409-11	CARBON 220	5% 1/4W
R612	1-249-409-11	CARBON 220	5% 1/4W
△R621	1-212-851-00	FUSIBLE 5.6	5% 1/4W F
△R622	1-212-851-00	FUSIBLE 5.6	5% 1/4W F
R623	1-249-432-11	CARBON 18K	5% 1/4W
R624	1-249-432-11	CARBON 18K	5% 1/4W
R625	1-249-429-11	CARBON 10K	5% 1/4W
R651	1-247-856-00	CARBON 11K	5% 1/4W
R652	1-247-856-00	CARBON 11K	5% 1/4W
R653	1-249-441-11	CARBON 100K	5% 1/4W
< VARIABLE RESISTOR >			
RV301	1-238-598-11	RES, ADJ, CARBON	2.2K
RV311	1-238-598-11	RES, ADJ, CARBON	2.2K
RV341	1-238-551-11	RES, ADJ, CARBON	220K
RV401	1-238-598-11	RES, ADJ, CARBON	2.2K
RV411	1-238-598-11	RES, ADJ, CARBON	2.2K
RV441	1-238-551-11	RES, ADJ, CARBON	220K
RV651	1-238-599-11	RES, ADJ, CARBON	4.7K
RV652	1-238-599-11	RES, ADJ, CARBON	4.7K
< TRANSFORMER >			
T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION	

*	A-4699-522-A	BD BOARD, COMPLETE	

< CAPACITOR >			
C101	1-126-607-11	ELECT CHIP 47uF	20% 4V
C102	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V
C103	1-164-346-11	CERAMIC CHIP 1uF	16V
C105	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C106	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C107	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C108	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C109	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C110	1-163-989-11	CERAMIC CHIP 0.033uF	10% 25V
C111	1-163-017-00	CERAMIC CHIP 0.0047uF	5% 50V
C112	1-163-017-00	CERAMIC CHIP 0.0047uF	5% 50V
C113	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C114	1-164-005-11	CERAMIC CHIP 0.47uF	25V
C115	1-126-607-11	ELECT CHIP 47uF	20% 4V
C116	1-163-016-00	CERAMIC CHIP 0.0039uF	10% 50V
C117	1-164-005-11	CERAMIC CHIP 0.47uF	25V
C118	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C119	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C120	1-124-779-00	ELECT CHIP 10uF	20% 16V
C121	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C122	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C123	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C124	1-126-607-11	ELECT CHIP 47uF	20% 4V
C125	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C126	1-163-038-91	CERAMIC CHIP 0.1uF	25V

Ref. No.	Part No.	Description	Remark
C127	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C128	1-163-135-00	CERAMIC CHIP 560PF	5% 50V
C129	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C130	1-164-336-11	CERAMIC CHIP 0.33uF	25V
C131	1-164-346-11	CERAMIC CHIP 1uF	16V
C140	1-110-501-11	CERAMIC CHIP 0.33uF	10% 16V
C154	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C161	1-164-005-11	CERAMIC CHIP 0.47uF	25V
C162	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C163	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C164	1-163-145-00	CERAMIC CHIP 0.0015uF	5% 50V
C165	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C166	1-163-137-00	CERAMIC CHIP 680PF	5% 50V
C167	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C168	1-163-137-00	CERAMIC CHIP 680PF	5% 50V
C169	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C170	1-163-099-00	CERAMIC CHIP 18PF	5% 50V
C171	1-163-237-11	CERAMIC CHIP 27PF	5% 50V
C173	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C174	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C175	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C176	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C177	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C178	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C179	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C181	1-126-205-11	ELECT CHIP 47uF	20% 6.3V
C182	1-126-393-11	ELECT 33uF	20% 10V
C183	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C185	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C188	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C189	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
< CONNECTOR >			
CNU101	1-777-937-11	CONNECTOR, FFC/FPC 16P	
CNU102	1-778-874-11	CONNECTOR, FFC(LIF(NON-ZIF))19P	
< FERRITE BEAD >			
FB101	1-414-234-11	INDUCTOR, FERRITE BEAD	
FB103	1-414-234-11	INDUCTOR, FERRITE BEAD	
< IC >			
IC101	8-752-080-62	IC CXA1992AR	
IC102	8-759-429-32	IC BA5941FP-E2	
IC103	8-752-378-66	IC CXD2519Q	
< JUMPER RESISTOR >			
JW101	1-216-295-91	CONDUCTOR, CHIP (2012)	
JW104	1-216-295-91	CONDUCTOR, CHIP (2012)	
< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R	
< RESISTOR >			
R102	1-216-001-00	METAL CHIP 10	5% 1/10W
R104	1-216-093-00	METAL CHIP 68K	5% 1/10W
R105	1-216-088-00	METAL CHIP 43K	5% 1/10W

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

BD	BD LED	CD MOTOR	CD-A SW
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Ref. No.	Part No.	Description	Remark
R106	1-216-088-00	METAL CHIP 43K 5%	1/10W
R107	1-216-088-00	METAL CHIP 43K 5%	1/10W
R108	1-216-088-00	METAL CHIP 43K 5%	1/10W
R109	1-216-093-00	METAL CHIP 68K 5%	1/10W
R114	1-216-101-00	METAL CHIP 150K 5%	1/10W
R115	1-216-101-00	METAL CHIP 150K 5%	1/10W
R116	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R117	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
R118	1-216-063-91	METAL GLAZE 3.9K 5%	1/10W
R119	1-216-085-00	METAL CHIP 33K 5%	1/10W
R120	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R121	1-216-114-00	METAL GLAZE 510K 5%	1/10W
R122	1-216-097-91	METAL GLAZE 100K 5%	1/10W
R123	1-216-099-00	METAL CHIP 120K 5%	1/10W
R124	1-216-091-00	METAL CHIP 56K 5%	1/10W
R125	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
R126	1-216-063-91	METAL GLAZE 3.9K 5%	1/10W
R127	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R128	1-216-098-00	METAL CHIP 110K 5%	1/10W
R129	1-216-025-91	METAL GLAZE 100 5%	1/10W
R130	1-216-079-00	METAL CHIP 18K 5%	1/10W
R131	1-216-079-00	METAL CHIP 18K 5%	1/10W
R132	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R133	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R134	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R135	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R136	1-216-073-00	METAL CHIP 10K 5%	1/10W
R137	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R138	1-216-025-91	METAL GLAZE 100 5%	1/10W
R156	1-216-081-00	METAL CHIP 22K 5%	1/10W
R157	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
R158	1-216-001-00	METAL CHIP 10 5%	1/10W
R159	1-216-121-91	METAL GLAZE 1M 5%	1/10W
R161	1-216-097-91	METAL GLAZE 100K 5%	1/10W
R162	1-216-073-00	METAL CHIP 10K 5%	1/10W
R163	1-216-121-91	METAL GLAZE 1M 5%	1/10W
R164	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R165	1-216-049-91	METAL GLAZE 1K 5%	1/10W
R166	1-216-073-00	METAL CHIP 10K 5%	1/10W
R167	1-216-081-00	METAL CHIP 22K 5%	1/10W
R168	1-216-073-00	METAL CHIP 10K 5%	1/10W
R169	1-216-079-00	METAL CHIP 18K 5%	1/10W
R170	1-216-081-00	METAL CHIP 22K 5%	1/10W
R171	1-216-073-00	METAL CHIP 10K 5%	1/10W
R172	1-216-079-00	METAL CHIP 18K 5%	1/10W
R173	1-216-025-91	METAL GLAZE 100 5%	1/10W
R174	1-216-033-00	METAL CHIP 220 5%	1/10W
R175	1-216-025-91	METAL GLAZE 100 5%	1/10W
R176	1-216-025-91	METAL GLAZE 100 5%	1/10W
R177	1-216-025-91	METAL GLAZE 100 5%	1/10W
R178	1-216-025-91	METAL GLAZE 100 5%	1/10W
R179	1-216-025-91	METAL GLAZE 100 5%	1/10W
R180	1-216-025-91	METAL GLAZE 100 5%	1/10W
R181	1-216-025-91	METAL GLAZE 100 5%	1/10W
R188	1-216-037-00	METAL CHIP 330 5%	1/10W
R190	1-216-097-91	METAL GLAZE 100K 5%	1/10W
R191	1-216-105-91	METAL GLAZE 220K 5%	1/10W

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S101	1-572-085-11	SWITCH, LEAF	
		< VIBRATOR >	
X101	1-767-408-21	VIBRATOR, CRYSTAL (16.9344MHZ)	

*	1-659-059-13	BD LED BOARD	

*	4-980-385-01	HOLDER (SW)	
		< DIODE >	
D201	8-719-032-98	DIODE SEL5820A	
		< TRANSISTOR >	
Q201	8-729-119-78	TRANSISTOR 2SC403SP-51	
		< RESISTOR >	
R201	1-247-863-91	CARBON 22K 5%	1/4W
R202	1-249-411-11	CARBON 330 5%	1/4W
R203	1-249-437-11	CARBON 47K 5%	1/4W

*	A-4673-765-A	CD MOTOR BOARD, COMPLETE	

		< CAPACITOR >	
C201	1-124-907-11	ELECT 10uF 20%	50V
C202	1-164-159-21	CERAMIC 0.1uF	50V
C203	1-124-907-11	ELECT 10uF 20%	50V
		< CONNECTOR >	
* CN201	1-568-947-11	PIN, CONNECTOR 9P	
		< IC >	
IC201	8-759-365-94	IC TA8409S	
		< COIL >	
L201	1-408-117-00	INDUCTOR 10uH	
		< RESISTOR >	
R205	1-249-427-11	CARBON 6.8K 5%	1/4W
R206	1-249-425-11	CARBON 4.7K 5%	1/4W
		< SWITCH >	
S201	1-762-587-11	SWITCH, PUSH (1 KEY)	

*	1-664-019-11	CD-A SW BOARD	

		< DIODE >	
D641	8-719-058-04	DIODE SEL5223S-TP15 (NON-STOP)	
		< RESISTOR >	
R731	1-249-411-11	CARBON 330 5%	1/4W
R732	1-249-413-11	CARBON 470 5%	1/4W

CD-A SW
CD-B1 SW
CD-B2 SW
DOOR SW
HEADPHONE-MIC

Ref. No.	Part No.	Description	Remark
R733	1-249-415-11	CARBON 680 5%	1/4W
R734	1-249-417-11	CARBON 1K 5%	1/4W
R735	1-249-419-11	CARBON 1.5K 5%	1/4W
R736	1-249-421-11	CARBON 2.2K 5%	1/4W
R737	1-249-417-11	CARBON 1K 5%	1/4W
R741	1-247-807-31	CARBON 100 5%	1/4W
< SWITCH >			
S661	1-554-303-21	SWITCH, TACTILE (DISC 1)	
S662	1-554-303-21	SWITCH, TACTILE (DISC 2)	
S663	1-554-303-21	SWITCH, TACTILE (DISC 3)	
S664	1-554-303-21	SWITCH, TACTILE (DISC 4)	
S665	1-554-303-21	SWITCH, TACTILE (DISC 5)	
S666	1-554-303-21	SWITCH, TACTILE (FLASH)	
S667	1-554-303-21	SWITCH, TACTILE (NON-STOP)	
S668	1-554-303-21	SWITCH, TACTILE (LOOP)	

* 1-664-020-11	CD-B1 SW BOARD	*****	
< CONNECTOR >			
* CN642	1-568-943-11	PIN, CONNECTOR 5P	
< DIODE >			
D645	8-719-057-29	DIODE SML78423C-TP15 (▷)	
D646	8-719-057-97	DIODE SEL5923A-TP15 (■)	
D647	8-719-057-29	DIODE SML78423C-TP15 (▷)	
< RESISTOR >			
R745	1-247-815-91	CARBON 220 5%	1/4W
R746	1-249-411-11	CARBON 330 5%	1/4W
R747	1-249-413-11	CARBON 470 5%	1/4W
R748	1-249-415-11	CARBON 680 5%	1/4W
R749	1-247-807-31	CARBON 100 5%	1/4W
R750	1-247-807-31	CARBON 100 5%	1/4W
R751	1-247-807-31	CARBON 100 5%	1/4W
< SWITCH >			
S676	1-554-303-21	SWITCH, TACTILE (▷)	
S677	1-554-303-21	SWITCH, TACTILE (■)	
S678	1-554-303-21	SWITCH, TACTILE (■)	
S679	1-554-303-21	SWITCH, TACTILE (DISC SKIP)	

* 1-664-021-11	CD-B2 SW BOARD	*****	
< RESISTOR >			
R752	1-249-417-11	CARBON 1K 5%	1/4W
R753	1-249-419-11	CARBON 1.5K 5%	1/4W
R754	1-249-421-11	CARBON 2.2K 5%	1/4W
R755	1-247-843-11	CARBON 3.3K 5%	1/4W
R756	1-249-427-11	CARBON 6.8K 5%	1/4W
< SWITCH >			
S681	1-554-303-21	SWITCH, TACTILE (▶▶)	
S682	1-554-303-21	SWITCH, TACTILE (REPEAT)	
S683	1-554-303-21	SWITCH, TACTILE (PLAY MODE)	
S684	1-554-303-21	SWITCH, TACTILE (1/ALL DISCS)	
S685	1-554-303-21	SWITCH, TACTILE (EDIT)	

Ref. No.	Part No.	Description	Remark
S686	1-554-303-21	SWITCH, TACTILE (◀◀)	
S711	1-467-968-11	ENCODER, ROTARY (I<◀ AMS ▶>I)	

* 1-664-016-11	DOOR SW BOARD	*****	
< CAPACITOR >			
C691	1-164-159-21	CERAMIC 0.1uF	50V
< CONNECTOR >			
CN661	1-506-481-11	PIN, CONNECTOR 2P	
< SWITCH >			
S691	1-771-057-11	SWITCH, PUSH (1 KEY) (▲ OPEN)	

* A-4392-486-A	HEADPHONE-MIC BOARD, COMPLETE	*****	
* 1-690-880-21	LEAD (WITH CONNECTOR)		
< CAPACITOR >			
C760	1-162-306-11	CERAMIC 0.01uF	20% 16V
C761	1-126-961-11	ELECT 2.2uF	20% 50V
C762	1-162-306-11	CERAMIC 0.01uF	30% 16V
C763	1-126-961-11	ELECT 2.2uF	20% 50V
C764	1-162-294-31	CERAMIC 0.001uF	10% 50V
C765	1-162-215-31	CERAMIC 47PF	5% 50V
C766	1-162-290-31	CERAMIC 470PF	10% 50V
C767	1-162-215-31	CERAMIC 47PF	5% 50V
C768	1-126-961-11	ELECT 2.2uF	20% 50V
C769	1-162-282-31	CERAMIC 100PF	10% 50V
C770	1-126-961-11	ELECT 2.2uF	20% 50V
C771	1-126-959-11	ELECT 0.47uF	20% 50V
C773	1-126-964-11	ELECT 10uF	20% 50V
C774	1-126-964-11	ELECT 10uF	20% 50V
C775	1-162-294-31	CERAMIC 0.001uF	10% 50V
C776	1-162-294-31	CERAMIC 0.001uF	10% 50V
C777	1-126-960-11	ELECT 1uF	20% 50V
C778	1-162-305-11	CERAMIC 6800pF	30% 16V
C779	1-162-294-31	CERAMIC 0.001uF	10% 50V
C780	1-136-495-11	FILM 0.068uF	5% 50V
C781	1-126-957-11	ELECT 0.22uF	20% 50V
C782	1-126-957-11	ELECT 0.22uF	20% 50V
C783	1-126-967-11	ELECT 47uF	20% 10V
C784	1-136-495-11	FILM 0.068uF	5% 50V
C785	1-162-305-11	CERAMIC 6800pF	30% 16V
C786	1-162-294-31	CERAMIC 0.001uF	10% 50V
C787	1-124-250-11	ELECT 0.15uF	20% 50V
C788	1-126-960-11	ELECT 1uF	20% 50V
C789	1-161-494-00	CERAMIC 0.022uF	25V
C790	1-126-967-11	ELECT 47uF	20% 10V
C791	1-164-159-21	CERAMIC 0.1uF	50V
C794	1-164-159-21	CERAMIC 0.1uF	50V
C795	1-164-159-21	CERAMIC 0.1uF	50V
< CONNECTOR >			
* CN701	1-568-935-11	PIN, CONNECTOR 8P	

HEADPHONE-MIC

KEY CON

Ref. No.	Part No.	Description	Remark
< DIODE >			
D761	8-719-200-82	DIODE 11ES2-NTA1B	
D762	8-719-200-82	DIODE 11ES2-NTA1B	
D763	8-719-200-82	DIODE 11ES2-NTA1B	
< IC >			
IC760	8-759-634-51	IC M5218AP	
IC761	8-759-450-96	IC M65850P	
< JACK >			
J760	1-770-226-11	JACK (LARGE TYPE) (PHONES)	
J761	1-770-226-11	JACK (LARGE TYPE) (MIC1)	
J762	1-770-226-11	JACK (LARGE TYPE) (MIC2)	
< COIL >			
L761	1-410-521-11	INDUCTOR 100uH	
< RESISTOR >			
R760	1-249-429-11	CARBON 10K 5% 1/4W	
R761	1-249-417-11	CARBON 1K 5% 1/4W	
R762	1-249-429-11	CARBON 10K 5% 1/4W	
R763	1-249-417-11	CARBON 1K 5% 1/4W	
R764	1-249-441-11	CARBON 100K 5% 1/4W	
R765	1-249-417-11	CARBON 1K 5% 1/4W	
R766	1-249-437-11	CARBON 47K 5% 1/4W	
R767	1-249-429-11	CARBON 10K 5% 1/4W	
R768	1-249-431-11	CARBON 15K 5% 1/4W	
R769	1-247-885-00	CARBON 180K 5% 1/4W	
R770	1-247-807-31	CARBON 100 5% 1/4W	
R771	1-247-863-91	CARBON 22K 5% 1/4W	
R772	1-247-863-91	CARBON 22K 5% 1/4W	
R773	1-247-863-91	CARBON 22K 5% 1/4W	
R774	1-247-881-00	CARBON 120K 5% 1/4W	
R775	1-247-863-91	CARBON 22K 5% 1/4W	
R776	1-247-863-91	CARBON 22K 5% 1/4W	
R777	1-247-863-91	CARBON 22K 5% 1/4W	
R778	1-249-437-11	CAABON 47K 5% 1/4W	
R779	1-249-431-11	CARBON 15K 5% 1/4W	
< VARIABLE RESISTOR >			
RV760	1-225-366-11	RES, VAR, CARBON 50K (MIC LEVEL)	
RV761	1-225-366-11	RES, VAR, CARBON 50K (ECHO LEVEL)	

*	A-4392-488-A	KEY CON BOARD	

< CAPACITOR >			
C501	1-124-584-00	ELECT 100uF 20% 6.3V	
C502	1-164-159-21	CERAMIC 0.1uF 50V	
C503	1-126-967-11	ELECT 47uF 20% 10V	
C504	1-164-159-21	CERAMIC 0.1uF 50V	
C505	1-162-600-11	CERAMIC 0.0047uF 30% 16V	
C506	1-162-286-21	CERAMIC 220pF 10% 50V	
C507	1-162-286-21	CERAMIC 220pF 10% 50V	
C508	1-136-495-11	FILM 0.068uF 5% 50V	
C509	1-136-495-11	FILM 0.068uF 5% 50V	
C510	1-136-495-11	FILM 0.068uF 5% 50V	
C511	1-164-159-21	CERAMIC 0.1uF 50V	

Ref. No.	Part No.	Description	Remark
C512	1-162-284-31	CERAMIC 150pF 10% 50V	
C513	1-136-165-00	FILM 0.1uF 5% 50V	
C514	1-136-165-00	FILM 0.1uF 5% 50V	
C515	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C516	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C517	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C518	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C519	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C520	1-126-964-11	ELECT 10uF 20% 50V	
C521	1-162-291-31	CERAMIC 560pF 10% 50V	
C522	1-162-600-11	CERAMIC 0.0047uF 30% 16V	
C523	1-162-290-31	CERAMIC 470pF 10% 50V	
C524	1-126-964-11	ELECT 10uF 20% 50V	
C525	1-126-964-11	ELECT 10uF 20% 50V	
C526	1-126-964-11	ELECT 10uF 20% 50V	
C527	1-126-964-11	ELECT 10uF 20% 50V	
C1439	1-126-964-11	ELECT 10uF 20% 50V	
< CONNECTOR >			
CN501	1-566-999-11	PIN,CONNECTOR 13P	
< IC >			
IC501	8-759-370-84	IC M65847FP-TP	
IC502	8-759-140-53	IC uPD4053BC	
< COIL >			
L501	1-410-521-11	INDUCTOR 100uH	
< TRANSISTOR >			
Q501	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q502	8-729-900-80	TRANSISTOR DTC114ES	
< RESISTOR >			
R501	1-247-807-31	CARBON 100 5% 1/4W	
R502	1-249-429-11	CARBON 10K 5% 1/4W	
R503	1-247-807-31	CARBON 100 5% 1/4W	
R504	1-249-425-11	CARBON 4.7K 5% 1/4W	
R505	1-247-903-00	CARBON 1M 5% 1/4W	
R506	1-249-429-11	CARBON 10K 5% 1/4W	
R507	1-249-425-11	CARBON 4.7K 5% 1/4W	
R508	1-249-429-11	CARBON 10K 5% 1/4W	
R509	1-249-434-11	CARBON 27K 5% 1/4W	
R510	1-249-426-11	CARBON 5.6K 5% 1/4W	
R511	1-249-424-11	CARBON 3.9K 5% 1/4W	
R512	1-249-431-11	CARBON 15K 5% 1/4W	
R513	1-249-429-11	CARBON 10K 5% 1/4W	
R514	1-247-863-91	CARBON 22K 5% 1/4W	
R515	1-249-429-11	CARBON 10K 5% 1/4W	
R516	1-249-441-11	CARBON 100K 5% 1/4W	
R517	1-247-863-91	CARBON 22K 5% 1/4W	
R518	1-247-863-91	CARBON 22K 5% 1/4W	
R519	1-249-441-11	CARBON 100K 5% 1/4W	
R520	1-249-441-11	CARBON 100K 5% 1/4W	
R521	1-249-429-11	CARBON 10K 5% 1/4W	
R522	1-249-425-11	CARBON 4.7K 5% 1/4W	
R523	1-249-425-11	CARBON 4.7K 5% 1/4W	
R524	1-249-429-11	CARBON 10K 5% 1/4W	
R525	1-249-417-11	CARBON 1K 5% 1/4W	

LEAF SWITCH
LED
MAIN

Ref. No.	Part No.	Description	Remark
* 1-650-669-11		LEAF SWITCH BOARD *****	
		< CONNECTOR >	
* CN1001	1-568-854-11	SOCKET, CONNECTOR 11P	
		< TRANSISTOR >	
Q1001	8-749-010-90	TRANSISTOR PHOTO REFLECTOR NJL5165KA-H	
Q1002	8-749-010-90	TRANSISTOR PHOTO REFLECTOR NJL5165KA-H	
		< RESISTOR >	
R1001	1-247-818-11	CARBON 300 5% 1/4W	
R1002	1-247-820-11	CARBON 360 5% 1/4W	
R1003	1-249-414-11	CARBON 560 5% 1/4W	
R1004	1-247-834-11	CARBON 1.3K 5% 1/4W	
R1005	1-247-818-11	CARBON 300 5% 1/4W	
		< SWITCH >	
S1001	1-692-832-11	SWITCH, PUSH (1 KEY) (A PLAY)	
S1002	1-692-832-11	SWITCH, PUSH (1 KEY) (B PLAY)	
S1003	1-572-248-11	SWITCH, LEAF (A HALF)	
S1004	1-571-281-21	SWITCH, LEAF (A CrO2)	
S1005	1-571-281-21	SWITCH, LEAF (REC A)	
S1006	1-572-248-11	SWITCH, LEAF (B HALF)	
S1008	1-571-281-21	SWITCH, LEAF (B CrO2)	
S1009	1-571-281-21	SWITCH, LEAF (REC B)	

* 1-664-017-11		LED BOARD *****	
		< CONNECTOR >	
CN671	1-506-481-11	PIN, CONNECTOR 2P	
		< DIODE >	
D671	8-719-058-03	DIODE SEL5423E-TP15	
D672	8-719-058-03	DIODE SEL5423E-TP15	
D673	8-719-058-03	DIODE SEL5423E-TP15	
D674	8-719-058-03	DIODE SEL5423E-TP15	
		< RESISTOR >	
R791	1-249-412-11	CARBON 390 5% 1/4W	

* A-4392-469-A		MAIN BOARD, COMPLETE *****	
* 4-870-539-11		PLATE, GROUND	
7-685-646-79		SCREW +BVTP 3X8 TYPE2 N-S	
		< CAPACITOR >	
C102	1-162-282-31	CERAMIC 100PF 10% 50V	
C103	1-162-282-31	CERAMIC 100PF 10% 50V	
C104	1-126-962-11	ELECT 3.3uF 20% 50V	
C105	1-162-600-11	CERAMIC 0.0047uF 30% 16V	
C106	1-162-301-11	CERAMIC 0.0015uF 30% 16V	
C107	1-126-956-91	ELECT 0.1uF 20% 50V	
C121	1-162-286-21	CERAMIC 220PF 10% 50V	
C123	1-162-306-11	CERAMIC 0.01uF 20% 16V	

Ref. No.	Part No.	Description	Remark
C152	1-162-282-31	CERAMIC 100PF 10% 50V	
C153	1-162-282-31	CERAMIC 100PF 10% 50V	
C154	1-126-962-11	ELECT 3.3uF 20% 50V	
C155	1-162-600-11	CERAMIC 0.0047uF 30% 16V	
C156	1-162-301-11	CERAMIC 0.0015uF 30% 16V	
C157	1-126-956-91	ELECT 0.1uF 20% 50V	
C171	1-162-286-21	CERAMIC 220PF 10% 50V	
C173	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C201	1-136-167-00	FILM 0.15uF 5% 50V	
C202	1-136-167-00	FILM 0.15uF 5% 50V	
C203	1-130-493-00	MYLAR 0.068uF 5% 50V	
C204	1-130-493-00	MYLAR 0.068uF 5% 50V	
C205	1-130-486-00	MYLAR 0.018uF 10% 50V	
C206	1-130-486-00	MYLAR 0.018uF 10% 50V	
C207	1-130-480-00	MYLAR 0.0056uF 5% 50V	
C208	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C209	1-130-474-00	MYLAR 0.0018uF 5% 50V	
C210	1-126-964-11	ELECT 10uF 20% 50V	
C211	1-126-964-11	ELECT 10uF 20% 50V	
C212	1-130-483-00	MYLAR 0.01uF 5% 50V	
C213	1-136-171-00	FILM 0.33uF 5% 50V	
C214	1-136-171-00	FILM 0.33uF 5% 50V	
C215	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C216	1-136-167-00	FILM 0.15uF 5% 50V	
C221	1-126-967-11	ELECT 47uF 20% 10V	
C222	1-126-967-11	ELECT 47uF 20% 10V	
C223	1-126-964-11	ELECT 10uF 20% 50V	
C224	1-162-290-31	CERAMIC 470PF 10% 50V	
C226	1-126-964-11	ELECT 10uF 20% 50V	
C227	1-164-159-21	CERAMIC 0.1uF 50V	
C231	1-126-960-11	ELECT 1uF 20% 50V	
C251	1-136-167-00	FILM 0.15uF 5% 50V	
C252	1-136-167-00	FILM 0.15uF 5% 50V	
C253	1-130-493-00	MYLAR 0.068uF 5% 50V	
C254	1-130-493-00	MYLAR 0.068uF 5% 50V	
C255	1-130-486-00	MYLAR 0.018uF 10% 50V	
C256	1-130-486-00	MYLAR 0.018uF 10% 50V	
C257	1-130-480-00	MYLAR 0.0056uF 5% 50V	
C258	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C259	1-130-474-00	MYLAR 0.0018uF 5% 50V	
C260	1-126-964-11	ELECT 10uF 20% 50V	
C261	1-126-964-11	ELECT 10uF 20% 50V	
C262	1-130-483-00	MYLAR 0.01uF 5% 50V	
C263	1-136-171-00	FILM 0.33uF 5% 50V	
C264	1-136-171-00	FILM 0.33uF 5% 50V	
C276	1-126-964-11	ELECT 10uF 20% 50V	
C281	1-126-933-11	ELECT 100uF 20% 10V	
C282	1-126-961-11	ELECT 2.2uF 20% 50V	
C283	1-126-933-11	ELECT 100uF 20% 10V	
C284	1-126-923-11	ELECT 220uF 20% 10V	
C291	1-126-959-11	ELECT 0.47uF 20% 50V	
C301	1-126-967-11	ELECT 47uF 20% 10V	
C302	1-164-159-21	CERAMIC 0.1uF 50V	
C303	1-136-165-00	FILM 0.1uF 5% 50V	
C304	1-126-926-11	ELECT 1000uF 20% 10V	
C305	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C309	1-102-514-11	CERAMIC 22PF 5% 50V	
C310	1-102-514-11	CERAMIC 22PF 5% 50V	
C311	1-164-159-21	CERAMIC 0.1uF 50V	

MAIN

Ref. No.	Part No.	Description	Remark
C315	1-126-933-11	ELECT	100uF 20% 10V
C390	1-126-933-11	ELECT	100uF 20% 10V
C393	1-126-925-11	ELECT	470uF 20% 10V
C394	1-164-159-21	CERAMIC	0.1uF 50V
C396	1-126-961-11	ELECT	2.2uF 20% 50V
C398	1-126-961-11	ELECT	2.2uF 20% 50V
C903	1-136-165-00	FILM	0.1uF 5% 50V
C904	1-126-937-11	ELECT	4700uF 20% 16V
C906	1-126-933-11	ELECT	100uF 20% 10V
C909	1-126-964-11	ELECT	10uF 20% 50V
C910	1-126-933-11	ELECT	100uF 20% 10V
C911	1-126-964-11	ELECT	10uF 20% 50V
C912	1-126-916-11	ELECT	1000uF 20% 6.3V
C913	1-126-943-11	ELECT	2200uF 20% 25V
C914	1-126-767-11	ELECT	1000uF 20% 16V
C915	1-126-967-11	ELECT	47uF 20% 16V
C916	1-164-159-21	CERAMIC	0.1uF 50V
C917	1-126-968-11	ELECT	100uF 20% 50V
C918	1-126-968-11	ELECT	100uF 20% 50V
C919	1-126-964-11	ELECT	10uF 20% 50V
C920	1-126-947-11	ELECT	47uF 20% 35V
C953	1-136-165-00	FILM	0.1uF 5% 50V
C954	1-126-768-11	ELECT	2200uF 20% 16V
C956	1-126-933-11	ELECT	100uF 20% 10V
C1501	1-130-479-00	MYLAR	0.0047uF 5% 50V
C1502	1-162-290-31	CERAMIC	470PF 10% 50V
C1503	1-164-159-21	CERAMIC	0.1uF 50V
C1504	1-126-960-11	ELECT	1uF 20% 50V
C1505	1-126-964-11	ELECT	10uF 20% 50V
C1506	1-126-964-11	ELECT	10uF 20% 50V
C1507	1-126-960-11	ELECT	1uF 20% 50V
C1508	1-126-933-11	ELECT	100uF 20% 10V
C1522	1-126-964-11	ELECT	10uF 20% 50V
C1523	1-126-933-11	ELECT	100uF 20% 16V
C1531	1-164-159-21	CERAMIC	0.1uF 50V
C1532	1-164-159-21	CERAMIC	0.1uF 50V
C1533	1-164-159-21	CERAMIC	0.1uF 50V
C1534	1-126-935-11	ELECT	470uF 20% 16V
C1551	1-130-479-00	MYLAR	0.0047uF 5% 50V
C1552	1-162-290-31	CERAMIC	470PF 10% 50V
C1553	1-164-159-21	CERAMIC	0.1uF 50V
C1554	1-126-960-11	ELECT	1uF 20% 50V
C1555	1-126-964-11	ELECT	10uF 20% 50V
C1556	1-126-964-11	ELECT	10uF 20% 50V
C1557	1-126-960-11	ELECT	1uF 20% 50V
C1558	1-126-933-11	ELECT	100uF 20% 10V
< CONNECTOR >			
CN101	1-778-982-11	CONNECTOR, BOARD TO BOARD 13P	
* CN102	1-568-836-11	SOCKET, CONNECTOR 17P	
* CN201	1-568-832-11	SOCKET, CONNECTOR 13P	
CN202	1-568-802-11	SOCKET, CONNECTOR 19P	
* CN203	1-568-936-11	PIN, CONNECTOR 9P	
CN205	1-568-838-11	SOCKET, CONNECTOR 21P	
* CN206	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN207	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	

Ref. No.	Part No.	Description	Remark
< DIODE >			
D141	8-719-987-63	DIODE 1N4148M	
D281	8-719-815-85	DIODE 1S1585	
D291	8-719-987-63	DIODE 1N4148M	
D301	8-719-200-82	DIODE 11ES2	
D302	8-719-200-82	DIODE 11ES2	
D303	8-719-987-63	DIODE 1N4148M	
D304	8-719-987-63	DIODE 1N4148M	
D305	8-719-987-63	DIODE 1N4148M	
D306	8-719-987-63	DIODE 1N4148M	
D307	8-719-987-63	DIODE 1N4148M	
D309	8-719-987-63	DIODE 1N4148M	
D902	8-719-200-82	DIODE 11ES2	
D903	8-719-200-82	DIODE 11ES2	
D904	8-719-200-82	DIODE 11ES2	
D905	8-719-200-82	DIODE 11ES2	
D906	8-719-200-82	DIODE 11ES2	
D907	8-719-200-82	DIODE 11ES2	
D908	8-719-200-82	DIODE 11ES2	
D909	8-719-200-82	DIODE 11ES2	
D910	8-719-012-45	DIODE UZ-33BSC-TA	
D911	8-719-010-43	DIODE UZ-5.6BSC	
D912	8-719-987-63	DIODE 1N4148M	
D913	8-719-200-82	DIODE 11ES2	
D914	8-719-200-82	DIODE 11ES2	
D915	8-719-001-43	DIODE UZL-11M1-TA	
D951	8-719-987-63	DIODE 1N4148M	
D952	8-719-987-63	DIODE 1N4148M	
< FERRITE BEAD >			
FB301	1-412-473-21	INDUCTOR 0UH	
< IC >			
IC101	8-759-634-50	IC M5218AL	
IC102	8-759-000-48	IC MC14052BCP	
IC201	8-759-460-02	IC M62427FP-A	
IC231	8-759-634-50	IC M5218AL	
IC281	8-759-111-68	IC uPC1237HA	
IC301	8-759-468-71	IC uPD780018YGF-019-3BA	
IC302	8-759-635-63	IC M51943BSL	
IC901	8-759-288-53	IC LA5617	
IC902	8-759-604-86	IC M5F7807L	
IC903	8-759-231-53	IC TA7805S	
IC904	8-759-231-58	IC TA7812S	
IC1501	8-759-363-21	IC HA12203NT	
IC1502	8-759-822-09	IC LB1641	
< JACK >			
J101	1-695-188-31	JACK, PIN 4P (IN PHONO, VIDEO(AUDIO))	
< COIL >			
L301	1-410-509-11	INDUCTOR 10uH	
L393	1-410-515-11	INDUCTOR 33uH	
< TRANSISTOR >			
Q141	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q142	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q201	8-729-900-36	TRANSISTOR DTC124ES	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q202	8-729-119-78	TRANSISTOR	2SC403SP-51	R206	1-249-421-11	CARBON	2.2K 5% 1/4W
Q203	8-729-119-78	TRANSISTOR	2SC403SP-51	R207	1-249-431-11	CARBON	15K 5% 1/4W
Q204	8-729-141-30	TRANSISTOR	2SC3623A-LK	R209	1-249-441-11	CARBON	100K 5% 1/4W
Q231	8-729-900-63	TRANSISTOR	DTA124ES	R210	1-247-887-00	CARBON	220K 5% 1/4W
Q232	8-729-900-63	TRANSISTOR	DTA124ES	R211	1-247-891-00	CARBON	330K 5% 1/4W
Q251	8-729-900-36	TRANSISTOR	DTC124ES	R212	1-249-411-11	CARBON	330 5% 1/4W
Q252	8-729-119-78	TRANSISTOR	2SC403SP-51	R213	1-249-429-11	CARBON	10K 5% 1/4W
Q253	8-729-119-78	TRANSISTOR	2SC403SP-51	R214	1-249-437-11	CARBON	47K 5% 1/4W
Q254	8-729-141-30	TRANSISTOR	2SC3623A-LK	R215	1-247-903-00	CARBON	1M 5% 1/4W
Q281	8-729-900-36	TRANSISTOR	DTC124ES	R216	1-249-429-11	CARBON	10K 5% 1/4W
Q282	8-729-900-63	TRANSISTOR	DTA124ES	R217	1-249-437-11	CARBON	47K 5% 1/4W
Q283	8-729-900-36	TRANSISTOR	DTC124ES	R222	1-249-425-11	CARBON	4.7K 5% 1/4W
Q301	8-729-119-78	TRANSISTOR	2SC403SP-51	R226	1-249-421-11	CARBON	2.2K 5% 1/4W
Q901	8-729-040-20	TRANSISTOR	RT1P137L-TP	R227	1-249-441-11	CARBON	100K 5% 1/4W
Q902	8-729-900-36	TRANSISTOR	DTC124ES	R228	1-249-429-11	CARBON	10K 5% 1/4W
Q903	8-729-030-18	TRANSISTOR	2SD2525	R231	1-249-437-11	CARBON	47K 5% 1/4W
Q904	8-729-030-19	TRANSISTOR	2SB1640	R232	1-249-437-11	CARBON	47K 5% 1/4W
Q905	8-729-040-20	TRANSISTOR	RT1P137L-TP	R234	1-247-886-11	CARBON	200K 5% 1/4W
Q906	8-729-900-63	TRANSISTOR	DTA124ES	R235	1-249-421-11	CARBON	2.2K 5% 1/4W
Q907	8-729-119-78	TRANSISTOR	2SC403SP-51	R236	1-249-441-11	CARBON	100K 5% 1/4W
Q1531	8-729-801-93	TRANSISTOR	2SD1387	R253	1-249-441-11	CARBON	100K 5% 1/4W
Q1532	8-729-900-80	TRANSISTOR	DTC114ES	R257	1-249-431-11	CARBON	15K 5% 1/4W
Q1533	8-729-900-80	TRANSISTOR	DTC114ES	R259	1-249-441-11	CARBON	100K 5% 1/4W
Q1534	8-729-119-77	TRANSISTOR	2SA1175-FEK	R260	1-247-887-00	CARBON	220K 5% 1/4W
Q1535	8-729-900-80	TRANSISTOR	DTC114ES	R261	1-247-891-00	CARBON	330K 5% 1/4W
< RESISTOR >				R262	1-249-411-11	CARBON	330 5% 1/4W
R102	1-249-417-11	CARBON	1K 5% 1/4W	R263	1-249-429-11	CARBON	10K 5% 1/4W
R103	1-249-437-11	CARBON	47K 5% 1/4W	R264	1-249-437-11	CARBON	47K 5% 1/4W
R104	1-249-417-11	CARBON	1K 5% 1/4W	R265	1-247-903-00	CARBON	1M 5% 1/4W
R105	1-247-897-11	CARBON	560K 5% 1/4W	R266	1-249-429-11	CARBON	10K 5% 1/4W
R106	1-249-437-11	CARBON	47K 5% 1/4W	R267	1-249-437-11	CARBON	47K 5% 1/4W
R107	1-249-417-11	CARBON	1K 5% 1/4W	R272	1-249-425-11	CARBON	4.7K 5% 1/4W
R108	1-249-441-11	CARBON	100K 5% 1/4W	R276	1-249-421-11	CARBON	2.2K 5% 1/4W
R121	1-249-424-11	CARBON	3.9K 5% 1/4W	R277	1-249-441-11	CARBON	100K 5% 1/4W
R122	1-247-887-00	CARBON	220K 5% 1/4W	R278	1-249-429-11	CARBON	10K 5% 1/4W
R133	1-260-091-11	CARBON	220 5% 1/2W	R281	1-249-429-11	CARBON	10K 5% 1/4W
R134	1-260-091-11	CARBON	220 5% 1/2W	R282	1-249-429-11	CARBON	10K 5% 1/4W
R140	1-249-429-11	CARBON	10K 5% 1/4W	R283	1-249-435-11	CARBON	33K 5% 1/4W
R141	1-249-437-11	CARBON	47K 5% 1/4W	R284	1-247-791-91	CARBON	22 5% 1/4W
R142	1-249-429-11	CARBON	10K 5% 1/4W	R285	1-249-441-11	CARBON	100K 5% 1/4W
△ R147	1-215-893-11	METAL OXIDE	1.5K 5% 2W F	R286	1-249-429-11	CARBON	10K 5% 1/4W
R152	1-249-417-11	CARBON	1K 5% 1/4W	R287	1-249-429-11	CARBON	10K 5% 1/4W
R153	1-249-437-11	CARBON	47K 5% 1/4W	R288	1-249-438-11	CARBON	56K 5% 1/4W
R154	1-249-417-11	CARBON	1K 5% 1/4W	R289	1-249-437-11	CARBON	47K 5% 1/4W
R155	1-247-897-11	CARBON	560K 5% 1/4W	R291	1-247-863-91	CARBON	22K 5% 1/4W
R156	1-249-437-11	CARBON	47K 5% 1/4W	R292	1-247-863-91	CARBON	22K 5% 1/4W
R157	1-249-417-11	CARBON	1K 5% 1/4W	R293	1-249-416-11	CARBON	820 5% 1/4W
R158	1-249-441-11	CARBON	100K 5% 1/4W	R294	1-249-441-11	CARBON	100K 5% 1/4W
R171	1-249-424-11	CARBON	3.9K 5% 1/4W	R295	1-247-903-00	CARBON	1M 5% 1/4W
R172	1-247-887-00	CARBON	220K 5% 1/4W	R301	1-249-413-11	CARBON	470 5% 1/4W
R183	1-260-091-11	CARBON	220 5% 1/2W	R302	1-249-425-11	CARBON	4.7K 5% 1/4W
R184	1-260-091-11	CARBON	220 5% 1/2W	R303	1-249-437-11	CARBON	47K 5% 1/4W
R201	1-249-429-11	CARBON	10K 5% 1/4W	R304	1-249-437-11	CARBON	47K 5% 1/4W
R202	1-247-863-91	CARBON	22K 5% 1/4W	R305	1-249-429-11	CARBON	10K 5% 1/4W
R203	1-249-441-11	CARBON	100K 5% 1/4W	R311	1-247-807-31	CARBON	100 5% 1/4W
R205	1-247-863-91	CARBON	22K 5% 1/4W	R312	1-247-807-31	CARBON	100 5% 1/4W
				R313	1-247-807-31	CARBON	100 5% 1/4W

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

MAIN	PANEL
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Ref. No.	Part No.	Description	Remark
R316	1-249-429-11	CARBON 10K 5%	1/4W
R318	1-249-429-11	CARBON 10K 5%	1/4W
R319	1-249-429-11	CARBON 10K 5%	1/4W
R320	1-249-429-11	CARBON 10K 5%	1/4W
R322	1-249-425-11	CARBON 4.7K 5%	1/4W
R323	1-247-807-31	CARBON 100 5%	1/4W
R325	1-249-431-11	CARBON 15K 5%	1/4W
R326	1-249-415-11	CARBON 680 5%	1/4W
R327	1-247-807-31	CARBON 100 5%	1/4W
R328	1-247-807-31	CARBON 100 5%	1/4W
R330	1-247-807-31	CARBON 100 5%	1/4W
R331	1-247-807-31	CARBON 100 5%	1/4W
R332	1-247-807-31	CARBON 100 5%	1/4W
R333	1-247-807-31	CARBON 100 5%	1/4W
R339	1-247-807-31	CARBON 100 5%	1/4W
R340	1-247-807-31	CARBON 100 5%	1/4W
R341	1-247-807-31	CARBON 100 5%	1/4W
R342	1-247-807-31	CARBON 100 5%	1/4W
R344	1-247-807-31	CARBON 100 5%	1/4W
R345	1-247-807-31	CARBON 100 5%	1/4W
R346	1-247-807-31	CARBON 100 5%	1/4W
R349	1-247-807-31	CARBON 100 5%	1/4W
R350	1-247-807-31	CARBON 100 5%	1/4W
R351	1-247-807-31	CARBON 100 5%	1/4W
R352	1-247-807-31	CARBON 100 5%	1/4W
R353	1-247-807-31	CARBON 100 5%	1/4W
R354	1-247-807-31	CARBON 100 5%	1/4W
R355	1-247-807-31	CARBON 100 5%	1/4W
R356	1-247-807-31	CARBON 100 5%	1/4W
R357	1-247-807-31	CARBON 100 5%	1/4W
R359	1-247-807-31	CARBON 100 5%	1/4W
R360	1-247-807-31	CARBON 100 5%	1/4W
R366	1-247-807-31	CARBON 100 5%	1/4W
R367	1-249-429-11	CARBON 10K 5%	1/4W
R368	1-247-843-11	CARBON 3.3K 5%	1/4W
R369	1-249-429-11	CARBON 10K 5%	1/4W
R381	1-247-807-31	CARBON 100 5%	1/4W
R384	1-249-429-11	CARBON 10K 5%	1/4W
R395	1-247-807-31	CARBON 100 5%	1/4W
R396	1-249-435-11	CARBON 33K 5%	1/4W
R397	1-247-807-31	CARBON 100 5%	1/4W
R398	1-249-435-11	CARBON 33K 5%	1/4W
R417	1-249-441-11	CARBON 100K 5%	1/4W
R913	1-247-815-91	CARBON 220 5%	1/4W
R914	1-249-417-11	CARBON 1K 5%	1/4W
R915	1-249-425-11	CARBON 4.7K 5%	1/4W
R916	1-247-815-91	CARBON 220 5%	1/4W
R917	1-247-815-91	CARBON 220 5%	1/4W
R918	1-249-425-11	CARBON 4.7K 5%	1/4W
R920	1-249-417-11	CARBON 1K 5%	1/4W
R921	1-247-895-91	CARBON 470K 5%	1/4W
R951	1-249-425-11	CARBON 4.7K 5%	1/4W
R952	1-249-425-11	CARBON 4.7K 5%	1/4W
R1501	1-249-435-11	CARBON 33K 5%	1/4W
R1502	1-249-417-11	CARBON 1K 5%	1/4W
R1503	1-249-426-11	CARBON 5.6K 5%	1/4W
R1504	1-247-840-00	CARBON 2.4K 5%	1/4W
R1505	1-247-863-91	CARBON 22K 5%	1/4W
R1506	1-249-421-11	CARBON 2.2K 5%	1/4W

Ref. No.	Part No.	Description	Remark
R1507	1-249-428-11	CARBON 8.2K 5%	1/4W
R1521	1-249-430-11	CARBON 12K 5%	1/4W
R1522	1-249-426-11	CARBON 5.6K 5%	1/4W
R1524	1-249-429-11	CARBON 10K 5%	1/4W
R1525	1-249-432-11	CARBON 18K 5%	1/4W
R1526	1-249-429-11	CARBON 10K 5%	1/4W
R1527	1-249-429-11	CARBON 10K 5%	1/4W
R1531	1-247-843-11	CARBON 3.3K 5%	1/4W
R1532	1-249-411-11	CARBON 330 5%	1/4W
R1533	1-249-427-11	CARBON 6.8K 5%	1/4W
R1534	1-249-429-11	CARBON 10K 5%	1/4W
R1535	1-249-425-11	CARBON 4.7K 5%	1/4W
R1536	1-249-425-11	CARBON 4.7K 5%	1/4W
R1541	1-249-425-11	CARBON 4.7K 5%	1/4W
R1542	1-249-425-11	CARBON 4.7K 5%	1/4W
R1543	1-249-425-11	CARBON 4.7K 5%	1/4W
R1544	1-249-417-11	CARBON 1K 5%	1/4W
R1545	1-249-437-11	CARBON 47K 5%	1/4W
R1546	1-249-437-11	CARBON 47K 5%	1/4W
R1547	1-249-437-11	CARBON 47K 5%	1/4W
R1548	1-249-437-11	CARBON 47K 5%	1/4W
R1551	1-247-863-91	CARBON 22K 5%	1/4W
R1552	1-249-417-11	CARBON 1K 5%	1/4W
R1553	1-249-426-11	CARBON 5.6K 5%	1/4W
R1554	1-247-840-00	CARBON 2.4K 5%	1/4W
R1555	1-247-863-91	CARBON 22K 5%	1/4W
R1556	1-249-421-11	CARBON 2.2K 5%	1/4W
R1557	1-249-428-11	CARBON 8.2K 5%	1/4W
< VARIABLE RESISTOR >			
RV1501	1-238-598-11	RES, ADJ, CARBON	2.2K
RV1551	1-238-598-11	RES, ADJ, CARBON	2.2K
< RELAY >			
RY141	1-755-141-11	RELAY	
< TERMINAL >			
TM131	1-537-240-31	TERMINAL BOARD (CHECKER PIN)	(SPEAKER)
TM132	1-537-240-31	TERMINAL BOARD (CHECKER PIN)	(SURROUND)
< VIBRATOR >			
X301	1-760-489-11	VIBRATOR, CERAMIC (5MHz)	
X302	1-567-098-41	VIBRATOR, CRYSTAL (32.768KHz)	

*	A-4392-472-A	PANEL BOARD, COMPLETE	*****

*	4-986-870-11	HOLDER, FL TUBE	
< CAPACITOR			
C601	1-126-967-11	ELECT 47uF	20% 50V
C602	1-162-306-11	CERAMIC 0.01uF	20% 16V
C603	1-126-963-11	ELECT 4.7uF	20% 50V
C604	1-126-960-11	ELECT 1uF	20% 50V
C606	1-126-960-11	ELECT 1uF	20% 50V
C608	1-124-584-00	ELECT 100uF	20% 10V
C610	1-162-306-11	CERAMIC 0.01uF	20% 16V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C611	1-162-306-11	CERAMIC	0.01uF 20% 16V	D621	8-719-058-04	DIODE SEL5223S-TP15 (FILE 4)	
C612	1-126-967-11	ELECT	47uF 20% 50V	D622	8-719-058-04	DIODE SEL5223S-TP15 (FILE 5)	
C613	1-164-159-21	CERAMIC	0.1uF 50V	D623	8-719-058-04	DIODE SEL5223S-TP15 (P.FILE)	
C621	1-126-960-11	ELECT	1uF 20% 50V	D624	8-719-058-04	DIODE SEL5223S-TP15 (MENU 2)	
C622	1-136-161-00	FILM	0.047uF 5% 50V	D625	8-719-058-04	DIODE SEL5223S-TP15 (MENU 1)	
C623	1-126-957-11	ELECT	0.22uF 20% 50V	D628	8-719-058-04	DIODE SEL5223S-TP15 (KEY CONTROL)	
C624	1-126-957-11	ELECT	0.22uF 20% 50V			< FERRITE BEAD >	
C625	1-162-306-11	CERAMIC	0.01uF 20% 16V	FB601	1-412-473-21	INDUCTOR 0UH	
C626	1-126-957-11	ELECT	0.22uF 20% 50V			< FILTER >	
C627	1-136-159-00	FILM	0.033uF 5% 50V	FL601	1-517-617-11	INDICATOR TUBE, FLUORESCENT	
C628	1-162-302-11	CERAMIC	0.0022uF 30% 16V			< IC >	
C629	1-126-957-11	ELECT	0.22uF 20% 50V	IC601	8-759-462-83	IC TMP87CM75F-6542	
C630	1-162-293-31	CERAMIC	820PF 10% 50V	IC602	8-759-459-84	IC NJL56H400	
C631	1-126-957-11	ELECT	0.22uF 20% 50V			< COIL >	
C632	1-126-957-11	ELECT	0.22uF 20% 50V	L601	1-410-509-11	INDUCTOR 10uH	
C641	1-162-286-21	CERAMIC	220PF 10% 50V			< TRANSISTOR >	
C642	1-162-286-21	CERAMIC	220PF 10% 50V	Q601	8-729-119-78	TRANSISTOR 2SC403SP-51	
C643	1-162-286-21	CERAMIC	220PF 10% 50V	Q602	8-729-118-00	TRANSISTOR 2SB1116-L	
C644	1-162-286-21	CERAMIC	220PF 10% 50V	Q603	8-729-118-00	TRANSISTOR 2SB1116-L	
C645	1-162-286-21	CERAMIC	220PF 10% 50V	Q604	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C646	1-162-286-21	CERAMIC	220PF 10% 50V	Q605	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C647	1-162-286-21	CERAMIC	220PF 10% 50V	Q606	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C648	1-162-286-21	CERAMIC	220PF 10% 50V	Q607	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C649	1-162-286-21	CERAMIC	220PF 10% 50V	Q608	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C650	1-162-286-21	CERAMIC	220PF 10% 50V	Q609	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C651	1-162-286-21	CERAMIC	220PF 10% 50V	Q610	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C652	1-162-286-21	CERAMIC	220PF 10% 50V	Q611	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C653	1-162-286-21	CERAMIC	220PF 10% 50V	Q613	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C654	1-162-286-21	CERAMIC	220PF 10% 50V	Q614	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C655	1-162-286-21	CERAMIC	220PF 10% 50V	Q615	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C656	1-162-286-21	CERAMIC	220PF 10% 50V	Q617	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C695	1-164-159-21	CERAMIC	0.1uF 50V	Q618	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C696	1-164-159-21	CERAMIC	0.1uF 50V	Q619	8-729-119-77	TRANSISTOR 2SA1175-FEK	
C697	1-162-294-31	CERAMIC	0.001uF 10% 50V	Q621	8-729-119-77	TRANSISTOR 2SA1175-FEK	
		< CONNECTOR >		Q622	8-729-119-77	TRANSISTOR 2SA1175-FEK	
* CN601	1-568-836-11	SOCKET, CONNECTOR 17P				< RESISTOR >	
* CN602	1-568-947-11	PIN, CONNECTOR 9P		R601	1-249-427-11	CARBON 6.8K 5% 1/4W	
CN603	1-506-486-11	PIN, CONNECTOR 7P		R602	1-249-435-11	CARBON 33K 5% 1/4W	
* CN604	1-568-947-11	PIN, CONNECTOR 9P		R603	1-247-903-00	CARBON 1M 5% 1/4W	
		< DIODE >		R606	1-249-429-11	CARBON 10K 5% 1/4W	
D601	8-719-987-63	DIODE 1N4148M		R607	1-249-429-11	CARBON 10K 5% 1/4W	
D602	8-719-987-63	DIODE 1N4148M		R608	1-249-429-11	CARBON 10K 5% 1/4W	
D603	8-719-987-63	DIODE 1N4148M		R609	1-249-429-11	CARBON 10K 5% 1/4W	
D604	8-719-987-63	DIODE 1N4148M		R610	1-249-429-11	CARBON 10K 5% 1/4W	
D605	8-719-987-63	DIODE 1N4148M		R611	1-247-843-11	CARBON 3.3K 5% 1/4W	
D606	8-719-987-63	DIODE 1N4148M		R612	1-247-843-11	CARBON 3.3K 5% 1/4W	
D607	8-719-987-63	DIODE 1N4148M		R613	1-249-401-11	CARBON 47 5% 1/4W	
D611	8-719-057-29	DIODE SML78423C-TP15 (TUNER/BAND)		R614	1-249-429-11	CARBON 10K 5% 1/4W	
D612	8-719-057-29	DIODE SML78423C-TP15 (TUNER/BAND)		R615	1-249-429-11	CARBON 10K 5% 1/4W	
D613	8-719-058-04	DIODE SEL5223S-TP15 (ENTER/NEXT)		R617	1-249-429-11	CARBON 10K 5% 1/4W	
D614	8-719-058-04	DIODE SEL5223S-TP15 (GROOVE)		R621	1-249-421-11	CARBON 2.2K 5% 1/4W	
D615	8-719-058-04	DIODE SEL5223S-TP15 (SUPER WOOFER)		R622	1-249-437-11	CARBON 47K 5% 1/4W	
D616	8-719-058-04	DIODE SEL5223S-TP15 (EFFECT)					
D617	8-719-058-04	DIODE SEL5223S-TP15 (ENTER)					
D618	8-719-058-04	DIODE SEL5223S-TP15 (FILE 1)					
D619	8-719-058-04	DIODE SEL5223S-TP15 (FILE 2)					
D620	8-719-058-04	DIODE SEL5223S-TP15 (FILE 3)					

PANEL

Ref. No.	Part No.	Description	Remark
R623	1-247-895-91	CARBON 470K 5%	1/4W
R624	1-249-421-11	CARBON 2.2K 5%	1/4W
R625	1-249-437-11	CARBON 47K 5%	1/4W
R626	1-247-895-91	CARBON 470K 5%	1/4W
R627	1-249-421-11	CARBON 2.2K 5%	1/4W
R628	1-249-437-11	CARBON 47K 5%	1/4W
R629	1-247-895-91	CARBON 470K 5%	1/4W
R631	1-249-437-11	CARBON 47K 5%	1/4W
R632	1-247-895-91	CARBON 470K 5%	1/4W
R633	1-247-897-11	CARBON 560K 5%	1/4W
R634	1-247-897-11	CARBON 560K 5%	1/4W
R635	1-247-897-11	CARBON 560K 5%	1/4W
R636	1-247-897-11	CARBON 560K 5%	1/4W
R637	1-247-895-91	CARBON 470K 5%	1/4W
R638	1-249-435-11	CARBON 33K 5%	1/4W
R641	1-249-419-11	CARBON 1.5K 5%	1/4W
R642	1-249-401-11	CARBON 47 5%	1/4W
R643	1-249-403-11	CARBON 68 5%	1/4W
R644	1-247-807-31	CARBON 100 5%	1/4W
R645	1-249-407-11	CARBON 150 5%	1/4W
R646	1-249-407-11	CARBON 150 5%	1/4W
R647	1-247-815-91	CARBON 220 5%	1/4W
R648	1-249-411-11	CARBON 330 5%	1/4W
R649	1-249-413-11	CARBON 470 5%	1/4W
R650	1-249-415-11	CARBON 680 5%	1/4W
R651	1-249-417-11	CARBON 1K 5%	1/4W
R652	1-249-419-11	CARBON 1.5K 5%	1/4W
R653	1-249-421-11	CARBON 2.2K 5%	1/4W
R654	1-247-843-11	CARBON 3.3K 5%	1/4W
R655	1-249-427-11	CARBON 6.8K 5%	1/4W
R656	1-249-431-11	CARBON 15K 5%	1/4W
R657	1-249-419-11	CARBON 1.5K 5%	1/4W
R658	1-249-401-11	CARBON 47 5%	1/4W
R659	1-249-403-11	CARBON 68 5%	1/4W
R660	1-247-807-31	CARBON 100 5%	1/4W
R661	1-249-407-11	CARBON 150 5%	1/4W
R662	1-249-407-11	CARBON 150 5%	1/4W
R663	1-249-419-11	CARBON 1.5K 5%	1/4W
R664	1-249-401-11	CARBON 47 5%	1/4W
R665	1-249-403-11	CARBON 68 5%	1/4W
R666	1-247-807-31	CARBON 100 5%	1/4W
R667	1-249-407-11	CARBON 150 5%	1/4W
R668	1-249-407-11	CARBON 150 5%	1/4W
R669	1-249-419-11	CARBON 1.5K 5%	1/4W
R670	1-249-401-11	CARBON 47 5%	1/4W
R671	1-249-403-11	CARBON 68 5%	1/4W
R672	1-247-807-31	CARBON 100 5%	1/4W
R673	1-249-407-11	CARBON 150 5%	1/4W
R674	1-249-407-11	CARBON 150 5%	1/4W
R675	1-247-815-91	CARBON 220 5%	1/4W
R676	1-249-411-11	CARBON 330 5%	1/4W
R677	1-249-413-11	CARBON 470 5%	1/4W
R678	1-249-415-11	CARBON 680 5%	1/4W
R679	1-249-419-11	CARBON 1.5K 5%	1/4W
R681	1-249-429-11	CARBON 10K 5%	1/4W
R682	1-249-421-11	CARBON 2.2K 5%	1/4W
R683	1-247-887-00	CARBON 220K 5%	1/4W
R684	1-249-421-11	CARBON 2.2K 5%	1/4W
R685	1-247-815-91	CARBON 220 5%	1/4W

Ref. No.	Part No.	Description	Remark
R686	1-247-807-31	CARBON 100 5%	1/4W
R687	1-247-807-31	CARBON 100 5%	1/4W
R688	1-247-807-31	CARBON 100 5%	1/4W
R689	1-247-807-31	CARBON 100 5%	1/4W
R690	1-247-807-31	CARBON 100 5%	1/4W
R691	1-247-807-31	CARBON 100 5%	1/4W
R692	1-247-807-31	CARBON 100 5%	1/4W
R693	1-247-807-31	CARBON 100 5%	1/4W
R694	1-247-807-31	CARBON 100 5%	1/4W
R695	1-247-807-31	CARBON 100 5%	1/4W
R696	1-247-807-31	CARBON 100 5%	1/4W
R697	1-247-807-31	CARBON 100 5%	1/4W
R698	1-247-807-31	CARBON 100 5%	1/4W
R699	1-247-807-31	CARBON 100 5%	1/4W
R700	1-247-807-31	CARBON 100 5%	1/4W
R703	1-247-807-31	CARBON 100 5%	1/4W
< SWITCH >			
S601	1-554-303-21	SWITCH, TACTILE (ENTER/NEXT)	
S602	1-554-303-21	SWITCH, TACTILE (TUNER MEMORY)	
S603	1-554-303-21	SWITCH, TACTILE (TUNING MODE)	
S604	1-554-303-21	SWITCH, TACTILE (TUNER/BAND)	
S605	1-554-303-21	SWITCH, TACTILE (TUNING +)	
S606	1-554-303-21	SWITCH, TACTILE (TUNING -)	
S607	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)	
S609	1-554-303-21	SWITCH, TACTILE (FUNCTION)	
S610	1-554-303-21	SWITCH, TACTILE (GROOVE)	
S611	1-554-303-21	SWITCH, TACTILE (GEQ Δ)	
S612	1-554-303-21	SWITCH, TACTILE (GEQ <Δ>)	
S613	1-554-303-21	SWITCH, TACTILE (GEQ >Δ>)	
S614	1-554-303-21	SWITCH, TACTILE (GEQ ∇)	
S615	1-554-303-21	SWITCH, TACTILE (SUPER WOOFER)	
S616	1-554-303-21	SWITCH, TACTILE (S/W MODE)	
S617	1-554-303-21	SWITCH, TACTILE (h)	
S618	1-554-303-21	SWITCH, TACTILE (b)	
S619	1-554-303-21	SWITCH, TACTILE (GEQ CONTROL)	
S620	1-554-303-21	SWITCH, TACTILE (ENTER)	
S621	1-554-303-21	SWITCH, TACTILE (EFFECT)	
S622	1-554-303-21	SWITCH, TACTILE (WAVE)	
S623	1-554-303-21	SWITCH, TACTILE (KARAOKE PON/MPX)	
S624	1-554-303-21	SWITCH, TACTILE (SURROUND)	
S625	1-554-303-21	SWITCH, TACTILE (P. FILE MEMORY)	
S627	1-554-303-21	SWITCH, TACTILE (SPECTRUM ANALYZER)	
S628	1-554-303-21	SWITCH, TACTILE (DISPLAY/DEMO)	
S629	1-554-303-21	SWITCH, TACTILE (POWER)	
S630	1-554-303-21	SWITCH, TACTILE (CLOCK SET)	
S631	1-554-303-21	SWITCH, TACTILE (REC)	
S632	1-554-303-21	SWITCH, TACTILE (DAILY 1)	
S633	1-554-303-21	SWITCH, TACTILE (DAYLY 2)	
S634	1-554-303-21	SWITCH, TACTILE (SLEEP)	
S701	1-473-392-11	ENCODER, ROTARY (VOLUME)	

< VIBRATOR >

X601 1-579-125-11 VIBRATOR, CERAMIC (8MHz)

POWERAMP
TABLE SENSOR
TC-A SW

Ref. No.	Part No.	Description	Remark
*	A-4392-436-A	POWERAMP BOARD, COMPLETE *****	
< CAPACITOR >			
C801	1-128-582-11	ELECT 10uF 20% 100V	
C802	1-162-286-21	CERAMIC 220PF 10% 50V	
C803	1-162-282-31	CERAMIC 100PF 10% 50V	
C804	1-126-967-11	ELECT 47uF 20% 50V	
C806	1-126-967-11	ELECT 47uF 20% 50V	
C807	1-128-560-11	ELECT 22uF 20% 100V	
C809	1-128-560-11	ELECT 22uF 20% 100V	
C810	1-164-159-21	CERAMIC 0.1uF 50V	
C811	1-130-493-00	MYLAR 0.068uF 5% 50V	
C812	1-130-493-00	MYLAR 0.068uF 5% 50V	
C814	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C841	1-126-925-11	ELECT 470uF 20% 10V	
C851	1-128-582-11	ELECT 10uF 20% 100V	
C852	1-162-286-21	CERAMIC 220PF 10% 50V	
C853	1-162-282-31	CERAMIC 100PF 10% 50V	
C854	1-126-967-11	ELECT 47uF 20% 50V	
C856	1-126-967-11	ELECT 47uF 20% 50V	
C857	1-128-560-11	ELECT 22uF 20% 100V	
C861	1-130-493-00	MYLAR 0.068uF 5% 50V	
C862	1-130-493-00	MYLAR 0.068uF 5% 50V	
C901	1-104-482-11	ELECT 4700uF 20% 63V	
C902	1-130-777-00	FILM 0.1uF 10% 100V	
C951	1-104-482-11	ELECT 4700uF 20% 63V	
C952	1-130-777-00	FILM 0.1uF 10% 100V	
< CONNECTOR >			
CN801	1-778-981-11	CONNECTOR, BOARD TO BOARD 13P	
< DIODE >			
D801	8-719-815-85	DIODE 1S1585	
D841	8-719-987-63	DIODE 1N4148M	
D842	8-719-987-63	DIODE 1N4148M	
D851	8-719-815-85	DIODE 1S1585	
D901	8-719-510-68	DIODE D5SBA20F01	
< IC >			
IC801	8-749-921-68	IC STK-4231MK2	
< TRANSISTOR >			
Q801	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q851	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
< RESISTOR >			
R801	1-249-417-11	CARBON 1K 5% 1/4W	
R802	1-249-437-11	CARBON 47K 5% 1/4W	
R803	1-249-413-11	CARBON 470 5% 1/4W	
R804	1-249-437-11	CARBON 47K 5% 1/4W	
R805	1-260-107-11	CARBON 4.7K 5% 1/2W	
R806	1-260-107-11	CARBON 4.7K 5% 1/2W	
△R807	1-212-881-11	FUSIBLE 100 5% 1/4W F	
△R808	1-217-156-00	WIREWOUND 0.22 10% 5W F	
R809	1-260-076-11	CARBON 10 5% 1/2W	
R811	1-249-417-11	CARBON 1K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R812	1-249-431-11	CARBON 15K 5% 1/4W	
R813	1-249-441-11	CARBON 100K 5% 1/4W	
R814	1-260-103-11	CARBON 2.2K 5% 1/2W	
R816	1-260-103-11	CARBON 2.2K 5% 1/2W	
△R820	1-202-972-61	FUSIBLE 1 5% 1/4W F	
R841	1-249-425-11	CARBON 4.7K 5% 1/4W	
R842	1-247-885-00	CARBON 180K 5% 1/4W	
R843	1-249-421-11	CARBON 2.2K 5% 1/4W	
R844	1-249-429-11	CARBON 10K 5% 1/4W	
R851	1-249-417-11	CARBON 1K 5% 1/4W	
R852	1-249-437-11	CARBON 47K 5% 1/4W	
R853	1-249-413-11	CARBON 470 5% 1/4W	
R854	1-249-437-11	CARBON 47K 5% 1/4W	
R855	1-260-107-11	CARBON 4.7K 5% 1/2W	
R856	1-260-107-11	CARBON 4.7K 5% 1/2W	
△R857	1-212-881-11	FUSIBLE 100 5% 1/4W F	
△R858	1-217-156-00	WIREWOUND 0.22 10% 5W F	
R859	1-260-076-11	CARBON 10 5% 1/2W	
R861	1-249-417-11	CARBON 1K 5% 1/4W	
R862	1-249-431-11	CARBON 15K 5% 1/4W	
R863	1-249-441-11	CARBON 100K 5% 1/4W	

*	1-659-058-13	TABLE SENSOR BOARD *****	
< IC >			
IC202	8-749-924-18	IC PHOTO INTERRUPTER RPI-1391	
< RESISTOR >			
R207	1-249-416-11	CARBON 820 5% 1/4W	

*	1-664-012-11	TC-A SW BOARD *****	
< CONNECTOR >			
CN612	1-506-486-11	PIN, CONNECTOR 7P	
< DIODE >			
D631	8-719-057-29	DIODE SML78423C-TP15 (▷)	
D632	8-719-057-29	DIODE SML78423C-TP15 (◁)	
< RESISTOR >			
R705	1-249-401-11	CARBON 47 5% 1/4W	
R706	1-249-403-11	CARBON 68 5% 1/4W	
R707	1-247-807-31	CARBON 100 5% 1/4W	
R708	1-249-407-11	CARBON 150 5% 1/4W	
R709	1-249-407-11	CARBON 150 5% 1/4W	
R710	1-247-815-91	CARBON 220 5% 1/4W	
R711	1-247-807-31	CARBON 100 5% 1/4W	
R712	1-247-807-31	CARBON 100 5% 1/4W	
R713	1-247-807-31	CARBON 100 5% 1/4W	
R714	1-247-807-31	CARBON 100 5% 1/4W	
< SWITCH >			
S641	1-554-303-21	SWITCH, TACTILE (▷)	

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

TC-A SW	TC-B SW	TCB
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Ref. No.	Part No.	Description	Remark
S642	1-554-303-21	SWITCH, TACTILE (◁)	
S643	1-554-303-21	SWITCH, TACTILE (■)	
S644	1-554-303-21	SWITCH, TACTILE (◁◁)	
S645	1-554-303-21	SWITCH, TACTILE (▶▶)	

S646	1-554-303-21	SWITCH, TACTILE (DOLBY NR)	
S647	1-554-303-21	SWITCH, TACTILE (DIRECTION)	

* 1-664-013-11 TC-B SW BOARD

< DIODE >

D635	8-719-057-29	DIODE SML78423C-TP15 (◁)	
D636	8-719-057-29	DIODE SML78423C-TP15 (▷)	
D637	8-719-058-17	DIODE LNG401NPYJA (■)	
D638	8-719-057-09	DIODE LNJ801LPDJA (● REC)	

< RESISTOR >

R715	1-247-815-91	CARBON 220 5%	1/4W
R716	1-249-411-11	CARBON 330 5%	1/4W
R717	1-249-413-11	CARBON 470 5%	1/4W
R718	1-249-415-11	CARBON 680 5%	1/4W
R719	1-249-417-11	CARBON 1K 5%	1/4W

R720	1-249-419-11	CARBON 1.5K 5%	1/4W
R721	1-249-421-11	CARBON 2.2K 5%	1/4W
R722	1-247-843-11	CARBON 3.3K 5%	1/4W
R723	1-247-807-31	CARBON 100 5%	1/4W
R724	1-247-807-31	CARBON 100 5%	1/4W

R725	1-247-807-31	CARBON 100 5%	1/4W
R726	1-247-807-31	CARBON 100 5%	1/4W
R727	1-247-807-31	CARBON 100 5%	1/4W
R728	1-247-807-31	CARBON 100 5%	1/4W

< SWITCH >

S651	1-554-303-21	SWITCH, TACTILE (▷)	
S652	1-554-303-21	SWITCH, TACTILE (◁)	
S653	1-554-303-21	SWITCH, TACTILE (▶▶)	
S654	1-554-303-21	SWITCH, TACTILE (◁◁)	
S655	1-554-303-21	SWITCH, TACTILE (■)	

S656	1-554-303-21	SWITCH, TACTILE (■)	
S657	1-554-303-21	SWITCH, TACTILE (● REC)	
S658	1-554-303-21	SWITCH, TACTILE (H.SPEED DUBB)	
S659	1-554-303-21	SWITCH, TACTILE (CD SYNC)	

* A-4303-512-A TCB BOARD, COMPLETE

< CAPACITOR >

C1	1-162-294-31	CERAMIC 0.001uF 10%	50V
C2	1-126-967-11	ELECT 47uF 20%	16V
C3	1-164-159-21	CERAMIC 0.1uF	50V
C5	1-162-306-11	CERAMIC 0.01uF 20%	16V
C6	1-162-306-11	CERAMIC 0.01uF	16V

C7	1-101-004-00	CERAMIC 0.01uF	50V
C8	1-162-306-11	CERAMIC 0.01uF 20%	16V
C9	1-162-306-11	CERAMIC 0.01uF 20%	16V
C11	1-164-159-21	CERAMIC 0.1uF	50V
C12	1-162-198-31	CERAMIC 8.2PF 10%	50V

C14	1-162-306-11	CERAMIC 0.01uF 20%	16V
C21	1-102-514-11	CERAMIC 22PF 5%	50V

Ref. No.	Part No.	Description	Remark
C22	1-164-159-21	CERAMIC 0.1uF	50V
C23	1-162-306-11	CERAMIC 0.01uF 20%	16V
C24	1-126-967-11	ELECT 47uF 20%	16V

C25	1-162-306-11	CERAMIC 0.01uF 20%	16V
C26	1-126-964-11	ELECT 10uF 20%	50v
C27	1-164-159-21	CERAMIC 0.1uF	50V
C28	1-126-961-11	ELECT 2.2uF 20%	50V
C29	1-102-518-11	CERAMIC 33PF 5%	50V

C30	1-162-294-31	CERAMIC 0.001uF 10%	50V
C31	1-162-306-11	CERAMIC 0.01uF 20%	16V
C41	1-126-933-11	ELECT 100uF 20%	10V
C42	1-162-306-11	CERAMIC 0.01uF 20%	16V
C43	1-126-962-11	ELECT 3.3uF 20%	50V

C44	1-162-306-11	CERAMIC 0.01uF 20%	16V
C45	1-124-589-11	ELECT 47uF 20%	16V
C46	1-162-600-11	CERAMIC 4700PF 10%	16V
C47	1-162-294-31	CERAMIC 0.001uF 10%	50V
C48	1-126-160-11	ELECT 1uF 20%	50V

C49	1-136-159-00	METALIZED PE FILM 0.033uF 5%	16V
C50	1-136-159-00	METALIZED PE FILM 0.033uF 5%	16V
C51	1-162-600-11	CERAMIC 4700PF 10%	16V
C52	1-162-600-11	CERAMIC 4700PF 10%	50V
C53	1-126-964-11	ELECT 10uF 20%	50V

C54	1-126-157-11	ELECT 10uF 20%	16V
C55	1-126-964-11	ELECT 10uF 20%	50V
C56	1-126-964-11	ELECT 10uF 20%	50V
C57	1-164-159-21	CERAMIC 0.1uF	50V
C58	1-162-306-11	CERAMIC 0.01uF 20%	16V

C59	1-164-159-21	CERAMIC 0.1uF	50V
C61	1-164-159-21	CERAMIC 0.1uF	50V
C62	1-126-967-11	ELECT 47uF 20%	16V
C63	1-164-159-21	CERAMIC 0.1uF	50V
C64	1-126-959-11	ELECT 0.47uF 20%	50V

C65	1-126-960-11	ELECT 1.0uF 20%	50V
C66	1-126-960-11	ELECT 1.0uF 20%	50V
C67	1-126-964-11	ELECT 10uF 20%	50V
C68	1-162-306-11	CERAMIC 0.01uF 20%	16V
C69	1-162-306-11	CERAMIC 0.01uF 20%	16V

C70	1-162-306-11	CERAMIC 0.01uF 20%	16V
C71	1-162-306-11	CERAMIC 0.01uF 20%	16V
C73	1-162-306-11	CERAMIC 0.01uF 20%	16V
C74	1-126-964-11	ELECT 10uF 20%	50V

< FILTER >

CF1	1-567-389-11	FILTER, CERAMIC	
CF2	1-567-389-11	FILTER, CERAMIC	

< CONNECTOR >

* CN1	1-568-832-11	SOCKET, CONNECTOR 13P	
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< DIODE >

D1	8-719-933-33	DIODE UZL-6L1-TA	
D2	8-719-987-63	DIODE 1N4148M-TA	

< FRONTEND >

FE1	1-233-533-11	ENCAPSULATED COMPONENT	
FE2	1-239-260-11	ENCAPSULATED COMPONENT	

TCB
TRANS

Ref. No.	Part No.	Description	Remark
< IC >			
IC1	8-759-288-54	IC LC72130	
IC2	8-759-176-03	IC LA1835	
< IFT >			
IFT41	1-409-636-11	TRANSFORMER, IF (CERAMIC FILTER)	
< COIL >			
L41	1-410-119-11	MICRO INDUCTOR (EL TYPE) 1mH	
< FILTER >			
LPF41	1-239-845-11	FILTER, LOW PASS	
LPF42	1-239-845-11	FILTER, LOW PASS	
< TRANSISTOR >			
Q1	8-729-230-99	TRANSISTOR 2SC2669OY-TPE4	
Q2	8-729-230-99	TRANSISTOR 2SC2669OY-TPE4	
Q3	8-729-230-99	TRANSISTOR 2SC2669OY-TPE4	
Q4	8-729-230-99	TRANSISTOR 2SC2669OY-TPE4	
Q5	8-729-422-57	TRANSISTOR BN1A4M-TP	
< RESISTOR >			
R1	1-249-401-11	CARBON 47 5% 1/4W	
R2	1-249-411-11	CARBON 330 5% 1/4W	
R3	1-249-411-11	CARBON 330 5% 1/4W	
R5	1-249-411-11	CARBON 330 5% 1/4W	
R6	1-247-863-91	CARBON (SMALL)22K 5% 1/4W	
R7	1-249-411-11	CARBON 330 5% 1/4W	
R8	1-249-411-11	CARBON 330 5% 1/4W	
R9	1-247-863-91	CARBON (SMALL)22K 5% 1/4W	
R10	1-249-411-11	CARBON 330 5% 1/4W	
R11	1-247-863-91	CARBON (SMALL)22K 5% 1/4W	
R12	1-249-411-11	CARBON 330 5% 1/4W	
R13	1-249-411-11	CARBON 330 5% 1/4W	
R14	1-247-863-91	CARBON (SMALL)22K 5% 1/4W	
R15	1-249-429-11	CARBON 10K 5% 1/4W	
R16	1-249-437-11	CARBON 47K 5% 1/4W	
R19	1-249-399-11	CARBON 33 5% 1/4W	
R21	1-247-807-31	CARBON (SMALL)100 5% 1/4W	
R22	1-249-425-11	CARBON 4.7K 5% 1/4W	
R23	1-249-425-11	CARBON 4.7K 5% 1/4W	
R24	1-249-425-11	CARBON 4.7K 5% 1/4W	
R25	1-247-807-31	CARBON (SMALL)100 5% 1/4W	
R26	1-249-411-11	CARBON 330 5% 1/4W	
R27	1-249-425-11	CARBON 4.7K 5% 1/4W	
R28	1-247-843-11	CARBON (SMALL)3.3K 5% 1/4W	
R29	1-249-417-11	CARBON 1K 5% 1/4W	
R30	1-249-417-11	CARBON 1K 5% 1/4W	
R31	1-249-417-11	CARBON 1K 5% 1/4W	
R32	1-249-417-11	CARBON 1K 5% 1/4W	
R33	1-247-807-31	CARBON (SMALL)100 5% 1/4W	
R34	1-249-429-11	CARBON 10K 5% 1/4W	
R35	1-249-429-11	CARBON 10K 5% 1/4W	
R36	1-249-437-11	CARBON 47K 5% 1/4W	
R37	1-249-417-11	CARBON 1K 5% 1/4W	
R41	1-249-429-11	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R43	1-247-843-11	CARBON (SMALL)3.3K 5% 1/4W	
R44	1-247-843-11	CARBON (SMALL)3.3K 5% 1/4W	
R46	1-249-442-11	CARBON 510 5% 1/4W	
R47	1-249-399-11	CARBON 33 5% 1/4W	
R48	1-247-843-11	CARBON (SMALL)3.3K 5% 1/4W	
R49	1-249-393-11	CARBON 10 5% 1/4W	
R50	1-249-429-11	CARBON 10K 5% 1/4W	
R51	1-249-441-11	CARBON 100K 5% 1/4W	
R52	1-249-429-11	CARBON 10K 5% 1/4W	
R53	1-249-425-11	CARBON 4.7K 5% 1/4W	
R54	1-249-425-11	CARBON 4.7K 5% 1/4W	
R99	1-249-399-11	CARBON 33 5% 1/4W	
< VARIABLE RESISTOR >			
RV41	1-238-600-11	ADJ, CARBON 10K	
RV42	1-238-601-11	ADJ, CARBON 22K	
< TERMINAL >			
TM1	1-537-238-21	TERMINAL BOARD (ANTENNA)	
< VIBRATOR >			
X21	1-760-549-11	VIBRATOR, CRYSTAL (4.5MHz)	
X41	1-577-075-11	OSCILLATOR, CERAMIC (456KHz)	
X42	1-760-220-11	FILTER, CERAMIC	
X43	1-527-981-00	FILTER, CERAMIC	

*	1-664-014-11	TRANS BOARD *****	
	1-533-399-31	HOLDER, FUSE	
< CONNECTOR >			
* CN901	1-564-522-11	PLUG, CONNECTOR 7P	
* CN902	1-564-518-11	PLUG, CONNECTOR 3P	
CN903	1-774-108-11	PIN, CONNECTOR (PC BOARD)	
< CONNECTOR >			
△CNP901	1-558-943-41	CORD, POWER (E, IA)	
△CNP901	1-575-651-21	CORD, POWER (EA, SP, MY)	
< FUSE >			
△F901	1-532-388-31	FUSE, TIME-LAG (2A, 250V)	
△F902	1-532-504-31	FUSE, TIME-LAG (4A, 250V) (E, EA, SP, IA)	
< RESISTOR >			
△R901	1-219-119-81	FUSIBLE 0.1 5% 1/4W F (MY)	
△R901	1-219-124-11	FUSIBLE 0.68 5% 1/4W F (EXCEPT MY)	
△R902	1-219-119-81	FUSIBLE 0.1 5% 1/4W F (MY)	
△R902	1-219-124-11	FUSIBLE 0.68 5% 1/4W F (EXCEPT MY)	
△R903	1-219-119-81	FUSIBLE 0.1 5% 1/4W F (EXCEPT MY)	

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

TRANS

Ref. No.	Part No.	Description	Remark
△ R903	1-219-120-11	FUSIBLE 0.15 5%	1/4W F (MY)
△ R904	1-219-119-81	FUSIBLE 0.1 5%	1/4W F (EXCEPT MY)
△ R904	1-219-120-11	FUSIBLE 0.15 5%	1/4W F (MY)
< SWITCH >			
△ S901	1-762-753-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (EXCEPT MY)	
< TRANSFORMER >			
△ T901	1-431-052-11	TRANSFORMER, POWER	

MISCELLANEOUS			

11	1-769-974-11	WIRE (FLAT TYPE) (13 CORE)	
11	1-773-006-11	WIRE (FLAT TYPE) (15 CORE)	
58	1-773-161-11	WIRE (FLAT TYPE) (21 CORE)	
59	1-769-949-11	WIRE (FLAT TYPE) (11 CORE)	
120	1-773-051-11	WIRE (FLAT TYPE) (17 CORE)	
156	1-777-868-11	WIRE (FLAT TYPE) (19 CORE)	
△ 159	1-569-007-11	ADAPTOR, CONVERSION 2P (E,IA)	
△ 160	1-569-008-11	ADAPTOR, CONVERSION 2P (EA, SP)	
357	1-452-538-11	MAGNET	
△ 401	8-820-020-01	OPTICAL PICK-UP KSS-213D/Q-NP	
402	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
△ CNP901	1-558-943-41	CORD, POWER (E, IA)	
△ CNP901	1-575-651-21	CORD, POWER (EA, MY, SP)	
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK)	
HRPE1011	500-094-11	HEAD, MAGNETIC (REC/PB/ERASE)	
M1	X-3371-223-1	MOTOR ASSY, CAPSTAN	
M2	A-2004-410-A	MOTOR ASSY, DC (TRIGGER)	
M201	A-4660-977-A	MOTOR ASSY (TABLE)	
M101	X-4917-504-1	MOTOR ASSY (SPINDLE)	
M102	X-4917-523-4	MOTOR ASSY (SLED)	
△ T901	1-431-052-11	TRANSFORMER, POWER	

Ref. No.	Part No.	Description	Remark

HARDWARE LIST			

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
#3	7-685-872-09	SCREW +BVTT 3X8 (S)	
#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2 N-S	
#5	7-685-862-09	SCREW +BVTT 2.6X6 (S)	
#6	7-685-131-19	SCREW +BTP 2.6X4 TYPE2 N-S	
#7	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#8	7-621-775-10	SCREW +B 2.6X4	
#9	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#10	7-623-921-01	RING,RETAINGNG, CAPSTAN	
#11	7-621-775-00	SCREW +B 2.6X3	
#12	7-621-255-15	SCREW +P 2X3	

ACCESSORIES & PACKING MATERIALS			

1-475-115-11		REMOTE COMMANDER (RM-SD70)	
1-501-374-11		ANTENNA, LOOP	
1-501-659-41		ANTENNA (FM)	
3-859-536-11		MANUAL, INSTRUCTION (ENGLISH)	
3-859-536-31		MANUAL, INSTRUCTION (FRENCH, SPANISH) (E, EA, SP)	
3-859-536-41		MANUAL, INSTRUCTION (CHINESE)	
3-859-536-51		MANUAL, INSTRUCTION (ARABIC) (EA)	
4-991-151-01		COVER, BATTERY (for RM-SD70)	

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