HCD-D690/XB6/XB600

SERVICE MANUAL

US Model
Canadian Model
HCD-D690
AEP Model
UK Model
E Model
Australian Model
HCD-XB6
Mexican Model
HCD-XB600

Photo: HCD-XB6

HCD-D690, HCD-XB6, HCD-XB600 are the tuner, deck, CD and amplifier section in LBT-D690, LBT-XB6, LBT-XB600.

CD Section	Model Name Using Similar Mechanism	HCD290/G330/XB3
	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-H881
	Tape Transport Mechanism Type	TCM-220WR2

SPECIFICATIONS

For the US model

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
With 8 ohm loads, both channels driven, from 70-20,000 Hz; rated 100 watts per channel minimum RMS power, with no more than 0.9 % total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

DIN power output
AEP, UK, East European, CIS models: 100+100 watts (6 ohms at 1 kHz, DIN)
Continuous RMS power output
Canadian model: 100+100 watts (8 ohms at 1 kHz, 5%)
Argentine, Australian, E, Mexican models: 100+100 watts (8 ohms at 1kHz, 10% THD)
AEP, UK, East European, CIS models: 120+120 watts (6 ohms at 1kHz, 10% THD)
Peak music power output
Argentine, Australian, E, Mexican models: 1400 watts
Music power output
AEP, UK, East European, CIS models: 210+210 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

– Continued on next page –

COMPACT DISC DECK RECEIVER

MICROFILM

SONY

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ = 780nm). Emission duration: continuous
Laser output	Max. 44.6µF* *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
Wow and flutter	±0.15% W. Peak (IEC) 0.1% W. RMS (NAB) ±0.2% W. Peak (DIN)

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	
US, Canadian models:	87.5 - 108.0 MHz (100 kHz step)
AEP, UK models:	87.5 - 108.0 MHz (50 kHz step)
East European, CIS models:	
FM:	87.5 -108.0 MHz (50 kHz step) 65.0 - 74.0 MHz (10 kHz step) OIRT
UKV:	65.0 - 74.0 MHz (10 kHz step) POLAR STEREO
Other models:	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	
US, Canadian models:	530 - 1,710 KHz (with the tuning interval set at 10 kHz) 531 - 1,710 KHz (with the tuning interval set at 9 kHz)
AEP, UK, East European, CIS models:	
MW:	531 - 1,602 kHz (with the tuning interval set at 9 kHz)
LW:	153 - 279 kHz (with the tuning interval set at 3 kHz)
Other models:	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	
US, Canadian models:	120 V AC, 60 Hz
Mexican model:	120 V AC, 50/60 Hz
Australian model:	220 - 240 V AC, 50/60 Hz
AEP, UK, East European, CIS models:	220 - 230 V AC, 50/60 Hz
Other models:	110 - 120 V or 220 - 240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption	
US, Canadian models:	198 watts
AEP, UK, East European, CIS models:	230 watts
Other models:	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.

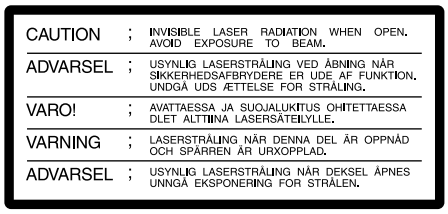
Flexible Circuit Board Repairing

- 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.



SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

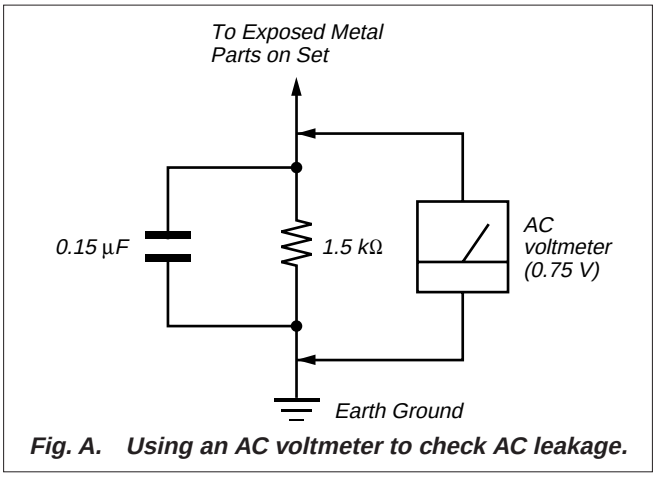


Fig. A. Using an AC voltmeter to check AC leakage.

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.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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

TABLE OF CONTENTS

- Abbreviation
  CND : Canadian model
  MX : Mexican model
  AUS : Australian model
  AR : Argentine model
  EE : East European model

SERVICING NOTES

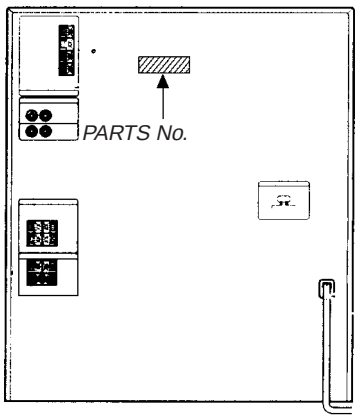
NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

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.

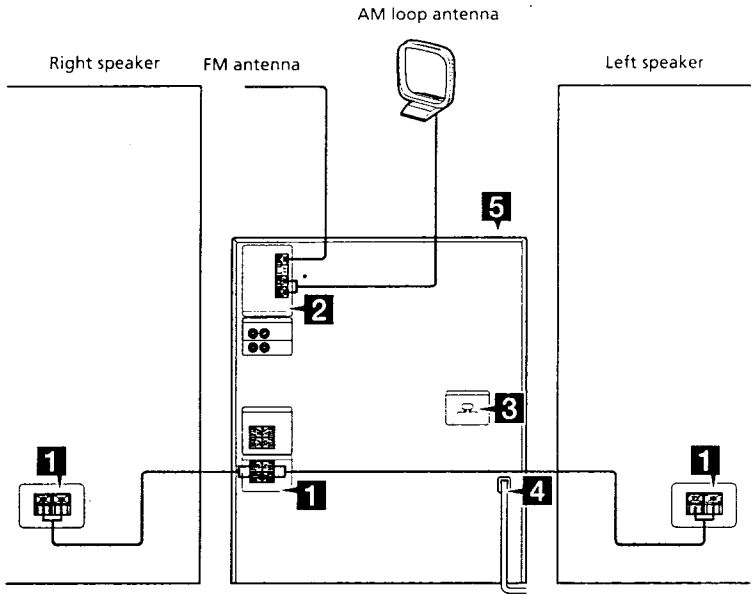
MODEL IDENTIFICATION
– BACK PANEL –



MODEL	PARTS No.
XB6: E, Argentine models	4-987-926-0☐
XB6: Australian model	4-987-926-1☐
XB6: AEP, UK models	4-987-044-3☐
XB6: East European, CIS models	4-987-044-5☐
D690: US model	4-987-044-6☐
D690: Canadian model	4-987-044-7☐
XB6: Mexican model	4-987-926-3☐
XB600: Mexican model	4-987-926-8☐

Step 1: Hooking up the system

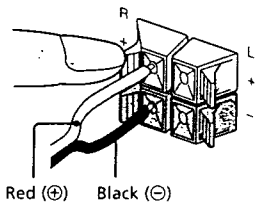
Follow steps 1 through 5 to hook up your system using the supplied cords and accessories.



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.



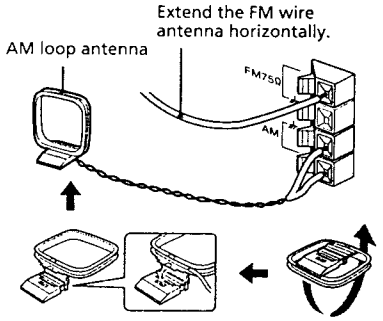
2 Insert only the stripped portion of the cord. Inserting the vinyl portion will interfere with the speaker connection and no sound will come from the speaker.

Note

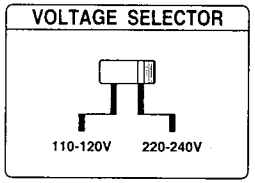
The speakers for LBT-D290/G3300/XB3/XB3K do not have the speaker jacks.
Connect the speaker cords to the speaker jacks on the unit.

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).

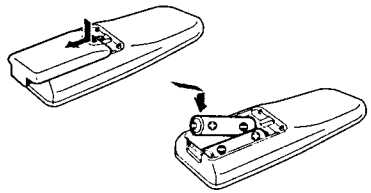


4 Connect the power cord to a wall outlet.

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.

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.

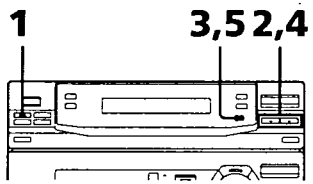
When carrying this system

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.

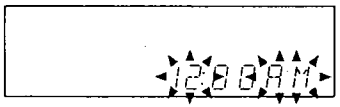
Step 2: Setting the time

You must set the time before using the timer functions.



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

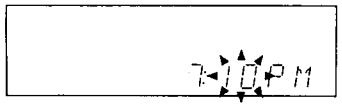
1 Press ⏲/CLOCK SET.
The hour indication flashes.



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

3 Press ENTER/NEXT.
The minutes indication flashes.

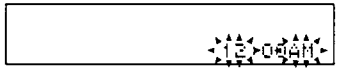
4 Press TUNING +/– to set the minutes.



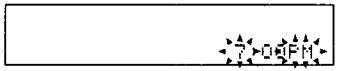
5 Press ENTER/NEXT.
The clock starts.

LBT-D690/XB600/XB6/XB6K only

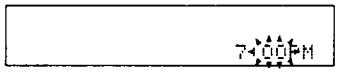
1 Press ⏲/CLOCK SET.
The hour indication flashes.



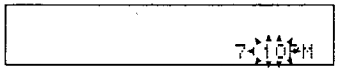
2 Press TUNING +/– to set the hour.
The clock uses the 12-hour system.



3 Press ENTER/NEXT.
The minutes indication flashes.



4 Press TUNING +/– to set the minutes.



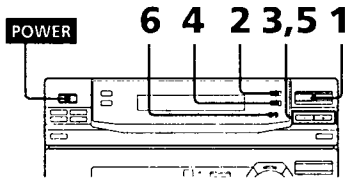
5 Press ENTER/NEXT.
The clock starts.

Tip

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

Step 3: Presetting radio stations

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

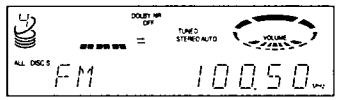


1 Press TUNER/BAND repeatedly until the band you want appears in the display.
Each time you press this button, the band changes as follows:
FM ⟷ AM

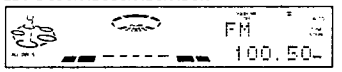
2 Press TUNING MODE repeatedly until "AUTO" appears in the display.

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

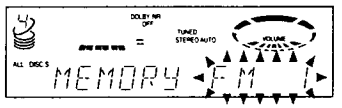


LBT-D690/XB600/XB6/XB6K

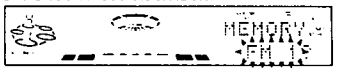


4 Press TUNER MEMORY.
A preset number flashes in the display.

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

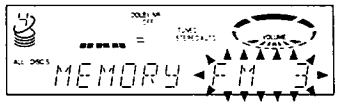


LBT-D690/XB600/XB6/XB6K



5 Press TUNING +/– to select the preset number you want.

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



LBT-D690/XB600/XB6/XB6K

6 Press ENTER/NEXT.
The station is stored.

7 Repeat steps 1 through 6 to store other stations.

To tune in a station with a weak signal

Press TUNING MODE repeatedly until "MANUAL" appears in step 2, then press TUNING +/– to tune in the station.

To change the preset number

Start over from step 1.

To change the AM tuning interval (Except for the Middle Eastern model)

The AM tuning interval is factory-preset to 9 kHz (10 kHz in some areas). To change the AM tuning interval to 10 kHz (or 9 kHz), tune in any AM station first, then turn off the power. While holding down ENTER/NEXT, turn the power back on. When you change the interval, the AM preset stations will be erased. To reset the interval, repeat the same procedure.

Note

The preset stations are canceled when you disconnect the power cord or if a power failure occurs for half a day.

Connecting optional AV components

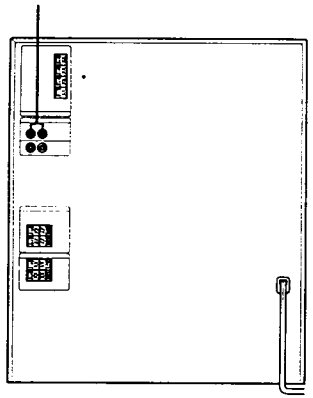
To enhance your system, you can connect optional components. Refer to the instructions included with each component for details.

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



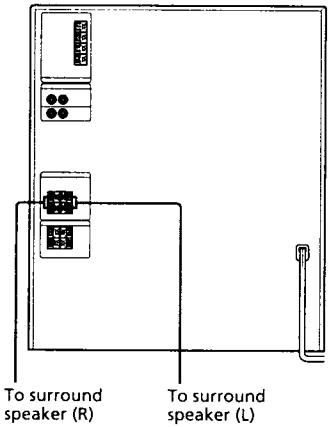
Note

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 ▮\\\\\\ " disappears 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).

Connecting surround speakers (LBT-D590/D690/XB600/XB6/XB6K only)

You can connect optional surround speakers.



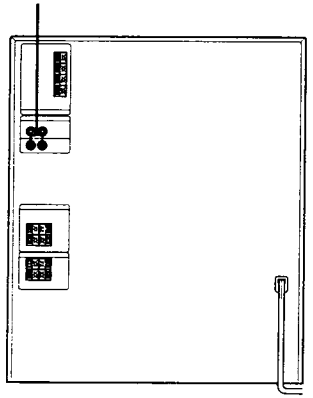
Note

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

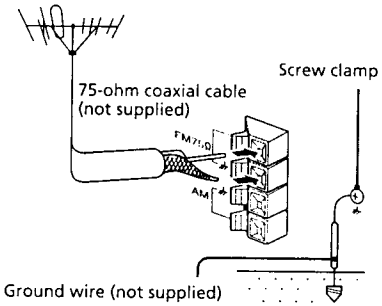


Connecting outdoor antennas

Connect an outdoor antenna to improve the reception.

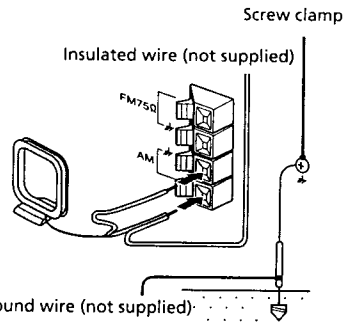
FM antenna

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.



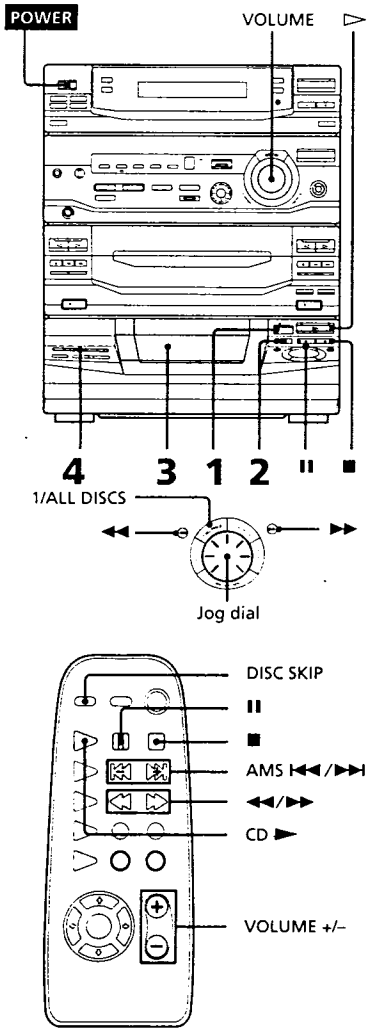
Important

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

Playing a CD

— Normal Play

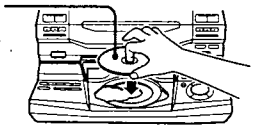
You can play up to five CDs in a row.



1 Press ≜ OPEN and place a CD on the disc tray.

If the disc is not placed properly it will not be recognized.

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



2 Press DISC SKIP to place up to four more CDs on the tray.

The disc tray rotates so you can insert other CDs.

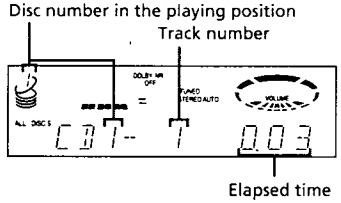
3 Close the front cover.

4 Press one of the DIRECT PLAY buttons.

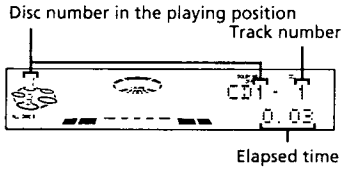
Playback starts.

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



To	Do this
Stop playback	Press ■.
Pause	Press II. 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* ▶▶I (to go forward) or AMS* I◀◀ (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.

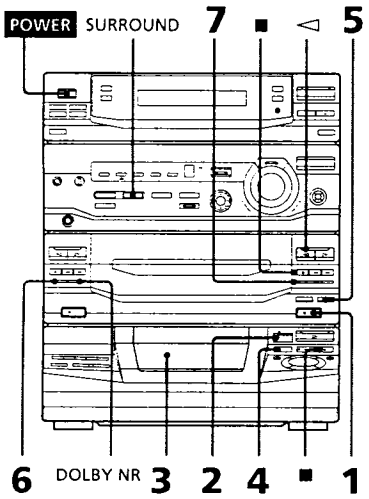
Tips

- 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.

Recording a CD

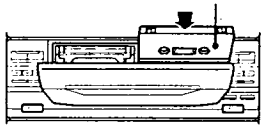
— CD Synchro Recording

This function lets you record from a CD to a tape easily. You can use TYPE I (normal) or TYPE II (CrO_2) tapes. The recording level is adjusted automatically.



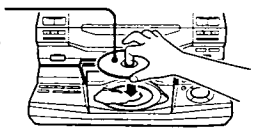
1 Press ⏏ EJECT and insert a blank tape into deck B.

With the side you want to record on facing forward



2 Press ⏏ 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.



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 ▷ 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 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.

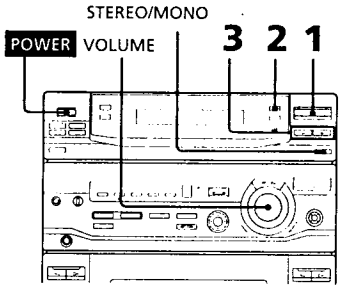
Note

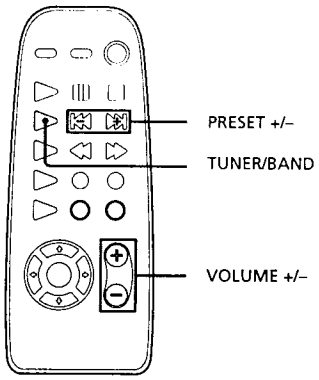
You cannot listen to other sources while recording.

Listening to the radio

— Preset Tuning

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



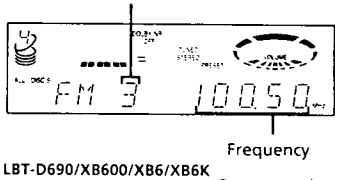


1 Press TUNER/BAND repeatedly until the band you want appears in the display.
Each time you press this button, the band changes as follows:
FM ⟷ AM

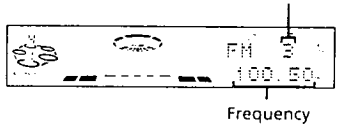
2 Press TUNING MODE repeatedly until "PRESET" appears in the display.
MANUAL → AUTO → PRESET

3 Press TUNING +/– (or PRESET +/– on the remote) to tune in the desired preset station.

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



LBT-D690/XB600/XB6/XB6K



To	Do this
Turn off the radio	Press POWER.
Adjust the volume	Turn VOLUME (or press VOLUME +/– on the remote).

To listen to non-preset radio stations

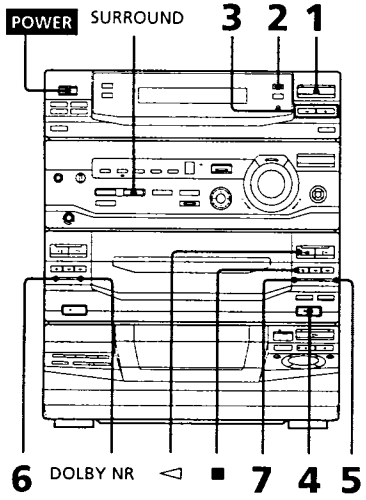
Press TUNING MODE repeatedly in step 2 until "MANUAL" appears, then press TUNING +/– to tune in the desired station.

Tips

- Pressing TUNER/BAND while the power is off automatically turns on the power and tunes to the last received station (One Touch Play).
- You can switch from another source to the radio just by pressing TUNER/BAND (Automatic Source Selection).
- If an FM program is noisy, press STEREO/MONO so "MONO" appears in the display. There will be no stereo effect, but the reception will improve. Press this button again to restore the stereo effect.
- To improve broadcast reception, move the supplied antennas.

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 (CrO_2) tapes. The recording level is automatically adjusted.

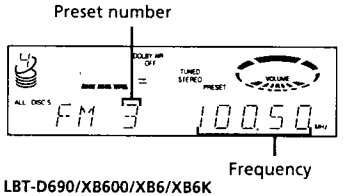


1 Press TUNER/BAND repeatedly until the band you want appears in the display.

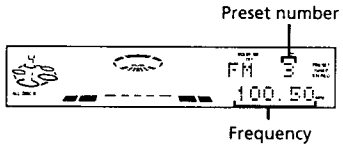
2 Press TUNING MODE repeatedly until "PRESET" appears in the display.

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

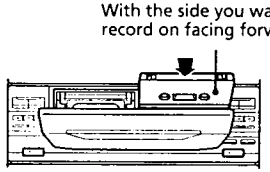
LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K



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



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

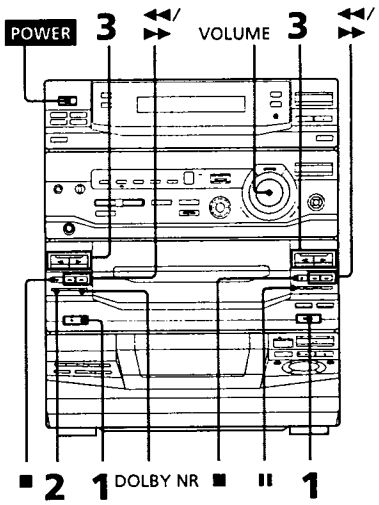
Press ■ on deck B.

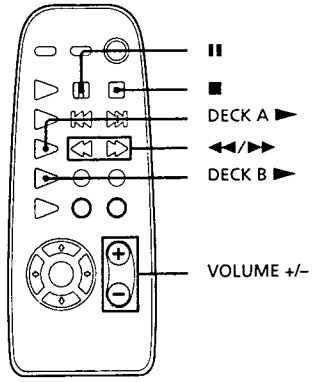
Tips

- 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 (((■))) " 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 (CrO_2) 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.

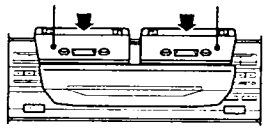




continued

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 ❚❚. 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).

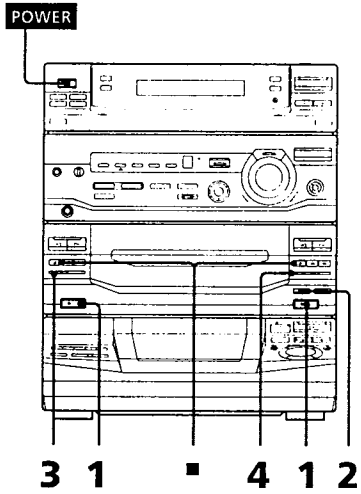
Tips

- Pressing ▷ or ◁ while the power is off automatically turns on the power and starts tape playback if there is a tape in the deck (One Touch Play).
- You can switch from another source to the tape deck just by pressing ▷ or ◁ (Automatic Source Selection).
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so "DOLBY NR B" appears in the display.

Recording from a tape

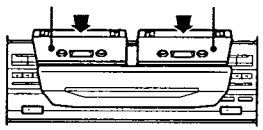
— High-speed Dubbing

You can use TYPE I (normal) or TYPE II (CrO_2) tapes. The recording level is automatically adjusted.



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 ❚❚.

Dubbing starts.

When dubbing ends, decks A and B automatically stop.

To stop dubbing

Press ■ on deck A or B.

Tips

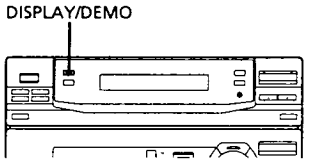
- When you dub on both sides, start recording from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- If you set DIRECTION to ⇄ when the tapes you use have different lengths, the tape in each deck reverses independently. If you select RELAY, the tapes 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.

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:

→ Elapsed time on the current track
↓
Remaining time on the current track
↓
Remaining time on the current CD (1 DISC mode) or "PLAY" (ALL DISCS mode)
↓
Clock display (for a few seconds)
↓
Effect (P FILE) name or "EFFECT ON (OFF)"

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

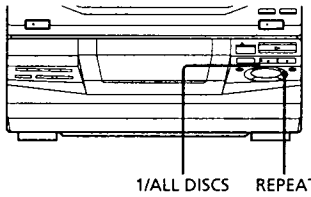
Press DISPLAY/DEMO in stop mode.

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 repeatedly

— Repeat Play

This function lets you repeat a single CD or all CDs in Normal Play, Shuffle Play, and Program Play.



➡ Press REPEAT repeatedly during playback until "REPEAT" appears in the display.

Repeat Play starts. The following table describes the various repeat modes.

To repeat	Press
All the tracks on the current CD	1/ALL DISCS repeatedly until "1 DISC" appears in the display.
All the tracks on all CDs	1/ALL DISCS repeatedly until "ALL DISCS" appears in the display.
Only one track*	REPEAT repeatedly while playing the track you want to repeat until "REPEAT 1" appears in the display.

* You can't repeat a single track during Shuffle Play and Program Play.

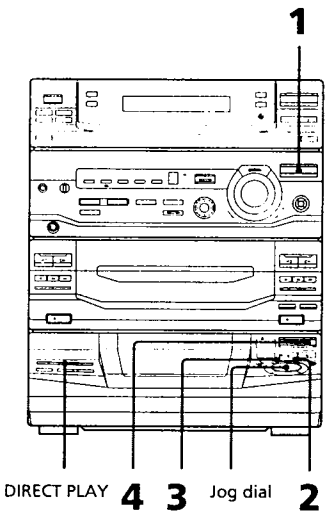
To cancel Repeat Play

Press REPEAT repeatedly until "REPEAT" or "REPEAT 1" disappears from the display.

Playing CD tracks in random order

— Shuffle Play

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



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 ▷.

"🔀" 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.

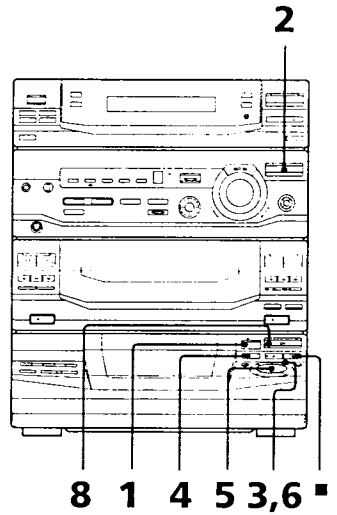
Tips

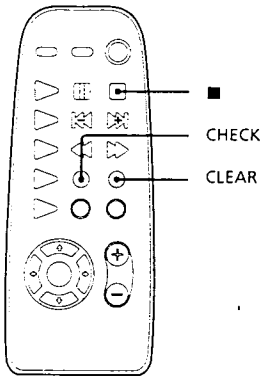
- You can start Shuffle Play during Normal Play by pressing PLAY MODE repeatedly until "SHUFFLE" appears in the display.
- To skip a track, turn the jog dial clockwise (or press AMS ▶▶I on the remote).

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.

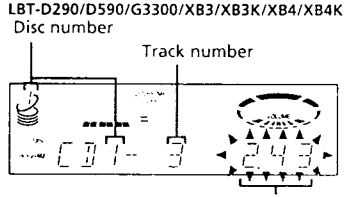
2 Press FUNCTION repeatedly until "CD" appears in the display.

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

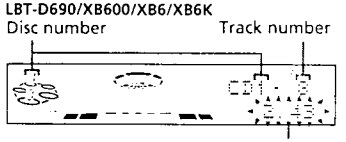
4 Press DISC SKIP to select a CD.

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

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



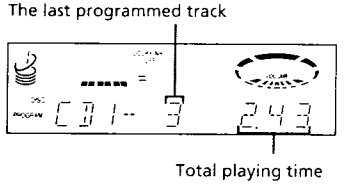
LBT-D690/XB600/XB6/XB6K



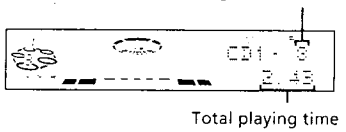
6 Press PLAY MODE once.

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 ▷.
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.

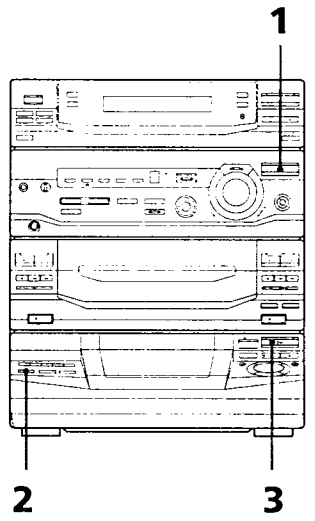
Tips

- The program you created remains in the CD player's memory even after it has been played. Press ▷ 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.

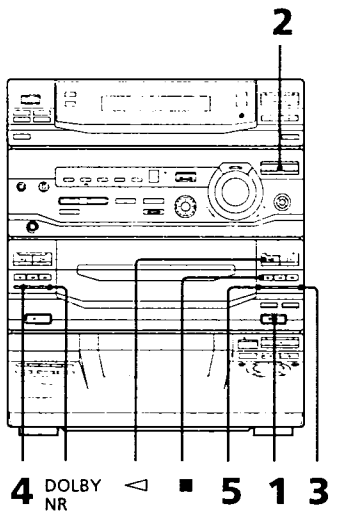
3 Press ▷.

To cancel Non-Stop Play

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

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.



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 ▷ button (for the front side) lights up green.

4 Press DIRECTION repeatedly to select ⇄ to record on one side or ⇆ (or RELAY) to record on both sides.

5 Press ❚❚ on deck B.
Recording starts.

6 Start playing the source to be recorded.

To	Press
Stop recording	■ on deck B
Pause recording	❚❚ on deck B

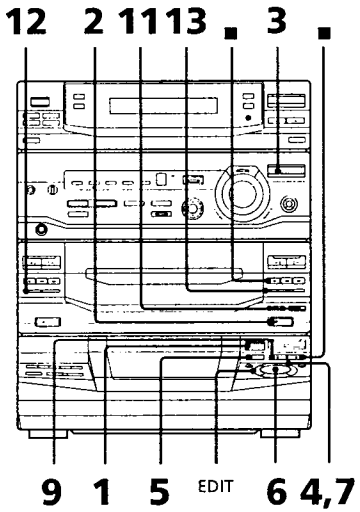
Tips

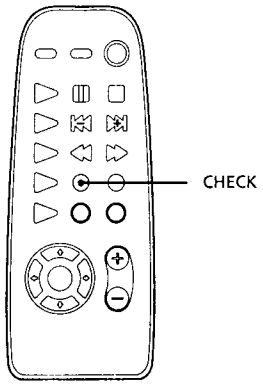
- If you want to record on the reverse side, press ◁ so the indicator on the ◁ button (for the reverse side) lights up green.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR before step 5 so "DOLBY NR B" appears in the display.

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.





1 Place CDs and close the front cover.

2 Insert a blank tape into deck B.

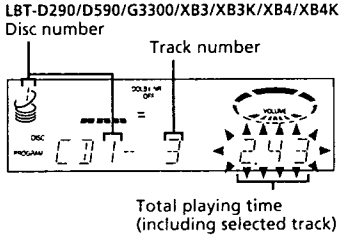
3 Press FUNCTION repeatedly until "CD" appears in the display.

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

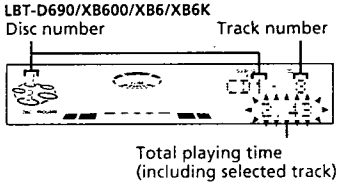
5 Press DISC SKIP to select a CD.

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

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



LBT-D690/XB600/XB6/XB6K



continued

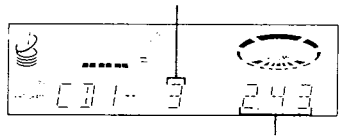
Recording CDs by specifying the track order (continued)

7 Press PLAY MODE once.

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

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

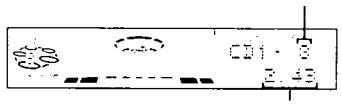
The last programmed track



Previously selected track

LBT-D690/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 ❚❚ 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 ❚❚ 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.

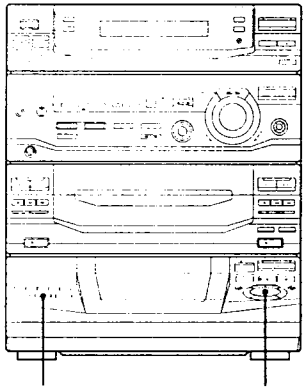
Note

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.

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.

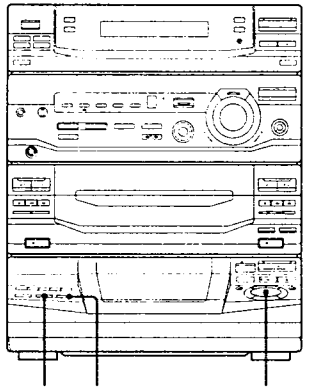
To adjust the loop length

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.



LOOP 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.

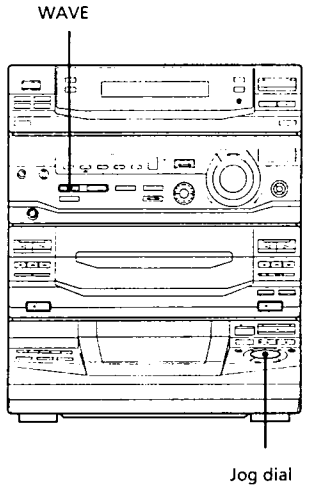
Note

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

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.



➡ 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.

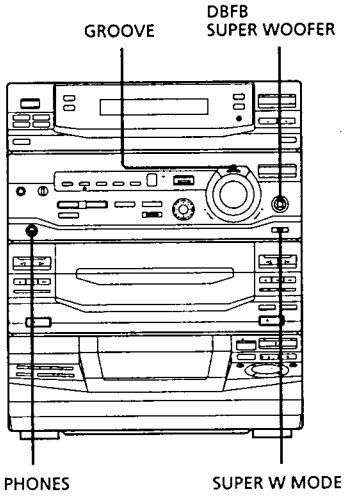
To adjust the wave length

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

Sound Adjustment

Adjusting the sound

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



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

To select the super woofer mode (except for LBT-D290/G3300/XB3/XB3K)

Press SUPER W MODE while the super woofer is on.

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

MOVIE ⟷ MUSIC

For a powerful sound (GROOVE)

Press GROOVE.

The volume switches to power mode, the equalizer curve changes, the bass level (DBFB or SUPER WOOFER) changes to "HIGH," and the indicator on the GROOVE button lights up. Press GROOVE again to return to the previous volume.

Notes

- The music sound will be distorted when you use the DBFB system with the graphic equalizer if the bass is too strong. Adjust the bass slowly while listening to the music so you can monitor the effect of the adjustment.
- Canceling GROOVE cancels the equalizer curve and bass level. Adjust the equalization to obtain the effect you desire.

To listen through the headphones

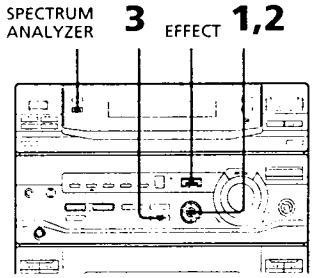
Connect the headphones to the PHONES jack.

No sound will come from the speakers.

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.



1 Press GEQ ↑/↓ (or MUSIC MENU ↑/↓ 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 ←/→ (or MUSIC MENU ←/→ 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.

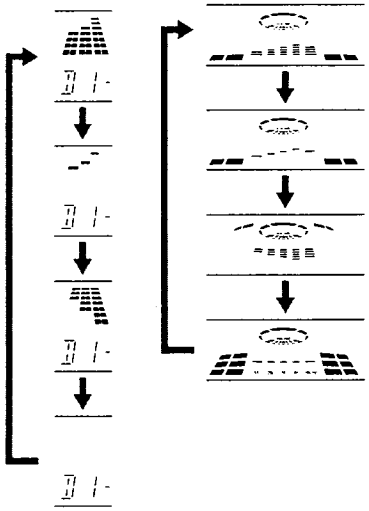
Press	To select	
GEQ ↑/↓	MENU 1	MENU 2
GEQ ←/→	ROCK	MOVIE
	POP	GAME
	JAZZ	NIGHT
	DANCE	PARTY
	SALSA	RELAX

To change the equalizer display

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

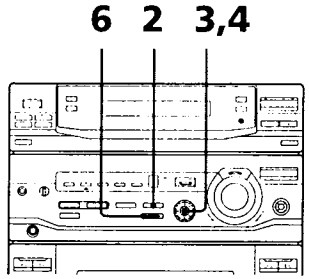
LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K

LBT-D690/XB600/XB6/XB6K



Adjusting the audio emphasis

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



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.

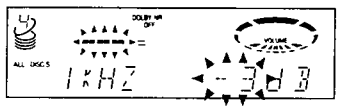
(see "Selecting the audio emphasis.")

2 Press GEQ CONTROL.

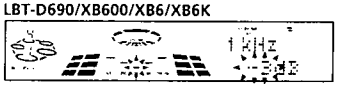
The frequency range appears and the level value flashes in the display.

3 Press GEQ ←/→ repeatedly to select a frequency band.

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

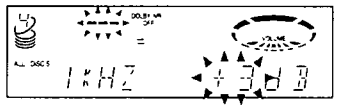


LBT-D690/XB600/XB6/XB6K

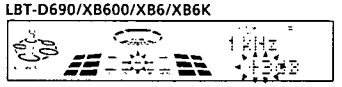


4 Press GEQ ↑/↓ to adjust the level.

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



LBT-D690/XB600/XB6/XB6K



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

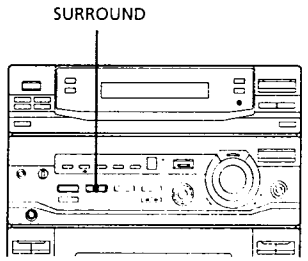
6 Press ENTER when finished.

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.



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

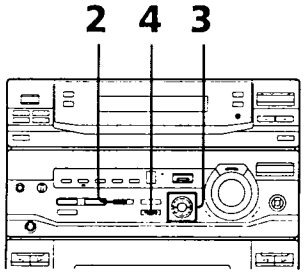
Note

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.

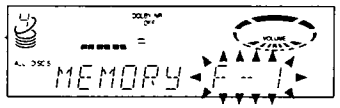


1 Create the sound effect you want by using the graphic equalizer and surround effect (see "Adjusting the audio emphasis").

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.

4 Press ENTER.

The adjusted sound effects are stored under the selected file number. Any settings previously stored at this memory location are erased and replaced by the new settings.

To call up the personal file

1 Press GEQ ↑/↓ (or MUSIC MENU ↑/↓ on the remote) repeatedly to display the last selected personal file.

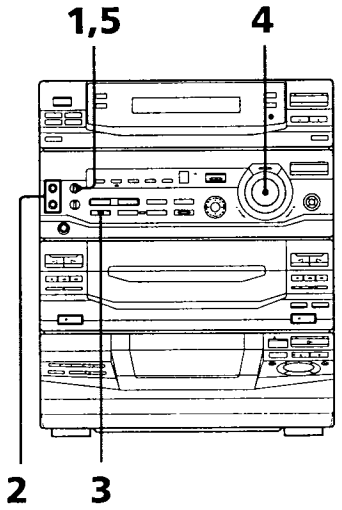
2 Press GEQ ←/→ (or MUSIC MENU ←/→ on the remote) repeatedly to select the desired personal file.

3 Press ENTER.

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

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 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)←—┘

"🎤" 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

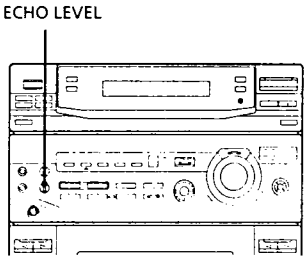
Turn MIC LEVEL to MIN and disconnect the microphone from MIC, then press KARAOKE PON/MPX repeatedly until "🎤" disappears from the display.

continued

Singing along: Karaoke (continued)

Adjusting the microphone echo

(LBT-XB3K/XB4K/XB6K only)



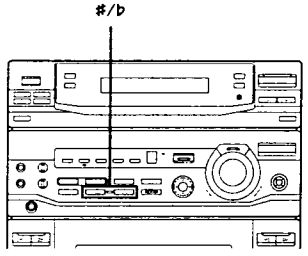
➡ Turn ECHO LEVEL to adjust the echo effect.

To cancel the echoing

Turn ECHO LEVEL to MIN.

Adjusting the key

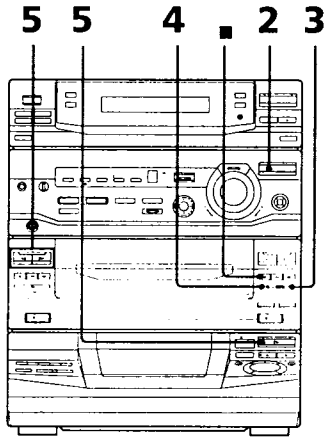
(LBT-XB3K/XB4K/XB6K only)



➡ Press ♭ or #.

You can adjust the key higher or lower in 13 halftone steps (–3.0 to 3.0).

Mixing and recording sounds



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 ❚❚.

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.

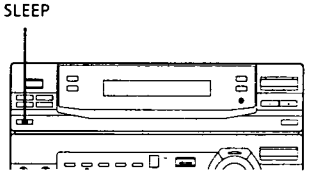
Notes

- 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.



➡ 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.

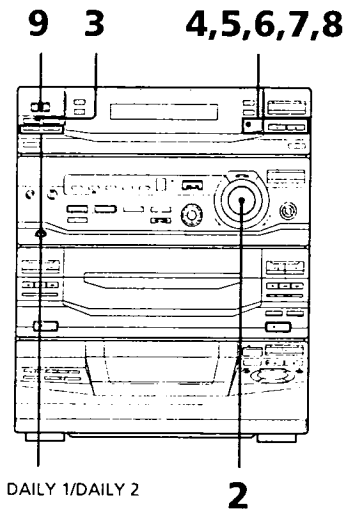
To cancel the Sleep Timer function

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").



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 an 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.

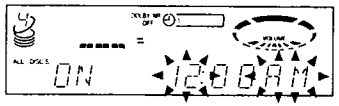
3 Press ⏲/CLOCK SET.

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

4 Press TUNING +/– to select DAILY 1 or DAILY 2, then press ENTER/NEXT.

"ON" appears and the hour indication flashes in the display.

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



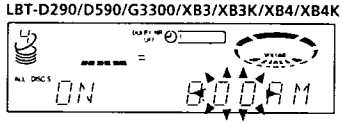
LBT-D690/XB600/XB6/XB6K

5 Set the time to start playback.

Press TUNING +/– to set the hour, then press ENTER/NEXT.

The minutes indication flashes.

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



LBT-D690/XB600/XB6/XB6K

Press TUNING +/– to set the minutes, then press ENTER/NEXT.

The hour indication flashes again.

6 Set the time to stop playback following the above procedure.

7 Press TUNING +/– until the music source you want appears.

The indication changes as follows:

TUNER → CD PLAY → TAPE PLAY

8 Press ENTER/NEXT.

The start time, the stop time, and the music source appear in turn before the original display returns.

9 Turn off the power.

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

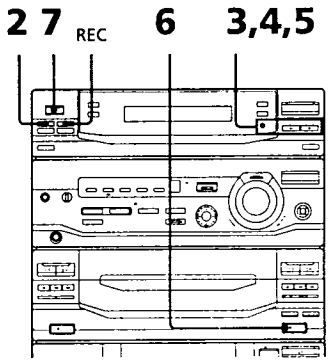
1 Press the timer button you have set, DAILY 1 or DAILY 2.
2 "TIMER OFF" appears in the display.

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.



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

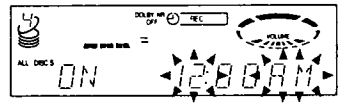
2 Press ⏲/CLOCK SET.

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

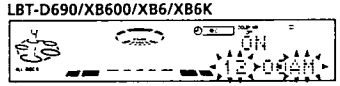
3 Press TUNING +/– to select REC, then press ENTER/NEXT.

"ON" appears and the hour indication flashes in the display.

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



LBT-D690/XB600/XB6/XB6K



continued

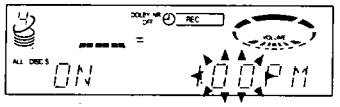
Timer-recording radio programs (continued)

4 Set the time to start recording.

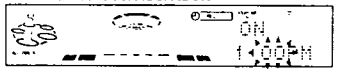
Press TUNING +/– to set the hour, then press ENTER/NEXT.

The minutes indication flashes.

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



LBT-D690/XB600/XB6/XB6K



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.

To check the setting

1 Press REC.
2 "TIMER OFF" appears in the display.
3 Press REC again.

To change the setting, start over from step 1.

To cancel the timer operation

1 Press REC.
2 "TIMER OFF" appears in the display.

Notes

- The system turns on 15 seconds before the preset time.
- If the power is on at the preset time, the recording will not be made.
- You cannot set the timer if the timer on and off times are the same.
- When you set the Sleep Timer, the Timer-recording will not start until the Sleep Timer turns off the system.
- You cannot activate the Wake-up Timer and Timer-recording at the same time.
- Recording starts from the front side.

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

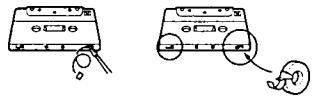
- Before playing, clean the CD with a cleaning cloth. Wipe the CD from the center out.
- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.
- Do not expose the CD to direct sunlight or heat sources such as hot air ducts, nor leave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

Cleaning the cabinet

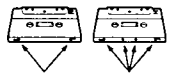
Use a soft cloth slightly moistened with mild detergent solution.

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 (CrO_2) 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.



Detector slots

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

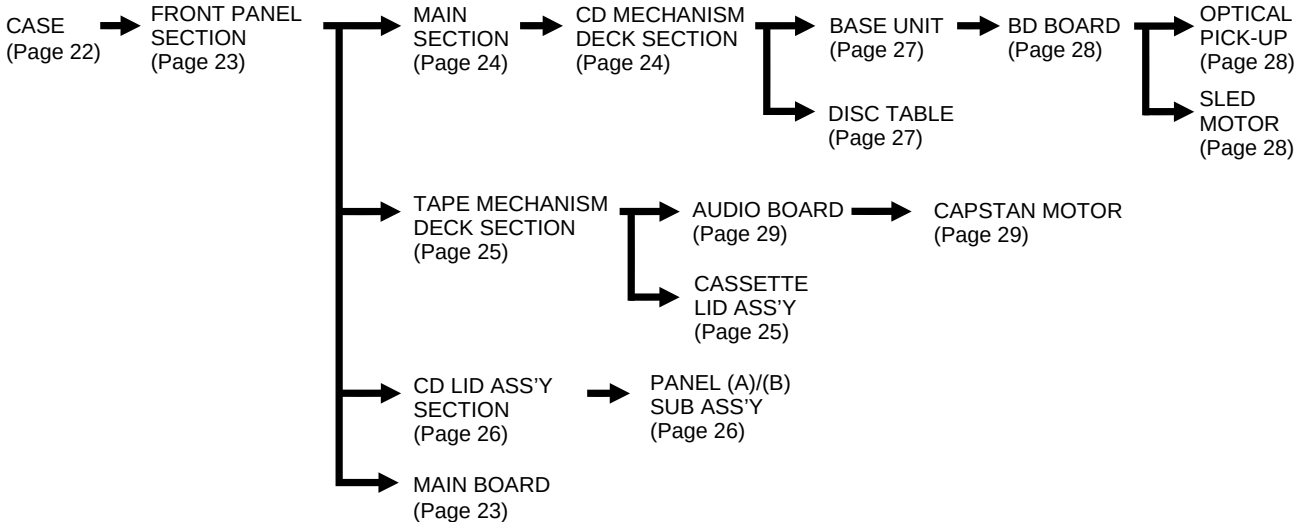
Make sure to clean the tape heads before you start an important recording or after playing an old tape. Use separately sold dry-type or wet-type cleaning cassette. For details, refer to the instructions of the cleaning cassette.

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.

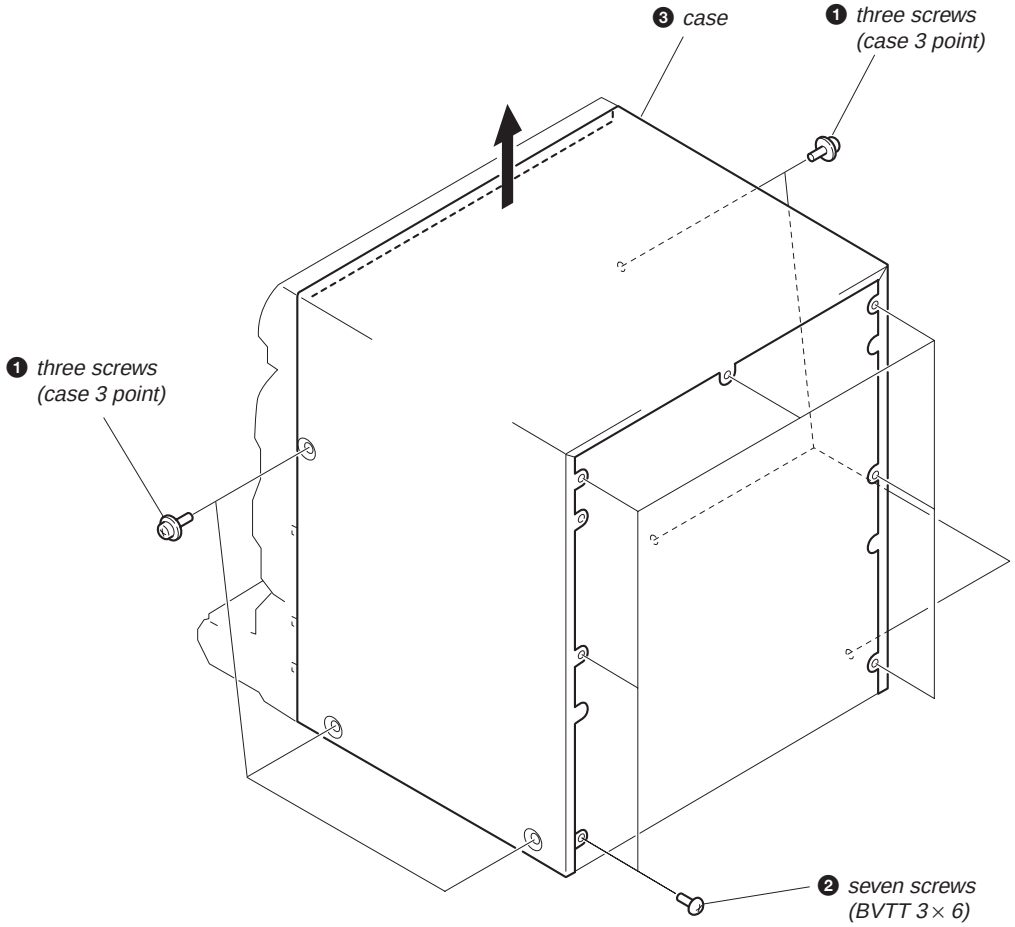
SECTION 2
DISASSEMBLY

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

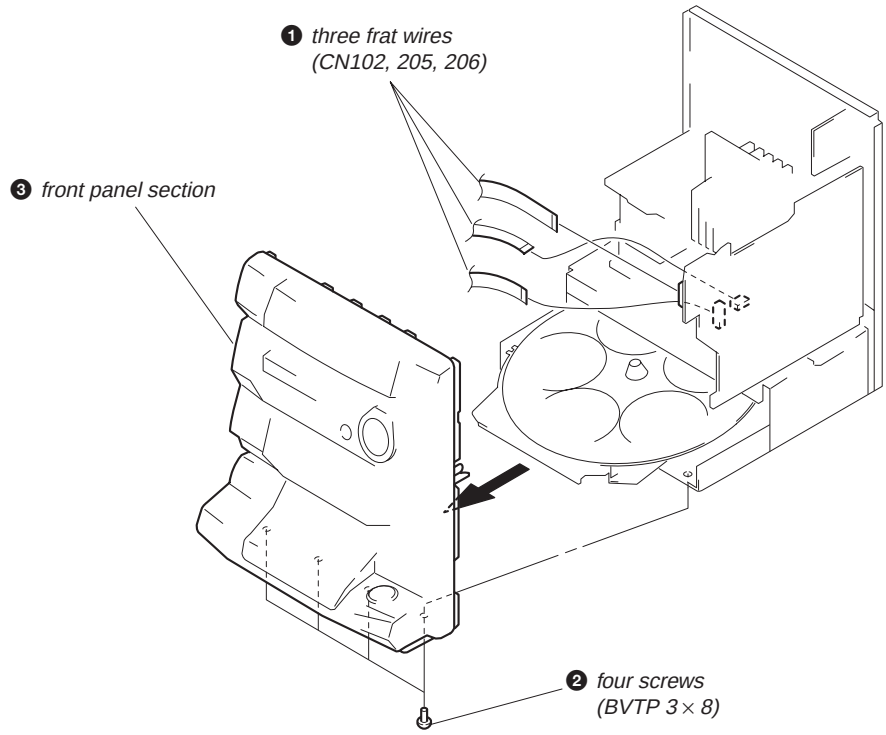


Note: Follow the disassembly procedure in the numerical order given.

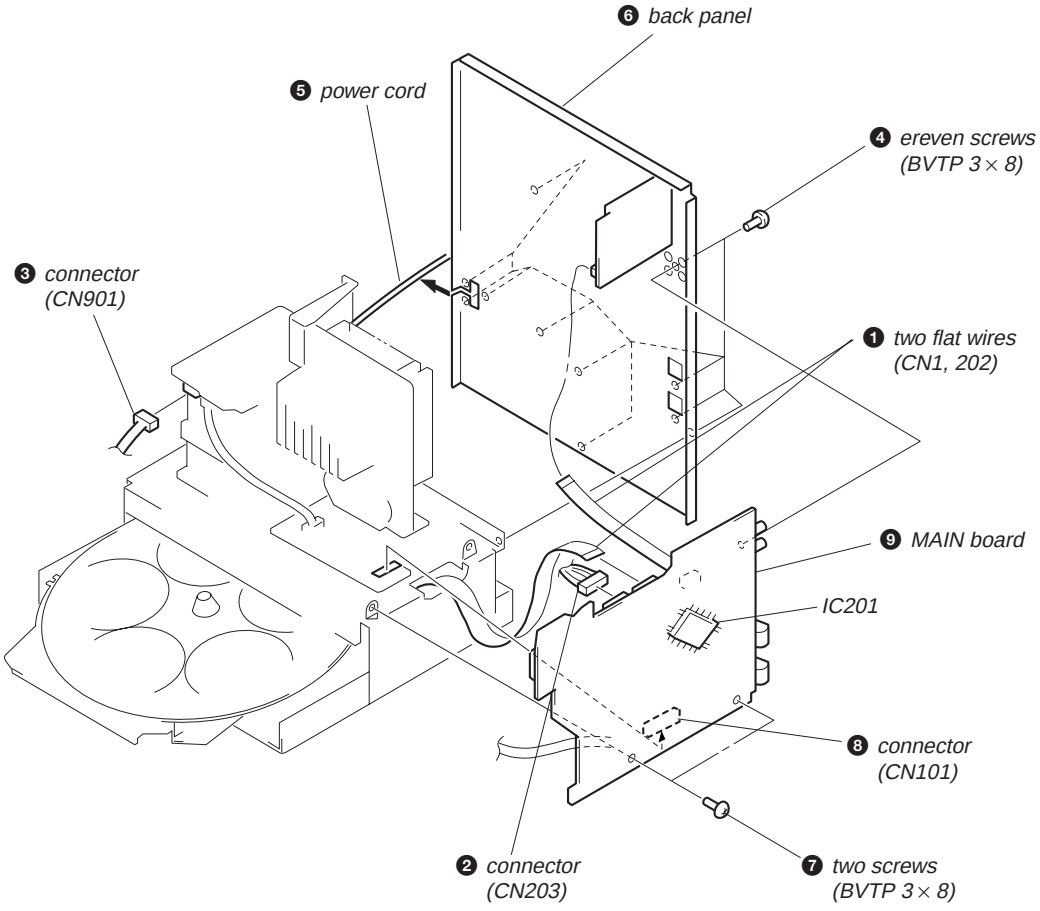
CASE



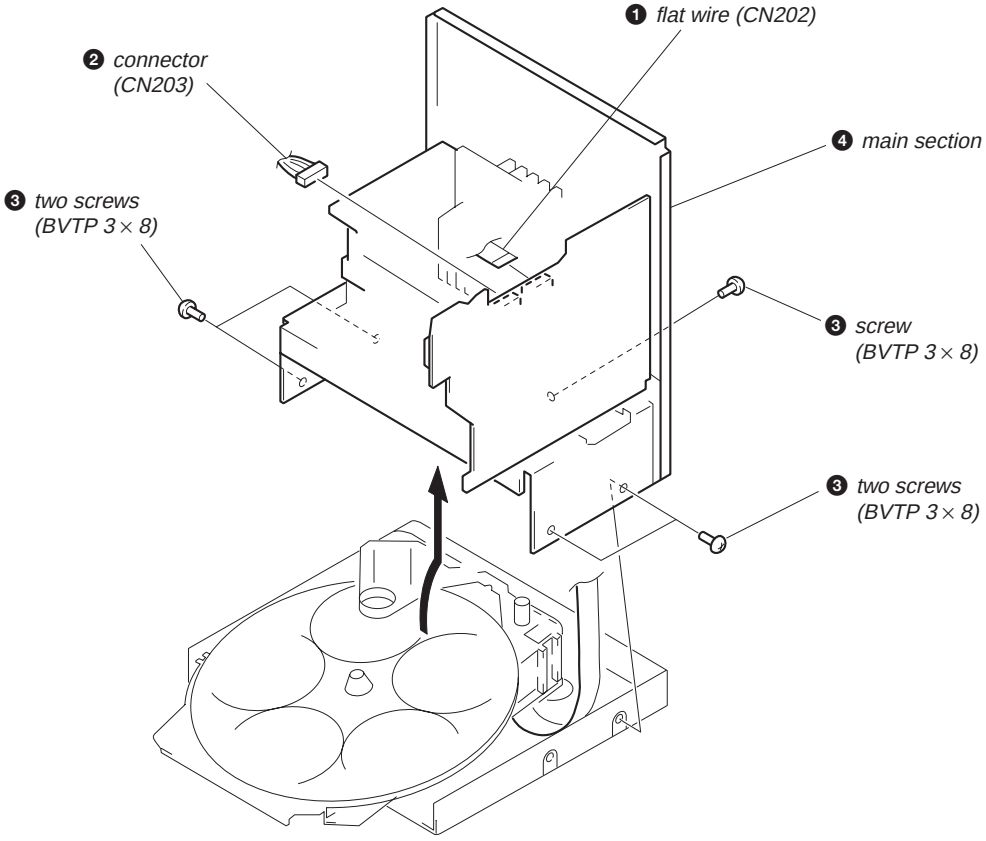
FRONT PANEL SECTION



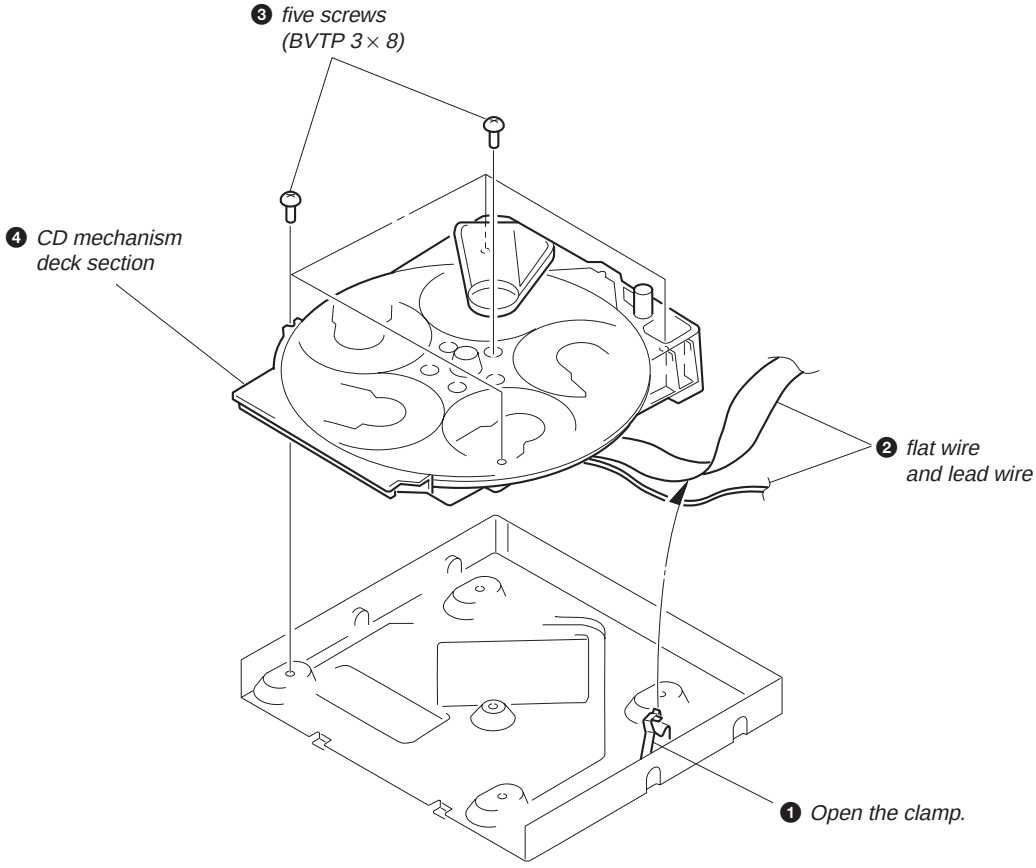
MAIN BOARD



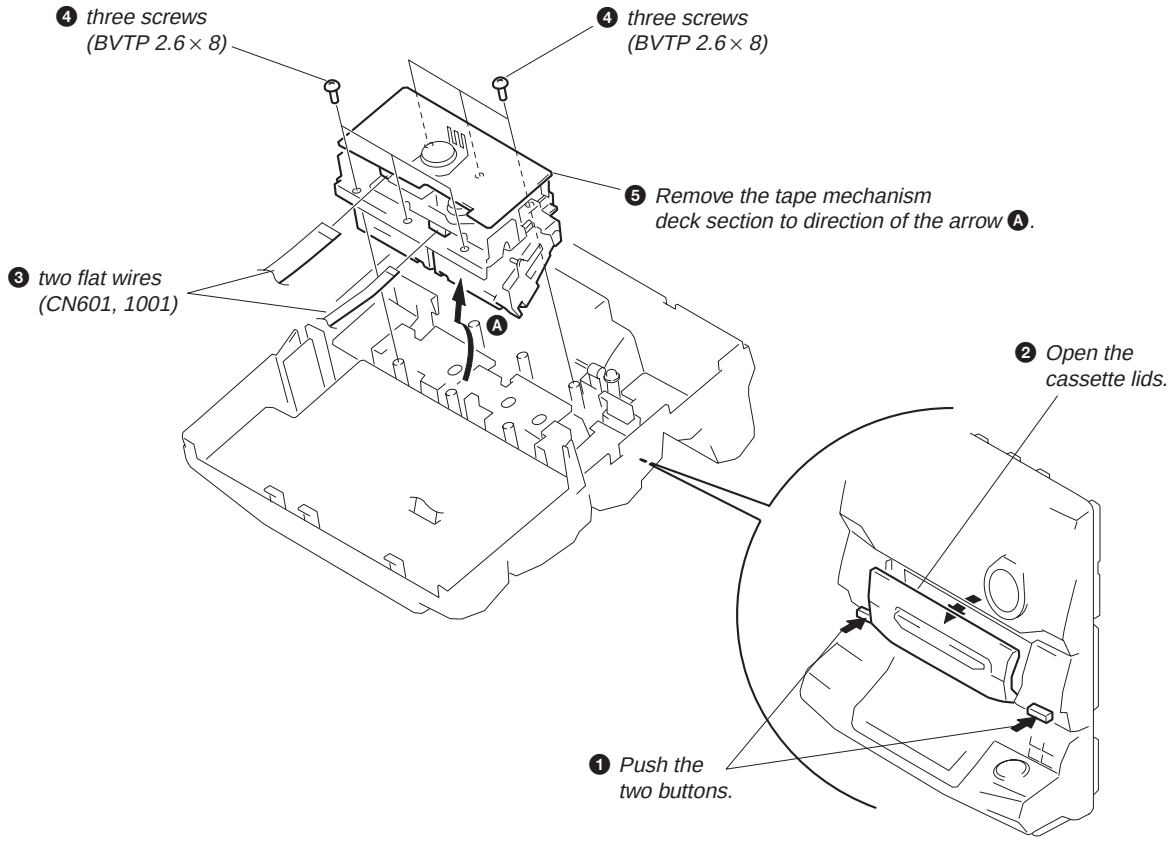
MAIN SECTION



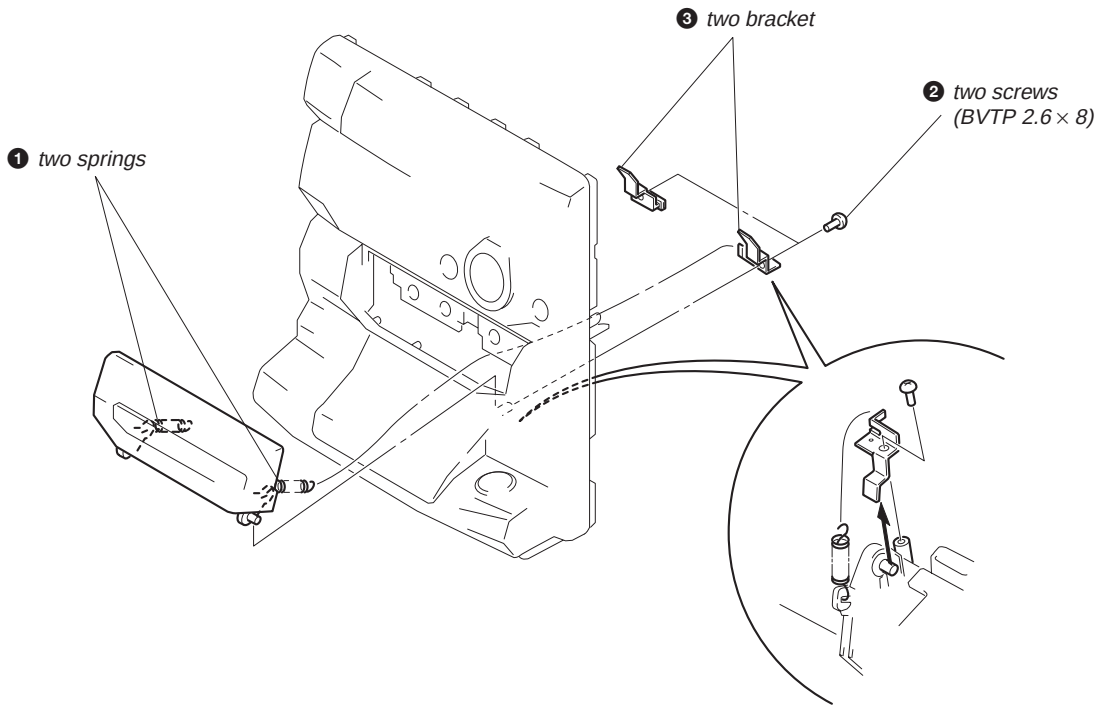
CD MECHANISM DECK SECTION



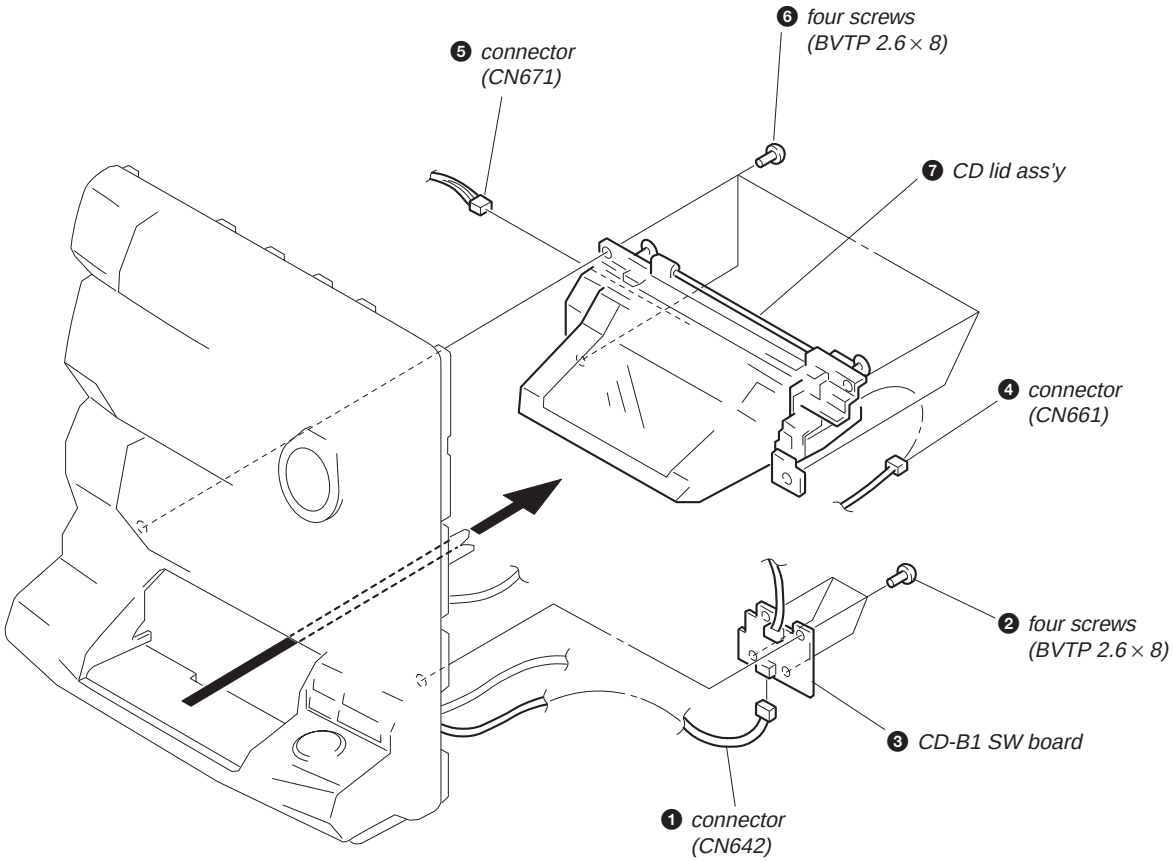
TAPE MECHANISM DECK SECTION



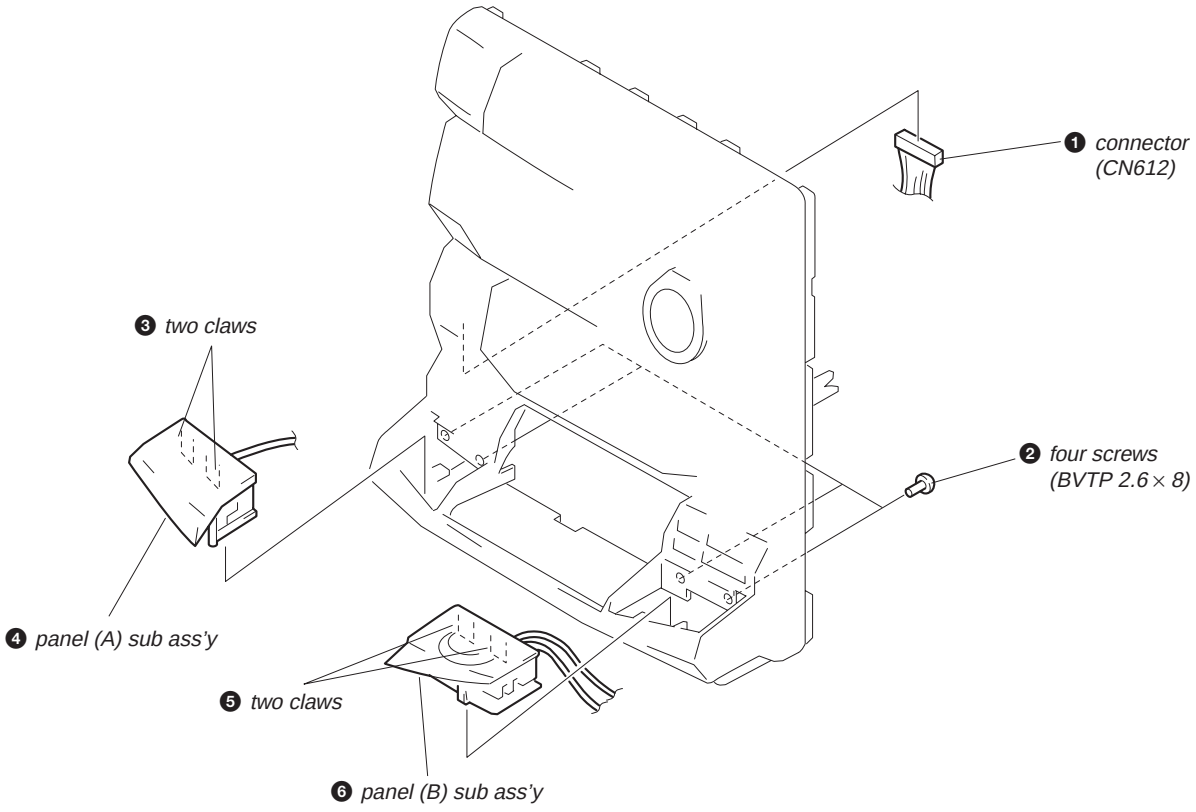
CASSETTE LID ASS'Y



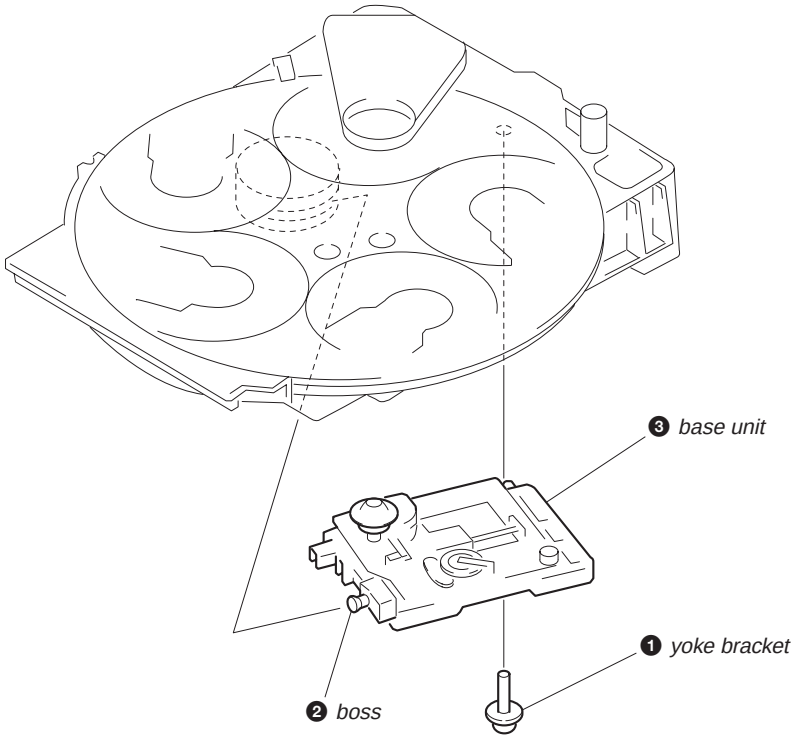
CD LID ASS'Y SECTION



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

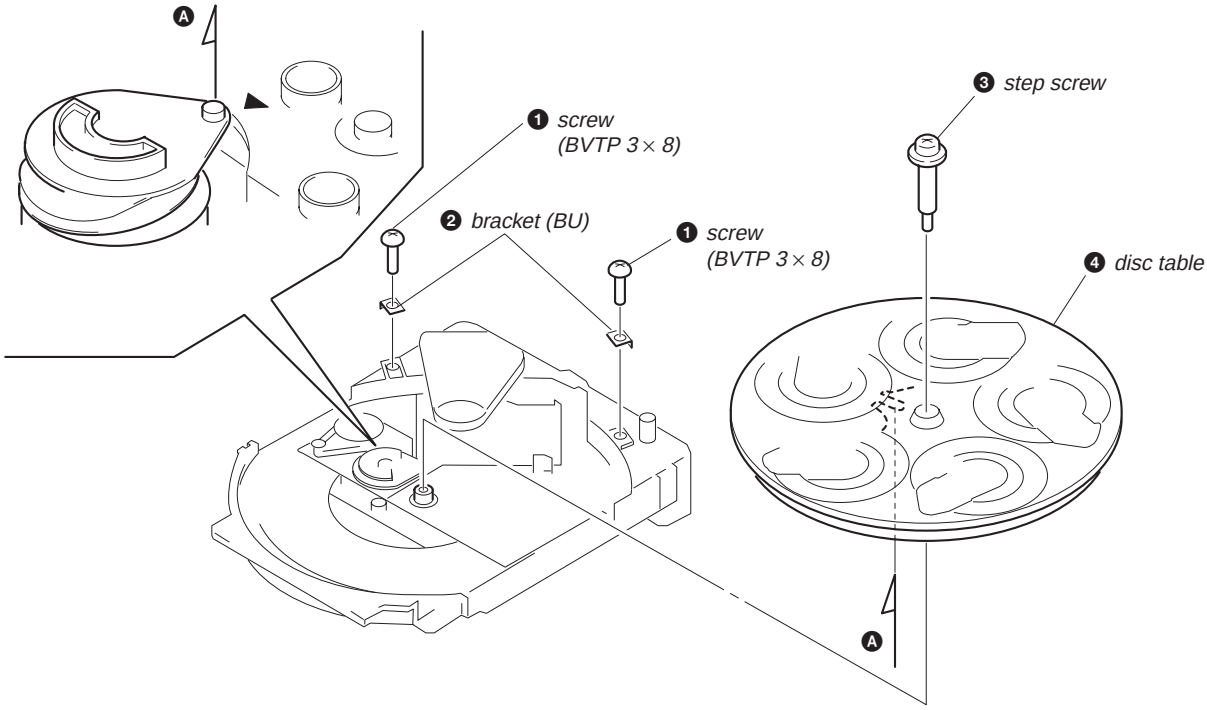


BASE UNIT

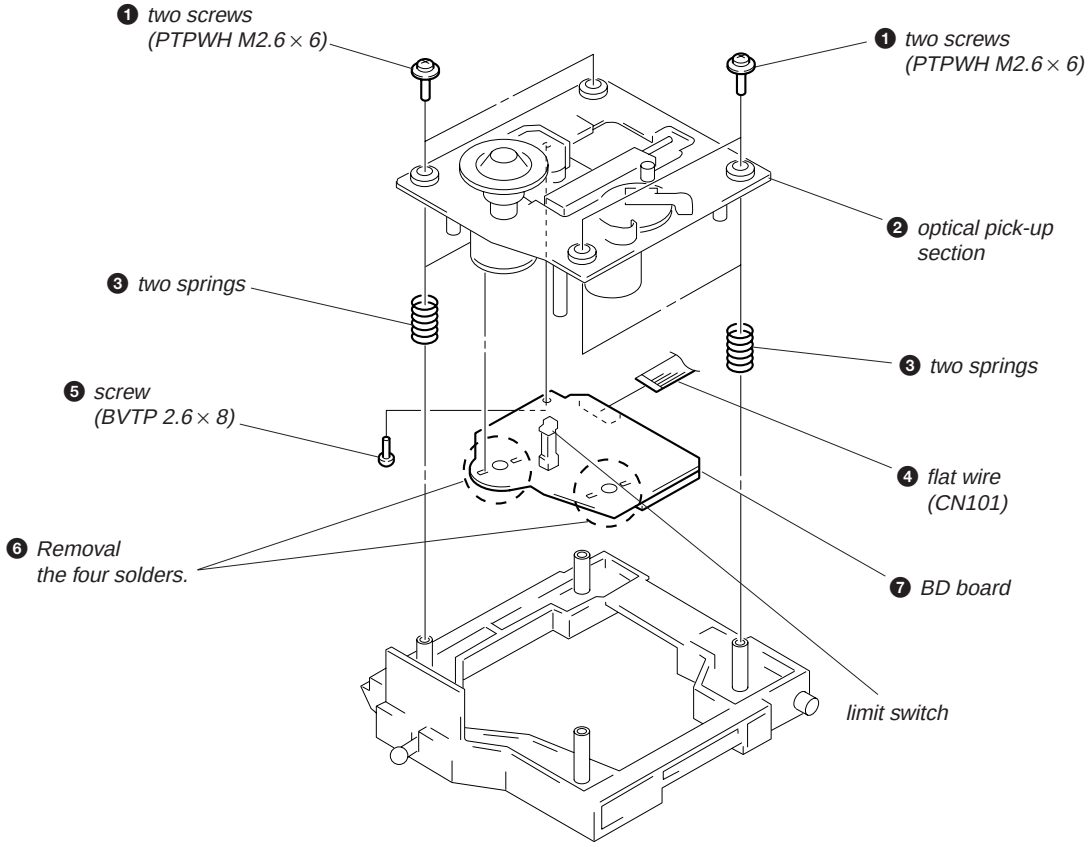


DISC TABLE

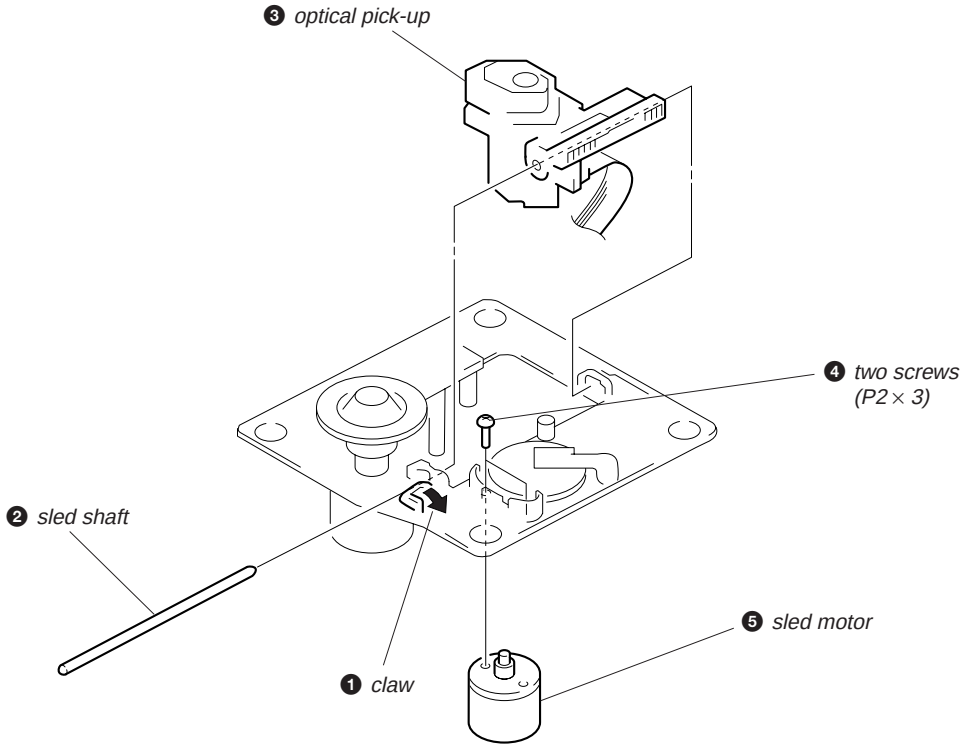
Note:
When the disc table is installed, adjust the positions of roller cam and mark ▶ as shown in the figure, then set to the groove of disc table.



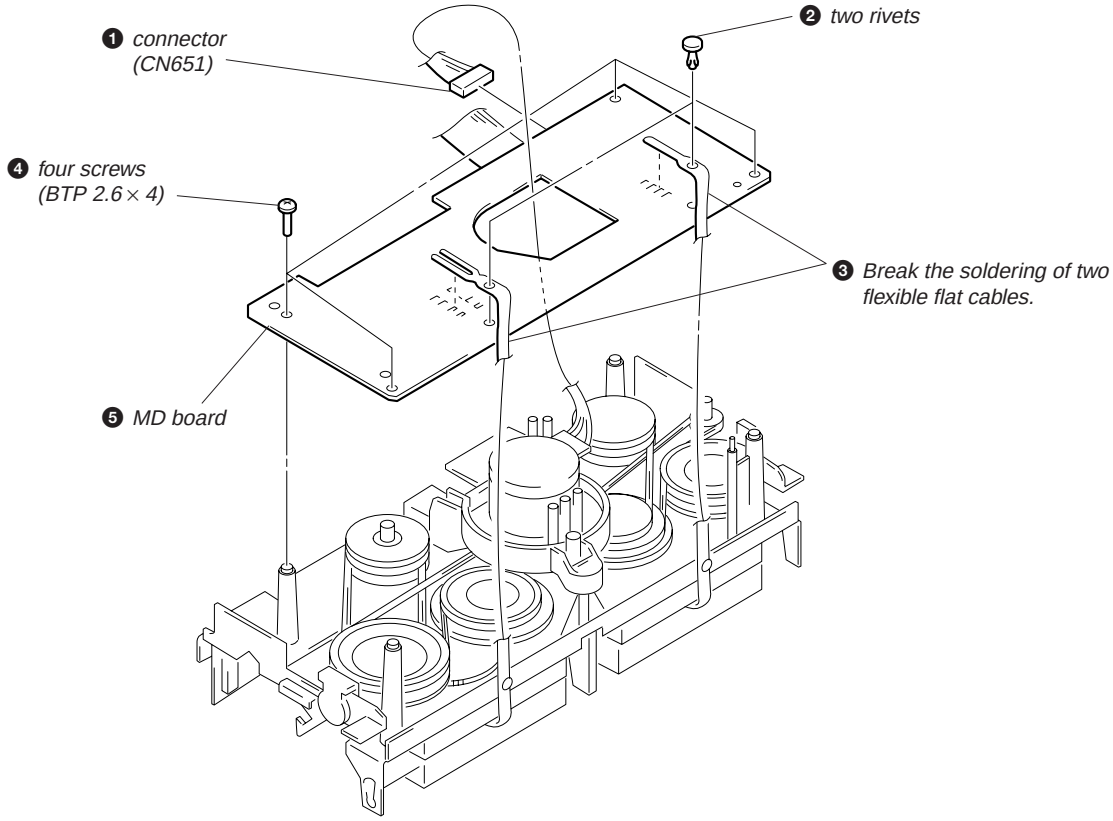
BD BOARD



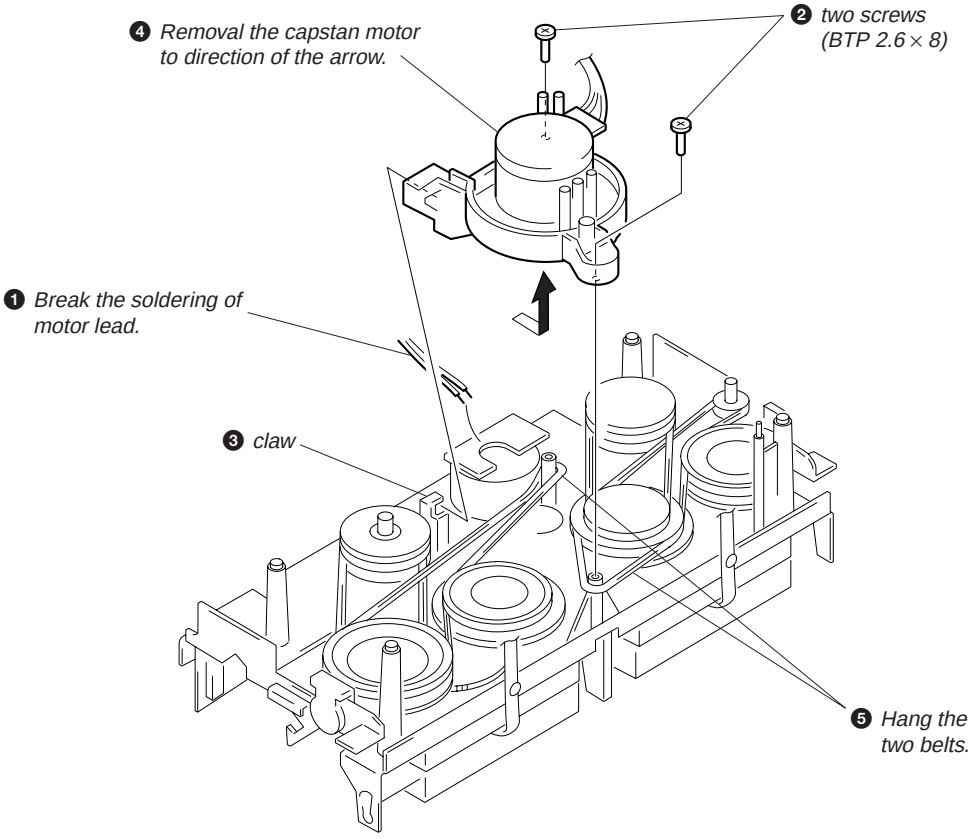
OPTICAL PICK-UP, SLED MOTOR



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 [GROOVE], [ENTER/NEXT], and [DISC 1] simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

[CD Delivery Mode]

- This mode moves the pickup 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 [GROOVE], [ENTER/NEXT], 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 pickup.

Procedure:

1. Select the function "CD".
2. Press three buttons [GROOVE], [ENTER/NEXT], and [FLASH] 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 pickup to outside track, or [◀◀] button to inside track.
5. To exit from this mode, perform as follows:
   1) Move the pickup to the most inside track.
   2) Press three buttons in the same manner as step 2.

Note:

- Always move the pickup 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 FUNCTION Name]

- The FUNCTION name of external input terminal can be changed over to VIDEO or MD. With the FUNCTION selected to "MD", about 5dB mute is applied to the input gain.

Procedure:

1. Press [POWER] button to turn the set OFF.
2. Press [POWER] button together with [FUNCTION] button, and the power is turned on, the display of fluorescent indicator tube changes to "MD" or "VIDEO" instantaneously, and thus the FUNCTION is changed over.

[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 [GROOVE], [ENTER/NEXT], 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.

[Aging Mode]

This mode can be used for operation check of CD section and tape deck section.

- If an error occurred:
  The aging operation stops.
- If no error occurs:
  The aging operation continues repeatedly.

1. Aging Mode in CD Section

1-1. Operating Method of Aging Mode

1. Set discs in DISC 1 and DISC 3 trays.
2. Select the function "CD".
3. Press three buttons [GROOVE], [ENTER/NEXT], and [DISC 5] simultaneously.
4. The aging mode is activated, if a roulette mark on the fluorescent indicator tube is blinking.
5. In the aging mode, the aging is executed in a sequence given in "1-2. Operation during Aging Mode".
   The aging continues unless an alarm occurred.
6. To exit from the aging mode, press [POWER] button to turn the set OFF.

- If a button other than buttons In CD section is pressed during aging, the aging in the CD section is finished.
- To execute aging to the tape deck section successively, press [▷] button in the deck A.
  "AGING" is displayed on the fluorescent indicator tube. (For the aging in tape deck, see "2. Aging Mode in Tape Deck Section".

1-2. Operation during aging Mode

In the aging mode, the program is executed in the following sequence.

1. The disc tray turns to select a disc. (For a disc selection sequence, see Section 1-3.)
2. TOC of disc is read.
3. The pickup accesses to the last track.
4. Steps 1 through 3 are repeated.

1-3. Disc Selection Sequence

- During the aging mode, discs are selected in the following sequence:

Disc 1 → Disc 3
↑ ↓
Disc 3 ← Disc 1

2. Aging Mode in Tape Deck Section

2-1. Operating Method of Aging Mode

1. Load a commercially available 10-minute tape into the decks A and B respectively.
   (If a 10-minute tape is not available, another tape may be used but a cycle time will be longer.)
2. Select the function "TAPE".
3. Rewind tapes in advance by pressing [◀◀] button respectively on decks A and B.
4. Press three buttons [GROOVE], [ENTER/NEXT], and [DISC 5] simultaneously.
5. Press [▷] button on deck A. (This button triggers the aging mode.)
6. The aging mode is activated if "AGING A" is displayed on the fluorescent indicator tube.
7. In the aging mode, the aging is executed in a sequence given in "2-2. Operation during Aging Mode".
   The aging continues unless an alarm occurred.
8. To exit from the aging mode, press [POWER] button to turn the set OFF.

2-2. Operation during Aging Mode

In the aging mode, the program is executed in the following sequence.

1. A tape on FWD side is played for one minute.
2. PAUSE STOP is made.
3. Recording is made for 3 minutes. (For the deck not having the record function, the play is executed.)
4. FF is executed up to the end of tape.
5. A tape is reversed, and the tape on REV side is played for one minute.
6. PAUSE STOP is made.
7. Recording is made for 3 minutes. (For the deck not having the record function, the play is executed.)
8. FF is executed up to the end of tape.
9. Steps 1 through 8 are executed for the other deck.
10. Steps 1 through 9 are repeated unless an alarm occurred.

2-3. Deck Selection Sequence

- During the aging mode, decks are selected in the following sequence:

Deck A (FWD) → Deck A (REV)
↑ ↓
Deck B (REV) ← Deck B (FWD)

SECTION 4
MECHANISM ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback head — pinch roller
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Mode	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

Mode	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

1. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjust.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. 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.)
6. The adjustments should be performed for both L-CH and R-ch.
7. Switches and controls should be set as follows unless otherwise specified.
8. Set to test mode. (Press key switch same time GROOVE ENTER/NEXT and DISC 4 button.)

• Test Tape

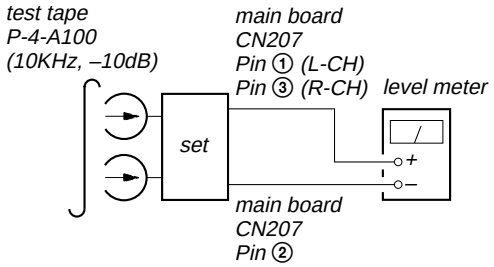
Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

Record/Playback Head Azimuth Adjustment

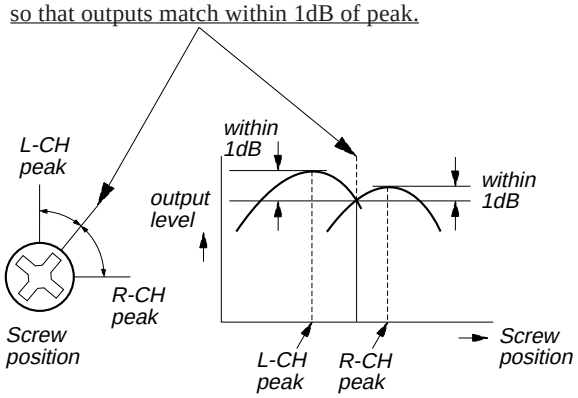
DECK A | **DECK B**

Note: Perform this adjustments for both decks

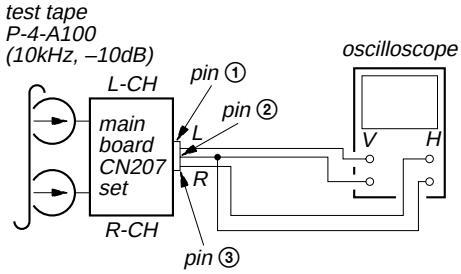
Procedure:

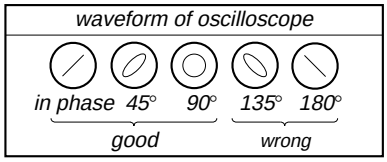


1. Mode: Playback (FWD)
2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.



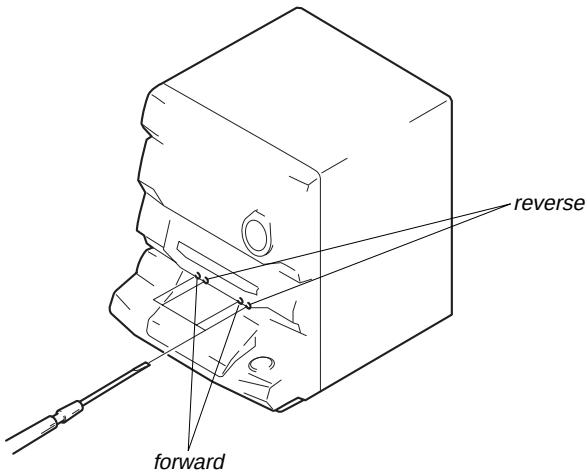
3. Mode: Playback (FWD)





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

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



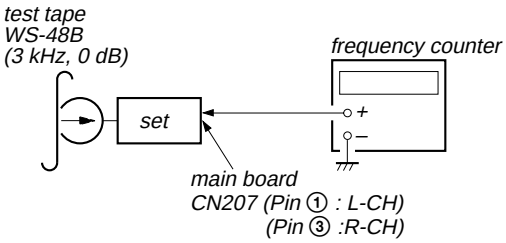
Tape Speed Adjustment DECK A

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 GROOVE button, ENTER/NEXT button and DISC 4 button simultaneously.
   To exit from the test mode, press the POWER button.

Mode: Playback (FWD)



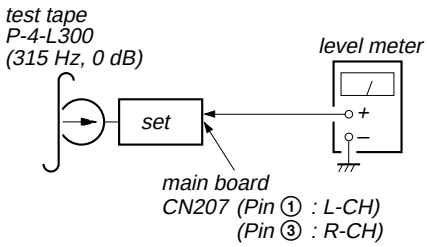
1. Insert the WS-48B into the deck A and the blank tape into the deck B.
2. Press the REC button and ▷ button on the deck B. Then the deck B is at recording mode.
3. Set the deck A to playback mode.
4. Keep pressing the H. SPEED DUBB button in playback mode. Then at HIGH speed mode.
5. Adjust RV652 on the AUDIO board do that frequency counter reads 6,000 ± 60 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 $^{+30}_{-10}$ Hz.
8. Frequency difference between deck A and deck B the beginning of the tape should be within ± 1.5%.

Adjustment Location: AUDIO board

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:

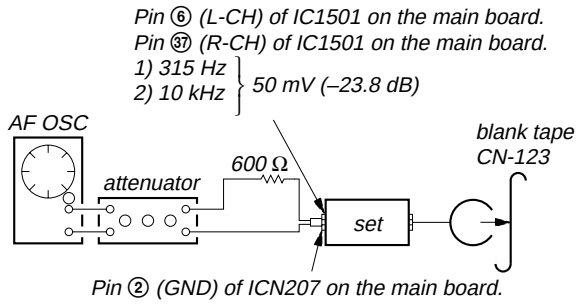
CN207 PB level: 301.5 to 338.3 mV (–8.2 to –7.2 dB) level difference between the channels: within ±0.5 dB

Adjustment Location: AUDIO and main boards

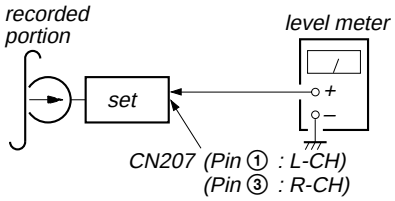
Record bias Current Adjustment **DECK B**

Procedure:

1. Mode: record



2. Mode: Playback



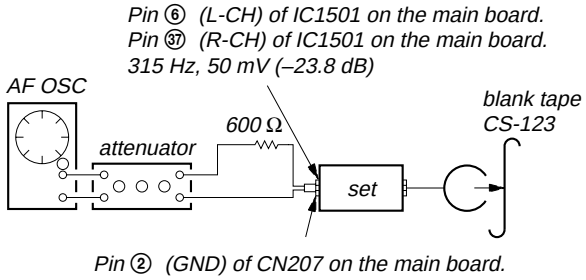
Confirm playback the signal recorded in step 1 become adjustable limits as follows.

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.

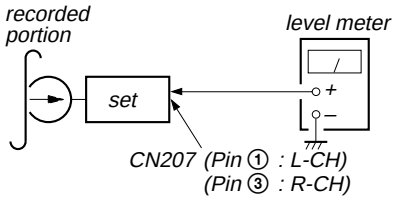
Adjustable limits: Playback output of 315 Hz to playback output of 10kHz: 0±0.5 dB

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.

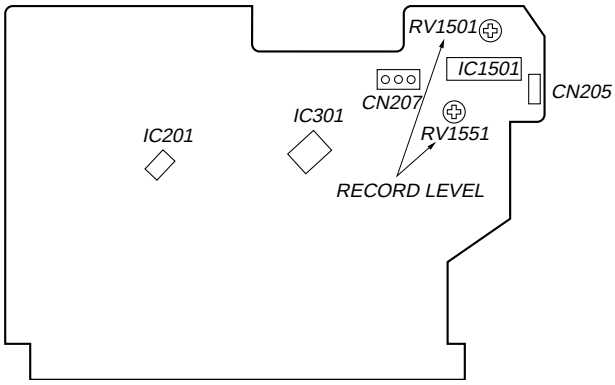
Adjustable limits:

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

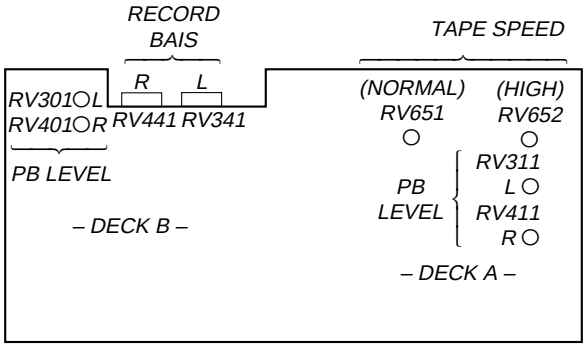
Adjustment Location: main board

Adjustment Location:

[MAIN BOARD] (Component Side)



[AUDIO BOARD] (Conductor Side)

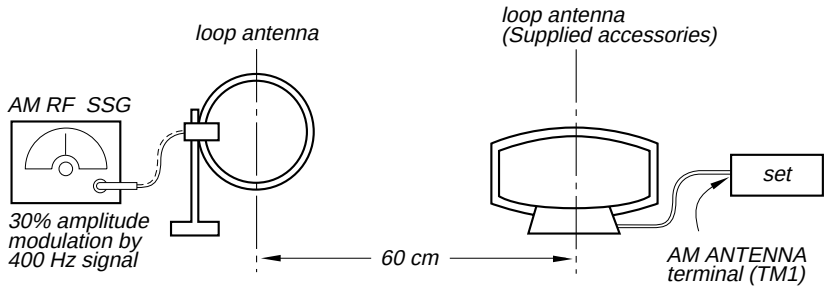


TUNER SECTION | 0dB=1µV

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

AM Section Adjustment

Setting:



Field strength dB (µV/m) =SSG output level dB (µV/m) –26 dB.

AM Tuned Level Adjustment

Band: AM or MW

Procedure:

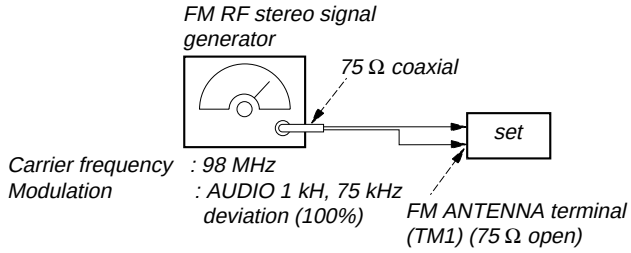
1. Set the output of SSG so that the input level of the set becomes 55 dB.
2. Tune the set to 1,050 kHz (US, CND models), 999 kHz (other models).
3. Adjust RV41 (AEP, UK, EE, CIS models), RV42 (other models) to the point (moment) when the TUNED indicator will change from going off to going on.

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:

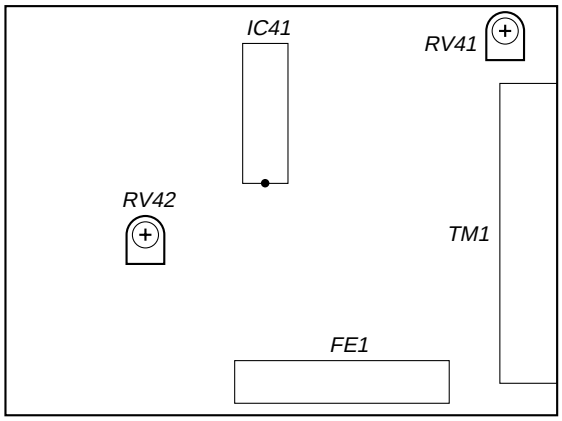
1. Supply a 25dBµ 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. If the TUNED indicator does not light, adjust RV42 (AEP, UK, EE, CIS models), RV41 (other models) to the point (moment) when the TUNED indicator will change from going off to going on.

Adjustment Location: TCB board

Adjustment Location:

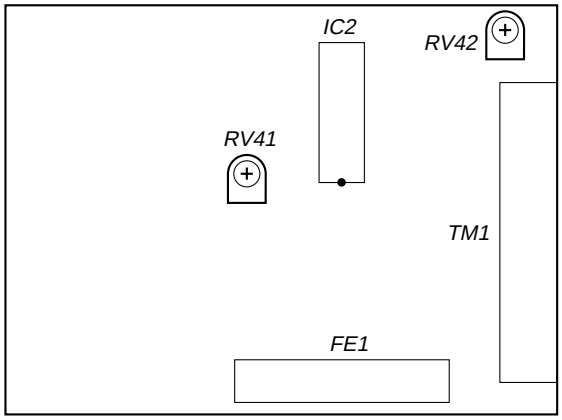
AEP, UK model : (EE, CIS models next page)

[TCB B OARD] (Component Side)



Other models

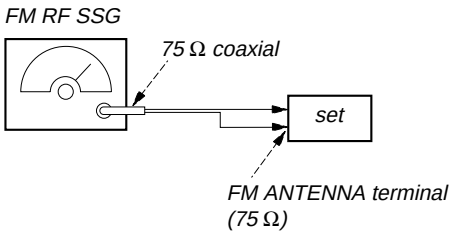
[TCB BOARD] (Component Side)



- Abbreviation
  CND: Canadian model
  EE: East European model

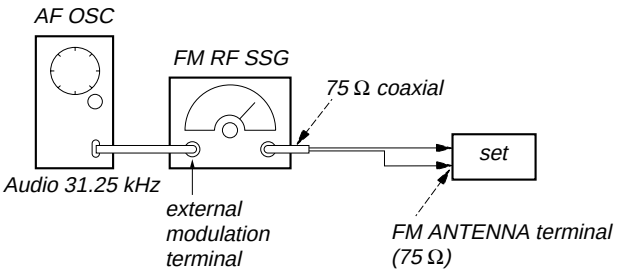
FM Polar Adjustment (EE, CIS models only)

Connection 1:



Carrier frequency : 69 MHz
Output level : 1mV (60dBμ) (at 75 open)
Modulation : AUDIO 1 kHZ, 10kHz deviation

Connection 2:



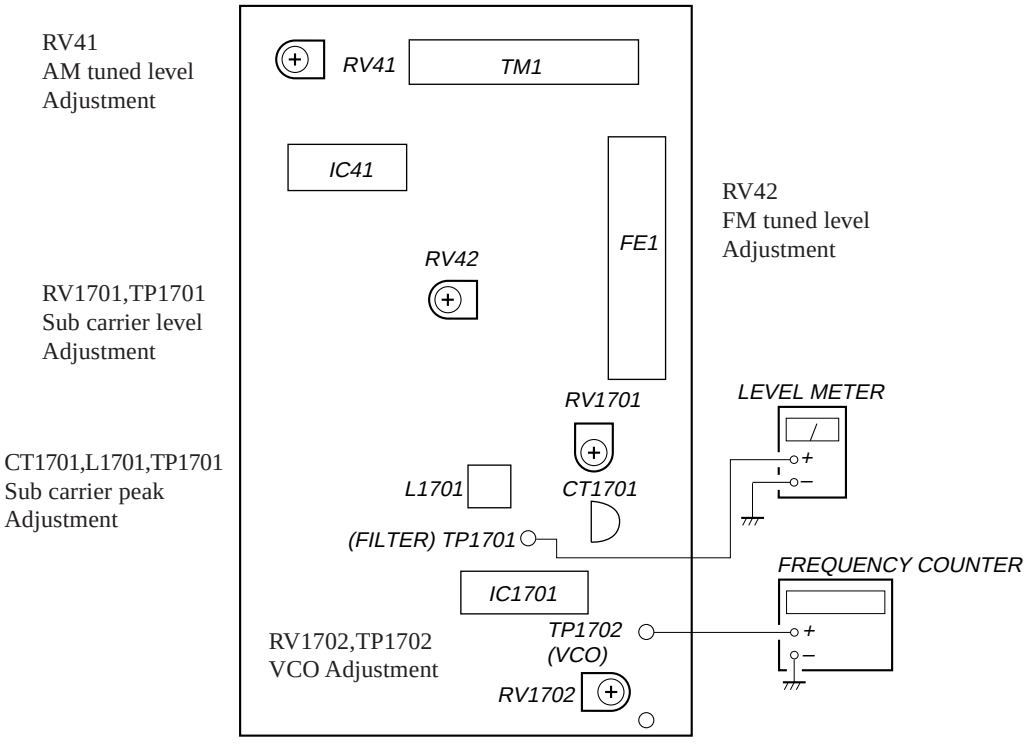
Carrier frequency : 69 MHz
Output level : 1mV (60dBμ) (at 75 open)
Modulation : AUDIO 31.25 kHZ, 10kHz deviation
(EXTERNAL MODULATION)

Procedure :

1. Set the modulation of FM RF SSG to AUDIO 1 kHz, 10 kHz deviation according to "Connection 1".
2. Tune the set to 69 MHZ.
3. Adjust the RV1702 so that the reading of frequency counter connected to TP1702 becomes within 31.25 kHz ± 0.05 kHz.(VCO adjustment)
4. Then record the reading of the level meter connected to TP1701
5. Set the modulation of FM RF SSG to AUDIO 31.25 kHz, 10 kHz deviation according to "Connection 2".
6. Tune the set to 69 MHz.
7. Set the CT1701 to be mechanical center.
8. Adjust the L1701 so that the reading of the level meter connected to TP1701 become maximum.
   Then adjust the CT1701 so that the reading of the level meter connected to TP1701 becomes maximum.(SUB CARRIER PEAK Adjustment)
9. Adjust the RV1701 so that the level at the moment becomes 14dB higher value than the level recorded in step 4.(SUB CARRIER LEVEL Adjustment)

Adjustment Location :
EE, CIS models :
[TCB BOARD] (Component Side)

- Abbreviation
  EE: East European model

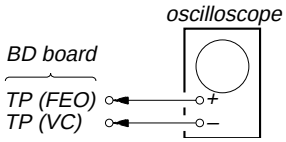


CD SECTION

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.
5. Adjust the focus bias adjustment when optical block is replaced.

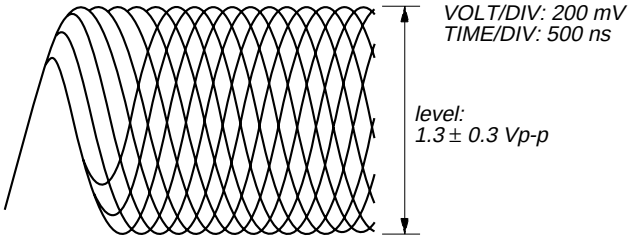
Focus Bias check



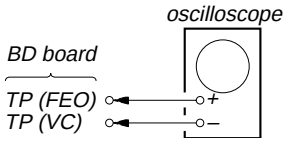
Procedure:

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**



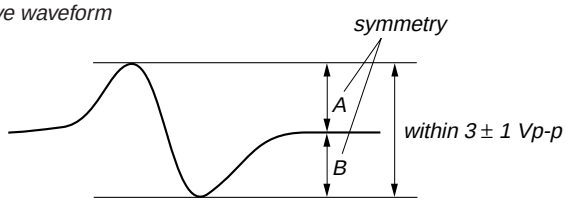
S Curve Check



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 to peak level within 3±1 Vp-p.

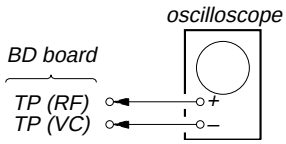
S-curve waveform



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.

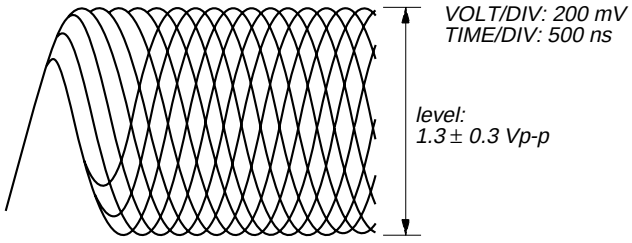
RF Level Check



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.

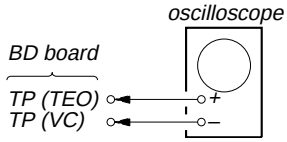
- **RF signal**



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)

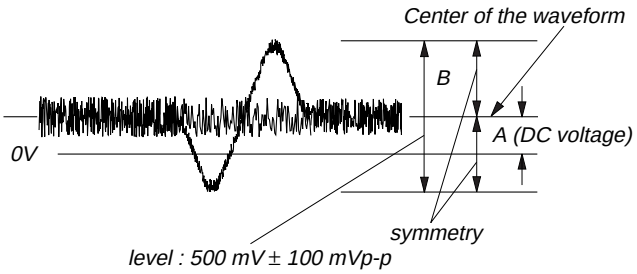


Procedure:

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:

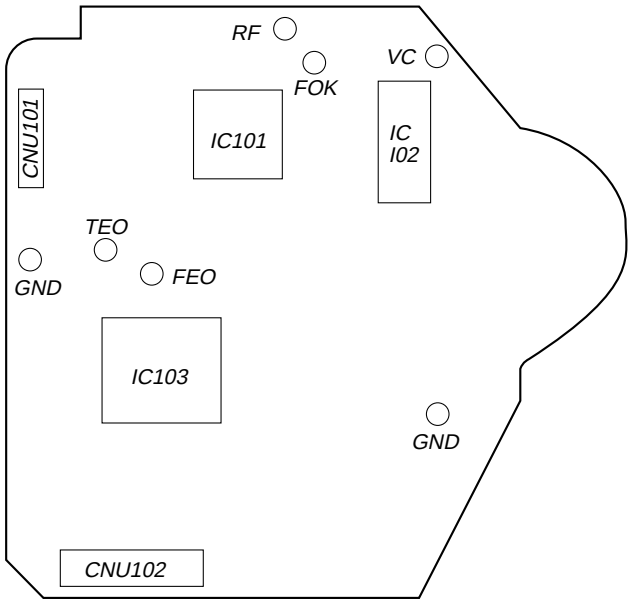
$$\frac{A - B}{2\,(A + B)} \times 100 = \pm 7\ (\%)$$

1 track jump waveform



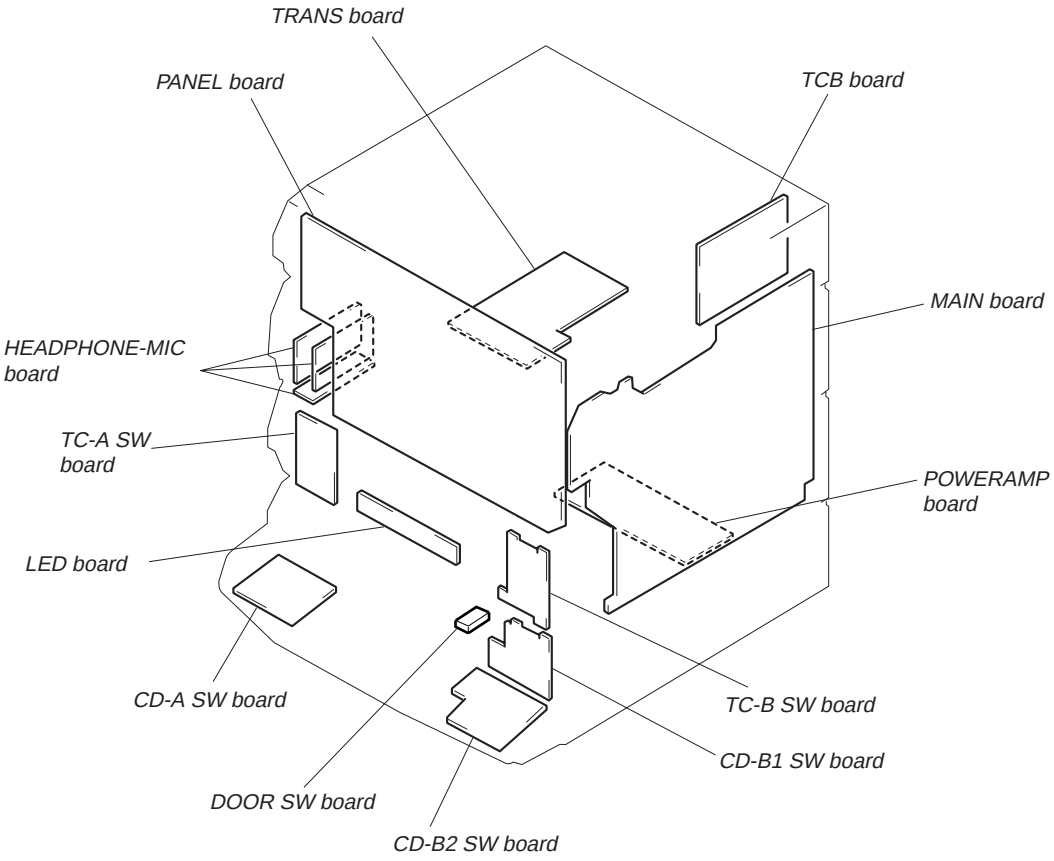
Adjustment Location:

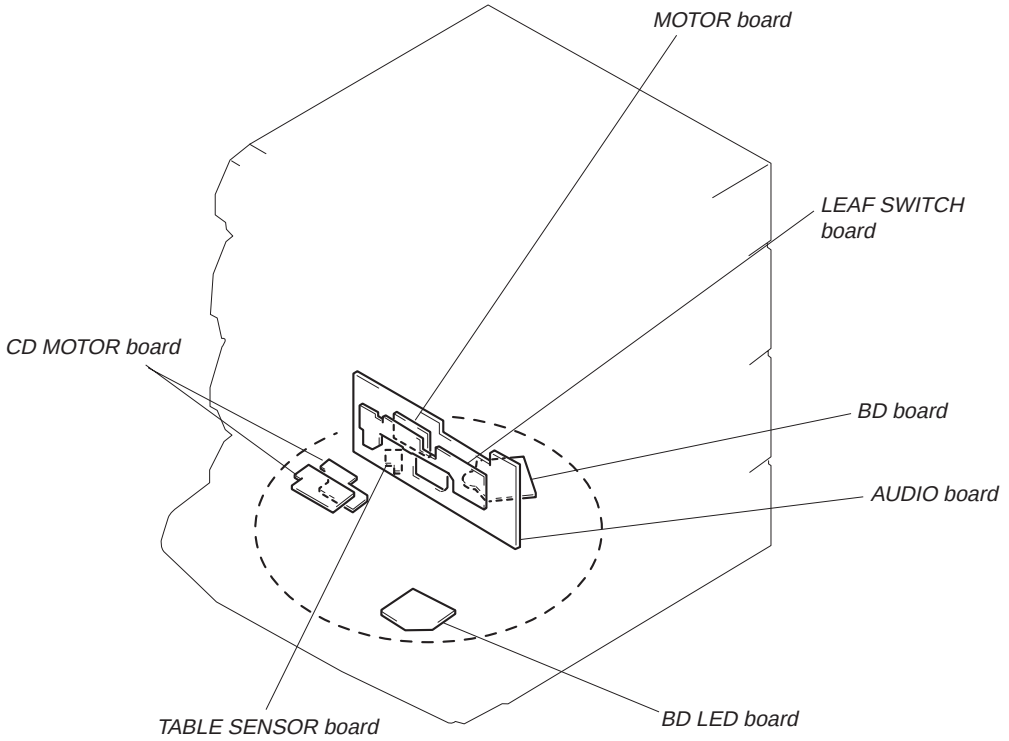
[BD BOARD] (Conductor Side)



SECTION 6
DIAGRAMS

• **Circuit Board Location**

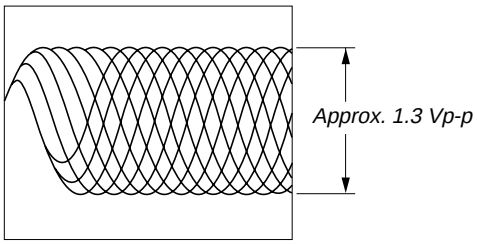




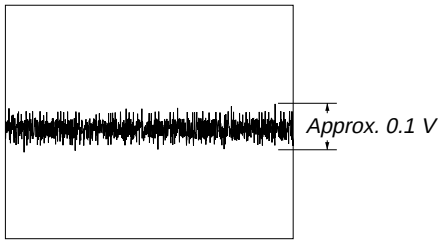
• **Waveforms**

— BD Section—

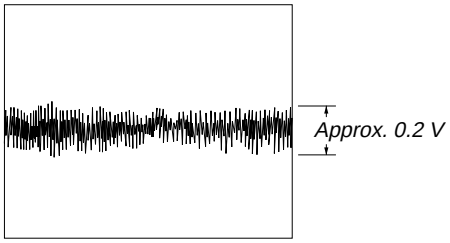
❶ IC101 ㉝ pin (PLAY MODE)



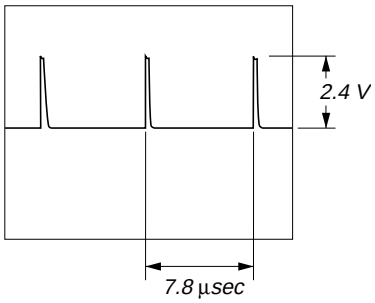
❷ IC101 ② pin (FEI) (PLAY MODE)



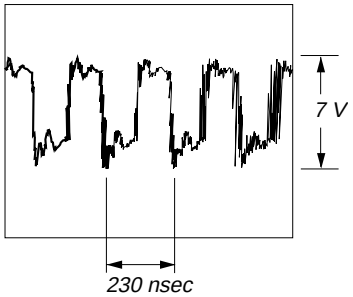
❸ IC101 ㊼ pin (TEI) (PLAY MODE)



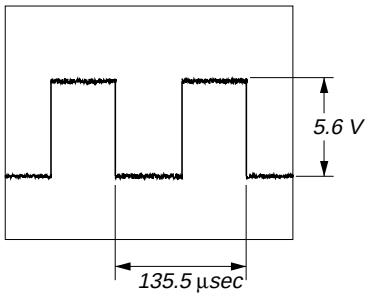
❹ IC103 ㉗ pin (MDP)



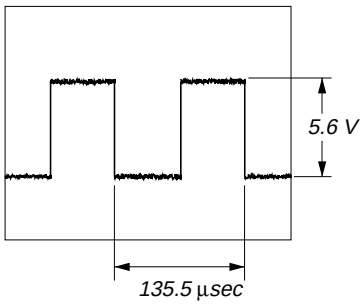
❺ IC103 ㊿ pin (XPCK)



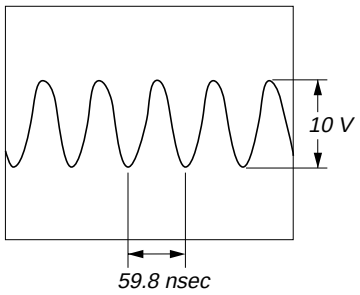
❻ IC103 ㊷ pin (RFCK)



❼ IC103 ㉞ pin (WFCK)

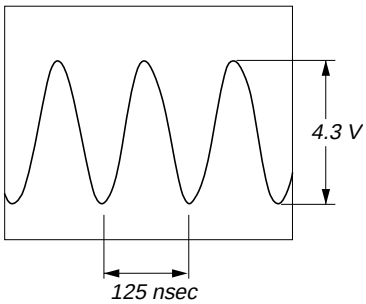


❽ IC103 ㊾ pin (XTAI)



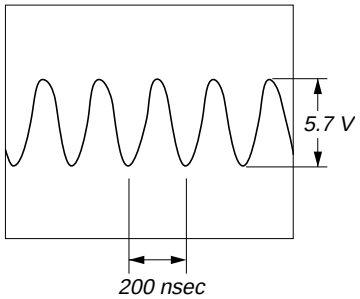
— PANEL Section—

❾ IC601 ⑫ pin (X-OUT)

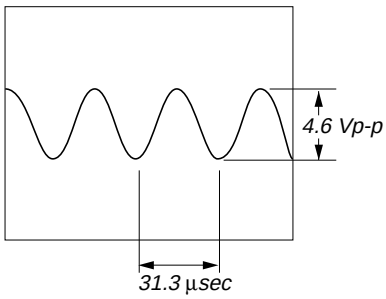


— MAIN Section—

❿ IC301 ⑩ pin (X2)

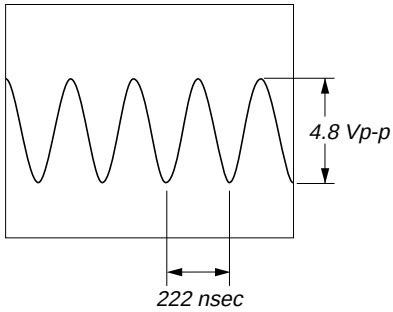


⓫ IC301 ⑬ pin (XT2)

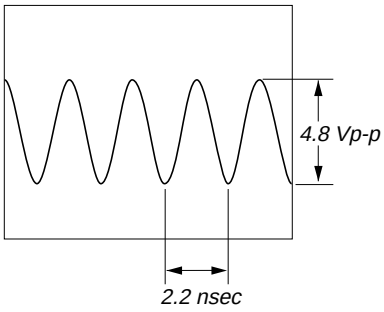


— TUNER Section—

⓬ IC1 ㉔ pin (XOUT) (EXCEPT AEP, UK,EE, CIS)
IC21 ㉔ pin (X OUT) (AEP, UK,EE, CIS)



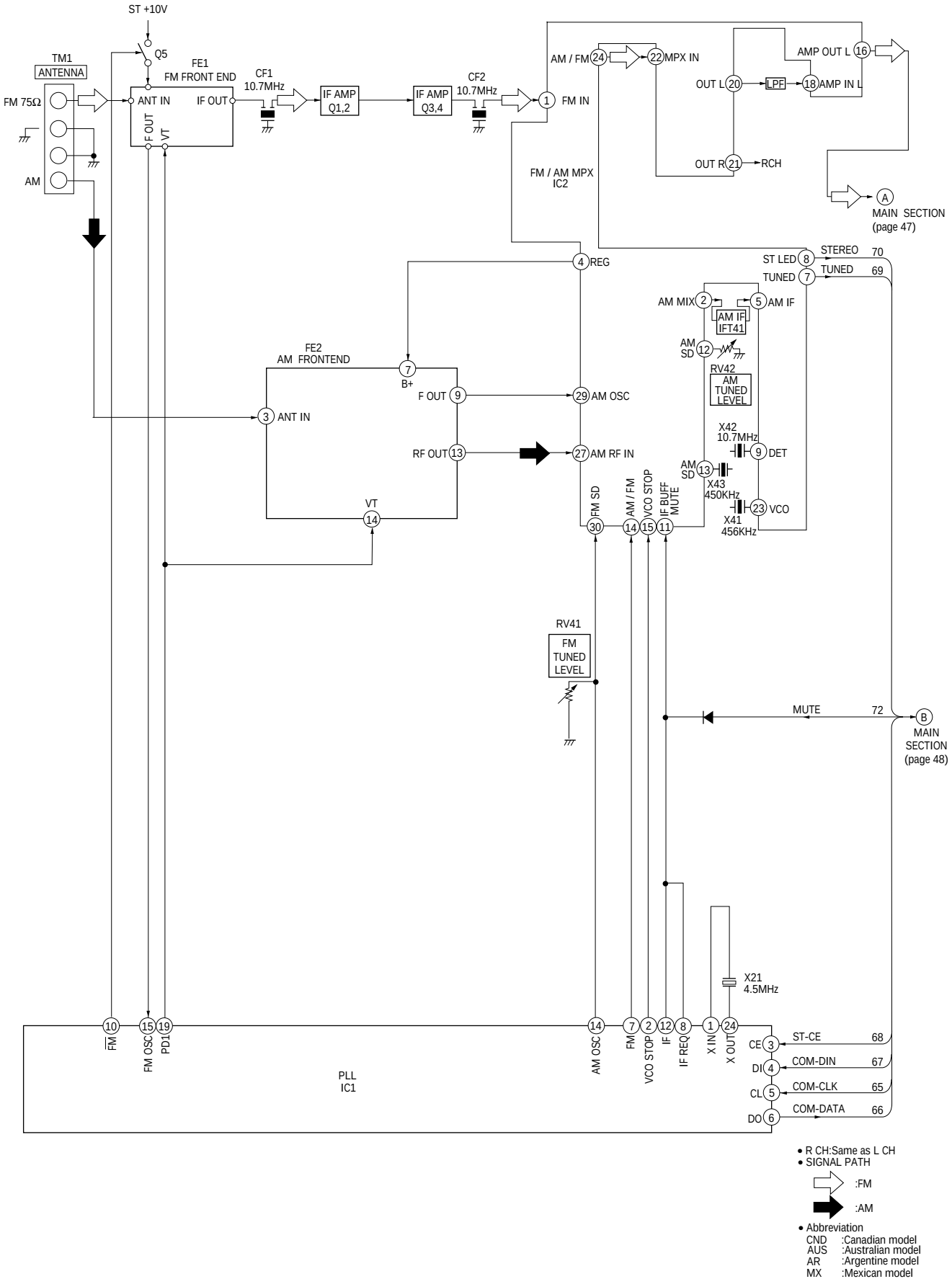
⓭ IC2 ㉓ pin (VCO) (EXCEPT AEP, UK,EE, CIS)
IC41 ㉓ pin (VCO) (AEP, UK,EE, CIS)



• Abbreviation
EE : East European model

6-1. BLOCK DIAGRAMS

– TUNER SECTION – (US, CND, E, AR, MX, AUS MODELS)



- R CH:Same as L CH
- SIGNAL PATH

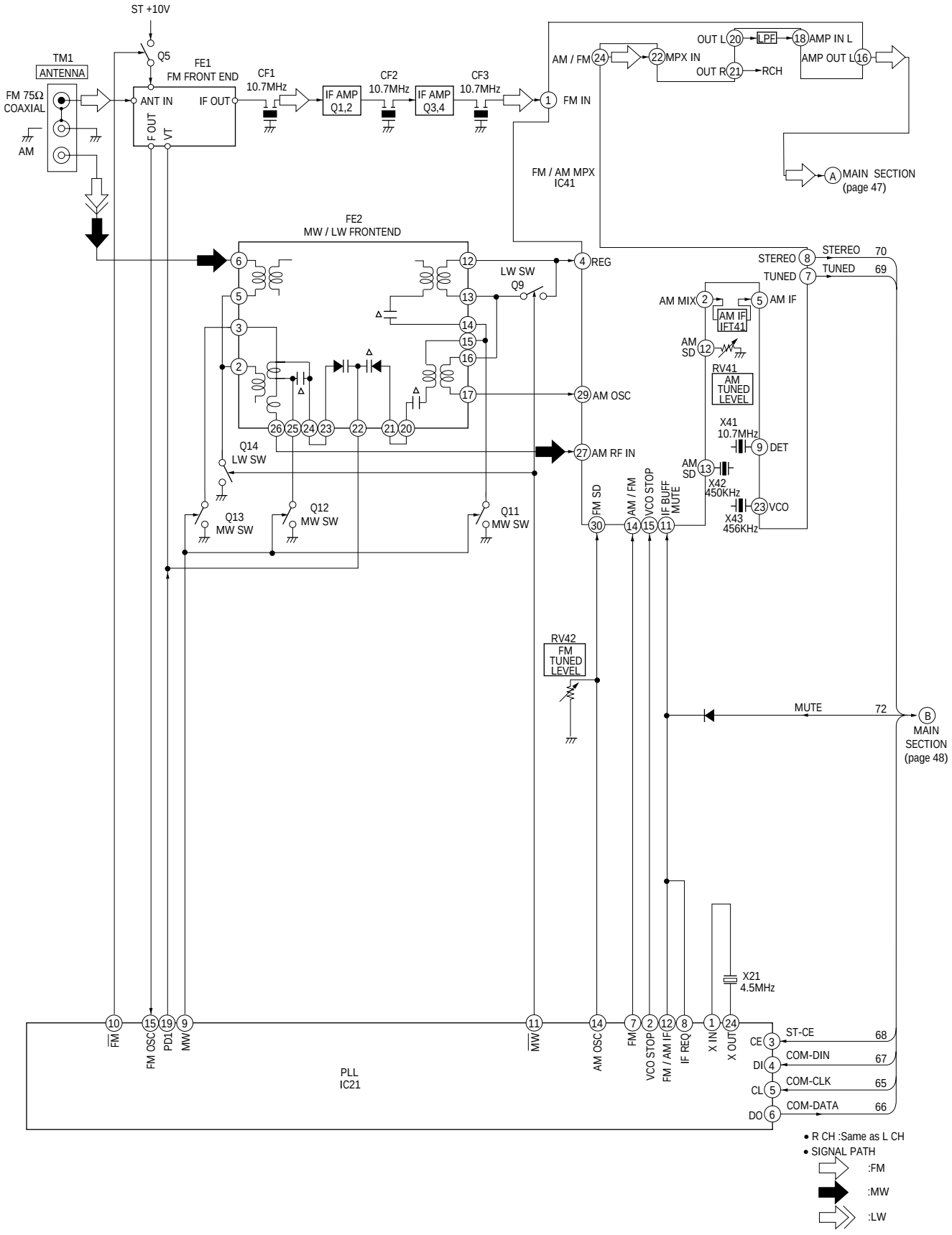
:FM

:AM

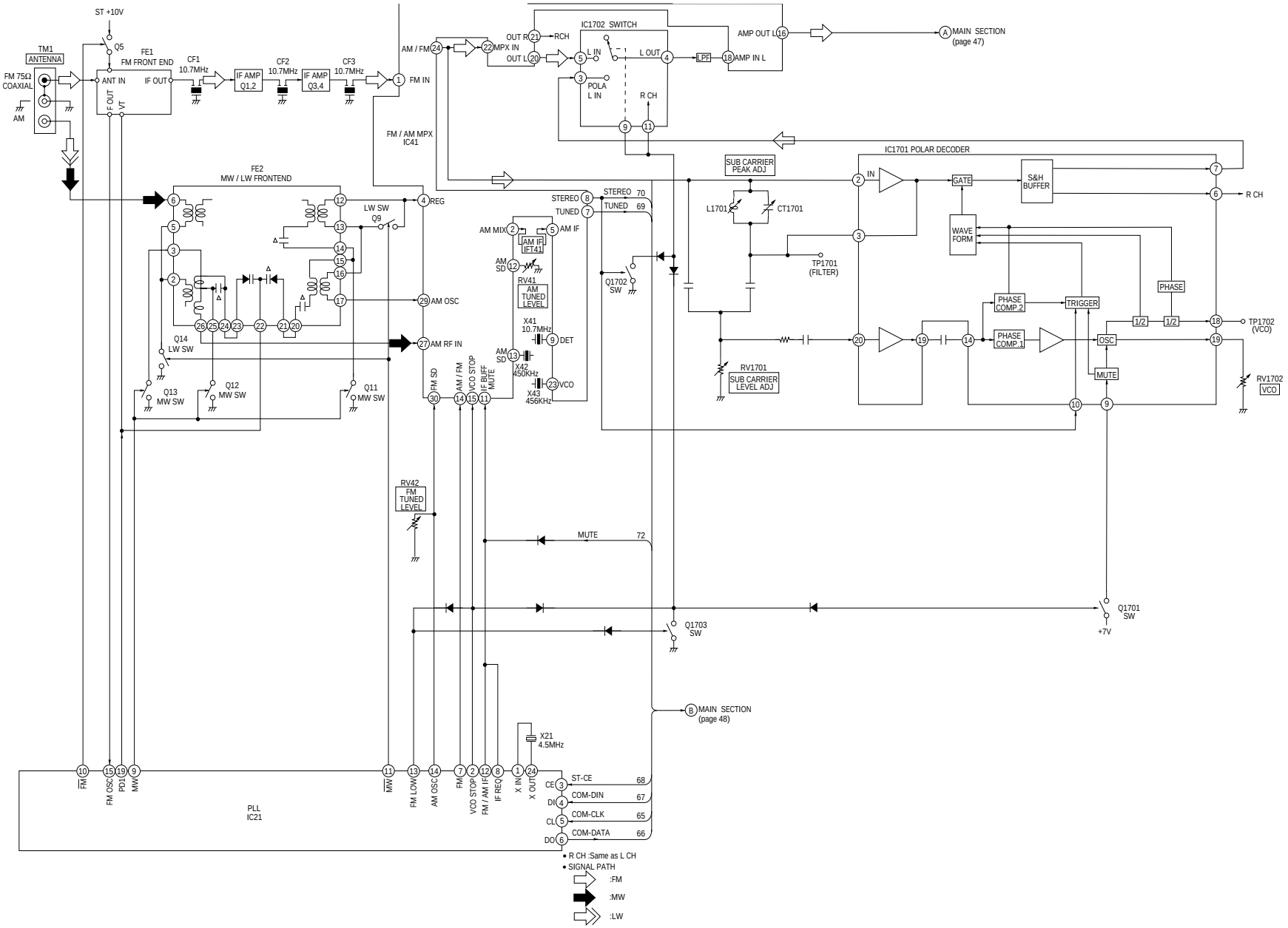
- Abbreviation

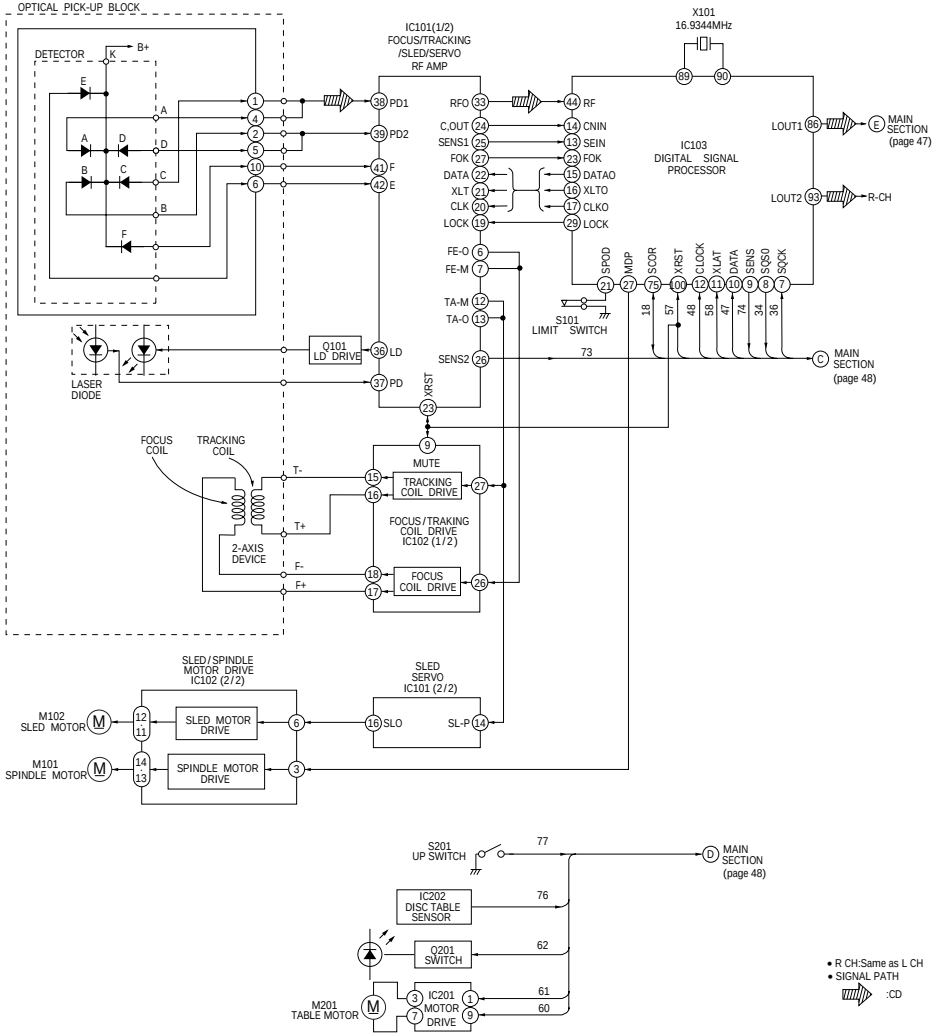
CND :Canadian model
AUS :Australian model
AR :Argentine model
MX :Mexican model

– TUNER SECTION – (AEP, UK MODELS)

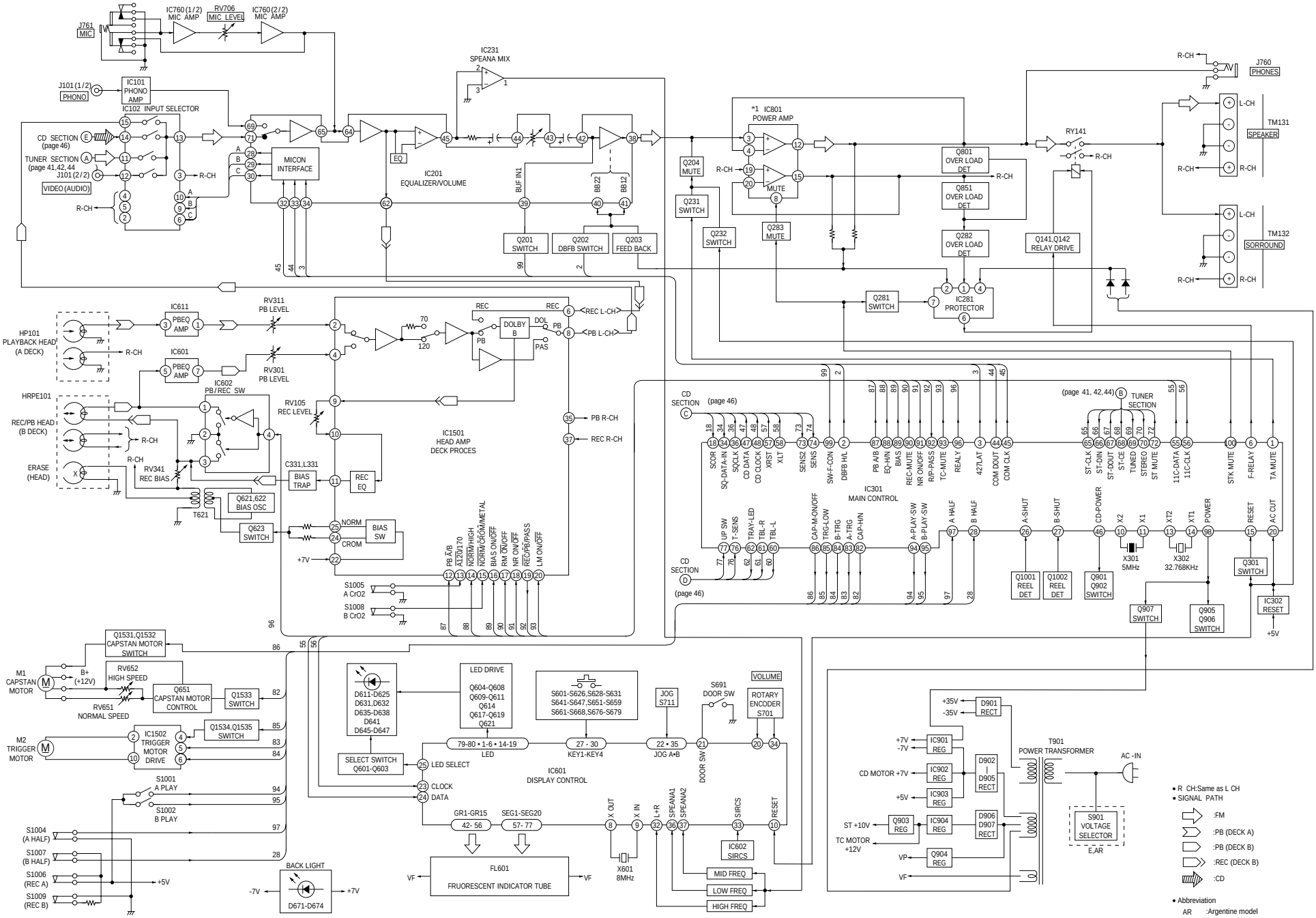


– TUNER SECTION – (EE, CIS MODEL)



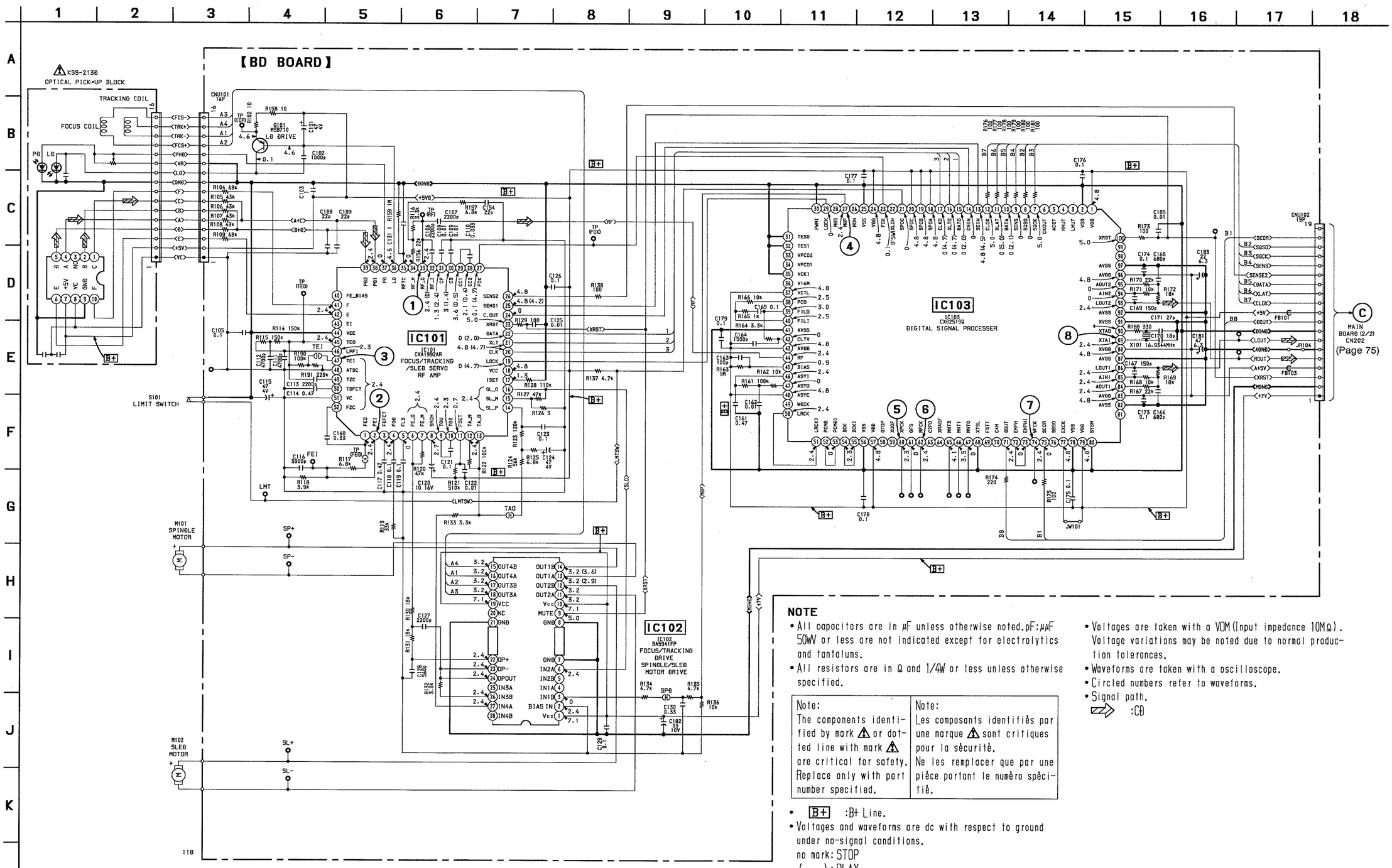

OPTICAL PICK-UP BLOCK
DETECTOR
B+
K
E
A
D
B
C
F
IC101(1/2)
FOCUS/TRACKING
/SLED/SERVO
RF AMP
PD1
PD2
F
E
RFO
C,OUT
SENS1
FOK
DATA
XLT
CLK
LOCK
RF
CNIN
SEIN
FOK
DATAO
XLTO
CLKO
LOCK
X101
16.9344MHz
IC103
DIGITAL SIGNAL
PROCESSOR
LOUT1
LOUT2
MAIN SECTION (page 47)
R-CH
FE-O
FE-M
TA-M
TA-O
SENS2
SPOD
MDP
SCOR
XRST
CLOCK
XLAT
DATA
SBNS
SQS0
SQCK
S101
LIMIT SWITCH
MAIN SECTION (page 48)
Q101
LD DRIVE
LD
PD
LASER
DIODE
XRST
MUTE
FOCUS COIL
TRACKING COIL
T-
T+
F-
F+
2-AXIS DEVICE
TRACKING COIL DRIVE
FOCUS/TRAKING COIL DRIVE IC102 (1/2)
FOCUS COIL DRIVE
SLED/SPINDLE MOTOR DRIVE IC102 (2/2)
SLED SERVO IC101 (2/2)
M102
SLED MOTOR
SLED MOTOR DRIVE
M101
SPINDLE MOTOR
SPINDLE MOTOR DRIVE
SLO
SL-P
S201
UP SWITCH
MAIN SECTION (page 48)
IC202
DISC TABLE SENSOR
Q201
SWITCH
M201
TABLE MOTOR
IC201
MOTOR DRIVE
• R CH:Same as L CH
• SIGNAL PATH
:CD

– MAIN SECTION –



6-2. SCHEMATIC DIAGRAM – BD Section –

• See page 40 for Waveforms. • See page 93 for IC Block Diagrams.



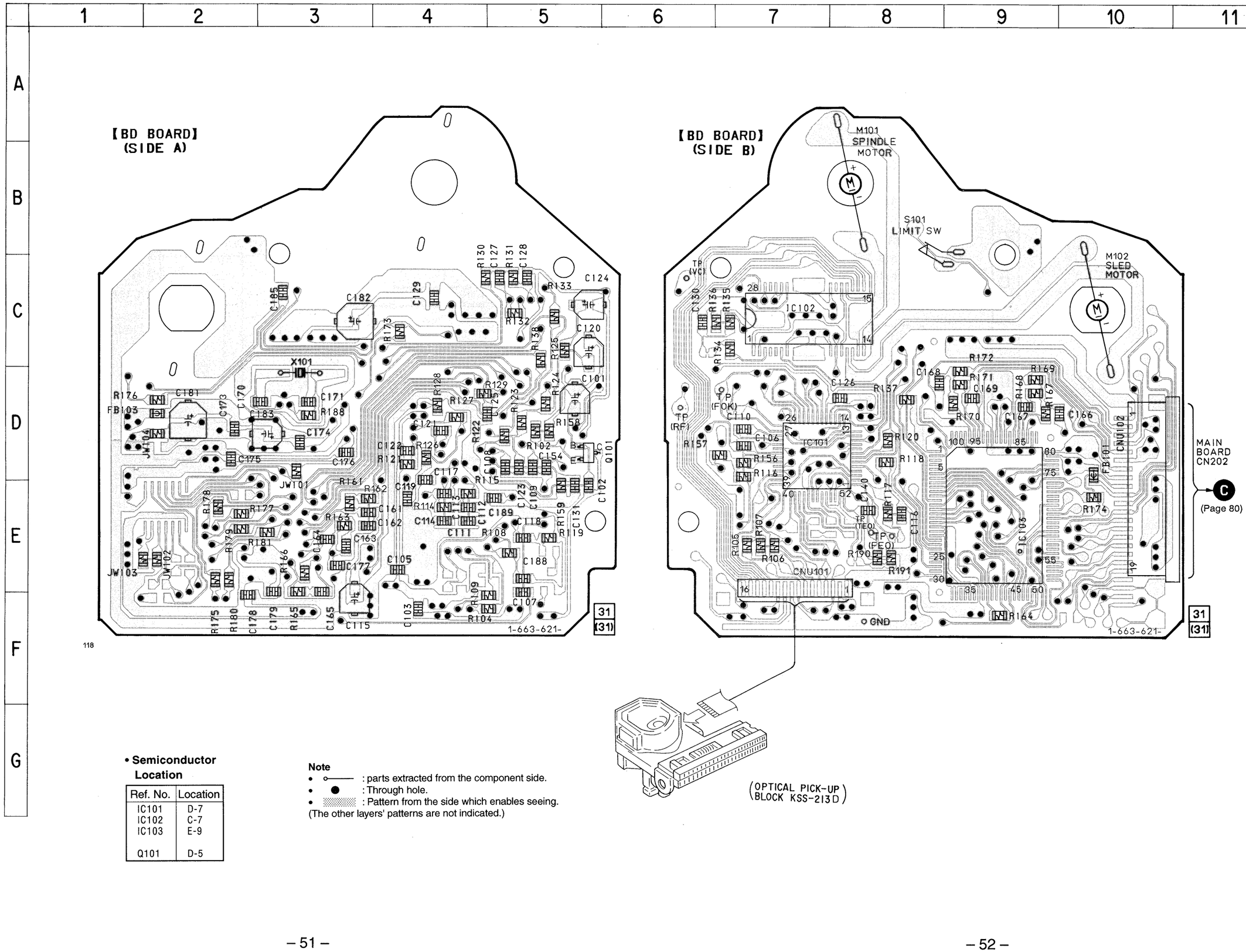
NOTE

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

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

- 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 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ :CB

6-3. PRINTED WIRING BOARD –BD Section – • See page 39 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.

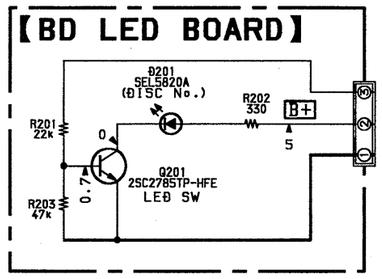
(The other layers' patterns are not indicated.)

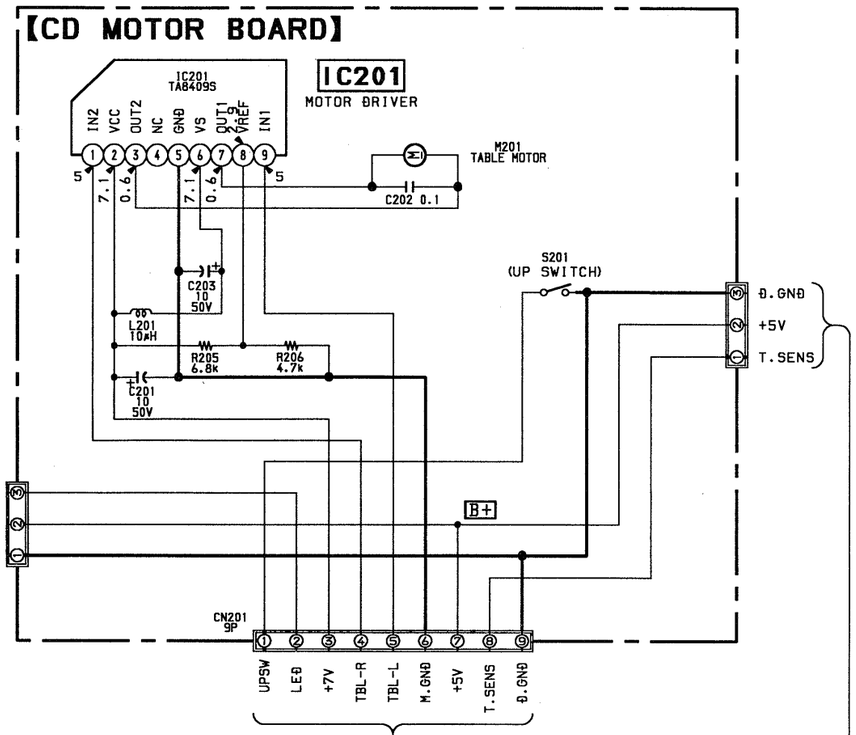
6-4. SCHEMATIC DIAGRAM – CD MOTOR Section –

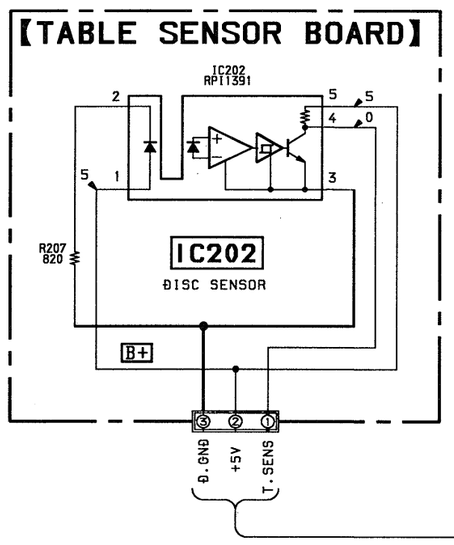
• See page 95 for IC Block Diagrams.

NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- B+ :B+ Line.
- Voltages are dc with respect to ground under no-signal conditions. no mark:STOP
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

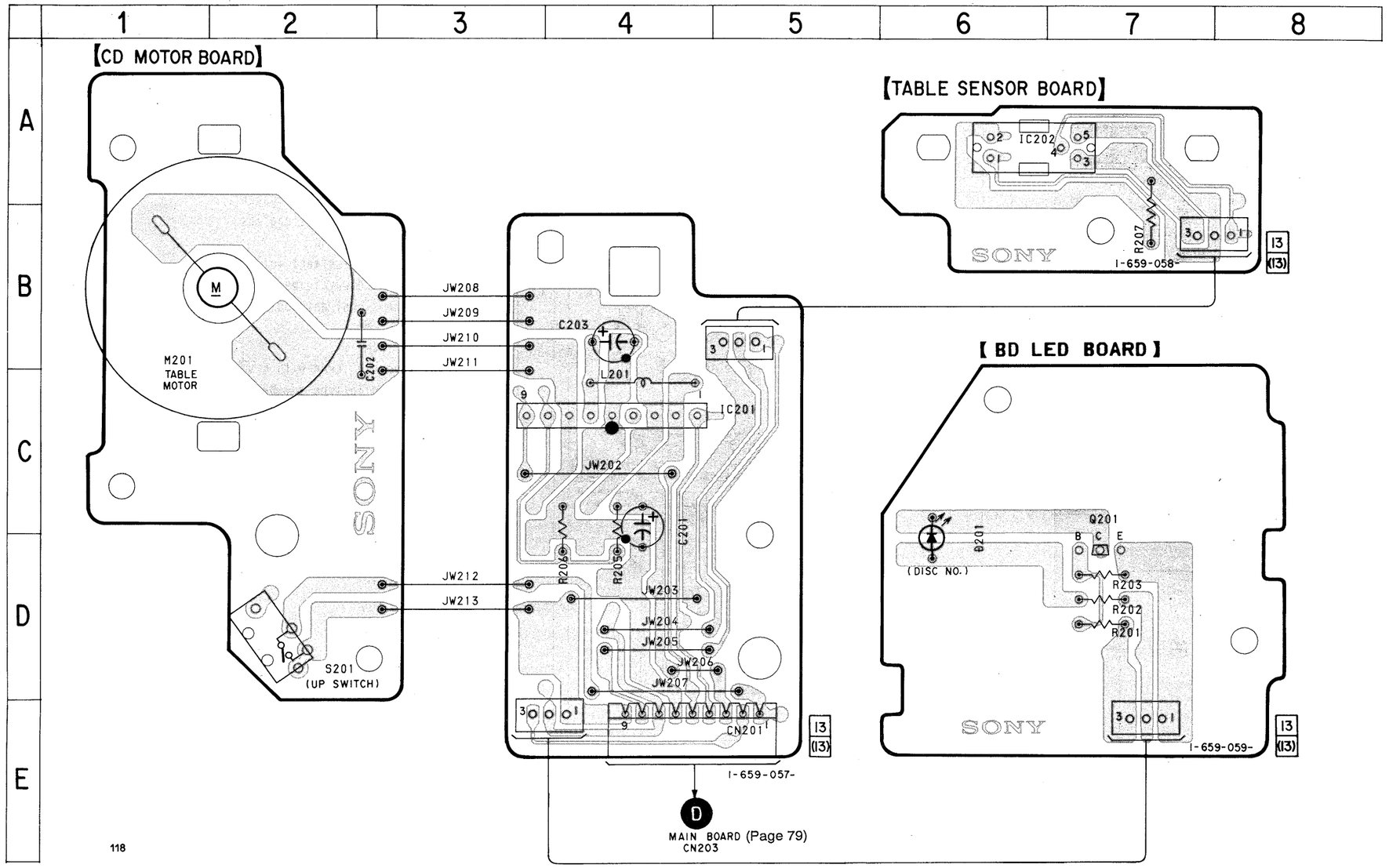






6-5. PRINTED WIRING BOARDS – CD MOTOR Section –

• See page 39 for Circuit Boards Location.



• **Semiconductor Location**

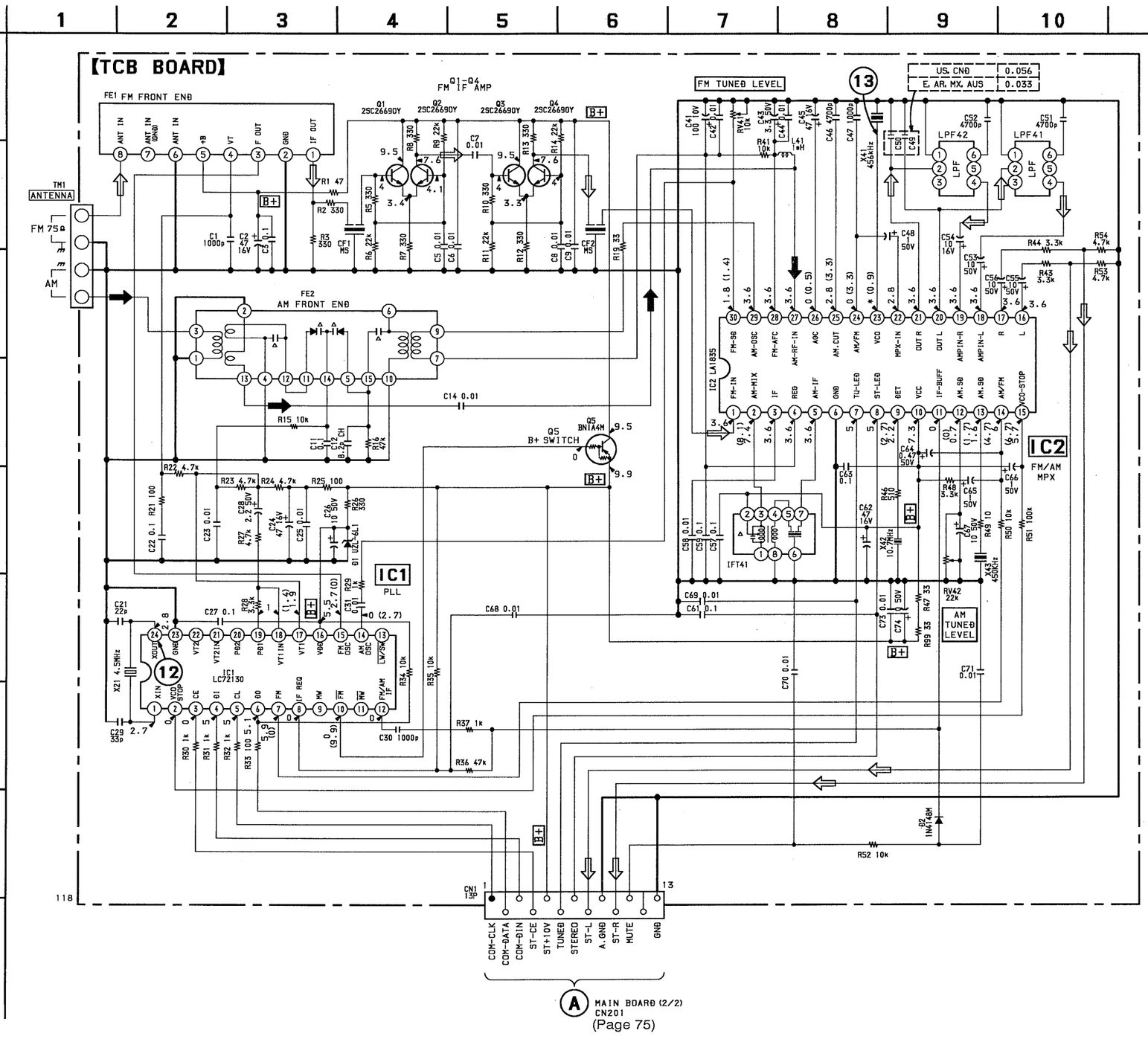
Ref. No.	Location
D201	D-6
IC201	C-4
IC202	A-6
Q201	D-7

Note

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

6-6. SCHEMATIC DIAGRAM – TUNER Section – (US, CND, E, AR, MX, AUS MODELS)

• See page 40 for Waveforms. • See page 95 for IC Block Diagrams.

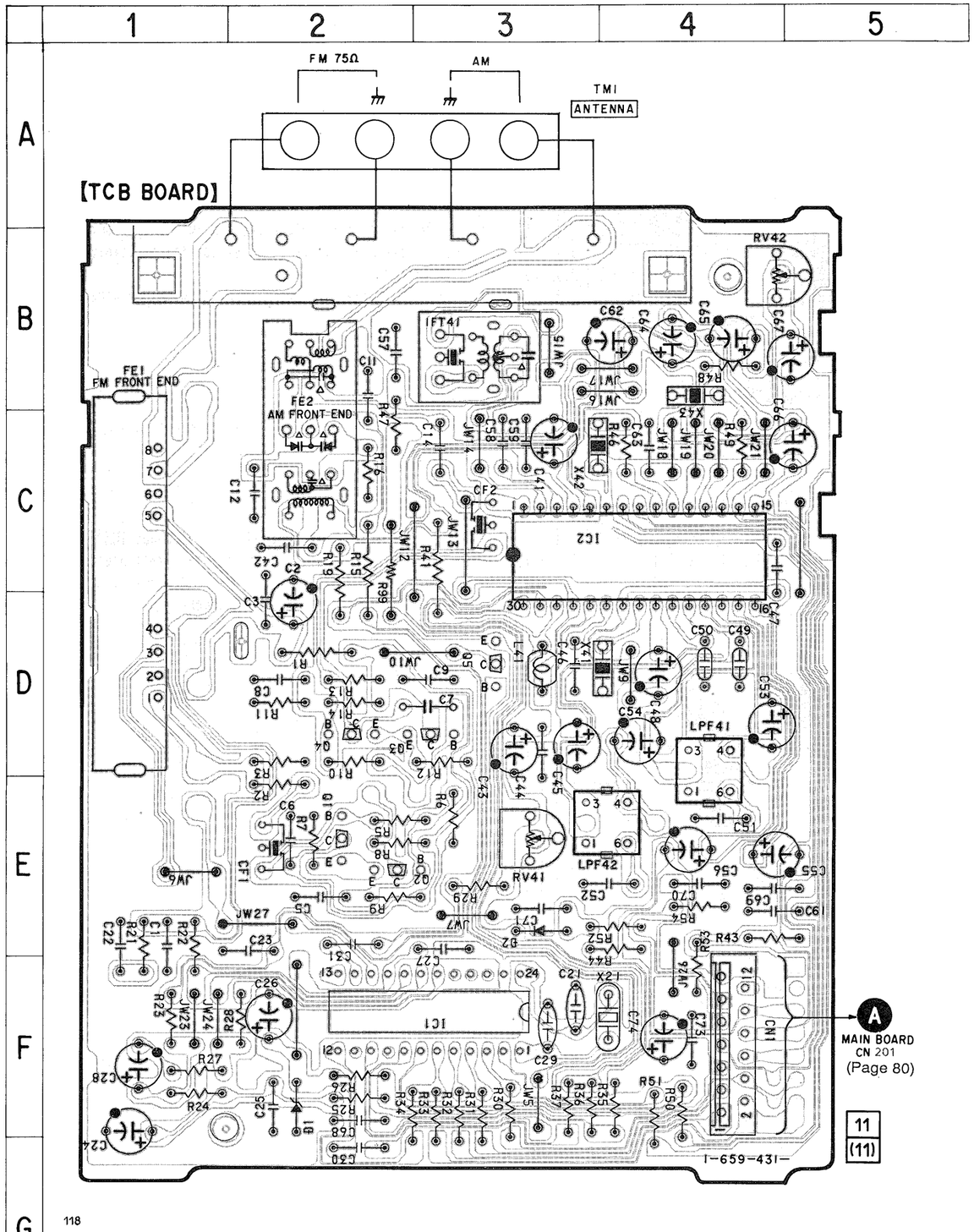


NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▭ : 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 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.
- Abbreviation
  CND: Canadian model.
  MX : Mexican model.
  AR : Argentine model.
  AUS: Australian model.
- Signal path.
  ⇨ : FM
  ➡ : AM

6-7. PRINTED WIRING BOARD – TUNER Section – (US, CND, E, AR, MX, AUS MODELS)

• See page 39 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

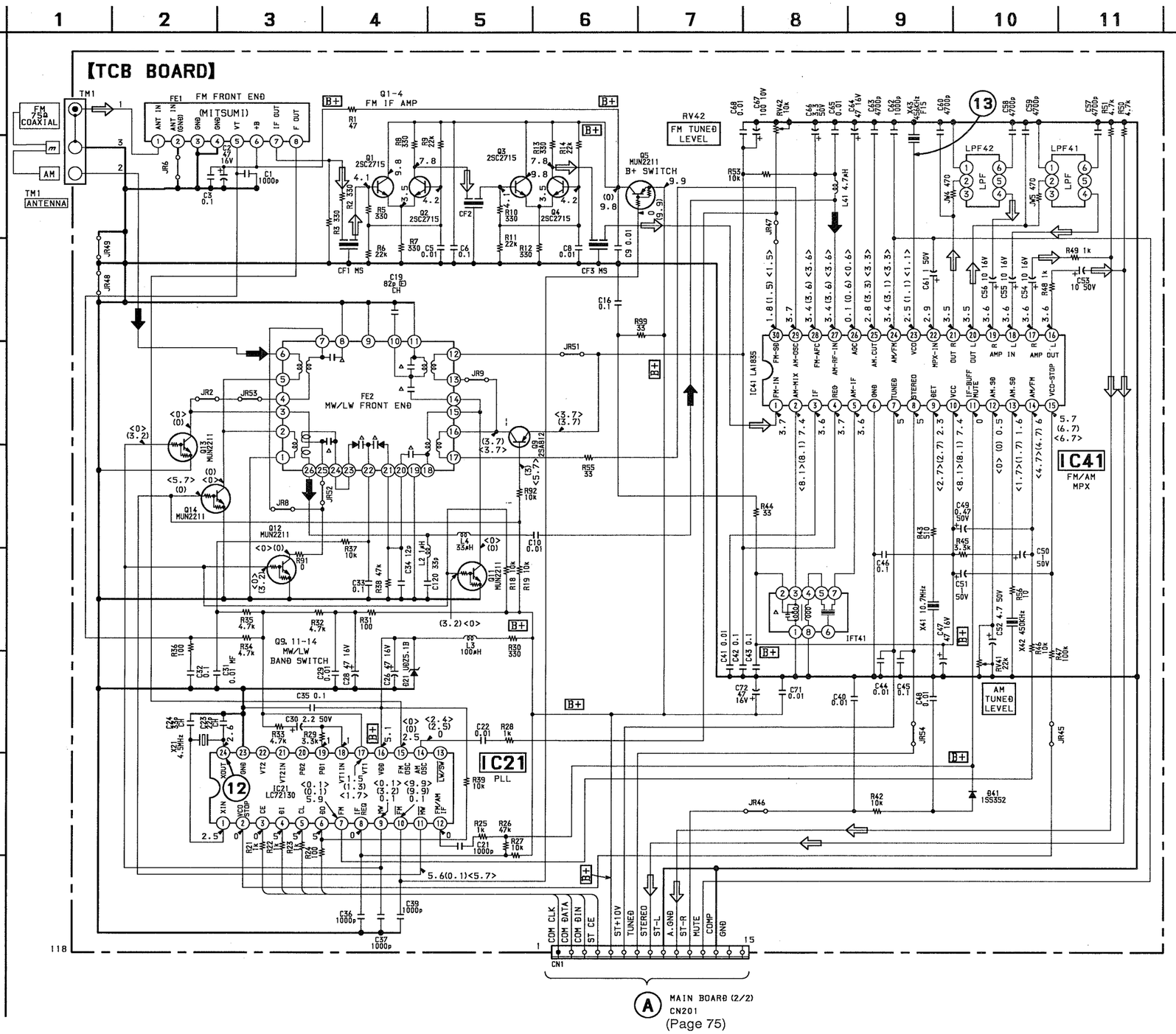
Note

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

118

6-8. SCHEMATIC DIAGRAM – TUNER Section – (AEP, UK MODELS)

• See page 40 for Waveforms. • See page 95 for IC Block Diagrams.

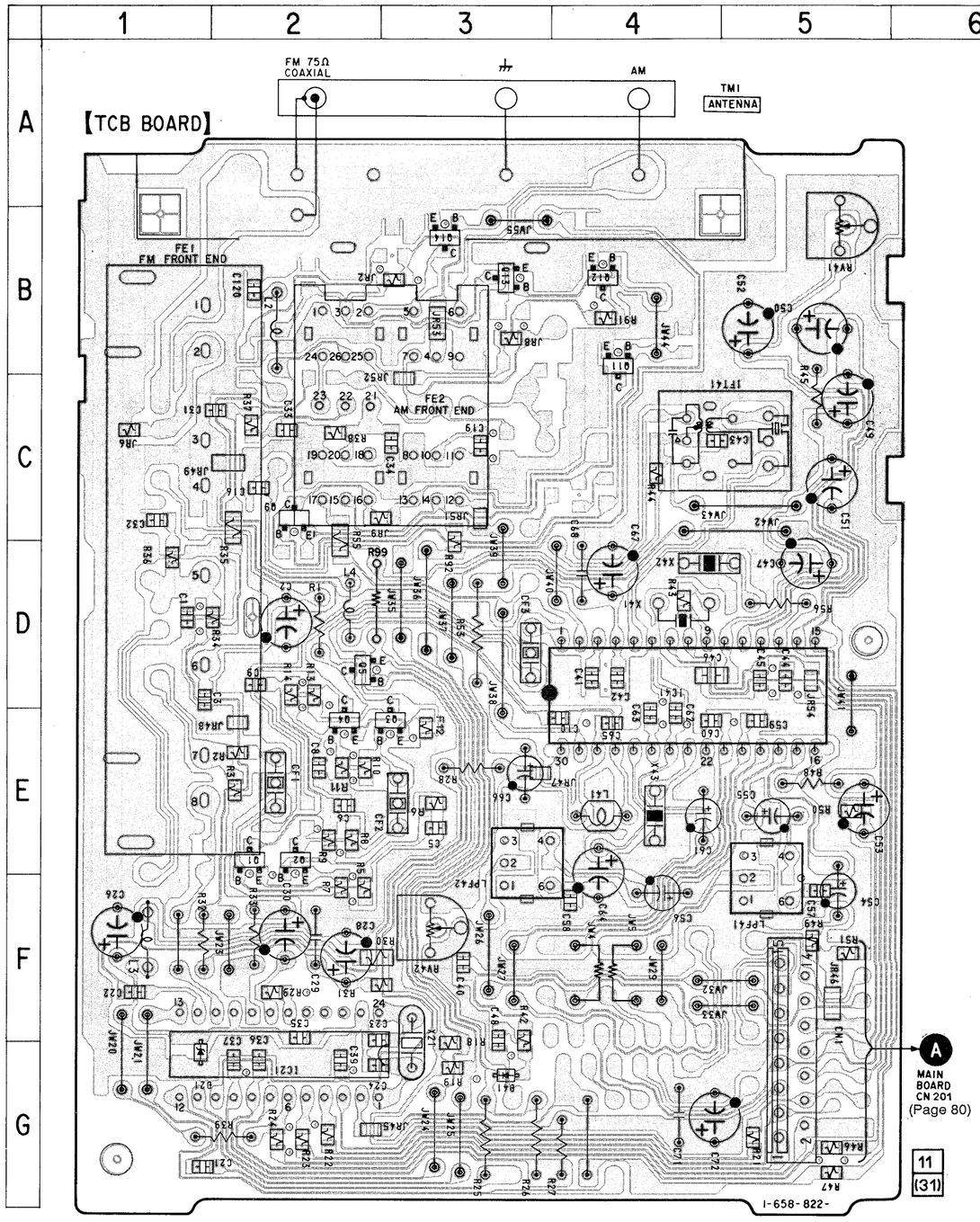


NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: FM
  ( ) : MW
  < > : LW
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM

6-9. PRINTED WIRING BOARD – TUNER Section – (AEP, UK MODELS)

• See page 39 for Circuit Boards Location.



118

• **Semiconductor Location**

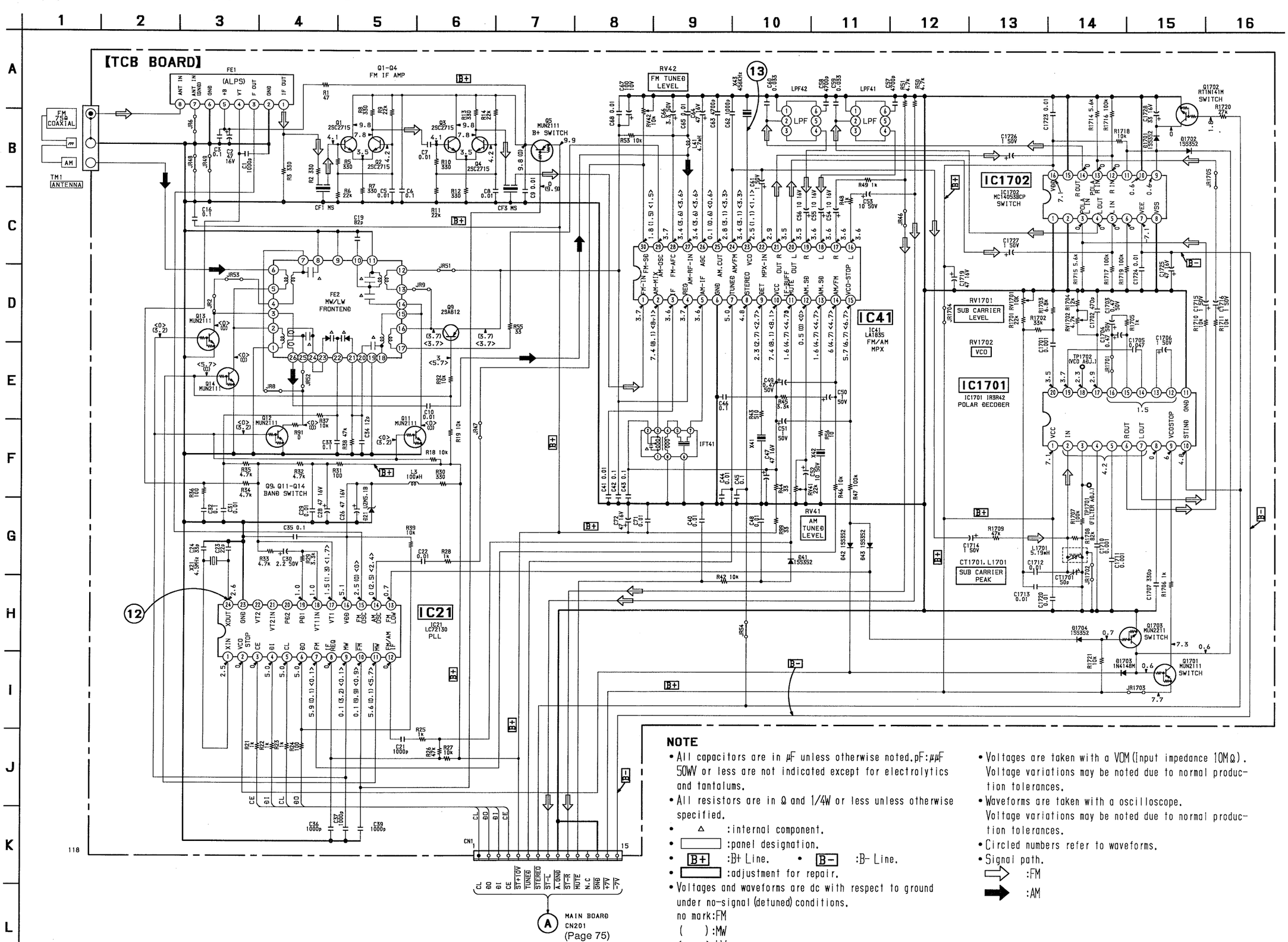
Ref. No.	Location
D21	G-1
D41	G-3
IC21	G-2
IC41	D-4
Q1	E-2
Q2	E-2
Q3	E-3
Q4	E-2
Q5	D-2
Q9	C-2
Q11	B-4
Q12	B-4
Q13	B-3
Q14	B-3

Note

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

6-10. SCHEMATIC DIAGRAM – TUNER Section – (East European, CIS MODELS)

• See page 40 for Waveforms. • See page 95 for IC Block Diagrams.

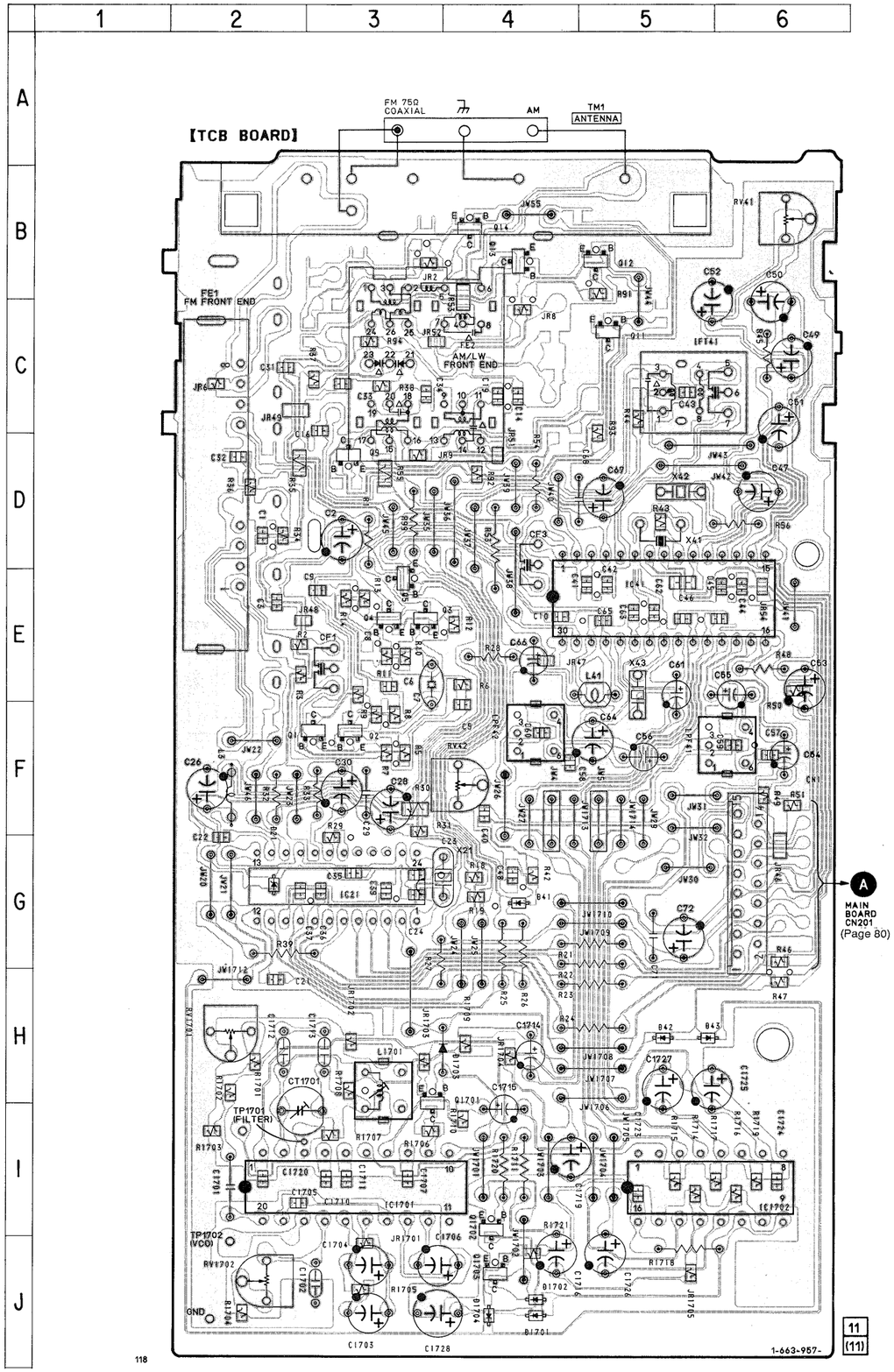


NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line. • B− : B− Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: FM
  ( ): MW
  < >: LW
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM

6-11. PRINTED WIRING BOARD – TUNER Section – (East European, CIS MODELS)

• See page 39 for Circuit Boards Location.



• **Semiconductor Location**

Ref. No.	Location
D21	G-2
D41	G-4
D42	H-5
D43	H-5
D1701	J-4
D1702	J-4
D1703	H-4
D1704	J-4
IC21	G-3
IC41	E-5
IC1701	I-3
IC1702	I-6
Q1	F-3
Q2	F-3
Q3	E-3
Q4	E-3
Q5	E-3
Q9	D-3
Q11	C-5
Q12	B-5
Q13	B-4
Q14	B-4
Q1701	I-3
Q1702	J-4
Q1703	J-4

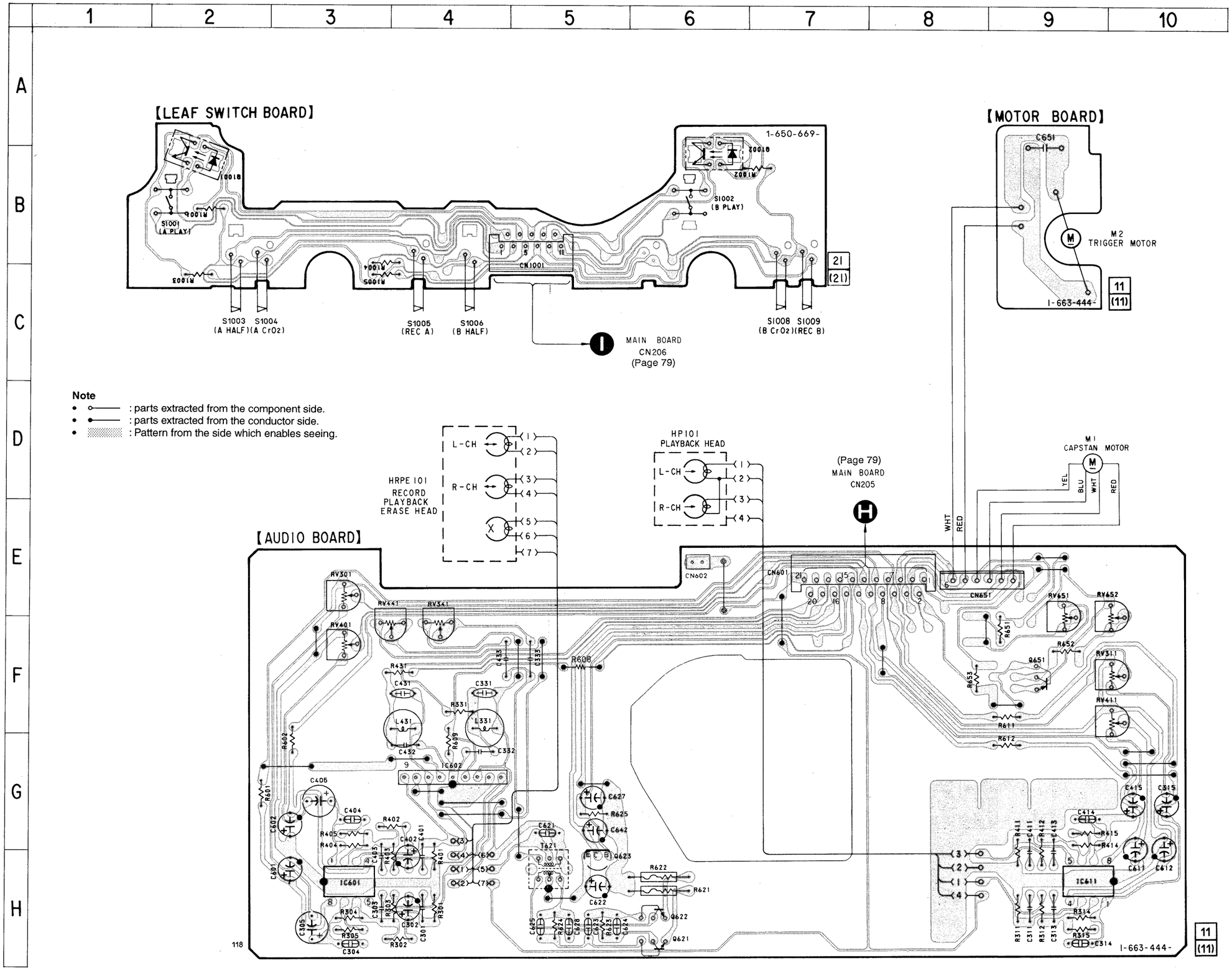
Note

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

6-12. PRINTED WIRING BOATDS – DECK Section – • See page 39 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

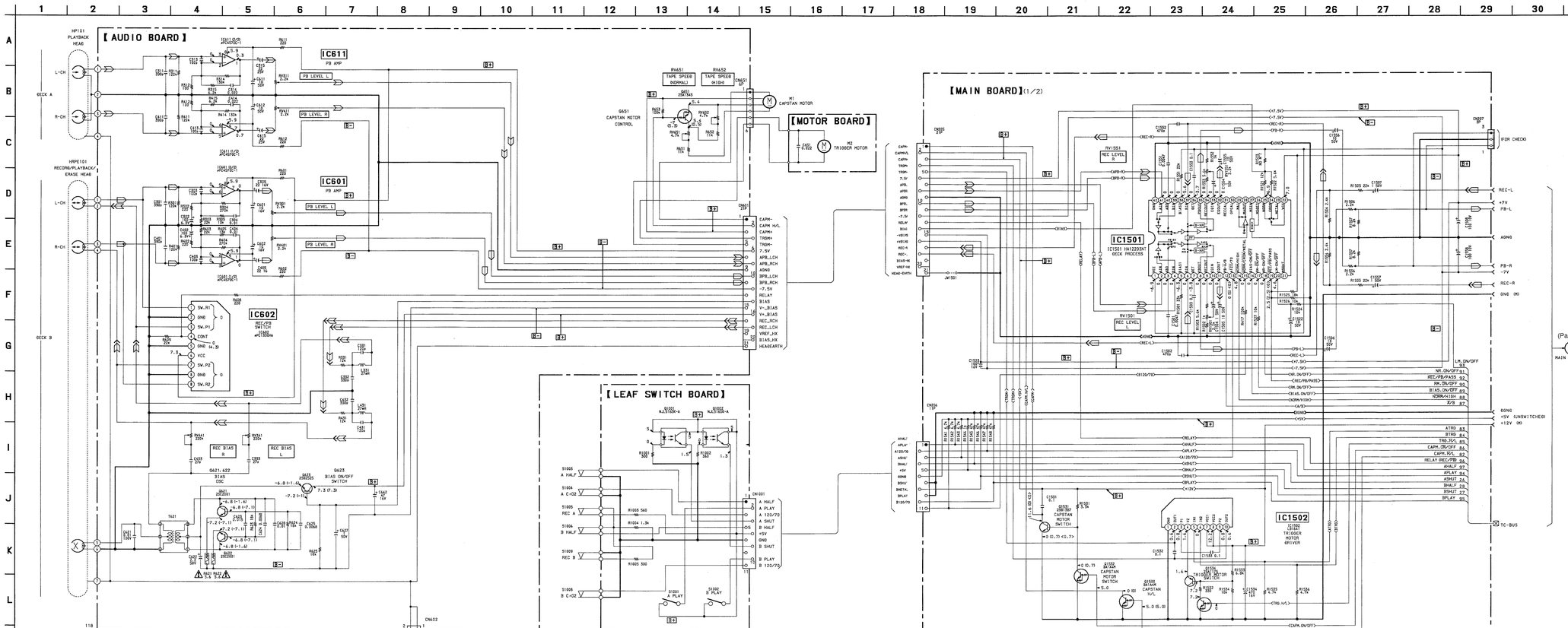


Note

- ○——— : parts extracted from the component side.
- ●——— : parts extracted from the conductor side.
- ▒▒▒ : Pattern from the side which enables seeing.

6-13. SCHEMATIC DIAGRAM – DECK Section –

• See page 79 for Printed Wiring Board. (MAIN BOARD)



NOTE

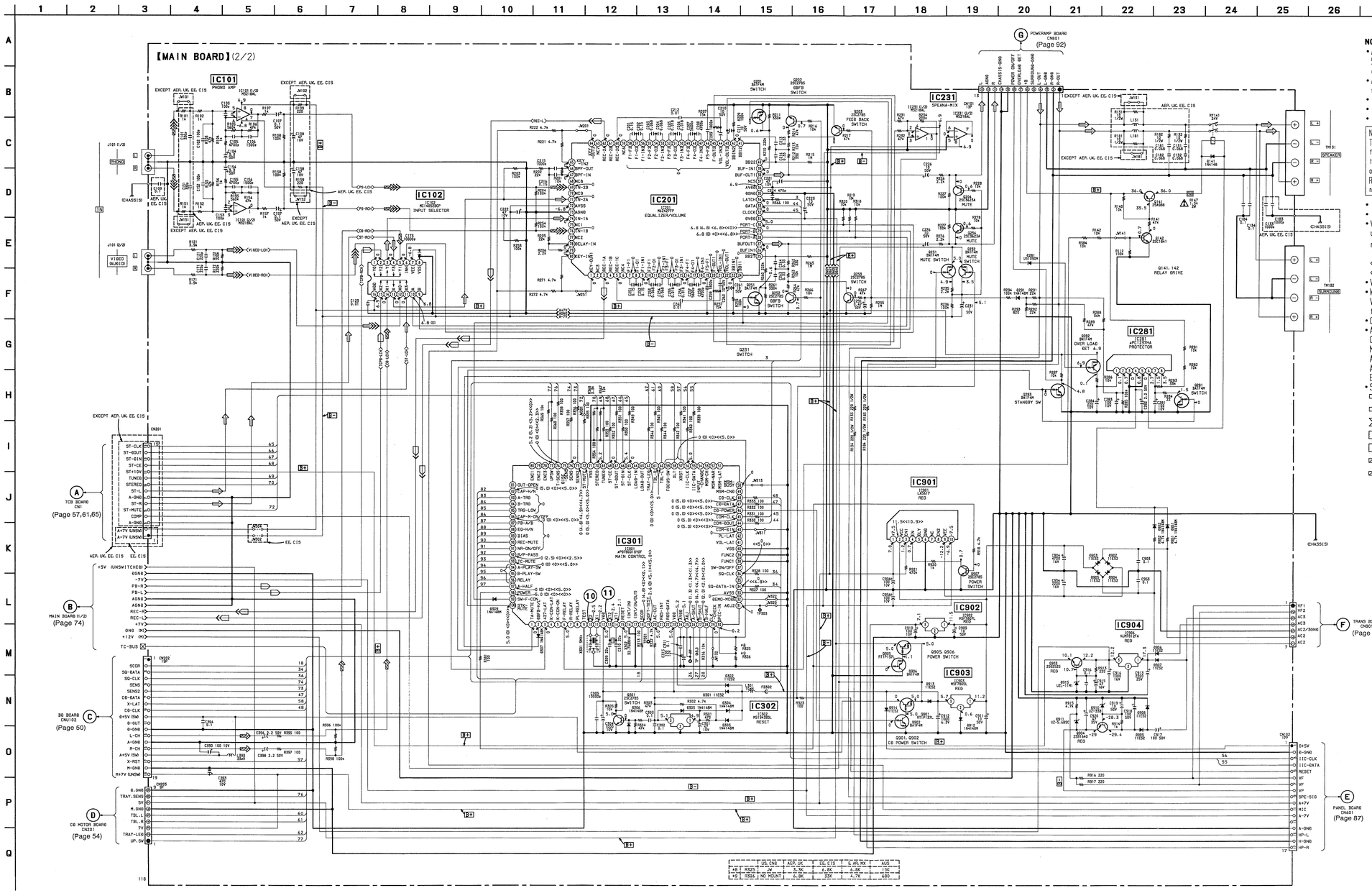
- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- FW : fusible resistor.

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

- B+ : B+ Line.
- B− : B− Line.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground under no-signal conditions.
  no mark: PLAY
  ( ): REC
  * : can not be measured.
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : PB (DECK A)
  : PB (DECK B)
  : REC (DECK B)

6-14. SCHEMATIC DIAGRAM – MAIN Section –

• See page 40 for Waveforms. • See page 97 for IC Block Diagrams. • See page 99 to101 for IC Pin Function Desctiption.



NOTE

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

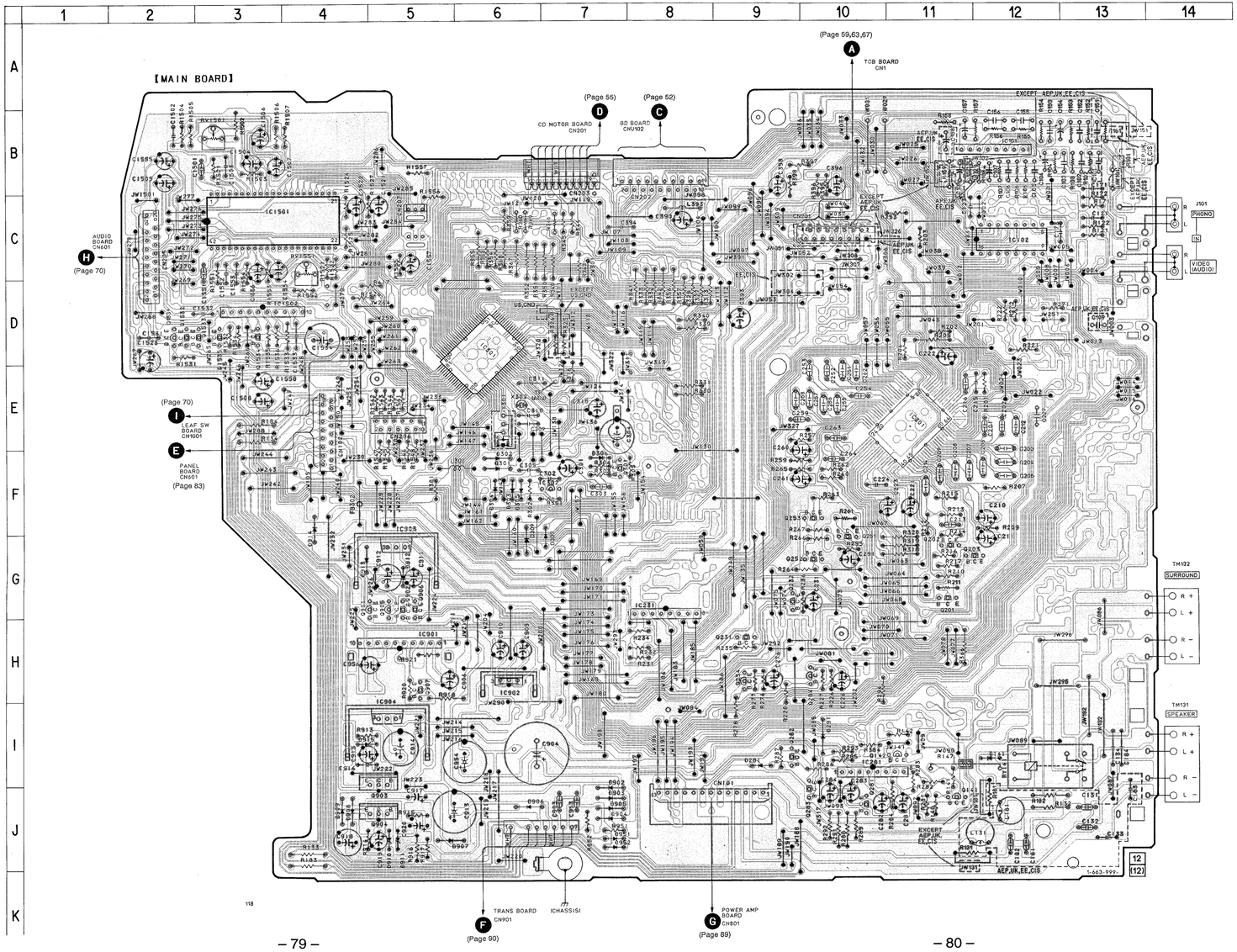
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line.
- B− : B− Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM
  ( ): TC PB
  < >: TC REC
  << >>: CD PLAY
- Voltages are taken with a VOM (Input impedance 10MΩ).
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Abbreviation
  CND: Canadian model.
  MX : Mexican model.
  AUS: Australian model.
  AR : Argentine model.
  EE : East European model.
- Signal path.
  : FM
  : VIDEO/MB
  : PB (DECK A)
  : PB (DECK B)
  : REC (DECK B)
  : CD
  : PHONO

	US, CND	AEP, UK	EE, CIS	E, AR, MX	AUS
+B	R525	JW	5.6K	6.8K	15K
+B	R526	NO MOUNT	6.8K	8.2K	18K

6-15. PRINTED WIRING BOARD – MAIN Section –

• See page 39 for Circuit Boards Location.



• 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
IC101	B-12	Q906	G-5
IC102	C-12	Q907	H-5
IC201	E-11	Q1531	D-2
IC231	G-8	Q1532	D-2
IC281	I-10	Q1533	D-3
IC301	D-6	Q1534	D-3
IC302	F-7	Q1535	D-3

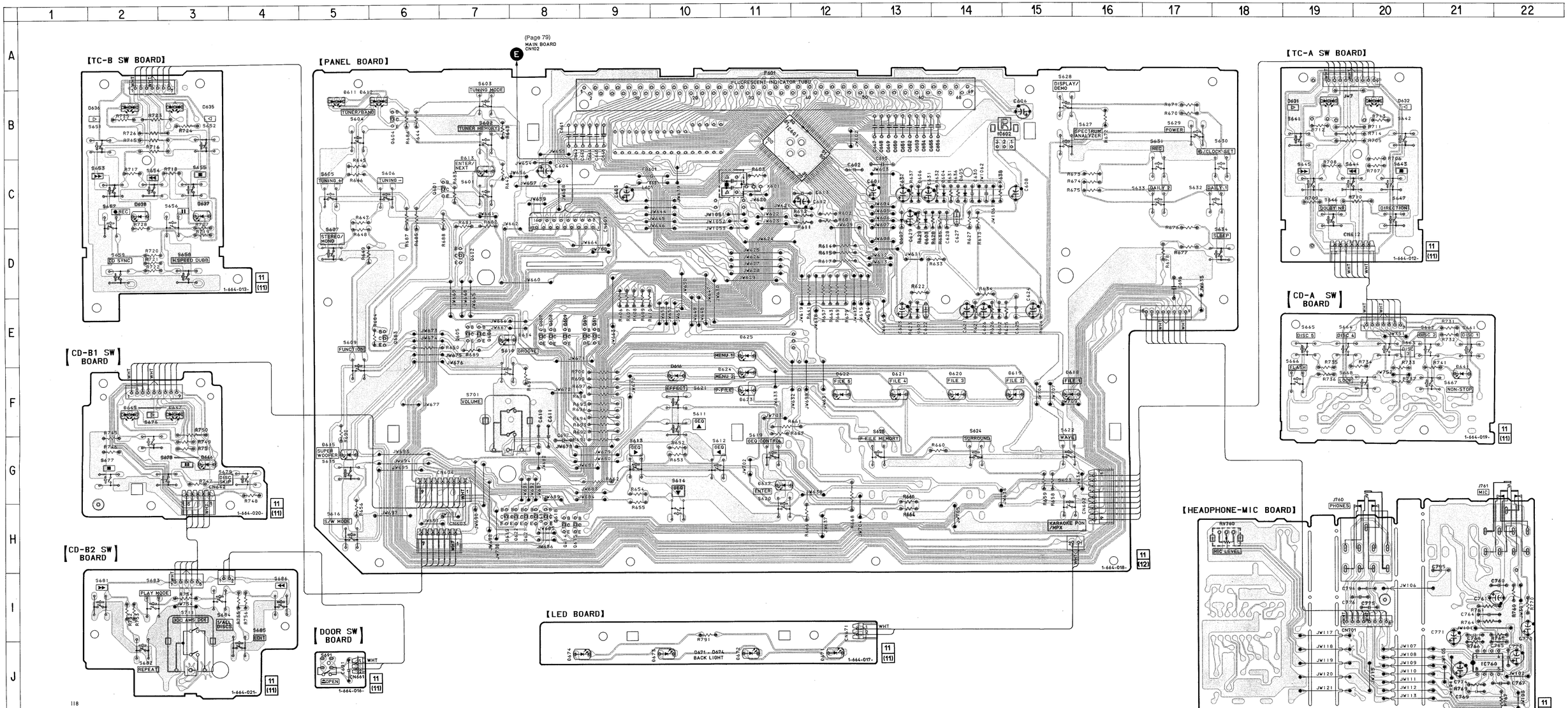
Note

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

• Abbreviation
EE : East Europeon model

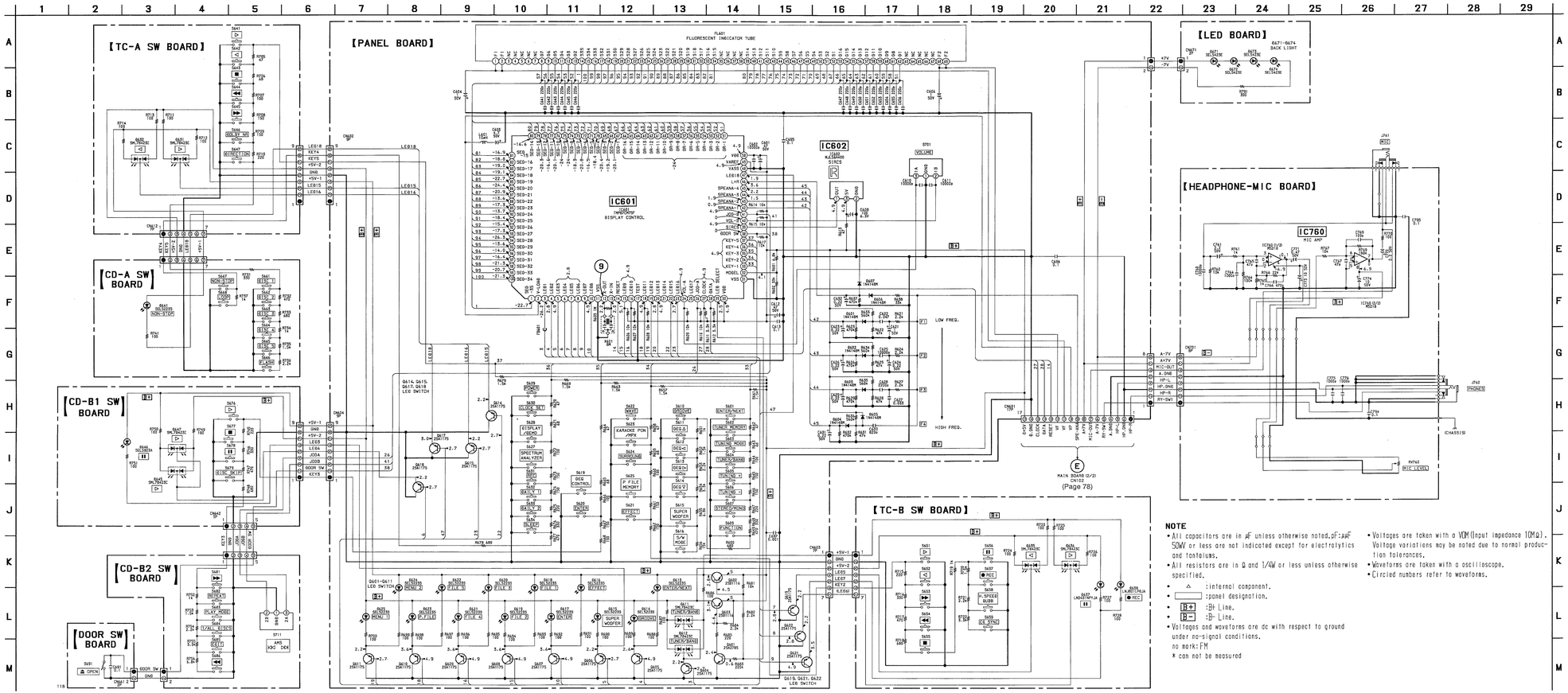
6-16. PRINTED WIRING BOARDS – PANEL Section –

• See page 39 for Circuit Boards Location.



6-17. SCHEMATIC DIAGRAM – PANEL Section –

• See page 40 for Waveforms. • See page 102 for IC Pin Function Description.



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D601	E-13	D646	G-3
D602	E-14	D647	F-3
D603	C-13	D671	J-12
D604	C-14	D672	J-11
D605	C-14	D673	J-10
D606	C-13	D674	J-8
D607	C-13		
D611	B-5	IC601	B-12
D612	B-6	IC602	B-15
D613	C-7	IC760	J-21
D614	E-7		
D615	G-5	Q601	C-7
D616	F-10	Q602	D-7
D617	G-11	Q603	E-6
D618	F-16	Q604	B-6
D619	F-15	Q605	E-7
D620	F-14	Q606	E-7
D621	F-13	Q607	E-8
D622	F-12	Q608	E-8
D623	F-11	Q609	E-8
D624	F-11	Q610	E-9
D625	E-11	Q611	E-9
D631	B-19	Q614	H-8
D632	B-20	Q615	H-8
D635	B-3	Q617	H-8
D636	B-2	Q618	H-8
D637	C-3	Q619	H-7
D638	C-2	Q621	H-8
D641	F-21	Q622	H-8
D645	F-2		

NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- B- : B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions. no mark: FM * can not be measured
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.

Note

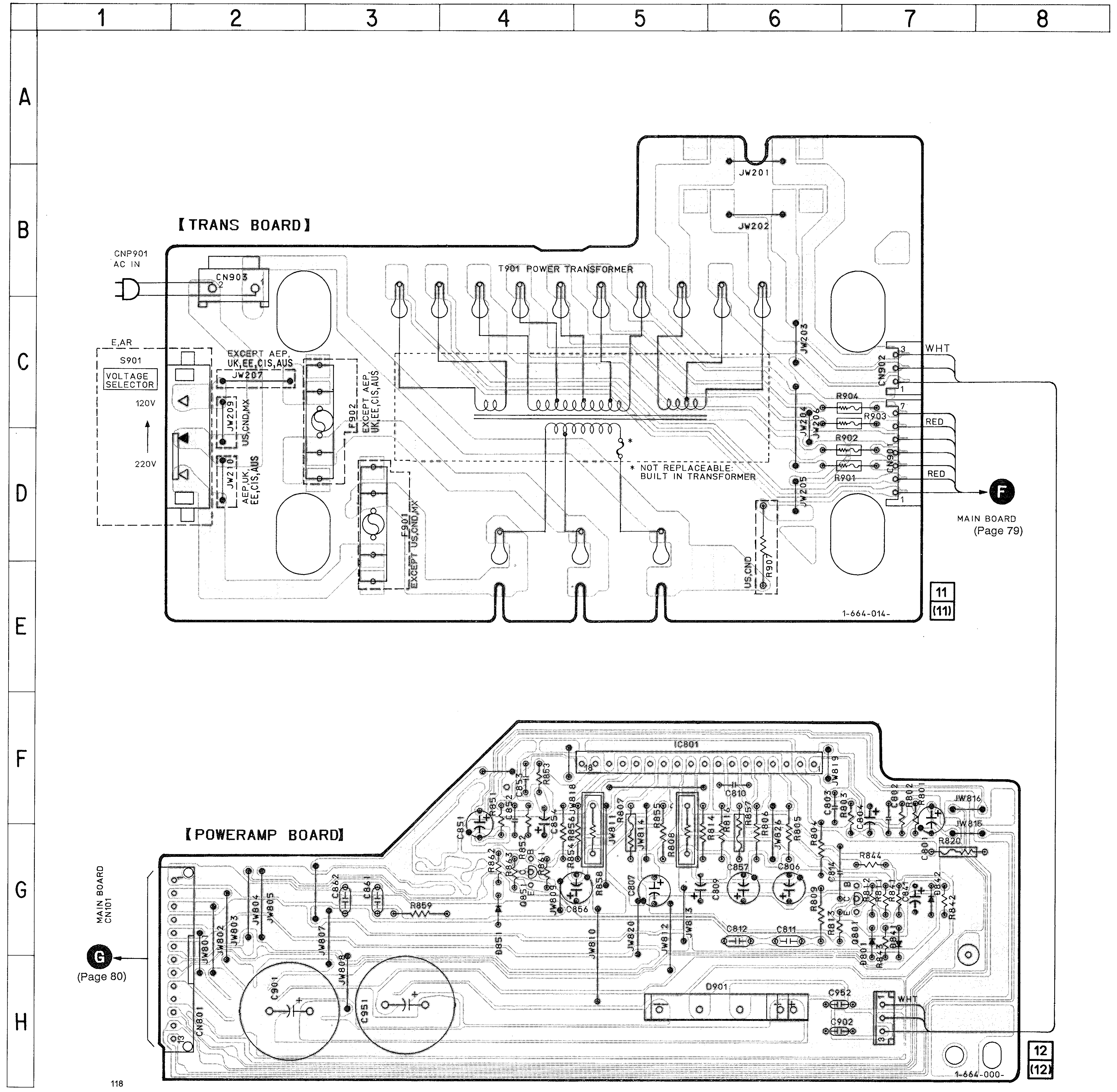
- ○—— : parts extracted from the component side.
- △ : internal component.
- ▒▒ : Pattern from the side which enables seeing.

6-18. PRINTED WIRING BOARDS – POWER Section –

• See page 39 for Circuit Boards Location.

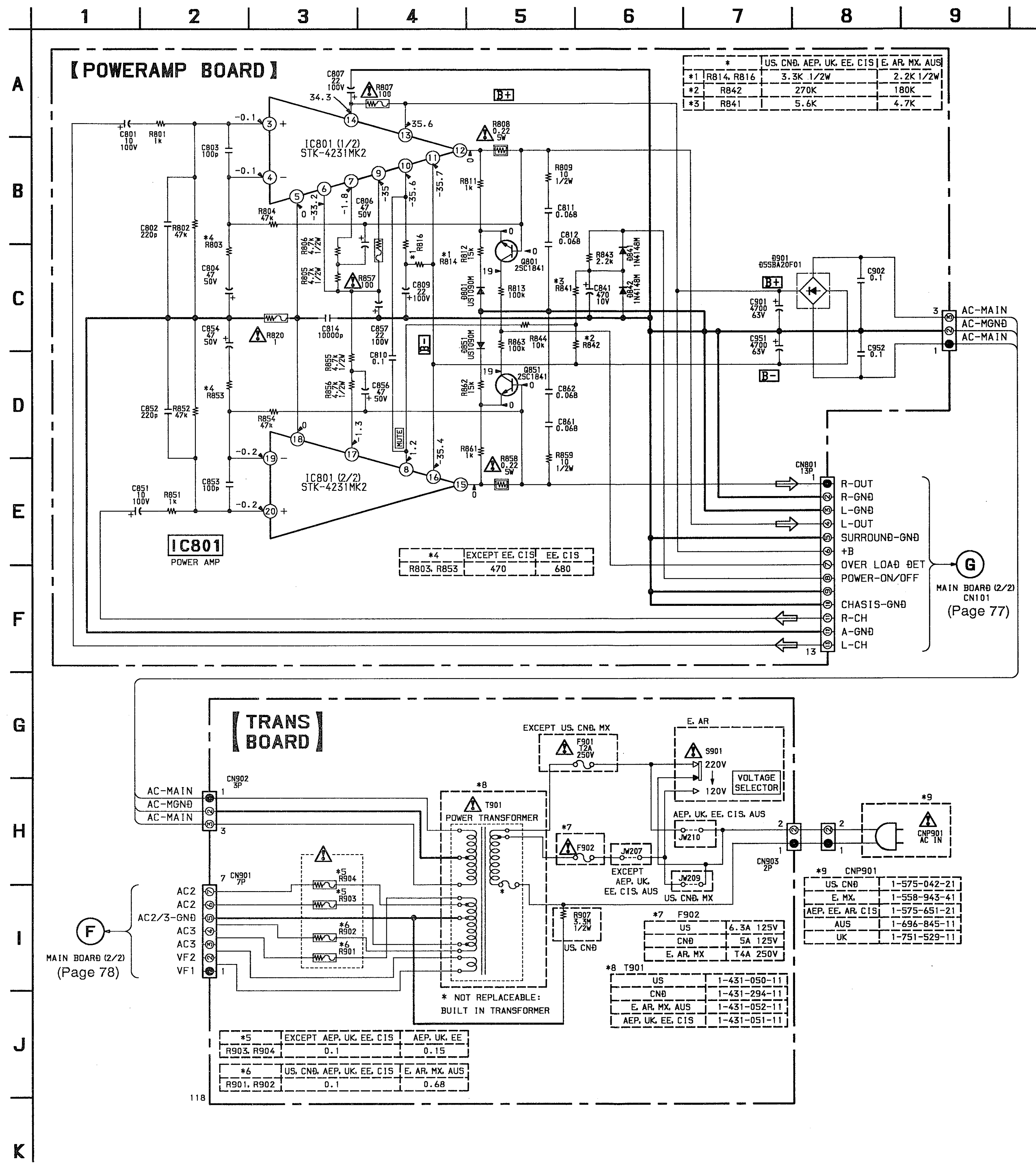
• Semiconductor Location

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
CND : Canadian model
EE : East European model
MX : Mexican model
AUS : Australian model
AR : Argentine model

6-19. SCHEMATIC DIAGRAM – POWER Section –



NOTE

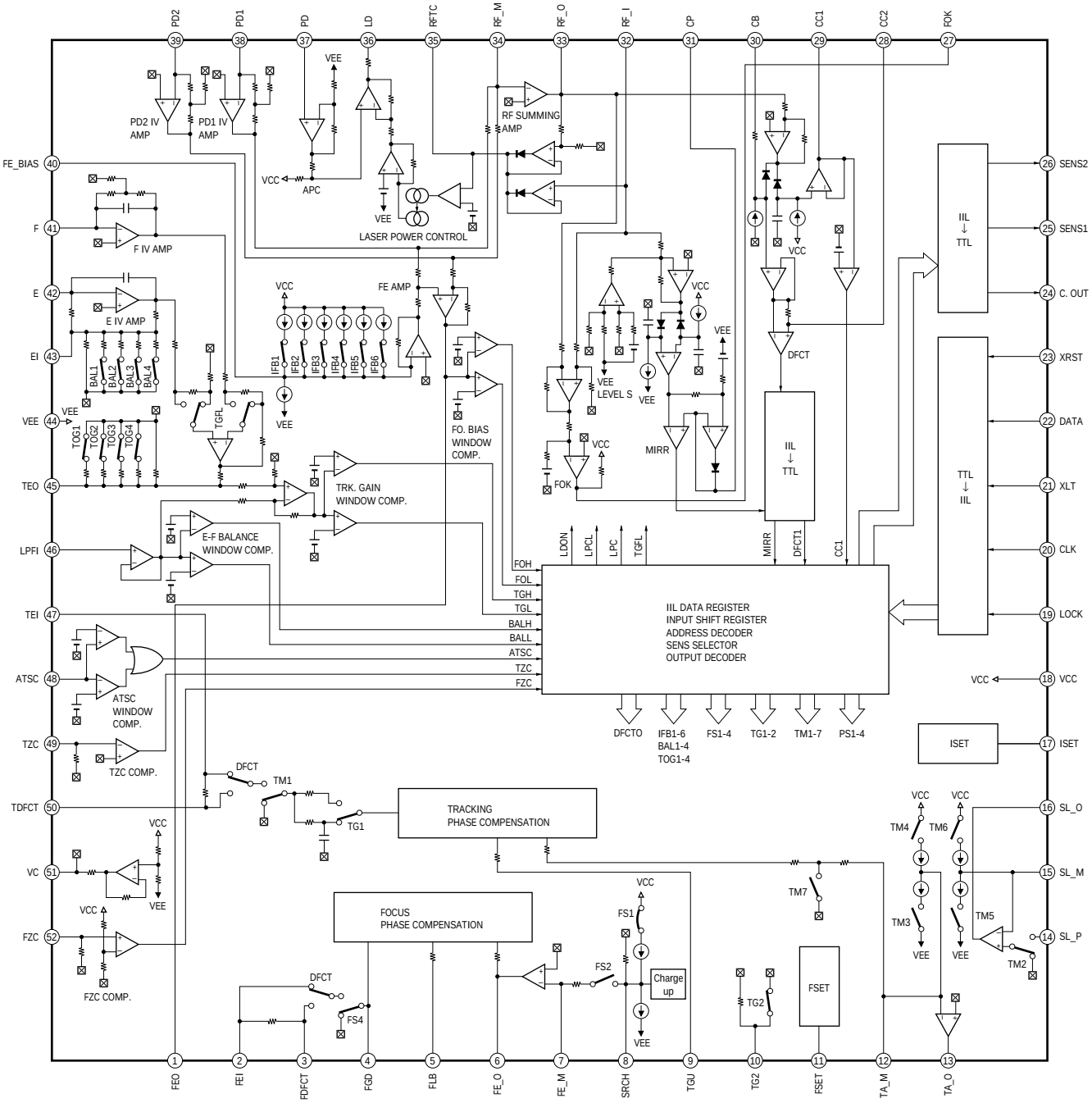
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- :nonflammable resistor.
- :fusible resistor.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Note: Les composants identifiès par une marque ⚠ sont critiques pour la sècuritè. Ne les remplacer que par une piѐce portant le numѐro spècifiè.

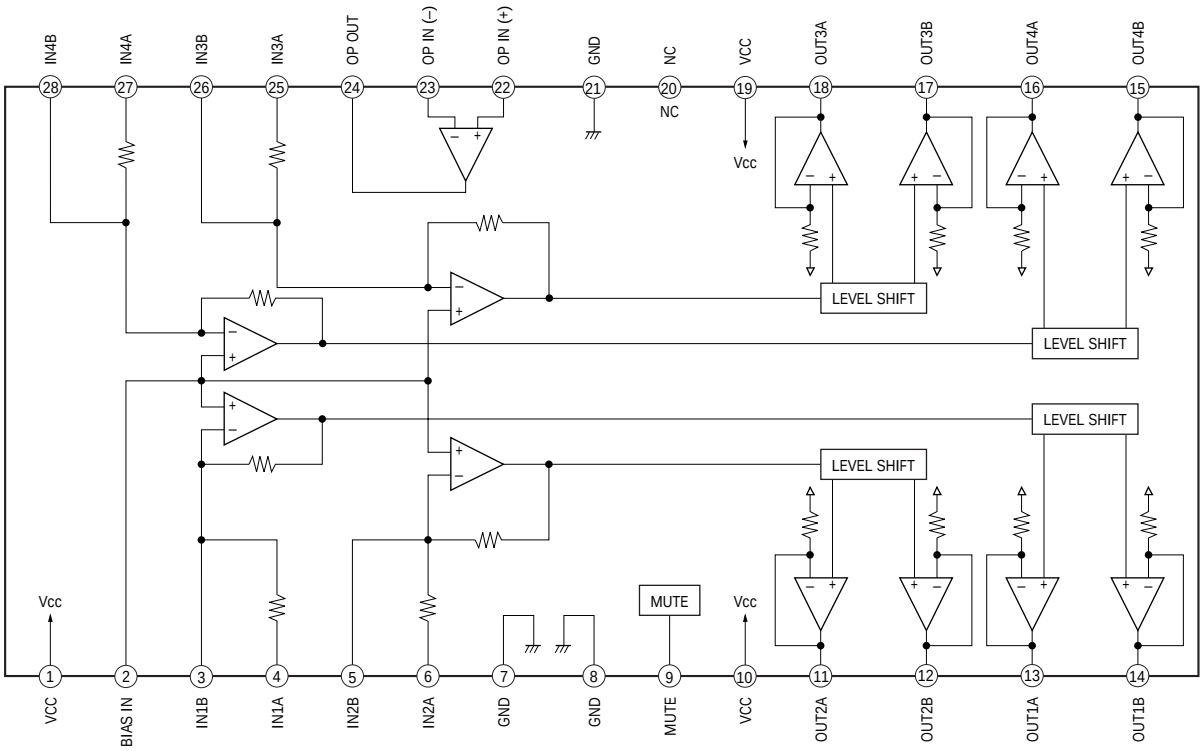
- B+ :B+ Line.
- B– :B- Line.
- Voltages are dc with respect to ground under no-signal conditions.
  no mark: FM
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Abbreviation
  CND: Canadian model.
  EE : East European model.
  MX : Mexican model.
  AUS: Australian model.
  AR : Argentine model.

• **IC Block Diagrams –BD Section –**

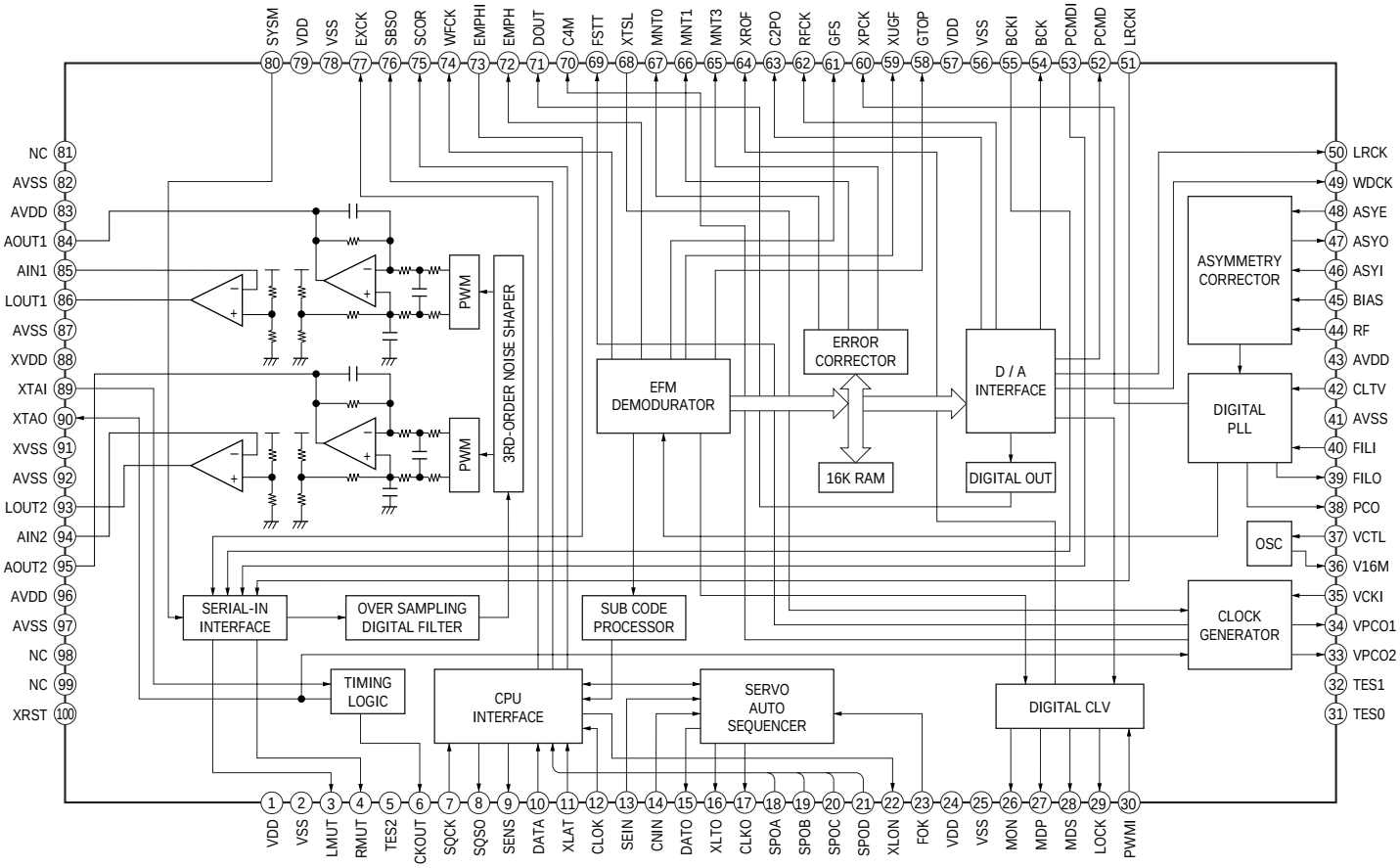
IC101 CXA1992AR



IC102 BA5941FP

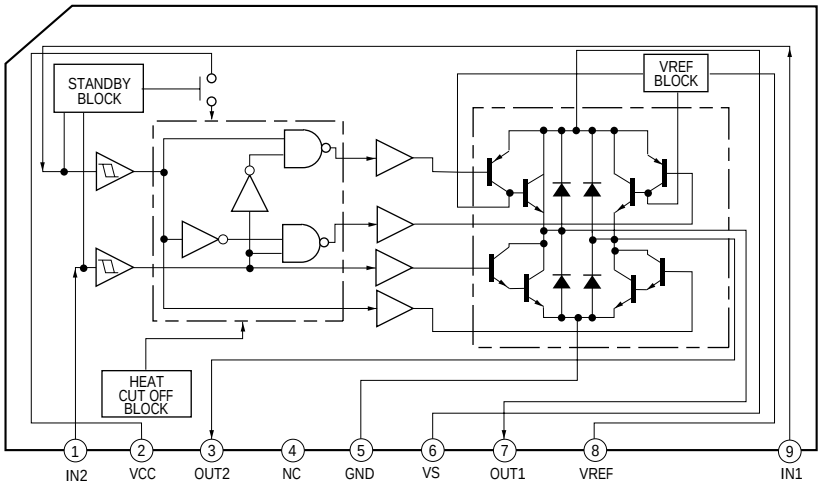


IC103 CXD2519Q



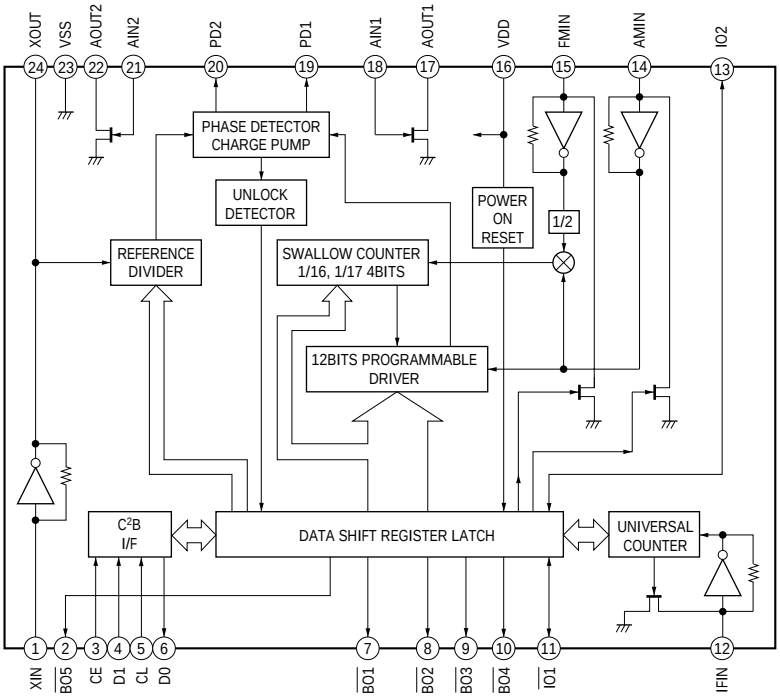
– CD MOTOR Section –

IC201 TA8409S

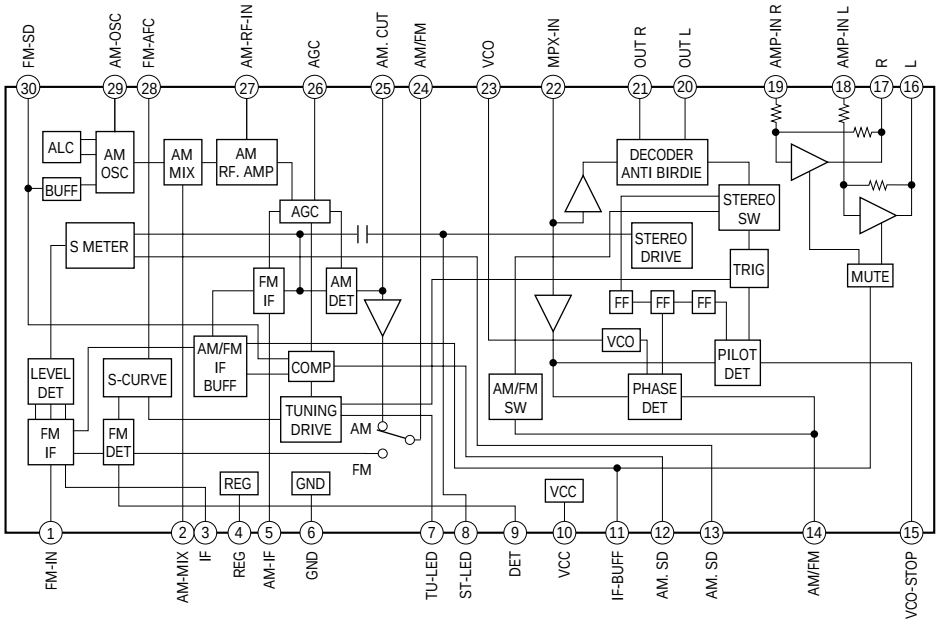


– TUNER Section –

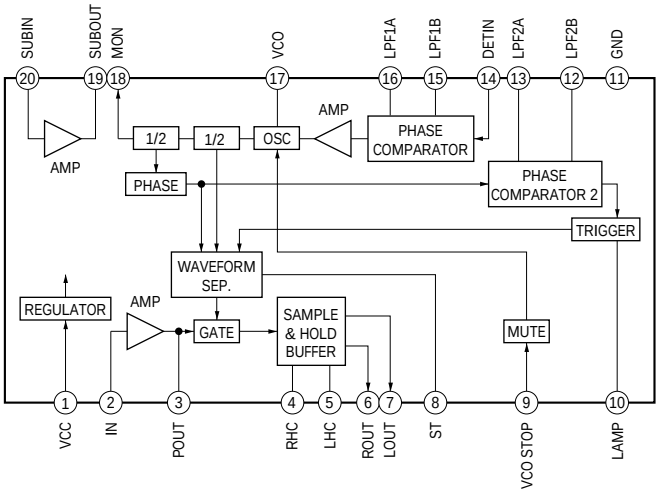
IC1 LC72130 (Except AEP, UK, East European, CIS models)
IC21 LC72130 (AEP, UK, East European, CIS models)



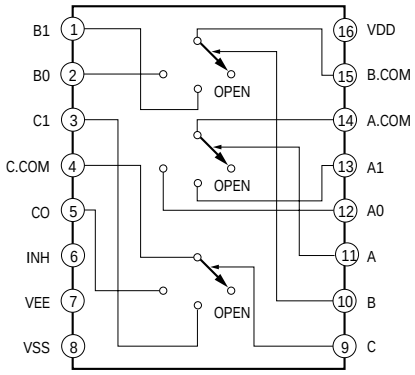
IC2 LA1835 (Except AP, UK, East European, CIS models)
IC41 LA1835 (AEP, UK, East European, CIS models)



IC1701 IR3R42 (East European, CIS models)

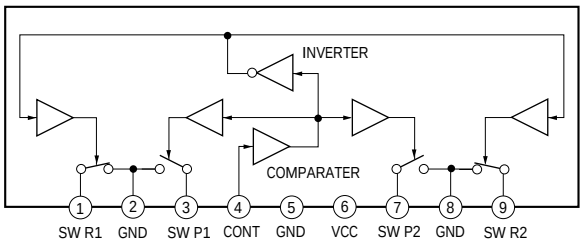


IC1702 MC14053BCP (East European, CIS models)

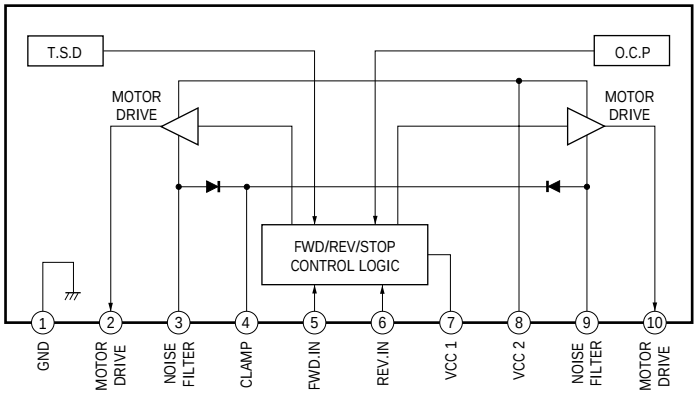


– DECK Section –

IC602 µPC1330HA

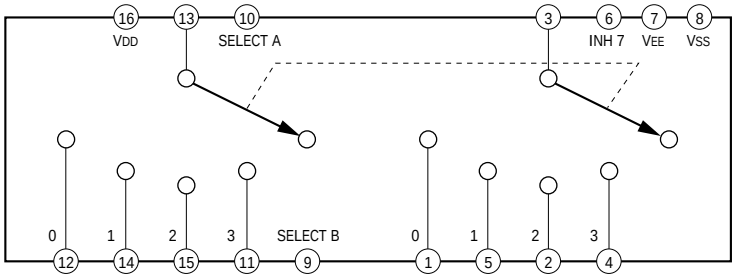


IC502 LB1641

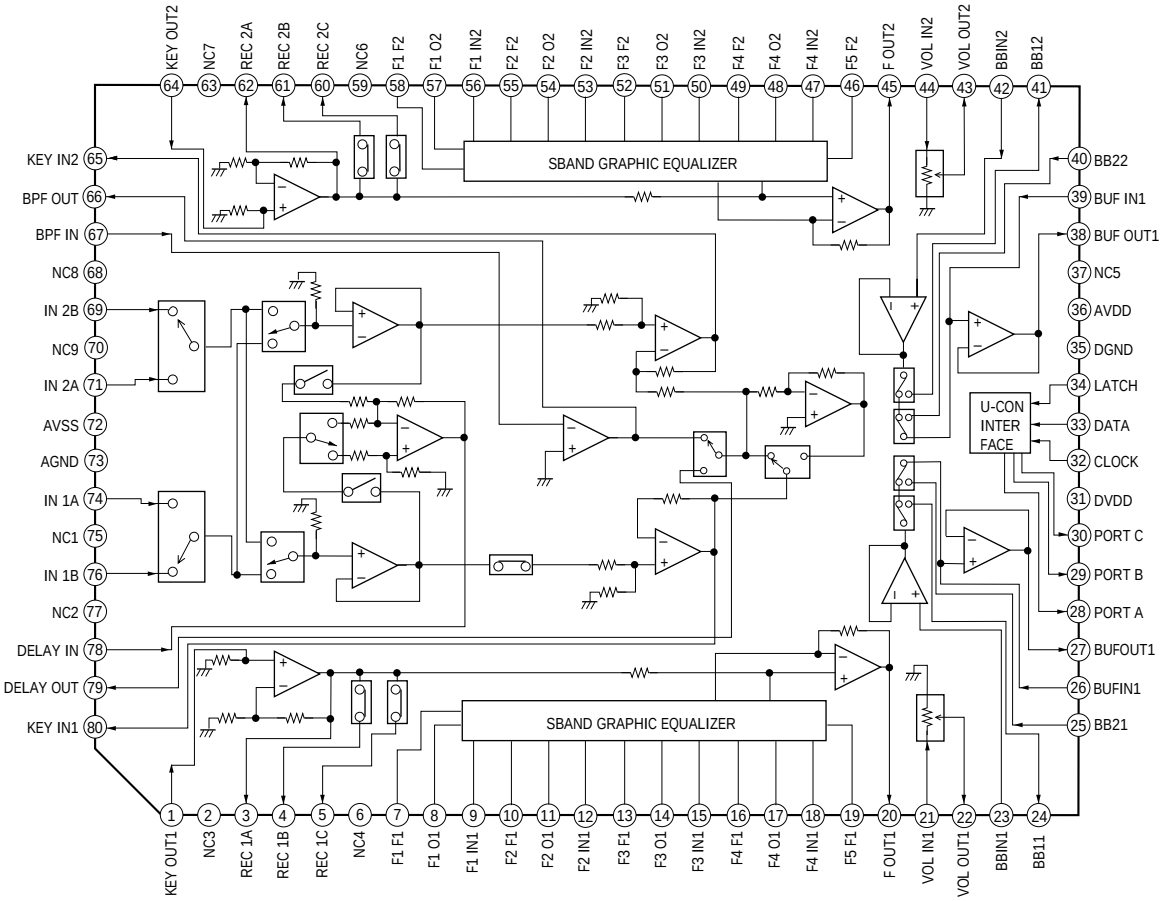


– MAIN Section –

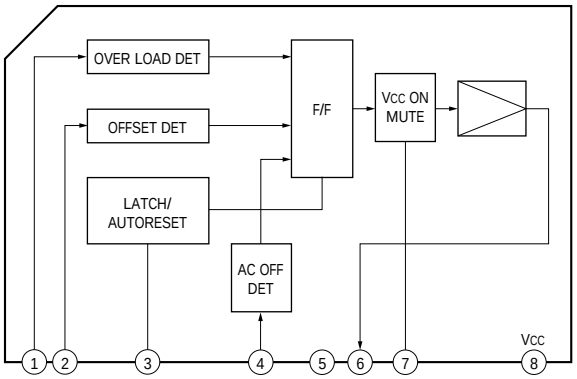
IC102 MC14052BCP



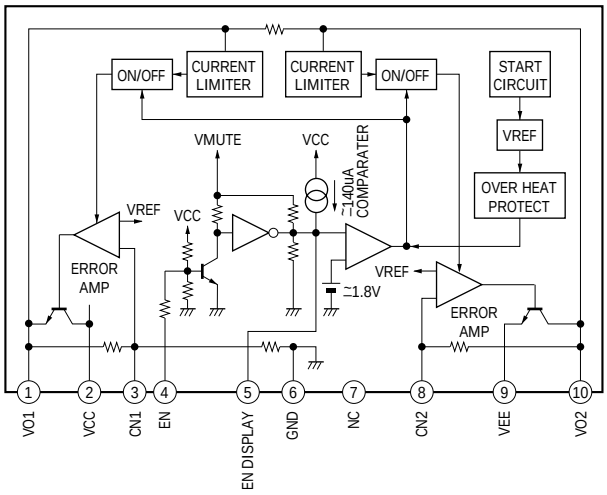
IC201 M6247FP



IC281 µPC1237HA



IC901 LA5617



6-20. IC PIN FUNCTION DESCRIPTION

MAIN BOARD IC301 µPD780018Y (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	Not used
5	KCON-ON/OFF	O	
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	O	Sub code 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-CLOK	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	I	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

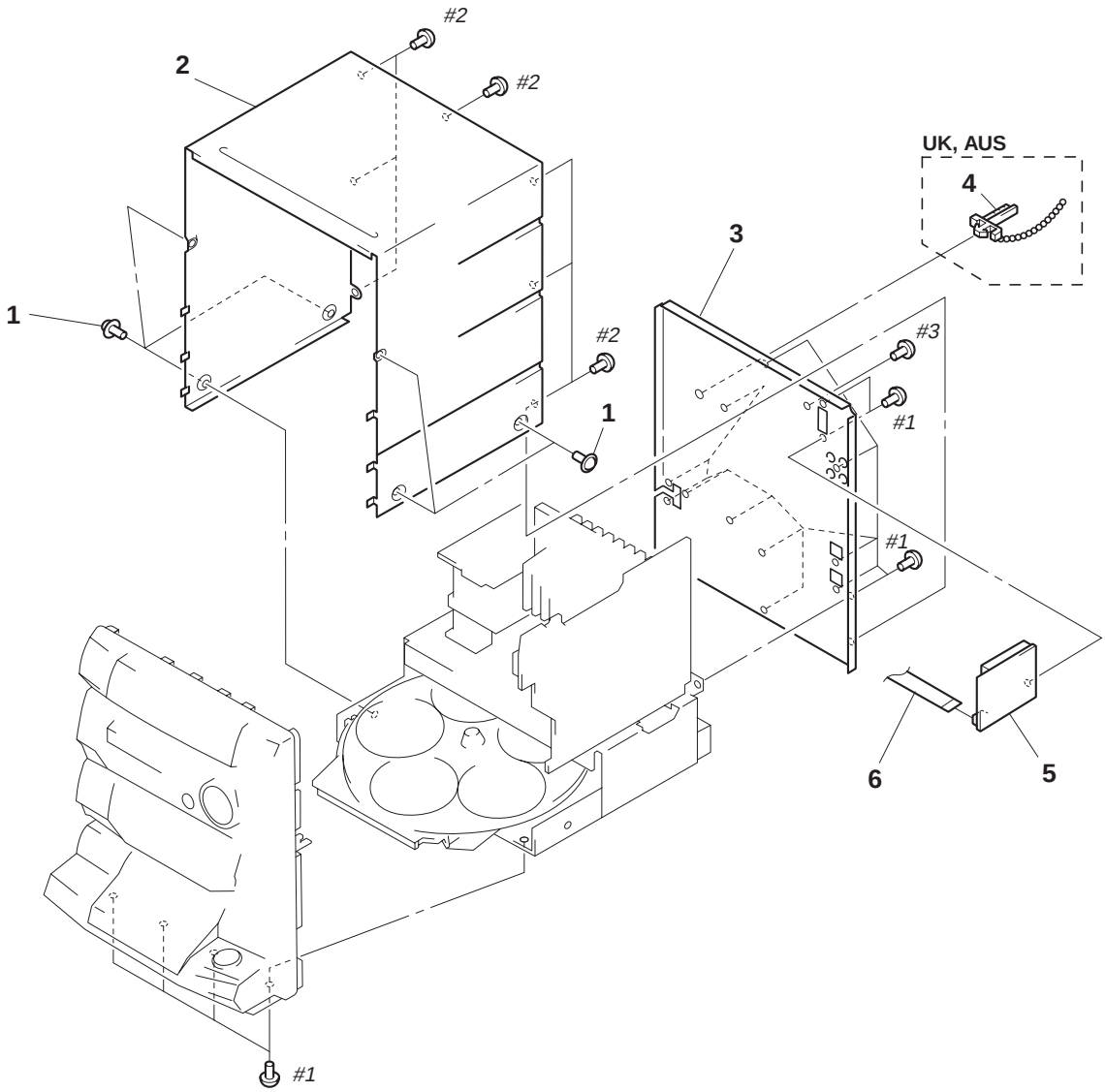
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearrance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  AR: Argentine EE: East European
  AUS: Australian MX: Mexican
  CND: Canadian
- 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.

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

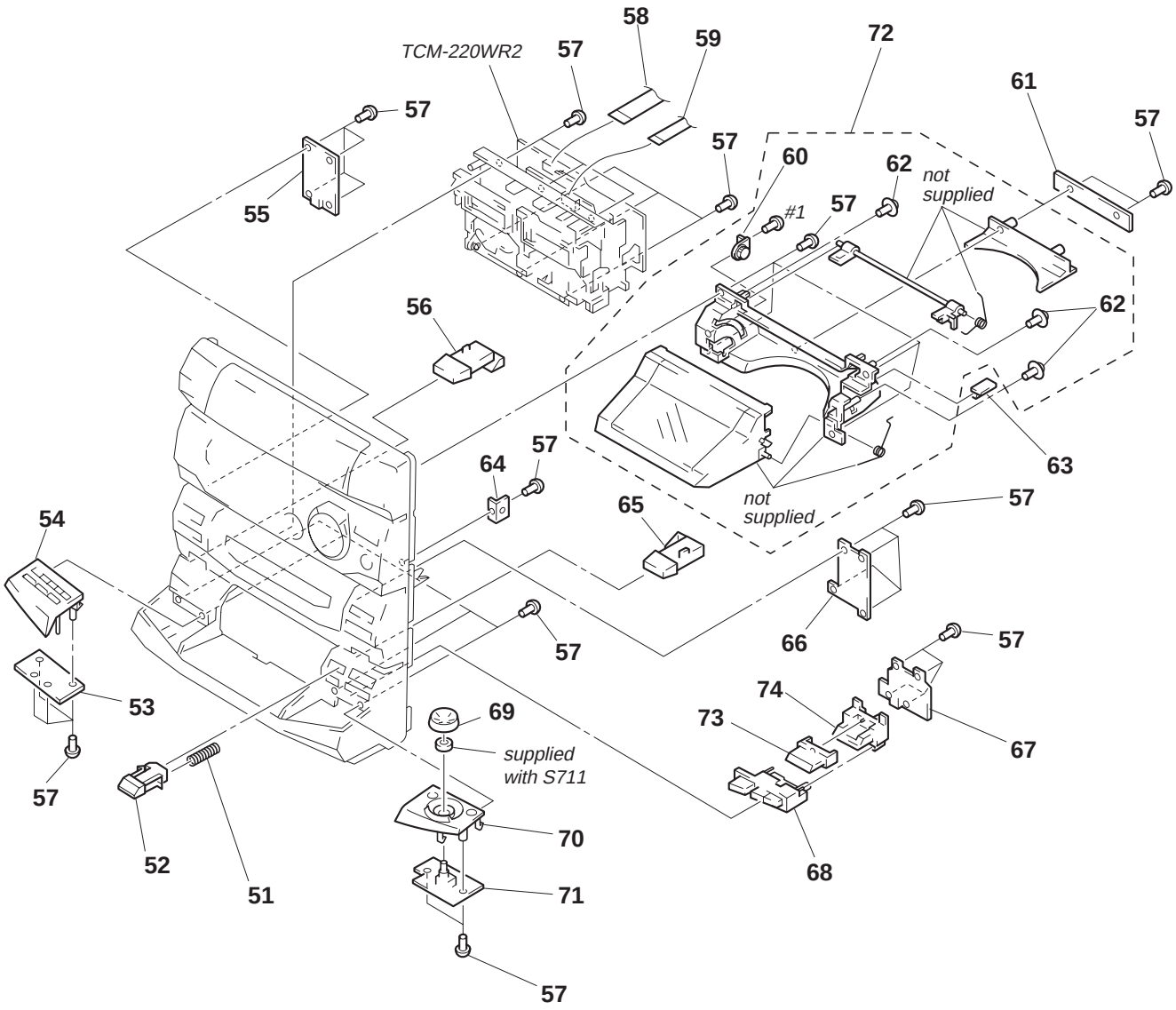
Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

(1) CASE, REAR PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	4-929-973-01	SCREW (CASE, 3 POINT)	
* 2	4-987-052-11	CASE (EXCEPT E,AR,MX,AUS)	
* 2	4-987-052-31	CASE (E,AR,MX,AUS)	
* 3	4-987-044-31	PANEL, BACK (AEP,UK)	
* 3	4-987-044-51	PANEL, BACK (EE,CIS)	
* 3	4-987-044-61	PANEL, BACK (US)	
* 3	4-987-044-71	PANEL, BACK (CND)	
* 3	4-987-926-01	PANEL, BACK (E,AR)	
* 3	4-987-926-11	PANEL, BACK (AUS)	
* 3	4-987-926-31	PANEL, BACK (XB6:MX)	
* 3	4-987-926-81	PANEL, BACK (XB600:MX)	
4	4-956-370-12	BAND, PLUG FIXED (UK, AUS)	
* 5	A-4303-510-A	TCB BOARD, COMPLETE (US,CND)	
* 5	A-4303-512-A	TCB BOARD, COMPLETE (E,AR,MX,AUS)	
* 5	A-4303-570-A	TCB BOARD, COMPLETE (EE,CIS)	
* 5	A-4303-576-A	TCB BOARD, COMPLETE (AEP,UK)	
6	1-769-974-11	WIRE (FLAT TYPE) (13 CORE) (EXCEPTAEP,UK,EE,CIS)	
6	1-773-006-11	WIRE (FLAT TYPE) (15 CORE) (AEP,UK,EE,CIS)	

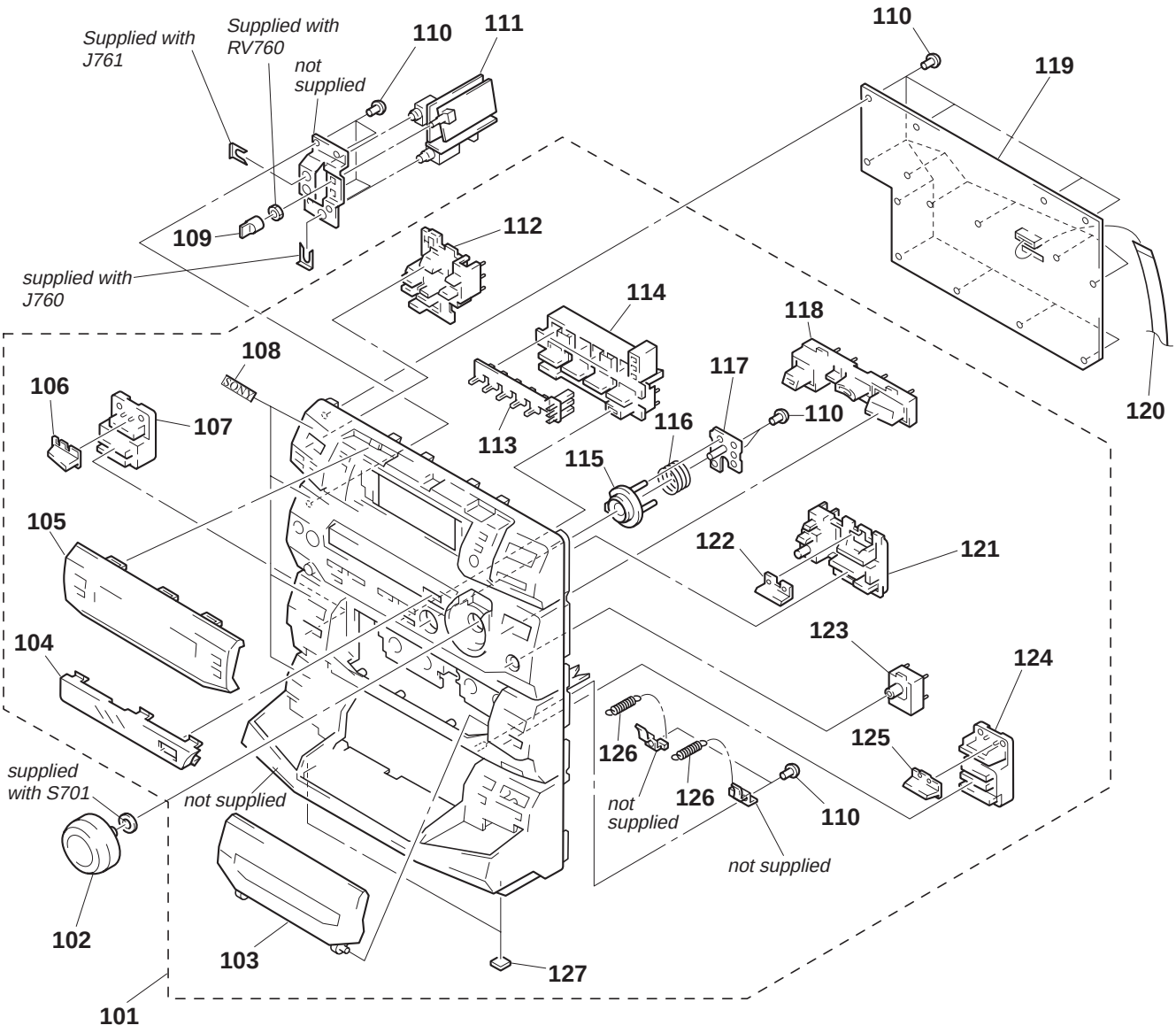
(2) FRONT PANEL SECTION-1



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-4948-295-1	PANEL (A) SUB ASSY (D690)	
54	X-4948-348-1	PANEL (A) SUB ASSY (XB6/XB600)	
* 55	1-664-012-11	TC-A SW BOARD	
56	4-986-999-01	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	

Ref. No.	Part No.	Description	Remark
62	4-957-577-01	SCREW PTP WH (2.6X8) (DIA. 10)	
* 63	1-664-016-11	DOOR SW BOARD	
* 64	4-987-933-01	BRACKET (TA)	
65	4-987-000-01	BUTTON (EJECT B)	
* 66	1-664-013-11	TC-B SW BOARD	
* 67	1-664-020-11	CD-B1 SW BOARD	
68	X-4947-969-1	BUTTON (CD STOP) ASSY	
69	4-987-037-01	KNOB (JOG)	
70	X-4948-296-1	PANEL (B) SUB ASSY	
* 71	1-664-021-11	CD-B2 SW BOARD	
72	A-4384-396-A	LID ASSY, CD	
73	4-987-014-01	INDICATOR (CD)	
74	4-987-002-01	BUTTON (CD,PLAY)	

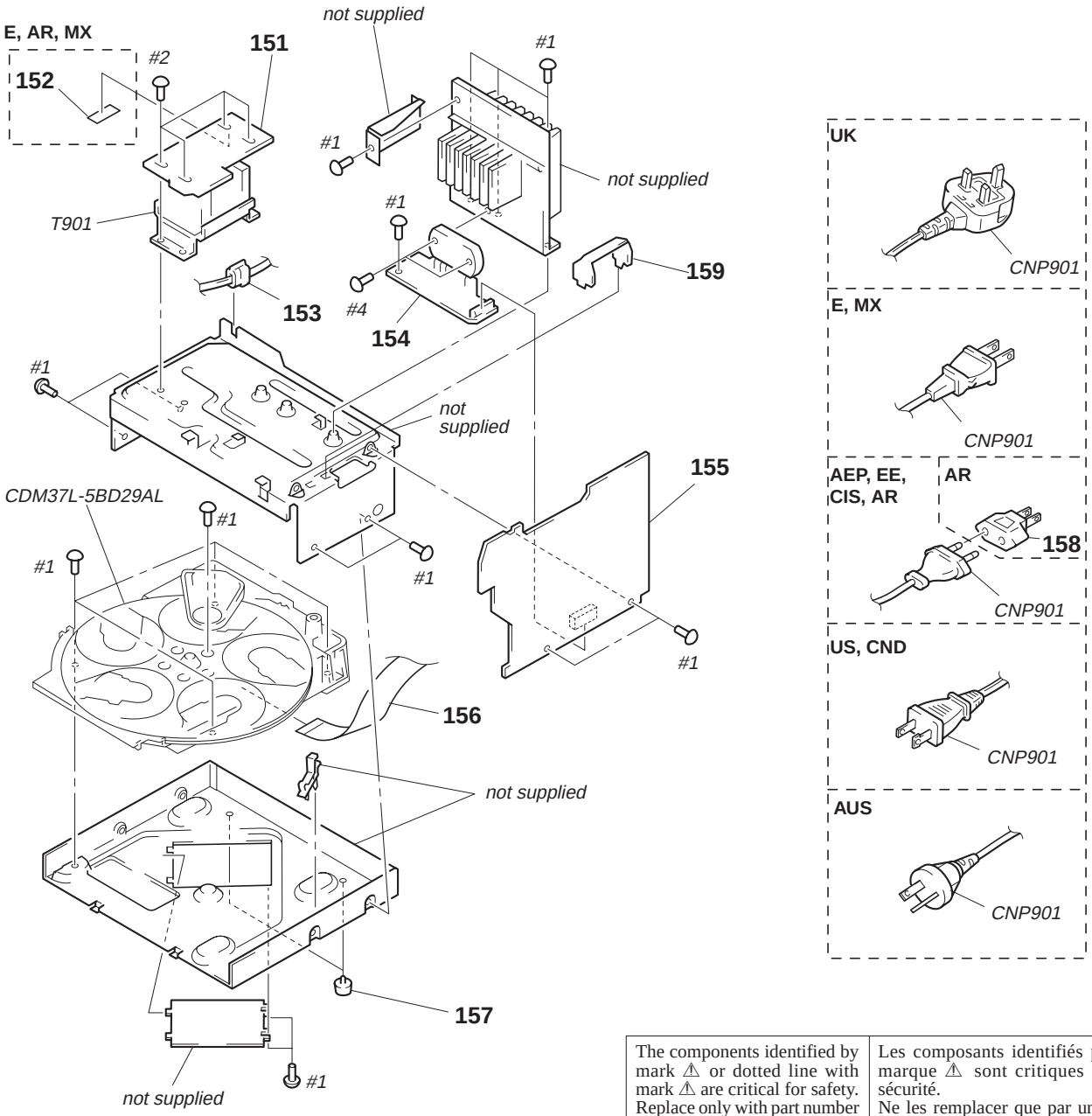
(3) FRONT PANEL SECTION-2



Ref. No.	Part No.	Description	Remark
101	A-4384-402-A	PANEL ASSY, FRONT (D690)	
101	A-4384-403-A	PANEL ASSY, FRONT (XB6)	
101	A-4384-480-A	PANEL ASSY, FRONT (XB600)	
102	4-987-036-01	KNOB (VOL)	
103	X-4947-961-1	LID ASSY, CASSETTE	
104	4-987-032-01	DISPLAY (TA)	
105	4-987-028-01	DISPLAY (ST)	
106	4-987-021-01	INDICATOR (TC A)	
107	4-986-997-01	BUTTON (DECK.A)	
108	4-963-404-21	EMBLEM (5-A), SONY	
109	4-973-644-01	KNOB (MIC)	
110	4-951-620-01	SCREW (2.6X8), +BVTP	
* 111	A-4392-452-A	HEADPHONE-MIC BOARD, COMPLETE	
112	4-986-986-01	BUTTON (POWER)	
113	4-987-012-01	INDICATOR (TA)	

Ref. No.	Part No.	Description	Remark
114	X-4947-964-1	BUTTON (SOUND) ASSY	
115	4-986-990-01	BUTTON (CURSOR)	
116	4-978-683-01	SPRING, COMPRESSION	
* 117	4-987-041-01	COVER, CURSOR	
118	X-4947-963-1	BUTTON (FUNCTION) ASSY	
* 119	A-4392-412-A	PANEL BOARD, COMPLETE	
120	1-773-051-11	WIRE (FLAT TYPE) (17 CORE)	
121	X-4947-962-1	BUTTON (TUNER) ASSY	
122	4-987-013-01	INDICATOR (TUNER)	
123	X-4947-968-1	BUTTON (WOOFER) ASSY	
124	X-4947-967-1	BUTTON (DECK B) ASSY	
125	4-987-022-01	INDICATOR (TC B)	
126	4-987-996-01	SPRING (TC LID), TENSION	
127	4-948-236-01	CUSHION (107)	

(4) CHASSIS SECTION

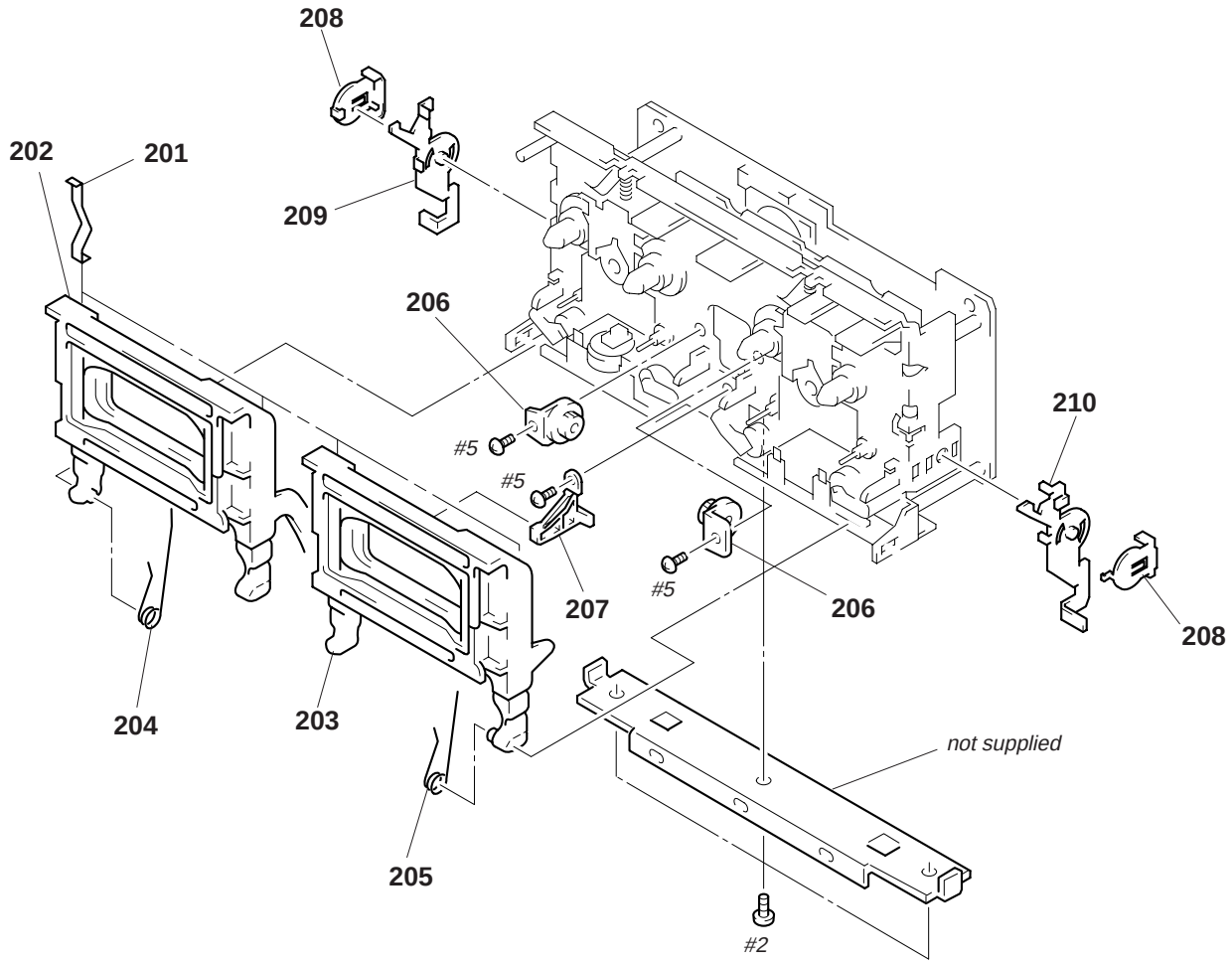


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

Ref. No.	Part No.	Description	Remark
* 151	1-664-014-11	TRANS BOARD	
152	3-701-948-20	LABEL (T4A), FUSE (E,AR,MX)	
153	3-703-244-00	BUSHING (FBS001), CORD (EXCEPT E,AR,MX)	
153	4-966-266-01	BUSHING (S) (FBS002), CORD (E,AR,MX)	
* 154	A-4392-410-A	POWER AMP BOARD, CONPLETE (US,CND)	
* 154	A-4392-425-A	POWER AMP BOARD, CONPLETE (AEP,UK)	
* 154	A-4392-436-A	POWER AMP BOARD, CONPLETE (E,AR,MX,AUS)	
* 154	A-4398-360-A	POWER AMP BOARD, CONPLETE (EE,CIS)	
* 155	A-4392-407-A	MAIN BOARD, CONPLETE (US,CND)	
* 155	A-4392-430-A	MAIN BOARD, CONPLETE (AEP,UK)	
* 155	A-4392-433-A	MAIN BOARD, CONPLETE (E,AR,MX)	
* 155	A-4392-742-A	MAIN BOARD, CONPLETE (AUS)	

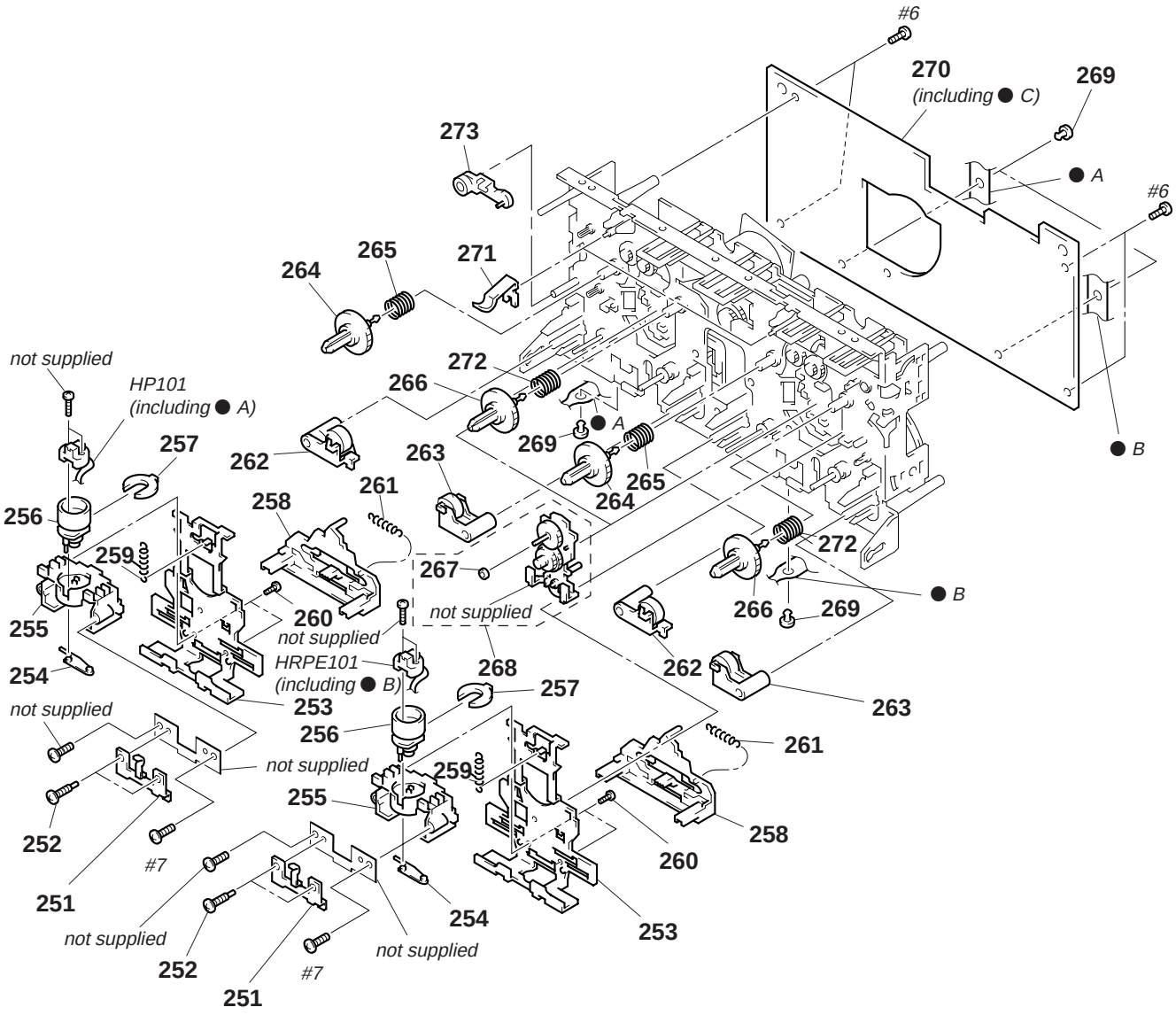
Ref. No.	Part No.	Description	Remark
* 155	A-4398-674-A	MAIN BOARD, CONPLETE (EE,CIS)	
156	1-777-868-11	WIRE (FLAT TYPE) (19 CORE)	
157	X-4941-228-1	FOOT (F22125H-M)	
158	1-569-008-11	ADAPTOR, CONVERSION 2P (AR)	
* 159	4-988-533-01	HOLDER, PCB (MALAYSIA PRODUCT)	
* 159	4-988-533-11	HOLDER, PCB (EXCEPT MALAYSIA PRODUCT)	
⚠CNP901	1-558-943-41	CORD, POWER (E,MX)	
⚠CNP901	1-575-042-21	CORD, POWER (US,CND)	
⚠CNP901	1-575-651-21	CORD, POWER (AEP,EE,CIS,AR)	
⚠CNP901	1-696-845-11	CORD, POWER (AUS)	
⚠CNP901	1-751-529-11	CORD, POWER (UK)	
⚠T901	1-431-050-11	TRANSFORMER, POWER (US)	
⚠T901	1-431-051-11	TRANSFORMER, POWER (AEP,UK,EE,CIS)	
⚠T901	1-431-052-11	TRANSFORMER, POWER (E,AR,MX,AUS)	
⚠T901	1-431-294-11	TRANSFORMER, POWER (CND)	

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



Ref. No.	Part No.	Description	Remark
201	4-959-229-11	DETENT, CASSETTE	
202	X-4947-943-1	HOLDER (L) ASSY, CASSETTE	
203	X-4947-944-1	HOLDER (R) ASSY, CASSETTE	
204	4-959-231-11	SPRING (L), TORSION	
205	4-959-232-11	SPRING (R), TORSION	
206	3-354-963-01	DAMPER	
* 207	4-980-439-01	FULCRUM, HOLDER	
208	3-354-957-01	JOINT (LOCK LEVER)	
209	3-354-953-01	LEVER (LOCK LEVER L)	
210	3-354-954-01	LEVER (LOCK LEVER R)	

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

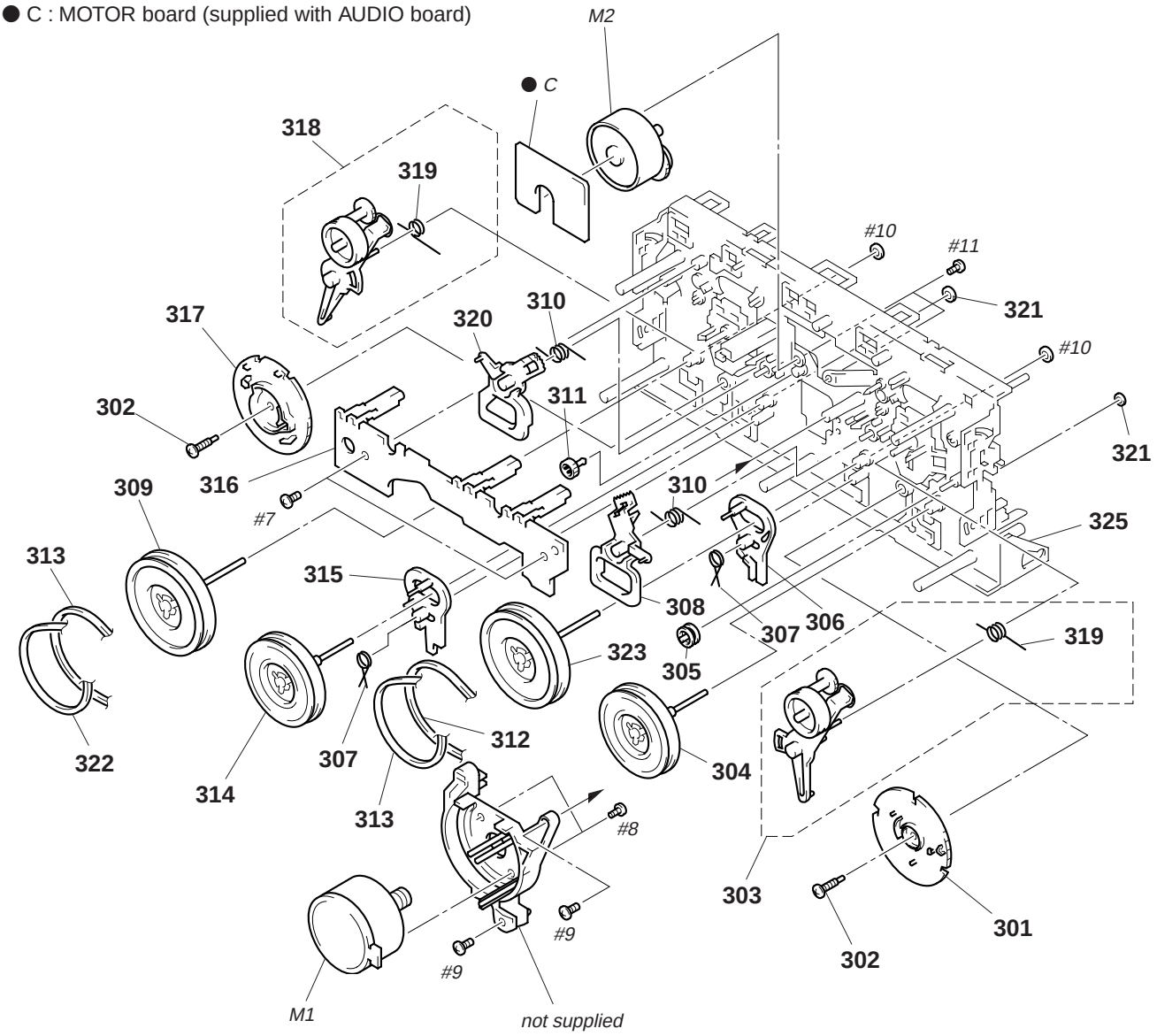


Ref. No.	Part No.	Description	Remark
251	3-908-560-01	SPRING, AZIMUTH ADJUSTMENT	
252	3-919-684-01	SCREW, AZIMUTH ADJUSTMENT	
253	X-3373-113-1	SLIDER (HEAD) ASSY	
254	3-908-556-01	SPRING, HEAD TOGGLE	
255	3-908-558-02	FITTING BLOCK, HEAD	
256	3-908-557-02	ROTARY BLOCK, HEAD	
* 257	3-908-559-01	STOPPER, AZIMUTH	
258	3-908-555-01	SLIDER (REV SLIDER)	
259	3-917-143-11	SPRING, TENSION	
260	3-388-848-01	SCREW (P2X6) (B TIGHT)	
261	3-939-371-01	SPRING (1), TENSION	
262	X-3369-909-1	PINCH LEVER (REV) ASSY	

Ref. No.	Part No.	Description	Remark
263	X-3369-908-1	PINCH LEVER (FWD) ASSY	
264	3-908-613-01	GEAR (S), REEL	
265	3-917-141-01	SPRING, COMPRESSION	
266	X-3371-305-1	REEL (T) ASSY	
267	3-669-465-01	WASHER (1.5), STOPPER	
268	X-3370-173-1	TU ASSY	
269	3-939-862-01	CLIP	
* 270	A-2007-131-A	AUDIO BOARD, COMPLETE	
271	3-930-972-01	DETENT, HALF	
272	3-917-142-01	SPRING, COMPRESSION	
273	3-938-863-01	STOPPER	
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK)	
HRPE101	1-500-094-11	HEAD, MAGNETIC (REC/PB/ERASE)	

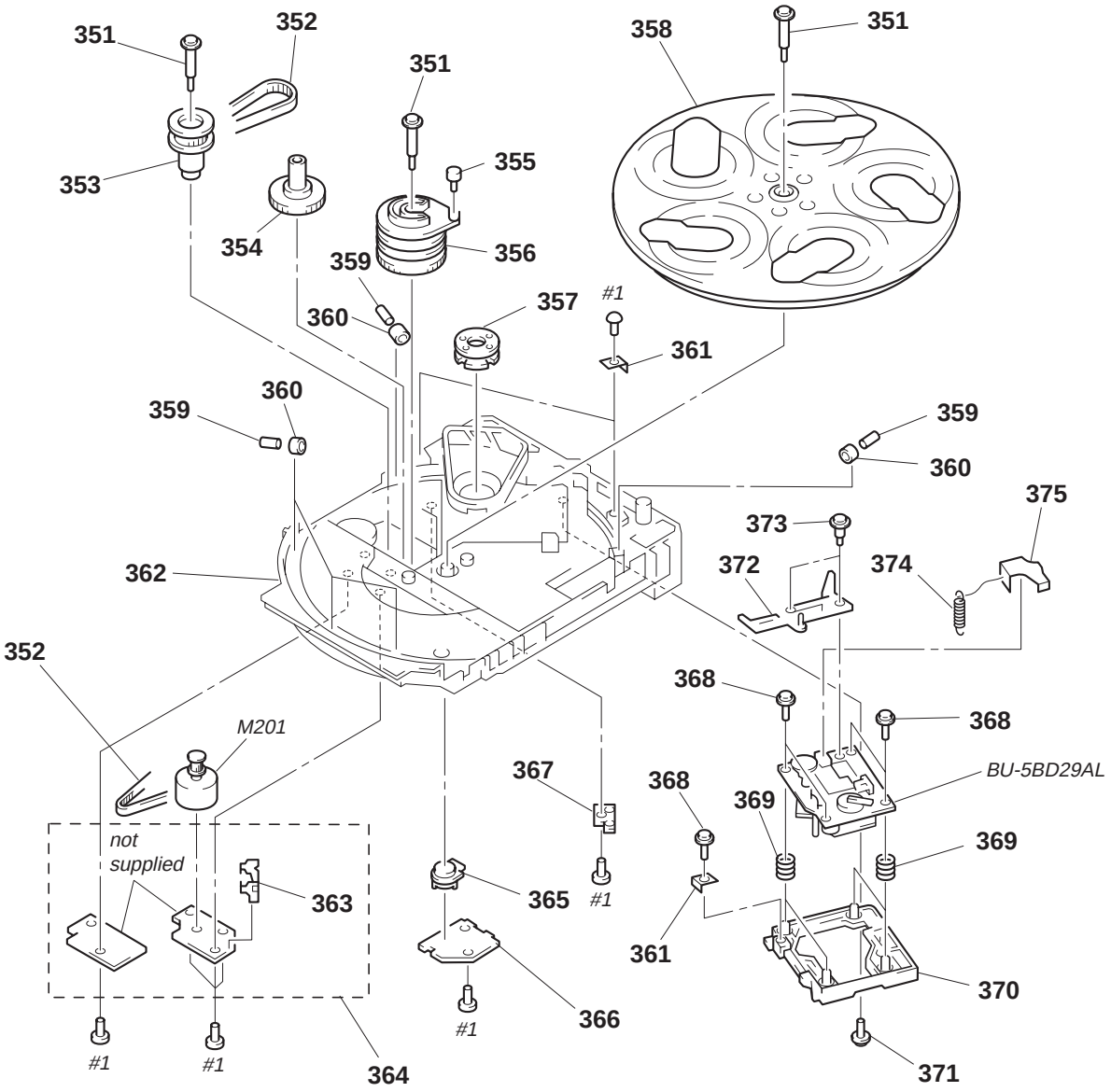
(7) TAPE MECHANISM DECK SECTION-3 (TCM-220WR2)

● C : MOTOR board (supplied with AUDIO board)



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

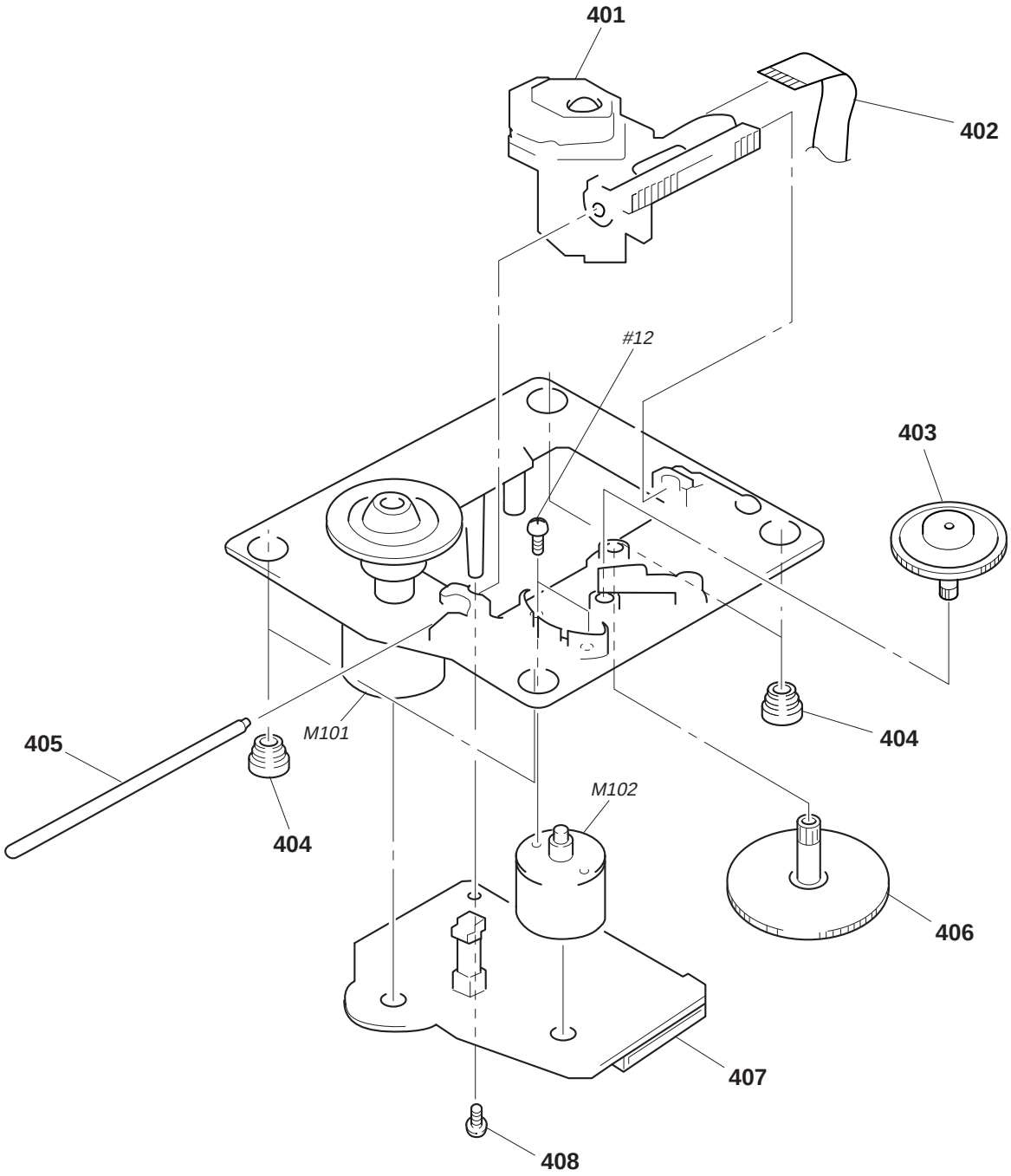
(8) CD MECHANISM DECK SECTION (CDM37L-5BD29AL)



Ref. No.	Part No.	Description	Remark
351	4-987-976-01	SCREW, STEP	
352	4-944-490-01	BELT (TIMING)	
353	A-4660-978-A	GEAR (PULLEY) ASSY	
354	4-978-421-01	GEAR (MID)	
355	4-978-425-01	ROLLER (CAM)	
356	4-978-420-01	CAM (HOLDER)	
357	1-452-538-11	MAGNET	
358	4-978-417-01	TABLE, DISC	
359	4-934-376-01	SHAFT (ROLLER)	
360	X-4924-457-1	ROLLER ASSY	
* 361	4-978-583-01	BRACKET (BU)	
* 362	4-978-418-01	CHASSIS	
* 363	4-980-385-01	HOLDER(SW)	

Ref. No.	Part No.	Description	Remark
* 364	A-4673-765-A	CD MOTOR BOARD, COMPLETE	
365	4-978-426-01	INDICATOR (NO.)	
* 366	1-659-059-13	BD LED BOARD	
* 367	1-659-058-13	TABLE SENSOR BOARD	
368	4-933-134-01	SCREW (+PTPWH M2.6X6)	
369	4-958-593-01	SPRING (BU), COMPRESSION	
* 370	4-978-419-01	HOLDER (BU-5)	
371	4-917-583-71	BRACKET, YOKE	
* 372	4-989-493-01	SLIDER (37)	
373	4-989-494-01	SCREW (SLIDER), STEP	
374	4-989-819-01	SPRING, TENSION	
* 375	4-989-491-21	COVER, LENS	
M201	A-4660-977-A	MOTOR ASSY (TABLE)	

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



Ref. No.	Part No.	Description	Remark
⚠401	8-820-020-01	OPTICAL PICK-UP KSS-213D/Q-NP	
402	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
403	4-917-567-21	GEAR (M)	
404	4-951-940-01	INSULATOR (BU)	
405	4-917-565-01	SHAFT, SLED	
406	4-917-564-01	GEAR (P), FLATNESS	
* 407	A-4699-522-A	BD BOARD, COMPLETE	
408	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-504-1	MOTOR ASSY (SPINDLE)	
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.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

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. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH
- Abbreviation
  AR : Argentine
  AUS : Australian
  CND : Canadian
  EE : East European
  MX : Mexican

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

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

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

Ref. No.	Part No.	Description			Remark
*	A-2007-131-A	AUDIO BOARD, COMPLETE			
		**********			
		(including MOTOR BOARD)			
		< CAPACITOR >			
C301	1-162-289-31	CERAMIC	390PF	10%	50V
C302	1-126-968-11	ELECT	100uF	20%	6.3V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-130-483-00	MYLAR	0.01uF	5%	50V
C305	1-107-715-11	ELECT	22uF	20%	16V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-162-282-31	CERAMIC	100PF	10%	50V
C314	1-130-487-00	MYLAR	0.022uF	5%	50V
C315	1-126-233-11	ELECT	22uF	20%	50V
C331	1-137-427-11	FILM	120PF	5%	50V
C332	1-162-288-31	CERAMIC	330PF	10%	50V
C333	1-162-209-31	CERAMIC	27PF	5%	50V
C401	1-162-289-31	CERAMIC	390PF	10%	50V
C402	1-126-968-11	ELECT	100uF	20%	6.3V
C403	1-162-282-31	CERAMIC	100PF	10%	50V
C404	1-130-483-00	MYLAR	0.01uF	5%	50V
C405	1-107-715-11	ELECT	22uF	20%	16V
C411	1-162-289-31	CERAMIC	390PF	10%	50V
C413	1-162-282-31	CERAMIC	100PF	10%	50V
C414	1-130-487-00	MYLAR	0.022uF	5%	50V
C415	1-126-233-11	ELECT	22uF	20%	50V
C431	1-137-427-11	FILM	120PF	5%	50V
C432	1-162-288-31	CERAMIC	330PF	10%	50V
C433	1-162-209-31	CERAMIC	27PF	5%	50V
C601	1-104-396-11	ELECT	10uF	20%	16V
C602	1-104-396-11	ELECT	10uF	20%	16V
C611	1-124-907-11	ELECT	10uF	20%	50V
C612	1-124-907-11	ELECT	10uF	20%	50V
C621	1-137-150-11	FILM	0.01uF	5%	100V
C622	1-126-961-11	ELECT	2.2uF	20%	50V
C623	1-136-155-00	FILM	0.015uF	5%	50V
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V
C627	1-124-903-11	ELECT	1uF	20%	50V
C628	1-136-153-00	FILM	0.01uF	5%	50V
C642	1-104-664-11	ELECT	47uF	20%	16V
C651	1-161-494-00	CERAMIC	0.022uF	25V	

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CN601	1-695-382-31	PIN, CONNECTOR (PC BOARD) 21P			
CN602	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P			
* CN651	1-564-521-11	PLUG, CONNECTOR 6P			
		< IC >			
IC601	8-759-111-44	IC uPC4570C-1			
IC602	8-759-143-54	IC uPC1330HA			
IC611	8-759-111-44	IC uPC4570C-1			
		< COIL >			
L331	1-410-780-11	INDUCTOR	27mH		
L431	1-410-780-11	INDUCTOR	27mH		
		< TRANSISTOR >			
Q621	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q622	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q623	8-729-801-93	TRANSISTOR	2SD1387		
Q651	8-729-900-65	TRANSISTOR	DTA144ES		
		< RESISTOR >			
R301	1-247-881-00	CARBON	120K	5%	1/4W
R302	1-249-409-11	CARBON	220	5%	1/4W
R303	1-249-433-11	CARBON	22K	5%	1/4W
R304	1-247-889-00	CARBON	270K	5%	1/4W
R305	1-247-858-11	CARBON	13K	5%	1/4W
R311	1-247-881-00	CARBON	120K	5%	1/4W
R312	1-247-807-31	CARBON	100	5%	1/4W
R314	1-247-882-11	CARBON	130K	5%	1/4W
R315	1-247-850-11	CARBON	6.2K	5%	1/4W
R331	1-249-430-11	CARBON	12K	5%	1/4W
R401	1-247-881-00	CARBON	120K	5%	1/4W
R402	1-249-409-11	CARBON	220	5%	1/4W
R403	1-249-433-11	CARBON	22K	5%	1/4W
R404	1-247-889-00	CARBON	270K	5%	1/4W
R405	1-247-858-11	CARBON	13K	5%	1/4W
R411	1-247-881-00	CARBON	120K	5%	1/4W
R412	1-247-807-31	CARBON	100	5%	1/4W
R414	1-247-882-11	CARBON	130K	5%	1/4W
R415	1-247-850-11	CARBON	6.2K	5%	1/4W
R431	1-249-430-11	CARBON	12K	5%	1/4W
R601	1-249-409-11	CARBON	220	5%	1/4W
R602	1-249-409-11	CARBON	220	5%	1/4W

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

Ref. No.	Part No.	Description			Remark
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
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)

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

BD | BD LED | CD MOTOR | CD-A SW

Ref. No.	Part No.	Description			Remark
		< 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
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

Ref. No.	Part No.	Description			Remark
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
		< 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)			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R731	1-249-411-11	CARBON	330	5%	1/4W
R732	1-249-413-11	CARBON	470	5%	1/4W
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)			

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*	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)			

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*	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)			
S686	1-554-303-21	SWITCH, TACTILE (◀◀)			
S711	1-467-968-11	ENCODER, ROTARY (⏮ AMS ⏭)			

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*	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)			

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*	A-4392-452-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
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
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
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			
		< IC >			
IC760	8-759-634-51	IC M5218AP			
		< JACK >			
J760	1-770-226-11	JACK (LARGE TYPE) (PHONES)			
J761	1-770-226-11	JACK (LARGE TYPE) (MIC)			
		< RESISTOR >			
R760	1-249-429-11	CARBON	10K	5%	1/4W
R761	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	1-247-863-91	CARBON	22K	5%	1/4W
R767	1-249-429-11	CARBON	10K	5%	1/4W

HEADPHONE-MIC | LEAF SWITCH | LED | MAIN

Ref. No.	Part No.	Description			Remark
R769	1-247-885-00	CARBON	180K	5%	1/4W
R770	1-247-807-31	CARBON	100	5%	1/4W
		< VARIABLE RESISTOR >			
RV760	1-225-366-11	RES, VAR, CARBON 50K (MIC LEVEL)			
**********					
*	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-4392-407-A	MAIN BOARD, COMPLETE (US,CND)			
*	A-4392-430-A	MAIN BOARD, COMPLETE (AEP,UK)			
*	A-4392-433-A	MAIN BOARD, COMPLETE (E,AR,MX)			
*	A-4392-742-A	MAIN BOARD, COMPLETE (AUS)			
*	A-4398-674-A	MAIN BOARD, COMPLETE (EE,CIS)			
		**********			
*	4-870-539-11	PLATE, GROUND			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C101	1-162-288-31	CERAMIC	330PF	10%	50V (AEP,UK,EE,CIS)
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
C108	1-126-967-11	ELECT	47uF	20%	10V (AEP,UK,EE,CIS)
C109	1-164-159-21	CERAMIC	0.1uF		50V (AEP,UK,EE,CIS)
C121	1-162-286-21	CERAMIC	220PF	10%	50V
C123	1-162-306-11	CERAMIC	0.01uF	20%	16V
C131	1-136-495-11	FILM	0.068uF	5%	50V (AEP,UK,EE,CIS)
C132	1-136-495-11	FILM	0.068uF	5%	50V (AEP,UK,EE,CIS)
C133	1-162-294-31	CERAMIC	0.001uF	10%	50V (AEP,UK,EE,CIS)
C134	1-164-159-21	CERAMIC	0.1uF		50V (AEP,UK,EE,CIS)
C151	1-162-288-31	CERAMIC	330PF	10%	50V (AEP,UK,EE,CIS)
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
C158	1-126-967-11	ELECT	47uF	20%	10V (AEP,UK,EE,CIS)
C171	1-162-286-21	CERAMIC	220PF	10%	50V
C173	1-162-306-11	CERAMIC	0.01uF	20%	16V
C181	1-136-495-11	FILM	0.068uF	5%	50V (AEP,UK,EE,CIS)
C182	1-136-495-11	FILM	0.068uF	5%	50V (AEP,UK,EE,CIS)
C183	1-162-294-31	CERAMIC	0.001uF	10%	50V (AEP,UK,EE,CIS)
C184	1-164-159-21	CERAMIC	0.1uF		50V (AEP,UK,EE,CIS)
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

Ref. No.	Part No.	Description			Remark
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
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	
C315	1-126-933-11	ELECT	100uF	20%	10V
C316	1-136-165-00	FILM	0.1uF	5%	50V
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	(EXCEPT AEP,UK,EE,CIS)
* CN201	1-568-834-11	SOCKET, CONNECTOR 15P	(AEP,UK,EE,CIS)
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	

< 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

MAIN

Ref. No.	Part No.	Description	Remark
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	8-759-464-51	IC uPD780018YGF-016-3BA	
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	8-759-604-39	IC M5F78M12	
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 >	
L131	1-420-872-00	COIL, AIR-CORE (AEP,UK,EE,CIS)	
L181	1-420-872-00	COIL, AIR-CORE (AEP,UK,EE,CIS)	
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	
Q202	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q203	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q204	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q231	8-729-900-63	TRANSISTOR DTA124ES	
Q232	8-729-900-63	TRANSISTOR DTA124ES	
Q251	8-729-900-36	TRANSISTOR DTC124ES	
Q252	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q253	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q254	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q281	8-729-900-36	TRANSISTOR DTC124ES	
Q282	8-729-900-63	TRANSISTOR DTA124ES	
Q283	8-729-900-36	TRANSISTOR DTC124ES	
Q301	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q901	8-729-040-20	TRANSISTOR RT1P137L-TP	
Q902	8-729-900-36	TRANSISTOR DTC124ES	
Q903	8-729-030-18	TRANSISTOR 2SD2525	
Q904	8-729-030-19	TRANSISTOR 2SB1640	
Q905	8-729-040-20	TRANSISTOR RT1P137L-TP	
Q906	8-729-900-63	TRANSISTOR DTA124ES	
Q907	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q1531	8-729-801-93	TRANSISTOR 2SD1387	
Q1532	8-729-900-80	TRANSISTOR DTC114ES	
Q1533	8-729-900-80	TRANSISTOR DTC114ES	
Q1534	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q1535	8-729-900-80	TRANSISTOR DTC114ES	
		< RESISTOR >	
R101	1-249-417-11	CARBON 1K 5% 1/4W	(AEP,UK,EE,CIS)
R102	1-249-417-11	CARBON 1K 5% 1/4W	
R103	1-249-437-11	CARBON 47K 5% 1/4W	
R104	1-249-417-11	CARBON 1K 5% 1/4W	
R105	1-247-897-11	CARBON 560K 5% 1/4W	
R106	1-249-437-11	CARBON 47K 5% 1/4W	
R107	1-249-417-11	CARBON 1K 5% 1/4W	
R108	1-249-441-11	CARBON 100K 5% 1/4W	
R109	1-247-815-91	CARBON 220 5% 1/4W	(AEP,UK,EE,CIS)
R121	1-249-424-11	CARBON 3.9K 5% 1/4W	
R122	1-247-887-00	CARBON 220K 5% 1/4W	
R131	1-260-076-11	CARBON 10 5% 1/2W	(AEP,UK,EE,CIS)
R132	1-260-076-11	CARBON 10 5% 1/2W	(AEP,UK,EE,CIS)
R133	1-260-091-11	CARBON 220 5% 1/2W	
R134	1-260-091-11	CARBON 220 5% 1/2W	
R140	1-249-429-11	CARBON 10K 5% 1/4W	
R141	1-249-437-11	CARBON 47K 5% 1/4W	
R142	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R147	1-215-893-11	METAL OXIDE 1.5K 5% 2W F	
R151	1-249-417-11	CARBON 1K 5% 1/4W	(AEP,UK,EE,CIS)
R152	1-249-417-11	CARBON 1K 5% 1/4W	
R153	1-249-437-11	CARBON 47K 5% 1/4W	
R154	1-249-417-11	CARBON 1K 5% 1/4W	
R155	1-247-897-11	CARBON 560K 5% 1/4W	
R156	1-249-437-11	CARBON 47K 5% 1/4W	
R157	1-249-417-11	CARBON 1K 5% 1/4W	
R158	1-249-441-11	CARBON 100K 5% 1/4W	
R159	1-247-815-91	CARBON 220 5% 1/4W	(AEP,UK,EE,CIS)
R171	1-249-424-11	CARBON 3.9K 5% 1/4W	
R172	1-247-887-00	CARBON 220K 5% 1/4W	
R181	1-260-076-11	CARBON 10 5% 1/2W	(AEP,UK,EE,CIS)
R182	1-260-076-11	CARBON 10 5% 1/2W	(AEP,UK,EE,CIS)
R183	1-260-091-11	CARBON 220 5% 1/2W	
R184	1-260-091-11	CARBON 220 5% 1/2W	
R201	1-249-429-11	CARBON 10K 5% 1/4W	
R202	1-247-863-91	CARBON 22K 5% 1/4W	
R203	1-249-441-11	CARBON 100K 5% 1/4W	
R205	1-247-863-91	CARBON 22K 5% 1/4W	
R206	1-249-421-11	CARBON 2.2K 5% 1/4W	

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

Ref. No.	Part No.	Description			Remark
R207	1-249-431-11	CARBON	15K	5%	1/4W
R209	1-249-441-11	CARBON	100K	5%	1/4W
R210	1-247-887-00	CARBON	220K	5%	1/4W
R211	1-247-891-00	CARBON	330K	5%	1/4W
R212	1-249-411-11	CARBON	330	5%	1/4W
R213	1-249-429-11	CARBON	10K	5%	1/4W
R214	1-249-437-11	CARBON	47K	5%	1/4W
R215	1-247-903-00	CARBON	1M	5%	1/4W
R216	1-249-429-11	CARBON	10K	5%	1/4W
R217	1-249-437-11	CARBON	47K	5%	1/4W
R221	1-249-425-11	CARBON	4.7K	5%	1/4W
R222	1-249-425-11	CARBON	4.7K	5%	1/4W
R226	1-249-421-11	CARBON	2.2K	5%	1/4W
R227	1-249-441-11	CARBON	100K	5%	1/4W
R228	1-249-429-11	CARBON	10K	5%	1/4W
R231	1-249-437-11	CARBON	47K	5%	1/4W
R232	1-249-437-11	CARBON	47K	5%	1/4W
R234	1-247-886-11	CARBON	200K	5%	1/4W
R235	1-249-421-11	CARBON	2.2K	5%	1/4W
R236	1-249-441-11	CARBON	100K	5%	1/4W
R253	1-249-441-11	CARBON	100K	5%	1/4W
R257	1-249-431-11	CARBON	15K	5%	1/4W
R259	1-249-441-11	CARBON	100K	5%	1/4W
R260	1-247-887-00	CARBON	220K	5%	1/4W
R261	1-247-891-00	CARBON	330K	5%	1/4W
R262	1-249-411-11	CARBON	330	5%	1/4W
R263	1-249-429-11	CARBON	10K	5%	1/4W
R264	1-249-437-11	CARBON	47K	5%	1/4W
R265	1-247-903-00	CARBON	1M	5%	1/4W
R266	1-249-429-11	CARBON	10K	5%	1/4W
R267	1-249-437-11	CARBON	47K	5%	1/4W
R271	1-249-425-11	CARBON	4.7K	5%	1/4W
R272	1-249-425-11	CARBON	4.7K	5%	1/4W
R276	1-249-421-11	CARBON	2.2K	5%	1/4W
R277	1-249-441-11	CARBON	100K	5%	1/4W
R278	1-249-429-11	CARBON	10K	5%	1/4W
R281	1-249-429-11	CARBON	10K	5%	1/4W
R282	1-249-429-11	CARBON	10K	5%	1/4W
R283	1-249-435-11	CARBON	33K	5%	1/4W
R284	1-247-791-91	CARBON	22	5%	1/4W
R285	1-249-441-11	CARBON	100K	5%	1/4W
R286	1-249-429-11	CARBON	10K	5%	1/4W
R287	1-249-429-11	CARBON	10K	5%	1/4W
R288	1-249-438-11	CARBON	56K	5%	1/4W
R289	1-249-437-11	CARBON	47K	5%	1/4W
R291	1-247-863-91	CARBON	22K	5%	1/4W
R292	1-247-863-91	CARBON	22K	5%	1/4W
R293	1-249-416-11	CARBON	820	5%	1/4W
R294	1-249-441-11	CARBON	100K	5%	1/4W
R295	1-247-903-00	CARBON	1M	5%	1/4W
R301	1-249-413-11	CARBON	470	5%	1/4W
R302	1-249-425-11	CARBON	4.7K	5%	1/4W
R303	1-249-437-11	CARBON	47K	5%	1/4W
R304	1-249-437-11	CARBON	47K	5%	1/4W
R305	1-249-429-11	CARBON	10K	5%	1/4W
R313	1-247-807-31	CARBON	100	5%	1/4W
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	1-249-427-11	CARBON	6.8K	5%	1/4W (EE,CIS,E,AR,MX)
R325	1-249-431-11	CARBON	15K	5%	1/4W (AUS)
R325	1-247-843-11	CARBON	3.3K	5%	1/4W (AEP,UK)
R326	1-249-425-11	CARBON	4.7K	5%	1/4W (E,AR,MX)
R326	1-249-415-11	CARBON	680	5%	1/4W (AUS)
R326	1-249-427-11	CARBON	6.8K	5%	1/4W (AEP,UK)
R326	1-249-435-11	CARBON	33K	5%	1/4W (EE,CIS)
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
R343	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
R803	1-249-415-11	CARBON	680	5%	1/4W (EE,CIS)
R853	1-249-415-11	CARBON	680	5%	1/4W (EE,CIS)
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

MAIN PANEL

Ref. No.	Part No.	Description			Remark
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
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)			

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Ref. No.	Part No.	Description			Remark
*	A-4392-412-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
C611	1-162-306-11	CERAMIC	0.01uF	20%	16V
C612	1-126-967-11	ELECT	47uF	20%	50V
C613	1-164-159-21	CERAMIC	0.1uF		50V
C621	1-126-960-11	ELECT	1uF	20%	50V
C622	1-136-161-00	FILM	0.047uF	5%	50V
C623	1-126-957-11	ELECT	0.22uF	20%	50V
C624	1-126-957-11	ELECT	0.22uF	20%	50V
C625	1-162-306-11	CERAMIC	0.01uF	20%	16V
C626	1-126-957-11	ELECT	0.22uF	20%	50V
C627	1-136-159-00	FILM	0.033uF	5%	50V
C628	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C629	1-126-957-11	ELECT	0.22uF	20%	50V
C630	1-162-293-31	CERAMIC	820PF	10%	50V
C631	1-126-957-11	ELECT	0.22uF	20%	50V
C632	1-126-957-11	ELECT	0.22uF	20%	50V
C641	1-162-286-21	CERAMIC	220PF	10%	50V
C642	1-162-286-21	CERAMIC	220PF	10%	50V
C643	1-162-286-21	CERAMIC	220PF	10%	50V
C644	1-162-286-21	CERAMIC	220PF	10%	50V
C645	1-162-286-21	CERAMIC	220PF	10%	50V
C646	1-162-286-21	CERAMIC	220PF	10%	50V
C647	1-162-286-21	CERAMIC	220PF	10%	50V
C648	1-162-286-21	CERAMIC	220PF	10%	50V
C649	1-162-286-21	CERAMIC	220PF	10%	50V
C650	1-162-286-21	CERAMIC	220PF	10%	50V
C651	1-162-286-21	CERAMIC	220PF	10%	50V
C652	1-162-286-21	CERAMIC	220PF	10%	50V
C653	1-162-286-21	CERAMIC	220PF	10%	50V
C654	1-162-286-21	CERAMIC	220PF	10%	50V
C655	1-162-286-21	CERAMIC	220PF	10%	50V
C656	1-162-286-21	CERAMIC	220PF	10%	50V
C695	1-164-159-21	CERAMIC	0.1uF		50V
C696	1-164-159-21	CERAMIC	0.1uF		50V
C697	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
* CN601	1-568-836-11	SOCKET, CONNECTOR 17P			
* CN602	1-568-947-11	PIN, CONNECTOR 9P			
CN603	1-506-486-11	PIN, CONNECTOR 7P			
* CN604	1-568-947-11	PIN, CONNECTOR 9P			
		< DIODE >			
D601	8-719-987-63	DIODE 1N4148M			
D602	8-719-987-63	DIODE 1N4148M			
D603	8-719-987-63	DIODE 1N4148M			
D604	8-719-987-63	DIODE 1N4148M			
D605	8-719-987-63	DIODE 1N4148M			

Ref. No.	Part No.	Description	Remark
D606	8-719-987-63	DIODE 1N4148M	
D607	8-719-987-63	DIODE 1N4148M	
D611	8-719-057-29	DIODE SML78423C-TP15 (TUNER/BAND)	
D612	8-719-057-29	DIODE SML78423C-TP15 (TUNER/BAND)	
D613	8-719-058-04	DIODE SEL5223S-TP15 (ENTER/NEXT)	
D614	8-719-058-04	DIODE SEL5223S-TP15 (GROOVE)	
D615	8-719-058-04	DIODE SEL5223S-TP15 (SUPER WOOFER)	
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)	
D621	8-719-058-04	DIODE SEL5223S-TP15 (FILE 4)	
D622	8-719-058-04	DIODE SEL5223S-TP15 (FILE 5)	
D623	8-719-058-04	DIODE SEL5223S-TP15 (P.FILE)	
D624	8-719-058-04	DIODE SEL5223S-TP15 (MENU 2)	
D625	8-719-058-04	DIODE SEL5223S-TP15 (MENU 1)	
		< FERRITE BEAD >	
FB601	1-412-473-21	INDUCTOR 0UH	
		< FILTER >	
FL601	1-517-617-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC601	8-759-462-83	IC TMP87CM75F-6542	
IC602	8-759-459-84	IC NJL56H400	
		< COIL >	
L601	1-410-509-11	INDUCTOR 10uH	
		< TRANSISTOR >	
Q601	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q602	8-729-118-00	TRANSISTOR 2SB1116-L	
Q603	8-729-118-00	TRANSISTOR 2SB1116-L	
Q604	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q605	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q606	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q607	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q608	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q609	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q610	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q611	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q614	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q615	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q617	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q618	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q619	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q621	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q622	8-729-119-77	TRANSISTOR 2SA1175-FEK	
		< RESISTOR >	
R601	1-249-427-11	CARBON 6.8K 5% 1/4W	
R602	1-249-435-11	CARBON 33K 5% 1/4W	
R603	1-247-903-00	CARBON 1M 5% 1/4W	
R606	1-249-429-11	CARBON 10K 5% 1/4W	
R607	1-249-429-11	CARBON 10K 5% 1/4W	
R608	1-249-429-11	CARBON 10K 5% 1/4W	
R609	1-249-429-11	CARBON 10K 5% 1/4W	
R610	1-249-429-11	CARBON 10K 5% 1/4W	
R611	1-247-843-11	CARBON 3.3K 5% 1/4W	
R612	1-247-843-11	CARBON 3.3K 5% 1/4W	
R613	1-249-401-11	CARBON 47 5% 1/4W	
R614	1-249-429-11	CARBON 10K 5% 1/4W	
R615	1-249-429-11	CARBON 10K 5% 1/4W	
R617	1-249-429-11	CARBON 10K 5% 1/4W	
R621	1-249-421-11	CARBON 2.2K 5% 1/4W	
R622	1-249-437-11	CARBON 47K 5% 1/4W	
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	

PANEL

Ref. No.	Part No.	Description			Remark
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
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
		< 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 △)			
S612	1-554-303-21	SWITCH, TACTILE (GEQ ◁)			
S613	1-554-303-21	SWITCH, TACTILE (GEQ ▷)			
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)			
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)			

POWERAMP

Ref. No.	Part No.	Description			Remark
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)			
**********					
*	A-4392-410-A	POWERAMP BOARD, COMPLETE (US,CND)			
*	A-4392-425-A	POWERAMP BOARD, COMPLETE (AEP,UK)			
*	A-4392-436-A	POWERAMP BOARD, COMPLETE (E,AR,MX,AUS)			
*	A-4398-360-A	POWERAMP BOARD, COMPLETE (EE,CIS)			
		**********			
		< 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			

Ref. No.	Part No.	Description				Remark
		< 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	(EXCEPT EE,CIS)
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	
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	(E,AR,MX,AUS)
R814	1-260-105-11	CARBON	3.3K	5%	1/2W	(EXCEPT E,AR,MX,AUS)
R816	1-260-103-11	CARBON	2.2K	5%	1/2W	(E,AR,MX,AUS)
R816	1-260-105-11	CARBON	3.3K	5%	1/2W	(EXCEPT E,AR,MX,AUS)
⚠R820	1-202-972-61	FUSIBLE	1	5%	1/4W	F
R841	1-249-425-11	CARBON	4.7K	5%	1/4W	(E,AR,MX,AUS)
R841	1-249-426-11	CARBON	5.6K	5%	1/4W	(EXCEPT E,AR,MX,AUS)
R842	1-247-885-00	CARBON	180K	5%	1/4W	(E,AR,MX,AUS)
R842	1-247-889-00	CARBON	270K	5%	1/4W	(EXCEPT E,AR,MX,AUS)
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	(EXCEPT EE,CIS)
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	

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Ref. No.	Part No.	Description				Remark
*	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	

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Ref. No.	Part No.	Description				Remark
*	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 (▷)				
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)				

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Ref. No.	Part No.	Description				Remark
*	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	

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

TC-B SW | TCB

Ref. No.	Part No.	Description			Remark
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.SPEE,CISD DUBB)			
S659	1-554-303-21	SWITCH, TACTILE (CD SYNC)			
**********					
*	A-4303-510-A	TCB BOARD,COMPLETE (US,CND)			
*	A-4303-512-A	TCB BOARD,COMPLETE (E,AR,MX,AUS)			
*	A-4303-570-A	TCB BOARD,COMPLETE (EE,CIS)			
*	A-4303-576-A	TCB BOARD,COMPLETE (AEP,UK)			
		< CAPACITOR >			
C1	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V (AEP,UK,EE,CIS)
C1	1-162-294-31	CERAMIC	0.001uF	10%	50V (EXCEPT AEP,UK,EE,CIS)
C2	1-126-967-11	ELECT	47uF	20%	16V
C3	1-163-038-91	CERAMIC (2012)	100000PF		25V (AEP,UK,EE,CIS)
C3	1-164-159-21	CERAMIC	0.1uF		50V (EXCEPT AEP,UK,EE,CIS)
C5	1-162-306-11	CERAMIC	0.01uF	20%	16V (EXCEPT AEP,UK,EE,CIS)
C5	1-163-031-11	CERAMIC (2012)	10000PF		50V (AEP,UK,EE,CIS)
C6	1-162-306-11	CERAMIC (2012)	0.01uF	20%	16V (EXCEPT AEP,UK,EE,CIS)
C6	1-163-038-91	CERAMIC	100000PF	25V	(AEP,UK,EE,CIS)
C7	1-101-004-00	CERAMIC	0.01uF		50V (EXCEPT AEP,UK)
C8	1-162-306-11	CERAMIC	0.01uF	20%	16V (EXCEPT AEP,UK,EE,CIS)
C8	1-163-031-11	CERAMIC (2012)	10000PF		50V (AEP,UK,EE,CIS)
C9	1-162-306-11	CERAMIC	0.01uF	20%	16V (EXCEPT AEP,UK,EE,CIS)
C9	1-163-031-11	CERAMIC (2012)	10000PF		50V (AEP,UK,EE,CIS)
C10	1-163-031-11	CERAMIC (2012)	10000PF		50V (AEP,UK,EE,CIS)
C11	1-164-159-21	CERAMIC	0.1uF		50V (EXCEPT AEP,UK,EE,CIS)
C12	1-162-198-31	CERAMIC	8.2PF	10%	50V (EXCEPT AEP,UK,EE,CIS)
C14	1-162-306-11	CERAMIC	0.01uF	20%	16V (EXCEPT AEP,UK,EE,CIS)
C16	1-163-038-91	CERAMIC (2012)	100000PF		25V (AEP,UK,EE,CIS)
C19	1-163-249-11	CHIP CERAMIC (2012)	82PF		(AEP,UK,EE,CIS)
C21	1-102-514-11	CERAMIC	22PF	5%	50V (EXCEPT AEP,UK,EE,CIS)
C21	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V (AEP,UK,EE,CIS)
C22	1-163-031-11	CERAMIC (2012)	10000PF		50V (AEP,UK,EE,CIS)
C22	1-164-159-21	CERAMIC	0.1uF		50V (EXCEPT AEP,UK,EE,CIS)
C23	1-162-306-11	CERAMIC	0.01uF	20%	16V (EXCEPT AEP,UK,EE,CIS)
C23	1-163-235-11	CHIP CERAMIC (2012)	22PF	5%	50V (AEP,UK,EE,CIS)
C24	1-126-967-11	ELECT	47uF	20%	16V (EXCEPT AEP,UK,EE,CIS)
C24	1-163-239-11	CHIP CERAMIC (2012)	33PF	5%	50V (AEP,UK,EE,CIS)
C25	1-162-306-11	CERAMIC	0.01uF	20%	16V (EXCEPT AEP,UK,EE,CIS)
C26	1-126-964-11	ELECT	10uF	20%	50v (EXCEPT AEP,UK,EE,CIS)
C26	1-126-967-11	ELECT	47uF	20%	16V (AEP,UK,EE,CIS)
C27	1-164-159-21	CERAMIC	0.1uF		50V (EXCEPT AEP,UK,EE,CIS)
C28	1-126-961-11	ELECT	2.2uF	20%	50V (EXCEPT AEP,UK,EE,CIS)
C28	1-126-967-11	ELECT	47uF	20%	16V (AEP,UK,EE,CIS)
C29	1-102-518-11	CERAMIC	33PF	5%	50V (EXCEPT,AEP,UK,EE,CIS)
C29	1-162-306-11	CERAMIC	0.01uF	20%	16V (AEP,UK,EE,CIS)
C30	1-126-961-11	ELECT	2.2uF	20%	50V (AEP,UK,EE,CIS)
C30	1-162-294-31	CERAMIC	0.001uF	10%	50V (EXCEPT AEP,UK,EE,CIS)
C31	1-162-306-11	CERAMIC	0.01uF	20%	16V (EXCEPT AEP,UK,EE,CIS)
C31	1-163-031-11	CERAMIC (2012)	10000PF		50V (AEP,UK,EE,CIS)
C32	1-163-038-91	CERAMIC (2012)	100000PF		25V (AEP,UK,EE,CIS)
C33	1-163-038-91	CERAMIC (2012)	100000PF		25V (AEP,UK,EE,CIS)
C34	1-163-229-11	CHIP CERAMIC (2012)	12PF	5%	50V (AEP,UK,EE,CIS)
C35	1-163-038-91	CERAMIC (2012)	100000PF		25V (AEP,UK,EE,CIS)
C36	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V (AEP,UK,EE,CIS)
C37	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V (AEP,UK,EE,CIS)
C39	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V (AEP,UK,EE,CIS)
C40	1-163-031-11	CERAMIC (2012)	10000PF		50V (AEP,UK,EE,CIS)
C41	1-126-933-11	ELECT	100uF	20%	10V (EXCEPT AEP,UK,EE,CIS)
C41	1-163-031-11	CERAMIC (2012)	10000PF		50V (AEP,UK,EE,CIS)

Ref. No.	Part No.	Description				Remark
C42	1-162-306-11	CERAMIC	0.01uF	20%	16V	(EXCEPT AEP,UK,EE,CIS)
C42	1-163-038-91	CERAMIC (2012)	100000PF		25V	(AEP,UK,EE,CIS)
C43	1-126-962-11	ELECT	3.3uF	20%	50V	(EXCEPT APP,UK,EE,CIS)
C43	1-163-038-91	CERAMIC (2012)	100000PF		25V	(AEP,UK,EE,CIS)
C44	1-162-306-11	CERAMIC	0.01uF	20%	16V	(EXCEPT AEP,UK,EE,CIS)
C44	1-163-031-11	CERAMIC (2012)	10000PF		50V	(AEP,UK,EE,CIS)
C45	1-124-589-11	ELECT	47uF	20%	16V	(EXCEPT AEP,UK,EE,CIS)
C45	1-163-038-91	CERAMIC (2012)	100000PF		25V	(AEP,UK,EE,CIS)
C46	1-162-600-11	CERAMIC	4700PF	10%	16V	(EXCEPT AEP,UK,EE,CIS)
C46	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V	(AEP,UK,EE,CIS)
C47	1-126-967-11	ELECT	47uF	20%	16V	(AEP,UK,EE,CIS)
C47	1-162-294-31	CERAMIC	0.001uF	10%	50V	(EXCEPT AEP,UK,EE,CIS)
C48	1-126-160-11	ELECT	1uF	20%	50V	(EXCEPT AEP,UK,EE,CIS)
C48	1-163-031-11	CERAMIC (2012)	10000PF		50V	(AEP,UK,EE,CIS)
C49	1-126-959-11	ELECT	0.47uF	20%	50V	(AEP,UK,EE,CIS)
C49	1-136-159-00	METALIZED PE FILM	0.033uF	5%	16V	(E,AR,MX,AUS)
C49	1-136-162-00	METALIZED FILM	0.056uF	5%	16V	(US,CND)
C50	1-126-960-11	ELECT	1.0uF	20%	50V	(AEP,UK,EE,CIS)
C50	1-136-159-00	METALIZED PE FILM	0.033uF	5%	16V	(E,AR,MX,AUS)
C50	1-136-162-00	METALIZED FILM	0.056uF	5%	16V	(US,CND)
C51	1-126-960-11	ELECT	1.0uF	20%	50V	(AEP,UK,EE,CIS)
C51	1-162-600-11	CERAMIC	4700PF	10%	16V	(EXCEPT AEP,UK,EE,CIS)
C52	1-126-963-11	ELECT	4.7uF	20%	50V	(AEP,UK,EE,CIS)
C52	1-162-600-11	CERAMIC	4700PF	10%	50V	(EXCEPT AEP,UK,EE,CIS)
C53	1-126-964-11	ELECT	10uF	20%	50V	
C54	1-104-396-11	ELECT	10uF	20%	16V	(AEP,UK,EE,CIS)
C54	1-126-157-11	ELECT	10uF	20%	16V	(EXCEPT AEP,UK,EE,CIS)
C55	1-104-396-11	ELECT	10uF	20%	16V	(AEP,UK,EE,CIS)
C55	1-126-964-11	ELECT	10uF	20%	50V	(EXCEPT AEP,UK,EE,CIS)
C56	1-104-396-11	ELECT	10uF	20%	16V	(AEP,UK,EE,CIS)
C56	1-126-964-11	ELECT	10uF	20%	50V	(EXCEPT AEP,UK,EE,CIS)
C57	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	(AEP,UK,EE,CIS)
C57	1-164-159-21	CERAMIC	0.1uF		50V	(EXCEPT AEP,UK,EE,CIS)
C58	1-162-306-11	CERAMIC	0.01uF	20%	16V	(EXCEPT AEP,UK,EE,CIS)
C58	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	(AEP,UK,EE,CIS)
C59	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	(AEP,UK)
C59	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	(EE,CIS)
C59	1-164-159-21	CERAMIC	0.1uF		50V	(EXCEPT AEP,UK,EE,CIS)
C60	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	(AEP,UK)
C60	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	(EE,CIS)
C61	1-126-301-11	ELECT	1uF	20%	50V	(AEP,UK,EE,CIS)
C61	1-164-159-21	CERAMIC	0.1uF		50V	(EXCEPT AEP,UK,EE,CIS)
C62	1-126-967-11	ELECT	47uF	20%	16V	(EXCEPT AEP,UK,EE,CIS)
C62	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	(AEP,UK,EE,CIS)
C63	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	(AEP,UK,EE,CIS)
C63	1-164-159-21	CERAMIC	0.1uF		50V	(EXCEPT AEP,UK,EE,CIS)
C64	1-126-959-11	ELECT	0.47uF	20%	50V	(EXCEPT AEP,UK,EE,CIS)
C64	1-126-967-11	ELECT	47uF	20%	16V	(AEP,UK,EE,CIS)
C65	1-126-960-11	ELECT	1.0uF	20%	50V	(EXCEPT AEP,UK,EE,CIS)
C65	1-163-031-11	CERAMIC (2012)	10000PF		50V	(AEP,UK,EE,CIS)
C66	1-126-162-11	ELECT	3.3uF	20%	50V	(AEP,UK,EE,CIS)
C66	1-126-960-11	ELECT	1.0uF	20%	50V	(EXCEPT AEP,UK,EE,CIS)
C67	1-126-933-11	ELECT	100uF	20%	10V	(AEP,UK,EE,CIS)
C67	1-126-964-11	ELECT	10uF	20%	50V	(EXCEPT AEP,UK,EE,CIS)
C68	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C69	1-162-306-11	CERAMIC	0.01uF	20%	16V	(EXCEPT AEP,UK,EE,CIS)
C70	1-162-306-11	CERAMIC	0.01uF	20%	16V	(EXCEPT AEP,UK,EE,CIS)
C71	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C72	1-126-967-11	ELECT	47uF	20%	16V	(AEP,UK,EE,CIS)
C73	1-162-306-11	CERAMIC	0.01uF	20%	16V	(EXCEPT AEP,UK,EE,CIS)
C74	1-126-964-11	ELECT	10uF	20%	50V	(EXCEPT AEP,UK,EE,CIS)
C120	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	(AEP,UK)
C1701	1-162-294-31	CERAMIC	0.001uF	10%	50V	(EE, CIS)
C1702	1-130-014-00	PP FILM	470PF	5%	16V	(EE,CIS)
C1703	1-126-959-11	ELECT	0.47uF	20%	50V	(EE,CIS)
C1704	1-126-959-11	ELECT	0.47uF	20%	50V	(EE,CIS)
C1705	1-163-035-00	CERAMIC CHIP	0.047uF		50V	(EE,CIS)

TCB

Ref. No.	Part No.	Description			Remark
C1706	1-126-960-11	ELECT	1.0uF	20%	50V (EE,CIS)
C1707	1-163-129-00	CERAMIC CHIP	330P	5%	50V (EE,CIS)
C1710	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V (EE,CIS)
C1711	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V (EE,CIS)
C1712	1-130-736-11	PP FILM	0.01uF	5%	16V (EE,CIS)
C1713	1-130-736-11	PP FILM	0.01uF	5%	16V (EE,CIS)
C1714	1-126-960-11	ELECT	1.0uF	20%	50V (EE,CIS)
C1715	1-126-960-11	ELECT	1.0uF	20%	50V (EE,CIS)
C1716	1-126-960-11	ELECT	1.0uF	20%	50V (EE,CIS)
C1719	1-126-967-11	ELECT	47uF	20%	16V (EE,CIS)
C1720	1-163-031-11	CERAMIC CHIP	0.01uF		50V (EE,CIS)
C1723	1-163-031-11	CERAMIC CHIP	0.01uF		50V (EE,CIS)
C1724	1-163-031-11	CERAMIC CHIP	0.01uF		50V (EE,CIS)
C1725	1-126-967-11	ELECT	47uF	20%	16V (EE,CIS)
C1726	1-126-960-11	ELECT	1.0uF	20%	50V (EE,CIS)
C1727	1-126-960-11	ELECT	1.0uF	20%	50V (EE,CIS)
C1728	1-126-966-11	ELECT	33uF	20%	16V (EE,CIS)
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC (EXCEPT AEP,UK)			
CF1	1-579-374-71	FILTER, CERAMIC (AEP,UK)			
CF2	1-567-389-11	FILTER, CERAMIC (EXCEPT AEP,UK,EE,CIS)			
CF2	1-760-393-11	FILTER, CERAMIC (AEP,UK)			
CF3	1-567-389-11	FILTER, CERAMIC (EE,CIS)			
CF3	1-760-393-11	FILTER, CERAMIC (AEP,UK)			
		< CONNECTOR >			
* CN1	1-568-832-11	SOCKET, CONNECTOR 13P (EXCEPT AEP,UK,EE,CIS)			
* CN1	1-568-834-11	SOCKET, CONNECTOR 15P (AEP,UK,EE,CIS)			
		< TRIMMER >			
CT1701	1-141-444-11	CAP, CERAMIC TRIMMER 50PF (EE,CIS)			
		< DIODE >			
D1	8-719-933-33	DIODE UZL-6L1-TA (EXCEPT AEP,UK,EE,CIS)			
D2	8-719-987-63	DIODE 1N4148M-TA (EXCEPT AEP,UK,EE,CIS)			
D21	8-719-976-99	DIODE UDZ-TE-17-5.1B (AEP,UK,EE,CIS)			
D41	8-719-016-74	DIODE 1SS352-TPH3 (AEP,UK,EE,CIS)			
D42	8-719-016-74	DIODE 1SS352-TPH3 (EE,CIS)			
D43	8-719-016-74	DIODE 1SS352-TPH3 (EE,CIS)			
D1701	8-719-016-74	DIODE 1SS352-TPH3 (EE,CIS)			
D1702	8-719-016-74	DIODE 1SS352-TPH3 (EE,CIS)			
D1703	8-719-987-63	DIODE 1N4148M-TA (EE,CIS)			
D1704	8-719-016-74	DIODE 1SS352-TPH3 (EE,CIS)			

Ref. No.	Part No.	Description			Remark
		< FRONTEND >			
FE1	1-233-533-11	ENCAPSULATED COMPONENT (EXCEPT AEP,UK,EE,CIS)			
FE1	1-693-335-11	FRONT END (3 GANG) (EE,CIS)			
FE1	1-693-357-11	FRONT END (4 GANG) (AEP,UK)			
FE2	1-233-514-11	ENCAPSULATED COMPONENT (AEP,UK,EE,CIS)			
FE2	1-239-260-11	ENCAPSULATED COMPONENT (EXCEPT AEP,UK,EE,CIS)			
		< IC >			
IC1	8-759-288-54	IC LC72130 (EXCEPT AEP,UK,EE,CIS)			
IC2	8-759-176-03	IC LA1835 (EXCEPT AEP,UK,EE,CIS)			
IC21	8-759-288-54	IC LC72130 (AEP,UK,EE,CIS)			
IC41	8-759-176-03	IC LA1835 (AEP,UK,EE,CIS)			
IC1701	8-759-063-04	IC IR3R42 (EE,CIS)			
IC1702	8-759-140-53	IC MC14053BCP (EE,CIS)			
		< IFT >			
IFT41	1-409-636-11	TRANSFORMER,IF (CERAMIC FILTER)			
		< JUMPER RESISTOR >			
JR2	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK,EE,CIS)			
JR6	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK,EE,CIS)			
JR8	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK,EE,CIS)			
JR9	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK,EE,CIS)			
JR45	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK)			
JR46	1-216-296-91	CONDUCTOR, CHIP (3216) (AEP,UK,EE,CIS)			
JR47	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK,EE,CIS)			
JR48	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK,EE,CIS)			
JR49	1-216-296-91	CONDUCTOR, CHIP (3216) (AEP,UK,EE,CIS)			
JR51	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK,EE,CIS)			
JR52	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK,EE,CIS)			
JR53	1-216-296-91	CONDUCTOR, CHIP (3216) (AEP,UK,EE,CIS)			
JR54	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK,EE,CIS)			
JR1701	1-216-295-91	CONDUCTOR, CHIP (2012) (EE,CIS)			
JR1702	1-216-295-91	CONDUCTOR, CHIP (2012) (EE,CIS)			
JR1703	1-216-295-91	CONDUCTOR, CHIP (2012) (EE,CIS)			
JR1704	1-216-295-91	CONDUCTOR, CHIP (2012) (EE,CIS)			
JR1705	1-216-295-91	CONDUCTOR, CHIP (2012) (EE,CIS)			
		< JUMPER RESISTOR >			
JW4	1-249-413-11	CARBON	470	5%	1/4W (AEP,UK)
JW5	1-249-413-11	CARBON	470	5%	1/4W (AEP,UK)
		< COIL >			
L2	1-414-142-11	INDUCTOR, MICRO 1uH (AEP,UK)			
L3	1-410-521-11	INDUCTOR, MICRO 100uH (AEP,UK,EE,CIS)			
L4	1-410-515-11	INDUCTOR, MICRO 33uH (AEP,UK)			
L41	1-407-500-00	MICRO INDUCTOR 4.7mH (AEP,UK,EE,CIS)			
L41	1-410-119-11	MICRO INDUCTOR (EL TYPE) 1mH (EXCEPT AEP,UK,EE,CIS)			
L1701	1-409-497-11	COIL (FILTER) (EE,CIS)			
		< FILTER >			
LPF41	1-239-845-11	FILTER, LOW PASS			

Ref. No.	Part No.	Description	Remark
LPF42	1-239-845-11	FILTER, LOW PASS	
		< TRANSISTOR >	
Q1	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L	(AEP,UK,EE,CIS)
Q1	8-729-230-99	TRANSISTOR 2SC2669OY-TPE4	(EXCEPT AEP,UK,EE,CIS)
Q2	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L	(AEP,UK,EE,CIS)
Q2	8-729-230-99	TRANSISTOR 2SC2669OY-TPE4	(EXCEPT AEP,UK,EE,CIS)
Q3	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L	(AEP,UK,EE,CIS)
Q3	8-729-230-99	TRANSISTOR 2SC2669OY-TPE4	(EXCEPT AEP,UK,EE,CIS)
Q4	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L	(AEP,UK,EE,CIS)
Q4	8-729-230-99	TRANSISTOR 2SC2669OY-TPE4	(EXCEPT AEP,UK,EE,CIS)
Q5	8-729-424-08	TRANSISTOR MUN2111T1 (AEP,UK,EE,CIS)	
Q5	8-729-422-57	TRANSISTOR BN1A4M-TP	(EXCEPT AEP,UK,EE,CIS)
Q9	8-729-216-22	TRANSISTOR 2SA812-T1-M5M6	(AEP,UK,EE,CIS)
Q11	8-729-421-22	TRANSISTOR MUN2211T1 (AEP,UK,EE,CIS)	
Q12	8-729-421-22	TRANSISTOR MUN2211T1 (AEP,UK,EE,CIS)	
Q13	8-729-421-22	TRANSISTOR MUN2211T1 (AEP,UK,EE,CIS)	
Q14	8-729-421-22	TRANSISTOR MUN2211T1 (AEP,UK,EE,CIS)	
Q1701	8-729-424-08	TRANSISTOR MUN2111T1 (EE,CIS)	
Q1702	8-729-907-00	TRANSISTOR RT1N141M-TP-1 (EE,CIS)	
Q1703	8-729-421-22	TRANSISTOR MUN2211T1 (EE,CIS)	
		< RESISTOR >	
R1	1-249-401-11	CARBON 47 5% 1/4W	
R2	1-216-037-00	METAL CHIP 330 5% 1/10W	(AEP,UK,EE,CIS)
R2	1-249-411-11	CARBON 330 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R3	1-216-037-00	METAL CHIP 330 5% 1/10W	(AEP,UK,EE,CIS)
R3	1-249-411-11	CARBON 330 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R5	1-216-037-00	METAL CHIP 330 5% 1/10W	(AEP,UK,EE,CIS)
R5	1-249-411-11	CARBON 330 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R6	1-216-081-00	METAL CHIP 22K 5% 1/10W	(AEP,UK,EE,CIS)
R6	1-247-863-91	CARBON (SMALL) 22K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R7	1-216-037-00	METAL CHIP 330 5% 1/10W	(AEP,UK,EE,CIS)
R7	1-249-411-11	CARBON 330 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R8	1-216-037-00	METAL CHIP 330 5% 1/10W	(AEP,UK,EE,CIS)
R8	1-249-411-11	CARBON 330 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R9	1-216-081-00	METAL CHIP 22K 5% 1/10W	(AEP,UK,EE,CIS)
R9	1-247-863-91	CARBON (SMALL) 22K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R10	1-216-037-00	METAL CHIP 330 5% 1/10W	(AEP,UK,EE,CIS)
R10	1-249-411-11	CARBON 330 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R11	1-216-081-00	METAL CHIP 22K 5% 1/10W	(AEP,UK,EE,CIS)
R11	1-247-863-91	CARBON (SMALL) 22K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R12	1-216-037-00	METAL CHIP 330 5% 1/10W	(AEP,UK,EE,CIS)
R12	1-249-411-11	CARBON 330 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R13	1-216-037-00	METAL CHIP 330 5% 1/10W	(AEP,UK,EE,CIS)
R13	1-249-411-11	CARBON 330 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R14	1-216-081-00	METAL CHIP 22K 5% 1/10W	(AEP,UK,EE,CIS)
R14	1-247-863-91	CARBON (SMALL) 22K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R15	1-249-429-11	CARBON 10K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R16	1-249-437-11	CARBON 47K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R18	1-216-073-00	METAL CHIP 10K 5% 1/10W	(AEP,UK,EE,CIS)
R19	1-216-073-00	METAL CHIP 10K 5% 1/10W	(AEP,UK,EE,CIS)
R19	1-249-399-11	CARBON 33 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R21	1-216-049-91	CHIP (2012) 1.0K 5% 1/10W	(AEP,UK)
R21	1-247-807-31	CARBON (SMALL) 100 5% 1/4W	(EXCEPT AEP UK,EE,CIS)
R21	1-249-417-11	CARBON 1K 5% 1/4W	(EE,CIS)
R22	1-216-049-91	CHIP (2012) 1.0K 5% 1/10W	(AEP,UK)
R22	1-249-417-11	CARBON 1K 5% 1/4W	(EE,CIS)
R22	1-249-425-11	CARBON 4.7K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R23	1-216-049-91	CHIP (2012) 1.0K 5% 1/10W	(AEP,UK)
R23	1-249-417-11	CARBON 1K 5% 1/4W	(EE,CIS)
R23	1-249-425-11	CARBON 4.7K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R24	1-216-025-91	CHIP (2012) 100 5% 1/10W	(AEP,UK,EE,CIS)
R24	1-249-425-11	CARBON 4.7K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R25	1-247-807-31	CARBON (SMALL) 100 5% 1/4W	(EXCEPT AEP UK,EE,CIS)
R25	1-249-417-11	CARBON 1K 5% 1/4W	(AEP,UK,EE,CIS)
R26	1-249-411-11	CARBON 330 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R26	1-249-437-11	CARBON 47K 5% 1/4W	(AEP,UK,EE,CIS)
R27	1-249-425-11	CARBON 4.7K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R27	1-249-429-11	CARBON 10K 5% 1/4W	(AEP,UK,EE,CIS)
R28	1-247-843-11	CARBON (SMALL) 3.3K 5% 1/4W	(EXCEPT AEP,UK,EE,CIS)
R28	1-249-417-11	CARBON 1K 5% 1/4W	(AEP,UK,EE,CIS)

TCB

Ref. No.	Part No.	Description				Remark
R29	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	(AEP,UK,EE,CIS)
R29	1-249-417-11	CARBON	1K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R30	1-216-186-00	CHIP (3216)	330	5%	1/8W	(AEP,UK,EE,CIS)
R30	1-249-417-11	CARBON	1K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R31	1-216-025-91	CHIP (2012)	100	5%	1/10W	(AEP,UK,EE,CIS)
R31	1-249-417-11	CARBON	1K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R32	1-249-417-11	CARBON	1K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R32	1-249-425-11	CARBON	4.7K	5%	1/4W	(AEP,UK,EE,CIS)
R33	1-247-807-31	CARBON (SMALL)	100	5%	1/4W	(EXCEPT AEP UK,EE,CIS)
R33	1-249-425-11	CARBON	4.7K	5%	1/4W	(AEP,UK,EE,CIS)
R34	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(AEP,UK,EE,CIS)
R34	1-249-429-11	CARBON	10K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R35	1-216-214-00	CHIP (3216)	4.7K	5%	1/8W	(AEP,UK,EE,CIS)
R35	1-249-429-11	CARBON	10K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R36	1-216-025-91	CHIP (2012)	100	5%	1/10W	(AEP,UK,EE,CIS)
R36	1-249-437-11	CARBON	47K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R37	1-216-073-00	METAL CHIP	10K	5%	1/10W	(AEP,UK,EE,CIS)
R37	1-249-417-11	CARBON	1K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R38	1-216-089-91	CHIP (2012)	47K	5%	1/10W	(AEP,UK,EE,CIS)
R39	1-249-429-11	CARBON	10K	5%	1/4W	(AEP,UK,EE,CIS)
R41	1-249-429-11	CARBON	10K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R42	1-216-073-00	METAL CHIP	10K	5%	1/10W	(AEP,UK,EE,CIS)
R43	1-216-042-00	METAL CHIP	510	5%	1/10W	(AEP,UK,EE,CIS)
R43	1-247-843-11	CARBON (SMALL)	3.3K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R44	1-216-013-00	METAL CHIP	33	5%	1/10W	(AEP,UK,EE,CIS)
R44	1-247-843-11	CARBON (SMALL)	3.3K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R45	1-247-843-11	CARBON (SMALL)	3.3K	5%	1/4W	(AEP,UK,EE,CIS)
R46	1-216-073-00	METAL CHIP	10K	5%	1/10W	(AEP,UK,EE,CIS)
R46	1-249-442-11	CARBON	510	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R47	1-216-097-91	CHIP (2012)	100K	5%	1/10W	(AEP,UK,EE,CIS)
R47	1-249-399-11	CARBON	33	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R48	1-247-843-11	CARBON (SMALL)	3.3K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R48	1-249-417-11	CARBON	1K	5%	1/4W	(AEP,UK,EE,CIS)
R49	1-216-049-91	CHIP (2012)	1.0K	5%	1/10W	(AEP,UK,EE,CIS)
R49	1-249-393-11	CARBON	10	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R50	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(AEP,UK,EE,CIS)
R50	1-249-429-11	CARBON	10K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R51	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(AEP,UK,EE,CIS)
R51	1-249-441-11	CARBON	100K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R52	1-249-429-11	CARBON	10K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R53	1-249-425-11	CARBON	4.7K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R53	1-249-429-11	CARBON	10K	5%	1/4W	(AEP,UK,EE,CIS)
R54	1-249-425-11	CARBON	4.7K	5%	1/4W	(EXCEPT AEP,UK,EE,CIS)
R55	1-216-162-00	CHIP (3216)	33	5%	1/8W	(AEP,UK,EE,CIS)
R56	1-249-393-11	CARBON	10	5%	1/4W	(AEP,UK,EE,CIS)
R91	1-216-295-91	CONDUCTOR, CHIP (2012) (AEP,UK,EE,CIS)				
R92	1-216-073-00	METAL CHIP	10K	5%	1/10W	(AEP,UK,EE,CIS)
R99	1-249-399-11	CARBON	33	5%	1/4W	
R1701	1-216-081-00	METAL CHIP	22K	5%	1/10W	(EE,CIS)
R1702	1-216-085-00	METAL CHIP	33K	5%	1/10W	(EE,CIS)
R1703	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	(EE,CIS)
R1704	1-216-075-00	METAL CHIP	12K	5%	1/10W	(EE,CIS)
R1705	1-216-049-91	METAL CHIP	1K	5%	1/10W	(EE,CIS)
R1706	1-216-049-91	METAL CHIP	1K	5%	1/10W	(EE,CIS)
R1707	1-216-097-91	METAL CHIP	100K	5%	1/10W	(EE,CIS)
R1708	1-216-095-00	METAL CHIP	82K	5%	1/10W	(EE,CIS)
R1709	1-216-089-91	METAL CHIP	47K	5%	1/10W	(EE,CIS)
R1710	1-216-073-00	METAL CHIP	10K	5%	1/10W	(EE,CIS)
R1711	1-249-429-11	CARBON	10K	5%	1/4W	(EE,CIS)
R1714	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	(EE,CIS)
R1715	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	(EE,CIS)
R1716	1-216-097-91	METAL CHIP	100K	5%	1/10W	(EE,CIS)
R1717	1-216-097-91	METAL CHIP	100K	5%	1/10W	(EE,CIS)
R1718	1-249-429-11	CARBON	10K	5%	1/4W	(EE,CIS)
R1719	1-216-097-91	METAL CHIP	100K	5%	1/10W	(EE,CIS)
R1720	1-249-434-11	CARBON	27K	5%	1/4W	(EE,CIS)

Ref. No.	Part No.	Description	Remark
R1721	1-216-073-00	METAL CHIP 10K 5%	1/10W (EE,CIS)
		< VARIABLE RESISTOR >	
RV41	1-238-600-11	ADJ, CARBON 10K (EXCEPT AEP,UK,EE,CIS)	
RV41	1-238-601-11	ADJ, CARBON 22K (AEP,UK,EE,CIS)	
RV42	1-238-600-11	ADJ, CARBON 10K (AEP,UK,EE,CIS)	
RV42	1-238-601-11	ADJ, CARBON 22K (EXCEPT AEP,UK,EE,CIS)	
RV1701	1-238-600-11	ADJ, CARBON 10K (EE,CIS)	
RV1702	1-238-599-11	ADJ, CARBON 4.7K (EE,CIS)	
		< TERMINAL >	
TM1	1-537-238-21	TERMINAL BOARD (ANTENNA)	(EXCEPT AEP,UK,EE,CIS)
TM1	1-537-488-11	TERMINAL BOARD (ANT)(ANTENNA)	(AEP,UK,EE,CIS)
		< VIBRATOR >	
X21	1-760-549-11	VIBRATOR, CRYSTAL (4.5MHz)	
X41	1-577-075-11	OSCILLATOR, CERAMIC (456KHz)	(EXCEPT AEP,UK,EE,CIS)
X41	1-760-220-11	FILTER, CERAMIC (AEP,UK,EE,CIS)	
X42	1-527-981-00	FILTER, CERAMIC (AEP,UK,EE,CIS)	
X42	1-760-220-11	FILTER, CERAMIC (EXCEPT AEP,UK,EE,CIS)	
X43	1-527-981-00	FILTER, CERAMIC (EXCEPT AEP,UK,EE,CIS)	
X43	1-577-075-11	OSCILLATOR, CERAMIC (456KHz)	(EXCEPT AEP,UK,EE,CIS)
**********			
*	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,MX)	
⚠CNP901	1-575-042-21	CORD,POWER (US,CND)	
⚠CNP901	1-575-651-21	CORD,POWER (AEP,EE,CIS,AR)	
⚠CNP901	1-696-845-11	CORD,POWER (AUS)	
⚠CNP901	1-751-529-11	CORD,POWER (UK)	
		< FUSE >	
⚠F901	1-532-388-31	FUSE,TIME-LAG (2A,250V)	(EXCEPT US,CND,MX)
⚠F902	1-532-504-31	FUSE,TIME-LAG (4A,250V) (E,AR.MX)	
⚠F902	1-533-310-11	FUSE,GLASS TUBE (6.3A,125V) (US)	
⚠F902	1-533-420-11	FUSE,GLASS CYLINDRICAL	(DIA.5) (5A,125V) (CND)

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
⚠R901	1-219-119-81	FUSIBLE 0.1 5% 1/4W F	(EXCEPT E,AR,MX,AUS)
⚠R901	1-219-124-11	FUSIBLE 0.68 5% 1/4W F	(E,AR,MX,AUS)
⚠R902	1-219-119-81	FUSIBLE 0.1 5% 1/4W F	(EXCEPT E,AR,MX,AUS)
⚠R902	1-219-124-11	FUSIBLE 0.68 5% 1/4W F	(E,AR,MX,AUS)
⚠R903	1-219-119-81	FUSIBLE 0.1 5% 1/4W F	(EXCEPT AEP,UK,EE,CIS)
⚠R903	1-219-120-11	FUSIBLE 0.15 5% 1/4W F	(AEP,UK,EE,CIS)
⚠R904	1-219-119-81	FUSIBLE 0.1 5% 1/4W F	(EXCEPT AEP,UK,EE,CIS)
⚠R904	1-219-120-11	FUSIBLE 0.15 5% 1/4W F	(AEP,UK,EE,CIS)
R907	1-202-725-00	SOLID 3.3M 10% 1/2W	(US,CND)
		< SWITCH >	
⚠S901	1-762-753-11	SWITCH, VOLTAGE SELECTION	(VOLTAGE SELECTOR) (E,AR)
		< TRANSFORMER >	
⚠T901	1-431-050-11	TRANSFORMER, POWER (US)	
⚠T901	1-431-051-11	TRANSFORMER, POWER (AEP,UK,EE,CIS)	
⚠T901	1-431-052-11	TRANSFORMER, POWER (E,AR,MX,AUS)	
⚠T901	1-431-294-11	TRANSFORMER, POWER (CND)	
**********			
		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)	
⚠158	1-569-008-11	ADAPTOR, CONVERSION 2P	
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,MX)	
⚠CNP901	1-575-042-21	CORD, POWER (US,CND)	
⚠CNP901	1-575-651-21	CORD, POWER (AEP,EE,CIS,AR)	
⚠CNP901	1-696-845-11	CORD, POWER (AUS)	
⚠CNP901	1-751-529-11	CORD, POWER (UK)	
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK)	
HRPE101	1-500-094-11	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	1-431-050-11	TRANSFORMER, POWER (US)	

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

Ref. No.	Part No.	Description	Remark
⚠T901	1-431-051-11	TRANSFORMER, POWER (AEP,UK,EE,CIS)	
⚠T901	1-431-052-11	TRANSFORMER, POWER (E,AR,MX,AUS)	
⚠T901	1-431-294-11	TRANSFORMER, POWER (CND)	

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****
HARDWARE LIST
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#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) (EXCEPT AEP,UK,EE,CIS)
	1-501-804-11	ANTENNA (FM) (AEP,UK,EE,CIS)
	3-859-536-11	MANUAL, INSTRUCTION (ENGLISH) (US,CND,E,AR,MX,AUS)
	3-859-536-21	MANUAL, INSTRUCTION (FRENCH)(CND)
	3-859-536-31	MANUAL, INSTRUCTION (FRENCH,SPANISH) (E,AR,MX)
	3-859-537-11	MANUAL, INSTRUCTION (ENGLISH) (AEP,UK,EE,CIS)
	3-859-537-21	MANUAL, INSTRUCTION (FRENCH,SPANISH,PORTUGUESE) (AEP)
	3-859-537-31	MANUAL, INSTRUCTION (GERMAN) (AEP)
	3-859-537-41	MANUAL, INSTRUCTION (DUTCH,SWEDISH,ITALIAN) (AEP)
	3-859-537-51	MANUAL, INSTRUCTION (DANISH,FINNISH) (AEP)
	3-859-537-61	MANUAL, INSTRUCTION (POLISH,RUSSIAN) (EE,CIS)

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

9-960-880-11

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HCD-D690/XB6/XB600

SONY

SERVICE MANUAL

US Model
Canadian Model
HCD-D690
AEP Model
UK Model
E Model
Australian Model
HCD-XB6
Mexican Model
HCD-XB600

CORRECTION-1

Please correct your service manual.

1. TEST MODE
2. ELECTRICAL ADJUSTMENTS
3. BLOCK DIAGRAMS (MAIN SECTION)

- This is to inform you the revision of previously distributed service manual (9-960-880-11).
  Regarding TEST MODE page30 and page31, please replace them to the revised edition page2 and page3.

1. 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 pickup to the most inside track.
   2) Press three buttons in the same manner as step 2, or disconnect the power cord.

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.

[Aging Mode]

This mode can be used for operation check of CD section and tape deck section.

- If an error occurred:
  The aging operation stops.
- If no error occurs:
  The aging operation continues repeatedly.

1. Aging Mode in CD Section

1-1. Operating Method of Aging Mode

1. Set discs in DISC 1 and DISC 3 trays.
2. Select the function "CD".
3. Press three buttons [SPECTRUM ANALYZER] , [ENTER] and [KARAOKE PON/MPX] simultaneously.
4. The aging mode is activated, if a roulette mark on the fluorescent indicator tube is blinking.
5. In the aging mode, the aging is executed in a sequence given in "1-2. Operation during Aging Mode".
   The aging continues unless an alarm occurred.
6. To exit from the aging mode, press [POWER] button to turn the set OFF.

- If a button other than buttons In CD section is pressed during aging, the aging in the CD section is finished.
- To execute aging to the tape deck section successively, press [▷] button in the deck A.
  "AGING" is displayed on the fluorescent indicator tube. (For the aging in tape deck, see "2. Aging Mode in Tape Deck Section".

1-2. Operation during aging Mode

In the aging mode, the program is executed in the following sequence.

1. The disc tray turns to select a disc. (For a disc selection sequence, see Section 1-3.)
2. TOC of disc is read.
3. The pick-up accesses to the last track.
4. Steps 1 through 3 are repeated.

1-3. Disc Selection Sequence

- During the aging mode, discs are selected in the following sequence:

Disc 1 → Disc 3
↑ ↓
Disc 3 ← Disc 1

2. Aging Mode in Tape Deck Section

2-1. Operating Method of Aging Mode

1. Load a commercially available 10-minute tape into the decks A and B respectively.
   (If a 10-minute tape is not available, another tape may be used but a cycle time will be longer.)
2. Select the function "TAPE".
3. Rewind tapes in advance by pressing [◀◀] button respectively on decks A and B.
4. Press three buttons [SPECTRUM ANALYZER] , [ENTER] and [KARAOKE PON/MPX] simultaneously.
5. Press [▷] button on deck A. (This button triggers the aging mode.)
6. The aging mode is activated if "AGING A" is displayed on the fluorescent indicator tube.
7. In the aging mode, the aging is executed in a sequence given in "2-2. Operation during Aging Mode".
   The aging continues unless an alarm occurred.
8. To exit from the aging mode, press [POWER] button to turn the set OFF.

2-2. Operation during Aging Mode

In the aging mode, the program is executed in the following sequence.

1. A tape on FWD side is played for one minute.
2. PAUSE STOP is made.
3. Recording is made for 3 minutes. (For the deck not having the record function, the play is executed.)
4. FF is executed up to the end of tape.
5. A tape is reversed, and the tape on REV side is played for one minute.
6. PAUSE STOP is made.
7. Recording is made for 3 minutes. (For the deck not having the record function, the play is executed.)
8. FF is executed up to the end of tape.
9. Steps 1 through 8 are executed for the other deck.
10. Steps 1 through 9 are repeated unless an alarm occurred.

2-3. Deck Selection Sequence

- During the aging mode, decks are selected in the following sequence:

Deck A (FWD) → Deck A (REV)
↑ ↓
Deck B (REV) ← Deck B (FWD)

2. ELECTRICAL ADJUSTMENTS

☛ : Corrected Portion

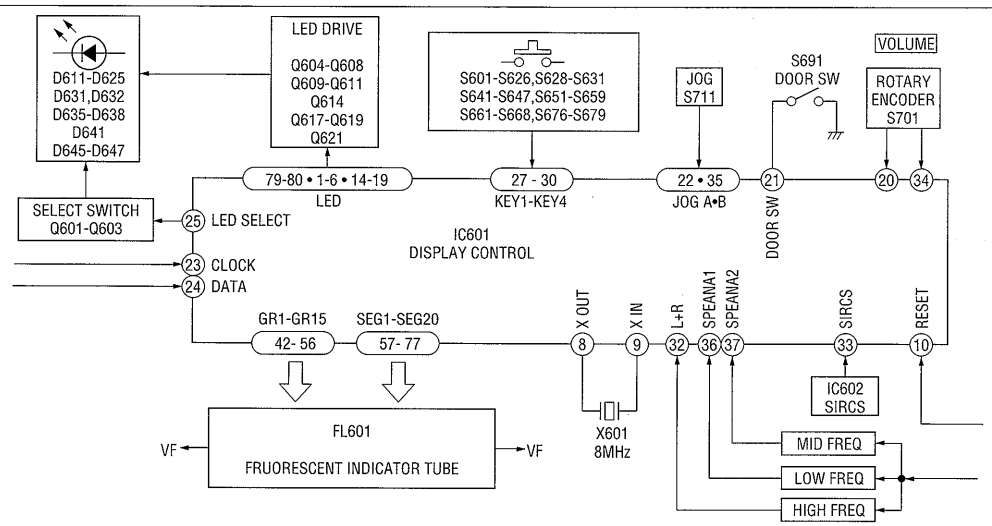
Page	incorrect	correct
32	8. Set to test mode. (Press key switch same time GROOVE ENTER/NEXT and DISC 4 button.)	8. Set to test mode. (Press key switch same time SPECTRUM ANALYZER ENTER and EFFECT button.)
33	**Tape Speed Adjustment DECK A** **Procedure:** 2. Press the GROOVE button, ENTER/NEXT button and DISC 4 button simultaneously.	**Tape Speed Adjustment DECK A** **Procedure:** 2. Press the SPECTRUM ANALYZER button, ENTER button and EFFECT button simultaneously.
37	CD SECTION **Note:** 5. Adjust the focus bias adjustment when optical block is replaced.	CD SECTION **Note:** ———

3. BLOCK DIAGRAMS – MAIN SECTION –

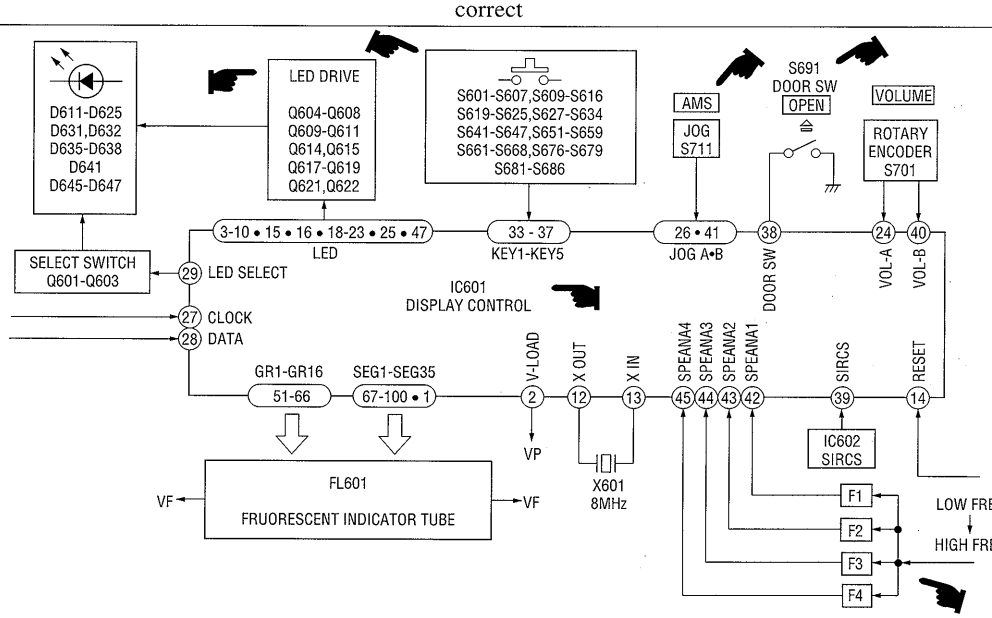
☛ : Corrected Portion

Page 47-48

incorrect



correct



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