


# CFD-K10

## SERVICE MANUAL

AEP Model  
UK Model



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COMPACT  
**disc**  
DIGITAL AUDIO

### SPECIFICATIONS

#### CD player section

System Compact disc digital audio system  
Laser diode properties  
Material: GaAlAs  
Wavelength 780 nm  
Emission duration: Continuous  
Laser output: Less than 44.6 $\mu$ W\*  
\*This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block.  
Spindle speed 200 r.p.m. to 500 r.p.m. (CLV)  
Error correction Sony Super Strategy Cross Interleave Read Solomon Code  
Number of channels 2  
Frequency response 20 – 20,000 Hz  $\pm 1$  dB  
Wow and flutter Below measurable limit

#### Radio section

Frequency range FM: 87.6 – 107 MHz (AEP, UK, Germany model)  
87.5 – 108 MHz (Italian model)  
AM: 531 – 1602 kHz

IF	FM	AM
	10.7 MHz	450 kHz

Antennas FM: Telescopic antenna  
AM: Built-in ferrite bar antenna

#### Tape recorder section and general

Recording system 4-track 2-channel stereo  
Fast winding time Approx. 140 sec. with Sony cassette C-60  
Frequency response  
• TYPE I (NORMAL) cassette: 60 – 14,000 Hz  
• TYPE II (CrO<sub>2</sub>) cassette: 60 – 15,000 Hz  
Speaker Full-range speakers: 8 cm dia, cone type  
Maximum power output 6.5 W + 6.5 W (at 12 ohms, 10 % harmonic distortion)



CD SECTION	Model Name Using Similar Mechanism	D-20
	Optical Device Name	KSM-224AAN
DECK SECTION	Model Name Using Similar Mechanism	CFD-770L
	Tape Transport Mechanism Type	MF-K10-65

Outputs Headphones jack (stereo minijack)  
For 45 – 68 ohms impedance headphones  
Power requirements AEP, Germany, Italian model:  
220 – 230VAC, 50Hz  
UK model: 240VAC, 50Hz  
DC 12 V, 8 R20 (size D) batteries for CD radio cassette-corder  
DC 4.5 V, 3 R6 (size AA) batteries for clock/timer/memory  
DC 3 V, 1 lithium battery (CR2025) for remote commander  
Power consumption AC 22 W  
Battery life Batteries for radio cassette-corder

	Recording	Playback	CD playing
Sony SUM-1 (NS)	approx. 2 H	approx. 1.5 H	approx. 0.5 H
Sony Alkaline AM1(N)	approx. 6 H	approx. 4.5 H	approx. 1.5 H

For clock/timer/memory: Approx. 1 year

Dimensions 480 × 133 × 157 mm (w/h/d)  
(19 × 5 $\frac{1}{4}$  × 6 $\frac{1}{4}$  inches)  
incl. projecting parts and controls  
Weight Approx. 7 kg, incl. batteries  
(Approx. 15 lb 7 oz)  
Supplied accessories AC power cord (1)  
Remote commander (1)

Design and specifications subject to change without notice.

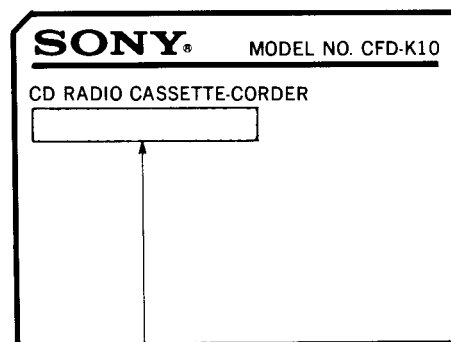
CD RADIO CASSETTE-CORDER  
**SONY**<sup>®</sup>

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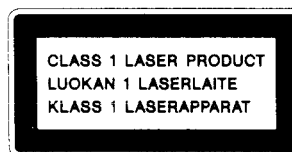
**MODEL IDENTIFICATION**

— Model Number Label —





AEP, Germany, Italian model: AC: 220-230V~50Hz 22W  
UK model: AC: 240V~50Hz 22W

For AEP model



This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

**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.



## SERVICING NOTES

### CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

### ADVARSEL !

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.  
Udskiftning må kun ske med batteri  
af samme fabrikat og type.  
Lever det brugte batteri tilbage til leverandøren.

### ADVARSEL

Lithiumbatteri-Eksplosjonsfare.  
Ved utskifting benyttes kun batteri som  
anbefalt av apparatfabrikanten.  
Brukt batteri returneres apparatleverandøren.

### WARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

### VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

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

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

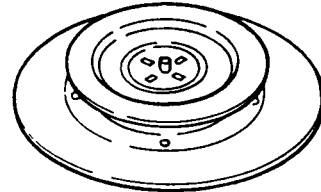
During repair, pay attention to electrostatic breakdown and also, use the procedure in the printed matter which is included in the repair parts.

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

### CHUCK PLATE JIG ON REPAIRING

On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

- Code number of Chuck Plate Jig : X-4918-255-1



### 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 more than 25cm away from the objective lens.

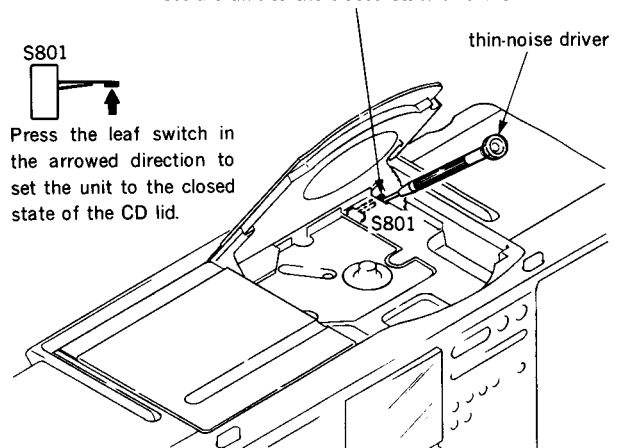
### HOW TO CHECK THE LASER DIODE

In this unit system, the laser diode will not emit light unless the CD lid is closed and S801 (leaf switch) is turned off with the POWER switch ON and press the function button to "CD".

#### • Checking Procedure

1. Turn ON the POWER switch and press the function button to "CD".
2. Open the CD lid.
3. As illustrated, while turning off S801, press the ▷ key.
4. Observe the objective lens and verify that the laser diode emits light. If no light is emitted, the automatic power control circuit or optical pick-up block may be at fault. Note that the laser diode is energized for about three seconds for focus search.

Using a thin-noise driver, pressing the protrusion at the end of the S801 (leaf switch) will turn off the S801 and set the unit to the closed state of the CD lid.



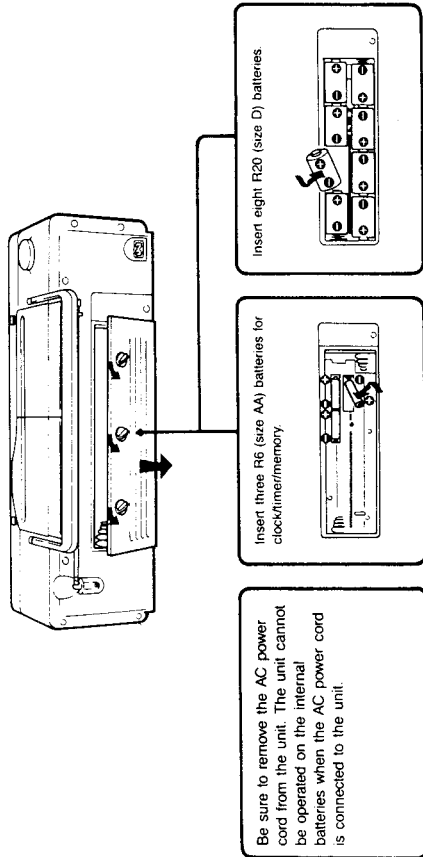
## Power Sources

Two separate power sources are needed to operate this unit: one for the unit itself and one for the clock/timer/memory.

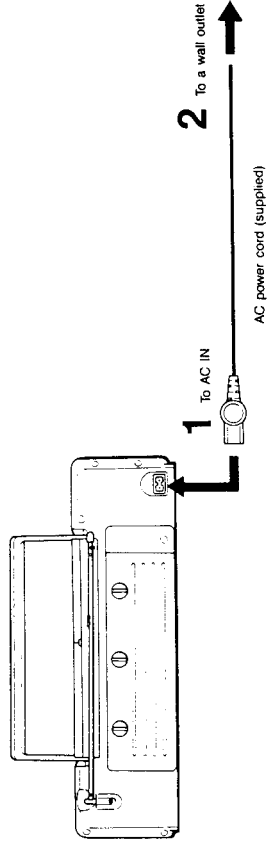
You can use the unit either with house current, or batteries. In either case, be sure to insert batteries for the clock/timer/memory.

**Note**  
When inserting or replacing the batteries, remove a compact disc from the disc holder. Otherwise, the disc may be damaged if it falls from the disc holder.

## Batteries



## House Current

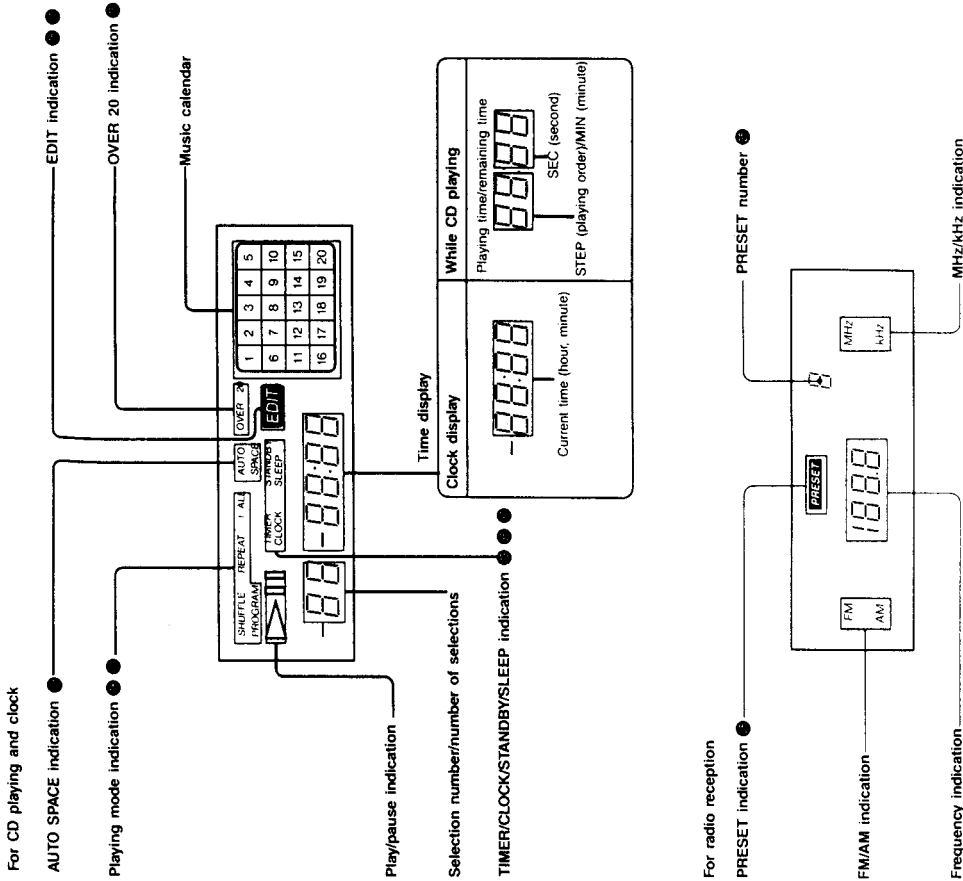


**Note**  
For critical recordings or disc playing, operating the unit on house current is recommended.

**Battery replacement**  
Batteries to operate the CD radio cassette-corder: when the batteries are weak, the OPR/BATT/STANDBY indicator will become faint. In this case, if you try to operate the recorder, the power might be turned off. Replace all the batteries with new ones.

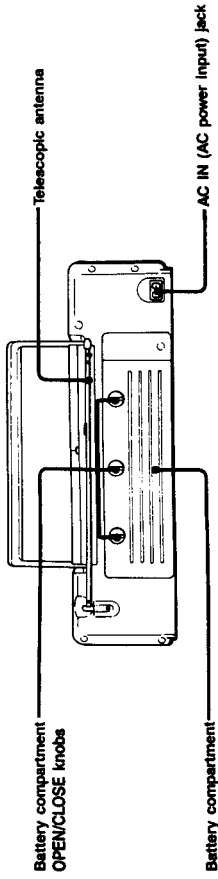
Batteries for the clock/timer/memory of the unit: when the batteries are weak, the indication in the display window becomes faint. Replace the batteries with new ones. When you replace the batteries for clock/timer/memory, be sure to connect the AC power cord to the unit and to the wall outlet and turn the power on before you remove the batteries.

**Display Section**



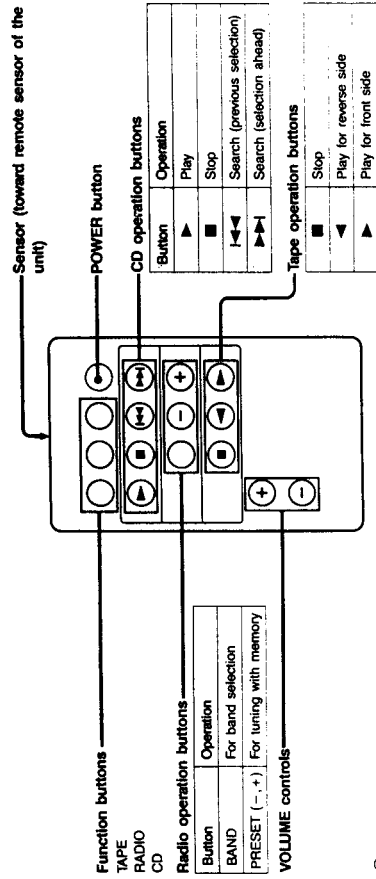
7

**Rear Panel**



**Remote Commander**

You cannot turn on the unit by the remote commander when you operate the unit on the internal batteries.



8

**Before use**  
The battery for the remote commander has already been installed. Remove the insulating tape first.



**Battery replacement**

- 1 Pull out the lithium battery holder while sliding the lock toward the right.
- 2 Install the lithium battery (CR2025) into the holder.
 

Lock (to prevent the battery from falling out)

With the (+) side facing out
- 3 Replace the holder into the remote commander.

**Note on the remote commander**  
Keep the commander away from extremely hot or humid places. Use the remote commander within 5 m from the unit.

**When to replace the battery**  
For normal operation, battery life lasts up to half a year. When the commander does not operate at longer distances, the battery need to be changed. Replace the battery with a new CR2025 lithium battery.

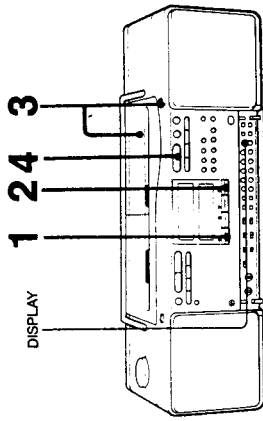
**Notes on lithium battery**

- Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure a good contact.
- Be sure to observe the correct polarity when installing the battery.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- Do not break up the battery nor throw it into a fire, which might cause it to explode. Carefully dispose of the used batteries.

# Playing Discs

You can play an 8 cm (3-inch) CD without using an adaptor for it. You can operate the unit with the remote commander.

Make sure the **STANDBY** indication does not appear in the display window.



**1** Press.

The **OPR/BATT/STANDBY** indicator lights up when you use the unit with batteries. (The **OPR/BATT/STANDBY** indicator always lights up when the AC power cord is connected to the unit.)

**2** Press.

Press **PUSH OPEN**.

**3** | 1 |

Keep the handle down.

Place a disc with the labeled surface facing up.

Close the disc holder.

**4** Press

The disc starts to rotate and the indication appears as follows.

Music calendar  
Number of selections  
Total playing time

The indication will return to "00" after about 4 seconds.

Selection number being played  
Elapsed playing time

**Note**  
Do not open the disc holder while playing the disc.

## To Display Remaining Time

The selection being played  
Press **DISPLAY** once.

Selection No. being played  
Remaining time of the selection

The disc being played  
Press **DISPLAY** twice.

Total remaining time of disc  
Remaining number of selections

For normal display, press **DISPLAY** again.

**Note**  
During shuffle or repeat play, the remaining time of the disc being played cannot be displayed.

## Information Display

While CD player is set in pause

Pause indication appears

Between selections  
The remaining time for the next selection is displayed.

## To adjust the volume

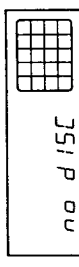
Use the **VOLUME** control.

CD operation buttons

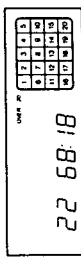
if you want to	press
play	▶
stop play	□
pause for a moment	⏸
resume play after pause	⏪
remove a disc	□ → PUSH OPEN

After use  
Press **POWER** again.

- Notes**
- If the disc is played near a TV or radio, noise may occur on the TV or radio.
  - If there is no disc in the disc holder, the following indication appears in the display window.



- Up to 20 selections are displayed in the music calendar.
- If the disc has more than 21 selections, **OVER 20** appears in the display window.



- The remaining time of the selection from the 21st selection appears as "-----"; Elapsed playing time is displayed while playing.
- To check the number of selections and total playing time, press **DISPLAY** inside the panel when the disc stops to play.

## Notes on Compact Disc

This way

Handle the disc by its edge, and to keep the disc clean, do not touch the surface.

Not this way

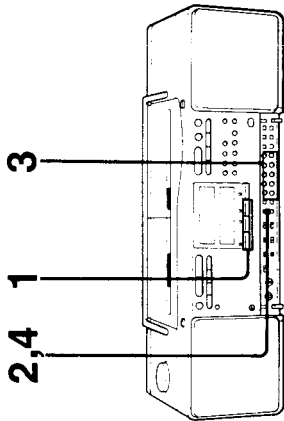
Do not stick paper or tape or write anything on the surface.

Before playing, clean the disc with the optional CD cleaner. Wipe the disc from the center out.

- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for analog discs.
- After playing, store the disc in its case.
- Do not expose the disc to direct sunlight or heat sources such as hot air ducts, or leave it in a car parked in direct sunlight where there can be a considerable rise in the temperature.

# Setting the Clock

Be sure to insert three R6 (size AA) batteries for the clock/timer/memory in the battery compartment.

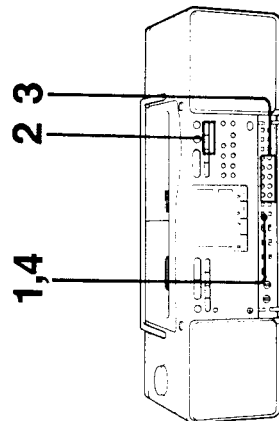


<p><b>1</b> Be sure the function buttons do not light. When the POWER is on, press any button except CD.</p>	<p><b>2</b> Press for about 4 seconds until the CLOCK indication appears in the display window.</p>	<p><b>3</b> Press the number buttons inside the panel to enter the hour and then the minute. (If the hour and/or minute has one digit, be sure to press 0 before the number.) Example: To set to 8:45</p>	<p><b>4</b> Press again.</p> <p>The clock starts when you press the button.</p>
		<p>“-” shows the position where the next number will be entered.</p>	

**Clock system**  
 0:00 = midnight  
 12:00 = noon

## To change One Digit

Example: To change 1:01 to 1:00.



<p><b>1</b> Press for about 4 seconds until the CLOCK indication appears in the display window.</p>	<p><b>2</b> Press three times until “-” comes to the last digit. “-” moves to the left by pressing ←.</p>	<p><b>3</b> Press the number button.</p>	<p><b>4</b> Press again.</p> <p>The clock starts.</p>
	<p>“-” shows the position where the next number will be entered.</p>		

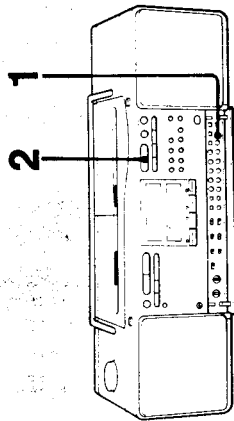


# Various disc Playing Modes

Each time you press SHUFFLE/PROGRAM inside the panel, the playing mode changes in sequence as indicated in the display window: SHUFFLE → PROGRAM **EDIT** → no indication (normal play).

## To Play Selections in Random Order—Shuffle Play

Make sure the **STANDBY** indication does not appear in the display window.



**1** Press until the SHUFFLE indication appears.

**2** Press.

The selection number will disappear from the music calendar, when the selection is finished.

**To stop shuffle play**  
Press **||**.

**To release shuffle play**  
Press SHUFFLE/PROGRAM twice until the SHUFFLE indication disappears from the display window. Normal play begins from the selection being played.

**To display the remaining time of the selection being played**  
Press DISPLAY inside the panel once.

The remaining time at the selection being played

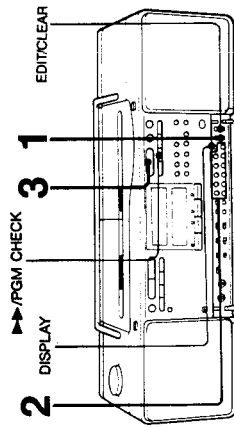
**To start shuffle play from normal play**  
Press SHUFFLE/PROGRAM during normal play. Shuffle play begins from the selection being played.

**Note**

During shuffle play, the remaining time of the disc is not displayed.

**To return to the normal display**  
Press DISPLAY again. From the 21st selection, the remaining time will be displayed as ".....".

## To play the Selections in the Order Desired—Program Play



**1** Press until the PROGRAM **EDIT** indication appears.

**2** Press the number buttons inside the panel in the order desired.

Programmed selections

Selection No. Playing order

Up to 21 selections can be memorized.

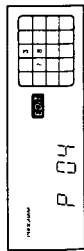
**3** Press.

**To stop program play**  
Press **||**.

**To reprogram the selections**

- To erase the previous program, open and close the disc holder and repeat the steps from the beginning. Be sure to turn the POWER on, otherwise, the selections programmed cannot be erased.
- To erase the last selection programmed, press the EDIT/CLEAR button inside the panel. Each press of EDIT/CLEAR erases one selection. Press the number button to program in a new order.

**To program a pause**  
Be sure that the **AUTO SPACE** indication does not appear in the display window. Press **|||** at the position desired. Each press of **|||** counts as one selection.



During program play, the player will be set in pause when it comes to **|||**. To resume playing, press **|||** again.

**To check the total playing time of the selections programmed**  
After programming, press DISPLAY. The total playing time appears in the display window.



If there is a pause in the programmed selections, the playing time after the pause appears. To return to the normal display, press DISPLAY again.

**Programmed selections will be erased when:**

- you press the **||** button twice during play.
- you press the **||** button once during the stop mode.
- you open the disc holder during the CD playing mode.

**To check the programmed selections**  
After programming, press **↔**/PGM CHECK. You can check the selections from the beginning. Each press of **↔**/PGM CHECK shows the programmed selections in order.

**When the programmed selections are finished**  
The selection number in the music calendar disappears one by one, but the programmed selections are memorized until you erase the programmed selections.

**To release program play and return to normal play**  
Press SHUFFLE/PROGRAM inside the panel until the PROGRAM **EDIT** indication disappears from the display window. Normal play begins from the selection being played.

# Adjusting Sound

## To Obtain a Powerful Bass

The CCCR (Common Cavity Common Resonance) system produces a powerful bass with the use of the Auto Dynamic Bass Feedback system.

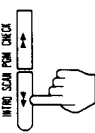
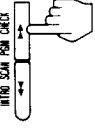
- Notes on how to obtain a powerful bass efficiently:**
- There is a bass reflex duct on the right side of the unit. Place the unit more than 5 centimeters from the wall or other obstruction. Because the bass reflex duct is a way out for the bass sound, do not cover the duct.
  - Be sure to close the battery compartment lid.

## To Adjust the Treble and Bass Tones

Rotate the TREBLE and BASS controls clockwise or counterclockwise to get the tone desired.

## To Search for a Particular Point in a Selection (Search)

Press ◀▶ or ▶▶ during play or pause.

<p><b>To review disc playing</b></p> 	<p><b>To advance disc playing</b></p> 
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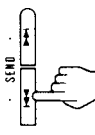
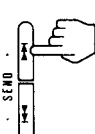
Release the button at the point desired, located by monitoring the high-speed sound.

In the pause mode, you can search rapidly. However, you cannot hear the sound. Observe the time display.

## To Locate the Beginning of a Selection (AMS\*)

Be sure the SHUFFLE and PROGRAM **EDIT** indications are not displayed in the display window. Otherwise, press the SHUFFLE/PROGRAM or EDIT/CLEAR button inside the panel.

Press ◀▶ or ▶▶ during play or pause.

<p><b>To locate a previous selection</b></p> <p>Press ◀▶ once to locate the beginning of the selection being played. Press continuously to locate a previous selection.</p> 	<p><b>To locate a selection ahead</b></p> <p>Press ▶▶ once to locate the next selection after that being played. Press continuously to locate a selection ahead.</p> 
---	--

**In pause mode**  
The player pauses at the beginning of each selection. To start playing, press ||||.

**During program play**  
The function of ◀▶ or ▶▶ plays selections in the memorized order.

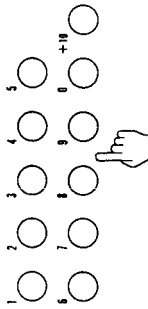
**During shuffle play**  
The disc does not locate a previous selection but the beginning of the selection being played when the ◀▶ button is pressed.

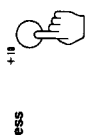
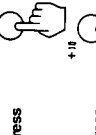
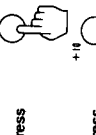
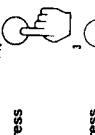
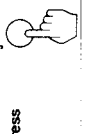
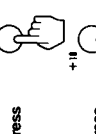
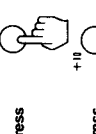
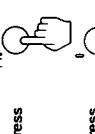
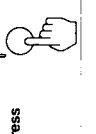
\* AMS: Automatic Music Sensor

## For Selecting a Selection Desired Directly

Press a selection number by using the number buttons inside the panel.

Press a selection number you want to listen to, and the disc will start to play.

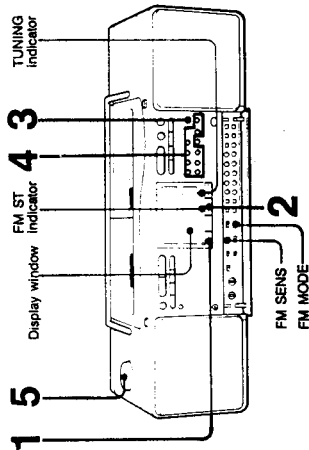


<p><b>Example:</b> To select the 10th selection</p> <p>Press +10</p>  <p>Display 10</p>	<p>To select the 33rd selection</p> <p>Press +10</p>  <p>Display 1-</p> <p>Press +10</p>  <p>Display 2-</p> <p>Press +10</p>  <p>Display 3-</p> <p>Press 3</p>  <p>Display 33</p>	<p>To select the 30th selection</p> <p>Press +10</p>  <p>Display 1-</p> <p>Press +10</p>  <p>Display 2-</p> <p>Press +10</p>  <p>Display 3-</p> <p>Press 0</p>  <p>Display 30</p>
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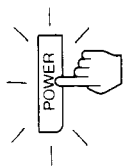
# Listening to Radio Programs

You can operate the unit with the remote commander.

Make sure the **STANDBY** indication does not appear in the display window.

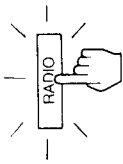


**1** Press.



The OPR/BATT/STANDBY indicator lights up when you use the unit with batteries. (The OPR/BATT/STANDBY indicator always lights up when the AC power cord is connected to the unit.)

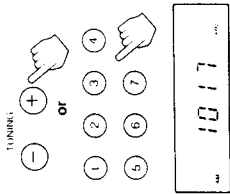
**2** Press.



**3** Select the band desired, FM or AM.

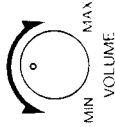


**4** Tune in a station desired or press the number button if the stations are preset.



When the station desired is tuned in, the TUNING indicator lights up.

**5** Adjust the volume.



To turn off the radio Press **POWER** again.

To improve receiving condition

FM AM



### FM SENS (sensitivity) selector

While listening, normally set the selector (located inside the panel) to DX. However, if a very strong station signal causes noise or if multipath signals are heard while listening to an FM program, set it to LOCAL. The noise will be reduced.

**For better reception of a weak FM stereo program**  
Set the FM MODE switch to MONO. The noise will be reduced, however, the sound becomes monaural.

When an FM stereo program is tuned in FM ST indicator lights up.

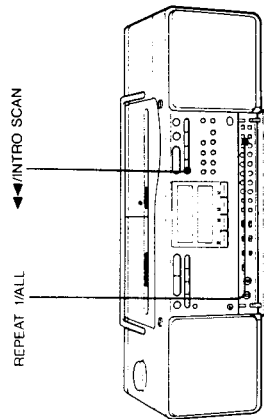
If the received FM stereo signal is too weak The reception becomes monaural, and the FM ST indicator will go off.

**Note**

If you use the remote commander supplied near the unit while listening to an AM program, noise might be heard.

### To Select Repeat Mode

Press REPEAT 1/ALL inside the panel. Each time you press REPEAT 1/ALL, the repeat mode changes in sequence as indicated in the display window: REPEAT 1 → REPEAT ALL → no indication (normal play).



### To stop repeat play

Press !.

### To release the repeat play

Press REPEAT 1/ALL until the REPEAT indication disappears from the display window.

### Note

During repeat play, the remaining time of the disc being played cannot be displayed.

### To Scan the Beginning of the Selections

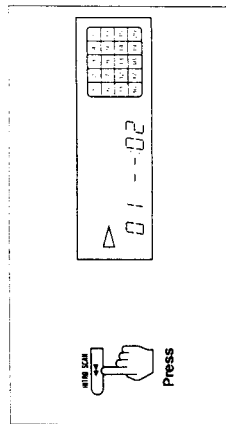
You can scan the beginning of the selections in normal play, shuffle play and program play for 10 seconds by pressing ◀◀INTRO SCAN while the disc player is in the stop mode.



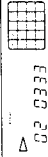
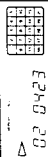
### To release INTRO SCAN

Press any button for disc play.

### Notes

- If a pause is programmed in program play, the INTRO SCAN function skips the pause.
- During REPEAT 1 play, the INTRO SCAN function does not work.



<p><b>To repeat only one selection — Repeat 1 play</b></p> <p>While playing the selection you want to repeat</p> 	<p><b>To repeat the entire disc — Repeat all play</b></p> <p>While playing the disc you want to repeat.</p> 
<p>Be sure REPEAT 1 indication appears in the display window.</p> 	<p>Be sure REPEAT ALL indication appears in the display window.</p> 

### To repeat the program play

During program play, press REPEAT 1/ALL. The PROGRAM REPEAT indication appears in the display window, and the programmed selections will be repeated.

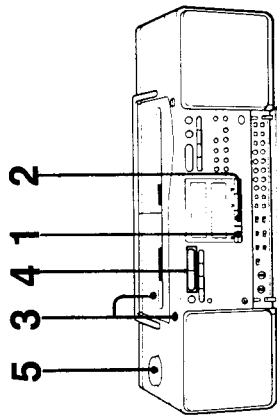
### To repeat the shuffle play

During shuffle play, press REPEAT 1/ALL. The SHUFFLE REPEAT indication appears in the display window, and the shuffle play will be repeated.

# Playing Back Tapes

You can operate the unit with the remote commander.

Make sure the **STANDBY** indication does not appear in the display window.



**1** Press. The OPR/BATT/STANDBY indicator lights up when you use the unit with batteries. (The OPR/BATT/STANDBY indicator always lights up when the AC power cord is connected to the unit.)

**2** Press. The OPR/BATT/STANDBY indicator lights up when you use the unit with batteries. (The OPR/BATT/STANDBY indicator always lights up when the AC power cord is connected to the unit.)

**3** Insert a recorded tape. Push to close the holder.

**4** Press. For front side  
For reverse side

**5** Adjust the volume. MIN VOLUME MAX

**After use**  
Press **POWER** again.  
For private listening  
Connect stereo headphones to the  $\phi$  (headphones) jack.

### Tape operation buttons

If you want to play	Press $\blacktriangleleft$ or $\blacktriangleright$
stop play	$\square$
pause for a moment	$\square$ PAUSE
resume play after pause	$\square$ PAUSE
advance rapidly (fast forward)	for front side: $\blacktriangleright\blacktriangleright$ for reverse side: $\blacktriangleleft\blacktriangleleft$
rewind	for front side: $\blacktriangleleft\blacktriangleleft$ for reverse side: $\blacktriangleright\blacktriangleright$
remove a cassette	$\square$ $\rightarrow$ $\Delta$ EJECT

During fast forward and rewind, the  $\blacktriangleleft$  and  $\blacktriangleright$  lamps flash, which shows the direction of the tape.

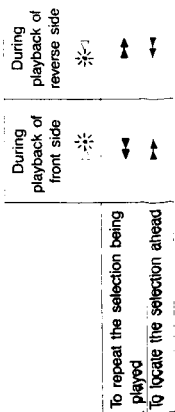
**Note**  
If the power accidentally cut off (for example, the AC power cord was disconnected, the batteries fell out or an interruption of the main power source occurred), it may not be possible to eject the cassette. In this case, connect the AC power cord or replace the batteries into the compartment.

If you try to operate the recorder when the OPR/BATT/STANDBY indicator is lit because of weak batteries it may turn off the power. In this case, reconnect the AC power cord or replace the batteries with new ones.

**To select the DOLBY B Noise Reduction system**  
During playback, set the DOLBY NR switch to the same position used when recording.  
ON: Recorded using the Dolby B Noise Reduction system.  
OFF: Recorded without using the Dolby B Noise Reduction system.

### To Locate the Beginning of a Selection—AMS\*

During playback, press the appropriate button.  
The cassette is wound rapidly in forward or reverse direction, and playback will start automatically when the beginning of the selection is reached.



To repeat the selection being played  
To locate the selection ahead

### To select playback mode

Use the CD REC/DIR MODE selector inside the panel.

CD REC/DIR MODE selector	$\blacktriangleleft$	$\rightarrow$	$\blacktriangleright$
To play back one side of a cassette	$\blacktriangleleft$		
To play back both sides of a cassette once starting from the front side to the reverse side of a cassette		$\rightarrow$	
To play back both sides of a cassette continuously			$\blacktriangleright$

**Note**  
If playback starts from the reverse side of a cassette when the CD REC/DIR MODE selector is set to  $\blacktriangleleft$  or  $\rightarrow$ , playback will be stopped automatically when the reverse side is completed.

### Usable tape type

When a cassette is inserted into the cassette holder, the unit automatically identifies and adjusts the tape type with the ATS (Automatic Tape Selector) function.

Tape type	Playback	Recording
TYPE I (normal)	Can be used	Can be used
TYPE II (CrO <sub>2</sub> )	Can be used	Can be used
TYPE IV (metal)	Can be used	Cannot be used

### To Rewind and Start from the Beginning Automatically—Auto Play

**To start from the beginning of the front side**  
While the deck is in the stop mode, press  $\blacktriangleleft$ .  
Make sure the  $\blacktriangleleft$  lamp is flashing.  
Press.  $\blacktriangleleft$  lamp lights up.

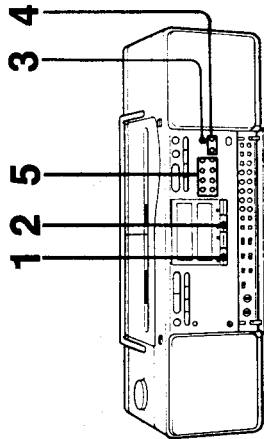
**To start from the beginning of the reverse side**  
While the deck is in the stop mode, press  $\blacktriangleright$ .  
Make sure the  $\blacktriangleright$  lamp is flashing.  
Press.  $\blacktriangleright$  lamp lights up.

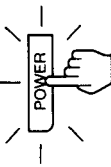
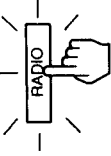
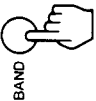
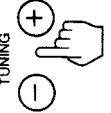
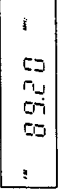
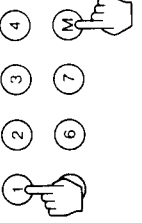
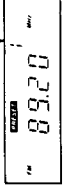
The cassette will be wound rapidly and playback will start automatically from the beginning.

### Memory Preset Tuning

Once you preset the stations, you can listen to the station desired just by pressing the number buttons inside the panel. You can preset up to 7 stations each for FM and AM programs (total 14 stations).

Make sure the **STANDBY** indication does not appear in the display window.



<p><b>1</b> Press.</p>  <p>The <b>OPR/BATT/STANDBY</b> indicator lights up when you use the unit with batteries. (The <b>OPR/BATT/STANDBY</b> indicator always lights when the AC power cord is connected to the unit.)</p>	<p><b>2</b> Press</p> 	<p><b>3</b> Select the band desired, FM or AM.</p> 	<p><b>4</b> Tune in a station desired.</p>  	<p><b>5</b> Press a preset number while keeping <b>MEMORY</b> pressed.</p>   <p>A preset number appears</p>
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#### To tune in a preset station

- 1 Select the band desired.
- 2 Press the preset number on which the station is memorized.

#### To erase the previous station

Enter a new station on the preset number, and the previous station will be erased automatically.

# Automatic Editing on the CD for Recording by Specifying the Tape Length

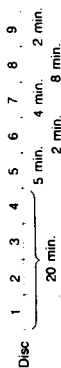
The CD player automatically edits the selections on a disc according to the tape length. The recording length is up to 99 minutes and up to 20 selections can be edited.

Press EDIT/CLEAR inside the panel. Each time you press EDIT/CLEAR, the editing mode changes in sequence as indicated in the display window: EDIT 1 → EDIT 2 → no indication (normal recording)

**EDIT 1:** The CD player selects the selections beginning from the first one on the disc, summing up the playing time. When the total playing time exceeds the specified tape length, the last selection is recorded on the reverse side of the tape.

**EDIT 2:** The CD player selects the selections beginning from the first one on the disc, summing up the playing time. When the total playing time exceeds the specified tape length, the last selection is eliminated. Then, the CD player looks for a selection whose length is within the remaining tape and substitutes it for the eliminated one.

**Example:** To record on a 46 minute-tape (23 minutes for each side)



**EDIT 1:** Front side: total 20 minutes

Reverse side: total 21 minutes

**EDIT 2:** Front side: total 22 minutes

Reverse side: total 19 minutes

**Notes**

- Use a tape which is longer than the total playing time.
- To record the selections which cannot be recorded on the specified tape, after the selection order has been programmed for automatic editing, press SHUFFLE/PROGRAM and record them in the program play.
- When the disc holder is open, the selection order programmed for automatic editing will be erased.

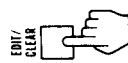
## To Program for Automatic Editing

**1** Insert a disc. (Steps 1 to 3 in "Playing Discs")

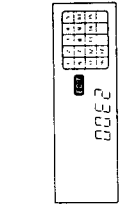
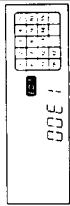
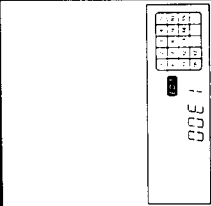
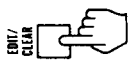
- Make sure the disc is not moving.
- While playing the disc, the automatic editing function does not operate.
- Make sure the SHUFFLE, PROGRAM, EDIT or AUTO SPACE indication disappears from the display window.

**2** Select EDIT 1 or EDIT 2.

EDIT 1: Press once.

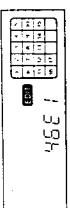


EDIT 2: Press twice.



**3** Enter the total tape length by pressing the number buttons inside the panel.

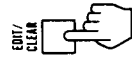
Example: 46-minute tape  
Press 4 and then 6.



Example: 90-minute tape  
Press 9 and then 0.



**4** Press



When the total playing time is shorter than the tape length, the player will be set in the program mode. Continue the steps for recording.



When the total playing time is longer than the tape, change the tape for a longer one, and repeat from step 3 (eg. 46-minute tape).



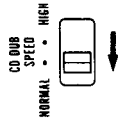
To check the programmed selections  
Press →PGM CHECK. You can check the selections from the beginning one by one.

## To Record the Selections Programmed

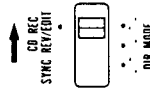
**1** After proceeding the steps 1 to 4 in "To Program for Automatic Editing", insert a blank cassette into the deck.

Use TYPE I (normal) or TYPE II (CrO2) tape.

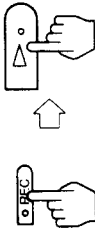
**2** Set to NORMAL.



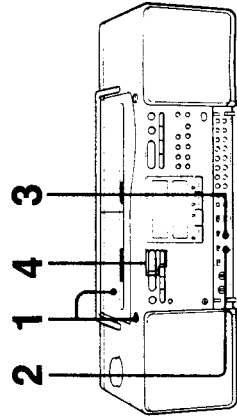
**3** Set to SYNC REV/EDIT.



**4** While keeping REC/REC MUTE pressed, press 1.



The CD player will start automatically Start recording from the front side.



When recording on the front side is finished

The CD player is set to the pause mode, the cassette deck starts to erase the remaining tape on the front side with high speed.

Then, the tape transport direction changes to reverse. The CD player automatically starts to play and the cassette deck starts to record on the reverse side.

When all the selections are recorded  
Both CD player and the cassette deck are set in the stop mode.

To stop recording

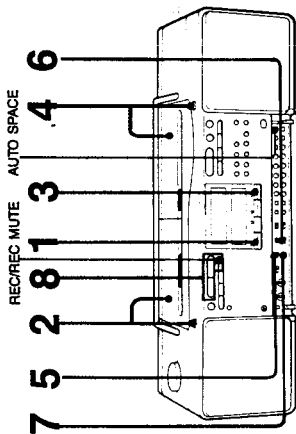
Press 1 of the CD player and 1 of the cassette deck.

After recording

Press POWER again

# Recording CD Sound

Make sure the STANDBY indication does not appear in the display window.



**Note**  
If the unit is operated on the internal batteries while recording, the power might be turned off if the batteries are too weak. For recordings, operating the unit on house current is recommended.

## Notes on high speed recording

- While high speed recording, you cannot use the DOLBY B Noise Reduction system. When playing back the tape recorded at high speed, set the DOLBY NR switch to OFF.
- While high speed recording, the buttons on the CD player other than [ ] , [ ] and DISPLAY cannot be operated.
- Use high speed recording only for continuous recording.
- While recording, do not change the setting of the CD DUB SPEED selector.

## CD Synchronized Reverse Recording

You can record a disc on both sides of the tape without a break in the middle of the selection by using synchronized reverse function.  
Set the CD REC/DIR MODE selector inside the panel to SYNC REV/EDIT.  
When the front side of the tape runs out in the middle of a selection, the selection will be automatically recorded from the beginning on the reverse side of the tape. Erase the unfinished selection on the front side later.

## To Record in Program/Shuffle Mode

- 1 Follow the steps 1 to 4 as described in "Recording CD Sound".
- 2 Select program or shuffle play. (See page 18.)
- 3 Follow the steps 5 to 8 as described in "Recording CD Sound".

**1** Press.

The OPR/BATT/STANDBY indicator lights up when you use the unit with batteries. (The OPR/BATT/STANDBY indicator always lights up when the AC power cord is connected to the unit.)

**2** Press.

Use TYPE I (normal) or TYPE II (C-02) tape.  
Push to close the holder.

**3** Press.

See page 15.

**4** Insert a disc.

Set to ON when you record using the DOLBY B Noise Reduction system.

**5**

Set to ON when you record using the DOLBY B Noise Reduction system.

**6** Select the tape transport direction.

CD REC/DIR MODE selector  
Set to or .

To record on both sides of a cassette  
To record on one side of a cassette  
Both-sides-recording should be started from the front side.

**7** Select CD recording speed.

For high speed recording: set to HIGH.  
For normal recording: set to NORMAL.

**8** With REC/REC MUTE pressed, press (to record from the front side) or (to record from the reverse side).

The disc will start to play after about 2 seconds and at the same time the recording will automatically start.

**Note**  
The recording level is adjusted automatically.  
The settings of VOLUME, BASS and TREBLE will not affect the recording level.

**After use**  
Press POWER again.

## To Record Throughout a Cassette Tape

Set the CD REC/DIR MODE selector to .

When the tape runs out in the middle of a selection, the recording continues to the reverse side of the tape. With this system, the tape transport direction is reversed by searching the transparent portion of the leader tape with a quick reverse sensor. To listen to a tape with a cassette deck with auto-reverse function, this recording method is recommended.

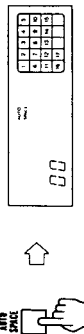
## Synchronized Recording of a CD Program

- Synchronized recording with a CD can be performed by using the pause function of the CD player and the cassette deck.
- 1 Insert the disc to be recorded and press of the CD player.
  - 2 After proceeding with the steps 2 to 7 as described in "Recording CD Sound", press of the cassette deck. Then, follow the step 8.
  - 3 Press of the cassette deck. After about one second, the CD player starts to play and recording starts.

## To Record the Blank Spaces on the Tape

To play from the beginning of the selection desired (AMS), a four-second blank space is required between the selection.

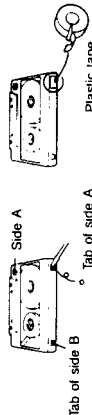
**Recording CD programs—Auto space function**  
Press AUTO SPACE.



A four-second blank space is automatically recorded on the tape.  
Press AUTO SPACE again for normal recording.

**Note**  
During high-speed recording, this auto space function does not operate.

## To prevent accidental erasure



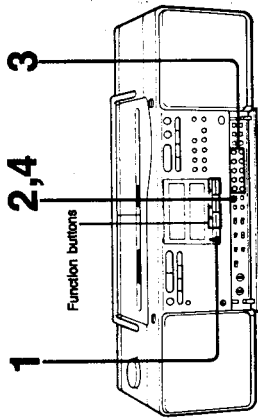
Break off the cassette tab of side A or B as illustrated.




# Using the Built-in Timer

## To Set the Timer-on Time

Only the starting time can be preset.  
The power turns itself off automatically after two hours.  
Make sure the **STANDBY** indication does not appear in the display window.

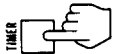


**1** Press **POWER** to turn off the power.



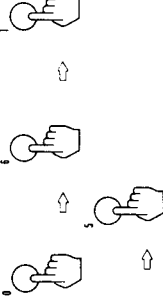
The lamps in the function buttons go off.

**2** Press **TIMER**.

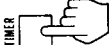


The **TIMER** indication appears in the display window.

**3** Press the number buttons inside the panel to program the starting time.  
Example: To set to 6:15



**4** Press **TIMER**.



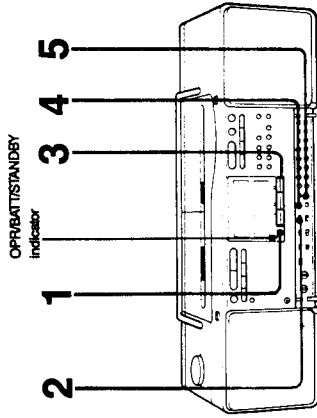
The timer-on time is memorized and the current time appears in the display window.

**If the timer is preset by mistake**  
Repeat steps from the beginning. The previous preset goes off.

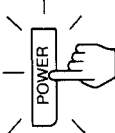
**To check the preset time**  
Press **TIMER** in the **TIMER STANDBY** mode, and the preset time will appear.

## To Listen to the Sound at the Time Desired

The back light in the display window does not light up.  
Check to see that the clock shows the current time. If it does not, see page 12.




**1** Press **POWER**.



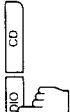
The **OPR/BATT/STANDBY** indicator lights up when you use the unit with batteries. (The **OPR/BATT/STANDBY** indicator always lights up when the AC power cord is connected to the unit.)

**2** Set to **PB**.



**TIMER MODE (TAPE)**  
**PB • REC**

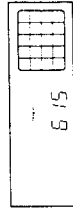
**3** Select the sound source desired.



Function button	Preparation
TAPE	Insert a tape into the deck.
RADIO	Select the band and tune in the desired station.
CD	Insert a disc into the disc holder.

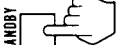
**4** Set the timer.

See above.



The **STANDBY** indication appears in the display window.

**5** Press **STANDBY**.



At the preset time  
The sound will come on automatically at the preset time, and will turn off automatically after two hours have elapsed.

To release the timer mode  
Press **STANDBY** again. The **STANDBY** indication will disappear from the display window.

To listen to the sound source desired at the same time on another day  
If it is not necessary to set the timer, again since the preset time is memorized until you reset the timer, repeat steps 2, 3 and 5 in "Listen to the Sound at the Time Desired". If the **STANDBY** indication does not appear in the display window, press the **STANDBY** button again.

To listen to the disc in various playing modes at the time desired

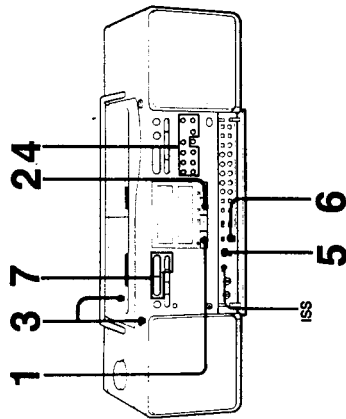
- 1 Press **POWER** to turn on the power.
- 2 Press **CD** or the function buttons.
- 3 Make sure that the disc player is in the stop mode and select the playing mode desired from **REPEAT**, **SHUFFLE** and **PROGRAM**. (See page 18).

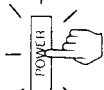
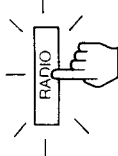
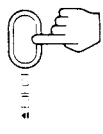
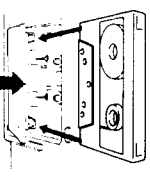






**Clock system**

	0:00 = midnight
	12:00 = noon

# Recording Radio Sound

Make sure the STANDBY indication does not appear in the display window.



<p><b>1</b> Press.</p>  <p>The OPR/BATT/STANDBY indicator lights up when you use the unit with batteries. (The OPR/BATT/STANDBY indicator always lights up when the AC power cord is connected to the unit.)</p>	<p><b>2</b> Press.</p> 	<p><b>3</b> Press.</p>  <p>Use TYPE I (normal) or TYPE II (C/O) tape.</p>  <p>Push to close the holder</p>	<p><b>4</b> Select the band and tune in the station desired.</p> <p>See page 23.</p>	<p><b>5</b> Set to ON when you record using the DOLBY B Noise Reduction system.</p> 
<p><b>6</b> Select the tape transport direction.</p>  <p>CD REC/DIR MODE selector</p> <p>Set to  or </p> <p>To record on both sides of a cassette</p> <p>To record on one side of a cassette</p> <p>Both-sides-recording should be started from the front side</p>	<p><b>7</b> While keeping REC/REC MUTE pressed, press (to record from the front side) or (to record from the reverse side).</p>  <p>or</p> 			<p>To stop recording Press [1].</p> <p>After recording Press POWER again.</p> <p>The settings of VOLUME, BASS and TREBLE will not affect the recording level.</p>

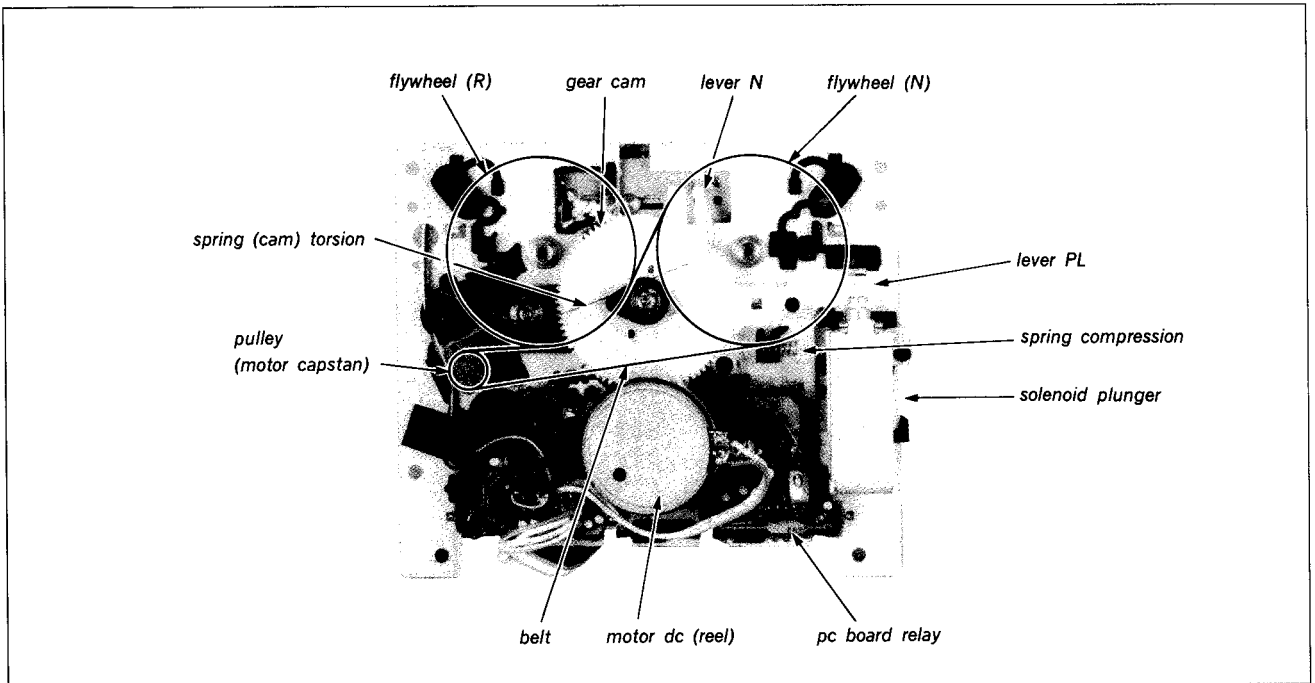
**Notes**

- If the unit is operated on the internal batteries while recording, the power might be turned off if the batteries are too weak. For recordings, operating the unit on house current is recommended.
- If you use the remote commander supplied near the unit while listening an AM program, noises might be heard

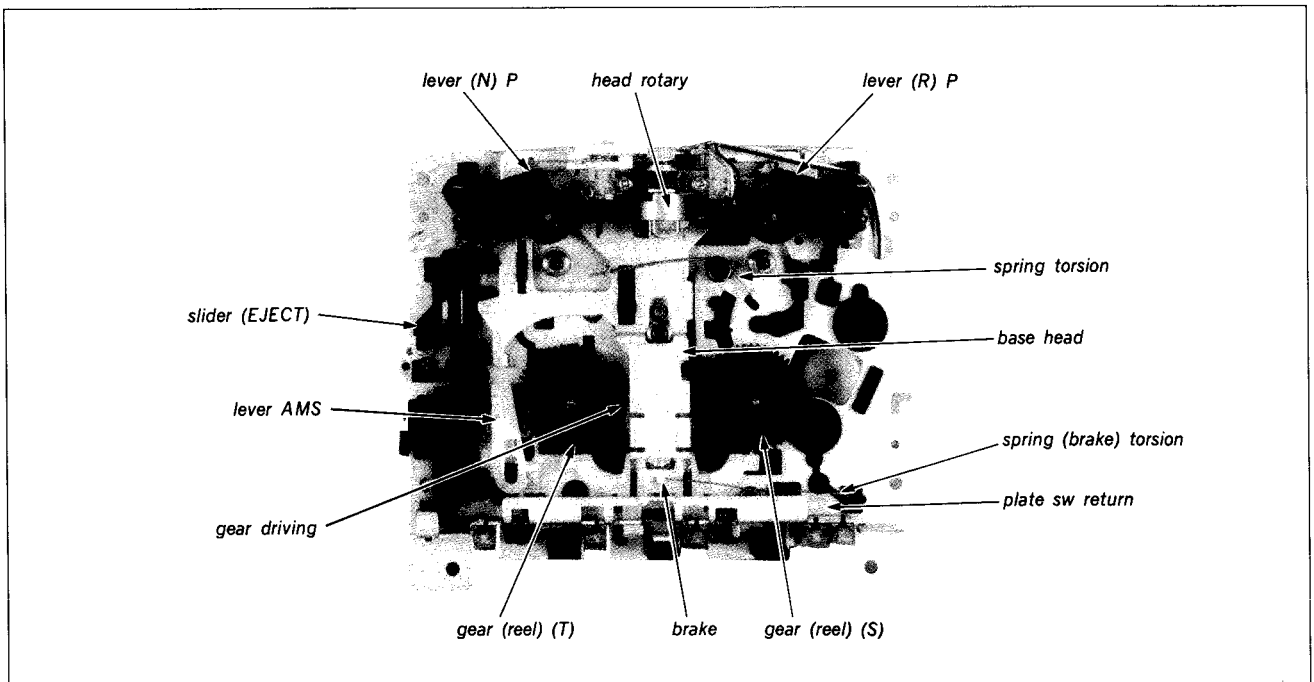
## SECTION 2 MECHANICAL OPERATION

Modes are changed by that "Solenoid plunger" triggers "gear cam" to rotate in synchronizing with flywheel (N).  
Main mechanical part names are shown in the followings precedently to mechanism operation.

• MOTOR

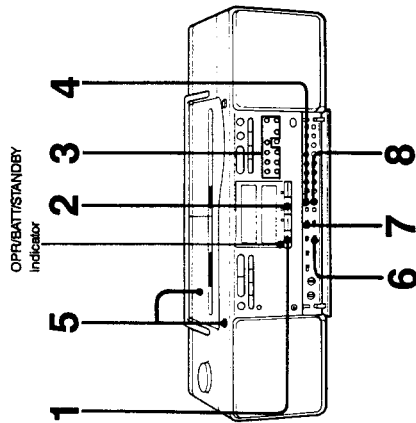


• CASSETTE



**To Record the Radio Sound at the Time Desired** The back light in the display window does not light up.

Check to see that the clock shows the current time. If it does not, see page 12.



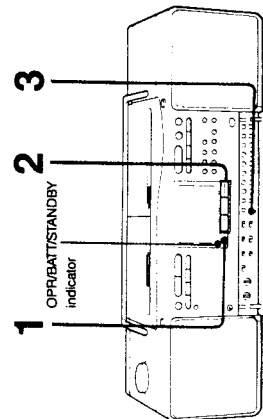
<p><b>1</b> Press.</p> <p>The OPR/BATT/STANDBY indicator lights up when you use the unit with batteries. (The OPR/BATT/STANDBY indicator always lights up when the AC power cord is connected to the unit.)</p>	<p><b>2</b> Press.</p>	<p><b>3</b> Select the band and tune in the station desired.</p> <p>See page 23</p>	<p><b>4</b> Set the timer for recording.</p> <p>See page 34.</p>						
<p><b>5</b> Insert a cassette into the deck.</p> <p>Use TYPE I (normal) or TYPE II (CR02) tape.</p>	<p><b>6</b> Select the tape transport direction.</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;"> <p>CD RECORDER MODE selector</p> </td> <td style="width: 50%; text-align: center;"> <p>Set to  or </p> </td> </tr> <tr> <td style="width: 50%; text-align: center;"> <p>To record on both sides of a cassette</p> </td> <td style="width: 50%; text-align: center;"> <p>Set to </p> </td> </tr> <tr> <td style="width: 50%; text-align: center;"> <p>To record on one side of a cassette</p> </td> <td style="width: 50%; text-align: center;"> <p>Set to </p> </td> </tr> </table> <p>Both-sides-recording should be started from the front side.</p>			<p>CD RECORDER MODE selector</p>	<p>Set to  or </p>	<p>To record on both sides of a cassette</p>	<p>Set to </p>	<p>To record on one side of a cassette</p>	<p>Set to </p>
<p>CD RECORDER MODE selector</p>	<p>Set to  or </p>								
<p>To record on both sides of a cassette</p>	<p>Set to </p>								
<p>To record on one side of a cassette</p>	<p>Set to </p>								
<p><b>7</b> Set to REC.</p> <p>TIMER MODE (TAPE) PB • REC</p>		<p><b>8</b> Press.</p> <p>The STANDBY indication appears in the display window.</p>							

**To release the timer mode**  
Press STANDBY.

**Note**  
The recording with the timer starts from the front side of the tape. If the cassette tab on the front side has been broken, the recording cannot be made. Be sure the tab on the front side has not been broken. If it has been broken make sure that the tab slot is covered.

**At the preset time**  
The recording will start automatically at the preset time and will turn off automatically after two hours. If a cassette of less than 120 minutes is used, the recording will finish when the tape reaches the end.

**To Fall Asleep with the Sound Desired—Sleep Function** You can turn the unit on or off with the SLEEP button.

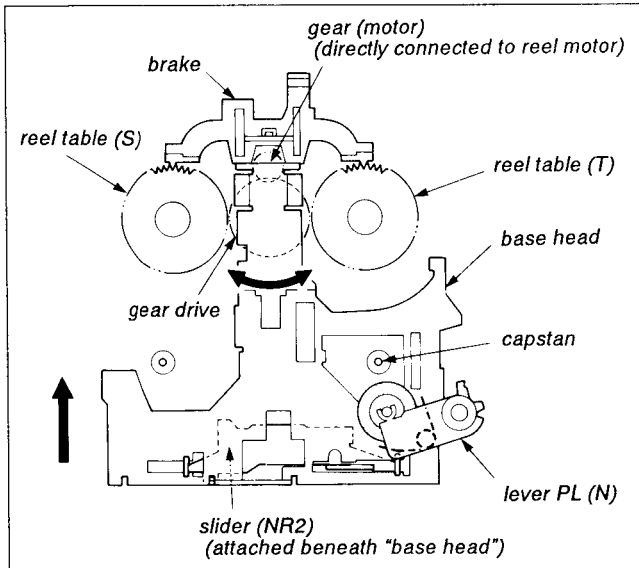


<p><b>1</b> Press.</p> <p>The OPR/BATT/STANDBY indicator lights up when you use the unit with batteries. (The OPR/BATT/STANDBY indicator always lights up when the AC power cord is connected to the unit.)</p>	<p><b>2</b> Select the sound source desired and start playing.</p>	<p><b>3</b> Press to start the sleep function.</p> <p>The sound source will turn itself off after 60 minutes</p>
<p>To listen to a tape</p>	<p>To listen to a radio</p>	<p>To listen to a disc</p>
<p>Function button TAPE</p>	<p>RADIO</p>	<p>CD</p>
<p>Preparation Insert a tape into the deck and press or</p>	<p>Select the band and tune in the desired station. Insert a disc into the disc holder and press</p>	

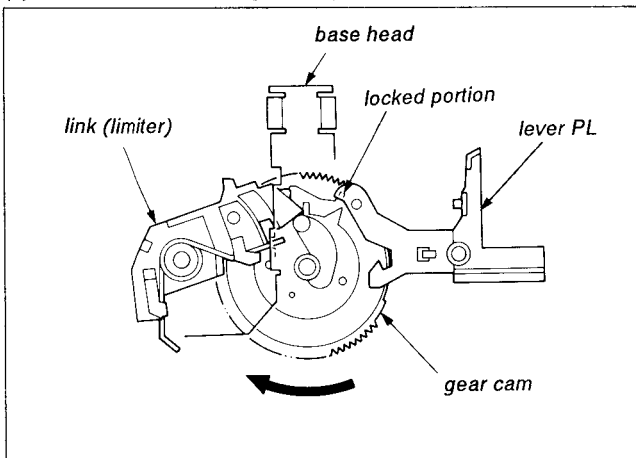
**To release the sleep function before 60 minutes have elapsed**  
Press SLEEP again or POWER to turn the power off.

**You can fall asleep with the sound desired and you will be awakened by the same program at the preset time.**  
1 Follow the steps as described in "To Fall Asleep with the Sound Desired".  
2 Follow the steps as described in "To Listen to the Sound at the Time Desired".

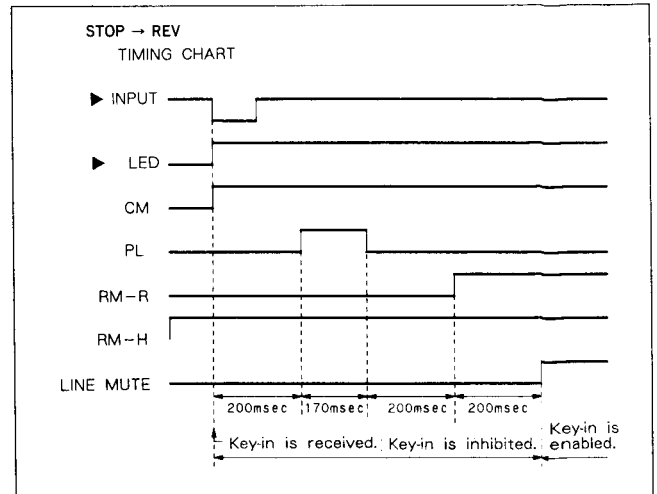
- (3) "Base head" is moved forward and the brake is detached from the reel table. "Motor dc (reel)" is driven counterclockwise and the reel table (T) is turned by "gear driveng". "Lever PL" is pressed to the capstan.



- (4) "Base head" is moved forward by "spring torsion" of link (limiter) in synchronizing with rotating of "gear cam". "Gear came" is turned and is locked by "lever PL".
- (5) FWD mode switching is completed.



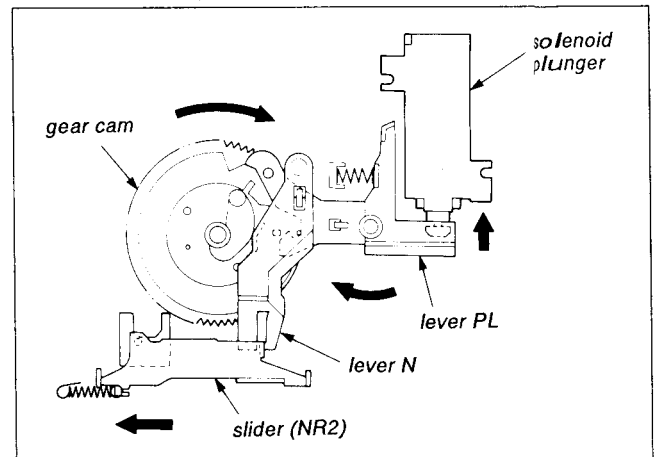
### 2-3. REV mode



#### Differences from FWD mode

Suction time of "solenoid plunger" is long, "lever N" is not locked by "lever PL", and a head is set to REV mode. The slider (NR2) is set to REV mode and "level PL (R)" is pressed to a capstan. "Lever N" is turned by "gear cam". However, "lever PL" is not locked and is set back to previous position because "lever PL" is sucked by "solenoid plunger". "Motor reel" is driven clockwise in REV mode.

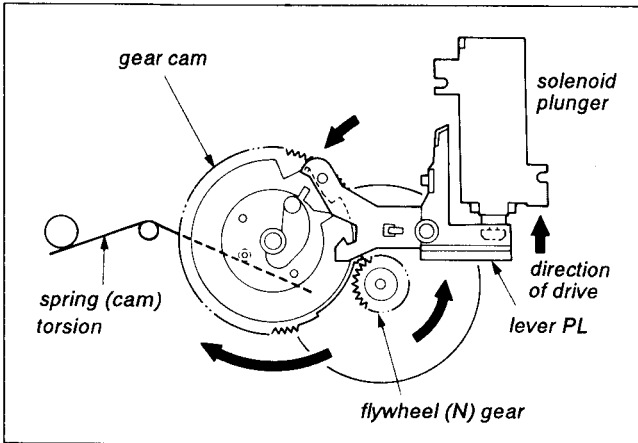
#### Perspective viewed from cassette



Operations of the modes are as follows :

2-1. Operation of the cam gear

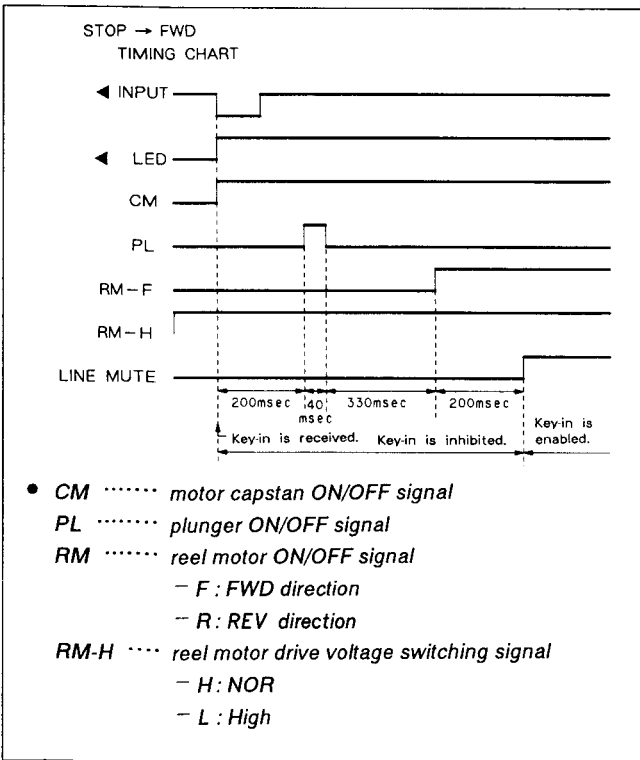
Perspective viewed from cassette



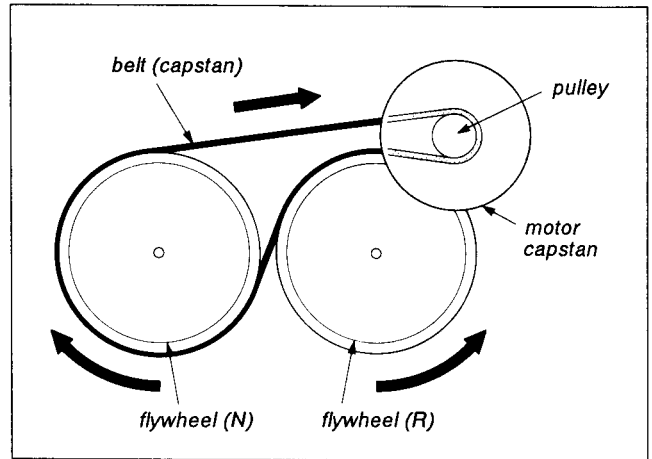
Operations are performed as follows ;

1. Power is supplied to "solenoid plunger".
2. "Lever PL" moves in the direction of arrow.
3. "Gear cam" is turned by "spring (cam) torsion".
4. "Gear cam" is aligned with "flywheel (N) gear" so that "gear cam" is turned.  
(Approx. 0.5 seconds/1 turn)

2-2. FWD mode

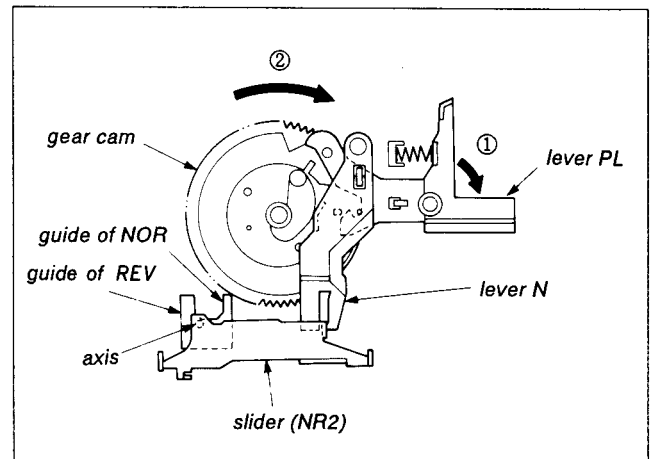


- (1) Power is supplied to "motor capstan" and "flywheel" is turned by "belt (capstan)".



- (2) Power is supplied to "solenoid plunger", "gear cam" is turned, a head is switched to NOR mode, and a head base is moved forward.

Perspective viewed from cassette



"Lever N" is turned counterclockwise by "gear cam" and is locked at "level PL".

Rotation (counterclockwise) of "lever N" is synchronized with sliding of "slider (NR2)". When "slider (NR2)" is slid rightward, mode of a head is switched from REV to NOR. Simultaneously "lever PL" is pressed to a capstan.

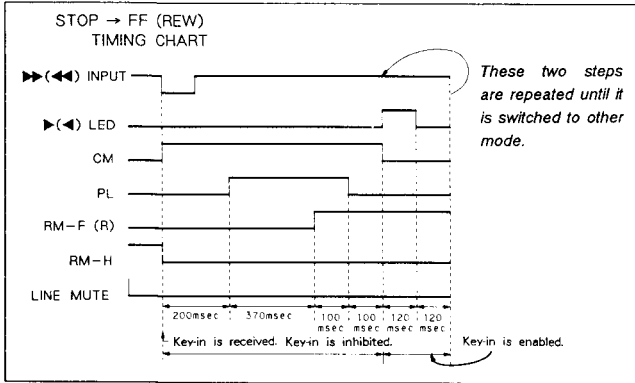
## SECTION 3 PIN DESCRIPTION

### 3-1. PIN DESCRIPTION

● IC401 M50720-147SP

Pin No.	Name	I/O	Pin Description
1	STAN-IN	I	Indicates STANBY setting. (active : H)
2	SLEEP-IN	I	SLEEP ON input terminal. (active : H)
3	TIMER-IN	I	TIMER ON input terminal. (active : H)
4	X-OUT	O	System clock input. (ceramic oscillator, 500kHz)
5	X-IN	I	
6	CE	I	Input for recovering from BUM (Back Up Mode).
7	RESET	I	System reset input terminal.
8	VDD	—	Power supply voltage
9	CNTR	—	(Not used)
10	INT	I	BUM/SUM (Set Up Mode) switching input.
11	C	—	Recovery wait time setting.
12	MUTE	O	MUTE ON
13	O·S	O	L pulse output to INT.
14	S/T·C	O	Forces timer off.
15	R·TRIG	O	Radio DATA transfer enable.
16	R·DATA 1	O	4-bit parallel DATA output.
17	R·DATA 2	O	
18	R·DATA 3	O	
19	R·DATA 4	O	
20, 21	GND	—	Ground terminals
22	SOURCE S 1 (TAPE)	O	Function select output terminals.
23	SOURCE S 2 (RADIO)	O	
24	SOURCE S 3 (CD)	O	
25	SOURCE S 4 (LINE)	O	
26	MD-DATA 1	O	3-bit parallel DATA output terminals for MD operation.
27	MD-DATA 2	O	
28	MD-DATA 3	O	
29	REC	O	MD REC operating signal output terminal.
30	A/B·SEL	O	A/B DECK switching output terminal.
31	FWD/REV·SEL	I	FWD/REV memory input terminal.
32	MD·TRIG	O	
33	NC	—	
34	VOL·UP	O	VOL control output terminals.
35	VOL·DOWN	O	
36	RMC	I	Remote control input terminal.
37	POWER O/F	I	POWER ON/OFF control terminal.
38	FUN·TAPE	I	Function Tape select terminal.
39	FUN·RADIO	I	Function Radio select terminal.
40	FUN·CD	I	Function CD select terminal.
41	FUN·LINE	I	Function LINE IN select terminal.
42	TIMER·SEL	I	TIMER PB/REC select terminal.

**2-4. FF (REW) mode**

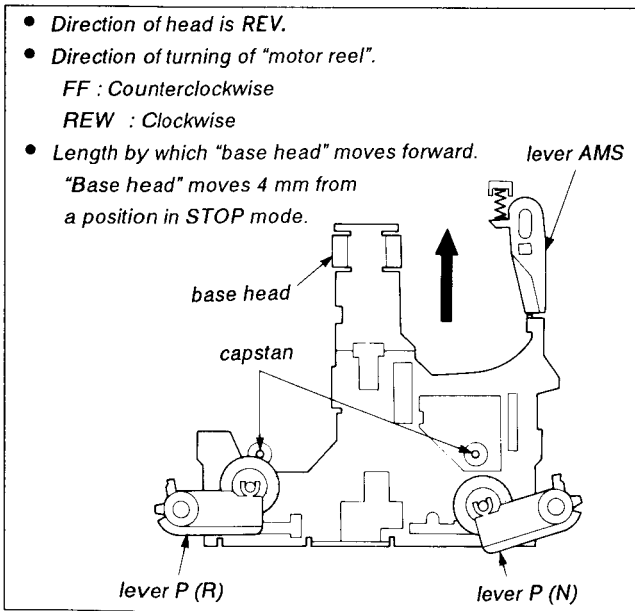


**Mechanism operation (same operation for both FF and REW modes)**

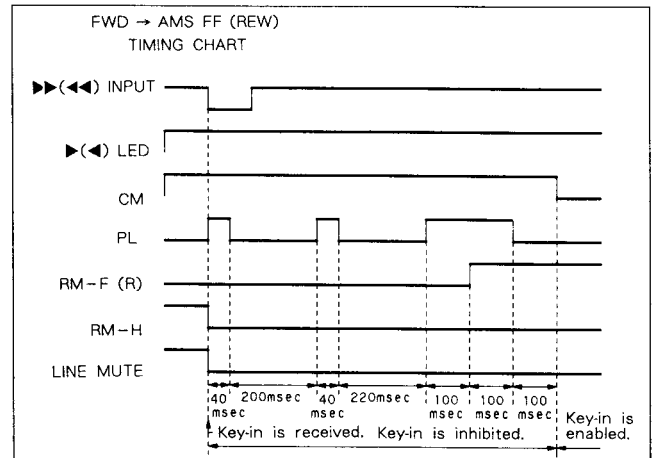
The head base is locked at a set position by the AMS lever synchronized with “solenoid plunger”.

“Motor capstan” is turned off after “base head” is locked.

Voltage of “motor reel” in FF or REW mode is 6 V.



**2-5. FWD AMS mode**



**Mechanism operation**

It is changed from FWD mode to STOP mode, “lever AMS” is stopped in midway of that “base head” is moved forward as machnism operation of FWD mode, and it is set to FWD, AMS, and FF/REW modes. A position of “Base head” is the same as in FF/REW mode (advanced by 4 mm than STOP mode) . Difference from FF/REW mode is a rurning direction of “ motor reel”.

**2-6. REV AMS (REW/FF) mode**

**Timing chart**

STOP → REV → AMS·REW/FF

- All the signals in REV AMS mode is the same as those of REW mode except that a LED blinks or lights on.

**Mechanism operation**

It is changed from REV mode to STOP mode, “lever AMS” is stopped in midway of that “base head” is moved forward as mechanism operation of REV mode, and it is set to REV, AMS, and REW/FF modes.

A position of “Base head” is the same as in FF/REW mode (advanced by 4 mm than STOP mode).

Difference from FF/REW mode is a rurning direction of “ motor reel”.



Pin No.	Name	I/O	Pin Description
63	XRST	O	Terminals used as 4-bit output-only port (the inverter and pull-up resistor of the output format are programmable) and for LCD segment signal output.
64	12/24		
65	MD STOP		
66	HI SPEED ERASE		
67	PEN	O	Terminals used as 4-bit output-only port (output format same as port C) and for LCD segment signal output.
68	LATCH (FADER)		
69	POWER ON		
70	SLEEP ON		
71	VSS	—	GND terminal
72	TX	O	Clock generator circuit output.
73	NC	—	(Not used)
74	TEX	I	32kHz timer clock generator circuit input terminal. Connect a 32.768kHz quartz oscillating element between TEX and TX. To use as an event clock input, connect the clock oscillator source to the TEX terminal and leave the TX terminal open.
75	VREF	I	Reference voltage input for power supply voltage reset circuit. Normally connected to a zener diode.
76—79	PORT H/ SEGMENT	O	Terminals used as 4-bit output-only port (output format same as port C) and for LCD segment signal output (bit-level designation supported).
80	PORT G/ SEGMENT	O	Terminal used as 4-bit output-only port (output format same as port C) and for LCD segment signal output.

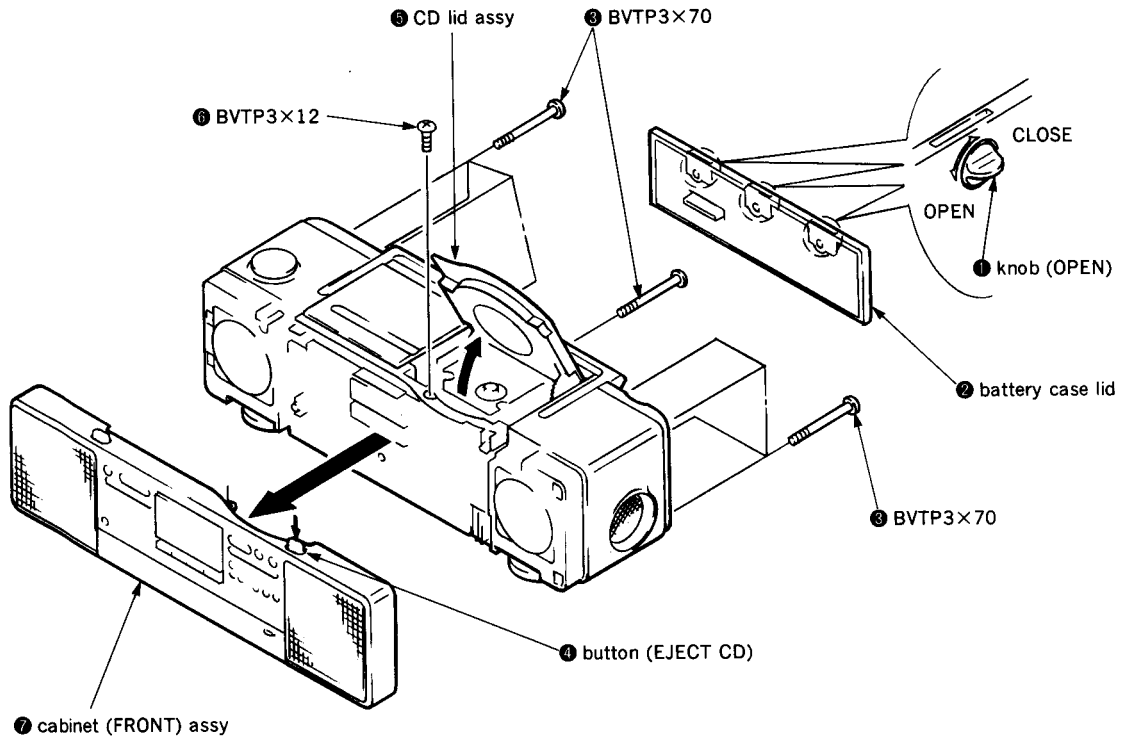
## ● IC801 CXP5078-057Q

Pin No.	Name	I/O	Pin Description
1—3	PORT G/ SEGMENT	O	Terminals used as 4-bit output-only port (output format same as port C) and for LCD segment signal output.
4—19	SEGMENT	O	LCD segment signal output terminals.
20—23	COMMON	O	LCD common signal output terminals.
24—26	VLC 1—VLC 3	—	LCD bias power supply terminals.
27	VL	O	Control terminal for cutting off current flow to external LCD bias resistor during standby status.
28	RMIN	I	Remote control receiver circuit input terminal.
29	INT (SCOR)	I	Interrupt input terminal. Allows selection of edge mode or level mode through programming.
30	XTAL	O	Clock generator circuit output.
31	EXTAL	I	Clock generator circuit input terminal. A quartz oscillating element or ceramic resonator is connected between EXTAL and XTAL. To use external clock input, connect the clock oscillator source to the EXTAL terminal and leave the XTAL terminal open.
32	RST	I/O	Output of internal power-on reset circuit. When inputting an external reset signal, it should be maintain at "L" (0V) for at least two command cycles.
33	NC	—	(Not used)
34	VDD	—	Positive power supply terminal.
35—38	PORT I/ ANALOG VOLTAGE INPUT	I/O	This 4-bit I/O port has the same functions as port C. Also used for A/D converter input.
39, 40	PORT E	I/O	This 4-bit I/O port has the same functions as port A. Also used for A/D converter input.
41	CD		
42	STANDBY		
43	NC	—	(Not used)
44	SQCK	I/O	Used as both shift clock I/O terminal for serial I/O and as bit "0" (input) for port X.
45	DATA	I/O	Used as both serial data I/O terminal for serial I/O and as bit "1" (input) for port X. (Can be programmed to prohibit SO output.)
46	SUBQ	I	Used as both serial interface (8-bit) input terminal and as bit "2" (input) for port X.
47	XLT	I/O	This 4-bit I/O port allows individual bits to be programmed as input or output. The output format has three states and the pull-up resistor can be programmed. Can also be used as a standby cancel terminal.
48	BTL MUTE		
49	DRIC		
50	EJECT		
51	LEADER	I/O	This 4-bit I/O port has the same functions as port C.
52	REVERSE		
53	PAUSE LED		
54	REC		
55	GFS	I/O	This 4-bit I/O port can be programmed as either input or output. The output format has three states and the pull-up resistor can be programmed.
56	FOK		
57	SENSE		
58	HI SPEED		
59	MUTE	O	Port Y bit "0" output terminal.
60	BW	O	Terminal used as both PWM generator (14-bit) output and port Y bit "1" (output).
61	WUP	I	Terminal used for both wake-up input to cancel standby status and port Y bit "2" (input).
62	RWR OFF	I	Used as both event counter (8-bit) input terminal and port Y bit "3" (input).

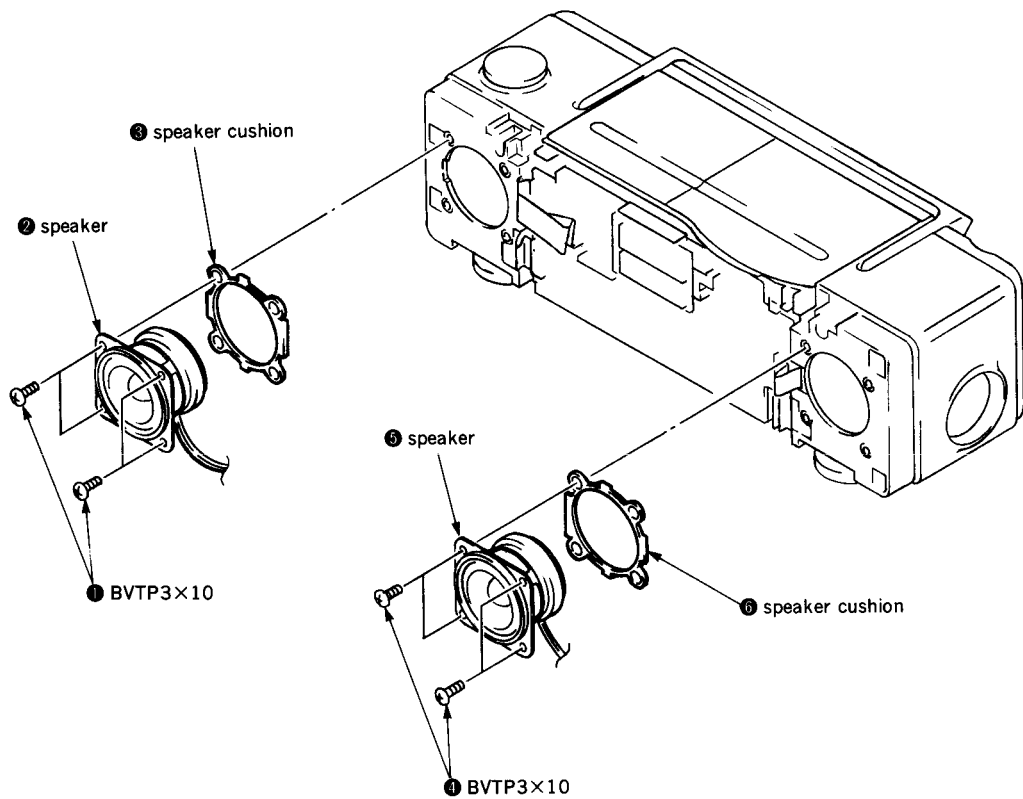
## SECTION 4 DISASSEMBLY

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

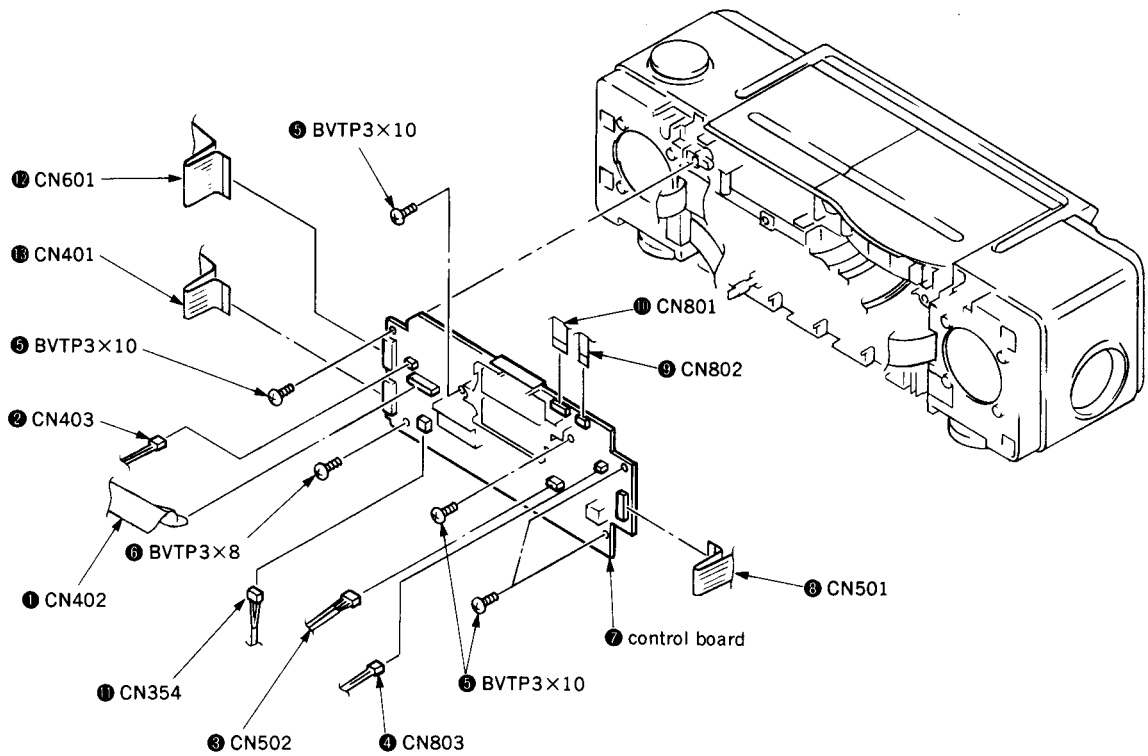
### 4-1. CABINET (FRONT) ASSY



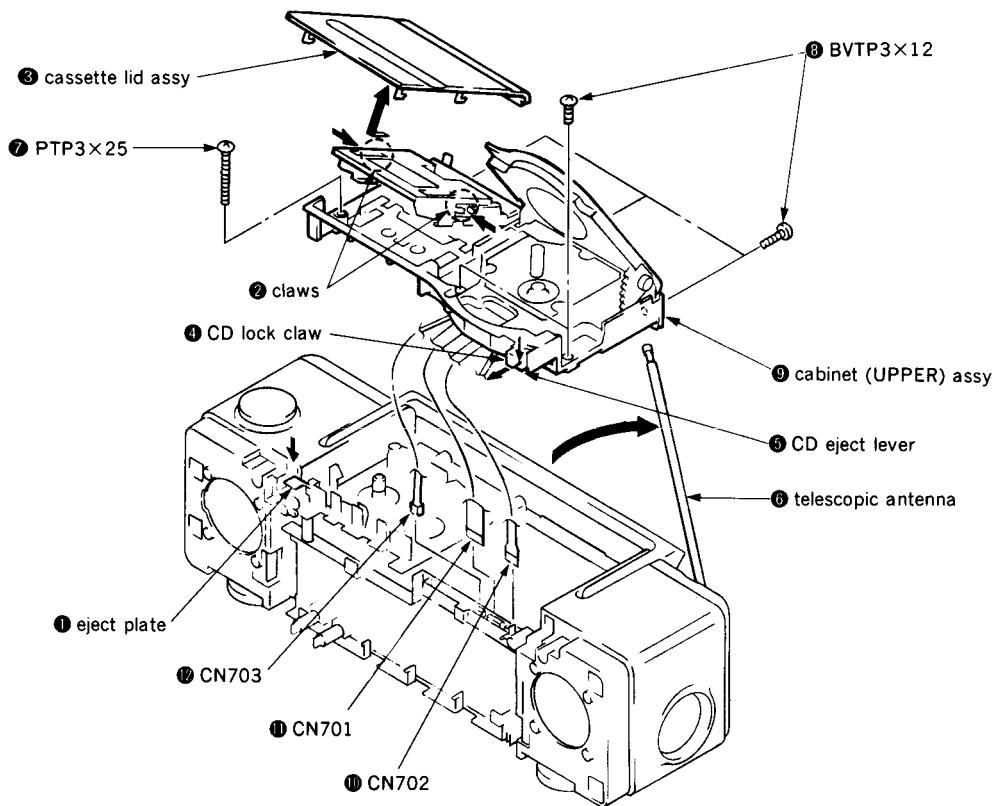
### 4-2. SPEAKER



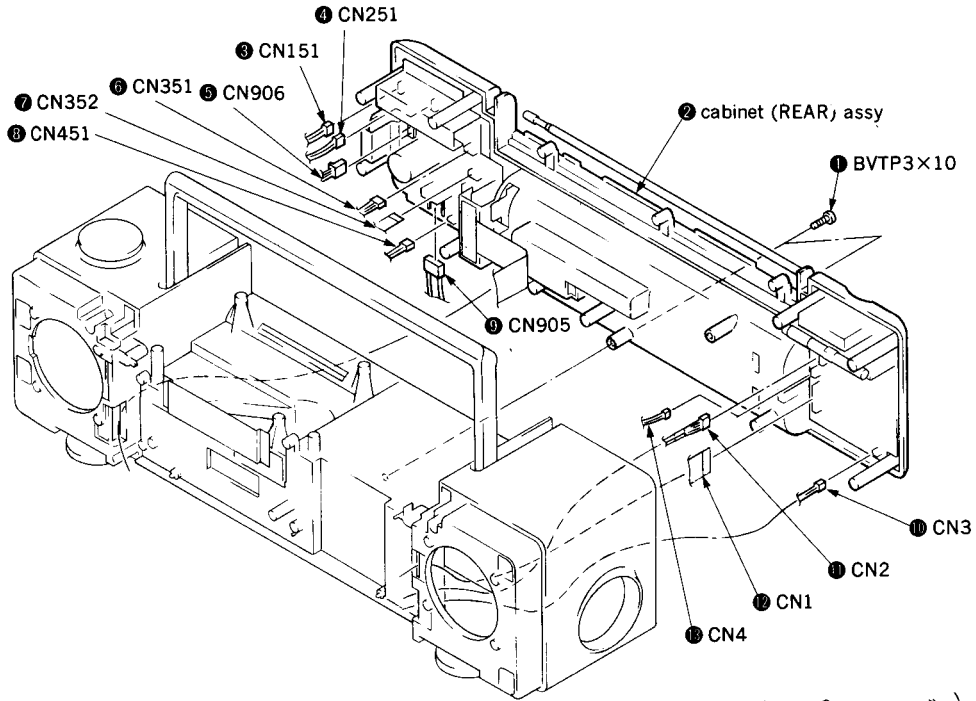
4-3. CONTROL BOARD



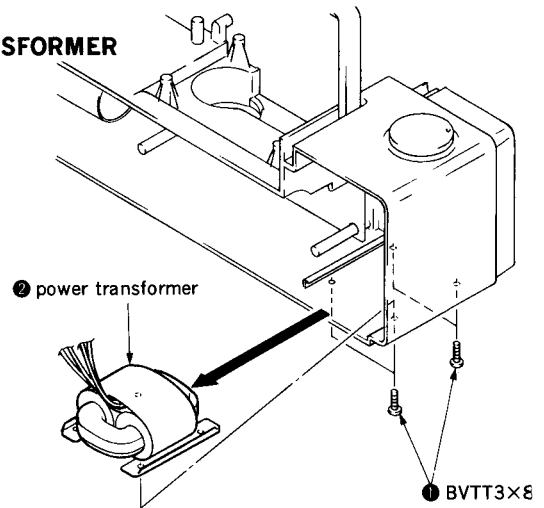
4-4. CABINET (UPPER) ASSY



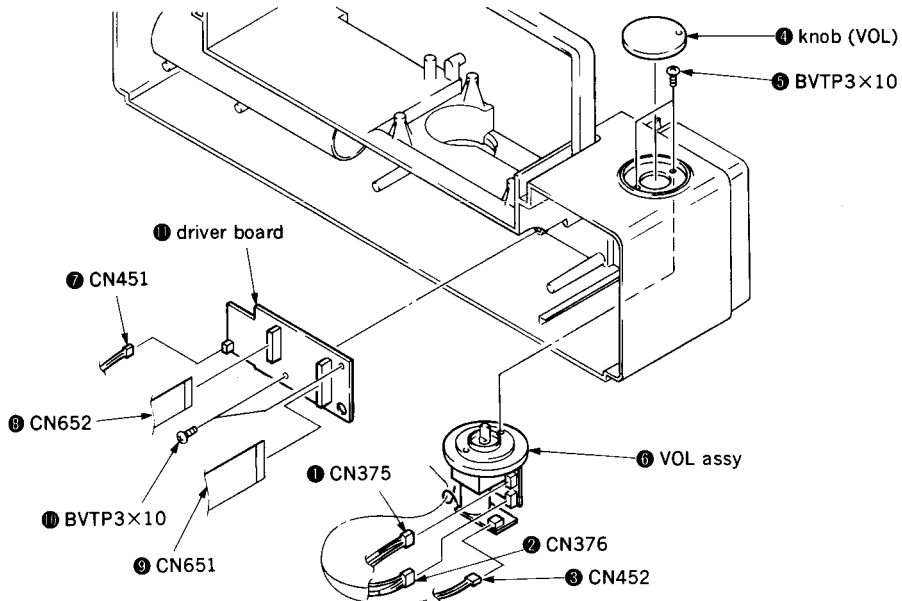
4-7. CABINET (REAR) ASSY



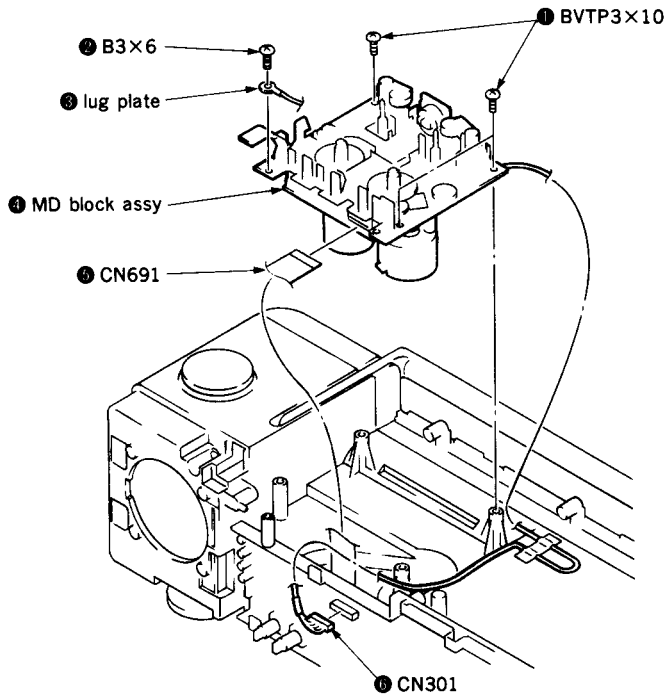
4-8. POWER TRANSFORMER



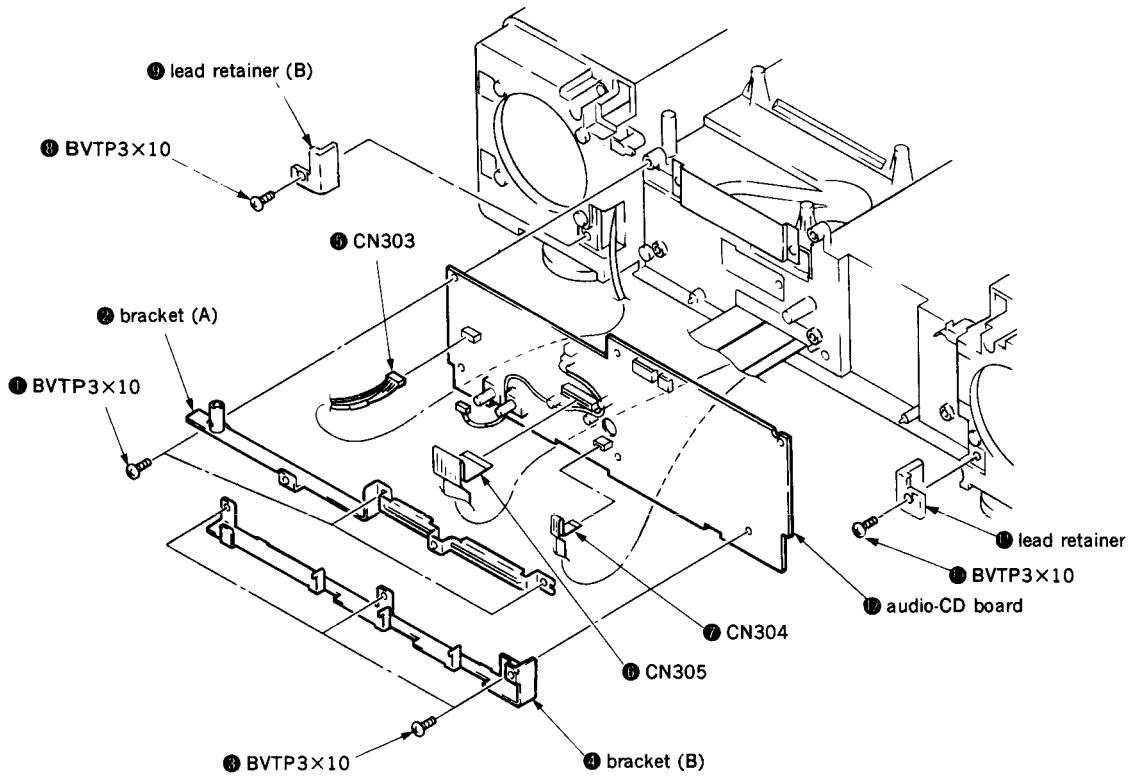
4-9. VOL ASSY, DRIVER BOARD



4-5. MD BLOCK ASSY



4-6. AUDIO-CD BOARD





## SECTION 5 MECHANICAL ADJUSTMENTS

### DECK SECTION

#### PRECAUTION

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

record/playback/erase head	pinch roller
idlers	rubber belts
capstan	
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
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.
6. Power supply voltage: 12V dc.

#### Torque Measurement

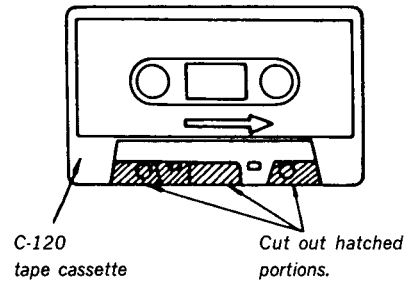
Mode	Torque meter	Meter reading
Forward	CQ-102C	22.5–50g·cm (0.31–0.69 oz·inch)
Forward back tension	CQ-102C	1.5–5.0g·cm (0.02–0.07 oz·inch)
Reverse	CQ-102RC	22.5–50g·cm (0.31–0.69 oz·inch)
Reverse back tension	CQ-102RC	1.5–5.0g·cm (0.02–0.07 oz·inch)
Fast Forward and Rewind	CQ-201B	140–180 g·cm (1.94–2.50 oz·inch)

#### Tape Tension Measurement

Mode	Tension meter	Meter reading
Forward	CQ-403A	more than 100g (more than 3.53 oz)
Reverse	CQ-403R	

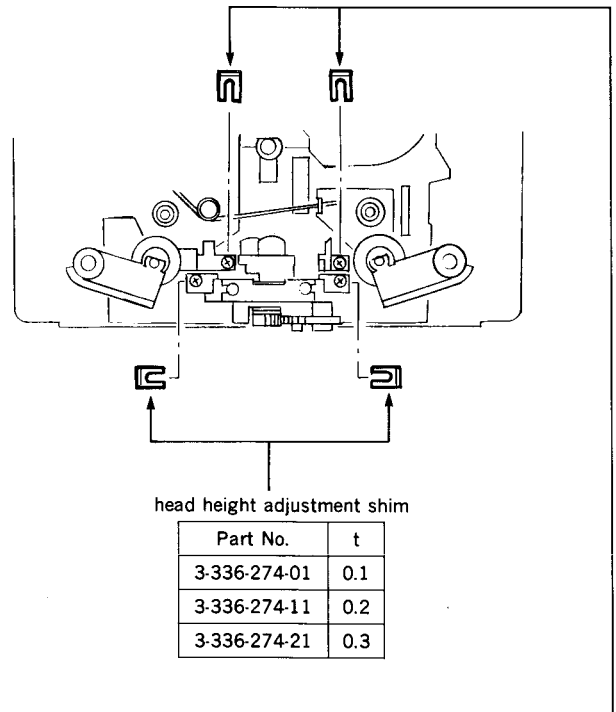
#### Head Height Adjustment

1. Use CQ-009C (Part No. 8-909-708-01) or prepare an adjustment cassette as shown below.



2. Place the set into the FWD playback mode. Loosen the FWD tape guide locking screw. Use appropriate head height adjustment shims and adjust the head height so that there is no tape curl or twist.
3. Place the set into the REV playback mode. Loosen the REV tape guide locking screw. Use appropriate head height adjustment shims and adjust the head height so that there is no tape curl or twist.
4. After adjustment, lock the tape guide locking screws.

#### Adjustment Location :



head height adjustment shim

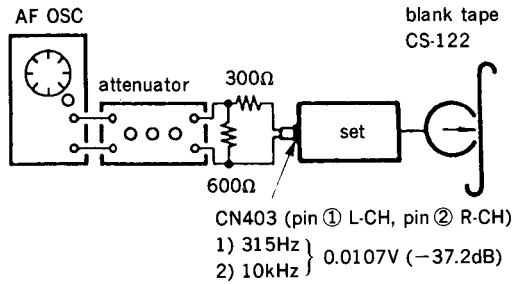
Part No.	t
4-932-603-01	0.1
4-932-603-11	0.2



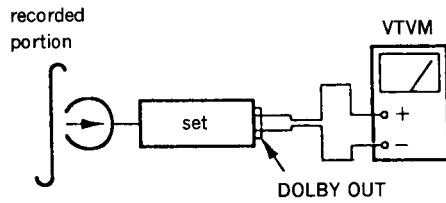
**Record Bias Adjustment**

**Procedure :**

1. Mode: FWD record



2. Mode: FWD playback

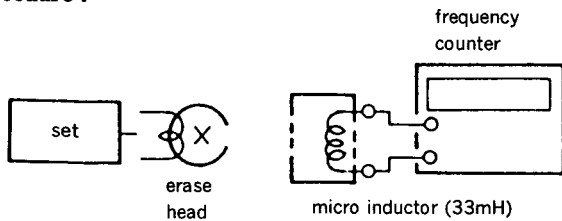


3. Verify that the playback output of 10kHz, -37.2dB shows a difference within  $0 \pm 0.5\text{dB}$  from the playback output of 315Hz, -37.2dB. If outside the specified range, adjust the RV103 (L-CH) and RV203 (R-CH) controls and repeat steps 1 and 2.
4. Also in the REV record mode, confirm that the requirement is met.

**Adjustment Location :** audio-CD board

**Record Bias Frequency Adjustment**

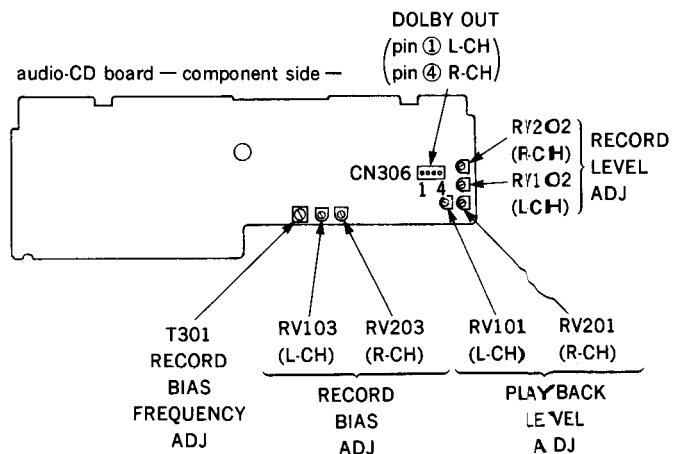
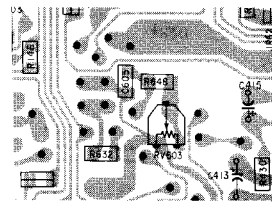
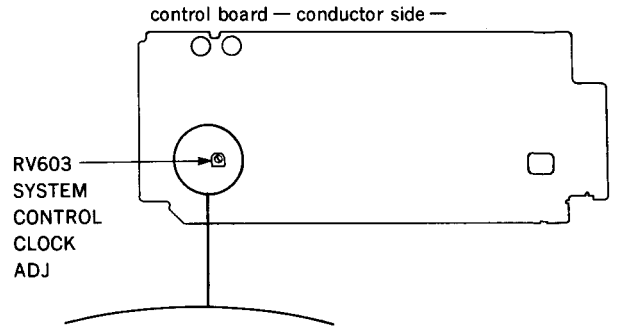
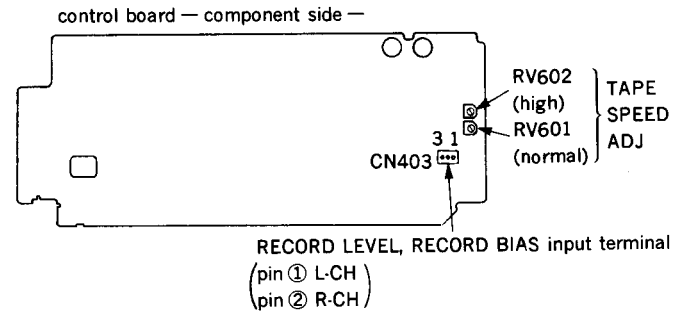
**Procedure :**



1. Non-signal recording mode.
2. Bring a micro inductor connected to a frequency counter close to the core section of the erase head.
3. Adjust T301 for at  $107.5\text{kHz} \pm 1\text{kHz}$  when the ISS switch is placed in the "2" position.

**Adjustment Location :** audio-CD board

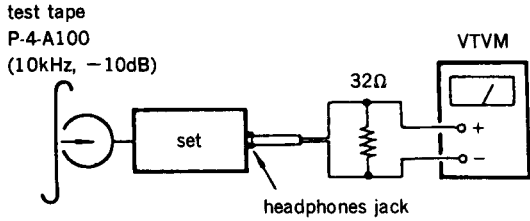
**Adjustment Location :**



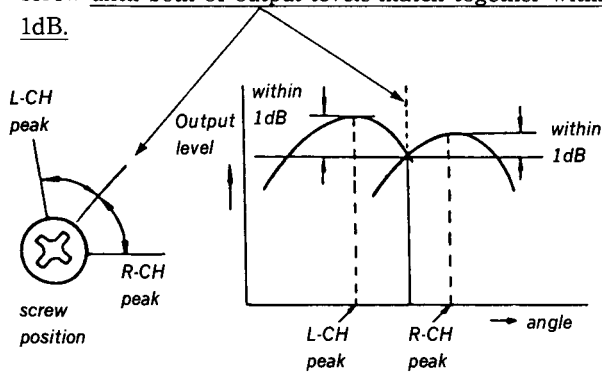
**Record/Playback Head Azimuth and Phase Adjustment**

**Procedure :**

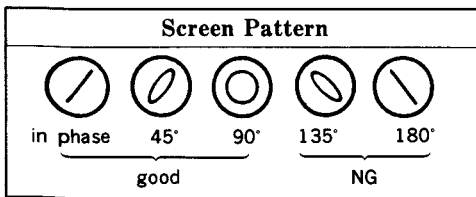
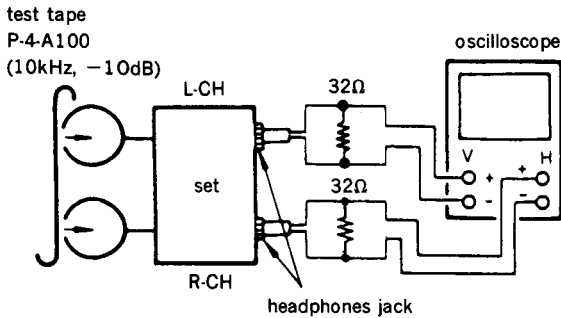
1. Mode : FWD/REV playback



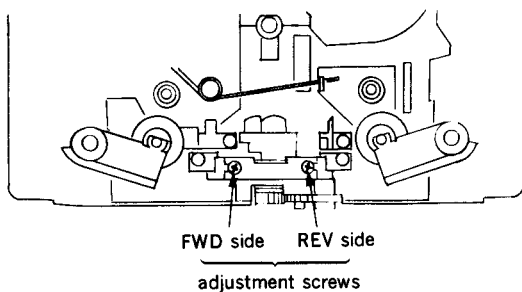
2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



3. Mode : REV playback



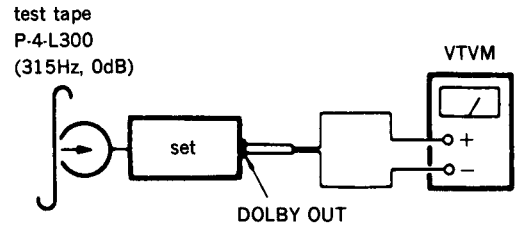
4. Change to the FWD playback mode and repeat steps 1 to 3.
5. After adjustment, lock the adjustment screws.



**Playback Level Adjustment**

**Procedure :**

1. Mode : FWD playback



Adjustment the RV101 (L-CH) and RV201 (R-CH) control so that the level is within the following range.

**Adjustment values :**

DOLBY OUT level : 0.19 to 0.17V (-12.4dB to -13.0dB)

Level difference between channels : 0.3dB max.

Verify that the DOLBY OUT output level is not changed when playback and stop operations are repeated.

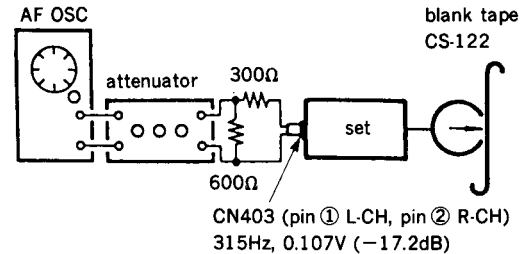
2. Go into the REV playback mode and verify that the level difference from FWD is within 0.5dB.

**Adjustment Location :** audio-CD board (See page 34.)

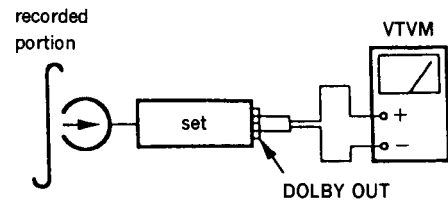
**Record Level Adjustment**

**Procedure :**

1. Mode : FWD record



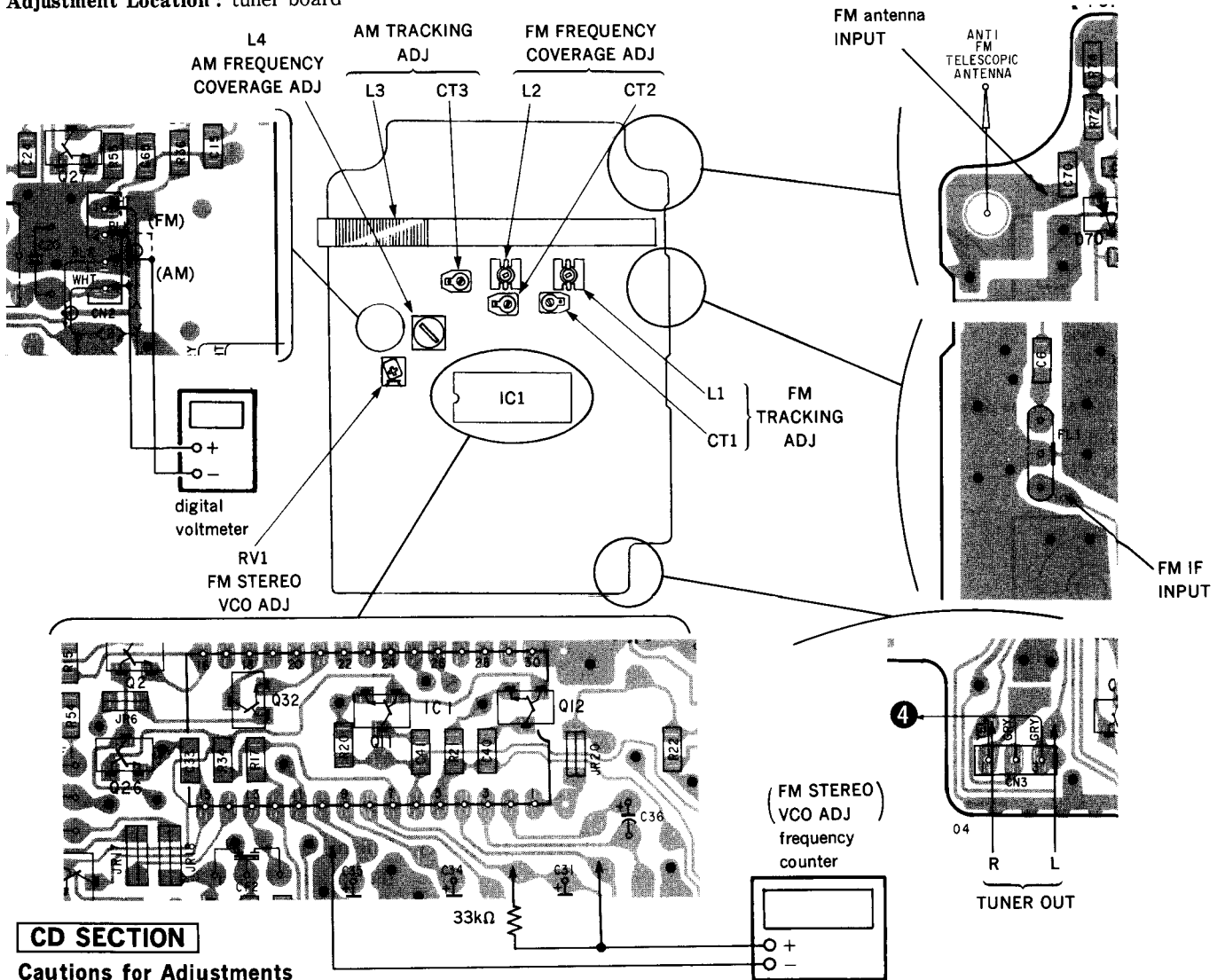
2. Mode : FWD playback



3. Place the function switch in the TUNER position. Remove CN403 from the control board. When 315Hz, -17.2dB is input to the receptacle in the board from which the connector was removed, verify that the level of the PB OUT recorded and reproduced shows a difference within  $0 \pm 0.5$ dB from the level of the DOLBY OUT. If outside the specified range, adjust the RV102 (L-CH) and RV202 (R-CH) controls and repeat steps 1 and 2.
4. Also in the REV record mode, confirm that the requirement is met.

**Adjustment Location :** audio-CD board (See page 34.)

Adjustment Location : tuner board



**CD SECTION**

**Cautions for Adjustments**

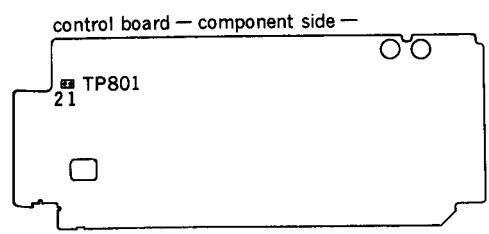
1. Be sure to activate the test mode before making adjustments.  
After the adjustments are complete, be sure to release the system from the test mode.
2. Perform the adjustments in the order that they are described below.
3. The disc should be used only when the "YEDS-18"  
Part No. : 3-702-101-01 is specified.

**Before Adjustments**

Place the set into the test mode and perform the following checks. If any fault is found, repair it.

**How to Create the Test Mode**

1. Short between JW858 and JW859 (TP801 pin ① and pin ②) on the control board.
2. Turn ON the POWER.
3. Set the function to CD.
4. When a test pattern begins to flicker on the LED display, remove the short from JW858 and JW859.



**• Sled motor check**

**Procedure :**

1. First, press  $\square$  key. (The test pattern on the LED stops flickering and the BTL MUTE is cleared.)
2. Press  $\blacktriangleright/\blacktriangleleft$  keys and verify that the optical pick-up moves from the innermost perimeter to the outermost perimeter then to the innermost perimeter smoothly with no hesitations or abnormal sound.  
 $\blacktriangleright$  : Moves the pick-up to the outer perimeter.  
 $\blacktriangleleft$  : Moves the pick-up to the inner perimeter.

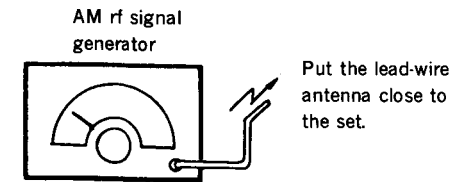
**• Focus search check**

**Procedure :**

1. Press  $\triangleright$  key. (The focus search is continuously made.)
2. Observe the objective lens of the optical pick-up and verify that the objective lens moves vertically smoothly without no hesitations or abnormal sound.
3. Press  $\square$  key. (The focus search stops and the table continues to be rotating.)
4. Press  $\square$  key again and hold down it to stop the turn table.  
(Caution) If any abnormality (such as run away) is caused by pressing a wrong key, turn OFF the POWER and retry from creating the test mode.

**TUNER SECTION**

• AM Section

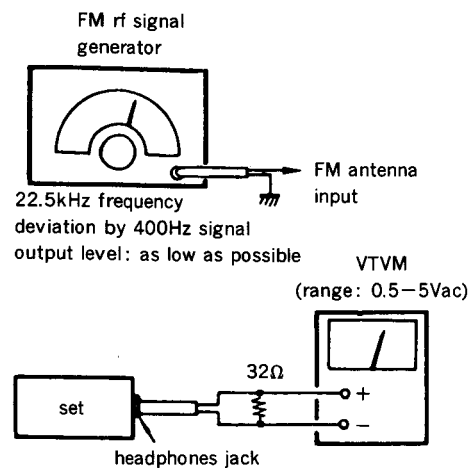


30% amplitude modulation by 400Hz signal  
output level: as low as possible

AM FREQUENCY COVERAGE ADJUSTMENT		
adjustment part	reading on digital voltmeter	frequency indicator
L4	2.1±0.1V	531kHz
confirm	within 8.0 to 9.0V	1,611kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	CT3
621kHz	1,404kHz

• FM Section

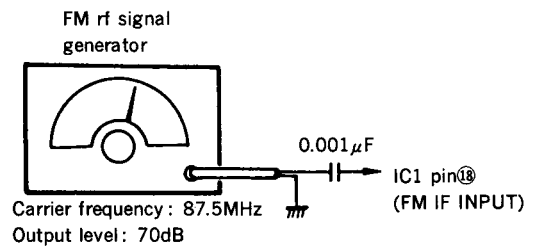


22.5kHz frequency deviation by 400Hz signal  
output level: as low as possible

**FM Stereo VCO Adjustment**

**Procedure :**

- BAND switch... FM



**Carrier frequency :** The frequency indicated by the color on the ceramic filter (CF1, 2, 3).

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT		
adjustment part	reading on digital voltmeter	frequency indicator
L2	3.7±0.1V	87.5MHz
CT2	9.0±0.1V	108MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	CT1
87.5MHz	108MHz

color	Color	Carrier Frequency
	white	10.75MHz

**Output level : 70dB**

Adjust RV1 so that the frequency counter reads 76.0kHz±0.1kHz.

**Adjustment Location :** tuner board (See page 36.)

**REFERENCE**

**Focus/Tracking Gain Adjustment**

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow up (vertical and horizontal) relative to mechanical noise and shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Symptoms \ Gain	Focus	Tracking
<ul style="list-style-type: none"> <li>• The time until music starts becomes longer for STOP →▷ PLAY or automatic selection. (◀◀, ▶▶ buttons pressed.) (Normally takes about 1 seconds.)</li> </ul>	low	low or high
<ul style="list-style-type: none"> <li>• Music does not start and disc continues to rotate for STOP →▷ PLAY or automatic selection. (◀◀, ▶▶ buttons pressed.)</li> </ul>	—	low
<ul style="list-style-type: none"> <li>• Sound is interrupted during PLAY. Or time counter display stops progressing.</li> </ul>	—	low
<ul style="list-style-type: none"> <li>• More noise during 2-axis device operation.</li> </ul>	high	high

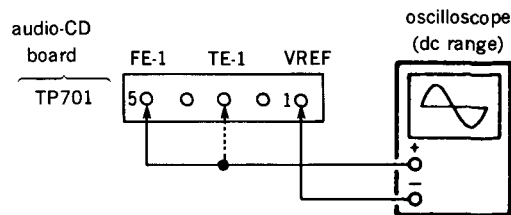
The following is a simple adjustment method.

— Primary Adjustment —

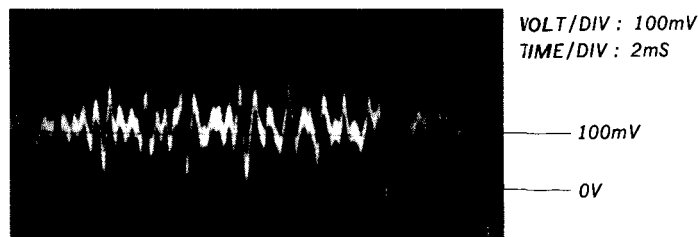
**Note :** Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment.

If the positions after the primary adjustment are only a little different, return the controls to the original position.

**Procedure :**

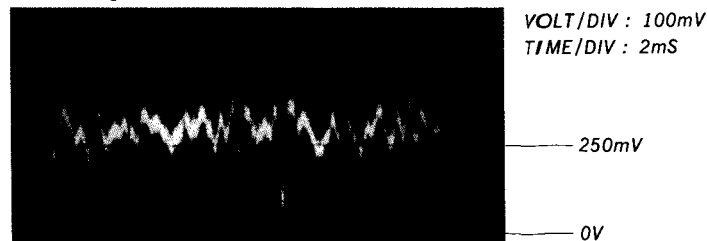


1. Keep the set horizontal.  
(If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Connect oscilloscope to TP701 pin ① (VREF) and pin ⑤ (FE-1) on audio-CD board.
3. Insert disc (YEDS-18) and press ▷ PLAY button.
4. Adjustment RV702 on audio-CD board so that the waveform is as shown in the figure below. (focus gain adjustment)

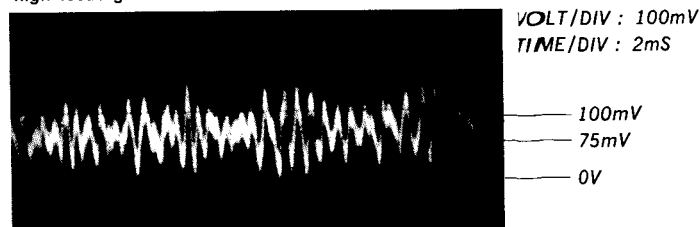


- Inccorrent Examples (DC level changes more than on adjusted waveform)

low focus gain

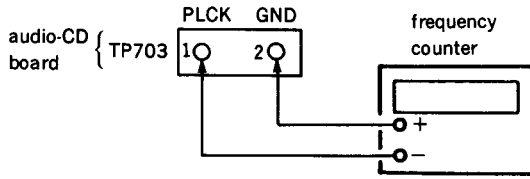


high focus gain



**VCO Free-run Adjustment**

**Procedure :**



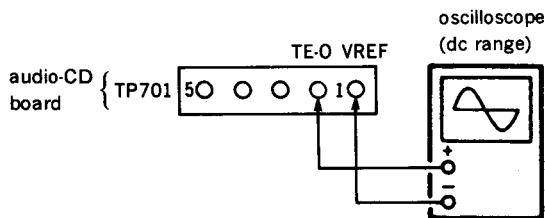
1. Short between TP704 pin ① and pin ② on the audio-CD board.
2. Connect a frequency counter between TP703 pin ① (PLCK) and pin ② (GND).
3. Activate the test mode.
4. Set the CD DUB SPEED (S407) to NORMAL and adjust RV703 so that the frequency counter reads 4.3218MHz ± 10kHz. (normal speed)  
Set the CD DUB SPEED (S407) to HIGH and adjust RV704 so that the frequency counter reads 8.768MHz ± 10kHz. (high speed)
5. After adjustment, release the set from the test mode.
6. Remove the short provided in step 1 from TP704.

**Adjustment Location :** audio-CD board (See page 39.)

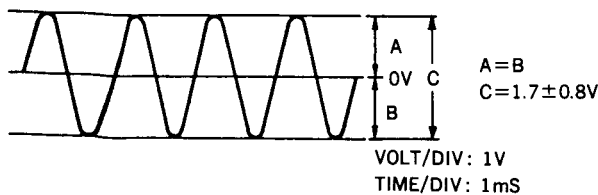
**Traverse Adjustment**

This adjustment should be made when the optical pick-up is replaced or repaired.

**Procedure :**



1. Connect an oscilloscope between TP701 pin ① (VREF) and pin ② (TE-0) on the audio-CD board.
2. Active the test mode.
3. Press ►►/◄◄ keys to move the optical pick-up to the center position.
4. Place the compact disc (YEDS-18) and press ▷ key. The system starts focus search, turns on the focus mode and enter the CLV pull mode. The tracking and sled modes are turned OFF. For tracking servo to ON, press the DISPLAY key.
5. Adjust RV791 on the CD motor board so that the waveform on the oscilloscope is vertically symmetrical with respect to 0V.
6. After this adjustment, release the set from the test mode.

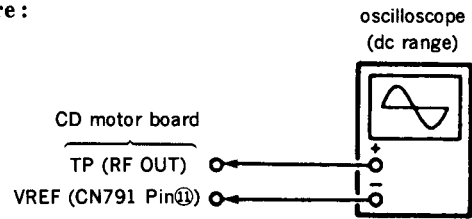


**Adjustment Location :** CD motor board (See page 39.)

**Focus Bias Adjustment**

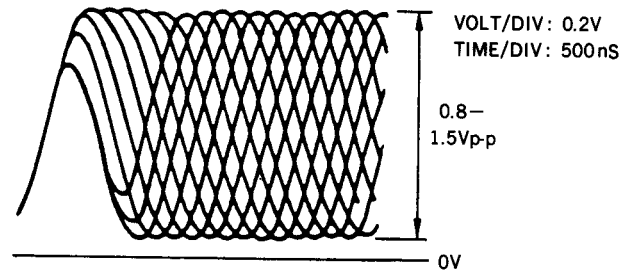
This adjustment should be made when the optical pick-up is replaced or repaired.

**Procedure :**



1. Connect an oscilloscope between TP (RF OUT) and CN791 pin ⑩ on the CD motor board.
2. Activate the test mode.
3. Press ►►/◄◄ keys to move the optical pick-up to the center position.
4. Place the compact disc (YEDS-18) and press ▷ key.
5. Adjust RV792 on the CD motor board so that the waveform on the oscilloscope shows a clear eye pattern.
6. After this adjustment, release the set from the test mode.

● RF Signal Reference Waveform (Eye Pattern)

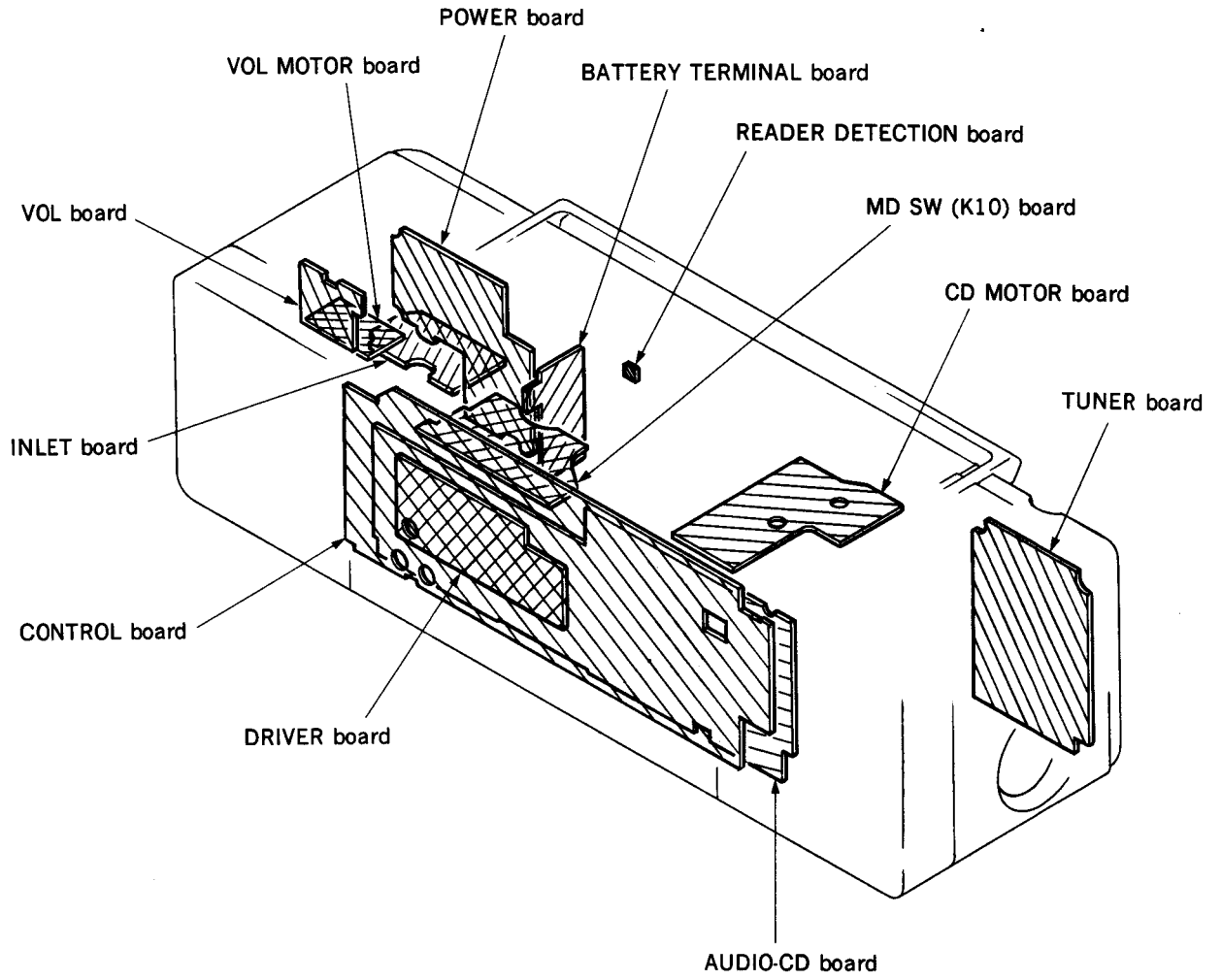


When observing the pattern, set an oscilloscope to AC range and increase the vertical sensitivity. This makes the pattern more easily visible.

**Adjustment Location :** CD motor board (See page 39.)

# SECTION 7 DIAGRAMS

## 7-1. CIRCUIT BOARDS LOCATION

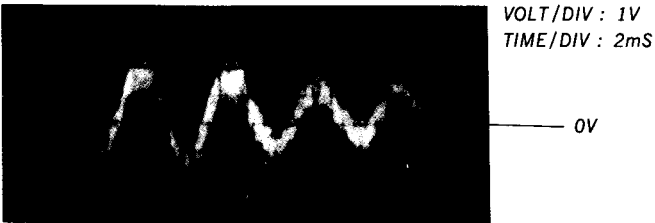


5. Connect oscilloscope to TP701 pin ① (VREF) and pin ③ (TE-1) on audio-CD board.
6. Press ▷ PLAY button.
7. Adjusted RV701 on audio-CD board so that the waveform is as shown the figure below. (tracking gain adjustment)



• Incorrect Examples (fundamentia wave appears)

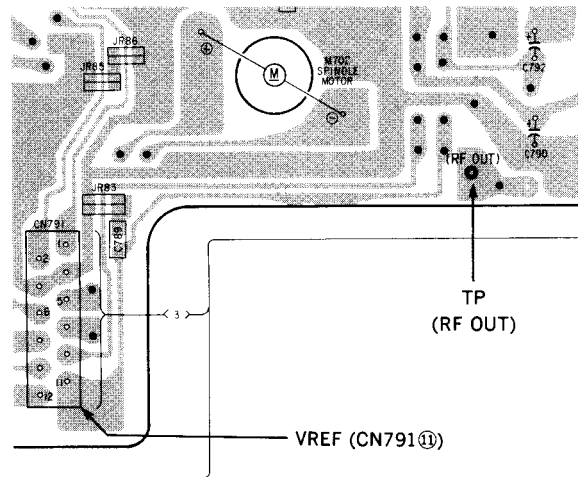
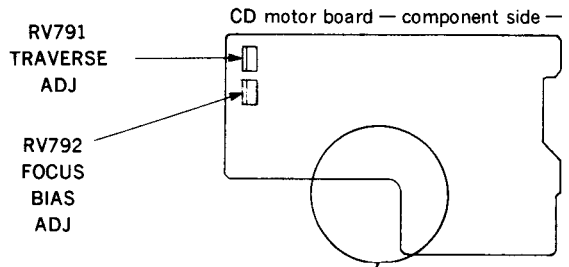
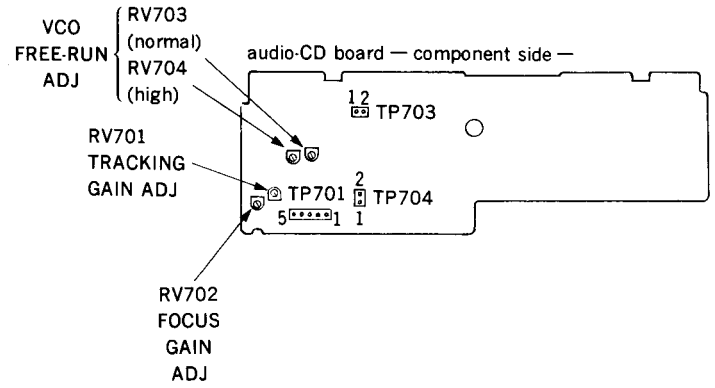
*low tracking gain*



*high tracking  
(high fundamental wave  
than for low gain)*



**Adjustment Location :**



— FOCUS BIAS ADJ —



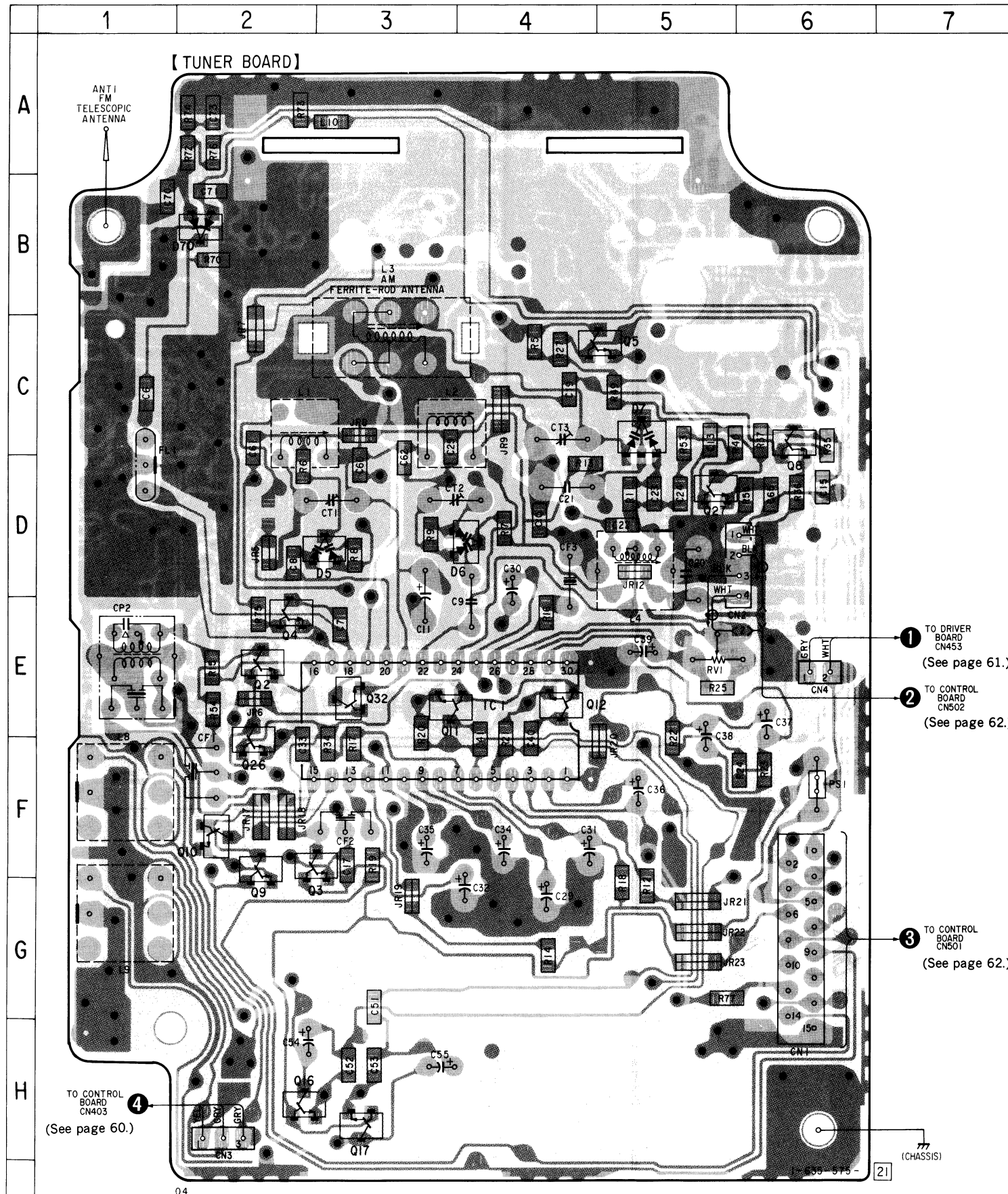
7-2. PRINTED WIRING BOARDS — TUNER SECTION — • Refer to page 71 for Semiconductor Lead Layouts.

• Semiconductor Location

Ref. No.	Location
D5	D-3
D6	D-4
D7	C-5
D70	B-2
IC1	E-4
Q2	E-2
Q3	F-2
Q4	E-2
Q5	C-5
Q8	C-6
Q9	F-2
Q10	F-2
Q11	E-3
Q12	E-4
Q16	H-2
Q17	H-3
Q26	F-2
Q27	D-5
Q32	E-3

Note:

- : parts extracted from the component side.
- : indicates side identified with part number.
- : Through hole.
- ▨ : Pattern on the side which is seen.
- ▩ : Pattern of the rear side.

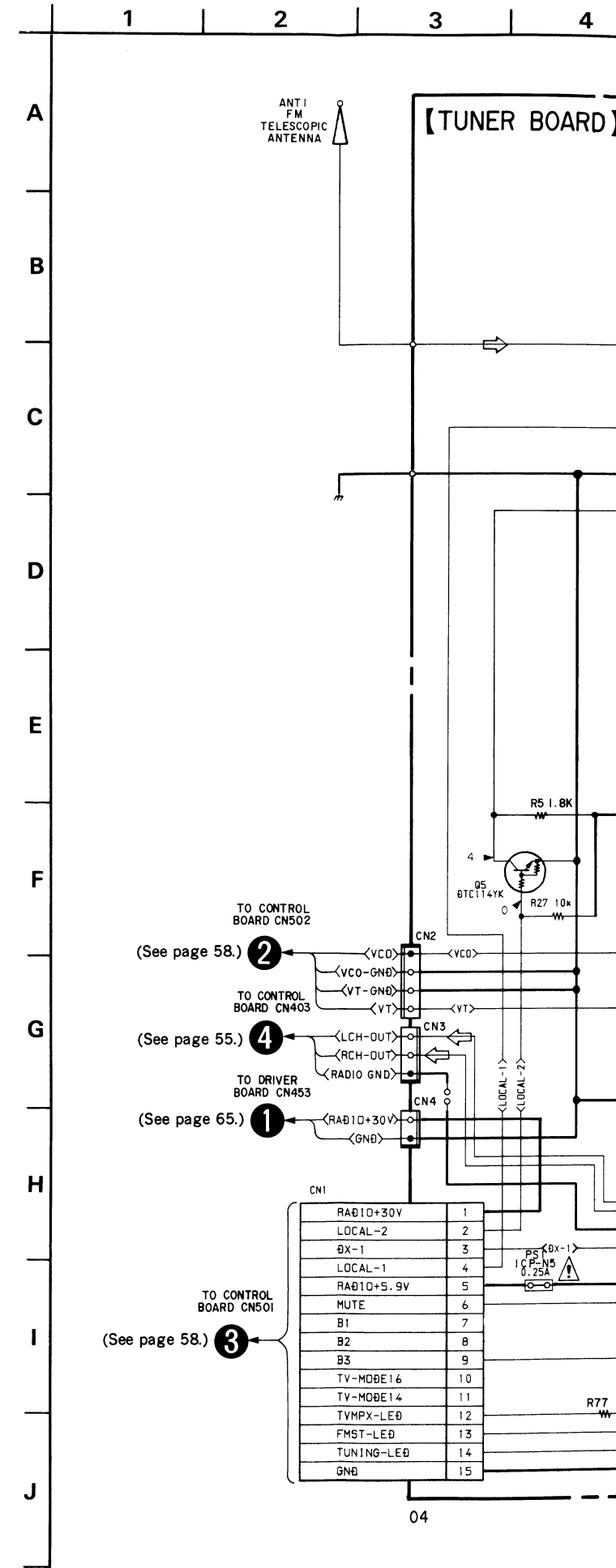


TO CONTROL BOARD CN403 (See page 60.)

1 TO DRIVER BOARD CN453 (See page 61.)

2 TO CONTROL BOARD CN502 (See page 62.)

3 TO CONTROL BOARD CN501 (See page 62.)



TO CONTROL BOARD CN502 (See page 58.)

TO CONTROL BOARD CN403 (See page 55.)

TO DRIVER BOARD CN453 (See page 65.)

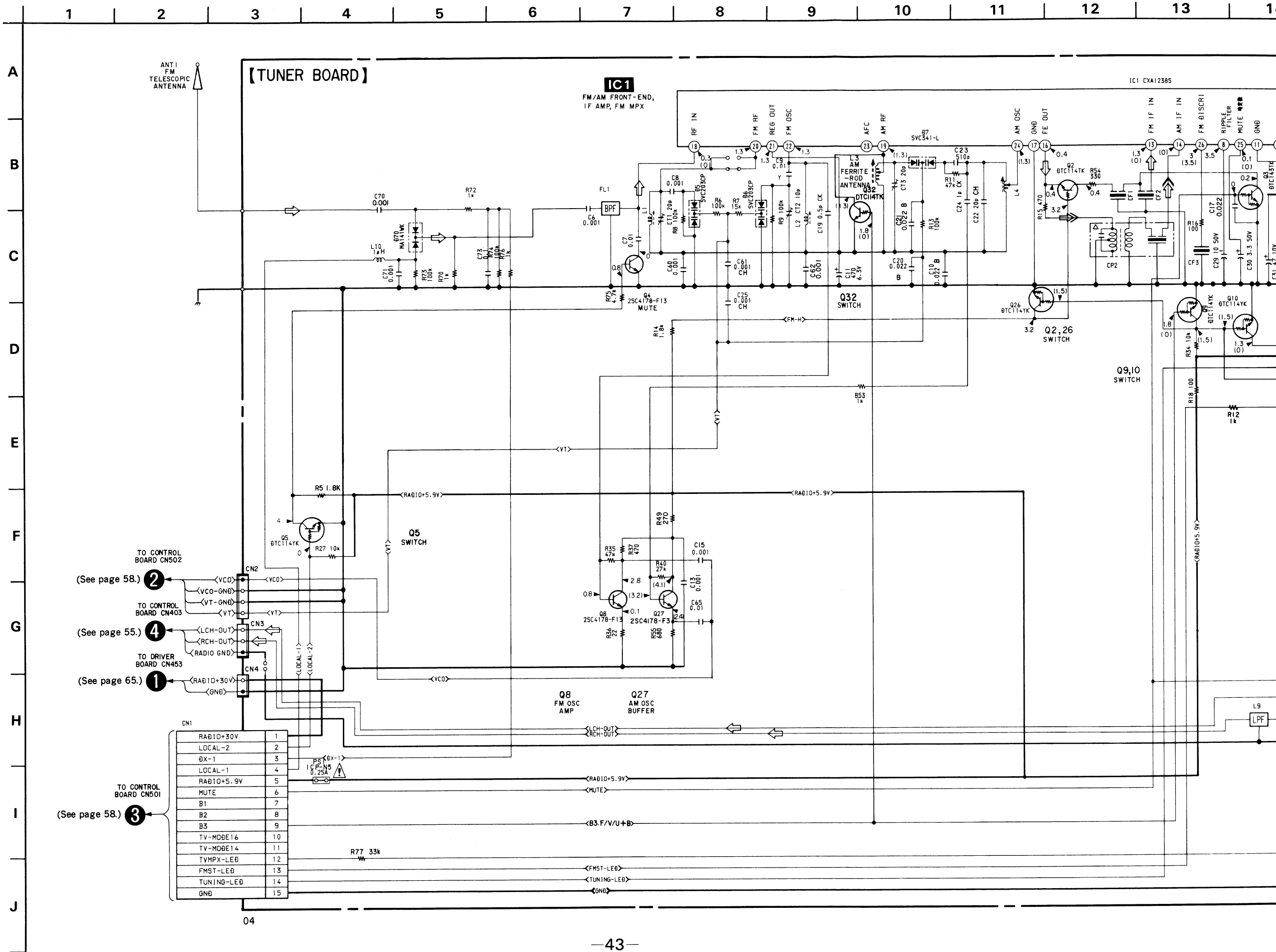
TO CONTROL BOARD CN501 (See page 58.)

Signal Name	Pin Number
RADIO+30V	1
LOCAL-2	2
DX-1	3
LOCAL-1	4
RADIO+5.9V	5
MUTE	6
B1	7
B2	8
B3	9
TV-MODE16	10
TV-MODE14	11
TVMPX-LED	12
FMST-LED	13
TUNING-LED	14
GND	15

7-3. SCHEMATIC DIAGRAM — TUNER SECTION — • Refer to page 74 for IC Block Diagrams.

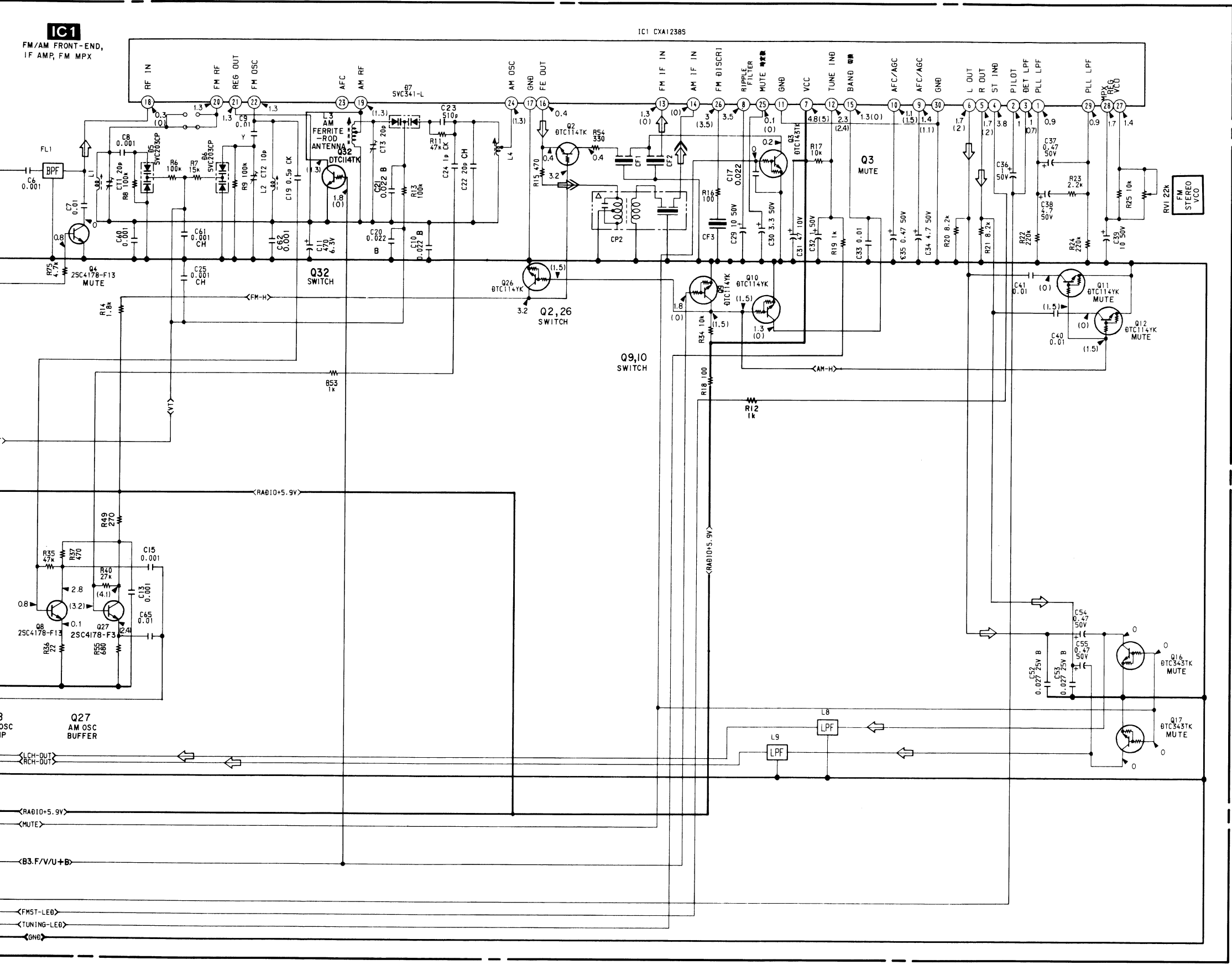
ts.

7



ns.

7 8 9 10 11 12 13 14 15 16 17 18



- Note:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
  - $\triangle$  : internal component.

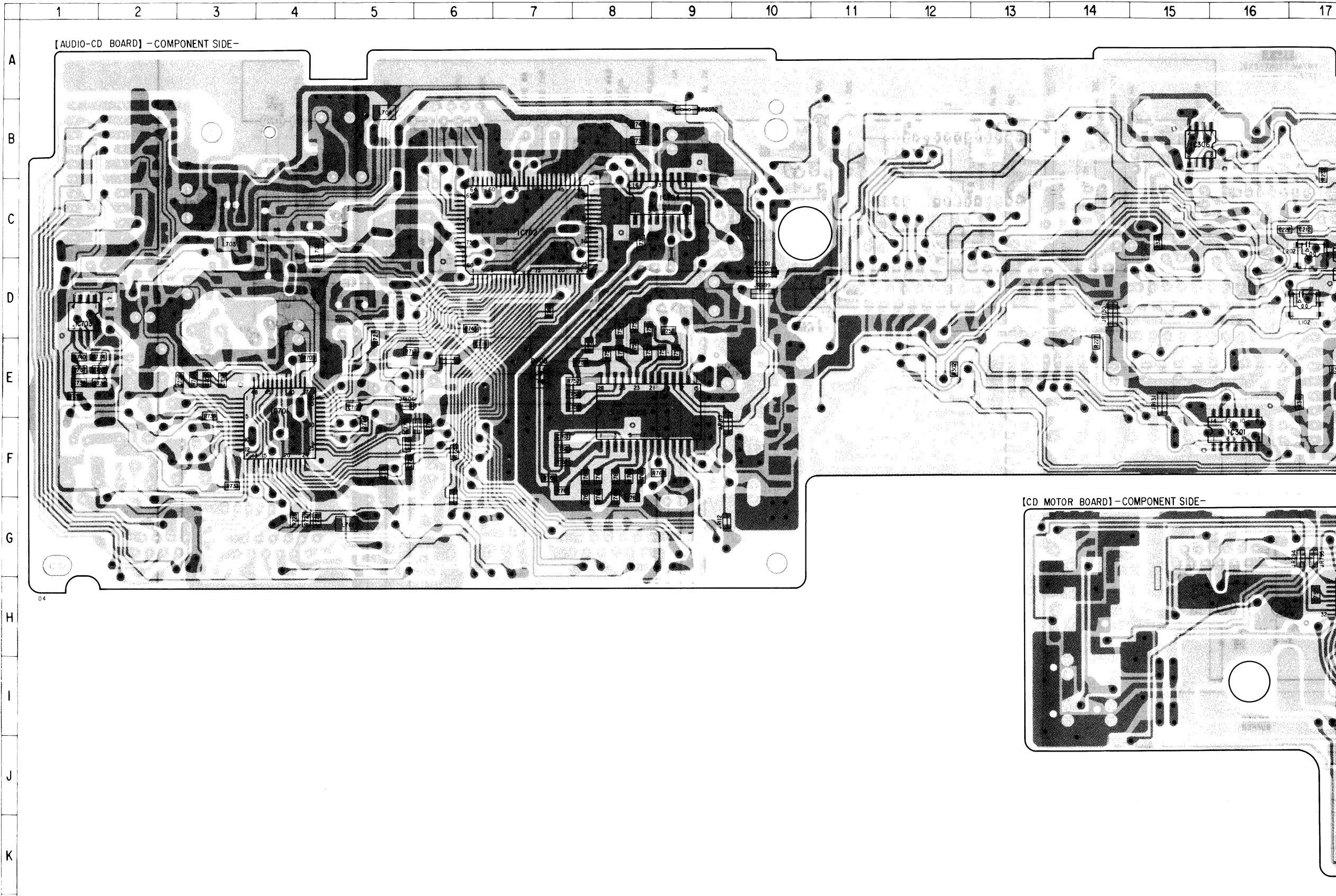
**Note:** The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

- $\text{---}$  : B+ Line
- $\text{---}$  : adjustment for repair.
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
  - no mark : FM
  - ( ) : AM
- Voltages are taken with a VOM (Input Impedance  $10\text{M}\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - $\text{---}$  : FM
  - $\text{---}$  : AM

7-4. PRINTED WIRING BOARDS — AUDIO/CD SECTION — • Refer to page 71 for Semiconductor Lead Layouts.

• Semiconductor Location

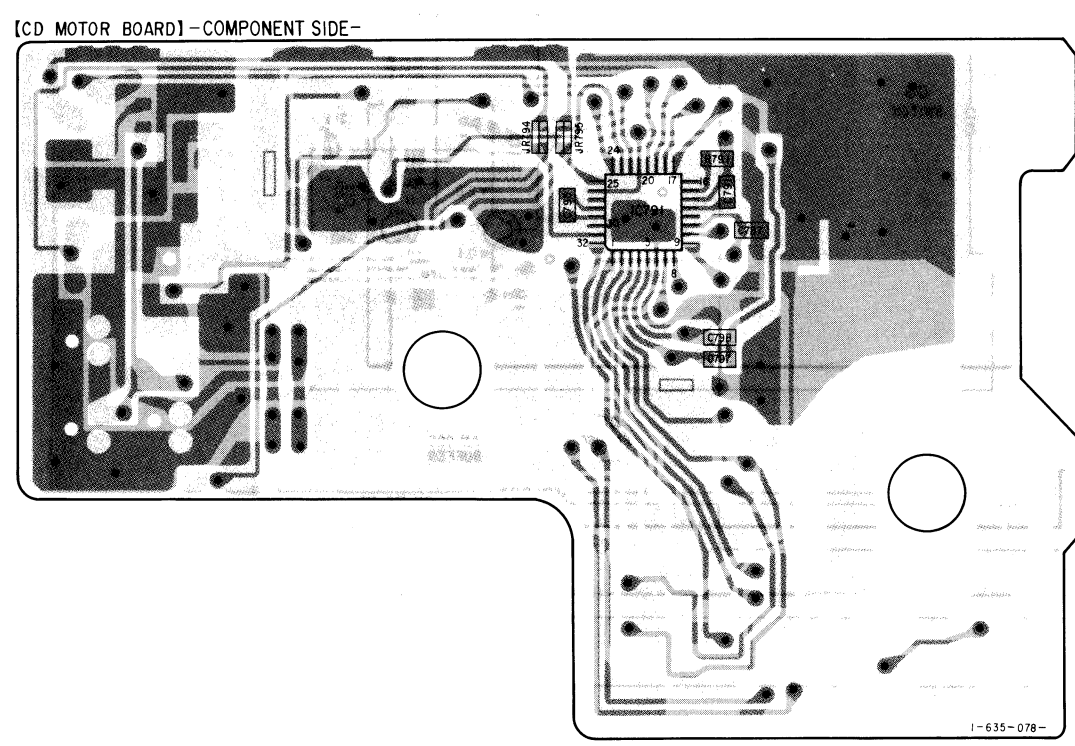
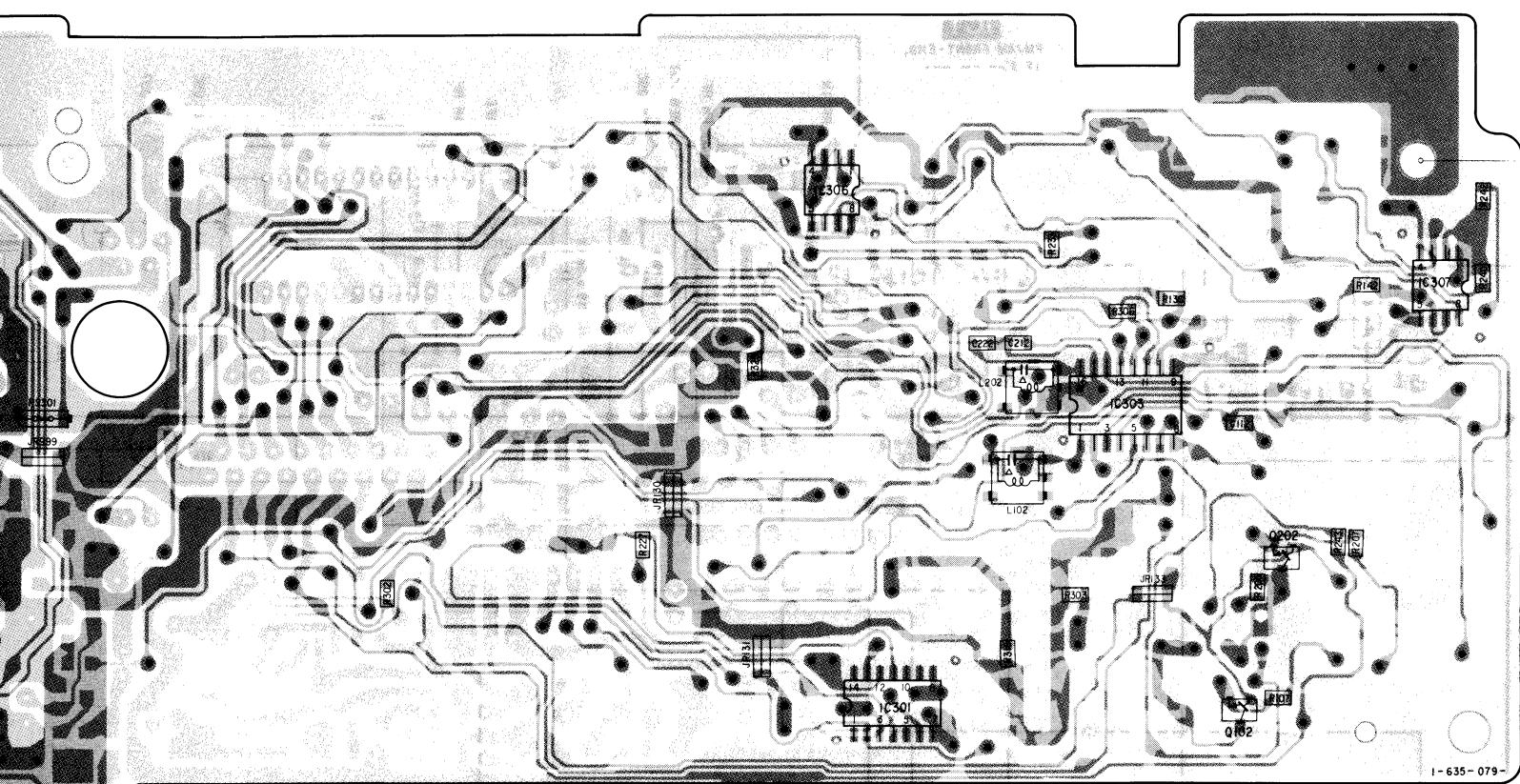
Ref. No.	Location
D301	E-29
D701	D-35
D702	C-37
D703	E-7
D704	D-39
D705	F-34
D706	B-36
D707	D-35
IC301	F-16
IC302	E-24
IC303	D-17
IC304	B-28
IC305	D-26
IC306	B-15
IC307	C-20
IC701	F-4
IC702	C-7
IC703	D-1
IC704	C-9
IC705	E-8
IC706	B-39
IC707	B-39
IC791	H-17
Q101	F-22
Q102	F-18
Q103	E-22
Q104	C-26
Q105	E-31
Q106	B-23
Q201	E-22
Q202	E-18
Q203	E-22
Q204	C-26
Q205	F-31
Q206	B-23
Q301	E-31
Q302	E-29
Q303	E-28
Q304	F-30
Q305	F-29
Q701	B-37
Q703	C-37
Q704	C-37
Q705	D-38
Q706	G-35
Q707	G-36
Q708	D-38
Q709	D-36
Q710	D-36
Q711	D-37
Q712	B-37
Q791	G-26



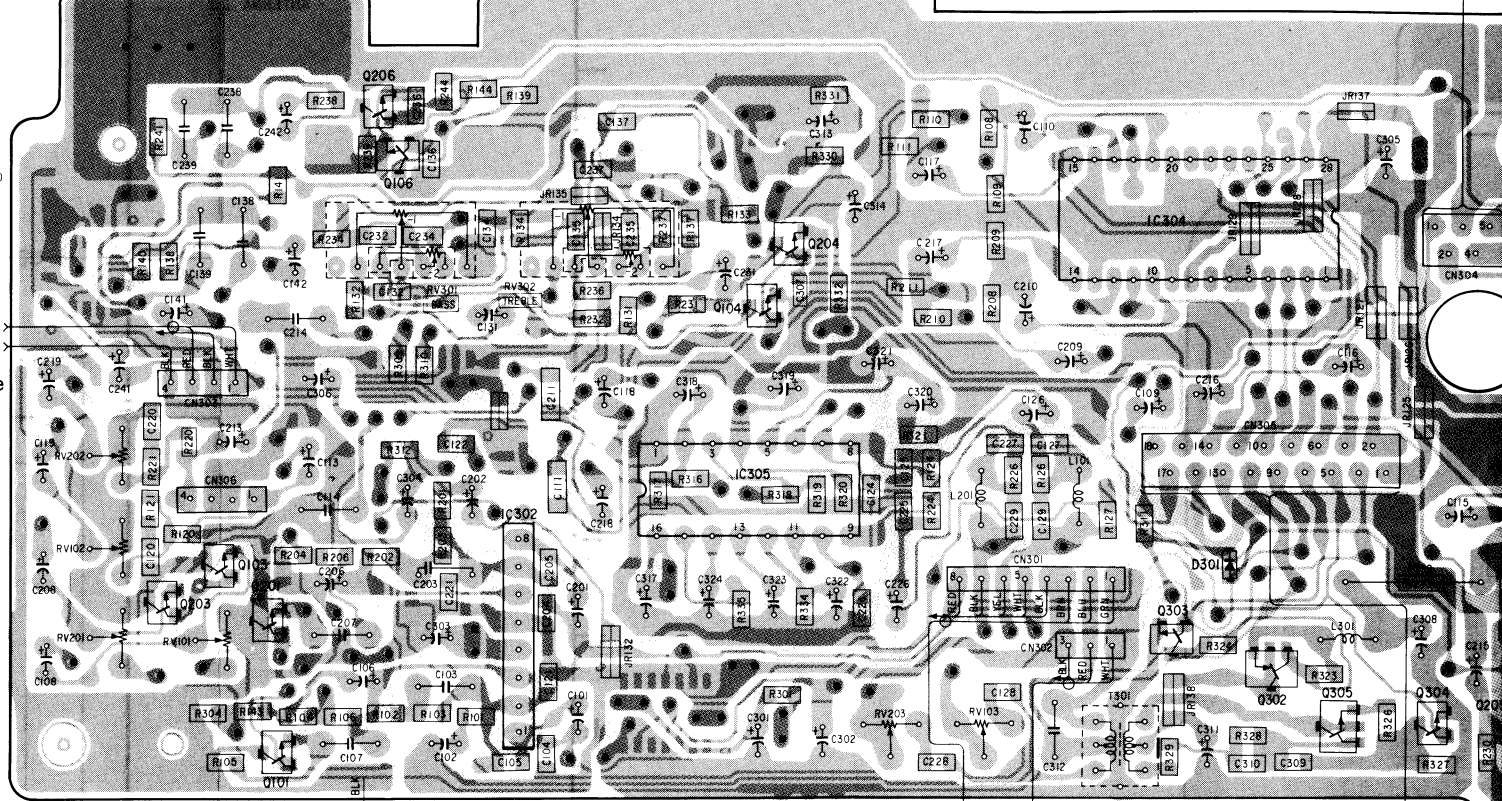
Note:

- ○ — : parts extracted from the component side.
- — : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- □ : indicates side identified with part number.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▩ : Pattern of the rear side.

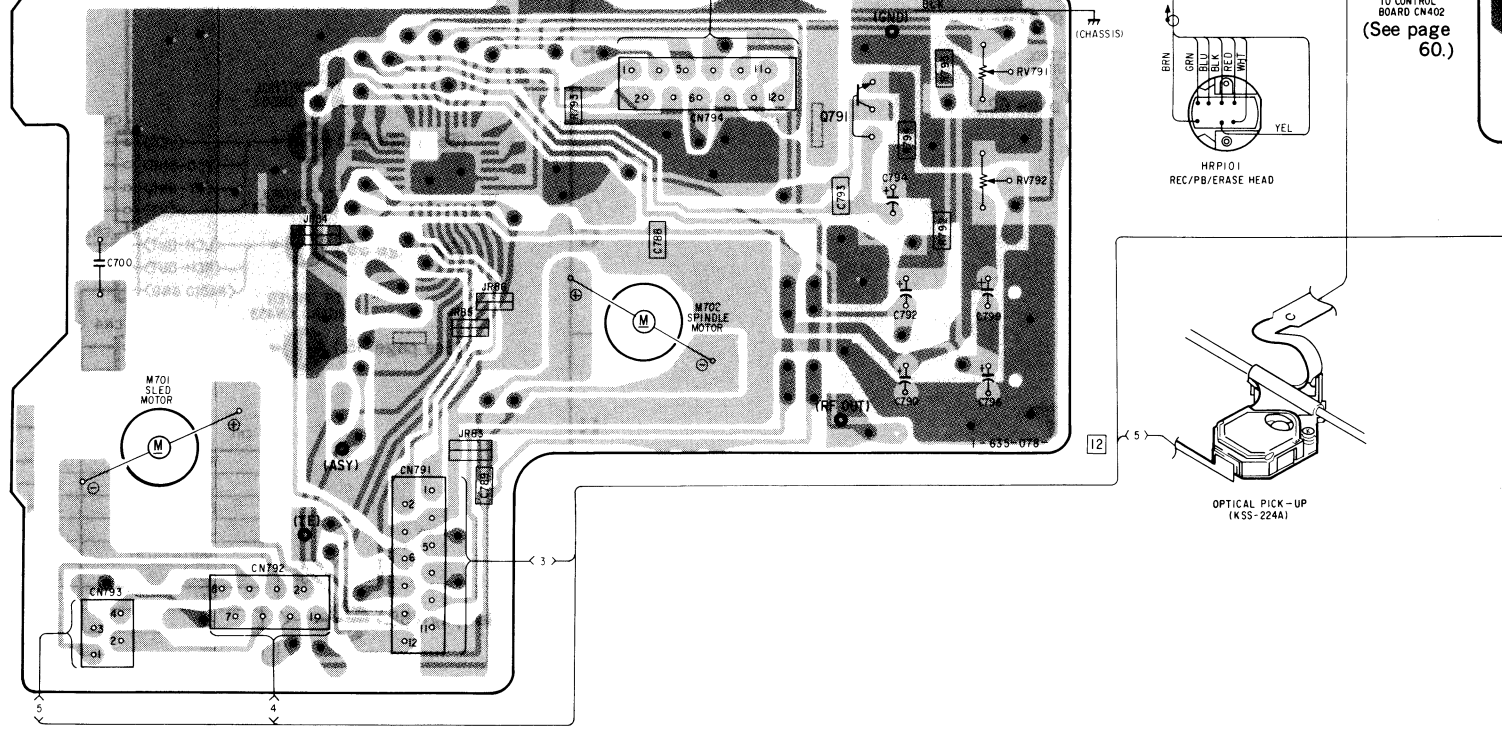
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30



[AUDIO-CD BOARD] - CONDUCTOR SIDE -



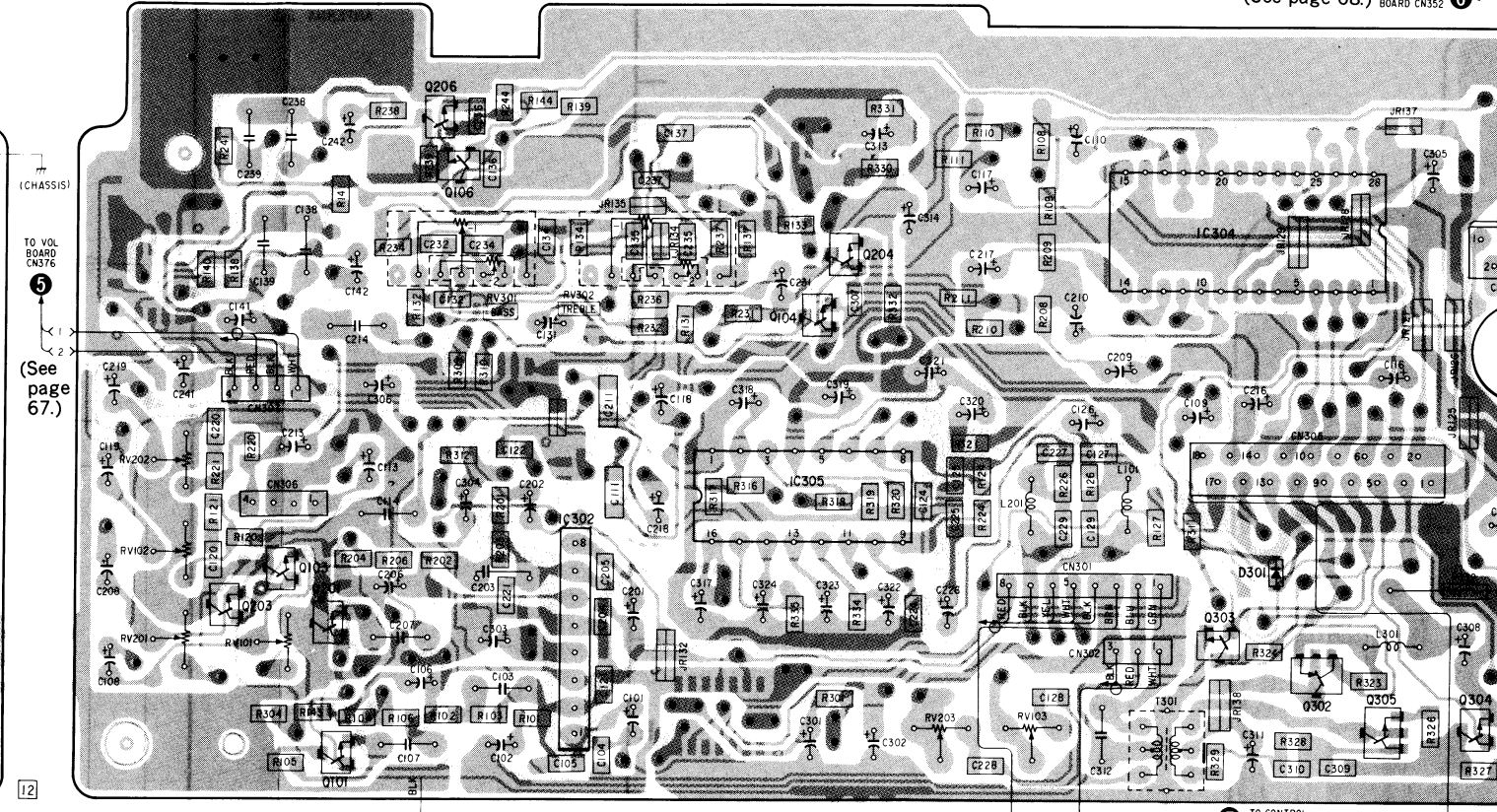
[CD MOTOR BOARD] - CONDUCTOR SIDE -



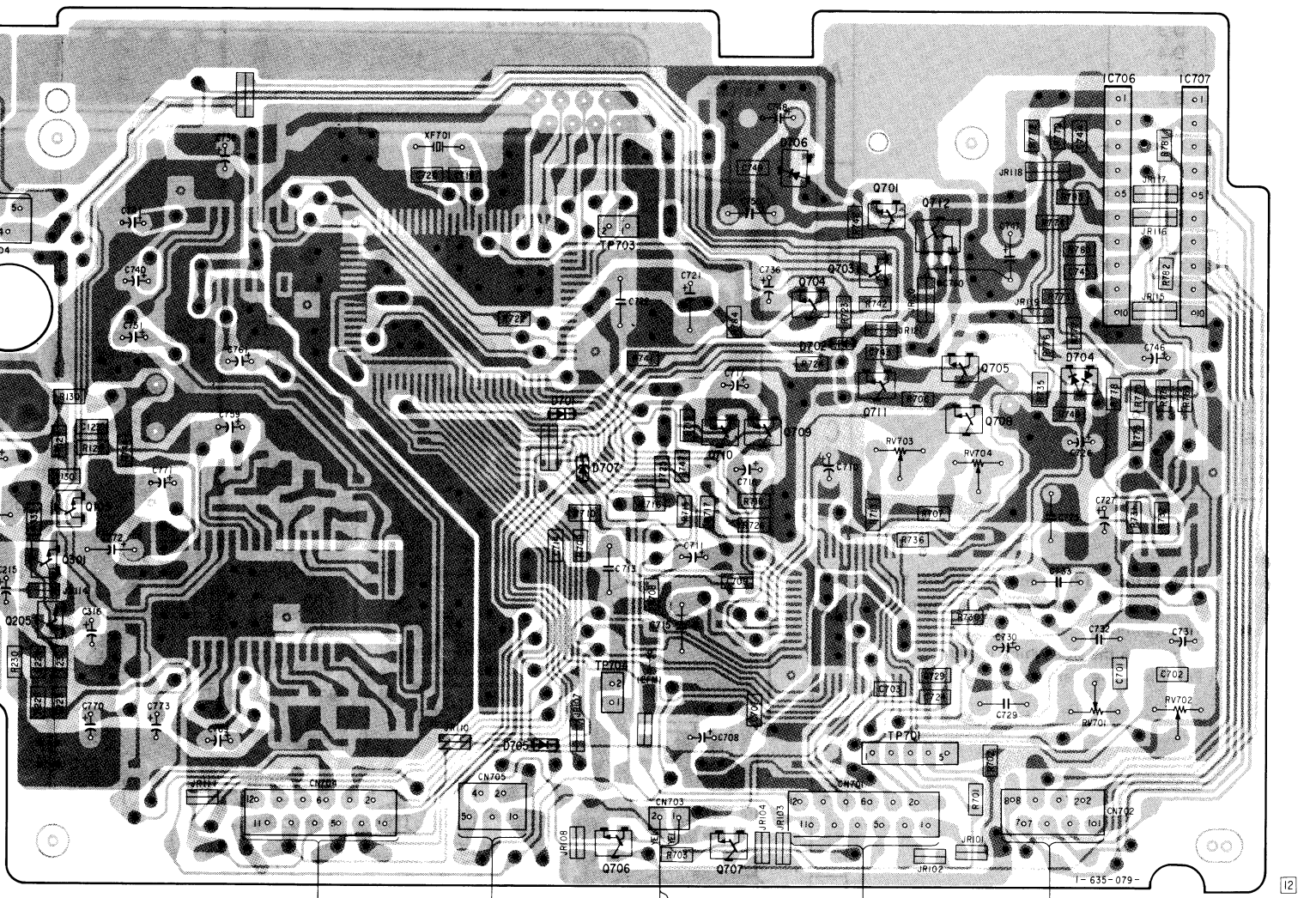
20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

[AUDIO-CD BOARD] - CONDUCTOR SIDE -

(See page 68.) TO POWER BOARD CN352



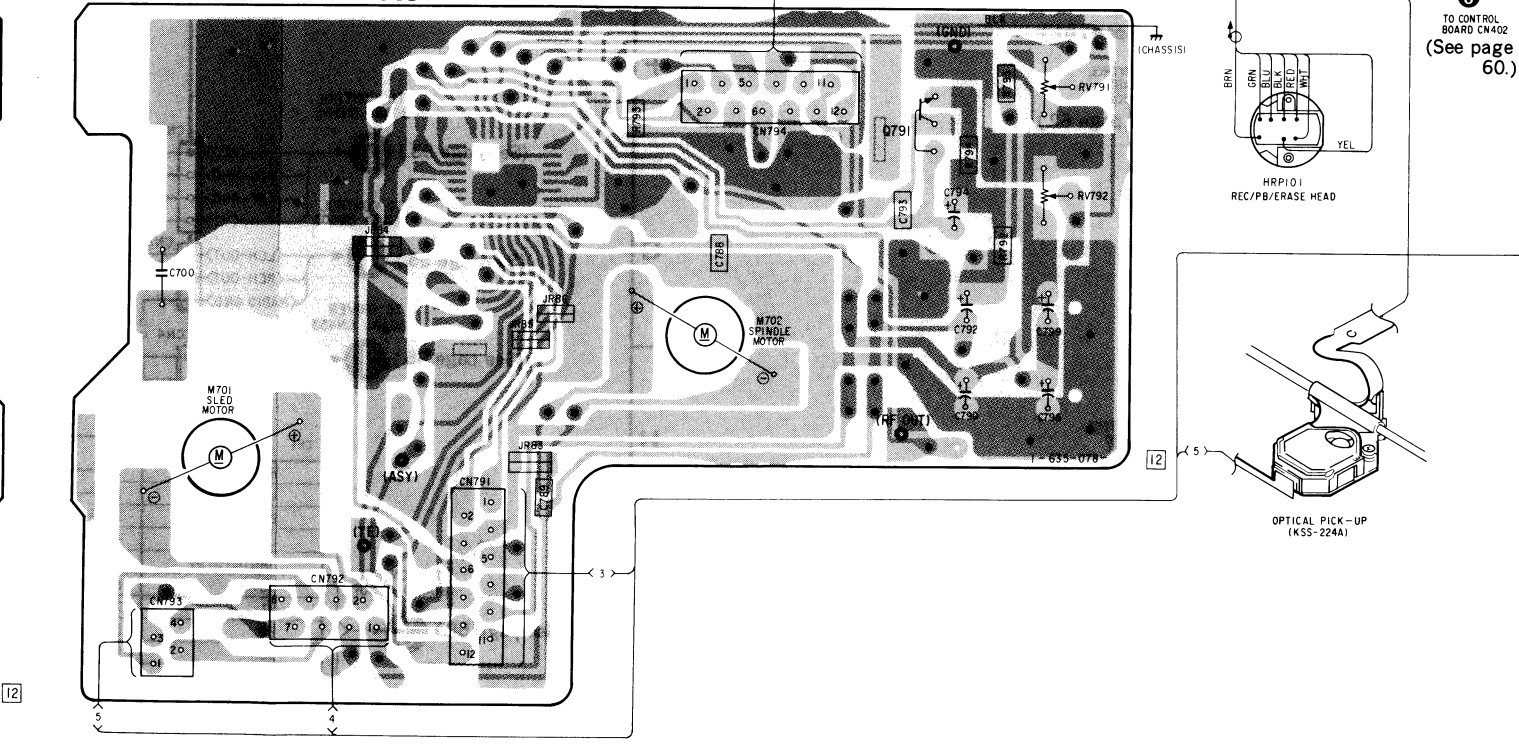
(See page 67.)



[CD MOTOR BOARD] - CONDUCTOR SIDE -

TO CONTROL BOARD CN354 (See page 61.)

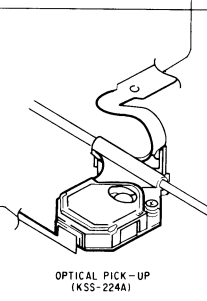
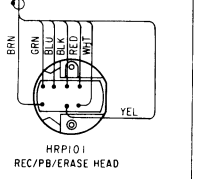
TO CONTROL BOARD CN402 (See page 60.)



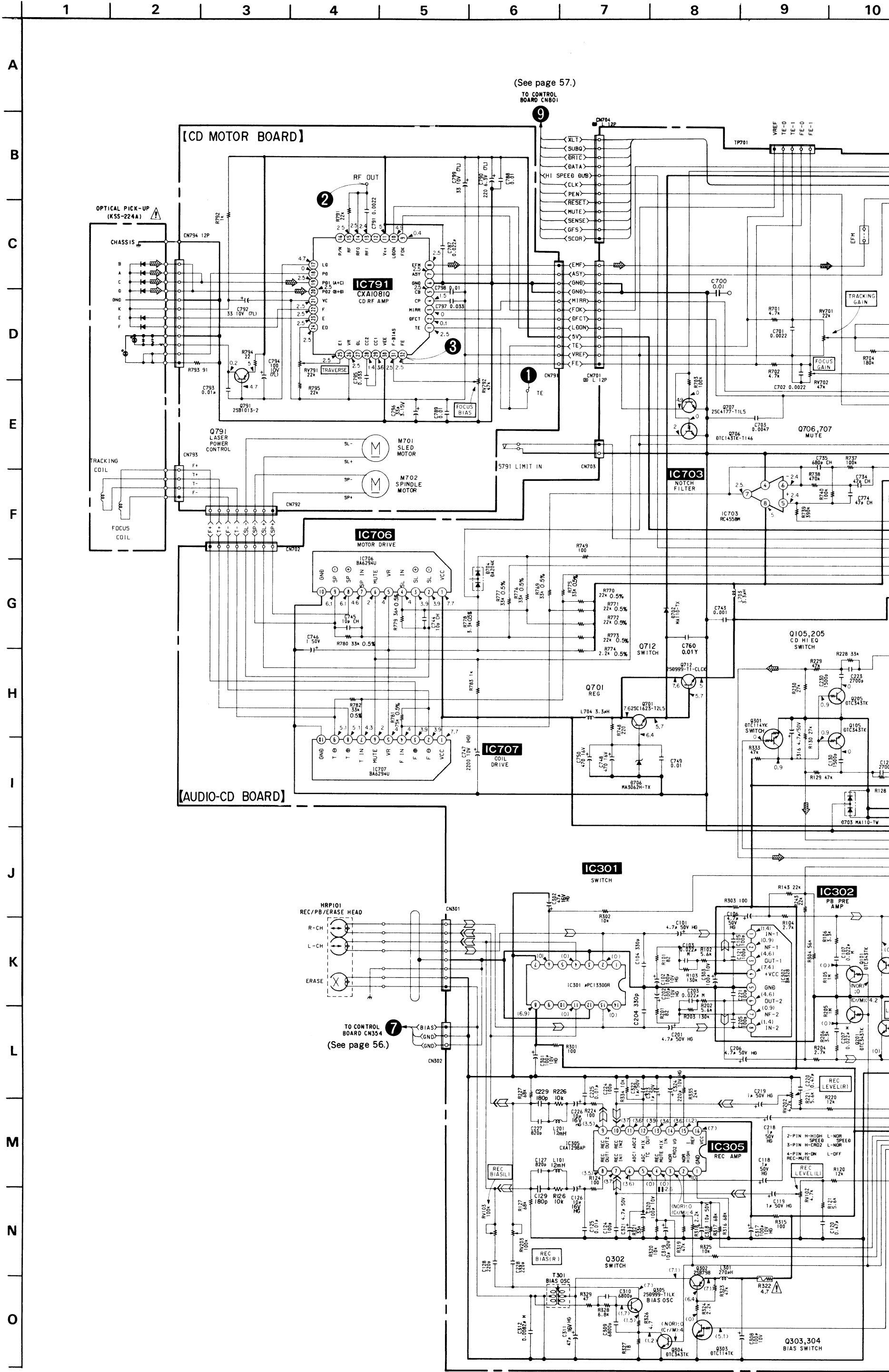
(See page 62.)

(See page 59.)

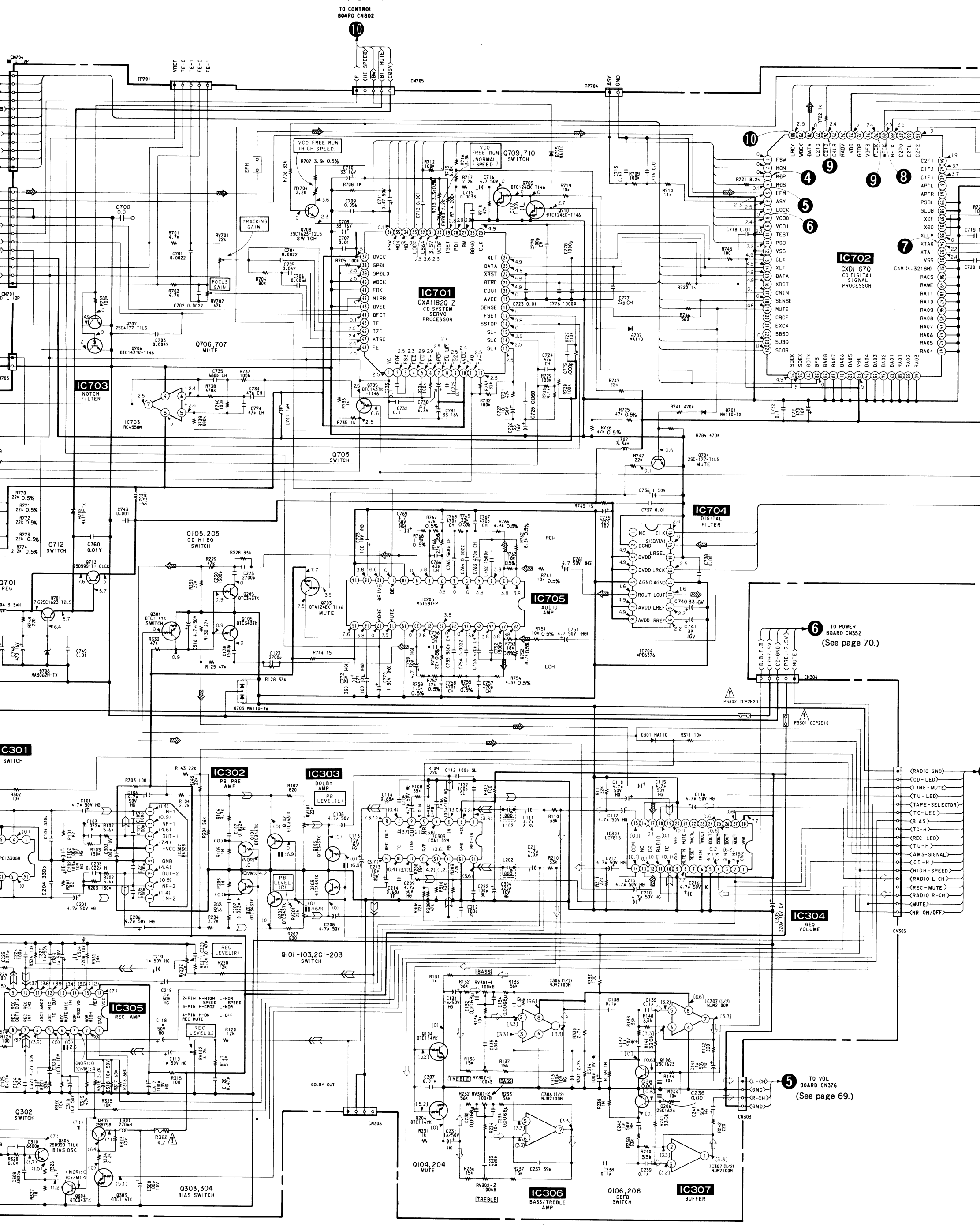
S791 LIMIT IN



7-5. SCHEMATIC DIAGRAM — AUDIO/CD SECTION — • Refer to page 74 for IC Block Diagrams.



(See page 57.)



IC702  
CXDI167Q  
CD DIGITAL  
SIGNAL  
PROCESSOR

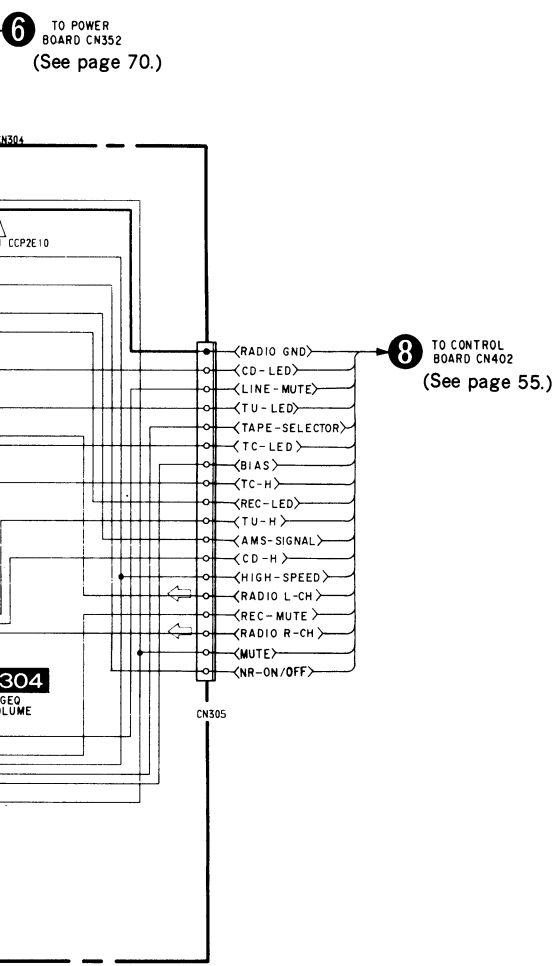
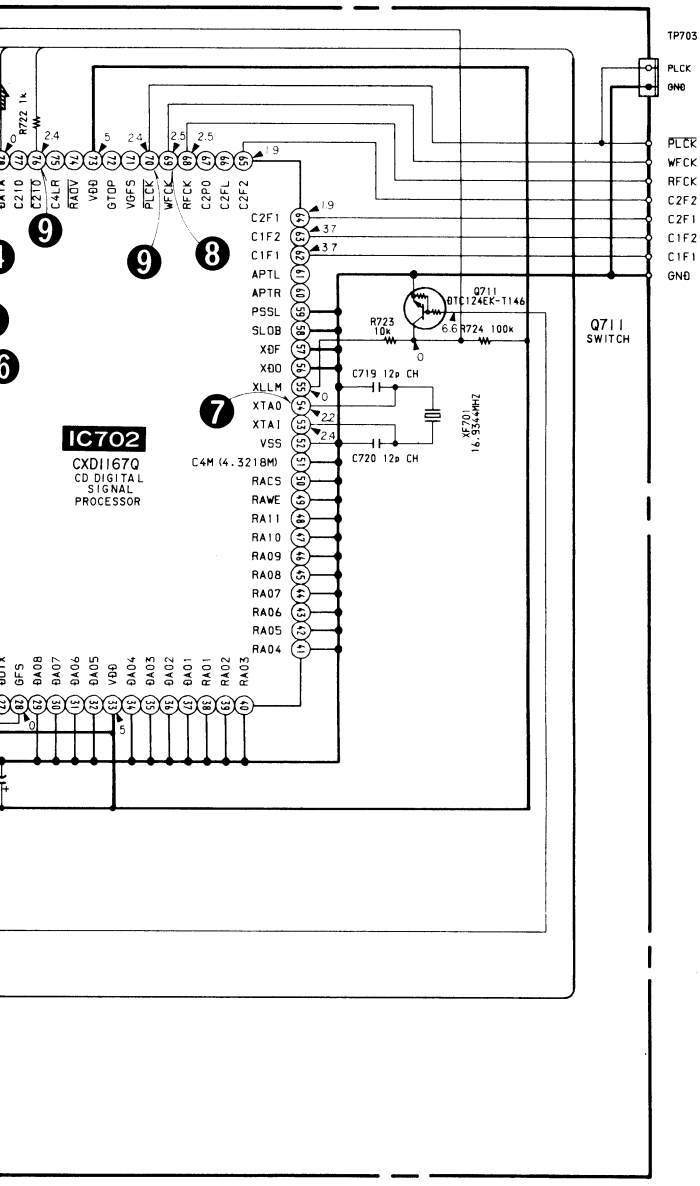
TO POWER  
BOARD CN352  
(See page 70.)

TO VOL  
BOARD CN376  
(See page 69.)

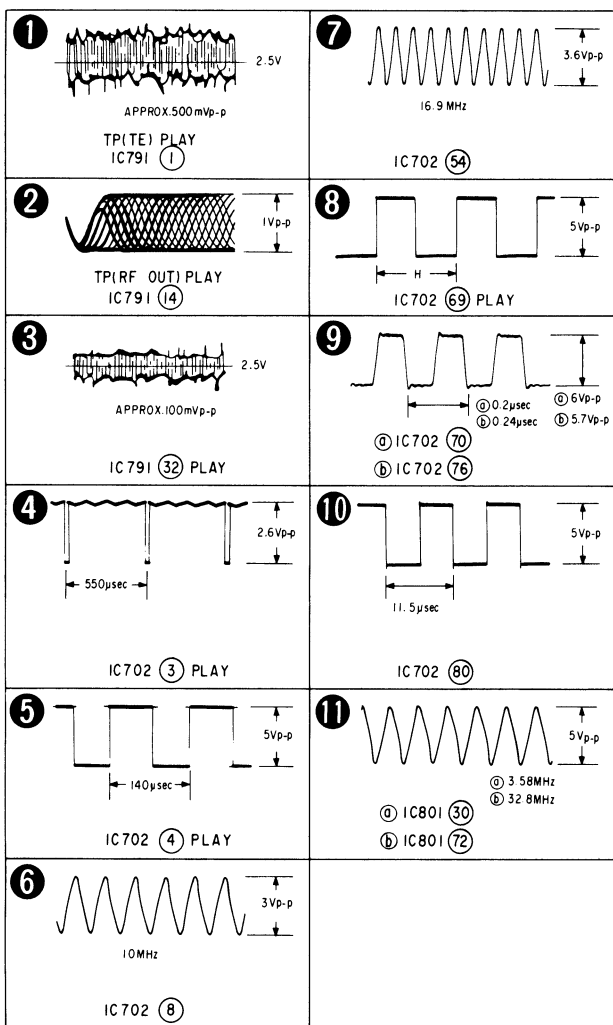
Pinout table for IC702:

1	FSW	2	MON
3	MRCK	4	MDB
5	DATA	6	MBS
7	CZ10	8	LOCK
9	CLR	10	ASY
11	ADRV	12	ASL
13	VDD	13	ASL
14	VBDS	14	ASL
15	RECE	15	ASL
16	WCKL	16	ASL
17	RECK	17	ASL
18	CZP0	18	ASL
19	CZP1	19	ASL
20	CZP2	20	ASL
21	CZP3	21	ASL
22	CZP4	22	ASL
23	CZP5	23	ASL
24	CZP6	24	ASL
25	CZP7	25	ASL
26	CZP8	26	ASL
27	CZP9	27	ASL
28	CZP10	28	ASL
29	CZP11	29	ASL
30	CZP12	30	ASL
31	CZP13	31	ASL
32	CZP14	32	ASL
33	CZP15	33	ASL
34	CZP16	34	ASL
35	CZP17	35	ASL
36	CZP18	36	ASL
37	CZP19	37	ASL
38	CZP20	38	ASL
39	CZP21	39	ASL
40	CZP22	40	ASL
41	CZP23	41	ASL
42	CZP24	42	ASL
43	CZP25	43	ASL
44	CZP26	44	ASL
45	CZP27	45	ASL
46	CZP28	46	ASL
47	CZP29	47	ASL
48	CZP30	48	ASL
49	CZP31	49	ASL
50	CZP32	50	ASL
51	CZP33	51	ASL
52	CZP34	52	ASL
53	CZP35	53	ASL
54	CZP36	54	ASL
55	CZP37	55	ASL
56	CZP38	56	ASL
57	CZP39	57	ASL
58	CZP40	58	ASL
59	CZP41	59	ASL
60	CZP42	60	ASL
61	CZP43	61	ASL
62	CZP44	62	ASL
63	CZP45	63	ASL
64	CZP46	64	ASL
65	CZP47	65	ASL
66	CZP48	66	ASL
67	CZP49	67	ASL
68	CZP50	68	ASL
69	CZP51	69	ASL
70	CZP52	70	ASL
71	CZP53	71	ASL
72	CZP54	72	ASL
73	CZP55	73	ASL
74	CZP56	74	ASL
75	CZP57	75	ASL
76	CZP58	76	ASL
77	CZP59	77	ASL
78	CZP60	78	ASL
79	CZP61	79	ASL
80	CZP62	80	ASL
81	CZP63	81	ASL
82	CZP64	82	ASL
83	CZP65	83	ASL
84	CZP66	84	ASL
85	CZP67	85	ASL
86	CZP68	86	ASL
87	CZP69	87	ASL
88	CZP70	88	ASL
89	CZP71	89	ASL
90	CZP72	90	ASL
91	CZP73	91	ASL
92	CZP74	92	ASL
93	CZP75	93	ASL
94	CZP76	94	ASL
95	CZP77	95	ASL
96	CZP78	96	ASL
97	CZP79	97	ASL
98	CZP80	98	ASL
99	CZP81	99	ASL
100	CZP82	100	ASL





• Waveforms

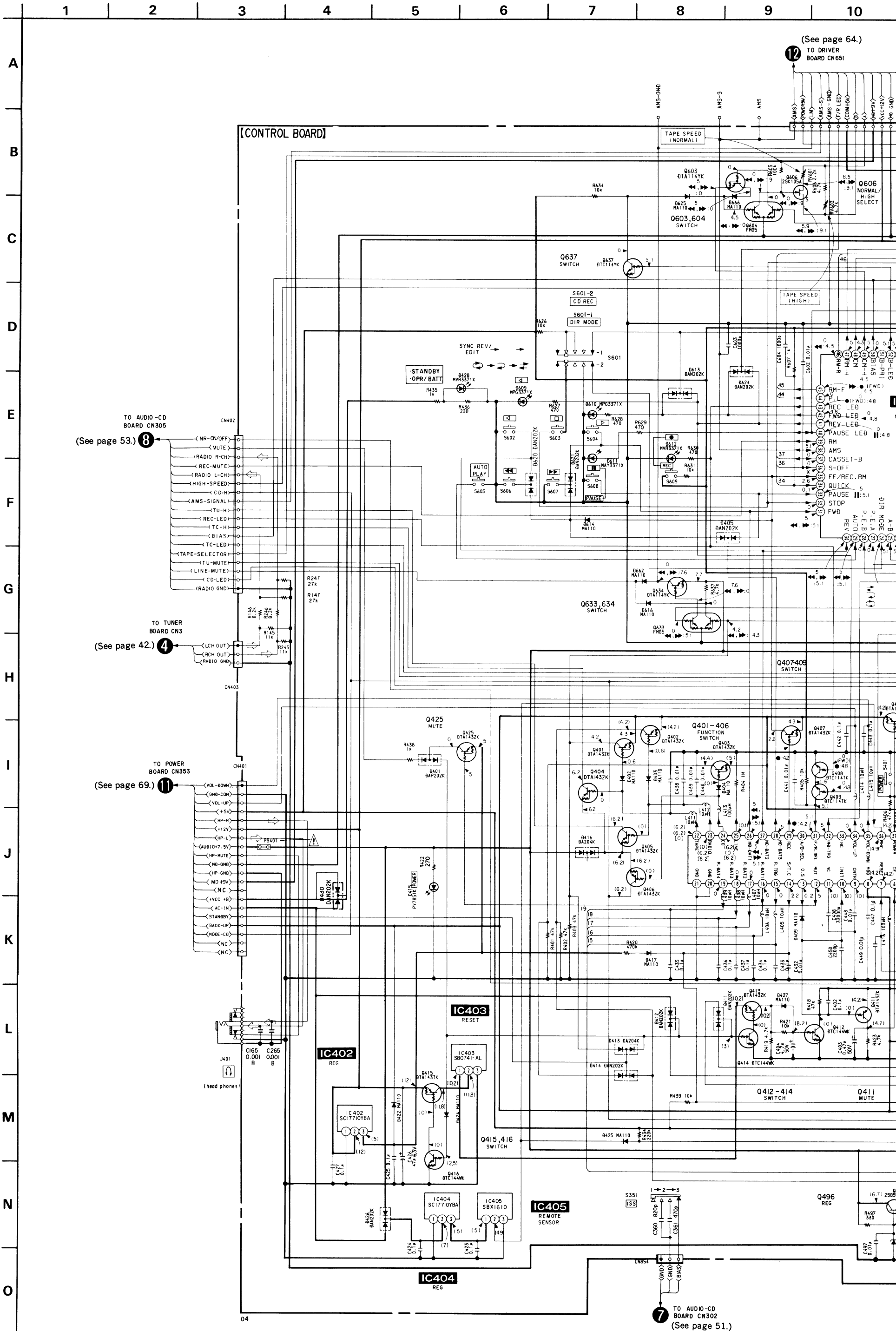


Note:

- All capacitors are in  $\mu F$  unless otherwise noted.  $pF$ :  $\mu\mu F$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4 W$  or less unless otherwise specified.
- % : indicates tolerance.
- $\Delta$  : internal component.
- : fusible resistor.

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

- : B+ Line
- : adjustment for repair.
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  - no mark : CD
  - ( ) : PB (FWD)
  - < > : REC (FWD)
  - [ ] : FM
  - < NOR > : NORMAL TAPE REC (FWD)
  - < Cr/M > : CrO<sub>2</sub>/METAL TAPE REC (FWD)
  - || : PAUSE
- Voltages are taken with a VOM (Input Impedance 10M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - : FM
  - : PB
  - : REC
  - : CD



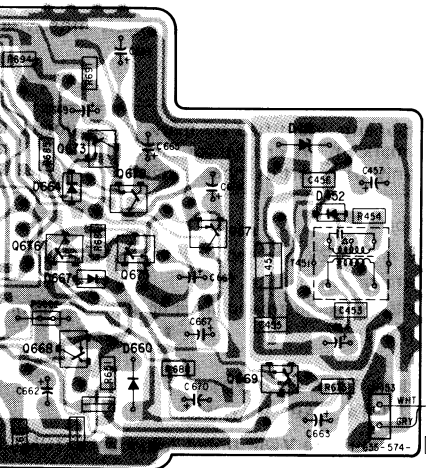
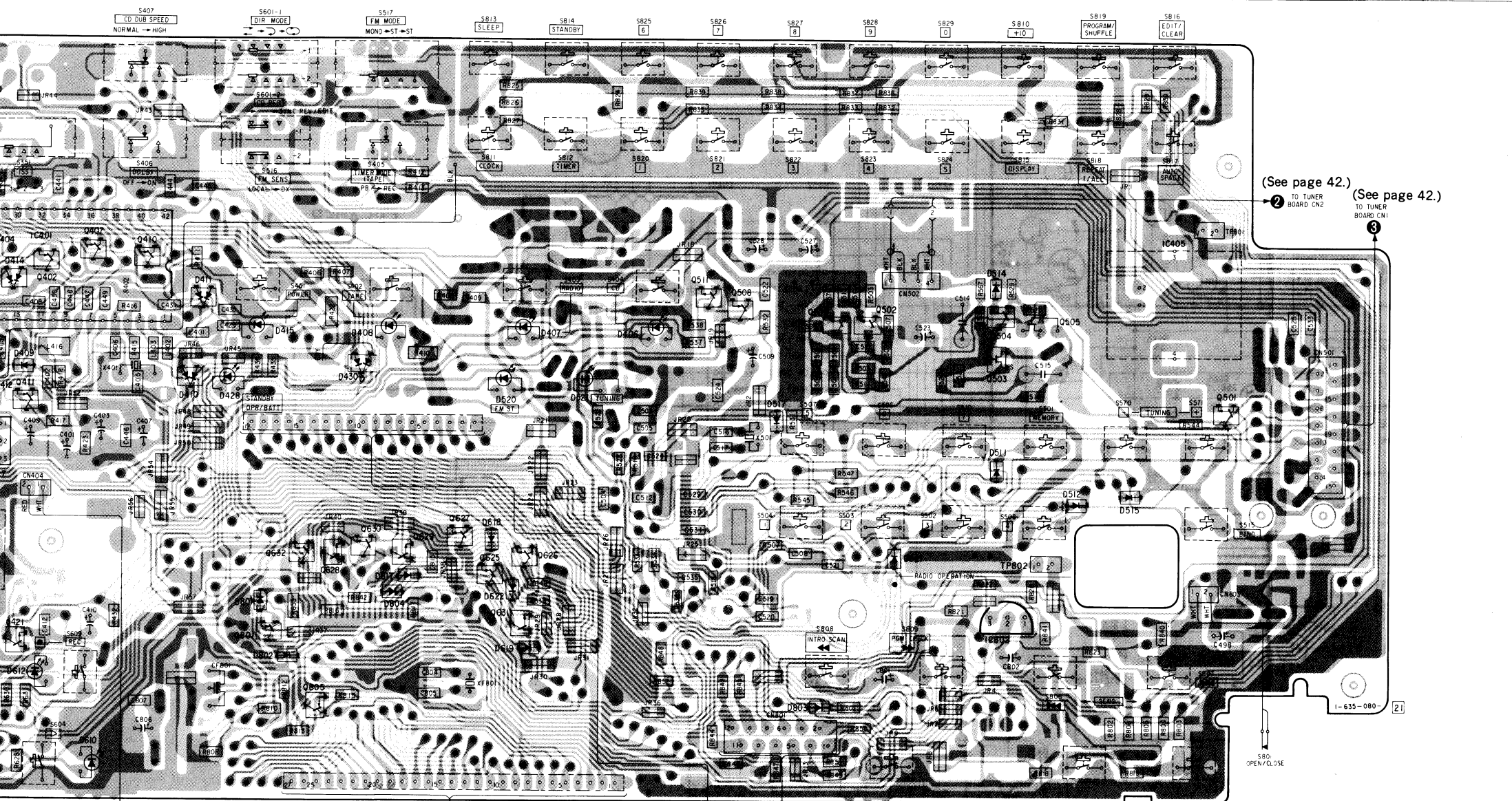




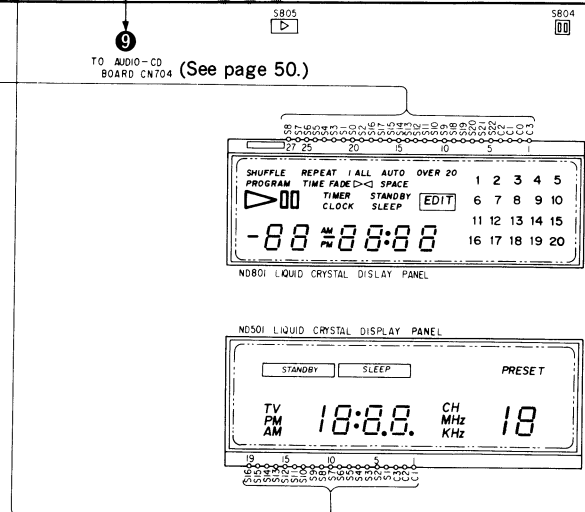




26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41



(See page 42.)

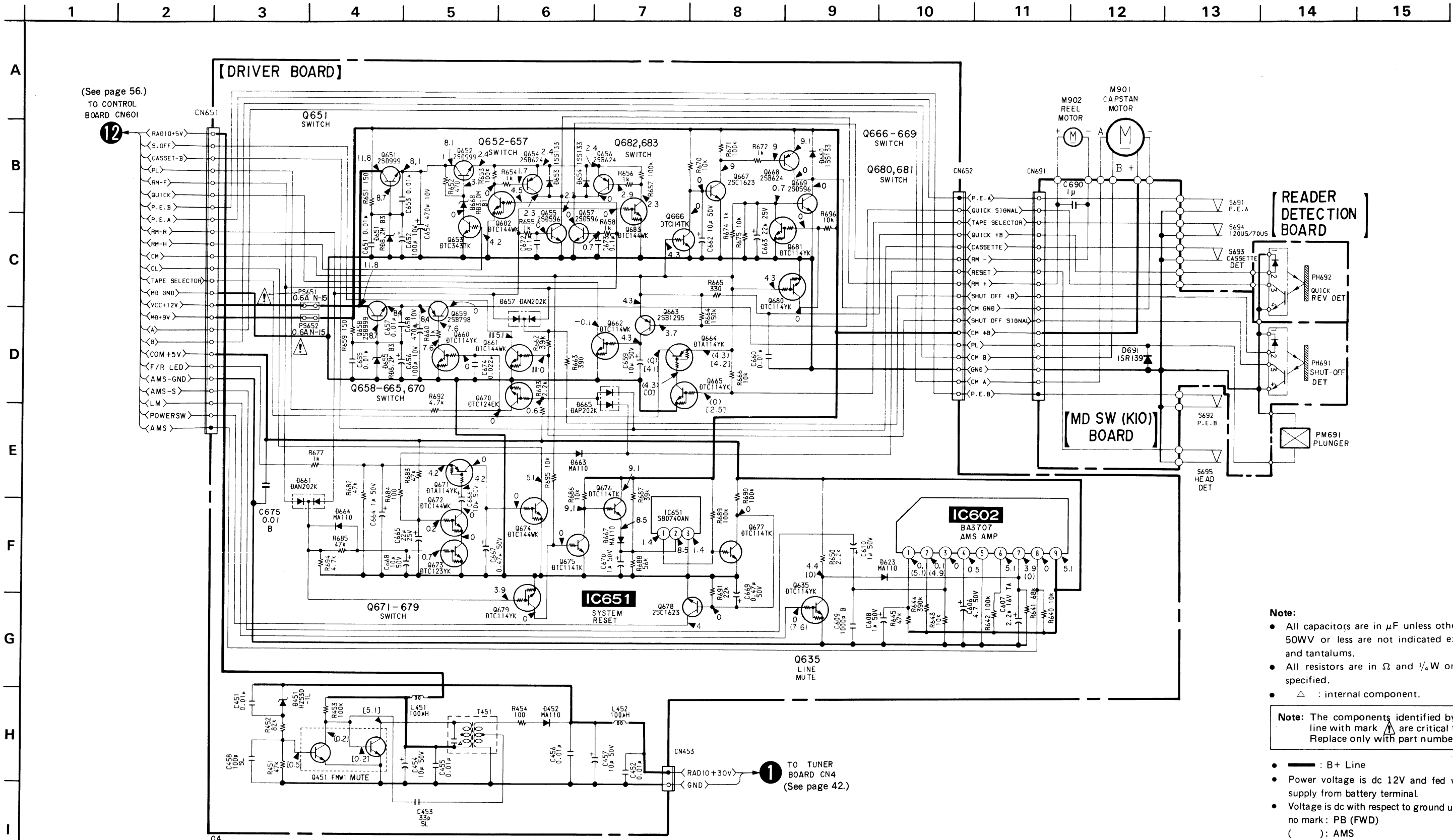


- Note:**
- — : parts extracted from the component side.
  - : parts extracted from the conductor side.
  - : parts mounted on the conductor side.
  - : Through hole.
  - ▨ : Pattern on the side which is seen.
  - ▩ : Pattern of the rear side.

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D401	D-23	D661	K-18	Q625	G-31
D402	C-25	D662	E-16	Q626	F-31
D403	C-25	D663	K-14	Q627	F-30
D404	C-25	D664	K-26	Q628	F-29
D405	H-17	D665	J-15	Q629	F-30
D406	D-32	D666	E-19	Q630	F-30
D407	D-31	D667	K-26	Q631	G-31
D408	D-30	D668	J-23	Q632	F-29
D409	D-26	D691	K-7	Q633	E-16
D410	E-28	D801	G-28	Q634	E-16
D411	D-28	D802	G-28	Q635	L-22
D412	C-18	D803	H-34	Q637	G-22
D413	C-25	D804	G-30	Q651	L-25
D414	C-26			Q652	J-24
D415	D-28	IC401	C-26	Q653	J-23
D416	C-22	IC402	B-20	Q654	L-18
D417	D-25	IC403	D-18	Q655	L-17
D422	B-19	IC404	C-17	Q656	L-24
D424	D-23	IC405	C-38	Q657	K-17
D425	B-13	IC406	C-9	Q658	K-24
D426	C-19	IC407	E-26	Q659	J-24
D427	E-25	IC408	G-15	Q660	J-24
D428	E-28	IC503	F-8	Q661	J-17
D430	D-29	IC601	F-17	Q662	L-18
D451	J-28	IC602	K-22	Q663	L-17
D452	K-28	IC651	K-14	Q664	L-23
D497	G-2	IC801	H-11	Q665	L-23
D501	G-9	IC802	G-36	Q666	L-16
D502	G-8			Q667	L-14
D503	G-7	Q401	C-25	Q668	L-26
D504	G-8	Q402	C-26	Q669	L-28
D505	F-35	Q403	C-25	Q670	J-16
D509	G-6	Q404	D-24	Q671	K-27
D510	G-6	Q405	D-24	Q672	K-27
D511	E-36	Q406	C-24	Q673	J-26
D512	F-37	Q407	C-27	Q674	K-16
D513	D-9	Q408	H-25	Q675	K-27
D514	D-36	Q409	H-25	Q676	K-26
D515	F-37	Q410	C-27	Q677	J-15
D517	E-34	Q411	E-26	Q678	J-15
D520	E-31	Q412	E-25	Q679	K-14
D521	E-32	Q413	E-25	Q680	L-13
D609	H-24	Q414	E-25	Q681	L-14
D610	H-26	Q415	D-18	Q682	K-16
D611	G-25	Q416	D-18	Q683	J-17
D612	G-26	Q417	C-8	Q801	G-28
D613	H-16	Q418	C-8	Q805	H-29
D614	H-18	Q421	G-26		
D615	H-22	Q422	G-15		
D616	E-16	Q424	F-25		
D617	G-30	Q425	D-23		
D618	F-31	Q451	K-13		
D619	G-31	Q496	G-2		
D620	H-23	Q501	E-38		
D621	H-17	Q502	D-35		
D622	G-31	Q503	D-36		
D623	L-21	Q504	D-36		
D624	H-18	Q505	D-36		
D625	G-22	Q506	D-9		
D651	L-25	Q508	D-33		
D653	K-23	Q509	D-34		
D654	K-23	Q511	D-33		
D655	K-25	Q603	E-19		
D657	K-18	Q604	E-19		
D660	L-27	Q606	E-22		

7-8. SCHEMATIC DIAGRAM — DRIVER/DECK SECTION — Refer to page 74 for IC Block Diagrams.



**Note:**

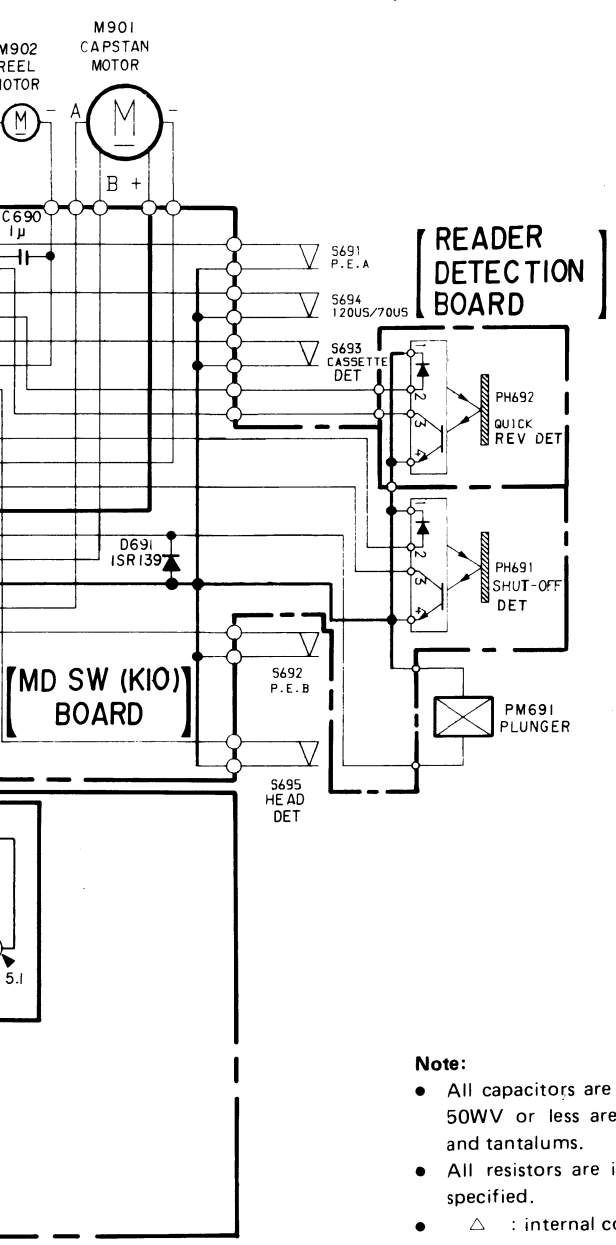
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- $\triangle$  : internal component.

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

- **—** : B+ Line
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal conditions.
  - no mark: PB (FWD)
  - ▬▬: PAUSE
  - ( ): AMS
  - < > : NORMAL TAPE PB (FWD)
  - [ ] : CrO<sub>2</sub>/METAL TAPE PB (FWD)
- Voltages are taken with a VOM (Input Impedance 10M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.



12 13 14 15



- Note:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
  - $\triangle$  : internal component.

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

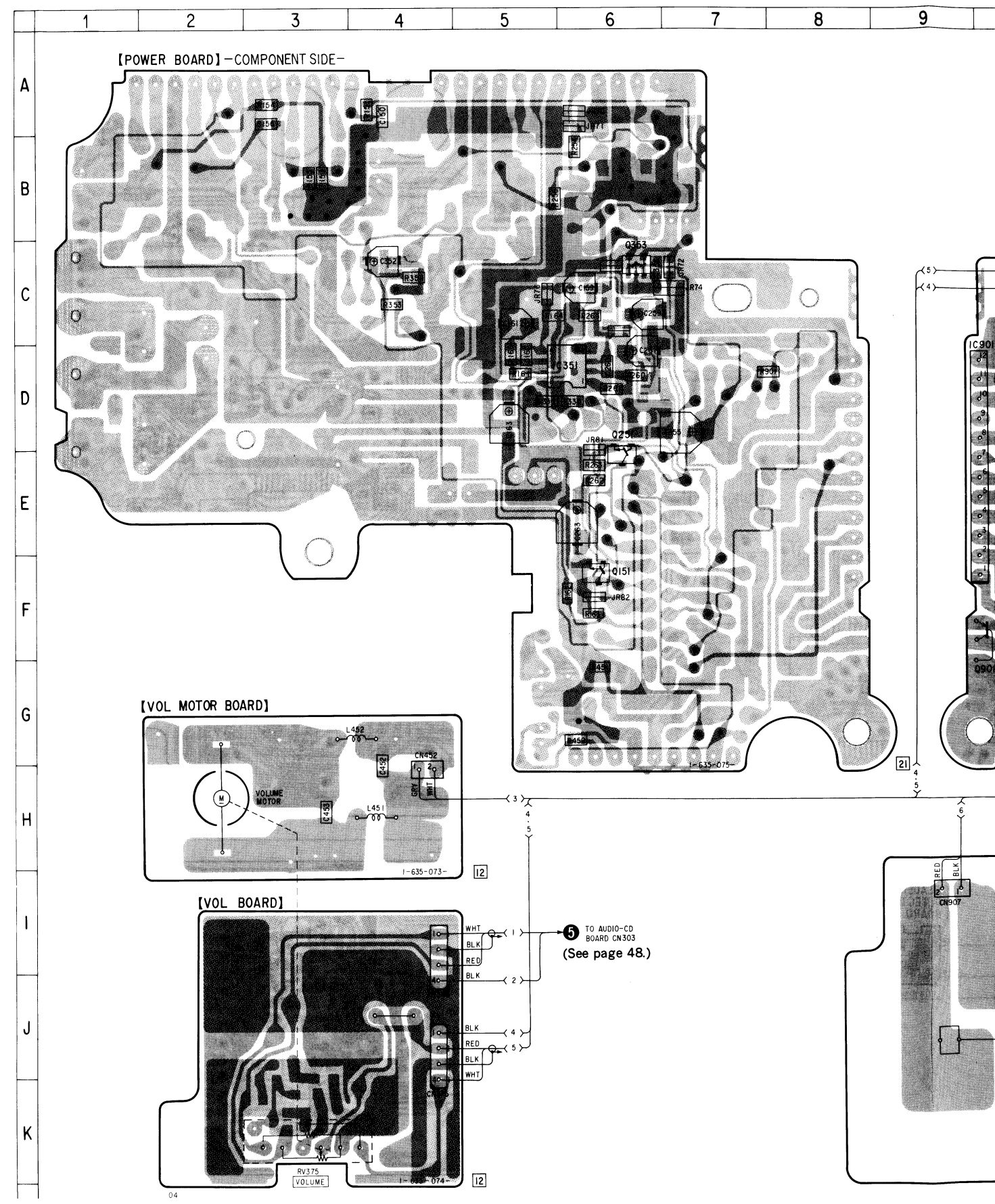
- — : B+ Line
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal conditions.
  - no mark : PB (FWD)
  - ▬ : PAUSE
  - ( ) : AMS
  - < > : NORMAL TAPE PB (FWD)
  - [ ] : CrO<sub>2</sub>/METAL TAPE PB (FWD)
- Voltages are taken with a VOM (Input Impedance 10M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.

• Semiconductor Location

Ref. No.	Location
D350	C-14
D351	C-11
D901	C-17
D903	F-12
IC151	A-15
IC251	A-12
IC351	D-5
IC451	G-11
IC901	D-9
Q151	F-6
Q251	D-6
Q351	D-11
Q352	C-12
Q353	C-6
Q354	C-12
Q901	F-9

- Note:**
- $\circ$  : parts extracted from the component side.
  - $\bullet$  : Through hole.
  - $\square$  : Pattern of the side which is seen.
  - $\square$  : Pattern of the rear side

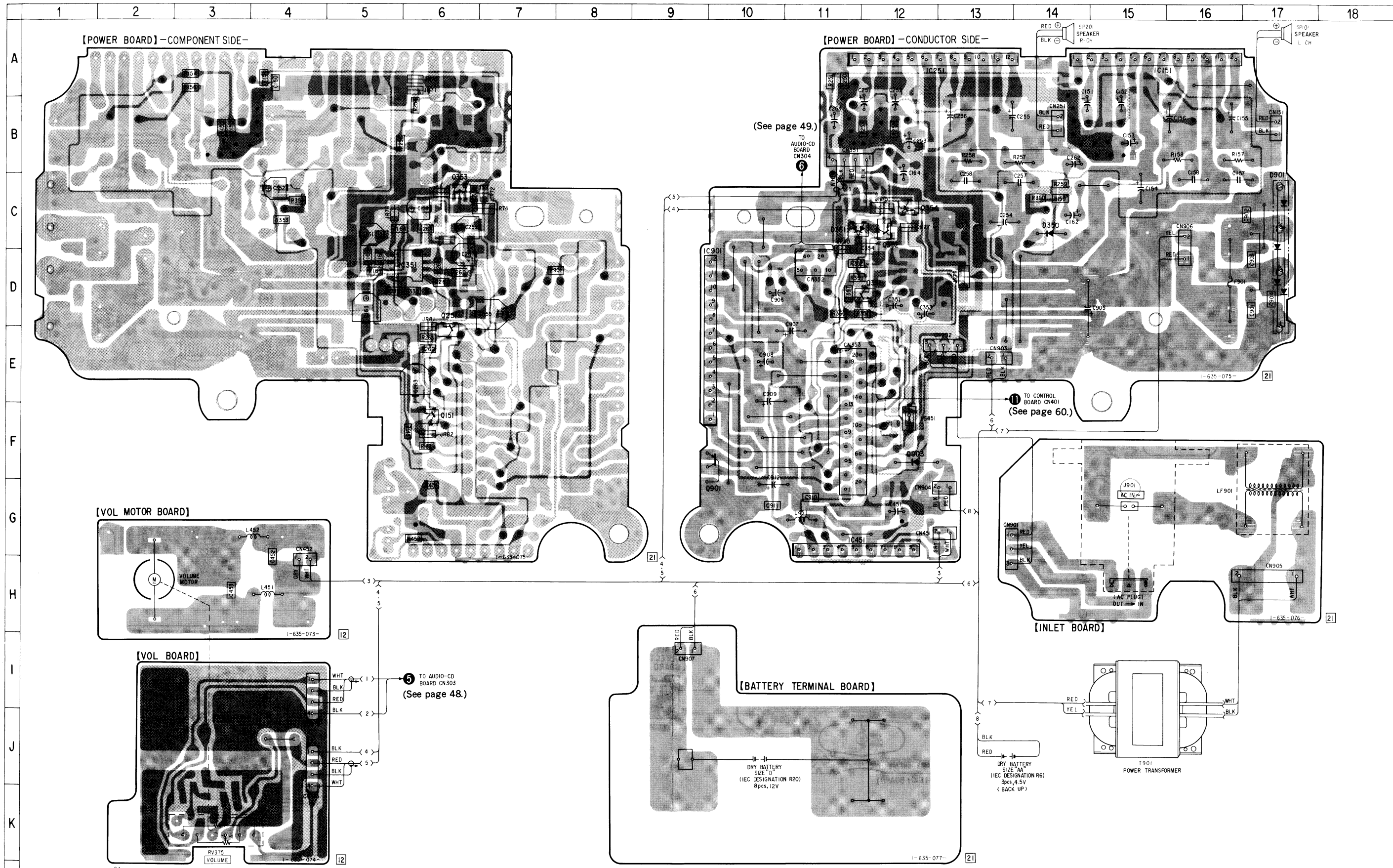
7-9. PRINTED WIRING BOARDS — VOLUME/POWER SECTION — • Refer to page 71 for Semiconductor Lead Layouts.



TO AUDIO-CD BOARD CN303 (See page 48.)

7-9. PRINTED WIRING BOARDS — VOLUME/POWER SECTION — • Refer to page 71 for Semiconductor Lead Layouts.

f. No.	Location
350	C-14
351	C-11
901	C-17
903	F-12
151	A-15
251	A-12
351	D-5
451	G-11
901	D-9
151	F-6
251	D-6
351	D-11
352	C-12
353	C-6
354	C-12
901	F-9



...d from the component side.  
...e side which is seen.  
...rear side

7-10. SCHEMATIC DIAGRAM — VOLUME/POWER SECTION — • Refer to page 74 for IC Block Diagrams.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

A

B

C

D

E

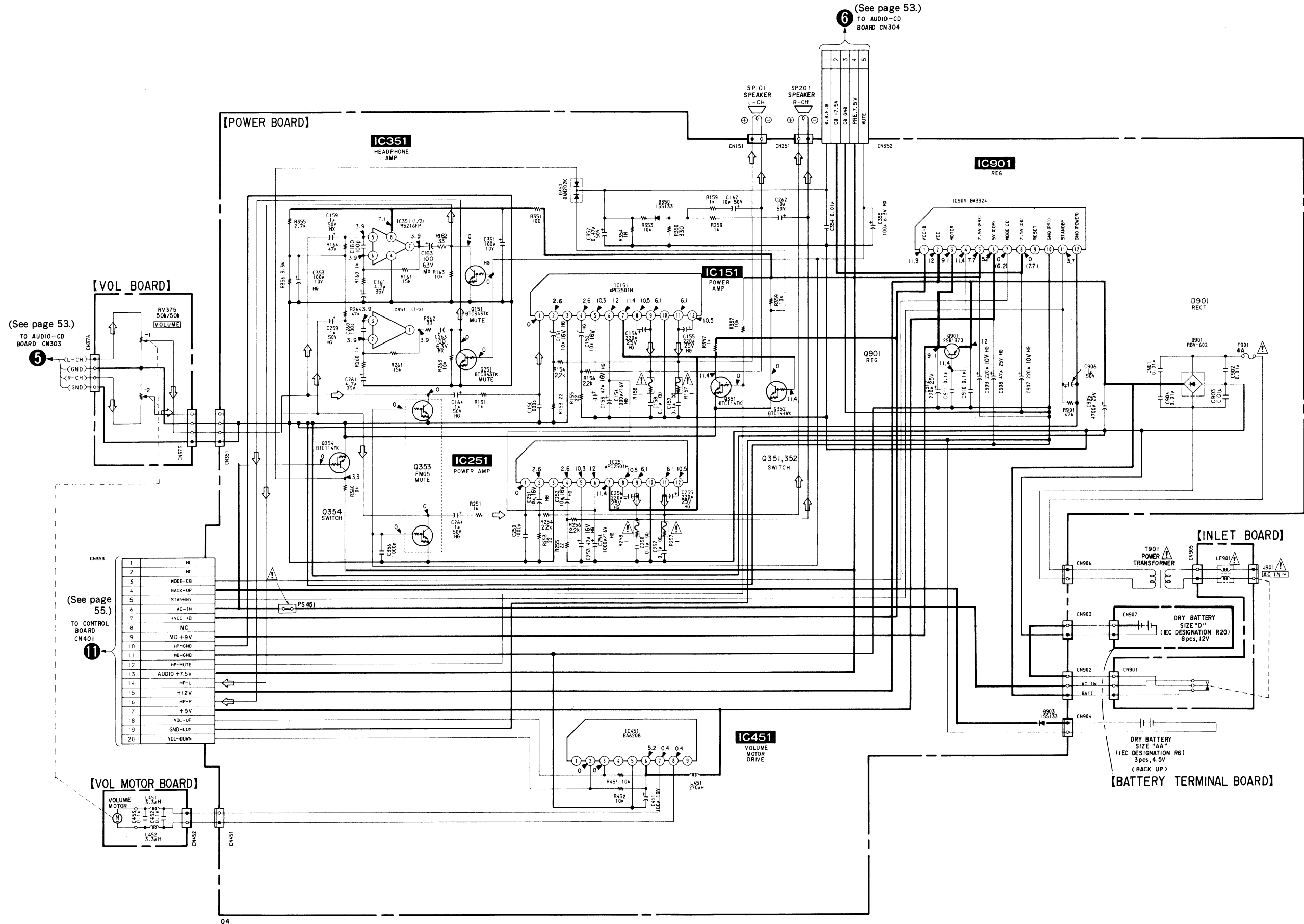
F

G

H

I

J

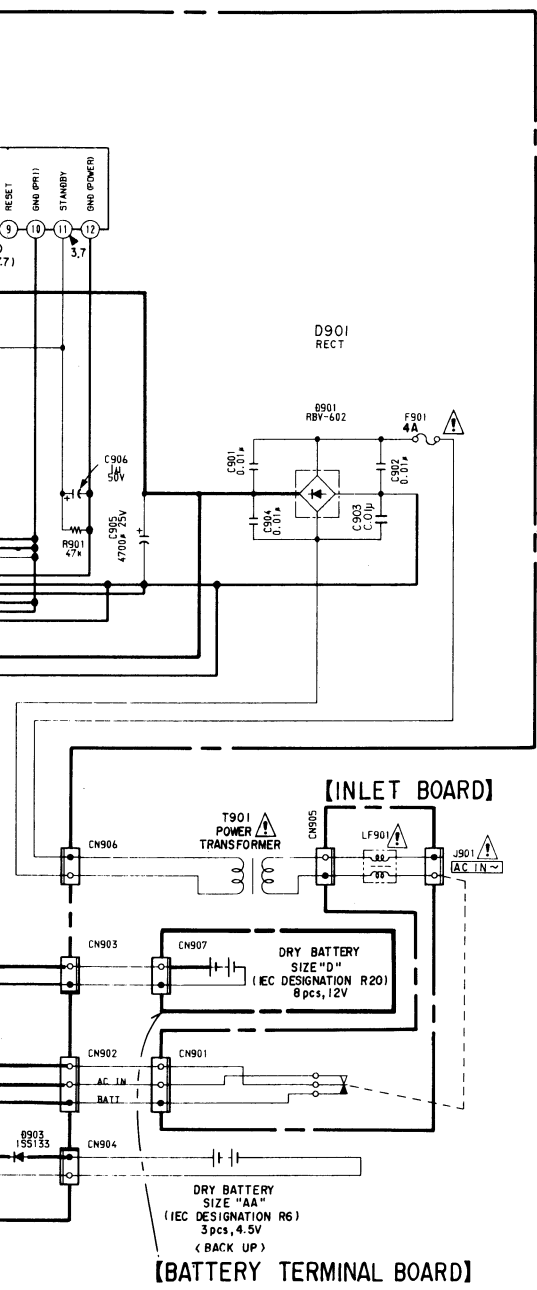


(See page 53.)  
6 TO AUDIO-CD BOARD CN304

(See page 53.)  
5 TO AUDIO-CD BOARD CN303

(See page 55.)  
11 TO CONTROL BOARD CN401

- Note:**
- All capacitors are 50WV or less and tantalums.
  - All resistors are in specified.
  - : fusible resistor
- Note:** The component line with mark Replace only
- : B+ Line
  - Power voltage is supply from battery
  - Voltage is dc with no mark: FM [ ]: CD
  - Voltages are taken Voltage variations tion tolerances.
  - Signal path. : FM



**Note:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}W$  or less unless otherwise specified.
- : fusible resistor.

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

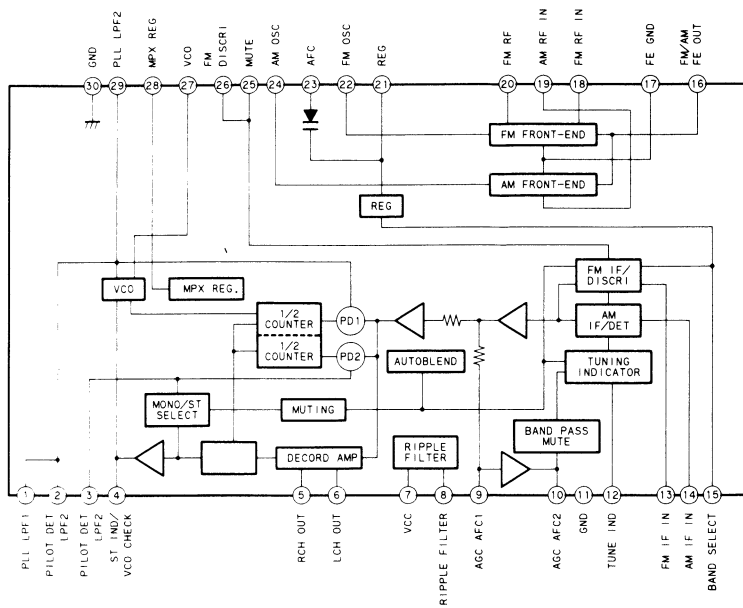
- : B+ Line
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal conditions. no mark : FM [ ] : CD
- Voltages are taken with a VOM (Input Impedance  $10M\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path. : FM

7-11. SEMICONDUCTOR LEAD LAYOUTS

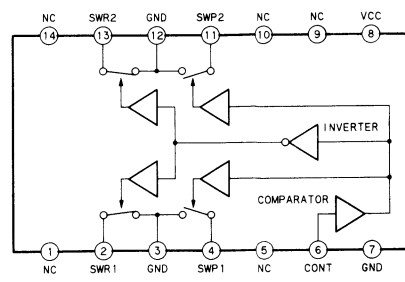
<p><b>BA328</b></p>	<p><b>CXA1238S</b></p>	<p><b>PST529J</b></p>	<p><b><math>\mu</math>PD1724GB-525-1A7</b></p>	<p><b>2SB798-DL</b> <b>2SD999-CLCK</b></p>	<p><b>MA110</b> <b>MA143</b> <b>1S5226</b></p>	<p><b>MAY3371X</b> <b>MPG3371X-150</b> <b>MVR3371X</b></p>
<p><b>BA3924-V3</b></p>	<p><b>CXA1298AP</b></p>	<p><b>S-80730AN</b></p>	<p><b>DTA114TK</b> <b>DTA114YK</b> <b>DTA124EK</b> <b>DTA143TK</b> <b>DTC114TK</b> <b>DTC114YK</b> <b>DTC123YK</b> <b>DTC124EK</b> <b>DTC143TK</b> <b>DTC144WK</b> <b>DTC343TK</b> <b>2SB624-BV345</b> <b>2SB1295-UL6</b> <b>2SC1623</b> <b>2SC2223-F13</b> <b>2SD596</b></p>	<p><b>2SB1013-4</b></p>	<p><b>MA141WK</b> <b>1S2836</b></p>	<p><b>PY7851K</b></p>
<p><b>BA3707</b> <b>BA6208</b></p>	<p><b>CXD1167Q</b> <b>CXP5078-063Q</b></p>	<p><b>S-80740AN-D4-S</b> <b>S-80741AL-A5-S</b></p>	<p><b>2SB1370-EF</b></p>	<p><b>MA152WK</b> <b>SVC203CP-A</b></p>	<p><b>MA3062-H</b> <b>RD3.0M-B1</b> <b>RD6.8M-B1</b> <b>RD8.2M-B3</b></p>	<p><b>2SK94</b></p>
<p><b>BA6294-UV3</b></p>	<p><b>LC7815H</b></p>	<p><b>SCI7710YBA</b> <b>SCI7710YDA</b></p>	<p><b>DTA143ZK</b> letter side</p>	<p><b>MA152WK</b> <b>SVC203CP-A</b></p>	<p><b>2SK105A-30</b></p>	<p><b>RBV-602-01</b></p>
<p><b>CXA1081Q</b></p>	<p><b>M50720-192SP</b></p>	<p><b>TC9315F</b></p>	<p><b>FMC2</b></p>	<p><b>2SK193</b> letter side</p>	<p><b>SVC341-L</b></p>	<p><b>HZS30-1L</b> <b>1SR139-100</b> <b>1S5119</b></p>
<p><b>CXA1102M</b> <b><math>\mu</math>PD6376GS</b></p>	<p><b>M51591FP</b></p>	<p><b><math>\mu</math>PC1330GR</b></p>	<p><b>FMW1</b></p>	<p><b>SVC341-L</b></p>	<p><b>1. cathode</b> <b>2. cathode</b> <b>3. anode</b></p>	
<p><b>CXA1182Q-Z</b></p>	<p><b>M5216FP</b> <b>NJM2100M</b> <b>RC4558M</b></p>	<p><b><math>\mu</math>PC2501H-1</b></p>				

IC Block Diagrams

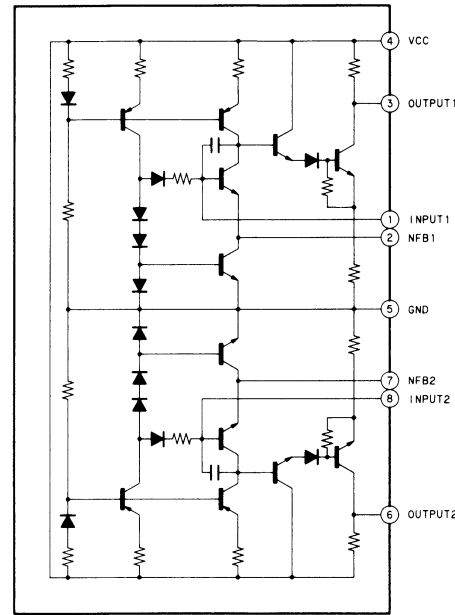
IC1 CXA1238S



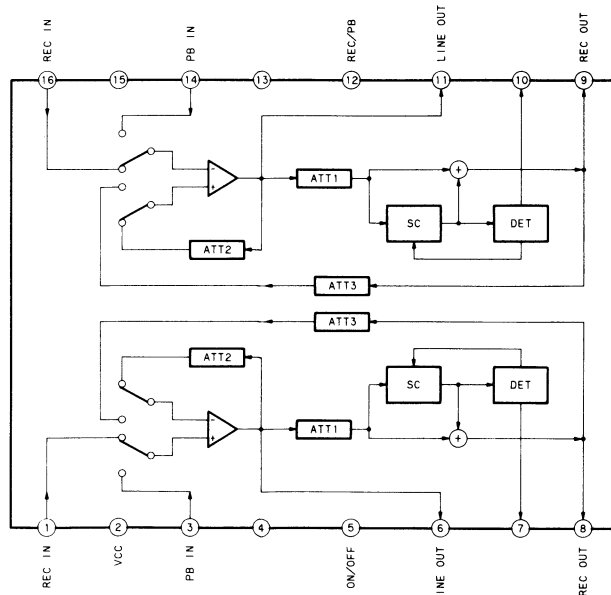
IC301 μPC1330GR



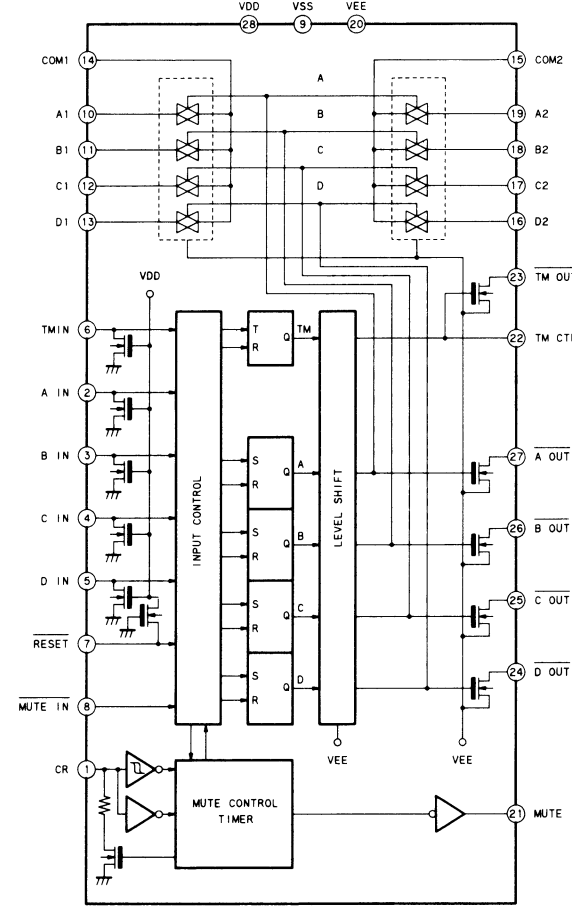
IC302 BA328



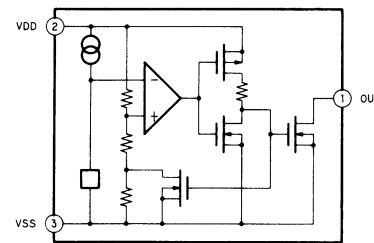
IC303 CXA1102M



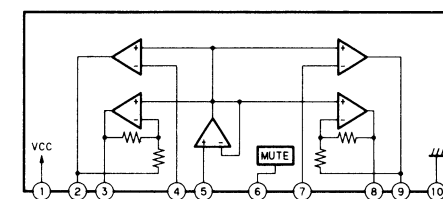
IC304 LC7815H



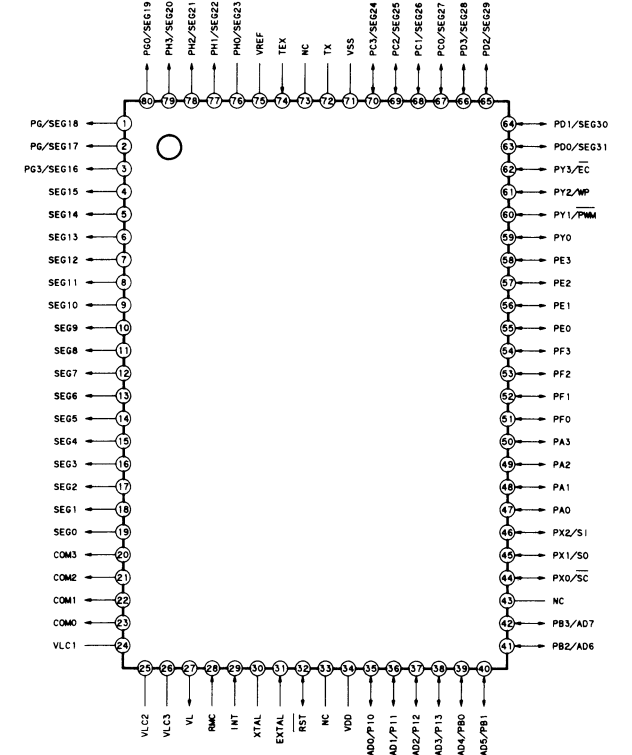
IC651 S-80740AN-D4-S



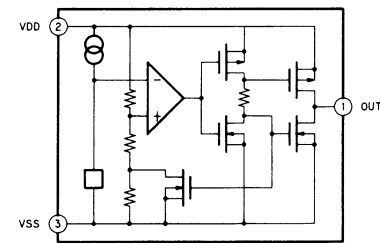
IC706, 707 BA6294-UV3



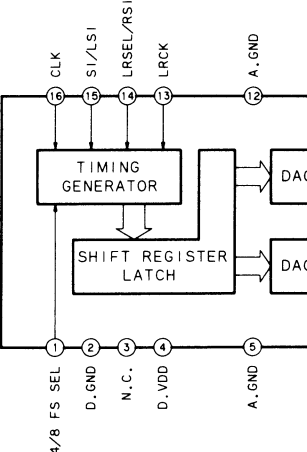
IC801 CXP5078-063Q



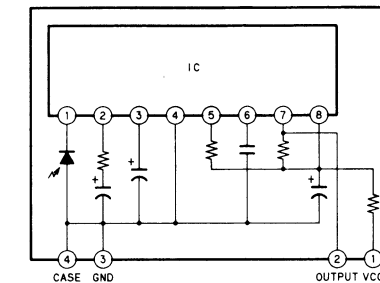
IC403 S-80741AL-A5-S  
IC407 S-80730AN



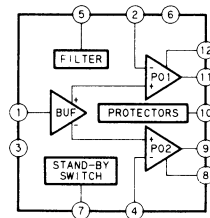
IC704 μPD6376GS



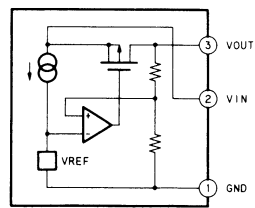
IC405 SBX1610-09



IC151, 251 μPC2501H-1

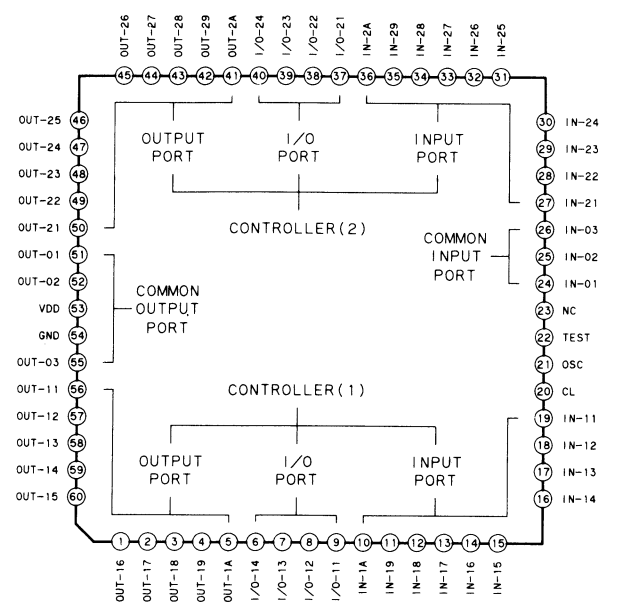


IC402, 404, 408 SCI7710YBA  
IC406 SCI7710YDA

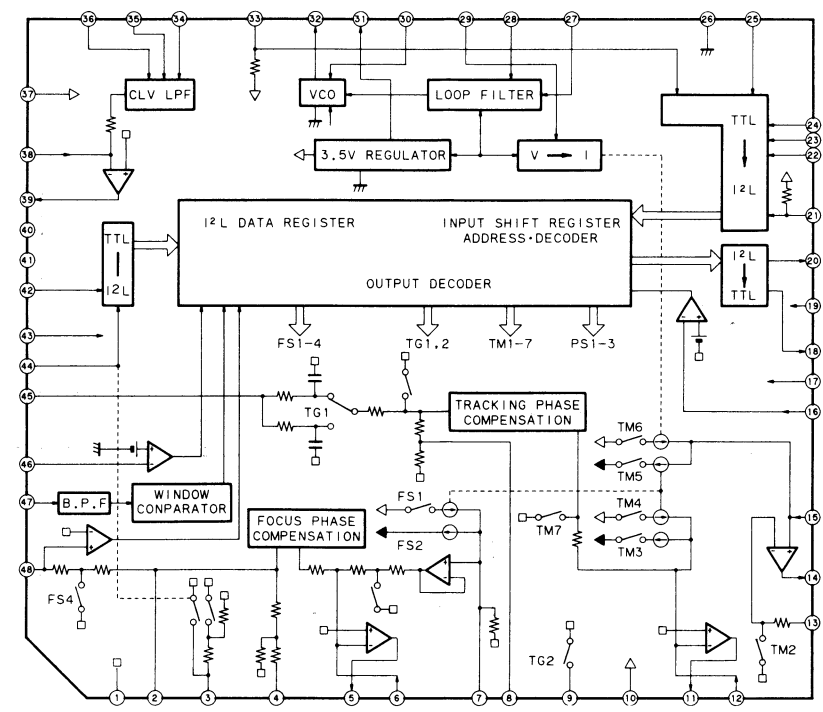




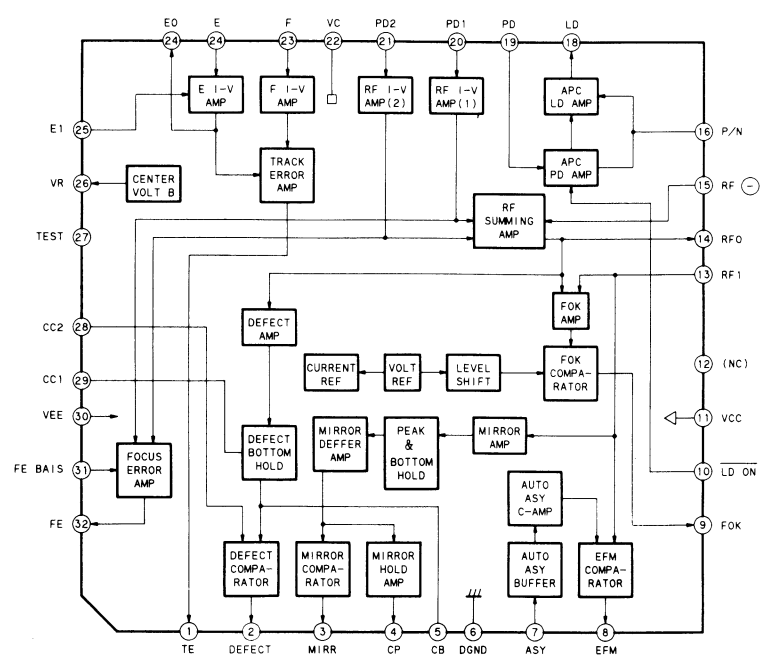
IC601 TC9315F



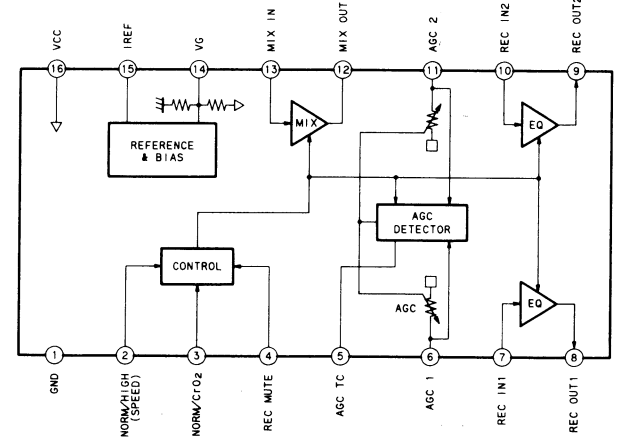
IC701 CXA1182Q-Z



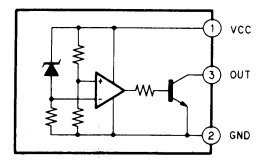
IC791 CXA1081Q



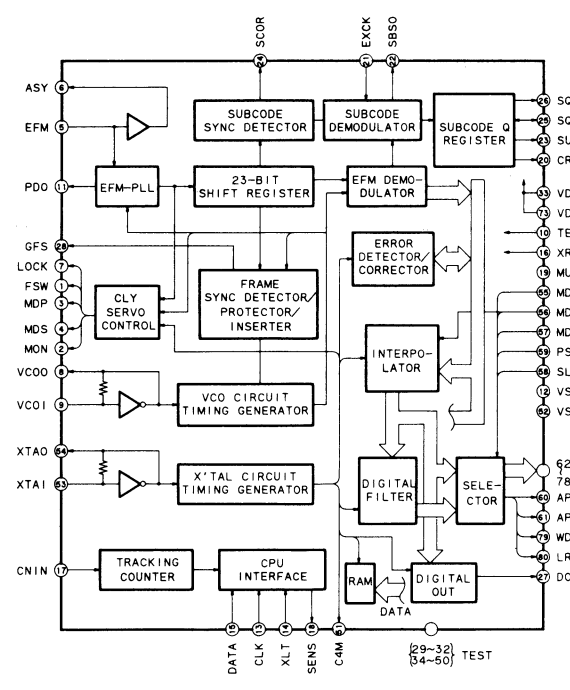
IC305 CXA1298AP



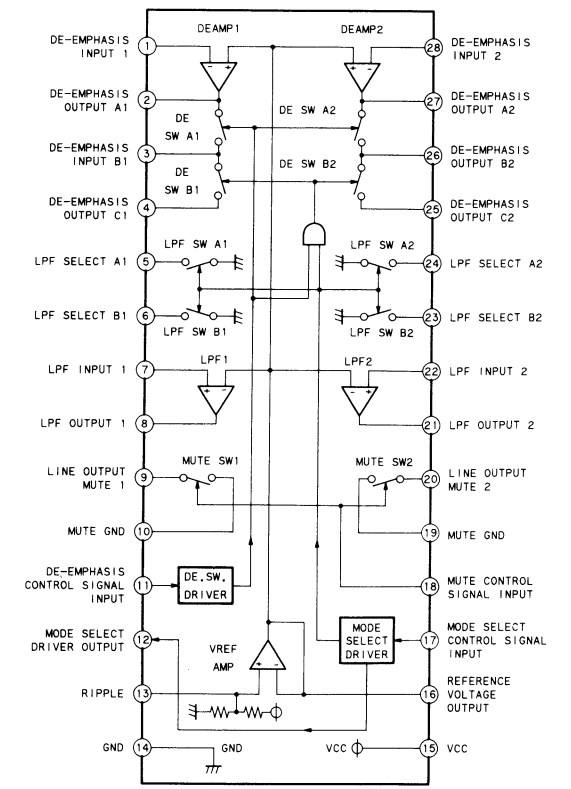
IC802 PST529J



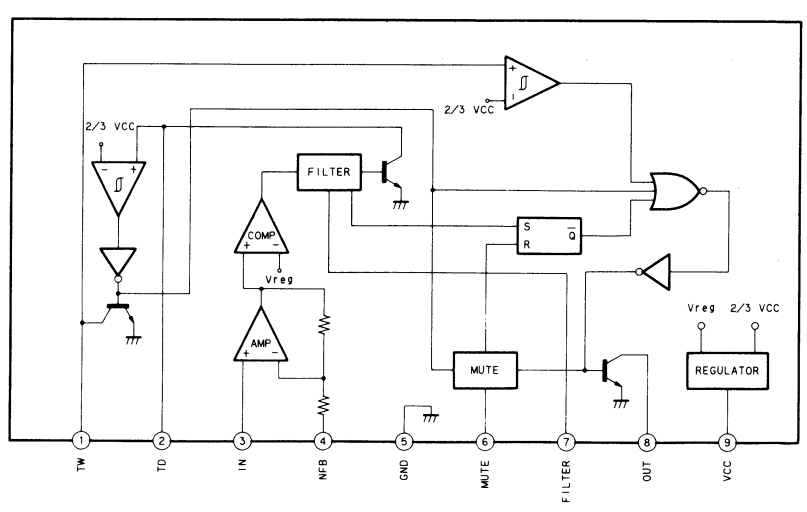
IC702 CXD1167Q



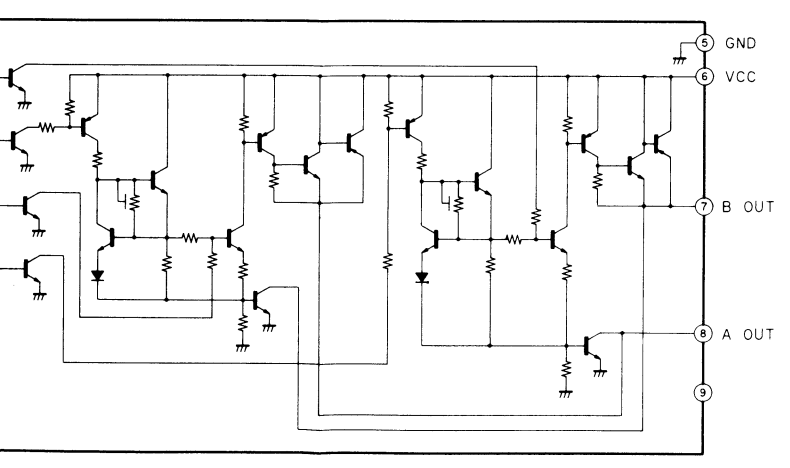
IC705 M51591FP



IC602 BA3707



BA6208



## SECTION 8 EXPLODED VIEWS

**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- -XX, -X mean standardized parts, so they may have some differences from the original one.

- Color Indication of Appearance Parts  
Example:

KNOB, BALANCE (WHITE)...(RED)

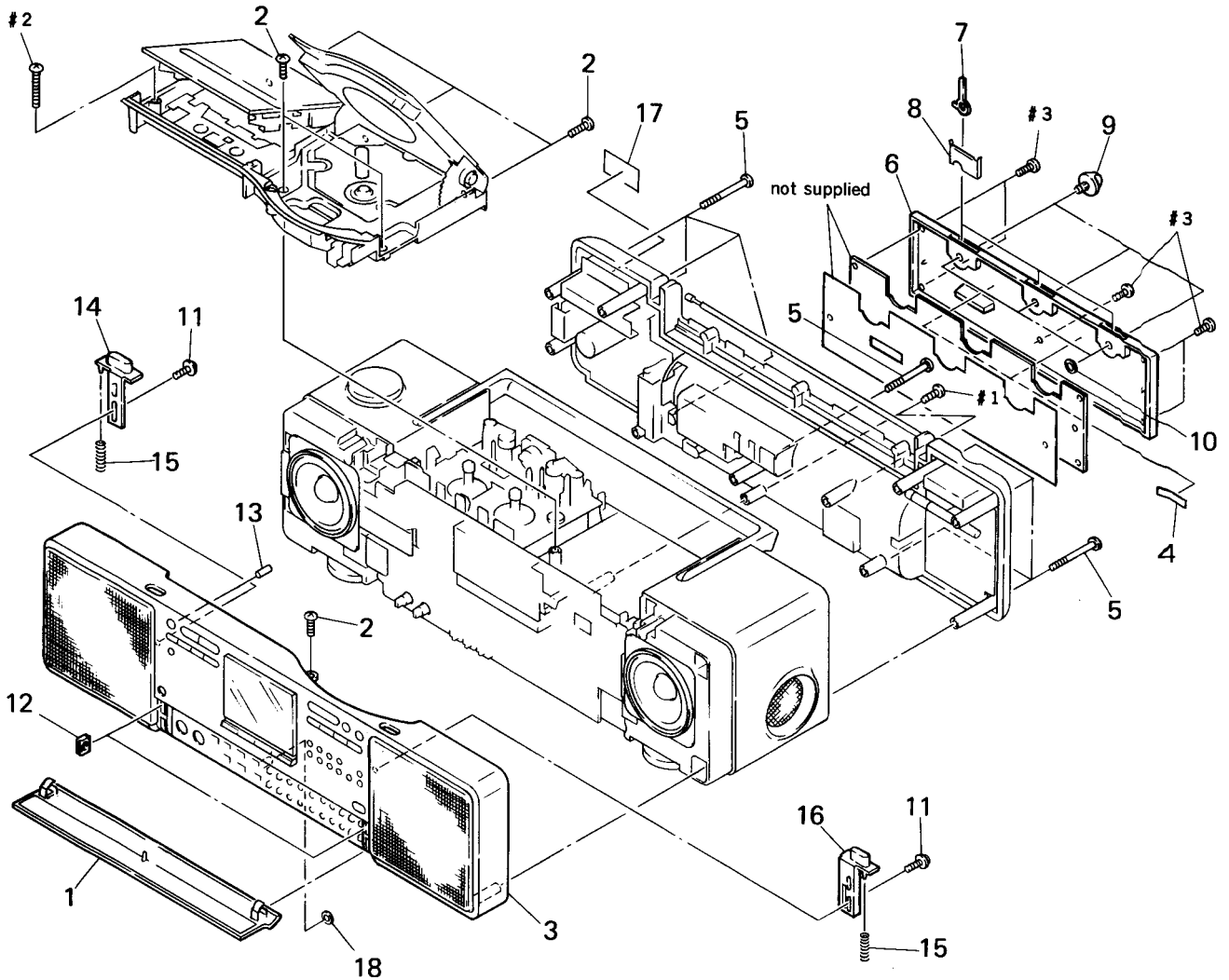
Parts Color      Cabinet's Color

- G : Germany model  
IT: Italian model

- Hardware(# mark) list is given in the last of this parts list.

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

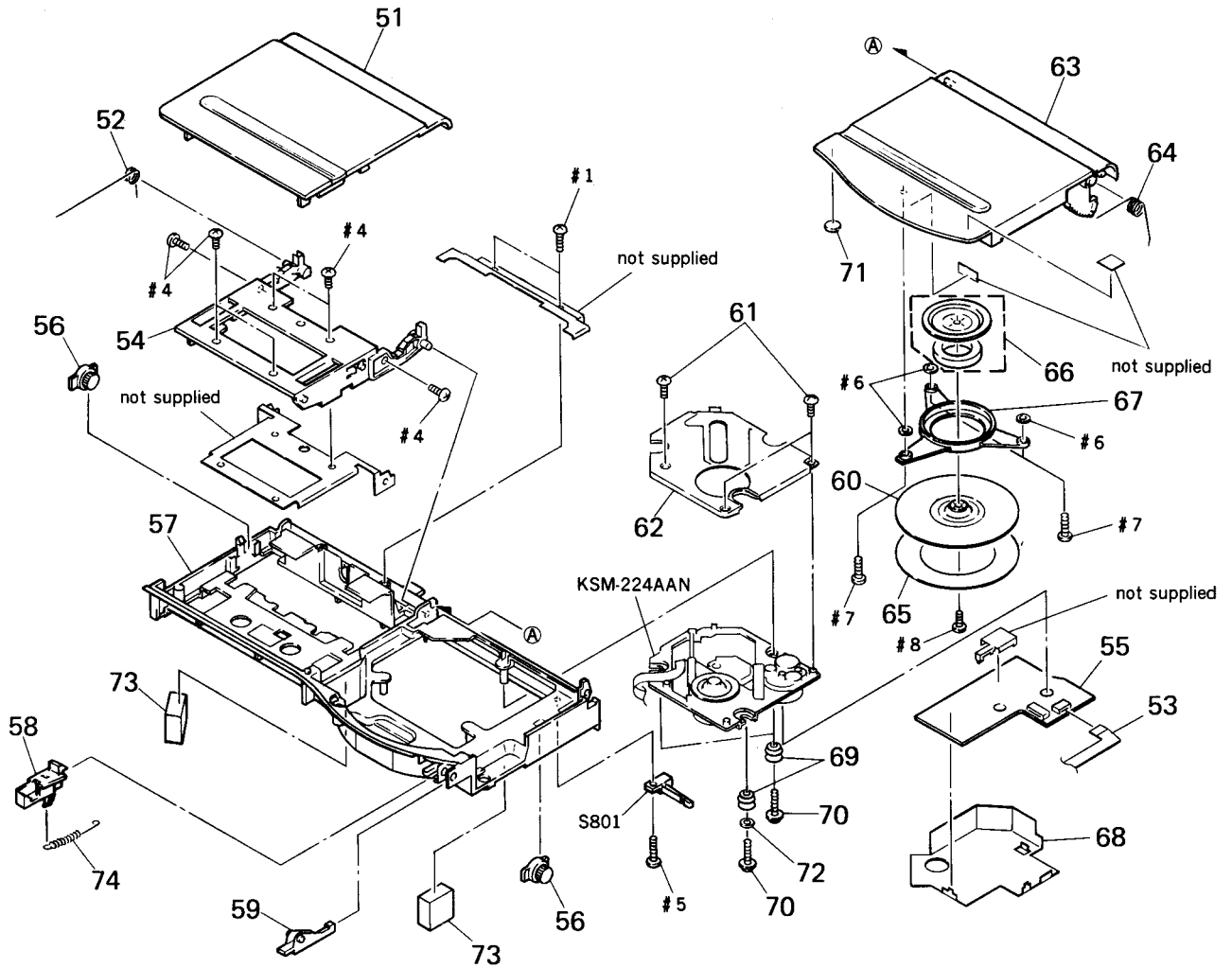
### 8-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-3362-693-1	LID ASSY. CONTROL		10	3-363-191-01	WASHER (BA)	
2	3-325-679-71	SCREW, TAPPING +BV 3X12		11	3-318-201-11	SCREW (B) (1.4X3), TAPPING	
3	X-3362-694-1	CABINET (FRONT) ASSY		12	1-452-419-21	MAGNET	
4	3-831-441-XX	SPACER		13	3-364-192-01	GUIDE, BUTTON	
5	4-918-246-01	SCREW (3X70), + BVTP		14	3-363-180-01	BUTTON (EJECT MD)	
6	4-938-347-01	LID, BATTERY CASE		15	3-363-698-01	SPRING, COMPRESSION	
7	4-938-333-01	PLATE, LOCK		16	3-363-179-01	BUTTON (EJECT CD)	
8	4-938-334-01	RETAINER, LOCK		17	* 4-941-548-01	LABEL, CLASS 1	
9	4-938-319-01	KNOB (OPEN)		18	4-932-613-01	WASHER 3	



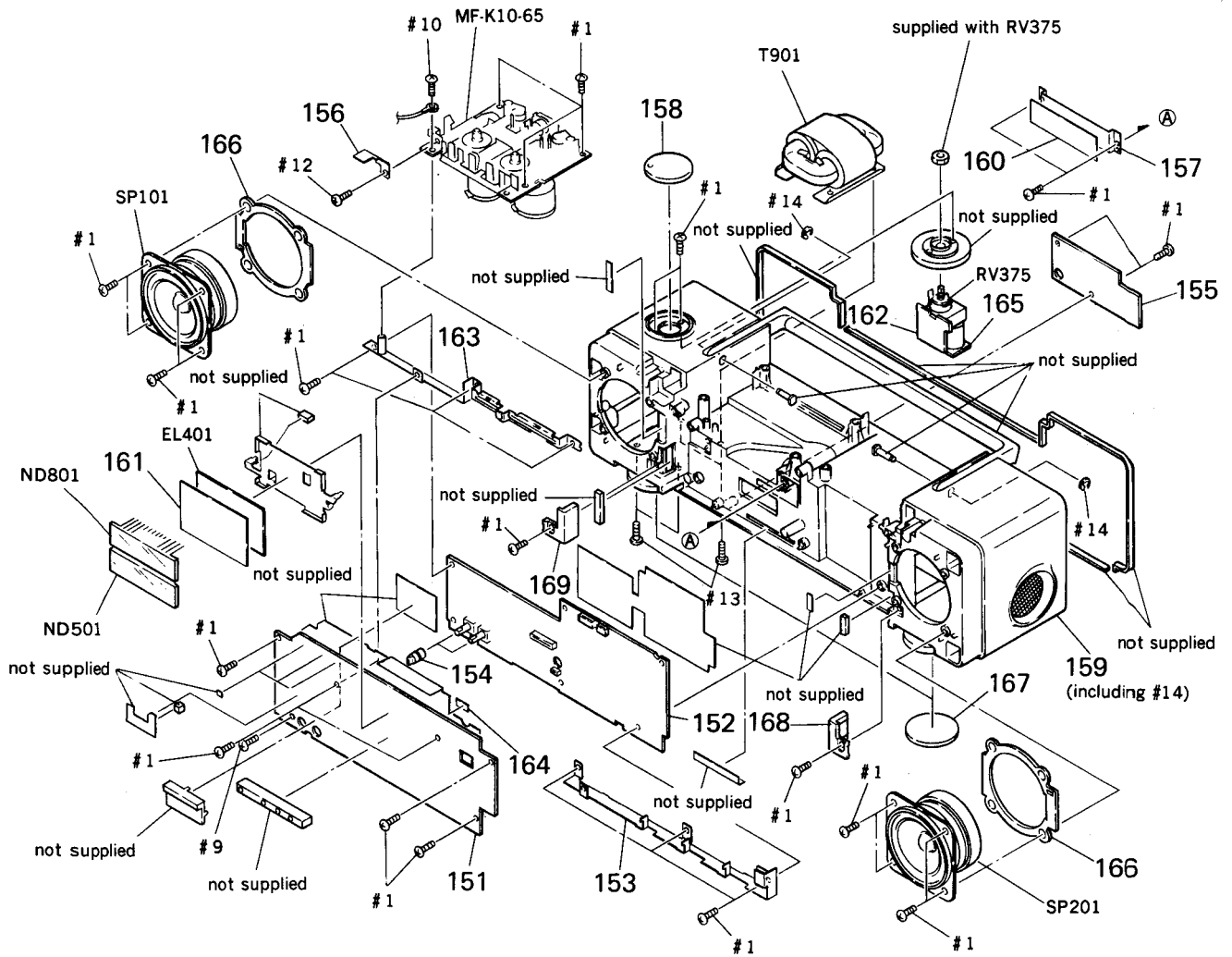
8-2. CABINET (UPPER) ASSEMBLY SECTION



Ref. No.	Part No.	Description	Remark
51	X-4938-304-1	LID ASSY, CASSETTE	
52	4-938-331-01	SPRING (MD), UP	
53	1-634-546-11	CD-RF-A FLEXIBLE BOARD	
54	4-938-351-01	HOLDER, CASSETTE	
55	* A-3261-455-A	CD MOTOR BOARD, COMPLETE	
56	3-319-224-31	DAMPER, SMALL	
57	4-938-356-01	CABINET (UPPER)	
58	4-938-336-01	CLAW, CD LOCK	
59	4-938-337-01	LEVER, CD EJECT	
60	4-919-973-01	PLATE (C), CHUCK	
61	3-318-203-62	SCREW (B1.7X4), TAPPING	
62	* 4-924-735-21	COVER, MD	
63	X-4938-303-1	LID ASSY, CD	

Ref. No.	Part No.	Description	Remark
64	4-938-329-01	SPRING (CD), UP	
65	4-919-972-01	WASHER	
66	X-4918-291-1	MAGNET (B) ASSY	
67	4-938-335-01	COVER, CHUCKING	
68	* 3-363-415-02	PLATE (CD), SHIELD	
69	4-922-858-11	DAMPER	
70	3-363-347-01	SCREW	
71	3-364-158-01	SPACER (K)	
72	3-364-251-01	WASHER (CD)	
73	3-363-701-01	CUSHION (A), RUBBER	
74	3-570-171-00	SPRING, TENSION	
S801	1-571-283-11	SWITCH, LEAF (OPEN/CLOSE)	

8-4. CABINET (CENTER) ASSEMBLY SECTION

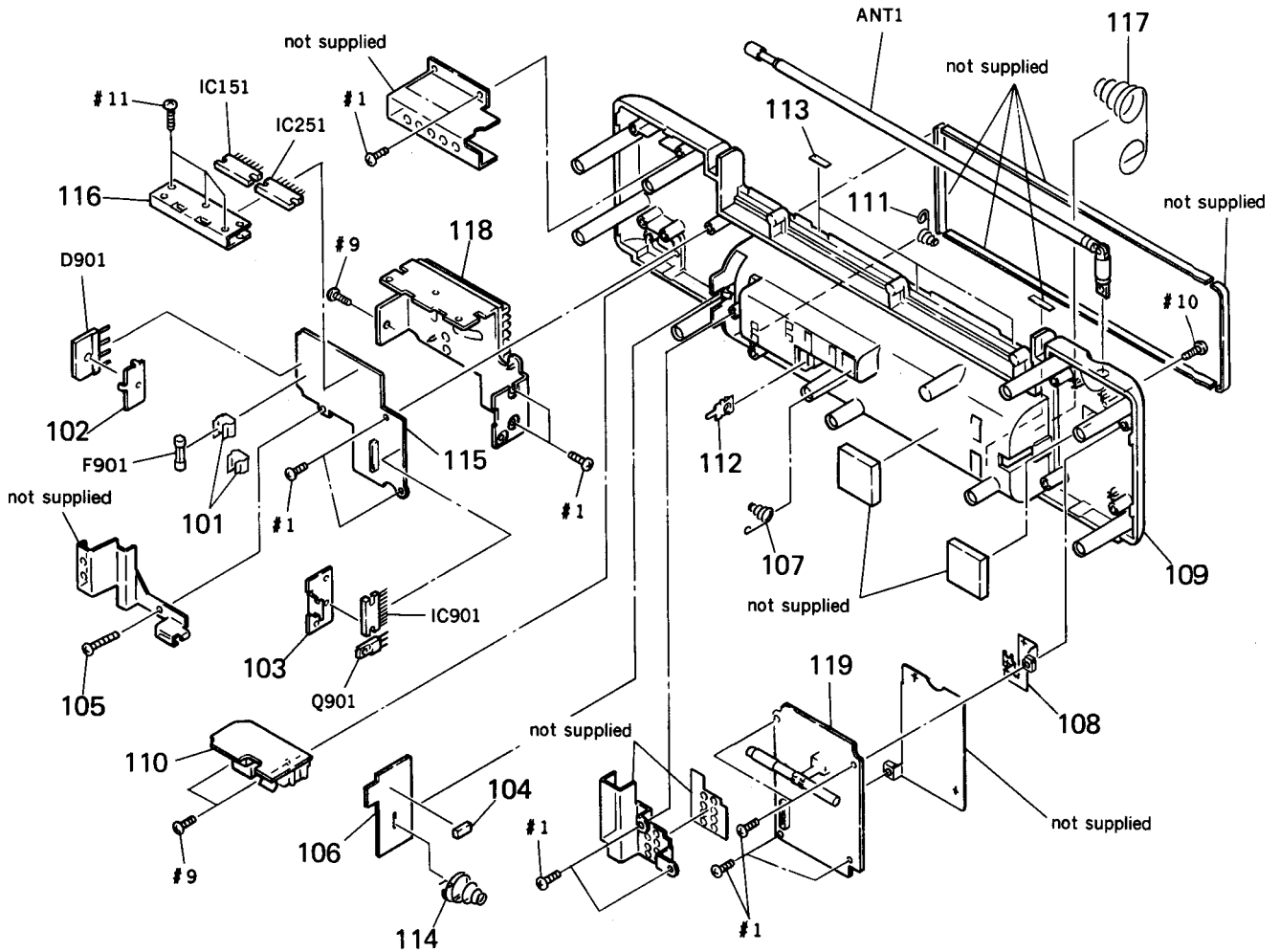




**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Remark
151	* A-3261-459-A	CONTROL BOARD, COMPLETE	
152	* A-3261-458-A	AUDIO-CD BOARD, COMPLETE	
153	* 4-938-327-01	BRACKET (B)	
154	4-938-313-01	KNOB	
155	* A-3261-460-A	DRIVER BOARD, COMPLETE	
156	* 4-938-325-01	PLATE, EJECT	
157	* 3-363-186-01	PLATE, MOTOR SHIELD	
158	4-938-309-01	KNOB (VOL)	
159	X-3362-692-1	CABINET (CENTER) ASSY	
160	* 3-363-187-01	COVER, MOTOR SHIELD PLATE	
161	* 3-363-190-01	FILTER, E. L	
162	* 1-635-074-21	VOL BOARD	
163	* 4-938-326-01	BRACKET (A)	
164	3-363-837-01	SHEET, PROTECTION	
165	* 1-635-073-21	VOL MOTOR BOARD	


Ref.No.	Part No.	Description	Remark
166	3-363-174-01	CUSHION, SP	
167	3-363-188-01	FOOT (A), RUBBER	
168	3-362-264-01	RETAINER, LEAD	
169	3-362-265-01	RETAINER (B), LEAD	
EL401	1-519-612-11	ELEMENT, EL LUMINOUS	
ND501	1-809-284-11	DISPLAY PANEL, LIQUID CRYSTAL	
ND801	1-808-996-11	DISPLAY PANEL, LIQUID CRYSTAL	
RV375	1-238-177-11	RES. VAR, CARBON 50K/50K (VOLUME) (INCLUDING VOLUME MOTOR)	
SP101	1-544-390-11	SPEAKER	
SP201	1-544-390-11	SPEAKER	
T901	⚠ 1-450-389-11	TRANSFORMER, POWER (AEP, G, I)	
T901	⚠ 1-450-432-11	TRANSFORMER, POWER (UK)	

8-3. CABINET (REAR) ASSEMBLY SECTION

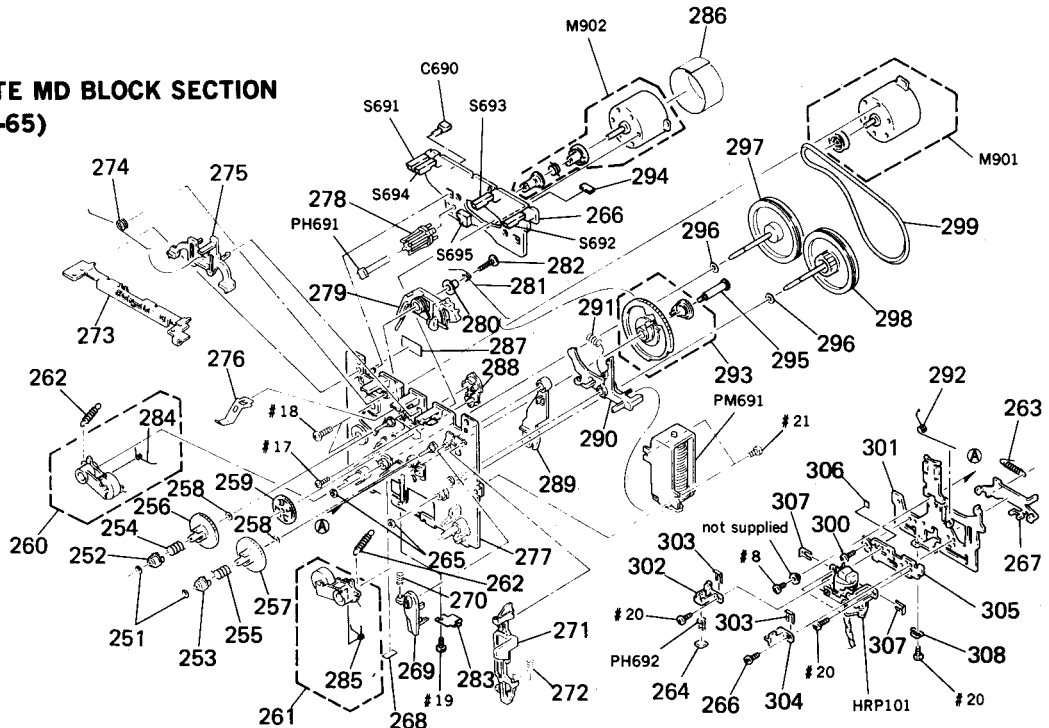


**Note:** The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
101	1-533-217-31	HOLDER, FUSE	
102	* 4-938-340-01	BRACKET (B), HEAT SINK	
103	* 4-938-339-01	BRACKET (A), HEAT SINK	
104	4-932-611-01	TERMINAL (BTM)	
105	3-325-679-41	SCREW, TAPPING +BV 3X16	
106	* 1-635-077-21	BATTERY TERMINAL BOARD	
107	4-938-342-01	SPRING (BU), MINUS	
108	* 4-938-322-01	PLATE, CONTACT, ANT	
109	4-938-357-11	CABINET, REAR	
110	* 1-635-076-21	INLET BOARD	
111	4-938-323-01	SPRING (BU), + -	
112	4-922-829-01	TERMINAL BOARD	
113	3-831-441-XX	SPACER	
114	3-363-201-01	SPRING (-), BATTERY COIL	

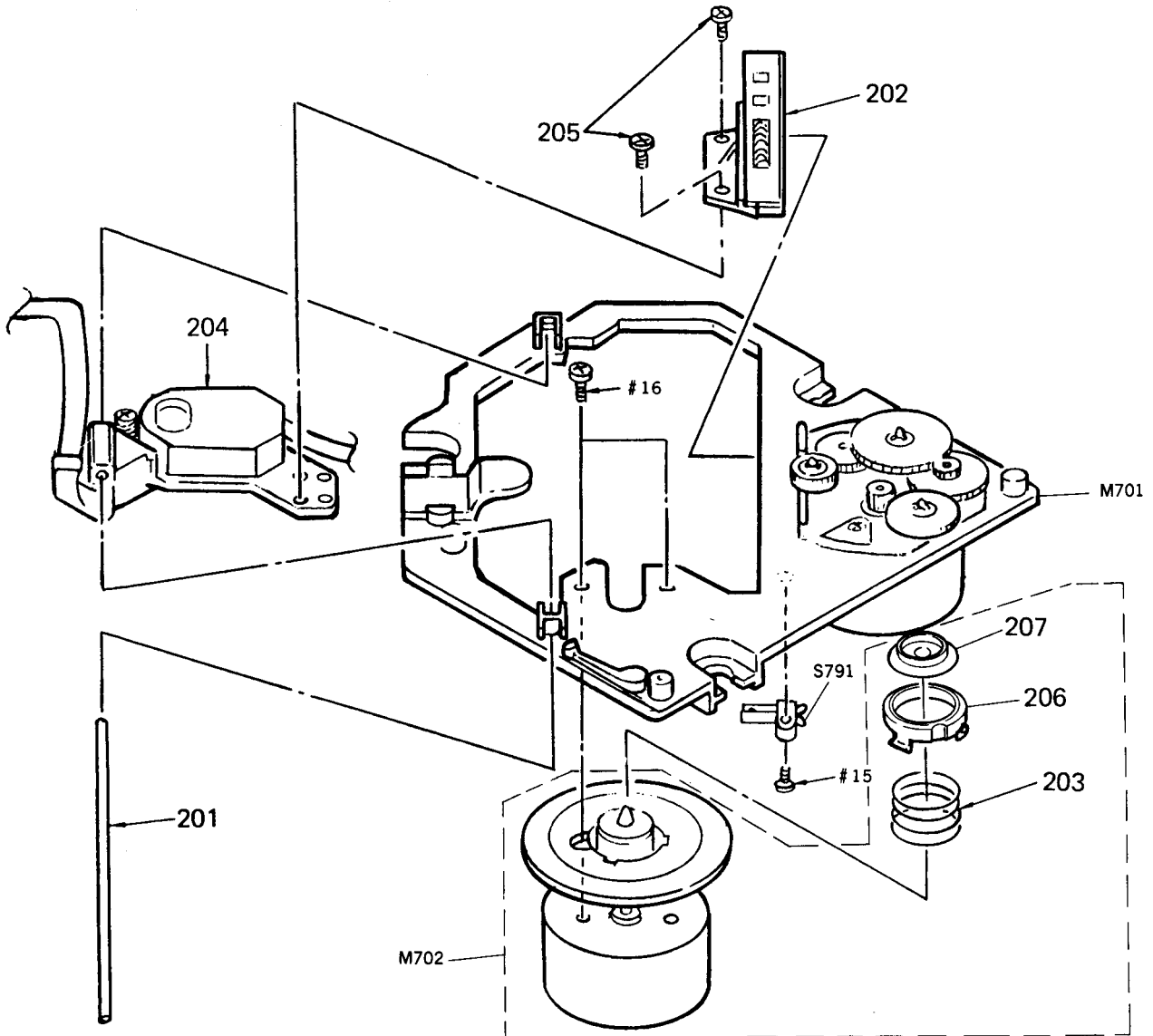
Ref. No.	Part No.	Description	Remark
115	* A-3261-452-A	POWER BOARD, COMPLETE	
116	* 3-363-880-01	BRACKET (D), HEAT SINK	
117	3-363-442-01	SPRING (C2), BATTERY COIL	
118	* X-3362-167-1	HEAT SINK ASSY	
119	* A-3261-451-A	TUNER BOARD, COMPLETE	
ANT1	1-501-378-11	ANTENNA, TELESCOPIC	
D901	8-719-302-38	DIODE RBV-602-01	
F901	 1-532-350-00	FUSE (4A)	
IC151	8-759-150-33	IC uPC2501H-1	
IC251	8-759-150-33	IC uPC2501H-1	
IC901	8-759-513-10	IC BA3924-V3	
Q901	8-729-924-90	TRANSISTOR 2SB1370-EF	

8-6. CASSETTE MD BLOCK SECTION  
(MF-K10-65)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
251	3-701-437-51	WASHER		287	3-831-441-XX	SPACER	
252	3-362-481-11	CLAW (S), REEL		288	3-306-599-01	ARM, DRIVING	
253	3-362-480-11	CLAW (T), REEL		289	3-360-306-01	LEVER, N	
254	3-362-830-02	SPRING (RT), TORSION		290	3-360-304-01	LEVER, PL	
255	3-362-831-02	SPRING (RS), TORSION		291	3-344-751-01	SPRING, COMPRESSION	
256	A-3130-037-A	GEAR (REEL) ASSY		292	3-360-321-01	SPRING, TORSION	
257	3-362-482-01	GEAR (REEL)		293	X-3362-641-1	GEAR ASSY, CAM	
258	3-578-223-21	WASHER, NYLON		294	3-364-125-01	CUSHION (RM)	
259	3-362-483-01	GEAR (DRIVING A)		295	3-364-608-01	SCREW (M2. 6X11. 6X3. 5), STEP	
260	X-3306-509-1	LEVER (R) ASSY, PC		296	3-701-437-11	WASHER (t=0. 25)	
261	X-3306-508-1	LEVER (N) ASSY, PC		297	X-3306-513-1	FLYWHEEL (R) ASSY	
262	4-602-490-01	SPRING, TENSION		298	X-3306-512-1	FLYWHEEL (N) ASSY	
263	3-363-432-01	SPRING, TENSION		299	3-360-327-01	BELT	
264	* 1-612-589-12	READER DETECTION BOARD		300	3-363-433-02	SCREW	
265	3-343-358-12	RING, RETAINING		301	X-3362-100-2	BASE ASSY, HEAD	
266	1-635-797-11	MD SW (K10) BOARD		302	3-319-287-01	GUIDE, TAPE	
267	* X-3362-073-2	SLIDER (NR2) ASSY		303	4-932-603-01	SHIM (t=0. 1)	
268	* 3-360-334-03	PAPER (B), REFLECTION		303	4-932-603-11	SHIM (t=0. 2)	
269	3-360-324-01	LEVER, AMS		304	4-930-438-01	GUIDE, TAPE	
270	3-360-336-01	SPRING, COMPRESSION		305	3-362-786-11	PLATE, SPACE	
271	3-360-307-01	SLIDER (EJECT)		306	* 4-918-544-21	SHEET	
272	3-363-790-01	SPRING, COMPRESSION		307	3-336-274-01	SHIM (t=0. 1)	
273	3-360-312-01	PLATE, SW RETURN		307	3-336-274-11	SHIM (t=0. 2)	
274	3-360-310-01	SPRING (BRAKE), TORSION		307	3-336-274-21	SHIM (t=0. 3)	
275	3-360-348-01	BRAKE		308	* 3-363-812-11	CLAMP, LEAD	
276	3-360-328-01	PLATE, CASSETTE		C690	1-136-177-51	FILM 1uF 5% 50V	
277	X-3306-546-1	CHASSIS (M) ASSY		HRP101	A-3113-038-A	HEAD ASSY, ROTARY (REC/PB/ERASE)	
278	3-360-345-01	HOLDER (PHOTO)		M901	A-3133-405-A	MOTOR ASSY, CAPSTAN	
279	X-3306-511-1	LINK (LIMITER) ASSY		M902	A-3133-406-A	MOTOR ASSY, REEL	
280	3-363-146-01	SLEEVE, SPRING RETAINER		PH691	8-719-939-11	PHOTO INTERRUPTER-2S09-B	
281	3-360-337-05	SPRING (CAM), TORSION		PH692	8-719-939-11	PHOTO INTERRUPTER-2S09-B	
282	3-344-728-01	SCREW (B1. 4), TAPPING		PM691	1-454-533-11	SOLENOID, PLUNGER	
283	3-365-586-01	RETAINER, WIRE		S691	1-572-248-11	SWITCH, LEAF (P. E. A)	
284	3-360-316-01	SPRING (R), TORSION		S692	1-572-248-11	SWITCH, LEAF (P. E. B)	
285	3-360-315-01	SPRING (N), TORSION		S693	1-572-248-11	SWITCH, LEAF (CASSETTE DET)	
286	* 3-162-496-01	PLATE, SHIELD		S694	1-572-248-11	SWITCH, LEAF (120uS/70uS)	
				S695	1-571-263-11	SWITCH (HEAD DET)	

8-5. CD MECHANISM BLOCK SECTION  
(KSM-224AAN)



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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	* 2-641-534-01	SHAFT		206	2-641-539-08	RING, CENTER	
202	X-2641-528-1	RACK ASSY		207	2-644-016-02	CAP, CENTER	
203	2-641-524-01	SPRING (A), COMPRESSION		M701	X-2644-016-1	MOTOR ASSY G (RP)	
204	$\Delta$ 8-848-169-01	DEVICE, OPTICAL XSS-224A		M702	X-2644-014-1	MOTOR ASSY, SPINDLE	
205	2-641-383-01	SCREW (M1.7X4) (NK), TOOTH		S791	1-570-112-11	SWITCH, LEAF (LIMIT IN)	

## AUDIO-CD

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C221	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C707	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C222	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C708	1-124-034-51	ELECT	33uF	20%	16V
C223	1-163-014-00	CERAMIC CHIP	0.0027uF	10%	50V	C709	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V
C224	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C710	1-124-034-51	ELECT	33uF	20%	16V
C225	1-164-232-11	CERAMIC CHIP	0.01uF		50V	C711	1-124-902-00	ELECT	0.47uF	20%	50V
C226	1-126-157-11	ELECT	10uF	20%	16V	C712	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C227	1-163-139-00	CERAMIC CHIP	820PF	5%	50V	C713	1-136-173-00	FILM	0.47uF	5%	50V
C228	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	C714	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C229	1-163-123-00	CERAMIC CHIP	180PF	5%	50V	C715	1-130-477-00	MYLAR	0.0033uF	5%	50V
C230	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V	C716	1-124-927-11	ELECT	4.7uF	20%	100V
C231	1-126-044-11	ELECT	1uF	20%	50V	C717	1-124-791-11	ELECT	1.0uF	20%	100V
C232	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	C718	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C234	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	C719	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C235	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	C720	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C236	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C721	1-126-103-11	ELECT	470uF	20%	16V
C237	1-163-107-00	CERAMIC CHIP	39PF	5%	50V	C722	1-136-165-00	FILM	0.1uF	5%	50V
C238	1-136-165-00	FILM	0.1uF	5%	50V	C723	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C239	1-136-165-00	FILM	0.1uF	5%	50V	C724	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C241	1-126-044-11	ELECT	1uF	20%	50V	C725	1-130-493-00	MYLAR	0.068uF	5%	50V
C242	1-126-301-11	ELECT	1uF	20%	50V	C726	1-124-034-51	ELECT	33uF	20%	16V
C301	1-124-994-11	ELECT	100uF	20%	10V	C727	1-123-875-11	ELECT	10uF	20%	50V
C302	1-126-022-11	ELECT	47uF	20%	16V	C729	1-136-165-00	FILM	0.1uF	5%	50V
C303	1-124-994-11	ELECT	100uF	20%	10V	C730	1-131-375-00	TANTALUM	4.7uF	10%	10V
C304	1-124-995-11	ELECT	220uF	20%	10V	C731	1-124-034-51	ELECT	33uF	20%	16V
C305	1-126-923-11	ELECT	220uF	20%	10V	C732	1-136-165-00	FILM	0.1uF	5%	50V
C306	1-124-994-11	ELECT	100uF	20%	10V	C733	1-136-165-00	FILM	0.1uF	5%	50V
C307	1-164-232-11	CERAMIC CHIP	0.01uF		50V	C734	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C308	1-124-994-11	ELECT	100uF	20%	10V	C735	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C309	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	C736	1-124-791-11	ELECT	1.0uF	20%	100V
C310	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	C737	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C311	1-126-022-11	ELECT	47uF	20%	16V	C738	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C312	1-130-482-00	MYLAR	0.0082uF	5%	50V	C739	1-124-995-11	ELECT	220uF	20%	10V
C313	1-124-994-11	ELECT	100uF	20%	10V	C740	1-126-021-11	ELECT	33uF	20%	16V
C314	1-124-994-11	ELECT	100uF	20%	10V	C741	1-126-021-11	ELECT	33uF	20%	16V
C316	1-124-927-11	ELECT	4.7uF	20%	100V	C743	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C317	1-124-994-11	ELECT	100uF	20%	10V	C744	1-163-227-11	CERAMIC CHIP	10PF	5%	50V
C318	1-123-875-11	ELECT	10uF	20%	50V	C745	1-163-227-11	CERAMIC CHIP	10PF	5%	50V
C319	1-123-875-11	ELECT	10uF	20%	50V	C746	1-124-791-11	ELECT	1.0uF	20%	100V
C320	1-124-994-11	ELECT	100uF	20%	10V	C747	1-124-999-11	ELECT	2200uF	20%	10V
C321	1-126-163-11	ELECT	4.7uF	20%	50V	C748	1-126-103-11	ELECT	470uF	20%	16V
C322	1-124-791-11	ELECT	1.0uF	20%	100V	C749	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C323	1-124-791-11	ELECT	1.0uF	20%	100V	C750	1-126-103-11	ELECT	470uF	20%	16V
C324	1-124-995-11	ELECT	220uF	20%	10V	C751	1-126-163-11	ELECT	4.7uF	20%	50V
C701	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	C752	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C702	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	C753	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C703	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	C754	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C704	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V						
C705	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V						
C706	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V						

## SECTION 9 ELECTRICAL PARTS LIST

AUDIO-CD

**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.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- CAPACITORS  
uF:  $\mu$ F

- RESISTORS  
All resistors are in ohms  
METAL: Metal-film resistor  
METAL OXIDE: Metal Oxide-film resistor  
F: nonflammable
- COILS  
uH:  $\mu$ H
- SEMICONDUCTORS  
In each case, u:  $\mu$ , for example:  
uA...:  $\mu$ A..., uPA...:  $\mu$ PA...,  
uPB...:  $\mu$ PB..., uPC...:  $\mu$ PC...,  
uPD...:  $\mu$ PD....
- G : Germany model  
IT: Italian model

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



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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	* A-3261-458-A	AUDIO-CD BOARD, COMPLETE *****					
		< CAPACITOR >					
C101	1-126-163-11	ELECT 4.7uF	20% 50V	C130	1-163-011-11	CERAMIC CHIP 0.0015uF	10% 50V
C102	1-124-994-11	ELECT 100uF	20% 10V	C131	1-126-044-11	ELECT 1uF	20% 50V
C103	1-130-487-00	MYLAR 0.022uF	5% 50V	C132	1-163-019-00	CERAMIC CHIP 0.0068uF	10% 50V
C104	1-163-003-11	CERAMIC CHIP 330PF	10% 50V	C133	1-163-019-00	CERAMIC CHIP 0.0068uF	10% 50V
C105	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C135	1-163-137-00	CERAMIC CHIP 680PF	5% 50V
				C136	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C106	1-126-163-11	ELECT 4.7uF	20% 50V	C137	1-163-107-00	CERAMIC CHIP 39PF	5% 50V
C107	1-130-487-00	MYLAR 0.022uF	5% 50V	C138	1-136-165-00	FILM 0.1uF	5% 50V
C108	1-126-163-11	ELECT 4.7uF	20% 50V	C139	1-136-165-00	FILM 0.1uF	5% 50V
C109	1-126-163-11	ELECT 4.7uF	20% 50V	C141	1-126-044-11	ELECT 1uF	20% 50V
C110	1-126-163-11	ELECT 4.7uF	20% 50V	C142	1-126-301-11	ELECT 1uF	20% 50V
				C201	1-126-163-11	ELECT 4.7uF	20% 50V
C111	1-135-181-21	TANTALUM CHIP 4.7uF	20% 6.3V	C202	1-124-994-11	ELECT 100uF	20% 10V
C112	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C203	1-130-487-00	MYLAR 0.022uF	5% 50V
C113	1-126-157-11	ELECT 10uF	20% 16V	C204	1-163-003-11	CERAMIC CHIP 330PF	10% 50V
C114	1-136-175-00	FILM 0.68uF	5% 50V	C205	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C115	1-126-163-11	ELECT 4.7uF	20% 50V				
				C206	1-126-163-11	ELECT 4.7uF	20% 50V
C116	1-126-163-11	ELECT 4.7uF	20% 50V	C207	1-130-487-00	MYLAR 0.022uF	5% 50V
C117	1-126-163-11	ELECT 4.7uF	20% 50V	C208	1-126-163-11	ELECT 4.7uF	20% 50V
C118	1-126-044-11	ELECT 1uF	20% 50V	C209	1-126-163-11	ELECT 4.7uF	20% 50V
C119	1-126-044-11	ELECT 1uF	20% 50V	C210	1-126-163-11	ELECT 4.7uF	20% 50V
C120	1-164-005-11	CERAMIC CHIP 0.47uF	25V				
				C211	1-135-181-21	TANTALUM CHIP 4.7uF	20% 6.3V
C121	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C212	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C122	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C213	1-126-157-11	ELECT 10uF	20% 16V
C123	1-163-014-00	CERAMIC CHIP 0.0027uF	10% 50V	C214	1-136-175-00	FILM 0.68uF	5% 50V
C124	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C215	1-126-163-11	ELECT 4.7uF	20% 50V
C125	1-164-232-11	CERAMIC CHIP 0.01uF	50V				
				C216	1-126-163-11	ELECT 4.7uF	20% 50V
C126	1-126-157-11	ELECT 10uF	20% 16V	C217	1-126-163-11	ELECT 4.7uF	20% 50V
C127	1-163-139-00	CERAMIC CHIP 820PF	5% 50V	C218	1-126-044-11	ELECT 1uF	20% 50V
C128	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C219	1-126-044-11	ELECT 1uF	20% 50V
C129	1-163-123-00	CERAMIC CHIP 180PF	5% 50V	C220	1-164-005-11	CERAMIC CHIP 0.47uF	25V

## AUDIO-CD

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q304	8-729-920-31	TRANSISTOR DTC343TK		R203	1-216-100-00	METAL GLAZE 130K	5% 1/10W
Q305	8-729-140-75	TRANSISTOR 2SD999-CLCK		R204	1-216-059-00	METAL CHIP 2.7K	5% 1/10W
Q701	8-729-100-66	TRANSISTOR 2SC1623		R205	1-216-121-00	METAL CHIP 1M	5% 1/10W
Q703	8-729-901-05	TRANSISTOR DTA124EK		R206	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
Q704	8-729-100-66	TRANSISTOR 2SC1623		R207	1-216-047-00	METAL CHIP 820	5% 1/10W
				R208	1-216-748-11	METAL CHIP 39K	5% 1/10W
Q705	8-729-900-98	TRANSISTOR DTC143TK					
Q706	8-729-900-98	TRANSISTOR DTC143TK		R209	1-216-081-00	METAL CHIP 22K	5% 1/10W
Q707	8-729-100-66	TRANSISTOR 2SC1623		R210	1-216-085-00	METAL CHIP 33K	5% 1/10W
Q708	8-729-100-66	TRANSISTOR 2SC1623		R211	1-216-081-00	METAL CHIP 22K	5% 1/10W
Q709	8-729-901-00	TRANSISTOR DTC124EK		R220	1-216-075-00	METAL CHIP 12K	5% 1/10W
				R221	1-216-067-00	METAL CHIP 5.6K	5% 1/10W
Q710	8-729-901-00	TRANSISTOR DTC124EK					
Q711	8-729-901-00	TRANSISTOR DTC124EK		R224	1-216-025-00	METAL CHIP 100	5% 1/10W
Q712	8-729-140-75	TRANSISTOR 2SD999-CLCK		R226	1-216-073-00	METAL CHIP 10K	5% 1/10W
				R227	1-216-093-00	METAL CHIP 68K	5% 1/10W
				R228	1-216-085-00	METAL CHIP 33K	5% 1/10W
				R229	1-216-089-00	METAL CHIP 47K	5% 1/10W
				R230	1-216-083-00	METAL CHIP 27K	5% 1/10W
				R231	1-216-049-00	METAL CHIP 1K	5% 1/10W
				R232	1-216-091-00	METAL CHIP 56K	5% 1/10W
				R233	1-216-091-00	METAL CHIP 56K	5% 1/10W
				R234	1-216-073-00	METAL CHIP 10K	5% 1/10W
				R236	1-216-077-00	METAL CHIP 15K	5% 1/10W
				R237	1-216-077-00	METAL CHIP 15K	5% 1/10W
				R238	1-216-085-00	METAL CHIP 33K	5% 1/10W
				R239	1-216-121-00	METAL CHIP 1M	5% 1/10W
				R240	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
				R241	1-216-109-00	METAL CHIP 330K	5% 1/10W
				R242	1-216-033-00	METAL CHIP 220	5% 1/10W
				R243	1-216-081-00	METAL CHIP 22K	5% 1/10W
				R244	1-216-073-00	METAL CHIP 10K	5% 1/10W
				R301	1-216-025-00	METAL CHIP 100	5% 1/10W
				R302	1-216-073-00	METAL CHIP 10K	5% 1/10W
				R303	1-216-025-00	METAL CHIP 100	5% 1/10W
				R304	1-216-091-00	METAL CHIP 56K	5% 1/10W
				R306	1-216-081-00	METAL CHIP 22K	5% 1/10W
				R309	1-216-089-00	METAL CHIP 47K	5% 1/10W
				R310	1-216-088-00	METAL CHIP 43K	5% 1/10W
				R311	1-216-073-00	METAL CHIP 10K	5% 1/10W
				R312	1-216-025-00	METAL CHIP 100	5% 1/10W
				R315	1-216-025-00	METAL CHIP 100	5% 1/10W
				R316	1-216-093-00	METAL CHIP 68K	5% 1/10W
				R317	1-216-093-00	METAL CHIP 68K	5% 1/10W
				R318	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
				R319	1-216-089-00	METAL CHIP 47K	5% 1/10W
				R320	1-216-073-00	METAL CHIP 10K	5% 1/10W
				R321	1-216-085-00	METAL CHIP 33K	5% 1/10W
				R322	△ 1-212-849-00	FUSIBLE 4.7	5% 1/4W F
				R323	1-216-089-00	METAL CHIP 47K	5% 1/10W
				R324	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
R101	1-216-023-00	METAL CHIP 82	5% 1/10W				
R102	1-216-067-00	METAL CHIP 5.6K	5% 1/10W				
R103	1-216-100-00	METAL GLAZE 130K	5% 1/10W				
R104	1-216-059-00	METAL CHIP 2.7K	5% 1/10W				
R105	1-216-121-00	METAL CHIP 1M	5% 1/10W				
R106	1-216-061-00	METAL CHIP 3.3K	5% 1/10W				
R107	1-216-047-00	METAL CHIP 820	5% 1/10W				
R108	1-216-748-11	METAL CHIP 39K	5% 1/10W				
R109	1-216-081-00	METAL CHIP 22K	5% 1/10W				
R110	1-216-085-00	METAL CHIP 33K	5% 1/10W				
R111	1-216-081-00	METAL CHIP 22K	5% 1/10W				
R120	1-216-075-00	METAL CHIP 12K	5% 1/10W				
R121	1-216-067-00	METAL CHIP 5.6K	5% 1/10W				
R124	1-216-025-00	METAL CHIP 100	5% 1/10W				
R126	1-216-073-00	METAL CHIP 10K	5% 1/10W				
R127	1-216-093-00	METAL CHIP 68K	5% 1/10W				
R128	1-216-085-00	METAL CHIP 33K	5% 1/10W				
R129	1-216-089-00	METAL CHIP 47K	5% 1/10W				
R130	1-216-083-00	METAL CHIP 27K	5% 1/10W				
R131	1-216-049-00	METAL CHIP 1K	5% 1/10W				
R132	1-216-091-00	METAL CHIP 56K	5% 1/10W				
R133	1-216-091-00	METAL CHIP 56K	5% 1/10W				
R134	1-216-073-00	METAL CHIP 10K	5% 1/10W				
R136	1-216-077-00	METAL CHIP 15K	5% 1/10W				
R137	1-216-077-00	METAL CHIP 15K	5% 1/10W				
R138	1-216-085-00	METAL CHIP 33K	5% 1/10W				
R139	1-216-121-00	METAL CHIP 1M	5% 1/10W				
R140	1-216-061-00	METAL CHIP 3.3K	5% 1/10W				
R141	1-216-109-00	METAL CHIP 330K	5% 1/10W				
R142	1-216-033-00	METAL CHIP 220	5% 1/10W				
R143	1-216-081-00	METAL CHIP 22K	5% 1/10W				
R144	1-216-073-00	METAL CHIP 10K	5% 1/10W				
R201	1-216-023-00	METAL CHIP 82	5% 1/10W				
R202	1-216-067-00	METAL CHIP 5.6K	5% 1/10W				



## &lt; RESISTOR &gt;

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



Ref. No.	Part No.	Description	Remark
C755	1-163-135-00	CERAMIC CHIP 560PF 5% 50V	
C756	1-163-108-00	CERAMIC CHIP 43PF 5% 50V	
C757	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C758	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C759	1-126-163-11	ELECT 4.7uF 20% 50V	
C760	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C761	1-126-163-11	ELECT 4.7uF 20% 50V	
C762	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	
C763	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C764	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C765	1-163-135-00	CERAMIC CHIP 560PF 5% 50V	
C766	1-163-108-00	CERAMIC CHIP 43PF 5% 50V	
C767	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C768	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C769	1-126-163-11	ELECT 4.7uF 20% 50V	
C770	1-126-044-11	ELECT 1uF 20% 50V	
C771	1-124-994-11	ELECT 100uF 20% 10V	
C772	1-126-025-11	ELECT 330uF 20% 25V	
C773	1-124-994-11	ELECT 100uF 20% 10V	
C774	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C775	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C776	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C777	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C778	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C779	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
< CONNECTOR >			
CN301	* 1-506-990-11	PIN, CONNECTOR (PC BOARD) 8P	
CN302	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P	
CN303	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
CN304	1-569-833-11	SOCKET, CONNECTOR 5P	
CN305	1-569-846-11	SOCKET, CONNECTOR 18P	
CN306	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
CN701	1-569-907-11	SOCKET, CONNECTOR 12P	
CN702	1-565-856-11	SOCKET, CONNECTOR 8P	
CN703	* 1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CN704	1-569-907-11	SOCKET, CONNECTOR 12P	
CN705	1-569-901-11	SOCKET, CONNECTOR 5P	
< DIODE >			
D301	8-719-404-46	DIODE MA110	
D701	8-719-404-46	DIODE MA110	
D702	8-719-404-46	DIODE MA110	
D703	8-719-404-52	DIODE MA143	
D704	8-719-800-76	DIODE 1SS226	
D705	8-719-404-46	DIODE MA110	
D706	8-719-400-56	DIODE MA3062-H	
D707	8-719-404-46	DIODE MA110	

Ref. No.	Part No.	Description	Remark
< IC >			
IC301	8-759-154-34	IC uPC1330GR	
IC302	8-759-932-80	IC BA328	
IC303	8-752-032-14	IC CXA1102M	
IC304	8-759-800-33	IC LC7815H	
IC305	8-752-038-00	IC CXA1298AP	
IC306	8-759-710-55	IC NJM2100M	
IC307	8-759-710-55	IC NJM2100M	
IC701	8-752-032-32	IC CXA1182Q-Z	
IC702	8-752-335-92	IC CXD1167Q	
IC703	8-759-981-92	IC RC4558M	
IC704	8-759-148-30	IC uPD6376GS	
IC705	8-759-634-07	IC M51591FP	
IC706	8-759-513-09	IC BA6294-UV3	
IC707	8-759-513-09	IC BA6294-UV3	
< COIL >			
L101	1-409-481-21	COIL, TRAP 12mH	
L102	1-410-776-11	INDUCTOR 12mH	
L201	1-409-481-21	COIL, TRAP 12mH	
L202	1-410-776-11	INDUCTOR 12mH	
L301	1-408-426-00	INDUCTOR 270uH	
L701	1-410-369-11	INDUCTOR CHIP 1uH	
L702	1-410-375-11	INDUCTOR CHIP 3.3uH	
L703	1-410-375-11	INDUCTOR CHIP 3.3uH	
L704	1-410-375-11	INDUCTOR CHIP 3.3uH	
< LINK >			
PS301	△ 1-576-122-21	LINK, IC	
PS302	△ 1-576-123-21	LINK, IC	
< TRANSISTOR >			
Q101	8-729-920-31	TRANSISTOR DTC343TK	
Q102	8-729-902-99	TRANSISTOR DTC114TK	
Q103	8-729-920-31	TRANSISTOR DTC343TK	
Q104	8-729-900-52	TRANSISTOR DTC114YK	
Q105	8-729-902-99	TRANSISTOR DTC114TK	
Q106	8-729-100-66	TRANSISTOR 2SC1623	
Q201	8-729-920-31	TRANSISTOR DTC343TK	
Q202	8-729-902-99	TRANSISTOR DTC114TK	
Q203	8-729-920-31	TRANSISTOR DTC343TK	
Q204	8-729-900-52	TRANSISTOR DTC114YK	
Q205	8-729-902-99	TRANSISTOR DTC114TK	
Q206	8-729-100-66	TRANSISTOR 2SC1623	
Q301	8-729-900-52	TRANSISTOR DTC114YK	
Q302	8-729-101-07	TRANSISTOR 2SB798-DL	
Q303	8-729-902-99	TRANSISTOR DTC114TK	

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

**AUDIO-CD**

**BATTERY TERMINAL**

**CD MOTOR**

**CONTROL**

Ref. No.	Part No.	Description	Remark
RV203	1-238-603-11	RES. ADJ. CARBON 100K	
RV301	1-238-999-11	RES. VAR 100K/100K (BASS)	
RV302	1-238-999-11	RES. VAR 100K/100K (TREBLE)	
RV701	1-238-601-11	RES. ADJ. CARBON 22K	
RV702	1-238-602-11	RES. ADJ. CARBON 47K	
< TRANSFORMER >			
T301	1-433-325-11	TRANSFORMER, BIAS OSCILLATION	
< TEST PIN >			
TP701	* 1-560-468-00	PIN, CONNECTOR 5P	
TP703	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
TP704	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
< CRYSTAL >			
XF701	1-567-908-11	VIBRATOR, CRYSTAL 16.9344MHZ	
*****			
	* 1-635-077-21	BATTERY TERMINAL BOARD	
		*****	
	3-363-201-01	SPRING (-), BATTERY COIL	
	4-932-611-01	TERMINAL (BTM)	
< CONNECTOR >			
CN907	* 1-569-973-11	PIN, CONNECTOR (PC BOARD) 2P	
*****			
	* A-3261-455-A	CD MOTOR BOARD, COMPLETE	
		*****	
< CAPACITOR >			
C700	1-130-483-00	MYLAR 0.01uF 5% 50V	
C787	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C788	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C789	1-163-059-00	CERAMIC CHIP 0.01uF 10% 50V	
C790	1-124-635-00	ELECT 220uF 20% 6.3V	
C791	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C792	1-124-229-00	ELECT 33uF 20% 10V	
C793	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C794	1-126-177-11	ELECT 100uF 20% 10V	
C795	1-163-989-11	CERAMIC CHIP 0.033uF 10% 25V	
C796	1-131-374-00	TANTALUM 33uF 10% 16V	
C797	1-163-989-11	CERAMIC CHIP 0.033uF 10% 25V	
C798	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C799	1-124-229-00	ELECT 33uF 20% 10V	

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
CN791	1-569-907-11	SOCKET, CONNECTOR 12P	
CN792	1-565-856-11	SOCKET, CONNECTOR 8P	
CN793	1-569-952-31	CONNECTOR, FLEXIBLE 4P	
CN794	1-569-954-31	CONNECTOR, FLEXIBLE 12P	
< IC >			
IC791	8-752-033-14	IC CXA1081Q	
< TRANSISTOR >			
Q791	8-729-801-84	TRANSISTOR 2SB1013-4	
< RESISTOR >			
R791	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R792	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R793	1-216-024-00	METAL GLAZE 91 5% 1/10W	
R794	1-216-009-00	METAL CHIP 22 5% 1/10W	
R795	1-216-081-00	METAL CHIP 22K 5% 1/10W	
< VARIABLE RESISTOR >			
RV791	1-241-040-21	RES. ADJ. CARBON 22K	
RV792	1-237-288-11	RES. ADJ. CARBON 47K	
*****			
	* A-3261-459-A	CONTROL BOARD, COMPLETE	
		*****	
	* 3-363-190-01	FILTER, E. L	
< CAPACITOR >			
C165	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C265	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C360	1-130-470-00	MYLAR 820PF 5% 50V	
C361	1-130-467-00	MYLAR 470PF 5% 50V	
C401	1-126-157-11	ELECT 10uF 20% 16V	
C402	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C403	1-124-465-00	ELECT 0.47uF 20% 50V	
C404	1-126-163-11	ELECT 4.7uF 20% 50V	
C405	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C406	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C407	1-124-635-00	ELECT 220uF 20% 6.3V	
C408	1-163-989-11	CERAMIC CHIP 0.033uF 10% 25V	
C409	1-126-154-11	ELECT 47uF 20% 6.3V	
C410	1-126-154-11	ELECT 47uF 20% 6.3V	
C411	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	



## CONTROL

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< DIODE >					
D401	8-719-104-34	DIODE 1S2836		D613	8-719-400-18	DIODE MA152WK	
D402	8-719-404-46	DIODE MA110		D614	8-719-404-46	DIODE MA110	
D403	8-719-404-46	DIODE MA110		D615	8-719-404-46	DIODE MA110	
D404	8-719-404-46	DIODE MA110		D616	8-719-404-46	DIODE MA110	
D405	8-719-400-18	DIODE MA152WK		D617	8-719-404-46	DIODE MA110	
D406	8-719-986-93	DIODE PY7851K (CD)		D618	8-719-404-46	DIODE MA110	
D407	8-719-986-93	DIODE PY7851K (RADIO)		D619	8-719-404-46	DIODE MA110	
D408	8-719-986-93	DIODE PY7851K (TAPE)		D620	8-719-400-18	DIODE MA152WK	
D409	8-719-404-46	DIODE MA110		D621	8-719-400-18	DIODE MA152WK	
D410	8-719-400-18	DIODE MA152WK		D622	8-719-404-46	DIODE MA110	
D411	8-719-400-18	DIODE MA152WK		D624	8-719-400-18	DIODE MA152WK	
D412	8-719-400-18	DIODE MA152WK		D625	8-719-404-46	DIODE MA110	
D413	8-719-800-76	DIODE 1SS226		D662	8-719-404-46	DIODE MA110	
D414	8-719-400-18	DIODE MA152WK		D666	8-719-404-46	DIODE MA110	
D415	8-719-986-93	DIODE PY7851K (POWER)		D801	8-719-404-46	DIODE MA110	
D416	8-719-800-76	DIODE 1SS226		D802	8-719-404-46	DIODE MA110	
D417	8-719-404-46	DIODE MA110		D803	8-719-404-46	DIODE MA110	
D422	8-719-404-46	DIODE MA110		D804	8-719-404-46	DIODE MA110	
D424	8-719-404-46	DIODE MA110				< EL LUMINOUS ELEMENT >	
D425	8-719-404-46	DIODE MA110		EL401	1-519-612-11	ELEMENT, EL LUMINOUS	
D426	8-719-400-18	DIODE MA152WK				< IC >	
D427	8-719-404-46	DIODE MA110		IC401	8-759-634-33	IC M50720-192SP	
D428	8-719-980-98	DIODE MVR3371X (STANDBY/OPR/BATT)		IC402	8-759-987-44	IC SC17710YBA	
D430	8-719-400-18	DIODE MA152WK		IC403	8-759-504-40	IC S-80741AL-A5-S	
D497	8-719-106-16	DIODE RD6. 8M-B1		IC404	8-759-987-44	IC SC17710YBA	
D501	8-719-404-35	DIODE MA141WK		IC405	8-741-100-47	IC SBX1610-09	
D502	8-719-404-35	DIODE MA141WK		IC406	8-759-990-47	IC SC17710YDA	
D503	8-719-404-35	DIODE MA141WK		IC407	8-759-511-42	IC S-80730AN	
D504	8-719-404-35	DIODE MA141WK		IC408	8-759-987-44	IC SC17710YBA	
D505	8-719-404-46	DIODE MA110		IC503	8-759-150-93	IC uPD1724GB-525-1A7	
D509	8-719-404-46	DIODE MA110		IC601	8-759-239-76	IC TC9315F	
D510	8-719-404-46	DIODE MA110		IC801	8-752-819-29	IC CXP5078-063Q	
D511	8-719-404-46	DIODE MA110		IC802	8-759-970-47	IC PST529J	
D512	8-719-404-46	DIODE MA110				< JACK >	
D513	8-719-404-46	DIODE MA110		J401	1-569-565-21	JACK (HEADPHONES)	
D514	8-719-404-46	DIODE MA110				< COIL >	
D515	8-719-404-46	DIODE MA110		L401	1-412-006-31	INDUCTOR CHIP 10uH	
D517	8-719-404-46	DIODE MA110		L402	1-412-006-31	INDUCTOR CHIP 10uH	
D520	8-719-980-98	DIODE MVR3371X (FM ST)		L403	1-412-006-31	INDUCTOR CHIP 10uH	
D521	8-719-970-07	DIODE MPG3371X-150 (TUNING)		L405	1-412-006-31	INDUCTOR CHIP 10uH	
D609	8-719-970-07	DIODE MPG3371X-150 ( < )		L406	1-412-006-31	INDUCTOR CHIP 10uH	
D610	8-719-970-07	DIODE MPG3371X-150 ( > )		L407	1-412-006-31	INDUCTOR CHIP 10uH	
D611	8-719-985-18	DIODE MAY3371X ( ■ )		L408	1-412-006-31	INDUCTOR CHIP 10uH	
D612	8-719-980-98	DIODE MVR3371X ( ● )		L409	1-412-006-31	INDUCTOR CHIP 10uH	

## CONTROL

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C412	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C515	1-136-175-00	FILM	0.68uF 5% 50V
C413	1-126-916-11	ELECT	1000uF 20% 6.3V	C516	1-163-106-00	CERAMIC CHIP	36PF 5% 50V
C414	1-163-989-11	CERAMIC CHIP	0.033uF 16% 25V	C517	1-163-097-00	CERAMIC CHIP	15PF 5% 50V
C415	1-131-370-00	TANTALUM	6.8uF 10% 16V	C518	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C416	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C519	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C417	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C520	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C423	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C521	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C424	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C522	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C425	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C523	1-124-635-00	ELECT	220uF 20% 6.3V
C426	1-126-205-11	ELECT CHIP	47uF 20% 6.3V	C524	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C427	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C525	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C429	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C529	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C430	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C530	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C431	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C531	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C432	1-164-232-11	CERAMIC CHIP	0.01uF 50V	C532	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C433	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C533	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C434	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C601	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C435	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C602	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C436	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C603	1-163-205-00	CERAMIC CHIP	0.001uF 5% 50V
C437	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C604	1-163-205-00	CERAMIC CHIP	0.001uF 5% 50V
C438	1-164-232-11	CERAMIC CHIP	0.01uF 50V	C605	1-163-020-00	CERAMIC CHIP	0.0082uF 10% 50V
C439	1-164-232-11	CERAMIC CHIP	0.01uF 50V	C611	1-126-205-11	ELECT CHIP	47uF 20% 6.3V
C440	1-164-232-11	CERAMIC CHIP	0.01uF 50V	C801	1-126-154-11	ELECT	47uF 20% 6.3V
C441	1-164-232-11	CERAMIC CHIP	0.01uF 50V	C802	1-126-154-11	ELECT	47uF 20% 6.3V
C442	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C804	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
C443	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C805	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
C444	1-164-232-11	CERAMIC CHIP	0.01uF 50V	C806	1-124-635-00	ELECT	220uF 20% 6.3V
C445	1-164-232-11	CERAMIC CHIP	0.01uF 50V	C807	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C446	1-164-232-11	CERAMIC CHIP	0.01uF 50V	C808	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C447	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C815	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C448	1-164-232-11	CERAMIC CHIP	0.01uF 50V	C816	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C449	1-164-232-11	CERAMIC CHIP	0.01uF 50V	C817	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C450	1-164-161-11	CERAMIC CHIP	0.0022uF 10% 100V			< FILTER >	
C497	1-164-232-11	CERAMIC CHIP	0.01uF 50V	CF801	1-567-818-21	VIBRATOR, CERAMIC	3.58MHz
C498	1-126-177-11	ELECT	100uF 20% 10V			< CONNECTOR >	
C499	1-164-232-11	CERAMIC CHIP	0.01uF 50V	CN354	* 1-564-719-61	PIN, CONNECTOR (SMALL TYPE)	3P
C501	1-164-232-11	CERAMIC CHIP	0.01uF 50V	CN401	1-569-913-11	SOCKET, CONNECTOR	20P
C502	1-164-232-11	CERAMIC CHIP	0.01uF 50V	CN402	1-569-846-11	SOCKET, CONNECTOR	18P
C503	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	CN403	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE)	3P
C504	1-164-232-11	CERAMIC CHIP	0.01uF 50V	CN404	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE)	2P
C505	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	CN501	1-569-909-11	SOCKET, CONNECTOR	15P
C506	1-164-232-11	CERAMIC CHIP	0.01uF 50V	CN502	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE)	4P
C507	1-164-232-11	CERAMIC CHIP	0.01uF 50V	CN601	1-580-529-21	SOCKET, CONNECTOR	25P
C508	1-164-232-11	CERAMIC CHIP	0.01uF 50V	CN602	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE)	2P
C509	1-126-177-11	ELECT	100uF 20% 10V	CN801	1-569-954-31	CONNECTOR, FLEXIBLE	12P
C510	1-164-232-11	CERAMIC CHIP	0.01uF 50V	CN802	1-580-109-11	CONNECTOR, FLEXIBLE	5P
C511	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	CN803	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE)	2P
C512	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V				
C514	1-136-153-00	FILM	0.01uF 5% 50V				

## CONTROL

Ref. No.	Part No.	Description	Quantity	Unit Price	Remark	Ref. No.	Part No.	Description	Quantity	Unit Price	Remark
R423	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R605	1-216-097-00	METAL CHIP	100K	5%	1/10W
R430	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R606	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R431	1-216-023-00	METAL CHIP	82	5%	1/10W	R607	1-216-049-00	METAL CHIP	1K	5%	1/10W
R432	1-216-025-00	METAL CHIP	100	5%	1/10W	R626	1-216-073-00	METAL CHIP	10K	5%	1/10W
R433	1-216-073-00	METAL CHIP	10K	5%	1/10W	R627	1-216-041-00	METAL CHIP	470	5%	1/10W
R434	1-216-105-00	METAL CHIP	220K	5%	1/10W	R628	1-216-041-00	METAL CHIP	470	5%	1/10W
R435	1-216-049-00	METAL CHIP	1K	5%	1/10W	R629	1-216-041-00	METAL CHIP	470	5%	1/10W
R436	1-216-034-00	METAL CHIP	240	5%	1/10W	R630	1-216-041-00	METAL CHIP	470	5%	1/10W
R438	1-216-049-00	METAL CHIP	1K	5%	1/10W	R631	1-216-073-00	METAL CHIP	10K	5%	1/10W
R439	1-216-073-00	METAL CHIP	10K	5%	1/10W	R632	1-216-073-00	METAL CHIP	10K	5%	1/10W
R497	1-216-037-00	METAL CHIP	330	5%	1/10W	R633	1-216-073-00	METAL CHIP	10K	5%	1/10W
R501	1-216-017-00	METAL CHIP	47	5%	1/10W	R634	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R502	1-216-049-00	METAL CHIP	1K	5%	1/10W	R637	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R503	1-216-022-00	METAL CHIP	75	5%	1/10W	R647	1-216-073-00	METAL CHIP	10K	5%	1/10W
R505	1-216-045-00	METAL CHIP	680	5%	1/10W	R648	1-216-062-00	METAL CHIP	3.6K	5%	1/10W
R507	1-216-081-00	METAL CHIP	22K	5%	1/10W	R649	1-216-073-00	METAL CHIP	10K	5%	1/10W
R509	1-216-089-00	METAL CHIP	47K	5%	1/10W	R801	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R510	1-216-043-00	METAL CHIP	560	5%	1/10W	R802	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R511	1-216-083-00	METAL CHIP	27K	5%	1/10W	R803	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R513	1-216-013-00	METAL CHIP	33	5%	1/10W	R804	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R518	1-216-073-00	METAL CHIP	10K	5%	1/10W	R805	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R519	1-216-081-00	METAL CHIP	22K	5%	1/10W	R806	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R520	1-216-077-00	METAL CHIP	15K	5%	1/10W	R807	1-216-025-00	METAL CHIP	100	5%	1/10W
R521	1-216-049-00	METAL CHIP	1K	5%	1/10W	R808	1-216-095-00	METAL CHIP	82K	5%	1/10W
R522	1-216-085-00	METAL CHIP	33K	5%	1/10W	R809	1-216-103-00	METAL CHIP	180K	5%	1/10W
R523	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R810	1-216-101-00	METAL CHIP	150K	5%	1/10W
R524	1-216-081-00	METAL CHIP	22K	5%	1/10W	R812	1-216-101-00	METAL CHIP	150K	5%	1/10W
R527	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	R813	1-216-101-00	METAL CHIP	150K	5%	1/10W
R528	1-216-081-00	METAL CHIP	22K	5%	1/10W	R815	1-216-081-00	METAL CHIP	22K	5%	1/10W
R529	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R816	1-216-097-00	METAL CHIP	100K	5%	1/10W
R531	1-216-097-00	METAL CHIP	100K	5%	1/10W	R817	1-216-073-00	METAL CHIP	10K	5%	1/10W
R532	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R818	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R533	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R819	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R534	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R820	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R535	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R821	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R536	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R822	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R537	1-216-097-00	METAL CHIP	100K	5%	1/10W	R823	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R538	1-216-097-00	METAL CHIP	100K	5%	1/10W	R824	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R539	1-216-089-00	METAL CHIP	47K	5%	1/10W	R825	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R540	1-216-073-00	METAL CHIP	10K	5%	1/10W	R826	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R541	1-216-073-00	METAL CHIP	10K	5%	1/10W	R827	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R543	1-216-037-00	METAL CHIP	330	5%	1/10W	R828	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R544	1-216-073-00	METAL CHIP	10K	5%	1/10W	R829	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R545	1-216-073-00	METAL CHIP	10K	5%	1/10W	R830	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R546	1-216-073-00	METAL CHIP	10K	5%	1/10W	R831	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R547	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R832	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R567	1-216-073-00	METAL CHIP	10K	5%	1/10W	R833	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R570	1-216-041-00	METAL CHIP	470	5%	1/10W	R834	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R601	1-216-049-00	METAL CHIP	1K	5%	1/10W	R835	1-216-051-00	METAL CHIP	1.2K	5%	1/10W



## CONTROL

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
L411	1-412-006-31	INDUCTOR CHIP 10uH		Q508	8-729-900-51	TRANSISTOR DTA114TK	
L412	1-412-006-31	INDUCTOR CHIP 10uH		Q509	8-729-102-07	TRANSISTOR 2SC2223-F13	
L413	1-410-216-31	INDUCTOR CHIP 100uH		Q511	8-729-900-52	TRANSISTOR DTC114YK	
L414	1-412-006-31	INDUCTOR CHIP 10uH		Q603	8-729-901-46	TRANSISTOR DTA114YK	
L415	1-412-006-31	INDUCTOR CHIP 10uH		Q604	8-729-907-03	TRANSISTOR FMG5	
L416	1-410-216-31	INDUCTOR CHIP 100uH		Q606	8-729-115-30	TRANSISTOR 2SK105A-30	
L417	1-410-658-31	INDUCTOR, CHIP 220uH		Q625	8-729-901-46	TRANSISTOR DTA114YK	
L501	1-410-216-31	INDUCTOR CHIP 100uH		Q626	8-729-100-66	TRANSISTOR 2SC1623	
L502	1-410-997-31	INDUCTOR CHIP 2.2uH		Q627	8-729-902-99	TRANSISTOR DTC114TK	
L601	1-412-006-31	INDUCTOR CHIP 10uH		Q628	8-729-902-99	TRANSISTOR DTC114TK	
L801	1-410-216-31	INDUCTOR CHIP 100uH		Q629	8-729-902-99	TRANSISTOR DTC114TK	
< LIQUID CRYSTAL DISPLAY PANEL >				Q630	8-729-900-52	TRANSISTOR DTC114YK	
ND501	1-809-284-11	DISPLAY PANEL, LIQUID CRYSTAL		Q631	8-729-902-99	TRANSISTOR DTC114TK	
ND801	1-808-996-11	DISPLAY PANEL, LIQUID CRYSTAL		Q632	8-729-901-03	TRANSISTOR DTC144WK	
< LINK >				Q633	8-729-907-03	TRANSISTOR FMG5	
PS401 $\Delta$	1-576-122-21	LINK, IC		Q634	8-729-901-46	TRANSISTOR DTA114YK	
< TRANSISTOR >				Q637	8-729-900-52	TRANSISTOR DTC114YK	
Q401	8-729-923-65	TRANSISTOR DTA143ZK		Q801	8-729-901-05	TRANSISTOR DTA124EK	
Q402	8-729-923-65	TRANSISTOR DTA143ZK		Q805	8-729-141-48	TRANSISTOR 2SB624-8V345	
Q403	8-729-923-65	TRANSISTOR DTA143ZK		< RESISTOR >			
Q404	8-729-923-65	TRANSISTOR DTA143ZK		R145	1-216-074-00	METAL GLAZE 11K	5% 1/10W
Q405	8-729-923-65	TRANSISTOR DTA143ZK		R146	1-216-071-00	METAL CHIP 8.2K	5% 1/10W
Q406	8-729-923-65	TRANSISTOR DTA143ZK		R147	1-216-083-00	METAL CHIP 27K	5% 1/10W
Q407	8-729-923-65	TRANSISTOR DTA143ZK		R245	1-216-074-00	METAL GLAZE 11K	5% 1/10W
Q408	8-729-902-99	TRANSISTOR DTC114TK		R246	1-216-071-00	METAL CHIP 8.2K	5% 1/10W
Q409	8-729-902-99	TRANSISTOR DTC114TK		R247	1-216-083-00	METAL CHIP 27K	5% 1/10W
Q410	8-729-923-65	TRANSISTOR DTA143ZK		R401	1-216-089-00	METAL CHIP 47K	5% 1/10W
Q411	8-729-923-65	TRANSISTOR DTA143ZK		R402	1-216-089-00	METAL CHIP 47K	5% 1/10W
Q412	8-729-901-03	TRANSISTOR DTC144WK		R403	1-216-089-00	METAL CHIP 47K	5% 1/10W
Q413	8-729-923-65	TRANSISTOR DTA143ZK		R404	1-216-121-00	METAL CHIP 1M	5% 1/10W
Q414	8-729-901-03	TRANSISTOR DTC144WK		R405	1-216-073-00	METAL CHIP 10K	5% 1/10W
Q415	8-729-923-54	TRANSISTOR DTA143TK		R406	1-216-089-00	METAL CHIP 47K	5% 1/10W
Q416	8-729-901-03	TRANSISTOR DTC144WK		R407	1-216-089-00	METAL CHIP 47K	5% 1/10W
Q417	8-729-900-52	TRANSISTOR DTC114YK		R408	1-216-089-00	METAL CHIP 47K	5% 1/10W
Q418	8-729-923-65	TRANSISTOR DTA143ZK		R409	1-216-089-00	METAL CHIP 47K	5% 1/10W
Q421	8-729-901-03	TRANSISTOR DTC144WK		R410	1-216-184-00	METAL GLAZE 270	5% 1/8W
Q422	8-729-921-25	TRANSISTOR FMC2		R411	1-216-089-00	METAL CHIP 47K	5% 1/10W
Q424	8-729-100-66	TRANSISTOR 2SC1623		R412	1-216-117-00	METAL CHIP 680K	5% 1/10W
Q425	8-729-923-65	TRANSISTOR DTA143ZK		R413	1-216-095-00	METAL CHIP 82K	5% 1/10W
Q496	8-729-159-64	TRANSISTOR 2SD596		R414	1-216-089-00	METAL CHIP 47K	5% 1/10W
Q501	8-729-900-52	TRANSISTOR DTC114YK		R415	1-216-073-00	METAL CHIP 10K	5% 1/10W
Q502	8-729-102-07	TRANSISTOR 2SC2223-F13		R416	1-216-121-00	METAL CHIP 1M	5% 1/10W
Q503	8-729-109-44	TRANSISTOR 2SK94		R417	1-216-081-00	METAL CHIP 22K	5% 1/10W
Q504	8-729-100-66	TRANSISTOR 2SC1623		R418	1-216-089-00	METAL CHIP 47K	5% 1/10W
Q505	8-729-119-32	TRANSISTOR 2SK193		R419	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
Q506	8-729-907-03	TRANSISTOR FMG5		R420	1-216-113-00	METAL CHIP 470K	5% 1/10W
				R421	1-216-073-00	METAL CHIP 10K	5% 1/10W
				R422	1-216-184-00	METAL GLAZE 270	5% 1/8W

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

## DRIVER

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* A-3261-460-A DRIVER BOARD, COMPLETE				< DIODE >			
*****							
< CAPACITOR >							
C451	1-164-232-11	CERAMIC CHIP	0.01uF	50V	D451	8-719-934-21	DIODE HZS30-1L
C452	1-164-232-11	CERAMIC CHIP	0.01uF	50V	D452	8-719-404-46	DIODE MA110
C453	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	D623	8-719-404-46	DIODE MA110
C454	1-123-875-11	ELECT	10uF	20% 50V	D651	8-719-106-36	DIODE RD8.2M-B3
C455	1-164-232-11	CERAMIC CHIP	0.01uF	50V	D653	8-719-911-19	DIODE 1SS119
C456	1-164-232-11	CERAMIC CHIP	0.01uF	50V	D654	8-719-911-19	DIODE 1SS119
C457	1-123-875-11	ELECT	10uF	20% 50V	D655	8-719-106-36	DIODE RD8.2M-B3
C458	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	D657	8-719-400-18	DIODE MA152WK
C606	1-124-927-11	ELECT	4.7uF	20% 100V	D660	8-719-911-19	DIODE 1SS119
C607	1-131-349-00	TANTALUM	2.2uF	10% 35V	D661	8-719-400-18	DIODE MA152WK
C608	1-124-791-11	ELECT	1.0uF	20% 100V	D663	8-719-404-46	DIODE MA110
C609	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	D664	8-719-404-46	DIODE MA110
C610	1-124-791-11	ELECT	1.0uF	20% 100V	D665	8-719-104-34	DIODE 1S2836
C651	1-164-232-11	CERAMIC CHIP	0.01uF	50V	D667	8-719-404-46	DIODE MA110
C652	1-124-443-00	ELECT	100uF	20% 10V	D668	8-719-105-38	DIODE RD3.0M-B1
C653	1-164-232-11	CERAMIC CHIP	0.01uF	50V	< IC >		
C654	1-124-472-11	ELECT	470uF	20% 10V	IC602	8-759-933-22	IC BA3707
C655	1-164-232-11	CERAMIC CHIP	0.01uF	50V	IC651	8-759-503-60	IC S-80740AN-D4-S
C656	1-124-443-00	ELECT	100uF	20% 10V	< COIL >		
C657	1-164-232-11	CERAMIC CHIP	0.01uF	50V	L451	1-410-216-31	INDUCTOR CHIP 100uH
C658	1-124-472-11	ELECT	470uF	20% 10V	L452	1-410-216-31	INDUCTOR CHIP 100uH
C659	1-123-875-11	ELECT	10uF	20% 50V	< LINK >		
C660	1-163-059-00	CERAMIC CHIP	0.01uF	10% 50V	PS651	△ 1-532-679-00	LINK, IC ICP-N15 (0.6A)
C662	1-123-875-11	ELECT	10uF	20% 50V	PS652	△ 1-532-679-00	LINK, IC ICP-N15 (0.6A)
C663	1-126-233-11	ELECT	22uF	20% 50V	< TRANSISTOR >		
C664	1-124-791-11	ELECT	1.0uF	20% 100V	Q451	8-729-903-10	TRANSISTOR FMW1
C665	1-126-233-11	ELECT	22uF	20% 50V	Q635	8-729-900-52	TRANSISTOR DTC114YK
C666	1-123-875-11	ELECT	10uF	20% 50V	Q651	8-729-140-75	TRANSISTOR 2SD999-CLCK
C667	1-124-902-00	ELECT	0.47uF	20% 50V	Q652	8-729-140-75	TRANSISTOR 2SD999-CLCK
C668	1-123-875-11	ELECT	10uF	20% 50V	Q653	8-729-920-31	TRANSISTOR DTC343TK
C669	1-124-902-00	ELECT	0.47uF	20% 50V	Q654	8-729-141-48	TRANSISTOR 2SB624-BV345
C670	1-124-791-11	ELECT	1.0uF	20% 100V	Q655	8-729-159-64	TRANSISTOR 2SD596
C672	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	Q656	8-729-141-48	TRANSISTOR 2SB624-BV345
C673	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	Q657	8-729-159-64	TRANSISTOR 2SD596
C674	1-163-037-11	CERAMIC CHIP	0.022uF	10% 25V	Q658	8-729-140-75	TRANSISTOR 2SD999-CLCK
C675	1-164-232-11	CERAMIC CHIP	0.01uF	50V	Q659	8-729-101-07	TRANSISTOR 2SB798-DL
< CONNECTOR >				Q660	8-729-900-52	TRANSISTOR DTC114YK	
CN453	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P		Q661	8-729-901-03	TRANSISTOR DTC144WK	
CN651	1-569-853-11	SOCKET, CONNECTOR 25P		Q662	8-729-901-00	TRANSISTOR DTC124EK	
CN652	1-569-845-11	SOCKET, CONNECTOR 17P		Q663	8-729-807-87	TRANSISTOR 2SB1295-UL6	
				Q664	8-729-901-46	TRANSISTOR DTA114YK	
				Q665	8-729-900-52	TRANSISTOR DTC114YK	
				Q666	8-729-902-99	TRANSISTOR DTC114TK	

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



## CONTROL

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R836	1-216-071-00	METAL CHIP	8.2K 5% 1/10W	S604	1-572-200-11	SWITCH, KEYBOARD (▷)	
R837	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	S605	1-572-200-11	SWITCH, KEYBOARD (AUTO PLAY)	
R838	1-216-055-00	METAL CHIP	1.8K 5% 1/10W	S606	1-572-200-11	SWITCH, KEYBOARD (◀◀)	
R839	1-216-051-00	METAL CHIP	1.2K 5% 1/10W	S607	1-572-200-11	SWITCH, KEYBOARD (▶▶)	
R840	1-216-049-00	METAL CHIP	1K 5% 1/10W	S608	1-572-200-11	SWITCH, KEYBOARD (PAUSE)	
R841	1-216-081-00	METAL CHIP	22K 5% 1/10W	S609	1-572-200-11	SWITCH, KEYBOARD (REC)	
R842	1-216-049-00	METAL CHIP	1K 5% 1/10W	S803	1-572-200-11	SWITCH, KEYBOARD (□)	
R843	1-216-049-00	METAL CHIP	1K 5% 1/10W	S804	1-572-200-11	SWITCH, KEYBOARD (□□)	
R844	1-216-049-00	METAL CHIP	1K 5% 1/10W	S805	1-572-200-11	SWITCH, KEYBOARD (▷)	
R845	1-216-049-00	METAL CHIP	1K 5% 1/10W	S806	1-572-200-11	SWITCH, KEYBOARD (SEND ◀◀)	
R846	1-216-049-00	METAL CHIP	1K 5% 1/10W	S807	1-572-200-11	SWITCH, KEYBOARD (SEND ▶▶)	
R847	1-216-049-00	METAL CHIP	1K 5% 1/10W	S808	1-572-200-11	SWITCH, KEYBOARD (INTRO SCAN)	
R848	1-216-049-00	METAL CHIP	1K 5% 1/10W	S809	1-572-200-11	SWITCH, KEYBOARD (PGM CHECK)	
R849	1-216-049-00	METAL CHIP	1K 5% 1/10W	S810	1-572-200-11	SWITCH, KEYBOARD (+10)	
R850	1-216-049-00	METAL CHIP	1K 5% 1/10W	S811	1-572-200-11	SWITCH, KEYBOARD (CLOCK)	
R851	1-216-049-00	METAL CHIP	1K 5% 1/10W	S812	1-572-200-11	SWITCH, KEYBOARD (TIMER)	
R852	1-216-097-00	METAL CHIP	100K 5% 1/10W	S813	1-572-200-11	SWITCH, KEYBOARD (SLEEP)	
R853	1-216-049-00	METAL CHIP	1K 5% 1/10W	S814	1-572-200-11	SWITCH, KEYBOARD (STANDBY)	
		< VARIABLE RESISTOR >		S815	1-572-200-11	SWITCH, KEYBOARD (DISPLAY)	
RV601	1-241-177-21	RES. ADJ. CERMET 2.2K		S816	1-572-200-11	SWITCH, KEYBOARD (EDIT/CLEAR)	
RV602	1-241-178-21	RES. ADJ. CERMET 4.7K		S817	1-572-200-11	SWITCH, KEYBOARD (AUTO SPACE)	
RV603	1-241-145-11	RES. ADJ. CERMET 47K		S818	1-572-200-11	SWITCH, KEYBOARD (REPEAT 1/ALL)	
		< SWITCH >		S819	1-572-200-11	SWITCH, KEYBOARD (PROGRAM/SHUFFLE)	
S351	1-572-378-21	SWITCH, SLIDE (ISS)		S820	1-572-200-11	SWITCH, KEYBOARD (1)	
S401	1-572-200-11	SWITCH, KEYBOARD (POWER)		S821	1-572-200-11	SWITCH, KEYBOARD (2)	
S402	1-572-200-11	SWITCH, KEYBOARD (TAPE)		S822	1-572-200-11	SWITCH, KEYBOARD (3)	
S403	1-572-200-11	SWITCH, KEYBOARD (RADIO)		S823	1-572-200-11	SWITCH, KEYBOARD (4)	
S404	1-572-200-11	SWITCH, KEYBOARD (CD)		S824	1-572-200-11	SWITCH, KEYBOARD (5)	
S405	1-572-347-21	SWITCH, SLIDE (TIMER MODE (TAPE))		S825	1-572-200-11	SWITCH, KEYBOARD (6)	
S406	1-572-347-21	SWITCH, SLIDE (DOLBY)		S826	1-572-200-11	SWITCH, KEYBOARD (7)	
S407	1-572-347-21	SWITCH, SLIDE (CD DUB SPEED)		S827	1-572-200-11	SWITCH, KEYBOARD (8)	
S501	1-572-200-11	SWITCH, KEYBOARD (MEMORY)		S828	1-572-200-11	SWITCH, KEYBOARD (9)	
S502	1-572-200-11	SWITCH, KEYBOARD (3)		S829	1-572-200-11	SWITCH, KEYBOARD (0)	
S503	1-572-200-11	SWITCH, KEYBOARD (2)				< TRANSFORMER >	
S504	1-572-200-11	SWITCH, KEYBOARD (1)		T401	1-450-053-11	TRANSFORMER, INVERTER	
S506	1-572-200-11	SWITCH, KEYBOARD (6)				< TEST PIN >	
S507	1-572-200-11	SWITCH, KEYBOARD (5)		TP801	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
S508	1-572-200-11	SWITCH, KEYBOARD (4)		TP802	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
S510	1-572-200-11	SWITCH, KEYBOARD (7)				< CRYSTAL >	
S515	1-572-200-11	SWITCH, KEYBOARD (BAND)		X401	1-578-787-21	VIBRATOR, CERAMIC 4.19MHz	
S516	1-572-377-21	SWITCH, SLIDE (FM SENS)		X501	1-577-556-11	VIBRATOR, CRYSTAL 75kHz	
S517	1-572-348-21	SWITCH, SLIDE (FM MODE)		XF801	1-567-098-00	VIBRATOR, CRYSTAL 32.768kHz	
S570	1-572-200-11	SWITCH, KEYBOARD (TUNING -)					
S571	1-572-200-11	SWITCH, KEYBOARD (TUNING +)					
S601	1-572-348-21	SWITCH, SLIDE (CD REC/DIR MODE)					
S602	1-572-200-11	SWITCH, KEYBOARD (◁)					
S603	1-572-200-11	SWITCH, KEYBOARD (□)					

**MD SW (K10)**

**POWER**

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D691	8-719-974-59	DIODE 1SR139-100	
		< PHOTO INTERRUPTER >	
PH691	8-719-939-11	PHOTO INTERRUPTER GP-2S09-B	
		< SWITCH >	
S691	1-572-248-11	SWITCH, LEAF (P. E. A)	
S692	1-572-248-11	SWITCH, LEAF (P. E. B)	
S693	1-572-248-11	SWITCH, LEAF (CASSETTE DET)	
S694	1-572-248-11	SWITCH, LEAF (120uS/70uS)	
S695	1-571-263-11	SWITCH (HEAD DET)	
*****			
	* A-3261-452-A	POWER BOARD, COMPLETE	
		*****	
	1-533-217-31	HOLDER, FUSE	
	* 1-535-303-00	WIRE, JUMPER	
	* 3-363-880-01	BRACKET (D), HEAT SINK	
	4-938-324-01	HEAT SINK (A)	
	* 4-938-339-01	BRACKET (A), HEAT SINK	
	* 4-938-340-01	BRACKET (B), HEAT SINK	
	7-682-550-04	SCREW +P 3X12	
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
		< CAPACITOR >	
C150	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C151	1-128-261-71	ELECT 10uF	20% 16V
C152	1-128-261-71	ELECT 10uF	20% 16V
C153	1-128-262-71	ELECT 47uF	20% 16V
C154	1-128-263-91	ELECT 1000uF	20% 16V
C155	1-128-260-91	ELECT 220uF	20% 25V
C156	1-128-260-91	ELECT 220uF	20% 25V
C157	1-136-165-00	FILM 0.1uF	5% 50V
C158	1-136-165-00	FILM 0.1uF	5% 50V
C159	1-126-401-11	ELECT CHIP 1uF	20% 50V
C160	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C161	1-126-398-11	ELECT CHIP 4.7uF	20% 35V
C162	1-123-875-11	ELECT 10uF	20% 50V
C163	1-126-392-11	ELECT CHIP 100uF	20% 6.3V
C164	1-128-258-71	ELECT 1uF	20% 50V
C250	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C251	1-128-261-71	ELECT 10uF	20% 16V
C252	1-128-261-71	ELECT 10uF	20% 16V
C253	1-128-262-71	ELECT 47uF	20% 16V
C254	1-128-263-91	ELECT 1000uF	20% 16V

Ref. No.	Part No.	Description	Remark
C255	1-128-260-91	ELECT 220uF	20% 25V
C256	1-128-260-91	ELECT 220uF	20% 25V
C257	1-136-165-00	FILM 0.1uF	5% 50V
C258	1-136-165-00	FILM 0.1uF	5% 50V
C259	1-126-401-11	ELECT CHIP 1uF	20% 50V
C260	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C261	1-126-398-11	ELECT CHIP 4.7uF	20% 35V
C262	1-123-875-11	ELECT 10uF	20% 50V
C263	1-126-392-11	ELECT CHIP 100uF	20% 6.3V
C264	1-128-258-71	ELECT 1uF	20% 50V
C351	1-128-269-71	ELECT 100uF	20% 10V
C352	1-128-235-21	ELECT CHIP 0.47uF	20% 50V
C353	1-128-269-71	ELECT 100uF	20% 10V
C354	1-163-059-00	CERAMIC CHIP 0.01uF	10% 50V
C355	1-126-392-11	ELECT CHIP 100uF	20% 6.3V
C356	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C451	1-124-443-00	ELECT 100uF	20% 10V
C901	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C902	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C903	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C904	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C905	1-125-634-11	ELECT 4700uF	20% 25V
C906	1-124-791-11	ELECT 1.0uF	20% 100V
C907	1-128-264-91	ELECT 220uF	20% 10V
C908	1-126-803-11	ELECT 47uF	20% 25V
C909	1-128-264-91	ELECT 220uF	20% 10V
C910	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C911	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C912	1-126-336-11	ELECT 220uF	20% 25V
		< CONNECTOR >	
CN151	* 1-569-973-11	PIN, CONNECTOR (PC BOARD) 2P	
CN251	* 1-569-973-11	PIN, CONNECTOR (PC BOARD) 2P	
CN351	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
CN352	1-569-833-11	SOCKET, CONNECTOR 5P	
CN353	1-569-848-11	SOCKET, CONNECTOR 20P	
CN451	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CN902	* 1-569-974-11	PIN, CONNECTOR (PC BOARD) 3P	
CN903	* 1-569-973-11	PIN, CONNECTOR (PC BOARD) 2P	
CN904	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CN906	* 1-580-141-11	PIN, CONNECTOR (PC BOARD) 2P	
		< DIODE >	
D350	8-719-911-19	DIODE 1SS119	
D351	8-719-400-18	DIODE MA152WK	
D901	8-719-302-38	DIODE RBV-602-01	
D903	8-719-911-19	DIODE 1SS119	

**DRIVER**

**INLET**

**MD SW (K10)**

Ref. No.	Part No.	Description	Remark
Q667	8-729-100-66	TRANSISTOR 2SC1623	
Q668	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q669	8-729-159-64	TRANSISTOR 2SD596	
Q670	8-729-901-00	TRANSISTOR DTC124EK	
Q671	8-729-901-46	TRANSISTOR DTA114YK	
Q672	8-729-901-03	TRANSISTOR DTC144WK	
Q673	8-729-923-04	TRANSISTOR DTC123YK	
Q674	8-729-901-03	TRANSISTOR DTC144WK	
Q675	8-729-902-99	TRANSISTOR DTC114TK	
Q676	8-729-902-99	TRANSISTOR DTC114TK	
Q677	8-729-902-99	TRANSISTOR DTC114TK	
Q678	8-729-100-66	TRANSISTOR 2SC1623	
Q679	8-729-900-52	TRANSISTOR DTC114YK	
Q680	8-729-900-52	TRANSISTOR DTC114YK	
Q681	8-729-900-52	TRANSISTOR DTC114YK	
Q682	8-729-901-03	TRANSISTOR DTC144WK	
Q683	8-729-901-03	TRANSISTOR DTC144WK	
< RESISTOR >			
R451	1-216-089-00	METAL CHIP 47K	5% 1/10W
R452	1-216-095-00	METAL CHIP 82K	5% 1/10W
R453	1-216-097-00	METAL CHIP 100K	5% 1/10W
R454	1-216-025-00	METAL CHIP 100	5% 1/10W
R640	1-216-073-00	METAL CHIP 10K	5% 1/10W
R641	1-216-093-00	METAL CHIP 68K	5% 1/10W
R642	1-216-097-00	METAL CHIP 100K	5% 1/10W
R643	1-216-073-00	METAL CHIP 10K	5% 1/10W
R644	1-216-111-00	METAL CHIP 390K	5% 1/10W
R645	1-216-089-00	METAL CHIP 47K	5% 1/10W
R650	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
R651	1-216-029-00	METAL CHIP 150	5% 1/10W
R652	1-216-041-00	METAL CHIP 470	5% 1/10W
R653	1-216-097-00	METAL CHIP 100K	5% 1/10W
R654	1-216-049-00	METAL CHIP 1K	5% 1/10W
R655	1-216-049-00	METAL CHIP 1K	5% 1/10W
R656	1-216-049-00	METAL CHIP 1K	5% 1/10W
R657	1-216-097-00	METAL CHIP 100K	5% 1/10W
R658	1-216-049-00	METAL CHIP 1K	5% 1/10W
R659	1-216-029-00	METAL CHIP 150	5% 1/10W
R660	1-216-049-00	METAL CHIP 1K	5% 1/10W
R662	1-216-748-11	METAL CHIP 39K	5% 1/10W
R663	1-216-039-00	METAL CHIP 390	5% 1/10W
R664	1-216-101-00	METAL CHIP 150K	5% 1/10W
R665	1-216-037-00	METAL CHIP 330	5% 1/10W
R666	1-216-073-00	METAL CHIP 10K	5% 1/10W
R670	1-216-073-00	METAL CHIP 10K	5% 1/10W
R671	1-216-097-00	METAL CHIP 100K	5% 1/10W
R672	1-216-049-00	METAL CHIP 1K	5% 1/10W
R674	1-216-049-00	METAL CHIP 1K	5% 1/10W



Ref. No.	Part No.	Description	Remark
R675	1-216-073-00	METAL CHIP 10K	5% 1/10W
R677	1-216-049-00	METAL CHIP 1K	5% 1/10W
R682	1-216-089-00	METAL CHIP 47K	5% 1/10W
R683	1-216-089-00	METAL CHIP 47K	5% 1/10W
R684	1-216-025-00	METAL CHIP 100	5% 1/10W
R685	1-216-089-00	METAL CHIP 47K	5% 1/10W
R686	1-216-073-00	METAL CHIP 10K	5% 1/10W
R687	1-216-748-11	METAL CHIP 39K	5% 1/10W
R688	1-216-091-00	METAL CHIP 56K	5% 1/10W
R689	1-216-097-00	METAL CHIP 100K	5% 1/10W
R690	1-216-097-00	METAL CHIP 100K	5% 1/10W
R691	1-216-081-00	METAL CHIP 22K	5% 1/10W
R692	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R693	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
R694	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R695	1-216-073-00	METAL CHIP 10K	5% 1/10W
R696	1-216-073-00	METAL CHIP 10K	5% 1/10W
< TRANSFORMER >			
T451	1-450-126-21	TRANSFORMER, DC-DC CONVERTER	
*****			
* 1-635-076-21 INLET BOARD			
*****			
< CONNECTOR >			
CN901	* 1-569-974-11	PIN, CONNECTOR (PC BOARD) 3P	
CN905	* 1-569-715-11	PIN, CONNECTOR (PC BOARD) 2P	
< JACK >			
J901	△ 1-526-838-11	INLET, AC 2P (~AC IN)	
< LINE FILTER >			
LF901	△ 1-424-150-11	TRANSFORMER, LINE FILTER	
*****			
* 1-635-797-11 MD SW(K10) BOARD			
*****			
3-360-345-01 HOLDER (PHOTO)			
3-364-125-01 CUSHION (RM)			
< CAPACITOR >			
C690	1-130-177-00	FILM 1uF	5% 50V
< CONNECTOR >			
CN691	1-569-895-11	SOCKET, CONNECTOR 17P	

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

## TUNER

Ref. No.	Part No.	Description	Remark
C33	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C34	1-124-927-11	ELECT	4.7uF 20% 100V
C35	1-124-902-00	ELECT	0.47uF 20% 50V
C36	1-124-791-11	ELECT	1.0uF 20% 100V
C37	1-124-902-00	ELECT	0.47uF 20% 50V
C38	1-124-927-11	ELECT	4.7uF 20% 100V
C39	1-123-875-11	ELECT	10uF 20% 50V
C40	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C41	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C52	1-163-986-00	CERAMIC CHIP	0.027uF 10% 25V
C53	1-163-986-00	CERAMIC CHIP	0.027uF 10% 25V
C54	1-124-902-00	ELECT	0.47uF 20% 50V
C55	1-124-902-00	ELECT	0.47uF 20% 50V
C60	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C61	1-163-141-00	CERAMIC CHIP	0.001uF 5% 50V
C62	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C65	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C70	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C71	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C73	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
< FILTER >			
CF1	1-579-185-21	FILTER, CERAMIC	
CF2	1-579-185-21	FILTER, CERAMIC	
CF3	1-579-185-21	FILTER, CERAMIC	
< CONNECTOR >			
CN1	1-569-843-11	SOCKET, CONNECTOR 15P	
CN2	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
CN3	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P	
CN4	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CP2	1-236-571-11	ENCAPSULATED COMPONENT	
< TRIMMER >			
CT1	1-141-411-11	CAP, ADJ 20PF	
CT2	1-141-410-11	CAP, ADJ 10PF	
CT3	1-141-411-11	CAP, ADJ 20PF	
< DIODE >			
D5	8-719-945-44	DIODE SVC203CP-A	
D6	8-719-945-44	DIODE SVC203CP-A	
D7	8-719-945-31	DIODE SVC341-L	
D70	8-719-400-18	DIODE MA152WK	
< FILTER >			
FL1	1-236-022-11	FILTER, BAND PASS	
< IC >			
IC1	8-752-050-20	IC CXA1238S	

Ref. No.	Part No.	Description	Remark
< JUMPER >			
JR5	1-216-295-00	METAL CHIP	0 5% 1/10W
JR6	1-216-295-00	METAL CHIP	0 5% 1/10W
JR7	1-216-296-00	METAL CHIP	0 5% 1/8W
JR8	1-216-295-00	METAL CHIP	0 5% 1/10W
JR9	1-216-296-00	METAL CHIP	0 5% 1/8W
JR12	1-216-295-00	METAL CHIP	0 5% 1/10W
JR17	1-216-296-00	METAL CHIP	0 5% 1/8W
JR18	1-216-296-00	METAL CHIP	0 5% 1/8W
JR19	1-216-295-00	METAL CHIP	0 5% 1/10W
JR20	1-216-295-00	METAL CHIP	0 5% 1/10W
JR21	1-216-296-00	METAL CHIP	0 5% 1/8W
JR22	1-216-296-00	METAL CHIP	0 5% 1/8W
JR23	1-216-296-00	METAL CHIP	0 5% 1/8W
< COIL >			
L1	1-426-545-11	COIL, RF	
L2	1-406-386-11	COIL (OSC)	
L3	1-402-467-11	ANTENNA, FERRITE-ROD	
L4	1-406-216-11	COIL (OSC)	
L8	1-236-836-11	FILTER, LOW PASS	
L9	1-236-836-11	FILTER, LOW PASS	
L10	1-410-993-11	INDUCTOR, CHIP 1uH	
< LINK >			
PS1	△ 1-532-727-11	LINK, IC ICP-N5 (0.25A)	
< TRANSISTOR >			
Q2	8-729-902-99	TRANSISTOR DTC114TK	
Q3	8-729-900-98	TRANSISTOR DTC143TK	
Q4	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q5	8-729-900-52	TRANSISTOR DTC114YK	
Q8	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q9	8-729-900-52	TRANSISTOR DTC114YK	
Q10	8-729-900-52	TRANSISTOR DTC114YK	
Q11	8-729-900-52	TRANSISTOR DTC114YK	
Q12	8-729-900-52	TRANSISTOR DTC114YK	
Q16	8-729-920-31	TRANSISTOR DTC343TK	
Q17	8-729-920-31	TRANSISTOR DTC343TK	
Q26	8-729-900-52	TRANSISTOR DTC114YK	
Q27	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q32	8-729-902-99	TRANSISTOR DTC114TK	
< RESISTOR >			
R5	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
R6	1-216-097-00	METAL CHIP	100K 5% 1/10W
R7	1-216-077-00	METAL CHIP	15K 5% 1/10W
R8	1-216-097-00	METAL CHIP	100K 5% 1/10W

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

## POWER

## READER DETECTION

## TUNER

Ref. No.	Part No.	Description	Remark
		< IC >	
IC151	8-759-150-33	IC uPC2501H-1	
IC251	8-759-150-33	IC uPC2501H-1	
IC351	8-759-604-78	IC M5216FP	
IC451	8-759-962-08	IC BA6208	
IC901	8-759-513-10	IC BA3924-V3	
		< COIL >	
L451	1-408-426-00	INDUCTOR 270uH	
		< LINK >	
PS451 $\Delta$	1-576-122-21	LINK, IC	
		< TRANSISTOR >	
Q151	8-729-902-99	TRANSISTOR DTC114TK	
Q251	8-729-902-99	TRANSISTOR DTC114TK	
Q351	8-729-902-99	TRANSISTOR DTC114TK	
Q352	8-729-901-03	TRANSISTOR DTC144WK	
Q353	8-729-907-03	TRANSISTOR FMG5	
Q354	8-729-900-52	TRANSISTOR DTC114YK	
Q901	8-729-924-90	TRANSISTOR 2SB1370-EF	
		< RESISTOR >	
R151	1-216-049-00	METAL CHIP 1K	5% 1/10W
R153	1-216-009-00	METAL CHIP 22	5% 1/10W
R154	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
R155	1-216-009-00	METAL CHIP 22	5% 1/10W
R156	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
R157	1-249-381-11	CARBON 1	5% 1/4W
R158	1-249-381-11	CARBON 1	5% 1/4W
R159	1-216-049-00	METAL CHIP 1K	5% 1/10W
R160	1-216-049-00	METAL CHIP 1K	5% 1/10W
R161	1-216-077-00	METAL CHIP 15K	5% 1/10W
R162	1-216-013-00	METAL CHIP 33	5% 1/10W
R163	1-216-073-00	METAL CHIP 10K	5% 1/10W
R164	1-216-089-00	METAL CHIP 47K	5% 1/10W
R251	1-216-049-00	METAL CHIP 1K	5% 1/10W
R253	1-216-009-00	METAL CHIP 22	5% 1/10W
R254	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
R255	1-216-009-00	METAL CHIP 22	5% 1/10W
R256	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
R257	1-249-381-11	CARBON 1	5% 1/4W
R258	1-249-381-11	CARBON 1	5% 1/4W
R259	1-216-049-00	METAL CHIP 1K	5% 1/10W
R260	1-216-049-00	METAL CHIP 1K	5% 1/10W
R261	1-216-077-00	METAL CHIP 15K	5% 1/10W
R262	1-216-013-00	METAL CHIP 33	5% 1/10W
R263	1-216-073-00	METAL CHIP 10K	5% 1/10W

Ref. No.	Part No.	Description	Remark
R264	1-216-089-00	METAL CHIP 47K	5% 1/10W
R350	1-216-037-00	METAL CHIP 330	5% 1/10W
R351	1-216-025-00	METAL CHIP 100	5% 1/10W
R352	1-216-049-00	METAL CHIP 1K	5% 1/10W
R353	1-216-073-00	METAL CHIP 10K	5% 1/10W
R354	1-216-121-00	METAL CHIP 1M	5% 1/10W
R355	1-216-059-00	METAL CHIP 2.7K	5% 1/10W
R356	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R357	1-216-073-00	METAL CHIP 10K	5% 1/10W
R359	1-216-073-00	METAL CHIP 10K	5% 1/10W
R360	1-216-073-00	METAL CHIP 10K	5% 1/10W
R451	1-216-073-00	METAL CHIP 10K	5% 1/10W
R452	1-216-073-00	METAL CHIP 10K	5% 1/10W
R901	1-216-089-00	METAL CHIP 47K	5% 1/10W

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\* 1-612-589-12 READER DETECTION BOARD

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&lt; PHOTO INTERRUPTER &gt;

PH692 8-719-939-11 PHOTO INTERRUPTER GP-2S09-B

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\* A-3261-451-A TUNER BOARD, COMPLETE

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&lt; CAPACITOR &gt;

C6	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C7	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C8	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C9	1-161-379-00	CERAMIC 0.01uF	20% 25V
C10	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V
C11	1-124-472-11	ELECT 470uF	20% 10V
C13	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C15	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C17	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V
C19	1-163-082-00	CERAMIC CHIP 0.5PF	0.25PF 50V
C20	1-136-157-00	FILM 0.022uF	5% 50V
C21	1-136-157-00	FILM 0.022uF	5% 50V
C22	1-163-100-00	CERAMIC CHIP 20PF	5% 50V
C23	1-163-134-00	CERAMIC CHIP 510PF	5% 50V
C24	1-163-083-00	CERAMIC CHIP 1PF	50V
C25	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V
C29	1-123-875-11	ELECT 10uF	20% 50V
C30	1-123-382-00	ELECT 3.3uF	20% 100V
C31	1-124-126-00	ELECT 47uF	20% 10V
C32	1-124-791-11	ELECT 1.0uF	20% 100V

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

TUNER

VOL

VOL MOTOR

Ref. No.	Part No.	Description	Remark
R9	1-216-097-00	METAL CHIP	100K 5% 1/10W
R11	1-216-089-00	METAL CHIP	47K 5% 1/10W
R12	1-216-049-00	METAL CHIP	1K 5% 1/10W
R13	1-216-097-00	METAL CHIP	100K 5% 1/10W
R14	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
R15	1-216-041-00	METAL CHIP	470 5% 1/10W
R16	1-216-025-00	METAL CHIP	100 5% 1/10W
R17	1-216-073-00	METAL CHIP	10K 5% 1/10W
R18	1-216-025-00	METAL CHIP	100 5% 1/10W
R19	1-216-049-00	METAL CHIP	1K 5% 1/10W
R20	1-216-071-00	METAL CHIP	8.2K 5% 1/10W
R21	1-216-071-00	METAL CHIP	8.2K 5% 1/10W
R22	1-216-105-00	METAL CHIP	220K 5% 1/10W
R23	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R24	1-216-105-00	METAL CHIP	220K 5% 1/10W
R25	1-216-073-00	METAL CHIP	10K 5% 1/10W
R27	1-216-073-00	METAL CHIP	10K 5% 1/10W
R34	1-216-073-00	METAL CHIP	10K 5% 1/10W
R35	1-216-089-00	METAL CHIP	47K 5% 1/10W
R36	1-216-009-00	METAL CHIP	22 5% 1/10W
R37	1-216-041-00	METAL CHIP	470 5% 1/10W
R40	1-216-083-00	METAL CHIP	27K 5% 1/10W
R49	1-216-035-00	METAL CHIP	270 5% 1/10W
R53	1-216-049-00	METAL CHIP	1K 5% 1/10W
R54	1-216-037-00	METAL CHIP	330 5% 1/10W
R55	1-216-045-00	METAL CHIP	680 5% 1/10W
R70	1-216-049-00	METAL CHIP	1K 5% 1/10W
R72	1-216-049-00	METAL CHIP	1K 5% 1/10W
R73	1-216-097-00	METAL CHIP	100K 5% 1/10W
R74	1-216-097-00	METAL CHIP	100K 5% 1/10W
R75	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R76	1-216-049-00	METAL CHIP	1K 5% 1/10W
R77	1-216-085-00	METAL CHIP	33K 5% 1/10W
		< VARIABLE RESISTOR >	
RV1	1-238-601-11	RES, ADJ, CARBON 22K	
		*****	
		* 1-635-074-21 VOL BOARD	*****
		* 1-535-303-00 WIRE, JUMPER	
		< CONNECTOR >	
CN375	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
CN376	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	

Ref. No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV375	1-238-177-11	RES, VAR, CARBON 50K/50K (VOLUME) (INCLUDING VOLUME MOTOR)	
		*****	
		* 1-635-073-21 VOL MOTOR BOARD	*****
		< CAPACITOR >	
C452	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C453	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
		< CONNECTOR >	
CN452	* 1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P	
		< COIL >	
L451	1-408-403-00	INDUCTOR	3.3uH
L452	1-408-403-00	INDUCTOR	3.3uH
		*****	
		MISCELLANEOUS	*****
12	1-452-419-21	MAGNET	
53	1-634-546-11	CD-RF-A FLEXIBLE BOARD	
101	1-533-217-31	HOLDER, FUSE	
204	△ 8-848-169-01	DEVICE, OPTICAL KSS-224A	
ANT1	1-501-378-11	ANTENNA, TELESCOPIC	
F901	△ 1-532-350-00	FUSE (4A)	
HRP101	A-3113-038-A	HEAD ASSY, ROTARY (REC/PB/ERASE)	
M701	X-2644-016-1	MOTOR ASSY G (RP)	
M702	X-2644-014-1	MOTOR ASSY, SPINDLE	
M901	A-3133-405-A	MOTOR ASSY, CAPSTAN	
M902	A-3133-406-A	MOTOR ASSY, REEL	
PM691	1-454-533-11	SOLENOID, PLUNGER	
S791	1-570-112-11	SWITCH, LEAF (LIMIT IN)	
S801	1-571-283-11	SWITCH, LEAF (OPEN/CLOSE)	
SP101	1-544-390-11	SPEAKER	
SP201	1-544-390-11	SPEAKER	
T901	△ 1-450-389-11	TRANSFORMER, POWER (AEP, G, IT)	
T901	△ 1-450-432-11	TRANSFORMER, POWER (UK)	

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

Ref. No.	Part No.	Description	Remark
ACCESSORY & PACKING MATERIAL			
	1-465-452-11	COMMANDER, REMOTE (RMT-C10)	
	△ 1-558-032-11	CORD, POWER (UK)	
	△ 1-575-131-11	CORD, POWER (AEP, G, IT)	
	3-752-083-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH)	
	3-752-083-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH, ITALIAN, PORTUGUESE) (AEP, IT)	

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HARDWARE LIST

# 1	7-685-647-79	SCREW, TAPPING +BV 3X10	
# 2	7-685-152-19	SCREW +P 3X25 TYPE2 NON-SLIT	
# 3	7-621-255-20	SCREW +P 2X4	
# 4	7-621-255-10	SCREW +PTT 2X3 (S)	
# 5	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
# 6	7-623-953-01	WASHER	
# 7	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
# 8	7-621-772-00	SCREW +B 2X3	
# 9	7-685-646-79	SCREW, TAPPING +BV 3X8	
#10	7-682-547-09	SCREW +B 3X6	
#11	7-682-550-04	SCREW +P 3X12	
#12	7-621-255-15	SCREW +P 2X3	
#13	7-682-548-09	SCREW +BVTT 3X8 (S)	
#14	7-624-106-04	STOP RING 3.0, TYPE -E	
#15	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
#16	7-627-552-88	SCREW, PRECISION +P 1.7X2.2	
#17	7-621-772-20	SCREW +B 2X5	
#18	7-621-770-67	SCREW +P 2.6X6	
#19	7-621-773-86	SCREW +P 2.6X4	
#20	7-627-553-47	PRECISION SCREW +P 2X4 TYPE 3	
#21	7-685-782-01	SCREW +PTT 2X5 (S)	

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