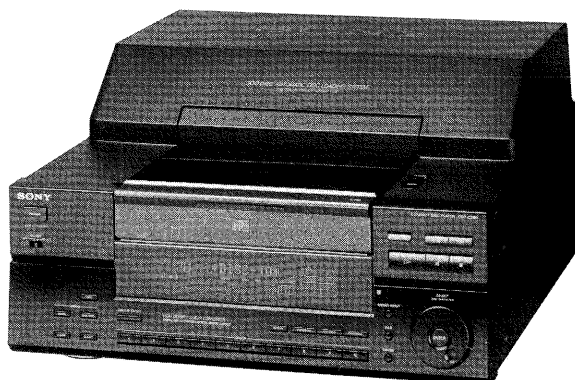


CDP-CX151

SERVICE MANUAL



*US Model
Canadian Model
AEP Model
UK Model
Australian Model*

Model Name Using Similar Mechanism	CDP-CX100
CD Mechanism Type	CDM-30
Base Unit Type	KSM-310ABM
Optical Pick-up Type	KSS-310A

SPECIFICATIONS

Compact disc player

Laser	Semiconductor laser
Wavelength	780 – 790 nm
Frequency response	2 Hz to 20 kHz $\pm$ 0.3 dB
Signal-to-noise ratio	More than 107 dB
Dynamic range	More than 98 dB
Harmonic distortion	Less than 0.0027%
Channel separation	More than 100 dB

Outputs

	Jack type	Maximum output level	Load impedance
LINE OUT	Phono jacks	2 V (at 50 kilohms)	Over 10 kilohms
DIGITAL OUT (OPTICAL)	Optical output connector	-18 dBm	Wave length: 660 nm

General

Power requirements

Where purchased	Power requirements
USA, Canada	120 V AC, 60 Hz
Australia, UK	240 V AC, 50 Hz
AEP	220 - 230V AC, 50/60 Hz
Power consumption	15 W

Dimensions (approx.) (w/h/d)	When the front cover is closed 430 × 240 × 470 mm (17 × 9 1/2 × 18 5/8 in.) incl. projecting parts When the front cover is open 430 × 380 × 470 mm (17 × 15 × 18 5/8 in.) incl. projecting parts
------------------------------	---

Mass (approx.)	9.0 kg (19 lbs 14 oz)
----------------	-----------------------

Supplied accessories

Audio cord (2 phono plugs – 2 phono plugs) (1)
Remote commander (remote) (1)
Sony SUM-3 (NS) batteries (2)
CD booklet holder (1)
Labels (2)

Design and specifications are subject to change without notice.

COMPACT DISC PLAYER
SONY®

TABLE OF CONTENTS

Section	Title	Page
SECTION 1.	SERVICING NOTE	3
SECTION 2.	GENERAL	4
SECTION 3.	DISASSEMBLY	
3-1.	Boards of Front Panel	11
3-2.	CD Mechanism Deck (1)	11
3-3.	Table (Rotary)	12
3-4.	CD Mechanism Deck (2)	12
SECTION 4.	ELECTRICAL ADJUSTMENTS	13
SECTION 5.	IC PIN FUNCTIONS	
•	IC101 DSP Controller (CXD2515Q)	15
•	IC401 Main System Controller (M37451M4-453FP)	18
•	IC801 Sub System Controller (MB89647PF-111)	20
SECTION 6.	DIAGRAMS	
6-1.	Circuit Boards Location	22
6-2.	Block Diagram	23
6-3.	Printed Wiring Board	
•	MAIN Section	27
6-4.	Schematic Diagram	
•	MAIN Section	31
6-5.	Schematic Diagram	
•	DISPLAY Section	36
6-6.	Printed Wiring Board	
•	DISPLAY Section	38
6-7.	Semiconductor Lead Layouts	41
SECTION 7.	EXPLODED VIEWS	
7-1.	Case, Main Board Section	42
7-2.	Table (Rotary) Section	43
7-3.	CD Mechanism Section (1) (CDM-30)	44
7-4.	CD Mechanism Section (2) (CDM-30)	45
7-5.	Base Unit Section (KSM-310 ABM)	46
SECTION 8.	ELECTRICAL PARTS LIST	47

Notes on chip component replacement

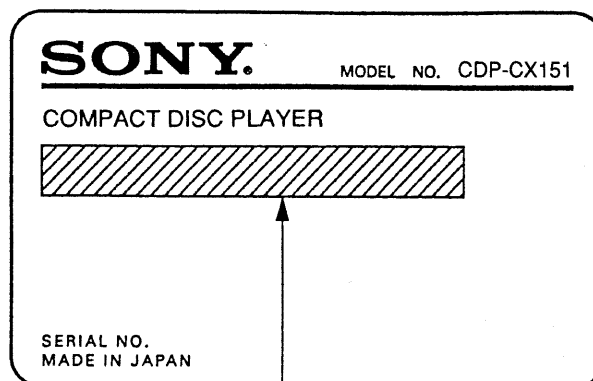
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

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

MODEL IDENTIFICATION

— Specification Label —



US, Canadian model : AC : 120V 60Hz 15W
 AEP model : AC : 220 – 230V ~ 50/60Hz 15W
 UK model : AC : 220 – 230V ~ 50/60Hz
 Australian model : AC : 240V ~ 50/60Hz

CAUTION

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

The following caution label is located inside of the unit.

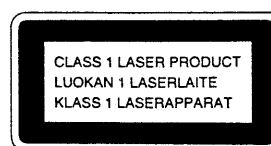
CAUTION : INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM.

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.

VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA DLET ALTTIINA LASERSÄTEILYLLE.

VARNING : LASERSTRÅLING NÅR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URÖPPPLAD.

ADVERSEL: USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.



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

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

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

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

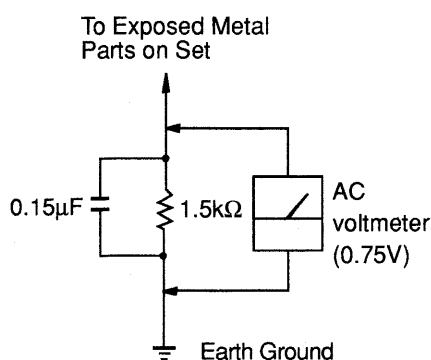


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK Δ OR DOTTED LINE WITH MARK Δ 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.

SECTION 1 SERVICING NOTE

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

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

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

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

NOTES ON LASER DIODE EMISSION CHECK

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

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

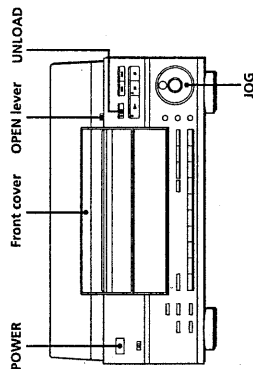
Carry out the "S curve check" in "CD section adjustment" and check that the S curve waveform is output three times.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

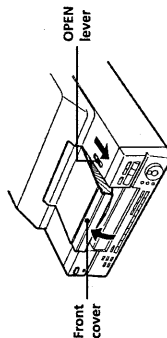
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE Δ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Inserting CDs

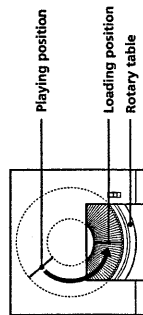
You can insert up to 100 discs into this player.



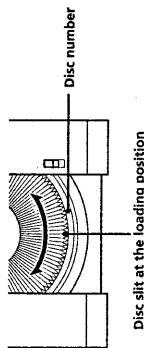
- 1 Press POWER to turn on the player.
- 2 Slide the OPEN lever toward you and lift up the front cover.



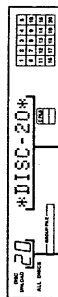
- 3 Press UNLOAD. The UNLOAD button indicator and "UNLOAD" in the display flash. After the rotary table turns, both indicator and indication light up.



- 4 Find the disc slit where you want to insert a disc while checking the disc number (written beside the slit and also indicated in the display). If you want to move the slit toward you, turn the JOG dial.



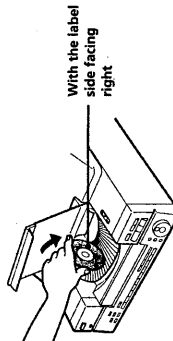
The disc number at the loading position and the Disc Memo (see page 15) appear in the display. As you turn the JOG dial, the disc number and the Disc Memo change.



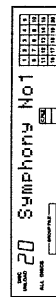
Disc number at the loading position

When the disc does not have the Disc Memo, the disc number (e.g., *DISC-20*) appears instead of the Disc Memo. This disc number disappears if you do not play the disc for more than a minute. However, the disc number appears again when you play the disc.

- 5 Insert a disc with the label side facing right.

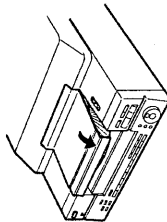


After inserting the disc, you can label the disc to locate it easily (see "Labeling Discs (Disc Memo)" on page 15).



- 6 Repeat Steps 4 and 5 to insert more discs.

- 7 Close the front cover by pressing the right edge of the cover until it clicks.

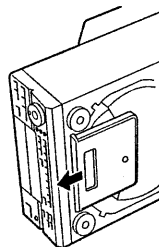


Always close the front cover except when you insert or remove discs.

- When the UNLOAD indicator lights up "UNLOAD" appears in the display and the current disc slit comes to the loading position. You can turn the rotary table, but cannot play CDs at this time.

- The supplied CD booklet holder helps you locate a disc. You can store up to 100 CD booklets. Insert booklets and stick the number label on the film of a pocket and the booklet so that you can locate the disc easily.

- When you drop something inside the player. Slide the bottom cover to detach it. Remove the foreign object, then slide the cover back in.



- Note When you insert an 8 cm (3-inch) CD, be sure to attach a Sony CSA-8 adaptor (not supplied) to the disc.

Removing CDs

- After following Steps 1 to 4 of "Inserting CDs" on page 6, remove the discs. Then close the front cover.

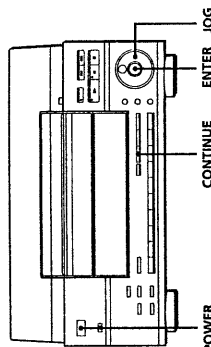
- When you replace a disc in a slit Custom Files (see page 15) remain even if you remove a disc. If you replace the disc with a new one, "DISC CHANGED" appears in the display. Erase or change the Custom File information if necessary.

SECTION 2 GENERAL

This section is extracted from instruction manual.

Playing CDs

You can play all the tracks on a disc in the original order (Continuous Play). You can also play up to 100 discs consecutively. Before you begin, make sure you have connected the player to an amplifier correctly and firmly as indicated on pages 4 and 5, and have inserted the discs correctly as indicated on page 6.



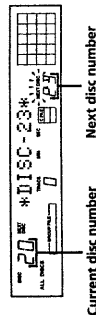
- 1 Turn on the amplifier and select the CD player position.
- 2 Press POWER to turn on the player.
- 3 Press CONTINUE to select ALL DISCS or 1 DISC. Each time you press CONTINUE, "ALL DISCS" and "1 DISC" appear in the display alternately.

When you select The player plays

ALL DISCS	All discs in the player consecutively in the order of disc number. Empty disc slits are skipped.
1 DISC	Only one disc you have selected

- 4 Turn the JOG dial while checking the disc numbers or Disc Memo (see page 15) in the display to select the first disc (ALL DISCS) or the disc you want (1 DISC).

The next disc number changes as you turn the JOG dial.



Current disc number

Next disc number

- 5 Press ENTER. The selected disc is set to the playing position, and the player plays all the discs from the selected one (ALL DISCS) or all the tracks once (1 DISC). Adjust the volume on the amplifier.

To stop playback
Press ■

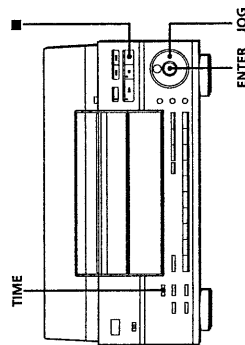
When you want to	Press
Pause	II
Resume play after pause	▶ or II
Go to the next disc	DISC SKIP + once. Hold down the button to skip discs.
Go back to the preceding disc	DISC SKIP - once. Hold down the button to skip discs.
Go to the next track	▶▶
Go back to the preceding track	◀◀
Stop play and release the disc from the playing position	UNLOAD

When you turn off the player

The player remembers the last playing disc and the play mode (Continuous, Shuffle (see page 11) or Program (see page 12)). When you turn on the player again, therefore, the player plays the same disc in the same play mode.

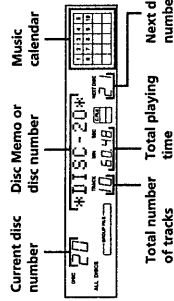
Using the Display

You can check information about the disc using the display.



Checking the total number and playing time of the tracks

Select the disc you want to check, and press ENTER in the Continuous Play mode. As the player starts play automatically, press ■ to stop, and then TIME. The display shows the current disc number, total number of tracks, total playing time and music calendar.



When you want to check another disc

Press DISC SKIP on the remote in the stop mode to select the disc you want to check. The total number of tracks and the total playing time of the selected disc appear for a while.

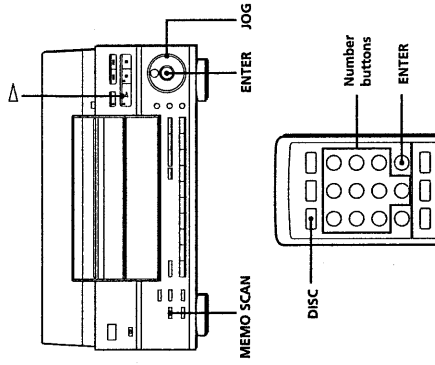
Checking the remaining time

Each time you press TIME while playing a disc, the display changes as shown in the table below. The track numbers in the music calendar disappear after they are played.

Press TIME	To check
Once	Remaining time on the current track 20 *DISC-20* 7 234 27
Twice	Remaining time on the current disc* 20 *DISC-20* 7 234 27
Three times	Playing time and number of the current track 20 *DISC-20* 7 234 27

* This information is available only in the Continuous Play mode. If you have deleted tracks (see page 16), "—" appears instead of the remaining time.

Locating a Specific Disc



Selecting a disc with the player

Turn the JOG dial until the disc number you want appears in the display. Press ENTER to start play.

Selecting a disc directly with the remote

- 1 Press DISC on the remote.
- 2 Press the number button of the disc.
To select a disc with a number over 10
Press the 10's digit first, then the 1's digit. To enter 0, use the button 10/0.
Example: To enter number 30
Press 3, then 0 (10/0)
To enter number 100, press 0 (10/0) twice.
- 3 Press ENTER to start play.

Locating a disc by scanning each Disc Memo (Memo Scan)

You can locate a disc you want to play quickly by scanning the Disc Memos (see page 15) in the display and start playing.
Note that you cannot use this function in the ALL DISCS Shuffle and Program Play modes.

- 1 Press MEMO SCAN until "MEMO SCAN" appears in the display.
The Disc Memos scroll in the display.
- 2 Press ▶ or ENTER when the Disc Memo of the disc you want to play appears.
The disc is set to the playing position, and the player starts playing.

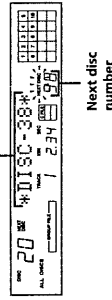
You can jump to the next or preceding Disc Memo while scanning
Press F4/F5 or D+/-.

Specifying the Next Disc to Play

You can specify the next disc to play while playing a disc in the continuous play mode.

While playing a disc, turn the JOG dial until the disc number you want appears in the display.

Next Disc Memo or disc number appears for a while.

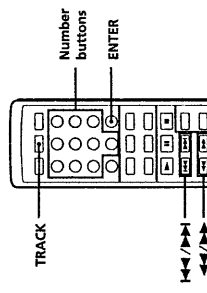
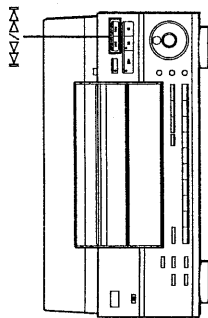


After the current disc is played, the next disc you have specified starts playing.
If you want to skip to the next disc right away, press ENTER while playing the current disc.

To cancel the disc you have specified
Press CONTINUE twice.

Locating a Specific Track or a Point in a Track

You can quickly locate any track while playing a disc using the **TRACK** or **ENTER** (AMS: Automatic Music Sensor) buttons or number buttons on the remote. You can also locate a specific point in a track while playing a disc.



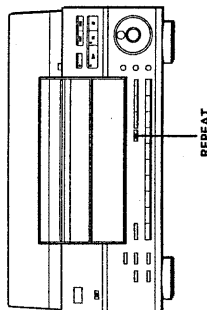
To locate	Press
the next or succeeding tracks	▶▶ repeatedly until you find the track
the current or preceding tracks	◀◀ repeatedly until you find the track
a specific track directly	1 Press TRACK . 2 Press the number button of the track.
a point in a track while monitoring the sound	▶▶ (forward) or ◀◀ (backward) and hold down until you find the point
a point in a track quickly by observing the display during pause	◀◀/▶▶ and hold down until you find the point. You will not hear the sound during the operation.

Note
When you directly locate a track with a number over 10
Press the 10's digit first, then the 1's digit. To enter 0, use the button 10/0.

Note
If "7" appears in the display, the disc has reached the end while you were pressing **▶▶**. Press **◀◀** or **◀◀1** to go back.

Playing Repeatedly

You can play discs/tracks repeatedly in any play mode. The player stops after repeating the tracks five times in each play mode.



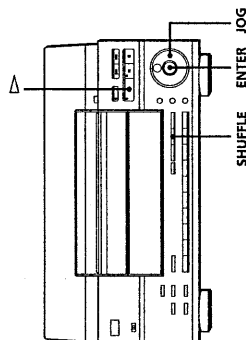
Press **REPEAT** while playing a disc.
"REPEAT" appears in the display. The player repeats the discs/tracks as follows:

When the disc is played in	The player repeats
Continuous Play (ALL DISCS) (page 7)	All tracks on all discs
Continuous Play (1 DISC) (page 7)	All tracks on the current disc
Shuffle Play (ALL DISCS) (page 11)	All tracks on all discs in random orders
Shuffle Play (1 DISC) (page 11)	All tracks on the current disc in random orders
Program Play (page 12)	The same program

To cancel Repeat Play
Press **REPEAT** again. "REPEAT OFF" appears for a while, and "REPEAT" disappears from the display.

Playing in a Random Order (Shuffle Play)

You can have the player "shuffle" the tracks and play in a random order. The player shuffles all the tracks on all discs or on the disc you specified.



Shuffle Play on all discs

You can play all tracks on all discs in a random order.

- 1 Press **SHUFFLE** repeatedly until "ALL DISCS" appears in the display.
- 2 Press **▶**.
ALL DISCS Shuffle Play starts.
"J" appears in the display while the player is "shuffling" the discs or tracks.

To cancel Shuffle Play
Press **CONTINUE**.

Note
You can start Shuffle Play while playing
Press **SHUFFLE**, and Shuffle Play starts from the current track.

Notes
• You cannot specify the next disc to play during ALL DISCS Shuffle Play.
• Even if you press **▶** or turn off the player during ALL DISCS Shuffle Play, the player remembers which discs/tracks are played and which are not. Therefore, if you want to start ALL DISCS Shuffle Play again from the beginning, be sure to repeat the procedure from Step 1.

Shuffle Play on one disc

You can play all tracks on the specific disc in a random order.

- 1 Press **SHUFFLE** repeatedly until "1 DISC" appears in the display.
- 2 Turn the **JOG** dial to select the disc.
- 3 Press **ENTER**.
1 DISC Shuffle Play starts on the selected disc.
"J" appears in the display while the player is "shuffling" the tracks.

To cancel Shuffle Play
Press **CONTINUE**.

Note
You can directly select a disc
See "Selecting a disc directly with the remote" on page 9.

Note
You can go to the next disc during 1 DISC Shuffle Play
Press **DISC SKIP**.

Note
You can specify the next disc to play during 1 DISC Shuffle Play
Turn the **JOG** dial to specify the next disc. After all the tracks on the current disc are played in a random order, the next disc starts playing. If you want to skip to the next disc right away, press **ENTER** while playing the current disc.

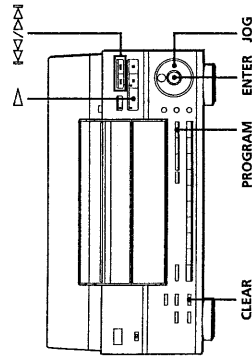
Note
You can start Shuffle Play while playing
Press **SHUFFLE**, and Shuffle Play starts from the current track.

Creating Your Own Programs (Program Play)

You can arrange the order of the tracks and/or discs and create 3 different programs and programs are stored automatically. A program can contain up to 32 "steps" — one "step" may contain a track or a whole disc.

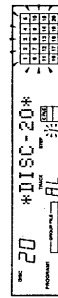
You can make programs using the controls on the remote as well as ones on the player. However, the programming procedures are different.

Creating a program using the player

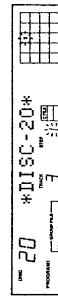


- 1 Press PROGRAM until the program number you want (PROGRAM 1, 2 or 3) appears in the display. If a program is already stored in the selected program number, the last step of the program appears in the display. When you want to erase the whole program, hold down CLEAR until "ALL CLEAR" appears in the display (see page 14).

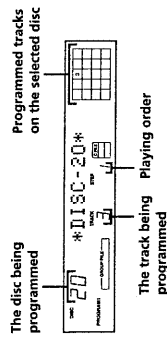
- 2 Turn the JOG dial to select the disc.



- 3 To program a whole disc, skip this step. Press <S>/>D> to select a track.



- 4 Press ENTER or PROGRAM.



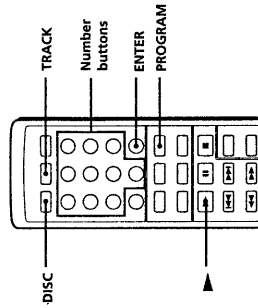
- 5 To program other discs/tracks, do the following:

To program	Repeat Steps
Other discs	2 and 4
Other tracks on the same disc	3 to 4
Other tracks on other discs	2 to 4

- 6 Press > to start Program Play.

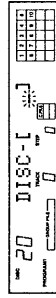
To cancel Program Play
Press CONTINUE.

Creating a program using the remote



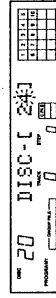
- 1 Press PROGRAM until the program number you want (PROGRAM 1, 2 or 3) appears in the display. If a program is already stored in the selected program number, the last step of the program appears in the display. When you want to erase the whole program, hold down CLEAR until "ALL CLEAR" appears in the display (see page 14).

- 2 Press DISC.

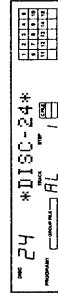


- 3 Press the number button of the disc.

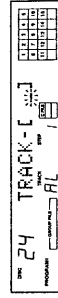
To select a disc with a number over 10
Press the 10's digit first, then the 1's digit. To enter 0, use the button 10/0 (see page 9).



- 4 Press ENTER.

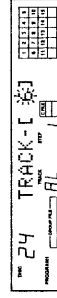


- 5 To program a whole disc, skip this step and go to Step 8. Press TRACK.

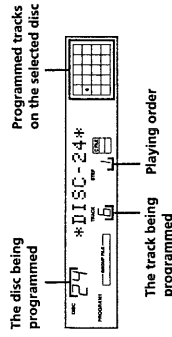


- 6 Press the number button of the track.

To select a track with a number over 10
Press the 10's digit first, then the 1's digit. To enter 0, use the button 10/0 (see page 9).



- 7 Press ENTER.



- 8 To program other discs/tracks, do the following:

To program	Repeat Steps
Other discs	2 to 4
Other tracks on the same disc	5 to 7
Other tracks on other discs	2 to 7

- 9 Press > to start Program Play.

To cancel Program Play
Press CONTINUE.

The programs remain even after Program Play ends
When you press >, you can play the same program again.
The programs are stored in the player's memory for about a month with the power turned off.

When you press PROGRAM during Continuous or Shuffle Play
The program you played last time appears and will be played after the current track.

The programs remain until you erase them
If you replace discs, the programmed disc and track numbers remain. So, the player plays only the existing disc and track numbers. However, the disc and track numbers that are not found in the player or on the disc are deleted from the program, and the rest of the program is played in the programmed order.

Note
If "PROGRAM FULL" appears in the display, it means that you have already programmed 32 steps and cannot program any more track or disc.

Checking the programmed order

You can check your program before or after you start playing.

Press CHECK. Each time you press this button, the display shows the track or disc number in the programmed order. After the last track or disc in the program, the display shows "END" and returns to the original display.

Changing the programmed order

You can change your program before you start playing.

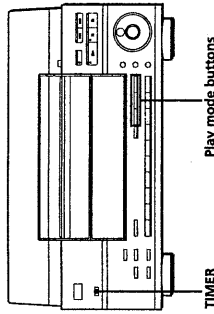
To	You need to
Erase a track or disc	Press CHECK until the track or disc you do not want appears in the display, then press CLEAR.
Erase the last track or disc in the program	Press CLEAR. Each time you press the button, the last track or disc will be cleared.
Add tracks or discs to the end of the program	Follow the programming procedure
Change the whole program completely	Hold down CLEAR until "ALL CLEAR" appears in the display to erase the whole program, then create a new program following the programming procedure.

Erasing the programs stored in memory

- 1 Press PROGRAM repeatedly in the stop mode until the program number (PROGRAM 1, 2 or 3) you want to erase appears in the display.
- 2 Hold down CLEAR until "ALL CLEAR" appears in the display.

Playing Using a Timer

You can start playing a disc at any time you want by connecting a timer (not supplied). Please also refer to the instructions for the timer if you need help.



- 1 Press one of the play mode buttons to select the play mode you want.
- 2 Set TIMER on the player to PLAY.
- 3 Set the timer to the time you want. The player turns off. When the set time comes, the player turns on and starts playing.
- 4 After you have used the timer, set TIMER on the player to OFF.

What You Can Do With the Custom Files

The player can store 3 types of information called "Custom Files" for each disc. Once you have stored Custom Files for a disc, the player automatically recalls what you have stored whenever you select the disc. Note that Custom Files will be erased if you do not use the player for about 1 month.

You can store this information:

When you use	You can
Disc Memo (page 15)	Label the disc using up to 12 characters
Delete Bank (page 16)	Delete unwanted tracks and store only the tracks you want
Group File (page 17)	Group discs up to 10 groups to locate them easily

The Custom File indication lights up when you store information and when you select discs with information.

Where are Custom Files stored?

Custom Files are stored not on the disc, but in the player's memory. It means you cannot use Custom Files when you play the disc on other players. Also, since the player stores Custom Files with each disc slot, so you cannot use Custom File when you insert a disc in another slot.

When you replace a disc in a slot

Custom Files remain even if you remove the disc. If you replace the disc with a new one, "DISC CHANGED" appears in the display. Erase or change the Custom File information if necessary.

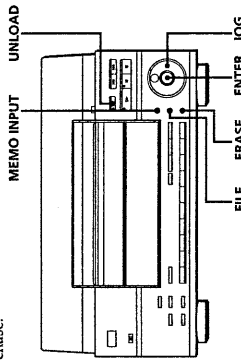
Erasing Custom Files

You can erase any unwanted Custom Files as follows:

- To erase all Custom Files of one disc**
Press UNLOAD to turn on the indicator, then select the disc containing the Custom Files you want to erase. Hold down ERASE until "1 DISC ERASE" appears in the display, and all Custom Files of the disc will be erased.
- To erase all Custom Files of all discs**
Turn off the player. While holding down ERASE and FILE, press POWER to turn on the player. "ALL ERASE" appears in the display, and all Custom Files will be erased.

Labeling Discs (Disc Memo)

You can label discs using up to 12 characters and have the player display the Disc Memo every time you select the disc. The Disc Memo can be anything you like, such as a title, musician's name, category or date of purchase.



- 1 Press CONTINUE, then UNLOAD to turn on the indicators.
- 2 Turn the JOG dial to select the disc to which you want to assign a Disc Memo.
- 3 Press MEMO INPUT until you find the letter type you want. Each time you press the button, the display shows capital letters (ABC), small letters (abc) and numbers (123) in this order.
- 4 Turn the JOG dial until the character you want appears in the display. When you turn the JOG dial clockwise, the characters appear in the following order. Turn the JOG dial counterclockwise to go back to the previous character.

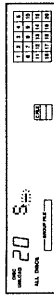
(space) A B C D E F G H I J K L M N O P Q R S T U
V W X Y Z & a b c d e f g h i j k l m n o p q r s t u v
w x y z ä ö ü ; : () [] % \$ # 0 1 2 3 4 5 6 7 8 9 10 →
← * / ! ? , ' , -



(Continued)

5 Press ENTER.

The selected character lights up, and the flashing cursor moves to the next position. To insert a space, press CLEAR.



If you have made a mistake

Press <K> or <D> until the letter you want to change flashes, then enter the right letter.

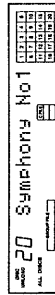
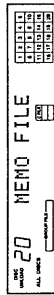
6 Repeat Steps 4 and 5 to input more characters. When you want to change the letter type, go back to Step 3.

To stop labeling a disc

While assigning a Disc Memo, hold down MEMO INPUT.

If you are assigning a Disc Memo while playing a disc, or in the stop mode (the UNLOAD button indicator is not lit), press ■.

7 Press FILE to store the Disc Memo. The Disc Memo appears in the display.



Repeat Steps 2 to 7 to assign a Disc Memo to other discs.

Erasing the Disc Memo

1 Press UNLOAD to turn on the indicator, then select the disc containing the Disc Memo you want to erase.

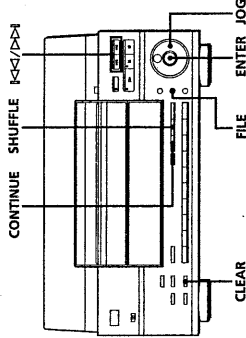
2 Press MEMO INPUT.

The first letter of the Disc Memo flashes.

3 Press ERASE to erase the Disc Memo. "FILE ERASE" appears in the display.

Storing Specific Tracks (Delete Bank)

You can delete unwanted tracks and store only the tracks you want. When you select the disc containing a Delete Bank, you can play only the remaining tracks.



1 Press CONTINUE or SHUFFLE repeatedly to select the 1 DISC mode, then turn the JOG dial to select the disc.

2 Press ENTER, then ■.

The disc is set to the playing position, and the music calendar shows the tracks on the current disc.

3 Press <K> or <D> to select the tracks you want to delete.

4 Press CLEAR.

The track number you have selected disappears from the music calendar.

5 Repeat Steps 3 and 4 to delete more tracks.

6 Press FILE.

"DELETE FILE" appears for a while, and "DELETE" in the Custom File indication lights up in the display.

You can delete the currently playing track

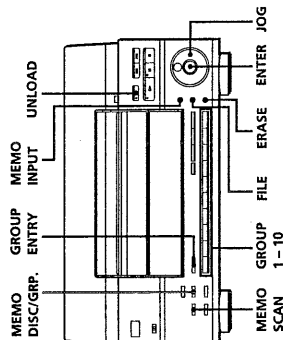
Press CLEAR while an unwanted track is playing, then press FILE.

You can recover all the tracks temporarily

Hold down CLEAR in the stop mode until "ALL SELECT" appears in the display.

Grouping Discs (Group File)

You might find that too many discs make it hard to find the disc you want. This player has a feature that lets you group discs. When you insert a disc to which you have assigned a group, the group number indication (e.g., Group 1) appears in the display. The player has 10 preset groups, such as "JAZZ" and "POPS," and each group can contain up to 100 discs. You can also put a disc into multiple groups. You can enjoy Continuous, Shuffle, or Repeat Play only within a certain group (Group Play). You can also scan groups (Group Scan) or discs in a specific group to find the group or the disc you want quickly.



Assigning group names

Before you group discs, find the group you want. Each group name appears in the display when you press the corresponding GROUP 1 - 10 button.

Press GROUP	To display
1	Group 1 JAZZ
2	Group 2 POPS
3	Group 3 CLASSICAL
4	Group 4 ROCK
5	Group 5 R & B
6	Group 6 BALLADE
7	Group 7 C & W
8	Group 8 FOR FATHER
9	Group 9 FOR MOTHER
10	Group 10 FOR CHILD

(Continued)

If you want to change the group names, do the following:

- 1 Press one of GROUP 1 – 10 to select the group. The preset group name appears in the display.
- 2 While the group name is lit in the display, press MEMO INPUT until you find the letter type you want.
The first letter of the group name flashes. Each time you press the button, the display shows capital letters (ABC), small letters (abc) and numbers (123) cyclically.
- 3 Turn the JOG dial to select a character, then press ENTER.
The selected character lights up, and the flashing cursor moves to the next position.
- 4 Repeat Step 3 to enter more characters.
- 5 Press FILE.
The group name is stored. You can enter up to 12 characters for a group name. See also "Labeling Discs (Disc Memo)" on page 15 for details.

Putting discs into groups

- 1 Press CONTINUE and then UNLOAD.
- 2 Turn the JOG dial to select the disc which you want to put into a group.
- 3 Press GROUP ENTRY.
"GROUP ENTRY" appears in the display, and the navigation display asks you to select one of the groups.
- 4 Press one of GROUP 1 – 10 to select a group. The group name appears for a while, then "GROUP FILE" appears, and the group number indication lights up in the display.

- You can put the currently playing disc into a group
While playing the disc, follow Steps 3 and 4 above.

Playing discs in a group (Group Play)

You can enjoy Continuous or Shuffle Play within a group.

- 1 Before you start playing, select the play mode by pressing CONTINUE or SHUFFLE.

When you select	The player plays
Continuous Play	All discs in the group consecutively
ALL DISCS Shuffle Play	All tracks on all discs in the group in random order
1 DISC Shuffle Play	All tracks on the specified disc in the group in random order

- 2 Press one of GROUP 1 – 10 to select the group. Group Play starts from the disc which is located closest to the playing position. If the disc in the playing position is put into the selected group, the play starts from that disc.
- 3 When you want to start Group Play from the disc you want, turn the JOG dial to select the disc, then press ENTER. (You can skip this step if you do not have any particular disc to start with.)
Group Play starts from the selected disc.

To cancel Group Play

Press . "GROUP OFF" appears in the display.

You can start Group Play with the remote

Before you start playing, press GROUP, the number button of the group you want to play, then ENTER.

You can switch the display indication between the group name and the Disc Memo during Group Play

Each time you press MEMO DISC/GRP, the group name and the current Disc Memo appear in the display alternately.

Notes

- If "NO ENTRY" appears in the display, no disc has been put into the selected group.
- If "ENTRY END" appears in the display, all the disc numbers in the group are checked while turning the JOG dial to specify the next disc. Turn the dial counterclockwise to display the disc numbers in reverse order.

Locating a disc within a group by scanning each Disc Memo

You can locate a disc you want to play within a specific group quickly by scanning the Disc Memo in the display and start Group Play.
Note that you cannot use this function in the ALL DISCS Shuffle and Program Play mode.

- 1 Press one of GROUP 1 – 10 to select the group. The group name appears in the display.
- 2 Press MEMO SCAN repeatedly until "MEMO SCAN" appears in the display.
The Disc Memos of the discs in the selected group scroll in the display.

- 3 Press ENTER or when the Disc Memo of the disc you want appears.
Group Play starts from the selected disc.

You can jump to the next or preceding Disc Memo while scanning

Press or .

Locating a group by scanning each group name (Group Scan)

You can locate a group you want to play quickly by scanning the group names in the display and start Group Play.

Note that you cannot use this function in the ALL DISCS Shuffle and Program Play mode.

- 1 Before you start playing, press MEMO SCAN repeatedly until "GROUP SCAN" appears in the display.
The group names scroll in the display.
- 2 Press ENTER or when the group name you want appears.
Group Play starts.

- You can jump to the next or preceding group while scanning
Press or .

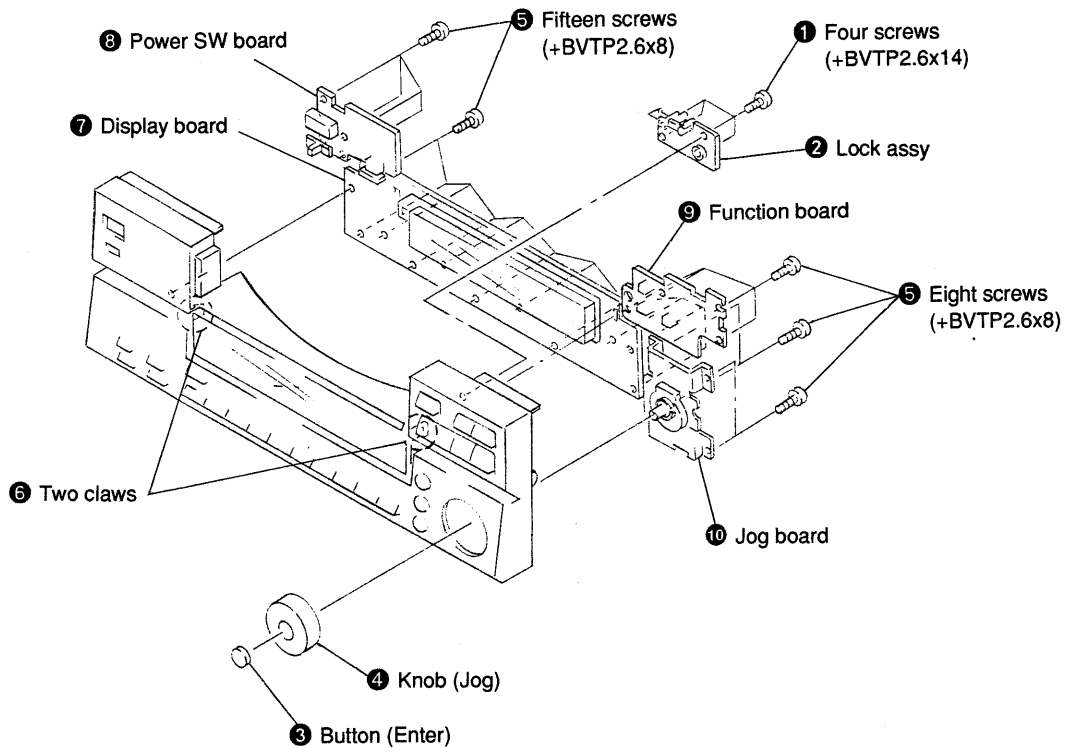
Deleting discs from a group

- 1 Press CONTINUE and then UNLOAD.
- 2 Turn the JOG dial to select the disc which you want to delete from a group.
- 3 Press GROUP ENTRY.
"GROUP ENTRY" appears in the display, and the navigation display asks you to select one of the groups.
- 4 Press one of GROUP 1 – 10 to select a group. The group name appears for a while, then "GROUP FILE" appears, and the group number indication lights up in the display.
- 5 While "GROUP FILE" is lit in the display, press ERASE.
"FILE ERASE" appears, and the group number indication disappears from the display.

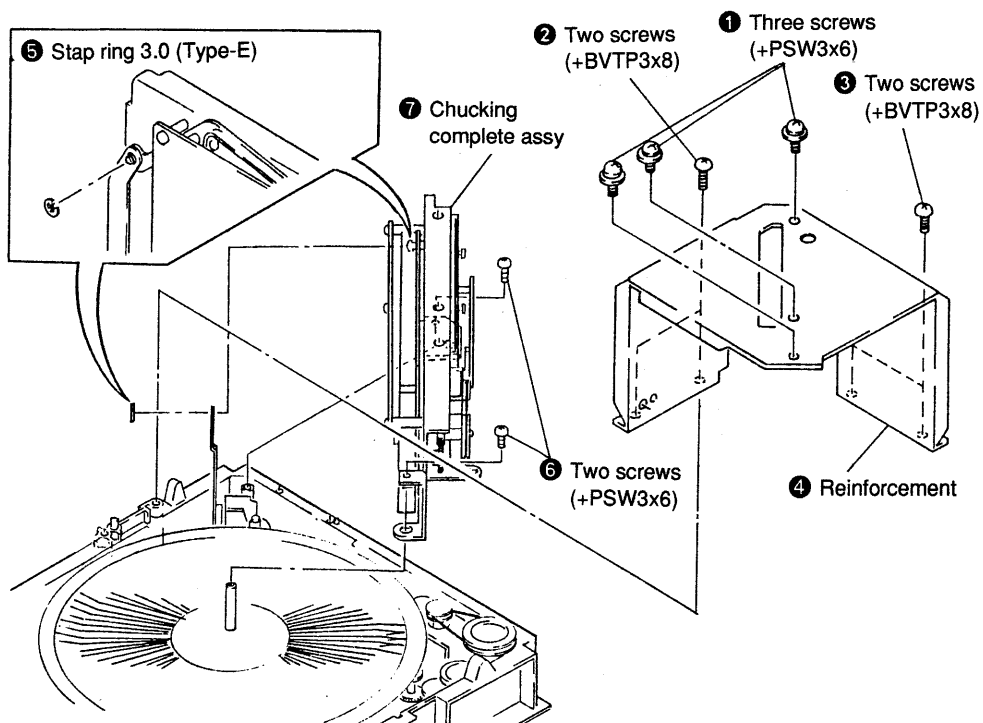
- You can delete the currently playing disc from a group
While playing the disc, follow Steps 3 to 5 above.

SECTION 3 DISASSEMBLY

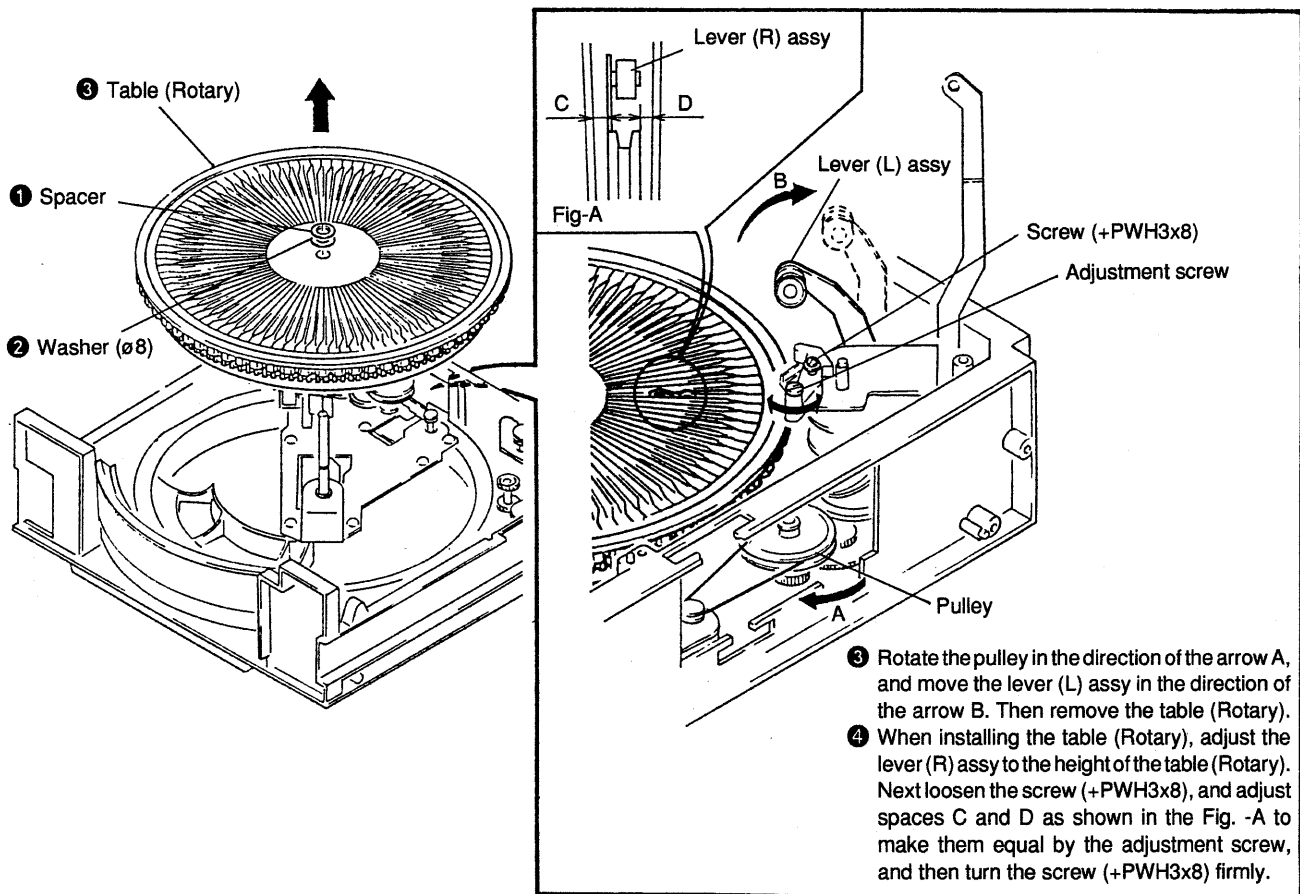
3-1. BOARDS OF FRONT PANEL



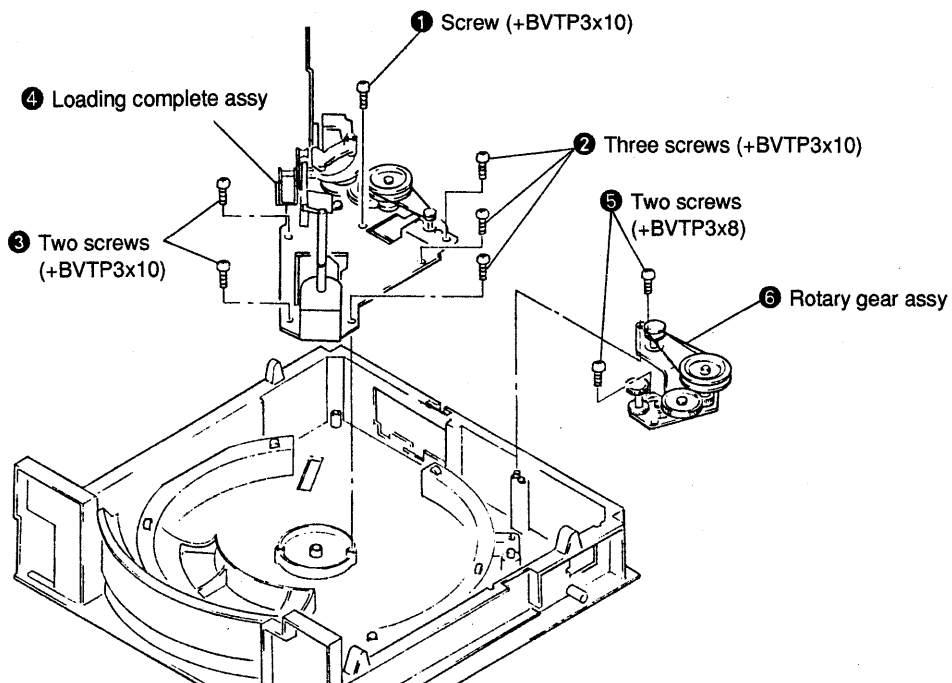
3-2. CD MECHANISM DECK (1)



3-3. TABLE (ROTARY)



3-4. CD MECHANISM DECK (2)

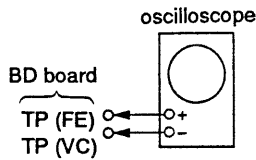


SECTION 4 ELECTRICAL ADJUSTMENTS

Note:

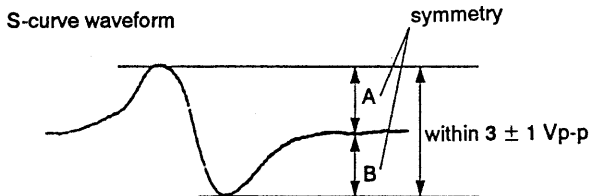
1. Adjust or check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 M Ω impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-Curve Check



Procedure:

1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turned Power switch on.
4. Playback the disc (YEDS-18) and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3 ± 1 Vp-p.

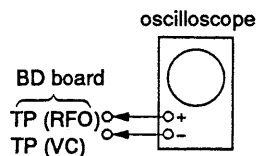


6. After check, remove the lead wire connected in step 2.

Note:

- Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

Focus Offset Adjustment

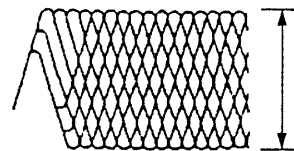


Procedure:

1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Adjust RV102 on RF board so that the oscilloscope waveform is clear and check RF signal level is correct or not.

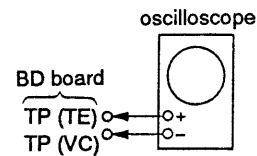
Note: Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform



VOLT/DIV : 200mV
TIME/DIV : 500nS

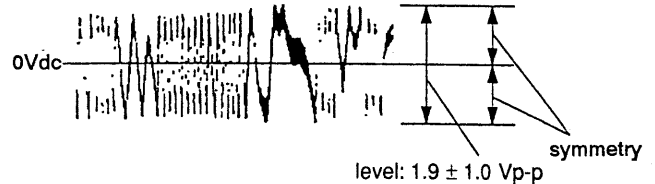
Tracking Offset Adjustment



Procedure:

1. Connect test point TP (ADJ) on MAIN board to ground and TP (TEI) on BD board to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TE) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Adjust RV101 on RF board so that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0 Vdc, and check this level.

Traverse waveform

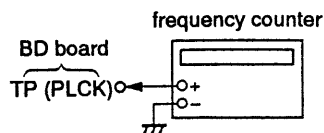


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure:

1. Connect frequency counter to test point (PLCK) with lead wire.

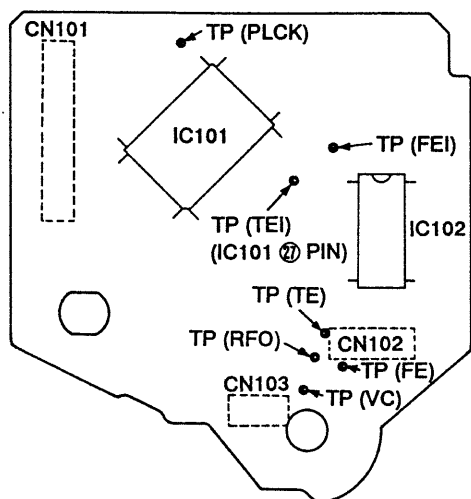


2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218 MHz.

Adjustment Location:

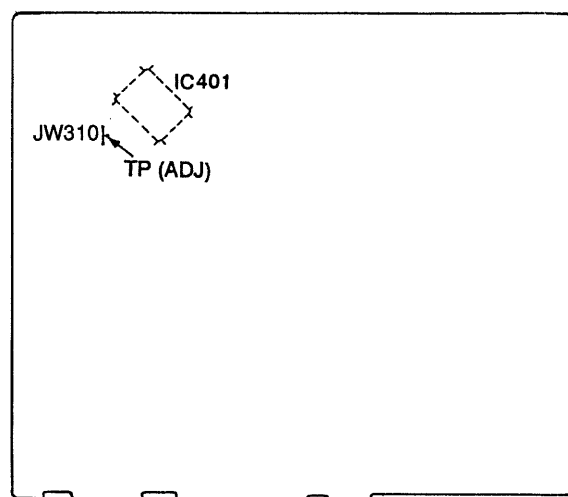
【BD BOARD】

— Conductor side —



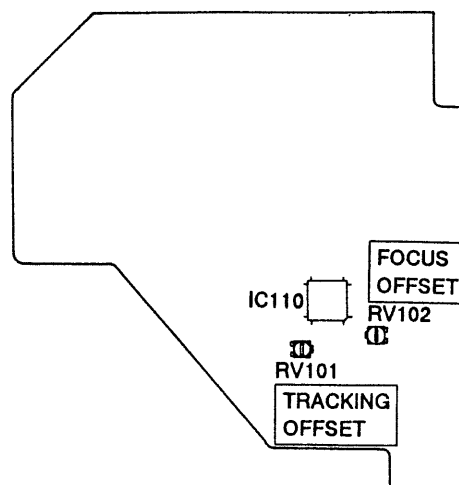
【MAIN BOARD】

— Component side —



【RF BOARD】

— Component side —



SECTION 5

IC PIN FUNCTIONS

• **IC101 DSP Controller (CXD2515Q)**

Functions effected by the captioned controller include focus (tracking/sled servo) EFM comparator, digital signal processor and CLV servo in the CD unit.

Pin No.	Pin Name	I/O	Description
1	SRON	O	Sled drive signal output. (Not in use with the model.)
2	SRDR	O	Sled drive signal output.
3	SFON	O	Sled drive signal output. (Not in use with the model.)
4	TFDR	O	Tracking drive signal output.
5	TRON	O	Tracking drive signal output. (Not in use with the model.)
6	TRDR	O	Tracking drive signal output.
7	TFON	O	Tracking drive signal output. (Not in use with the model.)
8	FFDR	O	Focus drive signal output.
9	FRON	O	Focus drive signal output. (Not in use with the model.)
10	FRDR	O	Focus drive signal output.
11	FFON	O	Focus drive signal output. (Not in use with the model.)
12	VCOO	O	Output of oscillation circuit for analog EFM PLL. (Not in use with the model.)
13	VCOI	I	Input of oscillation circuit for analog EFM PLL. The equipment is fixed at "L".
14	TEST	I	Test terminal. Normally: ground.
15	DVss	—	Digital ground terminal.
16	TEST2	I	Test terminal. Normally: ground.
17	TEST3	I	Test terminal. Normally: ground.
18	PDO	O	Output of charge-pump for analog EFM PLL. (Not in use with the model.)
19	VPCO	O	Output of charge-pump for variable pitch PLL. (Not in use with the model.)
20	VCKI	I	Clock signal input from VCO for variable pitch. The equipment is fixed at "L".
21	AVD2	—	Analog power supply terminal.
22	IGEN	I	Power supply terminal for operational amplifier.
23	AVS2	—	Analog ground terminal.
24	ADII	I	A/D converter input.
25	ADIO	O	Operational amplifier output.
26	RFDC	I	RF signal input.
27	TE	I	Tracking error signal input.
28	SE	I	Sled error signal input.
29	FE	I	Focus error signal input.
30	VC	I	Center voltage input.

Pin No.	Pin Name	I/O	Description
31	FILO	O	Output of filter for master PLL.
32	FILI	I	Input of filter for master PLL.
33	PCO	O	Output of charge-pump for master PLL.
34	CLTV	I	Input of control voltage for master VCO.
35	AVS1	—	Analog ground terminal.
36	RFAC	I	EFM signal input.
37	BIAS	I	Input of constant current for auto-assymetry circuit.
38	ASYI	I	Auto-assymetry comparator voltage input.
39	ASYO	O	EFM full-swing output.
40	AVD1	—	Analog power supply terminal.
41	DVDD	—	Digital power supply terminal.
42	ASYE	I	ON/OFF control of auto-assymetry circuit. The equipment is fixed at “H”.
43	PSSL	I	Input of output mode select for audio data. The equipment is fixed at “L”.
44	WDCK	O	48 bit slot D/A interface word-clock output. (Not in use with the model.)
45	LRCK	O	48 bit slot D/A interface LR-clock output.
46	DATA	O	PSSL=1: DA16 output, PSSL=0: Serial data of 48 bit slot.
47	BCLK	O	PSSL=1: DA15 output, PSSL=0: Bit clock of 48 bit slot.
48	64DATA	O	PSSL=1: DA14 output, PSSL=0: Serial data of 64 bit slot. (Not in use with the model.)
49	64BCLK	O	PSSL=1: DA13 output, PSSL=0: Bit clock of 64 bit slot. (Not in use with the model.)
50	64LRCK	O	PSSL=1: DA12 output, PSSL=0: LR clock of 64 bit slot. (Not in use with the model.)
51	GTOP	O	PSSL=1: DA11 output, PSSL=0: GTOP output. (Not in use with the model.)
52	XUGF	O	PSSL=1: DA10 output, PSSL=0: XUGF output. (Not in use with the model.)
53	XPLCK	O	PSSL=1: DA09 output, PSSL=0: XPLCK output.
54	GFS	O	PSSL=1: DA08 output, PSSL=0: GFS output.
55	PFCK	O	PSSL=1: DA07 output, PSSL=0: PFCK output.
56	C2PO	O	PSSL=1: DA06 output, PSSL=0: C2PO output. (Not in use with the model.)
57	XRAOF	O	PSSL=1: DA05 output, PSSL=0: XRAOF output. (Not in use with the model.)
58	MNT3	O	PSSL=1: DA04 output, PSSL=0: MNT3 output.
59	MNT2	O	PSSL=1: DA03 output, PSSL=0: MNT2 output.
60	MNT1	O	PSSL=1: DA02 output, PSSL=0: MNT1 output.
61	MNT0	O	PSSL=1: DA01 output, PSSL=0: MNT0 output.
62	XTAI	I	X’tal oscillation circuit input.
63	XTAO	O	X’tal oscillation circuit output. (Not in use with the model.)
64	XTSL	I	X’tal select input. The equipment is fixed at “L”.
65	DVss	—	Digital ground terminal.

Pin No.	Pin Name	I/O	Description
66	FSTI	I	2/3 divide input of ②, ③ pin.
67	FSTO	O	2/3 divide output of ②, ③ pin.
68	C4M	O	4.2336MHz output. (Not in use with the model.)
69	C16M	O	16.9344MHz output. (Not in use with the model.)
70	MD2	I	Digital out ON/OFF control terminal. The equipment is fixed at "H".
71	DOUT	O	Output of digital out signal.
72	EMPH	O	Emphasis mode select output of playback disc. (Not in use with the model.)
73	WFCK	O	WFCK output.
74	SCOR	O	Sub-code sync output.
75	SBSO	O	Serial output of sub P-W. (Not in use with the model.)
76	EXCK	I	Input of clock signal for SBSO read out. (Fixed at "L".)
77	SUBQ	O	Sub-Q 80-bit output.
78	SQCK	I	Clock input for SQSO read-out.
79	MUTE	I	Muting select pin.
80	SENS	O	Sense signal output.
81	XRST	I	System reset signal input.
82	DIRC	I	Used for 1 track jump.
83	SCLK	I	Input of clock signal for read the sens serial data.
84	DFSW	I	DFCT select terminal. The equipment is fixed at "L".
85	ATSK	I	Antch-shock terminal. The equipment is fixed at "L".
86	DATA	I	Serial data input from IC401 (system control).
87	XLAT	I	Latch signal input from IC401 (system control).
88	CLOK	I	Serial data transfer clock input from IC401 (system control).
89	COUT	O	Track count signal output. (Not in use with the model.)
90	DVDD	—	Digital power supply terminal.
91	MIRR	O	MIRR signal output. (Not in use with the model.)
92	DFCT	O	Deffect signal output. (Not in use with the model.)
93	FOK	O	Focus OK output.
94	FSW	O	Output of filter select for spindle motor. (Not in use with the model.)
95	MON	O	Output of ON/OFF control for spindle motor.
96	MDP	O	Output of servo control for spindle motor.
97	MDS	O	Output of servo control for spindle motor.
98	LOCK	O	Sled run-away prevention circuit operates when this signal is "L". (Not in use with the model.)
99	SSTP	I	The limit switch is connected to this pin.
100	SFDR	O	Sled drive signal output.

• **IC401 Main System Controller (M37451M4-453FP)**

Functions effected by the captioned controller include IC101 (Digital signal processing, servo) and loading motor control, data exchange with IC801 (sub system controller).

Pin No.	Pin Name	I/O	Description
1	NC	—	} No connection.
2	NC	—	
3	SENSE	I	Input of SENSE signal for COUT count from IC101 (CXD2515Q).
4	NC	—	No connection.
5	QINT	O	Command pulse output to sub system controller (IC801).
6	SACK	O	Command acknowledge output to sub system controller (IC801).
7	MREQ	I	Command request input from sub system controller (IC801).
8 to 11	CMD3 to CMD0	I/O	Input and output of data exchange with sub system controller (IC801).
12	LATCH	O	Attenuator data latch pulse output to IC301 (CXD2565M).
13	SHIFT	O	Attenuator data clock output to IC301 (CXD2565M).
14	ATT	O	Attenuator data output to IC301 (CXD2565M).
15	NC	—	} No connection.
16	NC	—	
17	SENS3	I	Input signal from IC811 (Disc (A) sensor).
18	SENS2	I	Input signal from IC810 (Address sensor).
19	SCOR	I	Sub-code sync (S0+S1) detection input from IC101 (CXD2515Q).
20	NC	—	} No connection.
21	NC	—	
22	NC	—	
23	NC	—	
24	NC	—	
25	GND	—	Ground terminal. (GND)
26	RESET	I	Reset signal input. "L": RESET
27	NC	—	No connection.
28	XIN	I	Clock signal input. (10 MHz)
29	XOUT	O	Clock signal output.
30	NC	—	} No connection.
31	NC	—	
32	VSS	—	Ground terminal. (GND)
33	CLK	O	Data clock signal output to IC101 (CXD2515Q).
34	DATA	O	Data signal output to IC101 (CXD2515Q).
35	MUTE	O	Muting signal output.
36	GFS	I	GFS signal input from IC101 (CXD2515Q). "L": NG, "H": OK
37	FOK	I	FOK signal input from IC101 (CXD2515Q). "L": NG, "H": OK
38	LDON	O	Laser ON/OFF control output optical pick-up block. (IC110)
39	XLT	O	Data latch pulse signal output to IC101 (CXD2515Q).
40	SCLK	O	Calculation readout clock output to IC101 (CXD2515Q).
41	NC	—	} No connection.
42	NC	—	
43	NC	—	
44	NC	—	
45	SENS1	I	Input signal from IC810 (Disc sensor).

Pin No.	Pin Name	I/O	Description
46	M1L	O	Output to rotate M803 (Table motor) left. *1
47	M1R	O	Output to rotate M803 (Table motor) right. *1
48	M2 IN	O	Output to rotate M802 (Loading motor) in the loading in direction. *2
49	M2 OUT	O	Output to rotate M802 (Loading motor) in the loading out direction. *2
50	M3 OUT	O	Output to rotate M801 (Chucking motor) in the chucking out direction. *3
51	M3 IN	O	Output to rotate M801 (Chucking motor) in the chucking in direction. *3
52	DISC SW	I	Input of S842 (Disc det switch).
53	NC	—	No connection.
54	DISC UP	I	Input of S843 (Loading det switch). "L": DISC UP
55	DISC DWN	I	Input of S843 (Loading det switch). "L": DISC DOWN
56	CHK ON	I	Input of S844 (Chucking up/down det switch). "L": CHUCKING ON
57	CHK OFF	I	Input of S844 (Chucking up/down det switch). "L": CHUCKING OFF
58	AFADJ	I	Test mode terminal. It is possible to check the interface between the sub system controller (IC801) and this controller (IC401).
59	ADJ	I	Test mode terminal. GFS is no longer monitored during PLAY, PAUSE or SEARCH, while not stopping even with GFS remaining still at "L" (NG).
60	NC	—	} No connection.
61	NC	—	
62 to 65	TP3 to TP0	O	Test point.
66	NC	—	} No connection.
67	NC	—	
68	DAVREF	—	Input terminal of reference voltage D/A input port.
69	ADVREF	—	Input terminal of reference voltage A/D input port.
70	AVSS	—	Ground terminal. (GND)
71	AVCC	—	} Power supply terminal. (+5V)
72	VCC	—	
73	VSS	—	Ground terminal. (GND)
74	NC	—	No connection.
75	SQCLK	O	Subcode Q data readout clock output to IC101 (CXD2515Q).
76	NC	—	No connection.
77	SUB Q	I	Subcode Q data input from IC101 (CXD2515Q).
78	NC	—	} No connection.
79	NC	—	
80	NC	—	

*1. Table motor control

	LEFT	RIGHT	BRAKE
M1L ④⑥	PULSE	"L"	"H"
M2R ④⑦	"L"	PULSE	"H"

*2. Loading motor control

	IN	OUT	BRAKE
M2 IN ④⑧	"H"	"L"	"H"
M2 OUT ④⑨	"L"	"H"	"H"

*3. Chucking motor control

	IN	OUT	BRAKE
M3 OUT ⑤⑩	"L"	"H"	"H"
M3 IN ⑤⑪	"H"	"L"	"H"

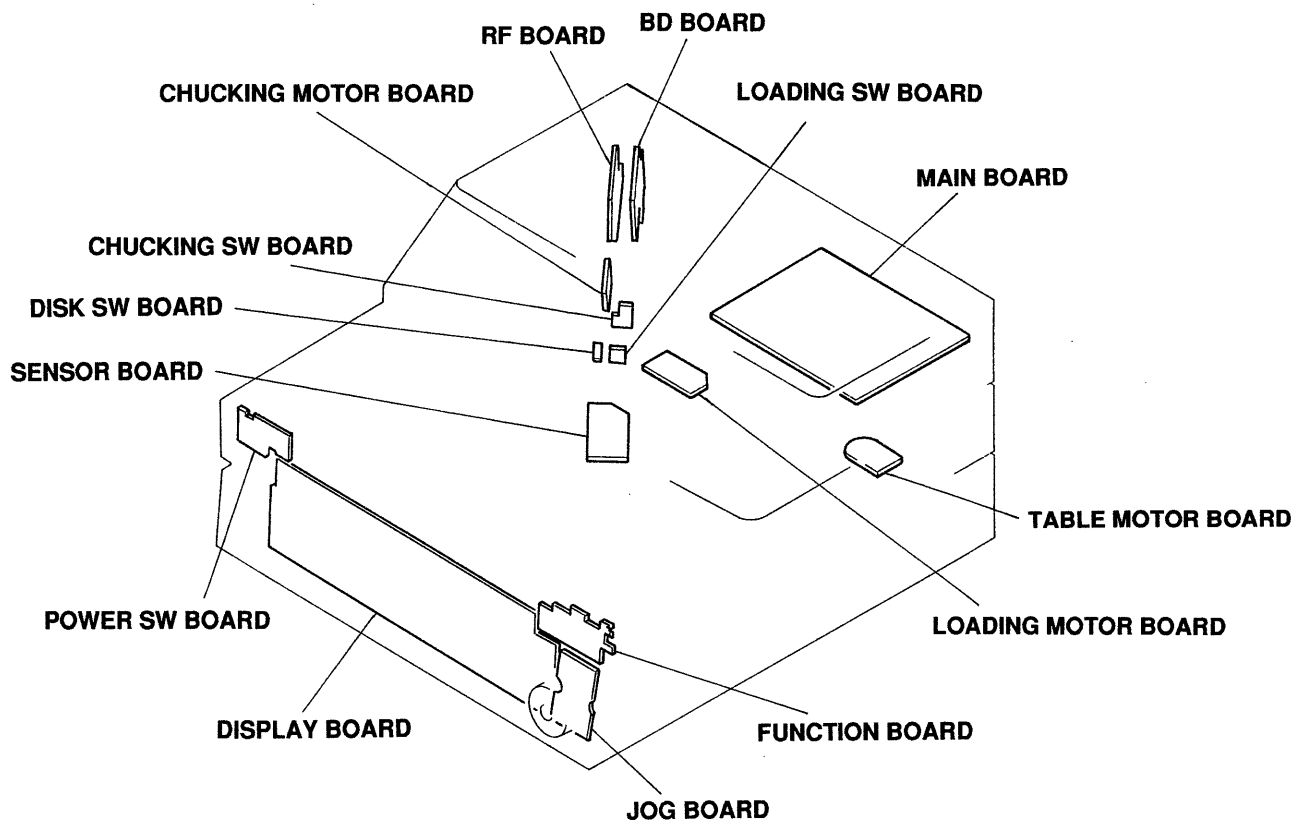
• IC801 SUB SYSTEM CONTROLLER (MB89647PF-111)

Pin No.	Pin Name	I/O	Description
1	MTEST	I	Mechanism microprocessor test pin. Normally High.
2	U-J	I	Japan: High. Overseas: Low.
3	TEST	I	Master microprocessor check pin. Normally High.
4	TIMER	I	Panel TIMER SW.
5	JOG1	I	} JOG input.
6	JOG2	I	
7	QINT	I	Mechanism microprocessor communication.
8	RM IN	I	Remote control input.
9	GND	—	GND
10	NC	—	No connection.
11	GND	—	} GND
12	GND	—	
13	XO	O	Clock oscillation output (10 MHz).
14	X1	I	Clock oscillation input (10 MHz).
15	VSS	—	GND
16	RESET	I	Reset input.
17	PLAY LED	O	} Internal lighting LED output.
18	PAUSE LED	O	
19	UNLOAD LED	O	
20	A12	O	} S-RAM address line.
21	A11	O	
22	A10	O	
23	A9	O	
24	A8	O	
25	A7	O	
26	A6	O	
27	A5	O	
28	A4	O	
29	A3	O	
30	A2	O	
31	A1	O	
32	A0	O	
33	D7	I/O	} S-RAM data line (input/output).
34	D6	I/O	
35	D5	I/O	
36	D4	I/O	
37	D3	I/O	
38	D2	I/O	
39	D1	I/O	
40	D0	I/O	

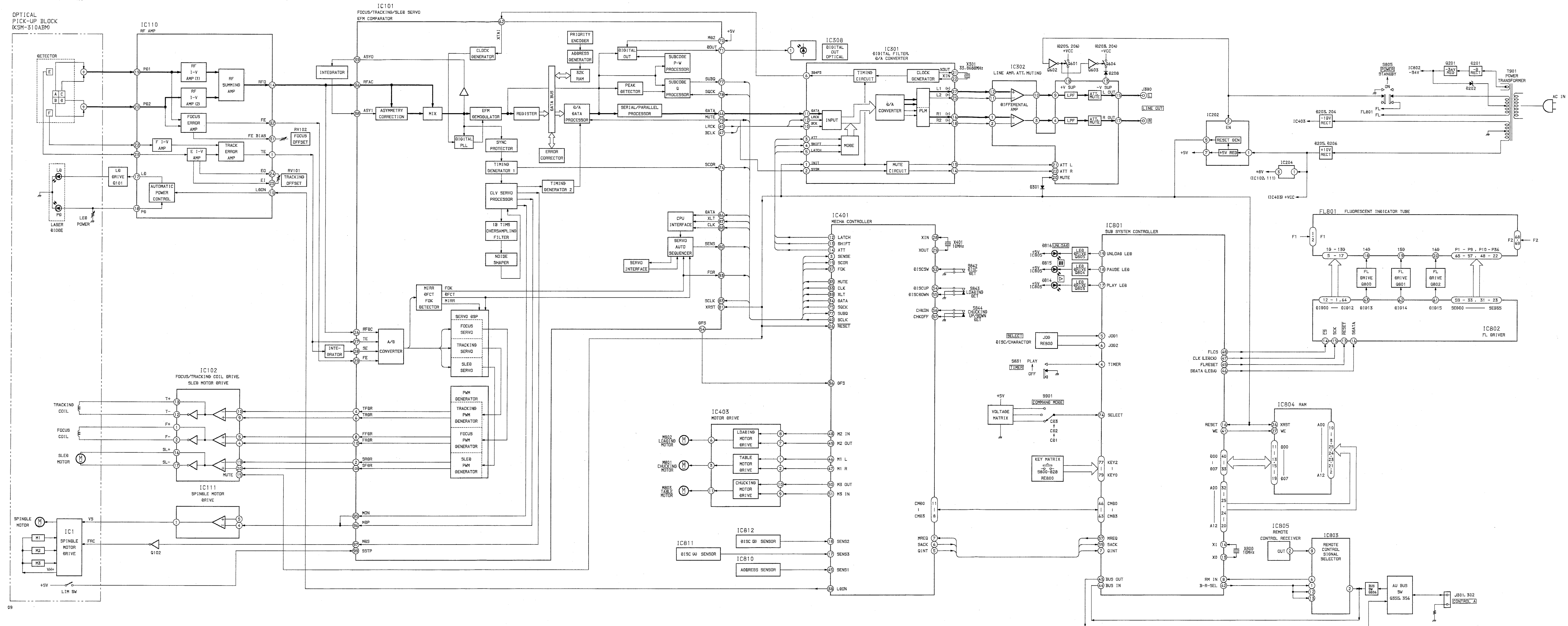
Pin No.	Pin Name	I/O	Description
41	WE	O	S-RAM write enable. Low active.
42	B-R-SEL	O	AU BUS select output.
43	BUS-OUT	O	AU BUS signal output.
44	BUS-IN	I	AU BUS monitor signal input.
45	FL RESET	O	FL driver reset output.
46	FL DATA	O	FL driver communication data.
47	FL CLK	O	FL driver communication clock.
48	FL CS	O	FL driver CS pin. Reading when low.
49	—	—	} Test pin
50	—	—	
51	—	—	
52	NC	—	} No connection.
53	NC	—	
54	NC	—	
55	VCC	—	+5V power supply.
56	NC	—	No connection.
57	MREQ	O	Mechanism microprocessor communication.
58	VSS	—	GND
59	SACK	I	Mechanism microprocessor communication.
60	—	—	} Test pin
61	—	—	
62	—	—	
63	CMD3	I/O	} Mechanism microprocessor communication. (Data)
64	CMD2	I/O	
65	CMD1	I/O	
66	CMD0	I/O	
67	DAVC	—	} +5V power supply.
68	AVCC	—	
69	AVRH	—	
70	AVRL	—	} GND
71	AVSS	—	
72	—	—	
73	—	—	
74	SELECT	I	Remote control switching, CD1/CD2/CD3.
75	VOL LEVEL	I	Volume AD input.
76	KEY3	I	Pull up.
77	KEY2	I	} Key input.
78	KEY1	I	
79	KEY0	I	
80	P74	I	Pull up.

SECTION 6 DIAGRAMS

6-1. CIRCUIT BOARDS LOCATION



6-2. BLOCK DIAGRAM



6-3. PRINTED WIRING BOARD — MAIN SECTION —

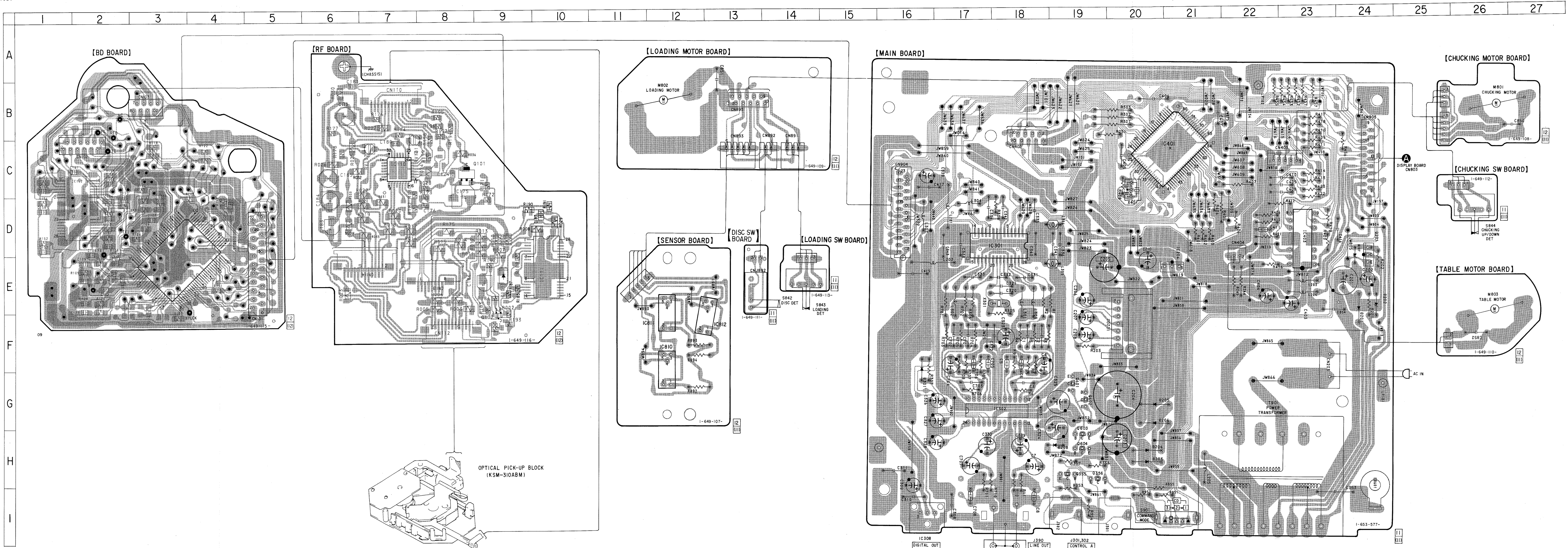
- See page 22 for Circuit Boards Location.
- See page 41 for Semiconductor Lead Layouts.

• Semiconductor Location

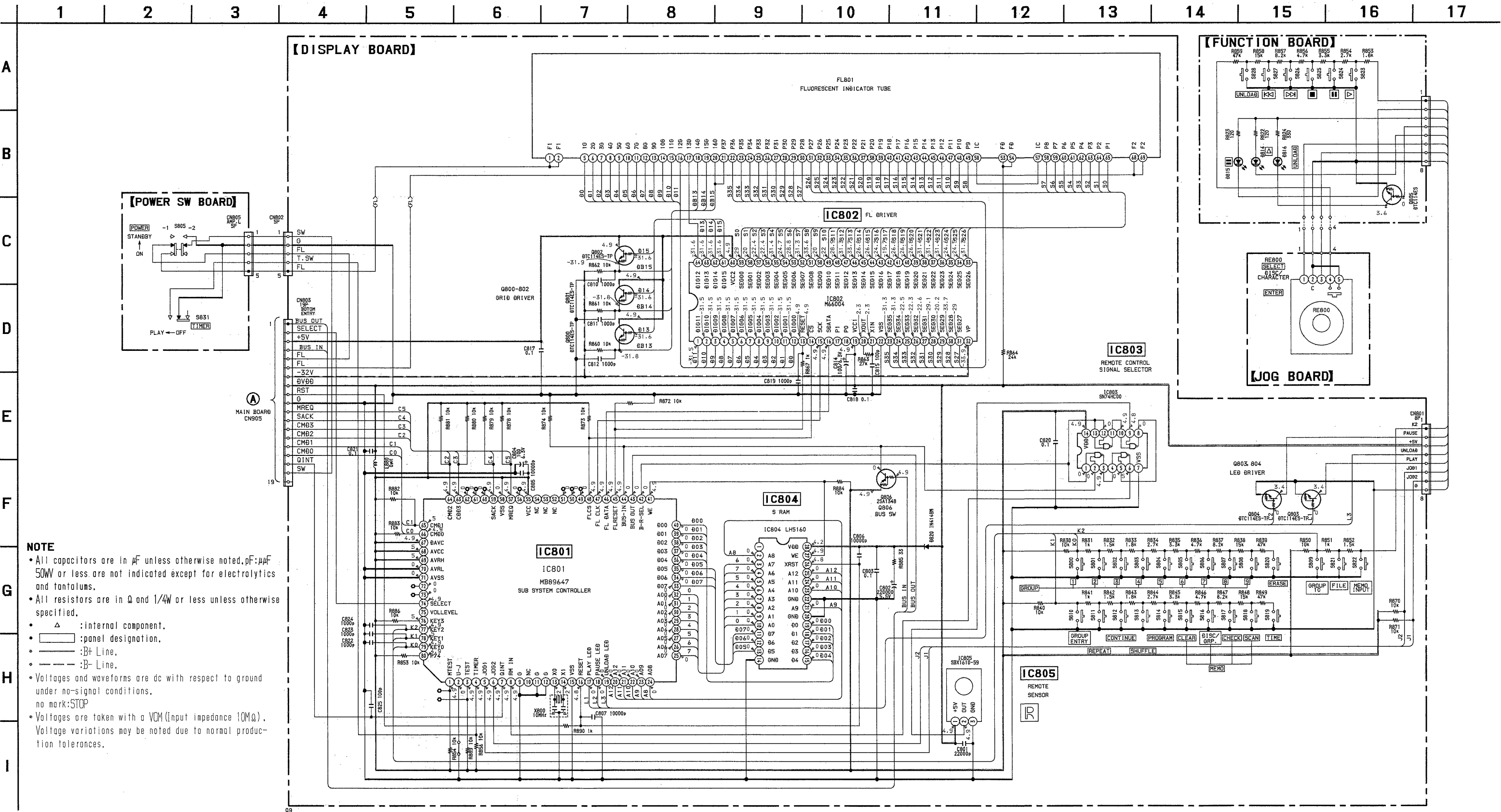
Ref. No.	Location	Ref. No.	Location
D101	E-9	IC302	G-18
D201	F-24	IC308	I-16
D202	F-24	IC401	C-21
D203	H-20	IC403	D-23
D204	H-20	IC810	F-12
D205	G-20	IC811	F-12
D206	G-20	IC812	F-12
D207	E-24		
D208	H-19	Q101	C-8
D301	G-16	Q102	F-6
		Q201	E-24
IC101	D-3	Q355	H-19
IC102	C-2	Q356	H-19
IC110	C-7	Q601	G-19
IC111	E-10	Q602	G-19
IC202	F-20	Q603	H-19
IC204	E-21	Q604	H-19
IC301	D-17		

Note:

- ○ : parts extracted from the component side.
- △ : Through hole.
- △ : internal component.
- ▨ : Pattern from the side which enable seeing.
- ▩ : Pattern of the rear side.

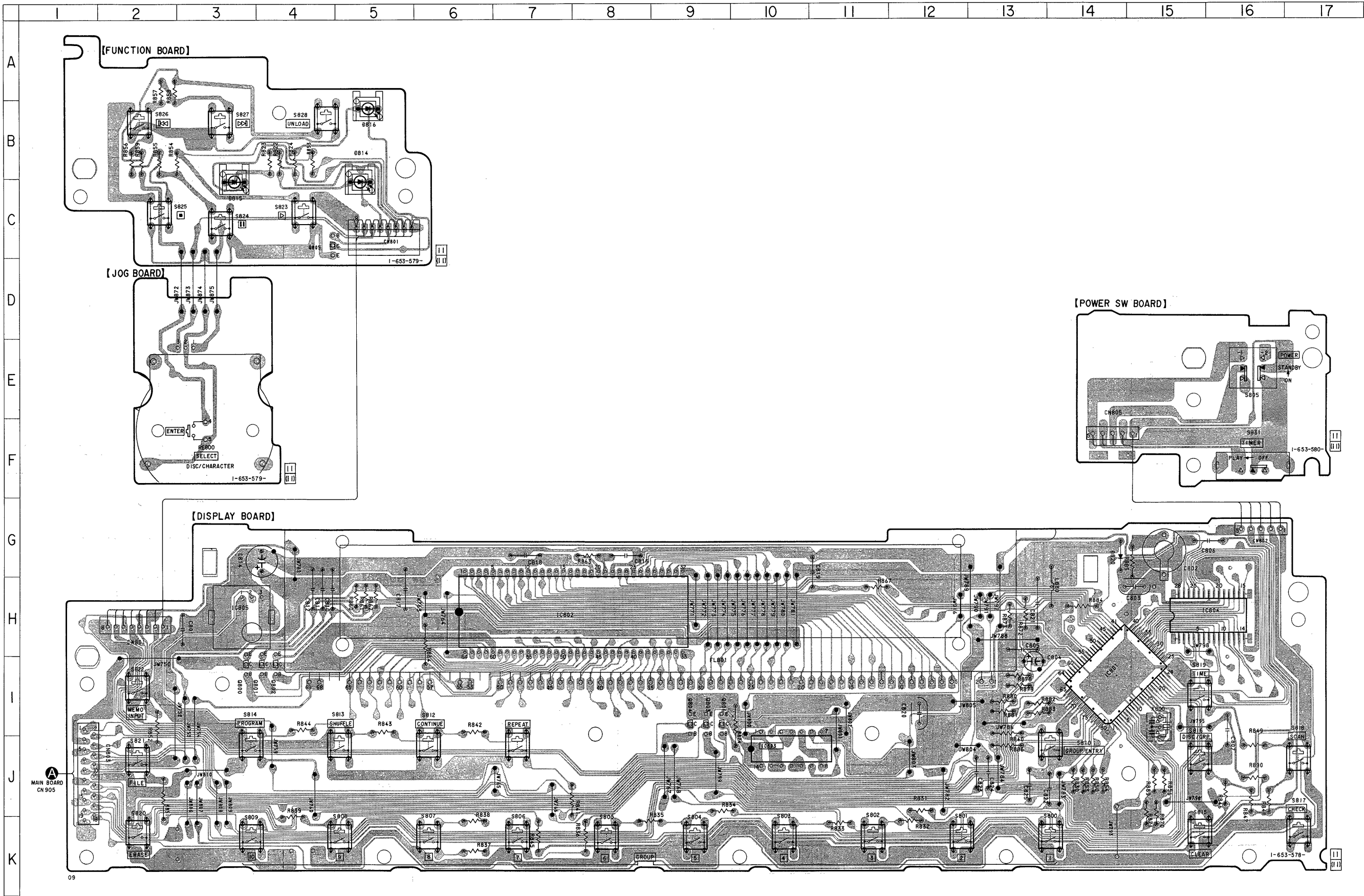


6-5. SCHEMATIC DIAGRAM — DISPLAY SECTION —



6-6. PRINTED WIRING BOARD — DISPLAY SECTION —

- See page 22 for Circuit Boards Location.
- See page 41 for Semiconductor Lead Layouts.

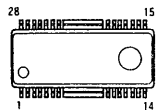


• Semiconductor Location

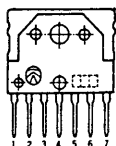
Ref. No.	Location
D814	B-5
D815	C-3
D816	B-5
D820	G-14
IC801	I-14
IC802	H-7
IC803	J-10
IC804	H-16
IC805	H-3
Q800	I-3
Q801	I-4
Q802	I-4
Q803	I-9
Q804	I-9
Q806	I-9

6-7. SEMICONDUCTOR LEAD LAYOUTS

BA6297AFP



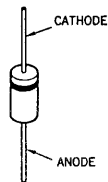
LA5602



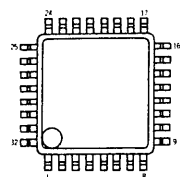
TA7808S



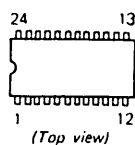
**RD36ES-T2B2
1N4148M**



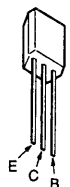
CXA1081Q



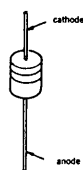
LA9215-ST



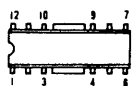
**DTA114ES
DTC114ES
DTC144ES
2SC2603-EF**



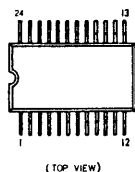
**RD8.2ES-B2
11ES2**



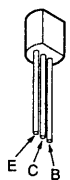
CXA1291P



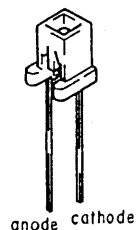
M66004M5SP



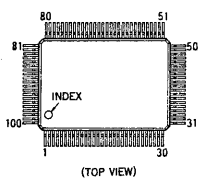
2SA1371



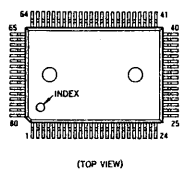
**SEL2210S-TH10
SEL2510C-TH10
SEL2810A-TH10**



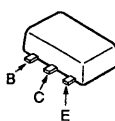
CXD2515Q



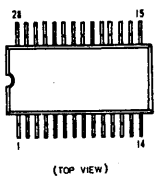
**M37451M4-453FP
MB89647PF-111**



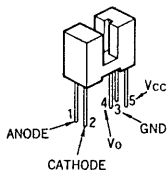
2SB1122-S



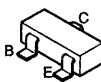
**CXD2565M-1
LH5160TF**



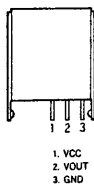
RPI-1391



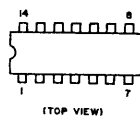
2SC3396



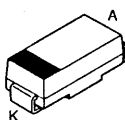
**GP1F32T
SBX1610-59**



SN74HC00AN



EC10DS2



SECTION 7

EXPLODED VIEWS

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Abbreviation

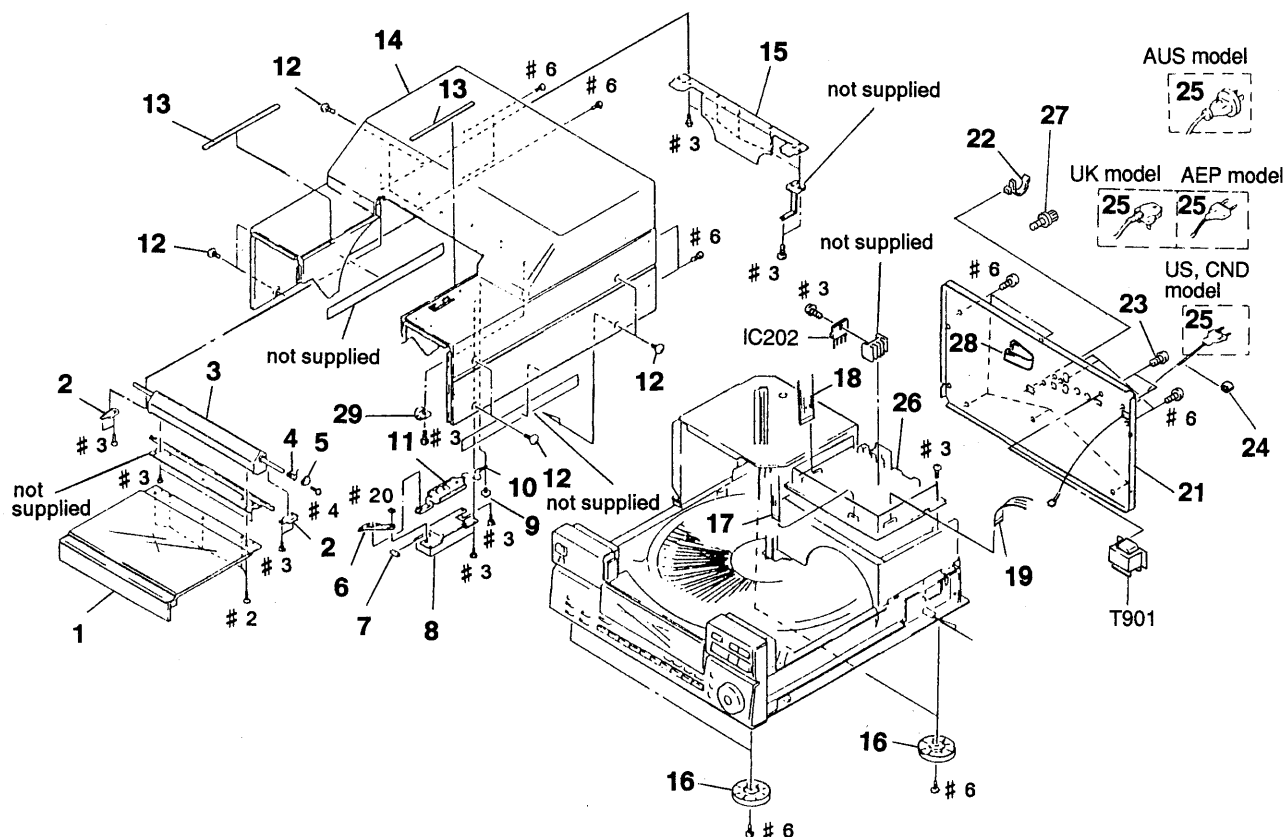
CND : Canadian model
AUS : Australian model

- XX, -X mean standardized parts, so they may have some difference from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

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

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

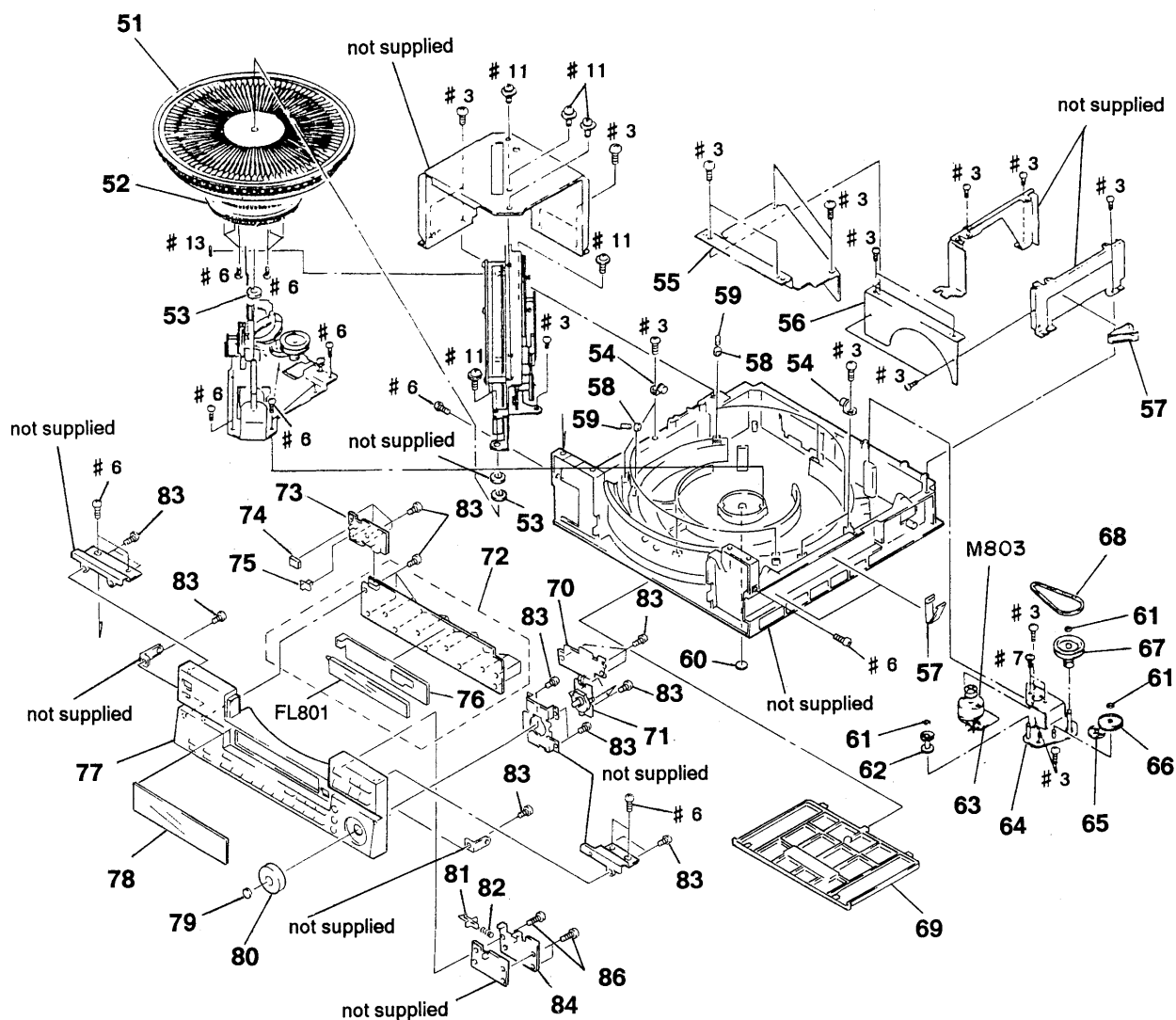
7-1. CASE, MAIN BOARD SECTION



Ref. No.	Part No.	Description
1	X-4945-136-1	COVER ASSY
* 2	4-962-191-01	BRACKET (SHAFT)
3	4-960-582-01	SHAFT (COVER)
* 4	4-967-992-01	SPRING (R), TORSION
5	4-960-588-01	GEAR (DAMPER)
6	4-960-537-01	LEVER (LOCK)
7	4-962-285-01	CUSHION (LOCK)
* 8	X-4943-938-1	BRACKET (KNOB) ASSY
9	4-933-134-01	SCREW (+PTPH M2.6X6)
10	4-960-542-01	SPRING, TENSION
11	4-960-538-01	KNOB (LOCK)
12	3-363-099-41	SCREW (CASE 3 TP2)
13	4-962-284-01	CUSHION (E)
14	4-960-522-11	CASE
15	4-960-938-01	BRACKET (CASE)
16	4-943-148-32	FOOT (F58175SW) (US, CND)
16	4-943-148-42	FOOT (F58175SW) (AEP, UK, AUS)
17	1-751-482-11	WIRE (FLAT TYPE) (10 CORE)
18	1-751-478-11	WIRE (FLAT TYPE) (23 CORE)
19	1-765-600-11	WIRE (FLAT TYPE) (19 CORE)

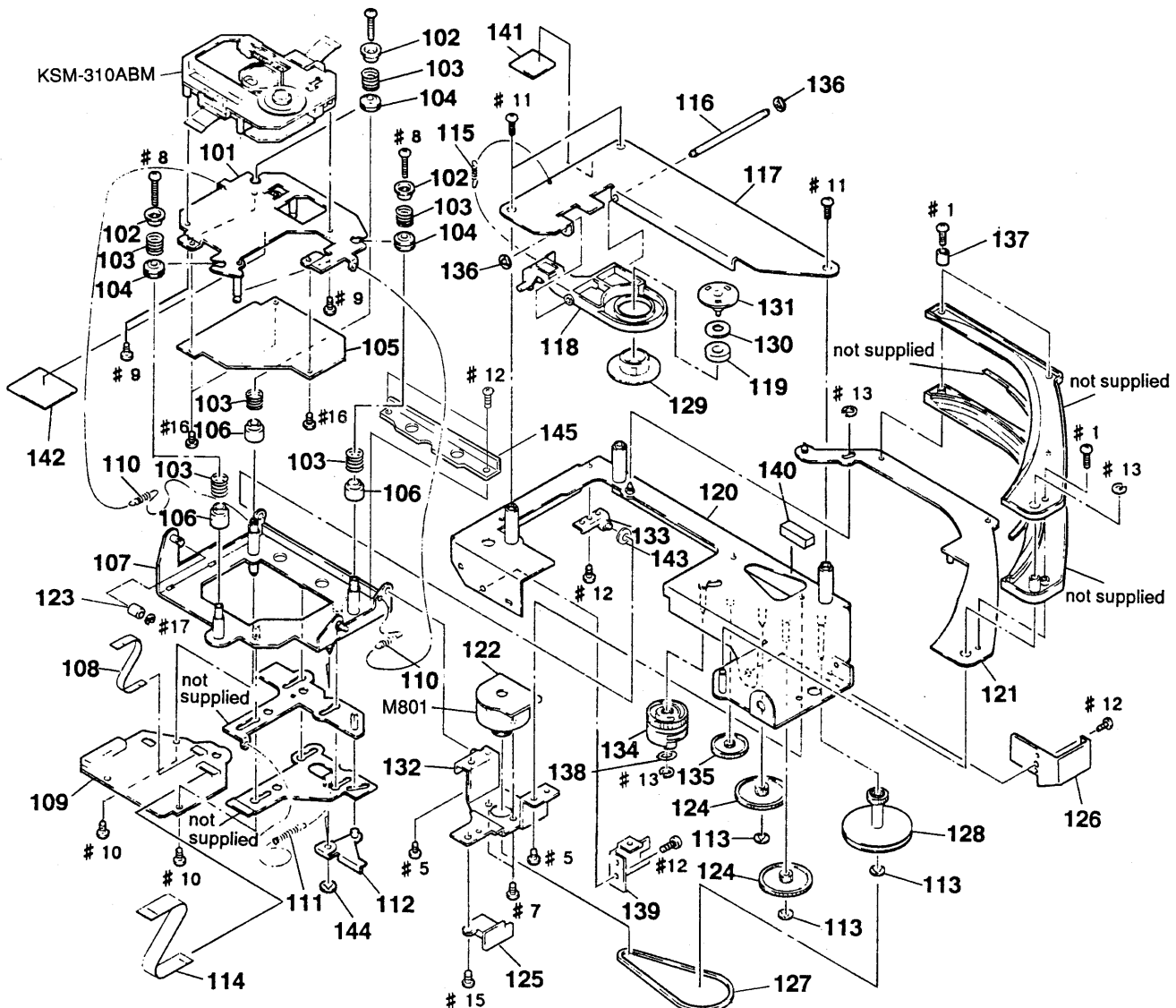
Ref. No.	Part No.	Description
* 21	4-967-994-01	PANEL, BACK (US, CND)
* 21	4-967-994-11	PANEL, BACK (AEP)
* 21	4-967-994-21	PANEL, BACK (UK)
* 21	4-967-994-31	PANEL, BACK (AUS)
* 22	4-949-235-01	HOOK (US, CND, AEP, UK)
23	4-847-802-00	SCREW, CASE STOPPER
* 24	3-703-244-00	BUSHING (2104), CORD
Δ 25	1-558-568-21	CORD, POWER (AEP)
Δ 25	1-590-836-11	CORD, POWER (US, CND)
Δ 25	1-696-571-11	CORD, POWER (UK)
Δ 25	1-696-845-11	CORD, POWER (AUS)
* 26	A-4673-190-A	MAIN BOARD, COMPLETE (AEP, UK, AUS)
* 26	A-4673-217-A	MAIN BOARD, COMPLETE (US, CND)
27	4-947-010-01	SCREW, FEEDER FIXED
* 28	4-966-273-01	CLAMP, FLAT CABLE
29	4-919-393-41	DAMPER
IC202	8-759-061-65	IC LA5602
Δ T901	1-426-956-11	TRANSFORMER, POWER (AEP, UK, AUS)
Δ T901	1-426-957-11	TRANSFORMER, POWER (US, CND)

7-2. TABLE (ROTARY) SECTION



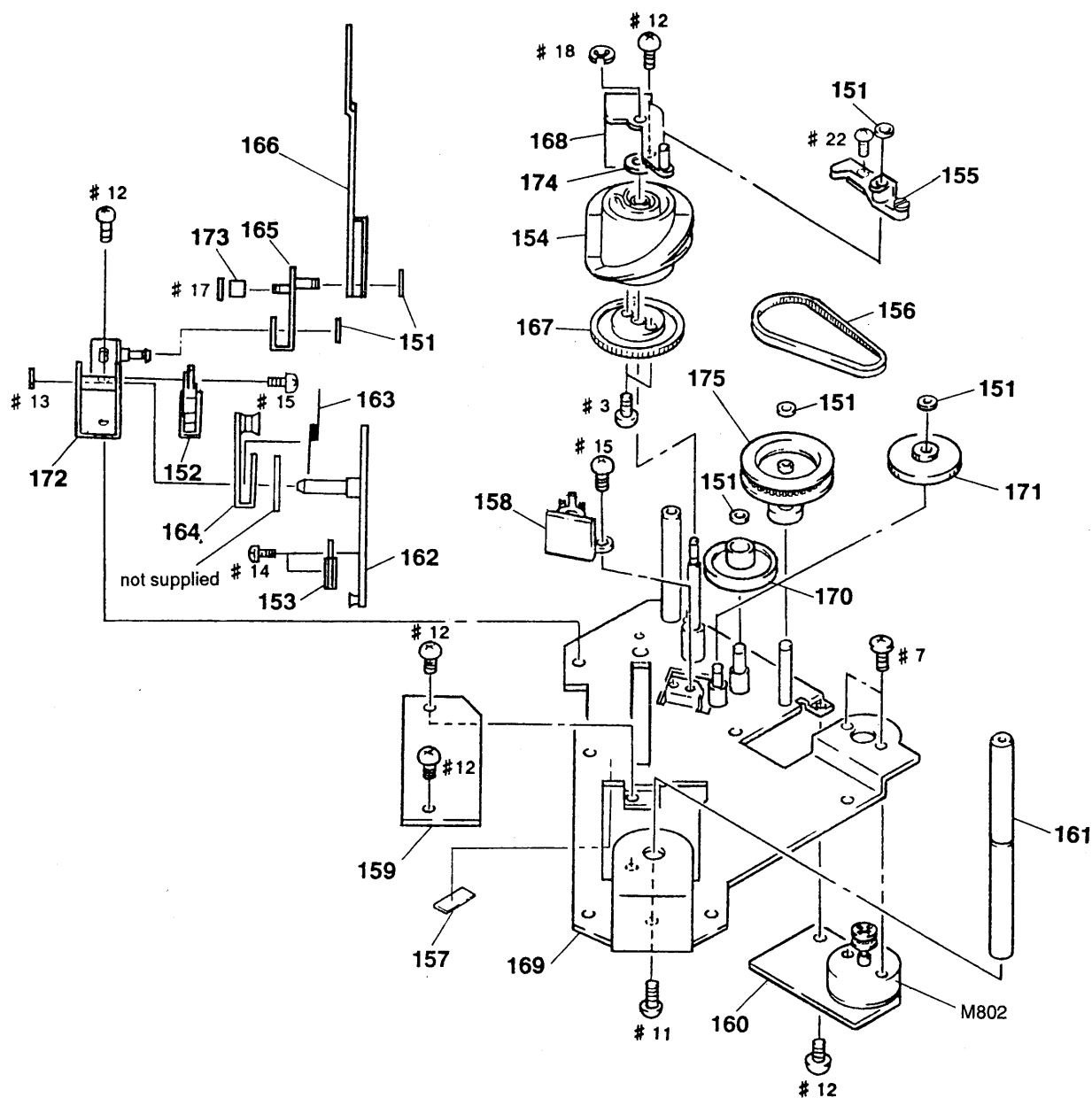
Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
51	4-960-666-01	TABLE (ROTARY)		* 71	1-653-582-11	JOG BOARD	
52	4-960-667-01	SENSOR (ROTARY)		* 72	A-4673-214-A	DISPLAY BOARD, COMPLETE	
53	3-701-446-21	WASHER, 8		* 73	1-653-580-11	POWER SW BOARD	
54	X-4944-217-1	SHAFT (HOLD) ASSY		74	4-922-921-01	BUTTON (POWER)	
* 55	4-962-287-01	COVER (TRANSFORMER)		75	4-943-114-11	BUTTON (TIMER)	
* 56	4-960-520-01	BRACKET (C)		76	4-960-501-03	HOLDER (FL TUBE)	
* 57	4-966-273-01	CLAMP, FLAT CABLE		77	X-4945-134-1	PANEL ASSY, FRONT (US, CND, UK, AUS)	
58	X-4924-457-1	ROLLER ASSY		77	X-4945-135-1	PANEL ASSY, FRONT (AEP)	
59	4-934-376-01	SHAFT (ROLLER)		78	4-967-987-01	PLATE, INDICATION	
60	4-963-598-01	CUSHION (FOOT)		79	4-960-509-01	BUTTON (ENTER)	
61	3-325-697-01	WASHER		80	4-960-510-01	KNOB (JOG)	
62	4-960-668-01	GEAR (D)		81	4-960-525-01	LOCK	
* 63	1-649-110-11	TABLE MOTOR BOARD		82	4-960-535-01	SPRING, COMPRESSION	
* 64	X-4943-954-1	BASE (ROTARY) ASSY		83	4-951-620-01	SCREW (2.6X8), +BVTP	
65	4-960-622-01	GEAR (B)		* 84	4-960-534-01	BRACKET (LOCK)	
66	4-960-621-01	GEAR (A)		86	4-951-620-21	SCREW (2.6X14), +BVTP	
67	X-4944-234-1	GEAR (PULLEY) ASSY		FL801	1-517-332-11	INDICATOR TUBE, FLUORESCENT	
68	4-962-822-01	BELT (TIMING)		M803	A-4604-834-A	MOTOR ASSY, TABLE	
* 69	4-960-550-01	COVER (DUST)					
* 70	1-653-579-11	FUNCTION BOARD					

7-3. CD MECHANISM SECTION (1) (CDM-30)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 101	X-4943-942-1	BASE (BU) ASSY		* 125	1-649-112-11	CHUCKING SW BOARD	
102	4-960-617-01	CAP (F)		126	4-962-829-02	COVER (G.P)	
103	4-960-618-01	SPRING (F), COMPRESSION		127	4-962-822-01	BELT (TIMING)	
104	4-960-615-01	DAMPER (F)		128	X-4944-234-1	GEAR (PULLEY) ASSY	
* 105	A-4649-728-A	RF BOARD, COMPLETE		129	4-960-631-01	PULLEY (A)	
106	4-960-616-01	COLLAR (F)		130	4-960-633-01	YOKE (MAGNET)	
* 107	X-4943-941-1	PLATE (BU) ASSY, FULCRUM		131	4-960-632-01	PULLEY (B)	
108	1-751-481-11	WIRE (FLAT TYPE) (8 CORE)		* 132	X-4943-944-1	PLATE (R) ASSY, FULCRUM	
* 109	A-4649-727-A	BD BOARD, COMPLETE		* 133	X-4943-945-1	PLATE (L) ASSY, FULCRUM	
110	4-960-619-01	SPRING (F), TENSION		134	4-960-623-01	CAM (CHUCKING)	
111	4-960-626-01	SPRING (F LOCK), TENSION		135	4-960-622-01	GEAR (B)	
* 112	X-4943-943-1	LEVER (F LOCK) ASSY		136	3-669-596-01	WASHER (2.3), STOPPER	
113	3-696-510-01	WASHER (3), STOPPER		137	4-885-848-01	SPACER	
114	1-751-479-11	WIRE (FLAT TYPE) (12 CORE)		138	3-701-441-01	WASHER	
115	4-960-635-01	SPRING (C), TENSION		139	4-962-825-01	LIMITER (BU)	
116	4-960-634-01	SHAFT (Q)		140	3-831-441-XX	CUSHION	
* 117	4-960-637-01	BASE (CHUCKING)		141	9-911-863-XX	INSULATOR	
118	4-960-630-01	ARM, CHUCKING		142	4-970-016-01	DAMPER (KSM)	
119	3-366-559-11	MAGNET (CHUCK)		143	3-701-441-11	WASHER	
* 120	X-4943-940-1	BASE (MD) ASSY		144	3-325-697-01	WASHER	
121	X-4943-946-1	GUIDE (A) ASSY		145	4-962-826-01	LIMITER (FULCRUM BU)	
* 122	1-649-108-11	CHUCKING MOTOR BOARD		M801	A-4604-834-A	MOTOR ASSY, CHUCKING	
123	4-963-590-02	ROLLER (FULCRUM PLATE BU)					
124	4-960-621-01	GEAR (A)					

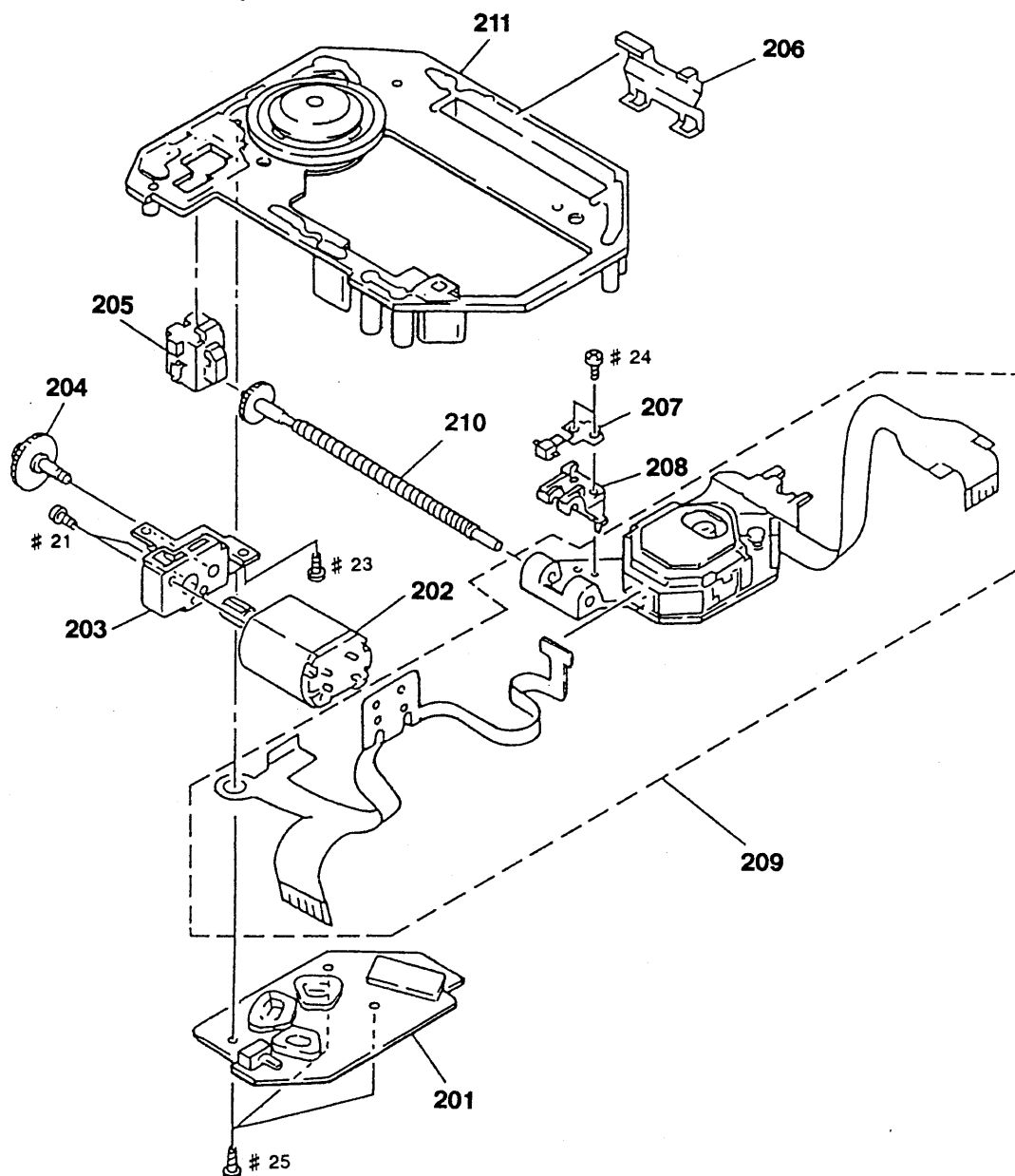
7-4. CD MECHANISM SECTION (2) (CDM-30)



Ref.No.	Part No.	Description
151	3-696-510-01	WASHER (3), STOPPER
* 152	1-649-111-11	DISK SW BOARD
* 153	4-960-663-01	GUIDE (DISK)
154	4-960-660-01	CAM (LOADING)
155	X-4944-380-1	HOLDER (T LOCK) ASSY
156	4-962-822-01	BELT (TIMING)
157	3-831-441-XX	CUSHION
* 158	1-649-113-11	LOADING SW BOARD
* 159	1-649-107-11	SENSOR BOARD
* 160	1-649-109-11	LOADING MOTOR BOARD
* 161	4-960-665-01	SHAFT (CENTER)
* 162	X-4943-949-1	LEVER (R) ASSY
163	4-962-522-01	SPRING (TOGGLE)
* 164	X-4943-951-1	LEVER (L) ASSY

Remark	Ref.No.	Part No.	Description	Remark
	* 165	X-4943-952-1	LEVER (G) ASSY	
	* 166	4-960-662-01	LEVER (LINK)	
	167	4-962-523-01	GEAR (E)	
	168	X-4943-947-1	HOLDER (CAM) ASSY	
	* 169	X-4943-953-1	BASE (LOADING) ASSY	
	170	4-960-659-01	GEAR (C)	
	171	4-960-621-01	GEAR (A)	
	* 172	X-4943-948-1	HOLDER (LEVER) ASSY	
	173	4-963-014-01	ROLLER (LEVER G)	
	174	3-701-444-01	WASHER, 6	
	175	X-4944-234-1	GEAR (PULLEY) ASSY	
	M802	A-4604-834-A	MOTOR ASSY, LOADING	

7-5. BASE UNIT SECTION (KSM-310 ABM)



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

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description
201	8-835-456-01	MOTOR, DC SSC-02E01S
202	X-2625-210-1	GEAR ASSY, SLED MOTOR
* 203	2-625-513-01	BASE, DRIVING
204	2-625-507-01	GEAR (B2)
* 205	A-4910-348-B	RETAINER ASSY, THRUST
* 206	2-625-514-01	COVER, FLEXIBLE

Remark	Ref. No.	Part No.	Description	Remark
	207	2-625-516-01	SPRING (A), FEED	
	208	2-625-515-01	RACK (AT)	
	Δ 209	8-848-178-11	OPTICAL PICK-UP BLOCK KSS-310A	
	210	X-2625-209-1	SCREW ASSY, SLED	
	211	X-2625-641-1	OMD CHASSIS ASSY	

SECTION 8

ELECTRICAL PARTS LIST

CHUCKING MOTOR

NOTE:

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

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

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

- 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 difference from the original one.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
CND : Canadian model

- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA..., uPB...: μ PB...,
uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*	A-4649-727-A	BD BOARD, COMPLETE *****		R104	1-216-085-00	METAL CHIP 33K 5% 1/10W	
		< CAPACITOR >		R105	1-216-097-00	METAL CHIP 100K 5% 1/10W	
C101	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R106	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
C102	1-163-038-00	CERAMIC CHIP 0.1uF 25V		R107	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
C103	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R108	1-216-073-00	METAL CHIP 10K 5% 1/10W	
C105	1-135-155-21	TANTALUM CHIP 4.7uF 10% 16V		R109	1-216-121-00	METAL CHIP 1M 5% 1/10W	
C106	1-164-346-11	CERAMIC CHIP 1uF 16V		R110	1-216-025-00	METAL CHIP 100 5% 1/10W	
C107	1-164-505-11	CERAMIC CHIP 2.2uF 16V		R112	1-216-049-00	METAL CHIP 1K 5% 1/10W	
C108	1-163-035-00	CERAMIC CHIP 0.047uF 50V		R113	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C109	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V		R114	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C110	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V		R117	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C111	1-163-251-11	CERAMIC CHIP 100PF 5% 50V		R118	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C112	1-163-038-00	CERAMIC CHIP 0.1uF 25V		R121	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C113	1-163-038-00	CERAMIC CHIP 0.1uF 25V		R122	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C123	1-164-232-11	CERAMIC CHIP 0.01uF 50V		R123	1-216-073-00	METAL CHIP 10K 5% 1/10W	
C124	1-164-005-11	CERAMIC CHIP 0.47uF 25V		R124	1-216-097-00	METAL CHIP 100K 5% 1/10W	
C151	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		R125	1-216-049-00	METAL CHIP 1K 5% 1/10W	
C152	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		R126	1-216-049-00	METAL CHIP 1K 5% 1/10W	
C153	1-163-038-00	CERAMIC CHIP 0.1uF 25V		R127	1-216-049-00	METAL CHIP 1K 5% 1/10W	
C154	1-164-336-11	CERAMIC CHIP 0.33uF 25V		R131	1-216-295-91	METAL GLAZE 0 5% 1/10W	
C155	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		R151	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
C156	1-163-007-11	CERAMIC CHIP 680PF 10% 50V		R152	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
C157	1-163-033-00	CERAMIC CHIP 0.022uF 50V		R153	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
C158	1-163-033-00	CERAMIC CHIP 0.022uF 50V		R154	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
C161	1-163-038-00	CERAMIC CHIP 0.1uF 25V		R155	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
		< CONNECTOR >		R156	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
* CN101	1-568-865-11	SOCKET, CONNECTOR 23P		R161	1-216-308-00	METAL CHIP 4.7 5% 1/10W	
CN102	1-568-794-11	SOCKET, CONNECTOR 12P				*****	
* CN103	1-580-469-11	SOCKET, CONNECTOR 8P		*	1-649-108-11	CHUCKING MOTOR BOARD *****	
		< IC >				< CAPACITOR >	
IC101	8-752-361-90	IC CXD2515Q		C850	1-162-302-11	CERAMIC 0.0022uF 20% 16V	
IC101	8-752-351-94	IC CXD2515Q				< MOTOR >	
IC102	8-759-071-79	IC BA6297AFP		M801	A-4604-834-A	MOTOR ASSY, CHUCKING	
		< RESISTOR >				*****	
R101	1-216-077-00	METAL CHIP 15K 5% 1/10W					
R102	1-216-097-00	METAL CHIP 100K 5% 1/10W					
R103	1-216-077-00	METAL CHIP 15K 5% 1/10W					

CHUCKING SW

DISK SW

DISPLAY

Ref.No.	Part No.	Description	Remark
*	1-649-112-11	CHUCKING SW BOARD *****	
		< SWITCH >	
S844	1-571-300-21	SWITCH, ROTARY (CHUCKING UP/DOWN DET)	

*	1-649-111-11	DISK SW BOARD *****	
		< SWITCH >	
S842	1-571-300-21	SWITCH, ROTARY (DISC DET)	

*	A-4673-214-A	DISPLAY BOARD, COMPLETE *****	
	4-960-501-01	HOLDER (FL TUBE)	
		< CAPACITOR >	
C801	1-161-494-00	CERAMIC 0.022uF 25V	
C802	1-125-486-11	DOUBLE LAYERS 0.22F 5.5V	
C803	1-136-165-00	FILM 0.1uF 5% 50V	
C804	1-126-177-11	ELECT 100uF 20% 6.3V	
C805	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C806	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C807	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C810	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C811	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C812	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C814	1-124-584-00	ELECT 100uF 20% 10V	
C815	1-162-282-31	CERAMIC 100PF 10% 50V	
C817	1-164-159-11	CERAMIC 0.1uF 50V	
C818	1-164-159-11	CERAMIC 0.1uF 50V	
C819	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C820	1-136-165-00	FILM 0.1uF 5% 50V	
C821	1-164-159-11	CERAMIC 0.1uF 50V	
C822	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C823	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C824	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C825	1-162-282-31	CERAMIC 100PF 10% 50V	
		< CONNECTOR >	
CN801	1-568-669-11	CONNECTOR, BOARD TO BOARD 8P	
* CN802	1-569-799-11	PLUG, CONNECTOR 5P	
* CN803	1-568-862-11	SOCKET, CONNECTOR 19P	
		< DIODE >	
D820	8-719-987-63	DIODE 1N4148M	

Ref.No.	Part No.	Description	Remark
		< FLUORESCENT INDICATOR >	
FL801	1-517-332-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC801	8-759-288-41	IC MB89647PF-111	
IC802	8-759-183-27	IC M66004M5SP	
IC803	8-759-916-12	IC SN74HC00AN	
IC804	8-759-289-94	IC LH5160TF	
IC805	8-741-100-48	IC SBX1610-59	
		< COIL >	
L880	1-412-473-21	INDUCTOR 0uH	
		< TRANSISTOR >	
Q800	8-729-900-80	TRANSISTOR DTC114ES	
Q801	8-729-900-80	TRANSISTOR DTC114ES	
Q802	8-729-900-80	TRANSISTOR DTC114ES	
Q803	8-729-900-80	TRANSISTOR DTC114ES	
Q804	8-729-900-80	TRANSISTOR DTC114ES	
Q806	8-729-900-61	TRANSISTOR DTA114ES	
		< RESISTOR >	
R830	1-249-429-11	CARBON 10K 5% 1/4W	
R831	1-249-417-11	CARBON 1K 5% 1/4W F	
R832	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R833	1-249-420-11	CARBON 1.8K 5% 1/4W F	
R834	1-249-422-11	CARBON 2.7K 5% 1/4W F	
R835	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R836	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R837	1-249-428-11	CARBON 8.2K 5% 1/4W F	
R838	1-249-431-11	CARBON 15K 5% 1/4W	
R839	1-249-437-11	CARBON 47K 5% 1/4W	
R840	1-249-429-11	CARBON 10K 5% 1/4W	
R841	1-249-417-11	CARBON 1K 5% 1/4W F	
R842	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R843	1-249-420-11	CARBON 1.8K 5% 1/4W F	
R844	1-249-422-11	CARBON 2.7K 5% 1/4W F	
R845	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R846	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R847	1-249-428-11	CARBON 8.2K 5% 1/4W F	
R848	1-249-431-11	CARBON 15K 5% 1/4W	
R849	1-249-437-11	CARBON 47K 5% 1/4W	
R850	1-249-429-11	CARBON 10K 5% 1/4W	
R851	1-249-417-11	CARBON 1K 5% 1/4W F	
R852	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R853	1-249-429-11	CARBON 10K 5% 1/4W	
R854	1-249-429-11	CARBON 10K 5% 1/4W	
R856	1-249-429-11	CARBON 10K 5% 1/4W	
R860	1-249-429-11	CARBON 10K 5% 1/4W	

DISPLAY

FUNCTION

JOG

LOADING MOTOR

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R861	1-249-429-11	CARBON	10K 5% 1/4W	*****			
R862	1-249-429-11	CARBON	10K 5% 1/4W				
R863	1-249-434-11	CARBON	27K 5% 1/4W				
R864	1-247-864-11	CARBON	24K 5% 1/4W				
R867	1-249-417-11	CARBON	1K 5% 1/4W F				
R870	1-249-429-11	CARBON	10K 5% 1/4W				
R871	1-249-429-11	CARBON	10K 5% 1/4W				
R872	1-249-429-11	CARBON	10K 5% 1/4W				
R873	1-249-429-11	CARBON	10K 5% 1/4W				
R874	1-249-429-11	CARBON	10K 5% 1/4W				
R878	1-249-429-11	CARBON	10K 5% 1/4W				
R879	1-249-429-11	CARBON	10K 5% 1/4W				
R880	1-249-429-11	CARBON	10K 5% 1/4W				
R881	1-249-429-11	CARBON	10K 5% 1/4W				
R882	1-249-429-11	CARBON	10K 5% 1/4W				
R883	1-249-429-11	CARBON	10K 5% 1/4W				
R884	1-249-429-11	CARBON	10K 5% 1/4W				
R885	1-249-399-11	CARBON	33 5% 1/4W F				
R886	1-249-429-11	CARBON	10K 5% 1/4W				
R889	1-249-429-11	CARBON	10K 5% 1/4W				
R890	1-249-417-11	CARBON	1K 5% 1/4W F				
< SWITCH >							
S800	1-554-303-21	SWITCH, TACTILE (GROUP 1)					
S801	1-554-303-21	SWITCH, TACTILE (GROUP 2)					
S802	1-554-303-21	SWITCH, TACTILE (GROUP 3)					
S803	1-554-303-21	SWITCH, TACTILE (GROUP 4)					
S804	1-554-303-21	SWITCH, TACTILE (GROUP 5)					
S805	1-554-303-21	SWITCH, TACTILE (GROUP 6)					
S806	1-554-303-21	SWITCH, TACTILE (GROUP 7)					
S807	1-554-303-21	SWITCH, TACTILE (GROUP 8)					
S808	1-554-303-21	SWITCH, TACTILE (GROUP 9)					
S809	1-554-303-21	SWITCH, TACTILE (GROUP 10)					
S810	1-554-303-21	SWITCH, TACTILE (GROUP ENTRY)					
S811	1-554-303-21	SWITCH, TACTILE (REPEAT)					
S812	1-554-303-21	SWITCH, TACTILE (CONTINUE)					
S813	1-554-303-21	SWITCH, TACTILE (SHUFFLE)					
S814	1-554-303-21	SWITCH, TACTILE (PROGRAM)					
S815	1-554-303-21	SWITCH, TACTILE (MEMO CLEAR)					
S816	1-554-303-21	SWITCH, TACTILE (MEMO DISC/GRP.)					
S817	1-554-303-21	SWITCH, TACTILE (MEMO CHECK)					
S818	1-554-303-21	SWITCH, TACTILE (MEMO SCAN)					
S819	1-554-303-21	SWITCH, TACTILE (TIME)					
S820	1-554-303-21	SWITCH, TACTILE (ERASE)					
S821	1-554-303-21	SWITCH, TACTILE (FILE)					
S822	1-554-303-21	SWITCH, TACTILE (MEMO INPUT)					
< VIBRATOR >							
X800	1-579-175-11	VIBRATOR, CERAMIC					

				* 1-653-579-11 FUNCTION BOARD			

				< CONNECTOR >			
				CN806 1-766-739-11 CONNECTOR, BOARD TO BOARD 12P			
				< DIODE >			
				D814 8-719-303-02 DIODE SEL2510C-D			
				D815 8-719-301-49 DIODE SEL2810A			
				D816 8-719-313-43 DIODE SEL2210S-TH10			
				< TRANSISTOR >			
				Q805 8-729-900-80 TRANSISTOR DTC114ES			
				< RESISTOR >			
				R822 1-249-406-11 CARBON 120 5% 1/4W F			
				R823 1-249-406-11 CARBON 120 5% 1/4W F			
				R824 1-249-411-11 CARBON 330 5% 1/4W			
				R853 1-249-420-11 CARBON 1.8K 5% 1/4W F			
				R854 1-249-422-11 CARBON 2.7K 5% 1/4W F			
				R855 1-249-423-11 CARBON 3.3K 5% 1/4W F			
				R856 1-249-425-11 CARBON 4.7K 5% 1/4W F			
				R857 1-249-428-11 CARBON 8.2K 5% 1/4W F			
				R858 1-249-431-11 CARBON 15K 5% 1/4W			
				R859 1-249-437-11 CARBON 47K 5% 1/4W			
				< SWITCH >			
				S823 1-554-303-21 SWITCH, TACTILE (▷)			
				S824 1-554-303-21 SWITCH, TACTILE (▨)			
				S825 1-554-303-21 SWITCH, TACTILE (■)			
				S826 1-554-303-21 SWITCH, TACTILE (▷▷▷)			
				S827 1-554-303-21 SWITCH, TACTILE (◁◁◁)			
				S828 1-554-303-21 SWITCH, TACTILE (UNLOAD)			

				* 1-653-582-11 JOG BOARD			

				< SWITCH >			
				RE800 1-692-615-11 SWITCH, JOG (SELECT/ENTER)			

				* 1-649-109-11 LOADING MOTOR BOARD			

				< CAPACITOR >			
				C851 1-162-302-11 CERAMIC 0.0022uF 20% 16V			

LOADING MOTOR

LOADING SW

MAIN

Ref.No.	Part No.	Description	Remark
< CONNECTOR >			
* CN891	1-568-941-11	PIN, CONNECTOR 3P	
CN892	1-506-481-11	PIN, CONNECTOR 2P	
* CN893	1-568-943-11	PIN, CONNECTOR 5P	
* CN895	1-568-829-11	SOCKET, CONNECTOR 10P	
< MOTOR >			
M802	A-4604-834-A	MOTOR ASSY, LOADING	

*	1-649-113-11	LOADING SW BOARD	

< SWITCH >			
S843	1-571-300-21	SWITCH, ROTARY (LOADING DET)	

*	A-4673-190-A	MAIN BOARD, COMPLETE (AEP, UK, AUS)	

*	A-4673-217-A	MAIN BOARD, COMPLETE (US, CND)	

	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
< CAPACITOR >			
C1	1-162-282-31	CERAMIC 100PF 10% 50V	
C2	1-162-215-31	CERAMIC 47PF 5% 50V	
C3	1-162-215-31	CERAMIC 47PF 5% 50V	
C4	1-124-994-11	ELECT 100uF 20% 10V	
C5	1-106-359-00	MYLAR 4700PF 5% 200V	
C6	1-130-472-00	MYLAR 0.0012uF 5% 50V	
C7	1-124-994-11	ELECT 100uF 20% 10V	
C8	1-130-467-00	MYLAR 470PF 5% 50V	
C201	1-124-572-11	ELECT 100uF 20% 63V	
C202	1-126-163-11	ELECT 4.7uF 20% 50V	
C203	1-124-360-00	ELECT 1000uF 20% 16V	
C204	1-126-017-11	ELECT 6800uF 20% 16V	
C205	1-126-012-11	ELECT 470uF 20% 16V	
C206	1-126-163-11	ELECT 4.7uF 20% 50V	
C207	1-126-163-11	ELECT 4.7uF 20% 50V	
C208	1-126-022-11	ELECT 47uF 20% 16V	
C210	1-126-101-11	ELECT 100uF 20% 16V	
C308	1-164-159-11	CERAMIC 0.1uF 50V	
C309	1-126-022-11	ELECT 47uF 20% 16V	
C310	1-164-159-11	CERAMIC 0.1uF 50V	
C311	1-164-159-11	CERAMIC 0.1uF 50V	
C320	1-162-196-31	CERAMIC 5.6PF 10% 50V	
C321	1-162-196-31	CERAMIC 5.6PF 10% 50V	
C322	1-161-494-00	CERAMIC 0.022uF 25V	

Ref.No.	Part No.	Description	Remark
C323	1-126-022-11	ELECT 47uF 20% 16V	
C324	1-126-025-11	ELECT 330uF 20% 16V	
C325	1-126-025-11	ELECT 330uF 20% 16V	
C326	1-126-022-11	ELECT 47uF 20% 16V	
C327	1-126-022-11	ELECT 47uF 20% 16V	
C328	1-126-049-11	ELECT 22uF 20% 25V	
C329	1-124-994-11	ELECT 100uF 20% 10V	
C330	1-124-994-11	ELECT 100uF 20% 10V	
C331	1-136-165-00	FILM 0.1uF 5% 50V	
C332	1-164-159-11	CERAMIC 0.1uF 50V	
C333	1-164-159-11	CERAMIC 0.1uF 50V	
C334	1-136-165-00	FILM 0.1uF 5% 50V	
C335	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C336	1-164-159-11	CERAMIC 0.1uF 50V	
C338	1-164-159-11	CERAMIC 0.1uF 50V	
C339	1-126-022-11	ELECT 47uF 20% 16V	
C340	1-164-159-11	CERAMIC 0.1uF 50V	
C341	1-164-159-11	CERAMIC 0.1uF 50V	
C342	1-162-196-31	CERAMIC 5.6PF 10% 50V	
C343	1-164-159-11	CERAMIC 0.1uF 50V	
C353	1-164-159-11	CERAMIC 0.1uF 50V	
C354	1-136-165-00	FILM 0.1uF 5% 50V	
C403	1-126-022-11	ELECT 47uF 20% 16V	
C404	1-126-022-11	ELECT 47uF 20% 16V	
C405	1-161-494-00	CERAMIC 0.022uF 25V	
C406	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C407	1-164-159-11	CERAMIC 0.1uF 50V	
C408	1-164-159-11	CERAMIC 0.1uF 50V	
C409	1-164-159-11	CERAMIC 0.1uF 50V	
C410	1-164-159-11	CERAMIC 0.1uF 50V	
C411	1-136-165-00	FILM 0.1uF 5% 50V	
C415	1-164-159-11	CERAMIC 0.1uF 50V	
C416	1-164-159-11	CERAMIC 0.1uF 50V	
C417	1-164-159-11	CERAMIC 0.1uF 50V	
C701	1-162-282-31	CERAMIC 100PF 10% 50V	
C702	1-162-215-31	CERAMIC 47PF 5% 50V	
C703	1-162-215-31	CERAMIC 47PF 5% 50V	
C704	1-124-994-11	ELECT 100uF 20% 10V	
C705	1-106-359-00	MYLAR 4700PF 5% 200V	
C706	1-130-472-00	MYLAR 0.0012uF 5% 50V	
C707	1-124-994-11	ELECT 100uF 20% 10V	
C708	1-130-467-00	MYLAR 470PF 5% 50V	
C852	1-162-302-11	CERAMIC 0.0022uF 20% 16V	
< CONNECTOR >			
CN203	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P	
* CN402	1-568-829-11	SOCKET, CONNECTOR 10P	
* CN403	1-568-954-11	PIN, CONNECTOR 5P	
* CN404	1-568-951-11	PIN, CONNECTOR 2P	
* CN904	1-568-839-11	SOCKET, CONNECTOR 23P	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
CN905	1-568-802-11	SOCKET, CONNECTOR 19P		Q603	8-729-900-61	TRANSISTOR DTA114ES	
		< DIODE >		Q604	8-729-900-80	TRANSISTOR DTC114ES	
D201	8-719-200-82	DIODE 11ES2				< RESISTOR >	
D202	8-719-110-08	DIODE RD8.2ES-B2		R1	1-249-436-11	CARBON 39K 5% 1/4W	
D203	8-719-200-82	DIODE 11ES2		R2	1-249-436-11	CARBON 39K 5% 1/4W	
D204	8-719-200-82	DIODE 11ES2		R3	1-249-431-11	CARBON 15K 5% 1/4W	
D205	8-719-200-82	DIODE 11ES2		R4	1-249-431-11	CARBON 15K 5% 1/4W	
D206	8-719-200-82	DIODE 11ES2		R5	1-249-437-11	CARBON 47K 5% 1/4W	
D207	8-719-114-10	DIODE RD36ES-T2B2		R6	1-249-437-11	CARBON 47K 5% 1/4W	
D208	8-719-987-63	DIODE 1N4148M		R7	1-249-429-11	CARBON 10K 5% 1/4W	
D301	8-719-987-63	DIODE 1N4148M		R8	1-249-419-11	CARBON 1.5K 5% 1/4W F	
		< GROUND PLATE >		R9	1-249-419-11	CARBON 1.5K 5% 1/4W F	
* EB601	4-870-539-00	PLATE, GROUND		R10	1-249-417-11	CARBON 1K 5% 1/4W F	
		< IC >		R11	1-249-441-11	CARBON 100K 5% 1/4W	
IC202	8-759-061-65	IC LA5602		R201	1-249-429-11	CARBON 10K 5% 1/4W	
IC204	8-759-094-56	IC TA7808S (LBSONY)		R202	1-249-423-11	CARBON 3.3K 5% 1/4W F	
IC301	8-752-360-60	IC CXD2565M-1		R203	1-249-429-11	CARBON 10K 5% 1/4W	
IC302	8-759-175-88	IC LA9215-ST		R244	1-249-382-11	CARBON 1.2 5% 1/4W F	
IC308	8-749-921-12	IC GP1F32T (DIGITAL OUT OPTICAL)		R245	1-249-382-11	CARBON 1.2 5% 1/4W F	
IC401	8-759-290-21	IC M37451M4-453FP		R251	1-249-417-11	CARBON 1K 5% 1/4W F	
IC403	8-759-821-32	IC CXA1291P		R301	1-249-417-11	CARBON 1K 5% 1/4W F	
		< JACK >		R302	1-249-417-11	CARBON 1K 5% 1/4W F	
J301	1-766-728-11	JACK (DIA. 3.5) (CONTROL A)		R303	1-249-417-11	CARBON 1K 5% 1/4W F	
J302	1-766-728-11	JACK (DIA. 3.5) (CONTROL A)		R305	1-249-425-11	CARBON 4.7K 5% 1/4W F	
J390	1-750-679-11	JACK, PIN 2P (LINE OUT)		R306	1-247-807-31	CARBON 100 5% 1/4W	
		< COIL >		R307	1-249-429-11	CARBON 10K 5% 1/4W	
L201	1-412-473-21	INDUCTOR 0uH		R308	1-247-807-31	CARBON 100 5% 1/4W F	
L202	1-412-473-21	INDUCTOR 0uH		R353	1-249-437-11	CARBON 47K 5% 1/4W	
L203	1-412-473-21	INDUCTOR 0uH		R354	1-249-437-11	CARBON 47K 5% 1/4W	
L204	1-412-473-21	INDUCTOR 0uH		R355	1-249-425-11	CARBON 4.7K 5% 1/4W F	
L205	1-412-473-31	INDUCTOR (SMALL TYPE) 0uH		R356	1-249-429-11	CARBON 10K 5% 1/4W	
L301	1-412-297-11	INDUCTOR 3.3uH		R357	1-249-393-11	CARBON 10 5% 1/4W F	
L302	1-412-473-21	INDUCTOR 0uH		R401	1-249-425-11	CARBON 4.7K 5% 1/4W F	
L303	1-412-473-21	INDUCTOR 0uH		R402	1-249-425-11	CARBON 4.7K 5% 1/4W F	
L304	1-410-970-21	INDUCTOR 10% 6.8uH (28.0MHz)		R403	1-249-425-11	CARBON 4.7K 5% 1/4W F	
L305	1-410-397-21	INDUCTOR 1.1uH		R404	1-249-425-11	CARBON 4.7K 5% 1/4W F	
L306	1-410-397-21	INDUCTOR 1.1uH		R405	1-249-425-11	CARBON 4.7K 5% 1/4W F	
L307	1-412-473-21	INDUCTOR 0uH		R406	1-249-429-11	CARBON 10K 5% 1/4W	
		< TRANSISTOR >		R407	1-249-429-11	CARBON 10K 5% 1/4W	
Q201	8-729-803-76	TRANSISTOR 2SA1371		R408	1-247-903-00	CARBON 1M 5% 1/4W	
Q355	8-729-620-05	TRANSISTOR 2SC2603-EF		R409	1-249-441-11	CARBON 100K 5% 1/4W	
Q356	8-729-620-05	TRANSISTOR 2SC2603-EF		R410	1-249-441-11	CARBON 100K 5% 1/4W	
Q601	8-729-900-61	TRANSISTOR DTA114ES		R411	1-249-441-11	CARBON 100K 5% 1/4W	
Q602	8-729-900-89	TRANSISTOR DTC144ES		R412	1-249-441-11	CARBON 100K 5% 1/4W	
				R413	1-247-885-00	CARBON 180K 5% 1/4W	
				R414	1-247-885-00	CARBON 180K 5% 1/4W	
				R415	1-247-883-00	CARBON 150K 5% 1/4W	
				R416	1-249-431-11	CARBON 15K 5% 1/4W	
				R417	1-249-441-11	CARBON 100K 5% 1/4W	

MAIN

POWER SW

RF

Ref. No.	Part No.	Description	Remark
R418	1-249-441-11	CARBON 100K 5% 1/4W	
R419	1-249-441-11	CARBON 100K 5% 1/4W	
R420	1-249-441-11	CARBON 100K 5% 1/4W	
R421	1-249-393-11	CARBON 10 5% 1/4W F	
R422	1-249-393-11	CARBON 10 5% 1/4W F	
R423	1-249-393-11	CARBON 10 5% 1/4W F	
R426	1-247-860-11	CARBON 16K 5% 1/4W	
R451	1-249-417-11	CARBON 1K 5% 1/4W F	
R452	1-249-417-11	CARBON 1K 5% 1/4W F	
R453	1-249-417-11	CARBON 1K 5% 1/4W F	
R454	1-249-417-11	CARBON 1K 5% 1/4W F	
R455	1-249-417-11	CARBON 1K 5% 1/4W F	
R456	1-249-417-11	CARBON 1K 5% 1/4W F	
R457	1-249-417-11	CARBON 1K 5% 1/4W F	
R701	1-249-436-11	CARBON 39K 5% 1/4W	
R702	1-249-436-11	CARBON 39K 5% 1/4W	
R703	1-249-431-11	CARBON 15K 5% 1/4W	
R704	1-249-431-11	CARBON 15K 5% 1/4W	
R705	1-249-437-11	CARBON 47K 5% 1/4W	
R706	1-249-437-11	CARBON 47K 5% 1/4W	
R707	1-249-429-11	CARBON 10K 5% 1/4W	
R708	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R709	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R710	1-249-417-11	CARBON 1K 5% 1/4W F	
R711	1-249-441-11	CARBON 100K 5% 1/4W	
R951	1-249-429-11	CARBON 10K 5% 1/4W	
R952	1-249-429-11	CARBON 10K 5% 1/4W	
< SWITCH >			
S901	1-762-151-11	SWITCH, SLIDE (COMMAND MODE)	
< TRANSFORMER >			
△T901	1-426-956-11	TRANSFORMER, POWER (AEP, UK, AUS)	
△T901	1-426-957-11	TRANSFORMER, POWER (US, CND)	
< VIBRATOR >			
X301	1-579-834-11	VIBRATOR, CRYSTAL	
X401	1-579-175-11	VIBRATOR, CERAMIC	

*	1-653-580-11	POWER SW BOARD	

< CONNECTOR >			
* CN805	1-565-481-11	CONNECTOR, BOARD TO BOARD 5P	
< SWITCH >			
S805	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)	
S831	1-570-157-51	SWITCH, SLIDE (TIMER)	

Ref. No.	Part No.	Description	Remark

*	A-4649-728-A	RF BOARD, COMPLETE	

< CAPACITOR >			
C173	1-126-205-11	ELECT CHIP 47uF 20% 6.3V	
C174	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C175	1-126-206-11	ELECT CHIP 100uF 20% 6.3V	
C176	1-163-227-11	CERAMIC CHIP 10PF 0.5PF 50V	
C180	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C181	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C183	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C184	1-126-205-11	ELECT CHIP 47uF 20% 6.3V	
C185	1-126-205-11	ELECT CHIP 47uF 20% 6.3V	
C186	1-126-601-11	ELECT CHIP 2.2uF 20% 50V	
C187	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
< CONNECTOR >			
CN110	1-580-883-21	SOCKET, CONNECTOR (SMT) 12P	
CN112	1-580-883-21	SOCKET, CONNECTOR (SMT) 12P	
CN113	1-580-862-11	SOCKET, CONNECTOR (SMT) 8P	
CN114	1-580-866-11	SOCKET, CONNECTOR (SMT) 12P	
< DIODE >			
D101	8-719-210-33	DIODE EC10DS2	
< IC >			
IC110	8-752-033-14	IC CXA1081Q	
IC111	8-759-071-79	IC BA6297AFP	
< TRANSISTOR >			
Q101	8-729-804-41	TRANSISTOR 2SB1122-S	
Q102	8-729-805-43	TRANSISTOR 2SC3396	
< RESISTOR >			
R001	1-216-295-91	METAL GLAZE 0 5% 1/10W	
R002	1-216-295-91	METAL GLAZE 0 5% 1/10W	
R003	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R004	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R005	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R006	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R007	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R008	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R009	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R010	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R011	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R012	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R013	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R014	1-216-296-91	METAL GLAZE 0 5% 1/8W	

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

Les composants identifiés par une
marque △ sont critiques pour la
sécurité.
Ne les remplacer que par une pièce
portant le numéro spécifié.

RF SENSOR TABLE MOTOR

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R015	1-216-296-91	METAL GLAZE	0 5% 1/8W			< VARIABLE RESISTOR >	
R016	1-216-296-91	METAL GLAZE	0 5% 1/8W	RV101	1-223-276-11	RES, ADJ, CERMET 22K	
R017	1-216-296-91	METAL GLAZE	0 5% 1/8W	RV102	1-223-276-11	RES, ADJ, CERMET 22K	
R018	1-216-296-91	METAL GLAZE	0 5% 1/8W			*****	
R019	1-216-296-91	METAL GLAZE	0 5% 1/8W				
R020	1-216-296-91	METAL GLAZE	0 5% 1/8W				
				*	1-649-107-11	SENSOR BOARD	
R021	1-216-296-91	METAL GLAZE	0 5% 1/8W			*****	
R022	1-216-296-91	METAL GLAZE	0 5% 1/8W			< IC >	
R023	1-216-296-91	METAL GLAZE	0 5% 1/8W	IC810	8-749-924-18	IC RPI-1391	
R024	1-216-296-91	METAL GLAZE	0 5% 1/8W	IC811	8-749-924-18	IC RPI-1391	
R025	1-216-296-91	METAL GLAZE	0 5% 1/8W	IC812	8-749-924-18	IC RPI-1391	
						< RESISTOR >	
R026	1-216-296-91	METAL GLAZE	0 5% 1/8W	R892	1-249-416-11	CARBON 820 5% 1/4W F	
R027	1-216-296-91	METAL GLAZE	0 5% 1/8W	R893	1-249-416-11	CARBON 820 5% 1/4W F	
R028	1-216-295-91	METAL GLAZE	0 5% 1/10W	R894	1-249-416-11	CARBON 820 5% 1/4W F	
R029	1-216-296-91	METAL GLAZE	0 5% 1/8W			*****	
R030	1-216-296-91	METAL GLAZE	0 5% 1/8W				
				*	1-649-110-11	TABLE MOTOR BOARD	
R031	1-216-296-91	METAL GLAZE	0 5% 1/8W			*****	
R032	1-216-296-91	METAL GLAZE	0 5% 1/8W			< MOTOR >	
R033	1-216-296-91	METAL GLAZE	0 5% 1/8W	M803	A-4604-834-A	MOTOR ASSY, TABLE	
R034	1-216-296-91	METAL GLAZE	0 5% 1/8W			*****	
R035	1-216-296-91	METAL GLAZE	0 5% 1/8W			MISCELLANEOUS	

R036	1-216-296-91	METAL GLAZE	0 5% 1/8W	17	1-751-482-11	WIRE (FLAT TYPE) (10 CORE)	
R171	1-216-001-00	METAL CHIP	10 5% 1/10W	18	1-751-478-11	WIRE (FLAT TYPE) (23 CORE)	
R172	1-216-003-11	METAL GLAZE	12 5% 1/10W	19	1-765-600-11	WIRE (FLAT TYPE) (19 CORE)	
R173	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	△25	1-558-568-21	CORD, POWER (AEP)	
R174	1-216-081-00	METAL CHIP	22K 5% 1/10W	△25	1-590-836-11	CORD, POWER (US, CND)	
				△25	1-696-571-11	CORD, POWER (UK)	
R175	1-216-049-00	METAL CHIP	1K 5% 1/10W	△25	1-696-845-11	CORD, POWER (AUS)	
R176	1-216-024-00	METAL GLAZE	91 5% 1/10W	108	1-751-481-11	WIRE (FLAT TYPE) (8 CORE)	
R177	1-216-073-00	METAL CHIP	10K 5% 1/10W	114	1-751-479-11	WIRE (FLAT TYPE) (12 CORE)	
R178	1-216-073-00	METAL CHIP	10K 5% 1/10W	201	8-835-456-01	MOTOR, DC SSC-02E01S	
R181	1-216-076-00	METAL CHIP	13K 5% 1/10W	△209	8-848-178-11	OPTICAL PICK-UP BLOCK KSS-310A	
R182	1-216-076-00	METAL CHIP	13K 5% 1/10W	FL801	1-517-332-11	INDICATOR TUBE, FLUORESCENT	
R183	1-216-049-00	METAL CHIP	1K 5% 1/10W	M802	A-4604-834-A	MOTOR ASSY, LOADING	
R184	1-216-085-00	METAL CHIP	33K 5% 1/10W	M803	A-4604-834-A	MOTOR ASSY, TABLE	
R185	1-216-085-00	METAL CHIP	33K 5% 1/10W	△T901	1-426-956-11	TRANSFORMER, POWER (AEP, UK, AUS)	
R187	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	△T901	1-426-957-11	TRANSFORMER, POWER (US, CND)	
R188	1-216-075-00	METAL CHIP	12K 5% 1/10W			*****	
R190	1-216-057-00	METAL CHIP	2.2K 5% 1/10W				
R191	1-216-061-00	METAL CHIP	3.3K 5% 1/10W				
R192	1-216-075-00	METAL CHIP	12K 5% 1/10W				
R193	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R194	1-216-089-91	METAL GLAZE	47K 5% 1/10W				
R195	1-216-089-91	METAL GLAZE	47K 5% 1/10W				
R196	1-216-089-91	METAL GLAZE	47K 5% 1/10W				
R197	1-216-089-91	METAL GLAZE	47K 5% 1/10W				
R198	1-216-092-00	METAL GLAZE	62K 5% 1/10W				
R199	1-216-092-00	METAL GLAZE	62K 5% 1/10W				

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

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS *****	
	1-467-777-11	REMOTE COMMANDER (RM-DX151)	
	1-558-271-11	CORD, CONNECTION (AUDIO) (108cm)	
	3-707-584-21	COVER, BATTERY (for RM-DX151)	
	3-759-174-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH) (CND, AEP, UK)	
	3-759-174-21	MANUAL, INSTRUCTION (ENGLISH) (US, AUS)	
	3-759-174-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, ITALIAN, PORTUGUESE) (AEP)	
	4-956-370-02	BAND, PLUG FIXED (AUS)	
*	4-961-161-01	CUSHION	
*	4-969-015-01	INDIVIDUAL CARTON	
	4-970-015-01	HOLDER (BOOKLET L)	

		***** HARDWARE LIST *****	
#1	7-682-649-09	SCREW +PWH 3X10	
#2	7-685-249-19	SCREW +KTP 3X14 TYPE2 NON-SLIT	
#3	7-685-646-79	SCREW +P 3X8 TYPE2 NON-SLIT	
#4	7-685-671-19	SCREW +BVTP 5X10 TYPE2 N-S	
#5	7-682-545-09	SCREW +B 3X4	
#6	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#7	7-621-775-00	SCREW +B 2.6X3	
#8	7-621-772-40	SCREW +B 2X8	
#9	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
#10	7-621-772-20	SCREW +B 2X5	
#11	7-682-947-01	SCREW +PSW 3X6	
#12	7-682-547-09	SCREW +BVTT 3X6 (S)	
#13	7-624-106-04	STOP RING 3.0, TYPE -E	
#14	7-682-544-09	SCREW +B 3X3	
#15	7-621-775-20	SCREW +B 2.6X5	
#16	7-621-770-87	SCREW +B 2.6X5	
#17	7-624-104-04	STOP RING 2.0, TYPE -E	
#18	7-624-108-04	STOP RING 4.0, TYPE -E	
#19	7-685-649-79	SCREW +BVTP 3X14 TYPE2 N-S (AUS)	
#20	7-624-105-04	STOP RING 2.3, TYPE -E	
#21	7-628-253-15	SCREW +PS 2X5	
#22	7-682-648-09	SCREW +PWH 3X8	
#23	7-627-553-37	PRECISION SCREW +P 2X3 TYPE 3	
#24	7-627-852-17	+P 1.7X4	
#25	7-685-102-19	SCREW +P 2X4 TYPE 2 NON-SLIT	

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

Les composants identifiés par une marque  sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.