MDX-C800REC

SERVICE MANUAL

US Model
Canadian Model

Model Name Using Similar Mechanism	NEW
Mini Disc Mechanism Type	MG-715B-160
Optical Pick-up Name	KMS-263A

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
19 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1% total harmonic distortion.

Other Specifications

MD recoder section

Signal-to-noise ratio	92 dB
Frequency response	10 – 20,000 Hz
Wow and flutter	Below measurable limit
Laser Diode Properties	
Material	GaAlAs
Wavelength	790 nm
Emission Duration	Continuous
Laser output power	Less than 5 mW*

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

Tuner section

FM

Tuning range	87.5 – 107.9 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	66 dB (stereo), 72 dB (mono)
Harmonic distortion at 1 kHz	0.6% (stereo), 0.3% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

AM

Tuning range	530 – 1,710 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	45 W × 4 (at 4 ohms)

General

Outputs	Audio outputs Power antenna relay control lead Power amplifier control lead
Inputs	Telephone ATT control lead Digital input connector BUS audio input connector BUS control input connector
Tone controls	Bass ±9 dB at 100 Hz Treble ±9 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 50 × 184 mm (7 1/8 × 2 × 7 1/4 in.) (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 163 mm (7 1/4 × 2 1/8 × 6 1/2 in.) (w/h/d)
Mass	Approx. 1.5 kg (3 lb. 1 oz.)
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

U.S. and foreign patents licensed from Dolby laboratories Licensing Corporation.

Design and specifications are subject to change without notice.

FM/AM MINI DISC RECORDER

SONY®

SERVICE NOTE

CAUTION

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

Notes on Chip Component Replacement

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

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

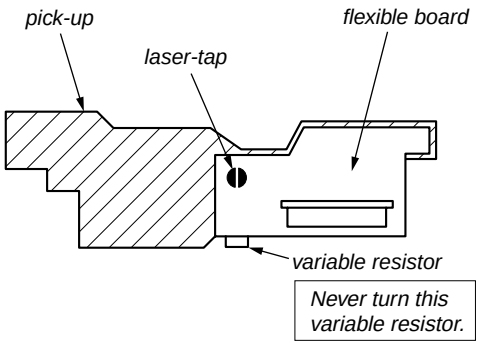
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

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.

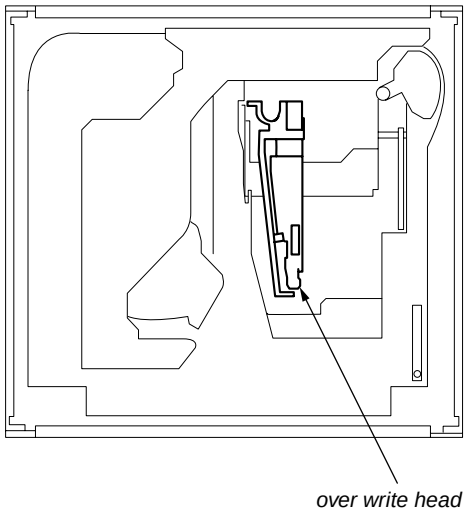
NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK (KMS-263A)

The laser diode in the optical pick-up block may suffer electrostatic break-down easily. When handling it, perform soldering bridge to the laser-tap on the flexible board. Also perform measures against electrostatic break-down sufficiently before the operation. The flexible board is easily damaged and should be handled with care.



HANDLING PRECAUTION FOR THE OVER WRITE HEAD

The over write head is susceptible to damage. When adjusting and checking the over write head, it requires careful handling.



SAFETY-RELATED COMPONENT WARNING!!

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

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

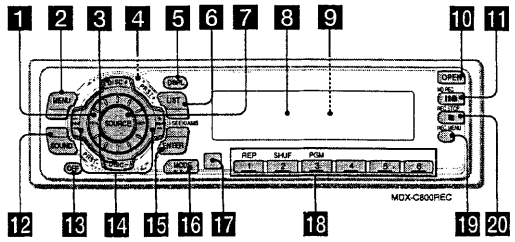
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

TABLE OF CONTENTS

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of controls



Refer to the pages listed for details.

1 **Volume control dial**

2 **MENU button** 9, 11, 13, 14, 15, 16, 23, 24, 25, 26, 27, 28, 29, 30, 31, 35, 36, 37, 39

3 **DISC/PRST +/– (cursor up/down) buttons** 9, 11, 13, 14, 15, 16, 17, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 35, 36, 37, 39
During CD/MD playback:
Disc change 12, 19
During radio reception:
Preset stations select 30

4 **⏏ (eject) button** (located on the front side of the unit behind the front panel) 10, 11

5 **DSPL (display mode change) button** 11, 16, 22, 27

6 **LIST button** 16, 31
List-up 17, 32, 38

7 **SOURCE (Radio/CD/MD/TV) button** 7, 9, 10, 11, 13, 16, 29, 30, 36, 37, 39

8 **Display window**

9 **Reset button** (located on the front side of the unit behind the front panel) 8

10 **OPEN button** 8, 10, 11, 18, 19, 20, 21, 40

11 **MD REC button** 17, 18, 19, 20, 21

12 **SOUND button** 34

13 **OFF button*** 6, 8, 9, 11

14 **SEEK/AMS –/+ (cursor left/right) buttons** 9, 11, 13, 14, 16, 23, 24, 25, 26, 27, 28, 30, 31, 34, 35, 36, 39
Automatic Music Sensor 12, 18, 19
Manual Search 12
Seek 29, 30, 37

15 **ENTER button** 9, 11, 13, 14, 15, 16, 17, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 35, 36, 37, 39

16 **MODE button**
During CD or MD playback:
CD/MD unit select 11, 16
During radio reception:
Band select 29, 30
During TV reception:
Unit select 36

17 **Receptor for the card remote commander**

18 **Number buttons**
During radio reception:
Preset number select 29, 30
During CD/MD playback:
① **REP** 12, 22
② **SHUF** 13, 22
③ **PGM** 14
During TV reception:
Preset number select 37

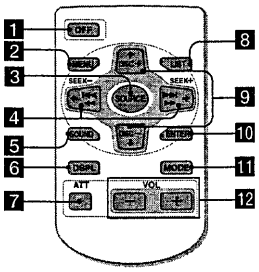
19 **REC MENU button** 18, 19, 20, 21, 22

20 **REC STOP button** 18, 20, 21

* **Warning when installing in a car without ACC (accessory) position on the ignition switch**
Be sure to press (OFF) on the unit for 2 seconds to turn off the clock display after turning off the ignition.
When you press (OFF) only momentarily, the clock display does not turn off and this causes battery drain.

Location of controls

Card remote commander RM-X91 (optional)



The corresponding buttons of the card remote commander control the same functions as those on this unit.

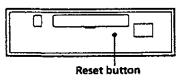
1 **OFF button**
2 **MENU button**
3 **SOURCE button**
4 **SEEK/AMS (⏮/⏭) buttons**
5 **SOUND button**
6 **DSPL button**
7 **ATT button**
8 **LIST button**
9 **DISC/PRST (⏫/⏬) buttons**
10 **ENTER button**
11 **MODE button**
12 **VOL buttons**

Notes
- *A unit turned off by pressing (OFF) for 2 seconds cannot be operated with the card remote commander unless (SOURCE) on the unit is pressed, or a disc is inserted to activate the unit first.*
- *Do not leave the card remote commander where it can be exposed to direct sunlight such as on a dashboard or the steering wheel, etc. The card remote commander may be deformed by the heat.*
- *The MiniDisc recorder may not operate properly with the card remote commander in direct sunlight. In such a case, hold the card remote commander close to the unit's receptor.*

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.
Remove the front panel and press the reset button with a pointed object, such as a ball-point pen.



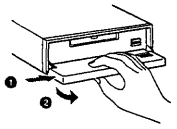
Note
Pressing the reset button will erase the clock setting and some stored contents such as the station memo.

Detaching the front panel

You can detach the front panel of this unit to protect the unit from being stolen.

1 **Press (OFF).**

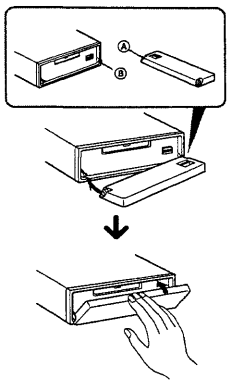
2 **Press (OPEN), then slide the front panel to the right side, and pull out the left side of the front panel.**



Notes
- *Do not put anything on the inner surface of the front panel.*
- *Be sure not to drop the panel when detaching it from the unit.*
- *If you detach the panel while the unit is still turned on, the power will turn off automatically to prevent the speakers from being damaged.*
- *When carrying the front panel with you, use the supplied front panel case.*

Attaching the front panel

Place the hole Ⓐ in the front panel onto the spindle Ⓑ on the unit as illustrated, then push the left side in.



Notes
- *Be careful not to attach the front panel upside down.*
- *Do not press the front panel too hard against the unit when attaching it.*
- *Do not press too hard or put excessive pressure on the display window of the front panel.*
- *Do not expose the front panel to direct sunlight or heat sources such as hot air ducts, and do not leave it in a humid place. Never leave it on the dashboard of a car parked in direct sunlight or where there may be a considerable rise in temperature.*

Caution alarm

If you turn the ignition switch to the OFF position without removing the front panel, the caution alarm will beep for a few seconds.

Turning the unit on/off

Turning on the unit

Press (SOURCE) or insert an MD into the unit. For details on operation, refer to page 10 (MD/CD) and page 29 (radio).

Turning off the unit

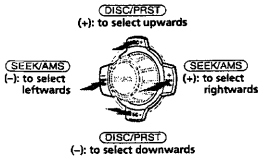
Press (OFF) to stop MD/CD playback or FM/AM reception (the key illumination and display remain on).
Press (OFF) for 2 seconds to completely turn off the unit.

Note
If your car has no ACC position on the ignition switch, be sure to turn the unit off by pressing (OFF) for 2 seconds to avoid car battery drain.

How to use the menu

— An introductive guide

One operational feature of this unit is selecting functions/settings from a menu.
After entering Menu mode, you move the cursor to select each item with the following buttons:



Note
In Menu mode the "▲" in the left of the display indicates the selectable buttons of (DISC/PRST) and (SEEK/AMS).

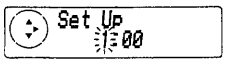
Setting the clock

The clock uses a 12-hour digital indication.

Example: To set the clock to 10:08

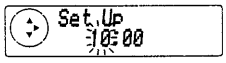
1 **Press (MENU), then press either side of (DISC/PRST) repeatedly until "Clock" appears.**

❶ **Press (ENTER).**



The hour indication flashes.

❷ **Press either side of (DISC/PRST) to set the hour.**

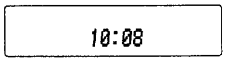


❸ **Press the (+) side of (SEEK/AMS).**

The minute indication flashes.

❹ **Press either side of (DISC/PRST) to set the minute.**

2 **Press (ENTER).**



The clock starts.

After the clock setting is completed, the display returns to normal play mode.

Notes
- *If your car has no ACC (accessory) position on the ignition switch, be sure to turn on the unit before you set the clock (see page 9).*
- *In the initial setting, the clock indication appears while the unit is turned off. When D.INFO mode is set to ON, the time is always displayed (page 35).*

MD Player CD/MD Unit (optional)

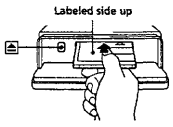
In addition to playing an MD with this unit alone, you can also control external CD/MD units.

Note
If you connect an optional CD unit with the CD TEXT function, the CD TEXT information will appear on the display when you play a CD TEXT disc.

Playing a disc

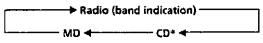
Playing an MD (with this unit)

1 Press (OPEN) and insert the MD.



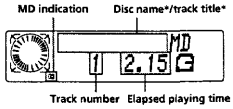
2 Close the front panel.
Playback starts automatically.

If an MD is already inserted, press (SOURCE) repeatedly until "MD" appears to start playback.



** If the corresponding optional equipment is not connected, this item will not appear.*

The title of the MD* and the track title* will appear on the display window, then the playing time will appear.



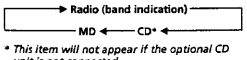
** Only if these titles are prerecorded on the MD (Some characters cannot be displayed).*

To	Press
Stop playback	(OFF)
Eject the MD	(OPEN) then ⏏

Note
When the last track on the MD is over, the track number indication returns to "1," and playback restarts from the first track of the MD. With optional unit connected, the MD in MD unit 2 will be played from the beginning, after the MD in the main unit is played to the end.

Playing a CD or MD (with optional CD/MD unit)

1 Press (SOURCE) repeatedly to select "CD" or "MD."

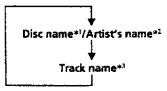


** This item will not appear if the optional CD unit is not connected.*

2 Press (MODE) until the desired unit appears.
CD/MD playback starts.

Changing the display item

Each time you press (DSPL) during MD, CD, or CD TEXT disc playback, the item changes as follows:



**1 If you have not labeled the CD or CD TEXT disc ("Labeling a CD" on page 15), or if there is no disc name prerecorded on the MD, "NO D.Name" appears on the display.*
**2 If you play a CD TEXT disc, the artist's name appears on the display after the disc name. (Only for CD TEXT discs with the artist's name.)*
**3 If the track name of a CD TEXT disc or MD is not prerecorded, "NO T.Name" appears on the display.*

After you select the desired item, the display will automatically change to the Motion Display mode after a few seconds. In the Motion Display mode, all the items are scrolled on the display one by one in order.

Notes
- *If you use personalized labels, they will always take priority over the original CD TEXT information when such information is displayed.*
- *Some letters cannot be displayed during MD or CD playback.*

Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 35.)

Automatically scrolling a disc name — Auto Scroll

If the disc name, artist name, or track name on an MD or a CD TEXT disc exceeds 10 characters and the Auto Scroll function is on, information automatically scrolls across the display as follows:
- *The disc name appears when the disc has changed (if the disc name is selected as the display item).*
- *The track name appears when the track has changed (if the track name is selected as the display item).*
- *The disc or track name appears depending on the setting when you press (SOURCE) to select an MD or CD TEXT disc.*

If you press (DSPL) to change the display item, the disc or track name of the MD or CD TEXT disc is scrolled automatically whether you set the function on or off.

1 During playback, press (MENU).

2 Press either side of (DISC/PRST) repeatedly until "A.Scrl off" appears.

3 Press the (+) side of (SEEK/AMS) to select "A.Scrl on."

4 Press (ENTER).

To cancel Auto Scroll, select "A.Scrl off" in step 3.

Note
For some CD TEXT discs with very many characters, the following cases may happen:
— Some of the characters are not displayed.
— The information does not scroll.

Locating a specific track — Automatic Music Sensor (AMS)

During playback, press either side of (SEEK/AMS) momentarily for each track you want to skip.

Locating a specific point in a track — Manual Search

During playback, press and hold either side of (SEEK/AMS). Release when you have found the desired point.

Note
If "└┘ └┘" or "┐┌ ┐┌" appears on the display, you have reached the beginning or the end of the disc and you cannot go any further.

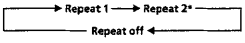
Locating a disc — Disc Selection

When an optional CD/MD unit is connected, press either side of (DISC/PRST) to select the desired disc.
The desired disc on the current optional CD/MD unit begins playback.

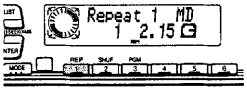
Playing tracks repeatedly — Repeat Play

The MD in the main unit will automatically repeat itself when it reaches the end. As repeat play, you can select:
- Repeat 1 — to repeat a track.
- Repeat 2 — to repeat a disc in the optional CD/MD unit.

During playback, press ① (REP) repeatedly until the desired setting appears on the display.



** "Repeat 2" is only available when you connect one or more optional MD units, or when you connect optional CD units.*



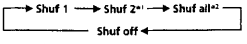
Repeat Play starts.

To return to normal play mode, select "Repeat off."

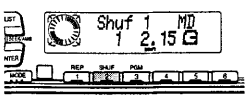
Playing tracks in random order — Shuffle Play

You can select:
- Shuf 1 — to play the tracks on the current disc in random order.
- Shuf 2 — to play the tracks in the current optional CD/MD unit in random order.
- Shuf all — to play all the tracks in all the connected CD/MD units (including this unit) in random order.

During playback, press ② (SHUF) repeatedly until the desired setting appears on the display.



**1 "Shuf 2" is only available when you connect one or more optional CD/MD units.*
**2 "Shuf all" is only available when you connect one or more optional MD units, or when you connect two or more optional CD units.*



Shuffle Play starts.

To return to normal play mode, select "Shuf off."

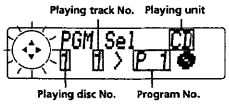
Creating a program — Program Memory

You can choose your favorite tracks from an MD/CD on the main and connected CD/MD units, and create your own program to play them in the order of your choice. The program will be stored in the unit's memory. You can select up to 24 tracks for a program and one program per each unit with this function.

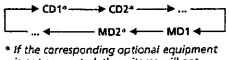
1 During CD/MD playback, press (MENU), then press either side of (DISC/PRST) repeatedly until "PGM Sel" appears.

2 Press (ENTER).

Program edit mode



3 Select the track you want.
❶ Press (SOURCE) repeatedly to select this unit ("MD" or "MD1") or optional CD/MD units.



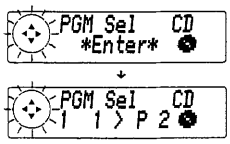
** If the corresponding optional equipment is not connected, these items will not appear.*

❷ Press either side of (DISC/PRST) for more than 2 seconds until the desired disc appears.

❸ Press either side of (SEEK/AMS) repeatedly to select the track.

continue to next page →

4 Press (ENTER) momentarily.



The unit will repeat the same track during the program creating procedure.

5 To continue entering tracks, repeat steps 3 and 4.

6 When you finish entering tracks, press (MENU) twice.

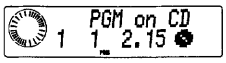
Notes
- *"*Wait**" appears on the display while the unit is reading the data, or if a disc has not been inserted into the unit.*
- *"*Mem FULL*" appears on the display if you try to enter more than 24 tracks into a program.*
- *Repeat play and shuffle play will be suspended until Program Edit mode is over.*

Playing the stored program

Changing the disc order on the CD/MD unit will not affect program memory play.

During CD/MD playback, press (3) (PGM) to play the stored program.

PGM on ↔ PGM off



To return to normal play mode, select "PGM off."

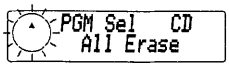
Notes
- *"NO Data" appears on the display if no track is stored in the program.*
- *If a track stored in program memory is not on a disc in the magazine, the track will be skipped.*
- *If the discs in the magazine contain no tracks stored in program memory, or if the program information has not been loaded yet, "Not Ready" appears.*

Erasing an entire program

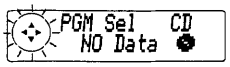
1 During CD/MD playback, press (MENU), then press either side of (DISC/PRST) repeatedly until "PGM Sel" appears.

2 Press (ENTER).

3 Press the (–) side of (DISC/PRST) repeatedly until "All Erase" appears.



4 Press (ENTER) for 2 seconds.



The entire program is erased.

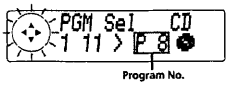
5 Press (MENU) twice.

Adding tracks to the program

1 During CD/MD playback, press (MENU), then press either side of (DISC/PRST) repeatedly until "PGM Sel" appears.

2 Press (ENTER).
When adding a track to the end of a program, skip step 3.

3 Press either side of (DISC/PRST) repeatedly to select the program number where you want to insert a new track.



Program No.

4 Press (SEEK/AMS) to select the new track.

5 Press (ENTER).
The selected track is inserted at that program number, and the succeeding tracks are renumbered.
To continue inserting tracks, repeat steps 3 to 5.

6 Press (MENU) twice.

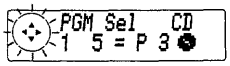
Note
*Once all 24 slots have been filled, "*Mem FULL*" appears on the display, and you cannot insert more tracks.*

Erasing tracks in a program

1 During CD/MD playback, press (MENU), then press either side of (DISC/PRST) repeatedly until "PGM Sel" appears.

2 Press (ENTER).

3 Press either side of (DISC/PRST) repeatedly to select the program with the track number you want to erase.



4 Press (ENTER) for 2 seconds.
The selected track is erased, and the succeeding tracks are renumbered.

5 Press (MENU) twice.

Labeling a CD — Disc Memo

(For a CD unit with the CUSTOM FILE function)

You can label each disc with a personalized name. You can enter up to 8 characters for a disc. If you label a CD, you can locate the disc by name (page 17).

Caution

Do not use the CUSTOM FILE feature while driving, or perform any other function which could divert your attention from the road.

1 Start playing the disc you want to label.

2 Press (MENU), then press either side of (DISC/PRST) repeatedly until "Name Edit" appears.

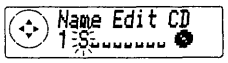
3 Press (ENTER).

Name Edit mode

The unit will repeat the disc during the labeling procedure.

4 Enter the characters.

❶ Press the (+) side of (DISC/PRST) repeatedly to select the desired characters.
(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → – → * → / → \ → > → < → . → ␣)



If you press the (–) side of (DISC/PRST) repeatedly, the characters will appear in reverse order.
If you want to put a blank space between characters, select "␣."

continue to next page →

❷ Press the (+) side of (SEEK/AMS) after locating the desired character.

If you press the (–) side of (SEEK/AMS), you can move back to the left.

❸ Repeat steps ❶ and ❷ to enter the entire name.

5 To return to normal CD play mode, press (ENTER).

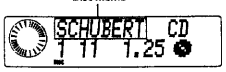
Tips
- *To erase or correct a name, enter "␣" for each character.*
- *There is another way to start labeling a CD: Press (LIST) for 2 seconds instead of performing steps 2 and 3. You can also complete the operation by pressing (LIST) for 2 seconds instead of step 5.*
- *You can label CDs on a unit without the CUSTOM FILE function if that unit is connected along with a CD unit that has the function. The disc name will be stored in the memory of the CD unit with the CUSTOM FILE function.*

Note
Repeat play, shuffle play, and program play will be suspended until Name Edit mode is over.

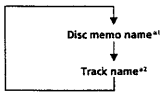
Displaying the disc memo

Press (DSPL) during CD or CD TEXT disc playback.

Disc memo



Each time you press (DSPL) during CD or CD TEXT disc playback, the item changes as follows:



*1 *If you use personalized labels, they will always take priority over the original CD TEXT information when such information is displayed.*
*2 *If you connect an optional CD unit with the CD TEXT function, the CD TEXT information will appear on the display when you play a CD TEXT disc.*

Note
Some letters cannot be displayed during MD or CD TEXT disc playback.

Erasing the disc memo

1 Press (SOURCE) repeatedly to select "CD."

2 Press (MODE) repeatedly to select the CD unit with the CUSTOM FILE function.

3 Press (MENU), then press either side of (DISC/PRST) repeatedly until "Name Del" appears.

4 Press (ENTER).

5 Press either side of (DISC/PRST) repeatedly to select the disc name you want to erase.
The stored names will appear from the earliest ones entered.

6 Press (ENTER) for 2 seconds.
The name is erased.
Repeat steps 5 and 6 if you want to erase other names.

7 Press (MENU) twice.
The unit returns to normal CD play mode.

Notes
- *To erase the disc memo, play a CD on the CD unit in which the disc memo you want to erase is stored.*
- *When a personalized label for a CD TEXT disc is erased, the original CD TEXT information will appear on the display.*

Locating a disc by name

— List-up (For a CD unit with the CD TEXT function/CUSTOM FILE function or an MD unit)

You can use this function for discs that have been assigned custom names or for CD TEXT discs. You can locate the disc by
— its custom name: when you assign a name for a CD or an MD using a CD unit with the CUSTOM FILE function or an MD unit. (For information on disc names, see "Labelling a CD" and "Labelling an MD" on pages 15 and 27).
— the CD TEXT information: when you play a CD TEXT disc on a CD unit with the CD TEXT function.

1 Press (LIST).
The name assigned to the current disc appears on the display.

2 Press either side of (DISC/PRST) repeatedly until you find the desired disc.

3 Press (ENTER) to play the disc.

Notes
- *When using the card remote commander, press (LIST) to return to normal play mode. When operating just by the unit's button, the display returns to normal play mode after 5 seconds.*
- *The track names are not displayed during MD or CD TEXT disc playback.*
- *If there are no discs on the CD/MD unit, "NO Disc" appears on the display.*
- *If a disc has not been assigned a custom name, "********" appears on the display.*
- *If you use personalized labels, they will always take priority over the original CD TEXT information when such information is displayed.*
- *Some letters cannot be displayed during MD or CD TEXT disc playback.*
- *If the disc information has not been read yet by the unit, "?" is displayed.*
- *If an optional TV system is connected, the disc name appears on the display of the TV system but not on the unit's display.*

Recording on an MD

You can record individual tracks/discs or programed tracks played on a connected CD/MD unit onto the MD on this unit. You can also record a radio program with the "Time Machine recording" feature.

Notes on recording
- *When the whole playback time of the CD/MD is longer than the remaining recordable time of the MD, recording will stop when the recordable MD becomes full.*
- *A recording may fail if there is too much difference in temperature between the unit and the MD.*
- *Recorded sound may drop out if you perform recording while the unit is subject to excessive vibration (such as when driving on a rough road, etc.).*
- *Once you finish recording on or editing the MD, be sure to eject the MD before you turn off the ignition or disconnect the power-supply leads of the unit.*
  Recording is completed when the unit updates the TOC (Table of Contents) information and then the MD is ejected. The lamp located at the bottom of the MD slot flashes during updating of the TOC information.
- *You cannot perform the following operations during recording or recording stand-by:*
  *— selecting another track**
  *— selecting another radio program**
  — ejecting an MD
  — labeling an MD
  — selecting Menu mode.
  ** Unselectable only during recording*
- *"Protected" appears when the tab for record-protection is open.*
- *Repeat play, shuffle play, and program play will be canceled when (MD REC) is pressed.*

Tip
The unit automatically locates the end of the MD's recorded section and starts to record from that point.

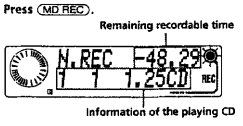
Recording from a CD or MD by the track

— Track recording

1 **Press (OPEN) and insert the MD to be recorded on.**
(See "Playing a disc" on page 10.)

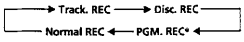
2 **Play the CD or MD from which you want to record.**

3 **Press (MD REC).**

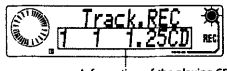


The unit stands by for recording with "●" flashing and the buttons for recording ((MD REC), (REC STOP), and (REC MENU)) lit in amber.

4 **Press (REC MENU) repeatedly until "Track. REC" appears.**
Each time you press (REC MENU), recording mode changes as follows:



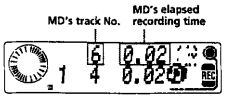
** If you did not create a program, this item will not appear.*



If you want the actual recording to start from the point on the track where you press (MD REC) next, select "Normal REC" in this step.

5 **Press either side of (SEEK/AMS) repeatedly to select the track you want to record.**

6 **Press (MD REC) again to start recording.**



The unit locates the beginning of the selected track and starts recording. Then "●" stops flashing and the buttons for recording ((MD REC), (REC STOP), and (REC MENU)) light in red.

When the recording of the track is completed, the unit beeps and automatically stands by for further recording while the CD or MD continues to play.

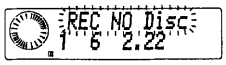
To cancel the recording or recording stand-by, press (REC STOP).

Inserting the MD to record upon afterwards

You can still start recording even if a CD or MD in the connected CD/MD unit is already playing and an MD is yet to be inserted into this MD recorder.

1 **Press (MD REC).**

2 **Insert an MD while "REC NO Disc" is displayed (within 10 seconds after step 1).**



3 **Press (REC MENU) repeatedly until "Track. REC" appears.**

4 **Press (MD REC) again to start recording.**

Note
Be sure to insert an MD while "REC NO Disc" is displayed. If the indication disappears, recording stand-by is canceled.

Continuing recording after turning the ignition off

— REC Continue mode

1 **Press (OPEN) and insert the MD to be recorded on.**

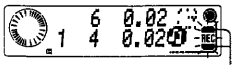
2 **Play the CD or MD from which you want to record.**

3 **Press (MD REC).**

4 **Press (REC MENU) repeatedly to select "Disc. REC," "Track. REC," or "PGM. REC."**

5 **Press (MD REC) again to start recording.**

6 **Press (REC MENU) repeatedly until "Continue on" appears.**



Recording continue indication

7 **Turn the ignition off and detach the front panel before you leave the car.**
During REC Continue mode, the unit keeps beeping to indicate the state of the unit, and stops beeping when recording is completed. When you turn the ignition to the ACC position and attach the front panel again, "REC Complete!" appears on the display if recording is completed successfully.

Notes
- *Frequent use of REC Continue mode feature may cause battery drain. Make sure that the battery is well charged.*
- *Be sure not to start the engine of the car again during REC Continue mode. Recording may fail.*
- *When an optional TV/video unit is connected, the monitor stays on during Timer-off recording or REC Continue mode. Turn the monitor off before leaving the car to reduce the likelihood of battery drain or theft.*

Recording a whole CD or MD — Disc recording

1 **Press (OPEN) and insert the MD to be recorded on.**
(See "Playing a disc" on page 10.)

2 **Play the CD or MD from which you want to record.**

3 **Press (MD REC).**
The unit stands by for recording with "●" flashing and the buttons for recording ((MD REC), (REC STOP), and (REC MENU)) lit in amber.

4 **Press (REC MENU) repeatedly until "Disc. REC" appears.**

5 **Press either side of (DISC/FAST) repeatedly to select the disc from which you want to record.**

6 **Press either side of (SEEK/AMS) repeatedly to select the track from which you want to start recording.**
If you want to record the whole disc, be sure to choose the first track.

7 **Press (MD REC) again to start recording.**
The recording starts from the beginning of the currently playing track.
Then "●" stops flashing and the buttons for recording ((MD REC), (REC STOP), and (REC MENU)) light in red.

continue to next page →

When the recording of all the following tracks are over, the unit beeps and automatically stands by for further recording while the CD or MD continues to play.

To cancel the recording or recording stand-by, press (REC STOP).

Tip
You can continue recording even after turning off the ignition to leave the car (see "Continuing recording after turning the ignition off" on page 19).

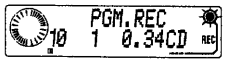
Recording from a CD or MD in a specific track order — Program recording

You must have a program created to use this function. (See "Creating a program" on page 13.)

1 **Press (OPEN) and insert the MD to be recorded on.**
(See "Playing a disc" on page 10.)

2 **Press (MD REC).**
The unit stands by for recording with "●" flashing and the buttons for recording ((MD REC), (REC STOP), and (REC MENU)) lit in amber.

3 **Press (REC MENU) repeatedly until "PGM. REC" appears.**



4 **Press (MD REC) again to start recording.**
The unit locates the beginning of the selected program and starts recording. Then "●" stops flashing and the buttons for recording ((MD REC), (REC STOP), and (REC MENU)) light in red.

When the recording of the program is completed, the unit beeps and automatically stands by for further recording while the CD or MD continues to play.

To cancel the recording or recording stand-by, press (REC STOP).

Notes
- *If you did not create a program, "PGM. REC" will not appear in step 3.*
- *If you created a program that includes the MD to play on this recorder, "Not Ready" appears in step 3. In such a case, you must erase such tracks from the program.*

Tip
You can continue the recording even after turning off the ignition to leave the car (see "Continuing recording after turning the ignition off" on page 19).

Recording a radio program

— Time Machine recording

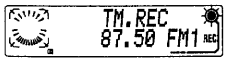
When recording from a radio broadcast, the first few seconds of material are often lost because of the time it takes you to ascertain the contents and press the buttons. To prevent this loss of material, the "Time Machine recording" feature constantly stores a maximum of 10 seconds of the most recent audio data in buffer memory. When you start recording a radio program, the recording actually starts with the 10 seconds of audio data stored in buffer memory in advance. You can also record without the prestored 10 seconds as well.

1 **Press (OPEN) and insert the MD to be recorded on.**
(See "Playing a disc" on page 10.)

2 **Tune in the desired station (page 30).**

3 **Press (MD REC).**
The unit stands by for recording with "●" flashing and the buttons for recording ((MD REC), (REC STOP), and (REC MENU)) lit in amber.

4 **Press (REC MENU) repeatedly until "TM. REC" appears.**



If you want actual recording to start from the point on the program where you press (MD REC) next, select "Normal REC" in this step.

5 **Press (MD REC) again to start recording.**
The unit starts recording with the 10 seconds of audio data stored in advance in buffer memory.
Then "●" stops flashing and the buttons for recording ((MD REC), (REC STOP), and (REC MENU)) light in red.

To pause the recording, press (MD REC).

To cancel the recording or recording stand-by, press (REC STOP).

Notes
- *If you pause radio recording, a track number is recorded at that point.*
- *You cannot tune in another station during recording. Pause recording before attempting to tune in another station.*

Using a timer to stop recording

— Timer-off recording

You can set a timer so the unit will continue recording the radio program after you turn off the ignition and leave the car.

1 **Press (OPEN) and insert the MD to be recorded on.**

2 **Tune in the desired station (page 30).**

3 **Press (MD REC).**

4 **Press (MD REC) again to start recording.**

continue to next page →

5 Press (REC MENU) repeatedly until your desired recording time appears.
Each time you press (REC MENU), recording time increases, in increments of 10 minutes.

→ 10 → 20 → ... → 80 → off

During Timer-off recording, the unit keeps beeping to indicate the state of the unit and stops beeping when the recording is completed. When you turn the ignition to the ACC position and attach the front panel again, "REC Complete!" appears on the display if the recording is completed successfully.

Notes
- *Be sure not to start the engine of your car again during Timer-off recording. Recording may fail.*
- *When an optional TV/video unit is connected, the monitor stays on during Timer-off recording or REC Continue mode. Turn the monitor off before leaving the car to reduce the likelihood of battery drain or theft.*
- *Frequent use of the Timer-off recording feature may cause battery drain. Make sure that the battery is well charged.*
- *The power antenna remains extended during Timer-off recording. (The antenna retracts when the recording is over.)*
- *The sound of the radio will be recorded on the MD as you hear it during reception (including any noise, distortion, and missing sound).*

Recording the audio sound of a TV program or video

You can record the audio sound of a TV program or video in the same manner as with a radio program. For selecting the source, see "Watching the TV" or "Watching a video" on page 36.

Editing an MD

By using the editing functions described below, you can create your own original MD albums.

Caution

Do not edit the MD while driving, as it diverts your attention from the road.

Notes on editing
- *"Protected" appears if the tab for record-protection is open.*
- *Once you finish editing an MD, be sure the MD is ejected before you turn the ignition off or disconnect the power-supply leads of the unit. Editing is completed when the unit updates the TOC (Table of Contents) information and ejects the MD. The lamp located at the bottom of the MD slot flashes during updating of the TOC information.*
- *The ① (REP), ② (SHUF), and (DSPL) buttons do not work during edit mode.*

Erasing a recording

— Erase function

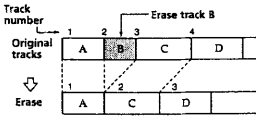
You can erase a single track or all tracks at once. You can erase a portion of a track as well.

Note
You cannot restore an erased track. Be sure to confirm the selected track or tracks before erasing.

Erasing a single track

You can erase a track simply by specifying its track number. When you erase a track, the total number of tracks on the MD decreases by one, and all the tracks following the erased one are renumbered.

Example: Erasing track B.



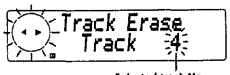
1 While playing the MD you want to edit, press (MENU).

2 Press either side of (DISC/PRST) repeatedly until "Erase" appears.

3 Press (ENTER).

4 While "Track" is flashing, press (ENTER) to select track erase.

5 Select the track.
❶ Press either side of (SEEK/AMS) repeatedly to select the track.



Selected track No.

❷ Press (ENTER).

6 Erase the track.
❶ Press the (–) side of (SEEK/AMS) to select "Yes."

To cancel selection of this track and return to step 5, select "No" in this step.

❷ Press (ENTER).
"Complete!" appears, and the selected track is erased.

7 To continue erasing tracks, repeat steps 5 and 6.

8 Press (MENU) twice.

To cancel the erasing procedure altogether, press (MENU) twice anywhere before step 6.

Erasing all tracks

You can erase the disc name and all recorded tracks, and their titles all at once.

1 While playing the MD you want to edit, press (MENU).

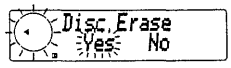
2 Press either side of (DISC/PRST) repeatedly until "Erase" appears.

3 Press (ENTER).

4 Select disc erase.
❶ Press the (–) side of (SEEK/AMS) to select "Disc."

❷ Press (ENTER).

5 Erase all tracks.
❶ Press the (–) side of (SEEK/AMS) to select "Yes."



To cancel erasing, select "No" in this step.

❷ Press (ENTER).
"Complete!" appears, and all tracks are erased. The source changes to the next available source.

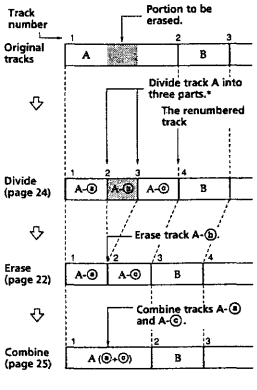
continue to next page →

To cancel the erasing procedure altogether, press (MENU) twice anywhere before step 5.

Erasing a portion of a track

By using the Divide (see page 24), Erase (see page 22), and Combine (see page 25) functions, you can erase specific portions of a track.

Example: Erasing a portion of track A.



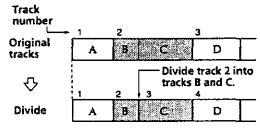
** The tracks are renumbered.*

Dividing recorded tracks

— Divide function

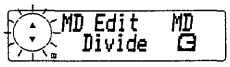
You can use this function to add track numbers to divide any multiple tracks that are recorded as one track. This function also lets you mark track numbers after recording ends. The total number of tracks increases by one, and all subsequent tracks are renumbered.

Example: Dividing track 2 into tracks B and C.



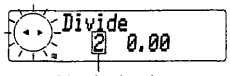
1 While playing an MD you want to edit, press (MENU).

2 Press either side of (DISC/PRST) repeatedly until "Divide" appears.



3 Press (ENTER).

4 Press either side of (SEEK/AMS) repeatedly to select the track you want to divide.



Selected track number

5 Press (ENTER) to mark the dividing point.
The unit repeatedly plays the next few seconds after the marked point.

6 Press either side of (SEEK/AMS) to fine-tune the dividing point.

7 While monitoring the track, press (ENTER) at the point where you want to divide.
"Complete!" appears, and the selected track is divided.

8 To continue dividing tracks, repeat steps 4 to 7.

9 Press (MENU) twice.

To cancel the dividing procedure altogether, press (MENU) twice anywhere before step 7.

Notes
- *The name applied to the original track will become the label for the first new track of the divided track, and the second one will not be labeled.*
- *"Impossible" appears if the unit cannot divide a track any more because the MD has been edited too many times. This is due to the system limitation of MDs and is not a malfunction of the unit.*

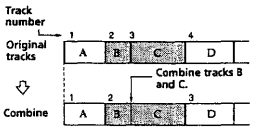
Tip
To combine the divided tracks again, use the Combine function (see page 25).

Combining recorded tracks

— Combine function

This function lets you put several tracks or several independently recorded portions together into a single track. The total number of tracks decreases by one, and all subsequent tracks are renumbered.

Example: Combining tracks B and C.

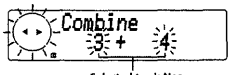


1 While playing the MD you want to edit, press (MENU).

2 Press either side of (DISC/PRST) repeatedly until "Combine" appears.

3 Press (ENTER).

4 Press either side of (SEEK/AMS) repeatedly to select the set of tracks you want to combine.



Selected track Nos.

5 Press (ENTER) to combine the tracks.
"Complete!" appears, and the selected tracks are combined.

6 To continue combining tracks, repeat steps 4 and 5.

7 Press (MENU) twice.

To cancel the combining procedure, press (MENU) twice anywhere before step 5.

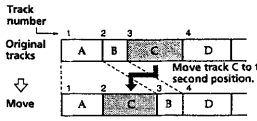
Notes
- *The name applied to the first of the original tracks will be labeled on the combined track.*
- *"Impossible" appears if the unit cannot combine the tracks because the MD has been edited too many times. This is due to the system limitation of MDs and is not a malfunction of the unit.*

Moving recorded tracks

— Move function

Using the Move function, you can change the order of the tracks recorded on an MD. When you move tracks, the tracks are automatically renumbered.

Example: Moving track C to position 2.



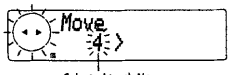
1 While playing the MD you want to edit, press MENU.

2 Press either side of DISC/PRST repeatedly until "Move" appears.

3 Press ENTER.

4 Select the track you want to move.

❶ Press either side of SEEK/AMS repeatedly to select the track.

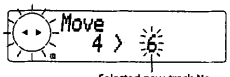


Selected track No.

❷ Press ENTER.

5 Select the track number to which you want to move the track.

❶ Press either side of SEEK/AMS repeatedly to select the track number.



Selected new track No.

❷ Press ENTER to move the track.
"Complete!" appears, and the selected track is moved.

6 To continue moving tracks, repeat steps 4 and 5.

7 Press MENU twice.

To cancel the moving procedure, press MENU twice anywhere before step 5.

Labeling an MD

You can label your recorded MDs and tracks. You can enter up to 1,700 characters for labels per disc (disc title and track title included).

Caution

Do not perform this procedure while driving, as it diverts your attention from the road.

Note

The ① (REP) and ② (SHUF) buttons do not work during Name Edit mode.

Labeling a track

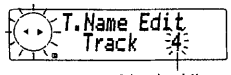
1 While playing the MD you want to edit, press MENU.

2 Press either side of DISC/PRST repeatedly until "Name Edit" appears.

3 Press ENTER.

4 While "Track" is flashing, press ENTER to select track name edit.

5 Press either side of SEEK/AMS repeatedly to select the track you want to label.



Selected track No.

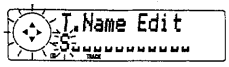
6 Press ENTER.

The unit will repeat the track during the labeling procedure.

7 Enter the characters.

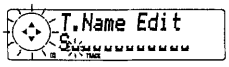
❶ Press the (+) side of DISC/PRST to select desired characters.

A → B → C → ... x → y → z
... # → " → ! → ... 2 → 1 → 0



If you press the (–) side of DISC/PRST repeatedly, the characters will appear in reverse order.
Each time you press DSPL, the character type changes as follows:
A → a → 0 → A
If you want to put a blank space between characters, select "␣."

❷ Press the (+) side of SEEK/AMS after locating a desired character.



If you press the (–) side of SEEK/AMS, you can move back to the left.

❸ Repeat steps ❶ and ❷ to enter the entire title.

8 Press ENTER.
"Complete!" appears, and the selected title is registered.

9 Press MENU twice.

To cancel the labeling procedure, press MENU twice anywhere before step 8.

Labeling an MD

After step 3, press the (–) side of SEEK/AMS to select disc name edit, and go to step 6.

The unit will repeat the disc during the labeling procedure.

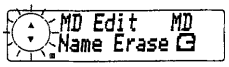
Changing the label

Overwrite the desired track/disc name as described in "Labeling a track" and "Labeling an MD."

Erasing a track name

1 While playing the MD you want to edit, press MENU.

2 Press either side of DISC/PRST repeatedly until "Name Erase" appears.

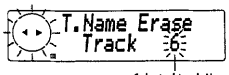


3 Press ENTER.

4 While "Track" is flashing, press ENTER to select track name erase.

5 Select the track whose name you want to erase.

❶ Press either side of SEEK/AMS repeatedly to select the track whose name you want to erase.

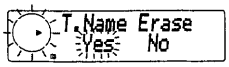


Selected track No.

❷ Press ENTER.

6 Erase the name.

❶ Press the (–) side of SEEK/AMS to select "Yes."



To cancel selection of this track name and return to step 5, select "No" in this step.

❷ Press ENTER.
"Complete!" appears, and the selected track name is erased.

7 Repeat steps 4 to 6 to erase more track names.

8 Press MENU twice.

To cancel the erasing procedure altogether, press MENU twice anywhere before step 6.

Note

Be sure to confirm the selected track number before erasing.

Erasing a disc name

1 While playing the MD you want to edit, press MENU.

2 Press either side of DISC/PRST repeatedly until "Name Erase" appears.

3 Press ENTER.

4 Select disc name erase.

❶ Press the (–) side of SEEK/AMS to select "Disc."

❷ Press ENTER.

5 Erase the disc name.

❶ Press the (–) side of SEEK/AMS to select "Yes."

To cancel the erasing procedure, select "No" in this step.

❷ Press ENTER.
"Complete!" appears, and the selected disc name is erased.

6 Press MENU twice.

To cancel the erasing procedure altogether, press MENU twice anywhere before step 5.

Radio

Storing stations automatically

— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and stores them in the order of their frequency. You can store up to 6 stations of each band (FM1, FM2, FM3, AM1, and AM2).

Caution

When tuning in stations while driving, use Best Tuning Memory to prevent accidents.

1 Press SOURCE repeatedly to select the radio.
Each time you press SOURCE, the source changes as follows:

→ Radio (band indication) →
MD ← CD* ← TV* ←

** If the corresponding optional equipment is not connected, these items will not appear.*

2 Press MODE repeatedly to select the band.
Each time you press MODE, the band changes as follows:

→ FM1 → FM2 → FM3 →
AM2 ← AM1 ←

3 Press MENU, then press either side of DISC/PRST repeatedly until "BTM" appears.

4 Press ENTER.
The unit stores stations in the order of their frequency on the number buttons.
A beep sounds when the setting is stored.

Notes

- *The unit does not store stations with weak signals. If only a few stations can be received, some number buttons will retain their former settings.*
- *When a number is indicated on the display, the unit starts storing stations from the one currently displayed.*
- *If an MD is not in the unit, only the radio band appears, even if you press SOURCE.*

Storing only the desired stations

You can preset up to 18 FM stations (6 each for FM1, FM2, and FM3), up to 12 AM stations (6 each for AM1 and AM2) in the order of your choice.

1 Press SOURCE repeatedly to select the radio.

2 Press MODE repeatedly to select the band.

3 Press either side of SEEK/AMS to tune in the station that you want to store on the number button.

4 Press the desired number button (① to ⑥) for 2 seconds until "Memory" appears.
The number button indication appears on the display.

Note

If you try to store another station on the same number button, the previously stored station will be erased.

Receiving the stored stations

1 Press (SOURCE) repeatedly to select the radio.

2 Press (MODE) repeatedly to select the band.

3 Press the number button ((1) to (6)) on which the desired station is stored.

Tip
Press either side of (DISC/PRST) to receive the stations in the order they are stored in the memory (Preset Search function).

If you cannot tune in a preset station

Press either side of (SEEK/AMS) to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Press either side of (SEEK/AMS) repeatedly until the desired station is received.

Note
If the automatic tuning stops too frequently, press (MENU), then press either side of (DISC/PRST) repeatedly until "Local off" is displayed. Then press the (+) side of (SEEK/AMS) to select "Local on" (Local Seek mode). Press (ENTER).
Only the stations with relatively strong signals will be tuned in.

Tips
- *When you select the "Local on" setting, "LCL Seek" appears while the unit is searching for a station.*
- *If you know the frequency of the station you want to listen to, press and hold either side of (SEEK/AMS) until the desired frequency appears (manual tuning).*

If FM stereo reception is poor — Monaural Mode

1 During FM radio reception, press (MENU), then press either side of (DISC/PRST) repeatedly until "Mono off" appears.

2 Press the (+) side of (SEEK/AMS) until "Mono on" appears.
The sound improves, but becomes monaural ("ST" disappears).

3 Press (ENTER).

To return to normal mode, select "Mono off" in step 2.

Automatical reception frequency adjustment — IF Auto function

If interference occurs, the "IF Auto" function of this unit will automatically narrow the reception frequency to eliminate noise. In such cases, some FM stereo broadcasts may become monaural. If you would like to hear such broadcasts in stereo, manually switch to the "Wide" setting.

1 During radio reception, press (MENU), then press either side of (DISC/PRST) repeatedly until "IF Auto" appears.

2 Press the (+) side of (SEEK/AMS) until "Wide" appears.

3 Press (ENTER).

Note
When you widen the frequency using Wide mode, you may get some interference.

Storing station names — Station Memo

You can assign a name to each radio station and store it in memory. The name of the station currently tuned in appears on the display. You can assign a name using up to 8 characters for a station.

Storing the station names

1 Tune in a station whose name you want to store.

2 Press (MENU), then press either side of (DISC/PRST) repeatedly until "Name Edit" appears.

3 Press (ENTER).

4 Enter the characters.

❶ Press the (+) side of (DISC/PRST) repeatedly to select the desired characters.
(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → − → * → / → \ → > → < → . → ␣)

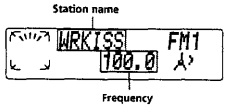
If you press the (−) side of (DISC/PRST) repeatedly, the characters appear in reverse order.
If you want to put a blank space between 2 characters, select "␣."

❷ Press the (+) side of (SEEK/AMS) after locating the desired character.

If you press the (−) side of (SEEK/AMS), you can move back to the left.

❸ Repeat steps ❶ and ❷ to enter the entire name.

5 Press (ENTER).



Tips
- *To erase or correct a name, enter "␣" for each character.*
- *There is another way to start storing station names: Press (LIST) for 2 seconds instead of performing steps 2 and 3. You can also complete the operation by pressing (LIST) for 2 seconds instead of performing step 5.*

Erasing a station name

1 During radio reception, press (MENU), then press either side of (DISC/PRST) repeatedly until "Name Del" appears.

2 Press (ENTER).

3 Press either side of (DISC/PRST) repeatedly to select the station whose name you want to erase.

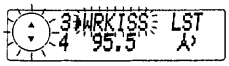
4 Press (ENTER) for 2 seconds.
The name is erased.
Repeat steps 3 to 4 if you want to erase other names.

5 Press (MENU) twice.
The unit returns to normal radio reception mode.

Note
If you have already erased all of the station names, "NO Data" appears in step 4.

Locating a station by name — List-up

1 During radio reception, press (LIST) momentarily.
The name assigned to the station currently tuned in flashes.



2 Press either side of (DISC/PRST) repeatedly until you find the desired station.
If no name is assigned to the selected station, the frequency appears on the display.

3 Press (ENTER) to tune in the desired station.

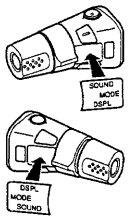
Notes
- *When using the card remote commander, press (LIST) to return to normal play mode. When operating just by the unit's button, the display returns to normal play mode after 5 seconds.*
- *If you have a TV tuner connected, the list-up indication will not appear on the display of the unit.*

Other Functions

You can also control the unit with a rotary commander **(optional)**.

Labeling the rotary commander

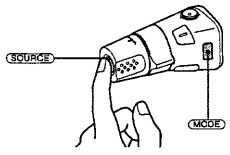
Depending on how you mount the rotary commander, attach the appropriate label as shown in the illustration below.



Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.
You can also control optional CD/MD units with the rotary commander.

By pressing buttons (the SOURCE and MODE buttons)



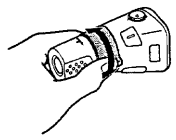
Each time you press (SOURCE), the source changes as follows:
Radio → CD* → MD → TV* → Radio

** If the corresponding optional equipment is not connected, these items will not appear.*

Pressing (MODE) changes the operation in the following ways:
- **Radio: FM1 → FM2 → FM3 → AM1 → AM2 → FM1**
- **CD unit*: CD1 → CD2 → ... → CD1**
- **MD unit*: MD1 → MD2 → ... → MD1**
- **TV/Video*: TV1 → TV2 → AUX → TV1**

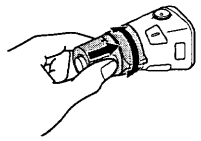
** If the corresponding optional equipment is not connected, these items will not appear.*

By rotating the control (the SEEK/AMS control)



Rotate the control momentarily and release it to:
- Locate a specific track on a disc. Rotate and hold the control until you locate the specific point in a track, then release it to start playback.
- Tune in stations automatically. Rotate and hold the control to find a specific station.

By pushing in and rotating the control (the PRESET/DISC control)

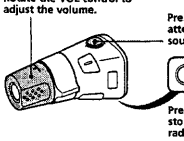


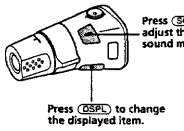
Push in and rotate the control to:
- Receive the stations stored on the number buttons.
- Change the disc*.

** When an optional CD/MD unit is connected.*

Other operations

Rotate the VOL control to adjust the volume.



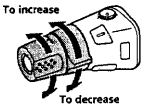


Press DSPL to change the displayed item.

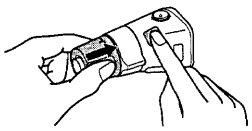
Note
If your car has no ACC (accessory) position on the ignition switch, be sure to press OFF for 2 seconds to turn off the clock indication after turning off the ignition.

Changing the operative direction

The operative direction of controls is factory-set as shown below.



If you need to mount the rotary commander on the right hand side of the steering column, you can reverse the operative direction.



Press SOUND for 2 seconds while pushing the VOL control.

Tip
You can also change the operative direction of these controls with the unit (see "Changing the sound and display settings" on page 35).

Adjusting the sound characteristics

You can adjust the bass, treble, balance, and fader.
You can store the bass and treble levels independently for each source.

1 Select the item you want to adjust by pressing SOUND repeatedly.
Each time you press SOUND, the item changes as follows:
Bass → Treble → Balance (left-right) → Fader (front-rear)

2 Adjust the selected item by pressing either side of SEEK/AMS.
When adjusting with the rotary commander, press SOUND and rotate the VOL control.

Note
Adjust within 3 seconds after selecting the item.

Quickly attenuating the sound

(With the rotary commander or the card remote commander)

Press ATT on the rotary commander or card remote commander.
"ATT on" appears on the display momentarily.

To restore the previous volume level, press ATT again.

Tip
When the interface cable of a car telephone is connected to the ATT lead, the unit decreases the volume automatically when a telephone call comes in (Telephone ATT function).

Changing the sound and display settings

The following items can be set:

Set Up
- Clock (page 9)
- Beep — to turn the beeps on or off.
- RM (Rotary Commander) — to change the operative direction of the controls of the rotary commander.
  — Select "norm" to use the rotary commander as the factory-set position.
  — Select "rev" when you mount the rotary commander on the right side of the steering column.
- English/Français/Español — to select the display language.

Display
- D.Info (Dual Information) — to display the clock and the play mode at the same time (on).
- SA (Spectrum Analyser) — to change the display pattern of the equalizer display.
- Dimmer — to change the brightness of the display.
  — Select "Auto" to dim the display only when you turn the lights on.
  — Select "on" to dim the display.
  — Select "off" to deactivate the Dimmer.
- Contrast — to adjust the contrast if the indications on the display are not recognizable because of the unit's installation position.
- M.Dspl (Motion Display) — to turn the motion display on or off.
- A.Scrl (Auto Scroll) (page 11)

Sound
- Loud (Loudness) — to enjoy bass and treble even at low volumes. The bass and treble will be reinforced.

1 Press MENU.

2 Press either side of DISC/PRST repeatedly until the desired item appears.
Each time you press the (–) side of DISC/PRST, the item changes as follows:

Example:
Clock → Beep → RM → English/Français/Español → D.Info → SA → Dimmer → Contrast → M.Dspl → A.Scrl* → Loud

** When no CD is playing on a unit with the CD TEXT function or no MD is playing, this item will not appear.*

3 Press the (+) side of SEEK/AMS to select the desired setting (Example: on or off).

4 Press ENTER.
After the mode setting is completed, the display returns to normal play mode.

Note
The displayed item will differ depending on the source.

Tip
You can easily switch among categories ("Set Up," "Display," "Sound," "Play Mode," and "Edit Mode") by pressing either side of DISC/PRST for 2 seconds.

Selecting the spectrum analyzer

The sound signal level is displayed on a spectrum analyzer. You can select a display pattern from 1 to 5, or automatic display mode.

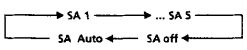
Mode	Display pattern
SA 1	
SA 2	
SA 3	
SA 4	
SA 5	
off	Cancel
SA Auto	All of these display patterns appear one by one automatically.

1 Press SOURCE to select a source (radio, CD, or MD).

2 Press MENU.

3 Press either side of DISC/PRST repeatedly until "SA" appears.

4 Press either side of SEEK/AMS repeatedly to select the desired setting.
Each time you press (+) side of SEEK/AMS, the setting changes as follows:



5 Press ENTER.

Notes
- *If you select the "M.Dspl 1" or "M.Dspl 2" setting, the spectrum analyzer will not be displayed.*
- *If you select the "SA 1" or "SA 2" setting, the disc name and track name will not be displayed.*
- *If you select the "SA 3" or "SA 4" setting, source indication will not be displayed.*

TV/Video (optional)

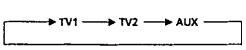
You can control an optional TV tuner and TV monitor with this unit.

Tip
You can record the audio sound of a TV program or video. For details, see "Recording the audio sound of a TV program or video" on page 22.

Watching the TV

1 Press SOURCE repeatedly until "TV" or "AUX" appears.

2 Press MODE repeatedly to select the desired TV band.



Watching a video

1 Press SOURCE repeatedly until "TV" or "AUX" appears.

2 Press MODE repeatedly to select "AUX."
Play the video.

Note
The indication automatically switches to "VIDEO 1" soon after "AUX" is displayed.

Storing TV channels automatically

The unit selects the TV channels with the strongest signals and assigns them to number buttons in order of their frequency.

Caution

If tuning in a station while driving, use Best Tuning Memory to prevent accidents.

1 Select "TV" (see "Watching the TV" on page 36).

2 Press MENU, then press either side of DISC/PRST repeatedly until "Auto Mem" appears.

3 Press ENTER.
The unit assigns TV channels to the number buttons in order of their frequency.
A beep sounds when the setting is stored.

Notes
- *The unit does not assign TV channels with weak signals. If only a few TV channels with strong signals can be received, some number buttons will remain empty.*
- *When a preset number is indicated on the display, the unit starts assigning TV channels to buttons from the one currently displayed.*

Storing only the desired TV channels

You can assign up to 12 channels (6 each for TV1 and TV2) to the number buttons in the order of your choice.

1 Select "TV" (see "Watching the TV" on page 36).

2 Press either side of SEEK/AMS to tune in the TV channel you want to assign to each number button.

3 Press and hold the desired number button (1 to 6) until you hear a small beep.
The number button indication and "Memory" appear on the display.

Note
If you try to assign another channel to the same number button, the previously assigned channel will be erased.

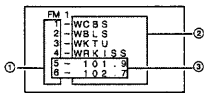
Storing the TV channel names

Follow the steps in "Storing station names" (page 31).

Displaying the TV or radio station names

Press LIST during TV or radio reception.

Example: When receiving the FM1 band



① **Preset numbers**
② **Stored station names**
③ **Frequencies***

* *If the name of a station is not assigned to number buttons, the frequency of that station will be displayed instead.*

To turn off the list display on the TV monitor, press LIST.

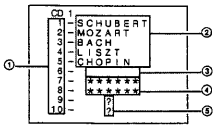
Notes

- *It may take a few moments before all indications appear on the display.*
- *The current TV channel does not appear during list display.*
- *The contents of preset memory cannot be listed when the unit is in Simultaneous Play mode (page 39).*

Displaying the information stored on a disc

Press LIST during CD/MD playback.

Example: When CD unit 1 is selected.



① **Disc numbers**
② **Stored titles**
③ **No disc is loaded*1**
④ **No stored titles*2**
⑤ **TOC information has not yet been identified*3**

*1 *A blank space displayed next to a disc number represents an empty slot in the disc magazine.*
*2 *If a title is not registered, "******" is displayed.*
*3 *If the disc information has not yet been read by the unit, "?" is displayed.*

To turn off the list display on the TV monitor, press LIST.

Notes

- *It may take a few moments before all indications appear on the display.*
- *The current TV channel does not appear during list display.*
- *The contents of preset memory cannot be listed when the unit is in the Simultaneous Play mode (page 39).*
- *If the source is an MD, the stored track names will also be displayed.*

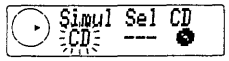
Watching the TV or video while listening to a CD or MD — Simultaneous Play

The simultaneous play function does not work while you are listening to the radio.

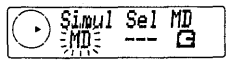
1 **Press MENU, then press either side of DISC/PRST repeatedly until "Simul Sel" appears.**

2 **Press ENTER.**

3 **Press the (–) side of SEEK/AMS.**



4 **Press SOURCE repeatedly to select CD or MD.**



5 **Press the (+) side of SEEK/AMS.**

6 **Press SOURCE repeatedly to select a TV or video.**

7 **Press ENTER.**
Simultaneous Play starts.

If you are already watching the TV or video and want to listen to a CD or MD as well, follow the same steps.

Returning to normal mode

To cancel the CD or MD, select "– – –" in step 3.

To cancel the TV or video, select "– – –" in step 5.

Note

If you press OFF or ⏏ (EJECT) on a CD/MD unit while the unit is in Simultaneous Play mode, Simultaneous Play is canceled.

Connections

Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Be careful not to pinch any wires between the screw and the body of the car, or this unit, or between any moving parts such as the seat railing, etc.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common earth surface.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.
- The use of optical instruments with this product will increase eye hazard.

Warning when installing in a car without ACC (accessory) position on the ignition switch

Be sure to press (OFF) on the unit for 2 seconds to turn off the clock display after turning off the ignition.

When you press (OFF) only momentarily, the clock display does not turn off and this causes battery drain.

Reset button

When the installation and connections are complete, be sure to set the DIGITAL/ANALOG switch on the CD/MD unit to the appropriate position and press the reset button with a ball-point pen, etc.

Connecting the optical cable

When you connect a CD/MD unit compatible with the optical digital connection, connect the optical cable to the optical digital adaptor, then plug the adaptor into the DIGITAL IN jack on the unit. After the connection, secure the adaptor with the supplied attachment ⑨ and screws ⑩ on the unit.

Note

Do not bend the optical cable too much. If the bend radius is less than 10 cm, sound may not be reproduced.

Connexions

Précautions

- Cet appareil est conçu pour fonctionner sur tension continue de 12 V avec masse négative.
- Veillez à ne coincer aucun fil entre la vis et la carrosserie ou cet appareil ou aucun élément mobile comme les glissières du siège, etc.
- Branchez les fils d'entrée d'alimentation **jaune** et **rouge** seulement après avoir terminé tous les autres branchements.
- Veillez à ne pas raccorder le fil rouge d'entrée d'alimentation à la borne positive de 12 V qui est alimentée quand la clé de contact est sur la position accessoires.
- **Rassemblez tous les fils de terre en un point de masse commun.**
- Branchez le câble jaune à un circuit libre de la voiture dont la capacité nominale est supérieure à la capacité du fusible de l'appareil. Si vous branchez cet appareil en série avec d'autres composants stéréo, le circuit de la voiture auxquels ils sont raccordés doit afficher une capacité nominale supérieure à la somme des capacités individuelles de chaque composant. S'il n'y a pas de circuits de voiture affichant une capacité égale à la capacité du fusible de l'appareil, branchez l'appareil directement à la batterie. Si aucun circuit de voiture n'est disponible pour connecter cet appareil, brancher l'appareil à un circuit de voiture supérieur à la capacité du fusible de l'appareil de telle sorte que si l'appareil grille son fusible, aucun autre circuit ne soit coupé.

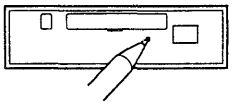
Si votre voiture n'est pas équipée d'une position ACC (accessoire) au niveau du commutateur d'allumage

Assurez-vous d'appuyer sur (OFF) sur l'unité pendant plus de 2 secondes afin de désactiver l'affichage de l'horloge après avoir coupé le contact.

Lorsque vous appuyez brièvement sur (OFF), l'affichage de l'horloge ne s'éteint pas et cela provoque une usure de la batterie.

Touche de réinitialisation

Lorsque l'installation et les connexions sont terminées, ne pas oublier de régler le commutateur DIGITAL/ANALOG sur le lecteur CD/MD sur la position appropriée et d'appuyer sur la touche de réinitialisation avec la pointe d'un stylo bille ou un objet similaire.



Connexion du câble optique

Lorsque vous utilisez une connexion numérique compatible avec un lecteur CD/MD compatible, branchez le câble optique dans l'adaptateur numérique optique, puis insérez le câble dans la prise DIGITAL IN du lecteur. Une fois la connexion effectuée, fixez correctement l'adaptateur au lecteur avec la fixation ⑨ et les vis ⑩ fournis.

Remarque

Ne fléchissez pas trop le câble optique. Si le rayon de fléchissement est inférieur à 10 cm, il est possible qu'aucun son ne soit reproduit.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse con CC 12 V, negativo a masa, solamente.
- Tenga cuidado de no atrapar ningún cable entre algún tornillo y la carrocería del automóvil o esta unidad o entre las partes móviles, como por ejemplo los raíles del asiento, etc.
- Conecte los cables **amarillo** y **rojo** de entrada de alimentación solamente una vez conectados el resto de los cables.
- Asegúrese de conectar el cable rojo de entrada de alimentación al terminal de alimentación positivo de 12 V que reciba energía al poner la llave de encendido en la posición auxiliar.
- **Conecte todos los cables de puesta a masa a una superficie de tierra común.**
- Conecte el cable amarillo a un circuito libre del automóvil de potencia nominal superior a la del fusible de la unidad. Si conecta esta unidad en serie con otros componentes estéreo, la potencia nominal del circuito del automóvil a los que dichos componentes estén conectados debe ser superior a la suma de la potencia nominal del fusible de los componentes. Si no existen circuitos de automóvil de potencia nominal tan alta como la del fusible de la unidad, conecte ésta directamente a la batería. Si no hay circuitos de automóvil disponibles para conectar esta unidad, conecte la misma a un circuito de automóvil de potencia nominal superior a la del fusible de la unidad de forma que no se desactiven otros circuitos si el fusible de dicha unidad se funde.

Advertencia sobre la instalación en un automóvil que no disponga de posición ACC (auxiliar) en el interruptor de encendido

Asegúrese de presionar (OFF) en la unidad durante 2 segundos para desactivar la indicación del reloj después de apagar el encendido.

Si presiona (OFF) sólo momentáneamente, la indicación del reloj no se desactivará y esto causará el desgaste de la batería.

Botón de restauración

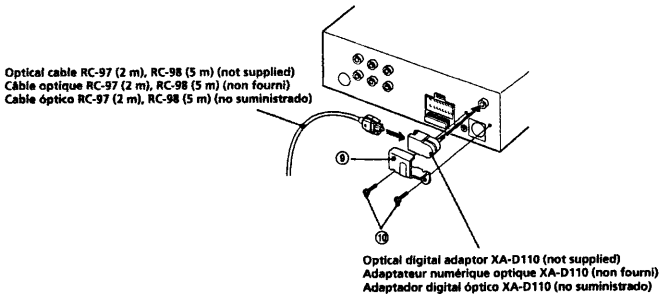
Una vez finalizadas la instalación y las conexiones, asegúrese de ajustar el interruptor DIGITAL/ANALOG de la unidad de CD/MD en la posición apropiada y de presionar el botón de restauración con un bolígrafo, etc.

Conexión del cable óptico

Si conecta una unidad de CD/MD compatible con la conexión digital óptica, conecte el cable óptico al adaptador digital óptico y, a continuación, conecte el adaptador a la toma DIGITAL IN de la unidad. Tras la conexión, fije en la unidad el adaptador con la pieza de sujeción ⑨ y los tornillos ⑩ suministrados.

Nota

No doble el cable óptico en exceso. Si el radio de curvatura es inferior a 10 cm, es posible que el sonido no se reproduzca.

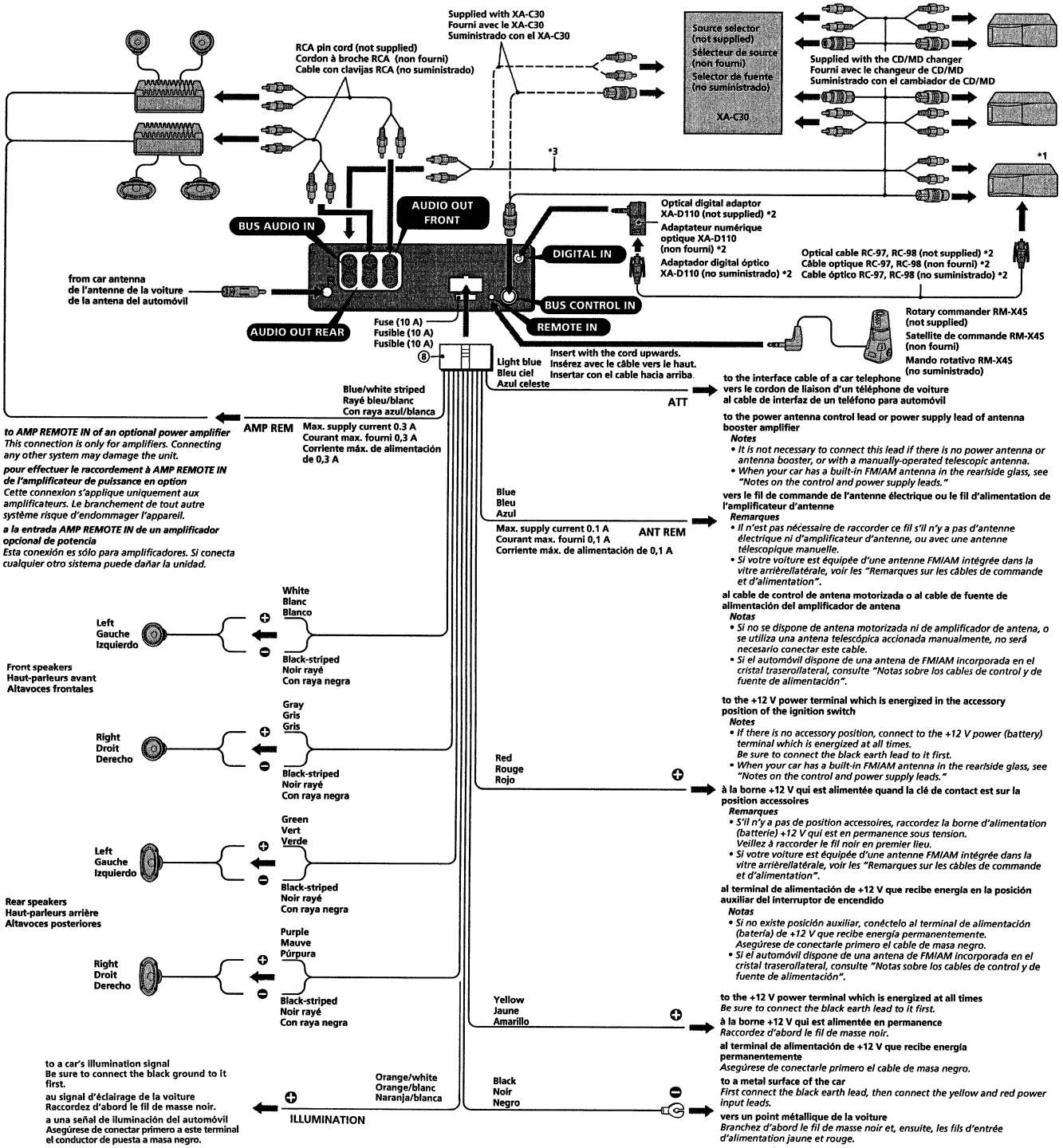


Connection example
Exemple de connection
Ejemplo de conexiones

*1 CD/MD changer with digital output
Be sure to set the DIGITAL/ANALOG switch on the CD/MD unit to the appropriate position and press the reset button on this MiniDisc Recorder after connection.
*2 For digital connection
*3 For analog connection

*1 Changeur de CD/MD avec sortie numérique
Assurez-vous de régler le commutateur DIGITAL/ANALOG du lecteur CD/MD sur la position correcte et appuyez sur le bouton de réinitialisation de l'enregistreur MiniDisc après la connexion.
*2 Pour une connexion numérique
*3 Pour une connexion analogue

*1 Cambiador de CD/MD con salida digital
Asegúrese de ajustar el interruptor DIGITAL/ANALOG de la unidad de CD/MD en la posición adecuada y de presionar el botón de restauración de esta grabadora de MiniDisc tras la conexión.
*2 Para conexión digital
*3 Para conexión analógica



Notes on the control and power supply leads
- The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner.
- When your car has built-in FM/AM antenna in the rearlside glass, it is necessary to connect the power antenna control lead (blue) or the accessory power input lead (red) to the power terminal of the existing antenna booster. For details, consult your dealer.
- A power antenna without a relay box cannot be used with this unit.

Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection
- Before connecting the speakers, turn the unit off.
- Use speakers with an impedance of 4 to 8 Ω, and with adequate power handling capacities. Otherwise, the speakers may be damaged.
- Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.
- Do not attempt to connect the speakers in parallel.
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.

Remarques sur les câbles de commande et d'alimentation
- Le fil de commande d'antenne (bleu) assure une alimentation de +12 V CC lorsque vous mettez le syntoniseur sous tension.
- Si votre voiture est équipée d'une antenne FM/AM intégrée dans la vitre arrière/latérale, il est nécessaire de raccorder le fil de commande de l'antenne électrique (bleu) ou le fil d'entrée d'alimentation des accessoires (rouge) de l'amplificateur d'antenne existant. Pour plus de détails, consultez votre revendeur.
- Une antenne électrique sans boîtier de relais ne peut être utilisée avec cet appareil.

Connexion pour la conservation de la mémoire
Lorsque le fil d'entrée d'alimentation jaune est connecté, le circuit de la mémoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

Remarques sur la connexion des haut-parleurs
- Avant de raccorder les haut-parleurs, mettez l'appareil hors tension.
- Utilisez des haut-parleurs ayant une impédance de 4 à 8 Ω et une capacité adéquate sous peine de les endommager.
- Ne raccordez pas les bornes du système de haut-parleurs au châssis de la voiture et ne pas connecter les bornes du haut-parleur droit à celles du haut-parleur gauche.
- Ne tentez pas de raccorder les haut-parleurs en parallèle.
- Ne raccordez pas des haut-parleurs actifs (avec amplificateurs intégrés) aux bornes de haut-parleur de l'appareil sous peine de les endommager. Veillez à raccorder des haut-parleurs passifs à ces bornes.

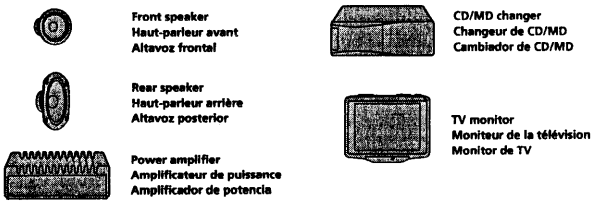
Notas sobre los cables de control y de fuente de alimentación
- El cable (azul) de control de la antena motorizada suministra + CC 12 V al encender el sintonizador.
- Si el automóvil dispone de una antena de FM/AM incorporada en el cristal trasero/lateral, será necesario conectar el cable de control de antena motorizada (azul) o el cable de entrada de alimentación auxiliar (rojo) al terminal de alimentación del amplificador de antena existente. Para obtener información detallada, consulte a su proveedor.
- Con esta unidad no podrá utilizarse una antena motorizada sin caja de relés.

Conexión para protección de la memoria
Si conecta el cable de entrada de alimentación amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque ponga la llave de encendido en la posición de apagado.

Notas sobre la conexión de los altavoces
- Antes de conectar los altavoces, desconecte la alimentación de la unidad.
- Utilice altavoces con una impedancia de 4 a 8 Ω, y con la potencia máxima admisible adecuada, ya que de lo contrario podría dañarlos.
- No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.
- No intente conectar los altavoces en paralelo.
- No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.

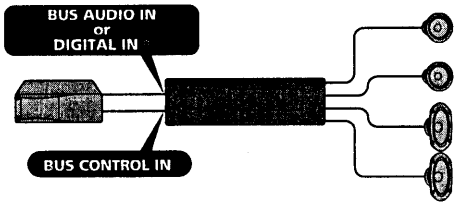
Connection diagram
Schéma de connexion
Diagrama de conexiones

Equipment used in illustrations (not supplied)
Appareils utilisés dans les illustrations (non fournis)
Equipos utilizados en las ilustraciones (no suministrados)



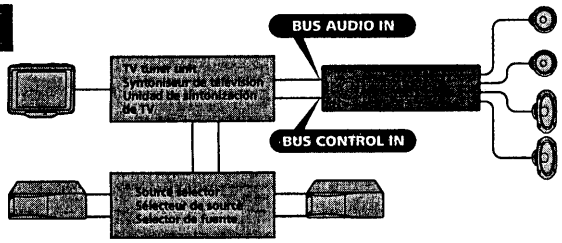
I

* *CD/MD changer with digital output*
* *Changeur de CD/MD avec sortie numérique*
* *Cambiador de CD/MD con salida digital*



Note
The maximum current drain (during REC Continue mode) for this connection is approximately 1.45 A.
Remarque
La perte électrique maximum (en mode REC continu) pour cette connexion est d'environ 1,45 A.
Nota
El consumo máximo de corriente (durante el modo de continuación de grabación) con esta conexión es de aproximadamente 1,45 A.

II

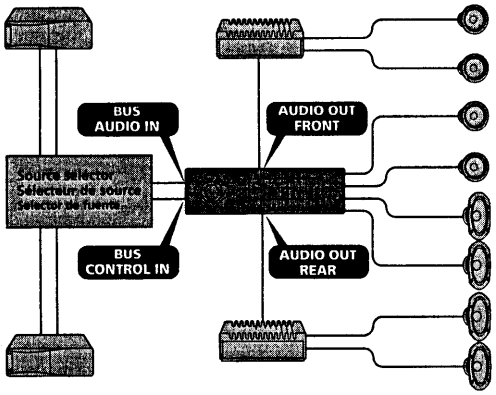


Notes
* *For connecting two or more CD/MD changers, the source selector XA-C30 (optional) is necessary.*
* *The maximum current drain (during REC Continue mode) for this connection is approximately 1.9 A (approximately 0.11 A per an additional CD/MD changer).*

Remarques
* *Dans le cas du raccordement de deux changeurs de CD/MD ou plus, le sélecteur de source XA-C30 (option) est indispensable.*
* *La perte électrique maximum (en mode REC continu) pour cette connexion est d'environ 1,9 A (et d'environ 0,11 A pour chaque changeur CD/MD supplémentaire).*

Notas
* *Si desea conectar dos o más cambiadores de CD/MD, necesitará el selector de fuente XA-C30 (opcional).*
* *El consumo máximo de corriente (durante el modo de continuación de grabación) con esta conexión es de aproximadamente 1,9 A (aproximadamente 0,11 A con un cambiador de CD/MD adicional).*

III



Notes
* *For connecting two or more CD/MD changers, the source selector XA-C30 (optional) is necessary.*
* *Be sure to connect the earth cord before connecting the amplifier.*
* *The maximum current drain (during REC Continue mode) for this connection is approximately 1.49 A (approximately 0.11 A per an additional CD/MD changer).*

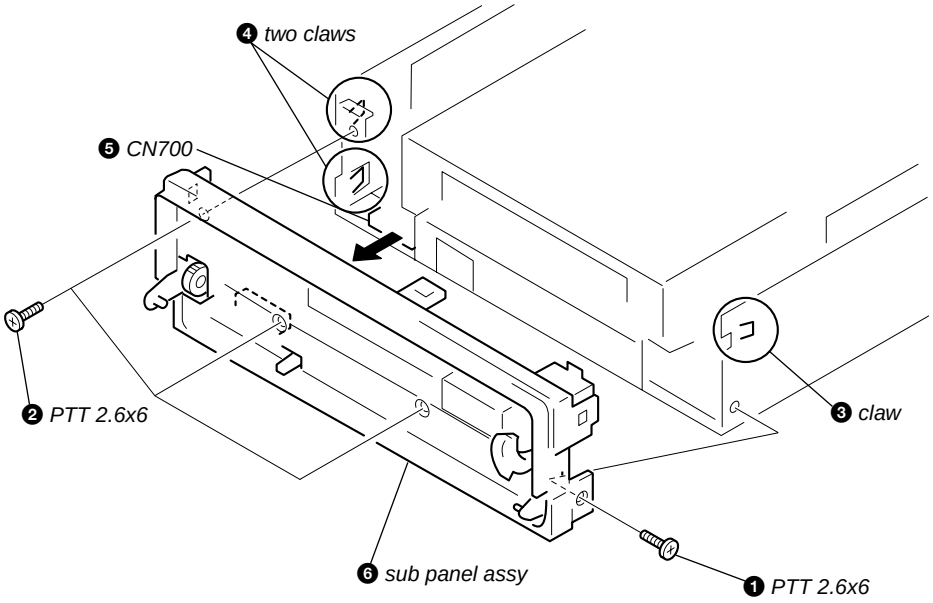
Remarques
* *Dans le cas du raccordement de deux changeurs de CD/MD ou plus, le sélecteur de source XA-C30 (option) est indispensable.*
* *Raccordez d'abord le fil de masse avant de connecter l'amplificateur.*
* *La perte électrique maximum (en mode REC continu) pour cette connexion est d'environ 1,49 A (et d'environ 0,11 A pour chaque changeur CD/MD supplémentaire).*

Notas
* *Si desea conectar dos o más cambiadores de CD/MD, necesitará el selector de fuente XA-C30 (opcional).*
* *Asegúrese de conectar primero el cable de puesta a masa antes de realizar la conexión al amplificador.*
* *El consumo máximo de corriente (durante el modo de continuación de grabación) con esta conexión es de aproximadamente 1,49 A (aproximadamente 0,11 A con un cambiador de CD/MD adicional).*

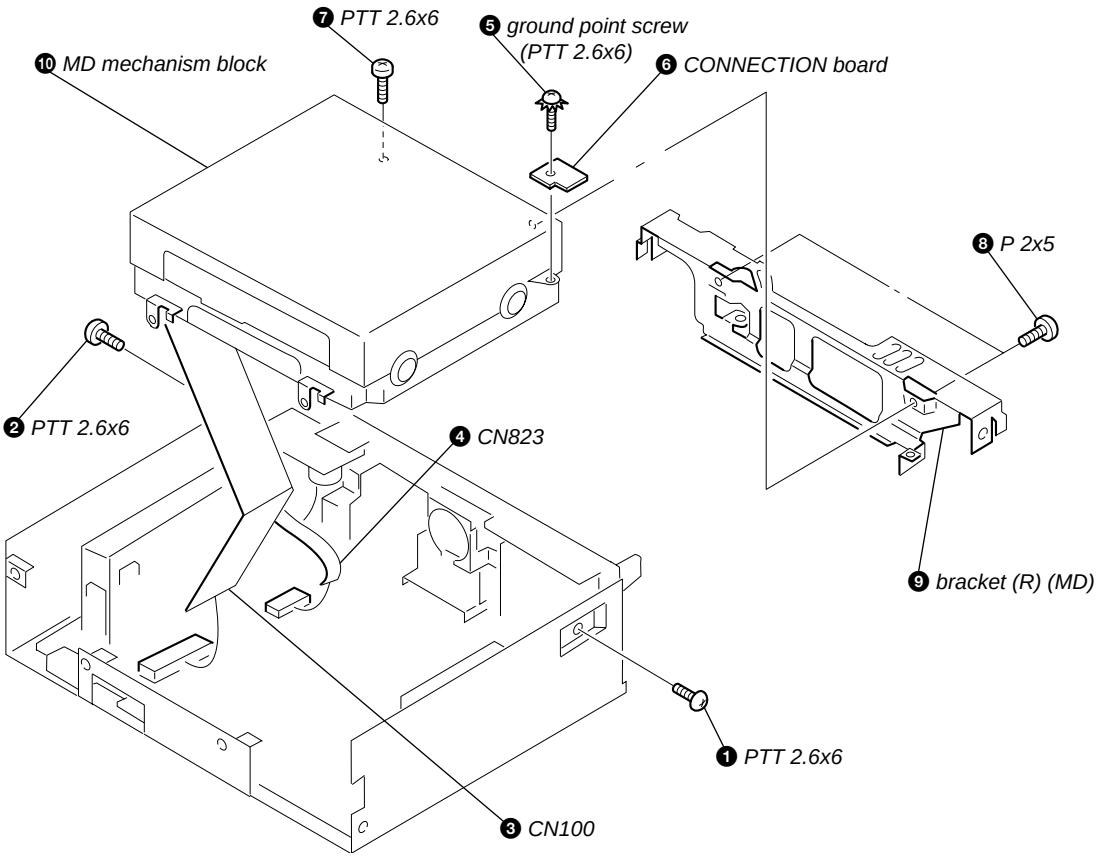
SECTION 2
DISASSEMBLY

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

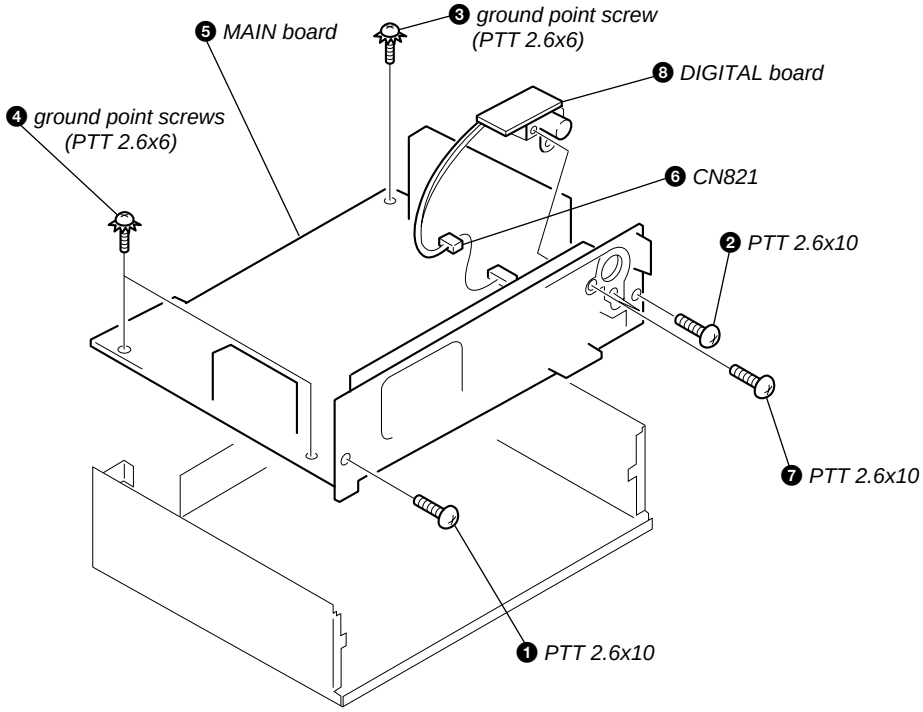
2-1. SUB PANEL ASSY



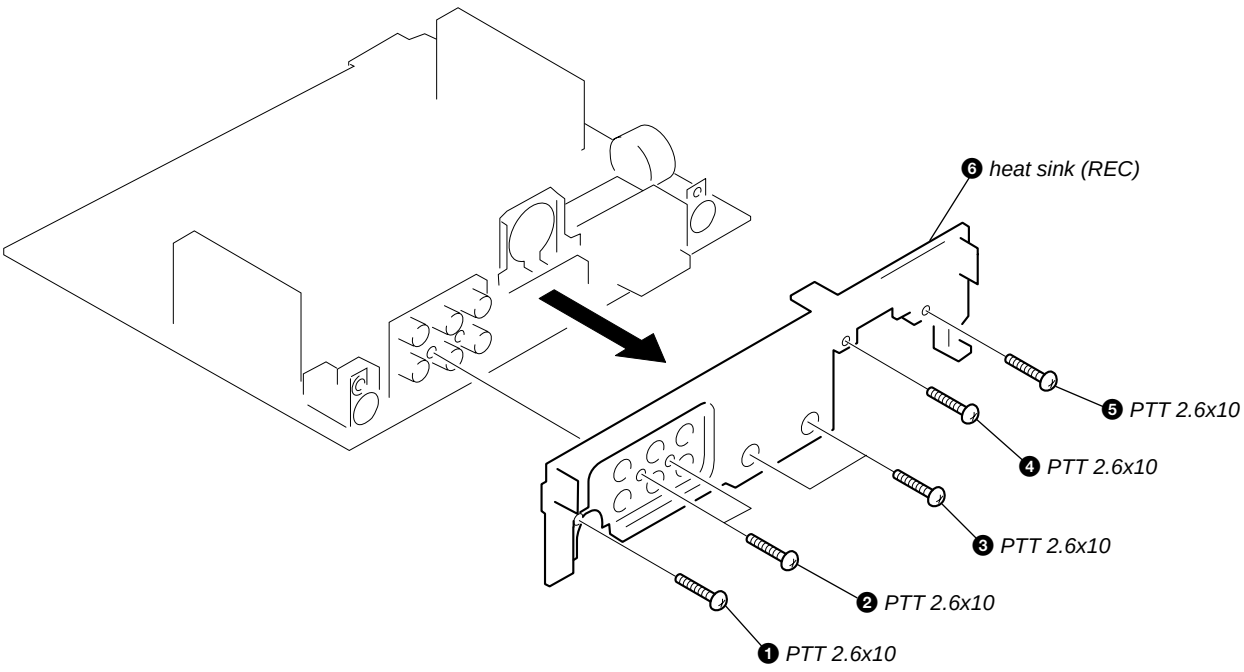
2-2. MD MECHANISM BLOCK



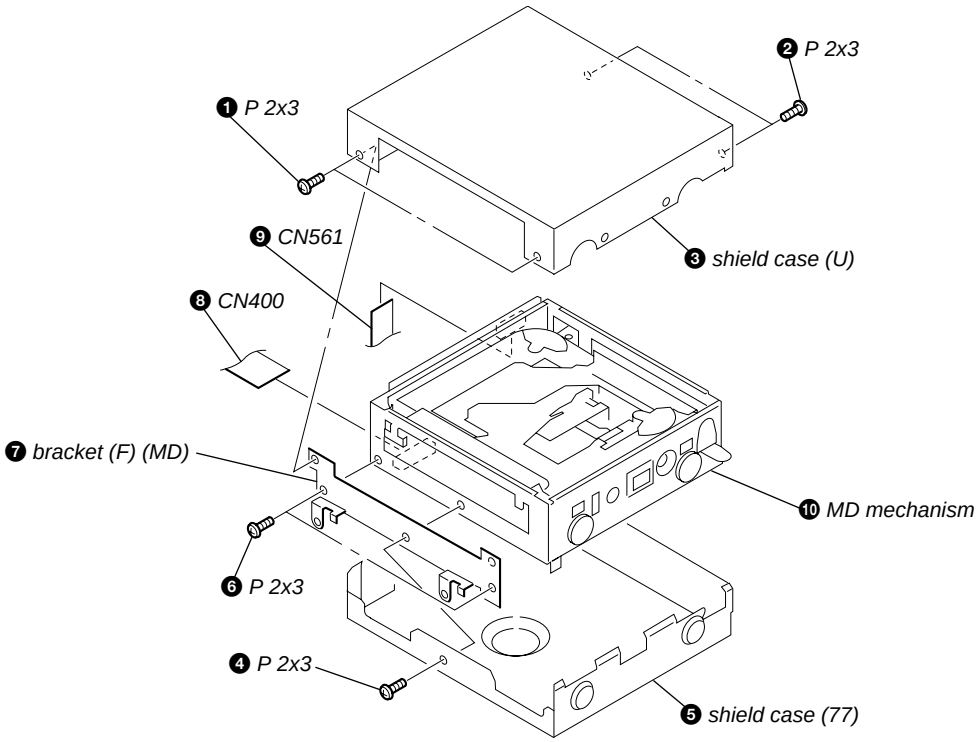
2-3. MAIN BOARD, DIGITAL BOARD



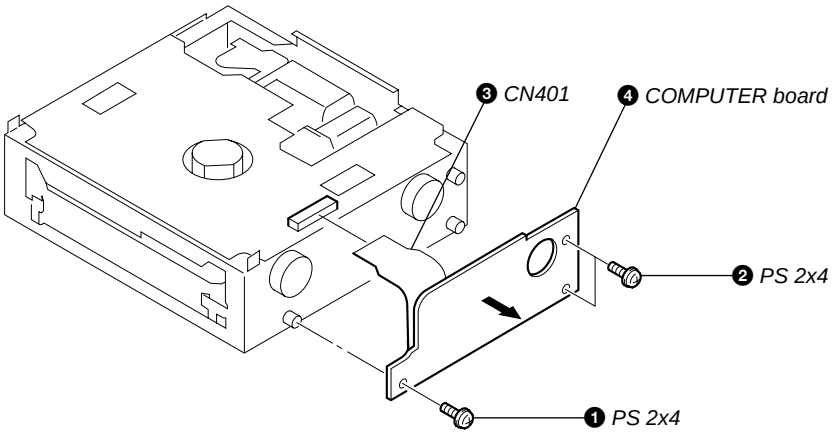
2-4. HEAT SINK (REC)



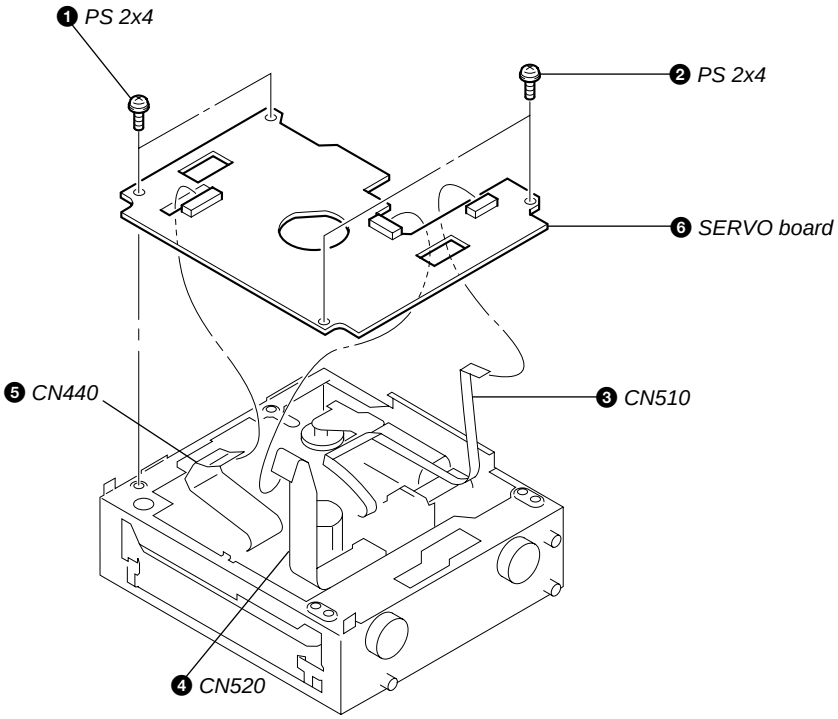
2-5. MD MECHANISM



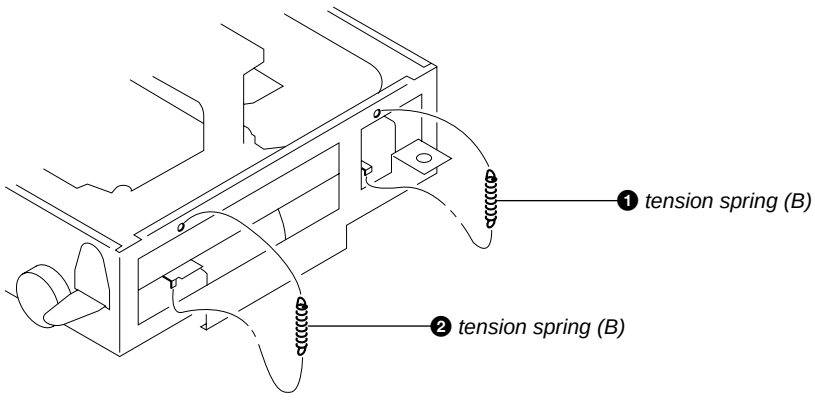
2-6. COMPUTER BOARD



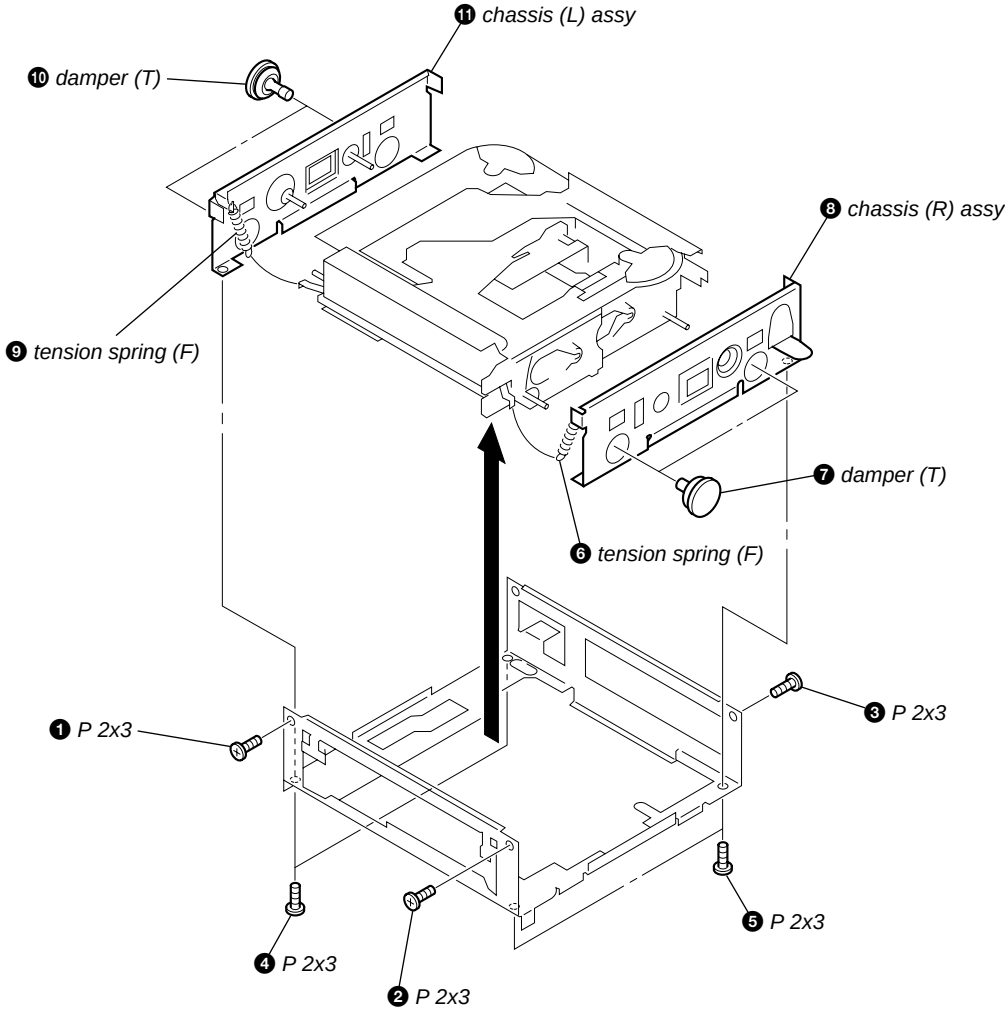
2-7. SERVO BOARD



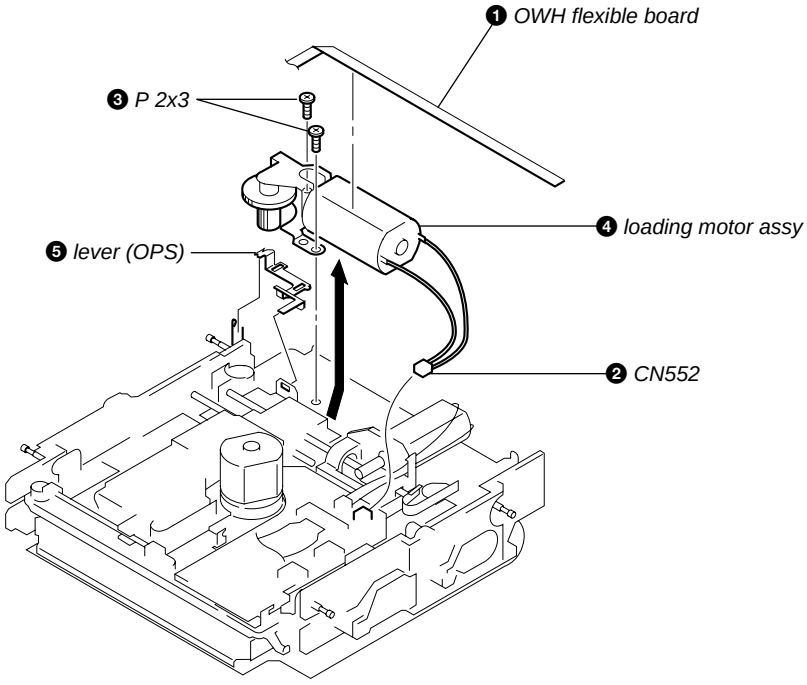
2-8. TENSION SPRING (B)



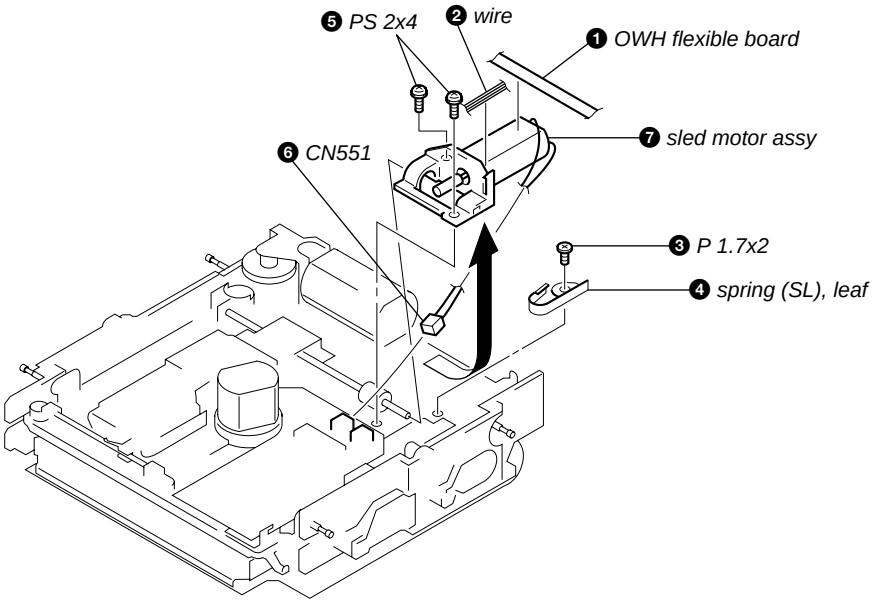
2-9. CHASSIS (L), (R) ASSY



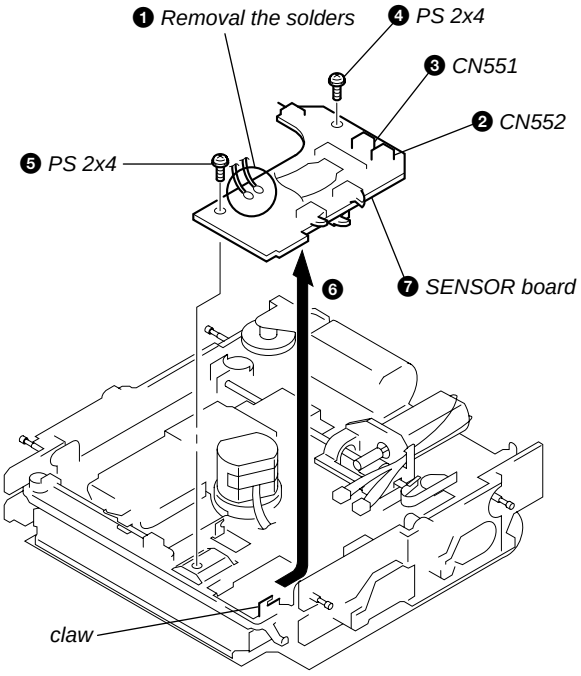
2-10. LOADING MOTOR ASSY



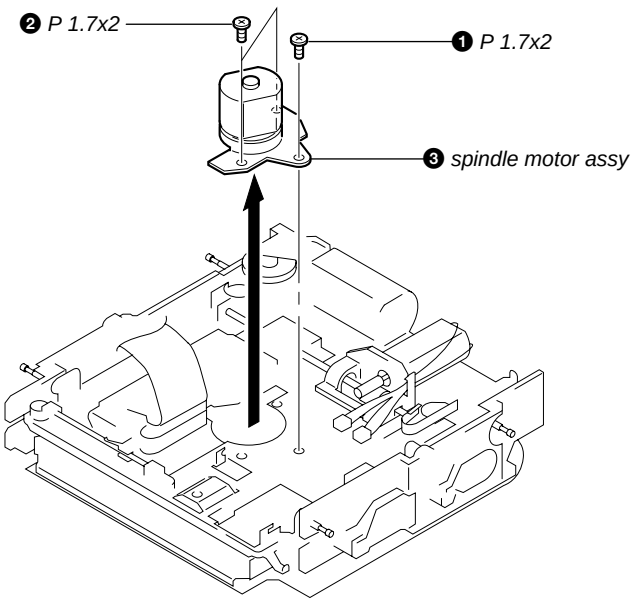
2-11. SLED MOTOR ASSY



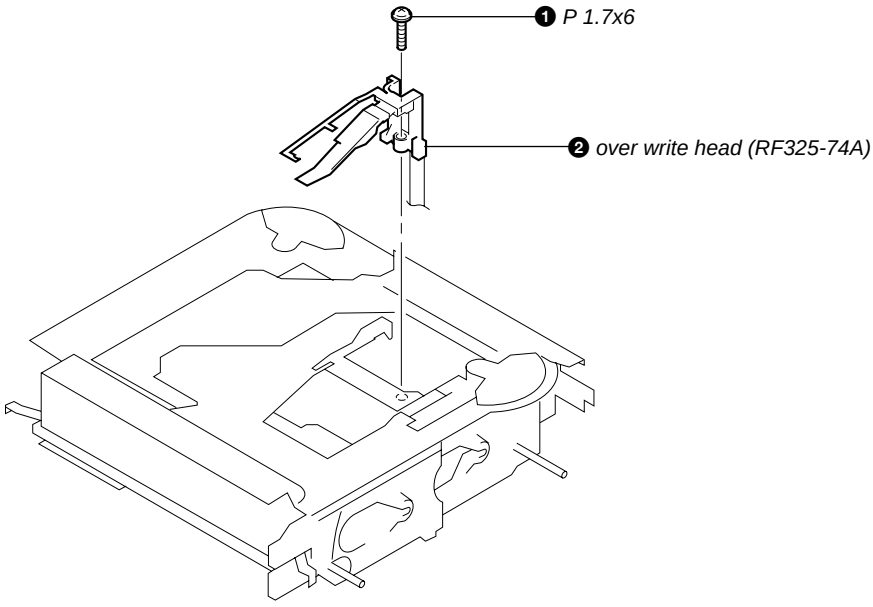
2-12. SENSOR BOARD



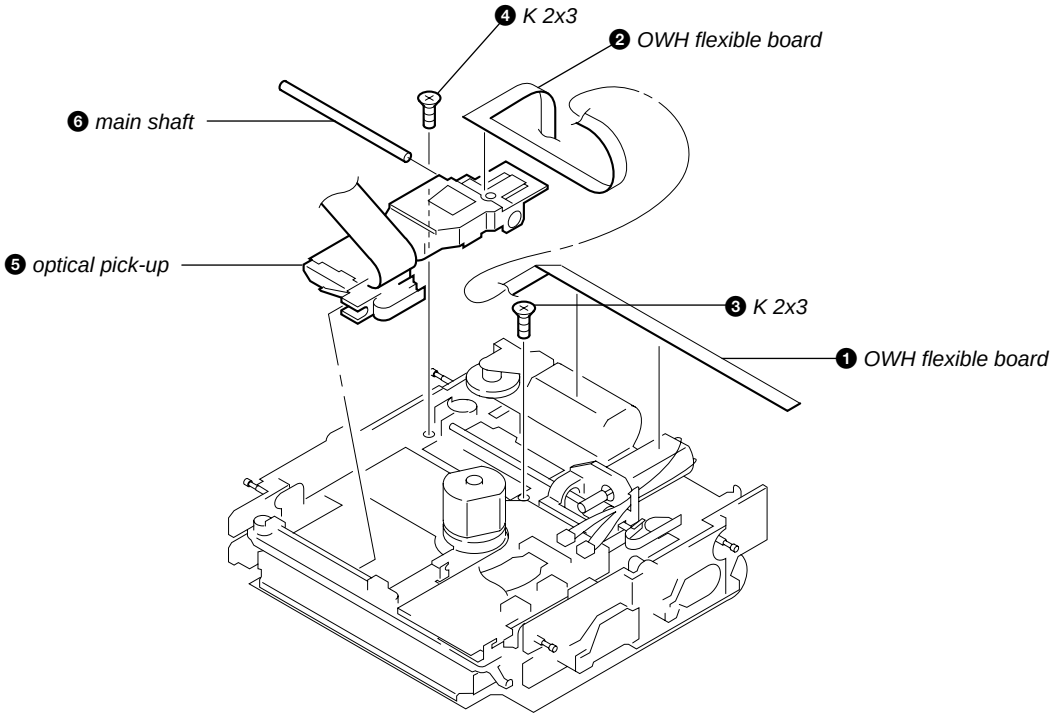
2-13. SPINDLE MOTOR ASSY



2-14. OVER WRITE HEAD



2-15. OPTICAL PICK-UP



SECTION 3
DIAGRAMS

3-1. IC PIN DESCRIPTIONS

• IC560 MB90574FPV-G-297-BND (MD CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	SCTX	O	Write data transmission timing output to CXD2652AR, ON/OFF output of magnet head
2	LDON	O	Laser ON/OFF control output (“H”: Laser ON)
3	LOAD	O	Loading motor control output (Loading direction)
4	EJECT	O	Loading motor control output (Eject direction)
5	MDMON	O	MD mechanism deck power supply control output
6	LNKOFF	O	LINK OFF output to SONY BUS (“H”: LINK OFF, “L”: LINK ON)
7	UNIREQ	O	Request output to SONY BUS (“H”: Request ON) (Not used in this set.)
8	VCC	—	Power supply pin (+5 V)
9, 10	NC	—	Not used (Open)
11	FLASH-W	I	Select input for flash write (“L”: Flash write mode)
12	RXD/DSPSI	I	UART RXD data input
13	TXD/DSPSO	O	UART TXD data output
14	$\overline{\text{LIMIT-IN}}$	I	Sled innermost track detection switch input (“L”: Innermost track)
15	EE CKO	O	Serial clock output for EEPROM
16	EE SIO	I/O	EEPROM data input/output
17	SENS IN	I	Disk photo sensor input (“H”: With desk)
18, 19	NC	—	Not used (Open)
20	SRDT	I	Data input from MD servo IC
21	SWDT	O	Data output to MD servo IC
22	SCLK	O	Clock output to MD servo IC
23, 24	NC	—	Not used (Open)
25	UNISI	I	Data input from SONY BUS
26	UNISO	O	Data output to SONY BUS
27	UNCKI	I	Clock input from SONY BUS
28	MOD	O	Laser modulation select signal output
29, 30	NC	—	Not used (Open)
31	FOPEN	I	Front panel open signal input
32	CLOSE OK	O	Front panel open/close request signal output
33	VSS	—	Ground pin
34	C	—	Power stabilization capacitor pin
35	AGCHK	O	Effect output when aging operation end of test mode
36	AGING	O	Output of aging operation condition when test mode (Normally, open)
37	TFTON	O	Output of drop running condition when test mode (Normally, open)
38	DVCC	—	Power supply pin for D/A converter (+5 V)
39	DVSS	—	Ground pin for D/A converter
40	ERR-PWM	O	PWM output of error rate (Normally, open)
41	ADER-PWM	O	PWM output of AD error (Normally, open)
42	AVCC	—	Power supply pin for A/D converter (+5 V)
43	AVRH	—	External reference power supply for A/D converter (Connect to AVCC in this set.)
44	AVRL	—	External reference power supply for A/D converter (Connect to AVSS in this set.)
45	AVSS	—	Ground pin for A/D converter
46	NC	—	Not used (Open)
47	ACNT	I	A/D input for designation on aging times of LOADING/EJECT
48	DOB-SEL	I	A/D input for designation on digital out bit number (Fixed at “H” in this set)
49	INIT	I	Initial input when reset
50, 51	TEST 0, 1	I	Test pin (Normally, open)
52	REF-SEL	I	Reference select input (Fixed at “L” in this set.)
53	NC	—	Not used (Open)
54	VCC	—	Power supply pin (+5 V)
55	$\overline{\text{TSTMOD}}$	I	Test mode input (“L”: Test mode)

Pin No.	Pin Name	I/O	Pin Description
56	TSTSO	O	Data output for test mode display (Normally, open)
57	TSTCKO	O	Clock output for test mode display (Normally, open)
58 – 62	NC	—	Not used (Open)
63	VSS	—	Ground pin
64	NC	—	Not used (Open)
65	$\overline{\text{DACRST}}$	O	Reset output to DAC IC
66	DACCES	O	Chip enable output to DAC (SUB)
67	DAC SO	O	DAC control serial data output
68	DAC CKO	O	DAC control serial clock output
69	DAC CEF	O	Chip enable output to DAC (FRONT)
70	DAC CER	O	Chip enable output to DAC (REAR)
71, 72	NC	—	Not used (Open)
73	XIA	—	Input for sub clock oscillation (Fixed at “H” in this set)
74	XOA	—	Input for sub clock oscillation (Connect to ground pin in this set)
75	$\overline{\text{CC-XINT}}$	I	XINT interruption input from MD servo IC
76	$\overline{\text{BUS-ON}}$	I	BUS ON input of SONY BUS
77	BU-IN	I	Power instantaneously cut off check port of system
78	$\overline{\text{SQ-SY}}$	I	SUBQ SYNC interruption input from MD servo IC
79	DISC-IN	I	DISC-IN (cartridge in switch) sensor input of MD mechanism deck
80	A-ATT	O	Audio attenuator output (“H”: ATT ON)
81	$\overline{\text{DQ-SY}}$	I	Subcord Q sync of DIGITAL IN U-bit CD format from MD servo IC
82	NC	—	Not used (Open)
83	EJECT IN	I	EJECT (MD) switch input
84	SORCE	I	Select signal input of signal input (analog/digital input) (Not used in this set)
85	LOCK	O	Output of CLV lock condition when test mode (Normally, open)
86	HSTX	—	Hardware standby input (Connect to SYSRST in this set)
87	MD2	—	CPU operation mode designation input (Connect to ground pin in this set)
88, 89	MD1, 0	—	CPU operation mode designation input (Fixed at “H” in this set)
90	RSTX	—	Reset input (Fixed at “H” in this set)
91	VSS	—	Ground pin
92	X0	I	Main clock oscillation input (3.68 MHz)
93	X1	O	Main clock oscillation output (3.68 MHz)
94	VCC	—	Power supply pin (+5 V)
95, 96	NC	—	Not used (Open)
97	RAMBU	I	RAM backup detection input
98, 99	NC	—	Not used (Open)
100	MD/REC-ON	O	Power control output for overlight head
101	RF-ON	O	Power control output for RF AMP
102	REC-P	I	Detection signal input from REC position detection switch (“L”: REC position)
103	PLAY-P	I	Detection signal input from PLAY position detection switch (“L”: PLAY position)
104	PROTECT	I	Recording prevention claw detection input from write protect detection switch (“H”: Write Protect)
105	REFLECT	I	Desk reflectance detection input from reflect detection switch (“H”: Low reflectance disk IN)
106	PACK-IN	I	PACK-IN (LOADING END SENSOR) sensor input of MD mechanism deck
107	NC	—	Not used (Open)
108	REC/PLAY	I	Change select input on recording mechanism deck and playing mechanism deck (“H”: REC, “L”: PLAY) (Fixed at “H” in this set)
109	DFCTSEL	I	Select input on used of DEFECT2 function (Not used in this set (Fixed at “H”))
110	WRPWR	O	Laser power select signal output to optical pick-up or CXD2652AR (“L”: READ POWER, “H”: WRITE POWER)
111	PREHEAT	O	Preheat control output (“H”: Preheat ON)
112	$\overline{\text{MDRST}}$	O	Reset output to MD servo IC

Pin No.	Pin Name	I/O	Pin Description
113	$\overline{\text{MDLAT}}$	O	Latch output to MD servo IC
114	SERVO-ON	O	Power control output to MD servo IC
115 – 118	MNT3 – 0	I	Monitor 3 – 0 input of CXD2652AR
119	VSS	—	Ground pin
120	SENS	I	Sens input from MD servo IC

• IC650 HD64F2357F (DISPLAY CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1, 2	PG3, 4	O	Not used in this set (Open)
3	VSS	—	Ground pin
4	NC	—	Not used in this set (Open)
5	VCC	—	Power supply pin (+5 V)
6 – 9	PC0 – 3	O	Not used in this set (Open)
10	VSS	—	Ground pin
11 – 14	PC4 – 7	O	Not used in this set (Open)
15 – 18	PB0 – 3	O	Not used in this set (Open)
19	VSS	—	Ground pin
20 – 23	PB4 – 7	O	Not used in this set (Open)
24	PA0	O	Signal out select control output to the IC652 (BA3834F)
25	PA1	O	Signal out select control output to the IC652 (BA3834F)
26	PA2	O	Signal out select control output to the IC652 (BA3834F)
27	PA3	O	Signal out select control output to the IC652 (BA3834F)
28	VSS	—	Ground pin
29 – 32	PA4/IRQ4 – PA7/IRQ7	O	Not used in this set (Open)
33	SP LAT	I	Not used in this set (Open)
34	P66/IRQ2	I	Not used in this set (Open)
35, 36	VSS	—	Ground pin
37	P65/IRQ1	O	Not used in this set (Open)
38	$\overline{\text{BUS ON}}$	I	SONY BUS on input “L”: Active
39	VCC	—	Power supply pin (+5 V)
40	$\overline{\text{CD}}$/MD	O	Not used in this set (Open)
41 – 43	PE1 – 3	O	Not used in this set (Open)
44	VSS	—	Ground pin
45	TIR IND	O	Not used in this set (Open)
46, 47	PE 5, 6	O	Not used in this set (Open)
48	MD LOCK	O	Not used in this set (Open)
49	BU IN	I	Backup power supply detection input “H”: Back up
50	LINK OFF	O	Link off output
51	PD2	O	Not used in this set (Open)
52	ILL ON	O	Illumination power supply control output
53	VSS	—	Ground pin
54, 55	NCO	O	Not used in this set (Open)
56	PD6	O	Not used in this set (Open)
57	$\overline{\text{BOOT}}$	I	Display microcomputer write control input
58	VCC	—	Power supply pin (+5 V)
59	NC	—	Not used in this set (Open)
60	TX/LCDDATA	O	LCD driver serial data output/Frash microcomputer write data output
61	SP SI	I	DSP serial data input
62	RX/DOOR SW	I	Flash microcomputer write data input/Door detection input
63	SP SCK	I	Not used in this set (Open)
64	LCD CLK	O	LCD driver serial clock output
65	VSS	—	Ground pin
66	LCD CEO	O	LCD chip enable signal output
67, 68	VSS	—	Ground pin
69	$\overline{\text{LCDINH}}$	O	Not used in this set (Open)
70	$\overline{\text{LCDCE1}}$	O	LCD chip enable signal output
71	P63	O	Not used in this set (Open)
72 – 78	P27 – 21	O	Not used in this set (Open)
79	FL W	O	Flash write control output
80	FWE (L)	O	Flash write enable input

Pin No.	Pin Name	I/O	Pin Description
81	$\overline{\text{RES}}$	I	System reset input
82	NMI (H)	I	Non-maskable interruption input (Connect to pin ㊾ (BU IN).)
83	$\overline{\text{STBY}}$ (H)	I	Hardware standby input "H": Not used
84	VCC	—	Power supply pin (+5 V)
85	XTAL	O	Crystal oscillation output (18.432 MHz)
86	EXTAL	I	Crystal oscillation input (18.432 MHz)
87	VSS	—	Ground pin
88	PF7	O	Not used in this set (Open)
89	VCC	—	Power supply pin (+5 V)
90 – 96	PF6 – 0	O	Not used in this set (Open)
97	UNI-SO	O	SONY BUS system serial data output
98	UNI-SI	I	SONY BUS system serial data input
99, 100	VSS	—	Ground pin
101	UNI-SCK	I	SONY BUS system serial clock input
102	P53/ADTRG	O	Not used in this set (Open)
103	AVCC	—	Power supply pin (+5 V) of analog macro (D/A, A/D etc.)
104	VREF	—	A/D, D/A converter reference voltage pin (+5 V)
105	P40/AN0	I	Peak hold voltage detection input from the IC652 (BA3834F)
106 – 110	P41/AN0 – P45/AN5	I	Not used in this set (Connect to ground in this set)
111	P46/AN6/DA0	I	Not used in this set (Connect to ground in this set)
112	P47/AN7/DA1	I	Not used in this set (Connect to ground in this set)
113	AVSS	—	Ground pin
114	VSS	—	Ground pin
115 – 122	P17 – P10	O	Not used in this set (Open)
123 – 125	MD0 – 2 (H)	I	Operation mode setting input (Fixed at "H" in this set)
126 – 128	PG0 – 2	O	Not used in this set (Open)

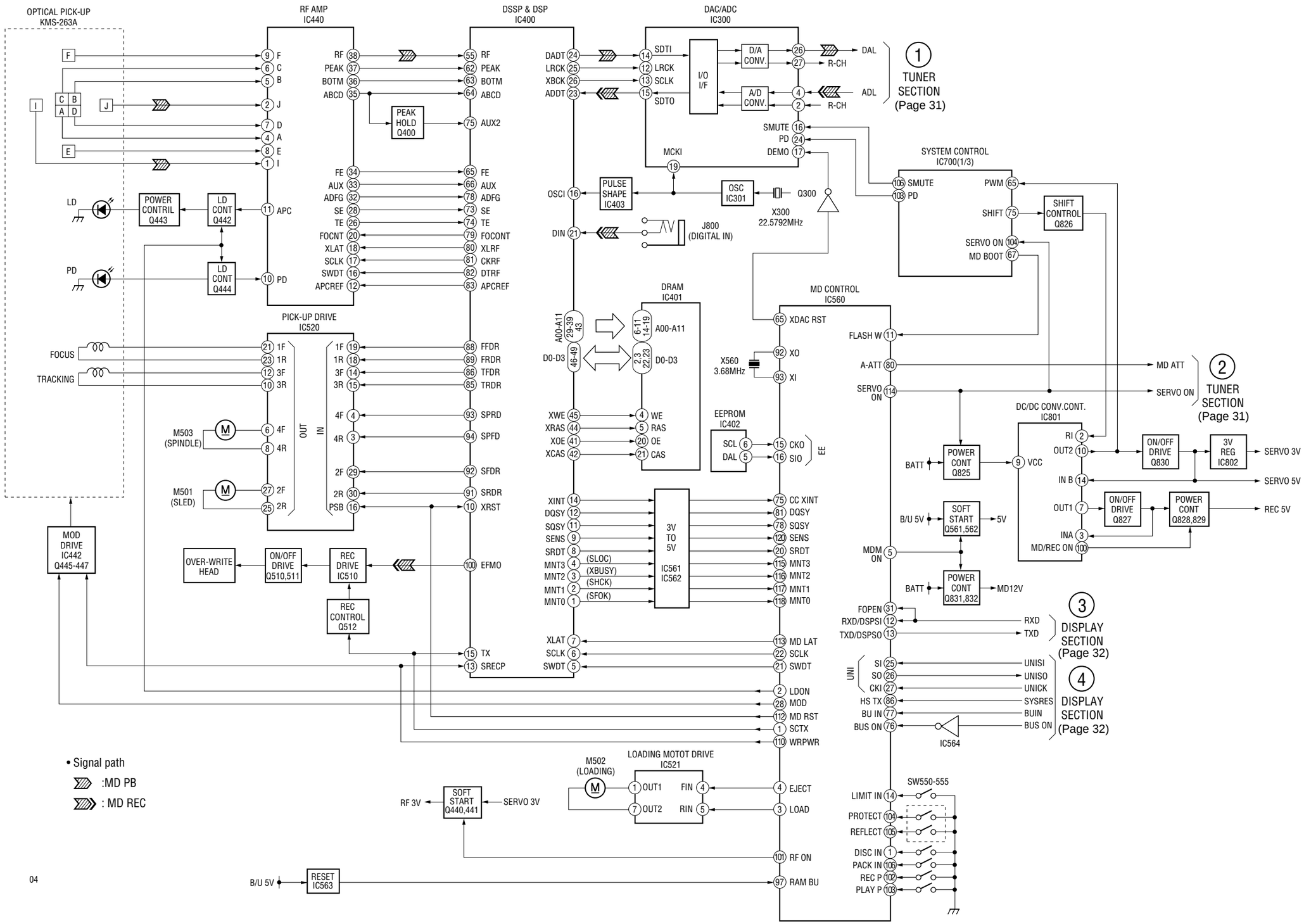
• IC700 MB90574PMT-G-259-BND (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	TUN ON	O	Tuner power control output (TU +5.6 V)
2	SET UP	O	Not used in this set (Open)
3	FM ON	O	Not used in this set (Open)
4	AM ON	O	Not used in this set (Open)
5	N.C.O	O	Not used in this set (Open)
6	SYS RESET	O	SONY BUS system reset output (SONY BUS interface to CD, external control)
7	BUS ON	O	SONY BUS on control output (SONY BUS interface to CD, external control)
8	VCC	—	+5 V power supply pin
9	FLS PON	O	Flash drive power control output (ILL ON power supply) “H” is output when flash read.
10	EEDATA	O	EEPROM data output
11	EECLK	O	EEPROM CLK output
12	DOOR SW/RXD	I	Door open/close detection input “L”: close, “H”: open
13	TXD	O	Serial data output
14	N.C.O	O	Not used in this set (Open)
15	BEEP	O	Beep output
16	AMP MUTE	O	Power amplifier mute output
17 – 19	N.C.O	O	Not used in this set (Open)
20	UNI SI	I	SONY BUS serial data input (SONY BUS interface to CD, external control)
21	UNI SO	O	SONY BUS serial data output (SONY BUS interface to CD, external control)
22	UNI CLK	I/O	SONY BUS serial clock input/output (SONY BUS interface to CD, external control)
23	N.C.O	O	Not used in this set (Open)
24	SIRCS	I	Remote commander (infrared rays reseiver) input
25 – 29	N.C.O	O	Not used in this set (Open)
30	SW SHIFT	O	Tuner switch shift output
31	N.C.O	O	Not used in this set (Open)
32	TUNER MUTE	O	Tuner mute control output (AM DET MUTE)
33	VSS	—	Ground pin
34	C	—	Capacitance connect pin of power supply stabilization
35	AD ON	O	Power supply control output for AD conversion
36	RDS ON	O	Power supply signal output to RDS (Not used in this set (Open))
37	N.C.O	O	Not used in this set (Open)
38	DVCC	—	D/A converter VRER pin
39	DVSS	—	D/A converter GND pin
40	POWER ON	O	System power supply control output “L”: off, “H”: on
41	N.C.O	O	Not used in this set (Open)
42	AVCC	—	Analog power supply pin
43	AVRH	I	A/D converter Vref (+) pin
44	AVRL	I	A/D converter Vref (–) pin
45	AVSS	—	Analog ground pin
46	KEY IN0	I	Key signal input 0 (A/D analog input)
47	KEY IN1	I	Key signal input 1 (A/D analog input)
48	DSTSEL0	I	Initial setting input of destination
49	RC IN0	I	Key input of rotary commander (A/D analog input)
50	QUALITY	I	Noise detection input (A/D analog input)
51	FM AGC	I	FM AGC detection input (A/D analog input)
52	MPT	I	Multipath detection input (A/D analog input)
53	VSM	I	Signal meter detection input (A/D analog input)
54	VCC	—	+5 V power supply pin
55, 56	N.C.O	O	Not used in this set (Open)
57	E-VOL MOTE	O	Electron volume mute output
58	N.C.O	O	Not used in this set (Open)

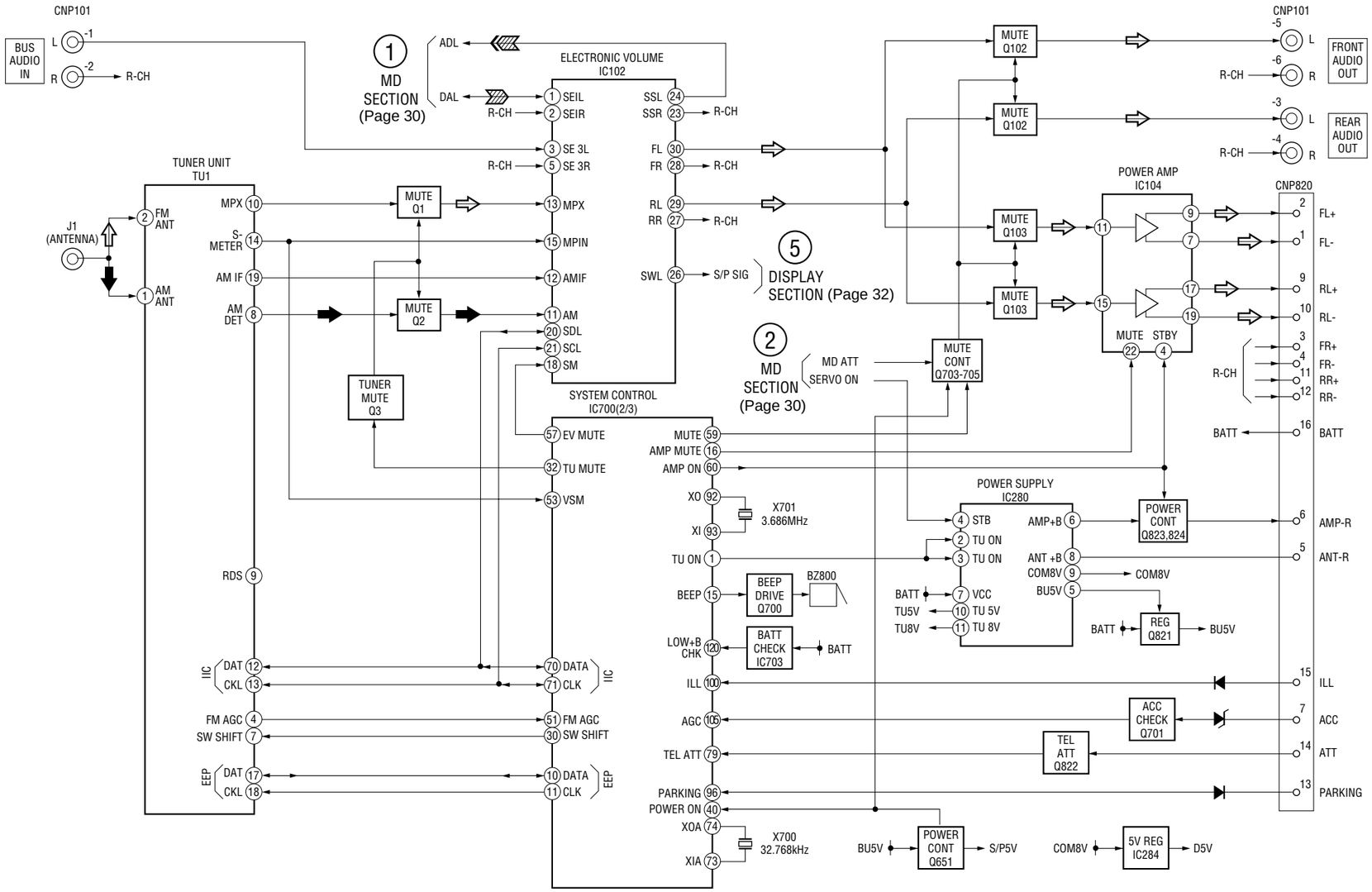
Pin No.	Pin Name	I/O	Pin Description
59	MUTE	O	LINE level mute output
60	AMP ON	O	Power amplifier standby control output (to STNBY pin of power IC)
61	N.C.O	O	Not used in this set (Open)
62	FLASH WHT	I	Flash memory read mode detect input
63	VSS	—	Ground pin
64	RE IN0	I	Rotary encoder input 0
65	PWM	I	D/D converter oscillator frequency signal input
66	RE IN1	I	Rorary encoder input 1
67	MD BOOT	I	Flash write select input
68	N.C.O	O	Not used in this set (Open)
69	$\overline{\text{RAM BU}}$	I	RAM reset detection input
70	II DATA	I/O	I2C BUS serial data input/output (SONY BUS interface to tuner, electron volume, RDS.)
71	II CLK	I/O	I2C BUS serial clock input/output (SONY BUS interface to tuner, electron volume, RDS.)
72	RC IN1	I	Shift input of rotary commander
73	X1A	I	Low speed oscillator connect pin (32,768 kHz)
74	X0A	O	
75	SHIFT	O	D/D converter frequency change signal output
76	KEYACK	I	Key acknowledge input
77	BU IN	I	Backup voltage detection input
78	DAVN	I	Block synchronization detection input of RDS data
79	TEL ATT	I	Telephone (TEL) detection input
80	TEST IN	I	Test mode setting pin
81	DP BOOT	O	Display microcomputer frash write setting output “L” is output when write of display microcomputer
82 – 84	N.C.O	O	Not used in this set (Open)
85	NS MASK	O	Noise mask output
86	HSTX	I	Hardware standby input (This set connect to RSTX.)
87	MD2	I	Input for operation mode (This set connect to VSS.)
88	MD1	I	Input for operation mode (This set connect to VCC.)
89	MD0	I	Input for operation mode (This set connect to VCC.)
90	RSTX	I	Reset input
91	VSS	—	Ground pin
92	X0	O	High speed oscillator connect pin (3.6864 MHz)
93	X1	I	
94	VCC	—	+5 V power supply pin
95	N.C.O	O	Not used in this set (Open)
96	PARKING	I	Parking brake detection input “L”: packing condition
97	N.C.O	O	Not used in this set (Open)
98	SHIN	O	Not used in this set (Open)
99	N.C.O	O	Not used in this set (Open)
100	ILL IN	I	Illumination (ILL IN) detection input
101	NOSE SW	I	Front panel attachment detection input “L”: on, “H”: off
102	PACK IND	O	Door indicator output
103	PD	O	Codec power supply control output
104	SERVO-ON	I	Servo power supply control signal input from mechanism microcomputer “H”: on
105	ACC IN	I	Accessory power supply (ACC) detect input
106	SMUTE	O	Codec mute signal output “H”: mute
107 – 118	N.C.O	O	Not used in this set (Open)
119	VSS	—	Ground pin
120	LOW +B CHK	O	Low battery check output

29

3-2. BLOCK DIAGRAM — MD SECTION —

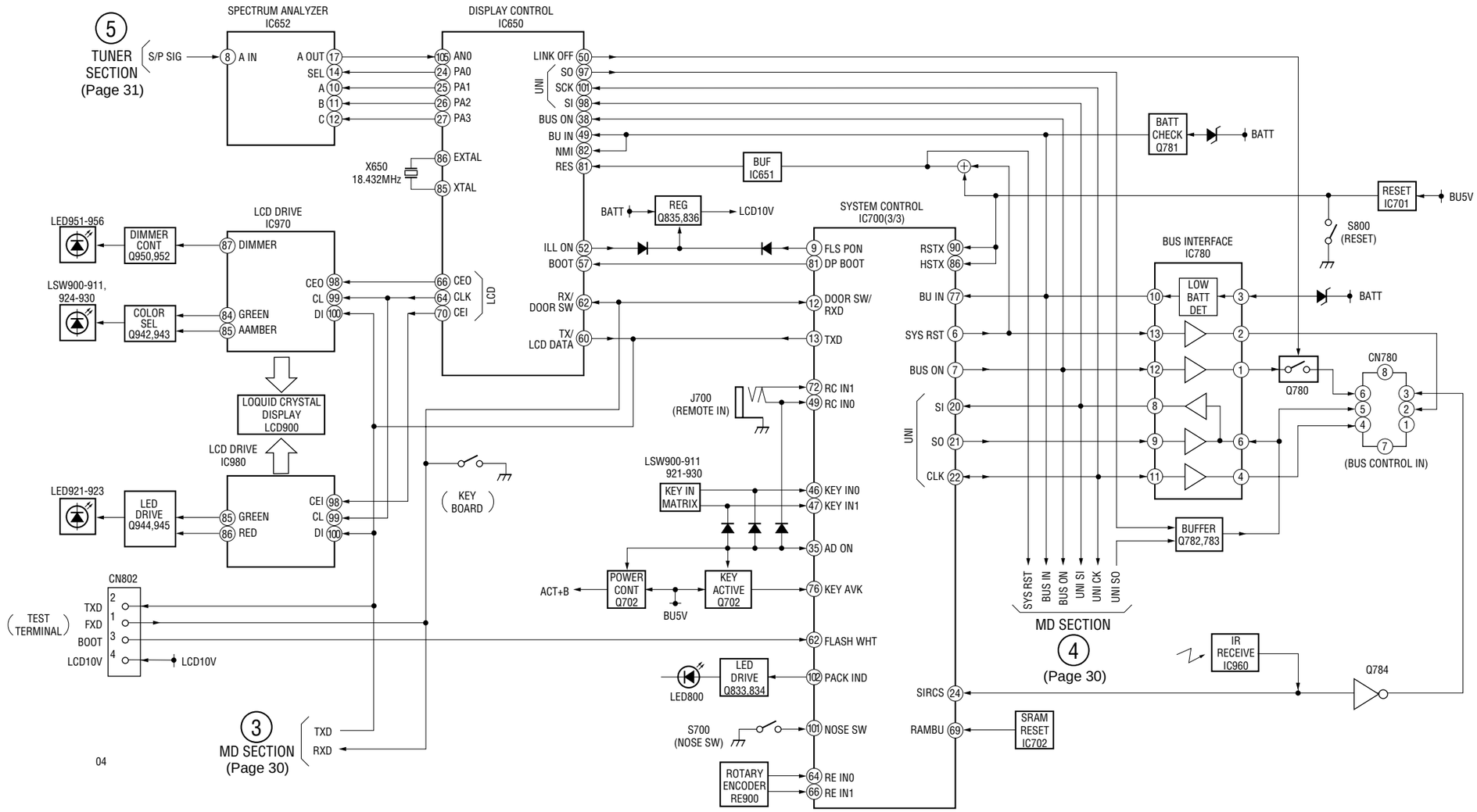


3-3. BLOCK DIAGRAM — TUNER SECTION —

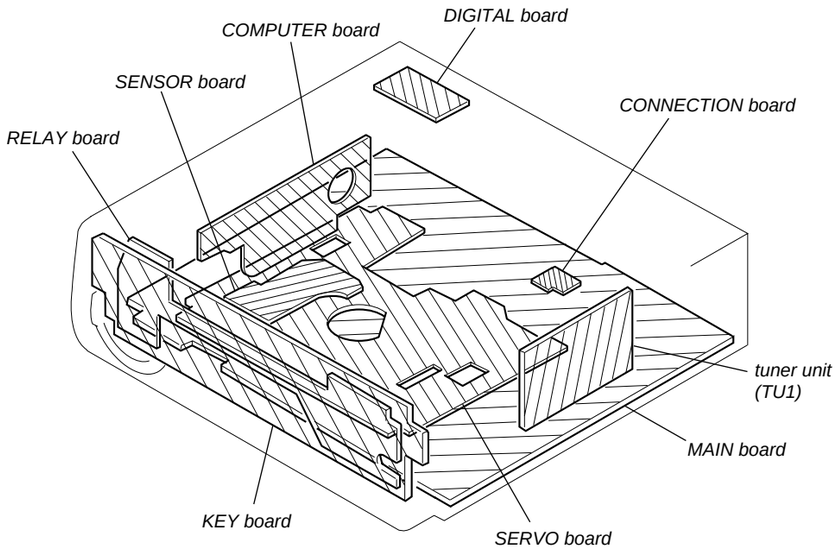


04

3-4. BLOCK DIAGRAM — DISPLAY SECTION —



3-5. CIRCUIT BOARDS LOCATION



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams

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

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

- B+ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⇨ : MD

For printed wiring boards

- o—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ○ : Through hole.
- △ : internal component.
- ▒▒ : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

Caution:
Pattern face side (Side B): Parts on the pattern face side seen from the pattern face are indicated.
Parts face side (Side A): Parts on the parts face side seen from the parts face are indicated.

- **Waveforms** (MODE:PLAY)
  (SERVO/COMPUTER BLOCK)

① Approx. 0.5Vp-p
IC440 ㉖ (TE)

② Approx. 0.3Vp-p
IC440 ㉞ (FE)

③ 1.4Vp-p
IC440 ㊳ (RF)

④ 4.8Vp-p, 24µsec
IC400 ㉕ (LRCK)

⑤ 4.8Vp-p, 0.35µsec
IC400 ㉖ (XBCK)

⑥ 4.4Vp-p, 2.8µsec
IC520 ㉛ (CAPA+)

⑦ 4.4Vp-p, 2.8µsec
IC520 ㉜ (CAPA–)

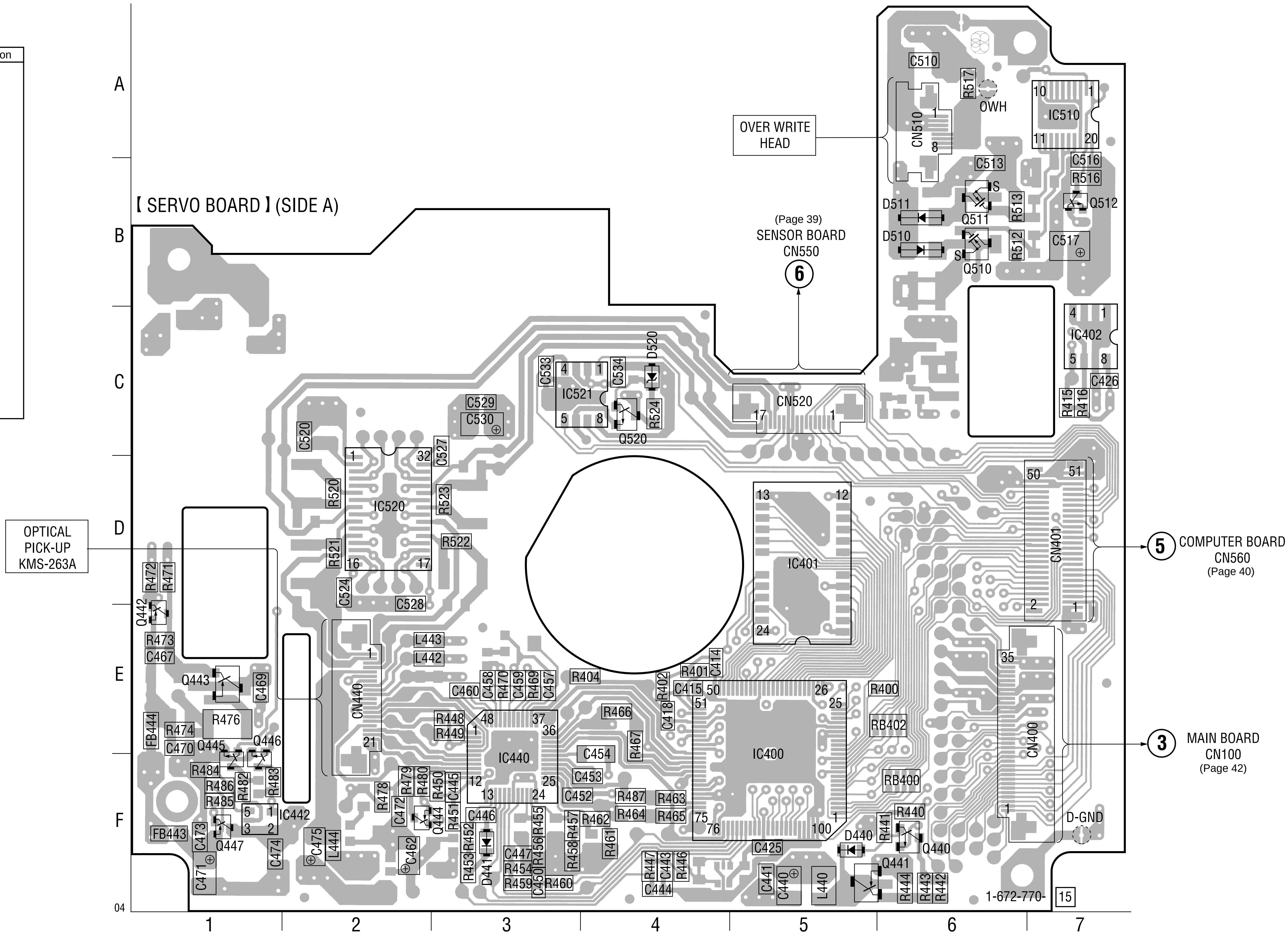
⑧ 3.4Vp-p, 3.68MHz
IC560 ㉒ (XO)

3-6. PRINTED WIRING BOARD — SERVO SECTION —

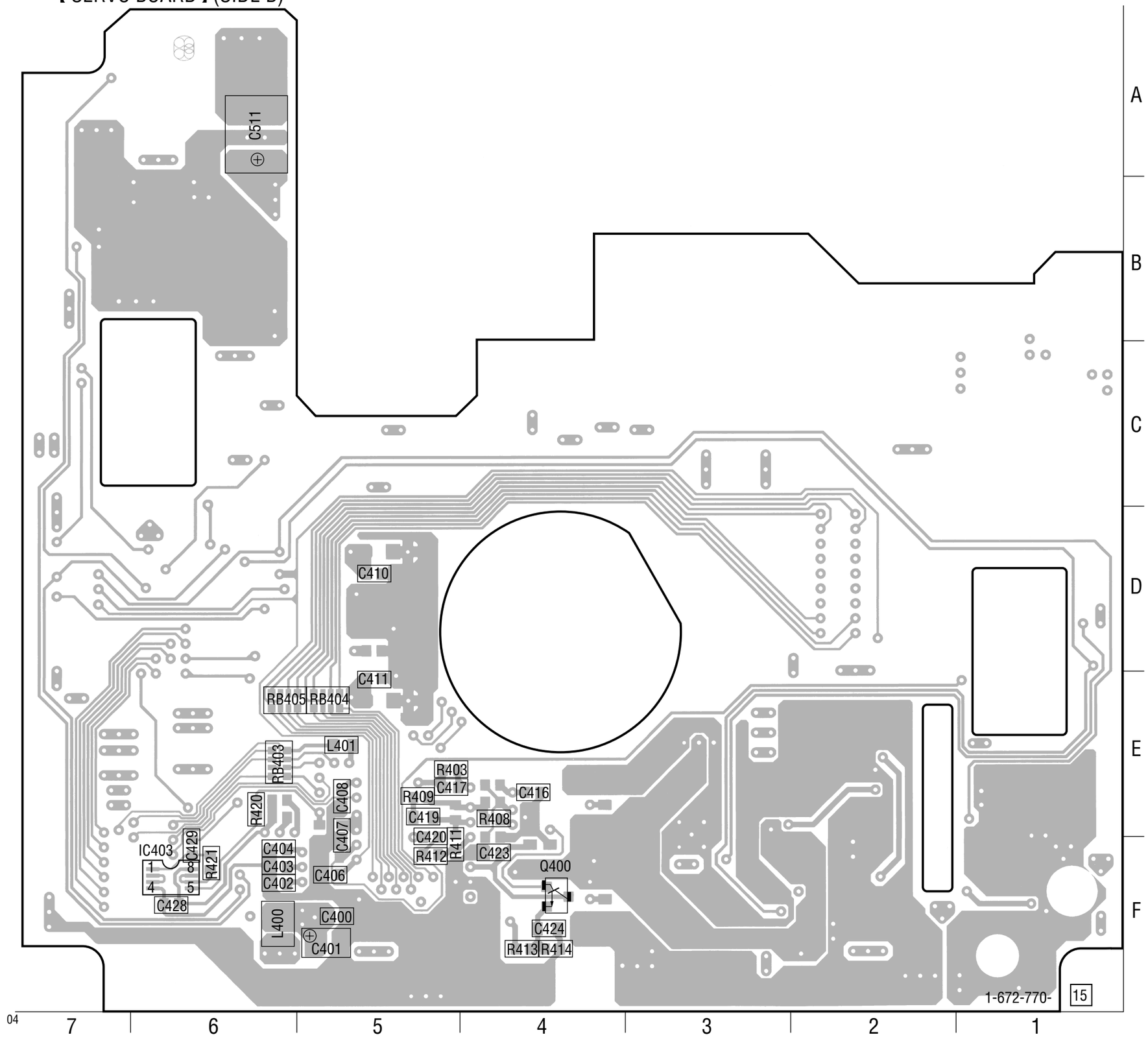
• **Semiconductor Location**

Ref. No.	Location
D440	F-5
D441	F-3
D510	B-6
D511	B-6
D520	C-4
D521	C-5
IC400	E-5
IC401	D-5
IC402	C-7
(IC403)	F-6
IC440	F-3
IC442	F-1
IC510	A-7
IC520	D-2
(Q400)	F-4
Q440	F-6
Q441	F-6
Q442	E-1
Q443	E-1
Q444	F-2
Q445	E-1
Q446	E-1
Q447	F-1
Q510	B-6
Q511	B-6
Q512	B-7
Q520	C-4

(　) : SIDE B



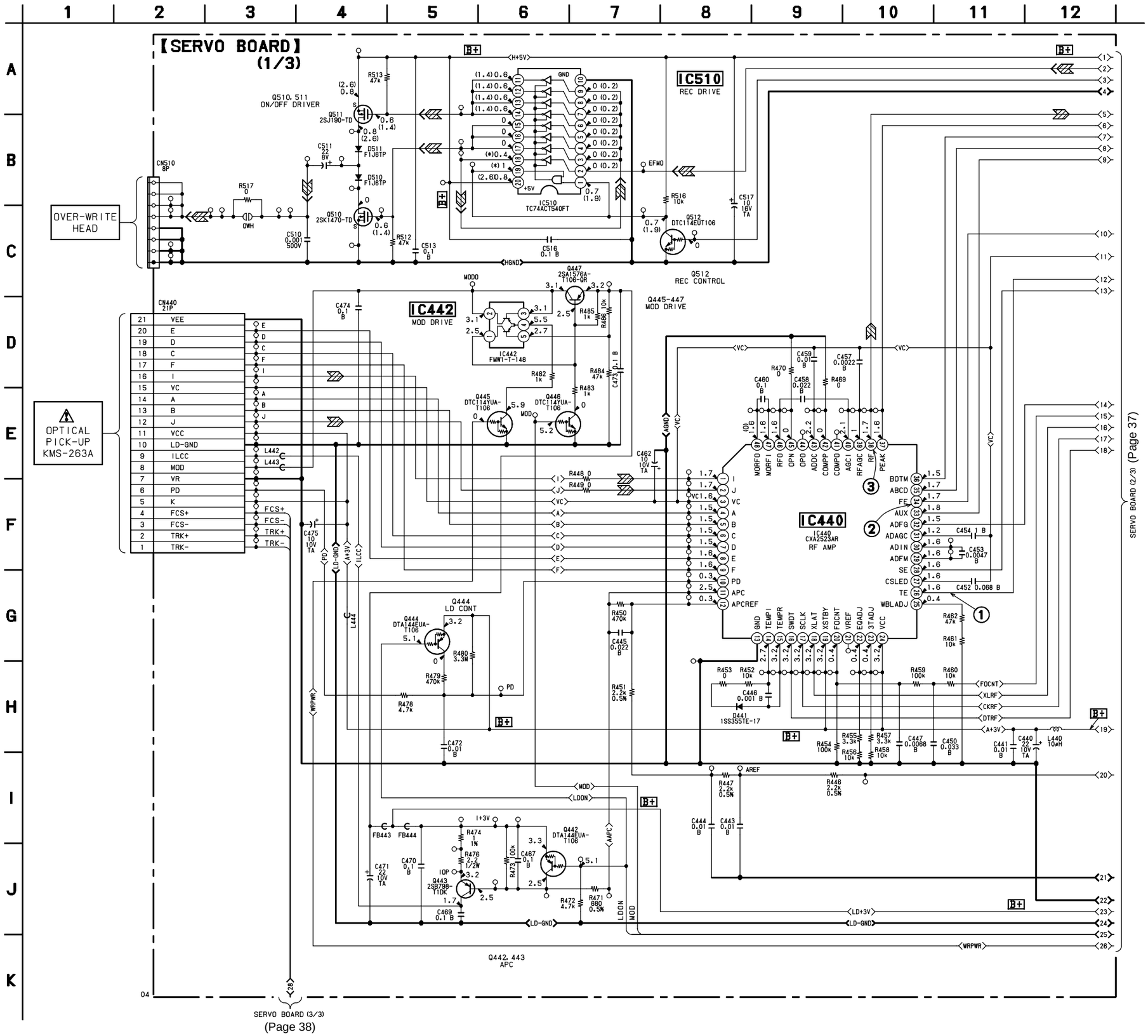
【 SERVO BOARD 】(SIDE B)



• Refer to page 33 for Waveforms.

3-7. SCHEMATIC DIAGRAM — SERVO SECTION (1/3) —

• Refer to page 52 for IC Block Diagrams.



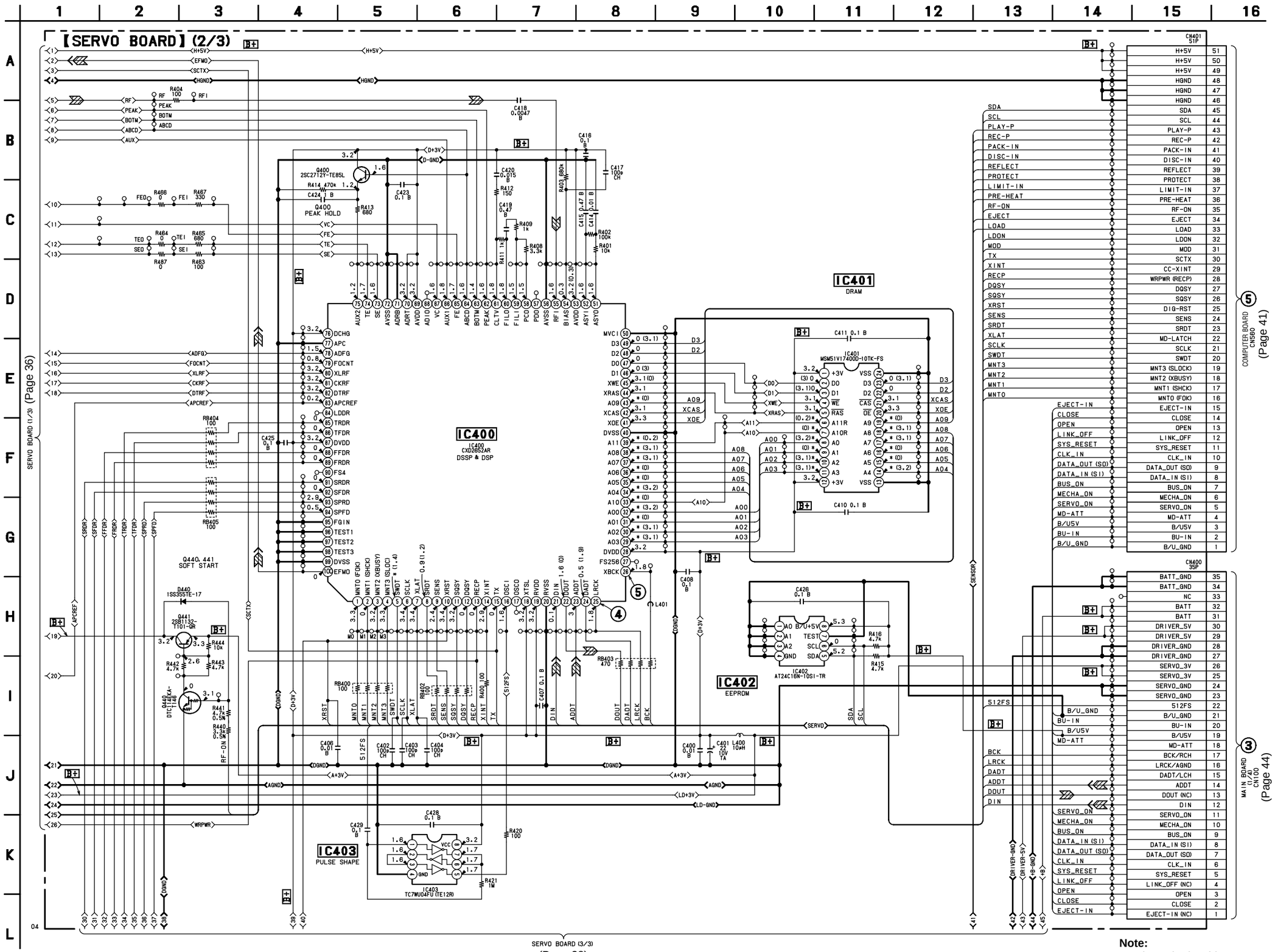
Note:

- Voltage is dc with respect to ground under no-signal condition.
  no mark : MD PLAY
  ( ) : MD REC

• Refer to page 33 for Waveforms.

3-8. SCHEMATIC DIAGRAM — SERVO SECTION (2/3) —

• Refer to page 52 for IC Block Diagrams.



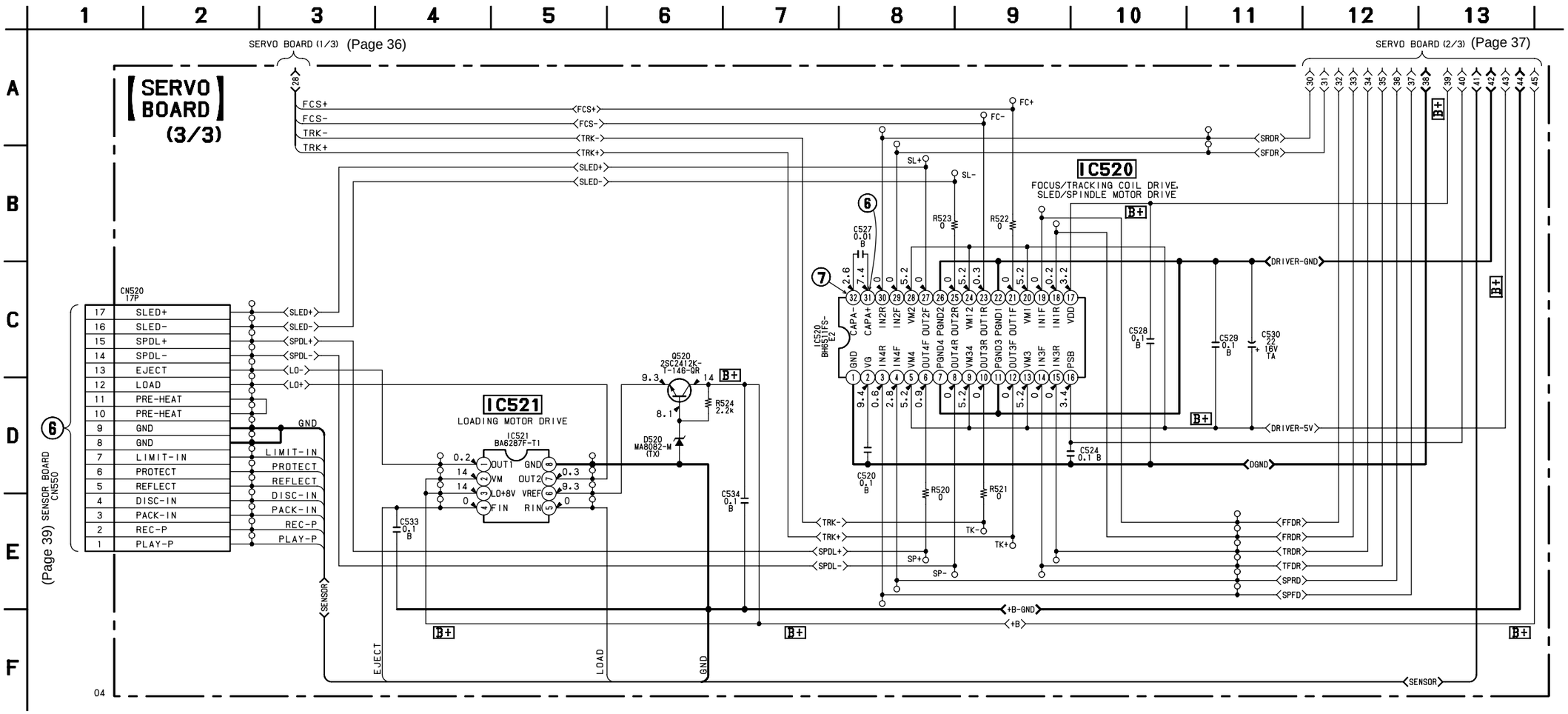
Note:

- Voltage is dc with respect to ground under no-signal condition.
  no mark : MD PLAY
  ( ) : MD REC
  * : Impossible to measure

• Refer to page 33 for Waveforms.

3-9. SCHEMATIC DIAGRAM — SERVO SECTION (3/3) —

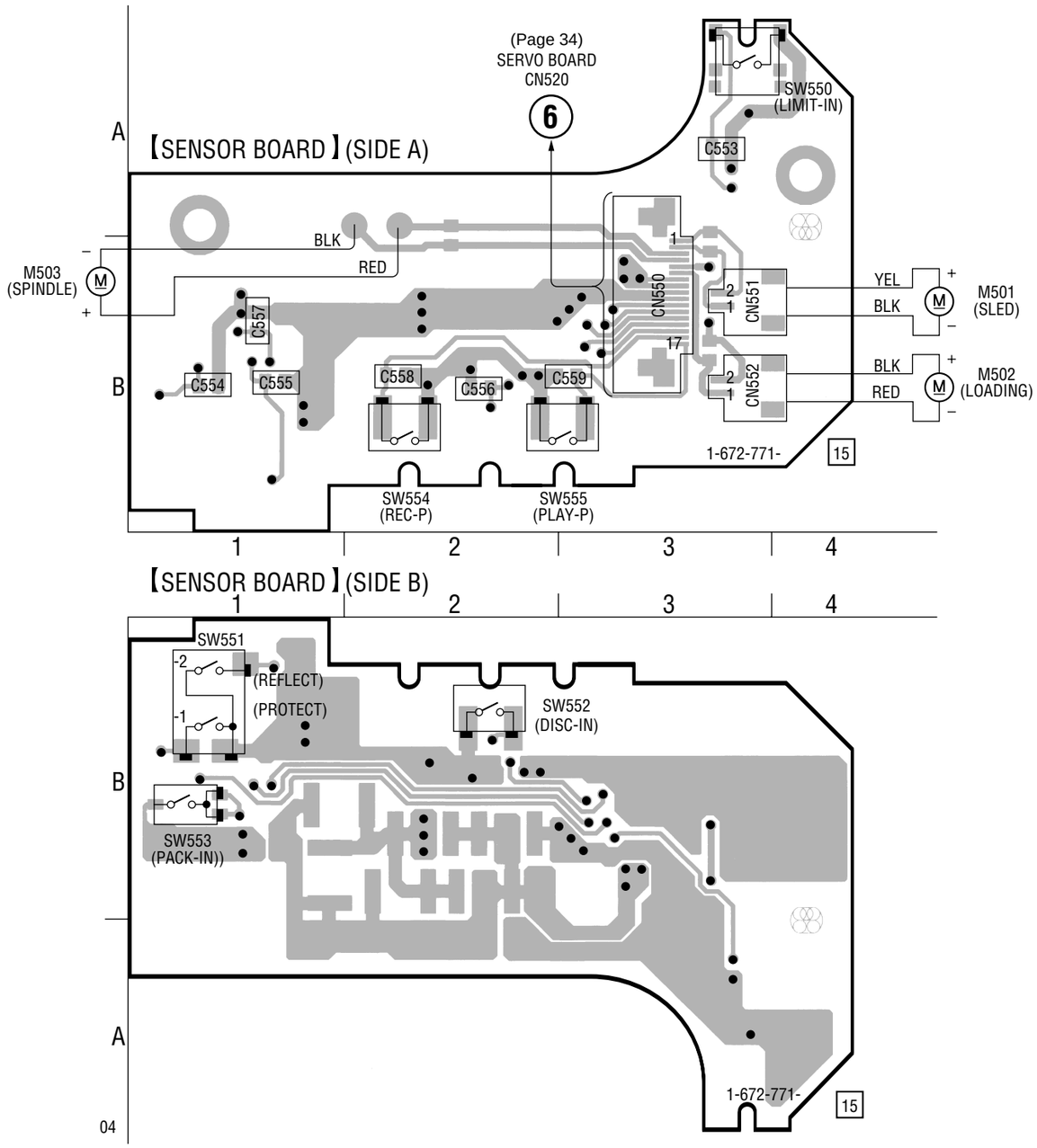
• Refer to page 52 for IC Block Diagrams.



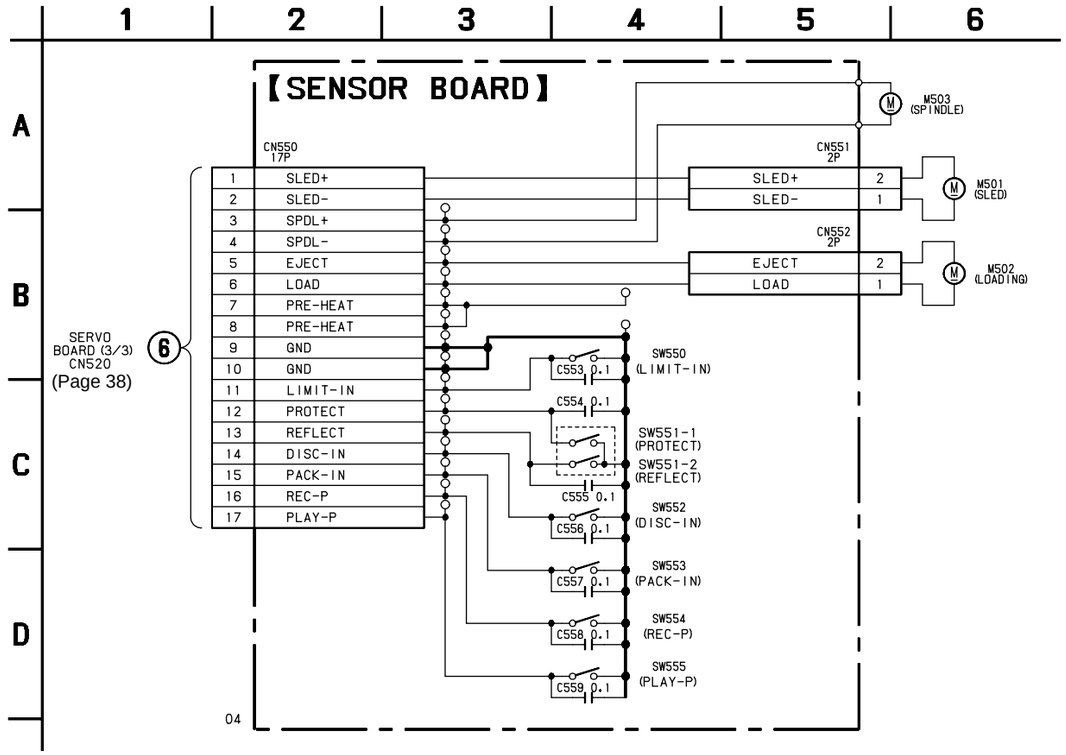
Note:

• Voltage is dc with respect to ground under no-signal condition.
no mark : MD PLAY
( ) : MD REC

3-10. PRINTED WIRING BOARD — SENSOR SECTION —



3-11. SCHEMATIC DIAGRAM — SENSOR SECTION —



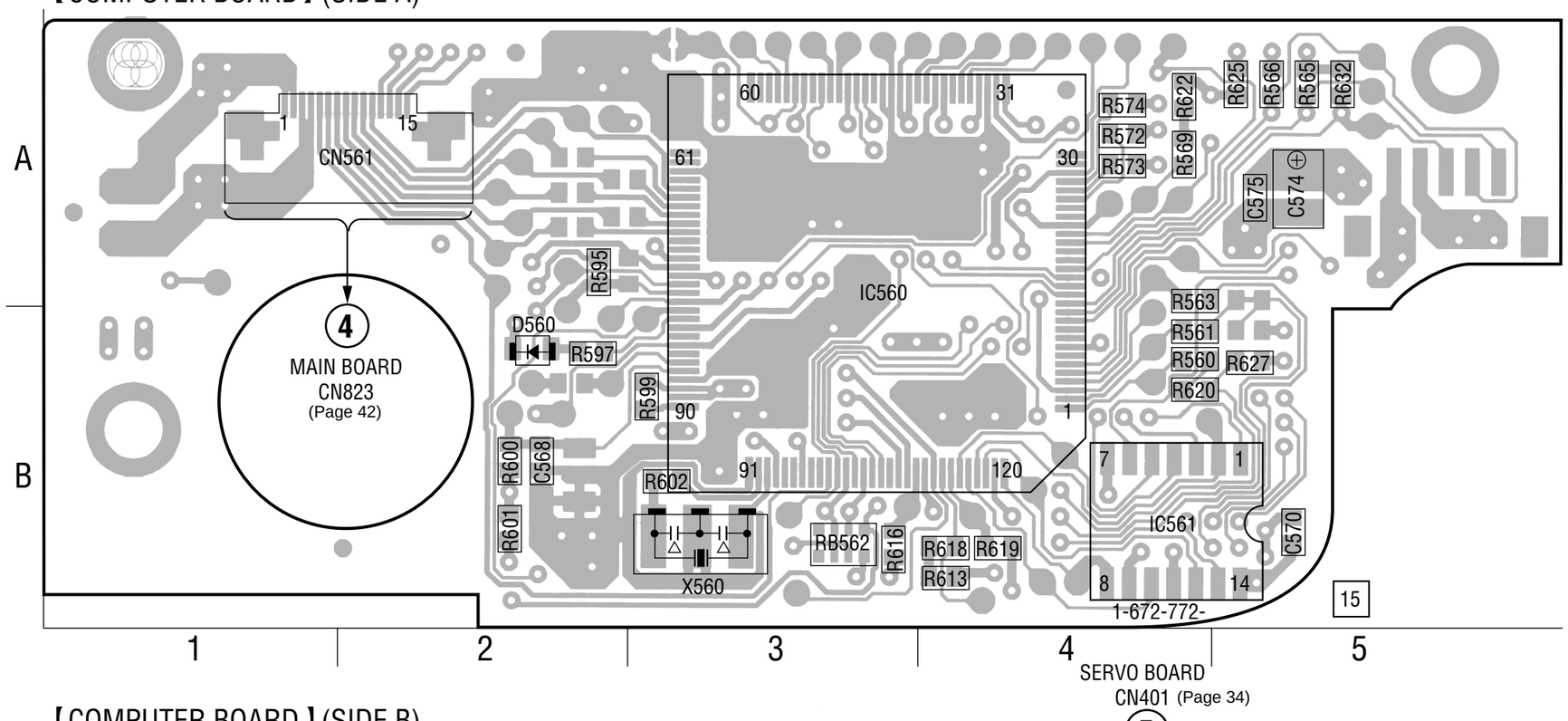
3-12. PRINTED WIRING BOARD — COMPUTER SECTION —

- **Semiconductor Location**

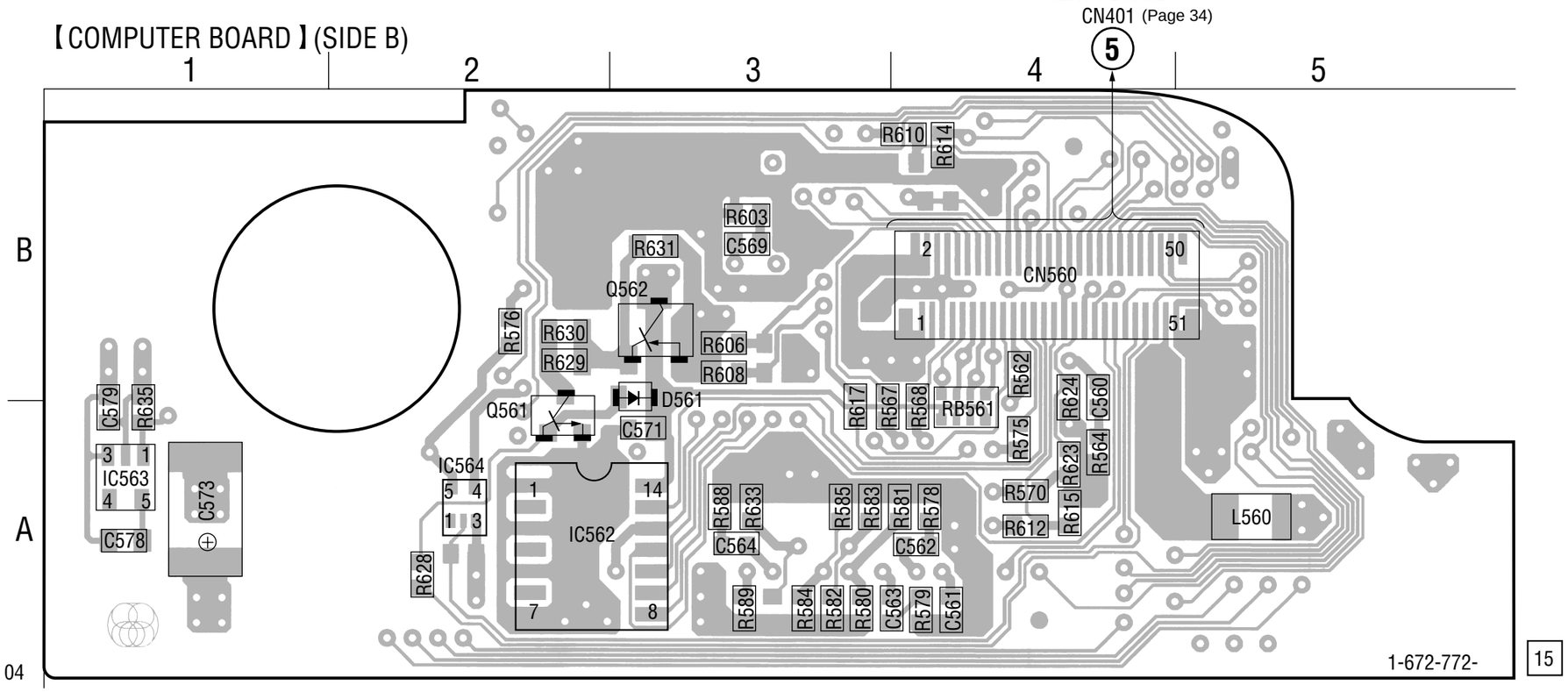
Ref. No.	Location
D560	B-2
(D561)	A-3
IC560	A-3
IC561	B-4
(IC562)	A-2
(IC563)	A-1
(IC564)	A-2
(Q561)	A-2
(Q562)	B-3

( ) : SIDE B

【COMPUTER BOARD】(SIDE A)

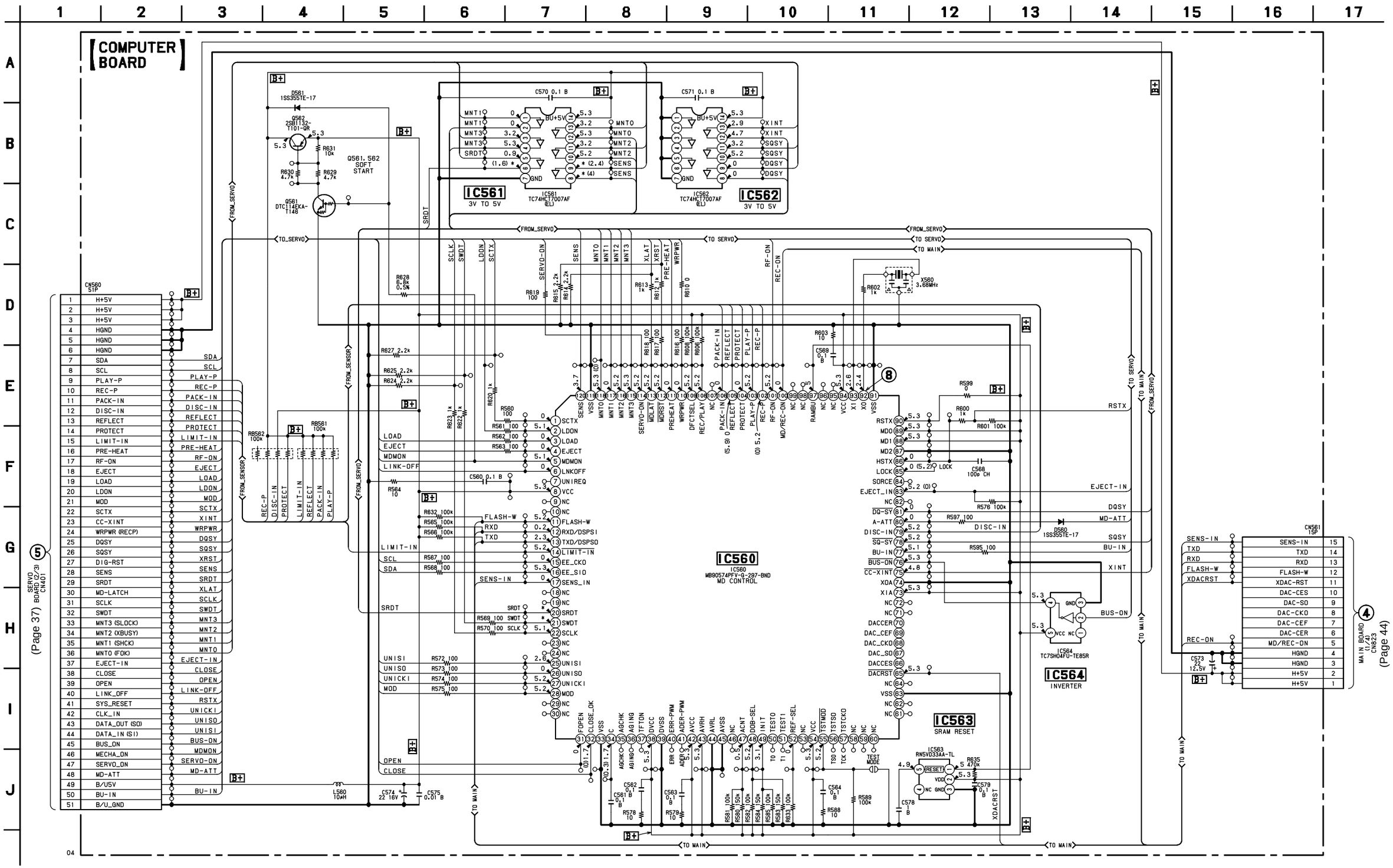


【COMPUTER BOARD】(SIDE B)



3-13. SCHEMATIC DIAGRAM — COMPUTER SECTION —

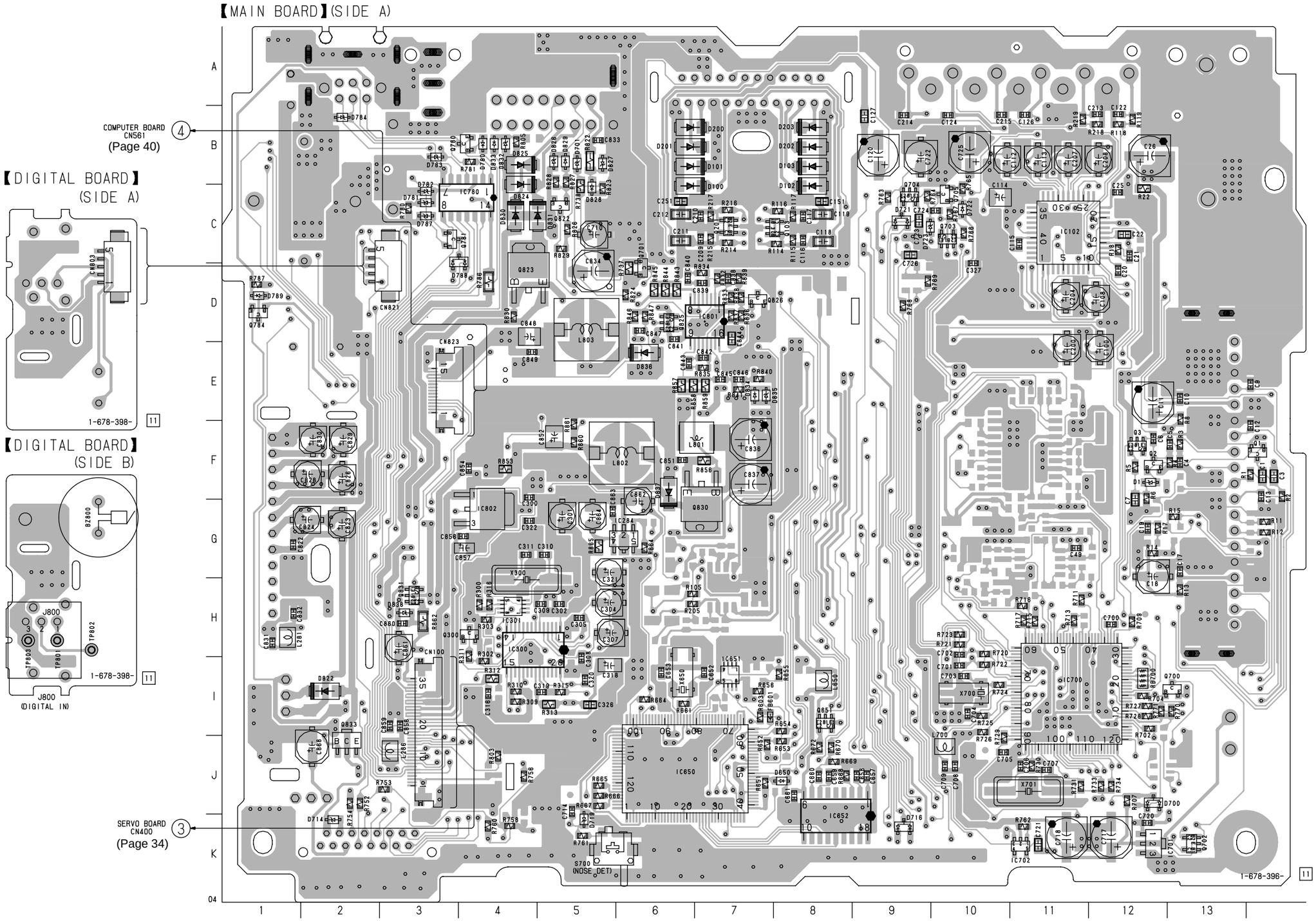
• Refer to page 33 for Waveforms.
• Refer to page 52 for IC Block Diagrams.

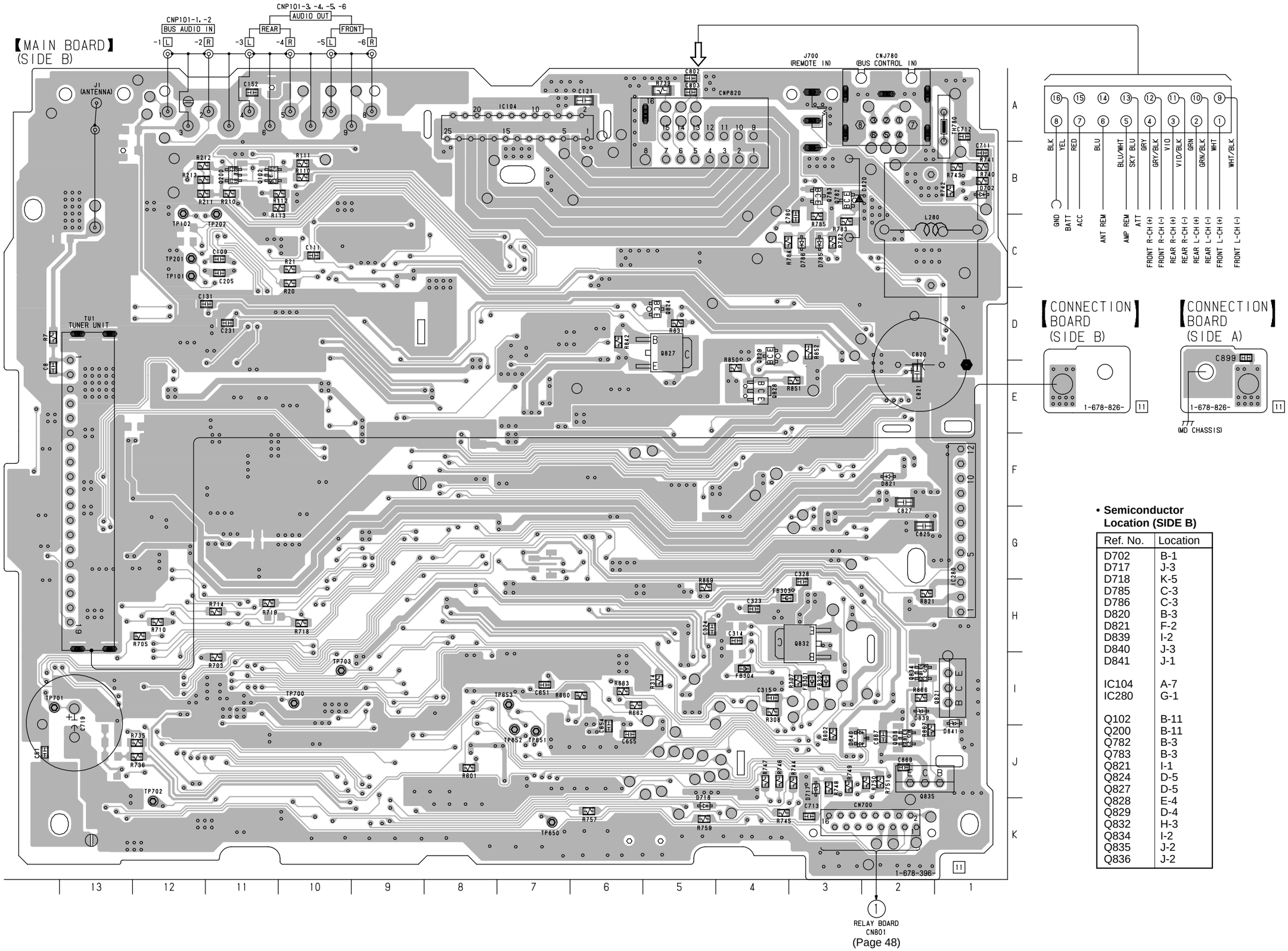


3-14. PRINTED WIRING BOARDS — MAIN SECTION —

• **Semiconductor Location (SIDE A)**

Ref. No.	Location
D1	F-12
D100	B-7
D101	B-7
D102	B-8
D103	B-8
D200	B-7
D201	B-6
D202	B-8
D203	B-8
D650	J-8
D700	J-13
D701	B-5
D714	K-2
D716	K-9
D719	K-5
D721	C-9
D722	C-10
D723	C-9
D780	B-4
D781	C-3
D782	C-3
D783	B-3
D784	B-2
D787	C-3
D788	D-4
D789	D-1
D822	I-2
D824	C-4
D825	B-4
D826	B-5
D827	B-5
D828	B-5
D829	B-5
D830	C-4
D831	C-5
D832	B-4
D833	B-4
D834	E-7
D835	E-7
D836	E-6
D837	F-6
D838	H-3
IC102	C-11
IC284	G-6
IC300	H-4
IC301	H-4
IC650	J-6
IC651	H-7
IC652	K-8
IC700	I-11
IC701	K-13
IC702	K-11
IC780	C-4
IC801	D-7
IC802	G-4
Q1	F-13
Q2	F-12
Q3	F-12
Q103	C-8
Q201	C-7
Q300	H-3
Q651	I-8
Q700	I-13
Q701	C-6
Q702	K-13
Q703	C-10
Q704	B-9
Q705	C-10
Q780	B-4
Q781	C-4
Q784	D-1
Q822	C-5
Q823	D-4
Q825	D-6
Q826	D-7
Q830	G-7
Q831	H-3
Q833	I-2





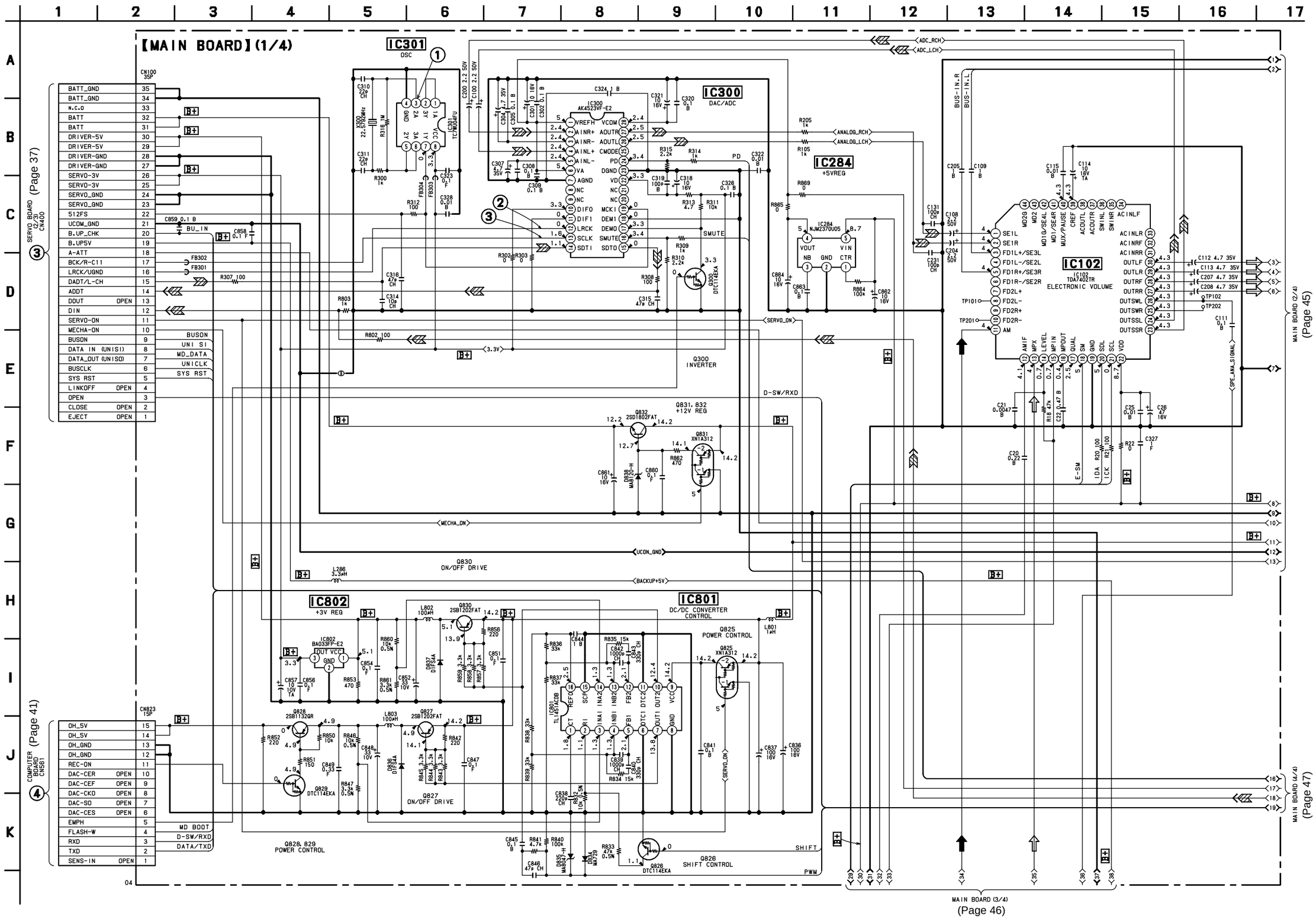
- **Semiconductor Location (SIDE B)**

Ref. No.	Location
D702	B-1
D717	J-3
D718	K-5
D785	C-3
D786	C-3
D820	B-3
D821	F-2
D839	I-2
D840	J-3
D841	J-1
IC104	A-7
IC280	G-1
Q102	B-11
Q200	B-11
Q782	B-3
Q783	B-3
Q821	I-1
Q824	D-5
Q827	D-5
Q828	E-4
Q829	D-4
Q832	H-3
Q834	I-2
Q835	J-2
Q836	J-2

• Refer to page 49 for Waveforms.

3-15. SCHEMATIC DIAGRAM — MAIN SECTION (1/4) —

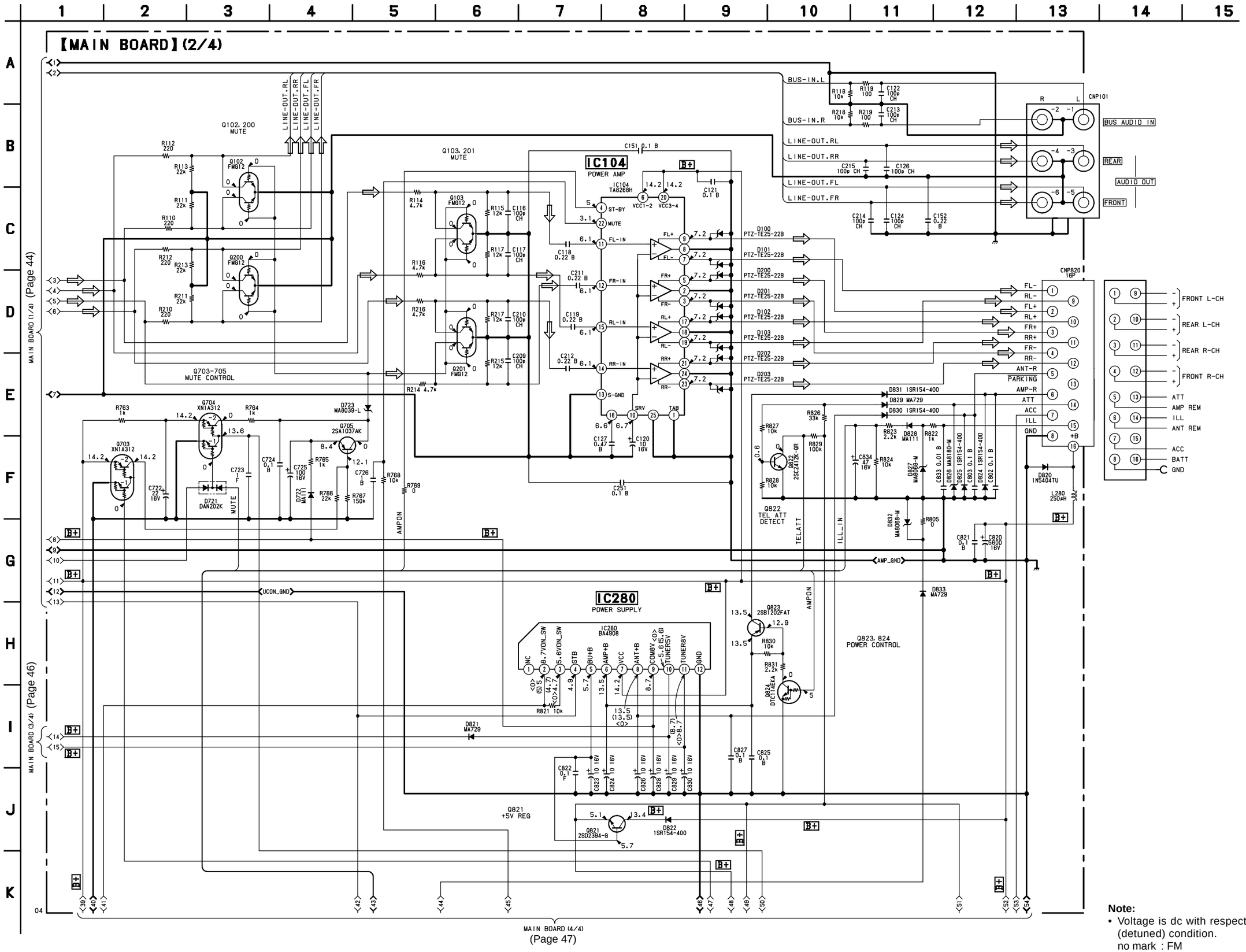
• Refer to page 52 for IC Block Diagrams.



Note:

• Voltage is dc with respect to ground under no-signal (detuned) condition.
no mark : FM

3-16. SCHEMATIC DIAGRAM — MAIN SECTION (2/4) — • Refer to page 52 for IC Block Diagrams.

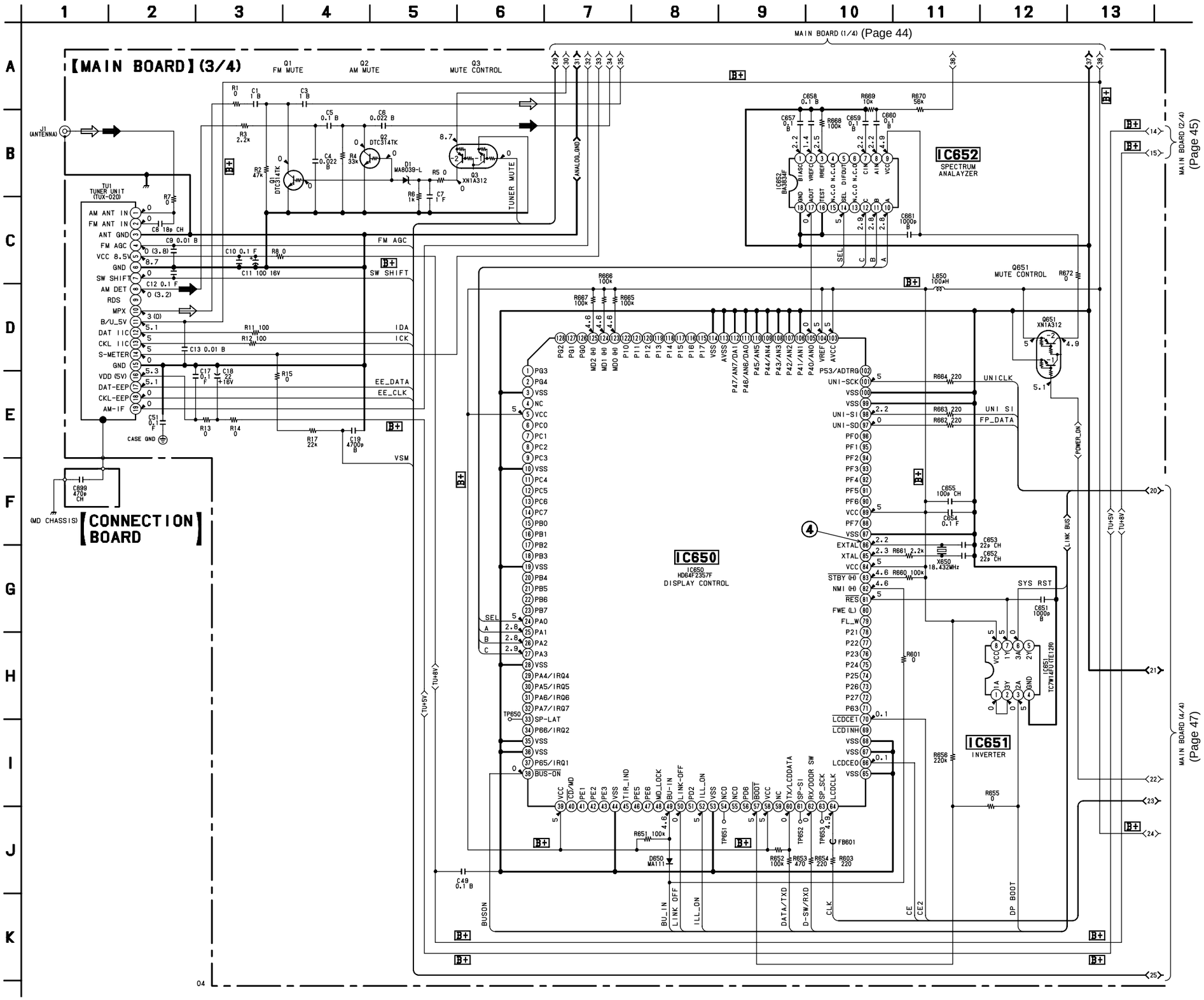


Note:
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

• Refer to page 49 for Waveforms.

3-17. SCHEMATIC DIAGRAM — MAIN SECTION (3/4) —

• Refer to page 52 for IC Block Diagrams.



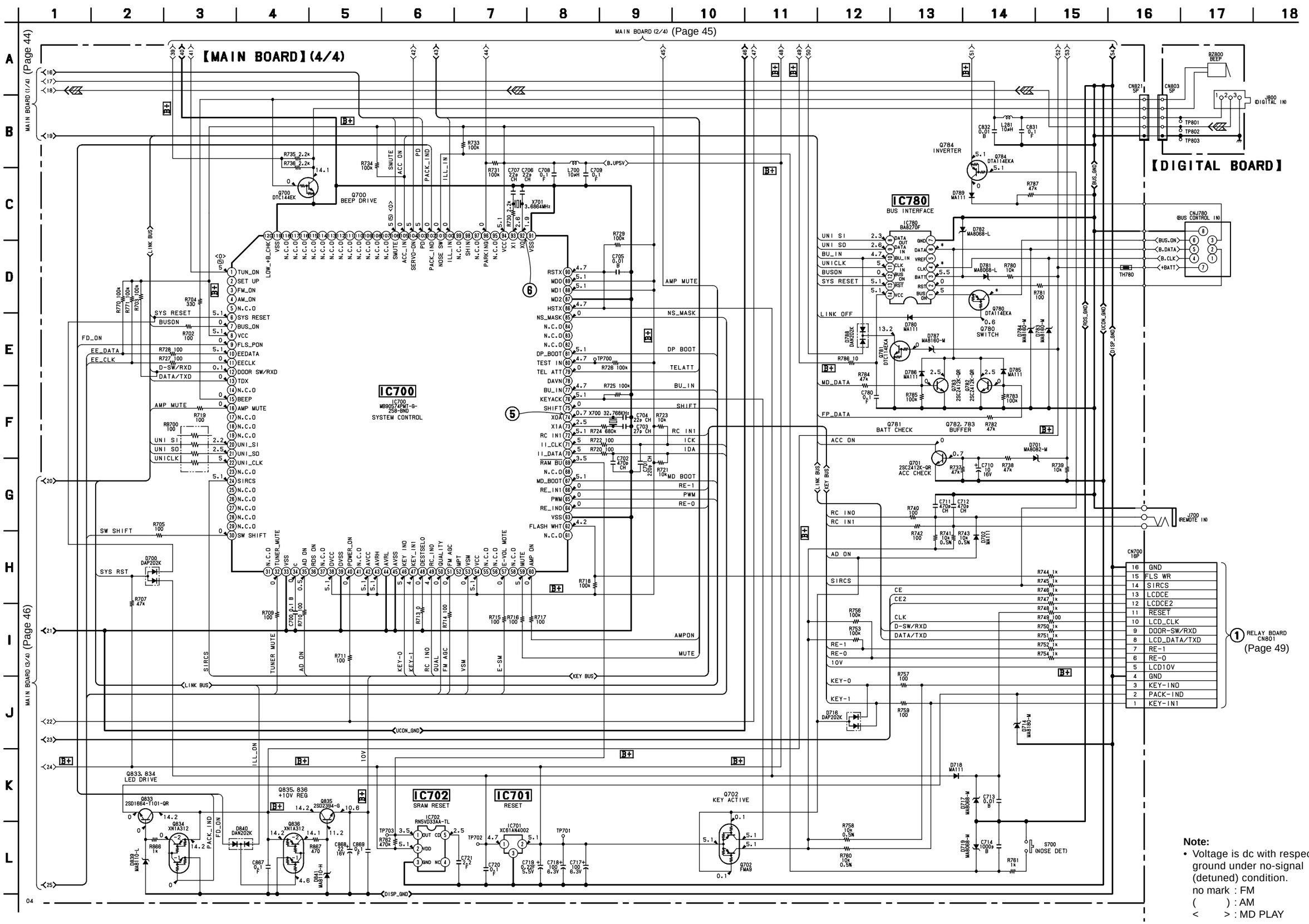
Note:

- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : AM

• Refer to page 49 for Waveforms.

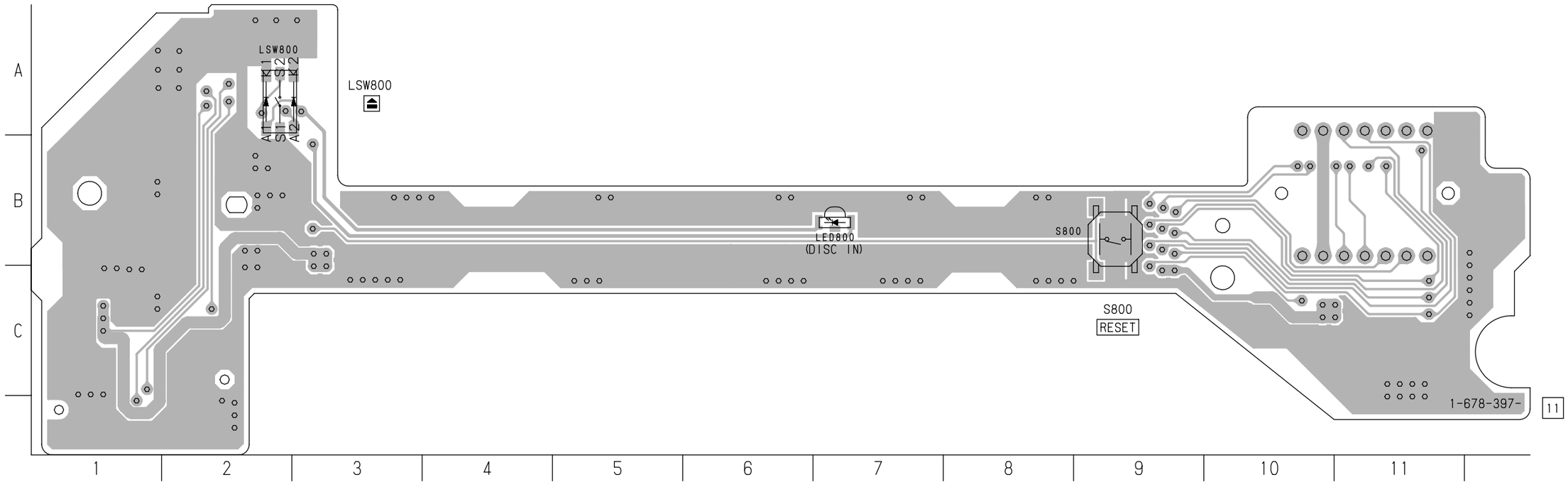
3-18. SCHEMATIC DIAGRAM — MAIN SECTION (4/4) —

• Refer to page 52 for IC Block Diagrams.

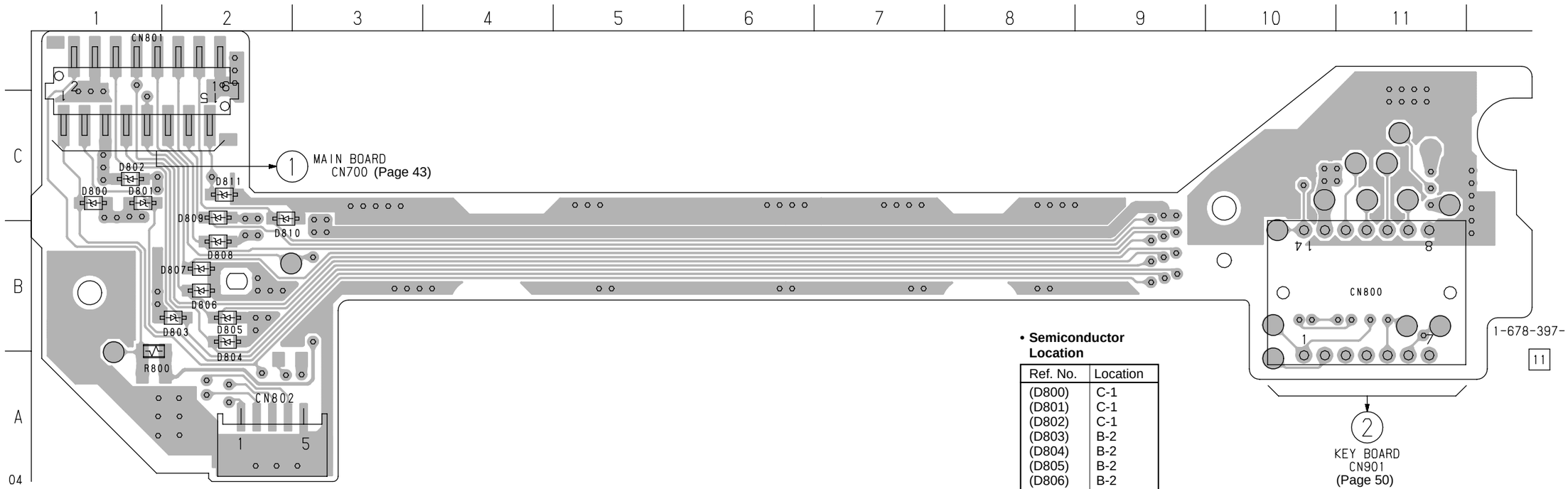


3-19. PRINTED WIRING BOARD — RELAY SECTION —

【RELAY BOARD】(SIDE A)



【RELAY BOARD】(SIAD B)

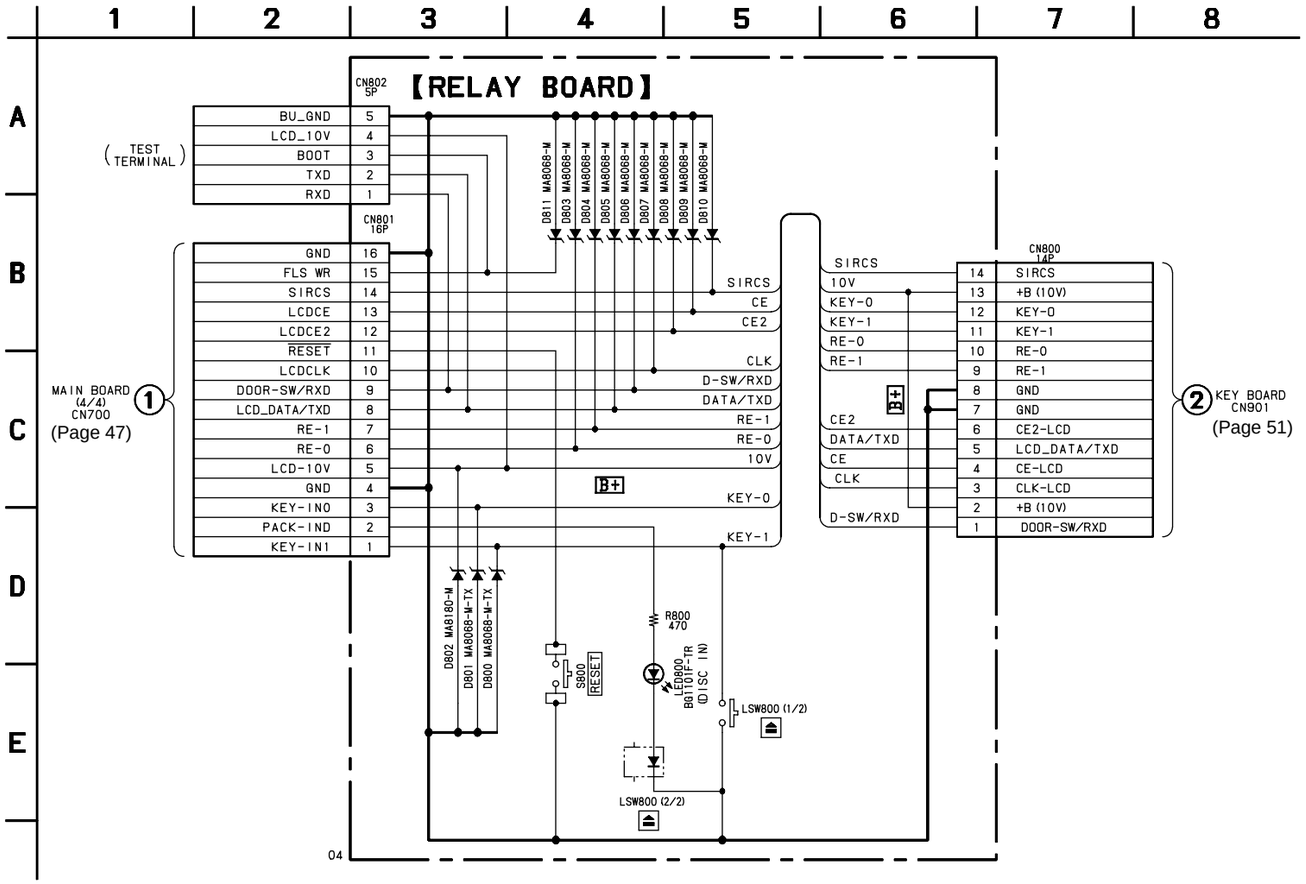


• **Semiconductor Location**

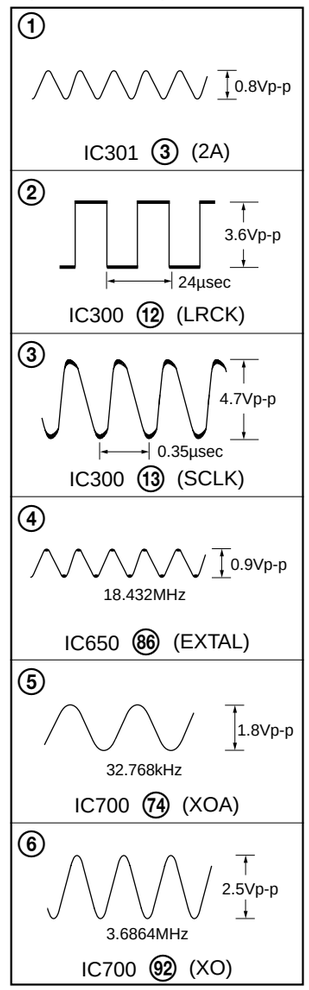
Ref. No.	Location
(D800)	C-1
(D801)	C-1
(D802)	C-1
(D803)	B-2
(D804)	B-2
(D805)	B-2
(D806)	B-2
(D807)	B-2
(D808)	B-2
(D809)	B-2
(D810)	B-2
(D811)	C-2
LED800	B-7

( ) : SIDE B

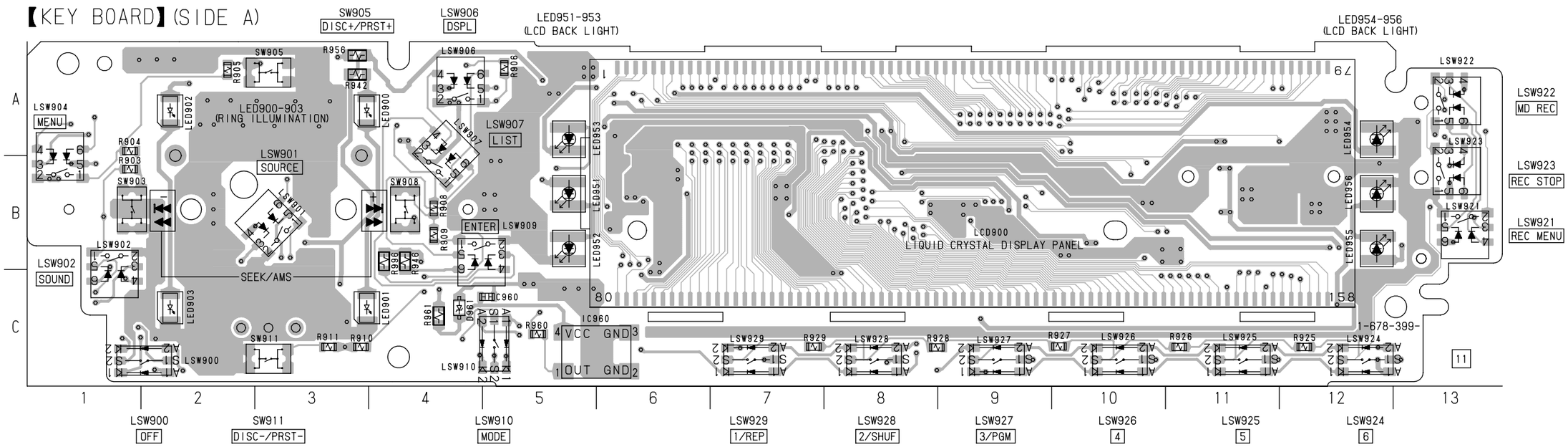
3-20. SCHEMATIC DIAGRAM — RELAY SECTION —



• **Waveforms** (MODE:MD PLAY)
(MAIN BLOCK)



3-21. PRINTED WIRING BOARD — KEY SECTION —



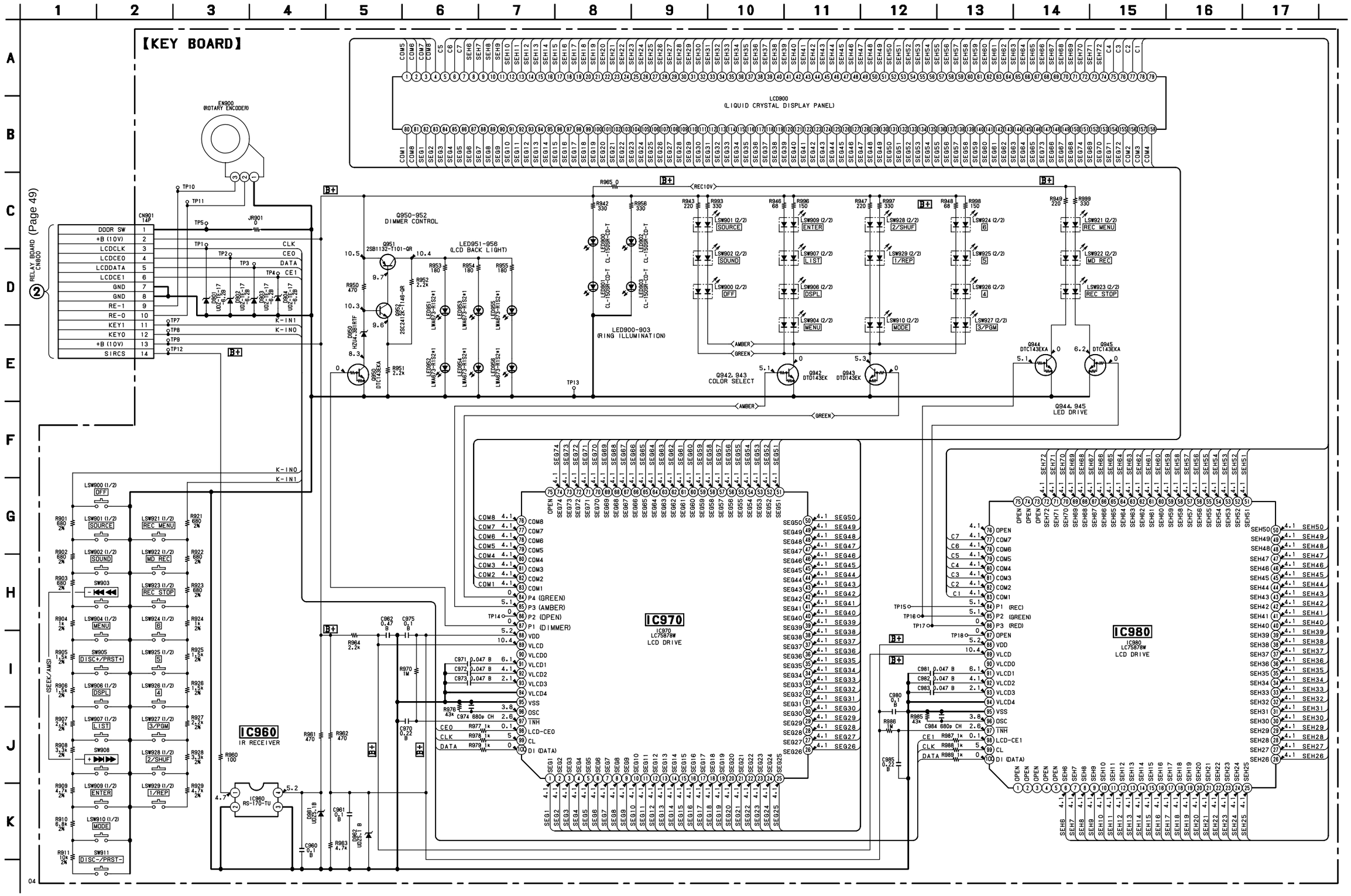
(2) RELAY BOARD CN800 (Page 48)

• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
(D901)	B-10	LED903	C-2
(D902)	B-10	LED951	B-5
(D903)	B-12	LED952	B-5
(D904)	B-12	LED953	A-5
(D950)	A-5	LED954	A-12
D961	C-4	LED955	B-12
(D962)	B-5	LED956	B-12
IC960	C-6	(Q942)	B-2
(IC970)	B-7	(Q943)	B-1
(IC980)	B-9	(Q944)	B-13
		(Q945)	B-13
LED900	A-4	(Q950)	A-5
LED901	C-4	(Q951)	A-5
LED902	A-2	(Q952)	A-4

( ) : SIDE B

3-22. SCHEMATIC DIAGRAM — KEY SECTION —

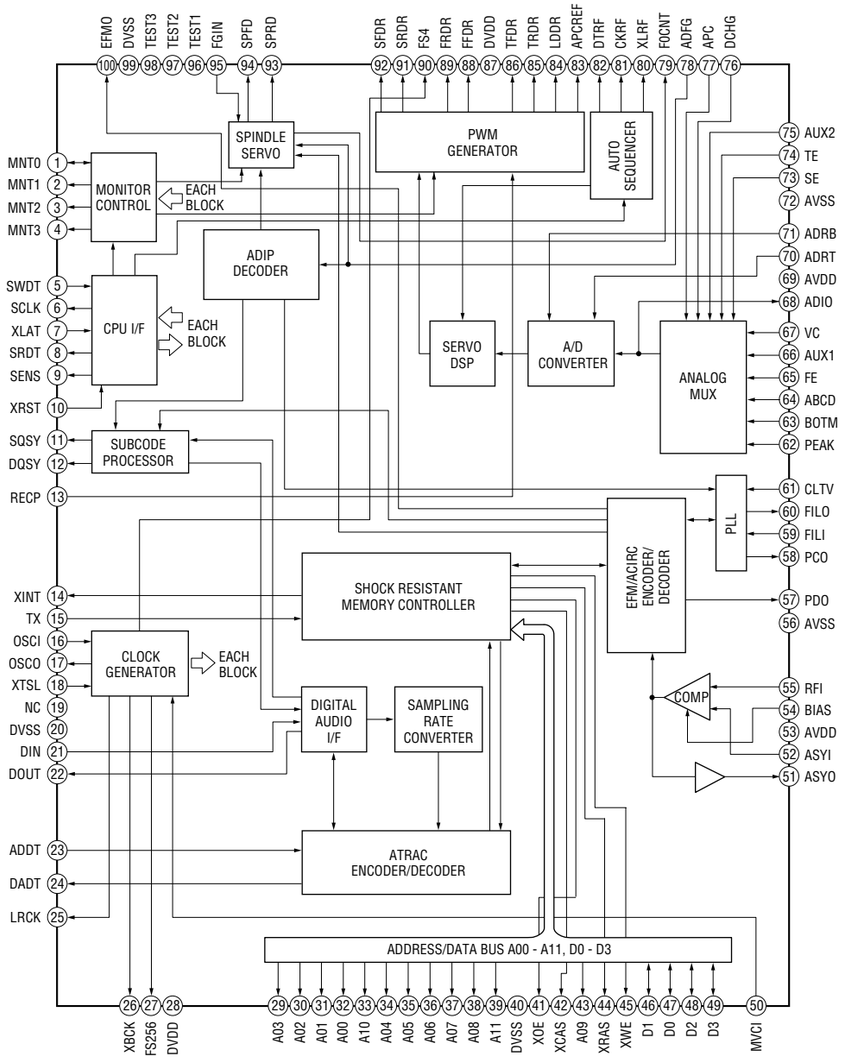


Note:

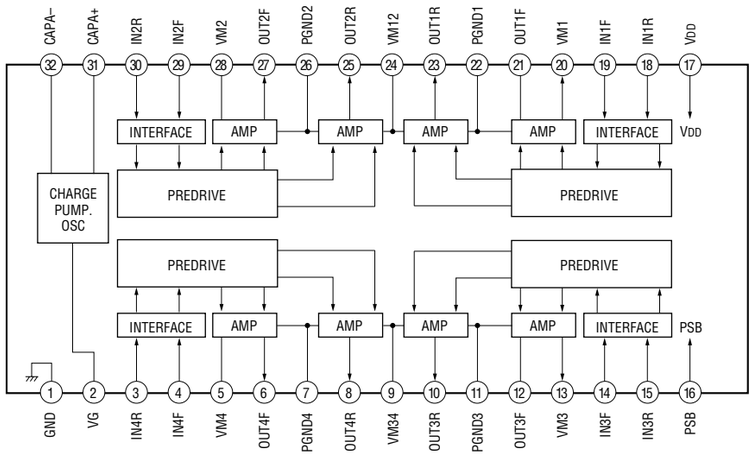
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

• IC Block Diagrams

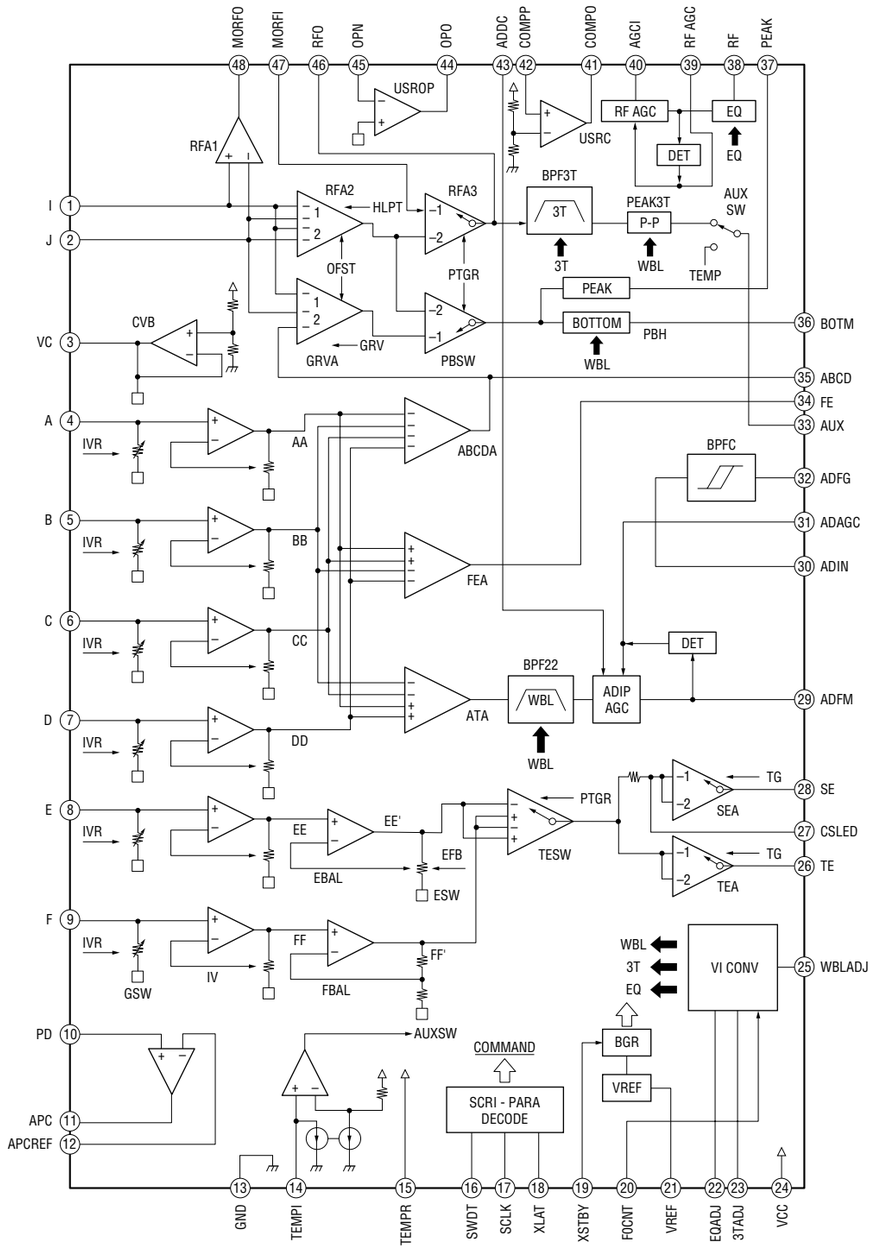
IC400 CXD2652AR



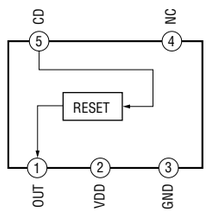
IC520 BH65111FS-E2



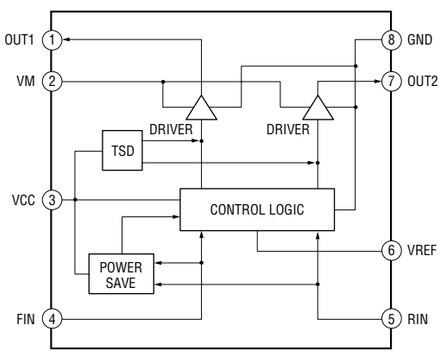
IC440 CXA2523AR



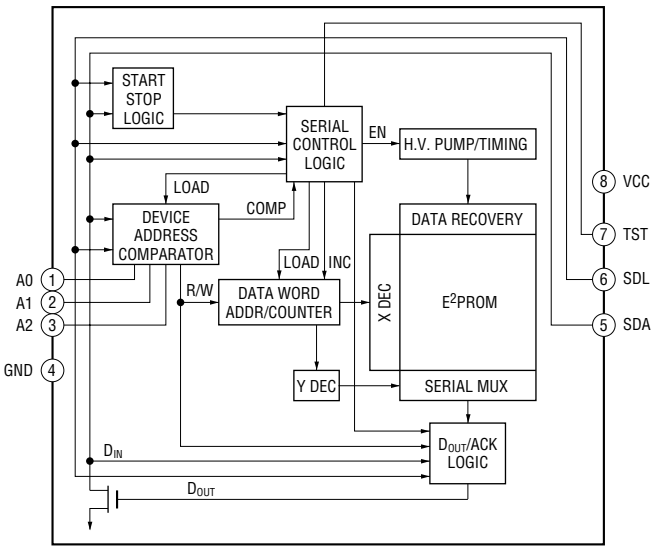
IC702 RN5VD33AA-TL



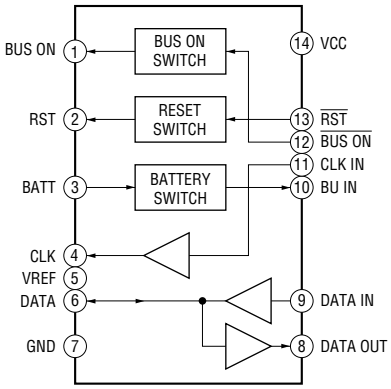
IC521 BA6287F-T1



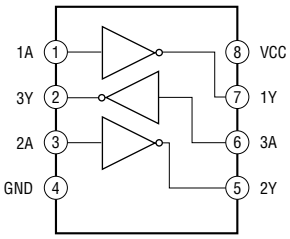
IC402 AT24C16N-10SI-TR



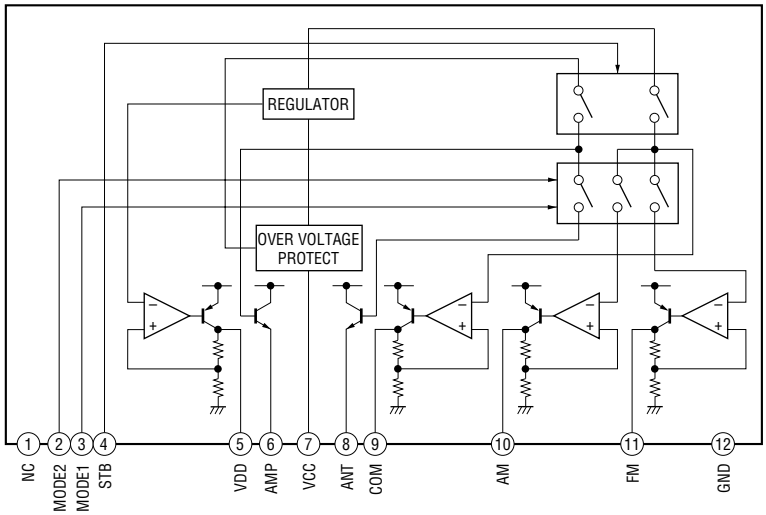
IC780 BA8270F



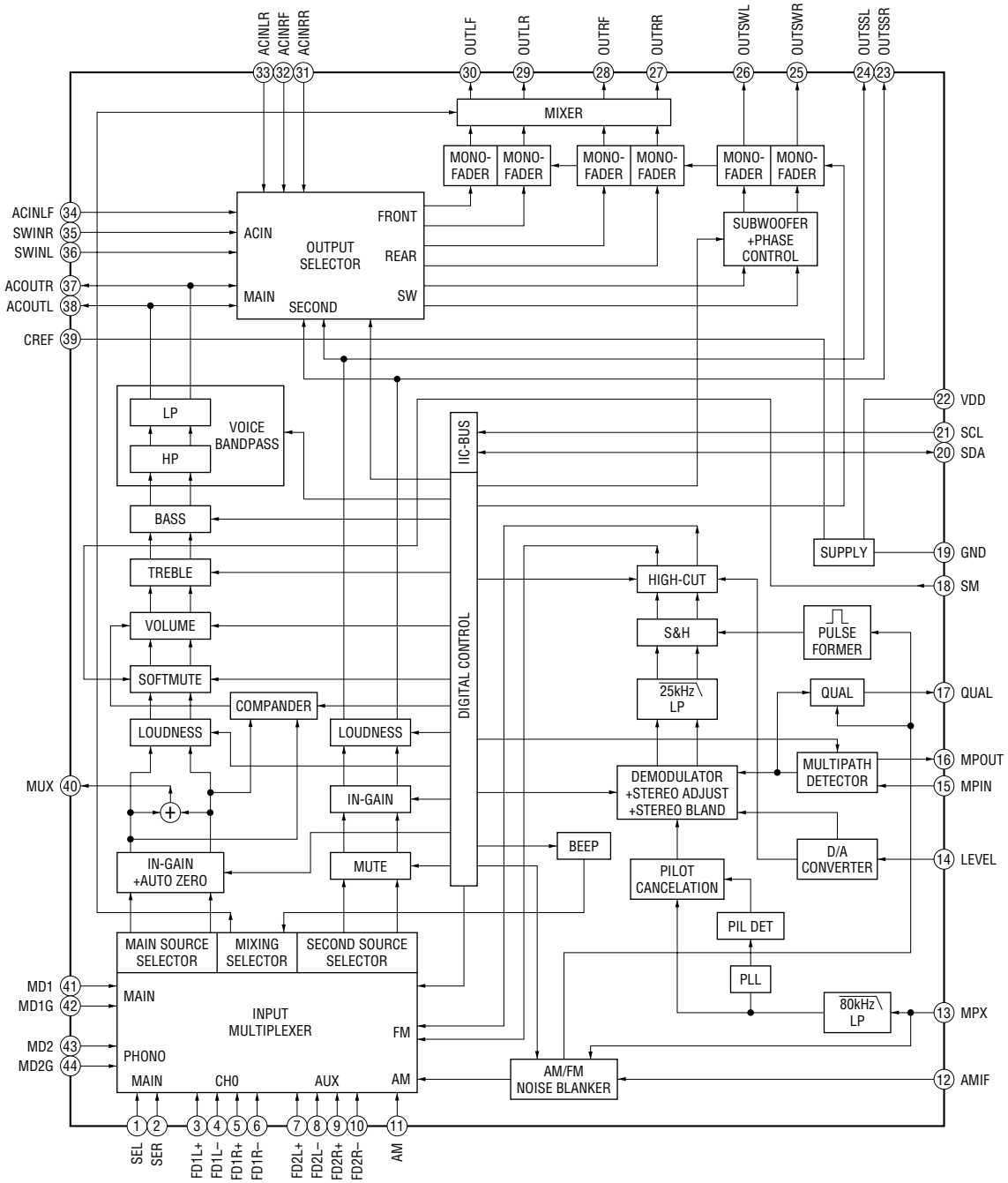
IC301 TC7WU04FU



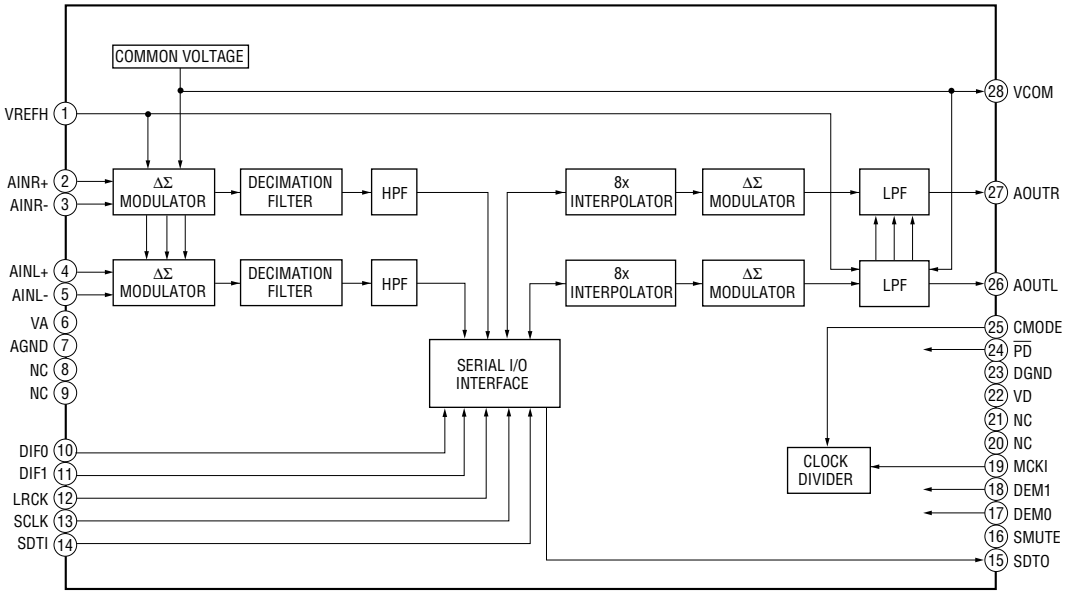
IC280 BA4908



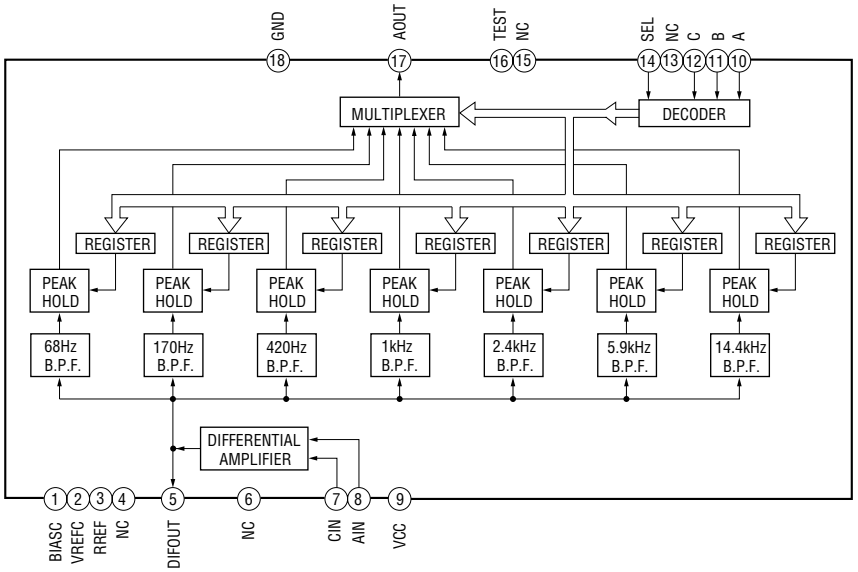
IC102 TDA7402TR



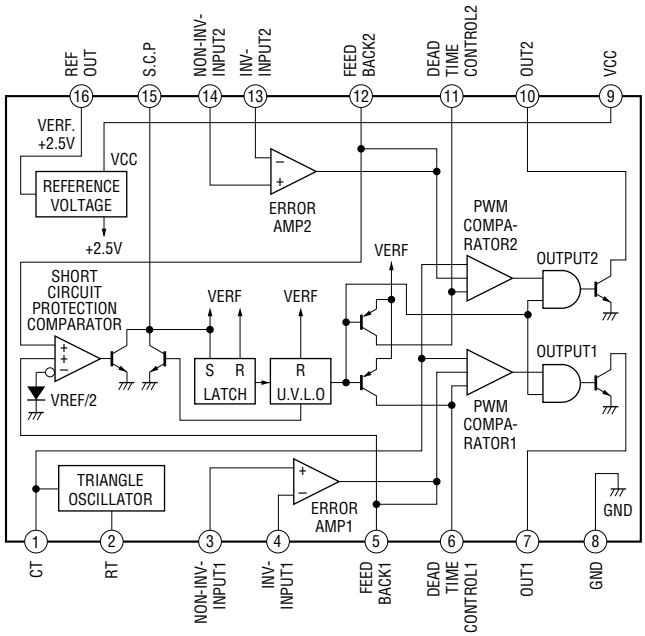
IC300 AK4523VF-E2



IC652 BA3834F



IC801 TL1451ACDB



SECTION 4
EXPLODED VIEWS

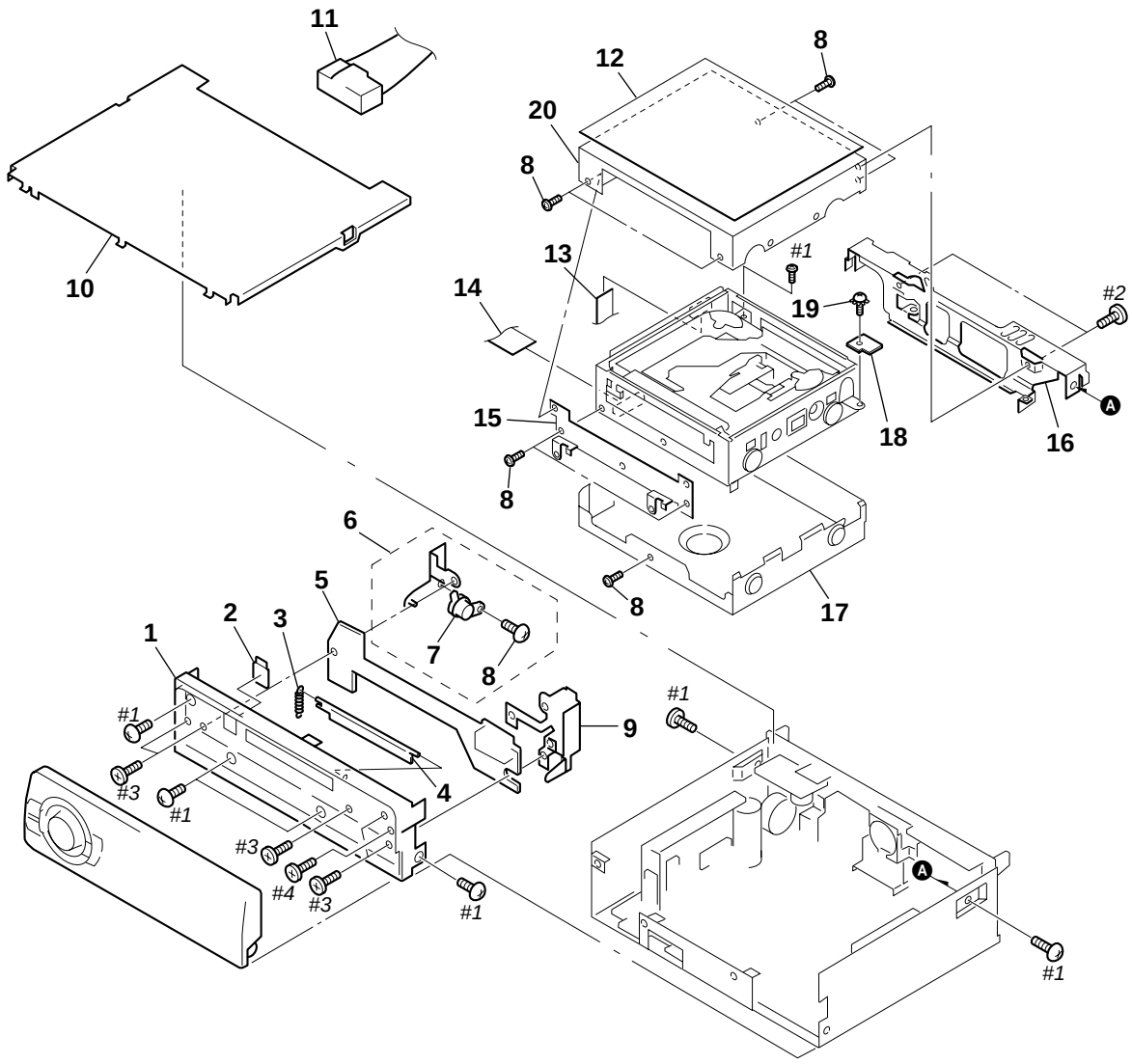
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories and packing materials and hardware (# mark) list are given in the last of this parts list.

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

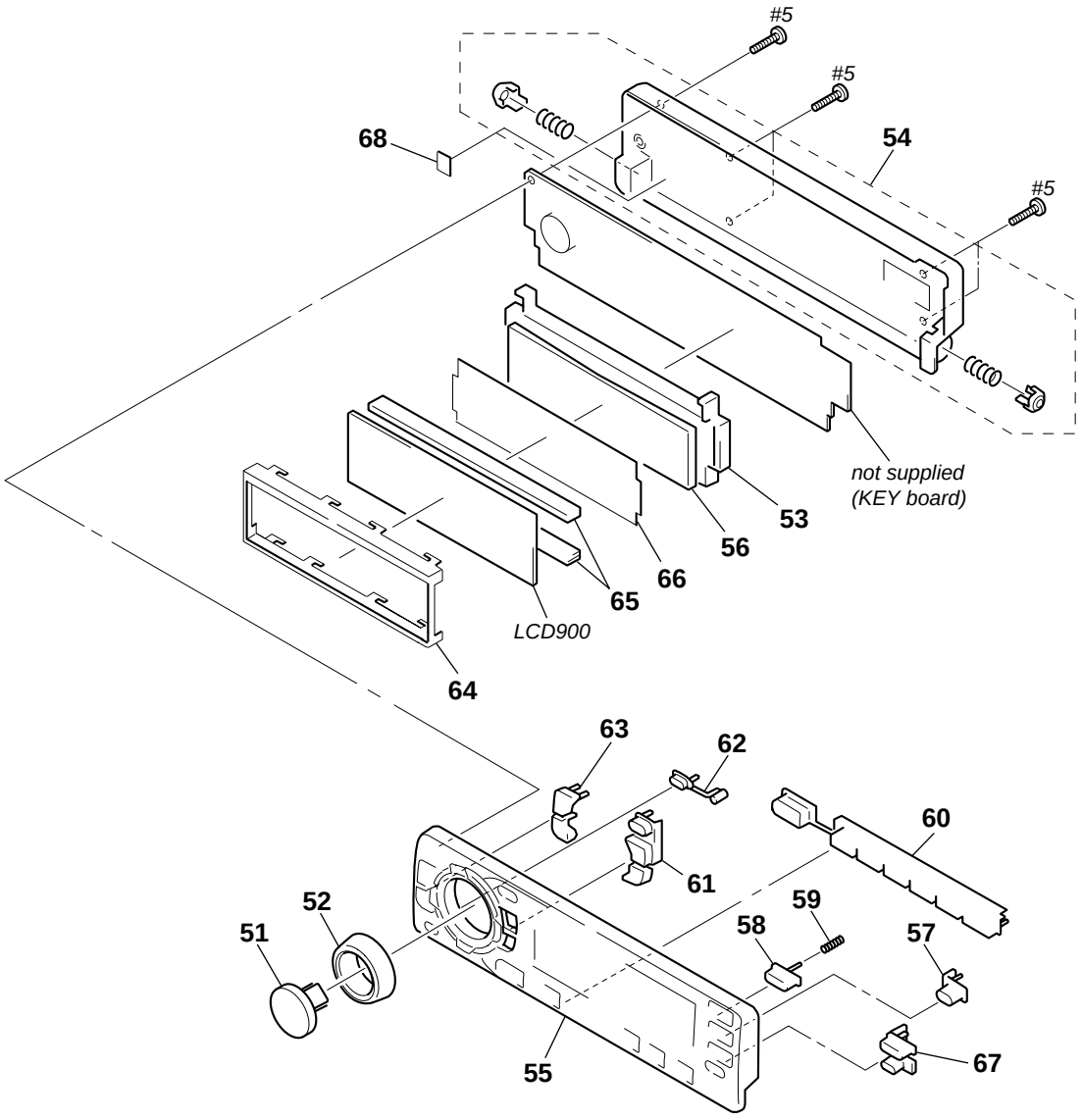
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

4-1. SUB PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	X-3378-496-1	PANEL ASSY, SUB	
2	3-040-990-01	BUTTON (EJECT)	
3	3-025-484-01	SPRING (DOOR)	
4	3-039-574-21	DOOR (MD)	
* 5	1-678-397-11	RELAY BOARD	
6	X-3376-699-2	GEAR ASSY	
7	3-030-909-02	DAMPER, OIL	
8	3-713-786-51	SCREW +P 2X3	
9	X-3377-621-2	LOCK ASSY	
* 10	3-022-316-61	COVER	
11	1-790-926-21	CORD (WITH CONNECTOR) (POWER)	
* 12	3-047-278-01	SHEET (REC/MD)	
13	1-791-560-11	CABLE, SHIELD FLEXIBLE FLAT	
14	1-792-861-11	CABLE, FLEXIBLE FLAT	
* 15	3-043-422-01	BRACKET (F) (MD)	
* 16	3-043-423-01	BRACKET (R) (MD)	
* 17	3-039-558-01	CASE (77), SHIELD	
* 18	1-678-826-11	CONNECTION BOARD	
19	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
* 20	3-033-640-21	CASE (U), SHIELD	

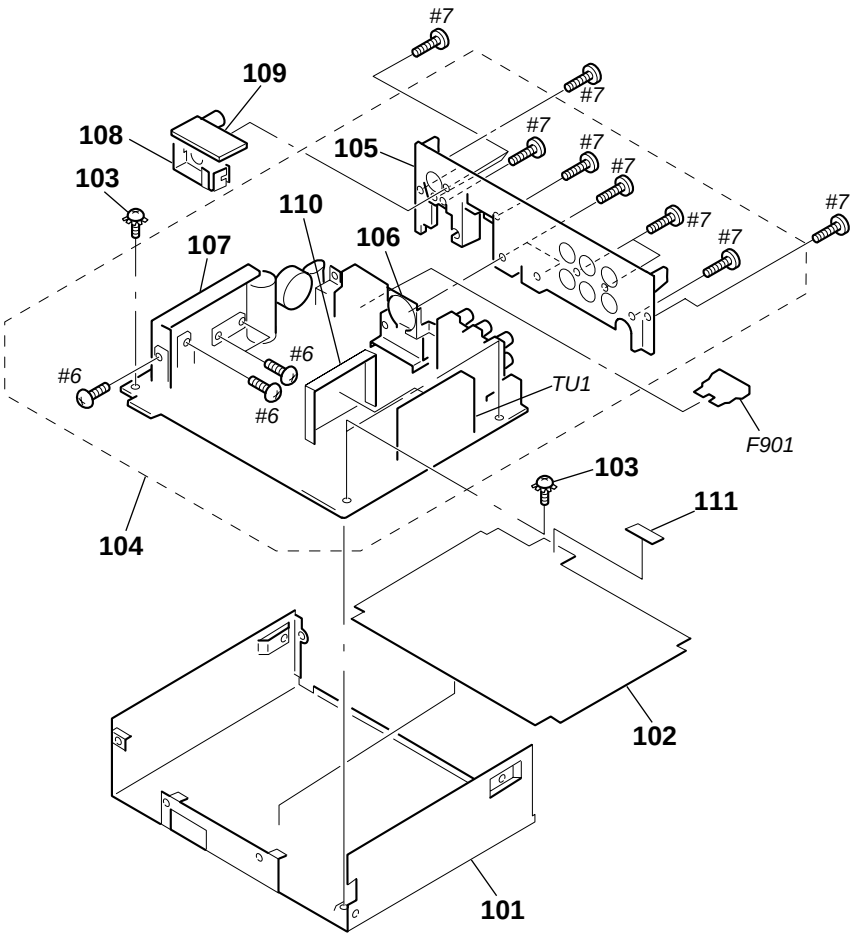
4-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-040-980-01	BUTTON (SOURCE)	
52	3-042-458-01	KNOB (VOL-DSO)	
* 53	3-040-992-01	HOLDER (LCD)	
54	X-3378-498-1	PANEL ASSY, FRONT BACK	
55	X-3379-161-1	PANEL ASSY, FRONT	
* 56	3-040-993-01	PLATE (LCD), LIGHT GUIDE	
57	3-041-005-21	BUTTON (D)	
58	3-040-989-01	BUTTON (OPEN)	
59	3-049-081-01	SPRING (OPEN)	
60	3-041-010-01	BUTTON (1-6/M)	

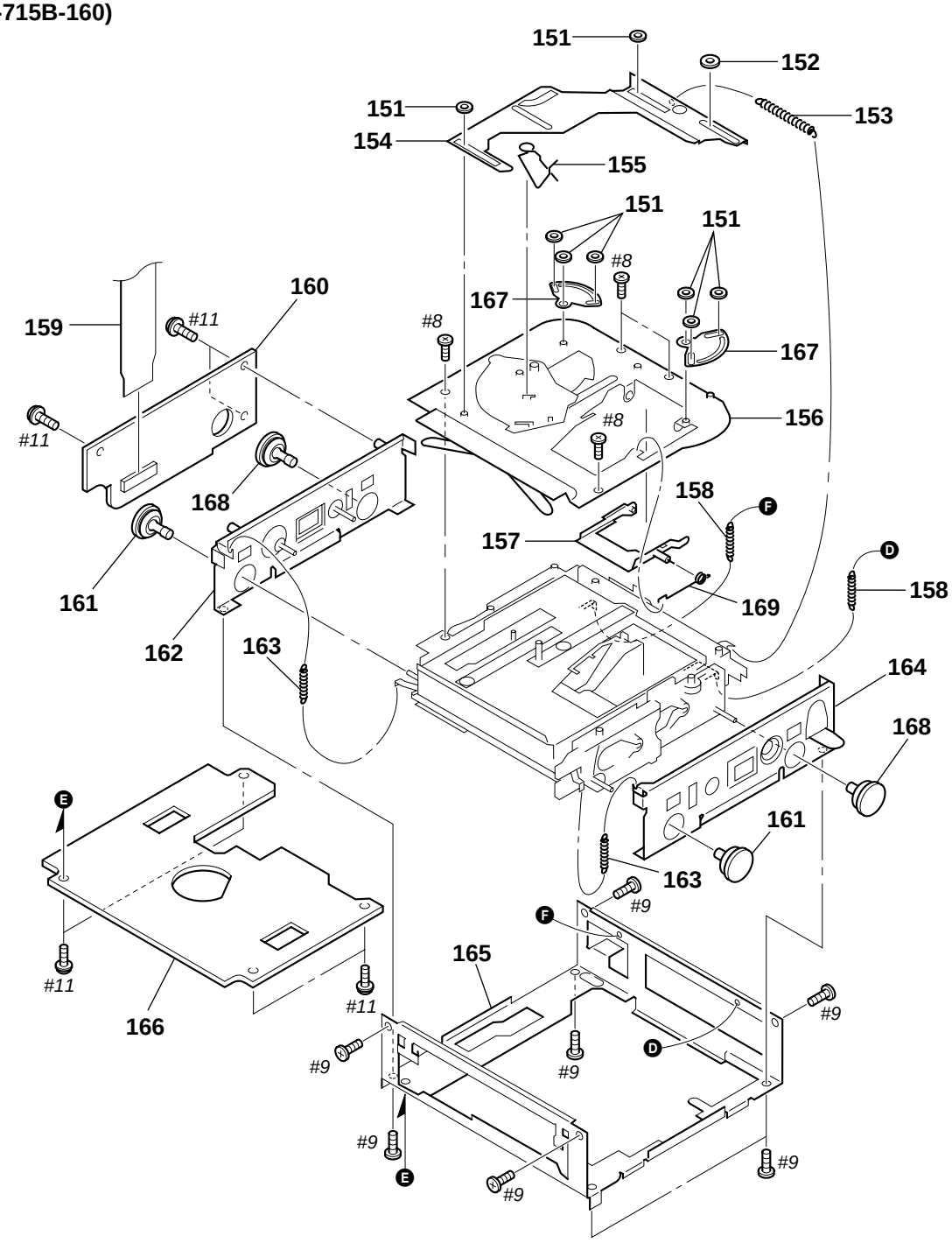
Ref. No.	Part No.	Description	Remark
61	3-041-003-01	BUTTON (LIST/ENTER)	
62	3-040-987-02	BUTTON (OFF)	
63	3-040-986-01	BUTTON (MENU/SOUND)	
* 64	3-040-997-01	PLATE (LCD), GROUND	
65	1-694-660-11	CONDUCTIVE BOARD, CONNECTION	
* 66	3-046-372-01	SHEET (REFLECTOR)	
67	3-041-020-01	BUTTON (REC MENU)	
68	3-048-250-01	CUSHION (OFF)	
LCD900	1-803-912-11	DISPLAY PANEL, LIQUID CRYSTAL	

4-3. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 101	3-022-311-41	CHASSIS	
* 102	3-047-309-01	SHEET, INSULATING	
103	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
* 104	A-3294-973-A	MAIN BOARD, COMPLETE	
* 105	3-041-063-01	HEAT SINK (REC)	
* 106	3-043-424-01	BRACKET (IC)	
* 107	3-043-425-01	HEAT SINK (REG/REC)	
* 108	3-043-421-01	BRACKET (PC BOARD)	
* 109	1-678-398-11	DIGITAL BOARD	
* 110	3-048-454-01	SHIELD (COVER)	
* 111	3-043-497-01	SHEET, INSLATING (2)	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
TU1	A-3220-738-A	TUNER UNIT (TUX-020)	

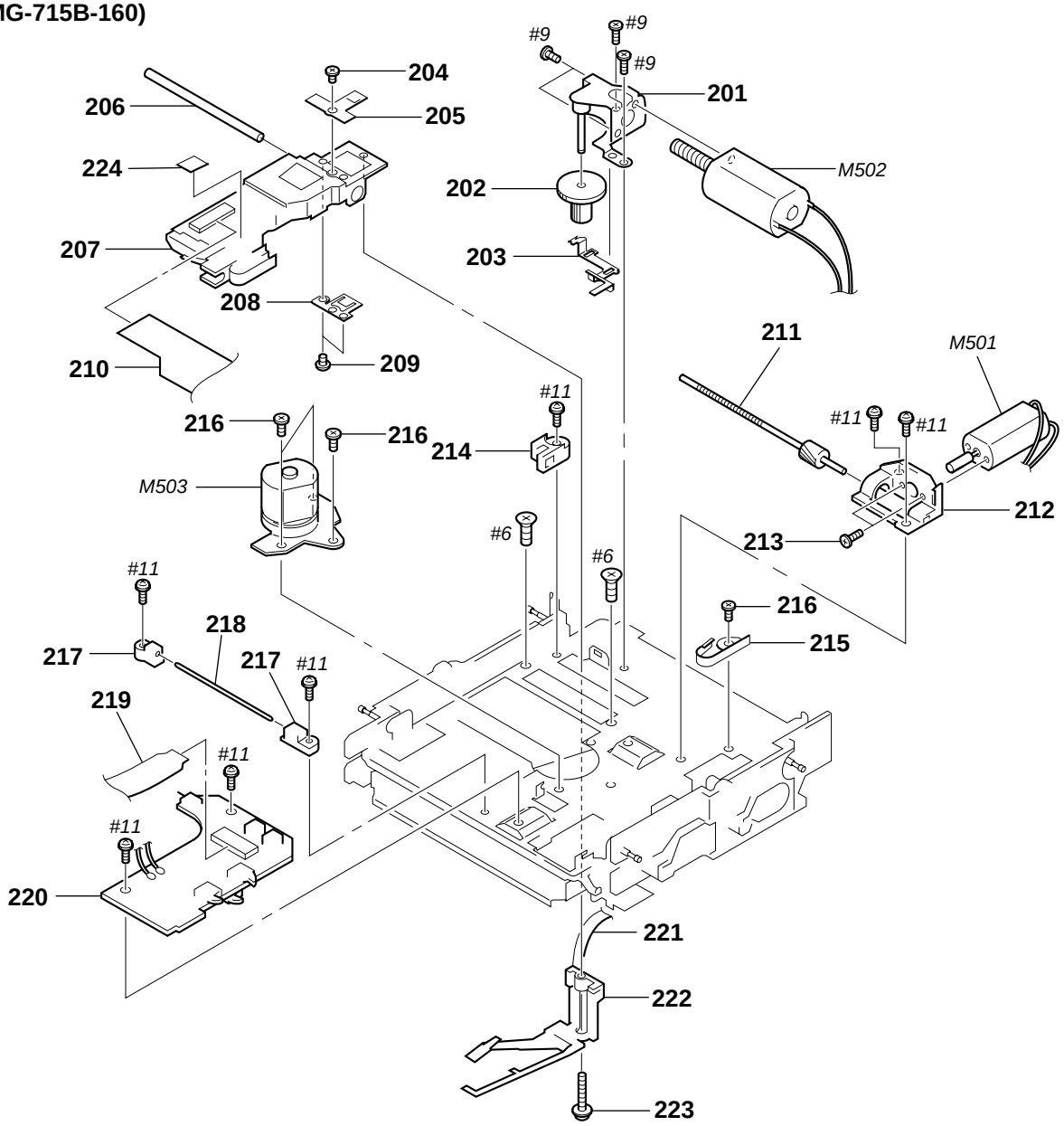
4-4. MD MECHANISM SECTION (1)
(MG-715B-160)



Ref. No.	Part No.	Description	Remark
151	3-321-813-21	WASHER, COTTER POLYETHYLENE	
152	3-038-515-01	RING, RETAINING	
153	3-030-222-01	SPRING (T), TENSION	
154	3-030-191-01	SLIDER (T)	
155	3-030-198-03	SPRING (LIMITER), TORSION	
* 156	X-3376-408-3	CHASSIS (T) ASSY	
157	X-3376-415-1	ARM (OWH) ASSY	
158	3-030-195-01	SPRING (B), TENSION	
159	1-790-418-11	MICRO COMPUTER FLEXIBLE BOARD	
* 160	A-3317-980-A	COMPUTER BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
161	3-931-897-31	DAMPER (T)	
* 162	X-3376-409-1	CHASSIS (L) ASSY	
163	3-030-194-02	SPRING (F), TENSION	
* 164	X-3376-410-1	CHASSIS (R) ASSY	
* 165	3-030-174-12	CHASSIS (M)	
* 166	A-3326-079-A	SERVO BOARD, COMPLETE	
167	3-030-190-01	LEVER (LK)	
168	3-931-897-51	DAMPER (T)	
169	3-038-671-01	SPRING (OWH), TORSION	

4-5. MD MECHANISM SECTION (2)
(MG-715B-160)

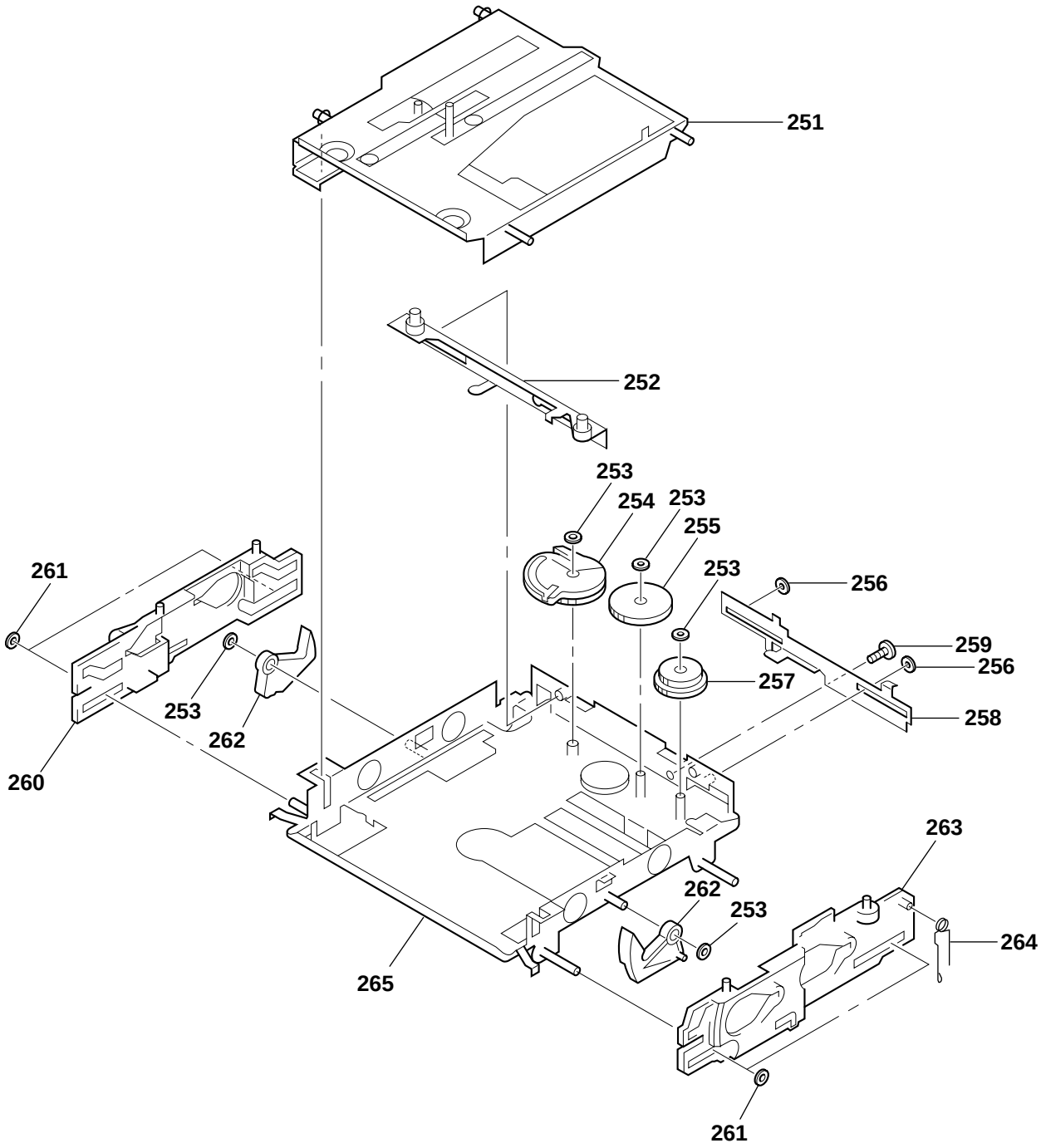


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
201	X-3376-412-2	BRACKET (LD) ASSY	
202	3-030-176-03	WHEEL (LD), WORM	
203	3-030-197-02	LEVER (OPS)	
204	3-342-375-11	SCREW (M1.7X1.4), SPECIAL	
205	4-987-061-01	SPACER (RACK)	
206	4-996-265-01	SHAFT, MAIN	
⚠207	8-583-057-02	PICK-UP, OPTICAL KMS-263A/J1N	
208	3-030-199-03	RACK (INSERT)	
209	3-366-890-11	SCREW (M1.4)	
210	1-790-417-11	OP FLEXIBLE BOARD	
211	X-3376-559-1	SHAFT (FEED) ASSY	
212	3-030-181-01	BRACKET (SL)	
213	3-345-648-01	SCREW (M1.4X3)	
214	3-030-186-01	BASE (SLA)	

Ref. No.	Part No.	Description	Remark
215	3-030-188-01	SPRING (SL), LEAF	
216	3-965-550-02	SCREW (M1.7X1.6)	
217	3-030-187-01	BASE (SLB)	
218	3-030-185-01	SHAFT (SLB)	
219	1-790-416-11	SENSOR FLEXIBLE BOARD	
220	A-3317-305-A	SENSOR BOARD, COMPLETE	
221	1-790-434-11	OWH FLEXIBLE BOARD	
222	1-500-412-21	HEAD, OVER WRITE (RF325-74A)	
223	4-988-560-01	SCREW (+P 1.7X6)	
224	3-047-912-01	COVER, OP	
M501	X-3376-526-1	MOTOR ASSY, SLED (SLED)	
M502	X-3376-525-1	MOTOR ASSY, LOADING (LOADING)	
M503	A-3301-942-A	MOTOR ASSY, SPINDLE (SPINDLE)	

4-6. MD MECHANISM SECTION (3)
(MG-715B-160)



Ref. No.	Part No.	Description	Remark
251	X-3376-418-7	HOLDER ASSY	
252	X-3376-413-2	SLIDER (LK) ASSY	
253	3-321-813-21	WASHER, COTTER POLYETHYLENE	
254	3-030-180-01	GEAR (CAM)	
255	3-030-178-03	GEAR (LD2)	
256	3-038-515-01	RING, RETAINING	
257	3-030-177-02	GEAR (LD1)	
258	X-3376-414-1	SLIDER (LD) ASSY	

Ref. No.	Part No.	Description	Remark
259	3-880-990-00	SCREW (1.7X3), FLAT, (+) SPECIAL	
260	X-3376-420-4	SLIDER (L) ASSY	
261	3-038-514-01	RING, RETAINING	
262	3-030-189-01	LEVER (HOOK)	
263	X-3376-421-2	SLIDER (R) ASSY	
264	3-030-223-01	SPRING (OPS), TORSION	
265	X-3376-406-5	CHASSIS (OP) ASSY	

SECTION 5
ELECTRICAL PARTS LIST

COMPUTER

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

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 piéce portant le numéro spécifié.

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

Ref. No.	Part No.	Description			Remark
*	A-3317-980-A	COMPUTER BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C560	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C561	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C562	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C563	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C564	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C568	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C569	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C570	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C571	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C573	1-131-618-21	ELECT CHIP	22uF	20%	12.5V
C574	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C575	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C578	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C579	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN560	1-774-930-21	CONNECTOR, FFC/FPC 51P			
CN561	1-573-355-11	CONNECTOR, FFC/FPC 15P			
		< DIODE >			
D560	8-719-988-61	DIODE 1SS355TE-17			
D561	8-719-988-61	DIODE 1SS355TE-17			
		< IC >			
IC560	8-759-678-04	IC MB90574PFV-G-297-BND			
IC561	8-759-238-47	IC TC74HCT7007AF(EL)			
IC562	8-759-238-47	IC TC74HCT7007AF(EL)			
IC563	8-759-495-76	IC RN5VD33AA-TL			
IC564	8-759-271-86	IC TC7SH04FU-TE85R			
		< COIL >			
L560	1-412-058-11	INDUCTOR CHIP 10uH			
		< TRANSISTOR >			
Q561	8-729-900-53	TRANSISTOR DTC114EKA-T146			
Q562	8-729-106-60	TRANSISTOR 2SB1132-T101-QR			
		< RESISTOR >			
R560	1-216-809-11	METAL CHIP	100	5%	1/16W
R561	1-216-809-11	METAL CHIP	100	5%	1/16W
R562	1-216-809-11	METAL CHIP	100	5%	1/16W
R563	1-216-809-11	METAL CHIP	100	5%	1/16W
R564	1-216-797-11	METAL CHIP	10	5%	1/16W
R565	1-216-845-11	METAL CHIP	100K	5%	1/16W
R566	1-216-845-11	METAL CHIP	100K	5%	1/16W
R567	1-216-809-11	METAL CHIP	100	5%	1/16W
R568	1-216-809-11	METAL CHIP	100	5%	1/16W
R569	1-216-809-11	METAL CHIP	100	5%	1/16W
R570	1-216-809-11	METAL CHIP	100	5%	1/16W
R572	1-216-809-11	METAL CHIP	100	5%	1/16W
R573	1-216-809-11	METAL CHIP	100	5%	1/16W
R574	1-216-809-11	METAL CHIP	100	5%	1/16W
R575	1-216-809-11	METAL CHIP	100	5%	1/16W
R576	1-216-845-11	METAL CHIP	100K	5%	1/16W
R578	1-216-797-11	METAL CHIP	10	5%	1/16W
R579	1-216-797-11	METAL CHIP	10	5%	1/16W
R580	1-216-847-11	METAL CHIP	150K	5%	1/16W
R581	1-216-845-11	METAL CHIP	100K	5%	1/16W
R582	1-216-845-11	METAL CHIP	100K	5%	1/16W
R583	1-216-847-11	METAL CHIP	150K	5%	1/16W
R584	1-216-847-11	METAL CHIP	150K	5%	1/16W
R585	1-216-845-11	METAL CHIP	100K	5%	1/16W
R588	1-216-797-11	METAL CHIP	10	5%	1/16W
R589	1-216-845-11	METAL CHIP	100K	5%	1/16W
R595	1-216-809-11	METAL CHIP	100	5%	1/16W
R597	1-216-809-11	METAL CHIP	100	5%	1/16W
R599	1-216-864-11	METAL CHIP	0	5%	1/16W
R600	1-216-821-11	METAL CHIP	1K	5%	1/16W
R601	1-216-845-11	METAL CHIP	100K	5%	1/16W
R602	1-216-821-11	METAL CHIP	1K	5%	1/16W
R603	1-216-797-11	METAL CHIP	10	5%	1/16W
R606	1-216-845-11	METAL CHIP	100K	5%	1/16W
R608	1-216-845-11	METAL CHIP	100K	5%	1/16W
R610	1-216-864-11	METAL CHIP	0	5%	1/16W
R612	1-216-821-11	METAL CHIP	1K	5%	1/16W
R613	1-216-821-11	METAL CHIP	1K	5%	1/16W
R614	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R615	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R616	1-216-809-11	METAL CHIP	100	5%	1/16W
R617	1-216-809-11	METAL CHIP	100	5%	1/16W
R618	1-216-809-11	METAL CHIP	100	5%	1/16W
R619	1-216-809-11	METAL CHIP	100	5%	1/16W
R620	1-216-821-11	METAL CHIP	1K	5%	1/16W
R622	1-216-821-11	METAL CHIP	1K	5%	1/16W
R623	1-216-821-11	METAL CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R624	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R625	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R627	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R628	1-218-712-11	METAL CHIP	6.8K	0.5%	1/16W
R629	1-216-065-11	RES-CHIP	4.7K	5%	1/10W
R630	1-216-065-11	RES-CHIP	4.7K	5%	1/10W
R631	1-216-073-00	METAL CHIP	10K	5%	1/10W
R632	1-216-845-11	METAL CHIP	100K	5%	1/16W
R633	1-216-845-11	METAL CHIP	100K	5%	1/16W
R635	1-216-853-11	METAL CHIP	470K	5%	1/16W
		< NETWORK RESISTOR >			
RB561	1-233-810-21	RES, NETWORK	100K (3216)		
RB562	1-233-810-21	RES, NETWORK	100K (3216)		
		< VIBRATOR >			
X560	1-781-002-21	VIBRATOR, CERAMIC (3.6MHz)			
**********					
*	1-678-826-11	CONNECTION BOARD			
		**********			
		< CAPACITOR >			
C899	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
**********					
*	1-678-398-11	DIGITAL BOARD			
		**********			
*	3-043-421-01	BRACKET (PC BOARD)			
		< BUZZER >			
BZ800	1-504-920-11	BUZZER			
		< CONNECTOR >			
CN803	1-750-862-21	PIN, CONNECTOR (PC BOARD) 5P			
J800	1-793-262-21	PLUG, CONNECTOR (DIGITAL IN)			
**********					
		KEY BOARD			
		**********			
	1-694-660-11	CONDUCTIVE BOARD, CONNECTION			
*	3-040-992-01	HOLDER (LCD)			
*	3-040-993-01	PLATE (LCD), LIGHT GUIDE			
*	3-040-997-01	PLATE (LCD), GROUND			
*	3-046-372-01	SHEET (REFLECTOR)			
		< CAPACITOR >			
C960	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C961	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C962	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C970	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C971	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C972	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V

Ref. No.	Part No.	Description			Remark
C973	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C974	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C975	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C980	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C981	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C982	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C983	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C984	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C985	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
		< CONNECTOR >			
CN901	1-794-065-11	PLUG, CONNECTOR 14P			
		< DIODE >			
D901	8-719-056-82	DIODE UDZ-TE-17-6.2B			
D902	8-719-056-82	DIODE UDZ-TE-17-6.2B			
D903	8-719-056-82	DIODE UDZ-TE-17-6.2B			
D904	8-719-056-82	DIODE UDZ-TE-17-6.2B			
D950	8-719-042-17	DIODE HZU4.3B1RTF			
D961	8-719-976-99	DIODE UDZ-TE-17-5.1B			
D962	8-719-976-99	DIODE UDZ-TE-17-5.1B			
		< ROTARY ENCODER >			
EN900	1-475-014-11	ENCODER, ROTARY			
		< IC >			
IC960	8-749-012-25	IC RS-170-TU			
IC970	8-759-653-26	IC LC75878W			
IC980	8-759-653-26	IC LC75878W			
		< JUMPER RESISTOR >			
JR901	1-216-295-00	SHORT 0			
		< LIQUID CRYSTAL DISPLAY >			
LCD900	1-803-912-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< DIODE >			
LED900	8-719-026-38	LEDIODE CL-150SR-CD-T (RING ILLUMINATION)			
LED901	8-719-026-38	LEDIODE CL-150SR-CD-T (RING ILLUMINATION)			
LED902	8-719-026-38	LEDIODE CL-150SR-CD-T (RING ILLUMINATION)			
LED903	8-719-026-38	LEDIODE CL-150SR-CD-T (RING ILLUMINATION)			
LED951	8-719-078-19	LEDIODE LWA673-R1S2 (LCD BACK LIGHT)			
LED952	8-719-078-19	LEDIODE LWA673-R1S2 (LCD BACK LIGHT)			
LED953	8-719-078-19	LEDIODE LWA673-R1S2 (LCD BACK LIGHT)			
LED954	8-719-078-19	LEDIODE LWA673-R1S2 (LCD BACK LIGHT)			
LED955	8-719-078-19	LEDIODE LWA673-R1S2 (LCD BACK LIGHT)			
LED956	8-719-078-19	LEDIODE LWA673-R1S2 (LCD BACK LIGHT)			

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
LSW900	1-771-883-11	SWITCH, TACTILE (WITH LED) (OFF)			
LSW901	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (SOURCE)			
LSW902	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (SOUND)			
LSW904	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (MENU)			
LSW906	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (DSPL)			
LSW907	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (LIST)			
LSW909	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (ENTER)			
LSW910	1-771-883-11	SWITCH, TACTILE (WITH LED) (MODE)			
LSW921	1-771-765-21	SWITCH, KEY BOARD (WITH LED) (REC MENU)			
LSW922	1-771-765-21	SWITCH, KEY BOARD (WITH LED) (MD REC)			
LSW923	1-771-765-21	SWITCH, KEY BOARD (WITH LED) (REC STOP)			
LSW924	1-771-883-11	SWITCH, TACTILE (WITH LED) (6)			
LSW925	1-771-883-11	SWITCH, TACTILE (WITH LED) (5)			
LSW926	1-771-883-11	SWITCH, TACTILE (WITH LED) (4)			
LSW927	1-771-883-11	SWITCH, TACTILE (WITH LED) (3/PGM)			
LSW928	1-771-883-11	SWITCH, TACTILE (WITH LED) (2/SHUF)			
LSW929	1-771-883-11	SWITCH, TACTILE (WITH LED) (1/REP)			
		< TRANSISTOR >			
Q942	8-729-904-72	TRANSISTOR	DTD143EK-T-146		
Q943	8-729-904-72	TRANSISTOR	DTD143EK-T-146		
Q944	8-729-027-55	TRANSISTOR	DTC143EKA-T146		
Q945	8-729-027-55	TRANSISTOR	DTC143EKA-T146		
Q950	8-729-027-55	TRANSISTOR	DTC143EKA-T146		
Q951	8-729-106-60	TRANSISTOR	2SB1132-T101-QR		
Q952	8-729-120-28	TRANSISTOR	2SC2412K-T-146-QR		
		< RESISTOR >			
R901	1-219-286-11	RES-CHIP	680	2%	1/16W
R902	1-219-286-11	RES-CHIP	680	2%	1/16W
R903	1-219-286-11	RES-CHIP	680	2%	1/16W
R904	1-218-847-11	RES-CHIP	1K	2%	1/16W
R905	1-218-851-11	RES-CHIP	1.5K	2%	1/16W
R906	1-218-851-11	RES-CHIP	1.5K	2%	1/16W
R907	1-218-855-11	RES-CHIP	2.2K	2%	1/16W
R908	1-218-859-11	RES-CHIP	3.3K	2%	1/16W
R909	1-218-863-11	RES-CHIP	4.7K	2%	1/16W
R910	1-218-867-11	RES-CHIP	6.8K	2%	1/16W
R911	1-218-871-11	RES-CHIP	10K	2%	1/16W
R921	1-219-286-11	RES-CHIP	680	2%	1/16W
R922	1-219-286-11	RES-CHIP	680	2%	1/16W
R923	1-219-286-11	RES-CHIP	680	2%	1/16W
R924	1-218-847-11	RES-CHIP	1K	2%	1/16W
R925	1-218-851-11	RES-CHIP	1.5K	2%	1/16W
R926	1-218-851-11	RES-CHIP	1.5K	2%	1/16W
R927	1-218-855-11	RES-CHIP	2.2K	2%	1/16W
R928	1-218-859-11	RES-CHIP	3.3K	2%	1/16W
R929	1-218-863-11	RES-CHIP	4.7K	2%	1/16W
R942	1-216-037-00	METAL CHIP	330	5%	1/10W
R943	1-216-033-00	METAL CHIP	220	5%	1/10W
R946	1-216-021-00	METAL CHIP	68	5%	1/10W
R947	1-216-033-00	METAL CHIP	220	5%	1/10W
R948	1-216-021-00	METAL CHIP	68	5%	1/10W
R949	1-216-033-00	METAL CHIP	220	5%	1/10W
R950	1-216-041-00	METAL CHIP	470	5%	1/10W
R951	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R952	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R953	1-216-180-00	RES-CHIP	180	5%	1/8W
R954	1-216-180-00	RES-CHIP	180	5%	1/8W
R955	1-216-180-00	RES-CHIP	180	5%	1/8W
R956	1-216-037-00	METAL CHIP	330	5%	1/10W
R960	1-216-809-11	METAL CHIP	100	5%	1/16W
R961	1-216-041-00	METAL CHIP	470	5%	1/10W
R962	1-216-041-00	METAL CHIP	470	5%	1/10W
R963	1-216-065-11	RES-CHIP	4.7K	5%	1/10W
R964	1-216-057-11	RES-CHIP	2.2K	5%	1/10W
R965	1-216-295-00	SHORT	0		
R970	1-216-857-11	METAL CHIP	1M	5%	1/16W
R976	1-218-295-11	RES-CHIP	43K	5%	1/16W
R977	1-216-821-11	METAL CHIP	1K	5%	1/16W
R978	1-216-821-11	METAL CHIP	1K	5%	1/16W
R979	1-216-821-11	METAL CHIP	1K	5%	1/16W
R985	1-218-295-11	RES-CHIP	43K	5%	1/16W
R986	1-216-857-11	METAL CHIP	1M	5%	1/16W
R987	1-216-821-11	METAL CHIP	1K	5%	1/16W
R988	1-216-821-11	METAL CHIP	1K	5%	1/16W
R989	1-216-821-11	METAL CHIP	1K	5%	1/16W
R993	1-216-037-00	METAL CHIP	330	5%	1/10W
R996	1-216-029-00	METAL CHIP	150	5%	1/10W
R997	1-216-037-00	METAL CHIP	330	5%	1/10W
R998	1-216-029-00	METAL CHIP	150	5%	1/10W
R999	1-216-037-00	METAL CHIP	330	5%	1/10W
		< SWITCH >			
SW903	1-771-884-11	SWITCH, TACTILE (WITH LED) (SEEK/AMS – ⏮ ◀◀)			
SW905	1-771-884-11	SWITCH, TACTILE (WITH LED) (DISC+/PRST+)			
SW908	1-771-884-11	SWITCH, TACTILE (WITH LED) (SEEK/AMS + ▶▶⏭)			
SW911	1-771-884-11	SWITCH, TACTILE (WITH LED) (DISC–/PRST–)			
**********					
*	A-3294-973-A	MAIN BOARD, COMPLETE			
		**********			
*	3-041-063-01	HEAT SINK (REC)			
*	3-043-424-01	BRACKET (IC)			
*	3-043-425-01	HEAT SINK (REG/REC)			
*	3-048-454-01	SHIELD (COVER)			
	7-685-753-09	SCREW +PTT 3X10 (S)			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< CAPACITOR >			
C1	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C3	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C4	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C5	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

MAIN

Ref. No.	Part No.	Description			Remark
C6	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C7	1-164-346-11	CERAMIC CHIP	1uF		16V
C8	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C9	1-162-970-11	CERAMIC CHIP	0.01uF	10%	16V
C10	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C11	1-117-681-11	ELECT CHIP	100uF	20%	16V
C12	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C13	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C17	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C18	1-126-395-11	ELECT	22uF	20%	16V
C19	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C20	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C21	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C22	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C25	1-115-156-11	CERAMIC CHIP	1uF		10V
C26	1-126-204-11	ELECT CHIP	47uF	20%	16V
C49	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C51	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C100	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C108	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C109	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C111	1-107-752-11	CERAMIC CHIP	0.1uF	10%	16V
C112	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C113	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C114	1-124-779-00	ELECT CHIP	10uF	20%	16V
C115	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C116	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C117	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C118	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C119	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C120	1-124-779-00	ELECT CHIP	10uF	20%	16V
C121	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C122	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C124	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C126	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C127	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C131	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C151	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C152	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C200	1-126-601-11	ELECT CHIP	0.22uF	10%	16V
C204	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C205	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C207	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C208	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C209	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C210	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C211	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C212	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C213	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C214	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C215	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C231	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C251	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C301	1-124-779-00	ELECT CHIP	10uF	20%	16V

Ref. No.	Part No.	Description			Remark
C302	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C304	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C305	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C307	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C308	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C309	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C310	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C311	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C314	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C315	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C316	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C318	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C319	1-162-792-11	CERAMIC CHIP	100PF	5%	50V
C320	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C321	1-124-779-00	ELECT CHIP	10uF	20%	16V
C322	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C323	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C324	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C326	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C327	1-115-156-11	CERAMIC CHIP	1uF		10V
C328	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C651	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C652	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C653	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C654	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C655	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C657	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C658	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C659	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C660	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C661	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C700	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C701	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C702	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C703	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C704	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C705	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C706	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C707	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C708	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C709	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C710	1-124-779-00	ELECT CHIP	10uF	20%	16V
C711	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C712	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C713	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C714	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C717	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C718	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C719	1-125-565-11	DOUBLE LAYERS	0.22F		5.5V
C720	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C721	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C722	1-126-395-11	ELECT	22uF	20%	16V
C723	1-164-346-11	CERAMIC CHIP	1uF		16V

Ref. No.	Part No.	Description			Remark
C724	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C725	1-117-681-11	ELECT CHIP	100uF	20%	16V
C726	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C780	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C802	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C803	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C820	1-115-772-31	ELECT	5600uF	20%	16V
C821	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C822	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C823	1-124-779-00	ELECT CHIP	10uF	20%	16V
C824	1-124-779-00	ELECT CHIP	10uF	20%	16V
C825	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C826	1-124-779-00	ELECT CHIP	10uF	20%	16V
C827	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V
C828	1-124-779-00	ELECT CHIP	10uF	20%	16V
C829	1-124-779-00	ELECT CHIP	10uF	20%	16V
C830	1-124-779-00	ELECT CHIP	10uF	20%	16V
C831	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C832	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C833	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C834	1-126-204-11	ELECT CHIP	47uF	20%	16V
C836	1-117-681-11	ELECT CHIP	100uF	20%	16V
C837	1-117-681-11	ELECT CHIP	100uF	20%	16V
C838	1-164-816-11	CERAMIC CHIP	220PF	2%	50V
C839	1-115-416-11	CERAMIC CHIP	1000PF	5%	25V
C840	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C841	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C842	1-115-416-11	CERAMIC CHIP	1000PF	5%	25V
C843	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C844	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C845	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C846	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C847	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C848	1-135-993-11	TANTAL. CHIP	33uF		10V
C849	1-165-112-11	CERAMIC CHIP	0.33uF		16V
C851	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C852	1-135-993-11	TANTAL. CHIP	33uF		10V
C854	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C856	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C857	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C858	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C859	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C860	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C861	1-124-779-00	ELECT CHIP	10uF	20%	16V
C862	1-124-779-00	ELECT CHIP	10uF	20%	16V
C863	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C864	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C867	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C868	1-126-395-11	ELECT	22uF	20%	16V
C869	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN100	1-794-513-21	CONNECTOR, FFC/FPC (ZIF) 35P			

Ref. No.	Part No.	Description	Remark
CN700	1-794-364-11	CONNECTOR (PLUG) 16P	
CN821	1-750-862-21	PIN, CONNECTOR (PC BOARD) 5P	
CN823	1-573-355-11	CONNECTOR, FFC/FPC 15P	
CNJ780	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)	
CNP820	1-793-277-11	PLUG, CONNECTOR 16P	
		< JACK >	
CNP101	1-774-700-11	JACK, PIN 6P (BUS AUDIO IN, AUDIO OUT)	
		< DIODE >	
D1	8-719-422-16	DIODE MA8039-L-TX	
D100	8-719-079-29	DIODE PTZ-TE25-22B	
D101	8-719-079-29	DIODE PTZ-TE25-22B	
D102	8-719-079-29	DIODE PTZ-TE25-22B	
D103	8-719-079-29	DIODE PTZ-TE25-22B	
D200	8-719-079-29	DIODE PTZ-TE25-22B	
D201	8-719-079-29	DIODE PTZ-TE25-22B	
D202	8-719-079-29	DIODE PTZ-TE25-22B	
D203	8-719-079-29	DIODE PTZ-TE25-22B	
D650	8-719-073-01	DIODE MA111-TX	
D700	8-719-914-44	DIODE DAP202K-T-146	
D701	8-719-420-14	DIODE MA8082-M(TX)	
D702	8-719-073-01	DIODE MA111-TX	
D714	8-719-057-80	DIODE MA8180-M-TX	
D716	8-719-914-44	DIODE DAP202K-T-146	
D717	8-719-977-12	DIODE MA8068-M-TX	
D718	8-719-073-01	DIODE MA111-TX	
D719	8-719-977-12	DIODE MA8068-M-TX	
D721	8-719-914-43	DIODE DAN202K-T-146	
D722	8-719-073-01	DIODE MA111-TX	
D723	8-719-422-16	DIODE MA8039-L-TX	
D780	8-719-073-01	DIODE MA111-TX	
D781	8-719-017-62	DIODE MA8068-L-TX	
D782	8-719-017-62	DIODE MA8068-L-TX	
D783	8-719-022-90	DIODE MA8160-M-TX	
D784	8-719-022-90	DIODE MA8160-M-TX	
D785	8-719-073-01	DIODE MA111-TX	
D786	8-719-073-01	DIODE MA111-TX	
D787	8-719-022-90	DIODE MA8160-M-TX	
D788	8-719-914-43	DIODE DAN202K-T-146	
D789	8-719-073-01	DIODE MA111-TX	
D820	8-719-049-38	DIODE 1N5404TU	
D821	8-719-420-51	DIODE MA729-TX	
D822	8-719-053-18	DIODE 1SR154-400TE-25	
D824	8-719-053-18	DIODE 1SR154-400TE-25	
D825	8-719-053-18	DIODE 1SR154-400TE-25	
D826	8-719-057-80	DIODE MA8180-M-TX	
D827	8-719-977-12	DIODE MA8068-M-TX	
D828	8-719-073-01	DIODE MA111-TX	
D829	8-719-420-51	DIODE MA729-TX	
D830	8-719-053-18	DIODE 1SR154-400TE-25	
D831	8-719-053-18	DIODE 1SR154-400TE-25	
D832	8-719-977-12	DIODE MA8068-M-TX	

MAIN

Ref. No.	Part No.	Description	Remark
D833	8-719-420-51	DIODE MA729-TX	
D834	8-719-420-51	DIODE MA729-TX	
D835	8-719-976-96	DIODE MA8047-H-TX	
D836	8-719-055-30	DIODE D1FS4A-TA	
D837	8-719-055-30	DIODE D1FS4A-TA	
D838	8-719-423-35	DIODE MA8120-H-TX	
D839	8-719-423-21	DIODE MA8110-L-TX	
D840	8-719-914-43	DIODE DAN202K-T-146	
D841	8-719-423-15	DIODE MA8110-H-TX	
		< FERRITE BEAD >	
FB301	1-414-235-11	FERRITE BEAD INDUCTOR	
FB302	1-414-235-11	FERRITE BEAD INDUCTOR	
FB303	1-414-235-11	FERRITE BEAD INDUCTOR	
FB304	1-414-230-11	FERRITE BEAD INDUCTOR	
FB601	1-414-595-11	FERRITE BEAD INDUCTOR	
		< IC >	
IC102	8-759-653-27	IC TDA7402TR	
IC104	8-759-663-88	IC TA8268H	
IC280	8-759-661-47	IC BA4908-V3	
IC284	8-719-679-07	IC NJM2370U05-TE2	
IC300	8-759-667-88	IC AK4523VF-E2	
IC301	8-759-096-87	IC TC7WU04FU(TE12R)	
IC650	8-759-681-72	IC HD6432355A18F	
IC651	8-759-277-63	IC TC7W14FU(TE12R)	
IC652	8-759-392-22	IC BA3834F	
IC700	8-759-679-62	IC MB90574PMT-G-258-BND	
IC701	8-759-363-81	IC XC61AN4002PR	
IC702	8-759-495-76	IC RN5VD33AA-TL	
IC780	8-759-449-89	IC BA8270F-E2	
IC801	8-759-990-43	IC TL1451ACDB-E20	
IC802	8-759-460-72	IC BA033FP-E2	
		< JACK >	
J1	1-785-503-11	JACK (ANT)	
J700	1-566-822-41	JACK (REMOTE IN)	
		< COIL >	
L280	1-419-476-11	INDUCTOR 250uH	
L281	1-412-058-11	INDUCTOR CHIP 10uH	
L286	1-412-055-11	INDUCTOR CHIP 3.3uH	
L650	1-412-064-11	INDUCTOR CHIP 100uH	
L700	1-412-058-11	INDUCTOR CHIP 10uH	
L801	1-414-408-11	INDUCTOR CHIP 1uH	
L802	1-469-388-21	INDUCTOR 100uH	
L803	1-469-388-21	INDUCTOR 100uH	
		< TRANSISTOR >	
Q1	8-729-920-21	TRANSISTOR DTC314TK-T-146	
Q2	8-729-920-21	TRANSISTOR DTC314TK-T-146	
Q3	8-729-020-67	TRANSISTOR XN1A312-TX	
Q102	8-729-047-71	TRANSISTOR FMG12-T-148	

Ref. No.	Part No.	Description	Remark
Q103	8-729-047-71	TRANSISTOR FMG12-T-148	
Q201	8-729-047-71	TRANSISTOR FMG12-T-148	
Q300	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q651	8-729-020-67	TRANSISTOR XN1A312-TX	
Q700	1-801-806-11	TRANSISTOR DTC144EK-T146	
Q701	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q702	8-729-924-73	TRANSISTOR FMA9-T1	
Q703	8-729-020-67	TRANSISTOR XN1A312-TX	
Q704	8-729-020-67	TRANSISTOR XN1A312-TX	
Q705	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q780	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q781	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q782	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q783	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q784	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q821	8-729-019-00	TRANSISTOR 2SD2394-G	
Q822	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q823	8-729-822-84	TRANSISTOR 2SB1202FAT-TL	
Q824	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q825	8-729-020-67	TRANSISTOR XN1A312-TX	
Q826	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q827	8-729-822-84	TRANSISTOR 2SB1202FAT-TL	
Q828	8-729-106-60	TRANSISTOR 2SB1132-T101-QR	
Q829	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q830	8-729-822-84	TRANSISTOR 2SB1202FAT-TL	
Q831	8-729-020-67	TRANSISTOR XN1A312-TX	
Q832	8-729-807-12	TRANSISTOR 2SD1802FAT-TL	
Q833	8-729-920-85	TRANSISTOR 2SD1664-T101-QR	
Q834	8-729-020-67	TRANSISTOR XN1A312-TX	
Q835	8-729-019-00	TRANSISTOR 2SD2394-G	
Q836	8-729-020-67	TRANSISTOR XN1A312-TX	
		< RESISTOR >	
R1	1-216-864-11	METAL CHIP 0 5% 1/16W	
R2	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R3	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R4	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R5	1-216-864-11	METAL CHIP 0 5% 1/16W	
R6	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R7	1-216-295-00	SHORT 0	
R8	1-216-864-11	METAL CHIP 0 5% 1/16W	
R11	1-216-809-11	METAL CHIP 100 5% 1/16W	
R12	1-216-809-11	METAL CHIP 100 5% 1/16W	
R13	1-216-864-11	METAL CHIP 0 5% 1/16W	
R14	1-216-864-11	METAL CHIP 0 5% 1/16W	
R15	1-216-864-11	METAL CHIP 0 5% 1/16W	
R17	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R18	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R20	1-216-025-11	RES-CHIP 100 5% 1/10W	
R21	1-216-025-11	RES-CHIP 100 5% 1/10W	
R22	1-216-295-00	SHORT 0	
R105	1-216-821-11	METAL CHIP 1K 5% 1/16W	

Ref. No.	Part No.	Description			Remark
R110	1-216-033-00	METAL CHIP	220	5%	1/10W
R111	1-216-081-00	METAL CHIP	22K	5%	1/10W
R112	1-216-033-00	METAL CHIP	220	5%	1/10W
R113	1-216-081-00	METAL CHIP	22K	5%	1/10W
R114	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R115	1-216-834-11	METAL CHIP	12K	5%	1/16W
R116	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R117	1-216-834-11	METAL CHIP	12K	5%	1/16W
R118	1-216-833-11	RES-CHIP	10K	5%	1/16W
R119	1-216-809-11	METAL CHIP	100	5%	1/16W
R205	1-216-821-11	METAL CHIP	1K	5%	1/16W
R210	1-216-033-00	METAL CHIP	220	5%	1/10W
R211	1-216-081-00	METAL CHIP	22K	5%	1/10W
R212	1-216-033-00	METAL CHIP	220	5%	1/10W
R213	1-216-081-00	METAL CHIP	22K	5%	1/10W
R214	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R215	1-216-834-11	METAL CHIP	12K	5%	1/16W
R216	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R217	1-216-834-11	METAL CHIP	12K	5%	1/16W
R218	1-216-833-11	RES-CHIP	10K	5%	1/16W
R219	1-216-809-11	METAL CHIP	100	5%	1/16W
R300	1-216-821-11	METAL CHIP	1K	5%	1/16W
R302	1-216-864-11	METAL CHIP	0	5%	1/16W
R303	1-216-864-11	METAL CHIP	0	5%	1/16W
R307	1-216-025-11	RES-CHIP	100	5%	1/10W
R308	1-216-025-11	RES-CHIP	100	5%	1/10W
R309	1-216-821-11	METAL CHIP	1K	5%	1/16W
R310	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R311	1-216-833-11	RES-CHIP	10K	5%	1/16W
R312	1-216-025-11	RES-CHIP	100	5%	1/10W
R313	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R314	1-216-049-11	RES-CHIP	1K	5%	1/10W
R315	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R316	1-216-857-11	METAL CHIP	1M	5%	1/16W
R601	1-216-295-00	SHORT	0		
R603	1-216-813-11	METAL CHIP	220	5%	1/16W
R651	1-216-845-11	METAL CHIP	100K	5%	1/16W
R652	1-216-845-11	METAL CHIP	100K	5%	1/16W
R653	1-216-817-11	METAL CHIP	470	5%	1/16W
R654	1-216-813-11	METAL CHIP	220	5%	1/16W
R655	1-216-864-11	METAL CHIP	0	5%	1/16W
R656	1-216-849-11	METAL CHIP	220K	5%	1/16W
R660	1-216-097-11	RES-CHIP	100K	5%	1/10W
R661	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R662	1-216-033-00	METAL CHIP	220	5%	1/10W
R663	1-216-033-00	METAL CHIP	220	5%	1/10W
R664	1-216-813-11	METAL CHIP	220	5%	1/16W
R665	1-216-845-11	METAL CHIP	100K	5%	1/16W
R666	1-216-845-11	METAL CHIP	100K	5%	1/16W
R667	1-216-845-11	METAL CHIP	100K	5%	1/16W
R668	1-216-845-11	METAL CHIP	100K	5%	1/16W
R669	1-216-833-11	RES-CHIP	10K	5%	1/16W
R670	1-216-842-11	METAL CHIP	56K	5%	1/16W
R672	1-216-864-11	METAL CHIP	0	5%	1/16W
R702	1-216-809-11	METAL CHIP	100	5%	1/16W
R703	1-216-097-11	RES-CHIP	100K	5%	1/10W
R704	1-216-815-11	METAL CHIP	330	5%	1/16W
R705	1-216-025-11	RES-CHIP	100	5%	1/10W
R707	1-216-841-11	METAL CHIP	47K	5%	1/16W
R709	1-216-809-11	METAL CHIP	100	5%	1/16W
R710	1-216-025-11	RES-CHIP	100	5%	1/10W
R711	1-216-809-11	METAL CHIP	100	5%	1/16W
R713	1-216-864-11	METAL CHIP	0	5%	1/16W
R714	1-216-025-11	RES-CHIP	100	5%	1/10W
R715	1-216-809-11	METAL CHIP	100	5%	1/16W
R716	1-216-809-11	METAL CHIP	100	5%	1/16W
R717	1-216-809-11	METAL CHIP	100	5%	1/16W
R718	1-216-097-11	RES-CHIP	100K	5%	1/10W
R719	1-216-025-11	RES-CHIP	100	5%	1/10W
R720	1-216-809-11	METAL CHIP	100	5%	1/16W
R721	1-216-833-11	RES-CHIP	10K	5%	1/16W
R722	1-216-809-11	METAL CHIP	100	5%	1/16W
R723	1-216-833-11	RES-CHIP	10K	5%	1/16W
R724	1-216-855-11	METAL CHIP	680K	5%	1/16W
R725	1-216-845-11	METAL CHIP	100K	5%	1/16W
R726	1-216-845-11	METAL CHIP	100K	5%	1/16W
R727	1-216-809-11	METAL CHIP	100	5%	1/16W
R728	1-216-809-11	METAL CHIP	100	5%	1/16W
R729	1-216-845-11	METAL CHIP	100K	5%	1/16W
R730	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R731	1-216-845-11	METAL CHIP	100K	5%	1/16W
R733	1-216-845-11	METAL CHIP	100K	5%	1/16W
R734	1-216-845-11	METAL CHIP	100K	5%	1/16W
R735	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R736	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R737	1-216-089-11	RES-CHIP	47K	5%	1/10W
R738	1-216-089-11	RES-CHIP	47K	5%	1/10W
R739	1-216-222-00	RES-CHIP	10K	5%	1/8W
R740	1-216-025-11	RES-CHIP	100	5%	1/10W
R741	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R742	1-216-025-11	RES-CHIP	100	5%	1/10W
R743	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R744	1-216-049-11	RES-CHIP	1K	5%	1/10W
R745	1-216-049-11	RES-CHIP	1K	5%	1/10W
R746	1-216-049-11	RES-CHIP	1K	5%	1/10W
R747	1-216-049-11	RES-CHIP	1K	5%	1/10W
R748	1-216-049-11	RES-CHIP	1K	5%	1/10W
R749	1-216-025-11	RES-CHIP	100	5%	1/10W
R750	1-216-049-11	RES-CHIP	1K	5%	1/10W
R751	1-216-049-11	RES-CHIP	1K	5%	1/10W
R752	1-216-821-11	METAL CHIP	1K	5%	1/16W
R753	1-216-845-11	METAL CHIP	100K	5%	1/16W
R754	1-216-821-11	METAL CHIP	1K	5%	1/16W
R756	1-216-845-11	METAL CHIP	100K	5%	1/16W
R757	1-216-025-11	RES-CHIP	100	5%	1/10W

MAIN RELAY

Ref. No.	Part No.	Description			Remark
R758	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R759	1-216-025-11	RES-CHIP	100	5%	1/10W
R760	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R761	1-216-821-11	METAL CHIP	1K	5%	1/16W
R762	1-216-853-11	METAL CHIP	470K	5%	1/16W
R763	1-216-821-11	METAL CHIP	1K	5%	1/16W
R764	1-216-821-11	METAL CHIP	1K	5%	1/16W
R765	1-216-821-11	METAL CHIP	1K	5%	1/16W
R766	1-216-837-11	METAL CHIP	22K	5%	1/16W
R767	1-216-847-11	METAL CHIP	150K	5%	1/16W
R768	1-216-833-11	RES-CHIP	10K	5%	1/16W
R769	1-216-864-11	METAL CHIP	0	5%	1/16W
R770	1-216-845-11	METAL CHIP	100K	5%	1/16W
R771	1-216-845-11	METAL CHIP	100K	5%	1/16W
R780	1-216-833-11	RES-CHIP	10K	5%	1/16W
R781	1-216-809-11	METAL CHIP	100	5%	1/16W
R782	1-216-089-11	RES-CHIP	47K	5%	1/10W
R783	1-216-097-11	RES-CHIP	100K	5%	1/10W
R784	1-216-089-11	RES-CHIP	47K	5%	1/10W
R785	1-216-097-11	RES-CHIP	100K	5%	1/10W
R786	1-216-150-11	RES-CHIP	10	5%	1/8W
R787	1-216-841-11	METAL CHIP	47K	5%	1/16W
R802	1-216-025-11	RES-CHIP	100	5%	1/10W
R803	1-216-821-11	METAL CHIP	1K	5%	1/16W
R805	1-216-864-11	METAL CHIP	0	5%	1/16W
R821	1-216-073-00	METAL CHIP	10K	5%	1/10W
R822	1-216-198-00	RES-CHIP	1K	5%	1/8W
R823	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R824	1-216-833-11	RES-CHIP	10K	5%	1/16W
R826	1-216-839-11	METAL CHIP	33K	5%	1/16W
R827	1-216-833-11	RES-CHIP	10K	5%	1/16W
R828	1-216-833-11	RES-CHIP	10K	5%	1/16W
R829	1-216-845-11	METAL CHIP	100K	5%	1/16W
R830	1-216-833-11	RES-CHIP	10K	5%	1/16W
R831	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R832	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R833	1-218-732-11	METAL CHIP	47K	0.5%	1/16W
R834	1-216-835-11	METAL CHIP	15K	5%	1/16W
R835	1-216-835-11	METAL CHIP	15K	5%	1/16W
R836	1-216-839-11	METAL CHIP	33K	5%	1/16W
R837	1-216-839-11	METAL CHIP	33K	5%	1/16W
R838	1-216-839-11	METAL CHIP	33K	5%	1/16W
R839	1-216-839-11	METAL CHIP	33K	5%	1/16W
R840	1-216-845-11	METAL CHIP	100K	5%	1/16W
R841	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R842	1-216-033-00	METAL CHIP	220	5%	1/10W
R843	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R844	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R845	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R846	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R847	1-218-704-11	METAL CHIP	3.3K	0.5%	1/16W
R850	1-216-073-00	METAL CHIP	10K	5%	1/10W
R851	1-216-029-00	METAL CHIP	150	5%	1/10W
R852	1-216-182-00	RES-CHIP	220	5%	1/8W
R853	1-216-190-00	RES-CHIP	470	5%	1/8W

Ref. No.	Part No.	Description			Remark
R856	1-216-033-00	METAL CHIP	220	5%	1/10W
R857	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R858	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R859	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R860	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R861	1-218-704-11	METAL CHIP	3.3K	0.5%	1/16W
R862	1-216-190-00	RES-CHIP	470	5%	1/8W
R864	1-216-845-11	METAL CHIP	100K	5%	1/16W
R865	1-216-295-00	SHORT	0		
R866	1-216-049-11	RES-CHIP	1K	5%	1/10W
R867	1-216-041-00	METAL CHIP	470	5%	1/10W
R869	1-216-295-00	SHORT	0		
		< NETWORK RESISTOR >			
RB700	1-233-576-11	RES, CHIP NETWORK	100		
		< SWITCH >			
S700	1-571-754-31	SWITCH, PUSH (1 KEY) (NOSE DET)			
		< TUNER >			
TU1	A-3220-738-A	TUNER UNIT (TUX-020)			
		< THERMISTOR (POSITIVE) >			
TH780	1-801-792-21	THERMISTOR, POSITIVE			
		< VIBRATOR >			
X300	1-781-905-21	VIBRATOR, CRYSTAL (22.5792MHz)			
X650	1-781-565-11	VIBRATOR, CRYSTAL (18.432MHz)			
X700	1-760-928-21	VIBRATOR, CRYSTAL (32.768kHz)			
X701	1-781-907-21	VIBRATOR, CRYSTAL (3.6864MHz)			
**********					
*	1-678-397-11	RELAY BOARD			
		**********			
		< CONNECTOR >			
CN800	1-794-064-11	SOCKET, CONNECTOR 14P			
CN801	1-794-363-11	CONNECTOR (RECEPTACLE) 16P			
* CN802	1-569-775-21	PIN, CONNECTOR (SMD) 5P			
		< DIODE >			
D800	8-719-977-12	DIODE MA8068-M-TX			
D801	8-719-977-12	DIODE MA8068-M-TX			
D802	8-719-057-80	DIODE MA8180-M-TX			
D803	8-719-977-12	DIODE MA8068-M-TX			
D804	8-719-977-12	DIODE MA8068-M-TX			
D805	8-719-977-12	DIODE MA8068-M-TX			
D806	8-719-977-12	DIODE MA8068-M-TX			
D807	8-719-977-12	DIODE MA8068-M-TX			
D808	8-719-977-12	DIODE MA8068-M-TX			
D809	8-719-977-12	DIODE MA8068-M-TX			
D810	8-719-977-12	DIODE MA8068-M-TX			
D811	8-719-977-12	DIODE MA8068-M-TX			

Ref. No.	Part No.	Description			Remark
		< DIODE >			
LED800	8-719-077-75	LED BR1101F-TR (DISC IN)			
		< SWITCH >			
LSW800	1-771-883-11	SWITCH, TACTILE (WITH LED) (⏏)			
		< RESISTOR >			
R800	1-216-041-00	METAL CHIP	470	5%	1/10W
		< SWITCH >			
S800	1-572-921-11	SWITCH, KEY BOARD (RESET)			
**********					
	A-3317-305-A	SENSOR BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C553	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C554	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C555	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C556	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C557	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C558	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C559	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN550	1-691-381-11	CONNECTOR, FFC/FPC 17P			
* CN551	1-770-619-11	PIN, CONNECTOR 2P			
CN552	1-770-619-41	PIN, CONNECTOR 2P			
		< SWITCH >			
SW550	1-572-467-61	SWITCH, PUSH (1 KEY) (LIMIT IN)			
SW551	1-771-606-21	SWITCH, 2P PUSH (2 KEY) (PROTECT, REFLECT)			
SW552	1-572-688-11	SWITCH, PUSH (1 KEY) (DISC IN)			
SW553	1-692-849-21	SWITCH, PUSH (1 KEY) (PACK IN)			
SW554	1-572-288-21	SWITCH, PUSH (REC-P)			
SW555	1-572-688-11	SWITCH, PUSH (1 KEY) (PLAY-P)			
**********					
*	A-3326-079-A	SERVO MOUNTED BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C400	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C401	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C402	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C403	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C404	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C406	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C407	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C408	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

Ref. No.	Part No.	Description			Remark
C410	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C411	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C414	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C415	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C416	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C417	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C418	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C419	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C420	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C423	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C424	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C425	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C426	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C428	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C429	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C440	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C441	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C443	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C444	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C445	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C446	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C447	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C450	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C452	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C453	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C454	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C457	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C458	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C459	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C460	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C462	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C467	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C469	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C470	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C471	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C472	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C473	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C474	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C475	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C510	1-164-611-11	CERAMIC CHIP	0.001uF	10%	500V
C511	1-107-836-11	ELECT CHIP	22uF	20%	8V
C513	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C516	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C517	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C520	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C524	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C527	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C528	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C529	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C530	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C533	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C534	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

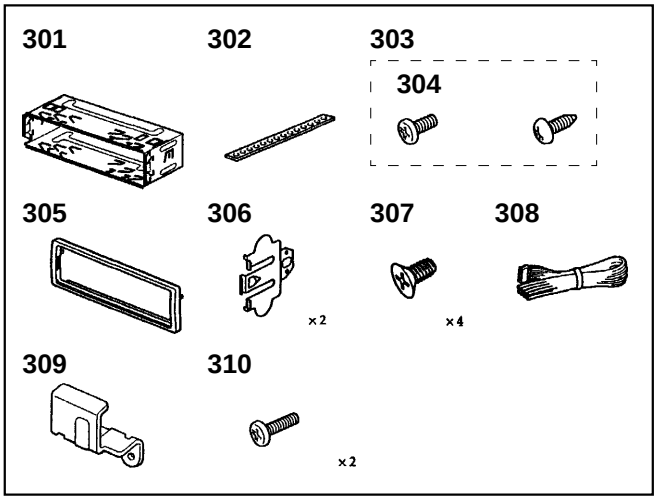
SERVO

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CN400	1-785-771-21	CONNECTOR, FFC/FPC (ZIF) 35P	
CN401	1-774-930-21	CONNECTOR, FFC/FPC 51P	
CN440	1-573-361-11	CONNECTOR, FFC/FPC 21P	
CN510	1-691-372-21	CONNECTOR, FFC/FPC 8P	
CN520	1-691-381-11	CONNECTOR, FFC/FPC 17P	
		< DIODE >	
D440	8-719-988-61	DIODE 1SS355TE-17	
D441	8-719-988-61	DIODE 1SS355TE-17	
D510	8-719-046-86	DIODE F1J6TP	
D511	8-719-046-86	DIODE F1J6TP	
D520	8-719-420-14	DIODE MA8082-M (TX)	
		< FERRITE BEAD >	
FB443	1-414-235-22	FERRITE BEAD INDUCTOR	
FB444	1-414-235-22	FERRITE BEAD INDUCTOR	
		< IC >	
IC400	8-752-384-47	IC CXD2652AR	
IC401	8-759-538-44	IC MSM51V17400D-10TK-FS	
IC402	8-759-661-26	IC AT24C16N-10SI-TR	
IC403	8-759-096-87	IC TC7WU04FU(TE12R)	
IC440	8-752-080-95	IC CXA2523AR	
IC442	8-729-903-10	TRANSISTOR FMW1-T-148	
IC510	8-759-523-48	IC TC74ACT540FT(EL)	
IC520	8-759-430-25	IC BH6511FS-E2	
IC521	8-759-040-83	IC BA6287F-T1	
		< COIL >	
L400	1-412-058-11	INDUCTOR CHIP 10uH	
L401	1-500-245-11	FERRITE BEAD INDUCTOR	
L440	1-412-058-11	INDUCTOR CHIP 10uH	
L442	1-414-234-22	FERRITE BEAD INDUCTOR	
L443	1-414-234-22	FERRITE BEAD INDUCTOR	
L444	1-414-234-22	FERRITE BEAD INDUCTOR	
		< TRANSISTOR >	
Q400	8-729-230-49	TRANSISTOR 2SC2712Y-TE85L	
Q440	8-729-900-53	TRANSISTOR DTC114EKA-T146	
Q441	8-729-106-60	TRANSISTOR 2SB1132-T101-QR	
Q442	8-729-028-91	TRANSISTOR DTA144EUA-T106	
Q443	8-729-101-07	TRANSISTOR 2SB798-T1DK	
Q444	8-729-028-91	TRANSISTOR DTA144EUA-T106	
Q445	8-729-028-99	TRANSISTOR DTC114YUA-T106	
Q446	8-729-028-99	TRANSISTOR DTC114YUA-T106	
Q447	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q510	8-729-042-92	FET 2SK1470-TD	
Q511	8-729-042-91	FET 2SJ190-TD	
Q512	8-729-028-96	TRANSISTOR DTC114EUT106	
Q520	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R400	1-216-809-11	METAL CHIP	100	5%	1/16W
R401	1-216-833-11	RES-CHIP	10K	5%	1/16W
R402	1-216-845-11	METAL CHIP	100K	5%	1/16W
R403	1-216-855-11	METAL CHIP	680K	5%	1/16W
R404	1-216-809-11	METAL CHIP	100	5%	1/16W
R408	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R409	1-216-821-11	METAL CHIP	1K	5%	1/16W
R411	1-216-821-11	METAL CHIP	1K	5%	1/16W
R412	1-216-811-11	METAL CHIP	150	5%	1/16W
R413	1-216-819-11	METAL CHIP	680	5%	1/16W
R414	1-216-853-11	METAL CHIP	470K	5%	1/16W
R415	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R416	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R420	1-216-809-11	METAL CHIP	100	5%	1/16W
R421	1-216-857-11	METAL CHIP	1M	5%	1/16W
R440	1-218-704-11	METAL CHIP	3.3K	0.5%	1/16W
R441	1-218-708-11	METAL CHIP	4.7K	0.5%	1/16W
R442	1-216-065-11	RES-CHIP	4.7K	5%	1/10W
R443	1-216-065-11	RES-CHIP	4.7K	5%	1/10W
R444	1-216-073-00	METAL CHIP	10K	5%	1/10W
R446	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R447	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R448	1-216-864-11	METAL CHIP	0	5%	1/16W
R449	1-216-864-11	METAL CHIP	0	5%	1/16W
R450	1-216-853-11	METAL CHIP	470K	5%	1/16W
R451	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R452	1-216-833-11	RES-CHIP	10K	5%	1/16W
R453	1-216-864-11	METAL CHIP	0	5%	1/16W
R454	1-216-845-11	METAL CHIP	100K	5%	1/16W
R455	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R456	1-216-833-11	RES-CHIP	10K	5%	1/16W
R457	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R458	1-216-833-11	RES-CHIP	10K	5%	1/16W
R459	1-216-845-11	METAL CHIP	100K	5%	1/16W
R460	1-216-833-11	RES-CHIP	10K	5%	1/16W
R461	1-216-833-11	RES-CHIP	10K	5%	1/16W
R462	1-216-841-11	METAL CHIP	47K	5%	1/16W
R463	1-216-809-11	METAL CHIP	100	5%	1/16W
R464	1-216-864-11	METAL CHIP	0	5%	1/16W
R465	1-216-819-11	METAL CHIP	680	5%	1/16W
R466	1-216-864-11	METAL CHIP	0	5%	1/16W
R467	1-216-815-11	METAL CHIP	330	5%	1/16W
R469	1-216-864-11	METAL CHIP	0	5%	1/16W
R470	1-216-864-11	METAL CHIP	0	5%	1/16W
R471	1-218-688-11	METAL CHIP	680	0.5%	1/16W
R472	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R473	1-216-097-11	RES-CHIP	100K	5%	1/10W
R474	1-219-724-11	METAL CHIP	1	1%	1/4W
R476	1-220-149-11	REGISTER	2.2	10%	1/2W
R478	1-216-065-11	RES-CHIP	4.7K	5%	1/10W
R479	1-216-853-11	METAL CHIP	470K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R480	1-216-863-11	RES-CHIP	3.3M	5%	1/16W
R482	1-216-821-11	METAL CHIP	1K	5%	1/16W
R483	1-216-821-11	METAL CHIP	1K	5%	1/16W
R484	1-216-841-11	METAL CHIP	47K	5%	1/16W
R485	1-216-821-11	METAL CHIP	1K	5%	1/16W
R486	1-216-833-11	RES-CHIP	10K	5%	1/16W
R487	1-216-864-11	METAL CHIP	0	5%	1/16W
R512	1-216-089-11	RES-CHIP	47K	5%	1/10W
R513	1-216-089-11	RES-CHIP	47K	5%	1/10W
R516	1-216-833-11	RES-CHIP	10K	5%	1/16W
R517	1-216-295-00	SHORT	0		
R520	1-216-295-00	SHORT	0		
R521	1-216-295-00	SHORT	0		
R522	1-216-295-00	SHORT	0		
R523	1-216-295-00	SHORT	0		
R524	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
		< NETWORK RESISTOR >			
RB400	1-233-576-11	RES, CHIP NETWORK	100		
RB402	1-233-576-11	RES, CHIP NETWORK	100		
RB403	1-239-419-11	NETWORK RESISTOR (CHIP)	470		
RB404	1-233-576-11	RES, CHIP NETWORK	100		
RB405	1-233-576-11	RES, CHIP NETWORK	100		
		MISCELLANEOUS			
		**********			
11	1-790-926-21	CORD (WITH CONNECTOR) (POWER)			
13	1-791-560-11	CABLE, SHIELD FLEXIBLE FLAT			
14	1-792-861-11	CABLE, FLEXIBLE FLAT			
159	1-790-418-11	MICRO COMPUTER FLEXIBLE BOARD			
⚠207	8-583-057-02	PICK-UP, OPTICAL KMS-263A/J1N			
210	1-790-417-11	OP FLEXIBLE BOARD			
219	1-790-416-11	SENSOR FLEXIBLE BOARD			
221	1-790-434-11	OWH FLEXIBLE BOARD			
222	1-500-412-21	HEAD, OVER WRITE (RF325-74A)			
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A			
M501	X-3376-526-1	MOTOR ASSY, SLED (SLED)			
M502	X-3376-525-1	MOTOR ASSY, LOADING (LOADING)			
M503	A-3301-942-A	MOTOR ASSY, SPINDLE (SPINDLE)			
		ACCESSORIES & PACKING MATERIALS			
		**********			
	3-048-177-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH, SPANISH)			
	3-048-178-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH,SPANISH)			
	X-3378-490-1	CASE (PANEL) ASSY (for FRONT PANEL)			

Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#2	7-621-255-35	SCREW +P 2X5	
#3	7-621-772-20	SCREW +B 2X5	
#4	7-627-553-28	SCREW, PRECISION +P 2X2.5	
#5	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
#6	7-685-753-09	SCREW +PTT 3X10 (S)	
#7	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#8	7-627-852-37	SCREW, PRECISION +P 1.7X1.8 TYPE3	
#9	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	
#10	7-628-253-00	SCREW +PS 2X4	
#11	7-621-555-10	SCREW +K 2X3	
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
301	X-3373-602-1	FRAME ASSY	
302	3-924-961-01	SUPPORT (ND), FITTING	
303	X-3368-725-1	SCREW ASSY, FITTING	
304	7-682-160-01	SCREW +P 4X6	
305	3-040-979-02	COLLAR	
306	3-027-138-01	SPRING, FITTING	
307	3-934-325-01	SCREW, +K (5X8) TAPPING	
308	1-790-926-21	CORD (WITH CONNECTOR) (POWER)	
309	X-3379-045-1	BRACKET (OPT) ASSY	
310	7-621-284-20	SCREW +P 2.6X6	



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 piéce portant le numéro spécifié.

9-870-144-31

Sony Corporation
Mobile Electronics Division Company

2000C0416-1
Printed in Japan ©2000. 3
Published by General Engineering Dept.