

CDX-4260R

SERVICE MANUAL

*AEP Model
UK Model*



Model Name Using Similar Mechanism	CDX-4180R
CD Drive Mechanism Type	MG-363X-121
Optical Pick-up Name	KSS-521A

SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Signal-to-noise ratio	90 dB
Frequency response	10 – 20,000 Hz
Wow and flutter	Below measurable limit

Tuner section

FM

Tuning range	87.5 – 108.0 MHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz
Usable sensitivity	12 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.8% (stereo), 0.6% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

MW/LW

Tuning range	MW: 531 – 1,602 kHz LW: 153 – 281 kHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz / 450 kHz
Sensitivity	MW: 30 μ V LW: 50 μ V

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	40 W $\times$ 4 (at 4 ohms)

General

Outputs	Line output (1) Power aerial relay control lead Power amplifier control lead
Tone controls	Bass $\pm$ 8 dB at 100 Hz Treble $\pm$ 8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 $\times$ 50 $\times$ 185 mm (w/h/d)
Mounting dimension	Approx. 182 $\times$ 53 $\times$ 162 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/MW/LW COMPACT DISC PLAYER



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 PICK-UP FLEXIBLE BOARD

The pick-up flexible board in this set is secured to the optical pick-up with an adhesive tape. Once the tape is removed, an adhering force becomes weak, and it cannot be reused.

Therefore, if the optical pick-up is replaced, replace also the pick-up flexible board with a new one.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK $\triangle$ OR DOTTED LINE WITH MARK $\triangle$ 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.

NOTE FOR REPLACEMENT OF COMPLETE MAIN BOARD

The complete MAIN board (A-3294-762-A) of this set can be set to address the specification for each destination by shorting or opening one solder bridge of the MAIN board on the AEP and UK models and German models :

AEP and UK models : short
German model : open

The solder bridge below should be opened when replacing the complete MAIN board on the German model.

– main board (side B) –

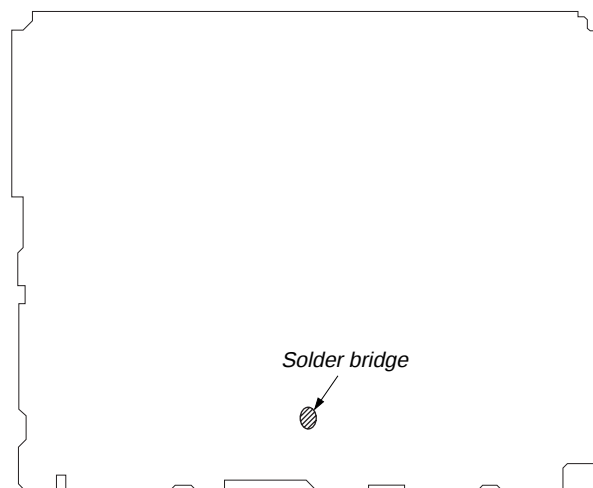


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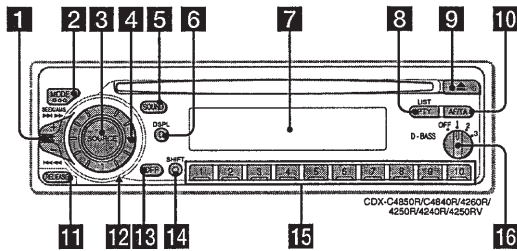
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SECTION 1 GENERAL

This section is extracted from instruction manual.

Location of controls



Refer to the pages for details.

- 1 SEEK/AMS (seek/Automatic Music Sensor/manual search) control 8, 10, 12, 15, 22, 24
- 2 MODE (band/unit select) button 9, 10, 20, 23
- 3 SOURCE (source select) button 7, 9, 10, 14, 20, 23
- 4 Dial (volume/bass/treble/left-right/front-rear) 6, 18, 23
- 5 SOUND button 18
- 6 DSPL (display mode change) button 7, 8, 11, 20, 21, 23, 24
- 7 Display window
- 8 CDX-C4850R/C4840R/4250R/4250RV: PTY/LIST button
CDX-4260R/4250R/4240R/4250RV: PTY button
Disc Memo 23
List-up 24
RDS Programme 15
- 9 ▲ (eject) button 7
- 10 AF/TA button 12, 13, 14
- 11 RELEASE (front panel release) button 5, 26
- 12 Reset button (located on the front side of the unit behind the front panel) 5
- 13 OFF button 5, 7
- 14 SHIFT button
PLAY MODE 9, 10, 11, 12, 14, 24, 25
REP 9, 22
SET UP 6, 8, 16, 19, 21
SHUF 9, 22
- 15 During radio reception:
Number buttons 10, 13, 14
During CD/MD playback:
Direct disc selection buttons 22
- 16 D-BASS control 20

The illustration of the front panel in this manual is of the CDX-C4850R/C4840R.

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 ballpoint pen.



Reset button

Notes

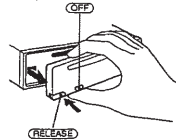
- Pressing the reset button will erase the clock setting and some memorised functions.
- When you connect the power supply cord to the unit or reset the unit, wait for about 10 seconds before you insert a disc. If you insert a disc within these 10 seconds, the unit will not be reset and you will have to press the reset button again.

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 (RELEASE), then slide the front panel a little to the left, and pull it off towards you.

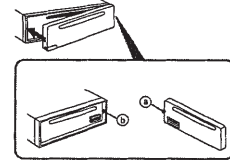


Notes

- 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

Attach part ① of the front panel to part ② of the unit as illustrated and push until it clicks.



Notes

- Be sure 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

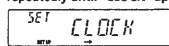
If you turn the ignition key switch to the OFF position without removing the front panel, the caution alarm will beep for a few seconds.
If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.

Setting the clock

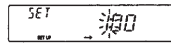
The clock uses a 24-hour digital indication.

Example: To set the clock to 10:08

1 Press (SHIFT), then press (2) (SET UP) repeatedly until "CLOCK" appears.



2 Press (→).

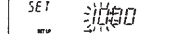


The hour indication flashes.

3 Set the hour.

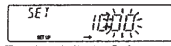


to go backward



to go forward

4 Press (→).

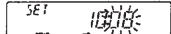


The minute indication flashes.

5 Set the minute.

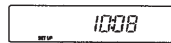


to go backward



to go forward

2 Press (SHIFT).



The clock starts.

3 Press (SHIFT).

After the clock setting is complete, the display returns to normal playback mode.

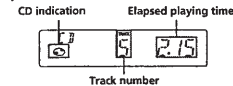
CD Player

Listening to a CD

Insert a CD.
Playback starts automatically.
Labelled side up



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



Track number

Note

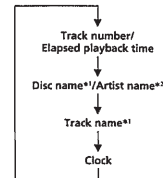
To play back an 8 cm CD, use the optional Sony compact disc single adapter (CSA-8).

To	Press
Stop playback	▲ or (OFF)
Eject the CD	▲

Changing the display item

CDX-C4850R/C4840R:

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



- *1 If you inserted a non-CD TEXT disc, "NO NAME" appears in the display.
- *2 If you play a CD TEXT disc, the artist name appears in the display after the disc name. (Only for CD TEXT discs with the artist name.)

CDX-4260R/4250R/4240R/4250RV:

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

Track number/Elapsed playing time ↔ Clock

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 above items are scrolled in the display one by one in order.

Tip

The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 19).

Automatically scrolling a disc name

— Auto Scroll (CDX-C4850R/C4840R only)
If the disc name, artist name, or track name on a CD TEXT disc exceeds 8 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).
- The track name appears when the track has changed (if the track name is selected).

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

- 1 During playback, press (SHIFT).
- 2 Press (SET UP) repeatedly until "A.SCRL" appears.
- 3 Press (←) to select "A.SCRL-ON."
- 4 Press (SHIFT).

To cancel Auto Scroll, select "A.SCRL-OFF" in step 3 above.

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

Tip
To manually scroll the long name of a CD TEXT disc after activating the Auto Scroll function, press (SHIFT), then (←) (manual scroll).

Locating a specific track

— Automatic Music Sensor (AMS)

During playback, push the SEEK/AMS control up or down and release for each track you want to skip.

To locate succeeding tracks



To locate preceding tracks



Locating a specific point in a track

— Manual Search

During playback, push the SEEK/AMS control up or down and hold. Release when you have found the desired point.

To search forward



To search backward



Note
If "L L L L" or "R R R R" appears in the display, that means you have reached the beginning or the end of the disc and you cannot go any further.

Playing a CD in various modes

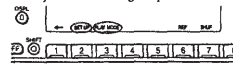
You can play CDs in various modes:

- REP (Repeat Play) repeats the current track.
- SHUF (Shuffle Play) plays all the tracks in random order.

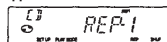
Playing tracks repeatedly

— Repeat Play

- 1 During playback, press (SHIFT). Every time you press (SHIFT), only the items you can select light up.



- 2 Press (REP) repeatedly until "REP-1" appears.



Repeat Play starts.

- 3 Press (SHIFT).

To return to normal playback mode, select "REP-OFF" in step 2 above.

Playing tracks in random order

— Shuffle Play

- 1 During playback, press (SHIFT).

- 2 Press (SHUF) repeatedly until "SHUF-1" appears.



Shuffle Play starts.

- 3 Press (SHIFT).

To return to normal playback mode, select "SHUF-OFF" in step 2 above.

Radio

Memorising stations automatically

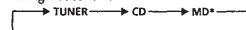
— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and memorises them in the order of their frequencies. You can store up to 10 stations on each band (FM1, FM2, MW, and LW).

Caution

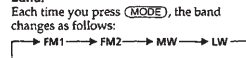
When tuning in stations while driving, use Best Tuning Memory to prevent accidents.

- 1 Press (SOURCE) repeatedly to select the tuner. Each time you press (SOURCE), the source changes as follows:



* If the corresponding optional equipment is not connected, this item will not appear. (CDX-C4850R/C4840R only)

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



- 3 Press (SHIFT), then press (PLAY MODE) repeatedly until "B.T.M." appears.

- 4 Press (←). The unit stores stations in the order of their frequencies on the number buttons. A beep sounds when the setting is stored.

- 5 Press (SHIFT).

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 setting.
- When a number is indicated in the display, the unit starts storing stations from the one currently displayed.
- If a CD is not in the unit, only the tuner band appears even if you press (SOURCE).

Memorising only the desired stations

You can preset up to 20 FM stations (10 each for FM1 and 2), up to 10 MW stations, and up to 10 LW stations in the order of your choice.

- 1 Press (SOURCE) repeatedly to select the tuner.
- 2 Press (MODE) repeatedly to select the band.
- 3 Push the SEEK/AMS control up or down to tune in the station that you want to store on the number button.
- 4 Press and hold the desired number button (1 to 10) until "MEM" appears. The number button indication appears in the display.

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

Receiving the memorised stations

- 1 Press (SOURCE) repeatedly to select the tuner.
- 2 Press (MODE) repeatedly to select the band.
- 3 Press the number button (1 to 10) on which the desired station is stored.

If you cannot tune in a preset station

Push and release the SEEK/AMS control up or down to search for the station (automatic tuning). Scanning stops when the unit receives a station. Push the SEEK/AMS control up or down repeatedly until the desired station is received.

Note
If the automatic tuning stops too frequently, press (SHIFT), then press (PLAY MODE) repeatedly until "LOCAL" (local seek mode) is displayed. Then press (←) to select "LOCAL-ON." Press (SHIFT). Only the stations with relatively strong signals will be tuned in.

Tip
If you know the frequency of the station you want to listen to, push the SEEK/AMS control up or down and hold until the desired frequency appears (manual tuning).

If FM stereo reception is poor

— Monaural Mode

- 1 During radio reception, press (SHIFT), then press (PLAY MODE) repeatedly until "MONO" appears.
- 2 Press (←) repeatedly until "MONO-ON" appears. The sound improves, but becomes monaural ("ST" disappears).
- 3 Press (SHIFT).

To return to normal playback mode, select "MONO-OFF" in step 2 above.

Changing the display item

Each time you press (DISP), the item changes as follows:

Frequency → Clock

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 above items are scrolled in the display one by one in order.

Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 19).

RDS

Overview of the RDS function

Radio Data System (RDS) is a broadcasting service that allows FM stations to send additional digital information along with the regular radio programme signal. Your car stereo offers you a variety of services. Here are just a few: retuning the same programme automatically, listening to traffic announcements, and locating a station by programme type.

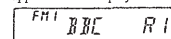
Notes

- Depending on the country or region, not all of the RDS functions are available.
- RDS may not work properly if the signal strength is weak or if the station you are tuned to is not transmitting RDS data.

Displaying the station name

The name of the current station lights up in the display.

Select an FM station (page 9). When you tune in an FM station that transmits RDS data, the station name appears in the display.



Note
The "R1" indication means that an RDS station is being received.

Changing the displayed item

Each time you press (DISP), the item changes as follows:

Frequency (Station Name) → Clock

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 above items are scrolled in the display one by one in order.

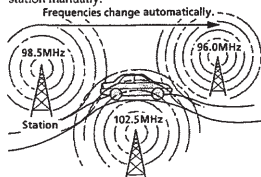
continue to next page →

Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 19).

Note
"NO NAME" appears if the received station does not transmit RDS data.

Retuning the same programme automatically — Alternative Frequencies (AF)

The Alternative Frequencies (AF) function automatically selects and retunes the station with the strongest signal in a network. By using this function, you can continuously listen to the same programme during a long-distance drive without having to retune the station manually.



- 1 Select an FM station (page 9).
- 2 Press **(AF/TA)** repeatedly until "AF-ON" appears.
The unit starts searching for an alternative station with a stronger signal in the same network.

Note
When there is no alternative station in the area and you do not need to search for an alternative station, turn the AF function off by pressing **(AF/TA)** repeatedly until "AF TA-OFF" appears.

Changing the displayed item

Each time you press **(AF/TA)**, the item changes as follows:



* Select this to turn on both the AF and TA functions.

Notes

- When "NO AF" and the station name flash alternately, it means that the unit cannot find an alternative station in the network.
- If the station name starts flashing after selecting a station with the AF function on, this indicates that no alternative frequency is available. Push the SEEK/AMS control up or down while the station name is flashing (within eight seconds). The unit starts searching for another frequency with the same PI (Programme Identification) data ("PI SEEK" appears and no sound is heard). If the unit cannot find another frequency, "NO PI" appears, and the unit returns to the previously selected frequency.

Listening to a regional programme

The "REG-ON" (regional on) function lets you stay tuned to a regional programme without being switched to another regional station. (Note that you must turn the AF function on.) The unit is factory preset to "REG-ON," but if you want to turn off the function, do the following.

- 1 During radio reception, press **(SHIFT)**, then press **(3)** (PLAY MODE) repeatedly until "REG" appears.
- 2 Press **(4)** (←) repeatedly until "REG-OFF" appears.
- 3 Press **(SHIFT)**.
Note that selecting "REG-OFF" might cause the unit to switch to another regional station within the same network.

To return to regional on, select "REG-ON" in step 2 above.

Note
This function does not work in the United Kingdom and in some other areas.

Local link function (United Kingdom only)

The Local Link function lets you select other local stations in the area, even if they are not stored on your number buttons.

- 1 Press a number button that has a local station stored on it.
- 2 Within five seconds, press the number button of the local station again.
- 3 Repeat this procedure until the desired local station is received.

Listening to traffic announcements

The Traffic Announcement (TA) and Traffic Programme (TP) data let you automatically tune in an FM station that is broadcasting traffic announcements even if you are listening to other programme sources.

Press **(AF/TA)** repeatedly until "TA-ON" or "AF TA-ON" appears.
The unit starts searching for traffic information stations. "TP" appears in the display when the unit finds a station broadcasting traffic announcements. When the traffic announcement starts, "TA" flashes. The flashing stops when the traffic announcement is over.

Tip
If the traffic announcement starts while you are listening to another programme source, the unit automatically switches to the announcement and goes back to the original source when the announcement is over.

Notes

- "NO TP" flashes for five seconds if the received station does not broadcast traffic announcements. Then, the unit starts searching for a station that broadcasts it.
- When "EON" appears with "TP" in the display, the current station makes use of broadcast traffic announcement of other stations in the same network.

12

To cancel the current traffic announcement

Press **(AF/TA)** or **(SOURCE)**.
To cancel all traffic announcements, turn off the function by pressing **(AF/TA)** until "AF TA-OFF" appears.

Presetting the volume of traffic announcements

You can preset the volume level of the traffic announcements beforehand so you won't miss the announcement. When a traffic announcement starts, the volume will be automatically adjusted to the preset level.

- 1 Select the desired volume level.
- 2 Press **(AF/TA)** for two seconds.
"TA" appears and the setting is stored.

Receiving emergency announcements

If an emergency announcement comes in while you are listening to the radio, the programme will be automatically switched to it. If you are listening to a source other than the radio, the emergency announcements will be heard if you set AF or TA to on. The unit will then automatically switch to these announcements no matter which source you are listening to at the time.

Presetting the RDS stations with the AF and TA data

When you preset RDS stations, the unit stores each station's data as well as its frequency, so you don't have to turn on the AF or TA function every time you tune in the preset station. You can select a different setting (AF, TA, or both) for individual preset stations, or the same setting for all preset stations.

Presetting the same setting for all preset stations

- 1 Select an FM band (page 9).
- 2 Press **(AF/TA)** repeatedly to select either "AF-ON", "TA-ON" or "AF TA-ON" (for both AF and TA functions).
Note that selecting "AF TA-OFF" stores not only RDS stations, but also non-RDS stations.

- 3 Press **(SHIFT)**, then press **(3)** (PLAY MODE) repeatedly until "BTM" appears.

- 4 Press **(4)** (←) until "B.T.M" flashes.

- 5 Press **(SHIFT)**.

Presetting different settings for each preset station

- 1 Select an FM band, and tune in the desired station (page 10).
- 2 Press **(AF/TA)** repeatedly to select either "AF-ON", "TA-ON" or "AF TA-ON" (for both AF and TA functions).
- 3 Press the desired number button until "MEM" appears.
Repeat from step 1 to preset other stations.

Tip
If you want to change the preset AF and/or TA setting after you tune in the preset station, you can do so by turning the AF or TA function on or off.

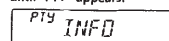
Locating a station by programme type

You can locate the station you want by selecting one of the programme types shown below.

Programme types	Display
News	NEWS
Current Affairs	AFFAIRS
Information	INFO
Sports	SPORT
Education	EDUCATE
Drama	DRAMA
Culture	CULTURE
Science	SCIENCE
Varied	VARIED
Popular Music	POP M
Rock Music	ROCK M
Easy Listening	EASY M
Light Classical	LIGHT M
Classical	CLASSICS
Other Music Type	OTHER M
Weather	WEATHER
Finance	FINANCE
Children's programmes	CHILDREN
Social Affairs	SOCIAL A
Religion	RELIGION
Phone In	PHONE IN
Travel	TRAVEL
Leisure	LEISURE
Jazz Music	JAZZ
Country Music	COUNTRY
National Music	NATION M
Oldies Music	OLDIES
Folk Music	FOLK M
Documentary	DOCUMENT
Not specified	NONE

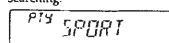
Note
You cannot use this function in some countries where no PTY (Programme Type selection) data is available.

- 1 Press **(PTY/LIST)** during FM reception until "PTY" appears.



The current programme type name appears if the station is transmitting the PTY data. "----" appears if the received station is not an RDS station, or if the RDS data has not been received.

- 2 Press **(PTY/LIST)** repeatedly until the desired programme type appears.
The programme types appear in the order shown in the above table. Note that you cannot select "NONE" (Not specified) for searching.



- 3 Push the SEEK/AMS control up or down.
The unit starts searching for a station broadcasting the selected programme type. When the unit finds the programme, the programme type appears again for five seconds.
"NO" and the programme type appear alternately for five seconds if the unit cannot find the programme type. It then returns to the previous selected station.

13

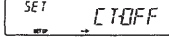
14

15

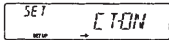
Setting the clock automatically

The CT (Clock Time) data from the RDS transmission sets the clock automatically.

- 1 During radio reception, press **(SHIFT)**, then press **(SET UP)** repeatedly until "CT" appears.



- 2 Press **(←)** repeatedly until "CT-ON" appears. The clock is set.



- 3 Press **(SHIFT)** to return to the normal display.

To cancel the CT function

Select "CT-OFF" in step 2 above.

Notes

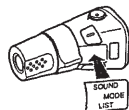
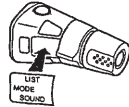
- The CT function may not work even though an RDS station is being received.
- There might be a difference between the time set by the CT function and the actual time.

Other Functions

You can also control this unit with an optional rotary commander.

Labelling the rotary commander

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



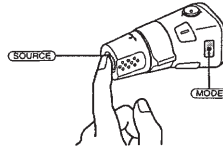
Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.

CDX-C4850R/C4840R only:

You can also control optional CD or MD units with the rotary commander.

By pressing buttons (the SOURCE and MODE buttons)



Each time you press **(SOURCE)**, the source changes as follows:

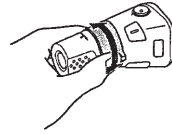
TUNER → CD → MD*

* If the corresponding optional equipment is not connected, this item will not appear. (CDX-C4850R/C4840R only)

Pressing **(MODE)** changes the operation in the following ways:

- Tuner: FM1 → FM2 → MW → LW
- CD unit: CD1 → CD2 → ...
- MD unit: MD1 → MD2 → ...

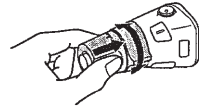
By rotating the control (the SEEK/AMS control)



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)



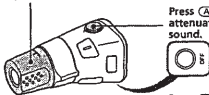
Push in and rotate the control to:

- Receive the stations memorised on the number buttons.
- Change the disc. (CDX-C4850R/C4840R only)

16

Other operations

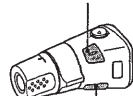
Rotate the VOL control to adjust the volume.



Press **(ATT)** to attenuate the sound.

Press **(OFF)** to turn off the unit.

Press **(SOUND)** to adjust the volume and sound menu.

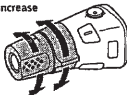


Press **(LIST)** to display the memorised names.

Changing the operative direction

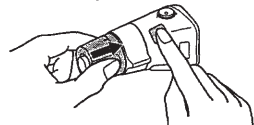
The operative direction of controls is factory-set as shown below.

To increase



To decrease

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 two seconds while pushing the VOL control.

Tip

You can also change the operative direction of these controls with the unit (page 19).

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.

VOL (volume) → BAS (bass) → TRE (treble) → BAL (left-right) → FAD (front-rear)

- 2 Adjust the selected item by rotating the dial.

Adjust within three seconds after selecting the item. (After three seconds, the dial function reverts to volume control.)

Attenuating the sound

Press **(ATT)** on the optional rotary commander. "ATT-ON" flashes momentarily.

To restore the previous volume level, press **(ATT)** again.

Tip

The unit decreases the volume automatically when a telephone call comes in (Telephone ATT function). (CDX-C4850R/4250R/4250RV only)

Changing the sound and display settings

The following items can be set:

- CLOCK (page 6).
- CT (Clock Time) (page 16).
- D.INFO (Dual Information) - to display the clock and the play mode at the same time (ON) or to display the information alternately (OFF).
- AMBER/GREEN - to change the illumination colour to amber or green. (CDX-C4850R/C4840R only)
- DIM (Dimmer) - to change the brightness of the display. (CDX-C4850R/C4840R/4260R/4250R/4240R only)
 - Select "ON" to dim the display.
- BEEP - to turn on or off the beeps.
- 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.
- M.DSPL (Motion Display) - to turn the motion display on or off.
- A.SCRL (Auto Scroll) (page 8, 21). (CDX-C4850R/C4840R only)

Note

If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be disabled.

- 1 Press **(SHIFT)**.

- 2 Press **(SET UP)** repeatedly until the desired item appears.

Each time you press **(SET UP)**, the item changes as follows:

CLOCK → CT → D.INFO* → AMBER/GREEN → DIM → BEEP → RM → M.DSPL → A.SCRL*

* When no CD or MD is playing, this item will not appear.

Note

The displayed item will differ depending on the source.

- 3 Press **(←)** to select the desired setting (Example: ON or OFF).

- 4 Press **(SHIFT)**.

After the mode setting is complete, the display returns to normal playback mode.

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19

Connections

Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Be careful not to pinch any wires between a screw and the body of the car or this unit or between any moving parts such as the seat railing, etc.
- Connect the power connecting cord ⑨ to the unit and speakers before connecting it to the auxiliary power connector.
- Run all earth wires to a common earth point.
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in combination with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual components' 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.
- Connecting this unit may cause some car battery wear when your car has no ACC (accessory) position on the ignition key switch. In this case, please consult your nearest Sony dealer.

Notes of connection example

Notes on the control leads

- The power aerial control lead (blue) supplies +12 V DC when you activate the AF (Alternative Frequency) or the TA (Traffic Announcement) function.
- A power aerial without a relay box cannot be used with this unit.

Warning

If you have a power aerial without a relay box, connecting this unit with the supplied power connecting cord ⑨ may damage the aerial.

Memory hold connection

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

Notes on speaker connection

- Before connecting the speakers, turn the unit off.
- Use speakers with an impedance of 4 to 8 ohms, 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. Be sure to connect passive speakers to these terminals.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, 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 el cable de conexión de alimentación ⑨ a la unidad y los altavoces antes de conectarlo al conector de alimentación auxiliar.
- Conecte todos los conductores de puesta a masa a un punto 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 combinación 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.
- La conexión de esta unidad puede producir cierta descarga de la batería si el automóvil no dispone de posición ACC (accesorios) en el interruptor de la llave de encendido. En este caso, consulte con el proveedor Sony más próximo.

Notas de ejemplo de conexiones

Notas sobre conductores de control

- El conductor de control (azul) de la antena motorizada suministra +12 V CC al activar la función AF (frecuencias alternativas) o TA (anuncios de tráfico).
- Con esta unidad no podrá utilizarse una antena motorizada sin caja de relés.

Advertencia

Si dispone de una antena motorizada sin dispositivo de relé, la conexión de esta unidad con el cable de conexión de alimentación ⑨ suministrado puede dañar la antena.

Conexión para protección de la memoria

Si conecta el conductor de entrada amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque ponga la llave de encendido en la posición de desactivación.

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 ohmios, 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 hiciera, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.

Ligações

Cuidado

- Este aparelho foi concebido para funcionar somente com corrente contínua de 12 V com negativo à massa.
- Tenha cuidado para que os fios não fiquem entalados entre os parafusos e a carroçaria do automóvel ou a caixa do aparelho nem entre as peças móveis, por exemplo, as calhas dos bancos, etc.
- Ligue o cabo de alimentação de corrente ⑨ ao aparelho e aos altifalantes antes de o ligar ao conector de corrente auxiliar.
- Ligue todos os cabos de massa num ponto de massa comum.
- Ligue o cabo amarelo a um circuito eléctrico livre do automóvel, cuja potência nominal seja superior à dos fusíveis do aparelho. Se ligar este aparelho em série com outros componentes estéreo, a potência nominal do circuito eléctrico do automóvel onde os ligar tem de ser superior à soma das potências nominais dos fusíveis de todos os componentes individuais. Se não houver nenhum circuito eléctrico do automóvel com uma potência nominal tão elevada como a dos fusíveis do aparelho, ligue-o directamente à bateria. Se não estiver disponível nenhum circuito eléctrico do automóvel para ligação deste aparelho, ligue-o a um circuito eléctrico do automóvel com uma potência nominal superior à dos fusíveis do aparelho, de tal modo que, se o aparelho reberar os fusíveis respectivos, nenhum outro circuito seja cortado.
- A ligação deste aparelho pode provocar o desgaste da bateria se a chave de ignição do automóvel não tiver a posição ACC (acessórios). Nesse caso, entre em contacto com o agente da Sony mais próximo.

Notas sobre o exemplo de ligação

Notas sobre os fios de controlo

- O fio de controlo da antena eléctrica (azul) fornece +12 V CC quando activar as funções AF (frequência alternativa) ou TA (Informações de trânsito).
- Não pode utilizar uma antena eléctrica sem caixa de relé com este aparelho.

Atenção

Se a antena eléctrica não tiver uma caixa de relé, o facto de ligar este aparelho com o cabo de alimentação ⑨ fornecido, pode provocar danos na antena.

Ligação para alimentação contínua de memória
Quando o fio amarelo de entrada de alimentação for ligado, os circuitos de memória ficarão com alimentação contínua, mesmo se a chave de ignição estiver desligada.

Notas sobre a ligação dos altifalantes

- Antes de ligar os altifalantes, desligue o aparelho.
- Utilize altifalantes com impedância de 4 a 8 ohm, e com capacidade admissível de potência adequada. Caso contrário, os altifalantes poderão sofrer avarias.
- Não ligue os terminais do sistema de altifalantes ao chasis do automóvel, e não ligue os terminais do altifalante directo aos terminais do altifalante esquerdo.
- Não tente ligar os altifalantes em paralelo.
- Não ligue nenhum sistema de altifalantes activos (com amplificadores incorporados) aos terminais dos altifalantes do aparelho. Caso o faça, poderá avariar o sistema de altifalantes activos. Portanto, não se esqueça de ligar altifalantes passivos a estes terminais.

Anslutning

Säkerhetsföreskrifter

- Denna bilstereo är endast avsedd för anslutning till ett negativt jordat, 12 V bilbatteri.
- Var noga med att inga kablar kläms mellan någon skruv eller att de blir klämda mellan rörliga delar som t.ex. bilsätet.
- Anslut strömkabeln ⑨ till enheten och högtalarna innan du ansluter den till den yttre strömanslutning.
- Dra samtliga jordledningar till en och samma jordingspunkt.
- Anslut den gula kabeln till en ledig bilkrets med ett högre amperetal än enhetens. Om du seriekopplar enheten till andra stereokomponenter måste den bilkrets de kopplas till ha ett högre amperetal än summan av de enskilda delarnas amperevärde. Om det inte finns några bilkretsar med en så hög amperetal som enhetens ska du ansluta enheten direkt till batteriet. Om inga bilkretsar finns för anslutning till enheten ska du ansluta enheten till en bilkrets med ett högre amperetal än enhetens, så att inga andra kretsar stängs av om enhetens säkring brinner av.
- När du ansluter den här enheten kan det hända att bilbatteriet tar slut snabbare om bilens tändlås saknar det speciella läget för tillbehör, ACC.
- I så fall bör du ta kontakt med din närmaste Sony-återförsäljare.

Att observera angående anslutningsexemplet

Att observera angående de olika styrkablarna

- Motorantennens styrkabel (blå) leder +12 volts likström när mottagning av alternativa frekvenser AF eller mottagning av trafikmeddelanden TA aktiveras.
- En motorantenn utan styrrelädsåra kan inte anslutas till denna bilstereo.

Varning

Om du har en motorantenn utan relädsåra kan antennen skadas om du ansluter enheten med den medföljande strömkabeln ⑨.

Anslutning för minnesstöd

När du ansluter den gula, ingående strömkabeln försörjs minneskretsen med ström hela tiden, även när tändlåset slås ifrån.

Att observera angående högtalarnas anslutning

- Slå av bilstereon innan du ansluter högtalarna.
- Anslut endast högtalare med en impedans mellan 4 och 8 ohm och med tillräcklig effekthanteringskapacitet för att skydda högtalarna mot skador.
- Anslut inte något av högtalaruttagen till bilens chassi. Anslut inte heller uttagen på höger högtalare till uttagen på vänster högtalare.
- Anslut inte högtalarna parallellt.
- Anslut inte aktiva högtalare (med inbyggda slutsteg) till bilstereons högtalaruttag, eftersom de kan skada de aktiva högtalarna. Var noga med att bara ansluta passiva högtalare till dessa uttag.

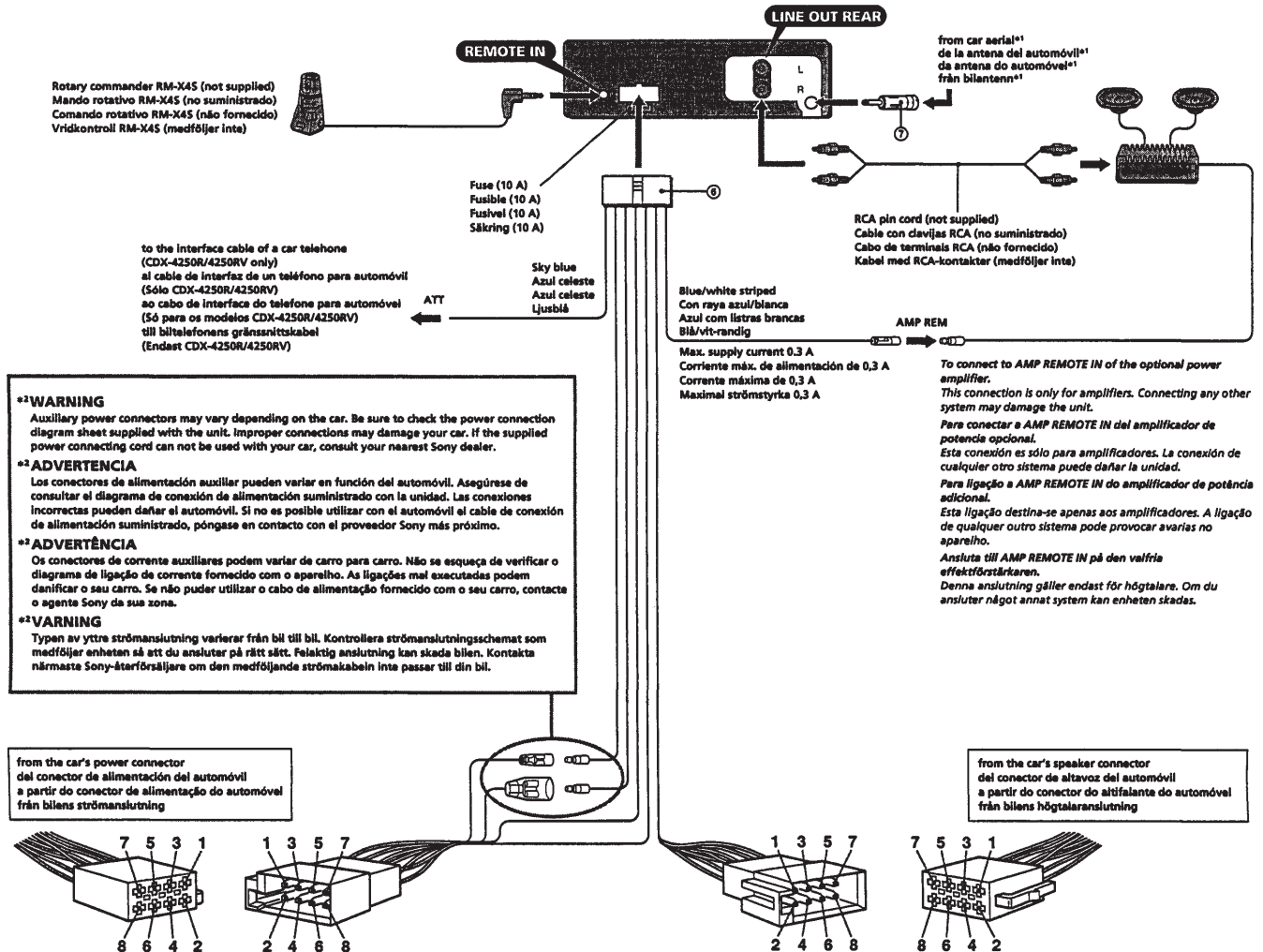
Connection example Ejemplo de conexiones Exemplo de ligações Anslutningsexempel

**** Note for the aerial connecting**
If your car aerial is an ISO (International Organization for Standardization) type, use the supplied adapter ① to connect it. First connect the car aerial to the supplied adapter, then connect it to the aerial jack of the master unit.

**** Nota sobre la conexión de la antena**
Si la antena del automóvil es del tipo ISO (International Organization for Standardization), emplee el adaptador suministrado ① para conectarla. En primer lugar, conecte la antena del automóvil al adaptador suministrado y, a continuación, a la toma de antena de la unidad principal.

**** Nota referente à ligação da antena**
Se a antena do automóvel for uma antena de tipo ISO (International Organization for Standardization), utilize o adaptador fornecido ① para fazer a ligação respectiva. Ligue primeiro a antena do automóvel ao adaptador fornecido e depois à ficha tipo jack de antena do sistema principal.

**** Angående antennanslutning**
Om motorantennen är av ISO-typ (International Organization for Standardization), använd den medföljande adapter ① för att ansluta den. Anslut först antennen till medföljande adapter och därefter till antennuttaget på huvudenheten.



**WARNING

Auxiliary power connectors may vary depending on the car. Be sure to check the power connection diagram sheet supplied with the unit. Improper connections may damage your car. If the supplied power connecting cord can not be used with your car, consult your nearest Sony dealer.

**ADVERTENCIA

Los conectores de alimentación auxiliar pueden variar en función del automóvil. Asegúrese de consultar el diagrama de conexión de alimentación suministrado con la unidad. Las conexiones incorrectas pueden dañar el automóvil. Si no es posible utilizar con el automóvil el cable de conexión de alimentación suministrado, póngase en contacto con el proveedor Sony más próximo.

**ADVERTÊNCIA

Os conectores de corrente auxiliares podem variar de carro para carro. Não se esqueça de verificar o diagrama de ligação de corrente fornecido com o aparelho. As ligações mal executadas podem danificar o seu carro. Se não puder utilizar o cabo de alimentação fornecido com o seu carro, contacte o agente Sony da sua zona.

**VARNING

Typen av yttre strömanslutning varierar från bil till bil. Kontrollera strömanslutningsschemat som medföljer enheten så att du ansluter på rätt sätt. Felaktig anslutning kan skada bilen. Kontakta närmaste Sony-återförsäljare om den medföljande strömkabeln inte passar till din bil.

To connect to AMP REMOTE IN of the optional power amplifier.
This connection is only for amplifiers. Connecting any other system may damage the unit.

Para conectar a AMP REMOTE IN del amplificador de potencia opcional.
Esta conexión es sólo para amplificadores. La conexión de cualquier otro sistema puede dañar la unidad.

Para ligação a AMP REMOTE IN do amplificador de potência adicional.
Esta ligação destina-se apenas aos amplificadores. A ligação de qualquer outro sistema pode provocar avarias no aparelho.

Anslut till AMP REMOTE IN på den valfria effektförstärkaren.

Denna anslutning gäller endast för högtalare. Om du ansluter något annat system kan enheten skadas.

Yellow Amarillo Gul	continuous power supply suministro de alimentación continua alimentação de corrente contínua kontinuerlig strömförsörjning	Red Rojo Vermelho Röd	switched power supply suministro conmutado de alimentación alimentação de corrente comutada switchad strömförsörjning
Blue Azul Azul Blå	power aerial control control de antena motorizada antena eléctrica ström till antennstyrning	Black Negro Preto Svart	earth toma de tierra Terra jord

Positions 1, 2, 3 and 6 do not have pins.
Las posiciones 1, 2, 3 y 6 no disponen de pines.
As posições 1, 2, 3 e 6 não têm pinos.
Positionerna 1, 2, 3 och 6 saknar stift.

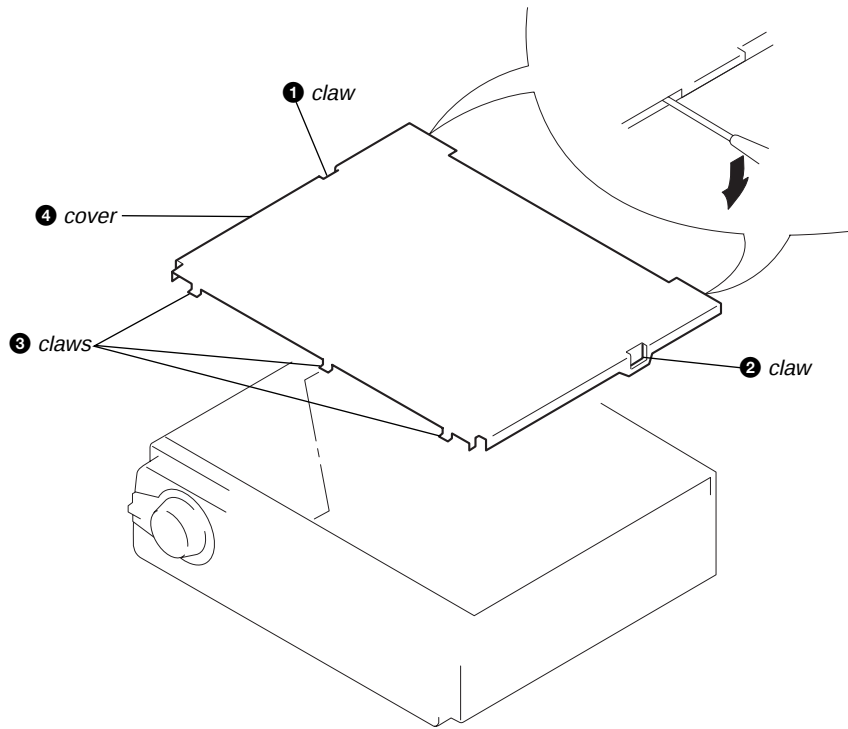
Purple Púrpura Violeta Violett	Speaker, Rear, Right Altavoz, Parte posterior, Derecho Altifalante, Parte de trás, Direito Högtalare, Bakre, Höger	White Blanco Branco Vit	Speaker, Front, Left Altavoz, Parte frontal, Izquierdo Altifalante, Parte da frente, Esquerdo Högtalare, Främre, Vänster
-	Speaker, Rear, Right Altavoz, Parte posterior, Derecho Altifalante, Parte de trás, Direito Högtalare, Bakre, Höger	-	Speaker, Front, Left Altavoz, Parte frontal, Izquierdo Altifalante, Parte da frente, Esquerdo Högtalare, Främre, Vänster
Gray Gris Cinza Grå	Speaker, Front, Right Altavoz, Parte frontal, Derecho Altifalante, Parte da frente, Direito Högtalare, Främre, Höger	Green Verde Verde Grön	Speaker, Rear, Left Altavoz, Parte posterior, Izquierdo Altifalante, Parte de trás, Esquerdo Högtalare, Bakre, Vänster
-	Speaker, Front, Right Altavoz, Parte frontal, Derecho Altifalante, Parte da frente, Direito Högtalare, Främre, Höger	-	Speaker, Rear, Left Altavoz, Parte posterior, Izquierdo Altifalante, Parte de trás, Esquerdo Högtalare, Bakre, Vänster

Negative polarity positions 2, 4, 6, and 8 have striped cords.
Las posiciones de polaridad negativa 2, 4, 6 y 8 tienen cables con raya.
As posições 2, 4, 6 e 8 (polaridade negativa) têm cabos às riscas.
De negativa polpositionerna 2, 4, 6 och 8 har randiga kablar.

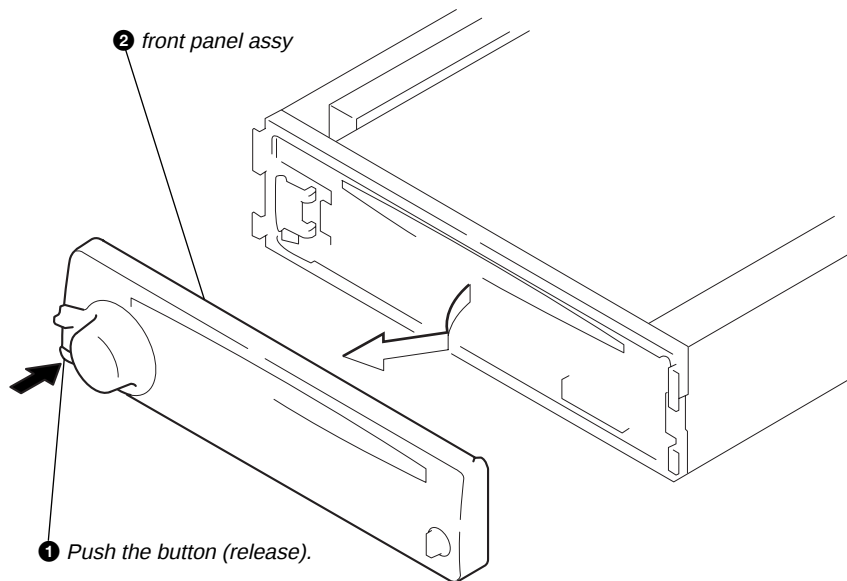
SECTION 2 DISASSEMBLY

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

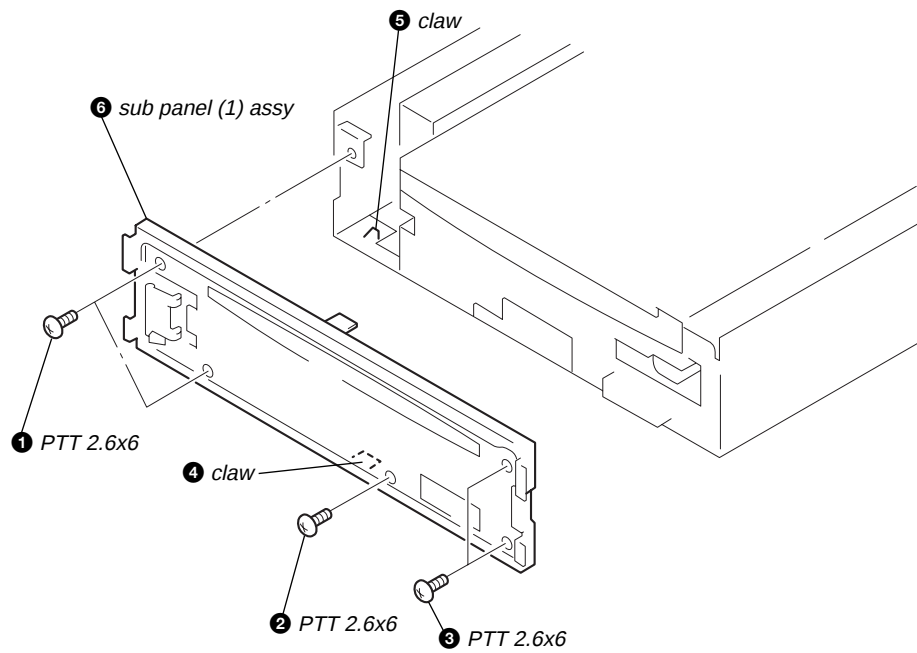
2-1. COVER



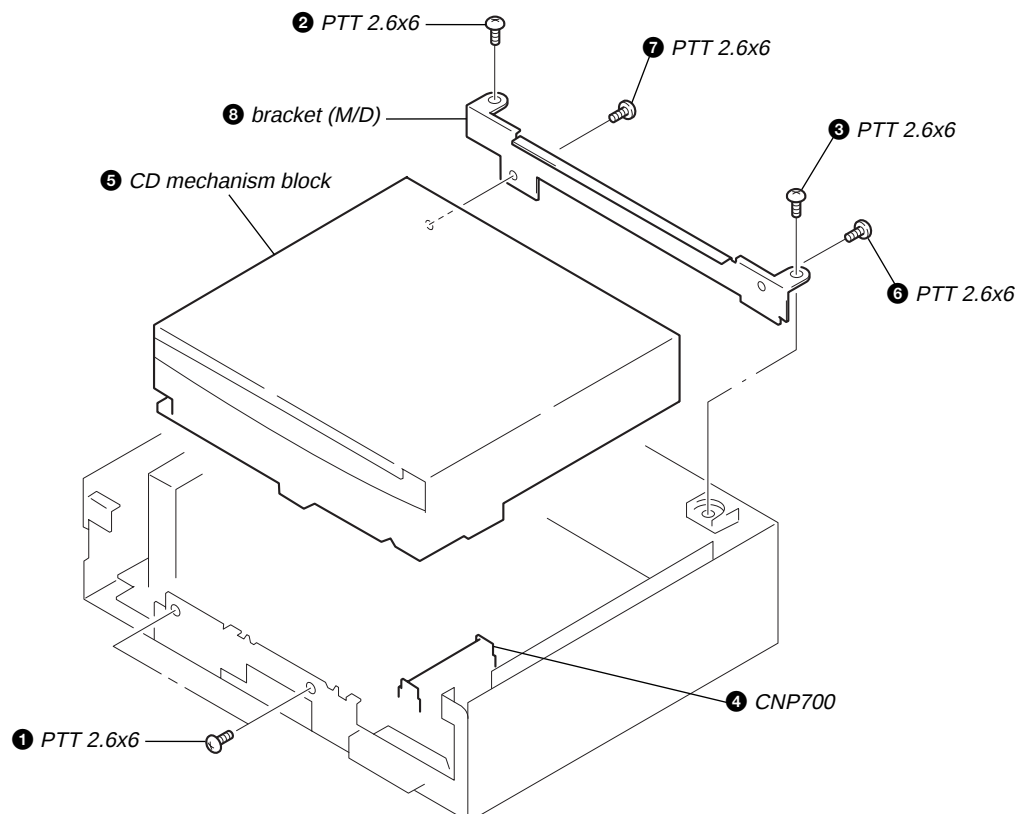
2-2. FRONT PANEL ASSY



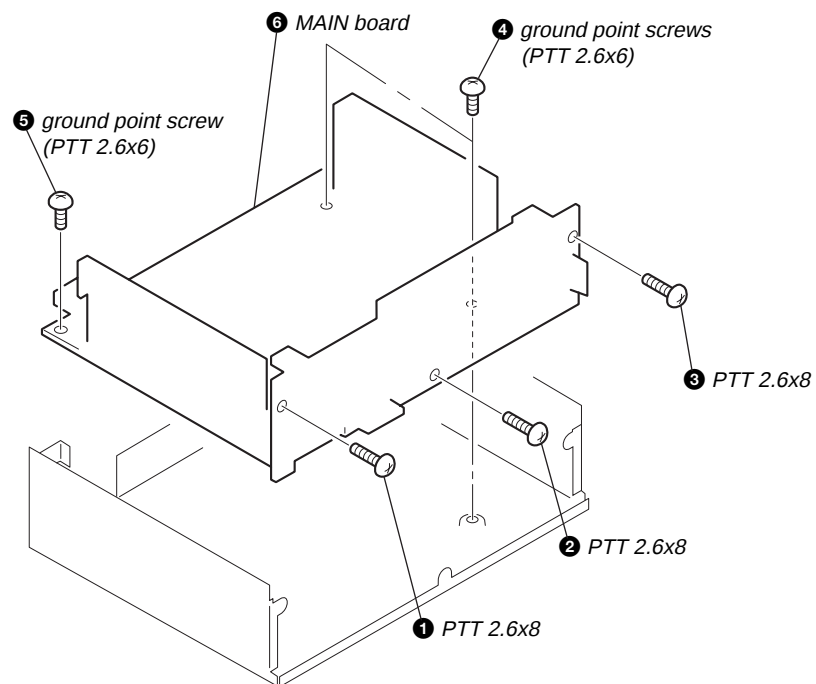
2-3. SUB PANEL (1) ASSY



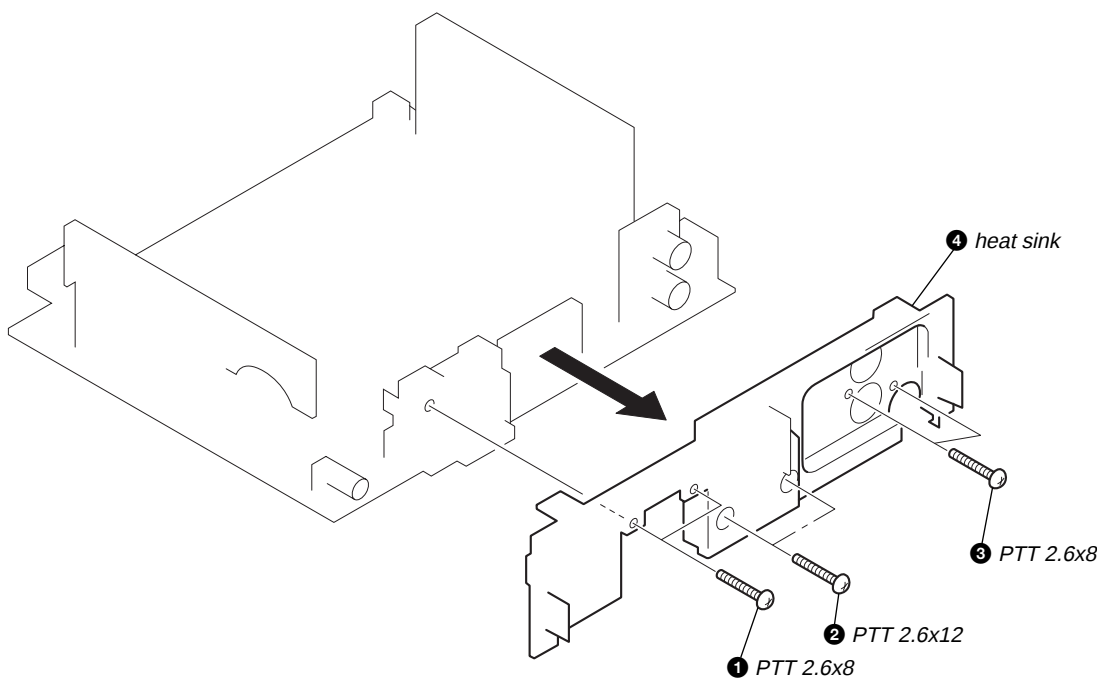
2-4. CD MECHANISM BLOCK



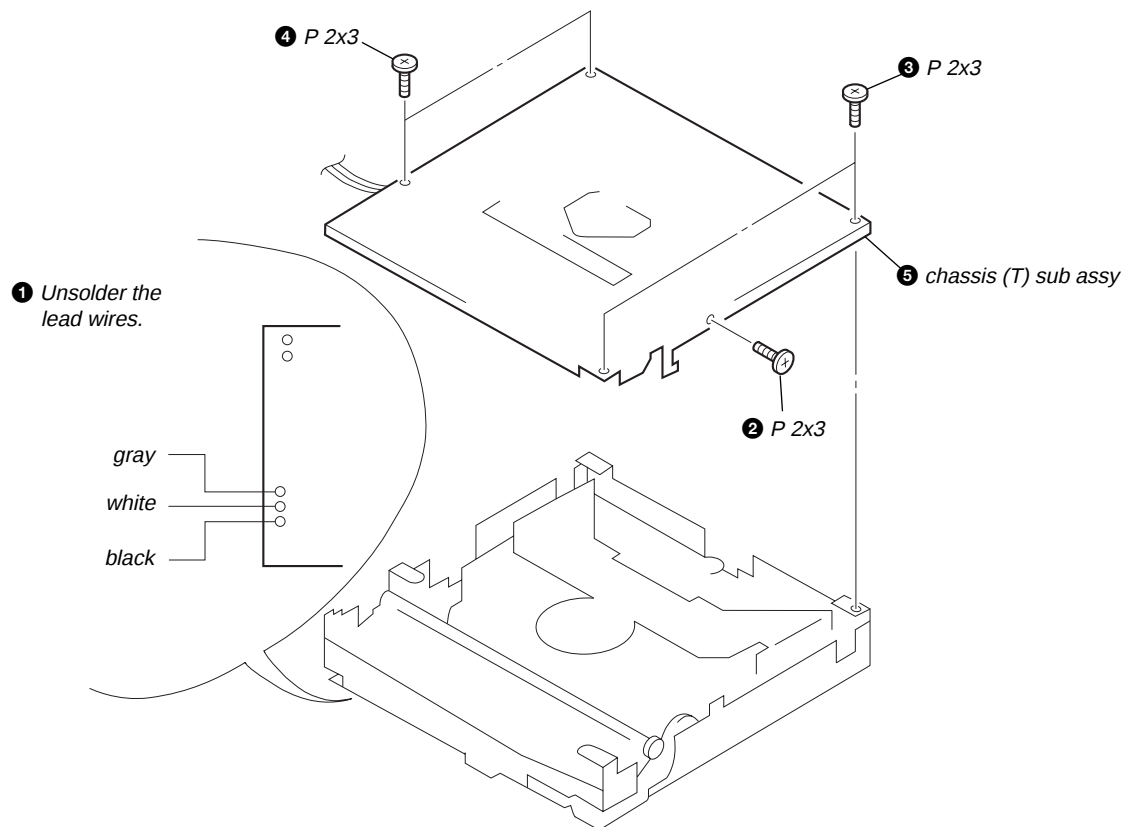
2-5. MAIN BOARD



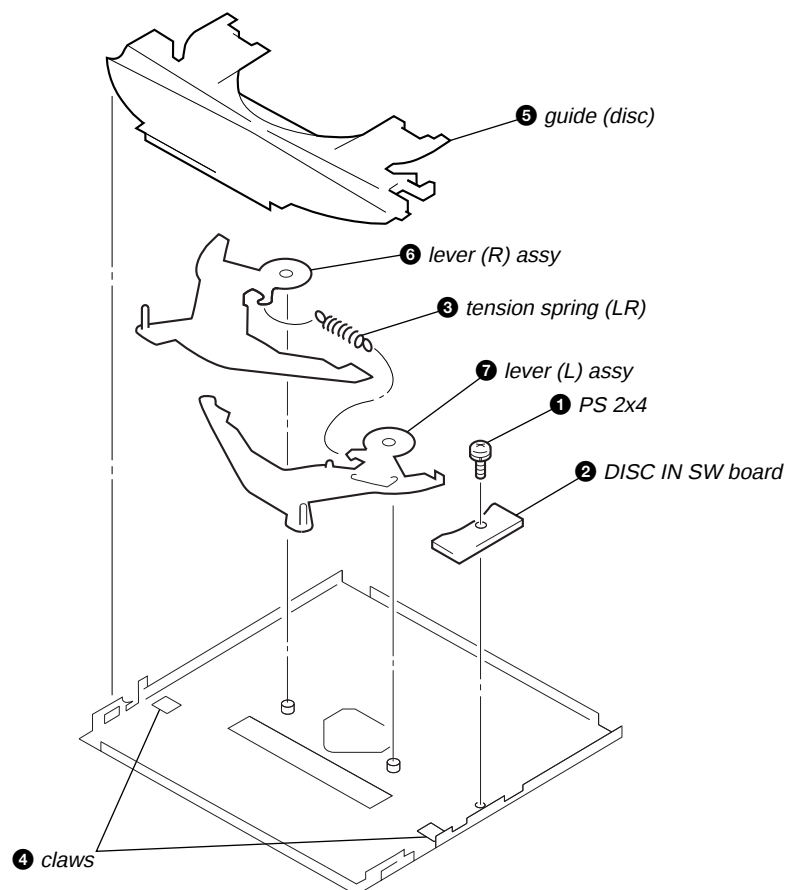
2-6. HEAT SINK



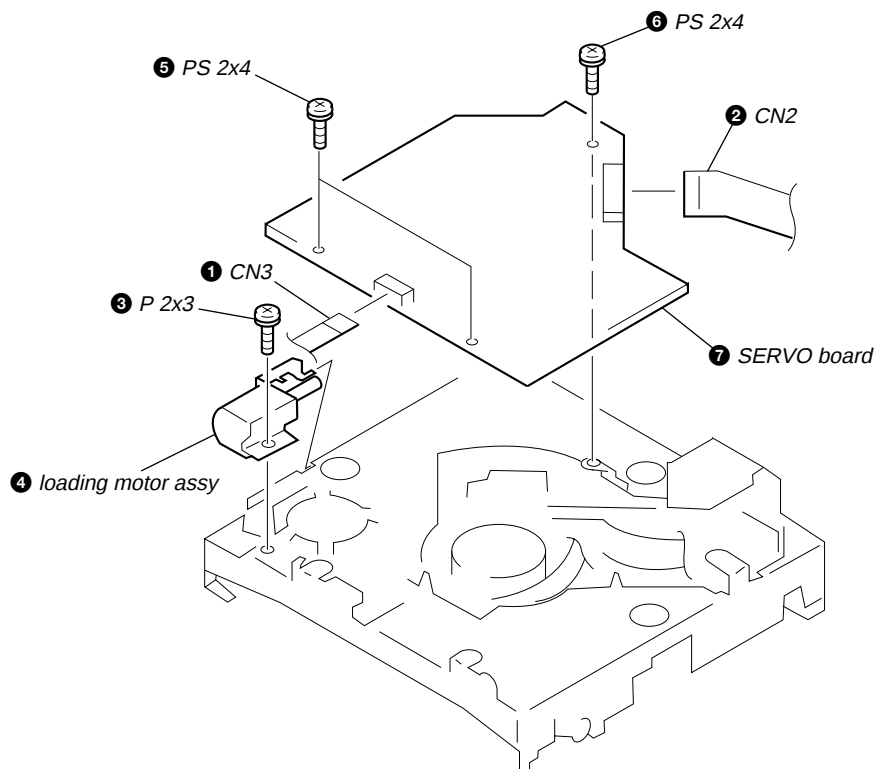
2-7. CHASSIS (T) SUB ASSY



2-8. LEVER ASSY

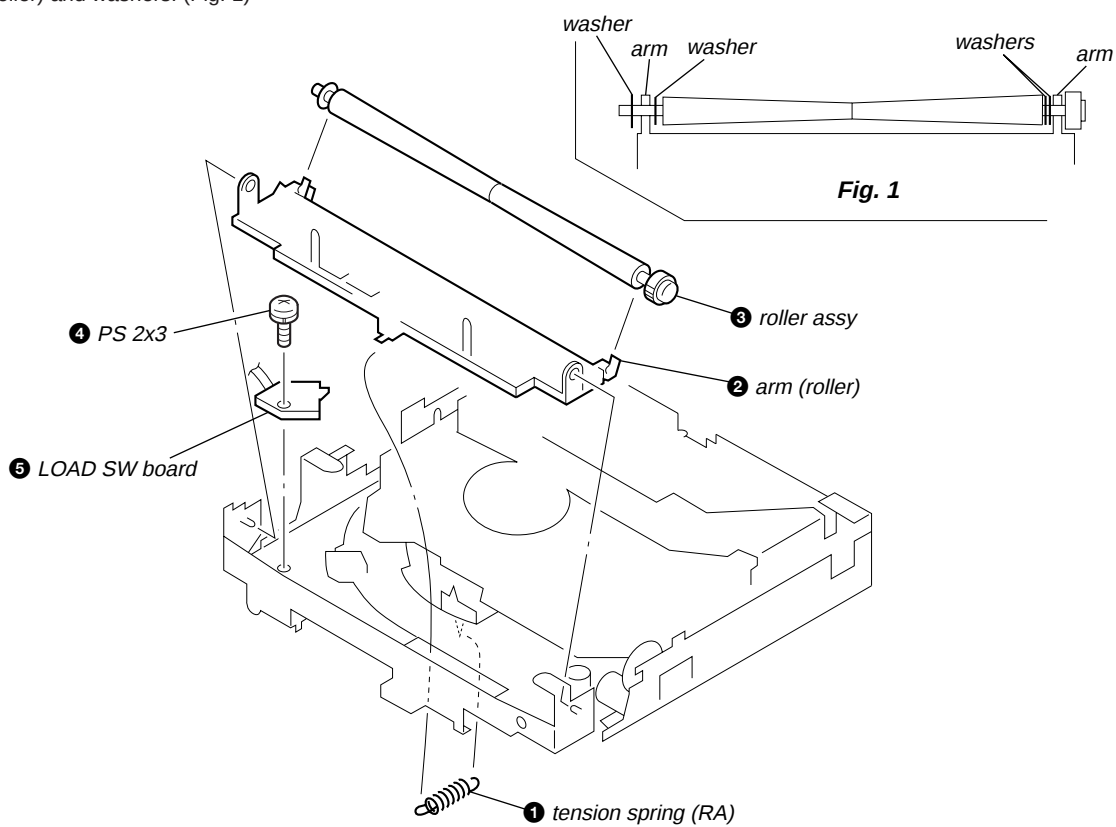


2-9. SERVO BOARD

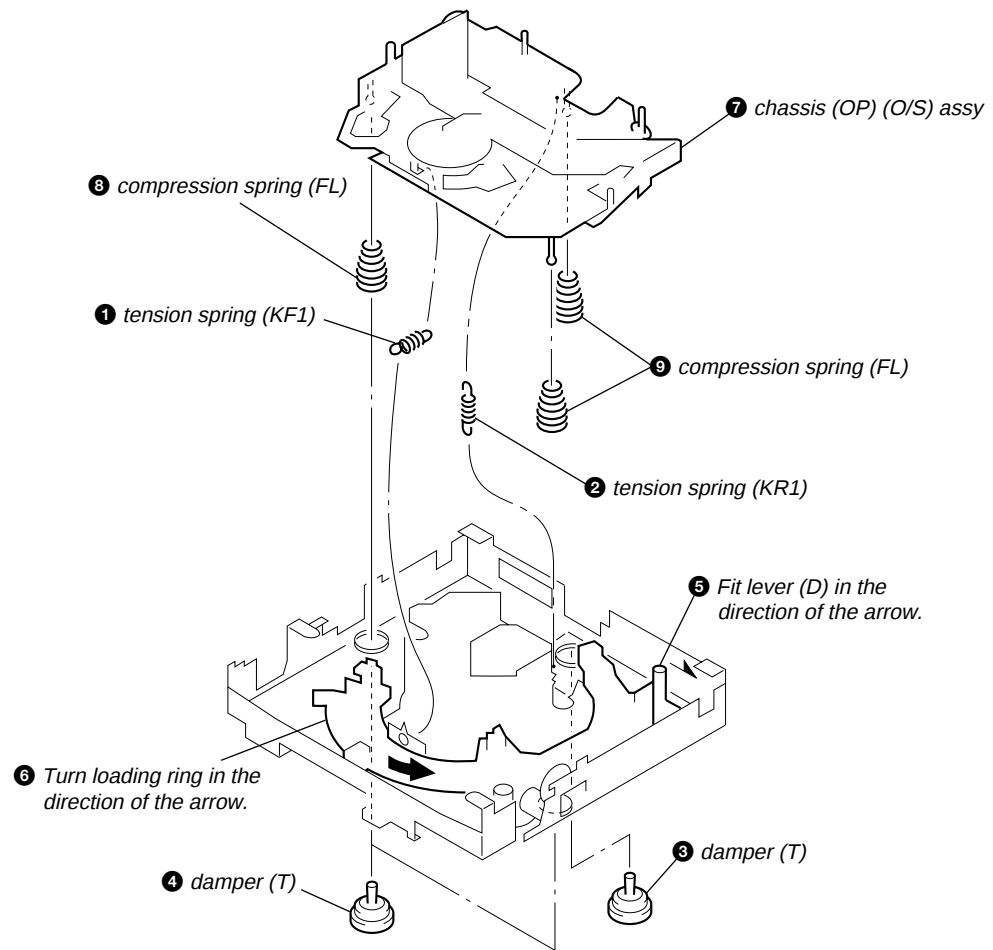


2-10. ROLLER ASSY

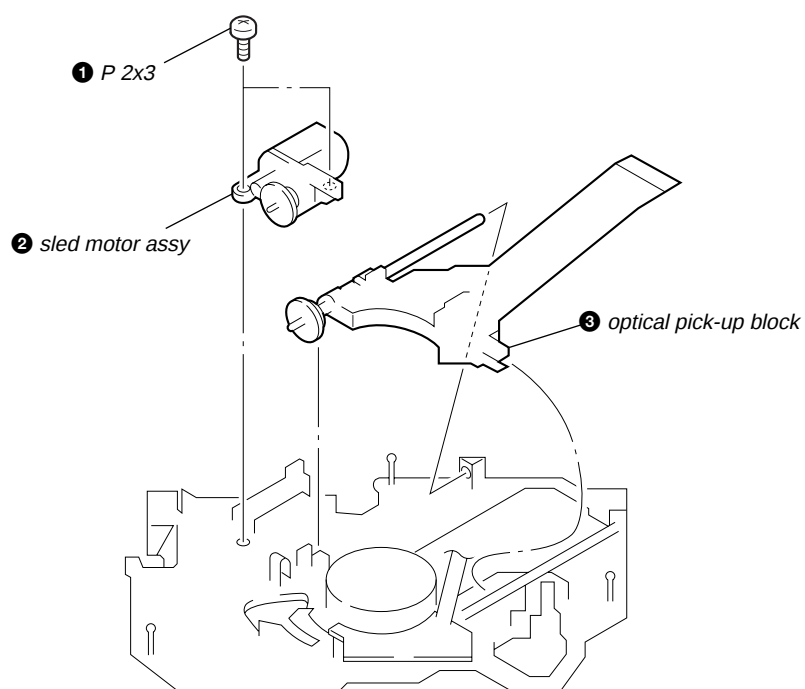
- When installing, take note of the positions arm (roller) and washers. (Fig. 1)



2-11. CHASSIS (OP) (O/S) ASSY



2-12. OPTICAL PICK-UP BLOCK



SECTION 3 ELECTRICAL ADJUSTMENTS

TUNER SECTION

0 dB = 1 μ V

Cautions during repair

When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and MW Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>

1. Set the "OFF" mode.
2. Push the preset **[4]** button.
3. Push the preset **[5]** button.
4. Press the preset **[1]** button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test Mode>

1. Push the **[OFF]** button.

Note on Adjustment

The adjustments of tuner section, should be performed according to the following sequence.

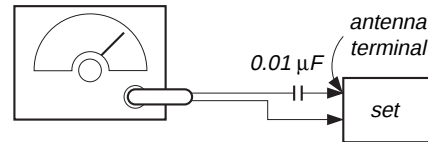
1. FM Auto Scan/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. FM RDS S-Meter Adjustment
4. MW Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

Setting :

D-BASS switch : OFF
SOURCE button : FM

FM RF signal
generator



Carrier frequency : 98.00 MHz
Output level : 22 dB (12.6 μ V)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

Procedure :

1. Set to the test mode.
2. Push the **[SOURCE]** button and set to FM.
Display



3. Push the preset **[3]** button.

Display



4. Adjust with the volume RV2 on TU601 so that the "FM" indication turns to "FM0" indication on the display window. But, in case of already indicated "FM0", turn the RV2 so that put out light "0" indication and adjustment.

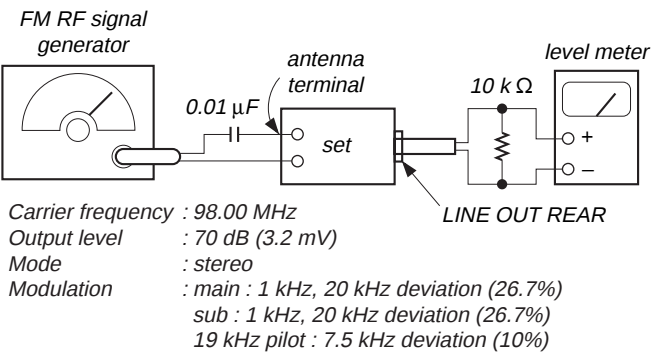
Display



Adjustment Location : See page 18.

FM Stereo Separation Adjustment

Setting :
D-BASS switch : OFF
SOURCE button : FM



Procedure :

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ ^① Adjust RV4 on TU601 for nimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ ^② Adjust RV4 on TU601 for minimum reading.

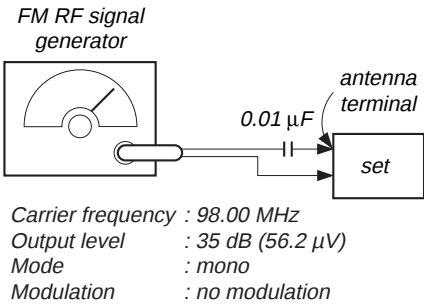
L-CH stereo separation : Ⓐ – Ⓑ^①
R-CH stereo separation : Ⓒ – Ⓓ^②
The separations of both channels should be equal.

Specification : Separation more than 28 dB

Adjustment Location : See page 18.

FM RDS S-Meter Adjustment

Setting :
D-BASS switch : OFF
SOURCE button : FM



Procedure :

- Set to the test mode. (See page 16.)
- Push the **[SOURCE]** button and set to FM.
Display



- Push the preset **[10]** button.
- Adjust RV801 so that the display indication is “16.0”.
Display



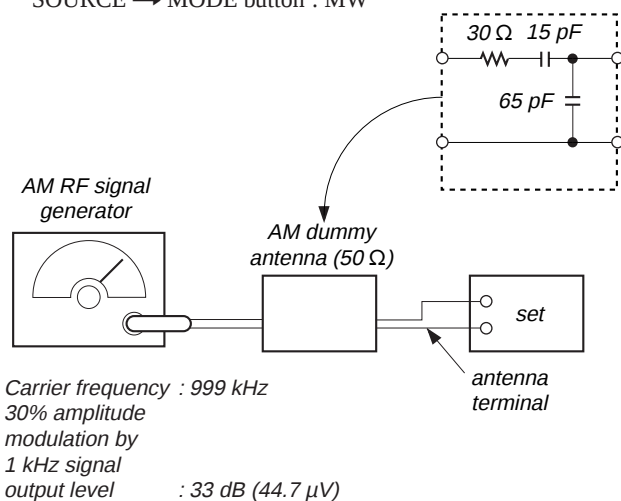
Specification : Display indication : 15.8 to 16.2

Adjustment Location : See page 18.

MW Auto Scan/Stop Level Adjustment

Setting :

D-BASS switch : OFF
SOURCE → MODE button : MW



Procedure :

1. Set to the test mode. (See page 16.)
2. Push the **SOURCE** button.
3. Push the **MODE** button and set to MW.

Display



4. Push the preset **[3]** button.

Display



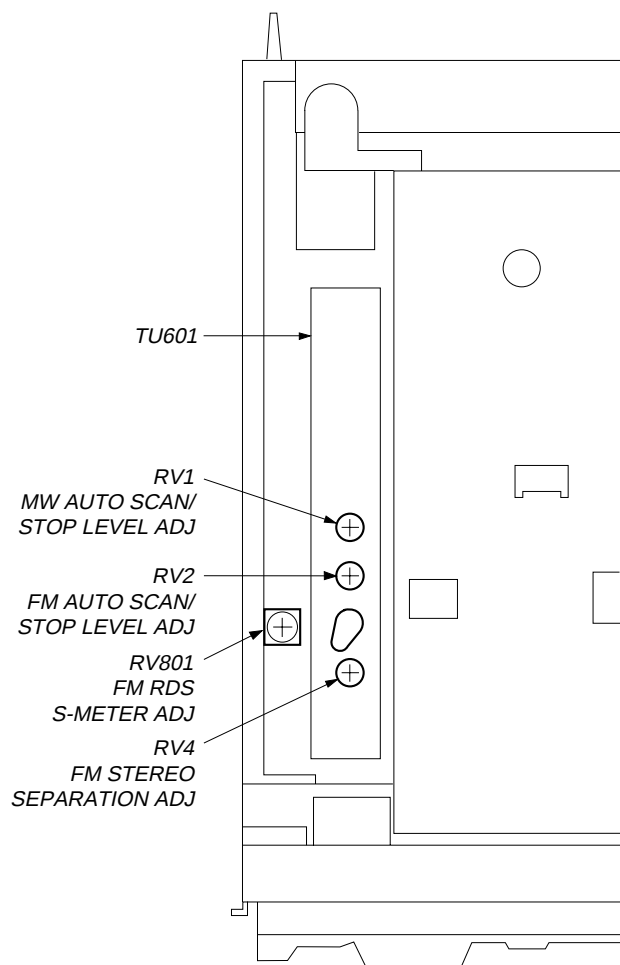
5. Adjust with the volume RV1 on TU601 so that the “MW” indication turns to “MW0” indication on the display window. But, in case of already indicated “MW0”, turn the RV1 so that put out light “0” indication and adjustment.

Display



Adjustment Location : tuner unit (TU601)

Adjustment Location : tuner unit (TU601)



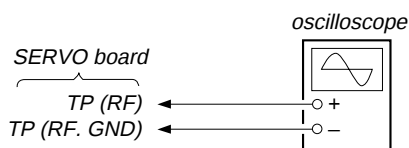
CD SECTION

Note:

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

Focus Bias Adjustment

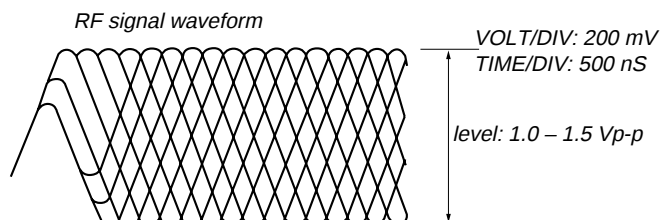
Setting: This adjustment is performed with the set placed horizontally.



Procedure:

1. Connect an oscilloscope between TP (RF) and TP (RF. GND) on the SERVO board.
2. Connect the power supply.
3. Push the **[RESET]** button (S900) on the MAIN board.
4. Insert the disc (YEDS-18) and playback.
5. Adjust RV1 so that the oscilloscope waveform is clear and check RF signal level is correct or not.

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



- When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

Adjustment Location: servo board

Focus Gain Adjustment (Coarse adjustment)

This adjustment is not required unless the following parts are replaced:

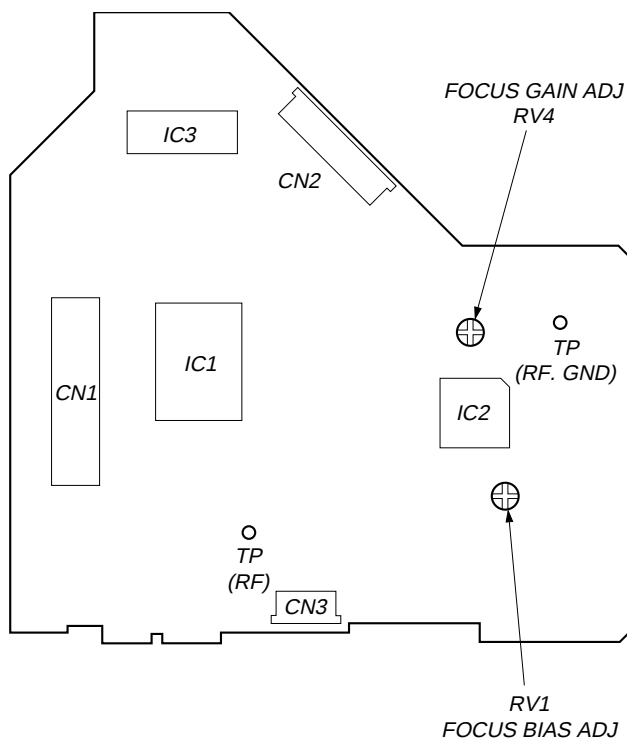
- Optical pick-up
- RV4

Procedure:

1. Set RV4 to the standard position. (mechanical center)
 2. Check whether operation noise (while noise type) caused by the 2-axis device (lens section of the optical pick-up) is abnormally loud.
If the operation noise is too loud, turn RV4 slightly counter-clockwise.
- If the gain is too low:
Focus does not function and no music is selected.
 - If the gain is too high:
Noise caused by scratches and dust is heard and the operation becomes unstable.

Adjustment Location: servo board

Adjustment Location: servo board (component side)



SECTION 4 DIAGRAMS

4-1. IC PIN DESCRIPTION

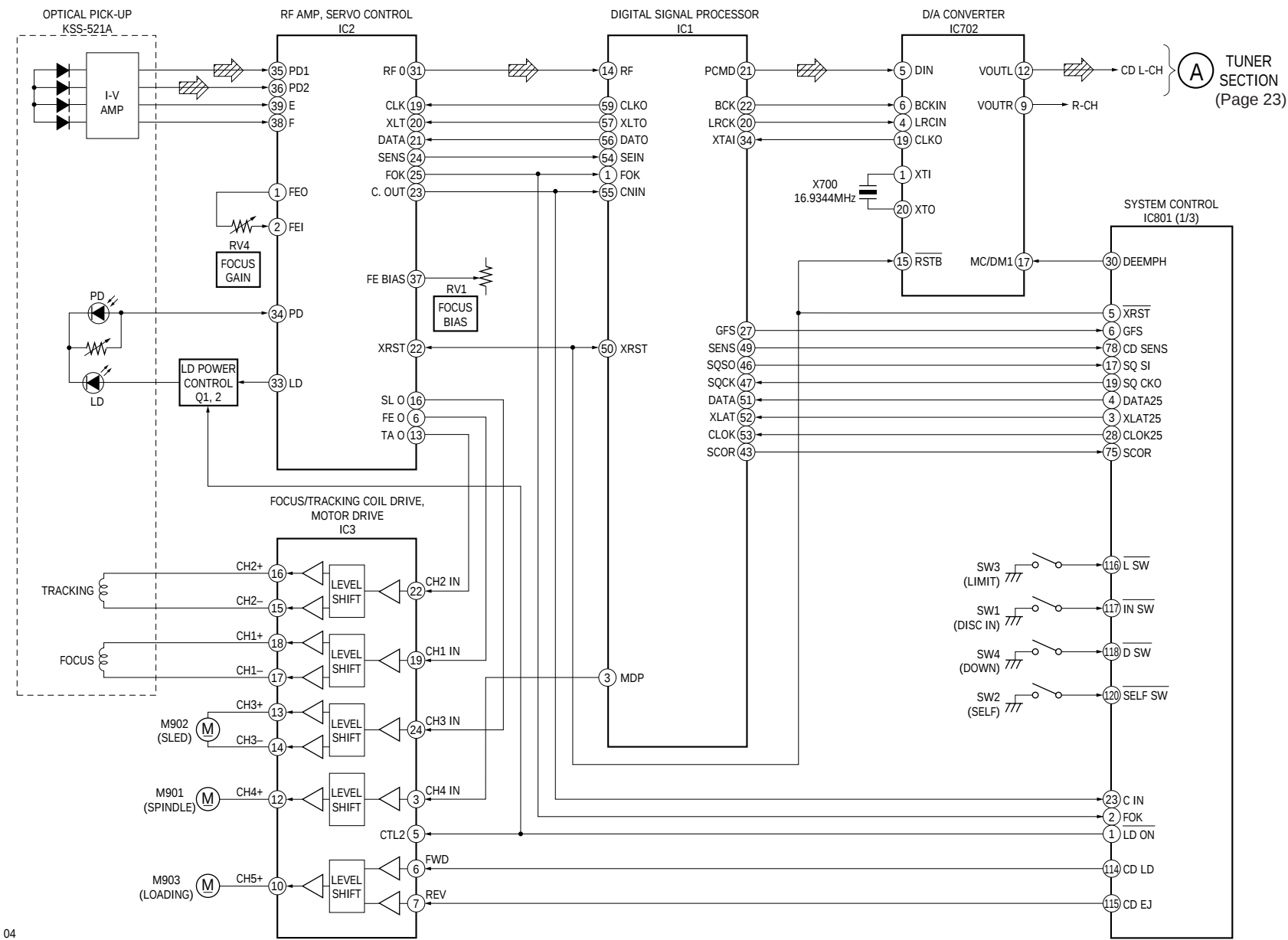
• IC801 MB90574APMT-G-212-BND (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	$\overline{\text{LD ON}}$	O	Laser ON/OFF control output
2	FOK	I	Focus OK signal detection input
3	XLAT25	O	CD signal processing latch output
4	DATA25	O	CD signal serial data output
5	$\overline{\text{XRST}}$	O	Reset output to CD signal processor IC.
6	GFS	I	GFS signal detection input
7	NIL	—	Not used. (Connect to ground in this set.)
8	VCC	—	Power supply pin (+5 V)
9 – 11	NIL	—	Not used. (Open)
12	FLS SI/ $\overline{\text{NOSE1}}$	I	Front panel attachment detection input
13	LCD SO/FLS SO	O	LCD serial data output
14	LCD CKO	O	LCD serial clock output
15	BEEP	O	BEEP output
16	NIL	—	Not used. (Open)
17	SQ SI	I	Sub Q data input
18	NIL	—	Not used. (Connect to ground in this set.)
19	SQ CKO	O	Sub Q read clock output
20	UNI SI	I	SONY BUS system serial interface input
21	UNI SO	O	SONY BUS system serial interface output
22	UNI CK	I/O	SONY BUS system serial clock input/output
23	C IN	I	Track jump No. count input
24	SIRCS	I	Remote commander input
25	TXT SI	I	CD-TEXT data input (Not used in this set.)
26	NIL	—	Not used. (Connect to ground in this set.)
27	TXT CKO	O	CD-TEXT data read clock output (Not used in this set.)
28	CLOK25	O	CD signal processing serial clock output
29	$\overline{\text{SYSRST}}$	O	System reset output
30	DEEMPH	O	De-emphasis output
31	$\overline{\text{AMP ATT}}$	O	Power amplifier attenuator control output
32	MD ON	O	CD mechanism power control output
33	VSS	—	Ground
34	C	—	Power stabilization capacitor pin
35	CD ON	O	CD power control output
36	$\overline{\text{BUS ON}}$	O	BUS ON control output (Not used in this set.)
37	NIL	O	Power control output of A/D conversion.
38	DVCC	—	VREF input of D/A converter.
39	DVSS	—	Ground of D/A converter.
40	NIL	—	Not used. (Open)
41	ANGLE	O	LCD view angle alignment output (Not used in this set.)
42	AVCC	—	Analog power supply pin (+5 V)
43	AVRH	—	VREF + input of A/D converter.
44	AVRL	—	VREF – input of A/D converter.
45	AVSS	—	Analog ground
46 – 48	KEY IN0 – 2	I	Key input 0 – 2
49	RC IN0	I	Rotary commander input 0
50	QUALITY	I	Noise detection input
51	NIL	—	Not used. (Connect to ground in this set.)
52	MPDH	I	Tuner multi path input
53	S-METER	I	S-meter voltage detection input
54	VCC	—	Power supply pin (+5 V)
55	NS MASK	O	Noise detection output

Pin No.	Pin Name	I/O	Pin Description
56	AMP ON	O	Power amplifier power control output
57	TXT ON	O	Reset output to CD-TEXT decoder IC. (Not used in this set.)
58	VOL ATT	O	Electric volume mute control output
59	NIL	—	Not used. (Open)
60	ATT	O	System attenuate control output
61	RC IN1	I	Rotary commander shift key input 1
62	TU ATT	O	Tuner attenuate output
63	VSS	—	Ground
64	NIL	—	Not used. (Open)
65	SSTOP	I	IF counter result signal detection input of PLL.
66	TEST	I	Test mode initial setting detection input
67	DAVN	I	RDS IC data acquisition detection input
68	FM ON/AM ON	O	FM ON output
69	TU ON	O	Tuner power control output
70	SDA	I/O	I ² C BUS serial data input/output
71	SCL	O	I ² C BUS serial clock output
72	NOSE2	I	Front panel OPEN detection input
73	X1A	O	Sub ceramic oscillator output (32 kHz)
74	X0A	I	Sub ceramic oscillator input (32 kHz)
75	SCOR	I	SCOR signal detection input
76	BU IN	I	Backup power detection input
77	DQSY	I	CD-TEXT data setting completion signal detection input (Not used in this set.)
78	CD SENS	I	CD SENS signal detection input
79	NIL	I	Key input acknowledge
80	TEL ATT	I	Telephone attenuate detection input
81	ST/MONO	I/O	Tuner stereo signal detection input/forced monaural output
82	SEEKOUT	O	SEEK output
83	SD IN	I	Signal detector input
84	WIDE	O	WIDE select output (Not used in this set.)
85	NARROW	O	NARROW select output (Not used in this set.)
86	HSTX	—	Hardware standby input (Connect to pin ⑩ (RESET).)
87	MD2	—	Operation mode input (Connect to ground in this set.)
88, 89	MD1, 0	—	Operation mode input (Connect to VCC in this set.)
90	RESET	I	Reset input
91	VSS	—	Ground
92	X0	I	Main ceramic oscillator input (3.68 MHz)
93	X1	O	Main ceramic oscillator output (3.68 MHz)
94	VCC	—	Power supply pin (+5 V)
95	COM8V ON	O	COM 8V control output
96	NIL	—	Not used. (Open)
97	AREA1	I	Destination select input 1 (Fixed at “H” in this set.)
98	AREA2	I	Destination select input 2 (Fixed at “L” (AEP, UK model) or “H” (German model) in this set.)
99	LOUD	I	Fixed at “H” in this set.
100	BAND	I	Fixed at “H” in this set.
101	ACC IN	I	Accessory power detection input
102, 103	PH3, 2	I	Disc insertion detection photo sensor input (Fixed at “H” in this set.)
104	LCD CE	O	LCD chip enable output
105	FLS W	I	Flash write input (Fixed at “H” in this set.)
106, 107	RE IN0, 1	I	Rotary encoder input
108	ILL ON	O	Illumination power control output
109	PW ON	O	System power control output
110	NIL	—	Not used. (Open)

Pin No.	Pin Name	I/O	Pin Description
111	ANT REM	O	ANT REMOTE power control output
112	NIL	—	Not used. (Open)
113	CTL2	—	Not used in this set.
114	CD LD	O	Loading motor control output (Loading direction)
115	CD EJ	O	Loading motor control output (Eject direction)
116	L SW	I	Sled limit switch detection input
117	IN SW/(PH1)	I	Disc insertion detection input
118	D SW	I	DOWN switch detection input
119	VSS	—	Ground
120	SELF SW/(IN SW)	I	Disc self store detection input

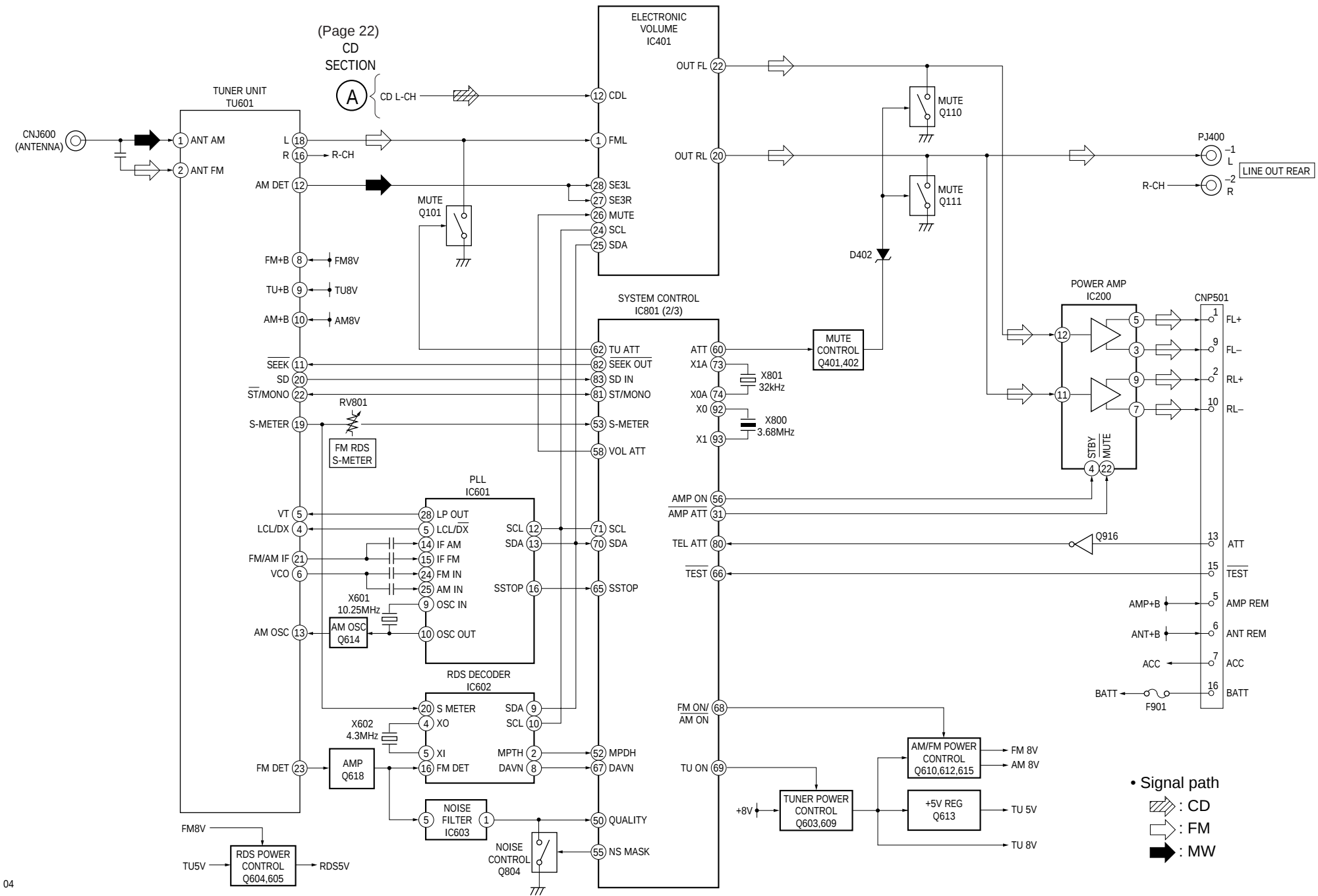
4-2. BLOCK DIAGRAM — CD SECTION —



• Signal path
▨ : CD

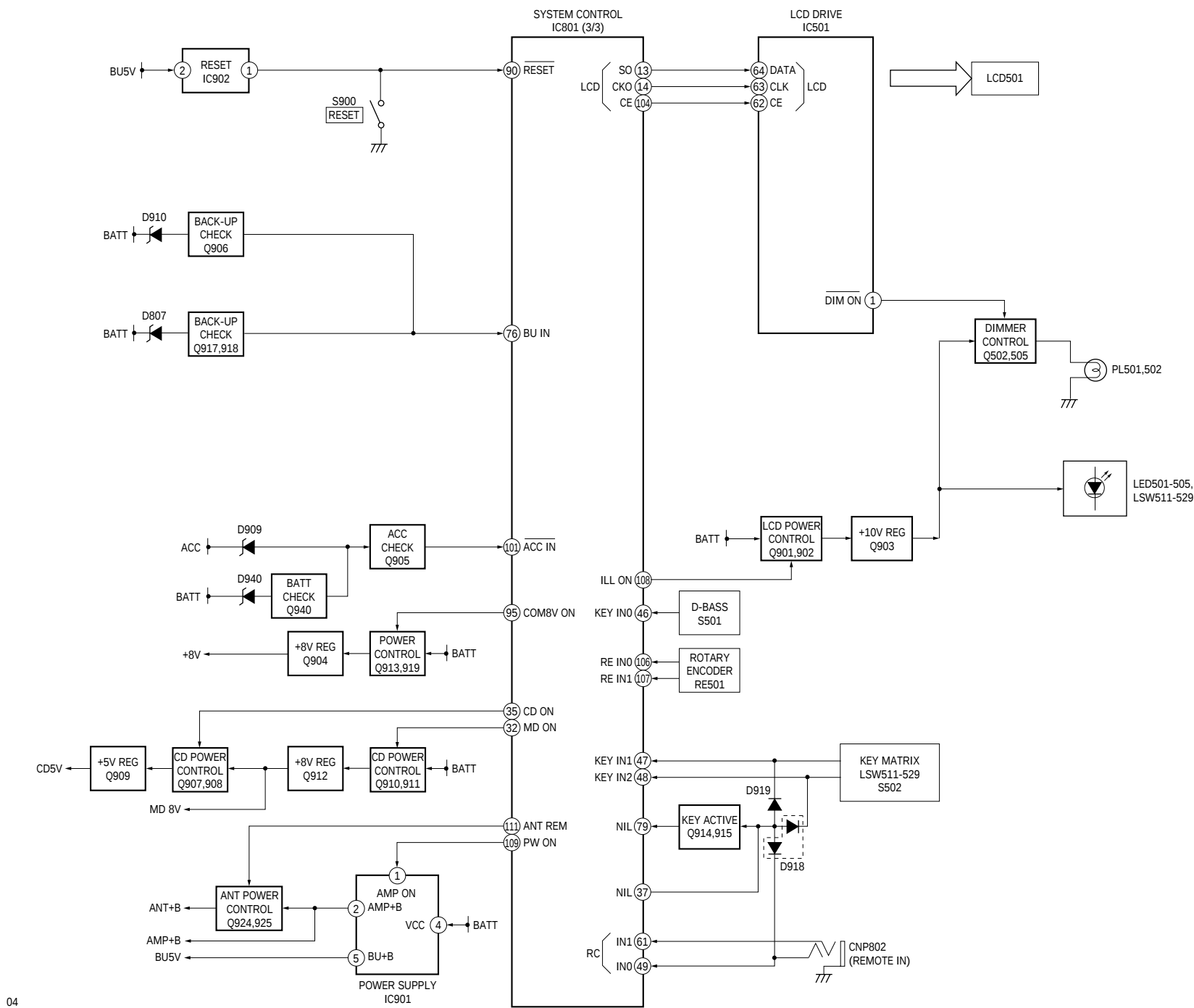
04

4-3. BLOCK DIAGRAM — TUNER SECTION —



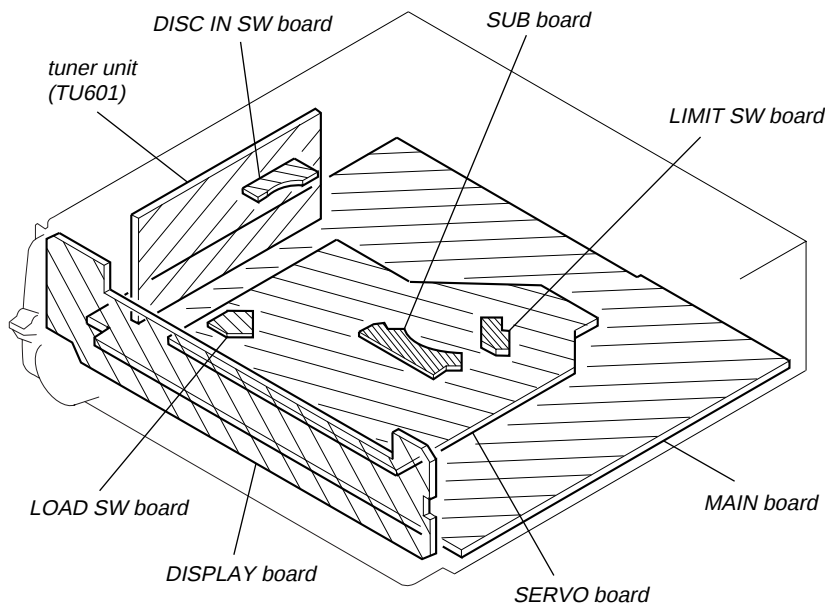
04

4-4. BLOCK DIAGRAM — DISPLAY SECTION —



04

4-5. 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 diagram:

- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- % : indicates tolerance.
- Δ : internal component.
- $\square$: panel designation.

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

- $\boxed{\text{B+}}$: B+ Line.
- $\square$: adjustment for repair.
- 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 M Ω). 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.
 - $\Rightarrow$: FM
 - $\Rightarrow$: MW
 - $\Rightarrow$: CD
- Abbreviation
 - G : German model.

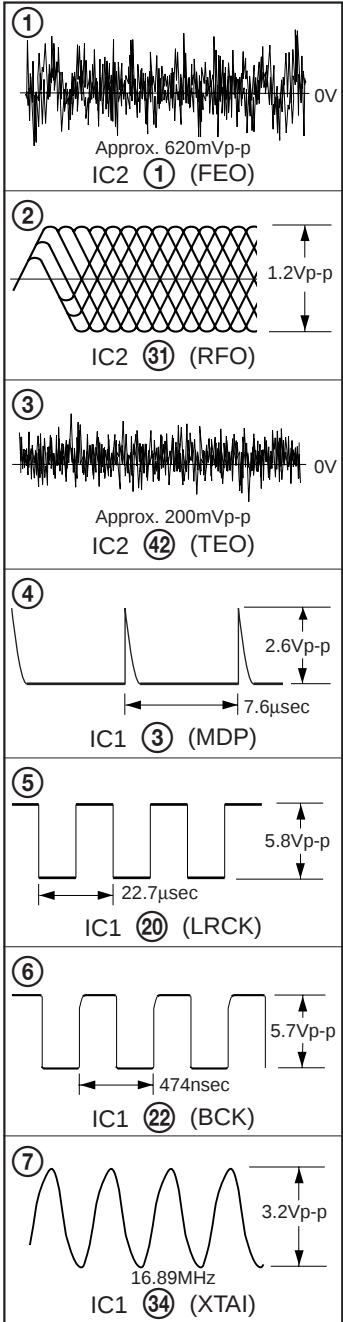
for printed wiring boards:

- $\circ$: parts extracted from the component side.
- $\square$: parts extracted from the conductor side.
- $\circ$: Through hole.
- $\square$: Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

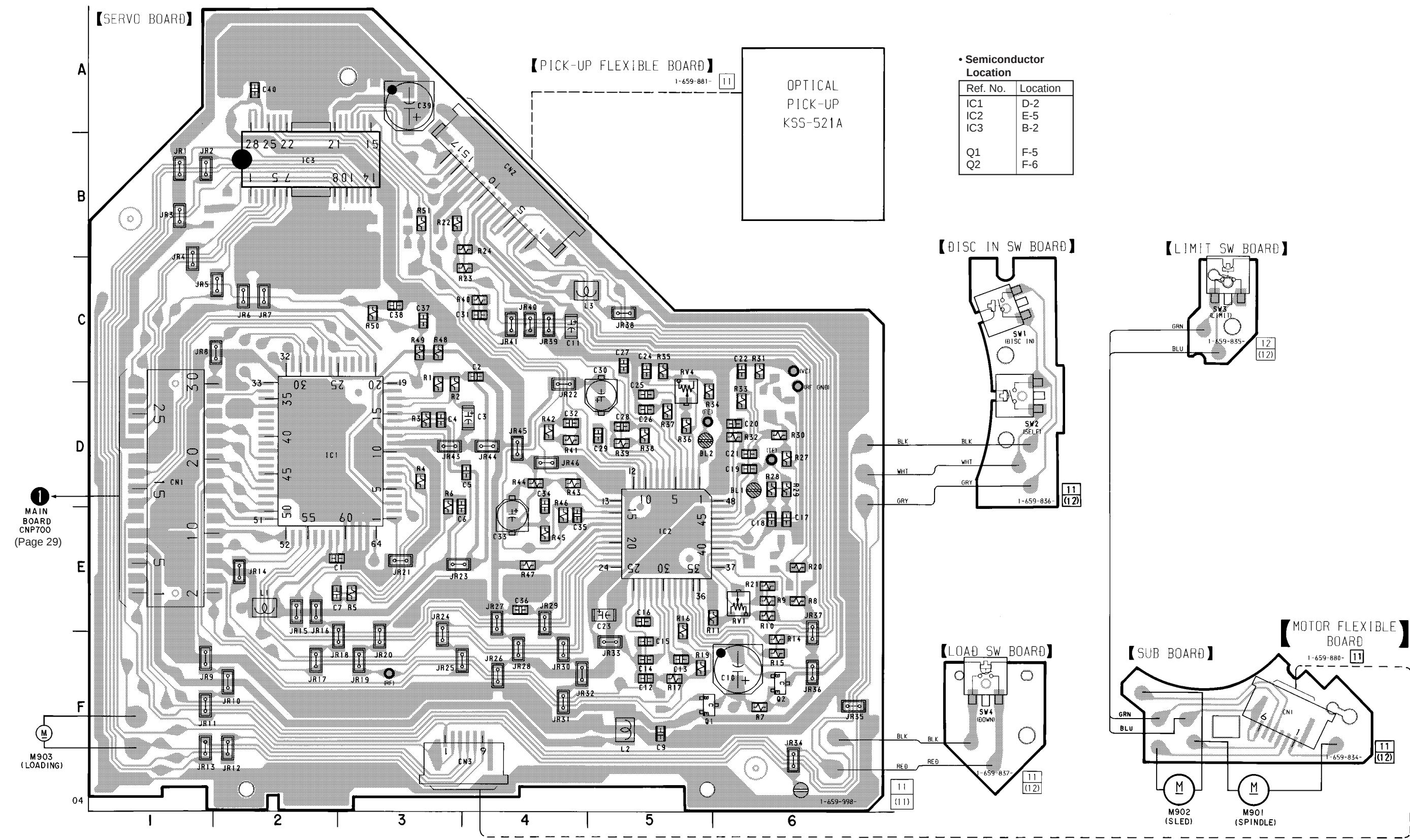
Caution:
Pattern face side: Parts on the pattern face side seen from the (Side B) pattern face are indicated.
Parts face side: Parts on the parts face side seen from the (Side A) parts face are indicated.

- Abbreviation
 - G : German model.

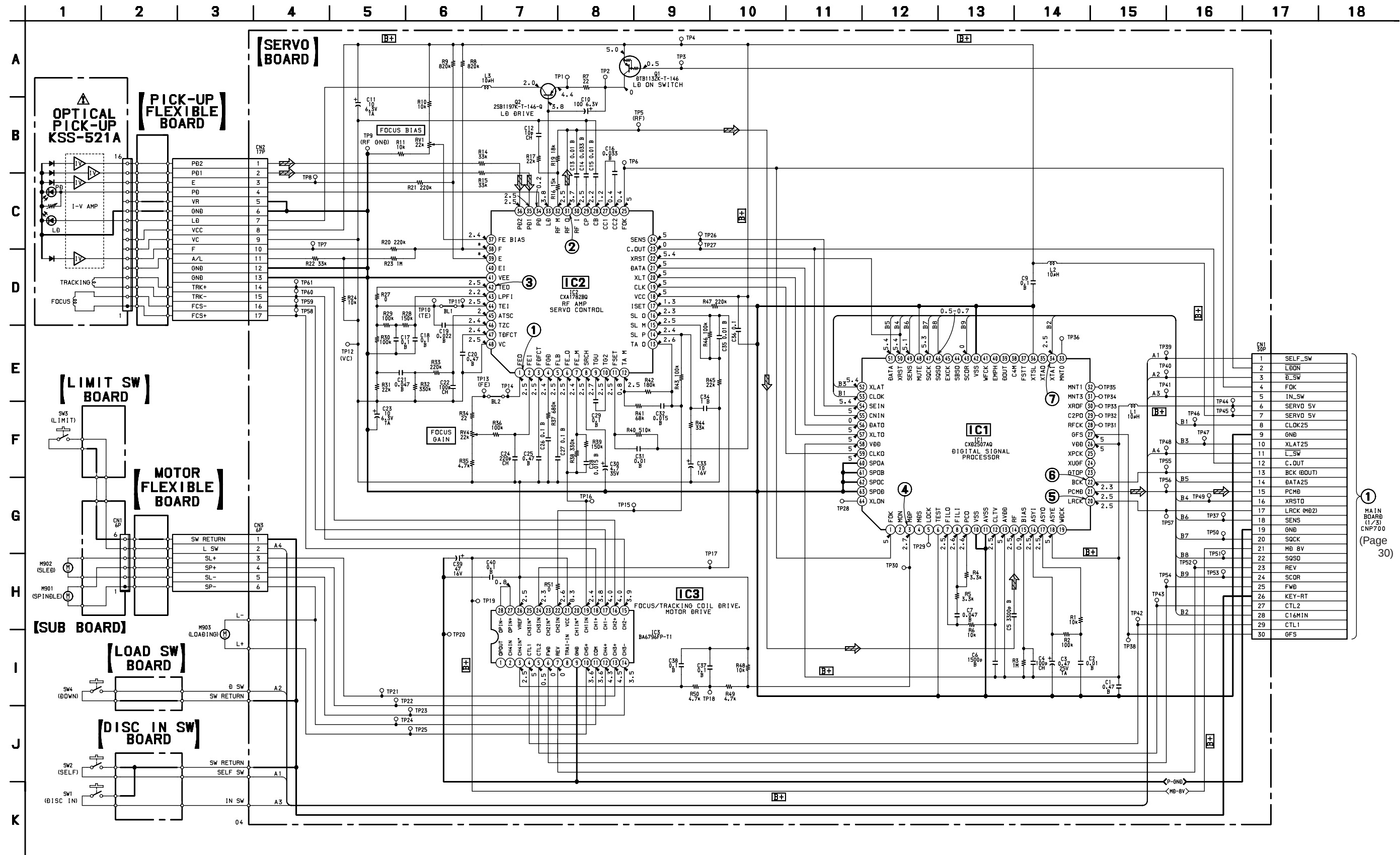
• Waveforms (MODE:PLAY)



4-6. PRINTED WIRING BOARDS — CD MECHANISM SECTION —



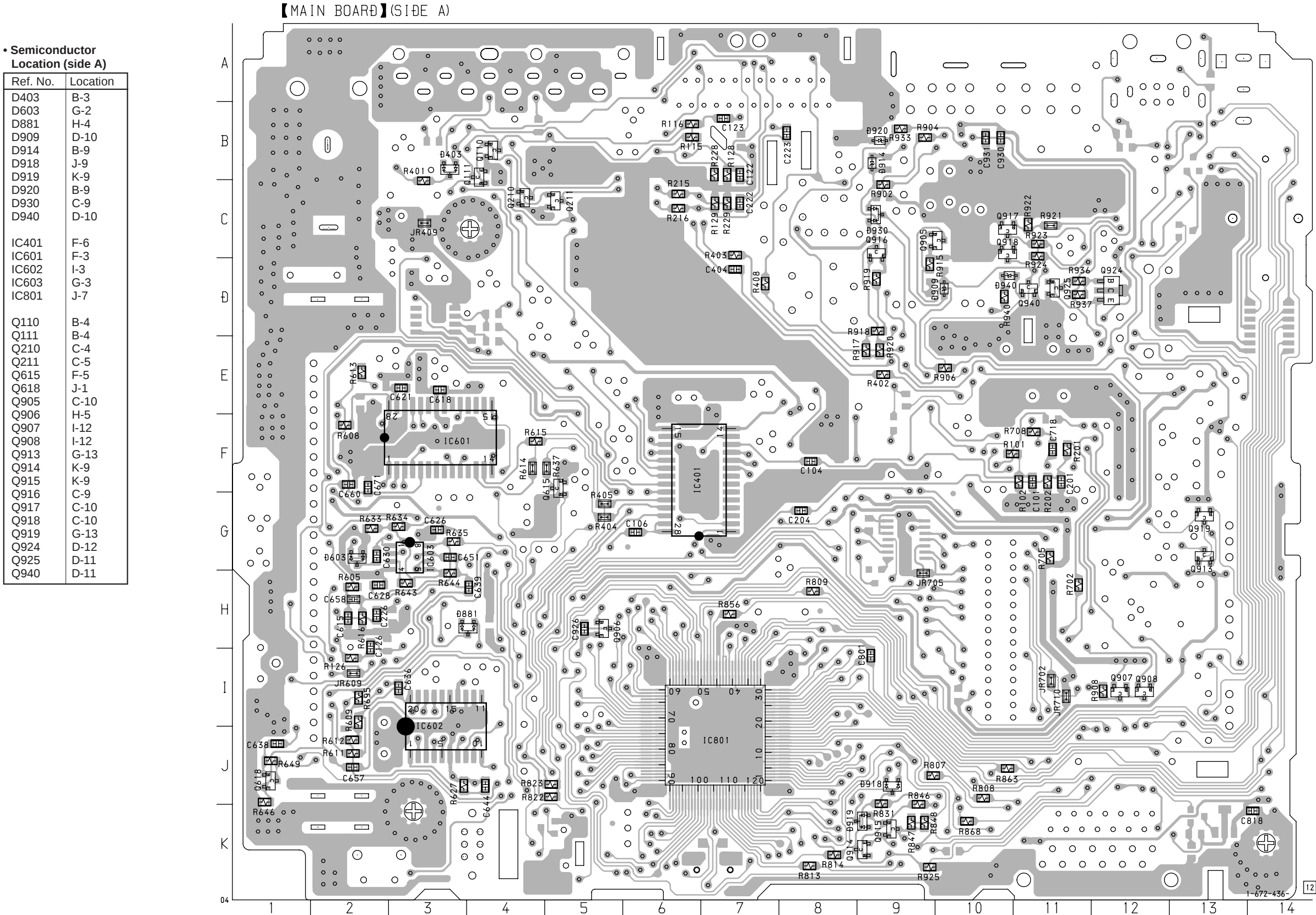
4-7. SCHEMATIC DIAGRAM — CD MECHANISM SECTION — • Refer to page 25 for Waveforms.
• Refer to page 35 for IC Block Diagrams.

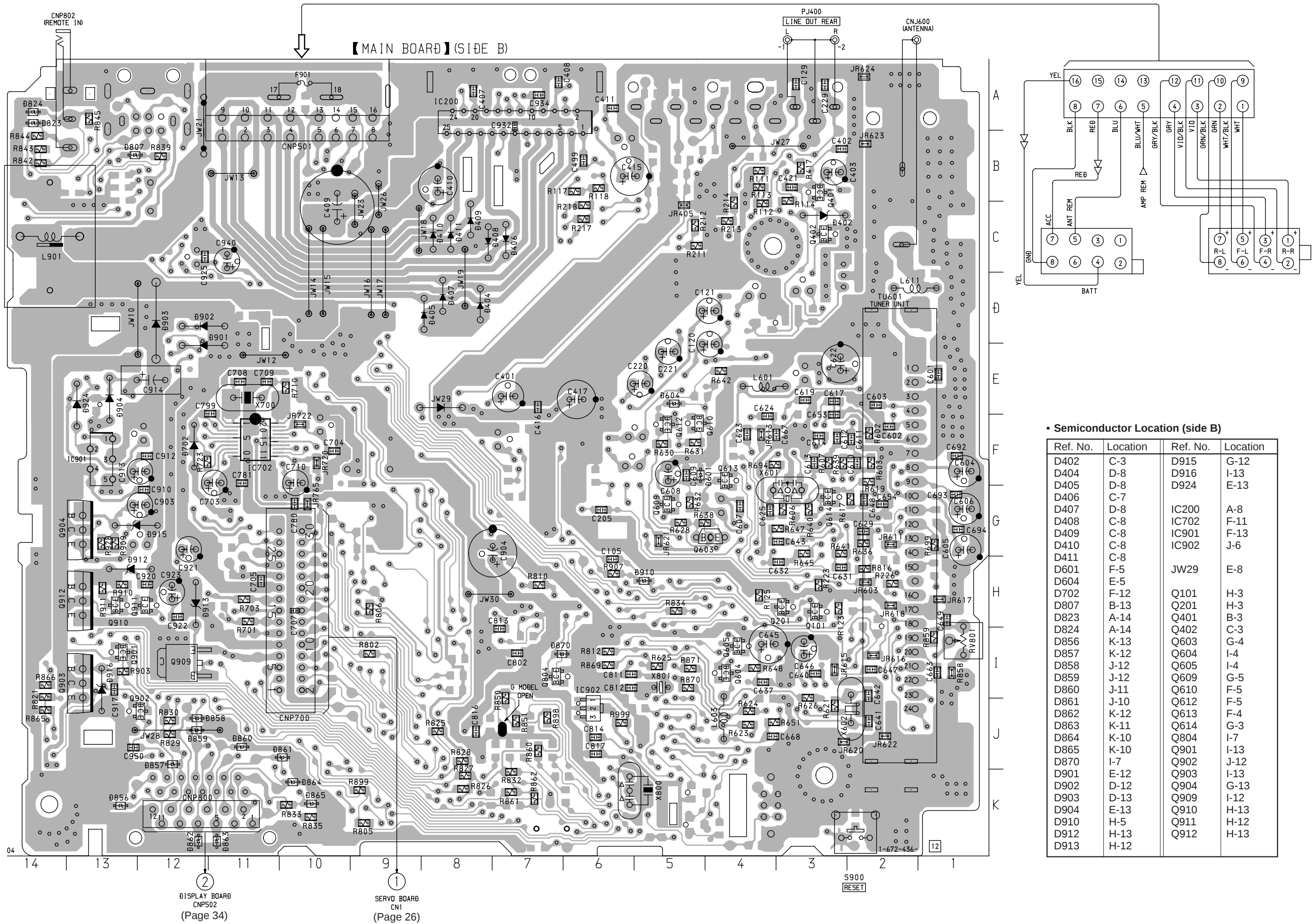


Note:

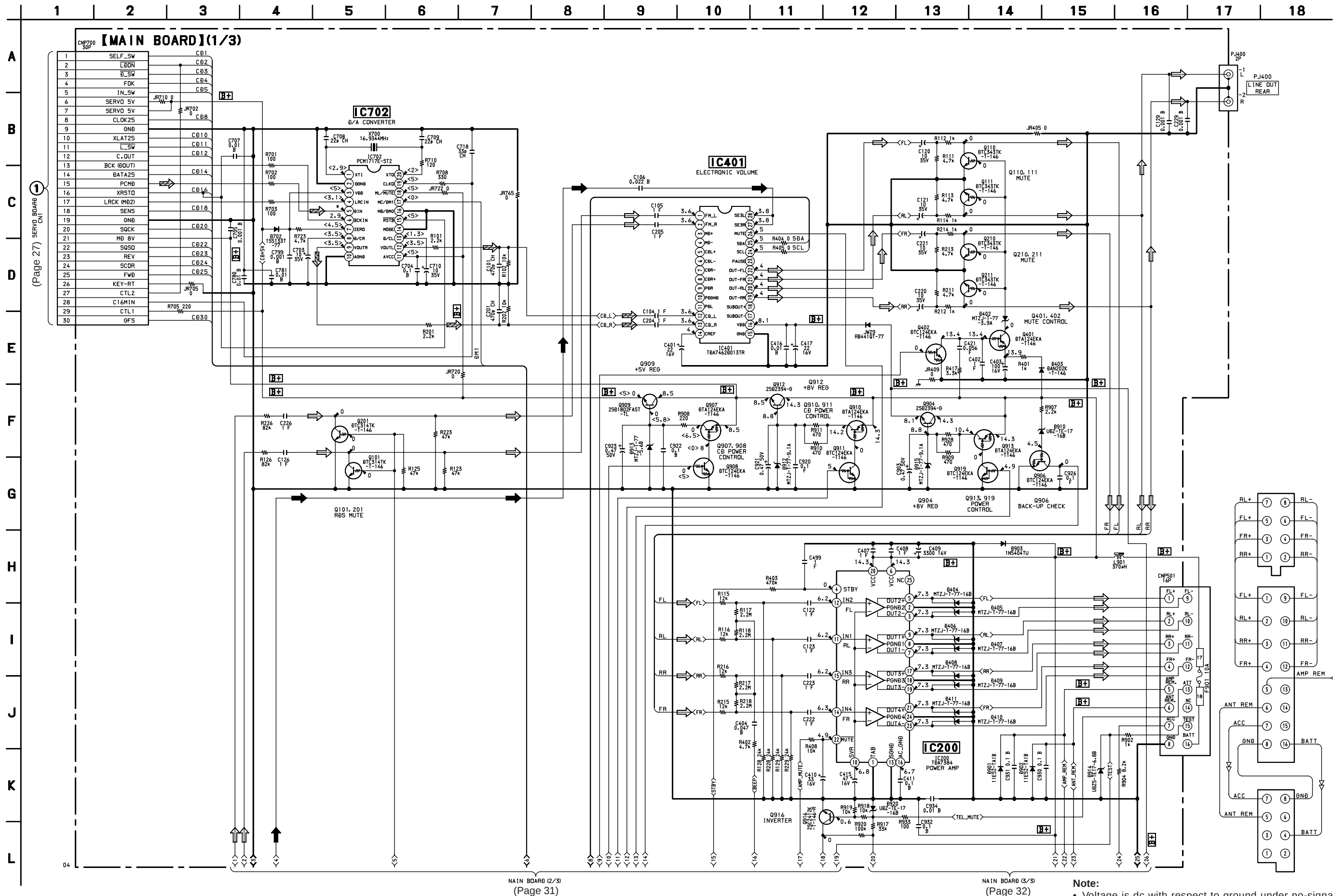
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : CD PLAY
- * : Impossible to measure

4-8. PRINTED WIRING BOARD — MAIN SECTION —





4-9. SCHEMATIC DIAGRAM — MAIN SECTION (1/3) — • Refer to page 37 for IC Block Diagrams.



MAIN BOARD (2/3)
(Page 31)

MAIN BOARD (3/3)
(Page 32)

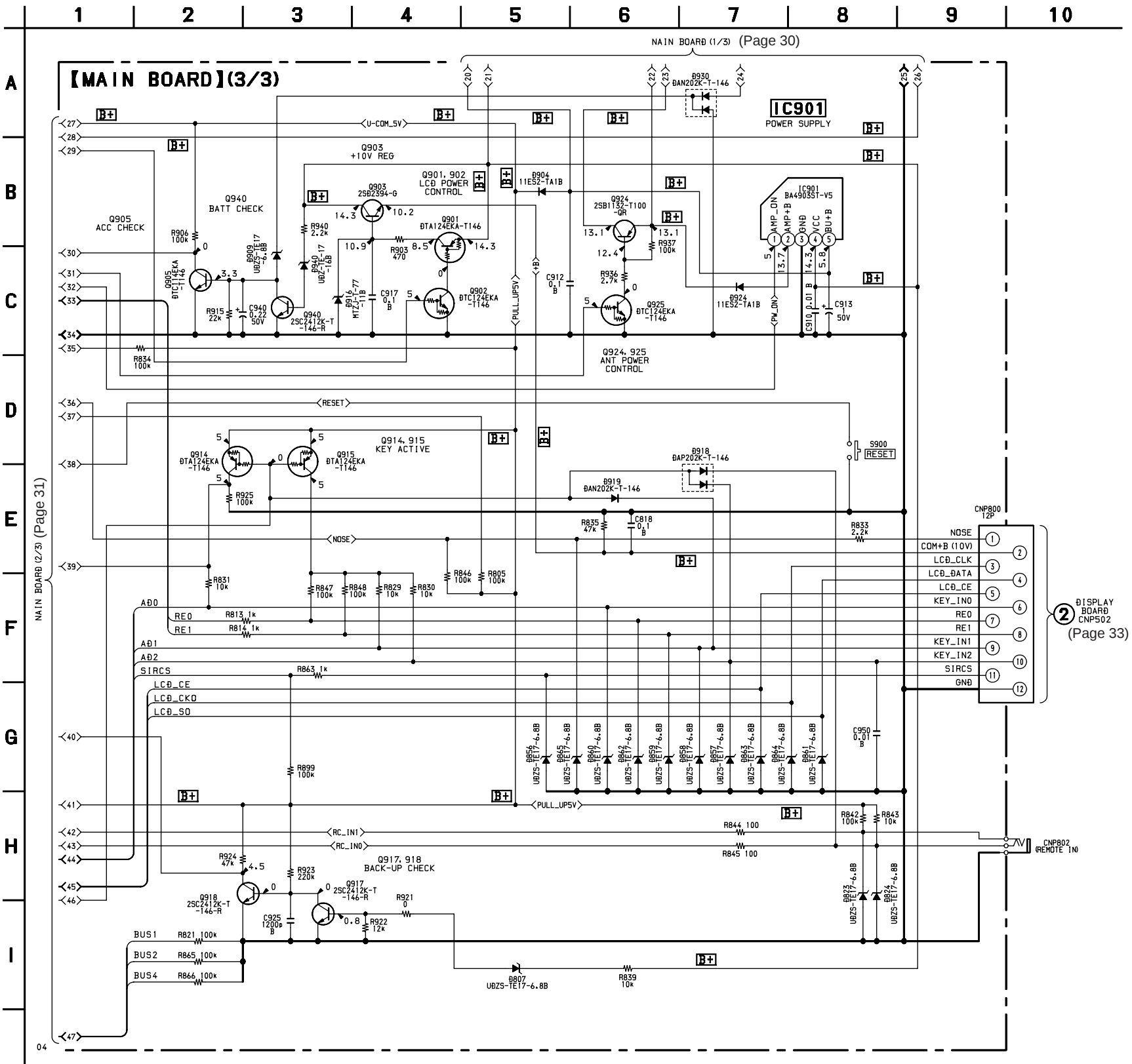
NAIN BOARD (1/3) (Page 30)



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

no mark : FM
 () : MW
 < : CD PLAY

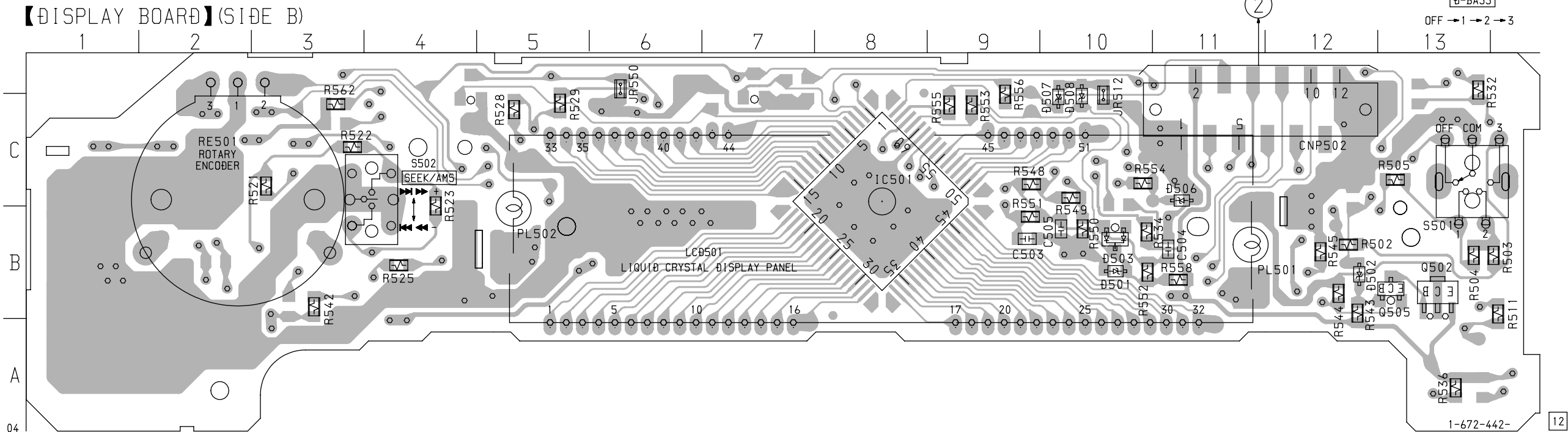
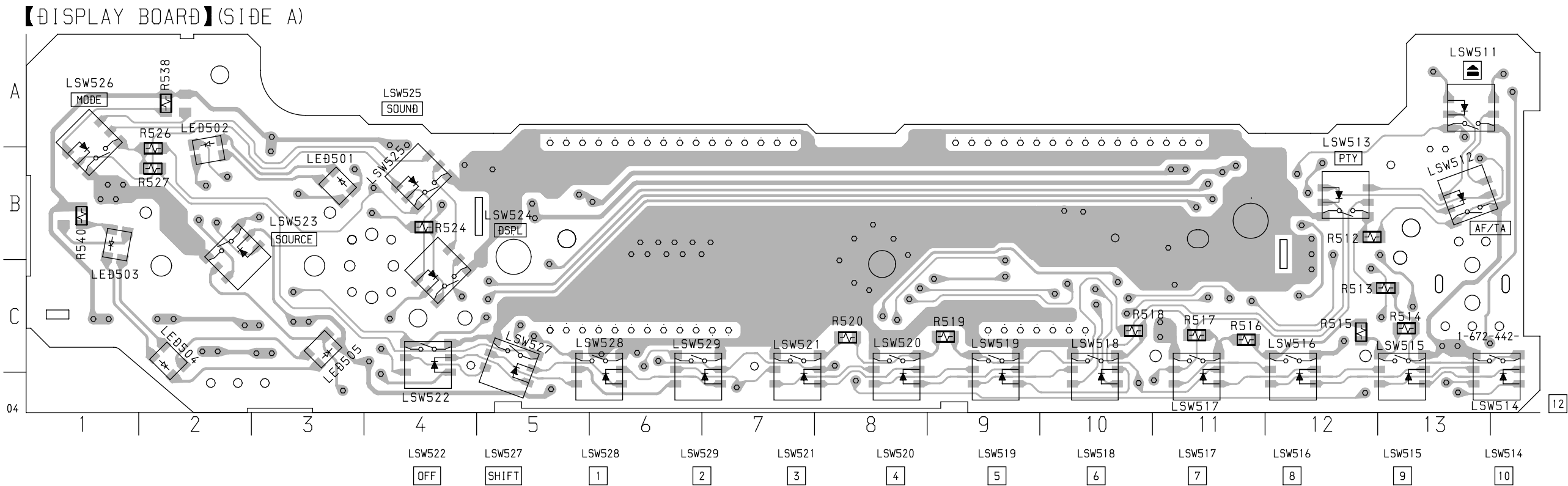
4-11. SCHEMATIC DIAGRAM — MAIN SECTION (3/3) — • Refer to page 38 for IC Block Diagrams.



Note:

- Voltage is dc with respect to ground under no-signal (detuned) condition.
no mark : FM
() : MW
< > : CD PLAY

4-13. PRINTED WIRING BOARD — DISPLAY SECTION —



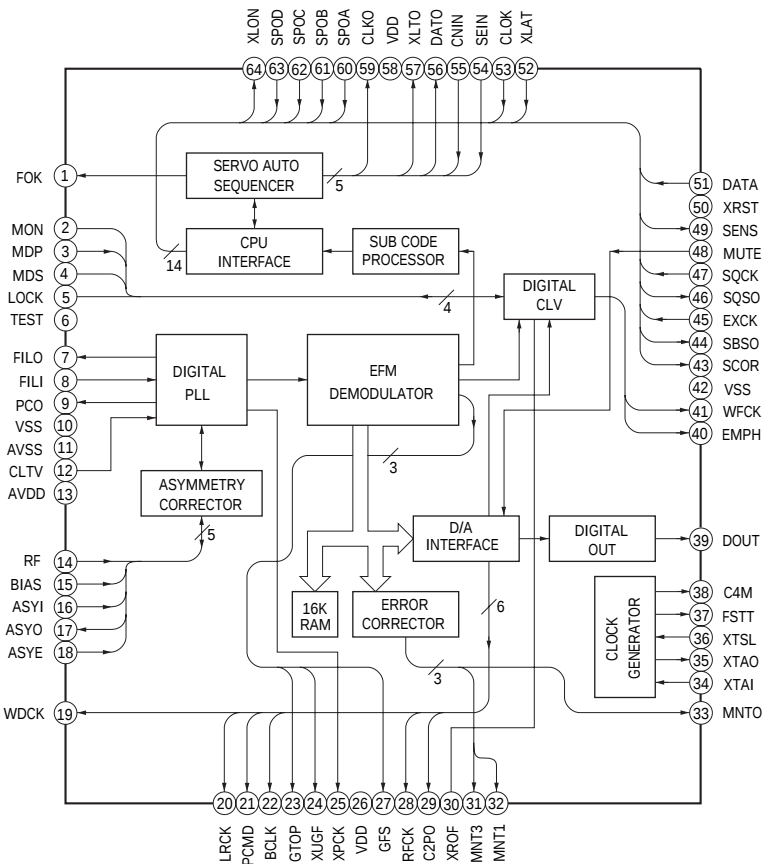
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
(D501)	B-10	LED501	B-3
(D502)	B-12	LED502	B-2
(D503)	B-10	LED503	B-1
(D506)	B-11	LED504	C-2
(D507)	C-10	LED505	C-3
(D508)	C-10		
(IC501)	C-8	(Q502)	B-13
		(Q505)	B-13

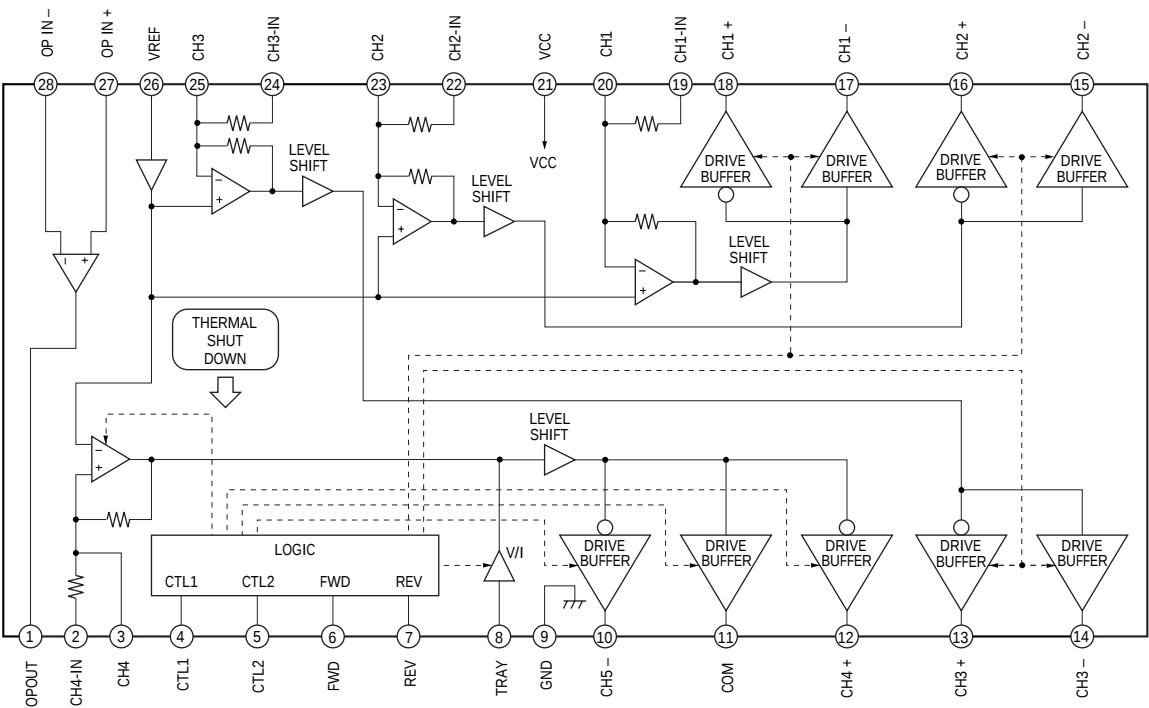
() : SIDE B

• IC Block Diagrams

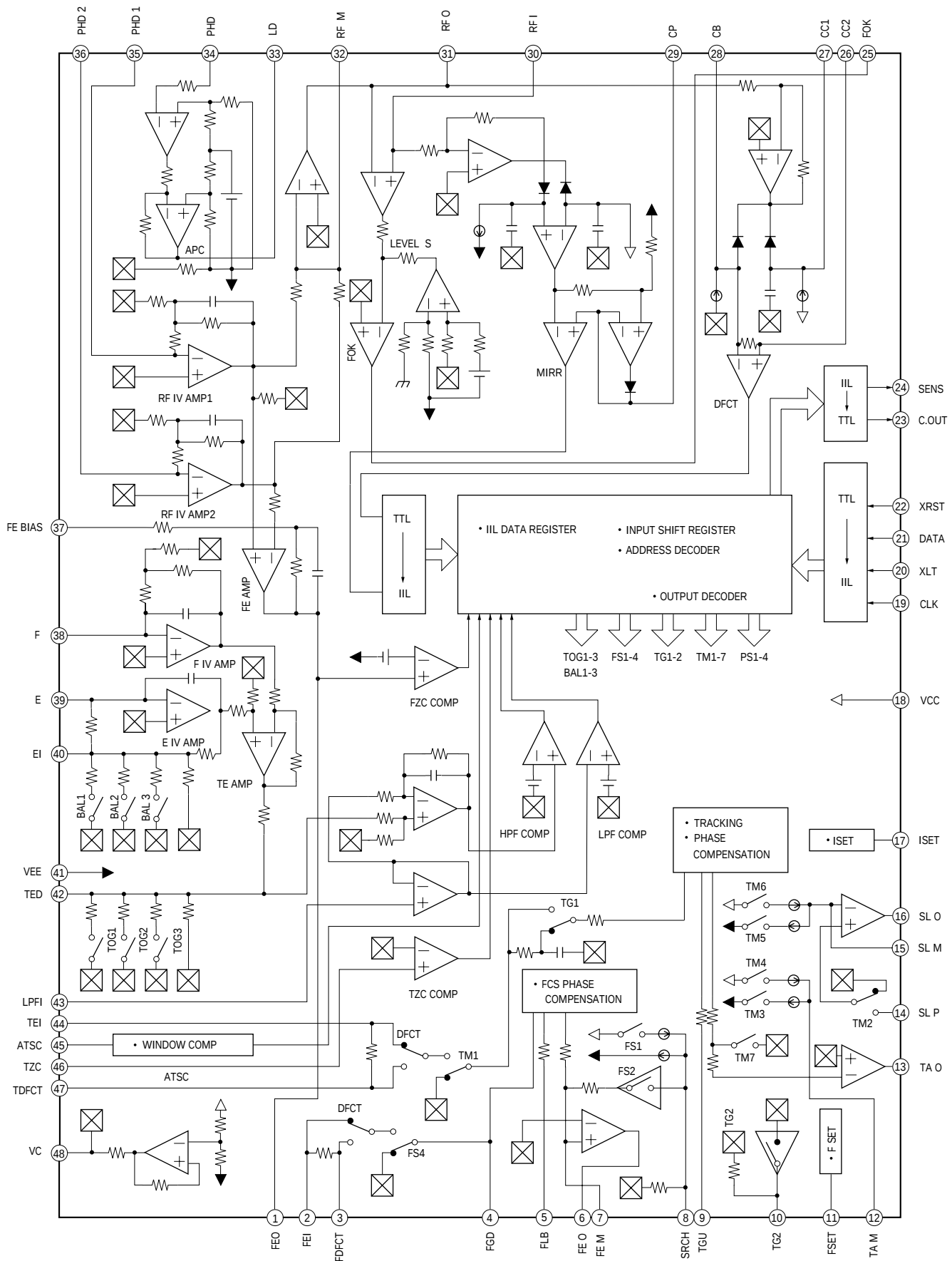
IC1 CXD2507AQ



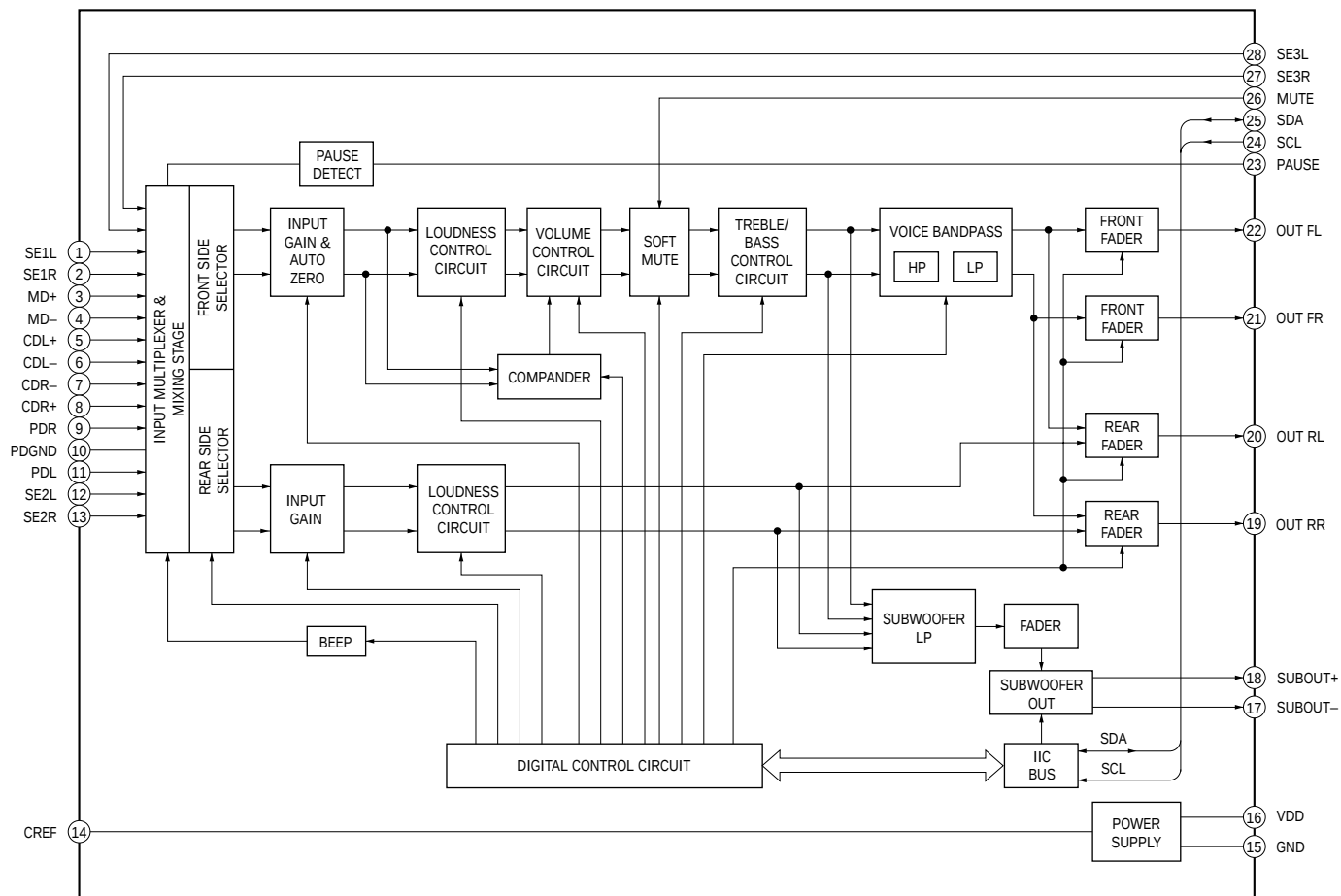
IC3 BA6796FP-T1



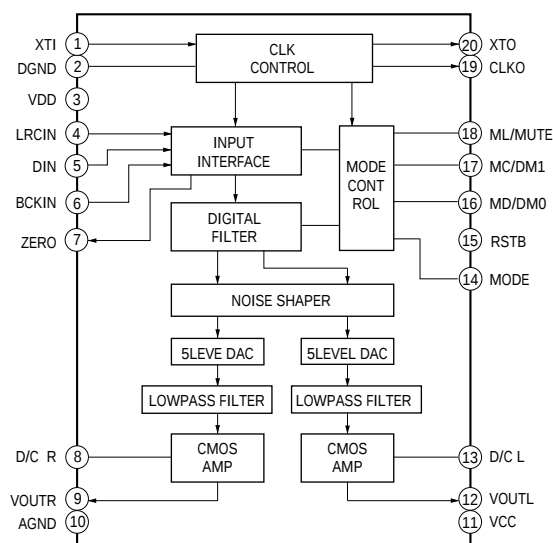
IC2 CXA1782BQ



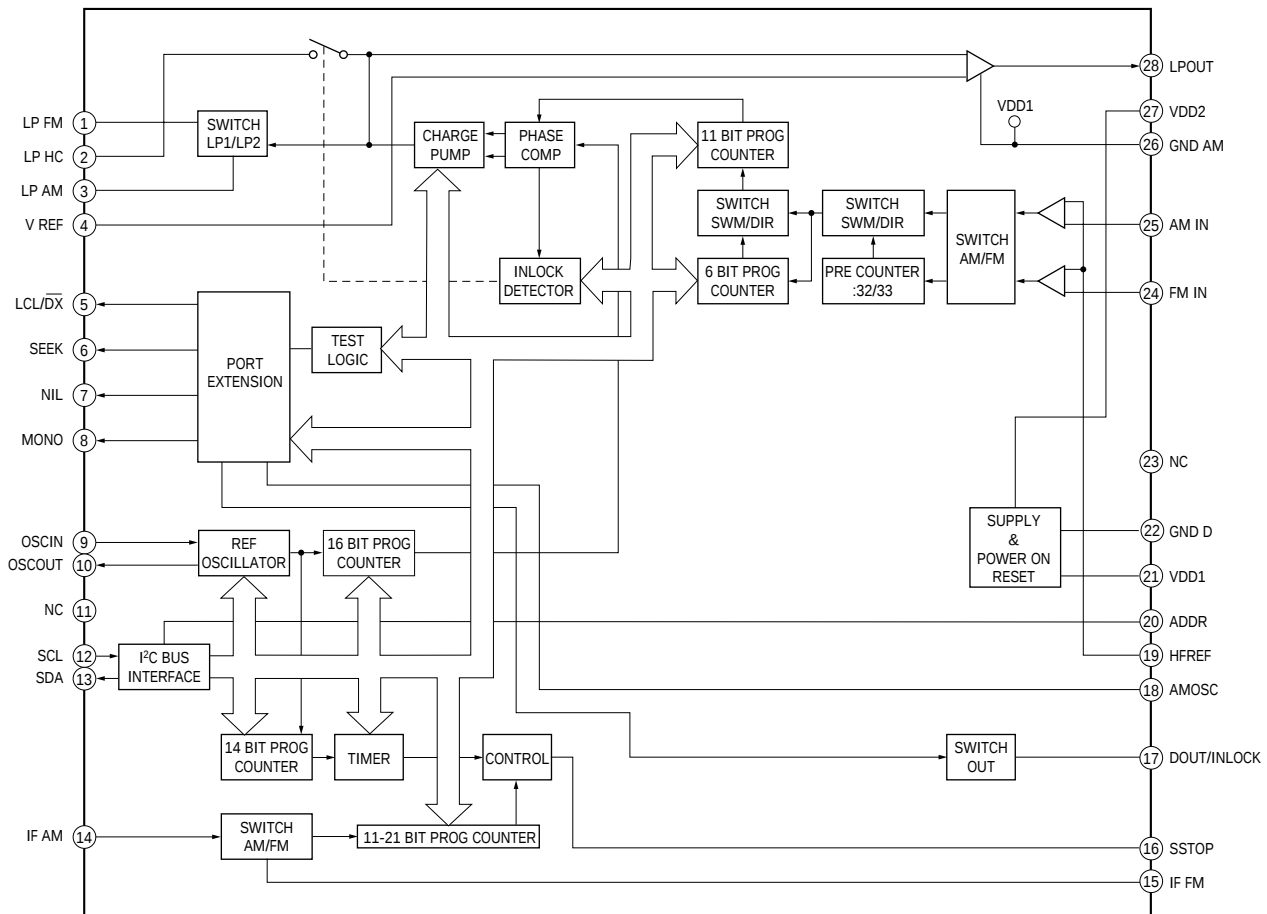
IC401 TDA7462D013TR



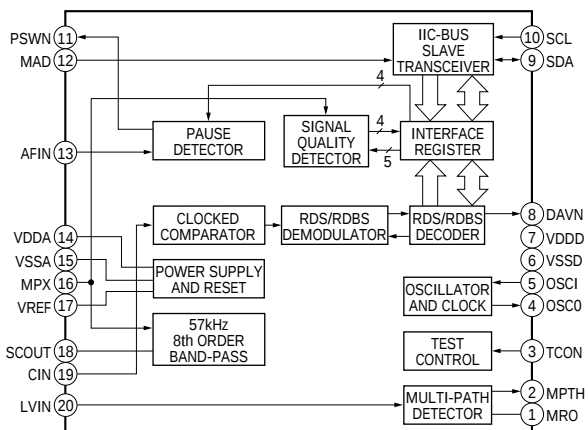
IC702 PCM1717E-ST2



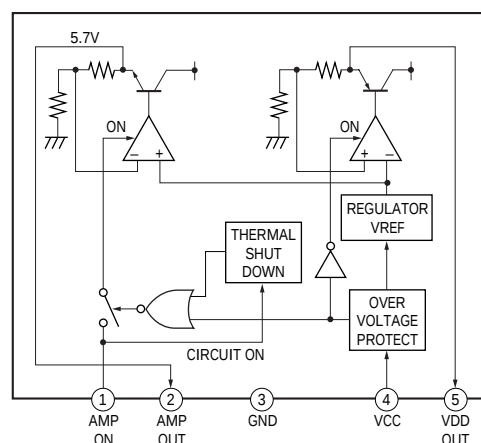
IC601 TDA7427AD1TR



IC602 SAA6588T-118



IC901 BA4903ST-V5



SECTION 5

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.

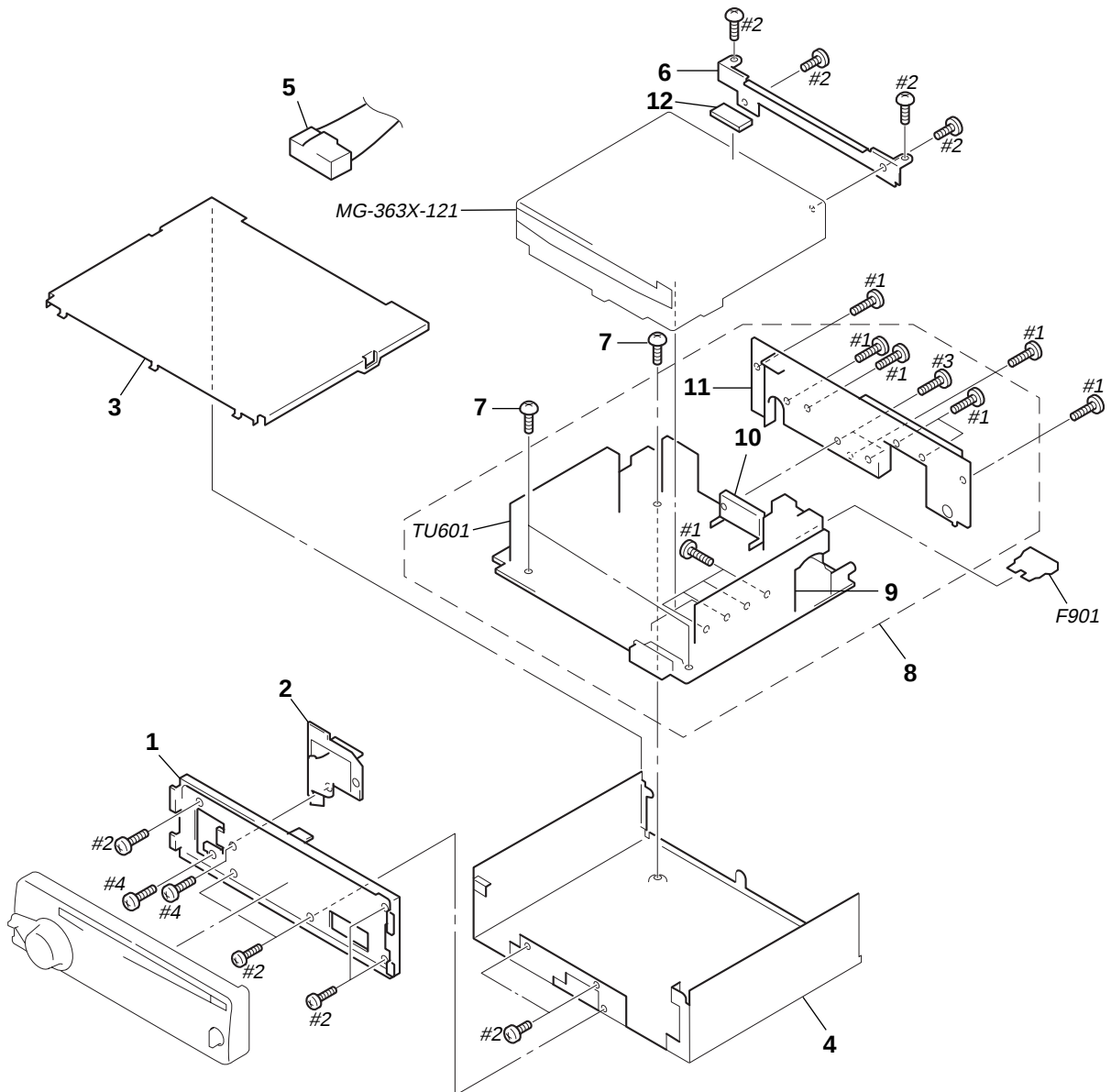
- Color Indication of Appearance Parts
Example :
KNOB, BALANCE (WHITE) ... (RED)

↑
Parts Color

↑
Cabinet's Color
- Accessories and packing materials and hardware (# mark) list are given in the last of this parts list.

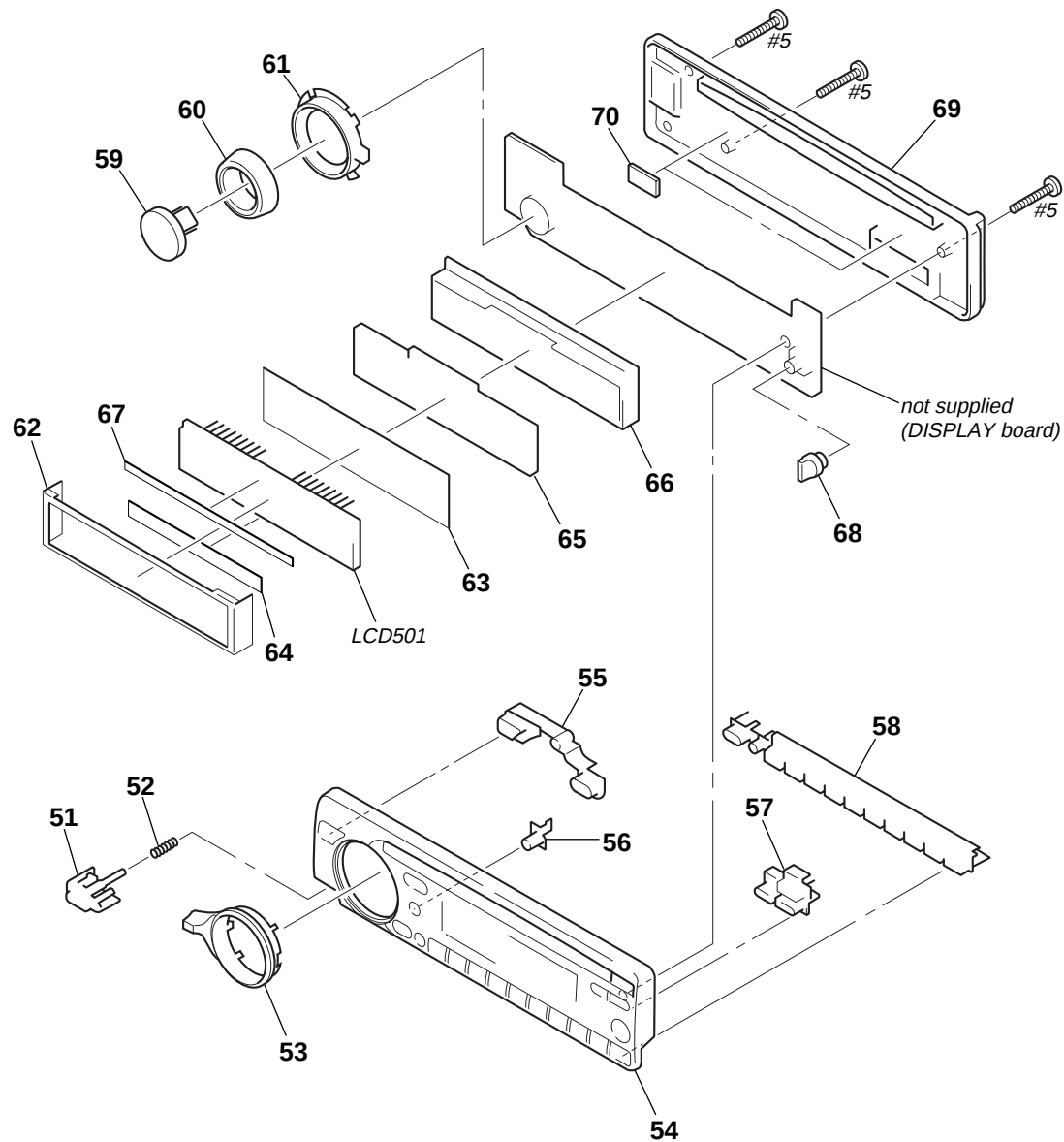
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

5-1. CHASSIS SECTION



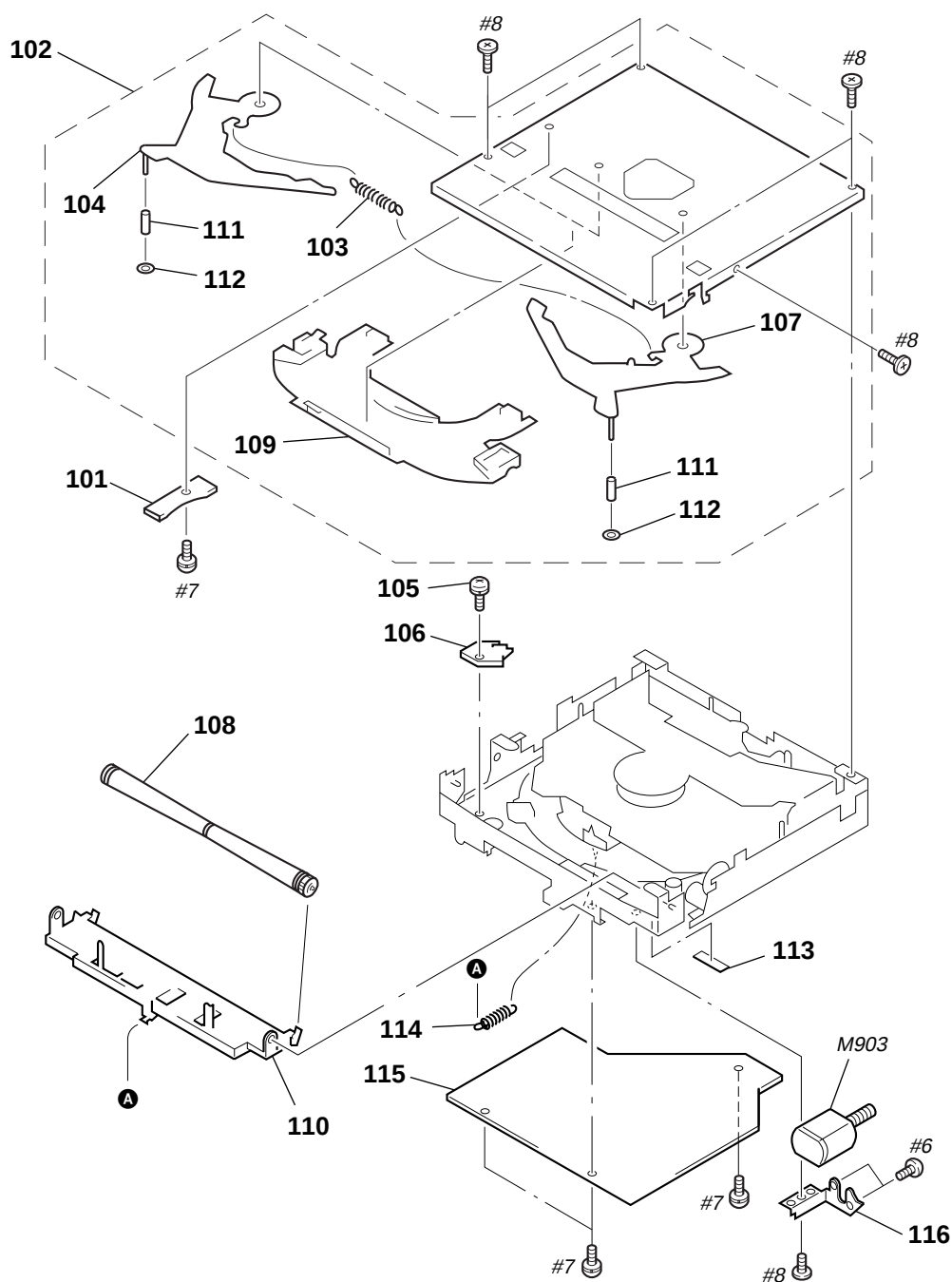
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
1	A-3301-734-A	PANEL (1) ASSY, SUB		* 8	A-3294-762-A	MAIN BOARD, COMPLETE	
2	X-3368-104-2	LOCK ASSY		* 9	3-030-884-01	HEAT SINK (REG)	
* 3	X-3376-734-1	COVER ASSY		* 10	3-030-864-01	BRACKET (IC)	
* 4	3-030-990-01	CHASSIS (MAIN)		* 11	3-030-991-01	HEAT SINK	
5	1-776-527-51	CORD (WITH CONNECTOR) (ISO) (POWER)		* 12	3-024-285-11	CUSHION (RUBBER)	
* 6	3-030-883-01	BRACKET (M/D)		F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
7	3-915-923-01	SCREW, GROUND POINT		TU601	1-693-440-12	TUNER UNIT	

5-2. FRONT PANEL SECTION



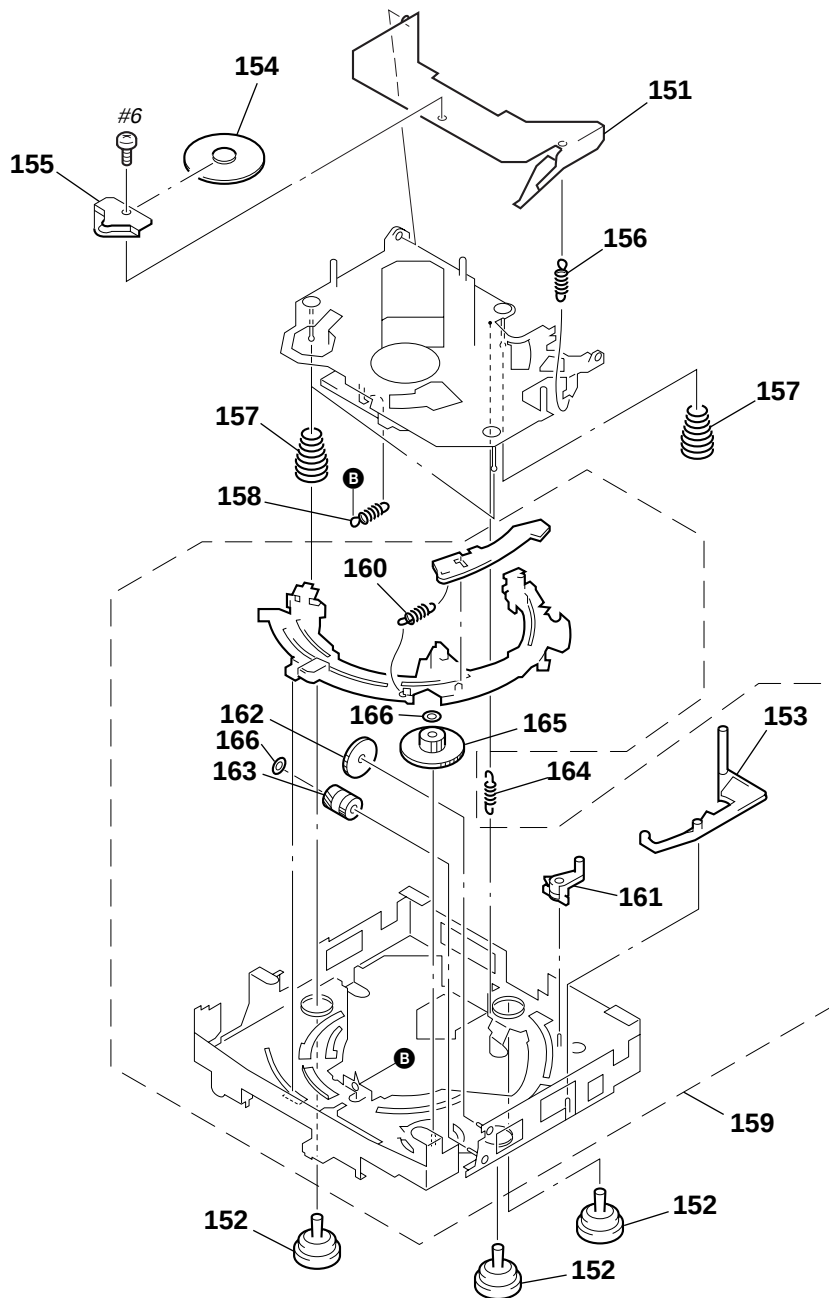
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-030-999-01	BUTTON (RELEASE)		* 62	3-030-994-01	BRACKET (LCD)	
52	3-038-318-01	SPRING (RELEASE)		* 63	3-032-289-01	SHEET (DIFFUSION 5)	
53	3-030-854-11	LEVER (SEEK/AMS)		* 64	3-032-198-01	SHEET (E)	
54	X-3377-867-1	PANEL ASSY, FRONT		* 65	3-030-986-01	PLATE (LCD), LIGHT GUIDE	
55	3-030-998-02	BUTTON (MODE/SOUND)		* 66	3-030-985-01	HOLDER, LCD	
56	3-030-992-01	BUTTON (DSPL)		* 67	3-032-199-01	SHEET (ESD)	
57	3-030-988-01	BUTTON (CD EJECT)		68	3-030-855-01	KNOB (D-BASS)	
58	3-030-987-01	BUTTON (1-10)		69	3-030-982-01	PANEL, FRONT BACK	
59	3-030-993-01	BUTTON (SOURCE)		* 70	3-030-997-01	SHEET, BACK	
60	3-030-853-01	KNOB (VOL)		LCD501	1-803-440-11	DISPLAY PANEL, LIQUID CRYSTAL	
61	3-030-852-01	RING					

5-3. CD MECHANISM SECTION (1) (MG-363X-121)



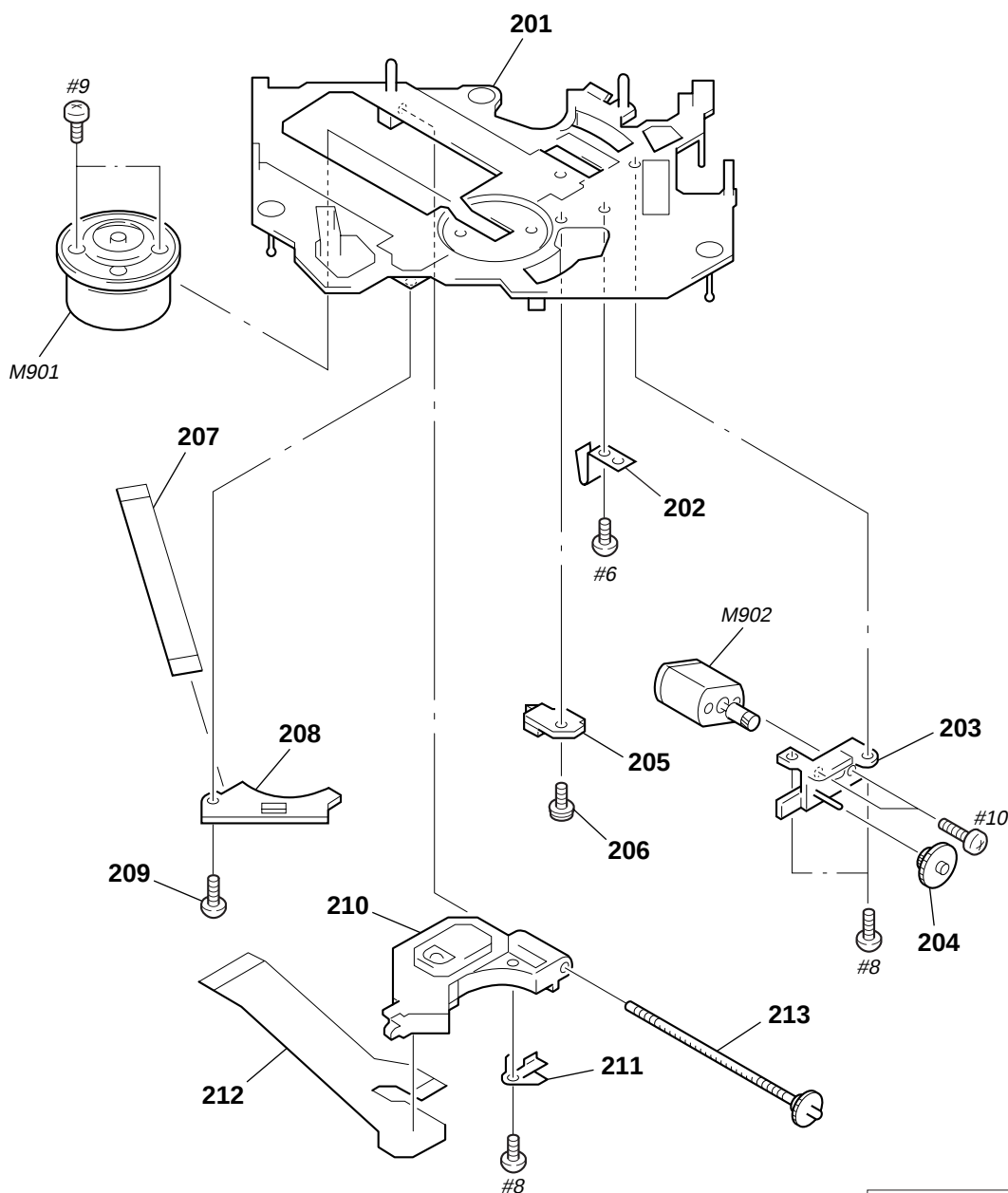
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 101	1-659-836-11	DISC IN SW BOARD		110	3-931-902-04	ARM (ROLLER)	
* 102	A-3291-816-B	CHASSIS (T) SUB ASSY		111	3-936-756-01	ROLLER (D)	
103	3-931-909-01	SPRING (LR), TENSION		112	3-321-393-01	WASHER, STOPPER	
104	X-3371-501-1	LEVER (L) ASSY		* 113	3-939-139-01	SPACER	
105	3-338-737-01	SCREW (2X3), +PS		114	3-931-916-01	SPRING (RA), TENSION	
* 106	1-659-837-11	LOAD SW BOARD		* 115	A-3309-227-A	SERVO BOARD, COMPLETE	
107	X-3371-502-1	LEVER (R) ASSY		* 116	3-007-530-01	BRACKET (MOTOR)	
108	A-3301-203-A	ROLLER ASSY		M903	A-3291-676-A	MOTOR SUB ASSY, LOADING (LOADING)	
109	3-931-908-01	GUIDE (DISC)					

5-4. CD MECHANISM SECTION (2)
(MG-363X-121)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-931-893-01	ARM, CHUCKING		159	A-3277-802-C	CHASSIS (M) COMPLETE ASSY	
152	3-931-897-01	DAMPER (T)		160	3-931-883-01	SPRING (TR), TENSION	
153	3-931-879-02	LEVER (D)		161	3-931-881-01	LEVER (LOCK)	
* 154	3-913-404-11	RETAINER (DISC)		162	3-931-882-02	GEAR (MDL)	
155	3-931-894-01	BRACKET (CP)		163	3-007-537-11	WHEEL (U), WORM	
156	3-931-895-01	SPRING (CH), TENSION		164	3-032-484-01	SPRING (KR1), TENSION	
157	3-931-898-01	SPRING (FL), COMPRESSION		165	3-014-727-01	WHEEL (LW), WORM	
158	3-032-483-02	SPRING (KF1), TENSION		166	3-018-272-01	WASHER	

5-5. CD MECHANISM SECTION (3) (MG-363X-121)



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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 201	X-3374-022-1	CHASSIS (OP) (O/S) ASSY		209	3-909-607-01	SCREW	
202	3-931-829-01	SPRING (SL), PLATE		$\triangle$ 210	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP	
203	X-3371-504-1	BASE (DRIVING) ASSY		211	3-931-834-01	SPRING (FEED), PLATE	
204	3-931-832-01	GEAR (SL MIDWAY)		212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
* 205	1-659-835-12	LIMIT SW BOARD		213	A-3291-669-A	SHAFT (FEED) ASSY	
206	3-338-737-01	SCREW (2X3), +PS		M901	X-3371-664-2	MOTOR ASSY (SPINDLE)	
207	1-659-880-11	MOTOR FLEXIBLE BOARD		M902	A-3291-674-A	MOTOR ASSY, SLED (SLED)	
* 208	1-659-834-11	SUB BOARD					

DISC IN SW

DISPLAY

SECTION 6 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u : μ , for example:
uA.. : μ A.. uPA.. : μ PA..
uPB.. : μ PB.. uPC.. : μ PC.. uPD.. : μ PD..
- CAPACITORS
uF : μ F
- COILS
uH : μ H

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

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

- Abbreviation
G : German model

Ref. No.	Part No.	Description	Remark
*	1-659-836-11	DISC IN SW BOARD *****	
		< SWITCH >	
SW1	1-572-288-21	SWITCH, PUSH (DISC IN)	
SW2	1-572-288-21	SWITCH, PUSH (SELF)	

		DISPLAY BOARD *****	
*	3-030-985-01	HOLDER, LCD	
*	3-030-986-01	PLATE (LCD), LIGHT GUIDE	
*	3-030-994-01	BRACKET (LCD)	
*	3-032-198-01	SHEET (E)	
*	3-032-199-01	SHEET (ESD)	
*	3-032-289-01	SHEET (DIFFUSION 5)	
		< CAPACITOR >	
C503	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C504	1-110-501-11	CERAMIC CHIP 0.33uF 10% 16V	
C505	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
		< CONNECTOR >	
CNP502	1-764-423-11	PIN, CONNECTOR 12P	
		< DIODE >	
D501	8-719-069-54	DIODE UDZS-TE17-5.1B	
D502	8-719-069-54	DIODE UDZS-TE17-5.1B	
D503	8-719-914-43	DIODE DAN202K-T-146	
D506	8-719-069-56	DIODE UDZS-TE17-6.2B	
D507	8-719-069-56	DIODE UDZS-TE17-6.2B	
D508	8-719-069-56	DIODE UDZS-TE17-6.2B	
		< IC >	
IC501	8-759-366-34	IC LC75824E	
		< JUMPER RESISTOR >	
JR512	1-216-295-00	SHORT 0	
JR550	1-216-295-00	SHORT 0	
		< LIQUID CRYSTAL DISPLAY >	
LCD501	1-803-440-11	DISPLAY PANEL, LIQUID CRYSTAL	

Ref. No.	Part No.	Description	Remark
		< DIODE >	
LED501	8-719-987-45	LED CL-155Y/PG-CD-TL	
LED502	8-719-987-45	LED CL-155Y/PG-CD-TL	
LED503	8-719-987-45	LED CL-155Y/PG-CD-TL	
LED504	8-719-987-45	LED CL-155Y/PG-CD-TL	
LED505	8-719-987-45	LED CL-155Y/PG-CD-TL	
		< SWITCH >	
LSW511	1-762-141-12	SWITCH, KEY BOARD (WITH LED) (Δ)	
LSW512	1-762-141-12	SWITCH, KEY BOARD (WITH LED) (AF/TA)	
LSW513	1-762-141-12	SWITCH, KEY BOARD (WITH LED) (PTY)	
LSW514	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (10)	
LSW515	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (9)	
LSW516	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (8)	
LSW517	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (7)	
LSW518	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (6)	
LSW519	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (5)	
LSW520	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (4)	
LSW521	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (3)	
LSW522	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (OFF)	
LSW523	1-762-141-12	SWITCH, KEY BOARD (WITH LED) (SOURCE)	
LSW524	1-762-141-12	SWITCH, KEY BOARD (WITH LED) (DSPL)	
LSW525	1-762-141-12	SWITCH, KEY BOARD (WITH LED) (SOUND)	
LSW526	1-762-141-12	SWITCH, KEY BOARD (WITH LED) (MODE)	
LSW527	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (SHIFT)	
LSW528	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (1)	
LSW529	1-762-617-21	SWITCH, KEY BOARD (WITH LED) (2)	
		< PILOT LAMP >	
PL501	1-517-884-11	LAMP, PILOT (5V/80mA)	
PL502	1-517-884-11	LAMP, PILOT (5V/80mA)	
		< TRANSISTOR >	
Q502	8-729-903-46	TRANSISTOR 2SB1132-T100-QR	
Q505	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
		< RESISTOR >	
R502	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R503	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R504	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R505	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R511	1-216-043-00	RES,CHIP 560 5% 1/10W	
R512	1-216-045-00	METAL CHIP 680 5% 1/10W	
R513	1-216-045-00	METAL CHIP 680 5% 1/10W	

DISPLAY

LIMIT SW

LOAD SW

MAIN

Ref. No.	Part No.	Description	Remark
R514	1-216-049-11	RES,CHIP 1K 5%	1/10W
R515	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
R516	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
R517	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
R518	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R519	1-216-065-00	RES,CHIP 4.7K 5%	1/10W
R520	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
R521	1-216-043-00	RES,CHIP 560 5%	1/10W
R522	1-216-045-00	METAL CHIP 680 5%	1/10W
R523	1-216-045-00	METAL CHIP 680 5%	1/10W
R524	1-216-049-11	RES,CHIP 1K 5%	1/10W
R525	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
R526	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
R527	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
R528	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R529	1-216-065-00	RES,CHIP 4.7K 5%	1/10W
R532	1-216-029-00	METAL CHIP 150 5%	1/10W
R534	1-216-029-00	METAL CHIP 150 5%	1/10W
R536	1-216-037-00	METAL CHIP 330 5%	1/10W
R538	1-216-037-00	METAL CHIP 330 5%	1/10W
R540	1-216-037-00	METAL CHIP 330 5%	1/10W
R542	1-216-037-00	METAL CHIP 330 5%	1/10W
R543	1-216-059-00	METAL CHIP 2.7K 5%	1/10W
R544	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
R545	1-216-059-00	METAL CHIP 2.7K 5%	1/10W
R548	1-216-049-11	RES,CHIP 1K 5%	1/10W
R549	1-216-049-11	RES,CHIP 1K 5%	1/10W
R550	1-216-049-11	RES,CHIP 1K 5%	1/10W
R551	1-216-107-00	METAL CHIP 270K 5%	1/10W
R552	1-216-121-00	RES,CHIP 1M 5%	1/10W
R553	1-216-049-11	RES,CHIP 1K 5%	1/10W
R554	1-216-049-11	RES,CHIP 1K 5%	1/10W
R555	1-216-049-11	RES,CHIP 1K 5%	1/10W
R556	1-216-049-11	RES,CHIP 1K 5%	1/10W
R558	1-216-033-00	METAL CHIP 220 5%	1/10W
R562	1-216-029-00	METAL CHIP 150 5%	1/10W
< ROTARY ENCODER >			
RE501	1-475-014-11	ENCODER, ROTARY	
< SWITCH >			
S501	1-762-937-11	SWITCH, ROTARY (D-BASS)	
S502	1-771-290-11	SWITCH, SLIDE (SEEK/AMS)	

*	1-659-835-12	LIMIT SW BOARD	

< SWITCH >			
SW3	1-572-688-11	SWITCH, PUSH (1 KEY) (LIMIT)	

Ref. No.	Part No.	Description	Remark
*	1-659-837-11	LOAD SW BOARD	

< SWITCH >			
SW4	1-572-288-21	SWITCH, PUSH (DOWN)	

*	A-3294-762-A	MAIN BOARD, COMPLETE	

*	3-030-864-01	BRACKET (IC)	
*	3-030-884-01	HEAT SINK (REG)	
*	3-030-991-01	HEAT SINK	
	7-685-793-09	SCREW +PTT 2.6X8 (S)	
	7-685-795-09	SCREW +PTT 2.6X12 (S)	
< CAPACITOR >			
C101	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C104	1-164-346-11	CERAMIC CHIP 1uF	16V
C105	1-164-346-11	CERAMIC CHIP 1uF	16V
C106	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V
C120	1-126-295-11	ELECT 10uF 20%	35V
C121	1-126-295-11	ELECT 10uF 20%	35V
C122	1-164-346-11	CERAMIC CHIP 1uF	16V
C123	1-164-346-11	CERAMIC CHIP 1uF	16V
C126	1-164-346-11	CERAMIC CHIP 1uF	16V
C129	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C201	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C204	1-164-346-11	CERAMIC CHIP 1uF	16V
C205	1-164-346-11	CERAMIC CHIP 1uF	16V
C220	1-126-295-11	ELECT 10uF 20%	35V
C221	1-126-295-11	ELECT 10uF 20%	35V
C222	1-164-346-11	CERAMIC CHIP 1uF	16V
C223	1-164-346-11	CERAMIC CHIP 1uF	16V
C226	1-164-346-11	CERAMIC CHIP 1uF	16V
C229	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C401	1-124-234-00	ELECT 22uF 20%	16V
C402	1-164-346-11	CERAMIC CHIP 1uF	16V
C403	1-126-382-11	ELECT 100uF 20%	16V
C404	1-163-809-11	CERAMIC CHIP 0.047uF 10%	25V
C407	1-164-346-11	CERAMIC CHIP 1uF	16V
C408	1-164-346-11	CERAMIC CHIP 1uF	16V
C409	1-126-936-11	ELECT 3300uF 20%	16V
C410	1-124-242-00	ELECT 33uF 20%	25V
C411	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C415	1-124-589-11	ELECT 47uF 20%	16V
C416	1-163-021-11	CERAMIC CHIP 0.01uF 10%	50V
C417	1-124-234-00	ELECT 22uF 20%	16V
C421	1-164-343-11	CERAMIC CHIP 0.056uF 10%	25V
C499	1-164-346-11	CERAMIC CHIP 1uF	16V
C601	1-163-235-11	CERAMIC CHIP 22PF 5%	50V
C602	1-164-182-11	CERAMIC CHIP 0.0033uF 10%	50V
C603	1-163-021-11	CERAMIC CHIP 0.01uF 10%	50V
C604	1-124-234-00	ELECT 22uF 20%	16V

MAIN

Ref. No.	Part No.	Description			Remark
C605	1-124-234-00	ELECT	22uF	20%	16V
C606	1-124-584-00	ELECT	100uF	20%	10V
C607	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C608	1-126-295-11	ELECT	10uF	20%	35V
C609	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C610	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C611	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C612	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C613	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C614	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C615	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C617	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C618	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C619	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C621	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C622	1-126-295-11	ELECT	10uF	20%	35V
C623	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C624	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C625	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C626	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C628	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C629	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C630	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C631	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C632	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C636	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C637	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C638	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C639	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C640	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C641	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C642	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C643	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C644	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C645	1-124-589-11	ELECT	47uF	20%	16V
C646	1-124-257-00	ELECT	2.2uF	20%	50V
C647	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C648	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C649	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C651	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C653	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C654	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C657	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C658	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C660	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C663	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C667	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C668	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C671	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C692	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C693	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C694	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C703	1-126-295-11	ELECT	10uF	20%	35V

Ref. No.	Part No.	Description			Remark
C704	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C705	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C707	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C708	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C709	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C710	1-126-295-11	ELECT	10uF	20%	35V
C718	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C780	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C781	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C799	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C801	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C802	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C811	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C812	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C813	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C814	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C816	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C817	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C818	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C903	1-124-465-00	ELECT	0.47uF	20%	50V
C904	1-128-057-11	ELECT	330uF	20%	6.3V
C910	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C912	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C913	1-126-160-11	ELECT	1uF	20%	50V
C914	1-125-701-11	DOUBLE LAYERS	0.047F		5.5V
C917	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C920	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C921	1-124-465-00	ELECT	0.47uF	20%	50V
C922	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C923	1-124-465-00	ELECT	0.47uF	20%	50V
C925	1-163-010-11	CERAMIC CHIP	0.0012uF	10%	50V
C926	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C930	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C931	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C932	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C934	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C940	1-124-464-11	ELECT	0.22uF	20%	50V
C950	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
< JACK >					
CNJ600	1-764-808-21	JACK (ANTENNA)			
CNP802	1-566-822-41	JACK (REMOTE IN)			
< CONNECTOR >					
CNP501	1-774-701-11	PIN, CONNECTOR 16P			
CNP700	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P			
CNP800	1-764-422-11	PLUG, CONNECTOR 12P			
< DIODE >					
D402	8-719-109-71	DIODE MTZJ-T-77-3.9A			
D403	8-719-914-43	DIODE DAN202K-T-146			
D404	8-719-923-92	DIODE MTZJ-T-77-16B			
D405	8-719-923-92	DIODE MTZJ-T-77-16B			

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
D406	8-719-923-92	DIODE MTZJ-T-77-16B		< JUMPER RESISTOR >			
D407	8-719-923-92	DIODE MTZJ-T-77-16B		JR405	1-216-295-00	SHORT 0	
D408	8-719-923-92	DIODE MTZJ-T-77-16B		JR409	1-216-295-00	SHORT 0	
D409	8-719-923-92	DIODE MTZJ-T-77-16B		JR603	1-216-295-00	SHORT 0	
D410	8-719-923-92	DIODE MTZJ-T-77-16B		JR609	1-216-295-00	SHORT 0	
				JR611	1-216-295-00	SHORT 0	
D411	8-719-923-92	DIODE MTZJ-T-77-16B					
D601	8-719-069-55	DIODE UDZS-TE17-5.6B		JR613	1-216-295-00	SHORT 0	
D603	8-719-987-69	DIODE DAN217-T146		JR615	1-216-295-00	SHORT 0	
D604	8-719-058-24	DIODE RB501V-40TE-17		JR616	1-216-295-00	SHORT 0	
D702	8-719-991-33	DIODE 1SS133T-77		JR617	1-216-295-00	SHORT 0	
				JR618	1-216-295-00	SHORT 0	
D807	8-719-069-57	DIODE UDZS-TE17-6.8B					
D823	8-719-069-57	DIODE UDZS-TE17-6.8B		JR620	1-216-295-00	SHORT 0	
D824	8-719-069-57	DIODE UDZS-TE17-6.8B		JR621	1-216-295-00	SHORT 0	
D856	8-719-069-57	DIODE UDZS-TE17-6.8B		JR622	1-216-295-00	SHORT 0	
D857	8-719-069-57	DIODE UDZS-TE17-6.8B		JR623	1-216-295-00	SHORT 0	
				JR624	1-216-295-00	SHORT 0	
D858	8-719-069-57	DIODE UDZS-TE17-6.8B					
D859	8-719-069-57	DIODE UDZS-TE17-6.8B		JR702	1-216-295-00	SHORT 0	
D860	8-719-069-57	DIODE UDZS-TE17-6.8B		JR705	1-216-295-00	SHORT 0	
D861	8-719-069-57	DIODE UDZS-TE17-6.8B		JR710	1-216-295-00	SHORT 0	
D862	8-719-069-57	DIODE UDZS-TE17-6.8B		JR720	1-216-295-00	SHORT 0	
				JR722	1-216-295-00	SHORT 0	
D863	8-719-069-57	DIODE UDZS-TE17-6.8B					
D864	8-719-069-57	DIODE UDZS-TE17-6.8B		JR765	1-216-295-00	SHORT 0	
D865	8-719-069-57	DIODE UDZS-TE17-6.8B					
D870	8-719-069-54	DIODE UDZS-TE17-5.1B		< DIODE >			
D881	8-719-914-43	DIODE DAN202K-T-146		JW29	8-719-050-84	DIODE RB441QT-77	
D901	8-719-200-82	DIODE 11ES2-TA1B		< COIL >			
D902	8-719-200-82	DIODE 11ES2-TA1B		L601	1-410-513-11	INDUCTOR 22uH	
D903	8-719-049-38	DIODE 1N5404TU		L603	1-414-142-11	INDUCTOR 1uH	
D904	8-719-200-82	DIODE 11ES2-TA1B		L611	1-414-137-31	INDUCTOR 0.22uH	
D909	8-719-069-57	DIODE UDZS-TE17-6.8B		L901	1-416-539-21	INDUCTOR 370uH	
D910	8-719-978-69	DIODE UDZ-TE-17-16B		< JACK >			
D912	8-719-923-60	DIODE MTZJ-T-77-9.1A		PJ400	1-774-698-11	JACK, PIN 2P (LINE OUT REAR)	
D913	8-719-109-89	DIODE MTZJ-T-77-5.6B					
D914	8-719-069-57	DIODE UDZS-TE17-6.8B		< TRANSISTOR >			
D915	8-719-923-60	DIODE MTZJ-T-77-9.1A		Q101	8-729-920-21	TRANSISTOR DTC314TK-T-146	
				Q110	8-729-920-31	TRANSISTOR DTC343TK-T-146	
D916	8-719-921-80	DIODE MTZJ-T-77-11B		Q111	8-729-920-31	TRANSISTOR DTC343TK-T-146	
D918	8-719-914-44	DIODE DAP202K-T-146		Q201	8-729-920-21	TRANSISTOR DTC314TK-T-146	
D919	8-719-914-43	DIODE DAN202K-T-146		Q210	8-729-920-31	TRANSISTOR DTC343TK-T-146	
D920	8-719-978-69	DIODE UDZ-TE-17-16B					
D924	8-719-200-82	DIODE 11ES2-TA1B		Q211	8-729-920-31	TRANSISTOR DTC343TK-T-146	
				Q401	8-729-027-31	TRANSISTOR DTA124EKA-T146	
D930	8-719-914-43	DIODE DAN202K-T-146		Q402	8-729-901-00	TRANSISTOR DTC124EKA-T146	
D940	8-719-978-69	DIODE UDZ-TE-17-16B		Q603	8-729-030-51	TRANSISTOR 2SA1515S-R-TP	
				Q604	8-729-027-31	TRANSISTOR DTA124EKA-T146	
< IC >							
IC200	8-759-490-74	IC TDA7384		Q605	8-729-901-00	TRANSISTOR DTC124EKA-T146	
IC401	8-759-572-10	IC TDA7462D013TR		Q609	8-729-901-00	TRANSISTOR DTC124EKA-T146	
IC601	8-759-572-11	IC TDA7427AD1TR		Q610	8-729-216-22	TRANSISTOR 2SA1037K-T-146-S	
IC602	8-759-492-59	IC SAA6588T-118		Q612	8-729-216-22	TRANSISTOR 2SA1037K-T-146-S	
IC603	8-759-909-71	IC BA4558F-E2		Q613	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
IC702	8-759-464-81	IC PCM1717E-ST2					
IC801	8-759-591-86	IC MB90574APMT-G-212-BND					
IC901	8-759-572-12	IC BA4903ST-V5					
IC902	8-759-363-81	IC XC61AN4002PR					

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
Q614	8-729-120-28	TRANSISTOR	2SC2412K-T-146-R				R223	1-216-089-00	RES,CHIP	47K	5%	1/10W	
Q615	8-729-901-00	TRANSISTOR	DTC124EKA-T146				R226	1-216-095-00	METAL CHIP	82K	5%	1/10W	
Q618	8-729-120-28	TRANSISTOR	2SC2412K-T-146-R				R228	1-216-082-00	RES,CHIP	24K	5%	1/10W	
Q804	8-729-901-00	TRANSISTOR	DTC124EKA-T146				R229	1-216-082-00	RES,CHIP	24K	5%	1/10W	
Q901	8-729-027-31	TRANSISTOR	DTA124EKA-T146				R401	1-216-049-11	RES,CHIP	1K	5%	1/10W	
Q902	8-729-901-00	TRANSISTOR	DTC124EKA-T146				R402	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	
Q903	8-729-019-00	TRANSISTOR	2SD2394-G				R403	1-216-113-00	METAL CHIP	470K	5%	1/10W	
Q904	8-729-019-00	TRANSISTOR	2SD2394-G				R404	1-216-295-00	SHORT	0			
Q905	8-729-900-53	TRANSISTOR	DTC114EKA-T146				R405	1-216-295-00	SHORT	0			
Q906	8-729-901-00	TRANSISTOR	DTC124EKA-T146				R408	1-216-073-00	METAL CHIP	10K	5%	1/10W	
Q907	8-729-027-31	TRANSISTOR	DTA124EKA-T146				R417	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
Q908	8-729-901-00	TRANSISTOR	DTC124EKA-T146				R602	1-216-025-00	RES,CHIP	100	5%	1/10W	
Q909	8-729-015-11	TRANSISTOR	2SD1802FAST-TL				R603	1-216-083-00	METAL CHIP	27K	5%	1/10W	
Q910	8-729-027-31	TRANSISTOR	DTA124EKA-T146				R605	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
Q911	8-729-901-00	TRANSISTOR	DTC124EKA-T146				R606	1-216-073-00	METAL CHIP	10K	5%	1/10W	
Q912	8-729-019-00	TRANSISTOR	2SD2394-G				R607	1-216-097-00	RES,CHIP	100K	5%	1/10W	
Q913	8-729-027-31	TRANSISTOR	DTA124EKA-T146				R608	1-216-025-00	RES,CHIP	100	5%	1/10W	
Q914	8-729-027-31	TRANSISTOR	DTA124EKA-T146				R609	1-216-081-00	METAL CHIP	22K	5%	1/10W	
Q915	8-729-027-31	TRANSISTOR	DTA124EKA-T146				R611	1-216-025-00	RES,CHIP	100	5%	1/10W	
Q916	8-729-120-28	TRANSISTOR	2SC2412K-T-146-R				R612	1-216-073-00	METAL CHIP	10K	5%	1/10W	
Q917	8-729-120-28	TRANSISTOR	2SC2412K-T-146-R				R613	1-216-073-00	METAL CHIP	10K	5%	1/10W	
Q918	8-729-120-28	TRANSISTOR	2SC2412K-T-146-R				R614	1-216-295-00	SHORT	0			
Q919	8-729-901-00	TRANSISTOR	DTC124EKA-T146				R615	1-216-295-00	SHORT	0			
Q924	8-729-903-46	TRANSISTOR	2SB1132-T100-QR				R616	1-216-081-00	METAL CHIP	22K	5%	1/10W	
Q925	8-729-901-00	TRANSISTOR	DTC124EKA-T146				R617	1-216-025-00	RES,CHIP	100	5%	1/10W	
Q940	8-729-120-28	TRANSISTOR	2SC2412K-T-146-R				R619	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
		< RESISTOR >					R621	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R101	1-216-057-00	METAL CHIP	2.2K	5%	1/10W		R623	1-216-049-11	RES,CHIP	1K	5%	1/10W	
R102	1-216-073-00	METAL CHIP	10K	5%	1/10W		R624	1-216-049-11	RES,CHIP	1K	5%	1/10W	
R111	1-216-065-00	RES,CHIP	4.7K	5%	1/10W		R625	1-216-037-00	METAL CHIP	330	5%	1/10W	
R112	1-216-049-11	RES,CHIP	1K	5%	1/10W		R626	1-216-049-11	RES,CHIP	1K	5%	1/10W	
R113	1-216-065-00	RES,CHIP	4.7K	5%	1/10W		R627	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R114	1-216-049-11	RES,CHIP	1K	5%	1/10W		R628	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R115	1-216-075-00	METAL CHIP	12K	5%	1/10W		R630	1-216-097-00	RES,CHIP	100K	5%	1/10W	
R116	1-216-075-00	METAL CHIP	12K	5%	1/10W		R631	1-216-097-00	RES,CHIP	100K	5%	1/10W	
R117	1-216-129-00	METAL CHIP	2.2M	5%	1/10W		R632	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R118	1-216-129-00	METAL CHIP	2.2M	5%	1/10W		R633	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R123	1-216-089-00	RES,CHIP	47K	5%	1/10W		R634	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R125	1-216-089-00	RES,CHIP	47K	5%	1/10W		R635	1-216-009-00	RES,CHIP	22	5%	1/10W	
R126	1-216-095-00	METAL CHIP	82K	5%	1/10W		R636	1-216-121-00	RES,CHIP	1M	5%	1/10W	
R128	1-216-082-00	RES,CHIP	24K	5%	1/10W		R637	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R129	1-216-082-00	RES,CHIP	24K	5%	1/10W		R638	1-216-097-00	RES,CHIP	100K	5%	1/10W	
R201	1-216-057-00	METAL CHIP	2.2K	5%	1/10W		R639	1-216-077-00	RES,CHIP	15K	5%	1/10W	
R202	1-216-073-00	METAL CHIP	10K	5%	1/10W		R640	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R211	1-216-065-00	RES,CHIP	4.7K	5%	1/10W		R641	1-216-097-00	RES,CHIP	100K	5%	1/10W	
R212	1-216-049-11	RES,CHIP	1K	5%	1/10W		R642	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	
R213	1-216-065-00	RES,CHIP	4.7K	5%	1/10W		R643	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	
R214	1-216-049-11	RES,CHIP	1K	5%	1/10W		R644	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R215	1-216-075-00	METAL CHIP	12K	5%	1/10W		R645	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R216	1-216-075-00	METAL CHIP	12K	5%	1/10W		R646	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R217	1-216-129-00	METAL CHIP	2.2M	5%	1/10W		R647	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R218	1-216-129-00	METAL CHIP	2.2M	5%	1/10W		R648	1-216-295-00	SHORT	0			
							R649	1-216-097-00	RES,CHIP	100K	5%	1/10W	

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R651	1-216-025-00	RES,CHIP	100	5%	1/10W	R865	1-216-097-00	RES,CHIP	100K	5%	1/10W
R694	1-216-017-00	RES,CHIP	47	5%	1/10W	R866	1-216-097-00	RES,CHIP	100K	5%	1/10W
R695	1-216-097-00	RES,CHIP	100K	5%	1/10W	R868	1-216-049-11	RES,CHIP	1K	5%	1/10W
R699	1-216-075-00	METAL CHIP	12K	5%	1/10W	R869	1-216-097-00	RES,CHIP	100K	5%	1/10W
R701	1-216-025-00	RES,CHIP	100	5%	1/10W	R870	1-216-025-00	RES,CHIP	100	5%	1/10W
R702	1-216-025-00	RES,CHIP	100	5%	1/10W	R871	1-216-025-00	RES,CHIP	100	5%	1/10W
R703	1-216-025-00	RES,CHIP	100	5%	1/10W	R898	1-216-097-00	RES,CHIP	100K	5%	1/10W
R705	1-216-033-00	METAL CHIP	220	5%	1/10W	R899	1-216-097-00	RES,CHIP	100K	5%	1/10W
R708	1-216-037-00	METAL CHIP	330	5%	1/10W	R902	1-216-049-11	RES,CHIP	1K	5%	1/10W
R710	1-216-027-00	METAL CHIP	120	5%	1/10W	R903	1-216-041-00	METAL CHIP	470	5%	1/10W
R723	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	R904	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R802	1-216-049-11	RES,CHIP	1K	5%	1/10W	R906	1-216-097-00	RES,CHIP	100K	5%	1/10W
R805	1-216-097-00	RES,CHIP	100K	5%	1/10W	R907	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R806	1-216-049-11	RES,CHIP	1K	5%	1/10W	R908	1-216-033-00	METAL CHIP	220	5%	1/10W
R807	1-216-049-11	RES,CHIP	1K	5%	1/10W	R909	1-216-041-00	METAL CHIP	470	5%	1/10W
R808	1-216-049-11	RES,CHIP	1K	5%	1/10W	R910	1-216-041-00	METAL CHIP	470	5%	1/10W
R809	1-216-025-00	RES,CHIP	100	5%	1/10W	R911	1-216-041-00	METAL CHIP	470	5%	1/10W
R810	1-216-025-00	RES,CHIP	100	5%	1/10W	R915	1-216-081-00	METAL CHIP	22K	5%	1/10W
R812	1-216-097-00	RES,CHIP	100K	5%	1/10W	R917	1-216-085-00	METAL CHIP	33K	5%	1/10W
R813	1-216-049-11	RES,CHIP	1K	5%	1/10W	R918	1-216-073-00	METAL CHIP	10K	5%	1/10W
R814	1-216-049-11	RES,CHIP	1K	5%	1/10W	R919	1-216-073-00	METAL CHIP	10K	5%	1/10W
R816	1-216-025-00	RES,CHIP	100	5%	1/10W	R920	1-216-097-00	RES,CHIP	100K	5%	1/10W
R821	1-216-097-00	RES,CHIP	100K	5%	1/10W	R921	1-216-295-00	SHORT	0		
R822	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R922	1-216-075-00	METAL CHIP	12K	5%	1/10W
R823	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R923	1-216-105-00	RES,CHIP	220K	5%	1/10W
R825	1-216-097-00	RES,CHIP	100K	5%	1/10W	R924	1-216-089-00	RES,CHIP	47K	5%	1/10W
R826	1-216-097-00	RES,CHIP	100K	5%	1/10W	R925	1-216-097-00	RES,CHIP	100K	5%	1/10W
R827	1-216-105-00	RES,CHIP	220K	5%	1/10W	R928	1-216-041-00	METAL CHIP	470	5%	1/10W
R828	1-216-097-00	RES,CHIP	100K	5%	1/10W	R933	1-216-025-00	RES,CHIP	100	5%	1/10W
R829	1-216-073-00	METAL CHIP	10K	5%	1/10W	R936	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R830	1-216-073-00	METAL CHIP	10K	5%	1/10W	R937	1-216-097-00	RES,CHIP	100K	5%	1/10W
R831	1-216-073-00	METAL CHIP	10K	5%	1/10W	R940	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R832	1-216-097-00	RES,CHIP	100K	5%	1/10W	R999	1-216-097-00	RES,CHIP	100K	5%	1/10W
R833	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	< VARIABLE RESISTOR >					
R834	1-216-097-00	RES,CHIP	100K	5%	1/10W						
R835	1-216-089-00	RES,CHIP	47K	5%	1/10W	RV801	1-241-788-11	RES, ADJ, CARBON	100K		
R839	1-216-073-00	METAL CHIP	10K	5%	1/10W	< SWITCH >					
R842	1-216-097-00	RES,CHIP	100K	5%	1/10W						
R843	1-216-073-00	METAL CHIP	10K	5%	1/10W	S900	1-692-431-21	SWITCH, TACTILE (RESET)			
R844	1-216-025-00	RES,CHIP	100	5%	1/10W	< TUNER >					
R845	1-216-025-00	RES,CHIP	100	5%	1/10W						
R846	1-216-097-00	RES,CHIP	100K	5%	1/10W	TU601	1-693-440-12	TUNER UNIT			
R847	1-216-097-00	RES,CHIP	100K	5%	1/10W	< VIBRATOR >					
R848	1-216-097-00	RES,CHIP	100K	5%	1/10W						
R850	1-216-097-00	RES,CHIP	100K	5%	1/10W	X601	1-781-246-21	VIBRATOR, CRYSTAL (10.25MHz)			
R851	1-216-097-00	RES,CHIP	100K	5%	1/10W	X602	1-579-242-41	VIBRATOR, CRYSTAL (4.3MHz)			
R856	1-216-025-00	RES,CHIP	100	5%	1/10W	X700	1-579-345-11	VIBRATOR, CERAMIC (16.9344MHz)			
R858	1-216-295-00	SHORT	0			X800	1-767-833-21	VIBRATOR, CERAMIC (3.68MHz)			
R859	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	X801	1-567-098-41	VIBRATOR, CRYSTAL (32kHz)			
R860	1-216-097-00	RES,CHIP	100K	5%	1/10W	*****					
R861	1-216-105-00	RES,CHIP	220K	5%	1/10W						
R862	1-216-105-00	RES,CHIP	220K	5%	1/10W						
R863	1-216-049-11	RES,CHIP	1K	5%	1/10W						

SERVO

Ref. No.	Part No.	Description	Remark			
*	A-3309-227-A	SERVO BOARD, COMPLETE				

< CAPACITOR >						
C1	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C2	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V	
C3	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V	
C4	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C5	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	
C6	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V	
C7	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C9	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C10	1-126-206-11	ELECT CHIP	100uF	20%	6.3V	
C11	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C12	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C13	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V	
C14	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	
C15	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V	
C16	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	
C17	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C19	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
C20	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C21	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C22	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C23	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C24	1-163-259-11	CERAMIC CHIP	220PF	5%	50V	
C25	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C26	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C27	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C28	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V	
C29	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C30	1-126-603-11	ELECT CHIP	4.7uF	20%	35V	
C31	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V	
C32	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V	
C33	1-124-779-00	ELECT CHIP	10uF	20%	16V	
C34	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C35	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V	
C36	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C37	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C38	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C39	1-126-204-11	ELECT CHIP	47uF	20%	16V	
C40	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
< CONNECTOR >						
CN1	1-764-616-12	HOUSING, CONNECTOR (PC BOARD) 30P				
CN2	1-565-728-51	CONNECTOR, FPC 17P				
CN3	1-770-347-21	CONNECTOR, FPC 6P				
< IC >						
IC1	8-752-372-94	IC XD2507AQ				
IC2	8-752-074-34	IC XA1782BQ				
IC3	8-759-354-16	IC A6796FP-T1				

Ref. No.	Part No.	Description		Remark
< JUMPER RESISTOR >				
JR1	1-216-296-00	SHORT	0	
JR2	1-216-296-00	SHORT	0	
JR3	1-216-296-00	SHORT	0	
JR4	1-216-296-00	SHORT	0	
JR5	1-216-296-00	SHORT	0	
JR6	1-216-296-00	SHORT	0	
JR7	1-216-296-00	SHORT	0	
JR8	1-216-296-00	SHORT	0	
JR9	1-216-296-00	SHORT	0	
JR10	1-216-296-00	SHORT	0	
JR11	1-216-296-00	SHORT	0	
JR12	1-216-296-00	SHORT	0	
JR13	1-216-296-00	SHORT	0	
JR14	1-216-296-00	SHORT	0	
JR15	1-216-296-00	SHORT	0	
JR16	1-216-296-00	SHORT	0	
JR17	1-216-296-00	SHORT	0	
JR18	1-216-296-00	SHORT	0	
JR19	1-216-296-00	SHORT	0	
JR20	1-216-296-00	SHORT	0	
JR21	1-216-296-00	SHORT	0	
JR22	1-216-296-00	SHORT	0	
JR23	1-216-296-00	SHORT	0	
JR24	1-216-296-00	SHORT	0	
JR25	1-216-296-00	SHORT	0	
JR26	1-216-296-00	SHORT	0	
JR27	1-216-296-00	SHORT	0	
JR28	1-216-296-00	SHORT	0	
JR29	1-216-296-00	SHORT	0	
JR30	1-216-296-00	SHORT	0	
JR31	1-216-296-00	SHORT	0	
JR32	1-216-296-00	SHORT	0	
JR33	1-216-296-00	SHORT	0	
JR34	1-216-296-00	SHORT	0	
JR35	1-216-296-00	SHORT	0	
JR36	1-216-296-00	SHORT	0	
JR37	1-216-296-00	SHORT	0	
JR38	1-216-296-00	SHORT	0	
JR39	1-216-296-00	SHORT	0	
JR40	1-216-296-00	SHORT	0	
JR41	1-216-296-00	SHORT	0	
JR43	1-216-296-00	SHORT	0	
JR44	1-216-296-00	SHORT	0	
JR45	1-216-296-00	SHORT	0	
JR46	1-216-296-00	SHORT	0	
< COIL >				
L1	1-412-058-11	INDUCTOR CHIP	10uH	
L2	1-412-058-11	INDUCTOR CHIP	10uH	
L3	1-412-058-11	INDUCTOR CHIP	10uH	

Ref. No.	Part No.	Description	Remark		
< TRANSISTOR >					
Q1	8-729-904-60	TRANSISTOR	DTB113ZK-T-146		
Q2	8-729-904-86	TRANSISTOR	2SB1197K-T-146-Q		
< RESISTOR >					
R1	1-216-073-00	METAL CHIP	10K	5%	1/10W
R2	1-216-097-00	RES,CHIP	100K	5%	1/10W
R3	1-216-121-00	RES,CHIP	1M	5%	1/10W
R4	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R5	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R6	1-216-073-00	METAL CHIP	10K	5%	1/10W
R7	1-216-009-00	RES,CHIP	22	5%	1/10W
R8	1-216-119-00	METAL CHIP	820K	5%	1/10W
R9	1-216-119-00	METAL CHIP	820K	5%	1/10W
R10	1-216-073-00	METAL CHIP	10K	5%	1/10W
R11	1-216-073-00	METAL CHIP	10K	5%	1/10W
R14	1-216-085-00	METAL CHIP	33K	5%	1/10W
R15	1-216-085-00	METAL CHIP	33K	5%	1/10W
R16	1-216-077-00	RES,CHIP	15K	5%	1/10W
R17	1-216-081-00	METAL CHIP	22K	5%	1/10W
R19	1-216-079-00	METAL CHIP	18K	5%	1/10W
R20	1-216-105-00	RES,CHIP	220K	5%	1/10W
R21	1-216-105-00	RES,CHIP	220K	5%	1/10W
R22	1-216-085-00	METAL CHIP	33K	5%	1/10W
R23	1-216-121-00	RES,CHIP	1M	5%	1/10W
R24	1-216-073-00	METAL CHIP	10K	5%	1/10W
R27	1-216-295-00	SHORT	0		
R28	1-216-101-00	METAL CHIP	150K	5%	1/10W
R29	1-216-097-00	RES,CHIP	100K	5%	1/10W
R30	1-216-097-00	RES,CHIP	100K	5%	1/10W
R31	1-216-081-00	METAL CHIP	22K	5%	1/10W
R32	1-216-109-00	METAL CHIP	330K	5%	1/10W
R33	1-216-105-00	RES,CHIP	220K	5%	1/10W
R34	1-216-009-00	RES,CHIP	22	5%	1/10W
R35	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R36	1-216-097-00	RES,CHIP	100K	5%	1/10W
R37	1-216-117-00	METAL CHIP	680K	5%	1/10W
R38	1-216-109-00	METAL CHIP	330K	5%	1/10W
R39	1-216-101-00	METAL CHIP	150K	5%	1/10W
R40	1-216-114-00	RES,CHIP	510K	5%	1/10W
R41	1-216-093-00	RES,CHIP	68K	5%	1/10W
R42	1-216-103-00	METAL CHIP	180K	5%	1/10W
R43	1-216-097-00	RES,CHIP	100K	5%	1/10W
R44	1-216-085-00	METAL CHIP	33K	5%	1/10W
R45	1-216-081-00	METAL CHIP	22K	5%	1/10W
R46	1-216-097-00	RES,CHIP	100K	5%	1/10W
R47	1-216-105-00	RES,CHIP	220K	5%	1/10W
R48	1-216-073-00	METAL CHIP	10K	5%	1/10W
R49	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R50	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R51	1-216-295-00	SHORT	0		

Ref. No.	Part No.	Description	Remark
< VARIABLE RESISTOR >			
RV1	1-238-091-11	RES, ADJ, CERMET	22K
RV4	1-238-091-11	RES, ADJ, CERMET	22K

*	1-659-834-11	SUB BOARD	*****
< CONNECTOR >			
CN1	1-770-347-21	CONNECTOR, FPC 6P	*****

MISCELLANEOUS			

5	1-776-527-51	CORD (WITH CONNECTOR) (ISO) (POWER)	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
△ 210	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP	
212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
M901	X-3371-664-2	MOTOR ASSY (SPINDLE)	
M902	A-3291-674-A	MOTOR ASSY, SLED (SLED)	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING (LOADING)	

ACCESSORIES & PACKING MATERIALS			

	3-865-874-12	MANUAL, INSTRUCTION (ENGLISH,SPANISH, PORTUGUESE,SWEDISH) (AEP,UK)	
	3-865-874-22	MANUAL, INSTRUCTION (FRENCH,GERMAN, DUTCH,ITALIAN) (AEP)	
	3-865-874-32	MANUAL, INSTRUCTION (GERMAN) (G)	
	3-865-878-12	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,PORTUGUESE,SWEDISH) (AEP,UK)	
	3-865-878-22	MANUAL, INSTRUCTION, INSTALL (FRENCH, GERMAN,DUTCH,ITALIAN) (AEP,G)	
	X-3374-927-3	CASE ASSY (for FRONT PANEL)	

HARDWARE LIST			

#1	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#3	7-685-795-09	SCREW +PTT 2.6X12 (S)	
#4	7-621-772-10	SCREW +B 2X4	
#5	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
#6	7-627-553-17	SCREW, PRECISION +P 2X2 TYPE3	
#7	7-628-253-00	SCREW +PS 2X4	
#8	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	
#9	7-627-000-00	SCREW, PRECISION +P 1.7X2.2 TYPE3	
#10	7-627-850-28	SCREW, PRECISION +P 1.4X3	

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

Ref. No.	Part No.	Description	Remark
PARTS FOR INSTALLATION AND CONNECTIONS			

251	3-011-653-01	FRAME	
252	X-3374-928-1	COLLAR ASSY	
253	3-034-262-01	SCREW, FITTING	
* 254	3-358-697-01	BUSHING	
255	3-909-731-01	KEY	
256	1-776-527-51	CORD (WITH CONNECTOR) (ISO) (POWER)	
257	1-465-459-11	ADAPTOR, ANTENNA	

