

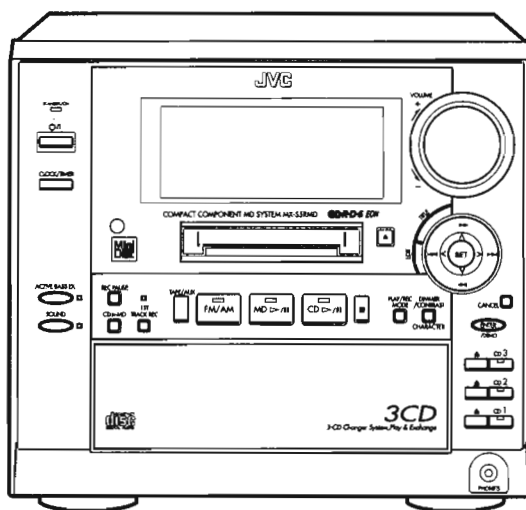
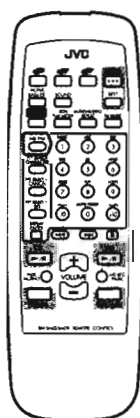
CA-MXS5MD  
CA-MXS5RMD  
SP-MXS5MD

# JVC

## SERVICE MANUAL

### COMPACT COMPONENT MD SYSTEM

# CA-MXS5MD CA-MXS5RMD SP-MXS5MD



<b>Areas suffix</b>	
<b>CA-MXS5MD</b>	
UB	----- Hong Kong
US	----- Singapore
UT	----- Taiwan
<b>Areas suffix</b>	
<b>CA-MXS5RMD</b>	
B	----- U.K.
E	-- Continental Europe
EN	-- Northern Europe
<b>Areas suffix</b>	
<b>SP-MXS5MD</b>	
U	--- for CA-MXS5MD UB
US	-- for CA-MXS5MD US
UT	-- for CA-MXS5MDUT
E	-- for CA-MXS5RMD B
	CA-MXS5RMD E
	CA-MXS5RMD EN



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## Safety Precautions

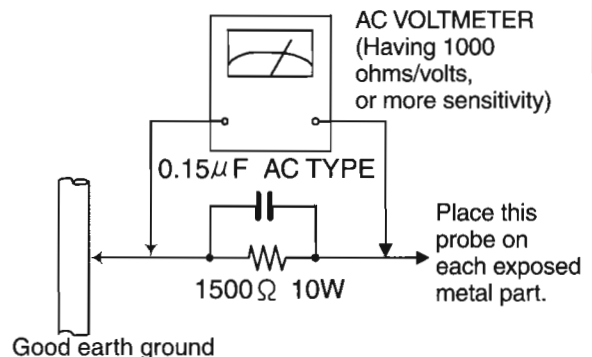
1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by ( $\Delta$ ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)  
After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.
  - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)

### ● Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. voltage measured Any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).




## Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.


**⚠ CAUTION** Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of performing repair of this system.

### **Safety precautions** (U.K only)

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits.
2. Any unauthorised design alterations or additions will void the manufacturer's guarantee ; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.
3. Essential safety critical components are identified by (  ) on the Parts List and by shading on the schematics, and must never be replaced by parts other than those listed in the manual. Please note however that many electrical and mechanical parts in the product have special safety related characteristics. These characteristics are often not evident from visual inspection. Parts other than specified by the manufacturer may not have the same safety characteristics as the recommended replacement parts shown in the Parts List of the Service Manual and may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

### **Warning**

1. Service should be performed by qualified personnel only.
2. This equipment has been designed and manufactured to meet international safety standards.
3. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
4. Repairs must be made in accordance with the relevant safety standards.
5. It is essential that safety critical components are replaced by approved parts.
6. If mains voltage selector is provided, check setting for local voltage.

 **CAUTION** Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of performing repair of this system.

# Important for laser products

**1.CLASS 1 LASER PRODUCT**

**2.DANGER :** Invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.

**3.CAUTION :** There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

**4.CAUTION :** The compact disc player uses invisible laserradiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

**5.CAUTION :** If safety switches malfunction, the laser is able to function.

**6.CAUTION :** Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**⚠ CAUTION** Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

**VARNING :** Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

**VARO :** Avattaessa ja suojalukitus ohitettaessa olet alltiina näkymättömälle lasersäteilylle.Älä katso säteeseen.

**ADVARSEL :** Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

**ADVARSEL :** Usynlig laserstrålning ved åbning,når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

## REPRODUCTION AND POSITION OF LABELS

### WARNING LABEL

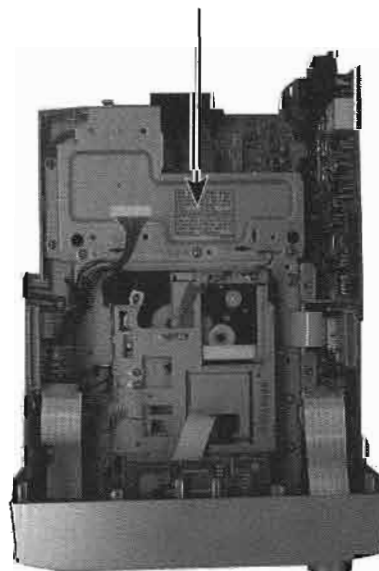
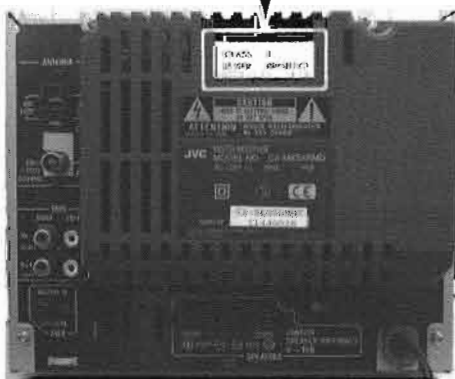
DANGER : Invisible laser radiation when open and Interlock or defeated.  
 AVOID DIRECT EXPOSURE TO BEAM (e)

VARO : Avattaessa ja suojalukitus ohitettaessa olet alltiina näkymättömälle lasersäteilylle.Älä katso säteeseen. (d)

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen. (s)

ADVARSEL :Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (f)

**CLASS 1  
 LASER PRODUCT**





# CA-MXS5MD/MXS5RMD SP-MXS5MD

## Introduction

We would like to thank you for purchasing one of our JVC products. Before operating this unit, read this manual carefully and thoroughly to obtain the best possible performance from your unit, and retain this manual for future reference.

### About This Manual

This manual is organized as follows:

- The manual mainly explains operations using the buttons and controls on the unit. You can also use the buttons on the remote control if they have the same or similar names (or marks) as those on the unit. If operation using the remote control is different from that using the unit, it is then explained.
- Basic and common information that is the same for many functions is grouped in one place, and is not repeated in each procedure. For instance, we do not repeat the information about turning on/off the unit, setting the volume, changing the sound effects, and others, which are explained in the section "Basic and Common Operations" on pages 14 - 16.
- The following marks are used in this manual:



Gives you warnings and cautions to prevent from damage or risk of fire/electric shock. Furthermore, gives you information which is not good for obtaining the best possible performance from the unit.



Gives you information and hints, you had better know.

### Precautions

#### Installation

- Install in a place which is level, dry and neither too hot nor too cold — between 5°C (41°F) and 35°C (95°F).
- Install the unit in a location with adequate ventilation to prevent internal heat buildup in the unit.
- Leave sufficient distance between the unit and the TV.
- Keep the speakers away from the TV to avoid interference with TV.



DO NOT install the unit in a location near heat sources, or in a place subject to direct sunlight, excessive dust or vibration.

#### Power sources

- When unplugging the unit from the wall outlet, always pull the plug, not the AC power cord.



DO NOT handle the AC power cord with wet hands.

#### Moisture condensation

Moisture may condense on the lens inside the unit in the following cases:

- After starting heating in the room
  - In a damp room
  - If the unit is brought directly from a cold to a warm place
- Should this occur, the unit may malfunction. In this case, leave the unit turned on for a few hours until the moisture evaporates, unplug the AC power cord, then plug it in again.

#### Others

- Should any metallic object or liquid fall into the unit, unplug the unit and consult your dealer before operating any further.
- If you are not going to operate the unit for an extended period of time, unplug the AC power cord from the wall outlet.



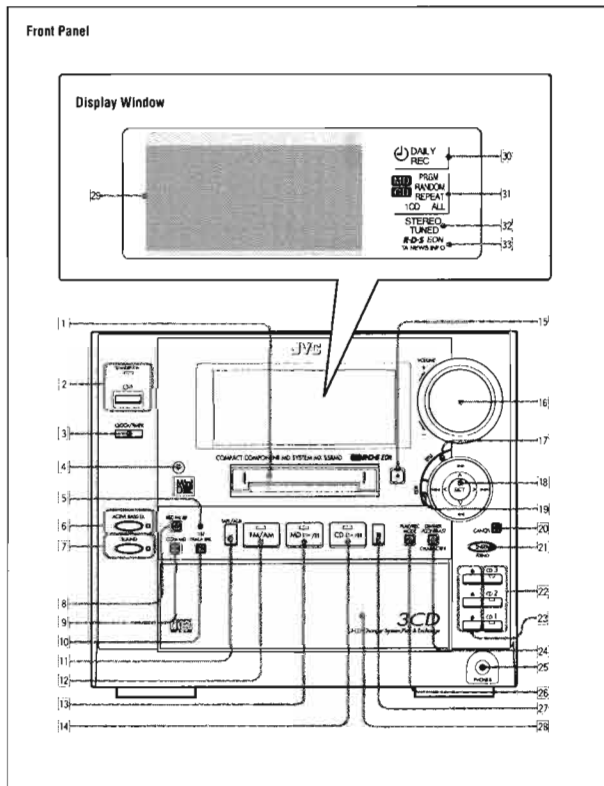
DO NOT disassemble the unit since there are no user serviceable parts inside.

If anything goes wrong, unplug the AC power cord and consult your dealer.

- 1 -

## Location of the Buttons and Controls

Become familiar with the buttons and controls on your unit.



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Continued

See pages in the parentheses for details.

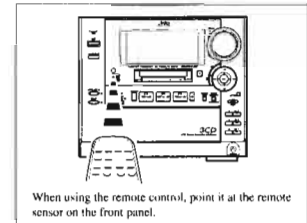
### Front Panel

- 11 MD loading slot
- 12 (Standby/On) button and STANDBY/ON lamp (11)
- 13 CLOCK/TIMER button (11, 51)
- 14 Remote sensor
- 15 Recording lamp (34)
- 16 ACTIVE BASS EX. (extension) button and lamp (15)
- 17 SOUND button and lamp (16)
- 18 REC PAUSE button (34)
- 19 CD MD button (35)
- 20 1ST TRACK REC button (35)
- 21 TAPE/AUX button (15, 34)
- 22 MD H (play/pause) button and lamp (15, 29)
- 23 CD H (play/pause) button and lamp (15, 25)
- 24 (eject) button (29)
- 25 Pressing this button also turns on the unit.
- 26 VOLUME control (15)
- 27 TITLE button (45, 49)
- 28 Joy control
- 29 , , and SET
- 30 Pressing SET also turns on the unit.
- 31 EDIT button (40)
- 32 CANCEL button (11, 27, 30, 40, 46)
- 33 ENTER/DEMO button (12, 40, 46)
- 34 Disc number buttons and lamps (25)
- 35 CD 1, CD 2, and CD 3
- 36 Pressing one of these buttons also turns on the unit.
- 37 (open/close) buttons (25)
- 38 Pressing one of these buttons also turns on the unit.

- 24 DIMMER/CONTRAST button (13)
- 25 CHARACTER button (45)
- 26 PHONES Jack (15)
- 28 PLAY/REC MODE button (26, 30, 36, 37)
- 29 (stop) button (25, 29, 34)
- 30 Disc trays (25)

### Display window

- 29 Main display
  - Shows the source name, track number, and other information.
- 30 Timer mode indicators
  - DAILY (Daily Timer) and REC (Recording Timer)
- 31 MD/CD play mode indicators
  - MD, CD, PRGM (Program), RANDOM, and REPEAT (1/CD/ALL)
- 32 Tuner mode indicators
  - STEREO and TUNED
- 33 RDS operation indicators
  - RDS, EON, and TA/NEWS/INFO



**About the indications in the main display**  
When using some functions with the remote control, the indications in the main display appear differently at first from those when using the same functions with the buttons on the unit.

Ex. When selecting a CD track using the remote control

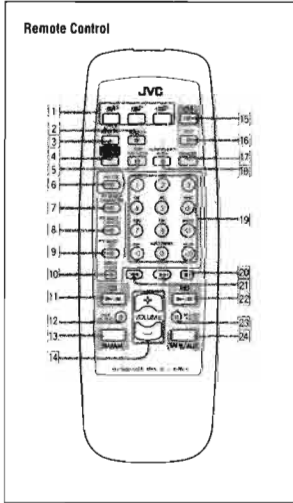


The indication does not appear when using the buttons on the unit except the TAPE/AUX, FM/AM, MD , H, CD , H, TITLE, and EDIT buttons.

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## Getting Started

Continued



Remote Control

### Remote Control

- 1 Disc number buttons (25)
  - CD 1, CD 2, and CD 3
  - Pressing one of these buttons also turns on the unit.
- 2 SOUND button (16)
- 3 ACTIVE BASS EX. (extension) button (15)
- 4 RDS CONTROL button (20)
- 5 PLAY MODE button (26, 30)
- 6 EJECT button (21)
- 7 MD TITLE button (47)
- 7\* CHARACTER buttons (48)
- PTY SEARCH button (20)
- 8\* CANCEL button (27, 30, 48)
- PTY SELECT + button (20)
- 9\* SET button (48)
- PTY SELECT - button (20)
- 10\* ENTER button (48)
- DISPLAY button (20)
- 11 CD / II (play/pause) button (15, 25)
  - Pressing this button also turns on the unit.
- 12 PAUSE button (15)
- 13 FM/AM buttons (15, 18)
  - Pressing this button also turns on the unit.
- 14 VOLUME + / - button (15)
- 15 Q / (Standby/On) button (11)
- 16 SLEEP button (54)
- 17 FM MODE button (18)
- 18\* REPEAT button (27, 31)
- TA/NEWS/INFO button (21)
- 19\* Number buttons
  - 1 - 10, +10 buttons (19, 26, 29)
  - Character entry buttons (A - Z, 0 - 9) (48)
  - / → buttons (48)
  - AUTO PRESET button (18)
  - 20 (stop) button (25, 29, 34)
  - 21 (reverse search/forward search) button (18, 26, 27, 29)
  - 22 MD / II (play/pause) button (15, 25)
    - Pressing this button also turns on the unit.
  - 23 MD REC PAUSE button (34)
  - 24 TAPE/AUX button (15, 34)
    - Pressing this button also turns on the unit.

• When using the remote control:  
For RDS operations, press RDS CONTROL on the remote control first when using the buttons (5), 7, (8), 9, (10) and 13.  
For entering MD titles, press MD TITLE on the remote control first when using the buttons (7), 8, (9), (10) (16).  
• After entering titles, make sure to change the operation mode of the remote control to the one you want to use by pressing CD / II (11), FM/AM (13), MD / II (22), or TAPE/AUX (24).

### Unpacking

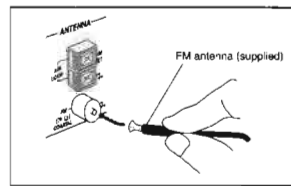
After unpacking, check to be sure that you have all the following items.  
The number in the parentheses indicates the quantity of the pieces supplied.

- AM loop antenna (1)
- FM antenna (1)
- Remote control (1)
- Batteries (2)

If any is missing, consult your dealer immediately.

### Connecting Antennas

#### FM antenna

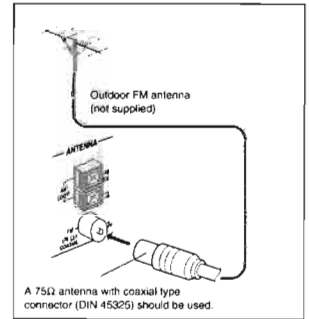


- 1 Attach the FM antenna to the FM (75 Ω) COAXIAL terminal.
- 2 Extend the FM antenna.
- 3 Fasten it up in the position which gives you the best reception.

**note** About the supplied FM antenna  
The FM antenna supplied with this unit can be used as temporary measure. If reception is poor, you can connect an outdoor FM antenna.

### To connect an outdoor FM antenna

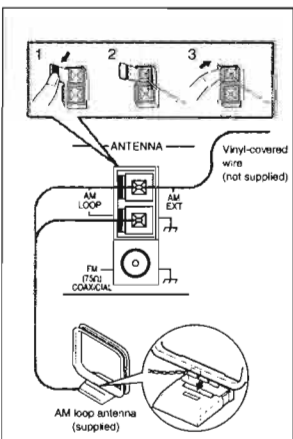
Before connecting it, disconnect the supplied FM antenna.



A 75Ω antenna with coaxial type connector (DIN 45325) should be used.

Continued

### AM antenna



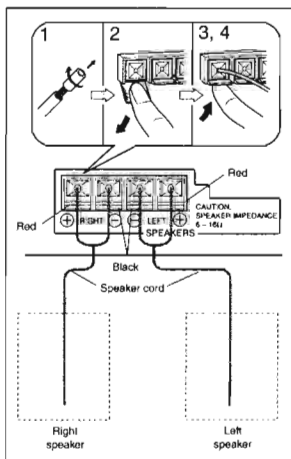
- 1 Connect the AM loop antenna to the AM LOOP terminals as illustrated.
- 2 Turn the AM loop antenna until you have the best reception.

**To connect an outdoor AM antenna**  
When reception is poor, connect a single vinyl-covered wire to the AM EXT terminal and extend it horizontally. (The AM loop antenna must remain connected.)

**note** For better reception of both FM and AM (MW/LW)  
• Make sure the antenna conductors do not touch any other terminals and connecting cords.  
• Keep the antennas away from metallic parts of the unit, connecting cords, and the AC power cord.

### Connecting Speakers

You can connect the speakers using the speaker cords.



- 1 Twist the core of the cord at the end of each cord, then remove the insulation.
- 2 Open the speaker terminal.
- 3 Insert the end of the speaker cord to the terminal. Match the polarity of the speaker terminals: Red (+) to red (+) and black (-) to black (-).
- 4 Close the speaker terminal on the rear of the unit.

Use only speakers with the same speaker impedance as indicated by the speaker terminals on the rear of the unit.

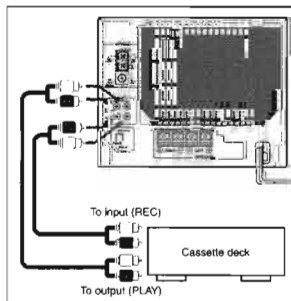
### Connecting Other Equipment

You can connect the following equipment to this unit:  
• Cassette deck — used as a playback and recording device. By using the cassette deck, you can record any source played back on this unit.  
• Audio equipment with an optical digital output terminal — used only as a digital playback device.

When you connect and use these equipment, refer also to the manuals supplied with them.

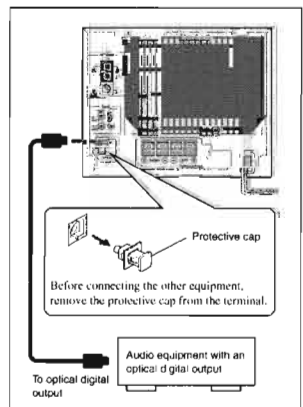
Be sure that the plugs of the audio cords and the jacks on the rear of the unit are color coded: White plugs and jacks are for left audio signals, and red ones for right audio signals.

#### To connect a cassette deck



By using audio cords (not supplied), connect:  
• Between the audio input jacks on the cassette deck and the TAPE OUT (REC) jacks — For recording on the cassette deck.  
• Between the audio output jacks on the cassette deck and the TAPE IN (PLAY) jacks — For playing a tape.

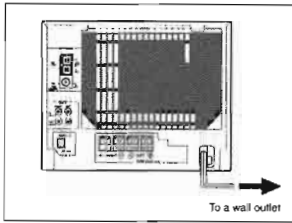
### To connect audio equipment with an optical digital output terminal



Connect between the optical digital output terminal on the other equipment and the AUX terminal.

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NOW, you can plug in the unit and other connected equipment **FINALLY!**



When connecting the AC power cord into a wall outlet, the unit automatically starts display demonstration.

- Pressing **TITLE** on the unit while the unit is turned on, shows the title entry screen (if there is no MD in the MD loading slot). You can experience how to select a character on this screen.

To stop and cancel the display demonstration, press **ENTER/DEMO** during display demonstration. "MODE OFF!" appears in the main display, the unit is turned off, then the display dims and "POWER SAVING" appears in the dimmed main display.

After canceling the display demonstration, it will start only when the AC power cord is reconnected or when a power failure is recovered.

- Pressing any button on the unit or the remote control stops the demonstration temporarily.

### To start the display demonstration manually

See "Changing the Main Display Screen" on page 12.

**notes** If you do not cancel the display demonstration, it will start automatically in the following cases:

- 2 minutes after the unit is turned off.
- When no operation is done for more than 2 minutes after the unit is turned on.

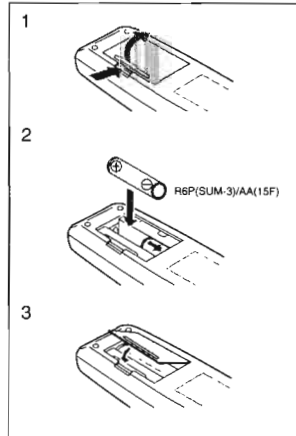
**notes** If you do not want to start the display demonstration when the AC power cord is reconnected or when a power failure is recovered

See "To store the selected main display screen in backup memory" on page 13.

### Putting the Batteries into the Remote Control

Insert the batteries — R6P(SUM-3)/AA(15F) — into the remote control, by matching the polarity (+ and -) on the batteries with the + and - markings on the battery compartment.

When the remote control can no longer operate the unit, replace both batteries at the same time.



- DO NOT use an old battery together with a new one.
- DO NOT use different types of batteries together.
- DO NOT expose batteries to heat or flame.
- DO NOT leave the batteries in the battery compartment when you are not going to use the remote control for an extended period of time. Otherwise, it will be damaged from battery leakage.

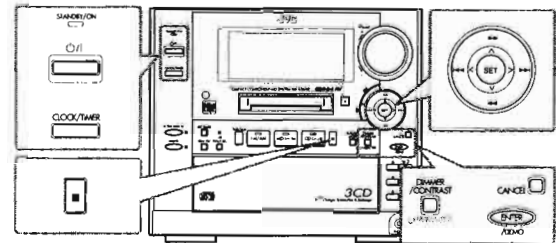
- 9 -

## Basic Settings

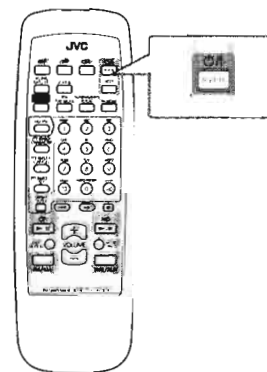
Continued

The buttons and controls enlarged in the illustration below are used and explained in this section (pages 11 to 13).

### Front panel



### Remote control



- 10 -

Continued

Before operating the unit any further, first set the clock built in this unit, then some other basic settings.

### Turning On the Power

When you press the play button (**B/II**) for a particular source or the source selecting buttons such as **FMI/AM** and **TAPI/AUX**, the unit automatically turns on (and starts playback if the source is ready).

- Pressing **SET** on the unit also turns on the unit.

To turn on the unit without playing, press **OFF** so that the **STANDBY/ON** lamp on the unit lights green.



To turn off the unit (on standby), press **OFF** again so that the **STANDBY/ON** lamp lights red.



A little power is always consumed even while the unit is in standby mode.

To switch off the power supply completely, unplug the AC power cord from the AC outlet.

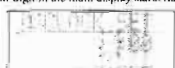
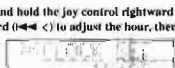
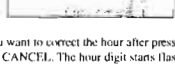
**notes** You can change the opening or ending screen illustrated above. Instead of showing the above opening or ending screens, you can make your original screens. To make and store your original screens, see "Creating Your Own Opening and Ending Screens" on page 49.

**notes** When you unplug the AC power cord or if a power failure occurs, the clock is reset to "0:00" right away, while the timer preset stations and other settings will be erased in a few days.

### Setting the Clock

You can set the clock whether the unit is turned on or in standby mode.

On the unit ONLY:

- Press **CLOCK/TIMER**. The hour digit in the main display starts flashing.
 
- Push and hold the joy control rightward (**▶▶ >**) or leftward (**◀◀ <**) to adjust the hour, then press **SET**.
 
  - If you want to correct the hour after pressing **SET**, press **CANCEL**. The hour digit starts flashing again.
- Push and hold the joy control rightward (**▶▶ >**) or leftward (**◀◀ <**) to adjust the minute, then press **SET**. "ADJUST OK!" appears in the main display, and the built-in clock starts.
 

To adjust the clock again: Once you have adjusted the clock, you need to press **CLOCK/TIMER** repeatedly until the **CLOCK SET** screen appears in the main display (the hour digit starts flashing).

**notes** If there is a power failure, the clock loses the setting and is reset to "0:00". You need to set the clock again.


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### Changing the Main Display Screen

You can change the screen pattern which appears in the main display.

On the unit ONLY:

You can do the following procedure while the unit is turned on or in standby mode:

- Press **ENTER/DEMO**. The **DISPLAY MODE** screen appears.
  - If "MODE OFF" appears, press **ENTER/DEMO** again.
- Push the joy control upward (**▶▶ ^**) or downward (**◀◀ v**) to select the screen pattern you want.
  - DEMO:** To show the display demonstration in the main display. When the AC power is unplugged, this setting is automatically restored unless you have stored another setting in backup memory. See "To store the selected main display screen in backup memory" on page 13.
  - DOLPHIN:** To make dolphins swim in the main display. You can also select the starting-time (no operation period) when to start the dolphin screen.
  - OFF:** To cancel the display demonstration and the dolphin screen.
- When selecting "DOLPHIN" in the above step, push the joy control repeatedly rightward (**▶▶ >**) or leftward (**◀◀ <**) to select the starting-time (no operation period).
  - You can select the starting-time from among 1, 3, and 5 minutes.
- Press **SET** to finish the setting.

### How these settings work

- When selecting "DEMO": Display demonstration starts.



If you do not cancel the display demonstration by pressing **ENTER/DEMO**, display demonstration automatically starts in the following cases:

- 2 minutes after the unit is turned off.
- When no operation is done for more than 2 minutes.

- When selecting "DOLPHIN":
  - If the unit is turned on: Dolphins start swimming in the lower portion of the main display.



If you press any button while dolphins are swimming in the main display, normal screen (see illustration below) resumes. However, dolphin starts swimming again if no operation is done for your specified starting-time (1, 3 and 5 minutes).

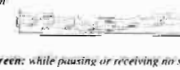
If the unit is turned off (on standby), "DOLPHIN ON!" appears in the main display, and the unit is turned off again.

- When selecting "OFF": Both display demonstration and dolphin screen are canceled, and one of the following screens (normal screens) appears in the lower portion of the main display.

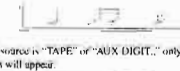
**notes** While recording or editing an MD, display demonstration and dolphin screen will not appear.

### Normal screens

Playback screen: while playing any source or receiving a station



Stop screen: while pausing or receiving no station:



- If the source is "TAPE" or "AUX DIGIT.", only the playback screen will appear.

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Basic and Common Operations

Continued

**To store the selected main display screen in backup memory**

You can store the selected main display screen in back up memory. So, even though the AC power is unplugged or a power failure occurs, the setting is kept in memory and will not be reset to the display demonstration.

**On the unit ONLY:**

- 1 Unplug the AC power cord.
- 2 Plug the AC power cord again while holding **■** and **ENTER/DEMO** at the same time.



- 3 Select the main display screen setting (DEMO, DOLPHIN, or OFF) by following steps 1 to 4 on page 12.

**To erase backup memory**

Repeat steps 1 and 2 of the above procedure.



Backup memory is cleared.

- When the AC power plug is reconnected or a power failure is recovered, display demonstration automatically starts.

**Changing the Display Brightness and Contrast**

**To change the brightness**

You can change the display brightness whether the unit is turned on or in standby mode. You can set and memorize the display brightness setting each for power-on time and for power-off (standby) time.

**On the unit ONLY:**

Press DIMMER/CONTRAST.

Each time you press the button, the display brightness changes as follows:

- When the unit is turned off (on standby): Dark (POWER SAVING mode\*) ↔ Dimmer\*\*
- When the unit is turned on: Bright ↔ Dimmer\*\*\*
- During POWER SAVING mode:
  - Much less electric power (1.6 watt) is consumed. If not selected, 14 watts of electric power are consumed even while the unit is turned off (on standby).
  - "POWER SAVING" appears in the main display.
  - You cannot insert an MD in the MD loading slot. To insert an MD, turn on the unit first.
- \*\* You can turn on the unit by inserting an MD in the MD loading slot.
- \*\*\* When using some functions, the display window brightens for a while. For examples, when selecting the source either using the buttons on the unit or on the remote control, selecting the CD or MD track using the buttons on the remote control, etc.



**Display demonstration**

The display always brightens regardless of the dimmer setting.

**To change the contrast**

You can change the display contrast only when the unit is turned on.

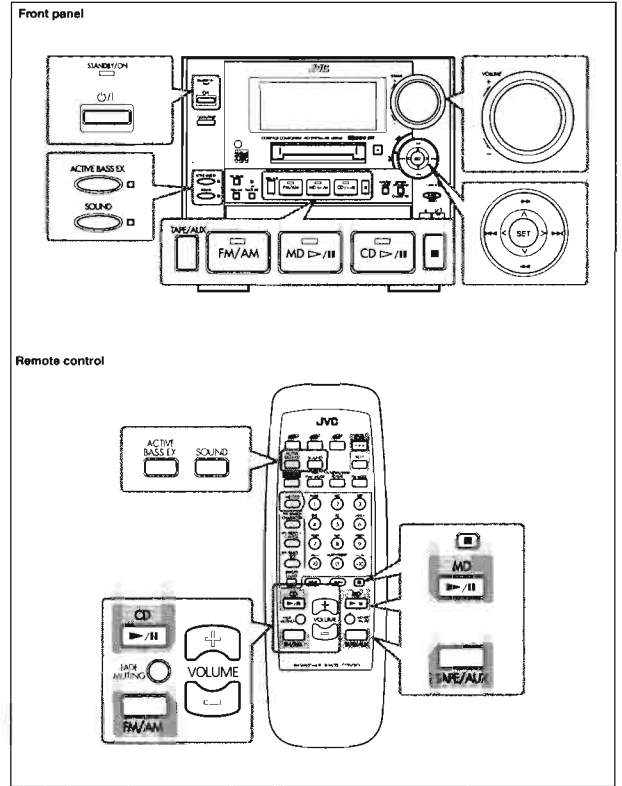
**On the unit ONLY:**

- 1 Press and hold DIMMER/CONTRAST for more than 2 seconds. The CONTRAST ADJ. screen appears.



- 2 Push and hold the Joy control upward (▶▶ ▲) or downward (◀◀ ▼) to adjust the contrast.
  - You adjust the contrast within the range of 0 to +64.
- 3 Press SET to finish the adjustment.

The buttons and controls enlarged in the illustration below are used and explained in this section (pages 15 to 16).



**Selecting the Sources and Starting Play**

To select the tuner as the source, press FM/AM. The unit automatically turns on, the lamp on the FM/AM button lights, and the last received station is tuned in.

- For more detailed operations, see pages 17 to 23.

To select the CD player as the source, press CD ▶/II.

The unit automatically turns on, and the lamp on the CD ▶/II button lights. (Play starts if a CD is on one of the CD trays.)

- To stop play, press **■**.
- For more detailed operations, see pages 24 to 27.

To select the MD player as the source, press MD ▶/II.

The unit automatically turns on and the lamp on the MD ▶/II button lights. (Play starts if an MD is in the MD loading slot.)

- To stop play, press **■**.
- For more detailed operations, see pages 28 to 31.

To select the external equipment as the source, press TAPE/AUX.

The unit automatically turns on. Each time you press the button, the source alternate between "TAPE" and "AUX DIGIT."

- TAPE: To use the equipment connected to the TAPE jacks. When selecting "TAPE," the sound input level appears for a while. (See page 34 for the sound input level.)
- AUX DIGIT. (DIGITAL): To use the digital equipment connected to the AUX terminal.

- For operating the external equipment, see the manuals supplied with them.



**While selecting the digital equipment ("AUX DIGITAL") as the source**

The sampling frequency of the connected digital equipment is shown in the main display. (If no equipment is connected to the AUX terminal, "UNLOCK" appears.)



Ex. When the sampling frequency is 44.1 kHz

**Adjusting the Volume**

You can adjust the volume level only while the unit is turned on.

Turn VOLUME clockwise to increase the volume or counterclockwise to decrease it.

When using the remote control, press VOLUME + to increase the volume or press VOLUME - to decrease it.



**For private listening**

Connect a pair of headphones to the PHONES jack. No sound comes out of the speakers. Be sure to turn down the volume before connecting or putting on the headphones.



**DO NOT** turn off (on standby) the unit with the volume set to an extremely high level; otherwise, the sudden blast of sound can damage your hearing, speakers and/or headphones when you turn on the unit or start playing any source. REMEMBER you cannot adjust the volume level while the unit is in standby mode.

**To turn down the volume level temporarily**

Press FADE MUTING on the remote control. To restore the sound, press the button again.

**Reinforcing the Bass Sound**

The richness and fullness of the bass sound is maintained regardless of how low you set the volume.

You can use this effect only for playback.

To get the effect, press ACTIVE BASS EX. (extension) so that the ACTIVE BASS EX. on the unit lamp lights up.



To cancel the effect, press the button again so that the lamp goes off.

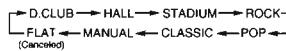


**Selecting the Sound Modes**

You can select one of the 6 preset sound modes (3 surround modes and 3 SEA - Sound Effect Amplifier - modes) and 1 manual mode. The sound modes can be applied only to playback sounds, and cannot be used for recording.

To select the sound modes, press SOUND until the sound mode you want appears on the display. The SOUND lamp also lights.

- Each time you press the button, the sound modes change as follows:



**Surround modes \***

- D. (Dance) CLUB: Increases resonance and bass.
- HALL: Adds depth and brilliance to the sound.
- STADIUM: Adds clarity and spreads the sound, like in an outdoor stadium.

**SEA modes:**

- ROCK: Boosts low and high frequency. Good for acoustic music.
- POP: Good for vocal music.
- CLASSIC: Good for classical music.

**Manual mode:**

- MANUAL: Your individual mode stored in memory. See "Creating Your Own Sound Mode - MANUAL Mode."

**FLAT:**

• Cancels the sound mode.

- Surround elements are added to the sound modes to create a being-there feeling in your room.

To check the sound mode currently selected, press SOUND once while the SOUND lamp on the unit is lit. The currently selected sound mode screen will appear in the main display.



Ex. when "D. CLUB" is currently selected.

**Creating Your Own Sound Mode - MANUAL Mode**

You can create and store your own sound mode.

- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

**On the unit ONLY:**

- 1 Press SOUND repeatedly until "MANUAL" appears in the main display.

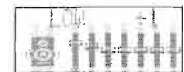


- 2 Press SET.



- 3 Adjust the equalizer pattern.

- 1) Push the Joy control rightward (▶▶ >) or leftward (◀◀ <) to select the frequency range to adjust (LOW, MID, HIGH).
- 2) Push the Joy control upward (▶▶ ▲) or downward (◀◀ ▼) to adjust the level (-3 to +3) of the selected frequency range.



- 3) Repeat steps 1) and 2) to adjust the level of the other frequency ranges.

- 4 Press SET again (or wait until the above indication disappears). The equalizer pattern you have created is stored in memory.

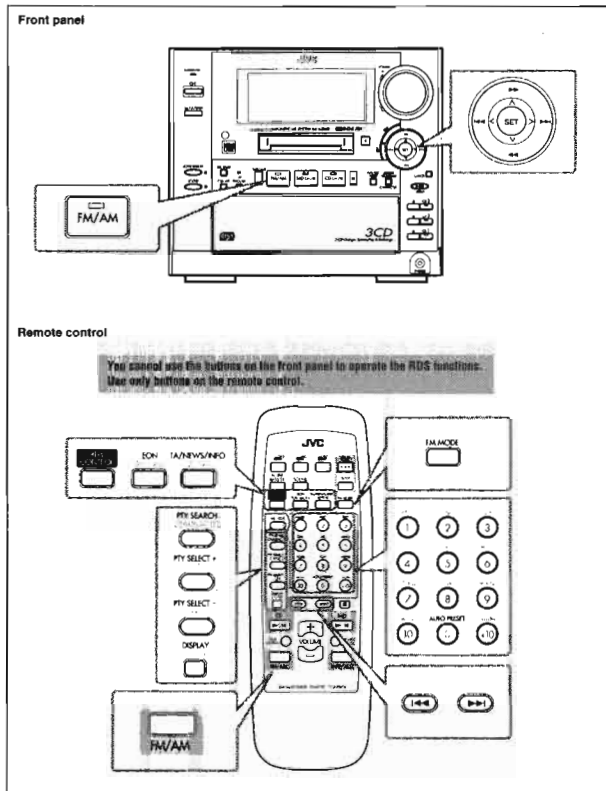
**To use your own sound mode**

Select "MANUAL" when using the sound modes. See "Selecting the Sound Modes."

## Listening to FM and AM (MW/LW) Broadcasts

Continued

The buttons and controls enlarged in the illustration below are used and explained in this section (pages 18 to 23).



### Tuning in a Station

#### On the unit:

##### 1 Press FM/AM.

The unit automatically turns on and tunes in the previously tuned station (either FM or AM-MW/LW).

- Each time you press the button, the band alternates between FM and AM.

##### 2 Tune into a station.

#### On the unit:

Push and hold the joy control upward (▲) or downward (▼) until the station frequencies start changing in the main display.

- Upward (▲): to increase the frequencies.
- Downward (▼): to decrease the frequencies.

#### On the remote control:

Press and hold ▲ or ▼ until the station frequencies start changing in the main display.

- ▲: to increase the frequencies.
- ▼: to decrease the frequencies.

The unit starts searching stations and stops when a station of sufficient signal strength is tuned in (the TUNED indicator lights).

- If an FM program is broadcast in stereo, the STEREO indicator also lights.

To stop during searching, press SET (or ◀▶) on the remote control.

**notes** When you repeatedly push the joy control upward or downward (or ◀▶) on the remote control the frequency changes step by step.

#### To change the FM reception mode

When an FM stereo broadcast is hard to receive or noisy, press FM MODE on the remote control so that "MONO" appears in the main display. Reception improves.



To restore the stereo effect, press FM MODE again so that "AUTO" appears in the main display. In this stereo mode, you can hear stereo sounds when a program is broadcast in stereo.

### Presetting Stations

You can preset 30 FM and 15 AM (MW/LW) stations — using either automatic presetting method or manual presetting method.

In some cases, test frequencies have been already memorized for the tuner since the factory examined the tuner preset function before shipment. This is not a malfunction. You can preset the stations you want into memory by following the presetting method.

- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

#### To preset stations automatically — Automatic Presetting

##### On the remote control ONLY:

You need to preset stations separately for the FM and AM bands.

##### 1 Press FM/AM to select the band.

##### 2 Press and hold AUTO PRESET until "A. PRESET" appears in the main display for about 2 seconds.



Local stations with strong signals are searched and stored in memory automatically.

When automatic preset is over, the station stored in preset number 1 is received.



##### 3 Repeat steps 1 and 2 to store stations of the other band.

**notes** When you cannot store stations you want automatically

Stations with weak signals cannot be detected with this automatic presetting method. To store such a station, use the manual presetting method on page 19.

Continued

### To preset stations manually — Manual Presetting

##### 1 Tune in the station you want to preset.

- See "Tuning in a Station" on page 18.

##### 2 Press SET.

The current preset number starts flashing.

##### 3 Select a preset number.

#### On the unit:

Push the joy control rightward (▶) or leftward (◀).

- Rightward (▶): to increase the preset numbers.
- Leftward (◀): to decrease the preset numbers.

#### On the remote control:

Press the number buttons.

- Ex. For preset number 5, press 5.  
For preset number 15, press +10, then 5.  
For preset number 20, press +10, then 10.

##### 4 Press SET again.

The tuned station in step 1 is stored in the preset number selected in step 3.



- Storing a new station on a used number erases the previously stored one.

**notes** When you unplug the AC power cord or if a power failure occurs. The preset stations will be erased in a few days. If this happens, preset the stations again.

### Tuning in a Preset Station

##### 1 Press FM/AM.

The unit automatically turns on and tunes in the previously tuned station (either FM or AM-MW/LW).

- Each time you press the button, the band alternates between FM and AM (MW/LW).

##### 2 Select a preset number.

#### On the unit:

Push the joy control rightward (▶) or leftward (◀).

- Rightward (▶): to increase the preset numbers.
- Leftward (◀): to decrease the preset numbers.

#### On the remote control:

Press the number buttons.

- Ex. For preset number 5, press 5.  
For preset number 15, press +10, then 5.  
For preset number 20, press +10, then 10.

### Receiving FM Stations with RDS

RDS allows FM stations to send an additional signal along with their regular program signals. For example, the stations send their station names, as well as information about what type of program they broadcast, such as sports or music, etc.

When tuned to an FM station which provides the RDS service, the RDS indicator lights on the display.

With the unit, you can receive the following types of RDS signals.

**PS (Program Service):** Shows commonly known station names.

**PTY (Program Type):** Shows types of broadcast programs.

**RT (Radio Text):** Shows text messages the station sends.

**EON (Enhanced Other Networks):** Provides the information about the types of the programs sent by other RDS stations than the one being received.

RDS operations are possible only using the remote control. You can use the buttons printed in orange on the remote control.

### More about RDS

- Not all FM stations provide RDS signals, nor do all RDS stations provide the same services. In doubt, check with local radio stations for details on RDS in your area.
- RDS may not work correctly if the received station is not transmitting the signals properly or if the signal strength is weak.

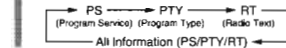
### Changing the RDS Information

You can see RDS information on the display while listening to an FM station.

##### 1 Press RDS CONTROL while listening to an FM station.

##### 2 Press DISPLAY.

Each time you press the button, the display changes to show the following information:



**notes** If no PS, PTY, or RT signals are sent by a station "NO PS," "NO PTY," or "NO RT" appears in the main display.

**notes** If the unit takes time to show the RDS information received from a station "WAIT PS," "WAIT PTY," or "WAIT RT" may appear on the display.

### Searching for Programs by PTY Codes (PTY Search)

One of the advantages of RDS is that you can locate a particular kind of program by specifying the PTY codes.

- The PTY Search is applicable only to the preset stations.
- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

To search for a program using the PTY codes, use the remote control.

##### 1 Press RDS CONTROL while listening to an FM station.

##### 2 Press PTY SEARCH.



##### 3 Press PTY SELECT +/- to select a PTY code while "PTY SELECT" is flashing.

- Each time you press the button, the PTY codes change as follows (refer also to the list on page 23):



- None
  - News
  - Affairs
  - Info
  - Sport
  - Educate
  - Drama
  - Culture
  - Science
  - Varied
  - Pop M
  - Rock M
  - Easy M
  - Light M
  - Classics
  - Other M
  - Weather
  - Finance
  - Children
  - Social
  - Religion
  - Phone In
  - Travel
  - Leisure
  - Jazz
  - Country
  - Motion M
  - Oldies
  - Folk M
  - Document
  - TEST
  - Alarm!
- (back to the beginning)

**4** Press **PTY SEARCH** again. While searching, the selected **PTY** code appears and "SEARCH" flashes in the main display.



The unit searches 30 preset FM stations, stops when it finds the one you have selected, and tunes in that station.

To continue searching after the first stop: Press **PTY SEARCH** again while the indications on the display are flashing.

If no program is found, "NOT FOUND" appears on the display and the unit returns to the last received station.

To stop searching any time during the process: Press **PTY SEARCH** while searching.

**Switching to a Program Type of Your Choice Temporarily**

The **EON** function allows the unit to switch temporarily to a broadcast program of your choice (**TA**, **NEWS**, and/or **INFO**) from a different station except when you are listening to a non-RDS stations — some FM stations and AM (MW/LW) stations.

- The **EON** indicator lights while receiving a station with the **EON** code.
- **EON** function is applicable only to preset stations.

To activate the **EON** function, use the remote control:

**1** Press **RDS CONTROL** while listening to an **FM** station.

**2** Press **EON**. "EON ON" appears in the main display, and the last **EON** data type selected — **TA/NEWS/INFO** — lights on the display window.



**3** Press **TA/NEWS/INFO** repeatedly until the **EON** data type you want is selected.

- Each time you press the button, the **EON** data types change as follows:



TA → News → Info → TA/News → News/Info → TA/Info → TA/News/Info → (back to the beginning)

- TA:** Traffic announcement
- News:** News
- Info:** Programs the purpose of which is to impart advice in the widest sense.

To cancel the **EON** function, press **EON** again so that the **TA/NEWS/INFO** indicator goes off. "EON OFF" also appears in the main display for a while.

- If you cancel the **EON** function while receiving a program selected by the **EON** function, the unit goes back to the previously tuned station.

**How the EON function actually works:**

**CASE 1**  
If there is no station broadcasting the program you have selected

The unit continues tuning in the current station.

When a station starts broadcasting the program you have selected, the unit automatically switches to the station. The indicator of received **PTY** code starts flashing.

When the program is over, "EON END" appears in the main display, and the unit goes back to the previously tuned station, but the **EON** function still remains activated.

**CASE 2**  
If there is a station broadcasting the program you have selected

The unit tunes in the program. The indicator of received **PTY** code starts flashing.

When the program is over, "EON END" appears in the main display, and the unit goes back to the previously tuned station, but the **EON** function still remains activated.

**CASE 3**  
If the FM station you are listening to is broadcasting the program you have selected

The unit continues to receive the station but the indicator of received **PTY** code starts flashing.

When the program is over, the indicator of received **PTY** code stops flashing and remains lit, but the **EON** function still remains activated.

**Alarm function**

If an "Alarm!" (Emergency) signal is received from a station while listening to the radio, the unit automatically switches to the station broadcasting the "Alarm!" signal, except when you are listening to non-RDS stations (all AM - MW/LW and some FM stations).

**Test function**

The **TEST** signal is used for testing the "Alarm!" signal. Therefore, it makes the unit work in the same way as the "Alarm!" signal does.

If a **TEST** signal is received from a station while listening to the radio, the unit automatically switches to the station broadcasting the **TEST** signal, except when you are listening to non-RDS stations (all AM - MW/LW and some FM stations).



**More about the EON function**

- **EON** data sent from some stations may not be compatible with this unit.
- While listening to a program tuned in by the **EON** function, the station does not change even if another network station starts broadcasting a program of the same **EON** data.
- While listening to a program tuned in by the **EON** function, you can only use the **EON** and **DISPLAY** buttons as the tuner operation buttons. If you press any other tuner operation button, "EON LOCKED" appears in the main display.
- If the stations alternate intermittently between the station tuned by the **EON** function and the currently tuned station ("WAITING" flashes in the main display), press **EON** to cancel the **EON** function.
- If you do not press the button, the currently tuned station is received finally "NOT FOUND" appears in the main display, and the indication of the **EON** data type flashing on the display disappears.

**Description of the PTY codes:**

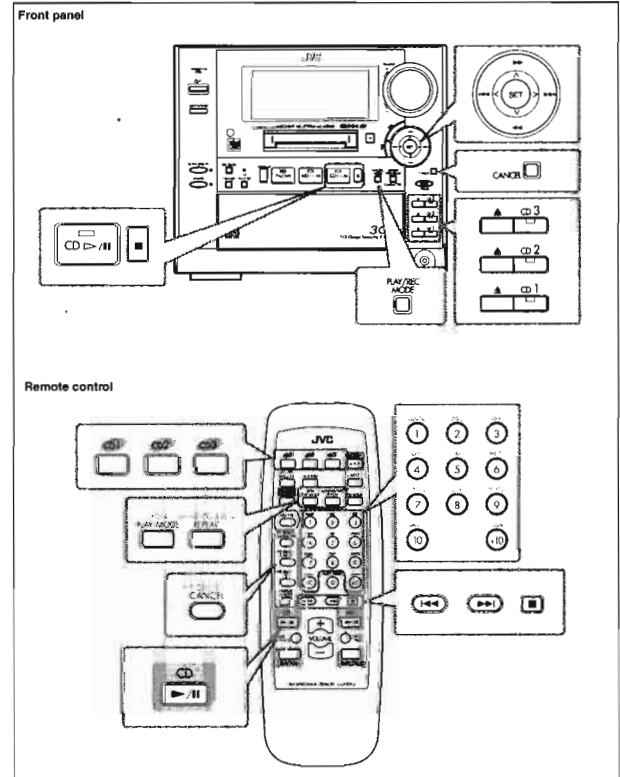
<b>None:</b>	Undefined.
<b>News:</b>	News.
<b>Affairs:</b>	Typical program expanding or enlarging upon the news — debate, or analysis.
<b>Info:</b>	Programs the purpose of which is to impart advice in the widest sense.
<b>Sport:</b>	Programs concerned with any aspect of sports.
<b>Educate:</b>	Educational programs.
<b>Drama:</b>	All radio plays and serials.
<b>Culture:</b>	Programs concerning any aspect of national or regional culture, including language, theater, etc.
<b>Science:</b>	Programs about natural sciences and technology.
<b>Varied:</b>	Used for mainly speech-based programs such as quizzes, panel games and personality interviews.
<b>Pop M:</b>	Commercial music of current popular appeal.
<b>Rock M:</b>	Rock music.
<b>Easy M:</b>	Current contemporary music considered to be "easy-listening."
<b>Light M:</b>	Instrumental music, and vocal or choral works.
<b>Classics:</b>	Performances of major orchestral works, symphonies, chamber music, etc.
<b>Other M:</b>	Music not fitting into any of the other categories.
<b>Weather:</b>	Weather reports and forecasts.

<b>Finance:</b>	Stock Market reports, commerce, trading etc.
<b>Children:</b>	Programs targeted at a young audience.
<b>Social:</b>	Programs about sociology, history, geography, psychology and society.
<b>Religion:</b>	Religious programs.
<b>Phone In:</b>	Involving members of the public expressing their views either by phone or at a public forum.
<b>Travel:</b>	Travel information.
<b>Leisure:</b>	Programs about recreational activities.
<b>Jazz:</b>	Jazz music.
<b>Country:</b>	Songs which originate from, or continue the musical tradition of the American Southern States.
<b>Nation M:</b>	Current popular music of the nation or region in that country's language.
<b>Oldies:</b>	Music from the so-called "golden age" of popular music.
<b>Folk M:</b>	Music which has its roots in the musical culture of a particular nation.
<b>Document:</b>	Programs concerning factual matters, presented in an investigative style.
<b>TEST:</b>	Broadcasts for testing emergency broadcast equipment or receiver.
<b>Alarm!:</b>	Emergency announcement.

Classification of the PTY codes for some FM stations may be different from the above list.

**Playing Back CDs**

The buttons and controls enlarged in the illustration below are used and explained in this section (pages 25 to 27).



# CA-MXS5MD/MXS5RMD SP-MXS5MD

Continued

## Loading CDs

**1** Press one of the open/close buttons (▲) for the disc tray (CD 1 to CD 3) you want to load a CD onto. The unit automatically turns on and the selected disc tray comes out. The corresponding CD number lamp (CD 1 to CD 3) lights.

**2** Place a disc correctly on the circle of the disc tray, with its label side up.



- When using a CD single (8 cm), place it on the inner circle of the disc tray.

**3** Press the same open/close button (▲) you have pressed in step 1. The disc tray closes.

**4** Repeat steps 1 to 3 to place other CDs.

**notes** When loading more than one CD continuously Press the open/close button (▲) for the next tray you want to place a CD onto. The first disc tray automatically closes and the next disc tray comes out.

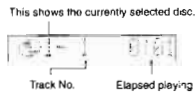
**notes** About the disc number lamps (CD 1 to CD 3) The disc number lamp corresponds to the disc tray of the same number.

- It lights orange when you press ▲ and when the unit has recognized that there is a CD on the corresponding disc tray.
- It lights green when a disc on the corresponding disc tray is currently selected.
- It flashes orange and green alternately, then goes off when the unit has recognized that there is no CD on the corresponding disc tray.

## Playing Back the Entire Discs — Continuous Play

You can play CDs continuously.

**1** Load CDs.  
**2** Press one of the disc number buttons (CD 1, CD 2 and CD 3) for the disc you want to play. CD playback starts from the first track of the selected disc.



- Pressing CD > / II instead of the CD number buttons starts playing back the currently selected CD.

To stop during play, press ■.

To remove the disc, press the corresponding open/close buttons (▲).

**notes** CD playback sequence When 3 CDs are loaded on the disc trays, they are played in one of the following sequences.

- When CD 1 is pressed: CD 1 → CD 2 → CD 3 (then stops)
- When CD 2 is pressed: CD 2 → CD 3 → CD 1 (then stops)
- When CD 3 is pressed: CD 3 → CD 1 → CD 2 (then stops)
- If no CD is on the disc trays, CD player skips such an empty tray.

## Basic CD Operations

While playing a CD, you can do the following operations.

To exchange CDs during playback of another Press the open/close button (▲) corresponding to a disc number not currently being played to eject that disc tray and exchange the CD.  
If CDs are exchanged during playback, playback will stop after playing all newly inserted CDs.

To stop playback for a moment Press CD > / II.

To resume play, press CD > / II again.

To locate a particular point in a track during play

**On the unit:**  
Push the joy control upward (▶▶) or downward (◀◀) ↓.

- Upward (▶▶): Fast-forwards the tracks.
- Downward (◀◀): Fast-reverses the tracks.

**On the remote control:**  
Press and hold ▶▶ or ◀◀.

- ▶▶: Fast-forwards the tracks.
- ◀◀: Fast-reverses the tracks.

To go to another track

**On the unit:**  
Push repeatedly (or hold) the joy control rightward (▶▶▶) or leftward (◀◀◀).

- Rightward (▶▶▶): Skips to the beginning of the next or succeeding tracks.
- Leftward (◀◀◀): Goes back to the beginning of the current or previous tracks.

**On the remote control:**  
Press ▶▶▶ or ◀◀◀ repeatedly.

- ▶▶▶: Skips to the beginning of the next or succeeding tracks.
- ◀◀◀: Goes back to the beginning of the current or previous tracks.

To go to another track directly using the number buttons

Pressing the number buttons allows you to start playing the track number you want.

Ex.: For track number 5, press 5.  
For track number 15, press +10, then 5.  
For track number 20, press +10, then 10.  
For track number 32, press +10, +10, +10, then 2.

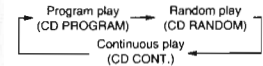
## Programming the Playing Order of the Tracks — Program Play

You can arrange the order in which the tracks play before you start playing. You can program up to 32 tracks.

**1** Load CDs.  
• If the current playing source is not the CD player, press CD > / II, then ■ before going to the next step.

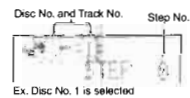
**2** Press PLAY/REC MODE (or PLAY MODE on the remote control) so that "CD PROGRAM" appears in the main display.

- The PRGM indicator also lights.
- Each time you press the button, play mode changes as follows:



**3** Press one of the disc number buttons (CD 1, CD 2, and CD 3) to select the disc number you want to play.

- When using the buttons on the unit, you can use the joy control to select the CD number by pushing it upward (▶▶) or downward (◀◀) ↓.



Ex. Disc No. 1 is selected

**4** Select the track from the disc selected in the above step.

**On the unit:**  
Push the joy control rightward (▶▶▶) or leftward (◀◀◀) < to select the track number, then press SET.

**On the remote control:**  
Press the number buttons.

- For how to use the number buttons, see "To go to another track directly using the number buttons" to the left.



Ex. Track No. 5 is selected

**5** Program other tracks you want.  
• To program tracks from the same disc, repeat step 4.  
• To program tracks from a different disc, repeat steps 3 and 4.

**6** Press CD > / II.  
The tracks are played in the order you have programmed.

To stop during play, press ■.  
To exit from Program play mode, press PLAY/REC MODE (or PLAY MODE on the remote control) once or twice, before or after play, so that the unit enters another playback mode (Random play or Continuous play mode).

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## Playing Back an MD

Continued

### To check the program contents

Before playing, you can check the program contents by pressing ▶▶▶ or ◀◀◀ on the remote control.

- ▶▶▶: Shows the programmed tracks in the programmed order.
- ◀◀◀: Shows them in the reverse order.

### To modify the program

Before playing, you can erase the last programmed track by pressing CANCEL. Each time you press the button, the last programmed track is erased from the program.

- When you eject a disc, the tracks selected from that ejected disc are erased from the program.

To add tracks in the program before you start play, simply select track numbers you want to add.

To erase the entire program, before or after play, press and hold CANCEL on the unit until "CD PROGRAM ALL CLEAR" appears in the main display.

- Turning off the unit also erases the entire program.

**notes** If you try to program a 33rd step "CD PROGRAM FULL" will appear in the main display.

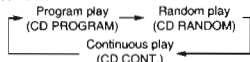
**notes** If your entry is ignored You have tried to program a track from an empty tray, or a track number that does not exist on the CD (for example, selecting track 14 on a CD that only has 12 tracks). Such entries are ignored.

## Playing at Random — Random Play

The tracks of all loaded CDs will play at random.

**1** Load CDs.  
• If the current playing source is not the CD player, press CD > / II, then ■ before going to the next step.

**2** Press PLAY/REC MODE (or PLAY MODE on the remote control) repeatedly until "CD RANDOM" appears in the main display.  
The RANDOM indicator also lights.  
• Each time you press the button, play mode changes as follows:



**3** Press CD > / II.  
The tracks are played at random.  
Random play stops when all the tracks are played once.

To skip the playing track, push the joy control rightward (▶▶▶) or press ▶▶▶ on the remote control.

- You cannot go back to the previous tracks by pushing the joy control leftward (◀◀◀) or pressing ◀◀◀ on the remote control.

To stop during play, press ■.

- Random play also stops when you open a disc tray.

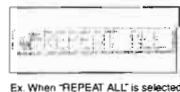
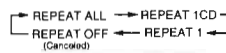
To exit from Random play mode, press PLAY/REC MODE (or PLAY MODE on the remote control) once or twice, before or after play, so that the unit enters another playback mode (Continuous play or Program play mode).

- Pressing one of the disc number buttons (CD 1, CD 2, and CD 3) starts Continuous play from the first track of the selected disc.
- Pressing one of the number buttons will start Continuous play from the selected track of the currently selected disc.

## Repeating Tracks or CDs — Repeat Play

You can have all the CDs, the program or the individual track currently playing repeat as many times as you like.

**On the remote control ONLY:**  
To repeat play, press REPEAT during or before playing. Each time you press the button, Repeat play mode changes and appears in the main display as follows:



Ex. When "REPEAT ALL" is selected

- REPEAT ALL: Repeats all the tracks on all the CDs (continuously or at random), or all the tracks in the program.
- REPEAT 1CD\*: Repeats all the tracks on one CD.
- REPEAT 1: Repeats one track on one CD.
- REPEAT OFF: Cancels the repeat play.

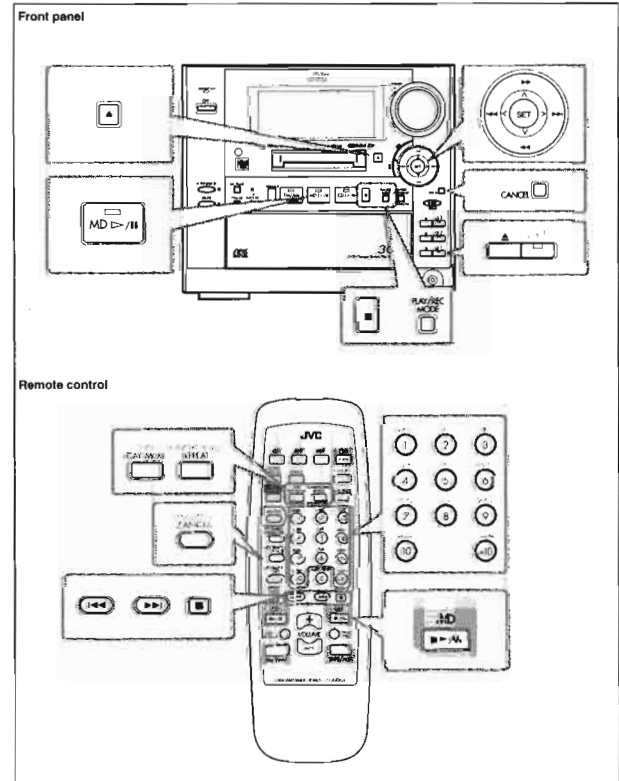
- REPEAT 1CD is not used for Program play and Random play.

### To prohibit disc ejection — Disc Lock

You can prohibit CD and MD ejection from the unit, and can lock the discs.

See page 31 for details.

The buttons and controls enlarged in the illustration below are used and explained in this section (pages 29 to 31).



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**Playing Back the Entire MD — Normal Play**

You can play an MD.

**1** Insert an MD into the MD loading slot.  
The MD is pulled in automatically.

Insert an MD in the same way as indicated on the MD.

Total Track No. Total Playing time

**2** Press MD ▷ / II.  
MD playback starts from the first track.

Track No. Elapsed playing time

To stop during play, press ■.  
To remove the disc, press ▲ for the MD recorder.

- notes** If the MD or track has a title  
The title will be shown at the center portion of the main display. If a title is long and cannot be shown at a time, the unit scrolls the title to show the entire title.
- notes** If you cannot insert an MD  
You have inserted an MD incorrectly and taken it off by force. In this case, MD loading slot rejects MD insertion. If this occurs, wait for about one minute with the unit turned on until a mechanical sound comes out of the MD mechanism.

**Basic MD Operations**

While playing an MD, you can do the following operations.

**To stop playback for a moment**  
Press MD ▷ / II.

**To resume play**, press MD ▷ / II again.

**To locate a particular point in a track during play**

**On the unit:**  
Push the joy control upward (▶▶ ▲) or downward (◀◀ ▼).  
• Upward (▶▶ ▲): Fast-forwards the tracks.  
• Downward (◀◀ ▼): Fast-reverses the tracks.

**On the remote control:**  
Press and hold ▶▶ or ◀◀.  
• ▶▶: Fast-forwards the tracks.  
• ◀◀: Fast-reverses the tracks.

**To go to another track**

**On the unit:**  
Push repeatedly (or hold) the joy control rightward (▶▶▶ ▶) or leftward (◀◀◀ ◀).  
• Rightward (▶▶▶ ▶): Skips to the beginning of the next or succeeding tracks.  
• Leftward (◀◀◀ ◀): Goes back to the beginning of the current or previous tracks.

**On the remote control:**  
Press ▶▶▶ or ◀◀◀ repeatedly.  
• ▶▶▶: Skips to the beginning of the next or succeeding tracks.  
• ◀◀◀: Goes back to the beginning of the current or previous tracks.

**To go to another track directly using the number buttons**

Pressing the number buttons allows you to start playing the track number you want.  
Ex.: For track number 5, press 5.  
For track number 15, press +10, then 5.  
For track number 20, press +10, then 10.  
For track number 32, press +10, +10, +10, then 2.

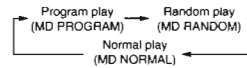
**Programming the Playing Order of the Tracks — Program Play**

You can arrange the order in which the tracks play before you start playing. You can program up to 32 tracks.

**1** Load an MD.  
• If the current playing source is not the MD recorder, press MD ▷ / II, then ■ before going to the next step.

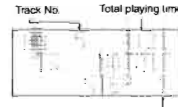
**2** Press PLAY/REC MODE (or PLAY MODE on the remote control) so that "MD PROGRAM" appears in the main display.  
The PRGM indicator also lights.

Each time you press the button, play mode changes as follows:



**3** Select the track.  
**On the unit:**  
Push the joy control rightward (▶▶▶ ▶) or leftward (◀◀◀ ◀) to select the track number, then press SET.

**On the remote control:**  
Press the number buttons.  
• For how to use the number buttons, see "To go to another track directly using the number buttons" on page 29.



• If the selected track has a title, it will be shown at the center portion of the main display. If the title is long and cannot be shown at a time, the unit scrolls the title to show the entire title.

**4** Repeat step 3 to program other tracks you want.  
**5** Press MD ▷ / II.  
The tracks are played in the order you have programmed.

To stop during play, press ■.  
To exit from Program play mode, press PLAY/REC MODE (or PLAY MODE on the remote control) once or twice so that the unit enters another playback mode (Random play or Normal play mode).

**To check the program contents**  
Before playing, you can check the program contents by pressing ▶▶▶ or ◀◀◀ on the remote control.  
• ▶▶▶: Shows the programmed tracks in the programmed order.  
• ◀◀◀: Shows them in the reverse order.

**To modify the program**  
Before playing, you can erase the last programmed track by pressing CANCEL. Each time you press the button, the last programmed track is erased from the program.

**To add tracks in the program before you start play**, simply select track numbers you want to add.

**To erase the entire program**, before or after play, press and hold CANCEL on the unit until "MD PROGRAM ALL CLEAR" appears in the main display.

• When you eject the disc or turn off the unit, the entire program is also erased.

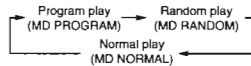
- notes** If you try to program a 33rd step  
"MD PROGRAM FULL" will appear in the main display.
- notes** If your entry is ignored  
You have tried to program a track that does not exist on the MD (for example, selecting track 14 on an MD that only has 12 tracks). Such entries are ignored.
- notes** If the total playing time exceed 150 minutes  
The playing time will not be shown. ("....." will appear.)

**Playing at Random — Random Play**

The tracks of the loaded MD will play at random.

**1** Load an MD.  
• If the current playing source is not the MD recorder, press MD ▷ / II, then ■ before going to the next step.

**2** Press PLAY/REC MODE (or PLAY MODE on the remote control) repeatedly until "MD RANDOM" appears in the main display.  
The RANDOM indicator also lights.  
• Each time you press the button, play mode changes as follows:



**3** Press MD ▷ / II.  
The tracks are played at random.  
Random play ends when all the tracks are played once.

**To skip the playing track**, push the joy control rightward (▶▶▶ ▶) or press ▶▶▶ on the remote control.  
• You cannot go back to the previous tracks by pushing the joy control leftward (◀◀◀ ◀) or pressing ◀◀◀ on the remote control.

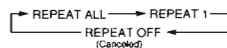
**To stop during play**, press ■.  
• Random play also stops when you eject the MD.

**To exit from Random play mode**, press PLAY/REC MODE (or PLAY MODE on the remote control) once or twice, before or after play, so that the unit enters another playback mode (Normal play or Program play mode).  
• Pressing one of the number buttons will start Normal play from the selected track.

**Repeating Tracks — Repeat Play**

You can have all the tracks, the program or the individual track currently playing repeat as many times as you like.

**On the remote control ONLY:**  
**To repeat play**, press REPEAT during or before playing. Each time you press the button, Repeat play mode changes and appears in the main display as follows:



**REPEAT ALL:** Repeats all the tracks in the MD tin (Normal play or Random play mode), or all the tracks in the program.  
**REPEAT 1:** Repeats one track.  
**REPEAT OFF:** Cancels the repeat play.

**Prohibiting Disc Ejection — Disc Lock**

You can prohibit CD and MD ejection from the unit and can lock discs.

**On the unit ONLY:**  
**To prohibit disc ejection**, press ▲ for the CD 1 tray while holding ■ with the unit set in standby mode. "LOCKED" appears for a while, and the loaded discs (both CDs and MD) are locked.

- notes** If you try to eject the locked discs  
"LOCKED" appears to inform you that the Disc Lock is in use.
- To cancel the prohibition and unlock the discs**, press ▲ for the CD 1 tray while holding ■ with the unit set in standby mode. "UNLOCKED" appears for a while, and the loaded discs (both CDs and MD) are unlocked.

**Recording on MDs**

The buttons and controls enlarged in the illustration below are used and explained in this section (pages 33 to 37).

**Front panel**

**Remote control**

# CA-MXS5MD/MXS5RMD SP-MXS5MD

Continued

## Before You Start Recording

- It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic embodied therein.
- The sampling frequency converter built in the MD recorder allows you to record a digital source if its sampling frequency is 32 kHz, 44.1 kHz, or 48 kHz. If no source equipment is connected to the AUX terminal or if the sampling frequency of the connected equipment is not 32 kHz, 44.1 kHz, or 48 kHz, "AUX DIGITAL UNLOCK" appears in the main display (no recording is possible).
- You cannot record the entire Dolby Digital, DTS Digital Surround, or MPEG Multichannel signals through the AUX terminal.
- When you record onto partially recorded MD, its contents are not erased or overwritten. The recording starts from the point following the last recorded track of the MD.
- If you want to record on such an MD from the beginning, you have to erase its contents first (see "ALL ERASE Function" on page 43).
- The recording level is automatically set correctly (except when recording from the equipment connected to the TAPE jacks, so it is not affected by the VOLUME control). Thus, during recording you can adjust the volume you are actually listening to without affecting the recording level.
- While recording, you can hear sound mode effect and/or the active bass extension effect through the speakers or headphones. However, the audio is recorded without these effects (see pages 15 and 16).

## About the track marks

When playing an MD, you can move among the tracks. You can do this because there is a mark recorded at the beginning of each track enabling you to locate the track. This mark is called a "track mark" and the portion between two adjacent track marks is called a "track".

When recording from an analog source such as FM/AM broadcasts, no track mark is recorded on the MD. This means that, when playing this MD, the MD recorder will regard the entire recording as one track (track 1). You will not be able to select directly a song or navigate through songs.

However, if there is a blank of 3 seconds or more, the MD recorder will consider it as a blank separating 2 tracks and consequently put a track mark.

To put a track mark manually while recording an analog source, press SET at the place you want to put a track mark.

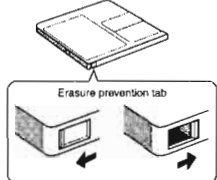


EX. When pressing SET while recording an FM broadcast program

To add a track mark after recording is over, you can use the DIVIDE function (see page 40).

## To avoid erasing important recordings

The recordable MD has an erasure prevention tab so that important recordings are not accidentally erased. When you finish recording or editing, slide to open the erasure prevention tab on the cartridge side surface. New recording or editing is now no longer possible. (If you try to do, "DISC PROTECTED" appears in the main display.) To do re-recording or editing, return the tab to the closed position.



Recording/Editing possible  
Disc protected: Recording/Editing not possible

If "PLAYBACK DISC" appears in the main display when you try to record on an MD, the MD is only for playback use, not for recording.

## Recording Any Sound Source — Standard Recording

The following recording method can be applied to any sound source.

1 Insert a recordable MD in the MD loading slot.

2 Select the source.

• When recording a CD:

Press CD 1, CD 2, or CD 3 to select a disc you want to record from, then ■.

• When recording an FM/AM (MW/LW) broadcast:

Press FM/AM, then tune into a station you want.

When the source for recording is FM or AM (MW/LW), you can select one of the two recording methods: Stereo Recording and Monaural Recording. (See page 36 for more details.)

• When recording from external equipment:

Press TAPE/AUX to select it as the playback source.

When the source for recording is "TAPE", you can select the sound input level. See "To select the sound input level" to the right.

3 Press REC PAUSE on the unit (or MD REC PAUSE on the remote control).

The recording lamp on the unit starts flashing.

4 Press MD > / II.

The recording lamp stops flashing and remains lit, and recording starts.

• When recording an FM/AM (MW/LW) broadcast:

The station frequency will be recorded as the track title.

5 When recording a CD:

Press CD > / II.

When recording from external equipment:

Start playback.

• For details, see the manual supplied with your equipment.

To stop recording for a moment, press REC PAUSE (or MD REC PAUSE) again.

To resume recording, press MD > / II again.

To stop recording, press ■. "WRITING" appears for a while.

• When recording from a CD, both the CD player and the MD recorder stop.

**notes** You can use more useful and easier recording methods.

- For recording from CDs, "Recording CDs" on page 35.
- For recording FM/AM broadcasts, "Recording FM/AM (MW/LW) Broadcasts — Monaural Recording and Stereo Recording" on page 36.
- For recording from the external equipment, "Recording the External Equipment — Sound Synchronized Recording and Stereo Recording" on page 36.

## To select the sound input level

This is only used for recording from an analog source (ex. tape or VCR) connected to the TAPE jacks on the rear. If the recorded sound from such an analog source is not loud enough, or if it is distorted, select the appropriate sound input level before recording.

## On the unit ONLY:

1 While "TAPE" is selected as the source to play, press and hold PLAY/REC MODE; until "TAPE INPUT" appears in the main display.



2 Push the joy control upward (▲) or downward (▼) to select the recording input level, then press SET.

- "Level 1": Select when the recorded sound is distorted. This setting reduces the input signal level. (Initial setting when shipped from the factory)
- "Level 2": Select when the recorded sound is not loud enough. This setting increases the input signal level.

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Continued

## Recording CDs

You have two methods to record from a CD into an MD.

- Synchronized Recording** — Records the entire CD or the program you have made.
- First Track Recording** — Records the first track of each CD.

## Synchronized Recording

This is the easiest way of CD recording. At a press of the button, you can start playing a CD and recording on an MD.

## On the unit ONLY:

1 Insert a recordable MD into the MD loading slot.

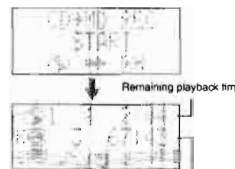
2 Prepare a CD.

Place a CD on one of the disc tray (CD 1, CD 2, or CD 3), press the corresponding disc number button (CD 1, CD 2, or CD 3), then ■ before going to the next step. Make sure that the correct disc number lamp lights on the unit.

• You can make a program if you want (see page 26).

3 Press CD > / MD.

The recording lamp on the unit lights, and recording starts.



Recording time remaining on the MD

When recording ends, both the CD player and the MD recorder stop automatically.

To stop recording, press ■. "WRITING" appears for a while.

Both the CD player and the MD recorder stop.

## To record a single track during play or pause

Press CD > / MD while playing back or pausing a CD track you want to record.

The playback of that CD track is stopped, and the same track starts playing from the beginning again. This time, the MD recorder starts recording the CD track.

- When the track is recorded, both the CD player and the MD recorder stop.

## First Track Recording

First Track Recording allows you to record the first track of each loaded CD. You can, for example, make a directory of all your best CDs.

## On the unit ONLY:

1 Insert a recordable MD into the MD loading slot.

2 Prepare a CD.

Always place a CD on the CD 1 tray. If not, this function does not work.

3 Press 1ST TRACK REC.

The recording lamp on the unit lights, and First Track Recording starts from the CD on the CD 1 tray.



When the first track of the CD on the CD 1 tray is recorded, the first track of the CD on the CD 2 tray will be recorded. Recording continues until the first track of each loaded CD is recorded.

4 Replace the CDs on the trays whose disc number lamp is not lit green.

• You can change CDs to continue the First Track Recording using more than 3 CDs.

When the first track of the last loaded CD is recorded, First Track Recording stops.

To stop recording, press ■. "WRITING" appears for a while.

Both the CD player and the MD recorder stop.

## Recording FM/AM (MW/LW) Broadcasts — Monaural Recording and Stereo Recording

When recording FM/AM (MW/LW) broadcasts, you can select one of the two recording methods — Monaural (Long) Recording and Stereo (Normal) Recording.

- Monaural (Long) Recording** — Records both stereo program and monaural program in monaural. This allows you to record on an MD twice as long as the MD's recording time (indicated on the package of the MD). For example, you can record a 120-minute program on a 60-minute MD, though recorded sound becomes monaural. (Reproduced sound through the speakers during Monaural recording also becomes monaural.)
- Stereo (Normal) Recording** — Sound is recorded in stereo (both on the left and right audio channels). You can also use the Standard Recording method described on page 34 for Stereo Recording.

1 Insert a recordable MD into the MD loading slot.

2 Press FM/AM, then tune into a station you want.

• See "Tuning in a Station" on page 18.

3 Select the recording method — Monaural Recording or Stereo Recording.

1) Press PLAY/REC MODE on the unit.

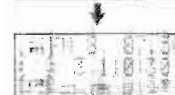


2) Push the joy control upward (▲) or downward (▼) to select the recording method you want, then press SET.

The recording lamp on the unit starts flashing.

- STEREO: Select for normal stereo recording.
- MONO: Select for a long monaural recording.

Ex. When selecting "MONO"



Ex. When selecting "STEREO"



4 Press MD > / II.

The recording lamp stops flashing and remain lit, and recording starts.

• The station frequency will be recorded as the track title.

To stop recording, press ■.

To stop recording for a moment, press REC PAUSE (or MD REC PAUSE) on the remote control) again.

To resume recording, press MD > / II again.

**notes** In the following cases, Monaural Recording is automatically canceled, and Stereo Recording resumes.

- When you turn off, then on the unit.
- When you change the source.
- When you open the MD.
- When you change the band (FM or AM). If you change the stations but not change the band, Monaural Recording is not canceled.

## Recording the External Equipment — Sound Synchronized Recording and Stereo Recording

When recording from the external equipment, you can select one of the two recording methods — Sound Synchronized Recording and Stereo (Normal) Recording.

When the sound signal comes in through the AUX terminal, digital recording is performed.

- Sound Synchronized Recording** — With this recording method, you can start recording automatically when the source sound comes into this unit through the TAPE jacks or the AUX terminal. Sound Synchronized Recording will stop automatically if no sound comes in for more than 30 seconds. Sound is recorded in stereo.
- Stereo (Normal) Recording** — Sound is recorded in stereo (both on the left and right audio channels). You can also use the Standard Recording method described on page 34 for Stereo Recording.

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## Editing MDs

Continued

1 Insert a recordable MD into the MD loading slot.

2 Press TAPE/AUX to select the sound source you want to record from.  
• When selecting "TAPE," the sound input level appears for a while. (See page 34 for the sound input level.)

3 Select the recording method — Sound Synchronized Recording or Stereo Recording.

1) Press PLAY/REC MODE on the unit.



2) Push the joy control upward (▶▶ ▲) or downward (◀◀ ▼) to select the recording method you want, then press SET. The recording lamp on the unit starts flashing.

- STEREO: Select for normal stereo recording
- SOUND SYNC: Select for a sound synchronized recording

Ex. When selecting "SOUND SYNC" for recording from a tape



Ex. When selecting "STEREO" for recording from a tape



4 When selecting "SOUND SYNC": Start playback on the external equipment. The recording lamp stops flashing and remains lit, and recording starts automatically.

When selecting "STEREO":

- 1) Press MD ▷ / II. The recording lamp stops flashing and remain lit, and recording starts.
- 2) Start playback on the external equipment.

To stop recording, press ■.

To stop recording for a moment (only for Stereo Recording), press REC PAUSE (or MD REC PAUSE on the remote control) again.

To resume recording, press MD ▷ / II.

**notes** When the source for recording is "TAPE," you can select the sound input level. See "To select the sound input level" on page 34.

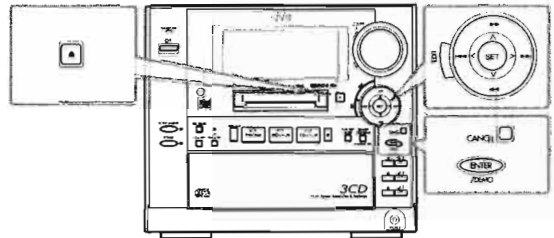
**notes** When recording is stopped or finished Sound Synchronized Recording is automatically canceled, and Stereo Recording resumes.

**notes** If Sound Synchronized Recording will not work correctly Use the Stereo (Normal) Recording or Standard Recording method (see page 34). Sound Synchronized Recording starts automatically when this unit detects sound signals come in. This means that, if sound signal is too weak for this unit to detect, Sound Synchronized Recording will not start (or will stop even while the source is being played).

**notes** When recording from a DAT deck using Sound Synchronized Recording Two track marks will be recorded at the beginning of the recording. If this occurs, join these two track marks using the JOIN function described on page 41.

The buttons and controls enlarged in the illustration below are used and explained in this section (pages 39 to 43).

Front panel



You cannot use the remote control to edit MDs. Use only buttons on the front panel.

## Introducing MD Editing Functions

A recorded MD can be edited in many ways. The MD editing functions include dividing, joining, moving, erasing tracks, erasing the entire disc, and more than one of them can be combined as required.

**Dividing a track (DIVIDE): Page 40**  
This function divides a track by adding a track marking(s) in the desired position(s) in the middle or where you want to search later.

**Erasing all tracks (ALL ERASE): Page 43**  
This function erases data in a disc entirely.

**Erasing a Portion of a Track**  
By combining "DIVIDE," "ERASE" and "JOIN," for example, it is possible to erase only a part of an existing track.

**Joining a track (JOIN): Page 41**  
This function joins two adjacent tracks into a single track by deleting a track marking.

**Moving a track (MOVE): Page 41**  
This function moves a track by reordering the track numbers.

**Erasing a track (ERASE): Page 42**  
This function erases selected tracks. After the erasure, the subsequent tracks are justified and their track numbers are renumbered automatically. You can erase up to 15 tracks at a time.

**notes** If "PLAYBACK DISC" or "DISC PROTECTED" appears when you try to edit an MD You cannot edit such MDs. See page 58.

**notes** You can also assign titles to MDs and/or tracks (see page 44). A title can be assigned to a track or disc. Once a title is assigned, it is displayed in later playback for confirmation. Each title can be composed of up to 64 characters, and can be input using alphabetic characters (uppercase and lowercase), symbols and numerals.

## DIVIDE Function

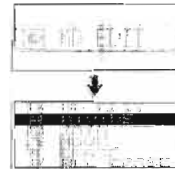
This function allows you to divide one track into two separate tracks. It is useful, for example, when you want to add track marks at a certain point within a track or if you want to separate a recording.

- To stop any time during editing process, press EDIT.

On the unit ONLY:

1 Insert an MD you want to edit into the MD loading slot.

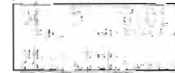
2 Press EDIT. The source is changed to "MD," and the MD recorder enters editing mode (with DIVIDE function selected).



3 Press SET. The first track (or the current track) start playing.

4 Push the joy control rightward (▶▶ ▶) or leftward (◀◀ ◀) to select the track you want to divide. The selected track starts playing.

Ex. When you want to divide track 5



If the track has a title, it is show here.

- If you do not push the joy control rightward (▶▶ ▶) or leftward (◀◀ ◀), the same track plays repeatedly.
- You can push the joy control upward (▶▶ ▲) or downward (◀◀ ▼) to find the dividing point.

5 Press SET when you find the point where you want to divide the track.

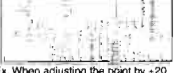
The MD recorder repeats the selected point — a 3-second period following the dividing point.



- If the dividing point is satisfactory, go to step 7.
- If the dividing point is not satisfactory, go to the next step.

6 Push and hold the joy control rightward (▶▶ ▶) or leftward (◀◀ ◀) to precisely adjust the dividing point.

- You can shift the dividing point up to ±128. This range (±128) corresponds to approximately ±8 seconds from the original point (Position 0).



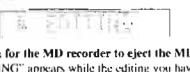
Ex. When adjusting the point by +20 When you stop holding the joy control, the unit repeats the newly selected dividing point.

- When you find the right position, go to the next step.
- If you want to cancel the dividing point, press CANCEL, then select the correct dividing point.

7 Press SET.



8 Press ENTER/DEMO to finish the editing procedure.



9 Press ▲ for the MD recorder to eject the MD. "WRITING" appears while the editing you have made is being recorded on the MD.

To join the divided tracks again, see the JOIN function.

# CA-MXS5MD/MXS5RMD SP-MXS5MD

Continued 

## JOIN Function

This function allows you to join two adjacent tracks into one track.

- To stop any time during editing process, press EDIT.

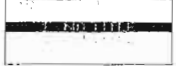
On the unit ONLY:

- 1 Insert an MD you want to edit into the MD loading slot.
- 2 Press EDIT.  
The source is changed to "MD," and the MD recorder enters editing mode (with DIVIDE function selected).

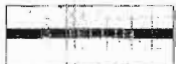


- If "JOIN" is not shown ("-----" appears instead), you cannot join the tracks.

- 3 Push the joy control downward (⇐⇐ ∇) or upward (⇒⇒ ^) to select "JOIN," then press SET.

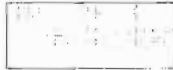


- 4 Push the joy control downward (⇐⇐ ∇) or upward (⇒⇒ ^) to select the two adjacent tracks you want to join.



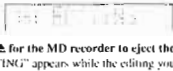
Ex. When you want to join tracks 2 and 3

- 5 Press SET.



- If you have selected wrong tracks, press CANCEL, then select the correct tracks.

- 6 Press ENTER/DEMO to finish the editing procedure.



- 7 Press ▲ for the MD recorder to eject the MD. "WRITING" appears while the editing you have made is being recorded on the MD.

To divide the joined tracks, see the DIVIDE function.

## MOVE Function

This function allows you to move a track to the position you prefer. It is useful to change the order of the tracks as you like.

- To stop any time during editing process, press EDIT.

On the unit ONLY:

- 1 Insert an MD you want to edit into the MD loading slot.
- 2 Press EDIT.  
The source is changed to "MD," and the MD recorder enters editing mode (with DIVIDE function selected).

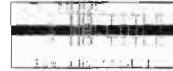


- If "MOVE" is not shown ("-----" appears instead), you cannot move the tracks.

- 3 Push the joy control downward (⇐⇐ ∇) or upward (⇒⇒ ^) to select "MOVE," then press SET.



- 4 Push the joy control downward (⇐⇐ ∇) or upward (⇒⇒ ^) to select the track you want to move.



Ex. When you want to move track 3

- 5 Press SET.



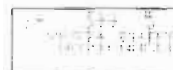
- If you have selected a wrong track number, press CANCEL, then select the correct track number.

- 6 Push the joy control downward (⇐⇐ ∇) or upward (⇒⇒ ^) to select the position where you want to move the track.



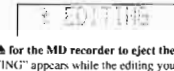
Ex. When you want to move to the track 5 position

- 7 Press SET.



- If you have selected wrong tracks, press CANCEL, then select the correct tracks by repeating from step 4.

- 8 Press ENTER/DEMO to finish the editing procedure.



- 9 Press ▲ for the MD recorder to eject the MD. "WRITING" appears while the editing you have made is being recorded on the MD.

## ERASE Function

This function allows you to erase an unwanted track.

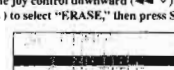
- To stop any time during editing process, press EDIT.

On the unit ONLY:

- 1 Insert an MD you want to edit into the MD loading slot.
- 2 Press EDIT.  
The source is changed to "MD," and the MD recorder enters editing mode (with DIVIDE function selected).



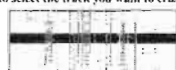
- 3 Push the joy control downward (⇐⇐ ∇) or upward (⇒⇒ ^) to select "ERASE," then press SET.



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- 4 Push the joy control downward (⇐⇐ ∇) or upward (⇒⇒ ^) to select the track you want to erase.



- 5 Press SET.

- "x" appears between track number and track title. "x" means the track in the same line will be erased when you finish the editing procedure.



Ex. When you want to erase track 3

- If you have selected a wrong track number, press CANCEL, then select the correct track number.

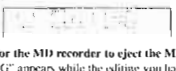
- 6 Repeat step 4 and 5 to select all the track you want to erase.

- You can select up to 15 tracks.

- 7 Press ENTER/DEMO to finish selecting tracks.



- 8 Press ENTER/DEMO to finish the editing procedure.



- 9 Press ▲ for the MD recorder to eject the MD. "WRITING" appears while the editing you have made is being recorded on the MD.

## ALL ERASE Function

This function allows you to erase all the tracks on an MD.

- To stop any time during editing process, press EDIT.

On the unit ONLY:

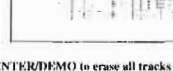
- 1 Insert an MD you want to edit into the MD loading slot.
- 2 Press EDIT.  
The source is changed to "MD," and the MD recorder enters editing mode (with DIVIDE function selected).



- 3 Push the joy control downward (⇐⇐ ∇) or upward (⇒⇒ ^) to select "ALL ERASE," then press SET.



- 4 Press ENTER/DEMO to erase all tracks and finish the editing procedure.




- 5 Press ▲ for the MD recorder to eject the MD. "WRITING" appears while the editing you have made is being recorded on the MD.



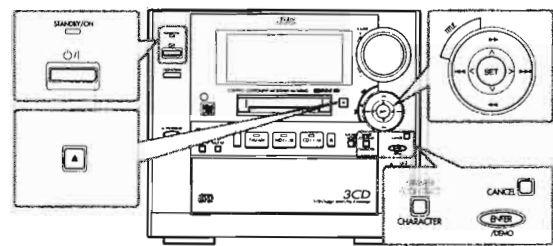
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## Making Your Own Titles and Screens

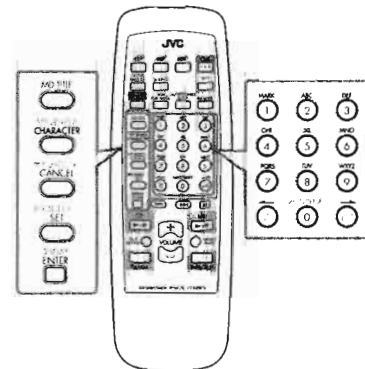
Continued 

The buttons and controls enlarged in the illustration below are used and explained in this section (pages 45 to 49).

### Front panel



### Remote control



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### Assigning Titles to an MD

You can assign a name to each MD and to each track. Once a title is assigned, it is displayed for your confirmation. Each title can be composed of up to 64 characters, and can be input using alphabetic characters (uppercase and lowercase), symbols and numerals.

#### On the unit:

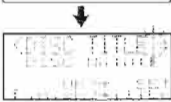
In the following example, the process is explained from the very first — that is, inserting a disc. If you already start recording or playing, start from step 2.

- To exit from the title entry screen any time during the process, press TITLE.

**1** Insert an MD you want to edit into the MD loading slot.

**2** Press TITLE. The source is changed to "MD," and the MD recorder enters one of the following title entry screen.

- Disc title entry screen: appears when you press TITLE when the MD recorder stops.



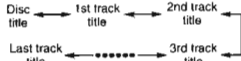
- Track title entry screen: appears when you press TITLE while playing or recording.



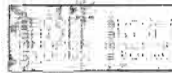
Ex. While playing track 1

**3** Push the joy control rightward (▶▶▶) or leftward (◀◀◀) to change the title entry mode.

- Title entry mode changes as follows:



**4** Press SET to enter the selected title entry mode.



Ex. When entering a disc title

**5** Press CHARACTER to select the character set you want.

- Each time you press the button, the character sets change as follows:

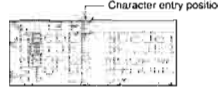


Numerals and symbols

**6** Input a character.

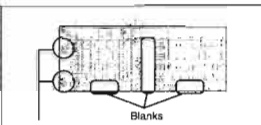
- Ex. When entering "H"

**1)** Push the joy control horizontally (◀◀◀ < / ▶▶▶ >) and vertically (◀◀◀ ∨ / ▶▶▶ ∧) to until "H" is selected.



**2)** Press SET.

- The selected character is entered, and the character entry position moves to the next.



- To move the character entry position while entering a title, select ▶ for moving it rightward and ◀ for moving it leftward in the main display, then press SET.
- Each time you press SET, the character entry position moves.
- To enter a blank, select a blank in the main display, then press SET.
- If you have entered an incorrect character, press CANCEL to cancel the last entry.

**7** Repeat steps 5 and 6 to enter other characters.

- The main display can only show 8 characters at a time. If you enter the 9th character, the first character disappears, and so on.

**8** Press ENTER/DEMO to finish the current title entry.

- "EDITING" appears for a while, then the unit enters title entry mode again.
- You can assign another title by repeating steps 3 to 8.

**9** Press TITLE (or ENTER/DEMO again) to exit from the title entry mode.

**10** Press ▲ for the MD recorder to eject the MD. "WRITING" appears while the editing you have made is being recorded on the MD.



You can assign titles during play or recording

#### During play:

##### Entering a track title

The MD recorder repeats playback of the current track until you press ENTER/DEMO in step 8 above. When you press ENTER/DEMO, the next track will be played.

##### Entering a disc title

The MD recorder repeats playback of all tracks of the MD until you press ENTER/DEMO in step 8 above. When you press ENTER/DEMO, the MD recorder enters the track title entry mode.

##### During recording:

##### Entering a track title

The MD recorder continues recording even after you press ENTER/DEMO in step 8 above. When you press ENTER/DEMO, a track title is assigned to the track where you have started the title entry.

##### During CD Synchronized Recording and the First Track Recording

You can assign the disc title, and 15 track titles one after another as recording goes on. The track titles you have entered are automatically assigned to the tracks recorded on the MD in sequential order. If you enter 16th track title or more, they are ignored.



"NO OPERATION!" appears

You have tried to use the remote control while entering a title using the buttons on the unit. Use the buttons on the unit only.

### Changing the Title

You can make a correction or change the title.

**1** Follow steps 1 to 4 of page 45.

**2** Push the joy control horizontally (◀◀◀ < / ▶▶▶ >) and vertically (◀◀◀ ∨ / ▶▶▶ ∧) to select the character you want to correct.

- Make sure that the character you want to change is flashing.

**3** Press CANCEL to delete the character you have selected in the above step.

**4** Input the correct character.

- Press CHARACTER to select the character set you want.
- Push the joy control horizontally (◀◀◀ < / ▶▶▶ >) and vertically (◀◀◀ ∨ / ▶▶▶ ∧) to select the correct character, then press SET.

**5** Repeat steps 2 to 4 of the current procedure to correct more characters.

**6** Press ENTER/DEMO to finish correcting the title.

- If you want to correct another title, select another title entry mode by pushing the joy control rightward (▶▶▶ >) or leftward (◀◀◀ <), press SET, then repeat from step 2 above.
- If you want to finish the correction, go to the next step.

**7** Press TITLE (or ENTER/DEMO again) to exit from the title entry mode.

**8** Press ▲ for the MD recorder to eject the MD. "WRITING" appears while the editing you have made is being recorded on the MD.

#### To erase all the characters

Press CANCEL repeatedly in step 3 above to erase all the characters, then go to step 6.

#### On the remote control:

In the following example, the process is explained from the very first — that is, inserting a disc. If you already start recording or playing, start from step 2.

- To exit from the title entry screen any time during the process, press MD TITLE.

**1** Insert an MD you want to edit into the MD loading slot.

**2** Press MD TITLE. The source is changed to "MD," and the MD recorder enters one of the following title entry screen.

- Disc title entry screen: appears when you press MD TITLE when the MD recorder stops.

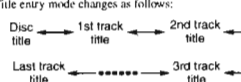


- Track title entry screen: appears when you press MD TITLE while playing or recording.

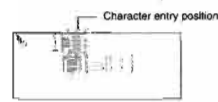


**3** Press — (10) or — (+10) to change the title entry mode.

- Title entry mode changes as follows:

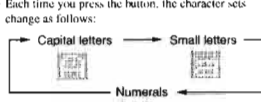


**4** Press SET to enter the selected title entry mode.



**5** Press CHARACTER to select the character set you want.

- Each time you press the button, the character sets change as follows:



**6** Input a character.

**1)** Press the character entry button for a character you want to input.

#### Examples:

- To input an "A" or "a," press ABC once.
  - To input a "B" or "b," press ABC twice.
  - To input a "C" or "c," press ABC three times.
  - To input a symbol, press MARK repeatedly until the mark you want appears.
  - To input a numeral, press 0 - 9.
  - To move the character entry position while entering a title, press — (10) or — (+10).
  - If you have entered an incorrect character, press CANCEL to cancel the last entry.
- 2)** Press the button for the next character you want to input.
- If the next character you want to input is assigned to the same button you have just pressed in step 6-1, press — (+10) first to move the character entry position to the right.

**7** Repeat steps 5 and 6 to enter other characters.

- The main display can only show 8 characters at a time. If you enter the 9th character, the first character disappears, and so on.

**8** Press ENTER to finish the current title entry.

- "EDITING" appears for a while, then the unit enters title entry mode again.
- You can assign another title by repeating steps 3 to 8.

**9** Press MD TITLE (or ENTER again) to finish the title entry.

**10** Press ▲ for the MD recorder to eject the MD. "WRITING" appears while the editing you have made is being recorded on the MD.



Available Symbols are as follows:

Blank	!	"	#	\$	%	&	'	( )
*	+	,	-	.	/	:	;	< =
>	?	@	_	^				



You can assign titles during play or recording

#### During play:

##### Entering a track title

The MD recorder repeats playback of the current track until you press MARK repeatedly until the mark you want appears. The next track will be played.

##### Entering a disc title

The MD recorder repeats playback of all tracks of the MD until you press ENTER in step 8 above. When you press ENTER, the MD recorder enters the track title entry mode.

##### During recording:

##### Entering a track title

The MD recorder continues recording even after you press ENTER in step 8 above. When you press ENTER, a track title is assigned to the track where you have started the title entry.

##### During CD Synchronized Recording and the First Track Recording

You can assign the disc title, and 15 track titles one after another as recording goes on. The track titles you have entered are automatically assigned to the tracks recorded on the MD in sequential order. If you enter 16th track title or more, they are ignored.



"NO OPERATION!" appears

You have tried to use the remote control while entering a title using the remote control. Use the remote control only.

**Changing the Title**

You can make a correction or change the title.

- Follow steps 1 to 4 of pages 47 and 48.
- Press  $\leftarrow$  (10) or  $\rightarrow$  (+10) to select the character you want to correct.
  - Make sure that the character you want to change is flashing.
- Press CANCEL to delete the character you have selected in the above step.
- Input the correct character by pressing one of the character entry buttons.
- Repeat steps 2 to 4 of the current procedure to correct more characters.
- Press ENTER to finish correcting the title.
  - If you want to correct another title, select another title entry mode by pressing  $\leftarrow$  (10) or  $\rightarrow$  (+10), press SET, then repeat from step 2 above.
  - If you want to finish the correction, go to the next step.
- Press MD TITLE (or ENTER again) to exit from the title entry mode.
- Press  $\Delta$  for the MD recorder to eject the MD. "WRITING" appears while the editing you have made is being recorded on the MD.

**To erase all the characters**

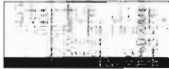
Press CANCEL repeatedly in step 3 above to erase all the characters, then go to step 6.

**Creating Your Own Opening and Ending Screens**

When you turn on or off the unit, you can show your own screens instead of the HELLO and SEE YOU screens. To create your own opening and ending screens, follow the procedure below.

- You can register up to 39 characters for each screen.

**On the unit ONLY:**

- Press  $\text{O}/\text{I}$  to turn off the unit if it is on. The STANDBY/ON lamp lights red.
- Press and hold TITLE until "Startup disp." (Startup display) appears in the main display.
 
- Push the Joy control downward ( $\blacktriangleleft \nabla$ ) or upward ( $\blacktriangleright \blacktriangle$ ) to select the screen you want to make, then press SET.
  - Power on: To make your own opening screen
  - Power off: To make your own ending screen
  - Reset: See "To erase your own screen" below
- Enter the message using the title entry procedure explained on pages 45 and 46.
- Press ENTER/DEMO to finish creating the screen.
- Repeat step 2 to 5 to create the other screen if you want.

**To erase your own screen**

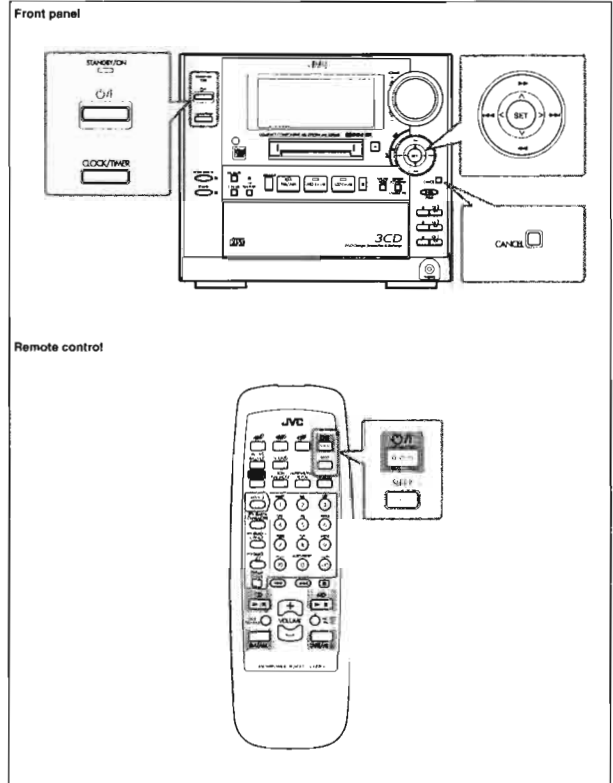
Repeat the above procedure and in step 3, select "Reset." "Startup disp. Reset!" appears in the main display, and your own screens are erased. When you turn on and off the unit, the HELLO screen and the SEE YOU screen will appear.

- You cannot erase your own screens separately.

**Using the Timers**

Continued 

The buttons and controls enlarged in the illustration below are used and explained in this section (pages 51 to 54).



There are three timers available — Recording Timer, Daily Timer, and Sleep Timer. Before using these timers, you need to set the clock built in the unit. (See page 11.)

**Using Recording Timer**

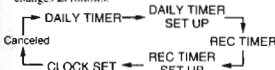


With Recording Timer, you can make an unattended recording.

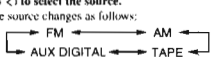
- You can set Recording Timer whether the unit is turned on or off.
- To correct a mis-entry any time during the setting process, press CANCEL. To cancel the setting any time during process, press CLOCK/TIMER.

**How Recording Timer actually works**

The unit automatically turns on, turns off the volume, and starts recording on the MD when the timer-on time comes. Then, when the timer-off time comes, the unit automatically turns off (stands by). Recording Timer works only once, but the timer settings remain stored in memory until you reset them or disconnect the AC power cord.

**On the unit ONLY:**

- Press CLOCK/TIMER repeatedly until "REC TIMER SET UP" appears in the main display. The REC indicator starts flashing on the display.
  - Each time you press the button, the timer mode changes as follows:



- Push the Joy control rightward ( $\blacktriangleright$ ) or leftward ( $\blacktriangleleft$ ) to set the hour of the timer-on time, then press SET.
- Push the Joy control rightward ( $\blacktriangleright$ ) or leftward ( $\blacktriangleleft$ ) to set the minute of the timer-on time, then press SET.
- Push the Joy control rightward ( $\blacktriangleright$ ) or leftward ( $\blacktriangleleft$ ) to set the hour of the timer-off time, then press SET.
- Push the Joy control rightward ( $\blacktriangleright$ ) or leftward ( $\blacktriangleleft$ ) to set the minute of the timer-off time, then press SET.
- Push the Joy control rightward ( $\blacktriangleright$ ) or leftward ( $\blacktriangleleft$ ) to set the source.
  - The source changes as follows:

FM: Tunes into an FM station.  $\rightarrow$  Select a preset station (see below).

AM: Tunes into an AM (MW/LW) station.  $\rightarrow$  Select a preset station (see below).

TAPE\*: Selects "TAPE" as the source.  $\rightarrow$  Make the external equipment ready for playback.

AUX DIGITAL\*: Selects "AUX DIGITAL" as the source.  $\rightarrow$  Make the external digital equipment ready for playback.

- If you have selected "FM" or "AM" as the source in the above step, select a preset number. Push the joy control downward ( $\blacktriangleleft \nabla$ ) or upward ( $\blacktriangleright \blacktriangle$ ) to select a preset station, then press SET.
  - If you press SET without selecting a preset station, the last received station will be tuned in when the timer recording starts.

If you have selected "TAPE" or "AUX DIGITAL" as the source in the above step, simply press SET. The REC indicator stops flashing, and remains lit.

**Using Daily Timer**

- If you have selected "FM" or "AM" as the source in the above step, select the recording mode. Push the joy control rightward ( $\blacktriangleright$ ) or leftward ( $\blacktriangleleft$ ) to select the recording mode — either Stereo Recording or Monaural Recording, then press SET. The REC indicator stops flashing, and remains lit.

- Press  $\text{O}/\text{I}$  to turn off the unit (on standby) if necessary.

**To turn on or off Recording Timer after its setting is done**

- Press CLOCK/TIMER repeatedly until "REC TIMER" appears in the main display.



- To turn off the Recording Timer, push the joy control downward ( $\blacktriangleleft \nabla$ ) to select "OFF" then press SET. The REC indicator goes off from the display. The Recording Timer is canceled, but the setting for the Recording Timer remains in memory.
  - To turn on the Recording Timer, press SET (after making sure that "ON" is selected in the main display). The REC indicator lights on the display. The settings you have done are shown in the main display for your confirmation.

**notes** If you change the source or press CLOCK/TIMER while Recording Timer is operating, Recording Timer is canceled and the unit (keys) turn off automatically.

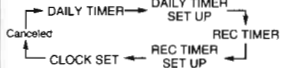


With Daily Timer, you can wake up to your favorite music or radio program.

- You can set Daily Timer whether the unit is turned on or off.
- To correct a mis-entry any time during the setting process, press CANCEL.
- To cancel the setting any time during process, press CLOCK/TIMER.

**How Daily Timer actually works**

The unit automatically turns on, and starts playing the specified source when the timer-on time comes. Then, when the timer-off time comes, the unit automatically turns off (stands by). Daily Timer works every day, and the timer settings remain stored in memory until you reset them or disconnect the AC power cord.

**On the unit ONLY:**

- Press CLOCK/TIMER repeatedly until "DAILY TIMER SET UP" appears in the main display.
  - Each time you press the button, the timer mode changes as follows:


- Push the joy control rightward ( $\blacktriangleright$ ) or leftward ( $\blacktriangleleft$ ) to set the hour of the timer-on time, then press SET.
- Push the Joy control rightward ( $\blacktriangleright$ ) or leftward ( $\blacktriangleleft$ ) to set the minute of the timer-on time, then press SET.

**4** Push the joy control rightward (▶▶) or leftward (◀◀) to set the hour of the timer-off time, then press SET.

**5** Push the joy control rightward (▶▶) or leftward (◀◀) to set the minute of the timer-off time, then press SET.

**6** Push the joy control rightward (▶▶) or leftward (◀◀) to select the source.  
• The source changes as follows:

- AUX DIGITAL: Plays the source selected when the unit is turned off.
- TAPE: Tapes into an FM station. → go to step 7 to select a preset station.
- FM: Tunes into an FM station.
- AM: Tunes into an AM (MW/LW) station. → go to step 7 to select a preset station.
- CD: Plays a CD. → Prepare a CD, then go to step 7 to select the CD and starting track.
- MD: Plays an MD. → Prepare an MD, then go to step 7 to select the starting track.
- TAPE\*: Selects "TAPE" as the source. → Make the external equipment ready for playback.
- AUX DIGITAL\*: Selects "AUX DIGITAL" as the source. → Make the external digital equipment ready for playback.

\* To operate these equipment with the Daily Timer, they also need to have the timer function.

**7** If you have selected "FM--" or "AM--" as the source in the above step, select a preset station. Push the joy control downward (◀◀) or upward (▶▶) to select a preset station, then press SET.

• If you press SET without selecting a preset station, the last received station will be tuned in when the unit is turned on with the Daily Timer.

If you have selected "CD--" as the source in the above step, select a disc number.

- 1) Push the joy control downward (◀◀) or upward (▶▶) to select the disc number (CD 1 to CD 3), then press SET.
- 2) Push the joy control downward (◀◀) or upward (▶▶) to select a track number, then press SET.

• If you press SET without selecting a disc number, the last selected disc will be played back when the unit is turned on with the Daily Timer.  
• If you press SET without selecting a track number, playback starts from the first track of the selected disc when the unit is turned on with the Daily Timer.

If you have selected "MD--" as the source in the above step, select a track number.

- Push the joy control downward (◀◀) or upward (▶▶) to select a track number, then press SET.
- If you press SET without selecting a track number, the first track starts playing when the unit is turned on with the Daily Timer.

If you have selected "TAPE" or "AUX DIGITAL" as the source in the above step, simply press SET.

**8** Push the joy control rightward (▶▶) or leftward (◀◀) to adjust the volume level.  
• You can adjust the volume level within the range of 0 (silent) to 50 (maximum).

• "--" can be selected if you set the timer while the unit is turned on. The volume is set to the current volume level.

**9** Push the joy control downward (◀◀) or upward (▶▶) to select volume fade-in mode — "FADE" or "NoFADE."

- FADE: Volume fades in (gradually becomes louder and is set to the specified level).
- NoFADE: No fade-in effect. Volume is set to the specified level when the timer-on time comes.

**10** Press SET.  
The DAILY indicator stops flashing and remains lit.

**11** Press  $\odot$  to turn off the unit (on standby) if you have set the timer with the unit turned on. The STANDBY/ON lamp lights red.

**notes** If the unit is kept turned on when the timer-on time comes, Daily Timer does not work at all.

**notes** If you change the source or press CLOCK/TIMER while Daily Timer is operating, Daily Timer is canceled and the unit does not turn off automatically.

To turn on or off Daily Timer after its setting is done

**1** Press CLOCK/TIMER repeatedly until "DAILY TIMER" appears in the main display.



**2** To turn off the Daily Timer, push the joy control downward (◀◀) to select "OFF," then press SET. The DAILY indicator goes off from the display. The Daily Timer is canceled, but the setting for the Daily Timer remains in memory.

To turn on the Daily Timer, press SET (after making sure that "ON" is selected in the main display). The DAILY indicator lights on the display. The settings you have done are shown in the main display for your confirmation.

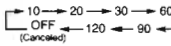
### Using Sleep Timer

With Sleep Timer, you can fall asleep to your favorite music. You can set Sleep Timer when the unit is turned on.

**How Sleep Timer actually works**  
The unit automatically turns off after the specified time length passes.

**On the remote control ONLY:**

**1** Press SLEEP.  
• Each time you press the button, the time length changes as follows:



**2** Wait for about 4 seconds after specifying the time length. The display window dims.

To check the remaining time until the shut-off time, press SLEEP once. The remaining time until the shut-off time appears for about 4 seconds.

To change the shut-off time, press SLEEP repeatedly until the time length you want appears.

To cancel the setting, press SLEEP repeatedly until "SLEEP OFF" appears in the main display.  
• Turning off the unit or pressing CLOCK/TIMER also cancels Sleep Timer.

To sleep with the Sleep Timer and wake up with the Daily Timer

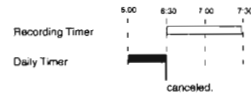
The unit turns off when the shut-off time comes (set by the Sleep Timer), and turns on when the timer-on time (set by the Daily Timer) comes.

- 1 Set the Daily Timer as explained on pages 52 and 53.
- 2 Start playing back any source you want to listen to before sleep.
- 3 Set the Sleep Timer.

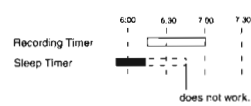
### Timer Priority

Since each timer can be set separately, you may wonder what happens if the setting for these timers overlaps. Here are the priorities for each timer.

• A timer with the late timer-on time has priority. If Recording Timer is set to come on while Daily Timer is operating, Daily Timer is canceled.



If Recording Timer is set to come on while Sleep Timer is operating, Sleep Timer will not shut off the power even if the shut-off time comes.



## Maintenance

To get the best performance of the unit, keep your discs and mechanism clean.

### General Notes

In general, you will have the best performance by keeping your CDs, MDs and the mechanism clean.

- Store CDs and MDs in their cases, and keep them in cabinets or on shelves.
- Keep the CD trays, and the MD loading slot cover closed when not in use.

### Handling CDs

- Remove the CD from its case by holding it at the edge while pressing the center hole lightly.
- Do not touch the shiny surface of the disc, or bend the CD.
- Put the CD back in its case after use to prevent warping.

- Be careful not to scratch the surface of the CD when placing it back in its case.
- Avoid exposure to direct sunlight, temperature extremes, and moisture.

**To clean the CD**  
Wipe the CD with a soft cloth in a straight line from center to edge.

DO NOT use any solvents — such as conventional record cleaner, spray, thinner, or benzine — to clean the CD.

### Handling MDs

- Do not open the shutter.
  - The shutter is locked so that it will not open. Trying to force it open will break the MD. If the shutter opens accidentally, close it again quickly without touching the MD inside.

- Do not place MDs in the following places:
  - High temperature areas such as in direct sunlight or inside a car.
  - High humidity areas, e.g. in a bathroom.
  - On a beach or sandy area.

- Clean MDs regularly.
  - If dust or dirt gets on cartridge, wipe it off with a soft dry cloth.

## Additional Information

Continued

### MD Disc Types

There are two types of MDs: Premastered (pre-recorded) and Recordable (blank).

#### Premastered MDs

Premastered MDs, which have been recorded at music studio, can be played back like regular CDs. On an MD of this type, data is recorded as the presence or absence of tiny pits. A laser beam focuses on the pits on the surface of the MD and reflects the detection back to the lens in the MD recorder. The MD recorder then decodes the signals and plays them back as music. This type of MD is called an "optical disc."

#### Recordable MDs

Recordable MDs, which use magneto-optical technology, can be recorded and played back repeatedly. The laser inside the MD recorder applies heat to the MD, demagnetizing the magnetic layer of the MD for recording and playback. This type of MD is called an "magnetic-optical disc."

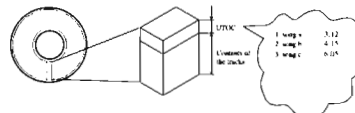
### ATRAC (Adaptive Transform Acoustic Coding)

The MD provides 80 minute recording and playback time, the same as an audio CD, but in a diameter of only 64 mm. This ability to store such a large amount of data is the result of ATRAC, an audio compression technique developed for MD. This technology cuts out faint sounds that would not be heard by the human beings. This technology, based on human sensitivity to sounds, reduces recorded data volume up to about one-fifth of that of the original data.

### UTOC (User Table Of Contents)

Found only on recordable MDs, this area contains sub-data (track number, recording data, etc.) which can be rewritten by the user.

UTOC enables us to search tracks quickly and edit tracks on the MD.



### SCMS (Serial Copy Management System)

The MD recorder integrated to this unit uses the Serial Copy Management System which allows only first-generation digital copies to be made of premastered software (like CDs or pre-recorded MDs).



# CA-MXS5MD/MXS5RMD SP-MXS5MD

## Sound Skip Guard Memory

The biggest weakness of discs is their susceptibility to vibration. The "Sound Skip Guard Memory" has been developed to cope with this weakness.

With this function, a few seconds of signals read by the optical read head from the MD are first stored in memory before being reproduced as audio signals. Thus, even when vibration or shock interrupts signals being read, these stored signals can continue to reproduce sounds for the few seconds. Thus, the user will enjoy uninterrupted music.

Normally...



When "vibrated"...



MD limitations	
The MD records data in an original format that differs from that of conventional cassette tapes or DATs. Since there are some limitations with this recording format, the following types of symptoms may occur. These symptoms are not malfunctions.	
Symptoms	Cause
"DISC FULL" appears, even though there is still enough remaining time on an MD.	There is a maximum number of tracks which can be recorded, regardless of recording time. More than 254 tracks cannot be recorded on an MD.
"DISC FULL" appears, even though the number of tracks and recording time do not reach the limit.	• Repeating erasure and recording on the same MD creates many blank portions sparsely on the MD. When recording on such an MD, a track is recorded on these blank portions sparsely. If a track is divided and recorded into so many portions, "DISC FULL" appears. • If a divided portion of less than 8 seconds is made while a track is recorded on the MD, that track cannot be joined to another track using the JOIN function. Furthermore, if that track is erased, the remaining time of the MD may not increase exactly by the erased amount.
The JOIN function sometimes does not work.	• If a track has been divided into many portions while being recorded on the MD, sounds will drop out while fast forwarding or reversing such an MD.
The remaining time on the MD does not increase even when tracks are erased.	
The sound drops out during fast forward or fast reverse.	• If a track has been divided into many portions while being recorded on the MD, sounds will drop out while fast forwarding or reversing such an MD.
The amount of recorded time on the MD added to the amount of remaining time is shorter than the MD's total possible recording time.	You cannot record on a blank portion of less than 2 seconds in the MD. For this reason, the actual recording time of discs may become shorter.

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## Troubleshooting

If you are having a problem with your unit, check this list for a possible solution before calling for service. If you cannot solve the problem from the hints given here, or the unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Possible Cause	Action
No sound is heard.	Connections are incorrect, or loose.	Check all connections and make corrections. (See pages 6 - 9.)
Unable to record on an MD.	<ul style="list-style-type: none"> <li>You are using a prerecorded MD.</li> <li>The MD is write-protected.</li> </ul>	<ul style="list-style-type: none"> <li>Change it with a recordable MD.</li> <li>Unprotect the MD. (See page 33.)</li> </ul>
Poor radio reception.	<ul style="list-style-type: none"> <li>The antenna is not connected correctly.</li> <li>The AM loop antenna is too close to the unit.</li> <li>The FM antenna is not properly extended and positioned.</li> </ul>	<ul style="list-style-type: none"> <li>Reconnect the antenna securely.</li> <li>Change the position and direction of the AM loop antenna.</li> <li>Extend FM antenna to the best reception position.</li> </ul>
Unable to operate the remote control.	<ul style="list-style-type: none"> <li>The path between the remote control and the remote sensor on the unit is blocked.</li> <li>The batteries have lost their charge.</li> <li>The main AC power cord is not plugged in.</li> <li>The Disc Lock function is in use.</li> </ul>	<ul style="list-style-type: none"> <li>Remove the obstruction.</li> <li>Replace the batteries. (See page 9.)</li> <li>Plug in the AC power plug.</li> <li>Turn off the Disc Lock function. (See page 31.)</li> </ul>
Loaded CDs and MD cannot be ejected.	<ul style="list-style-type: none"> <li>The CD is upside down.</li> <li>The CD is dirty or scratched.</li> <li>There is no digital device connected to the AUX terminal.</li> </ul>	<ul style="list-style-type: none"> <li>Put the CD in with the label side up.</li> <li>Clean or replace the CD. (See page 55.)</li> <li>Connect a digital device using digital optical cord. (See page 8.)</li> </ul>
The CD does not play.	The CD is upside down.	Put the CD in with the label side up.
The CD skips.	The CD is dirty or scratched.	Clean or replace the CD. (See page 55.)
If "AUX DIGITAL UNLOCK" appears in the main display.	There is no digital device connected to the AUX terminal.	Connect a digital device using digital optical cord. (See page 8.)
If "CAUTION!" appears in the main display.	Something is wrong with your unit.	Unplug the unit immediately, then consult your dealer.
Operations are disabled.	The built-in microprocessor has malfunctioned due to external electrical interference.	Unplug the unit then plug it back in.

**notes** When you turn on the unit in the POWER SAVING mode, a mechanical noise will be heard from the MD recorder section. This is a startup noise of power supply to the MD mechanism, not a malfunction of the unit.

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## MD Messages

Message	Signification	Solution
BLANK DISC	The disc is blank.	Change the MD with another if you want to enjoy playback.
CANNOT JOIN	You are trying to join tracks which cannot be joined.	This is not a malfunction. (See "MD limitations" on page 57.)
DISC ERROR	There is a problem with this MD.	Change the MD.
DISC FULL	There is no more space on the MD or there are over 254 tracks.	Use another recordable MD or erase some tracks.
EMERGENCY STOP	A malfunction has occurred during recording.	Eject the MD and re-insert it.
MD NO DISC	There is no MD.	Put an MD.
NON-AUDIO CANNOT COPY	You are trying to copy a non-audio disc like a CD-ROM, Video CD, or DVD.	Stop recording.
PLAYBACK DISC	You are trying to edit or record on a playback-only MD.	Use a recordable MD.
DISC PROTECTED	The MD is write-protected.	Unprotect the MD or use another. (See page 33.)
SCMS CANNOT COPY	Digital copy of the 2nd generation is prohibited.	Use an analog recording method.

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## Specifications

<b>Amplifier</b> Output Power (IEC 268-3/DIN): 30 watts per channel, min. RMS, both channels driven into 6 ohms at 1 kHz, with no more than 0.9% total harmonic distortion Audio input sensitivity/Impedance (at 1 kHz) Analog input: TAPE: 500 mV/47 kohms (at "INPUT Level 1") 195 mV/47 kohms (at "INPUT Level 2") Digital input: AUX: Optical Signal wave length: 660 nm Input level: -23 dBm to -15 dBm (With the built-in sampling rate converter, corresponding to 32 kHz/44.1 kHz/48 kHz) Audio output level/Impedance (at 1 kHz) TAPE: 160 mV/3.9 kohms Speakers/Impedance: 6 - 16 ohms <b>Tuner</b> FM tuning range: 87.50 - 108.00 MHz AM (MW/LW) tuning range: MW: 522 - 1,629 kHz LW: 144 - 288 kHz <b>CD player</b> CD Capacity: 3 CDs Dynamic range: 92 dB Signal-to-noise ratio: 100 dB Wow and flutter: Immeasurable	<b>MD recorder</b> Audio playing system: MiniDisc digital audio system Recording system: Magneto-optical overwrite system Reading system: Non-contact, semiconductor laser pickup ( $\lambda=780$ nm) Error correction system: CIRC (Cross Interleave Reed-Solomon Code) Sampling frequency: 44.1 kHz (With sampling rate converter for recording - 32 kHz/44.1 kHz/48 kHz) Audio compression system: ATRAC (Adaptive Transform Acoustic Coding) <b>General</b> Power requirement: AC 230V ~, 50 Hz Power consumption: 95 watts (at operation) 1.6 watts (on standby: with Power Saving On) 14 watts (on standby: with Power Saving Off) Dimensions (approx.): 215 x 180 x 346 mm (W/H/D) (8 1/2 x 7 1/8 x 13 5/8 in.) Mass (approx.): 6.9 kg (15.3 lbs) <b>Supplied accessories</b> See page 6. Design and specifications are subject to change without notice.
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# Instructions (SP-MXS5MD)

## JVC INSTRUCTIONS SPEAKER SYSTEM SP-MXS5MD



### TILSLUTNING

- Forbind LEFT højttalerterminalerne på forstærkeren til LEFT på højttaleren, og RIGHT til RIGHT med anvendelse af højttalerledninger som vist på tegningen, idet det kontrolleres at polaritet vender rigtigt: (+) til (+) og (-) til (-). Tilsæt de sorte højttalerledninger til (-) terminalerne.
  - Suk for strømmen til hele systemet for højttalerne forbindes til forstærkeren.
  - Den nominelle impedans for SP-MXS5MD er 6 ohm. Anvend en forstærker, hvortil der kan tilsluttes et højttalersystem med en belastningsimpedans på 6ohm.
  - Den maksimale belastningskapacitet for SP-MXS5MD er 50 watt.
- For kraftig indgangssignal vil resultere i unormal støj og muligvis beskadigelse.
- I tilfælde hvor højttalerne udsættes for signaler beskrevet nedenfor, kan der forekomme overbelastning og overbrænding af ledningerne i højttalerne selv om signalstyrken er under den maksimale tilladte værdi. Husk derfor at slå sænke højttalerstyrken i forvejen.
- 1) Støj under FM-afstemning.
  - 2) Signaler med høje niveauer der indeholder højfrekvente komponenter dannet af en båndspæder der er indstillet til hurtig frekvens.
  - 3) Klikstøj der dannes når der tændes eller slukkes for strømmen til andre komponenter.
  - 4) Klikstøj der dannes når ledninger tilsættes eller tages ud af forbindelse mens der er tændt for strømmen.
  - 5) Klikstøj der dannes når pladepumpen udsættes mens der er tændt for strømmen.
  - 6) Klikstøj der dannes når forstærkerens omskifter betjenes.
  - 7) Fortsat høj frekvensvirkning, eller en højlydt dannet af et elektronisk instrument.
  - 8) Hyltetoner når der anvendes en mikrofon.

### LITÄÄNTÄ

- Suorilla seuraavilla litäntä: vahvistimen LEFT-käytännämet kätäntimä LEFT-käntimä ja RIGHT kätäntimä RIGHT kätäntimä varustetäin kuuluvu kätäntimä (kuten kuvassa näkyvä) ja varmistaa että navat tulevat oikein: (+) (+) ja (-) (-) ja kohtaa se (-) (-) ja kohtaa se. Kytke mustat kätäntimä (-) litäntimä.
  - Kätkäse koko järjestelmän virta ennen kuin suoritat litäntä kätäntimä vahvistimeen.
  - Mallin SP-MXS5MD nimellinen impedanssi on 6 ohmia. Välttää käytettäväksi vahvistin, johon voidaan liittää 6 ohmin kuormitusimpedanssin omaavat kätäntimä.
  - Mallin SP-MXS5MD enimmäislähe on 50 wattia. Liiallinen antoteho aiheuttaa epänormaalia äänensä ja jopa vaurioita. Tapauksessa, missä kätäntimä joutuvat alle kuvattuihin signaaleihin kohteeksi, voi signaali osoittaa alle kuvattuihin signaaleihin antotehoon, ne saattavat aiheuttaa ylikuormitusta ja polttaa kätäntimä johdot.
- 1) Kohinaa FM-vaihtojen aikana.
  - 2) Kasettitekijästä eteenpäinlaskuun aikana muodotuneet vahvat, korkeataajuisia komponentteja sisältävät signaalit.
  - 3) Klik-ääni, joka syntyy silloin kun loiston osien virta kytketään ja katkaistaan.
  - 4) Klik-ääni, joka syntyy silloin kun kyseistä tai irrotetaan johtoja virran ollessa päällä.
  - 5) Klik-ääni, joka syntyy silloin kun vahvistajan hylly virran ollessa päällä.
  - 6) Klik-ääni, joka syntyy silloin kun käytetään vahvistimen vyölästä.
  - 7) Jatkuva korkea värähtely tai elektronisesti tuotettu korkea sointinen ääni.
  - 8) Ulinaa mikrofonin käytettäessä.

### BEIENUNGSANLEITUNG: LAUTSPRECHERSYSTEM MANUEL D'INSTRUCTIONS: SYSTEME DES ENCEINTES GEBRUIKSAANWIJZING: LUIDSPREKERSYSTEEM MANUAL DE INSTRUCCIONES: SISTEMA DE ALTAVOCAS ISTRUZIONI: SISTEMA DI ALTOPARLANTI BRUKSANVISNING: HÖGTALERSYSTEM VEJLEDNING: HÖJTALERSYSTEM KÄYTTÖOHJE: KÄYTTINÄRJESTELMÄ

Thank you for using JVC speakers. Before you begin using them, please read the instructions carefully to be sure you get the best possible performance. If you have any questions, consult your JVC Dealer.

Vielin Dank für den Kauf dieser JVC-Lautsprecher. Bevor Sie diese Beschörungsanleitung vor Ingebrauchnahme sorgfältig durch, um eines optimale Ergebnisse zu erzielen. Wenden Sie sich bei etwaigen Fragen bitte an Ihren JVC Händler.

Nous vous remercions pour l'achat de ces enceintes JVC. Avant de les utiliser, lire ces instructions avec attention pour en obtenir les meilleures performances possibles. En cas de questions, consulter votre revendeur JVC.

Denk u voor de aanschaf van deze luidsprekers. Lees aandachtig over te gaan tot aansluiten, deze gebruiksaanwijzing goed zodat u de beste mogelijke prestaties zult verkrijgen. Neem contact op met de JVC dealer indien u vragen heeft.

Le estamos muy agradecidos por haber adquirido estas altavoces de JVC. Antes de utilizarlos, sirsive leer las instrucciones detenidamente a fin de obtener el mejor rendimiento posible. Si tienen alguna pregunta, acude a su agente de JVC.

Grazie per aver acquistato questi altoparlanti della JVC. Prima di cominciare l'uso degli altoparlanti, leggere attentamente le istruzioni per assicurare le migliori prestazioni. Qualora sorgessero dei dubbi, rivolgetevi al vostro rivenditore JVC.

Tack för det val av dessa JVC-högtalare. Innan du kopplar in högtalarna i din ljudanläggning bör du för att få maximala prestanda läsa högtalarna försiktigt och noga bruksanvisningen noggrant. Kontakta din JVC-äntörssäljare om du har frågor eller tvivel rör gätalare.

Tak for købet af JVC-højttalere. Gennemlæs venligst vejledningen omhyggeligt for de tages i brug. Ad De kan opnå den bedst mulige ydelese. Forhør hos Deres JVC forhandler hvis De har nogen spørgsmål.

Kitos stät etö päädyttä välinnässät JVC-käntimä. Ennen kuin aat käyttää näitä, lue käntimä ohje huolellisesti, jotta ne toimivat parhaalla mahdollisella tavella. Jos Sinulla on kysyttävää ois yhteyttä JVC-edustajaan.

### SPECIFIKATIONER

Type	: 2-vejs basrefleks-höjtaler med
Höjtaler	
Bashöjtaler	: 13,5 cm membran x 1
Diskanthöjtaler	: 5,0 cm membran x 1
Belastningskapacitet	: 50 watt
Impedans	: 6 ohms
Frekvensområde	: 40 Hz - 20.000 Hz
Lydtrykniveau	: 84 dBw/m
Mål (B x H x D)	: 170 x 290 x 203 mm
Vægt	: 2,7kg hver
Tilbehör	: Höjtalerledning ..... 2

Design og specifikationer kan blive ændret uden varsel.

### TEKNISKE TIEDOT

Type	: 2-ite, basrefleks
Käntimä	
Basso	: 13,5 cm kartonmuotoinen x 1
Diskantti	: 5,0 cm karnonmuotoinen x 1
Enimmäislähe	: 50 wattia
Impedanssi	: 6 ohmia
Tajuuusalue	: 40 Hz - 20.000 Hz
Äänepaineitaso	: 84 dBw/m
Mitat (L x K x S)	: 170 x 290 x 203 mm
Paino	: 2,7kg / kätäntimä
Lähtöväroitus	: Käntimäjohto ..... 2

Oikauden muokloksin pöitellään.

### — SAFETY INSTRUCTIONS — "SOME DOS AND DON'TS ON THE SAFE USE OF EQUIPMENT"

The equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured.

Do read the operating instructions before you attempt to use the equipment.

Do ensure that all electrical connections (including the mains plug, extension leads and interconnections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off the mains plug and disconnect any other changing connections.

Do consult your dealer if you are ever in doubt about the installation or safety of your equipment.

Do be careful with glass panels or doors on equipment.

DON'T continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way — switch off, withdraw the mains plug and consult your dealer.

DON'T remove any fixed cover as this may expose dangerous voltages.

DON'T leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a standby mode.

Switch off using the switchoff on the equipment and make sure that you fully know how to do this.

Special arrangements may need to be made for certain of hand-circled people.

DON'T use equipment such as personal stereos or radios so that you are distracted from the requirements of traffic safety. It is illegal to watch television whilst driving.

DON'T listen to headphones at high volume as such use can permanently damage your hearing.

DON'T obstruct the ventilation of the equipment, for example with curtains or soft furnishings.

Overheating will cause damage and shorten the life of the equipment.

DON'T use makeshift stands and NEVER lay legs with wood screws — to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.

DON'T allow electrical equipment to be exposed to rain or moisture.

ADVICE ALL:

- NEVER let anyone, especially children, push anything into holes, slots or any other opening in the case.
- This could result in a fatal electric shock.
- NEVER guess or test chances with electrical equipment of any kind.
- It is better to be safe than sorry!

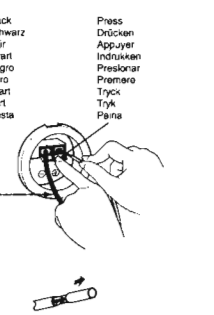
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### Connection Anschluß Raccordement Aansluiting Conexión Collegamento Anslutning Tilslutning Liitntä



### CONNECTION

- Connect the LEFT speaker terminals of the amplifier to the LEFT terminals of the speaker and RIGHT to RIGHT using the attached speaker cords as shown in the figure making sure polarity is correct: (+) to (+) and (-) to (-). Connect the black speaker wire to the (-) terminal.
  - Turn off power to the whole system before connecting the speakers to the amplifier.
  - The nominal impedance of the SP-MXS5MD is 6 ohms. Select for use an amplifier to which a speaker system with the load impedance of 6 ohms can be connected.
  - The maximum power handling capacity of the SP-MXS5MD is 50 watts. Excessive input will result in abnormal noise and possible damage. In cases where the signals described below are applied to the speakers, even if the signals are below the maximum allowable input, they may cause an overload and thus the wiring of the speakers. Be sure to lower the amplifier volume beforehand.
- 1) Noise during FM tuning.
  - 2) High level signals containing high frequency components produced by a tape deck in the fast forward mode.
  - 3) Click noise produced when turning power of other components on and off.
  - 4) Click noise produced when connecting or disconnecting cords with the power on.
  - 5) Click noise produced when the cartridge is replaced with the power on.
  - 6) Click noise produced when operating amplifier switches.
  - 7) Continuous high frequency oscillation or high pitch electronically produced musical instrument sound.
  - 8) Howling when using a microphone.

### ANSCHLUSS

- Schließen Sie die linken (LEFT) Lautsprecherbuchsen des Verstärkers an die linken (LEFT) Buchsen des Lautsprechers, und die rechten (RIGHT) Lautsprecherbuchsen des Verstärkers an die rechten (RIGHT) Buchsen des Lautsprechers an. Verwenden Sie hierfür das mitgelieferte Lautsprecherkabel — wie in der Abbildung gezeigt — und achten Sie beim Anschluß auf die richtigen Polaritäten: (+) und (+) und (-) an (-). Verstecken Sie die schwarzen Lautsprecherkabel mit den Minusklemmen (-).
  - Schalten Sie vor dem Anschluß der Lautsprecher an den Verstärker die Spannungsversorgung des gesamten Systems aus.
  - Die Nennimpedanz der Lautsprecher — Systeme SP-MXS5MD, beträgt 6 Ohm. Wählen Sie einen Verstärker, an den ein Lautsprechersystem mit einer Lastimpedanz von 6 Ohm angeschlossen werden kann.
  - Die maximale Belastbarkeit der SP-MXS5MD beträgt 50 Watt. Eine Überlastung führt zu Verzerrungen und möglicherweise zu Beschädigungen. Signale der unten beschriebenen Art können, auch wenn sie unter dem maximal zulässigen Eingang liegen, eine Überlastung verursachen und die Lautsprecherwicklungen durchbrennen. Verringern Sie vorher die Lautstärke des Verstärkers.
- 1) Geräusche beim Einstellen von UKW-Sendern.
  - 2) Hochpegelige Signale mit Hochfrequenz-Anleiten, die von Tonbanddeckeln beim Schnellvorspulen erzeugt werden.
  - 3) Klickgeräusche, wenn die Spannungsversorgung anderer Komponenten ein- und ausgeschaltet wird.
  - 4) Klickgeräusche, wenn Kabel angeschlossen oder abgetrennt werden, während die Spannungsversorgung eingeschaltet ist.
  - 5) Klickgeräusche, wenn der Tonabnehmer des Plattenspielers ausgewechselt wird, während die Spannungsversorgung eingeschaltet ist.
  - 6) Klickgeräusche, die beim Betätigen von Schaltern des Verstärkers erzeugt werden.
  - 7) Ständige Hochfrequenzschwingungen oder elektronisch erzeugte Töne von Musikinstrumenten mit hohen Tönen.
  - 8) Rückkopplungen von Mikrofonen.

### RACCORDEMENT

- Raccorder les bornes de l'encante de gauche (LEFT) de l'enceinte à celles de gauche (LEFT) de l'enceinte et celles de droite (RIGHT) à celles de droite (RIGHT) en se servant des cordons d'enceinte fournis comme l'indique la figure et en étant sûr que les polarités correspondent: (+) à (+) et (-) à (-).
  - Raccorder le cordon d'enceinte noir à la borne (-).
  - Mettre hors circuit tout le système avant de raccorder les enceintes à l'amplificateur.
  - L'impédance nominale des enceintes SP-MXS5MD est de 6 ohms. Sélectionner un amplificateur acceptant une impédance de charge de haut-niveau de 6 ohms.
  - La puissance maximum admissible des SP-MXS5MD est, respectivement, de 50 Watts. En dépassant la puissance admissible, cela provoquera des bruits anormaux et déteriorera les enceintes. Aux cas où les signaux décrits ci-dessous sont envoyés aux enceintes, si même si ces signaux sont inférieurs à la puissance d'entrée maximum admissible, ils risquent de provoquer une surcharge ou même un incendie. S'assurer de bien diminuer le volume sonore de l'amplificateur.
- 1) Parasites durant une sintonisation FM.
  - 2) Signaux de niveau élevé contenant des composants à haute fréquence, comme ceux générés par une platine d'enregistrement en mode avance rapide.
  - 3) Cliques se produisant lorsque d'autres appareils sont mis en ou hors circuit.
  - 4) Cliques se produisant lorsque des appareils sont branchés ou débranchés alors que leur alimentation est en circuit.
  - 5) Cliques se produisant lorsque la cellule d'une platine tourne-disque est changée alors que l'alimentation est en circuit.
  - 6) Cliques se produisant lorsque les commandes de l'amplificateur sont manipulées.
  - 7) Oscillations continues à haute fréquence ou sons très aigus provenant d'instruments de musique électroniques.
  - 8) Hurllements dus à l'utilisation de micros.

1. Remove the ending part of the vinyl covering from the cut.
2. Twist the wires.
1. Entfernen Sie das Endstück der Vinylhülle von dem geschweiften Teil.
2. Drehen Sie die Kabel.
1. Enlever la partie d'extrémité du recouvrement vinyle de la partie découpée.
2. Tordre les fils.
1. Strip the lastest gedeelte van de vinylmantel af en verwiidel.
2. Draai de draadertnen heen.
1. Quitar la parte de la extremidad de la cubierta de plástico de la parte cortada.
2. Torcer los alambres.
1. Rimuovete l'estremità della copertura in plastica dalla parte tagliata.
2. Torcite i fili.
1. Dra loss den avslutna delen av skörelingen från kabelsländan.
2. Tvinnå tråderna.
1. Fjern enden af vinyl-isoleringen, hvor den er klippet af.
2. Sno trådene.
1. Iirota muovipeiteen loppupää irtaesteis.
2. Kierrä johdot.

### SPECIFICATIONS

Type	: 2-way bass-reflex type
Speakers	
Woofer	: 13.5 cm (5-3/8") cone x 1
Tweeter	: 5.0 cm (2") cone x 1
Power Handling Capacity	: 50 W
Impedance	: 6 Ω
Frequency Range	: 40 Hz - 20,000 Hz
Sound Pressure Level	: 84 dBw/m
Dimensions (W x H x D)	: 170 x 290 x 203 mm (6-3/4" x 11-7/16" x 8")
Mass	: 2.7kg (6 lbs) each
Accessories	: Speaker cord ..... 2

Design and specifications subject to change without notice.

### TECHNISCHE DATEN

Type	: 2-Weg, Baßreflexbox
Lautsprecher	
Tiefwoofer	: 13,5cm - Konus x 1
Hochwoofer	: 5,0cm - Konus x 1
Belastbarkeit	: 50 Watt
Impedanz	: 6 Ohm
Frequenzbereich	: 40 Hz - 20.000 Hz
Schalldruckpegel	: 84 dBw/m
Abmessungen (W x H x T)	: 170 x 290 x 203 mm
Gewicht	: je 2,7kg
Zubehör	: Lautsprecherkabel ..... 2

Technische Änderungen vorbehalten.

### CARACTERISTIQUES

Type	: Type bass-reflex, 2 voies
Haut-parleurs	
Graves	: cône de 13,5 cm x 1
Aigus	: cône de 5,0 cm x 1
Puissance admissible	: 50 watts
Impédance	: 6 ohms
Gamme de fréquence	: 40 Hz - 20.000 Hz
Niveau de pression sonore	: 84 dBw/m
Dimensions (L x H x P)	: 170 x 290 x 203 mm
Masse	: 2,7kg chaque
Accessoire	: Cordon d'enceinte ..... 2

Présentation et caractéristiques modifiables sans préavis.

# CA-MXS5MD/MXS5RMD SP-MXS5MD

## AANSLUITINGEN

- Sluit met de bijgeleverde luidsprekersnoeren de LEFT-aansluitpunten op de versterker, bestemd voor aansluiting van de Inkefluyspreker, aan op de LEFT-aansluitpunten op de luidspreker en de punten gemerkt RIGHT op RIGHT, volgens de aanwijzingen op de afbeelding, waarbij u ervoor zorgt de polariteit te respecteren, (+) op (+) en (-) op (-). Sluit de zwarte luidsprekersnoeren aan op de (-) aansluitpunten.
- Schakel de spanning van alle aangesloten componenten uit alvorens de luidsprekers met de versterker te verbinden.
- De nominale impedantie van de SP-MXS5MD bedraagt 6 Ohm. Kies daarom een versterker waarop u een luidsprekersysteem kunt aansluiten met een impedantie belasting van 6 Ohm.
- Het maximum verwerkingsvermogen van de SP-MXS5MD bedraagt 50 Watt. Te hoge ingang kan in abnormale geluidsreproductie en in beschadigingen resulteren. Overbelasting en verbranding van de bedrading kan worden veroorzaakt, wanneer de hieronder beschreven signalen naar de luidsprekers worden gevoerd, zelfs wanneer de signalen onder het maximaal toegestane ingangsvermogen zijn. Verminder eerst het volume van de versterker.
  - 1) Ruis, zoals bij opzendingstijd afstemming op een FM-zender.
  - 2) Hoogfrequentie signalen van een hoog niveau, zoals die tijdens het vooruitspoelen van een tapedeck worden geproduceerd.
  - 3) Klinkende geluiden, die worden veroorzaakt door het in- en uitschakelen van de netspanning van andere componenten.
  - 4) Klinkende geluiden, zoals die worden geproduceerd bij het lot stand brengen of verbreken van aansluitingen terwijl de netspanning is ingeschakeld.
  - 5) Klinkende geluiden, zoals die optreden bij het vervangen van het element van een draaitafel terwijl de netspanning is ingeschakeld.
  - 6) Klinkende geluiden, zoals die worden geproduceerd door bedrading van de schakelaars van de versterker.
  - 7) Voordurende hoogfrequentie oscillatie, of hoogtonige, elektronisch geproduceerde geluiden van muziekinstrumenten.
  - 8) Rondzingend geluid bij gebruik van microfoons.

## TECHNISCHE GEGEVENEN

Type	: 2 Tweeweg bass reflex
Luidsprekers	
Woolfer	: 13,5cm - kegeltipe x 1
Tweeter	: 5,0 cm - kegeltipe x 1
Toegestane vermogenversterking	: 50 watt
Impedantie	: 6 Ohm
Frequentiecarakteristiek	: 40 Hz - 20.000 Hz
Geluidsdrukniveau	: 84 dBw/m
Afmetingen (B x H x D)	: 170 x 290 x 203 mm
Oewicht	: Ek 2,7kg
Accessoires	: Luidsprekerkabel ..... 2

*Veranderingen in technische gegevens en ontwerp onder voorbehoud.*

## CONEXIÓN

- Conecte los terminales izquierdos (LEFT) del amplificador a los terminales izquierdos (LEFT) del altavoz, y los terminales derechos (RIGHT) a los terminales derechos (RIGHT) del altavoz, usando los cables de altavoces incluidos como se muestra en la ilustración. Asegúrese que la polaridad sea correcta: (+) a (+) y (-) a (-). Conecte el conductor de altavoz negro a los terminales (-).
- Desactive la alimentación de todo el sistema antes de conectar los altavoces al amplificador.
- La impedancia nominal del SP-MXS5MD es de 6 ohmios. Seleccione un amplificador al que puedan conectarse altavoces con una impedancia de carga de 6 ohmios.
- La potencia máxima de salida del SP-MXS5MD es de 50 vatios. Una entrada excesiva resultará en ruido anormal y posibles daños. En casos donde las señales descritas más abajo se apliquen a los altavoces, aunque las mismas resulten menores que la entrada máxima permisible, pueden causar una sobrecarga y quemar el cableado de los altavoces. Asegúrese de disminuir el volumen del amplificador con antelación.
  - 1) Ruido durante la sintonía en FM.
  - 2) Señales de alto nivel que contienen componentes de alta frecuencia producidos por un magnetófono en el modo de avance rápido.
  - 3) Rufidos de conmutación provocados al encender y apagar otros componentes.
  - 4) Ruido de conmutación al conectar o desconectar cables con los componentes encendidos.
  - 5) Ruido de conmutación cuando se reemplaza la cápsula con los componentes encendidos.
  - 6) Ruido de conmutación provocados por la operación de los selectores del amplificador.
  - 7) Continua oscilación de alta frecuencia o de sonidos de tonos altos provocados por instrumentos electrónicos.
  - 8) Audidos a utilizar microfónos.

## ESPECIFICACIONES

Tipo	: Reflex bajo con 2 vías
Altavoces	
De graves	: Tipo cónico de 13,5 cm x 1
De agudos	: Tipo cónico de 5,0 cm x 1
Potencia máxima	: 50 vatios
Impedancia	: 6 ohmios
Gama de frecuencias	: 40 Hz - 20.000 Hz
Nivel de presión sonora	: 84 dBw/m
Dimensiones (An x Al x Pt)	: 170 x 290 x 203 mm
Peso	: 2,7 kg cada uno
Accesorios	: Cable de altavoz ..... 2

*El diseño y las especificaciones están sujetos a cambio sin aviso previo.*

## COLLEGAMENTO

- Collegare i terminali per l'altoparlante di sinistra (LEFT) dell'amplificatore ai terminali LEFT dell'altoparlante e i terminali RIGHT a quelli RIGHT usando i cavi degli altoparlanti in dotazione come mostrato nello illustrazione, assicurandovi che la polarità sia corretta: (+) a (+) e (-) a (-). Collegare il fili nero dell'altoparlante ai terminali (-).
- Spegnere la corrente dell'intero sistema prima di collegare gli altoparlanti all'amplificatore.
- L'impedenza nominale del modello SP-MXS5MD è 6 ohm. Selezionare per l'uso un amplificatore a cui collegare un altoparlante con un'impedenza di carico di 6 ohm.
- La capacità di corrente massima del modello SP-MXS5MD è 50 watt. Un ingresso eccessivo causerà un suono anormale e potrebbe darli. Nel caso in cui i segnali descritti qui sotto vengono applicati agli altoparlanti, possono causare un sovraccarico e bruciare il cablaggio degli altoparlanti, anche se i segnali siano al di sotto dell'ingresso massimo ammesso. Assicurativi di diminuire il livello del volume dell'altoparlante prima di procedere.
  - 1) Generazione di rumore durante la sintonizzazione FM.
  - 2) Segnali di alto livello che contengono dei componenti ad alta frequenza riprodotti da una piastra a cassette nel modo di avanzamento rapido.
  - 3) Si sentirà uno scatto quando accendete o spegnete la corrente degli altri componenti.
  - 4) Si sentirà uno scatto quando collegare o scollegate i cavi con la corrente accesa.
  - 5) Si sentirà uno scatto quando viene sostituita la cartuccia con la corrente accesa.
  - 6) Si sentirà uno scatto quando vengono usati gli interruttori dell'amplificatore.
  - 7) Oscillazione continua ad alta frequenza o suoni acuti da strumenti musicali elettronici.
  - 8) Ululato quando usate i microfoni.

## SPECIFICAZIONI

Tipo	: Reflex basso con 2 vie
Altoparlanti	
Woolfer	: Cono da 13,5 cm x 1
Tweeter	: Cono da 5,0 cm x 1
Capacità di potenza	: 50 watt
Impedanza	: 6 ohm
Gamma di frequenza	: Da 40 Hz a 20.000 Hz
Niveau della pressione sonora	: 84 dBw/m
Dimensioni (L x A x P)	: 170 x 290 x 203 mm
Massa	: 2,7 kg ciascuno
Accessori	: Cavo dell'altoparlante ..... 2

*Il disegno e le specificazioni sono soggetti a cambiamenti senza preavviso.*

## ANSLUTNING

- Anslut förstärkarens vänstra (LEFT) högtalaranslutningar till högtalarens vänstra (LEFT) anslutningar med hjälp av den medleverade högtalarkablarna enligt illustrationen. Anslut därpå höger (RIGHT) till höger (RIGHT) på samma sätt. Anslut (+) till (+) och (-) till (-). Anslut de svarta högtalarkablarna till (-) anslutningarna.
- Stå av strömmen i alla apparater i ljudanläggningen innan högtalarna ansluts till förstärkaren.
- Nominell impedans för SP-MXS5MD är 6 ohm. Se till att använda en förstärkare till vilken högtalare med en belastnings impedans på 6 ohm kan anslutas.
- Maximal effektbehållningskapacitet hos SP-MXS5MD är 50 watt. Brus uppstår i ljudet och högtalarna kan skadas om de matas med för hög effekt. I situationerna som beskrivs nedan kan högtalarna också överbelastas och kabelbrändningen inne i högtalarna brännas sönder, fastän högtalarnas effekt inte har överskridits. Sänk därför ljudstyrkan på förhand.
  - 1) Brus under inställning av FM-radestationer.
  - 2) Starka, högfrekventa signaler från ett kassettdeck under anslutningsperioden.
  - 3) Ljudbrång som uppstår när andra apparater i anläggningen slås till och från.
  - 4) Skrapljud som uppstår när anslutningskablar ansluts eller kopplas från medan strömmen är på.
  - 5) Skrapljud som uppstår när pickupelementet på en skivspelare byts medan strömmen är på.
  - 6) Ljudbrång som uppstår när du använder förstärkarens omkopplings.
  - 7) Kontinuerliga, högfrekvenssvängningar eller högfrekvent ljud från elektroniska musikinstrument.
  - 8) Akustisk återkoppling (flutande ljud) vid bruk av mikrofoner.

## TEKNISKA DATA

Typ	: 2-Vägs, basreflexhögtalare
Högtalarelement	
Bas	: 13,5 cm kon x 1
Diskant	: 5,0 cm kon x 1
Effektbehållningskapacitet	: 50 watt
Impedans	: 6 ohm
Frekvensåtergivning	: 40 Hz - 20.000 Hz
Ljudtrycksnivå	: 84 dBw/m
Ytermått (B x H x D)	: 170 x 290 x 203 mm
Vikt	: 2,7 kg per st.
Tillbehör	: Högtalarkablar ..... 2

*Rätt till ändringar av utdragen och specifikationer förbehålles utan föregående meddelande.*

## Disassembly method

### ■ Removing the top cover (See Fig.1)

1. Remove the six A screws attaching the top cover.
2. Remove the top cover upward while pulling it outside.

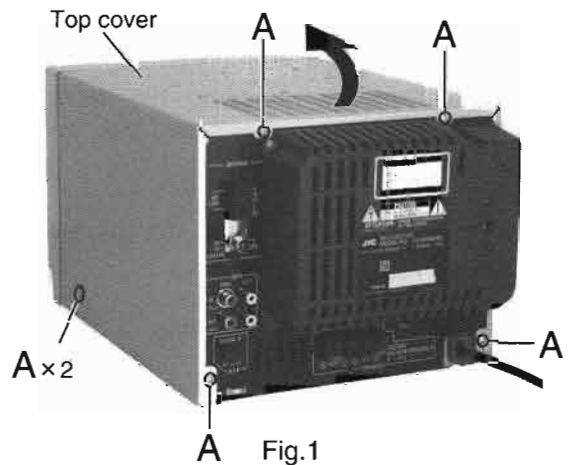


Fig.1

### ■ Removing the rear cover (See Fig.2)

1. Remove the top cover.
2. Remove the two B screws attaching the rear cover (For US, UB, UT version, also remove the two C screws).
3. Remove the rear cover in the direction of the arrow.

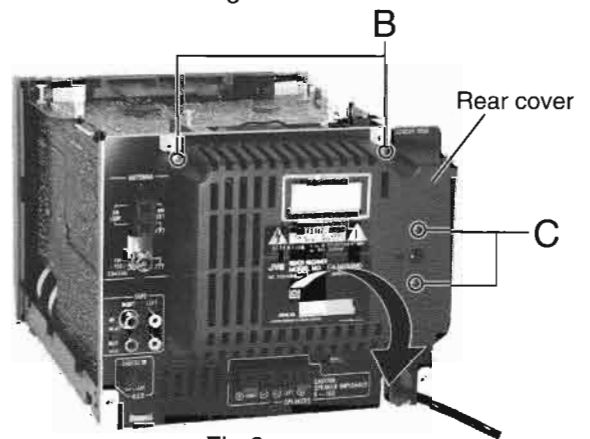


Fig.2

### ■ Removing the rear panel (See Fig.3 to 5)

1. Remove the top cover.
2. Remove the rear cover.
3. Remove the eleven D screws attaching the rear panel.
4. Unhook the right and left hooks a and b using a screwdriver, then remove the rear panel.

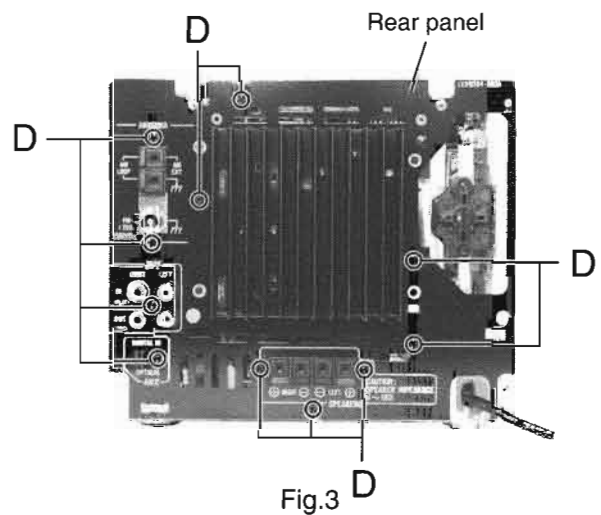


Fig.3

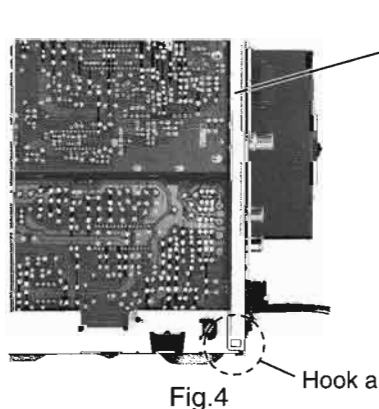


Fig.4

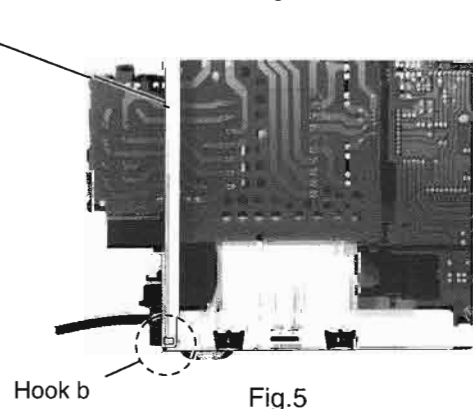


Fig.5

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ Removing the CD fitting (See Fig.6 to 8)

ATTENTION: Prior to removing the front panel assembly, perform the following procedure.

1. Turn on the power and press any CD ejecting button from 1 to 3.
2. Remove the CD fitting and the spring.
3. Close the CD tray.

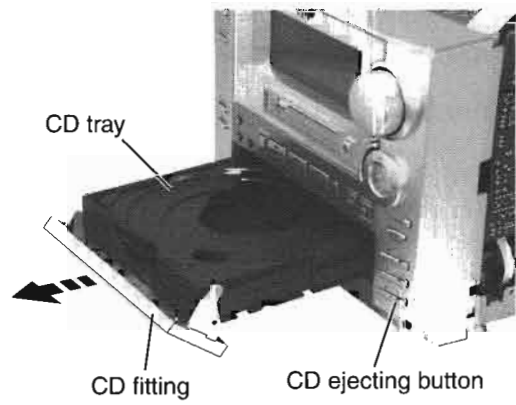


Fig.6

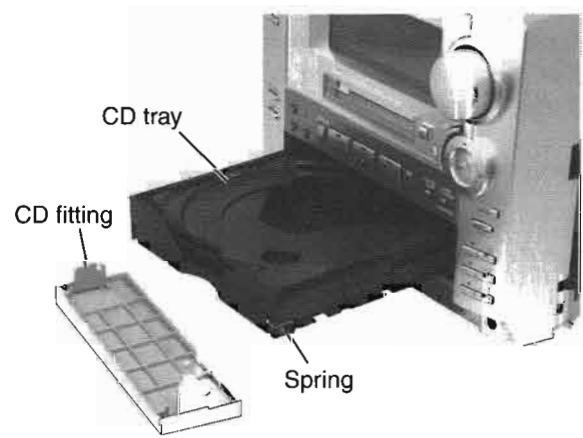


Fig.7

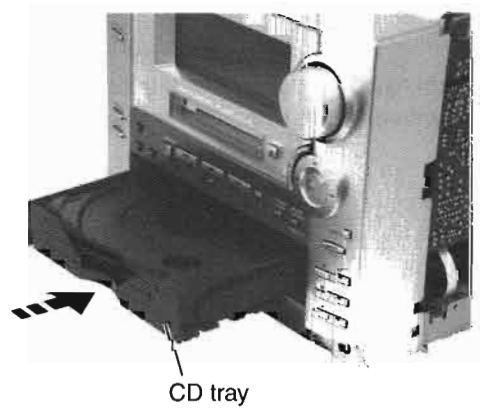


Fig.8



■ Ejecting the CD tray without turning on the power (See Fig.9 to 13)

1. Remove the top cover.
2. Push the box slider through the slot of the rear panel toward the front side using a screwdriver.
3. Move the slide cam (L) in the direction of the arrow.
4. Insert a screwdriver to the slot c of the CD fitting and draw the CD tray toward the front.

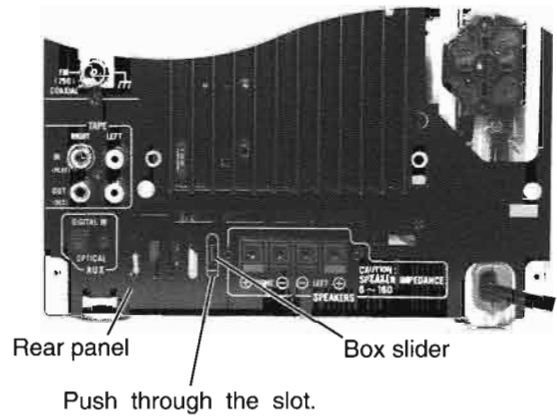
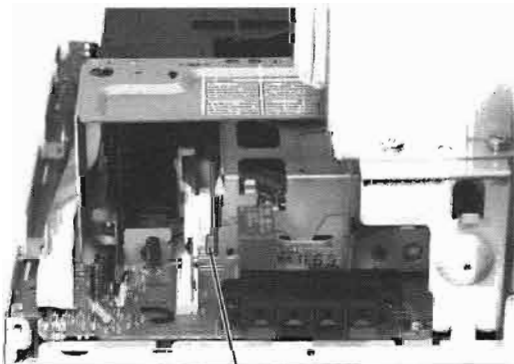
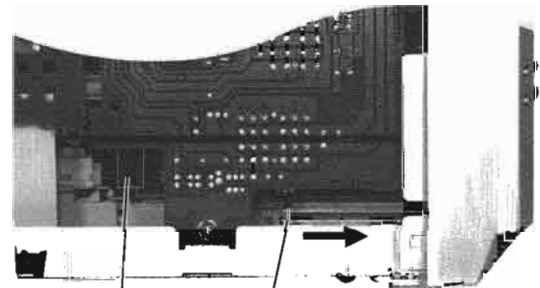


Fig.9



Box slider  
Fig.10



CD tray  
Slide cam (L)

Fig.11

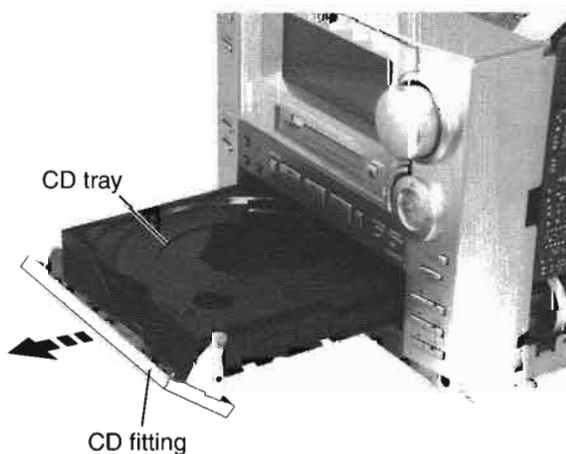


Fig.12

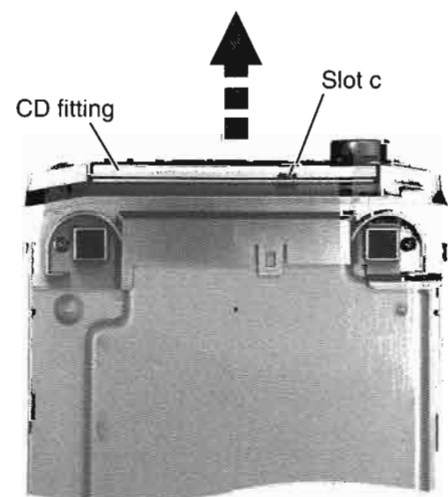


Fig.13

<Front panel assembly>

■ Removing the front panel assembly  
(See Fig.14 to 17)

1. Remove the top cover.
2. Remove the CD fitting.
3. Remove the two E screws attaching the MD mechanism assembly.
4. Remove the two F screws attaching the bottom of the front panel assembly.
5. Disconnect the wires from connector CN801, CN851 and CN871 on the main board.
6. Disconnect the wire from connector CN1 on the LCD board.
7. Release the hooks d and e on both sides of the front panel assembly and the hook f on the bottom. Pull out the front panel assembly.

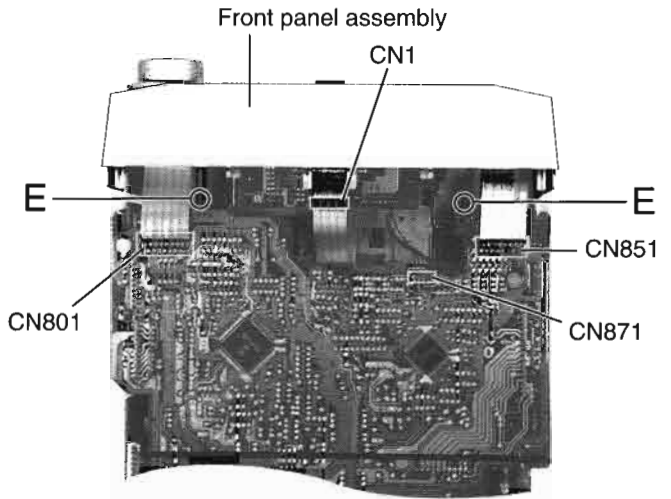


Fig.14

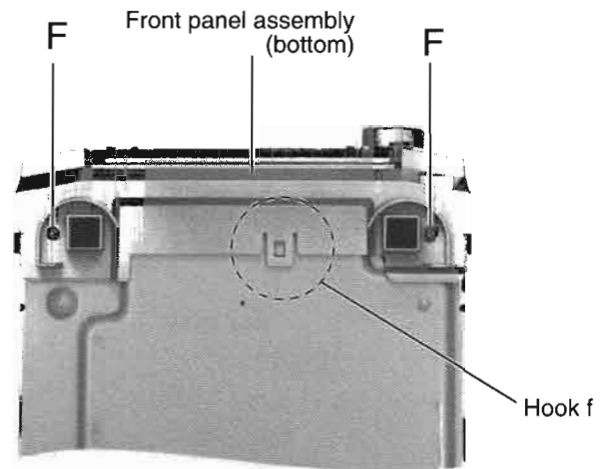


Fig.15

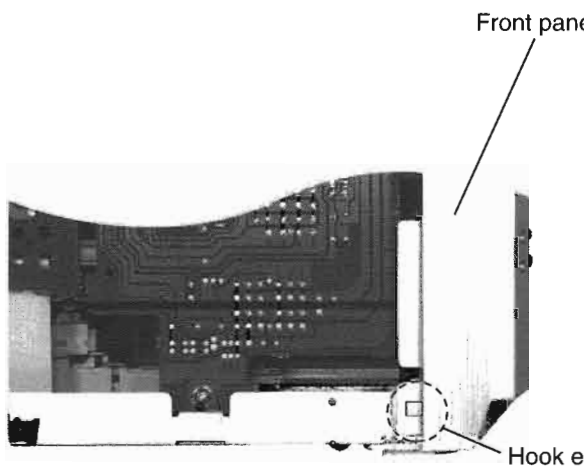


Fig.17

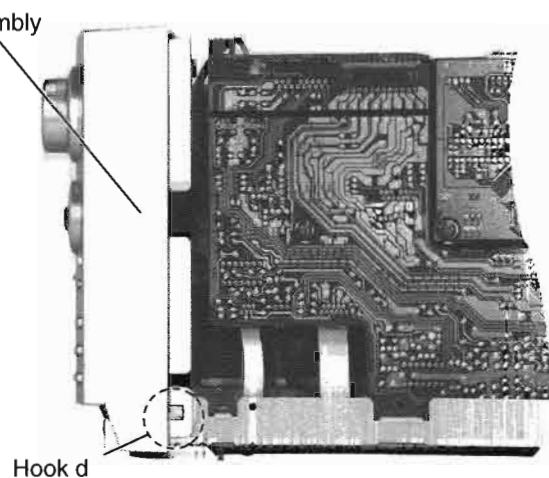


Fig.16

**■ Removing each board of the front panel assembly (See Fig.18 to 20)**

1. Remove the volume knob.
2. Remove the four G screws attaching the mechanism bracket.
3. Remove the eleven H screws attaching the switch board.
4. Release the hook tab g .
5. Remove the two I screws attaching the LCD board.
6. Remove the two J screws and one K screw attaching the jog board.

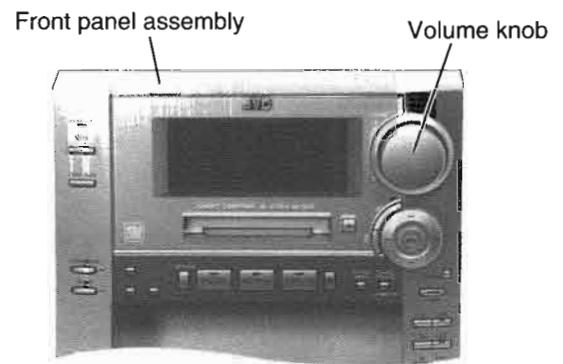


Fig.18

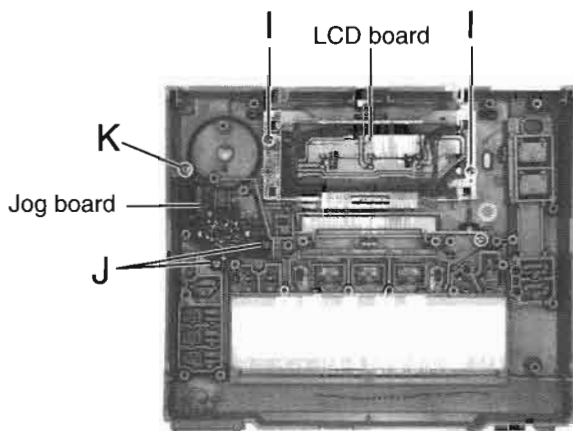


Fig.20

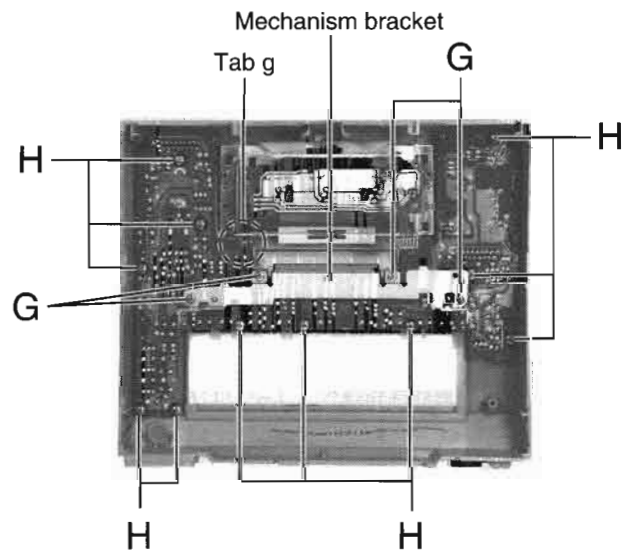


Fig.19

**<Board assemblies>**

**■ Removing the main board assembly (See Fig.21)**

1. Remove the top cover.
2. Disconnect connector CN922 from the regulator board assembly, CN601 and CN602 from the audio board assembly and CN393 from the power board assembly. When disconnecting these connectors, pull them carefully not to damage the main board assembly.
3. Disconnect the connector wire from CN111 on the tuner board assembly (For E, B and EN version, also disconnect connector CN112).

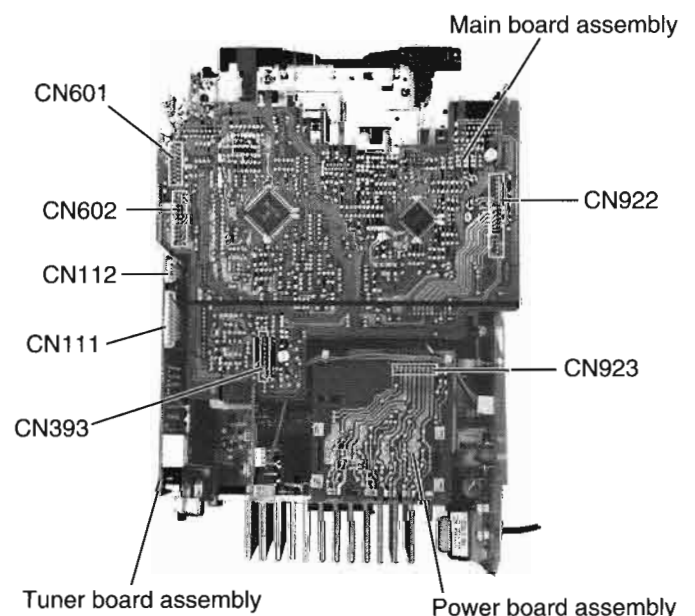
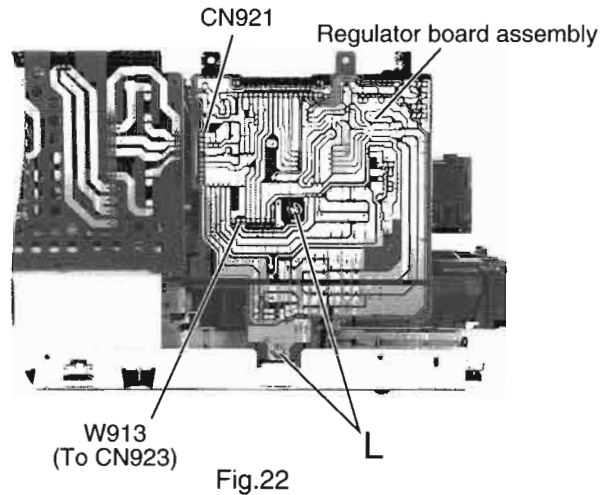


Fig.21

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ **Removing the regulator board assembly**  
(See Fig.22)

1. Remove the top cover.
2. Remove the main board assembly.
3. Remove the two L screws attaching the regulator board assembly.
4. Disconnect the connector wire connecting CN921 and the transformer board assembly.
5. Disconnect the connector wire from CN923 on the power board assembly.



■ **Removing the power board assembly**  
(See Fig.23 and 24)

1. Remove the top cover.
2. Remove the rear panel.
3. Remove the main board assembly.
4. Disconnect connector CN923 from the power board assembly.
5. Disconnect the connector wire connecting the power board assembly and CN991 on the transformer board assembly.
6. Disconnect CN302 from the speaker board assembly.

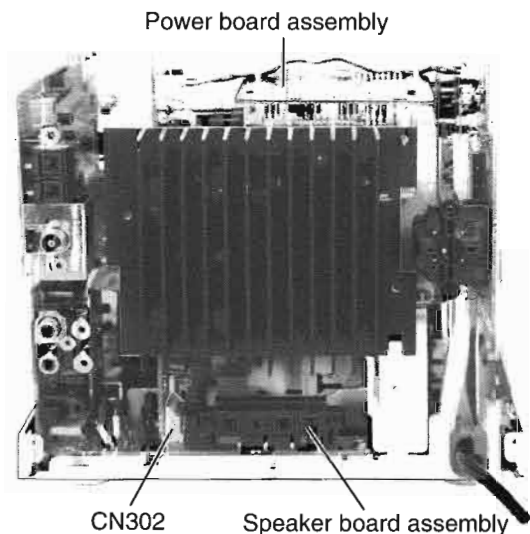
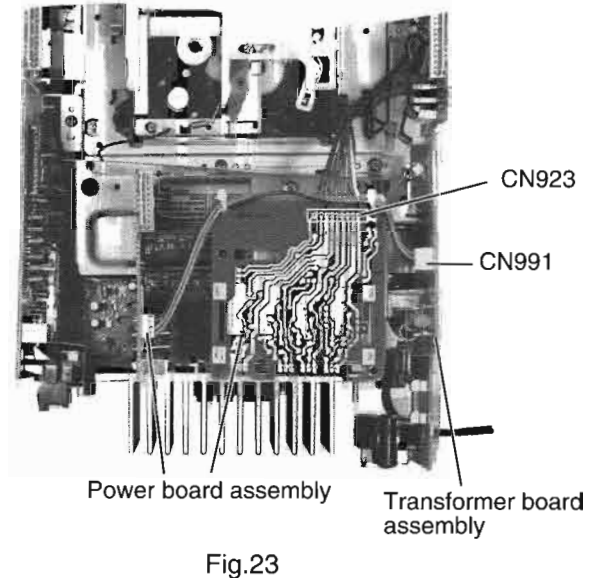


Fig.24

■ **Removing the tuner board assembly**  
(See Fig.25 and 26)

1. Remove the top cover.
2. Remove the two M screws attaching the tuner board assembly on the rear panel.
3. Disconnect the harness from connector CN111 on the tuner board (For E, B and EN version, also disconnect the connector wire from connector CN112).
4. Remove the screw N attaching the tuner board assembly.

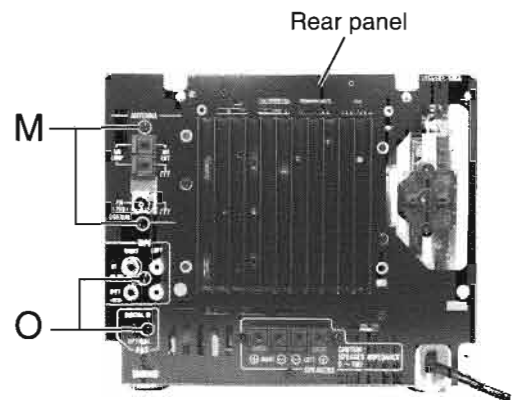


Fig.25

■ **Removing the audio board assembly**  
(See Fig.25 and 27)

1. Remove the top cover.
2. Remove the main board assembly.
3. Remove the tuner board assembly.
4. Remove the two O screws attaching the audio board assembly on the rear panel.
5. Remove the screw P attaching the audio board assembly.
6. Disconnect the card wire connecting CN511 and the MD servo board assembly.
7. Disconnect the two card wires connecting CN695 and CN696 on the audio board assembly and the CD servo board assembly. Similarly, disconnect the connector wire connecting CN694 and the CD servo board assembly..
8. Pull and remove the audio board assembly upward

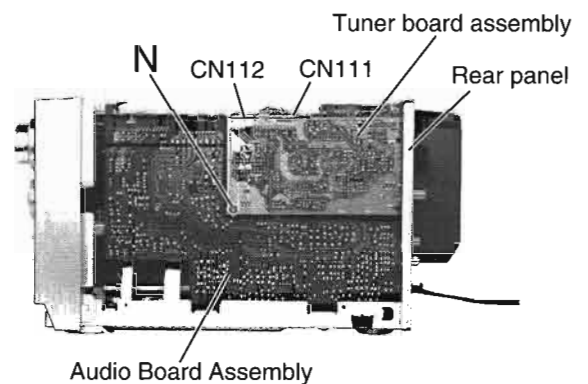


Fig.26

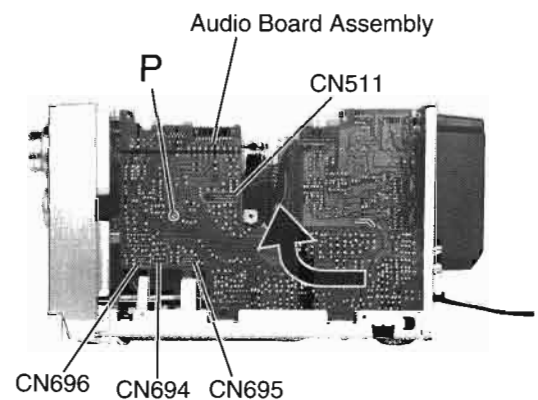


Fig.27

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ **Removing the headphone board assembly and the speaker board assembly**  
(See Fig.28 and 29)

1. Remove the top cover.
2. Remove the front panel assembly.
3. Remove the rear panel.
4. Remove the main board assembly.
5. Remove the tuner board assembly.
6. Remove the audio board assembly.
7. Remove the screw O attaching the headphone board assembly.
8. Remove the screw P attaching the speaker board assembly.
9. Turn and remove the speaker board assembly in the direction of the arrow.

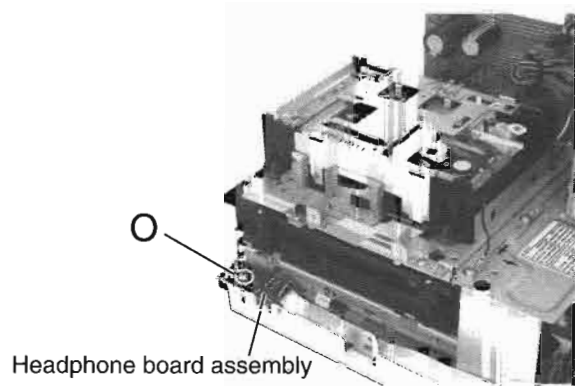


Fig.28

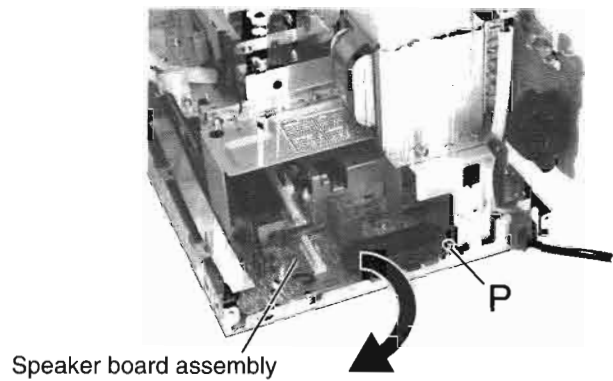


Fig.29

■ **Removing the transformer board assembly (1)**  
(See Fig.30 and 31)

1. Remove the top cover.
2. Remove the rear panel.
3. Remove the main board assembly.
4. Remove the tuner board assembly.
5. Remove the audio board assembly.
6. Remove the MD mechanism assembly.
7. Disconnect the harness from connector CN921 on the regulator board assembly (Refer to Fig.22).
8. Remove the four Q screws attaching the transformer bracket.
9. Remove the cord stopper attaching the power cord on the base chassis upward.
10. Remove the power board assembly.

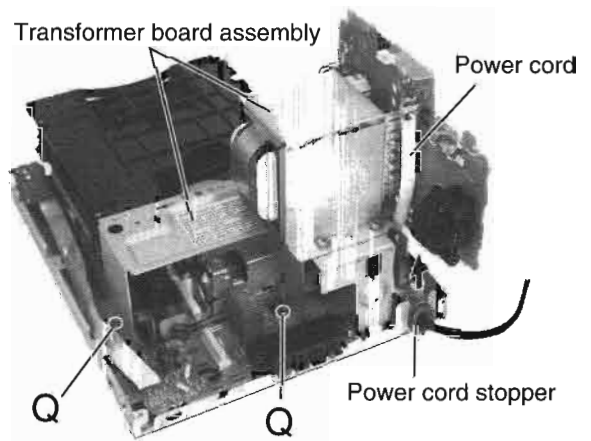


Fig.30

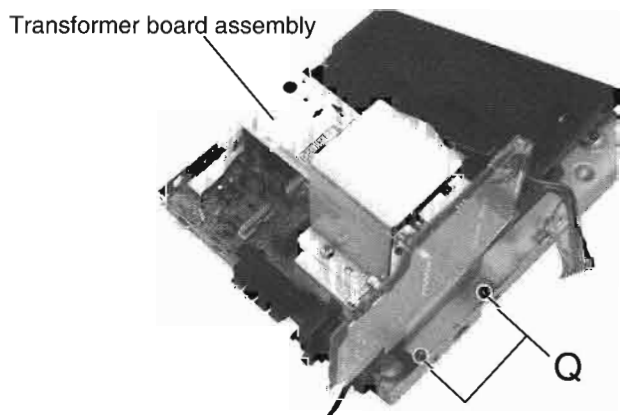


Fig.31

■ **Removing the transformer board assembly (2)  
Transformer only (See Fig.32)**

1. Remove the top cover.
2. Remove the rear panel.
3. Remove the main board assembly.
4. Remove the power board assembly.
5. Disconnect the harness from connector CN921 on the regulator board assembly (Refer to Fig.22).
6. Remove the cord stopper fixing the power cord on the base chassis upward.
7. Remove the four R screws attaching the transformer.

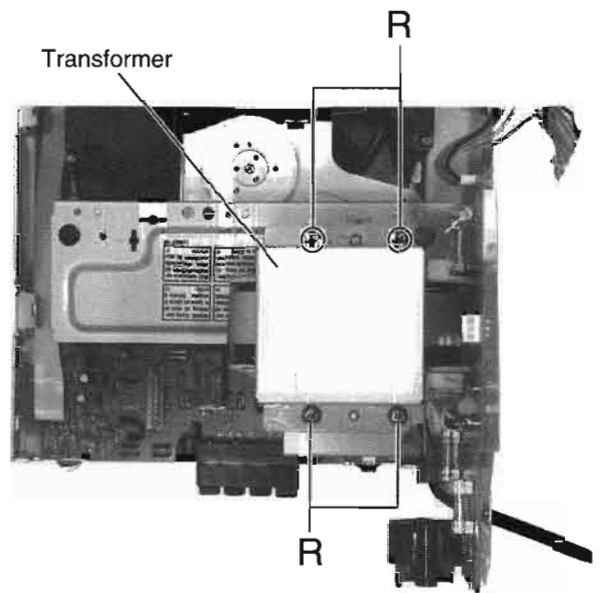


Fig.32

■ **Removing the MD mechanism assembly  
(See Fig.33)**

1. Remove the top cover.
2. Remove the main board assembly.
3. Remove the central screw L attaching the regulator board assembly (Refer to Fig.22).
4. Remove the screw M attaching the tuner board assembly (Refer to Fig.25).
5. Remove the screw N attaching the audio board assembly.(Refer to Fig.26)
6. Disconnect the card wire from connector CN511 on the audio board assembly.
7. Remove the two S screws attaching the front panel assembly.
8. Remove the three T screws attaching the MD mechanism assembly.

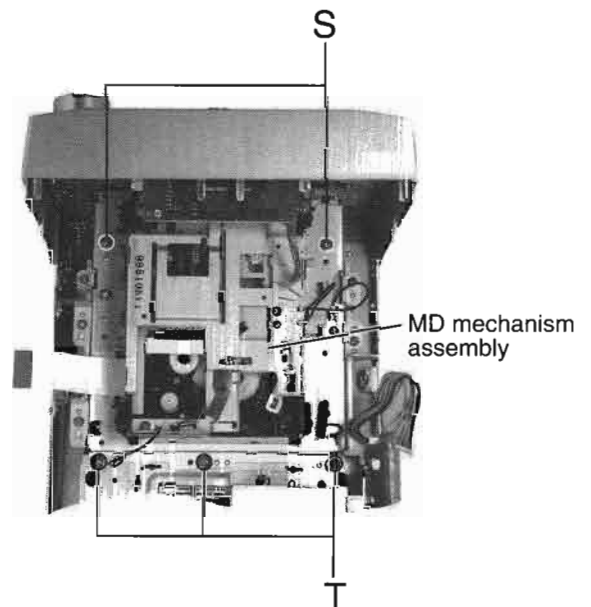


Fig.33

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ **Removing the CD mechanism assembly (1)**  
(See Fig.34 and 35)

1. Remove the top cover.
2. Remove the front panel assembly.
3. Remove each board.
4. Remove the MD mechanism assembly.
5. Remove the transformer board assembly.
6. Remove the four U screws attaching the CD mechanism assembly.

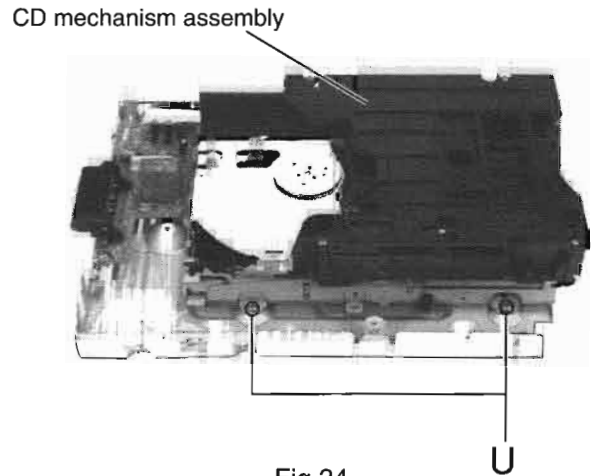


Fig.34

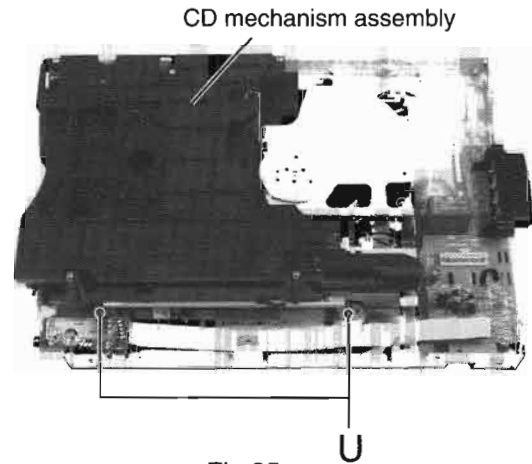


Fig.35

■ **Removing the CD mechanism assembly (2)**  
(See Fig.36)

1. Remove the top cover.
2. Remove the front panel assembly.
3. Remove the main board assembly.
4. Remove the MD mechanism assembly.
5. Disconnect the card wires from connector CN695 and CN696 on the audio board assembly and the connector wire from CN694.
6. Remove the two V screws attaching the CD mechanism assembly through the two slots of the transformer bracket.
7. Remove the two W screws attaching the CD mechanism assembly.

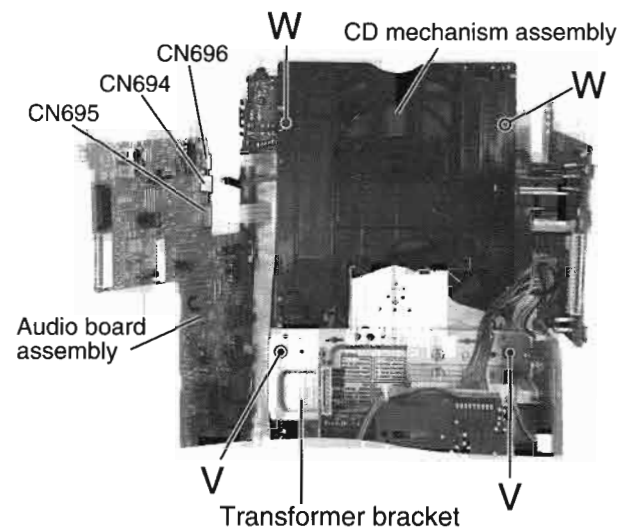


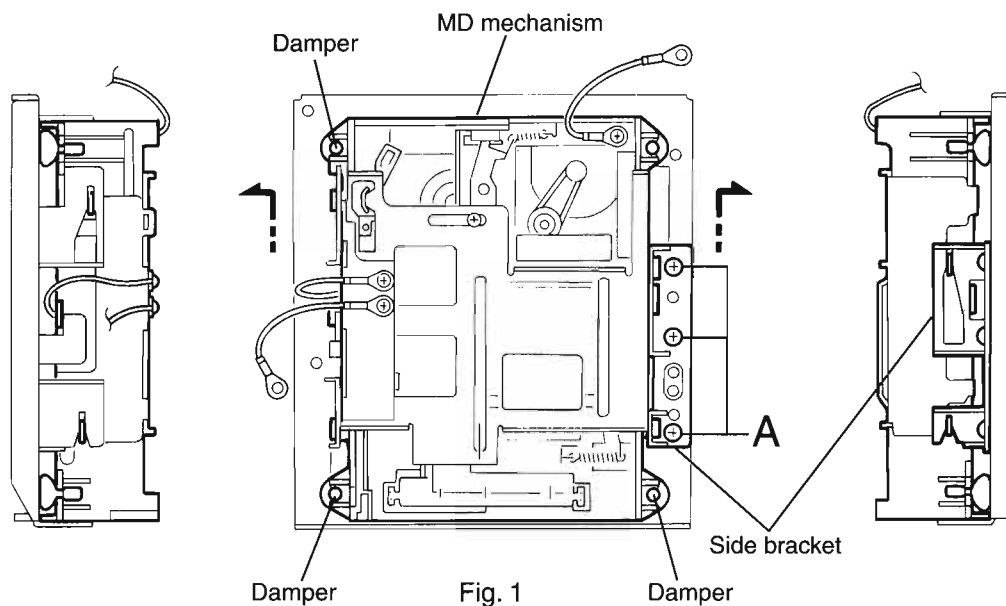
Fig.36



< MD Mechanism Assembly >

■ Removing the MD Mechanism assembly (see Fig.1)

1. From the right side of the MD mechanism, remove the three screw As attaching the side bracket.
2. Remove the four dampers in the corners of the MD mechanism.
3. Slide and remove the side bracket and MD mechanism base in the directions of the arrows.

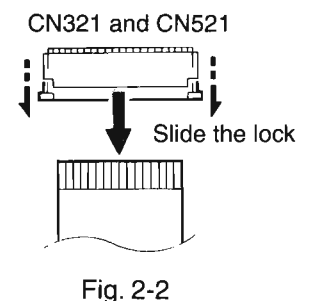
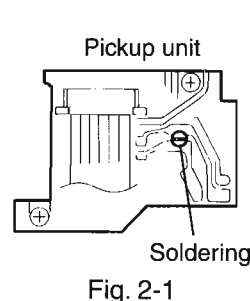
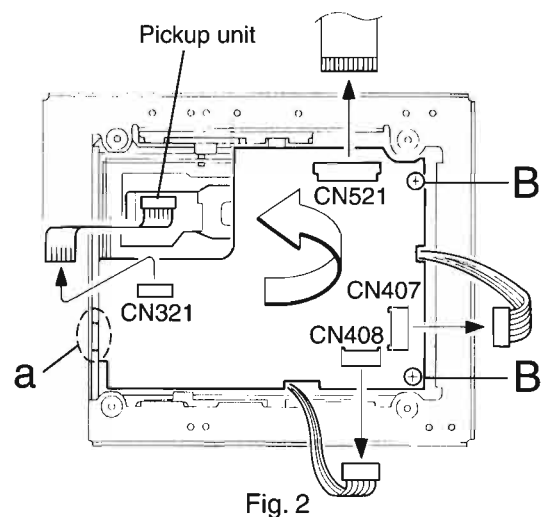


■ Removing the MD Servo Board (see Fig.2)

1. Remove the MD mechanism assembly.
2. Turn over the MD mechanism, then disconnect the harnesses connected to connector CN407 and CN408 on the MD servo board.
3. Disconnect the flexible wire connected to connector CN521 on the MD servo board (see Fig.2-2).
4. Remove the two screw Bs attached on the reverse side of the MD mechanism.
5. Solder the patterns on the pickup unit as shown in the Fig.2-1, and disconnect the flexible wire connected to connector CN321 on the MD servo board.

Caution: Make sure to solder the patterns to prevent damage to the pickup unit.

6. Remove the MD servo board upward while pulling out (a) inserted to the front holder of the MD servo board toward the rear.



CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ Removing the MD traverse mechanism (see Fig.3,4)

1. Remove the MD mechanism assembly.
2. Remove the MD servo P.C.board.
3. Remove the one screw C attaching the slide bracket.
4. Remove the one screw D attaching the earth lag terminal.
5. Remove the two screws E attaching the MD traverse mechanism, then remove the bracket.
6. Remove the soldered two wires from magnetic head on loading P.C.board.

[CAUTION]

1. When remove the MD mechanism, take care the handling of the magnetic head. Do not broken by hanging other parts.
2. Confirm the pickup is inside position, if remove the pick up at the outside magnetic head hang the other parts.

7. Slide and remove the bracket, then remove the MD traverse mechanism.

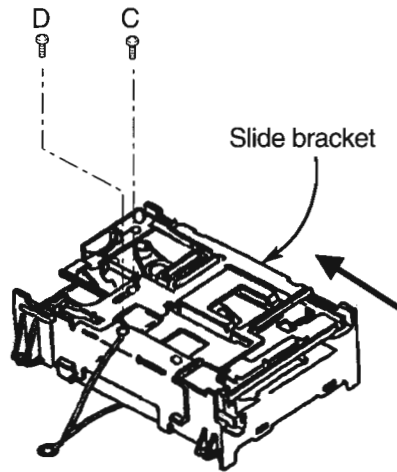


Fig.3

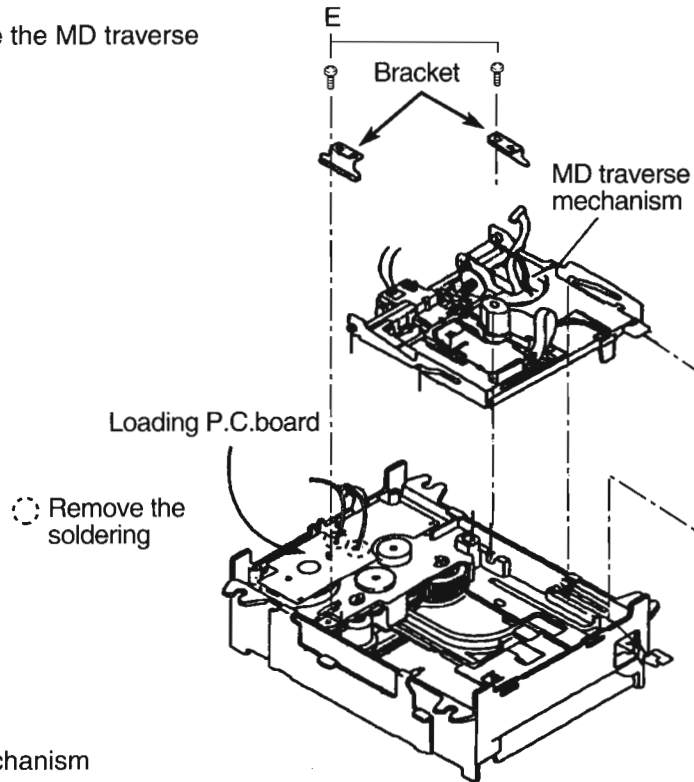


Fig.4

■ Caution of reassemble MD traverse mechanism

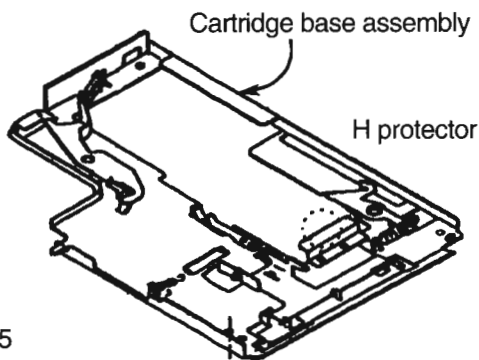
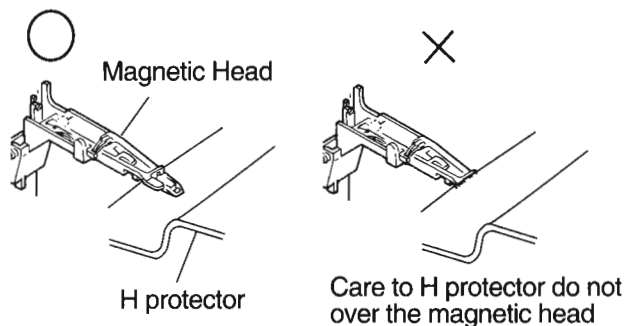


Fig.5

Care to cartridge base assembly  
do not hang the magnetic head

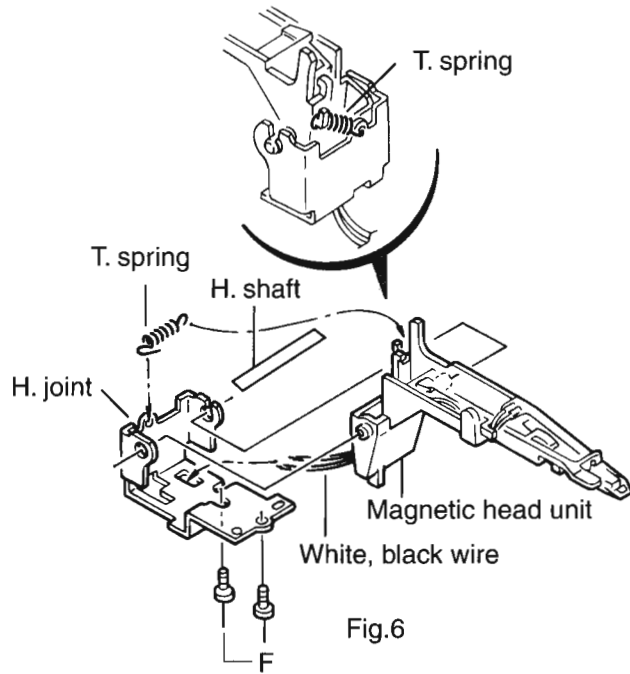


Care to H protector do not  
over the magnetic head

■ Removing the magnetic head (see Fig.6 and 7)

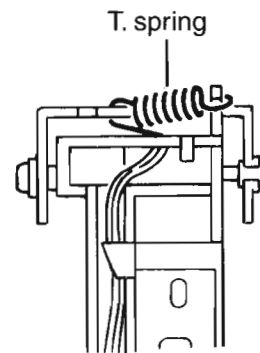
1. Remove the MD traverse mechanism.
2. Remove the two screws F attaching the H. joint.
3. Extract the magnetic head, in this time do not touch the lens.
4. Pull out the H. shaft the other side of T. spring.

[CAUTION]  
When attach the H. shaft, take care the shaft push in at bent. Magnetic head to out of position.



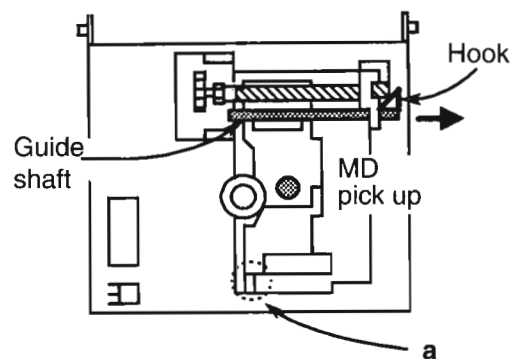
■ Removing the MD pick up (see Fig.6 to 8)

1. Remove the MD traverse mechanism.
2. Remove the two screws F attach the magnetic head unit. (see Fig.6)
3. Remove the hook, then remove the pick up with the guide shaft to the arrow way.



■ Reassembly the MD pick up (see Fig.8)

1. Attach the part of **a** of the pick up to the guide then attach the guide shaft.
2. Confirm the hook fixing the guide shaft.



CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ Removing the feed motor assembly (see Fig.9)

1. Remove the traverse mechanism.
2. Turnover the MD traverse mechanism, then remove the soldering two wires attach the P.C.board. (White and black wires)
3. Remove the one screw G attach the motor bracket.
4. Remove the food from the chassis base, then remove the feed motor assembly.

■ Removing the spindle motor assembly (see Fig.6 to 9)

1. Remove the MD traverse mechanism.
2. Pull up the tern table assembly.
3. Turnover the MD traverse mechanism, then remove the soldering two wires attach the P.C. board. (Red and black wires)
4. Remove the two screws H attach the spindle motor.

[CAUTION]

When change the spindle motor, tarn table assembly should change together. Tarn table assembly can not reuse.

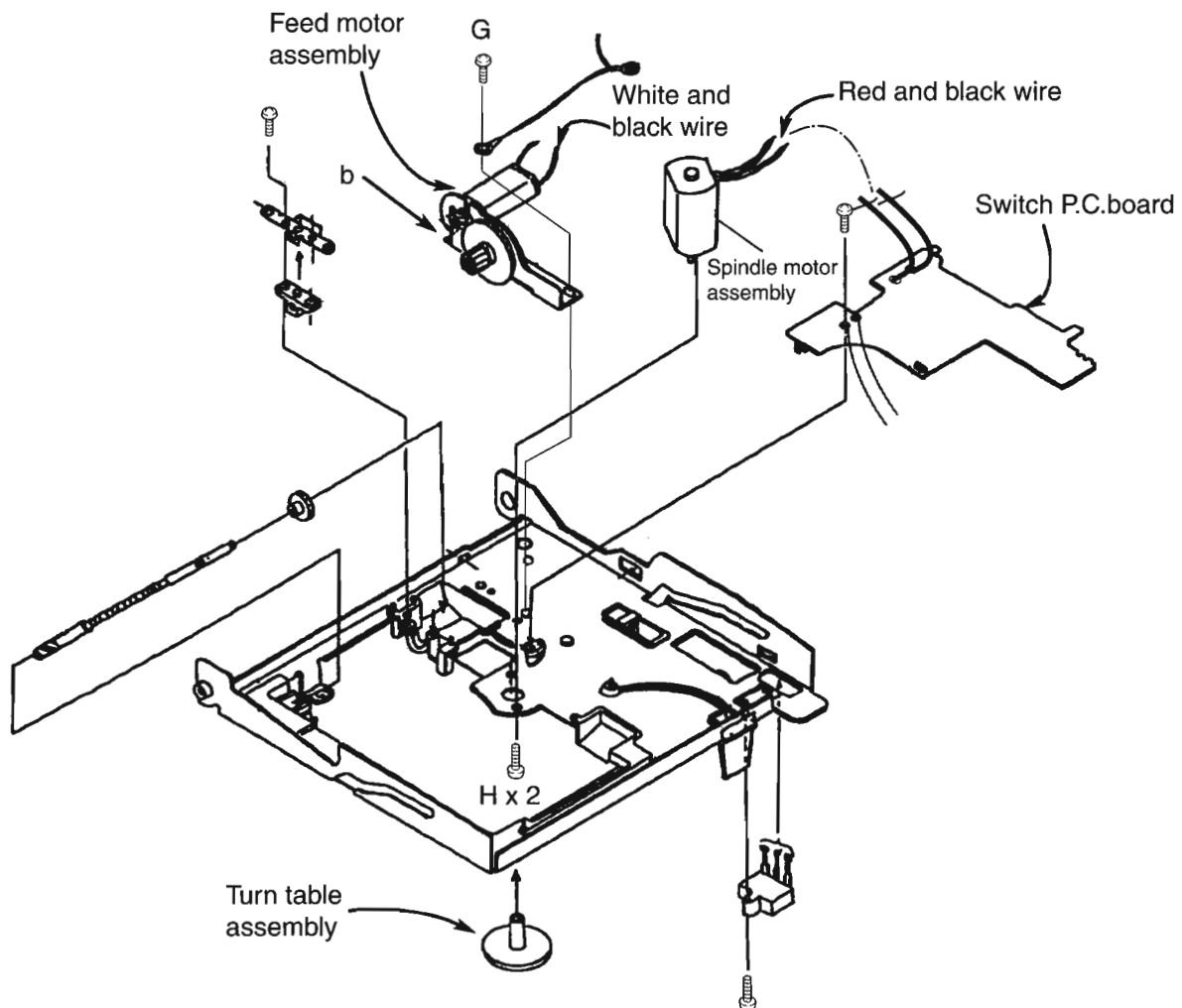


Fig.9

■ Removing the slide bracket (see Fig.10)

1. Remove the MD mechanism
2. Remove the two screws I attaching the slide bracket (L).
3. Remove the slide bracket (L), then remove the slide bracket (R).

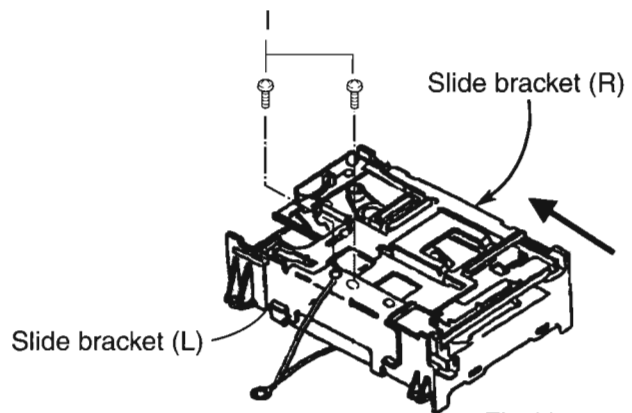


Fig.10

■ Removing the car. base assembly  
(see Fig.11 to 13)

1. Remove the MD mechanism assembly, then remove the MD servo P.C.board.
2. Remove the slide bracket (L) and slide bracket (R).
3. Remove the three screws J attaching the car. base assembly, then remove the car. base assembly and lack.

[CAUTION]

When reassembly the car. base assembly and lack, according Fig.12 and 13.

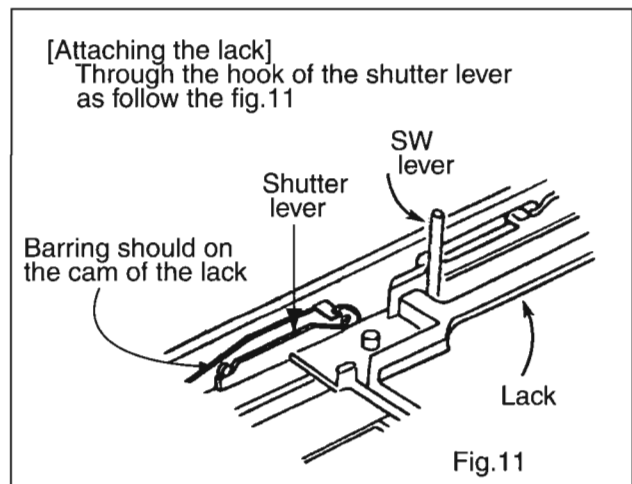


Fig.11

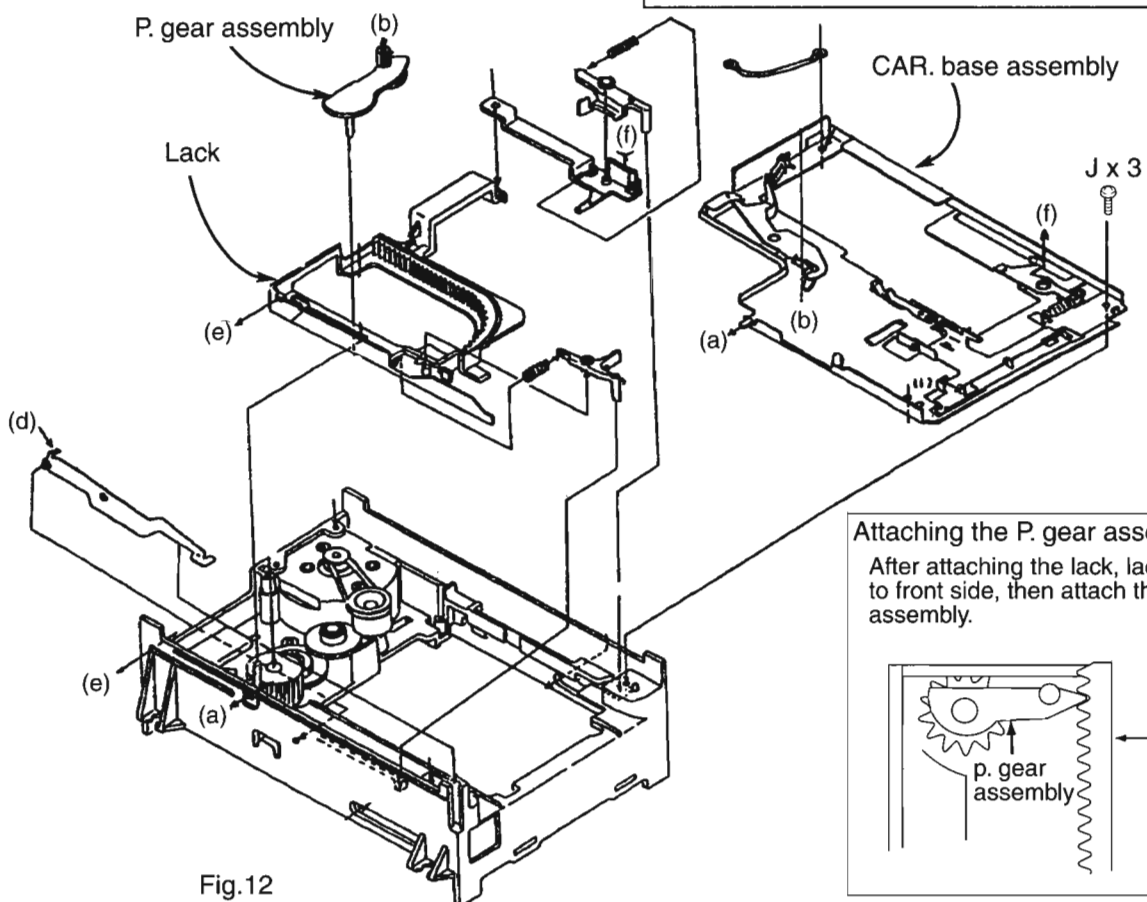


Fig.12

Attaching the P. gear assembly  
After attaching the lack, lack full shift to front side, then attach the P. gear assembly.

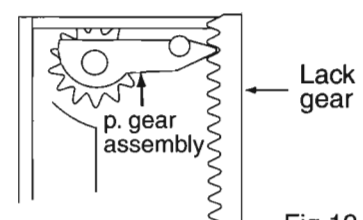


Fig.13

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ Removing the loading base assembly  
(see Fig.14)

1. Remove the car. base assembly and lack.
2. Remove the two screws K attaching the loading motor.
3. Remove the soldering loading motor assembly on the loading P.C.board.

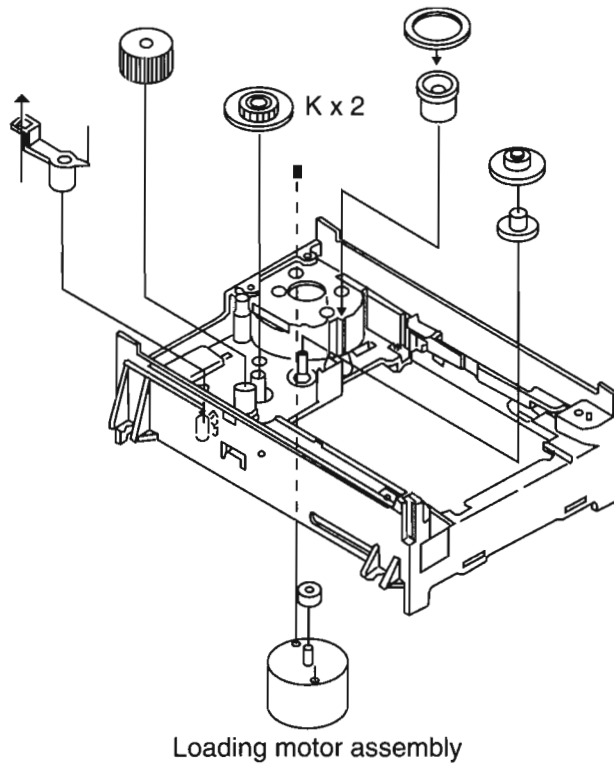
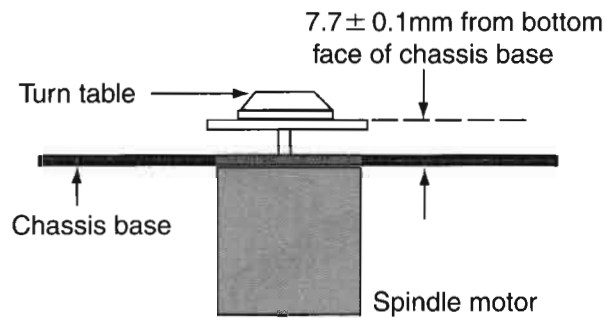


Fig.14

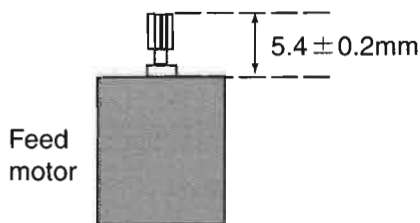
■ Attaching the parts for each motors  
(see Fig.15 to 17)

1. Attach the turn table assembly to spindle motor is according Fig.15.
2. Attach the gear to feed motor is according Fig.16.
3. Attach the pulley to loading motor is according Fig.17.



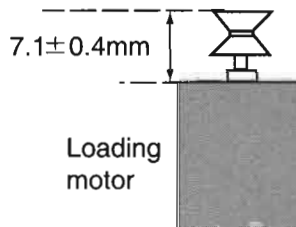
Attachment of turn table

Fig.15



Attachment of gear

Fig.16



Attachment of pulley

Fig.17

<CD Traverse Mechanism Section>

■ Removing the CD Mechanism Section

1. Remove the CD traverse mechanism assembly from the body.

**Caution 1:** Prior to removing CD traverse mechanism assembly, be sure to set all of the sub-trays to the [STOP] mode.

**Caution 2:** In the case of removing the mechanism when this system has been set to the [PLAY] mode, the slide cam L on the left side of the CD traverse mechanism should be removed in the arrow A direction and positioned to **A**. Under this condition, the CD traverse mechanism will be lowered to the position as shown in Fig. 1.

2. Remove the four screw ① retaining the top cover (see Fig. 2).
3. After pulling out the rod from the clammer, remove it together with the top cover (see Fig. 2 and 2-a).
4. Pull out the CD tray.
5. Remove the one screw ② retaining the clammer (see Fig. 3).
6. After moving the clammer in the arrow B direction and shifting it in the arrow C direction, take it out from the engagement section **B** (see Fig. 3).

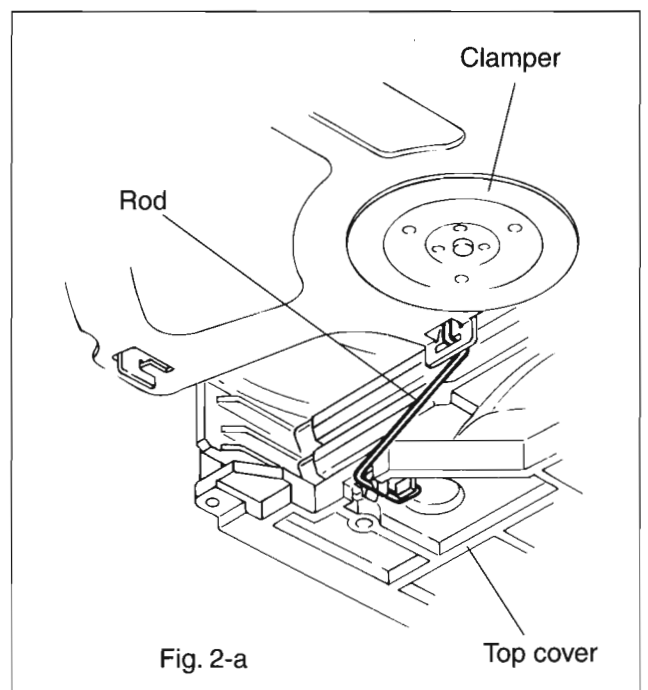
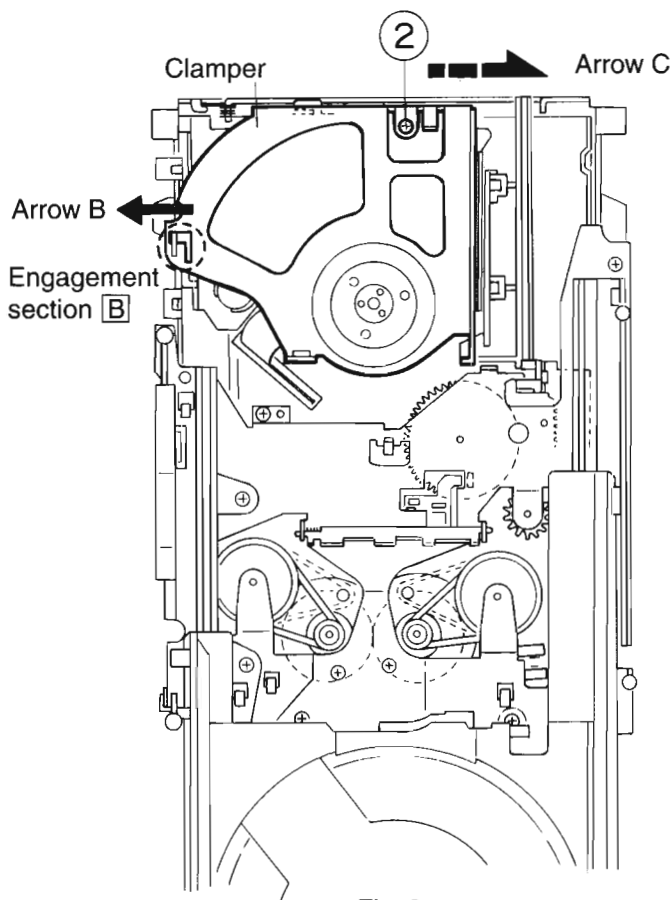
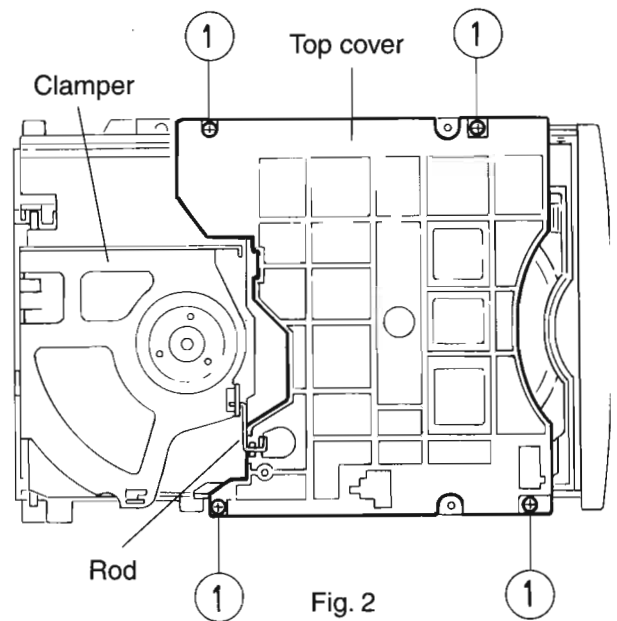
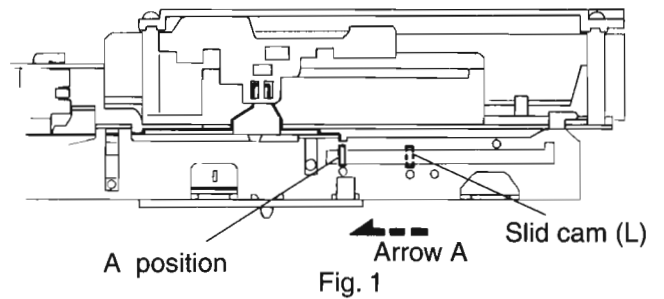


Fig. 3

Fig. 2-a

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

7. Move the center pawl in the arrow D direction and remove the stopper fixing the CD mechanism as shown in Fig. 4.
8. Remove and take out the three insulators from the CD mechanism by using tweezers and so forth (see Fig.4).
9. By soldering, fill the position (in Fig. 5) of the flexible P.C. board outgoing from the CD mechanism.
10. From the connector CN601 on the CD traverse mechanism control & servo P.C. board, remove the flexible P.C. board (see Fig. 5).

**Caution :** Since it will be hard to remove the flexible P.C. board from the connector CN601, use pliers after covering with cloth, etc. so as not to cause any damage to the P.C. board and connector.

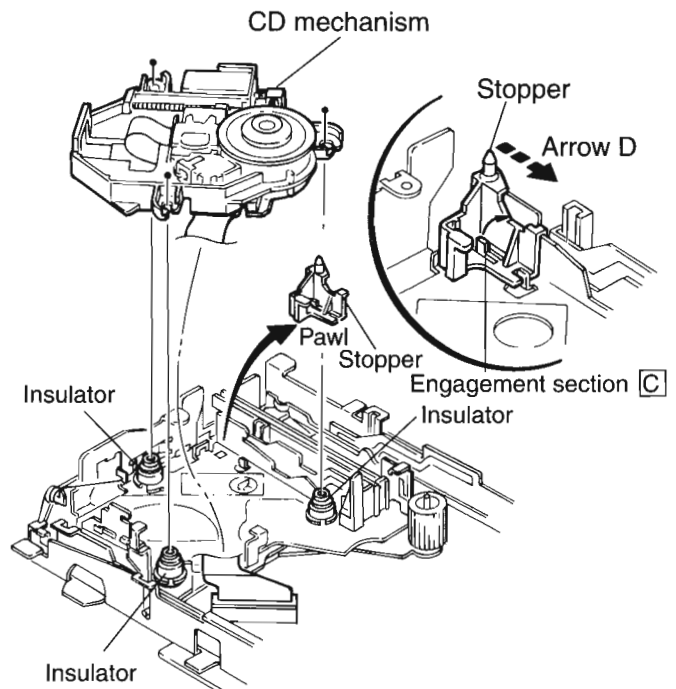


Fig. 4

● Procedures for Reassembling the CD Mechanism

- : In principle, reassemble the CD mechanism according to the opposite orders of the removing steps. Meanwhile, be sure to remove any filled portion by soldering in "Removing Step" above.
- : After aligning the engagements B and C at the position where the CD mechanism has been lowered as described in "Removing Step", be sure to mount the mechanism straight and fix the mechanism with screws.
- : After aligning the slide cam R as shown in Fig. 6 (see Removing Step", mount the top cover and fix the mechanism with screws.

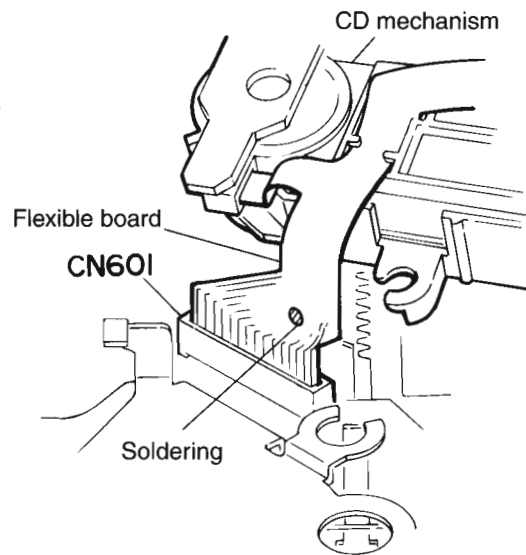


Fig. 5

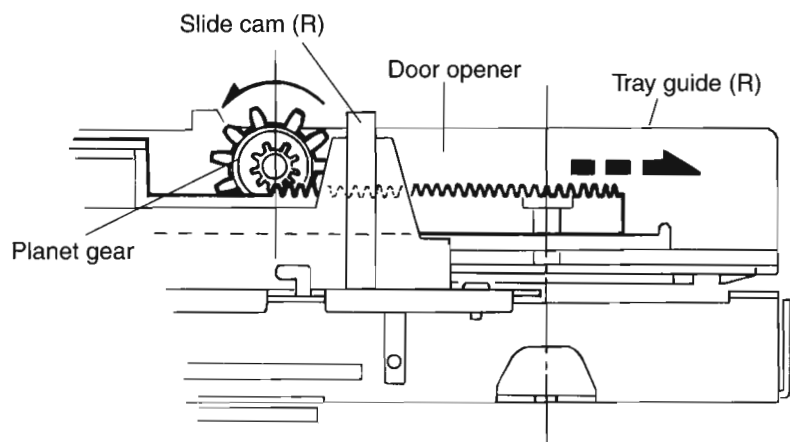


Fig. 6



## ■ Removing the CD Tray

1. Remove the top cover.
2. Pull out the CD tray.
3. Remove the two screws ③ retaining the tray guide (L) unit (see Fig. 7).
4. Disengage the two engagements ④ fixing the tray guide (L) unit while moving the engagements in the arrow E direction (see Fig. 8).
5. Pull out the engagement ⑤ from the mechanism chassis, and remove it together with the CD tray (see Fig. 8).

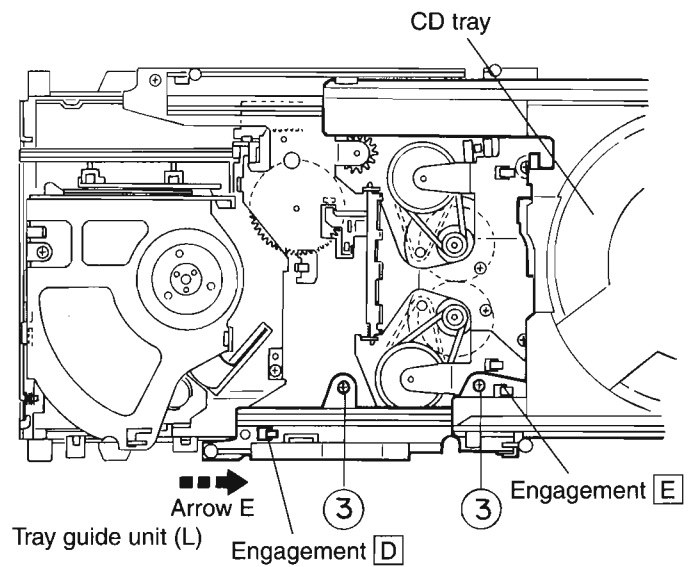


Fig. 7

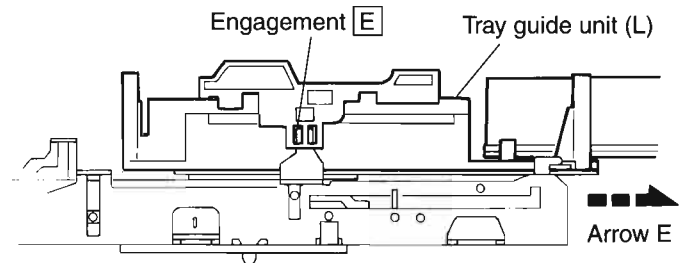


Fig. 8

## ■ Removing the CD Traverse Mechanism Control & Servo P.C. Board

1. Remove the top cover.
2. Pull out the CD tray.
3. The two bolts which have been dismantled from the tray & cam drive motor should be hanged again to the motor pulley as shown in Fig. 9.
4. Remove the two screws ④ retaining the tray & cam drive motor (see Fig. 9).

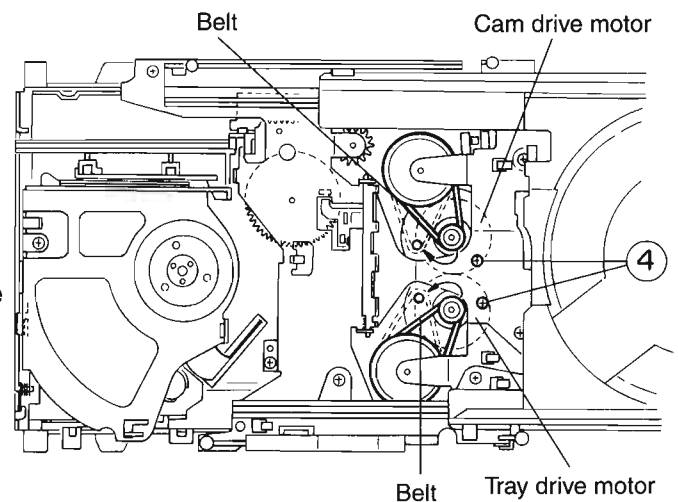


Fig. 9

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

5. after turning over the CD traverse mechanism, remove the four screws 5 retaining the CD traverse mechanism control & servo P.C. board (see Fig. 10).
6. While raising the P.C. board, perform soldering to fill the position on the flexible P.C. board outgoing from the CD pick up unit (see Fig. 11).
7. After turning over the CD traverse mechanism, remove the flexible P.C. board from connector CN601 on the CD traverse mechanism control & servo P.C. board (see Fig. 11).
8. Remove the CD traverse mechanism control & servo P.C. board.

- Procedures for Reassembling the CD Traverse Mechanism Control & servo P.C. Board.
  - In principle, this P.C. board should be reassembled according to the opposite removing steps. For mounting the CD traverse mechanism control & servo P.C. board, insert the main switch (blue) on the P.C. board into the position in Fig. 12.
  - Be sure to hang the two belts which have been dismantled from the tray & cam drive motor.

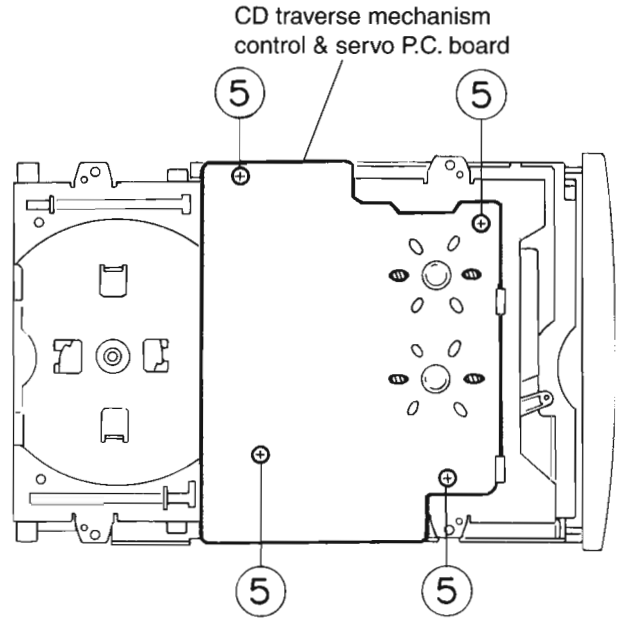


Fig. 10

■ Removing the Cam and Tray Drive motors

1. Remove the top cover.
2. Pull out the CD tray.
3. Remove the CD traverse mechanism control & servo P.C. board.
4. After removing the two soldered points (a) on the surface of the CD traverse mechanism control & servo P.C. board, remove the tray drive motor (see Fig. 13).
5. After removing the two soldered points (b) on the surface of the CD traverse mechanism control & servo P.C. board, remove the cam drive motor (see Fig. 13).

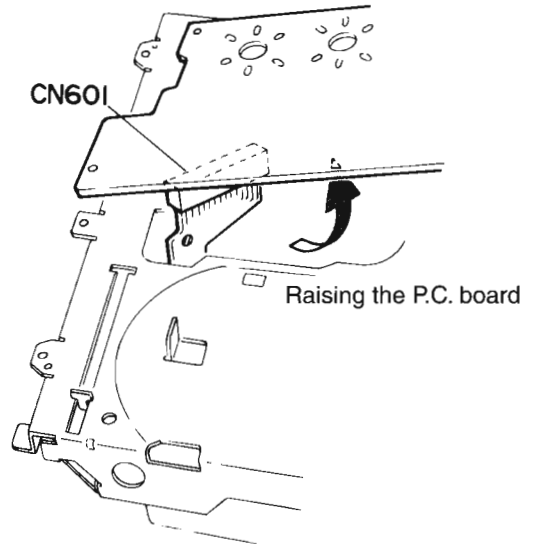


Fig. 11

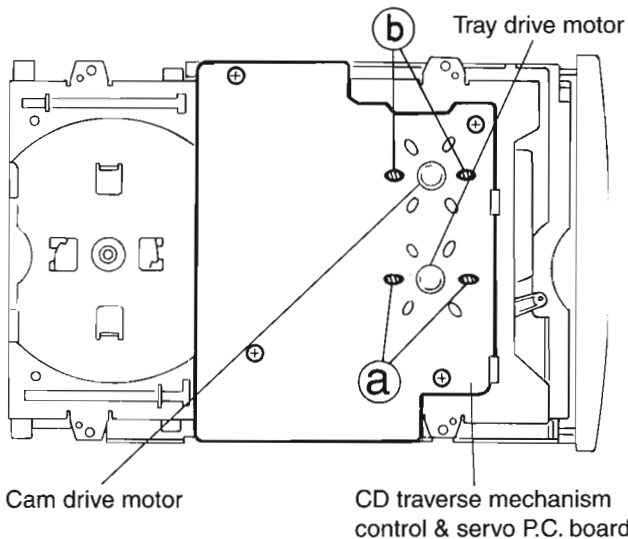


Fig. 13

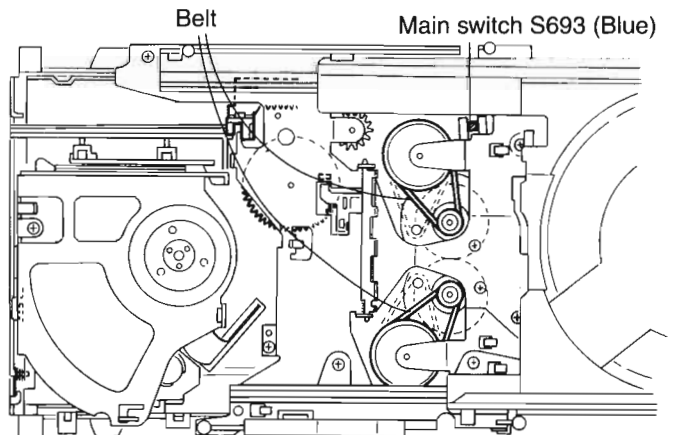


Fig. 12

## ■ Removing the CD Pick Up Unit

1. Remove the top cover.
2. Pull out the clamber.
3. Remove the CD mechanism.
4. Shift the CD pick up unit in the arrow F direction (see Fig. 14).
5. Remove the one screw 6 retaining the shaft holder (see Fig. 14).
6. After removing the two screws 7 retaining the rack arm, take out the S.S. gear assembly (see Fig. 14).
7. By soldering, fill the position on the back surface of the CD pick up unit (see Fig. 15).
8. Remove the flexible P.C. board from the connector on the back surface of the CD pick up unit.

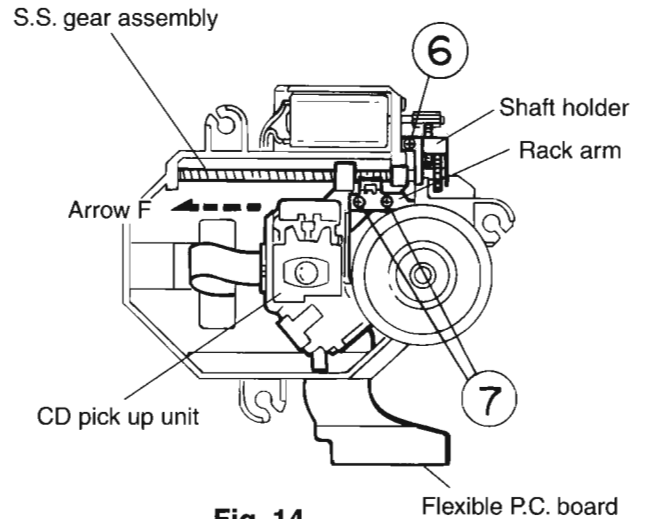


Fig. 14

## ● Procedures for Reassembling the CD Pick up Unit

In principle, this unit should be reassembled according to the opposite order of the removing steps.

### Caution

Take rack arm should be screw-clamped first from the round hole.

## ■ Removing the Feed Motor Assembly

1. Remove the top cover.
2. Pull out the clamber.
3. Remove the CD mechanism.
4. After removing the one screw 8 retaining the feed motor assembly, take out this assembly (see Fig. 16).
5. After turning over the CD mechanism, remove it from the lead wire treating key way on the feed motor assembly (see Fig. 16).
6. Remove the soldered portion of the lead wires (red and black) from the spindle motor P.C. board (see Fig. 16).

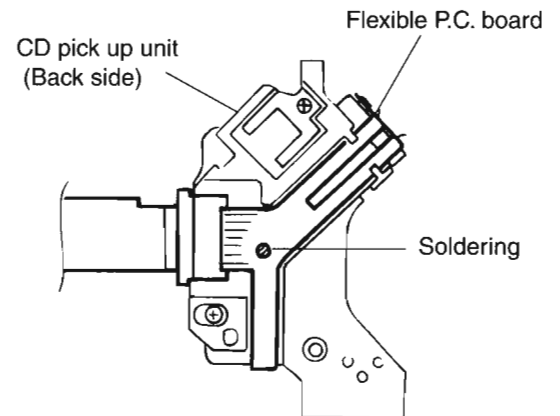


Fig. 15

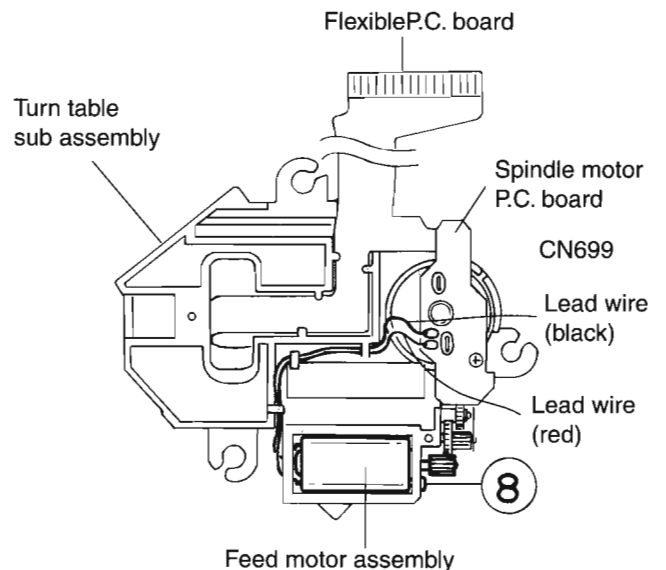


Fig. 16

### ■ Removing the Spindle Motor Assembly

1. Remove the top cover.
2. Pull out the clumper.
3. Remove the CD mechanism.
4. Remove the CD pick up unit.
5. Pull out the middle gear.
6. Remove the feed motor.
7. After turning over the CD mechanism, remove the two soldered portions **c** on the spindle motor P.C. board (see Fig. 17).
8. After removing the flexible P.C. board from the connector CN699 on the spindle motor P.C. board, take out the flexible P.C. board from the turn table subassembly (see Fig.17).
9. The spindle motor and turn table will not be supplied individually as single units but as a turn table sub-assembly (in combination with the spindle motor, turn table and mechanism chassis). Therefore, be sure to change the sub-assembly instead of changing the individual spindle motor turn table alone.

**Caution :** Since LOCK-TIGHT 460 is applied for press-in sections of the turn table and spindle motor shaft, be sure to remove the shaft so carefully as not to cause any damage the spindle motor.

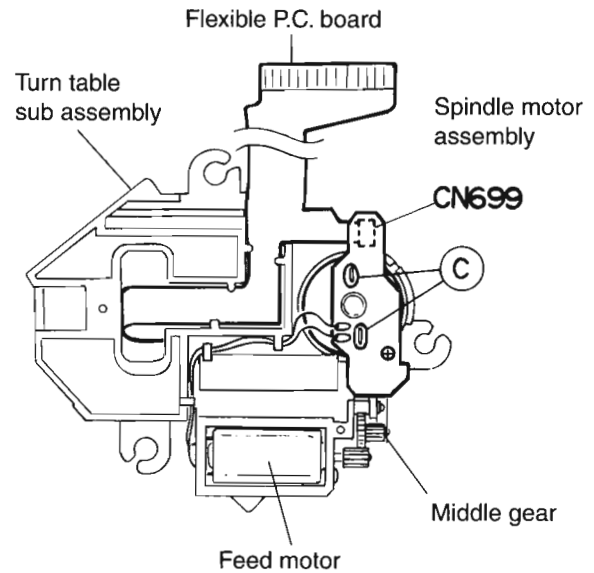


Fig. 17

### ■ Removing the Spindle Motor Assembly

1. Remove the top cover.
2. Remove the CD tray together with the tray guide (R).
3. Remove the four screws **9** retaining the actuator unit (see Fig. 18).
4. Remove the two screws **10** retaining the tray & cam drive motor (see Fig. 18).
5. Hang the two belts remove from the tray and cam drive motor again to motor as shown in Fig. 18.
6. While holding down the section **G** with a finger, remove the two pawls **H** retaining the actuator unit.

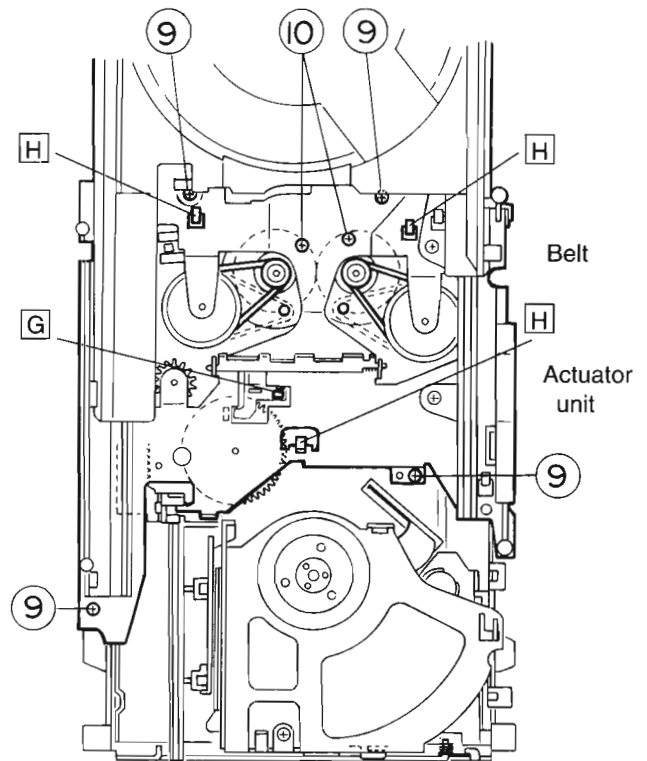


Fig. 18

#### Method of pulling out the CD tray in case the CD driver mechanism has been dismantled under [PLAY] mode

1. Press forward the hock slider assembly unit it stops as shown in Fig. 19.
2. Move the slide cam (L) on the left side of the CD driver mechanism assembly in the arrow **A** direction and position it to **A** . Then, the CD driver mechanism will be kept at the lowered position (see Fig. 1).

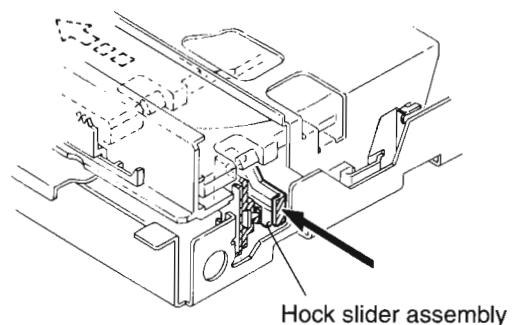


Fig. 19

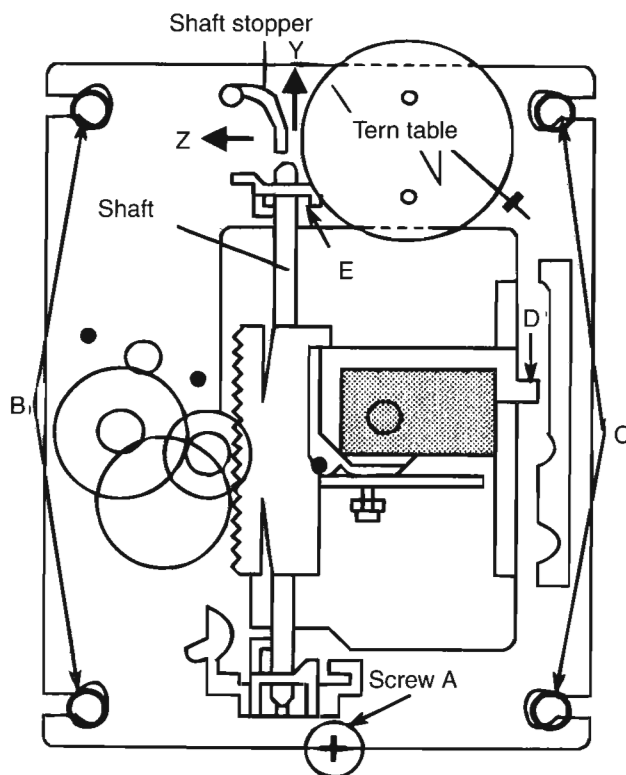
## Disassembly of the Traverse Mechanism

### 1. Remove the Pick up

- 1) Remove the traverse mechanism assembly.
- 2) Remove the Pick up cover.
- 3) Remove the screw A of the mechanism base assembly.
- 4) Remove the mechanism base assembly from rubber cushion B and C.
- 5) Shift the shaft stopper to Z way, then slide off the shaft to Y way.
- 6) Remove the flat wire from the APC circuit board, then remove the pick up unit.

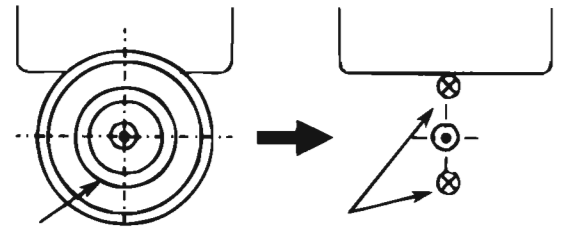
### 2. Attaching the Pick up

- 1) Attach the flat wire to APC circuit board.
- 2) Remove the shorted solder of protect the static electrical broken for pick up.
- 3) Insert the part D to mechanism base, then insert the shaft from part E.
- 4) Through the shaft to the pick up hole, then attach the pick up to mechanism base.
- 5) Attach the mechanism base to the rubber cushion B and C of mechanism base assembly.



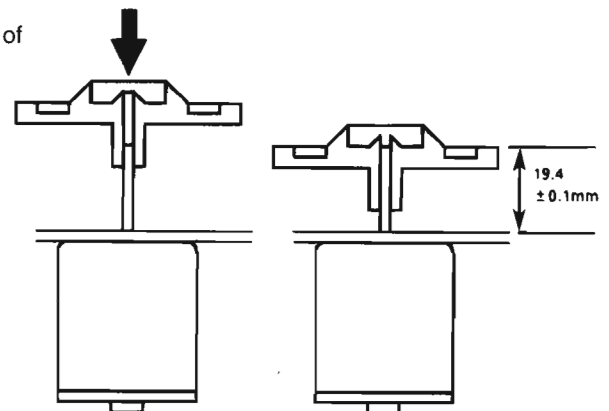
### 3. Remove the spindle motor

- 1) Remove the mechanism base assembly.
- 2) Remove the turntable, then remove the two screws of the motor.
- 3) Remove the one screw of the motor circuit board.
- 4) Remove the solder then remove the motor.

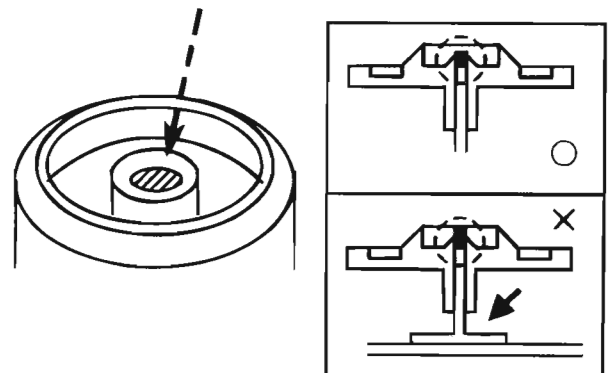


### 4. Attach the spindle motor

- 1) Attach the two screws the fix the spindle motor to base.
- 2) Fix the motor circuit board by screw, then solder the motor terminal.
- 3) Press the center position of the tern table from upper side, adjust the position from the mechanism base to upper side of the tern table as  $19.4 \pm 0.1\text{mm}$ .



- 4) After press-fit, Fix the motor shaft and turntable by locktight No.460. ( Part of the arrow)

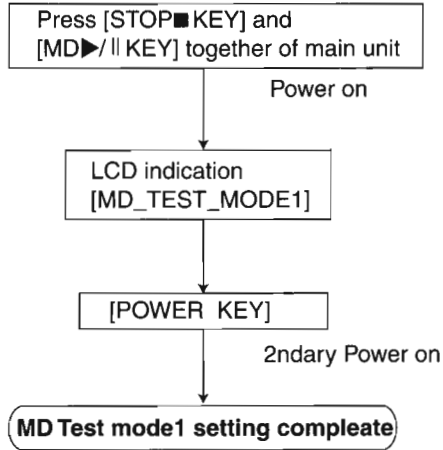


**CAUTION)** Volume is a very little like a figure, do not over flow on the turn table.  
Adhesive is should not touch the motor shaft hold part. (Arrow part)

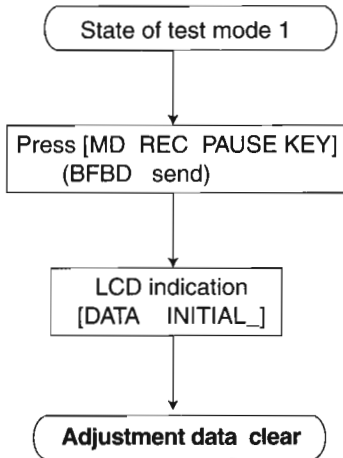
## Adjustment method

### ■ Test mode

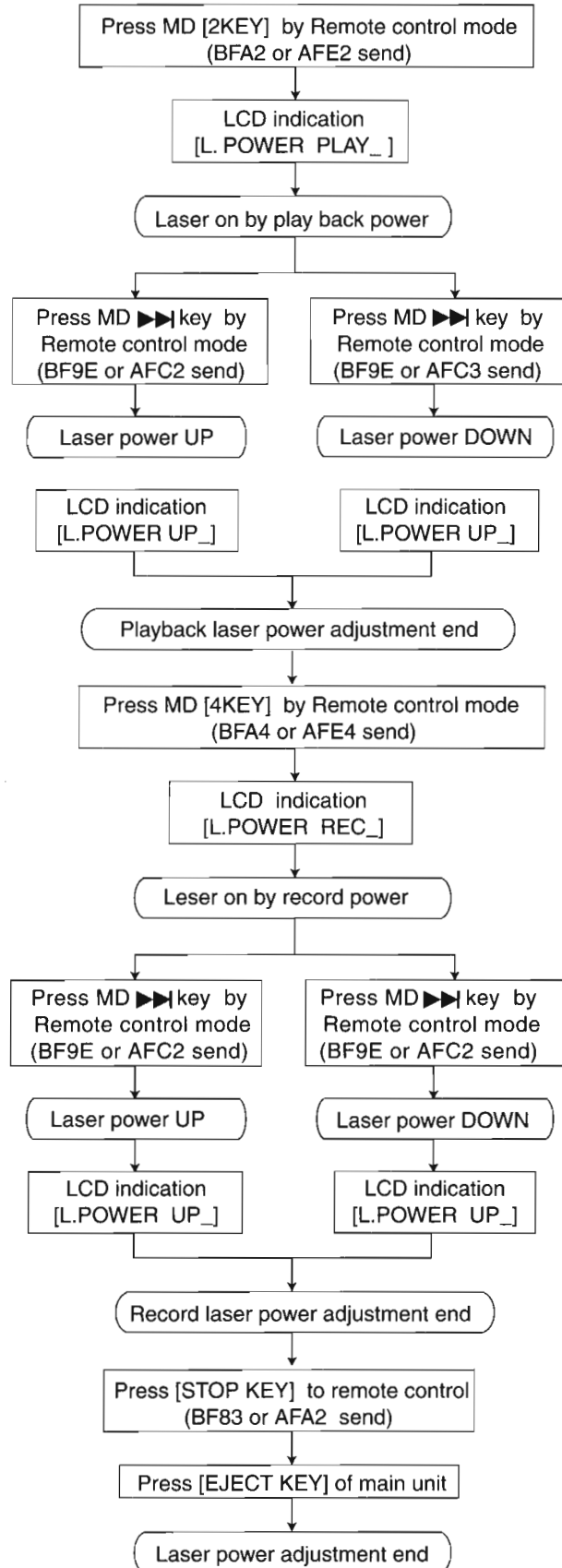
#### 1. MD Test mode1 setting



#### 2. Initialization of EPROM

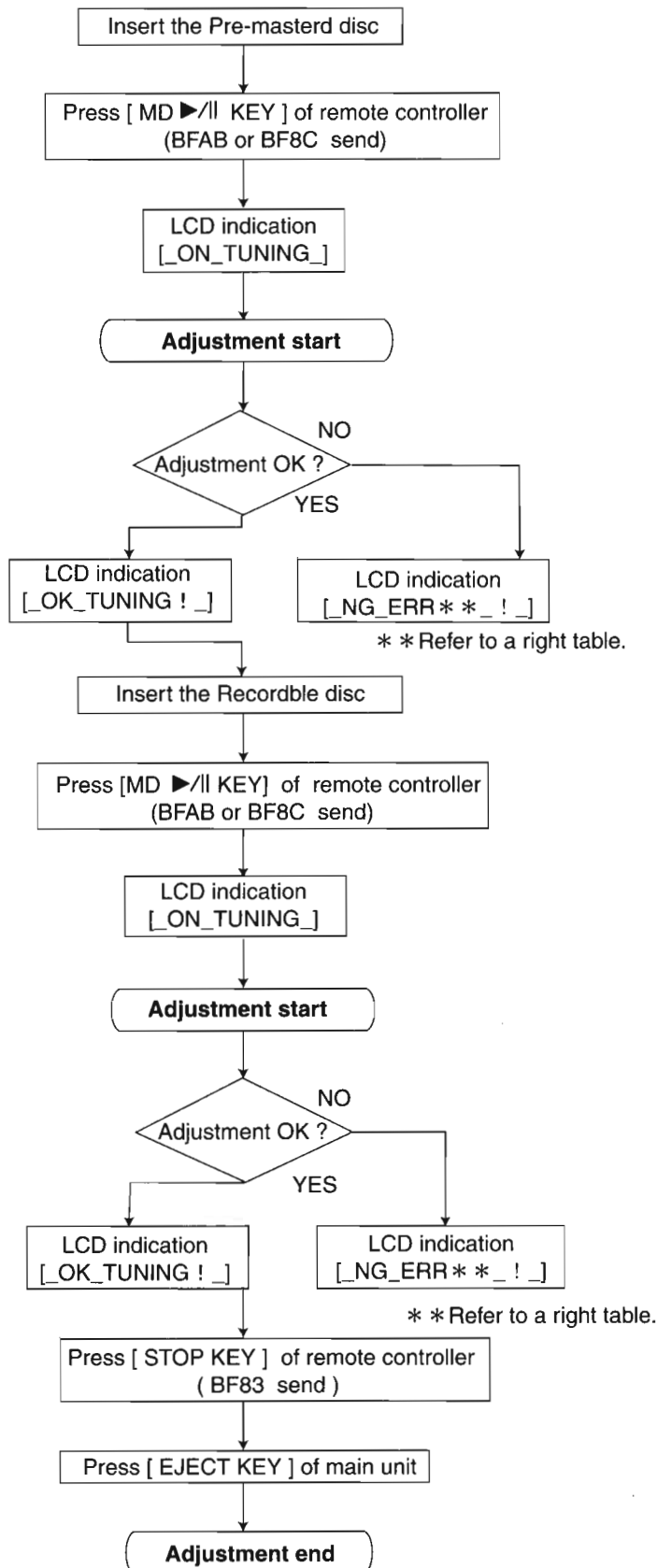


#### 3. Laser power adjustment



#### 4.Disc adjustment

**Caution :** After the laser power is adjusted, executes



Code	Adjustment NG section
00	Self adjustment incompleteness end
01	Rest SW detection
02	Focus .on
03	PIT part EF balance Tracking offset adjustment
04	PIT part ABCD level (IV resistance) adjustment
05	Part PIT focus. servo AGC
06	Part PIT tracking servo AGC
07	Part PIT focus. bias adjustment
08	GRV part EF balance Tracking offset adjustment
09	GRV part ABCD level (IV resistance) adjustment
0A	Part GRV focus. servo AGC
0B	Part GRV tracking. servo AGC
0C	Part GRV focus. bias adjustment
0D	Room temperature measurement
0E	EPROM writing
FF	Normal termination of self adjustment

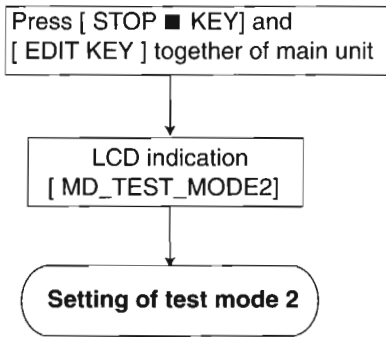
### 5. Independent operation mode

Sets in the test mode. The remote control mode is made MD.  
The operation is shifted by transmitting the following codes.

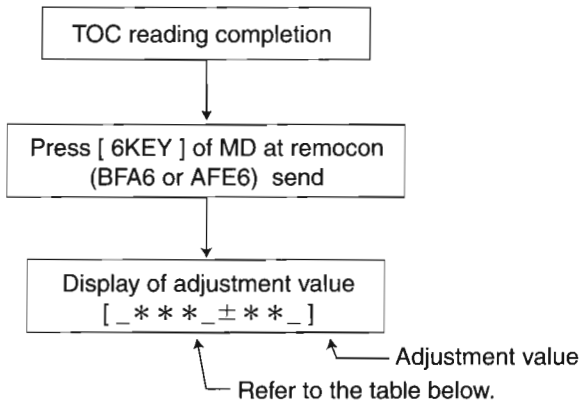
[ SLEEP ] (A303)	: Focus search	[ _FOCUS_SEARCH ]
[6 KEY] (BFA6) or (AFE6)	: Pit rough servo	[ _P.R.SERVO_ ]
[7 KEY] (BFA7) or (AFE7)	: Groove rough servo	[ _GR.R.SERVO_ ]
[8 KEY] (BFA8) or (AFE8)	: Tracking on	[ _TRACKING_ON_ ]
[9 KEY] (BFA9) or (AFE9)	: Tracking off	[ _TRACKING_OFF ]
[STOP KEY] (BF83) or (AFA2)	: STOP	[ _STOP_ ]
Main unit [ EJECT KEY ]	: Eject	[ _EJECT_ ]

### Setting of MD test mode 2

Test mode 2 is executed according to the undermentioned procedure contingent on becoming test mode 1.

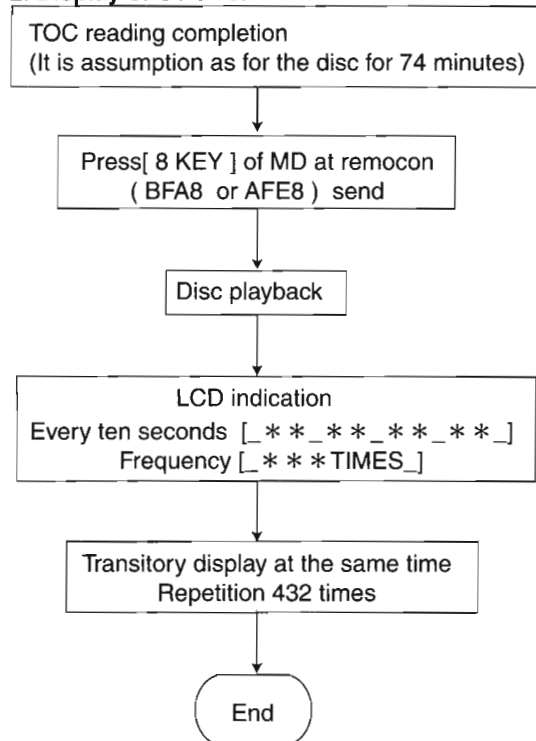


#### 1. Change amount display of plerctrum adjustment value



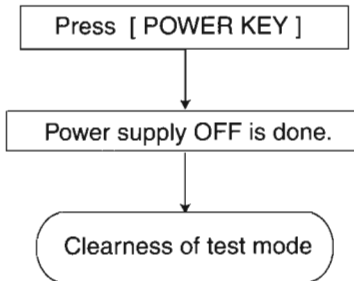
ASG	AS gain adjustment value
TRG	Tracking gain adjustment value
TRB	Tracking balance adjustment value
FOB	Focus balance adjustment value
FGR	Focus loop gain adjustment value
FEXP	
FGC	
TGR	Tracking loop gain adjustment value
TEP	
TGC	

#### 2. Display of C1 error



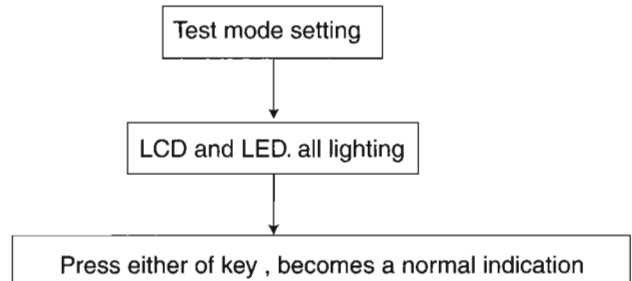


**Clearness of MD test mode**



**Test mode  
(all lighting and clock fast-forwarding modes)**

The test mode is set by transmitting remote control code (B332) at the time of the POWER ON



**CLOCK / SLEEP TIMER Fast forward**

At test mode condition .clock count up is 1 minute to 1 second.  
Only assurance the [CLOCK] and [SLEEP TIMER] operation, [DAILY TIMER] and [REC TIMER] operation should not done at this test mode.

**Clearness of test mode**

Remote control code (B332) is send at the time of the repeated POWER ON, and the test mode is made clear.

**Abnormal detection of stabilization power supply**

The stabilization power supply is abnormally detected in the port of the microcomputer on the assumption that abnormality is not found in supply power (US D5.6V) of microcomputer (IC801)

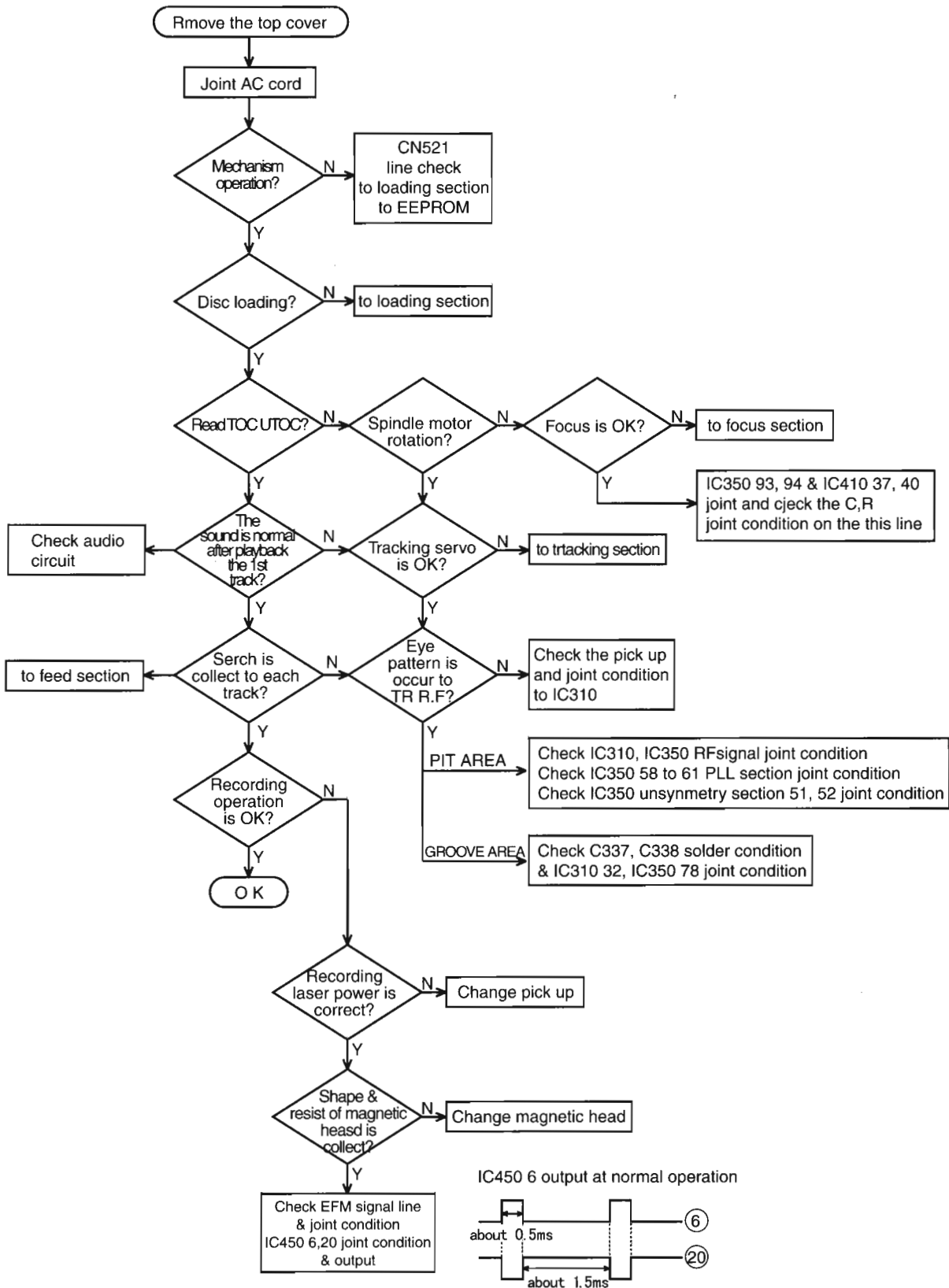
Abnormal detection done at power on.in this time indicate the [Caution ! ], corresponds stabilization power supply and port voltage of abnormal time on [DATA (HEX)] ,abnormal detection of stabilization power supply is follows.

- 8V : SAFETY1 PORT (QC3 mecha power supply)
- 12V : SAFETY2 PORT (For Tuner module REG.)  
For MD mecha REG, Vol.IC power supply  
LPF IC power supply ,CD/MD selector power supply
- 5.5V : SAFETY3 PORT (MD mecha OPT module power supply  
CD/OPT selector power supply)

Voltage of SAFETY port when abnormality detecting

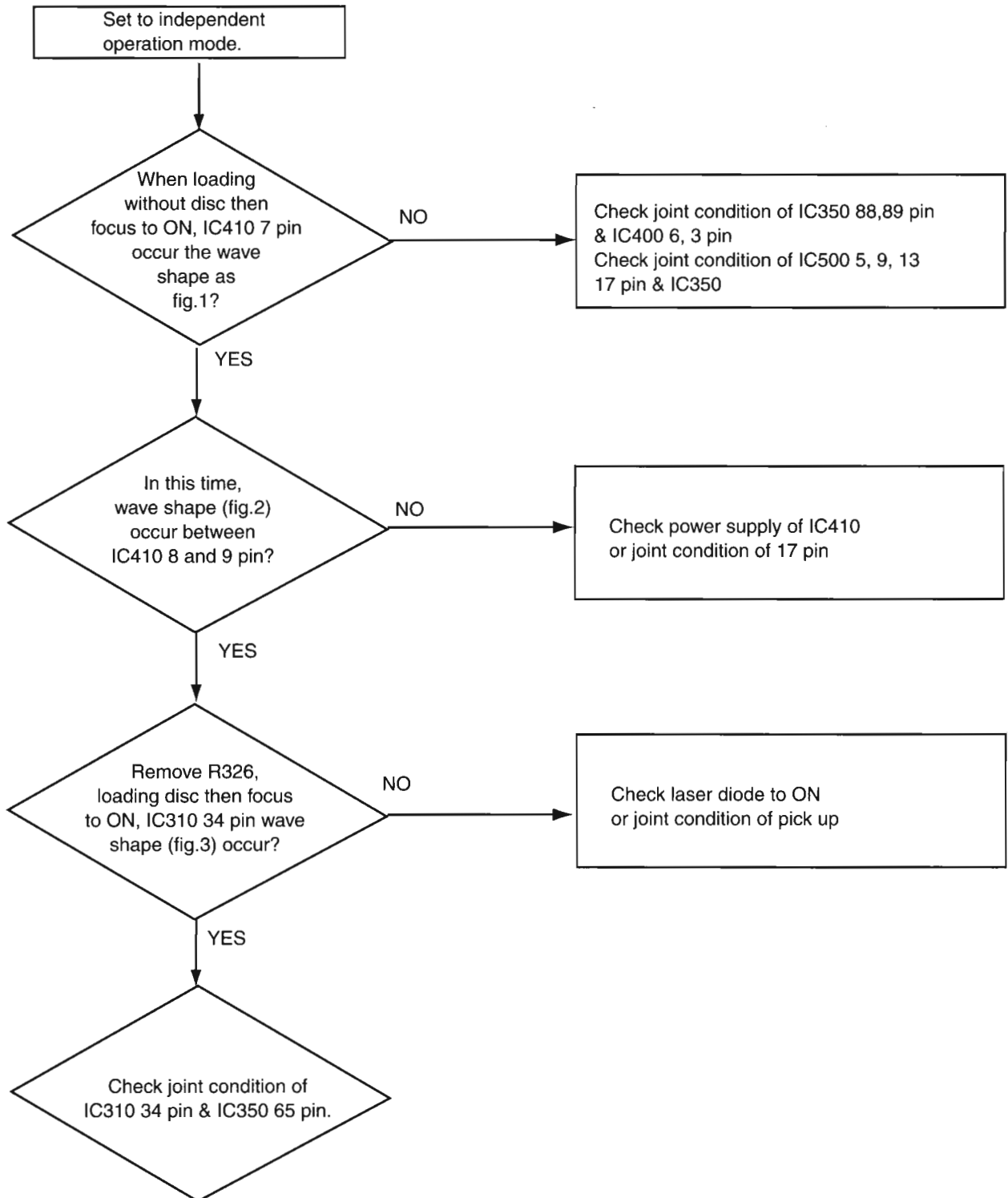
DATA (HEX)	Voltage of port	State of detection
3FF~2DO	5.0~3.52V	Abnormality (Compel at 1 second POWER OFF)
2CF~12C	3.515~1.465V	Normality
12B~000	1.46~0V	Abnormality (Compel at 3 seconds POWER OFF)

## Troubleshooting of MD section

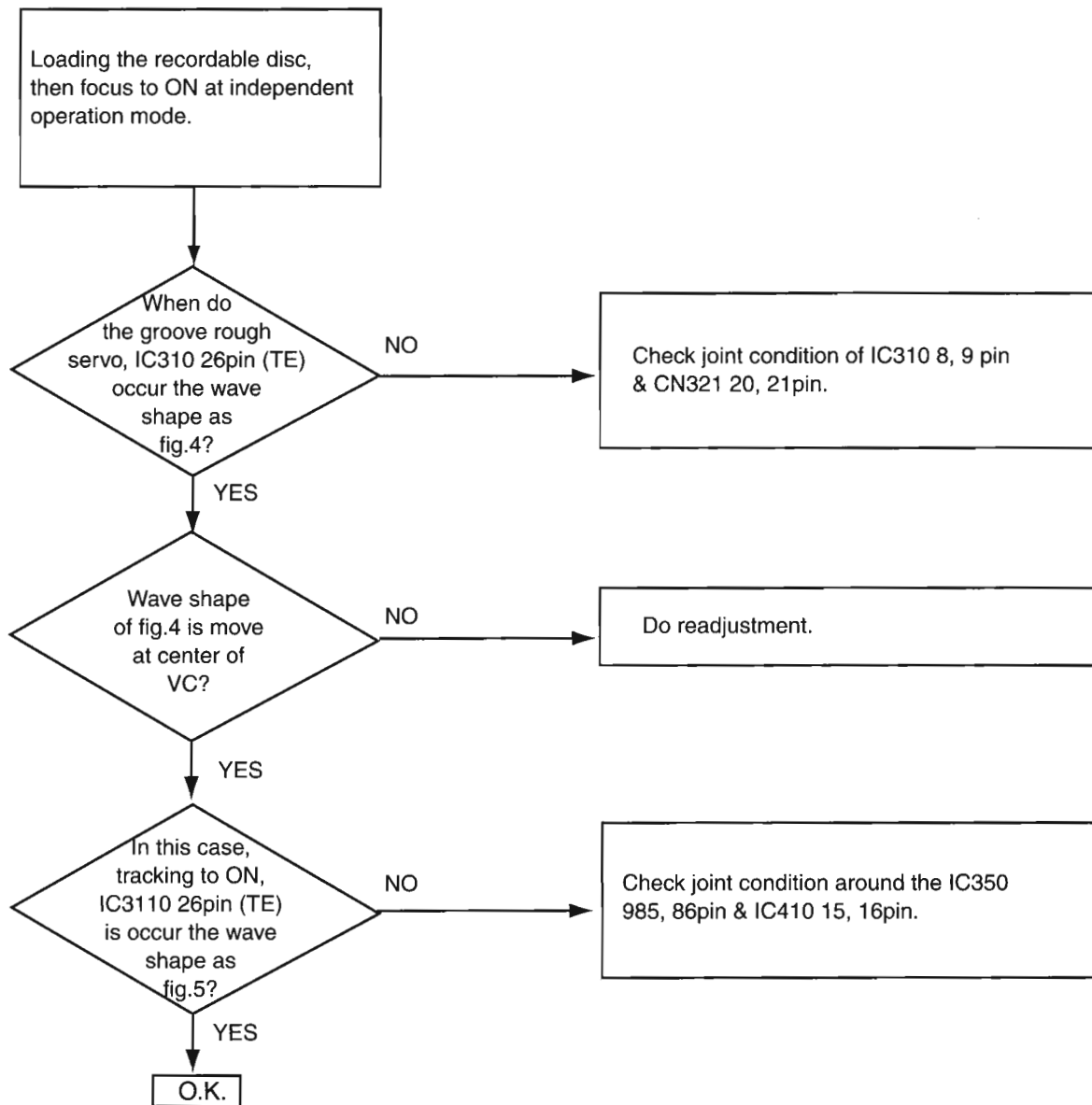


## Chapter of Focus

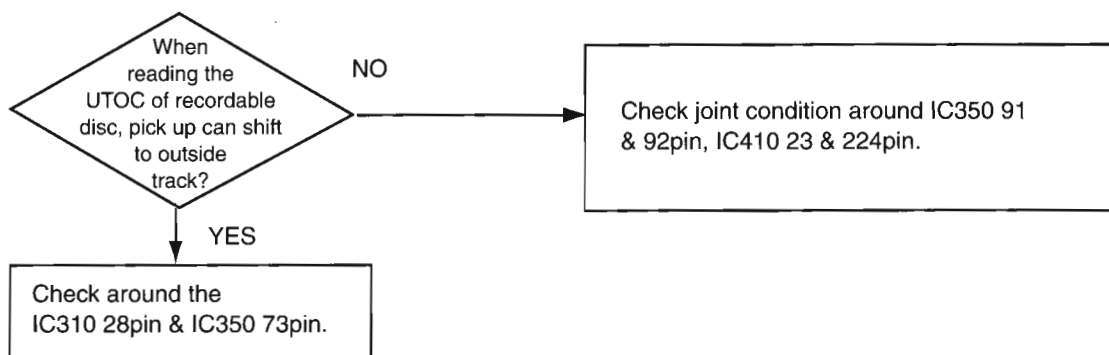
Loading operation can done without disc, when joint to the ground one of CN410 3 to 5 pin.



### Chapter of Tracking



### Chapter of Feed

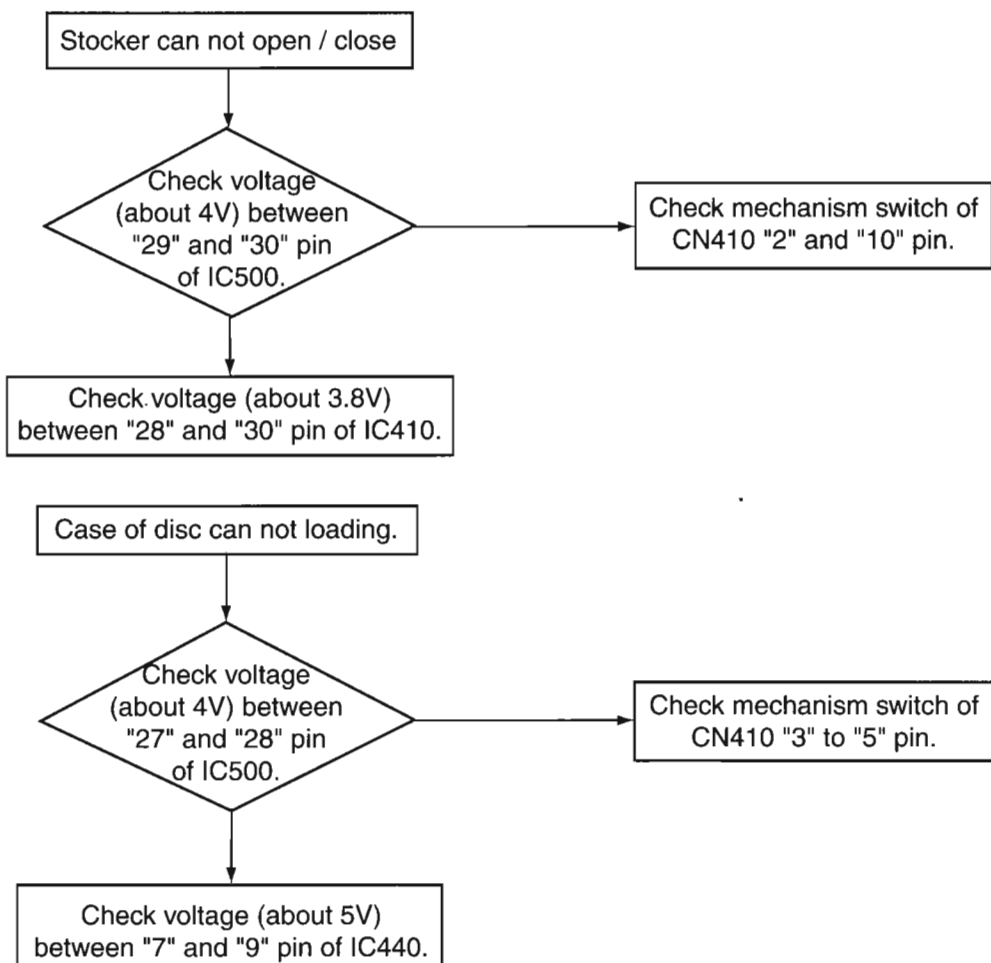


## ■ Chapter of EEPROM

MD CPU is access to EEPROM(IC590) then read all address data after release reset.  
 In this time, wrong header or impossible adjustment data (broken data), CPU is continue then communicate with EEPROM so mechanism initialize operation etc, do not done.  
 Communicate line (IC500 "70" to "72" and "98" pin) with EEPROM condition is continue signal output.  
 In this case it is need EEPROM initialize.  
 Case of change new EEPROM or data broken, joint "18" to "21" pin of CN521 to ground then main unit power supply to ON.  
 EEPROM initialize operation is complete by mechanism initialized.  
 After that, open the "18" to "21" pin of CN521 readjust by main unit power to ON.  
 If continue this condition after EEPROM initialized, it will EEPROM electrical broken.

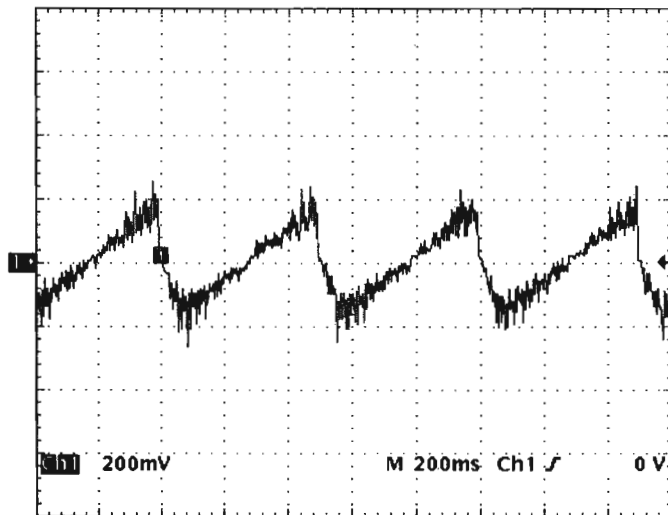
## ■ Chapter of loading

Check joint condition or soldering condition of CN403,CN410 and CN418.  
 Check power supply terminal of motor driver (CN410).

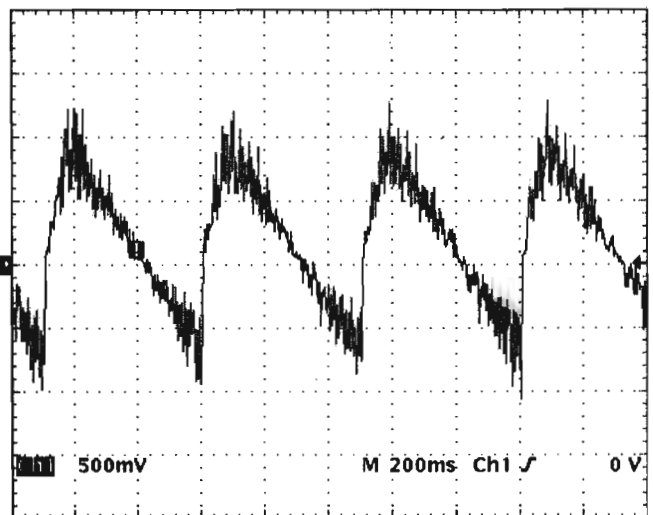


<Case of mechanism operation to slow>  
 Check voltage both side of R505, it is over than 0.2V,  
 in this case, it will terminal short of IC500 or broken of IC500.

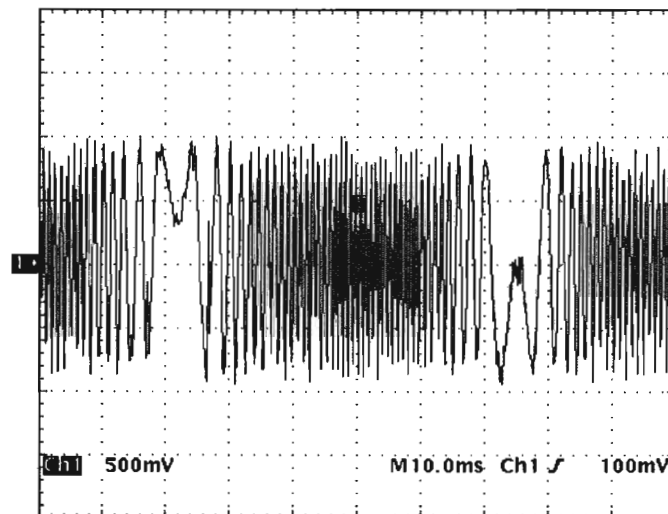
### Referential wave shape at checking



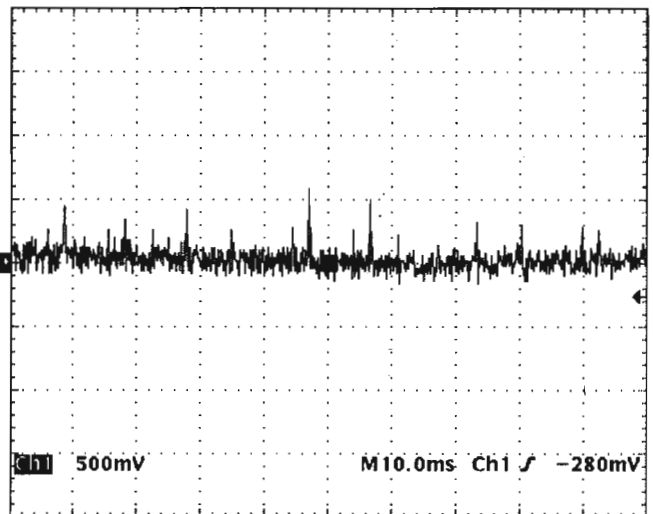
200mV/div 200ms/div Vref  
(IC410 21pin joint to oscilloscope GND)



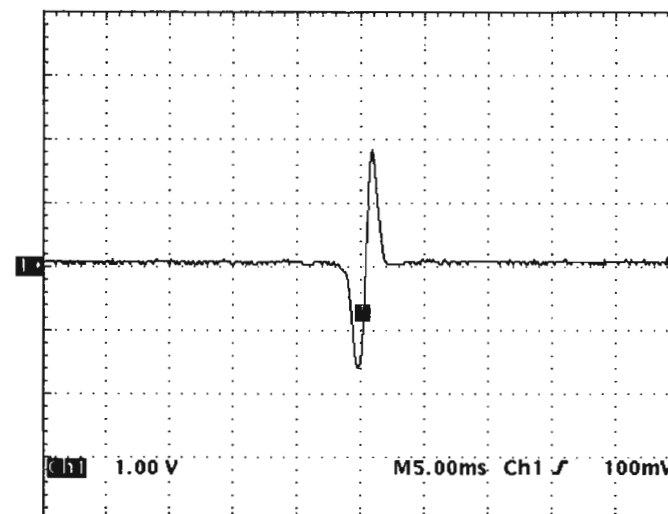
500mV/div 200ms/div Vref  
(IC410 8-9pin)



500mV/div 10ms/div VC  
(IC310 3pin joint to oscilloscope GND)

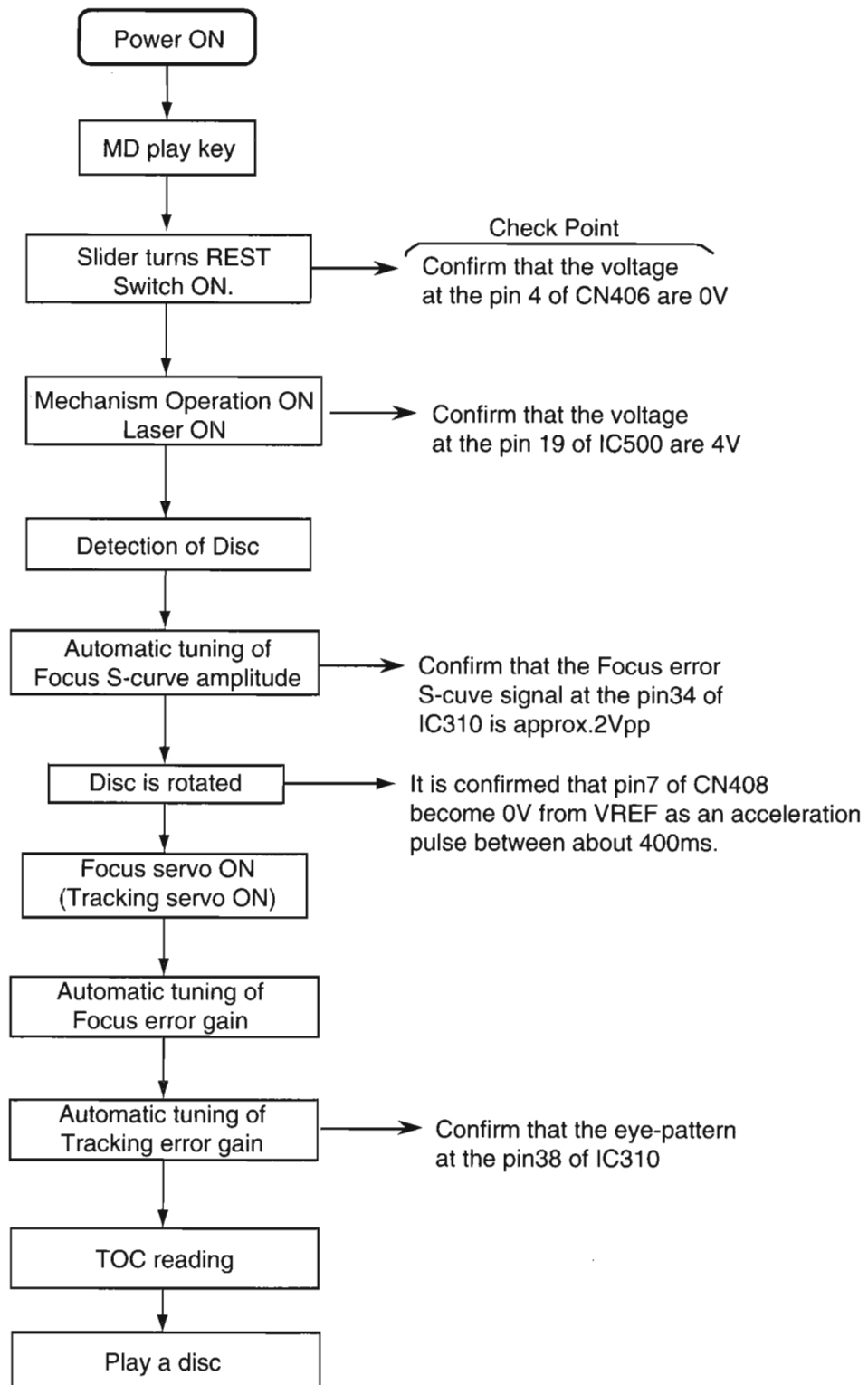


500mV/div 10ms/div VC  
(IC310 3pin joint to oscilloscope GND)



1V/div 5ms/div VC  
(IC310 3pin joint to oscilloscope GND)

## Flow of functional operation until TOC read (MD)



## Maintenance of laser pickup (MD)

### 1. Cleaning of pickup lens

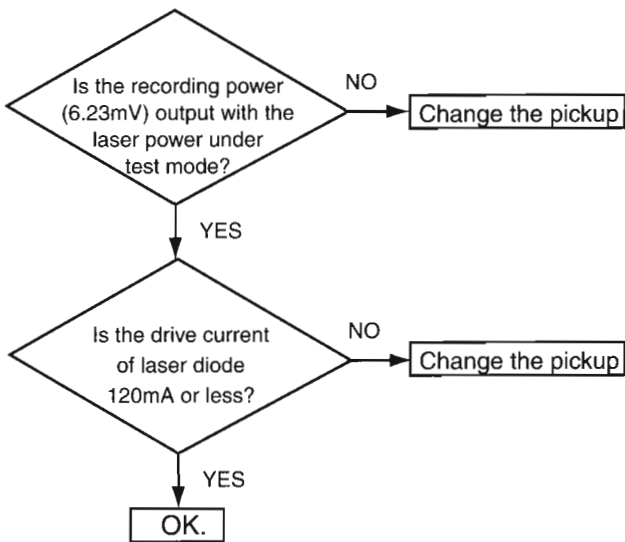
- (1) Prior to changing the pickup, clean the pickup lens.
- (2) For cleaning the lens, use the following cotton swab after mearsing it in alcohol.

Product No. JCB-B4; Manufacturer;Nippon Cotton Swab

### 2. Confirmation of the service life of laser diode when the service life of the laser diode has been exhausted, the following symptoms will appear.

- (1) Recording will become impossible.
- (2) The RF output (EFM output and eye pattern amplitude) will become lower.
- (3) The drive current required for light emitting of laser diode will be increased.

Confirm the service life according to the following flow chart:

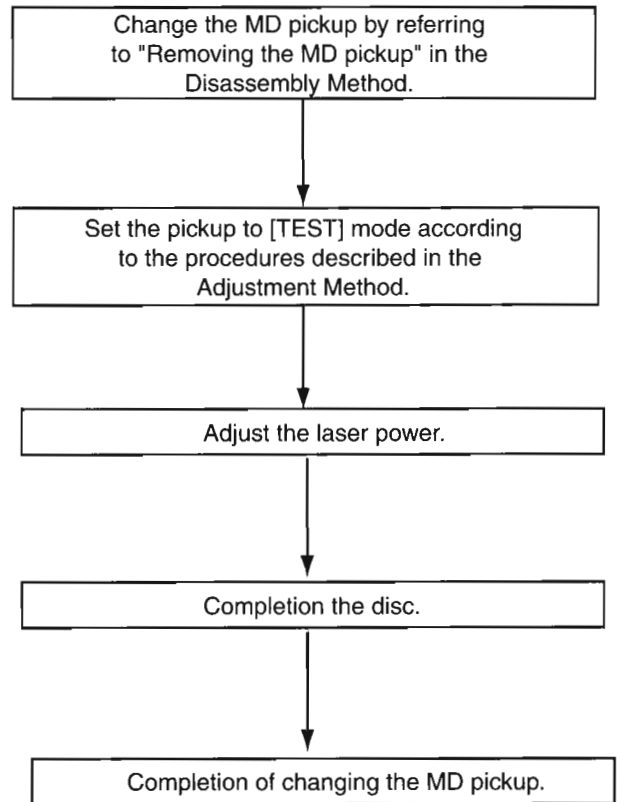


### 3. Method of measuring the drive current of laser diode

When the voltage measured at TP ILCC (Q301 emitter) and +5V (Q303 emitter) of the MD servo P.C. board (ENX-0223) have become 600mV or over, the service life of the laser diode is judged to have been exhausted.

[Caution] When TP ILCC (Q301 collector) and +5V (Q303 emitter) have been is short circuit on such an occasion, then the laser diode will be broken. Therefore, take utmost care in handling the MD pickup.

## Replacement of laser pickup (MD)



★ Since this system is designed to perform magnetic recording, the laser power ten times or over of the conventional MD player will be output. Therefore, be sure to perform not only adjustment and operation of this system so carefully as not to directly look at the laser beam or touch on the body.

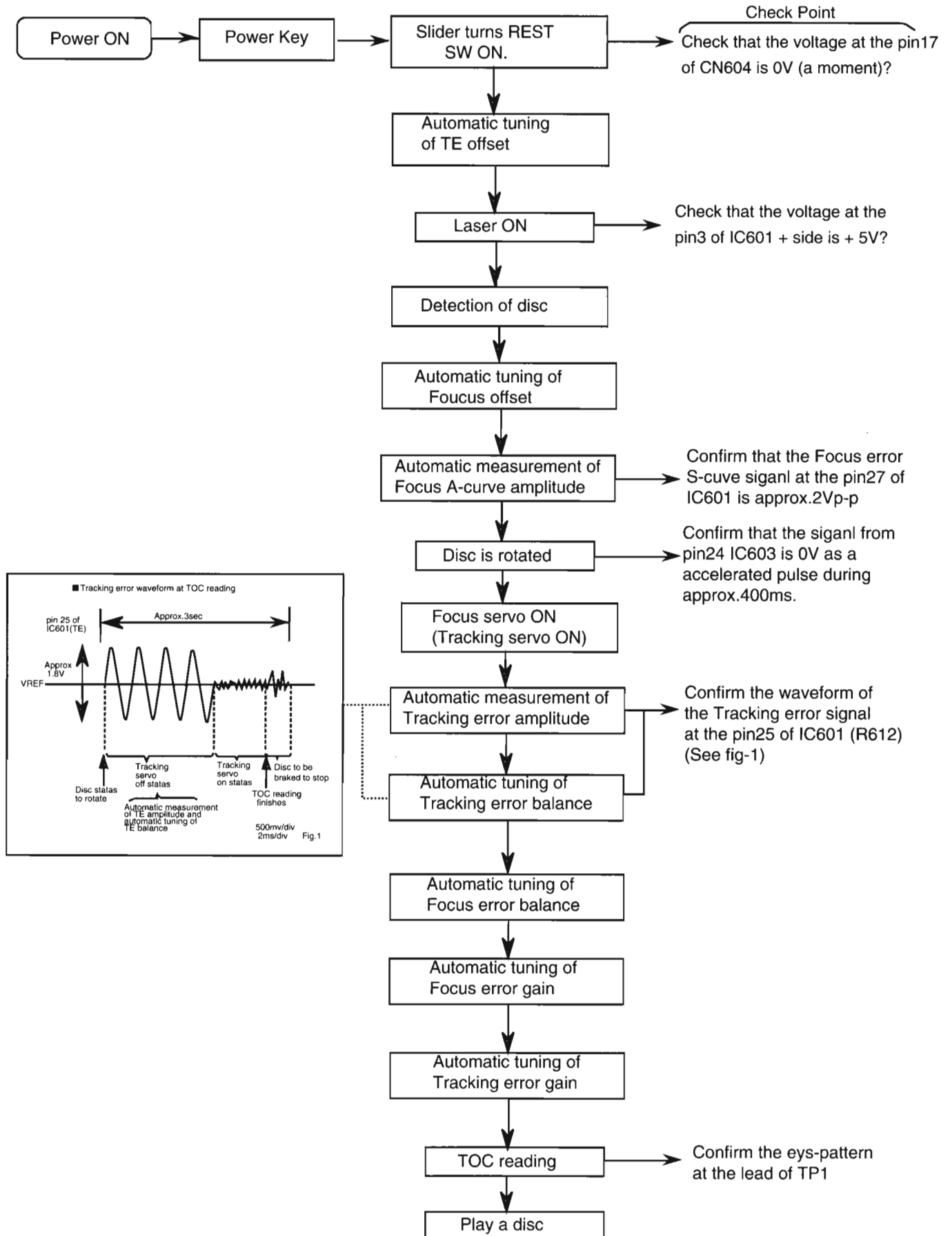
### 4. Semi-solid state resistors on the APC P.C. board

The semi-solid state resistor on the APC P.C. board attached to the pickup is used for adjusting the laser power. Since these resistor should be adjusted in pair according to the characteristics of the optical block, be sure not to touch on the resistors.

Since the service life of the laser diode will be exhausted when the laser power is low, it is necessary to change the pickup. Meanwhile, do not pickup. Otherwise, the pickup will be damaged due to over current.

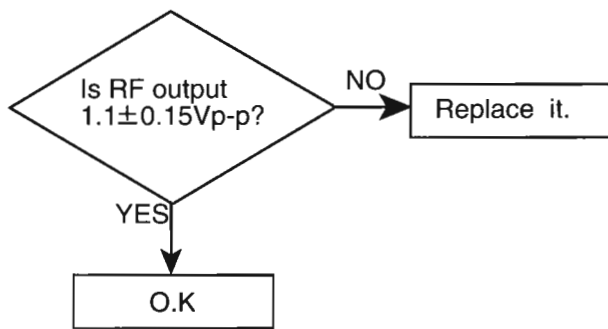


## Flow of functional operation until TOC read (CD)



## Maintenance of laser pickup (CD)

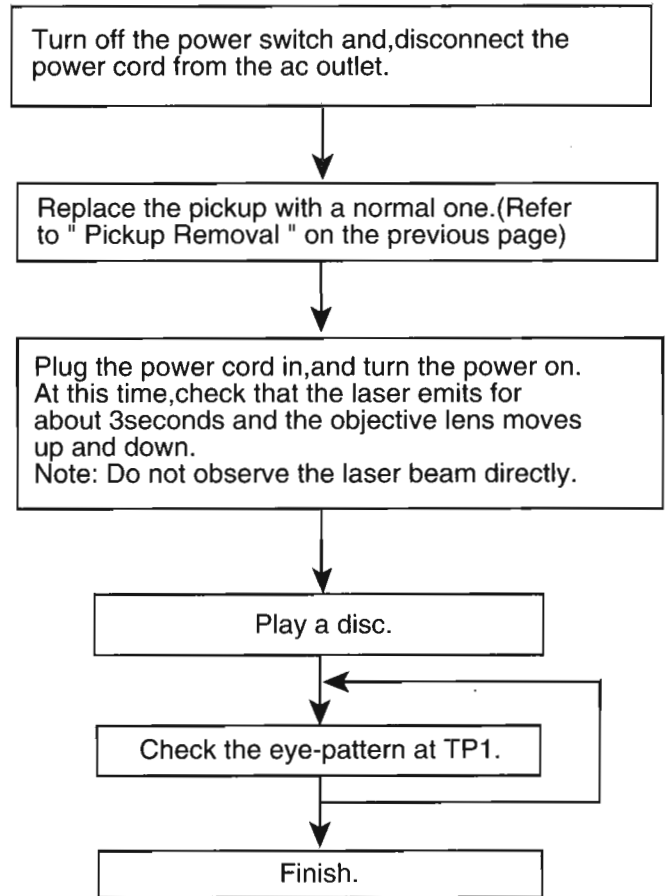
- (1) Cleaning the pick up lens  
 Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.
- (2) Life of the laser diode (Fig.1)  
 When the life of the laser diode has expired, the following symptoms will appear.
  - (1) The level of RF output (EFM output: amplitude of eye pattern) will below.



(Fig.1)

- (3) Semi-fixed resistor on the APC PC board  
 The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.  
 If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.  
 If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

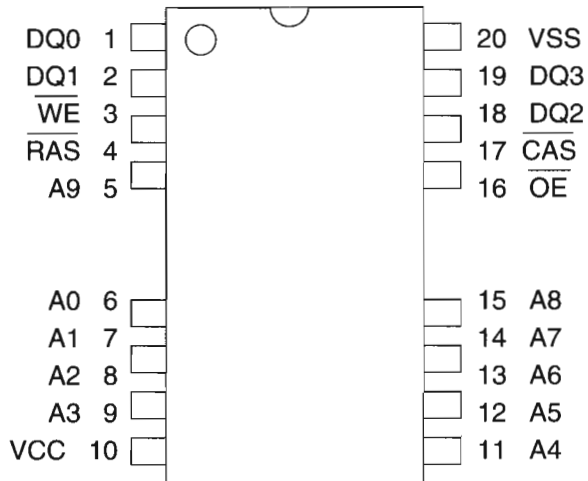
## Replacement of laser pickup (CD)



## Description of major ICs

### ■ MN41V4400TT-08 (IC390) : D RAM

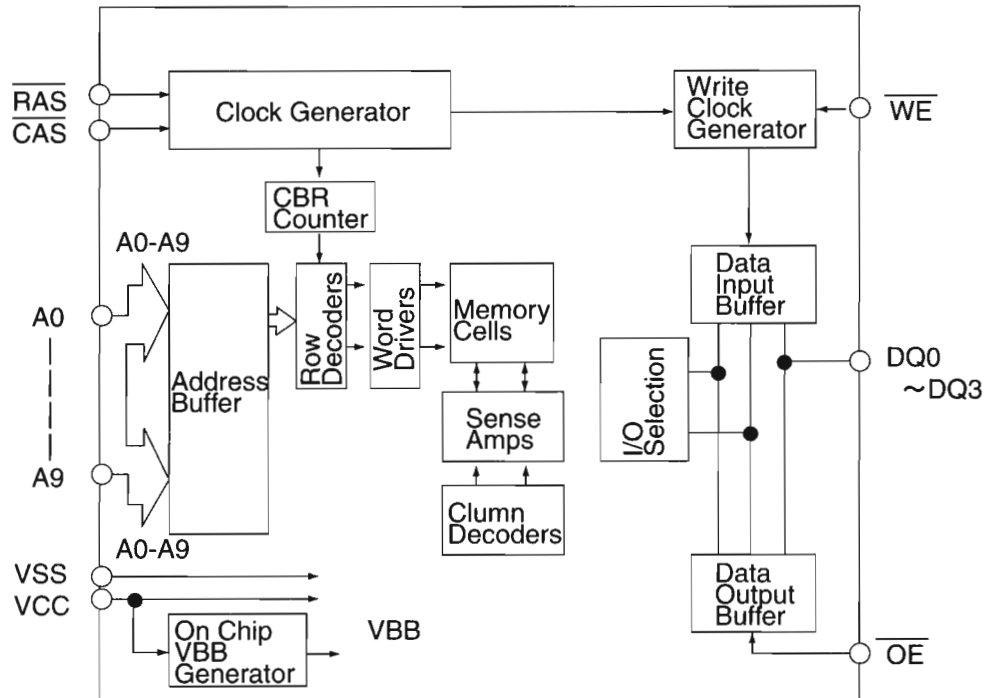
#### 1.Pin Layout



#### 2.Pin Functions

Symbol	Functions
A0-A9	Address Input
$\overline{RAS}$	Low Address strove
$\overline{CAS}$	Column Address Strove
$\overline{WE}$	Write enable Input
$\overline{OE}$	Output Enable Input
DQ0-DQ3	Data IN OUTPUT
VCC	Power Supply (+3.3V)
VSS	Power Supply (0V)
NC	Non Connect

#### 3.Block Diagram



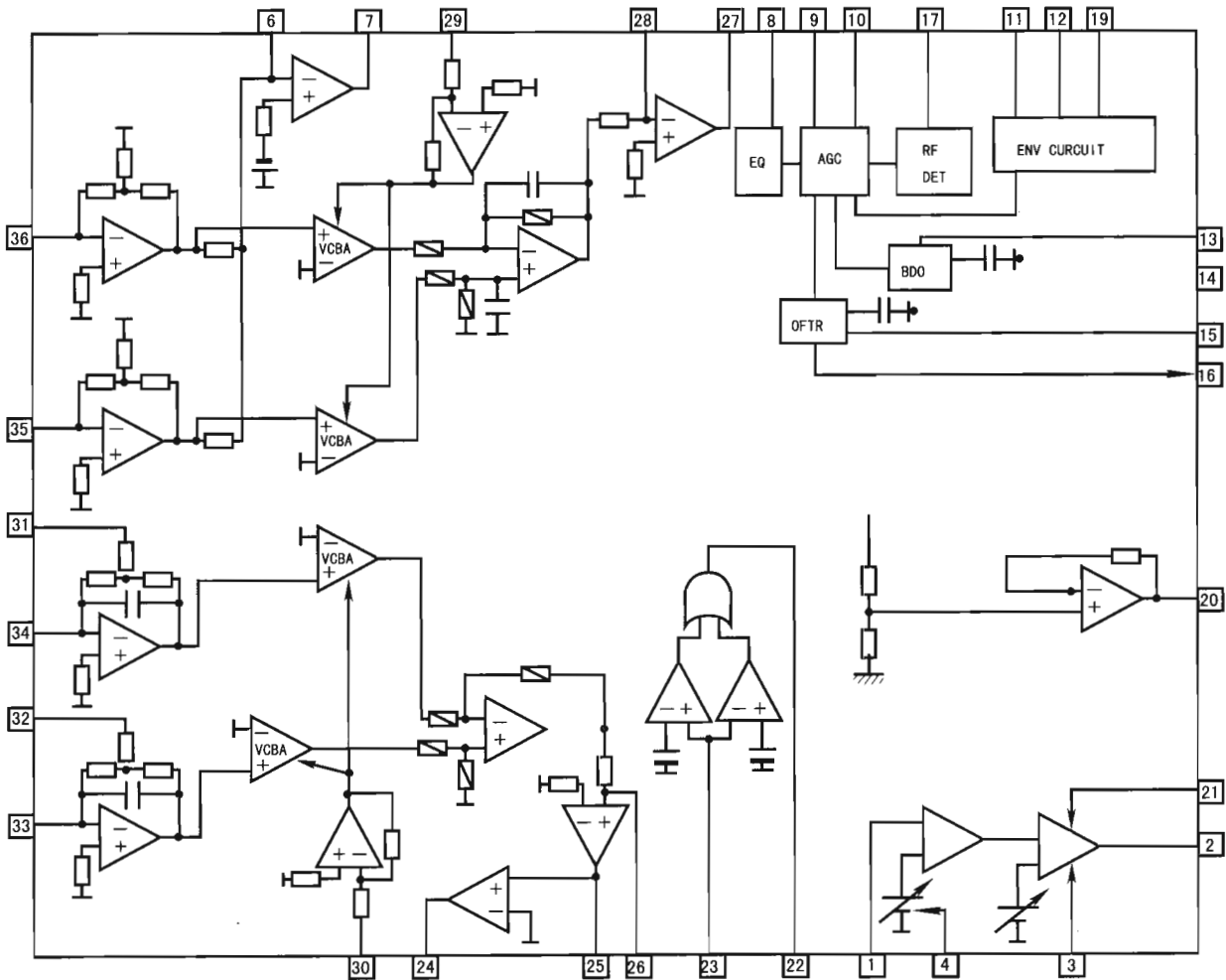
CA-MXS5MD/MXS5RMD  
 SP-MXS5MD

■ AN8806SB-W(IC601):RF&SERVO AMP

1.Pin layout

PD	1	36	PDAC
LD	2	35	PDBD
LDON	3	34	PDF
LDP	4	33	PDE
VCC	5	32	PDER
RF-	6	31	PDFR
RF OUT	7	30	TBAL
RF IN	8	29	FBAL
C. AGC	9	28	EF-
ARF	10	27	EF OUT
C. ENV	11	26	TE-
C. EA	12	25	TE OUT
CS BDO	13	24	CROSS
BDO	14	23	TE BPF
CS BRT	15	22	VDET
OFTR	16	21	LD OFF
/NRFDET	17	20	VREF
GND	18	19	ENV

2.Block diagram

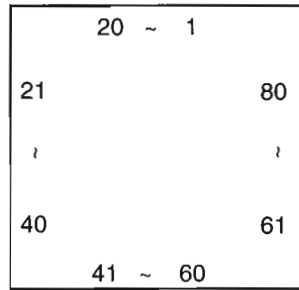


3. Pin function

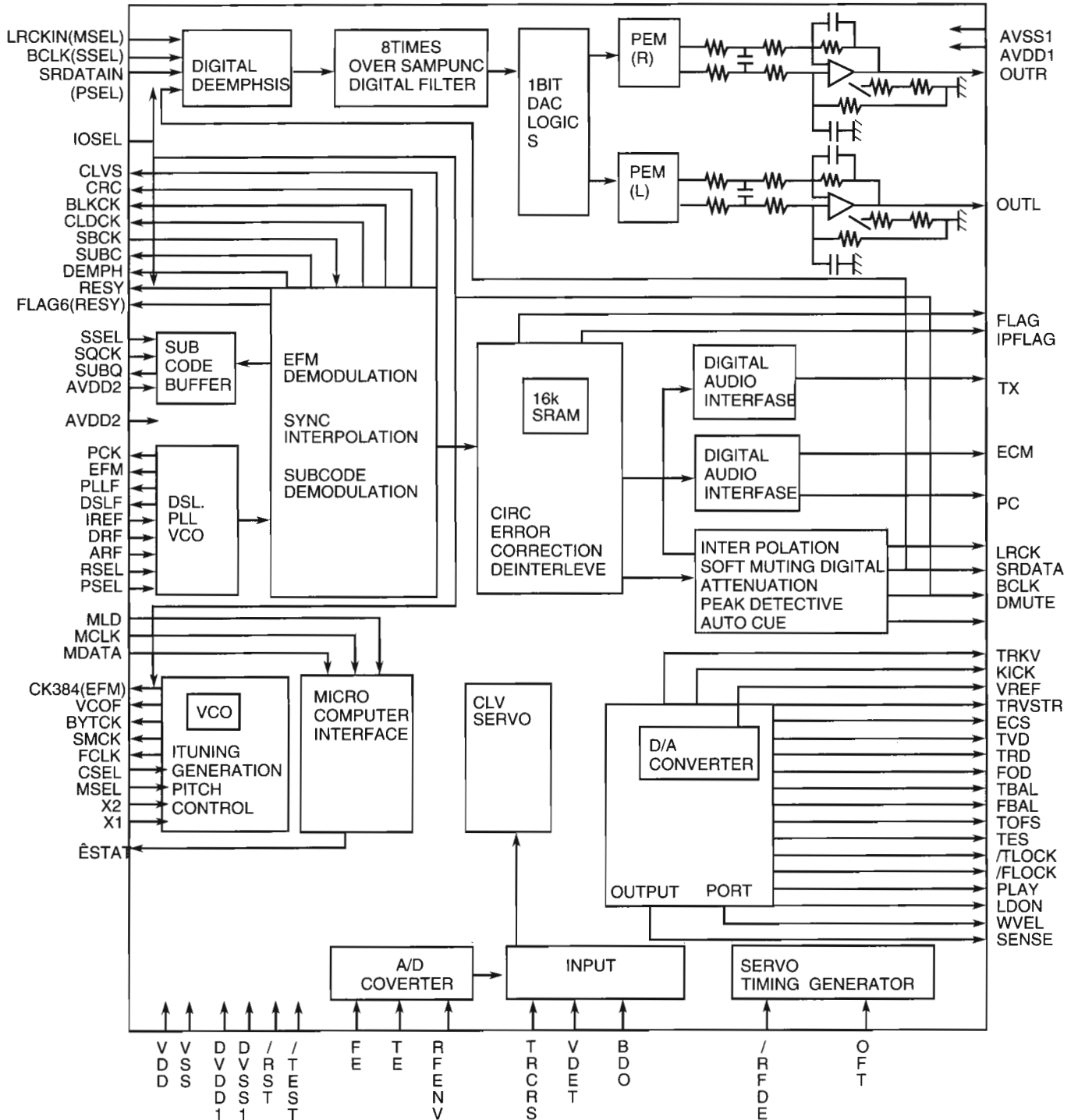
Pin No.	symbol	I/O	Function
1	PD	I	APC amp . Input terminal
2	LD	O	APC amp . Output terminal
3	LD ON	I	LD ON/OFF control terminal
4	LDP	--	Connect to GND
5	VCC	--	Power supply
6	RF-	I	RF amp . Reversing input terminal
7	RF OUT	O	RFamp . Output terminal
8	RF IN	I	AGC input terminal
9	C.AGC	I/O	AGC loop filter connection terminal
10	ARF	O	ARF output terminal
11	C.ENV	I/O	RF detection capacity connection terminal
12	C.EA	I/O	HPF-amp capacity connection terminal
13	CS BDO	I/O	Capacity connection terminal for RF discernment side envelope detection
14	BDO	O	BDO output terminal
15	CS BRT	I/O	Capacity connection terminal for RF discernment side envelope detection
16	OFTR	O	OFTR output terminal
17	/NRFDET	O	RFDET output terminal
18	GND	--	Connect to GND
19	ENV	O	3TENV output terminal
20	VREF	O	VREF output terminal
21	LD OFF	--	APC OFF control terminal
22	VDET	O	VDET output terminal
23	TE BPF	I	VDET input terminal
24	CROSS	O	CROSS output terminal
25	TE OUT	O	TE amp . Output terminal
26	TE-	I	FE amp . Reversing input terminal
27	FE OUT	O	FE amp . output terminal
28	FE-	I	FE amp . Reversing input terminal
29	FBAL	I	F.BAL control terminal
30	TBAL	I	T.BAL control terminal
31	PDFR	I/O	I-V amp conversion resistance adjustment terminal
32	PDER	I/O	I-V amp conversion resistance adjustment terminal
33	PDF	I	I-V amp input terminal
34	PDE	I	I-V amp input terminal
35	PD BD	I	I-V amp input terminal
36	PD AC	I	I-V amp input terminal

■ MN35510(IC651):DIGITAL SERVO&DIGITAL SIGNAL PROCESSER

1. Terminal Layout



2. Block Diagram



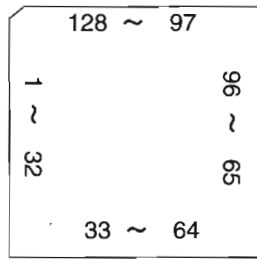
### 3. Description

Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	BCLK	O	Not used	41	TES	O	Tracking error shunt signal output(H:shunt)
2	LRCK	O	Not used	42	PLAY	-	Not used
3	SRDATA	O	Not used	43	WVEL	-	Not used
4	DVDD1	-	Power supply (Digital)	44	ARF	I	RF signal input
5	DVSS1	-	Connected to GND	45	IREF	I	Reference current input pin
6	TX	O	Digital audio interface output	46	DRF	I	Bias pin for DSL
7	MCLK	I	$\mu$ com command clock signal input (Data is latched at signal's rising point)	47	DSLFL	I/O	Loop filter pin for DSL
8	MDATA	I	$\mu$ com command data input	48	PLLFL	I/O	Loop filter pin for PLL
9	MLD	I	$\mu$ com command load signal input	49	VCOF	-	Not used
10	SENSE	O	Sence signal output	50	AVDD2	-	Power supply(Analog)
11	FLOCK	O	Focus lock signal output Active :Low	51	AVSS2	-	Connected to GND(Analog)
12	TLOCK	O	Tracking lock signal output Active :Low	52	EFM	-	Not used
13	BLKCK	O	sub-code - block - clock signal output	53	PCK	-	Not used
14	SQCK	I	Outside clock for sub-code Q resister input	54	PDO	-	Not used
15	SUBQ	O	Sub-code Q -code output	55	SUBC	-	Not used
16	DMUTE	-	Connected to GND	56	SBCK	-	Not used
17	STATUS	O	Status signal (CRC,CUE,CLVS,TTSTOP,ECLV,SQOK)	57	VSS	-	Connected to GND(for X'tal oscillation circuit)
18	RST	I	Reset signal input (L:Reset)	58	X1	I	Input of 16.9344MHz X'tal oscillation circuit
19	SMCK	-	Not used	59	X2	O	Output of X'tal oscillation circuit
20	PMCK	-	Not used	60	VDD	-	Power supply(for X'tal cscillation circuit)
21	TRV	O	Traverse enforced output	61	BYTCK	-	Not used
22	TVD	O	Traverse drive output	62	CLDCK	-	Not used
23	PC	-	Not used	63	FLAG	-	Not used
24	ECM	O	Spindle motor drive signal (Enforced mode output) 3-State	64	IPPLAG	-	Not used
25	ECS	O	Spindle motor drive signal (Servo error signal output)	65	FLAG	-	Not used
26	KICK	O	Kick pulse output	66	CLVS	-	Not used
27	TRD	O	Tracking drive output	67	CRC	-	Not used
28	FOD	O	Focus drive output	68	DEMPH	-	Not used
29	VREF	I	Reference voltage input pin for D/A output block (TVD,FOD,FBA,TBAL)	69	RESY	-	Not used
30	FBAL	O	Focus Balance adjust signal output	70	IOSEL	-	pull up
31	TBAL	O	Tracking Balance adjust signal output	71	TEST	-	pull up
32	FE	I	Focus error signal input(Analog input)	72	AVDD1	-	Power supply(Digital)
33	TE	I	Tracking error signal input(Analog input)	73	OUT L	O	Lch audio output
34	RF ENV	I	RF envelope signal input(Analog input)	74	AVSS1	-	Connected to GND
35	VDET	I	Vibration detect signal input(H:detect)	75	OUT R	O	Rch audio output
36	OFT	I	Off track signal input(H:off track)	76	RSEL	-	pull up
37	TRCRS	I	Track cross signal input	77	CSEL	-	Connected to GND
38	RFDET	I	RF detect signal input(L:detect)	78	PSEL	-	Connected to GND
39	BDO	I	BDO input pin(L:detect)	79	MSEL	-	Connected to GND
40	LDON	O	Laser ON signal output(H:on)	80	SSEL	-	Pull up

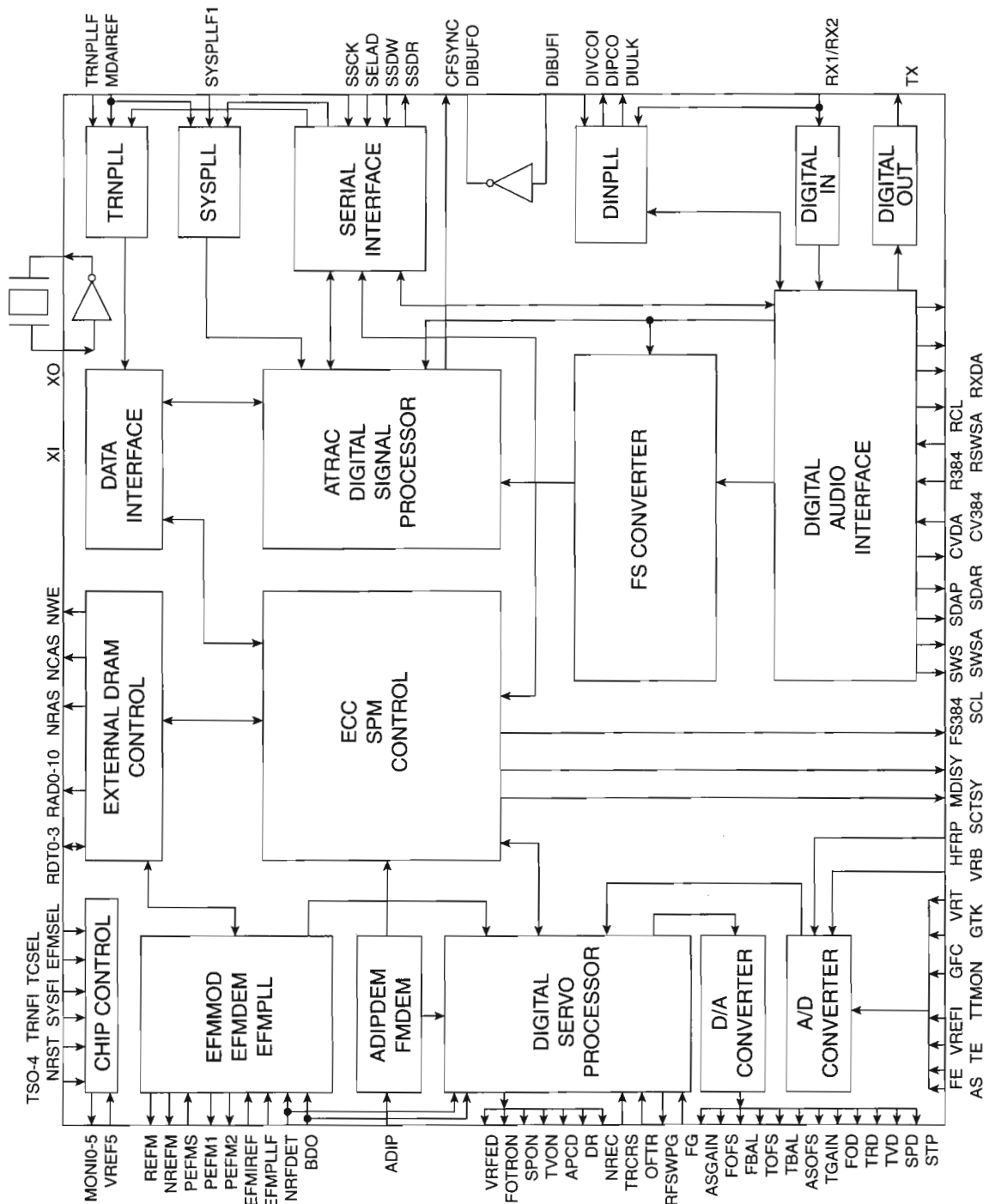
CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ MN6614R4C (IC3) : Digital servo processor

1.Pin layout



2.Block diagram





3.Pin function(1/3)

Pin NO.	Symbol	Function
1	PEFMS	EFM signal data slice input
2	AVSS2	Analogue system Vss
3	AVDD2	Digital system Vss
4	FE	Focus error signal input terminal
5	TE	Tracking error signal input terminal
6	GFC	Focus system acceleration sensor input
7	GTK	Tracking system acceleration sensor input
8	VRT	Servo system AD converter + reference voltage
9	VRB	Servo system AD converter - reference voltage
10	TTMON	EFM signal 3T envelope input
11	AS	Optical amount harmony signal
12	TVD	DC motor traverse signal / stepping motor drive signal
13	SPD	Spindle drive signal
14	STP	Stepping motor drive signal
15	TRD	Tracking drive signal
16	AVSS1	Analogue system Vss
17	AVDD1	Analogue system Vdd
18	VREF1	Servo system reference voltage input
19	TOFS	TE offset adjustment output
20	ASOFS	AS offset adjustment output
21	FOFS	FE offset adjustment output
22	FBAL	FE balance adjustment output
23	TGAIN	TE gain adjustment output
24	TBAL	TE balance adjustment output
25	ASGAIN	AS gain adjustment output
26	FOD	Focus drive signal
27	AVSS0	Analogue system Vss
28	EFMPLL	EFM signal PLL filter connection terminal
29	EFMIREF	EFM signal PLL current control terminal
30	AVDD0	Analogue system Vdd
31	SYSPLL	System clock generation PLL filter connection terminal
32	TS0	(Reserved Connect to GND)
33	MDAIREF	System clock generation PLL current control terminal
34	TS1	(Reserved Connect to GND)
35	TRNPLL	Forwarding clock generation PLL filter connection terminal
36	TS2	(Reserved Connect to GND)
37	DIPCO	Digital audio interface PLL phase comparison output
38	DIBUFI	Amplifier input for digital audio interface integration circuit
39	DIBUFO	Amplifier output for digital audio interface integration circuit
40	DIVCOI	Digital audio interface VCO control voltage input
41	TS3	(Reserved Connect to GND)
42	TS4	(Reserved Connect to GND)
43	NRFDET	EFM signal detection signal L:EFM signal

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

3.Pin Function(2/3)

Pin NO.	Symbol	Function
44	BD0	AS dropout signal H:Dropout
45	DVDD0	Digital system Vdd
46	DVSS0	Digital system Vss
47	FOTRON	Drive IC focus/tracking system ON signal
48	TVON	Drive IC traverse system ON signal
49	SPON	Drive IC spindle system ON signal
50	DR	Driving direction switch signal of drive IC sensor less motor
51	FG	FG input
52	REFM	EFM modulation output (+ output)
53	NREFM	EFM modulation output (- output)
54	HFRP	HF laser module status signal H:Record mode
55	APCD	Laser power set PWM output
56	NREC	Record enable L:enable
57	NRST	Hardware reset L:Reset
58	SELAD	Microcomputer command forwarding address selection signal H:Address
59	SSCK	Microcomputer command forwarding serial transfer clock
60	SSDW	Microcomputer command forwarding serial transfer write data
61	SSDR	Microcomputer command forwarding serial transfer read data
62	MDISY	CDROM sector synchronous signal
63	SCTSY	SUBQ/ADIP synchronous signal
64	CFSYNC	Synchronous ATRAC processing frame output (for monitor)
65	VREF5	Signal level reference voltage
66	DVDD1	Digital system Vdd
67	DVSS1	Digital system Vss
68	RAD10	DRAM address 10 {MSB}
69	RAD9	DRAM address 9
70	RAD8	DRAM address 8
71	RAD7	DRAM address 7
72	RAD6	DRAM address 6
73	RAD5	DRAM address 5
74	RAD4	DRAM address 4
75	DVDD2	Digital system Vdd
76	DVSS2	Digital system Vss
77	RAD3	DRAM address 3
78	RAD2	DRAM address 2
79	RAD1	DRAM address 1
80	RAD0	DRAM address 0 {LSB}
81	RDT3	DRAM data 3 {MSB}
82	RDT2	DRAM data 2
83	RDT1	DRAM data 1
84	RDT0	DRAM data 0 {LSB}
85	NRAS	DRAM low address strove
86	NCAS	DRAM column address strove

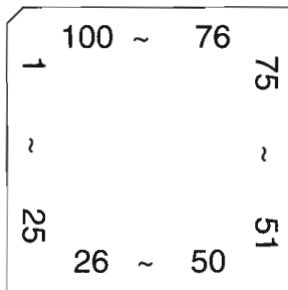
3.Pin function(3/3)

Pin NO.	Symbol	Function
87	NWE	DRAM write enable
88	FS384	384Fs output
89	SCL	Bit clock (64Fs) output
90	SWS	Word clock (Fs) of stuff in back output
91	SDAP	Audio data output (D/A connection)
92	SWSA	Former stuff word clock (Fs) output
93	SDAR	Audio data input (A/D connection)
94	TX	Digital audio interface signal output
95	DVDD3	Digital system Vdd
96	RX1	Digital audio interface signal input 1 (C-MOS)
97	RX2	Digital audio interface signal input 2(C-MOS)
98	DVSS3	Digital system Vss
99	DIULK	Digital audio interface PLL unlock H:Unlock
100	RCL	(Reserved . open)
101	RSWSA	(Reserved . open)
102	RXDA	(Reserved . open)
103	R384	(Reserved . open)
104	CVDA	CD-TEXT data forwarding clock input
105	CV384	(Reserved .Connect to GND)
106	DVDD4	Digital system Vdd
107	XI	16.934MHz crystal input
108	XO	16.934MHz crystal output
109	DVSS4	Digital system Vss
110	MONI0	Monitor output 0/CD-TEXT forwarding data
111	MONI1	Monitor output 1
112	MONI2	CD-TEXT Sub-code frame synchronous signal output
113	MONI3	Monitor output 3/CD-TEXT sub-code block synchronous signal output
114	MONI4	(Reserved . open)
115	MONI5	(Reserved . open)
116	TRNFI	Internal forwarding clock generation PLL filter connection terminal
117	SYSFI	System clock generation PLL filter connection terminal
118	TCSEL	(Reserved .Connect to GND)
119	RFSWPG	RFIC pit/group setting H:Pit
120	TRCRS	Truck crossing signal
121	OFTR	Off-track signal H:Off-track
122	DVDD5	Digital system Vdd
123	ADIP	ADIP FM signal 21.6 ±0.98kHz . 100mVpp or more
124	DVSS5	Digital system Vss
125	VREFD	Reference voltage PWM output/drive IC clock
126	EFMSEL	(Reserved .Connect to GND)
127	PEFM1	Loop filter output 1 for data slice
128	PEFM2	Loop filter output 2 for data slice

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ MN101C12GBZ2 (IC801) : System microcomputer

1.Pin layout



2.Pin function (1/2)

Pin NO.	Symbol	Function
1	A/D GND	Connect to the ground
2~7	KEY1~KEY6	KEY1-KEY6 signal input terminal
8	-	Connect to the ground
9	AMP SAFETY	Amplifier safety signal terminal
10	AD POWER	AD power supply
11	Vdd	Reference power supply
12	8.38MHz	Connect to the crystal oscillator
13	8.38MHz	Connect to the crystal oscillator
14	GND	Connect to the ground
15,16	32KHz	Non connection
17	-	Connect to the ground
18,19	-	Non connection
20	CD STB	CD strove signal termina
21	CD OUT	CD out signal control terminal
22	CD IN	CD In signal control terminal
23	CD CLOCK	CD clock signal control terminal
24	CD RESET	CD reset signal control terminal
25	-	Non connection
26	RM IN	Remote control signal input terminal
27,28	-	Connect to the ground
29	CD REQUEST	CD demand signal control terminal
30	COMM SYSREQ	Common System demand signal control terminal
31	RDS DAVN	RDS signal control terminal
32	-	Connect to the ground
33	HARD RESET	Hard reset control signal terminal
34	MD RESET	MD reset signal control terminal
35	RDS SCL	RDS serial clock signal control terminal
36	RDS SDA	RDS serial data signal control terminal
37	-	Non connection
38	TUNER F OUT	Tuner function control signal terminal
39,40	-	Non connection
41	LSI POWER	LSI power supply control terminal
42	MD TX	MD control data I/O
43	MD RX	MD control data I/O
44	-	Non connection
45	COMM OUT	Common out control signal terminal
46	COMM IN	Common in control signal terminal
47	COMM CLOCK	Common clock signal control terminal
48	COMM PANEREQ	Common panel demand signal control terminal
49	COMM RESET	Common demand signal control terminal
50	TUNER DATA IN/OUT	Tuner data I/O terminal

2.Pin function (2/2)

Pin NO.	Symbol	Function
51	TUNER CLOCK	Tuner clock signal control terminal
52	TUNER CE	Tuner chip enable signal control terminal
53	TUNER MPX	Tuner MPX signal control terminal
54	TUNER TUNED	Tuner tune signal control terminal
55	TUNER MUTE	Tuner mute signal control terminal
56,57	-	Non connection
58	SPK RELAY	Speaker mute signal output terminal
59	AMP SOURCE MUTE	Amplifier mute signal output terminal
60	AMP LINE OUT MUTE	Amplifier line out mute signal output terminal
61	MD MD REC MUTE	MD REC mute signal output terminal
62	AMP SOROUND ON/OFF	Amplifier source ON / OFF signal control terminal
63	AMP SOURCE CD/MD	Amplifier source CD / MD select signal control terminal
64	MD DIGITAL CD/AUX	MD digital CD / AUX select signal control terminal
65,66	-	Non connection
67	AMP TDA7439CLOCK	IC671 clock signal output terminal
68	AMP DATA	Amplifier data signal control terminal
69	AMP POWER	Amplifier power signal control terminal
70	AMP TR.SWITCH	TR switch control terminal
71	AMP VOLUME JOG-1	JOG-1 control terminal
72	AMP VOLUME JOG-2	JOG-2 control terminal
73~78	-	Non connection
79	AMP PROTECT	Protecting signal control terminal
80	AMP INH	Obstruction signal control terminal
81	-	Non connection
82	AMP BAND-1	Control signal terminal of DAND 1
83	AMP BAND-0	Control signal terminal of DAND 0
84,85	-	Non connection
86	TUNER power	Tuner power signal control terminal
87	JOY A+H	Jog signal control terminal
88	JOY B+G	Jog signal control terminal
89	JOY C+F	Jog signal control terminal
90	JOY D+E	Jog signal control terminal
91	JOY COM1	Jog signal control terminal
92	JOY COM2	Jog signal control terminal
93	-	Non connection
94	-	Non connection
95	DAVSS	Connect to the ground
96	JOY PUSH	Jog signal control terminal
97~99	-	Non connection
100	DAVdd	DA power supply

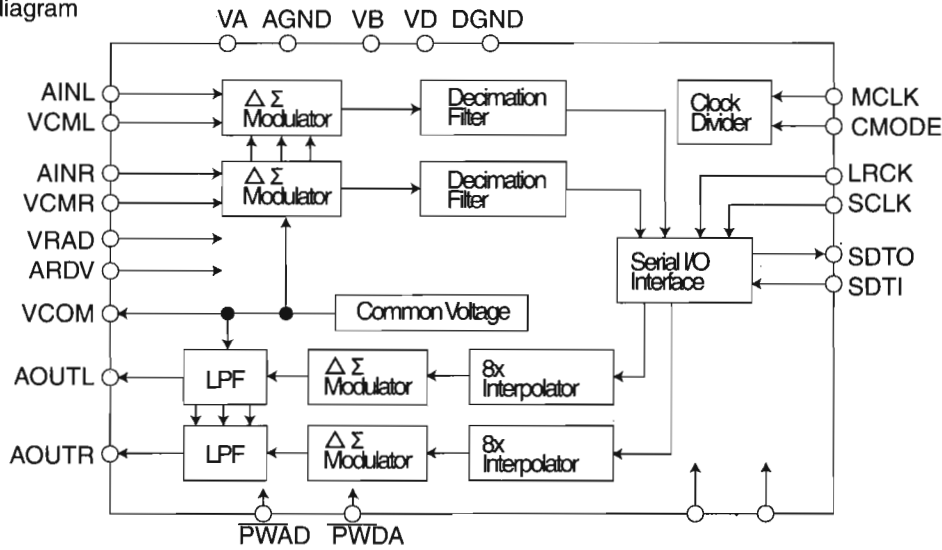
CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ AK4519VF-X (IC480) : A/D D/A Converter

1. Pin layout



2. Block diagram

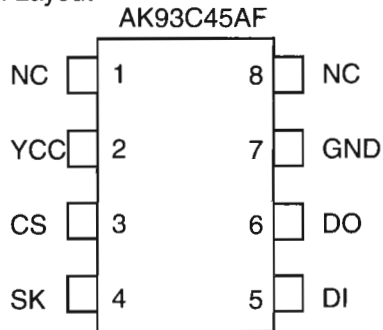


3. Pin Function

Pin NO.	Symbol	I/O	Function
1	VRDA	I	Voltage Reference Input Pin for DAC, VA
2	VRAD	I	Voltage Reference Input Pin for ADC, VA
3	AINR	I	RCH Analog Input Pin
4	VCMR	O	Rch Common Voltage Output Pin, 0.45xVA
5	VCML	O	Lch Common Voltage Output Pin, 0.45xVA
6	AINL	I	Lch Analog Input Pin
7	PWAD	I	ADC Power-Down Mode Pin "L":Power Down
8	PWDA	I	DAC Power-Down Mode Pin "L":Power Down
9	MCLK	I	Master Clock Input Pin
10	LRCK	I	Input/Output Channel Clock Pin
11	SCLK	I	Audio Serial Data Clock Pin
12	SDTO	O	Audio Serial Data Output Pin
13	DGND	-	Digital Ground Pin
14	VD	-	Digital Power Supply Pin
15	SDTI	I	Audio Serial Data Input Pin
16	CMODE	I	Master Clock Select Pin
17	DEM1	I	De-emphasis Frequency Select Pin
18	DEM0	I	De-emphasis Frequency Select Pin
19	AOUTL	O	Lch Analog Output Pin
20	AOUTR	O	Rch Analog Output Pin
21	VCOM	O	Common Voltage Output Pin, 0.45xVA
22	AGND	-	Analog Ground Pin
23	VB	-	Substrate Pin
24	VA	-	Analog Power Supply Pin

■ AK93C45AF-W(IC590):CMOS EEPROM

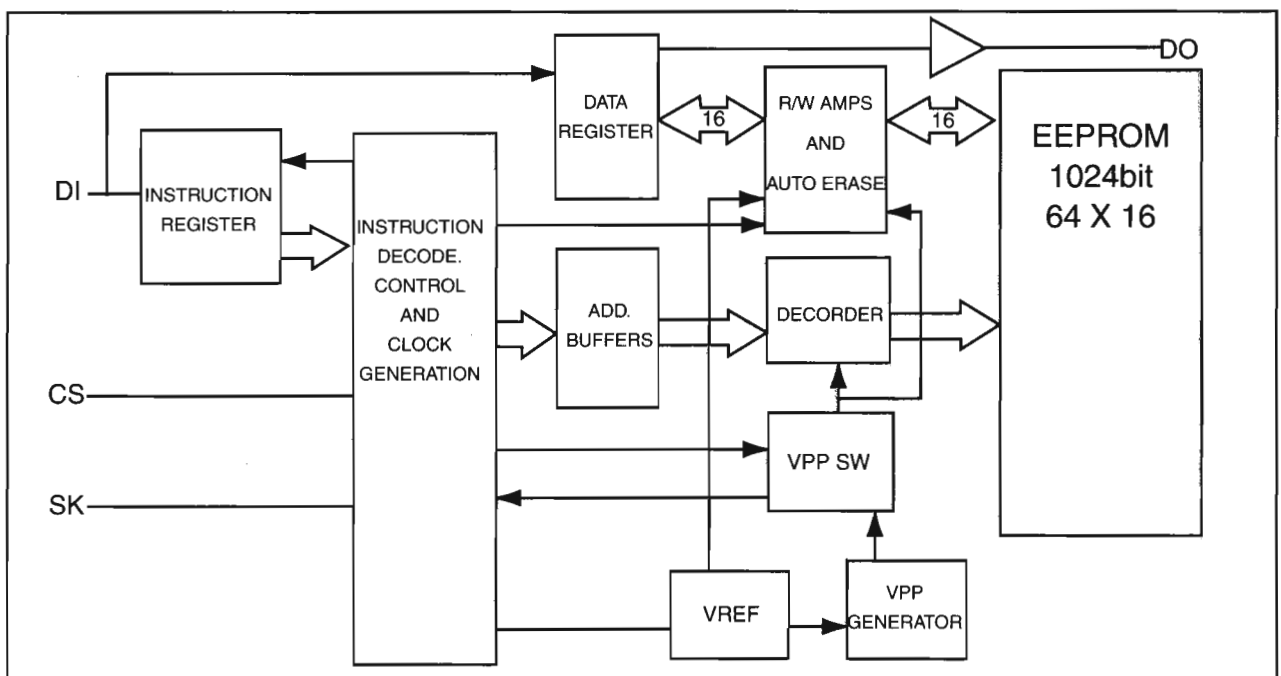
1.Pin Layout



2.Pin Functions

Symbol	Function
CS	Chip Select
SK	Serial Clock Input
DI	Serial Data Input
DO	Serial Data Output
Vcc	Power Supply
GND	Ground
NC	Non connection

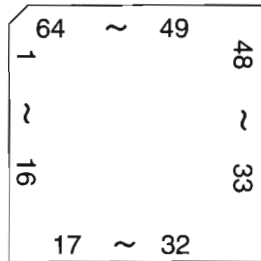
3.Block Diagram



CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■AN8771NFH (IC1) : MD RF & SERVO

1.Pin layout



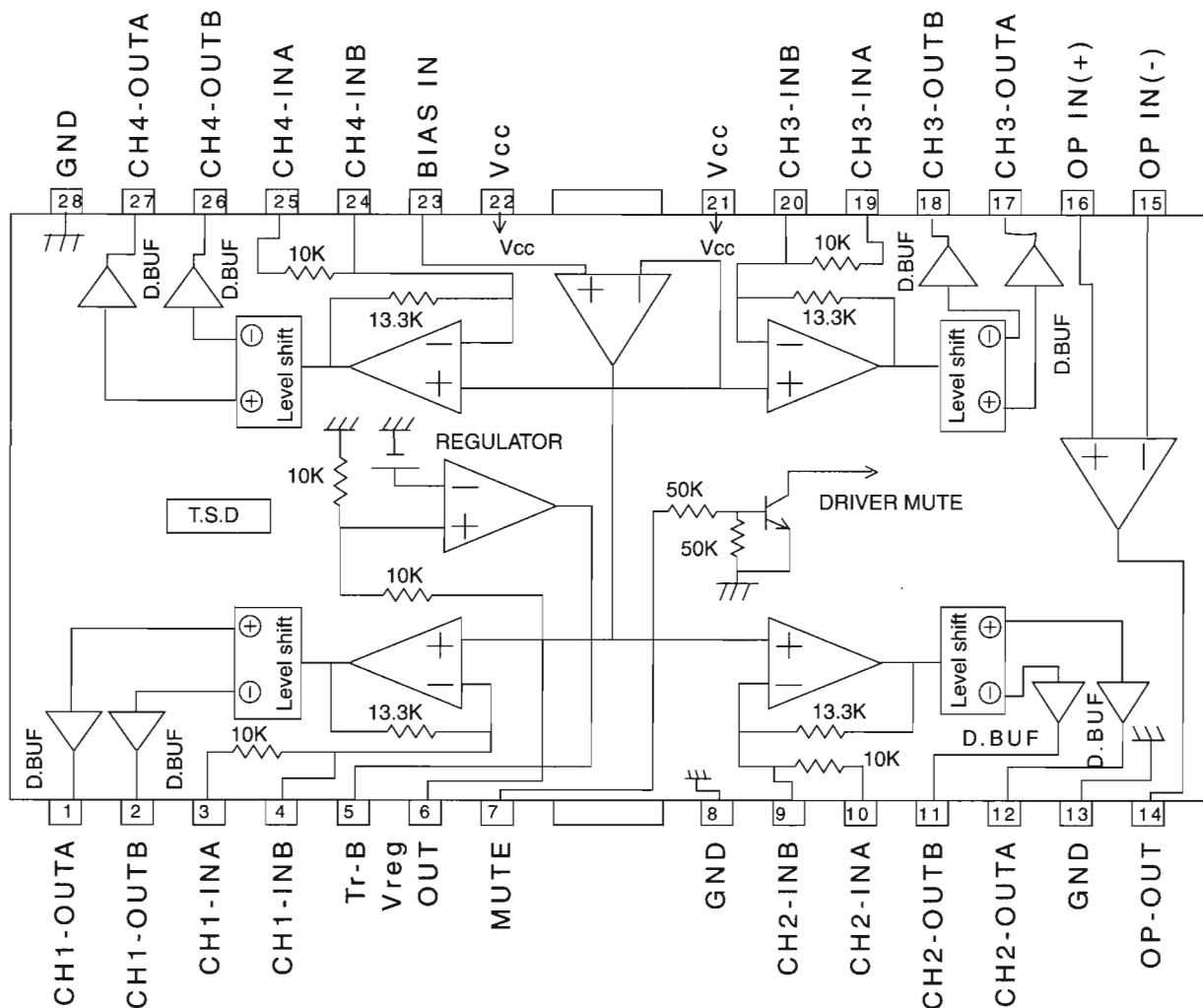
2.Pin function

Pin NO.	Symbol	Function	Pin NO.	Symbol	Function
1	REF0	APC reference voltage buffer output	33	RFSWHL	Reflectivity select signal input terminal
2	GND3	APC circuit ground terminal	34	RFSWPG	Pit/globe select signal input terminal
3	APCREF	APC reference voltage input terminal	35	NREC	Record/playback select signal input terminal
4	TEMPIN+	Temperature sensor amplifier + input terminal	36	NRFSTBY	Standby control signal input terminal
5	TEMPIN-	Temperature sensor amplifier - input terminal	37	VCC2	Data slice circuit Vcc terminal
6	TEMP	Temperature sensor amplifier output terminal	38	PEFMS	Data slice output terminal
7	TOFS	Tracking off set adjustment terminal	39	GND2	Data slice circuit ground terminal
8	TBAL	Tracking balance adjustment terminal	40	PEFM	Data slice level set terminal
9	TE	Tracking error signal output terminal	41	EFMIND	Data slice signal input terminal
10	NC	Non connection	42	EFMINS	EFM system detection input terminal
11	CCRS	Truck crossing circuit capacitor connection terminal	43	OUTRF	EFM output terminal
12	TRCRS	Truck crossing output terminal	44	CRFAGC	RF AGC capacitor connection terminal
13	FBAL	Focus balance adjustment terminal	45	EQADJ	EQ set terminal
14	FE	Focus error signal output terminal	46	EQIN	EQ input terminal
15	TGAIN	TE amplifier gain adjustment terminal	47	ARFO	RF amplifier output terminal
16	FOFS	Focus offset adjustment terminal	48	SVREF	Reference signal input terminal
17	AS	Main beam optical amount harmony signal output terminal	49	VREF	Reference signal output terminal
18	ASOFS	AS offset adjustment terminal	50	RF1	RF1 signal input terminal
19	ASGAIN	Main beam system amp gain adjustment terminal	51	RF2	RF2 signal input terminal
20	MON3T	3T envelope output terminal	52	SWMS	Pit RF amplifier polarity set terminal
21	CEA	Capacitor connection terminal for 3T envelope detection	53	B	Main beam B signal input terminal
22	GND4	FE/TE system ground terminal	54	A	Main beam A signal input terminal
23	BD0	AS dropout detection signal output terminal	55	D	Main beam D signal input terminal
24	CBD0G	BDO detection capacitor connection terminal	56	C	Main beam C signal input terminal
25	OFTR	Off-track signal output	57	F	Side beam F signal input terminal
26	CBDOP	RFBDO detection capacitor connection terminal	58	E	Side beam E signal input terminal
27	OFTIN	Off-track error detection signal input terminal	59	VCC3	APC circuit Vcc terminal
28	OFTO	Detection signal output terminal for off-track error	60	LDON	LD amplifier ON/OFF control signal input terminal
29	ADIP	ADIP FM signal output terminal	61	LD0	LD amplifier output terminal
30	GND1	Ground terminal	62	APCPD+	Terminal of detection of optical amount of photo diode
31	NRFDET	RF detection signal output terminal	63	APCPD-	PD polarity reversing current input terminal
32	VCC1	Vcc terminal	64	EFIN	APC amplifier reference voltage input terminal



■ BA6897FP-W (IC641): 4channel driver

1.Pin layout & Block diagram



T.S.D;Thermal shutdown

D.BUF:Drive buffer

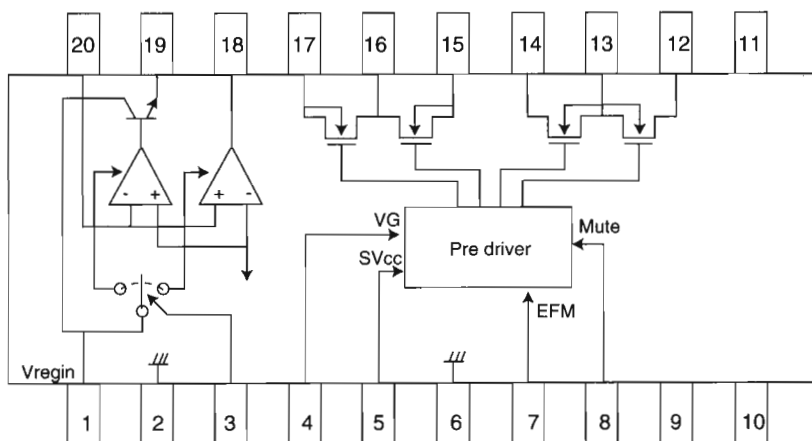
2.Pin function

Pin NO.	Symbol	Function	Pin NO.	Symbol	Function
1	CH1-OUTA	Driver CH1 - output	15	OP IN(-)	Operation amplifier - input
2	CH1-OUTB	Driver CH1 + output	16	OP IN(+)	Operation amplifier + output
3	CH1-INA	Driver CH1 input	17	CH3-OUTA	Driver CH3 - output
4	CH1-INB	Driver CH1 gain adjustment Input terminal	18	CH3-OUTB	Driver CH3 + output
5	Tr-B	Connect to the base of external Tr	19	CH3-INA	Driver CH3 input
6	Vreg OUT	Fixed voltage output	20	CH3-INB	Driver CH3 gain adjustment Input terminal
7	MUTE	Mute control terminal	21	Vcc	Power supply terminal
8	GND	GND	22	Vcc	Power supply terminal
9	CH2-INB	Driver CH2 gain adjustment Input terminal	23	BAIS IN	Bias amplifier input terminal
10	CH2-INA	Driver CH2 input	24	CH4-INB	Driver CH4 gain adjustment Input terminal
11	CH2-OUTB	Driver CH2 + output	25	CH4-INA	Driver CH4 input
12	CH2-OUTA	Driver CH2 - output	26	CH4-OUTB	Driver CH4 + output
13	GND	Sub-slate GND	27	CH4-OUTA	Driver CH4 - output
14	OPOUT	Operation amplifier output	28	GND	Sub-slate GND

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ **BD7910FV-X(IC450):Pre driver**

1. Block Diagram

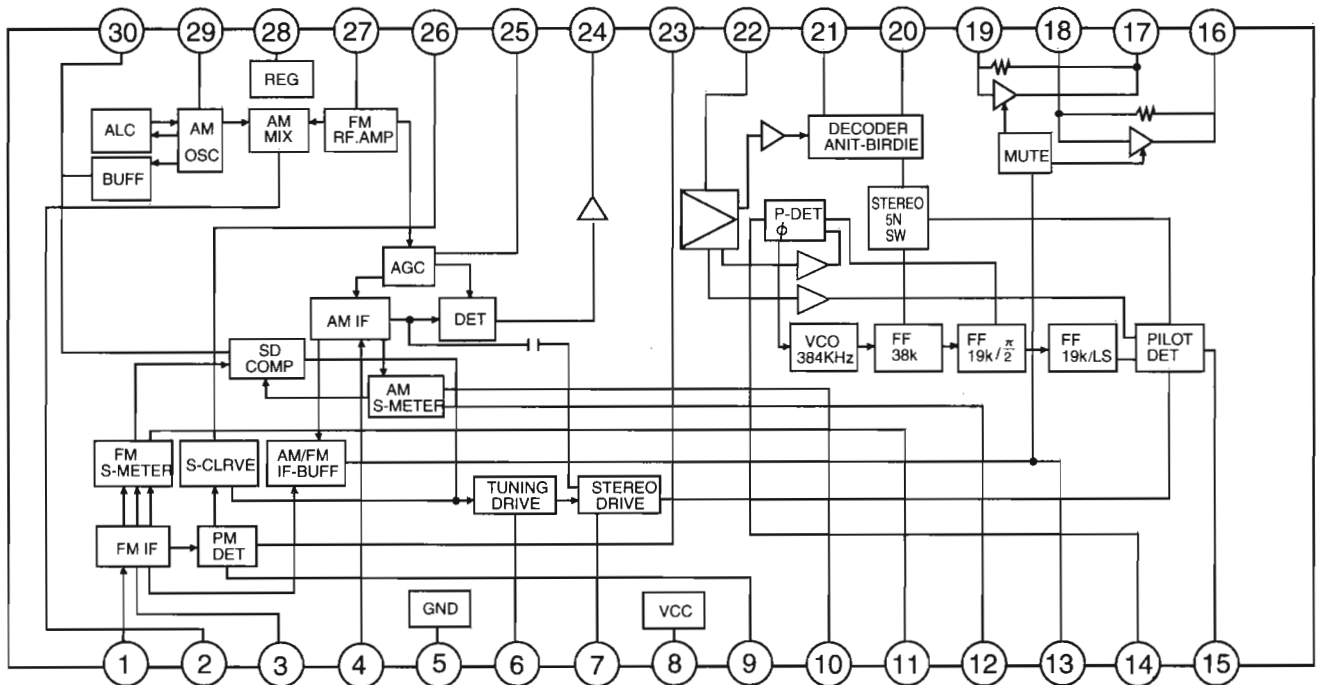


2. Pin Function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	Vreg IN	I	Regulator input and regulator power supply	11	NC	-	Non connect
2	Reg GN	-	Regulator GND	12	VOD2	○	Sync.output (Lower power MOS,drain)
3	NC	-	Non connect	13	VSS	-	"H"bridge GND (Lower power MOS,source)
4	VG	I	Voltage input for power MOS drive	14	VOD1	○	Sync.output (Lower power MOS,drain)
5	SVCC	O	EFM high level output voltage	15	VOS1	○	Source output (Upper power MOS,source)
6	PDGND	-	Pre-driver GND	16	VDD	-	"H" bridge power supply terminal (Upper power MOS,source)
7	EFM	I	EFM signal input	17	VOS2	○	Source output (Upper power MOS,source)
8	MUTE	I	Mute control (Low active)	18	Reg DRV	○	External PNP drive output for regulator
9	NC	○	Non connctet	19	Reg OUT	○	Reglator output (Emitter follower output)
10	NC	○	Non connect	20	Reg NF	-	Regulator feedback terminal

■ LA1838(IC102): FM AM IF AMP&detector, FM MPX Decoder

1. Block Diagram



2. Pin Function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	FM IN	I	This is an input terminal of FM IF signal.	16	R OUT	O	Right channel signal output.
2	AM MIX	O	This is an out put terminal for AM mixer.	17	L OUT	O	Left channel signal output.
3	FM IF	I	Bypass of FM IF	18	R IN	I	Input terminal of the Right channel post AMP.
4	AM IF	I	Input of AM IF Signal.	19	L IN	I	Input terminal of the Left channel post AMP.
5	GND	—	This is the device ground terminal.	20	RO	O	Mpx Right channel signal output.
6	TUNED	O	When the set is tuning,this terminal becomes "L".	21	LO	O	Mpx Left channel signal output.
7	STEREO	O	Stereo indicator output. Stereo "L", Mono: "H"	22	IF IN	I	Mpx input terminal
8	VCC	—	This is the power supply terminal.	23	FM OUT	O	FM detection output.
9	FM DET	—	FM detect transformer.	24	AM DET	O	AM detection output.
10	AM SD	—	This is a terminal of AM ceramic filter.	25	AM AGC	I	This is an AGC voltage input terminal for AM
11	FM VSM	O	Adjust FM SD sensitivity.	26	AFC	—	This is an output terminal of voltage for FM-AFC.
12	AM VSM	O	Adjust AM SD sensitivity.	27	AM RF	I	AM RF signal input.
13	MUTE	I/O	When the signal of IF REQ of IC121( LC72131) appear, the signal of FM/AM IF output. //Muting control input.	28	REG	O	Register value between pin 26 and pin28 desides the frequency width of the input signal.
14	FM/AM	I	Change over the FM/AM input. "H" :FM, "L" : AM	29	AM OSC	—	This is a terminal of AM Local oscillation circuit.
15	MONO/ST	O	Stereo : "H", Mono: "L"	30	OSC BUFFER	O	AM Local oscillation Signal output.

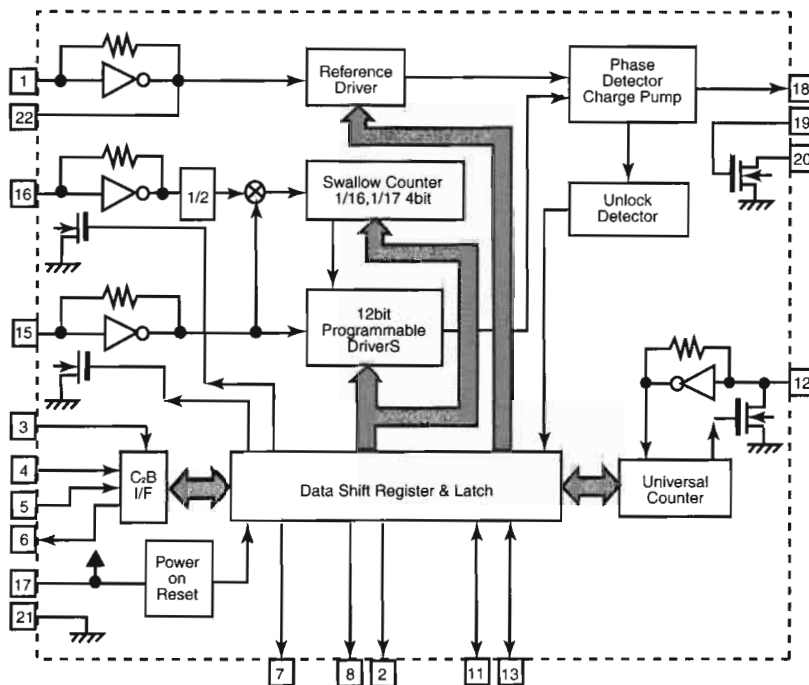
CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ LC72136N (IC121) : PLL Frequency Synthesizer

1. Pin layout

XT	1	22	XT
FM/AM	2	21	GND
CE	3	20	LPFOUT
DI	4	19	LPFIN
CLOCK	5	18	PD
DO	6	17	VCC
FM/ST/VCO	7	16	FMIN
AM/FM	8	15	AMIN
	9	14	
	10	13	IFCONT
SDIN	11	12	IFIN

2. Block diagram

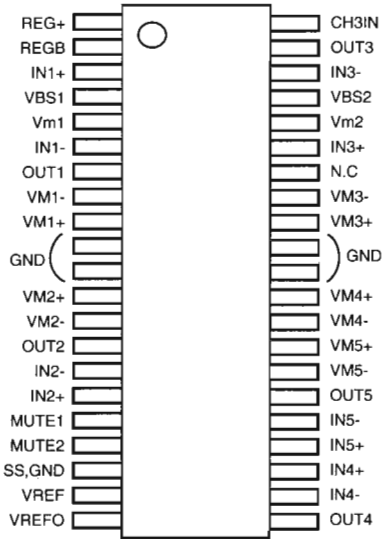


3. Pin function

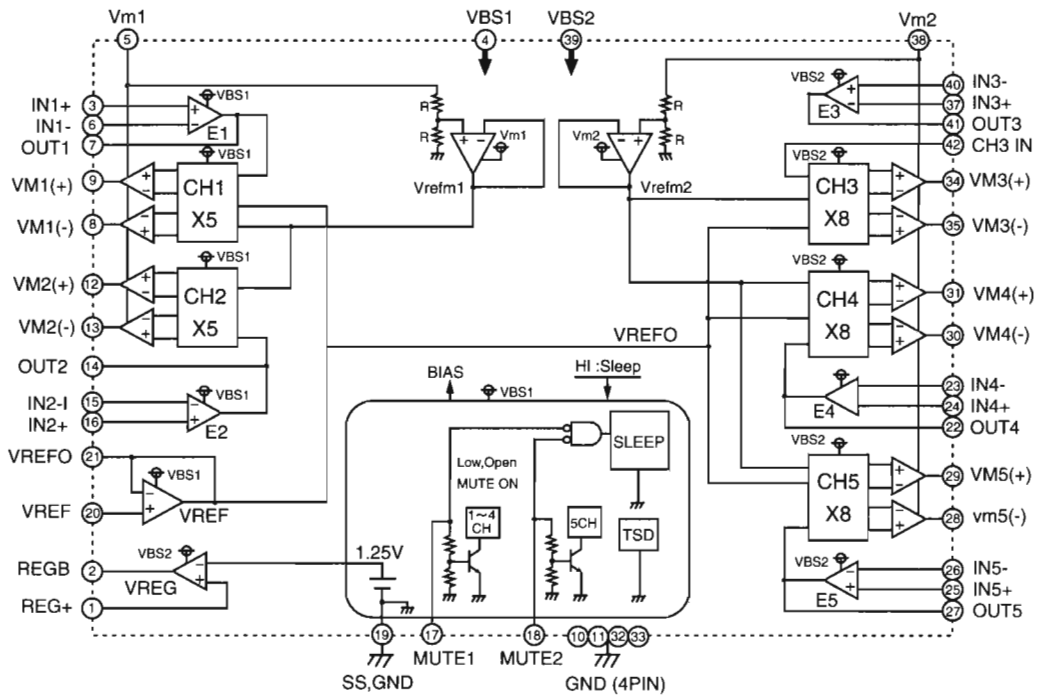
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XT	I	X'tal oscillator connect (75kHz)	12	IFIN	I	IF counter signal input
2	FM/AM	O	LOW:FM mode	13	IFCONT	O	IF signal output
3	CE	I	When data output/input for 4pin(input) and 6pin(output): H	14		-	Not use
4	DI	I	Input for receive the serial data from controller	15	AMIN	I	AM Local OSC signal output
5	CLOCK	I	Sync signal input use	16	FMIN	I	FM Local OSC signal input
6	DO	O	Data output for Controller Output port	17	VCC	-	Power supply(VDD=4.5-5.5V) When power ON:Reset circuit move
7	FM/ST/VCO	O	"Low": MW mode	18	PD	O	PLL charge pump output(H: Local OSC frequency Height than Reference frequency. L: Low Agreement: Height impedance)
8	AM/FM	O	Open state after the power on reset	19	LPFIN	I	Input for active lowpassfilter of PLL
9	LW	I/O	Input/output port	20	LPFOUT	O	Output for active lowpassfilter of PLL
10	MW	I/O	Input/output port	21	GND	-	Connected to GND
11	SDIN	I/O	Data input/output	22	XT	I	X'tal oscillator(75kHz)

■ M63008FP-X(IC410):5CH Actuator driver

1.Pin layout



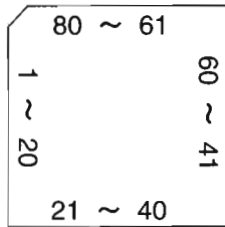
2.Block diagram



CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■MN101C15BT1 (IC500) : MD CONTROL

1.Pin layout

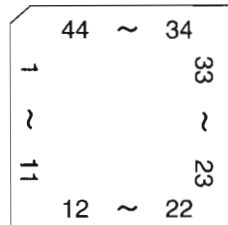


2.Pin function

Pin NO.	Symbol	Function	Pin NO.	Symbol	Function
1	VREF-	Connects to ground	42	BUSY	Non connection
2	TEMP	Detection AD of temperature around disk input	43	ERROR	Non connection
3~9	NC	Non connection	44	EE_P_CS	EEPROM control CS output terminal
10	VREF+	AD standard voltage	45	EE_P_CK	EEPROM control clock output terminal
11	VCC	Microcomputer power supply terminal	46	EE_P_DATA	EEPROM control data input terminal
12	OSC2	Microcomputer OSC clock output terminal	47	NC	Non connection
13	OSC1	Microcomputer OSC clock input terminal	48	MODESE	Single purpose test mode decision input terminal
14	VSS	Microcomputer ground terminal	49	SET1	External communication method selection input terminal
15	XI	Microcomputer sub-clock input terminal	50	SET2	Terminal DOUT output data selection terminal
16	-	Unused	51	SET3	Digital out selection terminal
17	MMOD	Connects to ground	52	LOAD.SW	Disc insertion detection SW input terminal
18	STATUS	Status data output terminal	53	PLAY.SW	Disc playback position detection SW input terminal
19	COMMAND	Command data input terminal	54	MPROT	DISC deletion prevention protecting detection SW input terminal
20	COMCLK	Clock input when synchronous serial is used	55	MREF	DISC reflectivity detection SW input terminal
21	SSSW	MD LSI microcomputer command serial data output terminal	56	SSTOP	Inside position detection SW input terminal unconnection the in traverse
22	SSDR	MD LSI microcomputer command serial data input terminal	57~61	NC	Non connection
23	SSCLK	MD LSI microcomputer command serial clock output terminal	62	LOAD0	Tray mechanism OPEN/CLOSE control output terminal
24	SELECT0	ADIP signal cutting terminal	63	LOAD1	Tray mechanism OPEN/CLOSE control output terminal
25	RESET	Microcomputer reset input terminal	64	HFON1	HF module control output terminal
26	SELAD	MD LSI microcomputer command address selection output terminal	65	PON	HF record/playback select control terminal
27	READYOUT	Output signal for status data output beginning	66	RFSWHL	Reflectivity switch signal output terminal
28	PC	Non connection	67	NRFSTBY	RF standby control signal output terminal
29	KEYOUT0	Non connection	68	LDON	Picking up laser control output terminal
30	KEYOUT1	Non connection	69	MODE	Retry content error 0
31	NC	Non connection	70	AMUTE	Retry content error 1
32	MDISY	Header selector synchronous signal	71	DE0	De-emphasis control output terminal
33	SQYSY	Input terminal SUBQ/ADIP synchronous signal input terminal	72	DACRST	Non connection
34	CFSYNC	ATRAC signal frame synchronous signal input terminal	73,74	NC	Non connection
35~38	NC	Non connection	75	MMUTE	Driver mute terminal
39	FLOCK	Focus servo clock detection test output terminal	76	NC	Magnetic head control output terminal
40	TLOCK	Non connection	77	DAPOWER	DA power supply control output terminal
41	SLOCK	Non connection	78	ADPOWER	AD power supply control output terminal
			79	POWER	Power supply control output terminal
			80	MSPRST	MDLSI reset output terminal

■ MN150837J8R3 (IC681): CD Micom

1. Pin layout



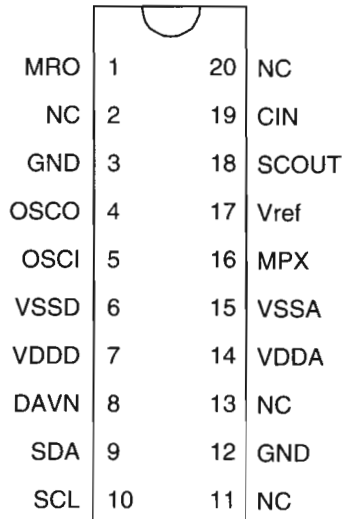
2. Pin function

Pin NO.	Symbol	I/O	Function
1	RESET	I/O	Reset input of CD CPU
2		-	Non connection
3	WATCH5V	I	Watch input of DSP and RF power supply
4	DOOROPEN	I	Door opening switch input of chenger mecha
5	DOORCLOSE	I	Door close switch input of chenger mecha
6	PHOTOSW	I	Photo interlaptor switch input of chenger mecha
7	NC	-	Non connection
8	TRAY+	O	Tray motor + output
9	TRAY-	O	Tray motor - output
10	CAM+	O	Cam motor + output
11	CAM-	O	Cam motor - output
12	SUBQ	I	Q sub code data input terminal from DSP
13	NC	-	Non connection
14	INITIALSW	I	Initialization switch input
15	SUBSW	I	Sub switch input
16	RESTSW	I	Rest switch input of CD mechanism
17	NC	-	Non connection
18	NC	-	Non connection
19	NC	-	Non connection
20	NC	-	Non connection
21	REQ	O	REQ output terminal to main CPU
22	BLKCL	I	Sub code block clock signal input terminal from DSP
23	ST	I	ST input terminal from main CPU
24	DATA	I	Serial data input terminal from main CPU
25	CK	I	Clock input terminal from main CPU
26	STATS	I	Status signal input terminal from DSP
27	TLOCK	I	Tracking servo signal input terminal from DSP
28	FLOCK	I	Focus servo signal input terminal from DSP
29	SENSE	I	SENS signal input terminal from DSP
30	NC	-	Non connection
31	SQCK	O	Terminal of output of external clock signal to DSP of Q sub cord resistor
32	MLD	O	CPU command loading signal output terminal to DSP
33	MDATA	O	CPU command data signal output terminal to DSP
34	MCLK	O	CPU command clock signal output terminal to DSP
35	RST	O	Reset output terminal to DSP
36	NC	-	Non connection
37	NC	-	Non connection
38	DRIVERMUTE	O	Spindle and mute terminal of feed motor
39	VSS	-	Ground
40	OSC2	O	System clock 4.19MHz
41	OSC1	I	System clock 4.19MHz
42	VDD	-	Power supply (5.0V)
43	X1	-	Ground
44	X0	-	Non connection

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ SAA6588 (IC191) : RDS Detector (only CA-MXS5RMD)

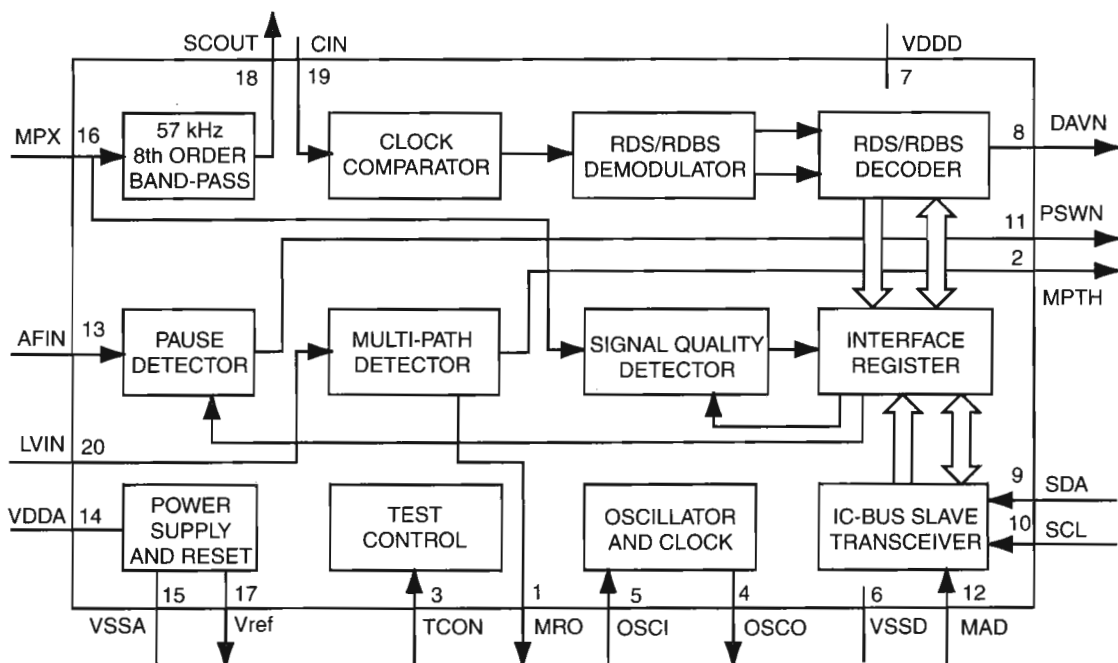
1. Terminal Layout



2. Pin Function

Pin No.	Symbol	I/O	Function
1	MRO	O	Multi-path rectifier output
2	NC	-	Non connect
3	GND	I	Test control input pin
4	OSCO	O	Oscillator output
5	OSCI	I	Oscillator input
6	VSSD	-	Digital ground (0V)
7	VDDD	-	Digital power supply (5V)
8	DAVN	O	Data available output (active LOW)
9	SDA	I/O	IC-bus serial data I/O
10	SCL	I	IC-bus serial clock input
11	NC	-	Non connect
12	GND	-	Connect to ground
13	NC	-	Non connect
14	VDDA	-	Analog power supply (5V)
15	VSSA	-	Connect to ground
16	MPX	I	Multiplex input signal
17	Vref	O	Reference voltage output
18	SCOUT	O	Band-pass filter output
19	CIN	O	Comparator output
20	NC	I	Level input

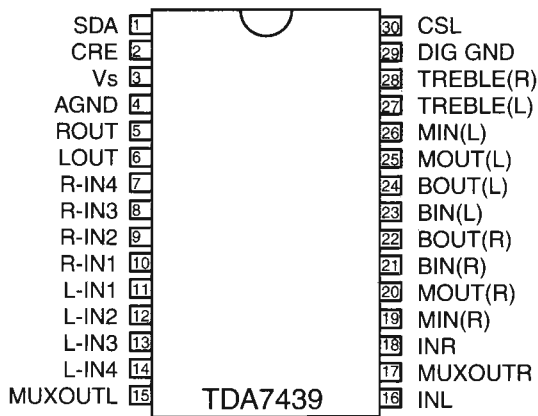
3. Block Diagram



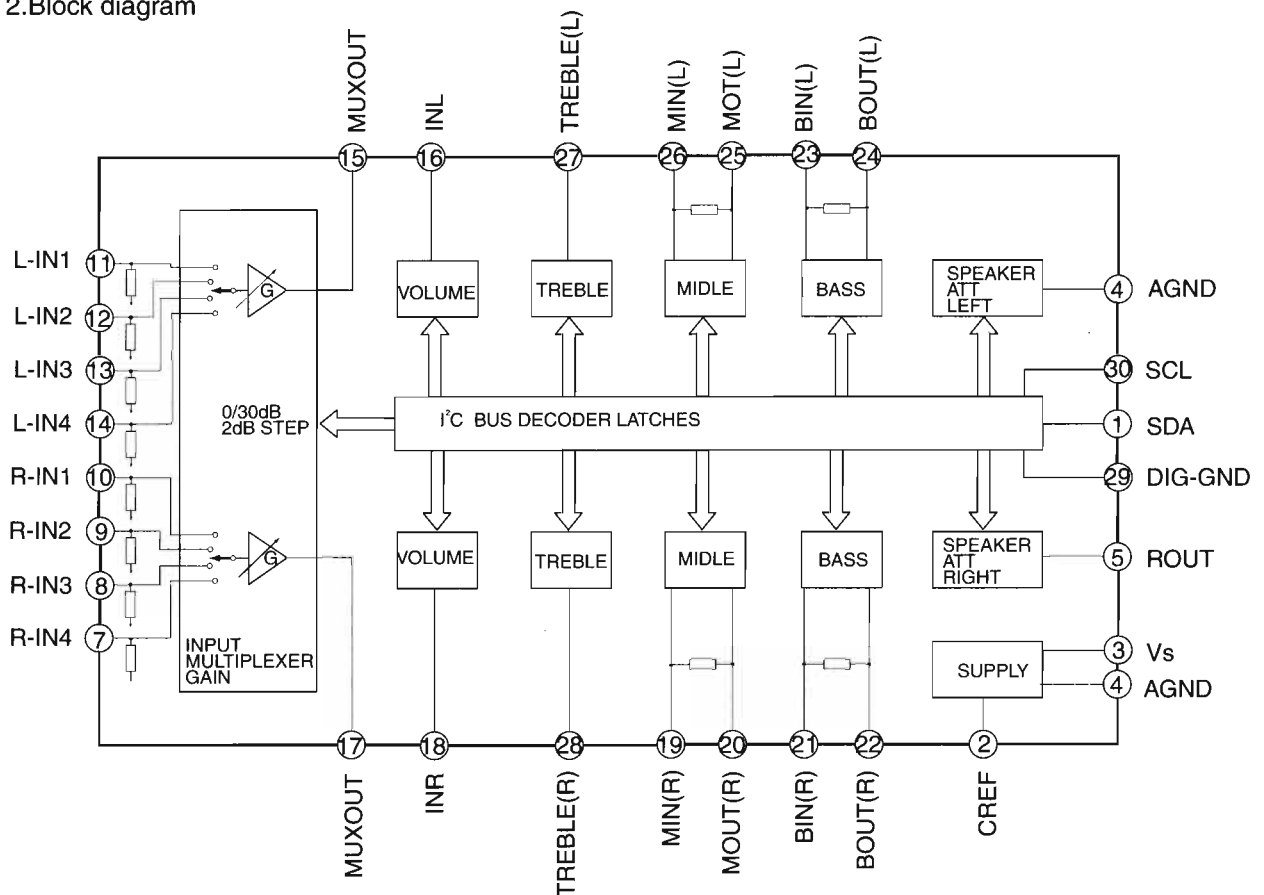


■ TDA7439 (IC671) : Rear/center volume

1.Pin layout



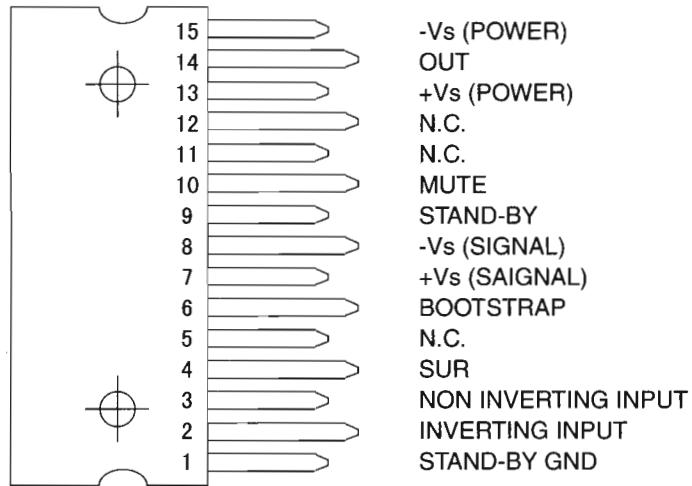
2.Block diagram



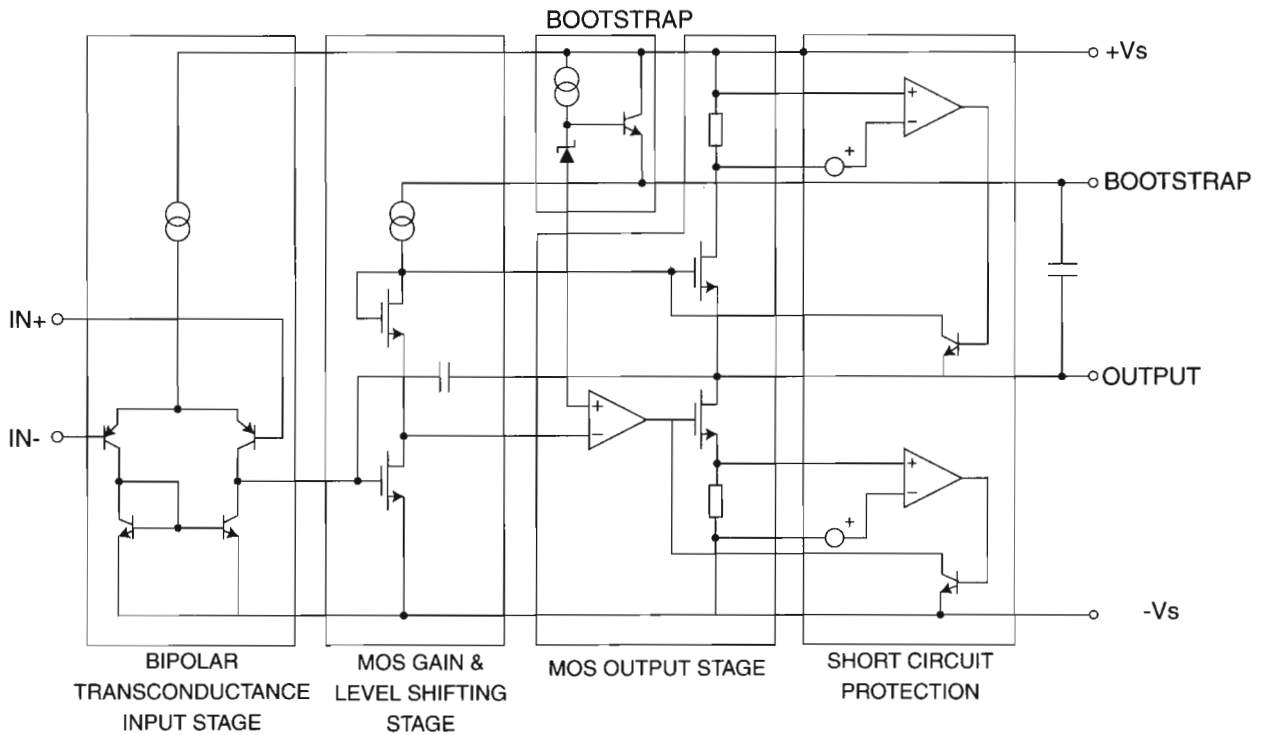
CA-MXS5MD/MXS5RMD  
 SP-MXS5MD

■ TDA7294 (IC101,IC201) : AUDIO AMP

1. Pin arrangement chart

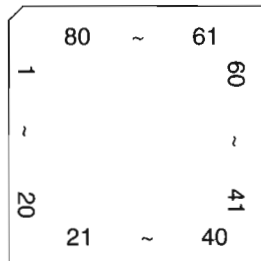


2. Block diagram



■ MN101C15FBY1 (IC851) System microcomputer

1. Pin layout



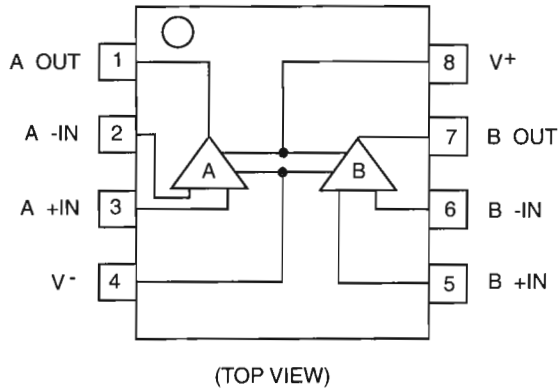
2. Pin function

Pin No.	Symbol	Function
1~9	-	Connects to the ground
10	A/D power	Power supply for A/D
11	Vdd	Reference power supply
12,13	8.38MHz	Connects to the crystal oscillator
14	GND	Connects to the ground
15	-	Connects to the ground
16	-	Non connection
17	-	Connects to the ground
18	comm out	Common out signal connection terminal
19	comm in	Common in signal connection terminal
20	comm clock	Common clock signal connection terminal
21	comm sysreq	Common system demand signal connection terminal
22	LED STANDBY	Standby LED control terminal
23	LED POWER	Power LED control terminal
24	LED SOUND	Sound LED control terminal
25	comm reset	Common reset signal connection terminal
26	LED BASS	Bus LED control terminal
27	LED MD IN	Non connection
28	LED MD REC	MD REC LED control terminal
29	-	Non connection
30	LED JOY	JOY LED control terminal
31	comm panereq	Common panel demand signal connection terminal
32~35	-	Connects to the ground
36	LED FM/AM	FM / AM LED control terminal
37	LED AUX	Non connection
38	LED TAPE	Non connection
39	LED MD	MD LED connection terminal
40	LED CD	CD LED connection terminal
41~51	-	Non connection
52	LCD WE	LCD write enable signal terminal
53	LCD RE	LCD read enable signal terminal
54	LCD CS1	LCD chip selection 1 signal terminal
55	LED CD1 G	CD1 green LED control terminal
56	LED CD1 R	CD1 red LED control terminal
57	LCD AO	Data selection signal output terminal to LCD
58	LCD RESET	LCD reset signal connection terminal
59~64	-	Non connection
65	LCD Lamp on	LCD lamp ON signal terminal
66	LCD Lamp dimmer	LCD lamp dimmer control terminal
67	BLUE LED dimmer	Blue LED dimmer control terminal
68	-	Non connection
69	LED CD2 R	CD2 red LED control terminal
70	LED CD2 G	CD2 green LED control terminal
71	LED CD3 R	CD3 red LED control terminal
72	LED CD3 G	CD3 green LED control terminal
73~80	LCD D7~D0	Data bus signal I/O terminal of D7~D0

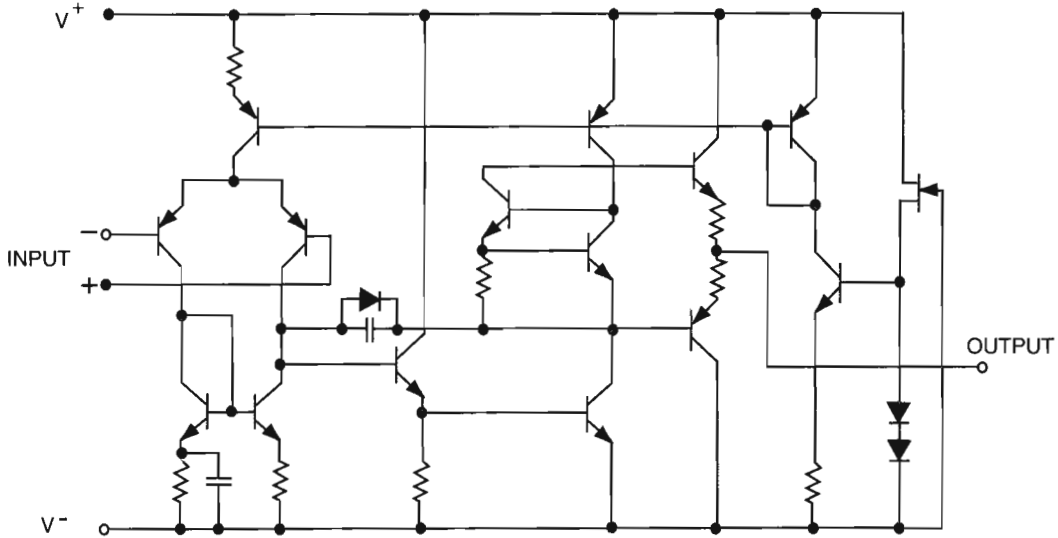
CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ NJM4580D (IC672) : LPF, Mic and H.phone Amp.

1. Terminal layout

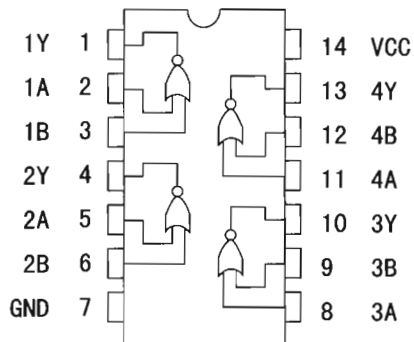


2. Block diagram



■ TC74HC02AP (IC674) : 2ch NOR GATE

1. Pin layout & Block diagram

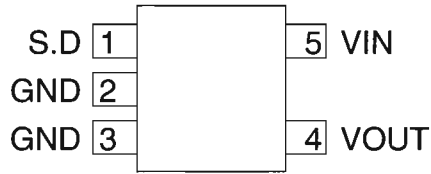


2. The truth value table

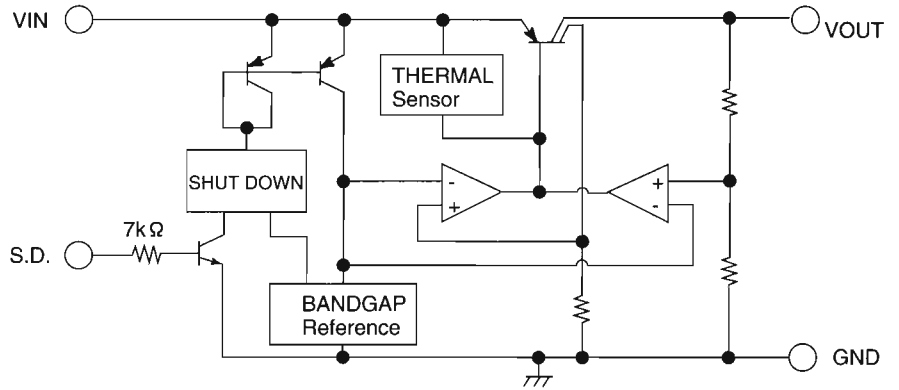
A	B	Y
L	L	H
L	H	L
H	L	L
H	H	L

■TK71340M-W(IC485):Regulator

1.Pin layout

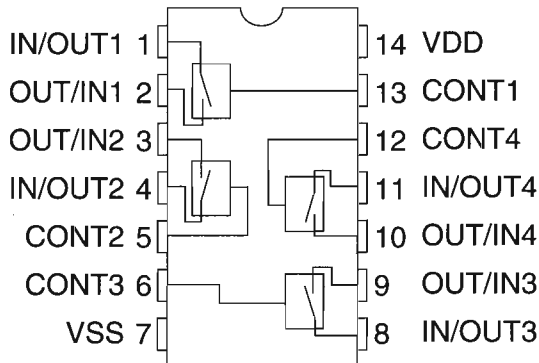


2.Block diagram

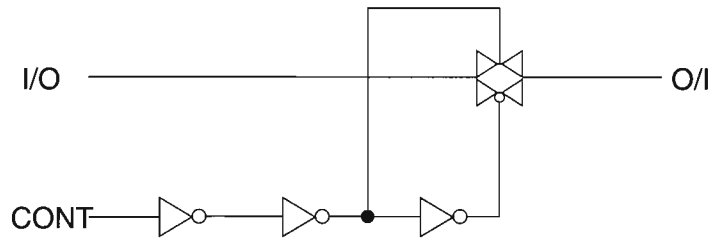


■TC4066BP/N/ (IC673) : Switch

1.Pin layout & Block diagram

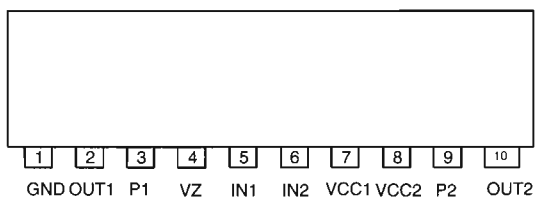


2.The truth circuit



■B1641(IC691: IC692) : DC Motor Driver

1. Pin layout

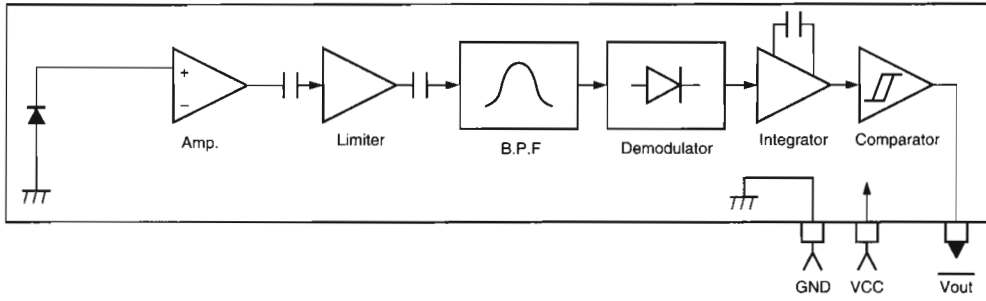


2. Function

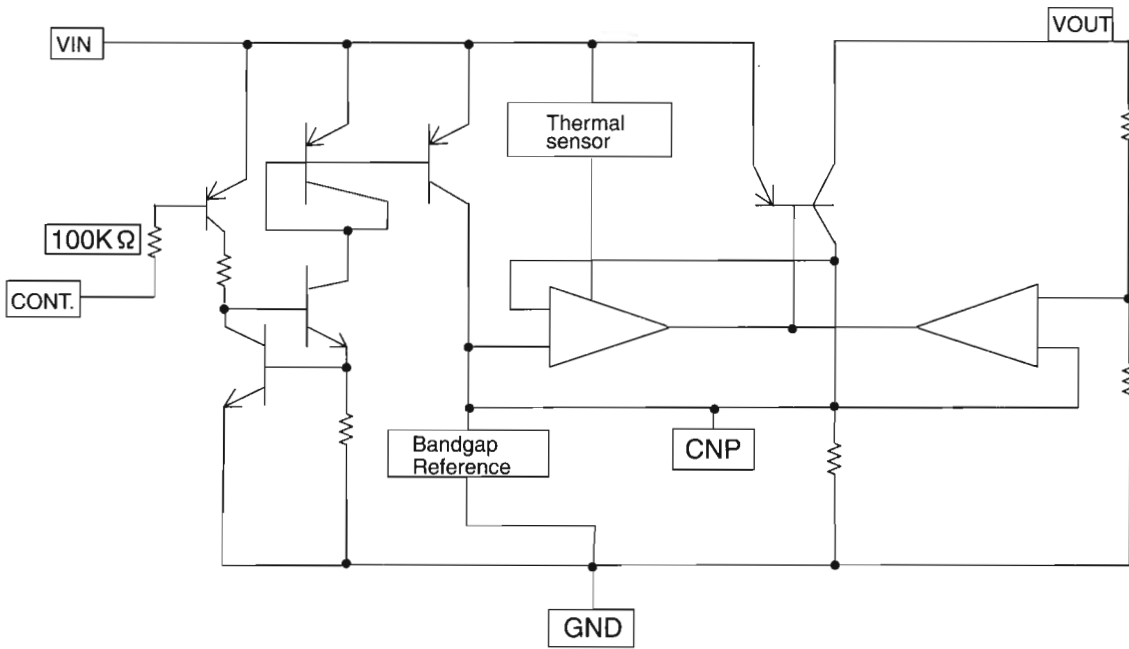
Input		Output		Mode
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	CLOCKWISE
0	1	0	1	COUNTER-CLOCKWISE
1	1	0	0	Brake

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

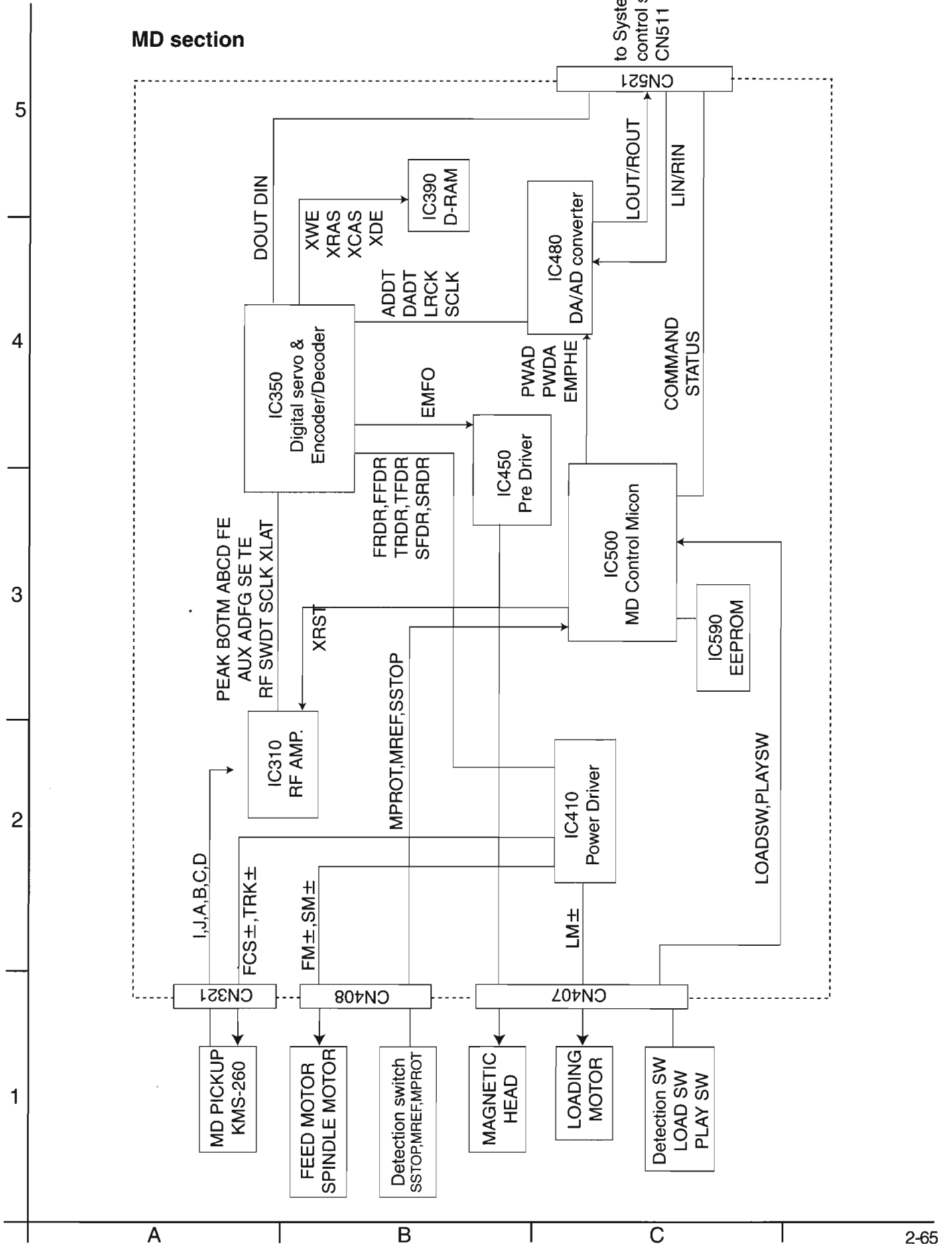
■ GP1U271X (IC701) : Receiver for remote



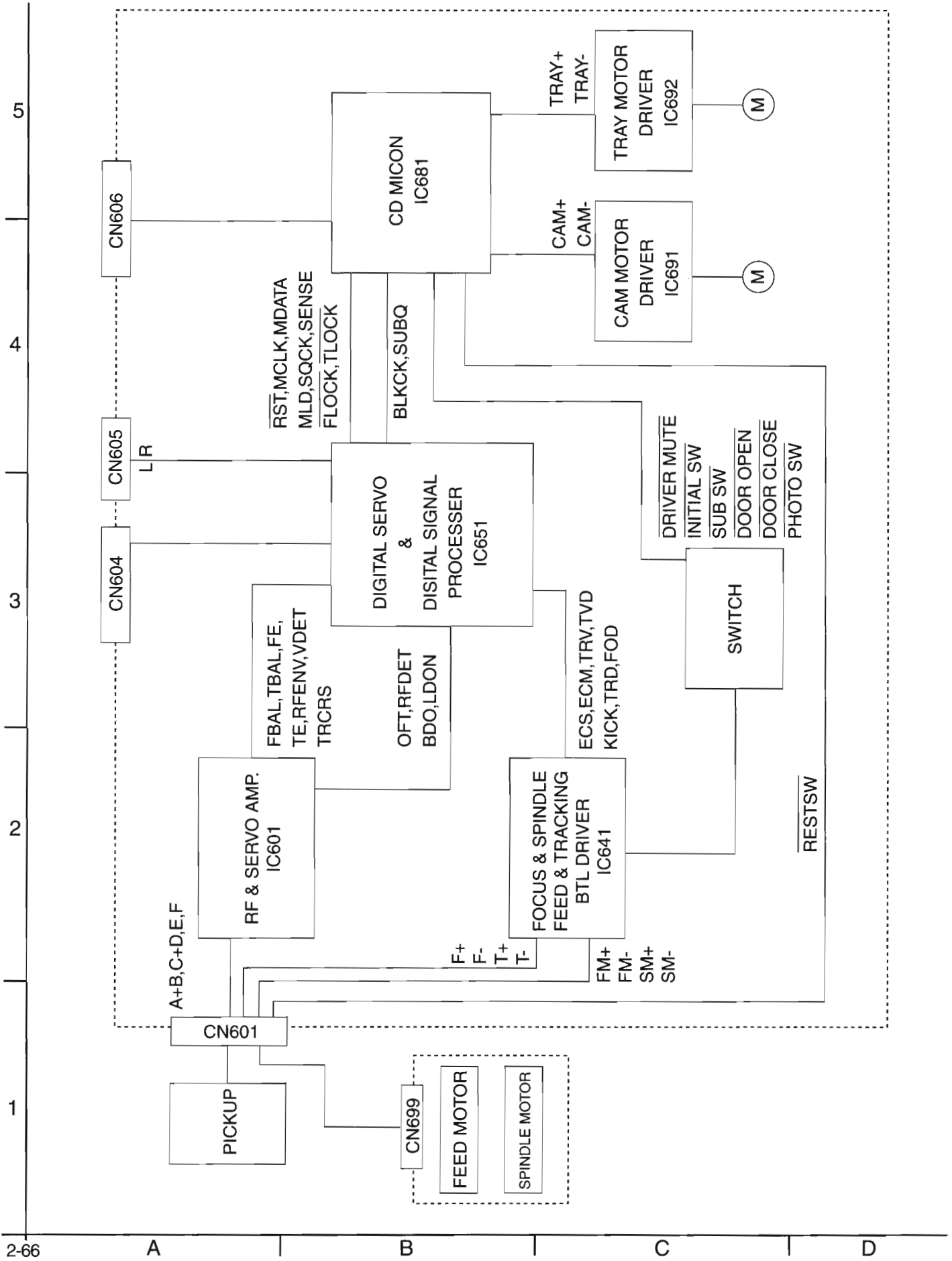
■ TK11335BMC-X(IC351)



# Block diagrams

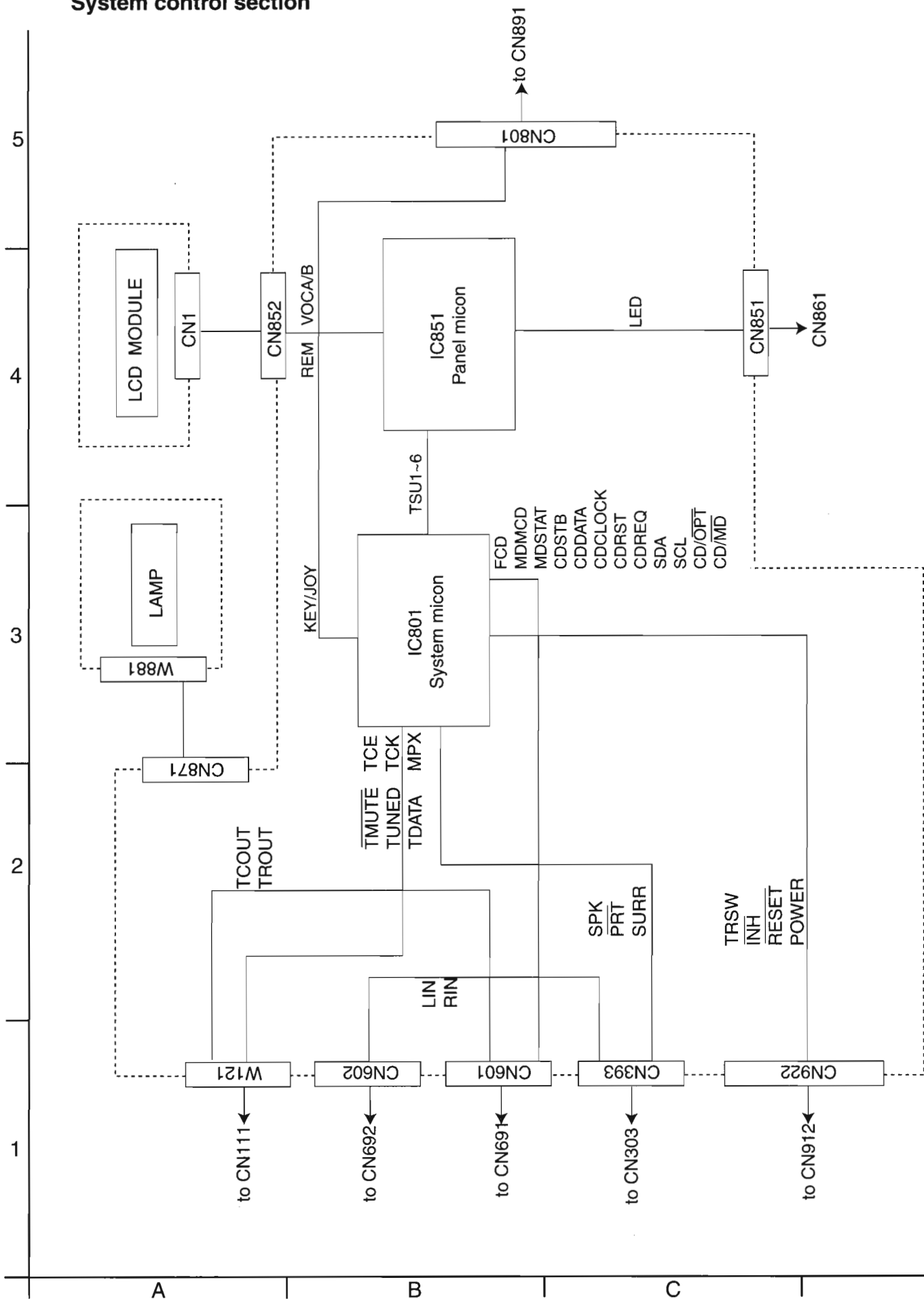


CD section

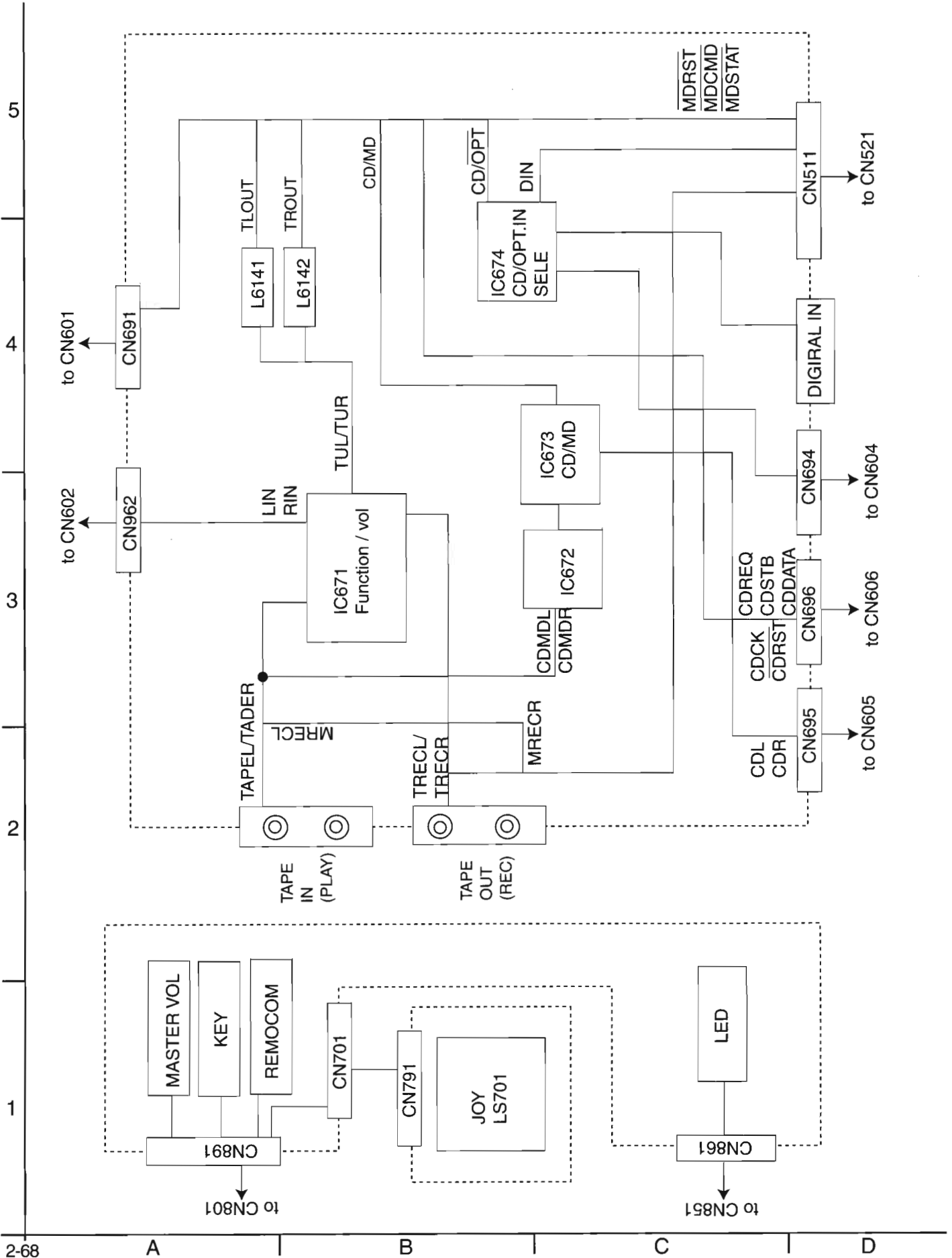




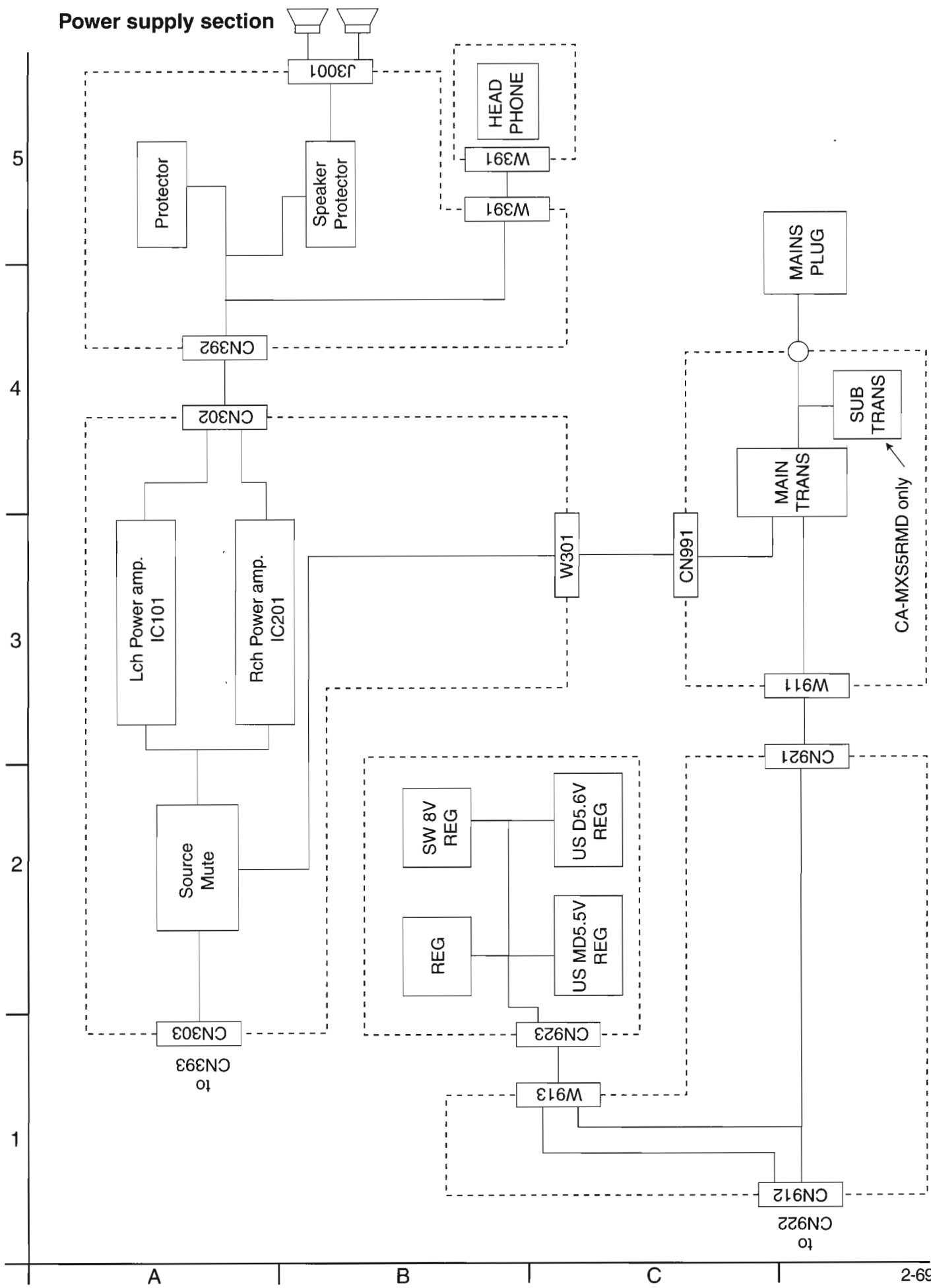
System control section



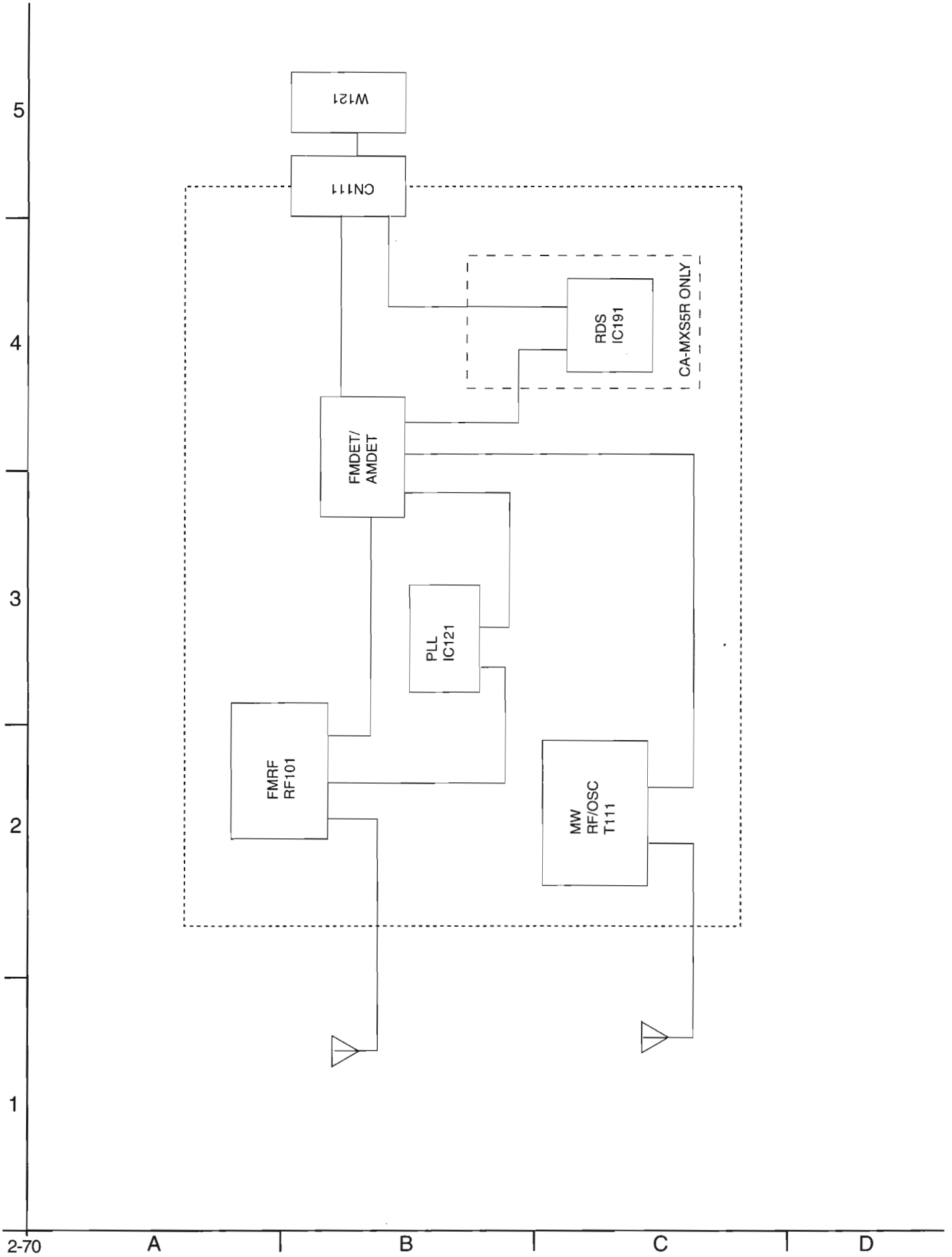
Function control section



Power supply section

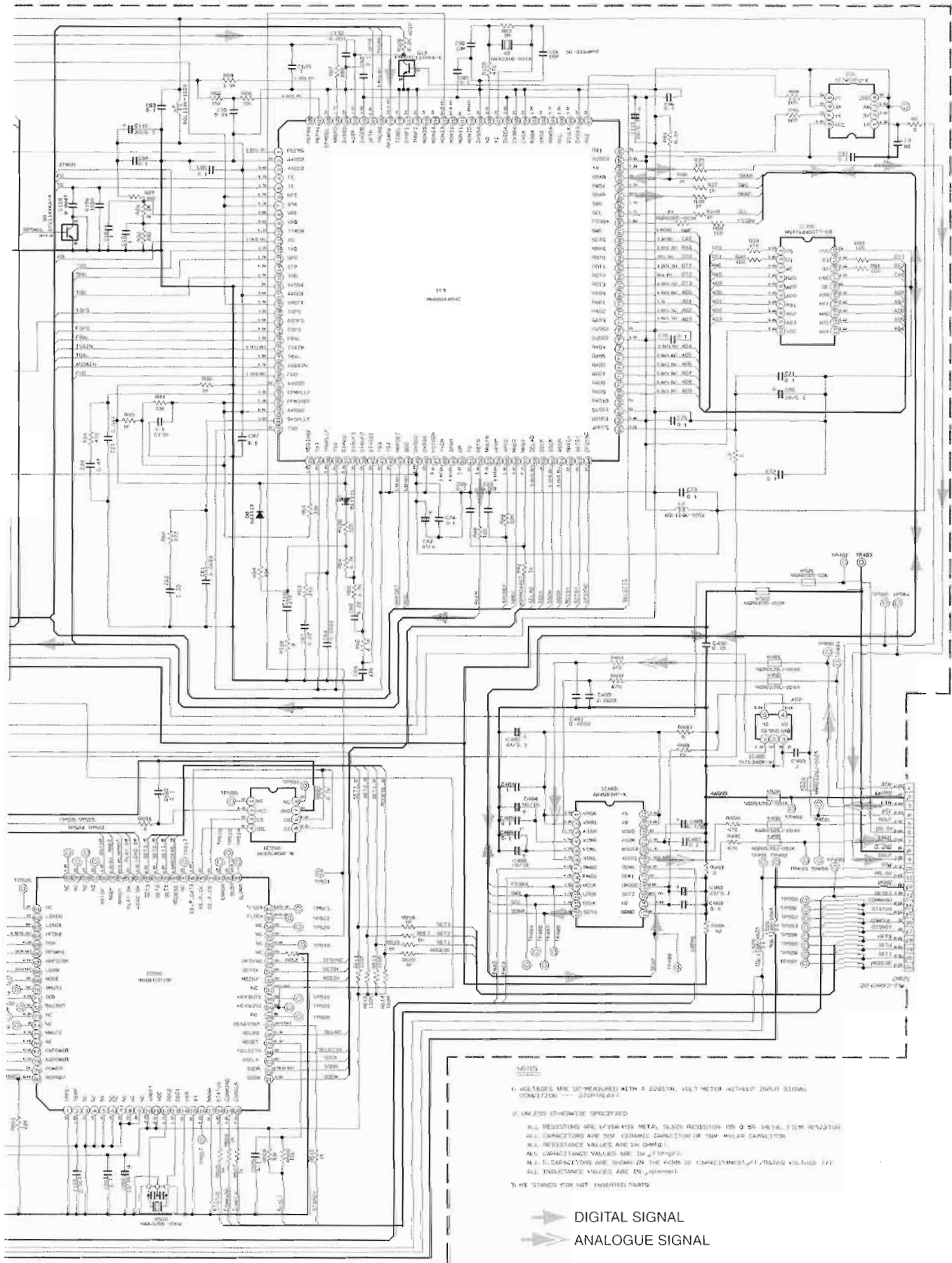


### Tuner section



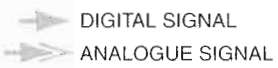






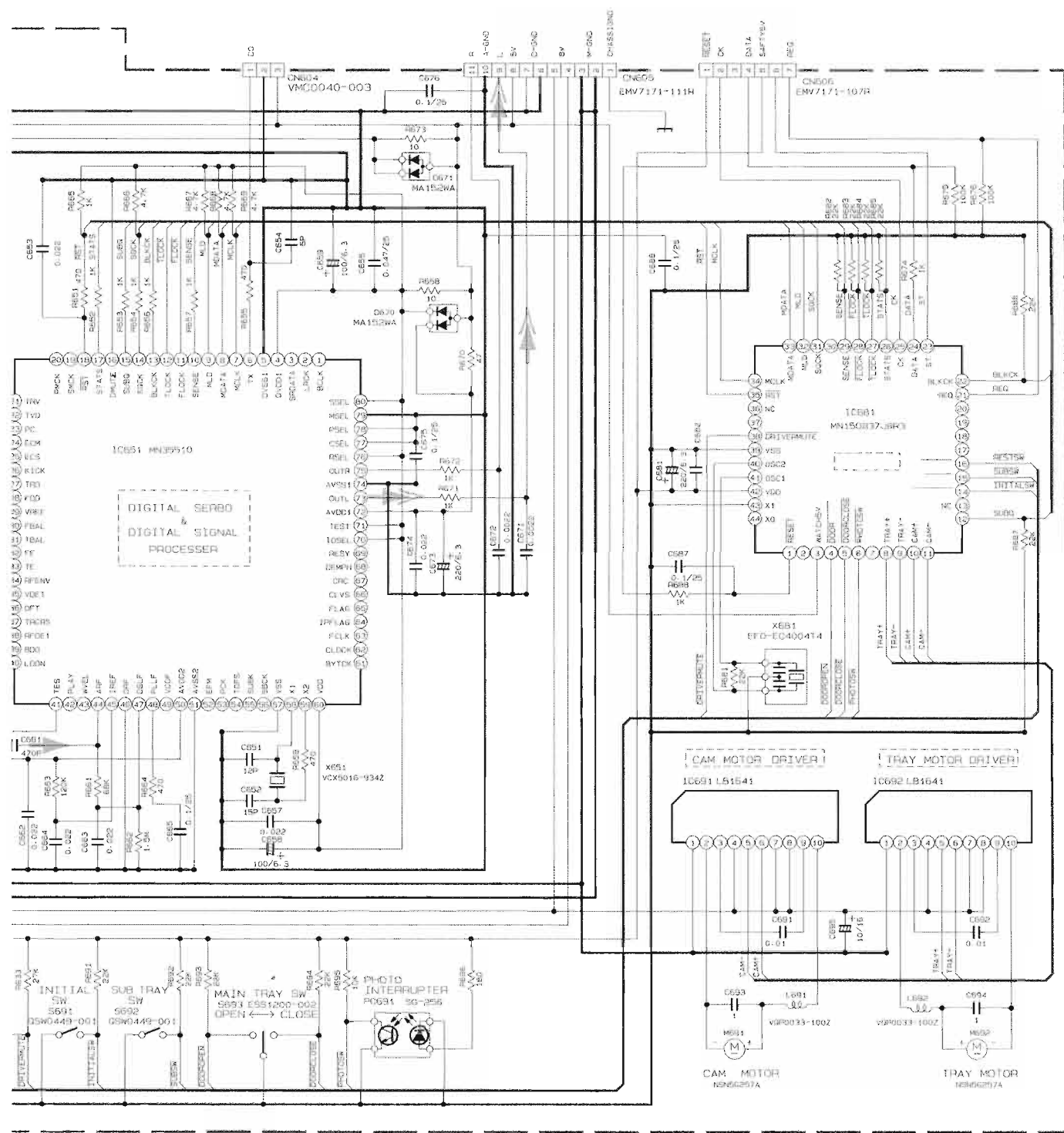
NOTES



1. VOLTAGES ARE DC-MEASURED WITH A 2000Ω VOLT METER WITHOUT INPUT SIGNAL UNLESS OTHERWISE SPECIFIED.
2. UNLESS OTHERWISE SPECIFIED:
  - ALL RESISTORS ARE 1/4W 4% METAL GLAZE RESISTOR OR 0.5W METAL FILM RESISTOR.
  - ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 10V POLYMER CAPACITOR.
  - ALL RESISTANCE VALUES ARE IN Ω/MΩ/K.
  - ALL CAPACITANCE VALUES ARE IN pF/nF/μF.
  - ALL DIMENSIONS ARE GIVEN IN THE FORM OF (DIMENSION) ± (TOLERANCE).
  - ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
3. SEE DRAWING FOR NOT INDICATED PARTS.









 DIGITAL SIGNAL  
 ANALOGUE SIGNAL

# Function control section for US, UB, UT version

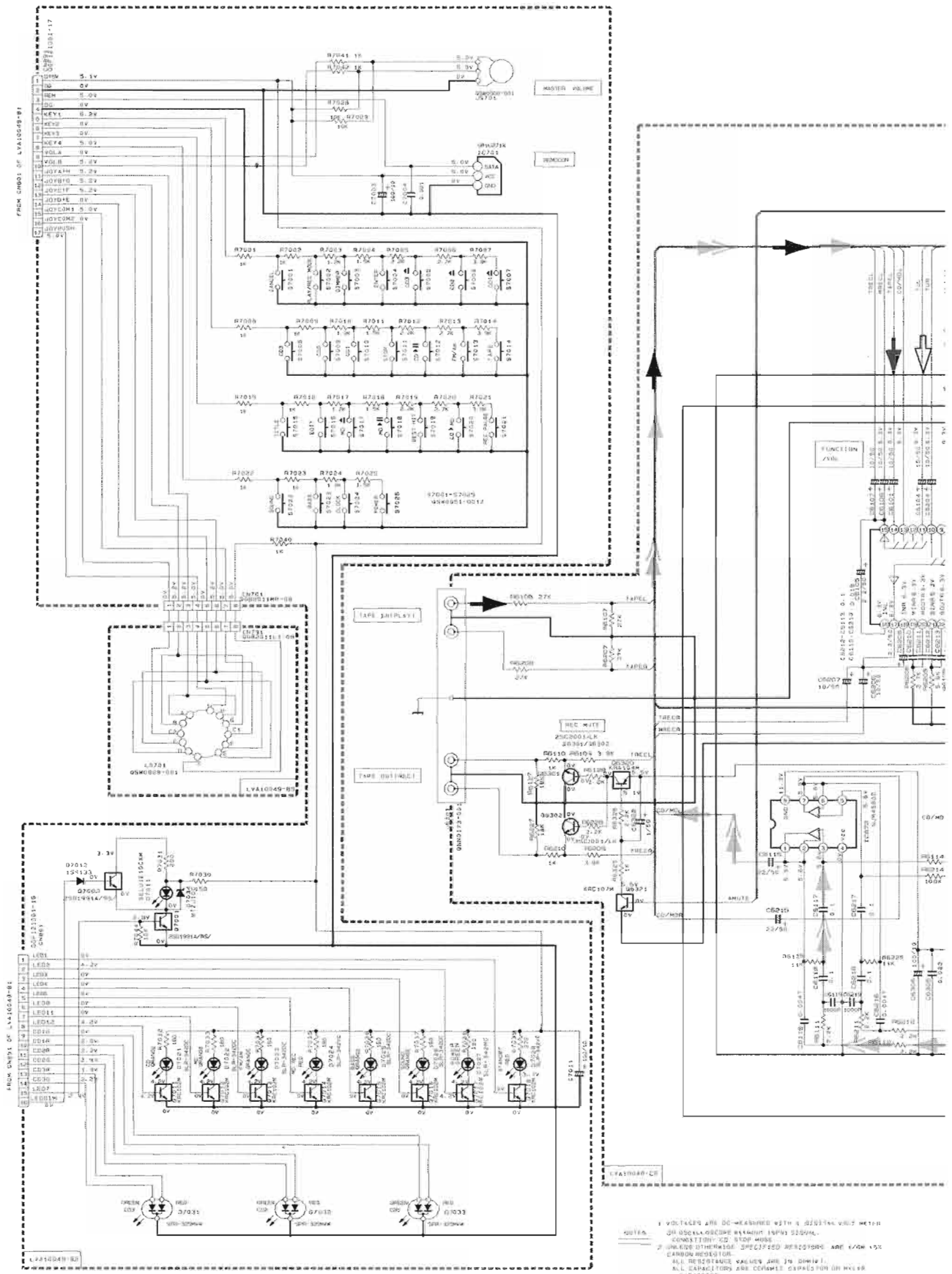
5

4

3

2

1

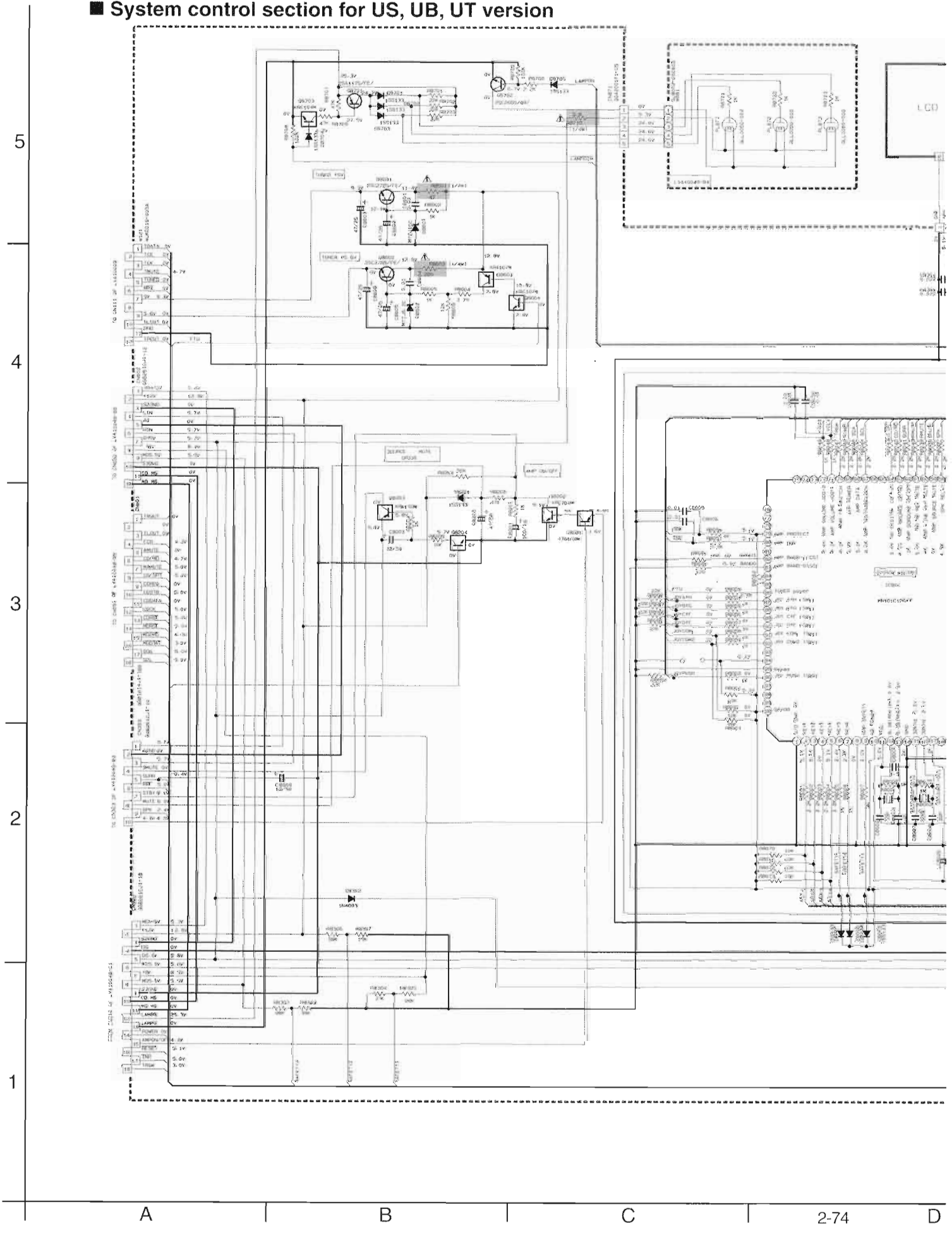


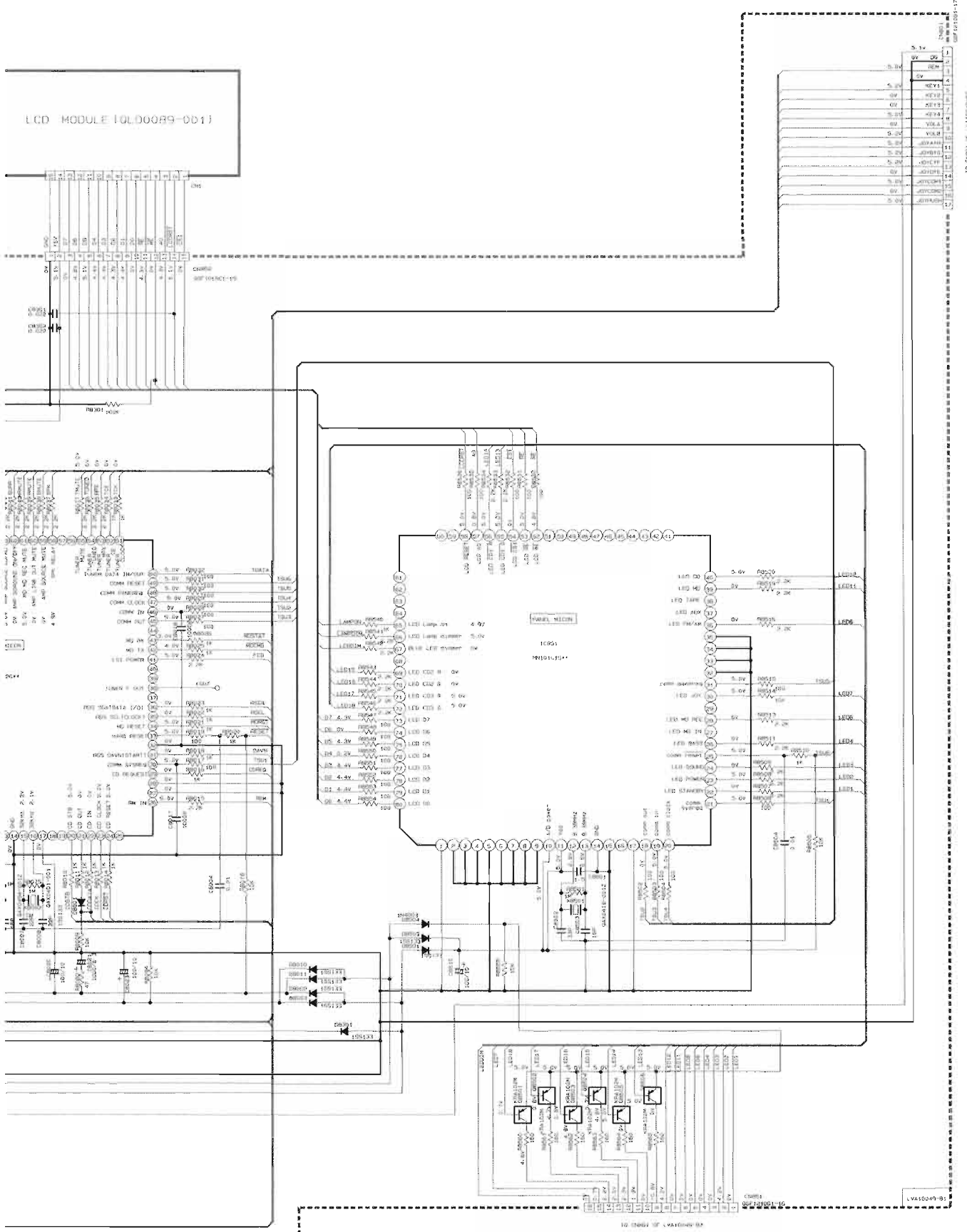
A B C D

NOTES  
 1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITH AN INTRINSICALLY STABILIZED STOP MASS.  
 2. UNLESS OTHERWISE SPECIFIED, RESISTORS ARE 1/4W, 5% TOLERANCE.  
 3. ALL RESISTANCE VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.  
 4. ALL CAPACITANCE VALUES ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.  
 5. ALL CAPACITORS ARE 50V DC RATED UNLESS OTHERWISE SPECIFIED.  
 6. ALL CAPACITORS ARE 5% TOLERANCE UNLESS OTHERWISE SPECIFIED.  
 7. ALL CAPACITORS ARE 50V DC RATED UNLESS OTHERWISE SPECIFIED.



■ System control section for US, UB, UT version

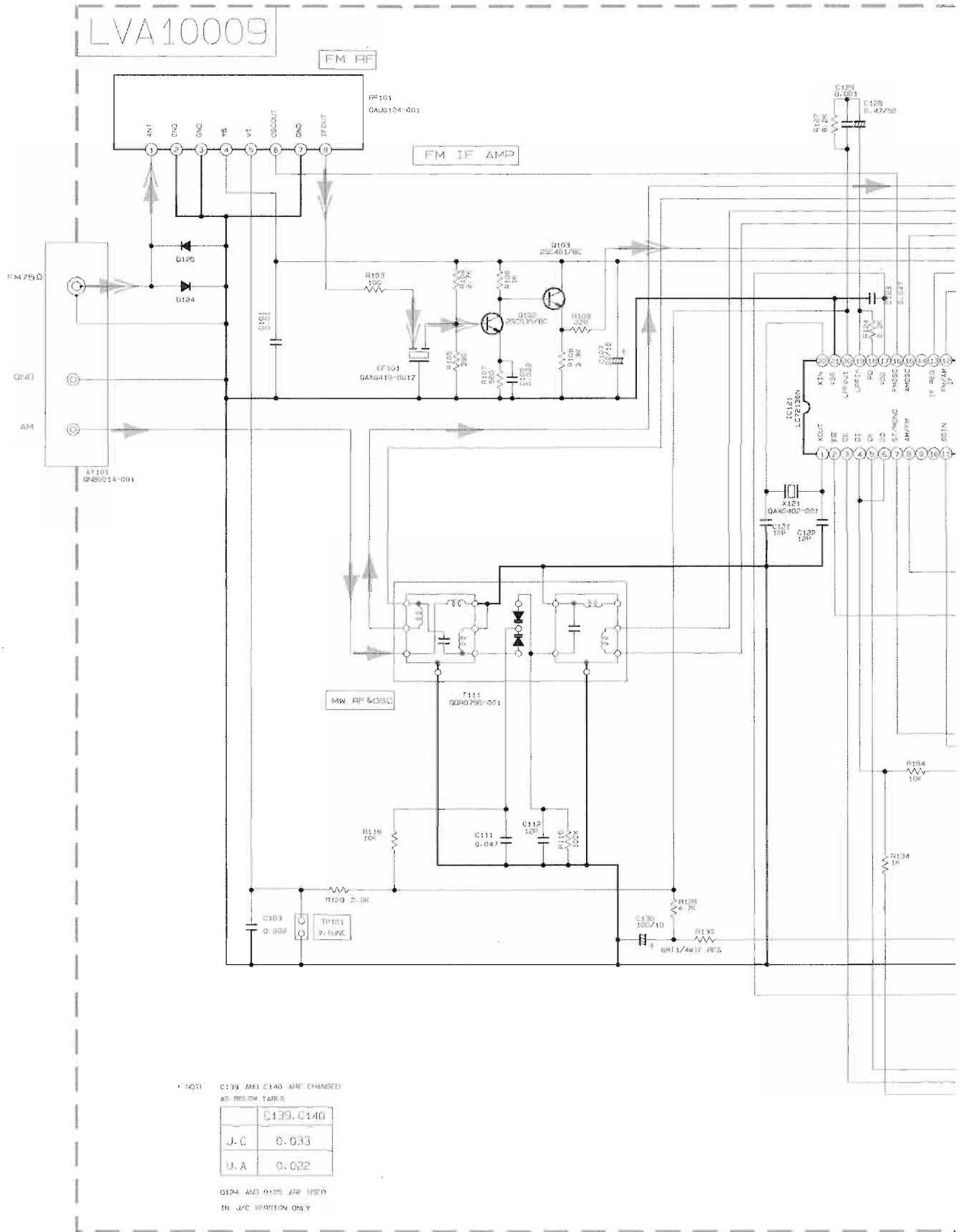


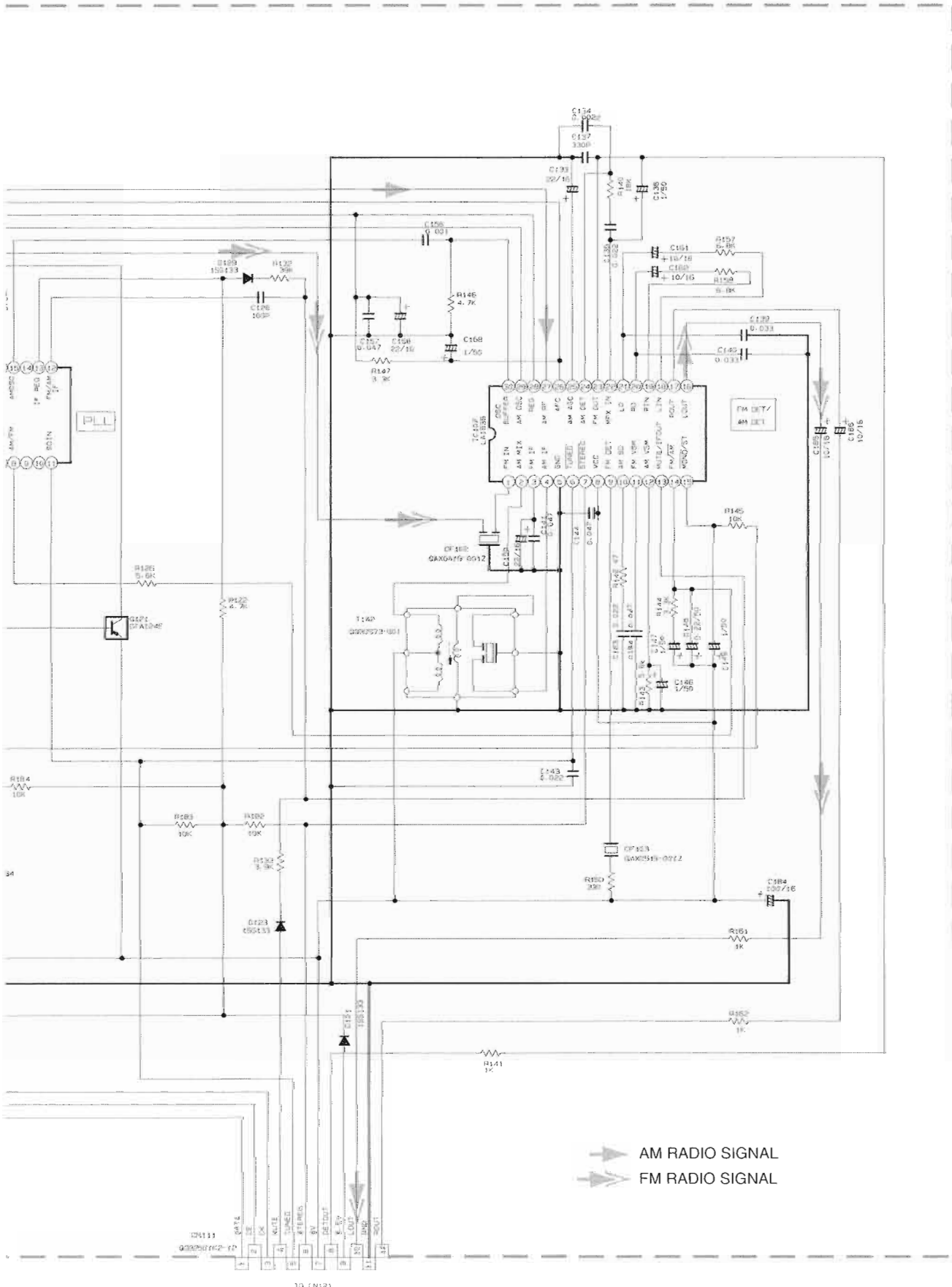


- NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.  
 2. UNLESS OTHERWISE SPECIFIED, RESISTORS ARE 1/8W ± 5% CARBON-FILM RESISTORS.  
 ALL RESISTANCE VALUES ARE IN OHMS (Ω)  
 ALL CAPACITANCE VALUES ARE IN MICROFARADS (µF)  
 ALL CAPACITANCE VALUES ARE IN PICOFARADS (PF)  
 ALL CAPACITANCE VALUES ARE IN NANOFARADS (NF)  
 ALL CAPACITANCE VALUES ARE IN FARADS (F)

**⚠** Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

■ Tuner section for US, UB, UT version

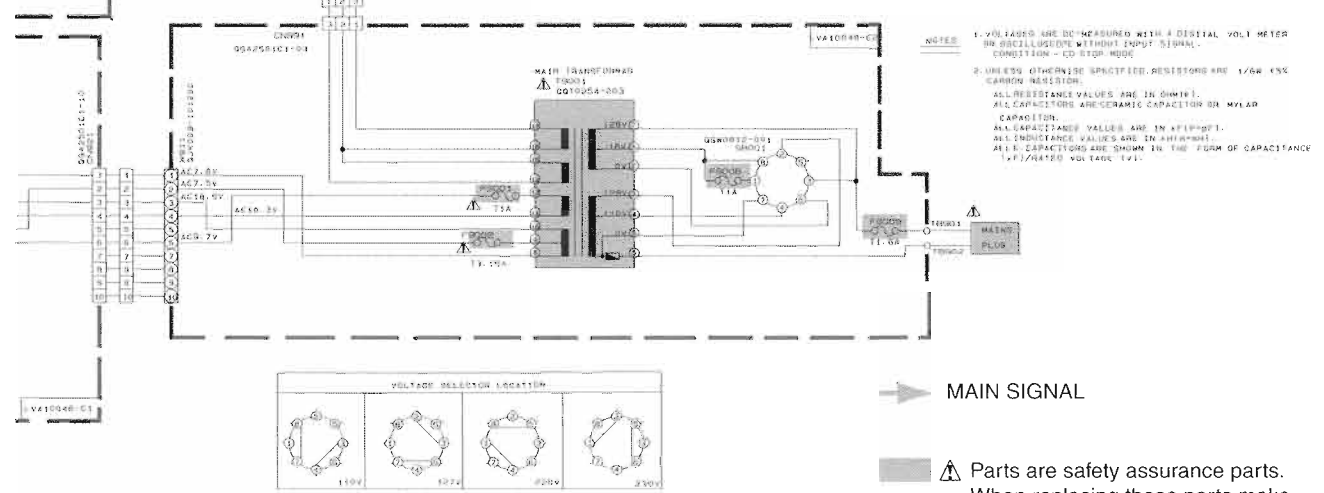
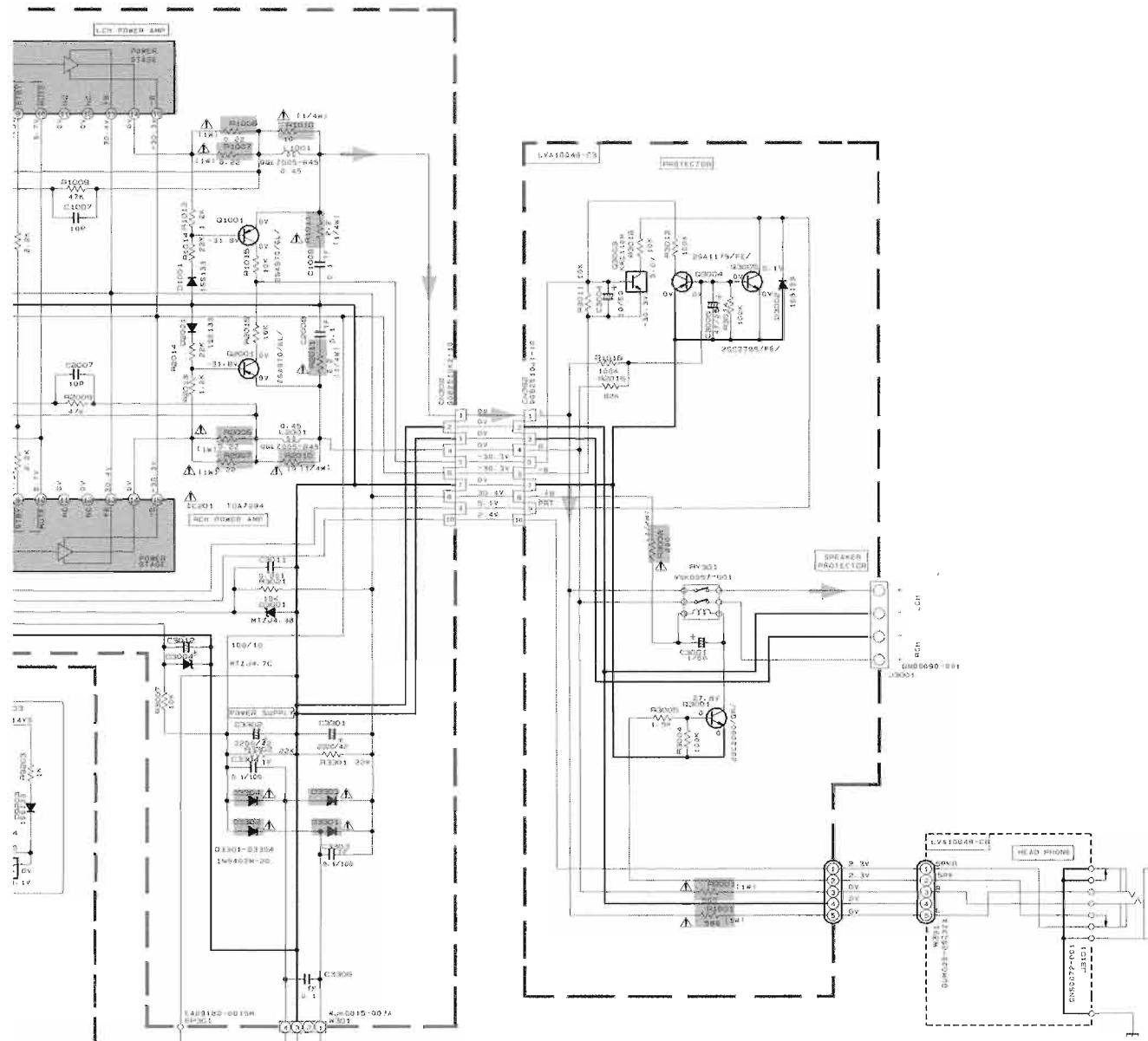




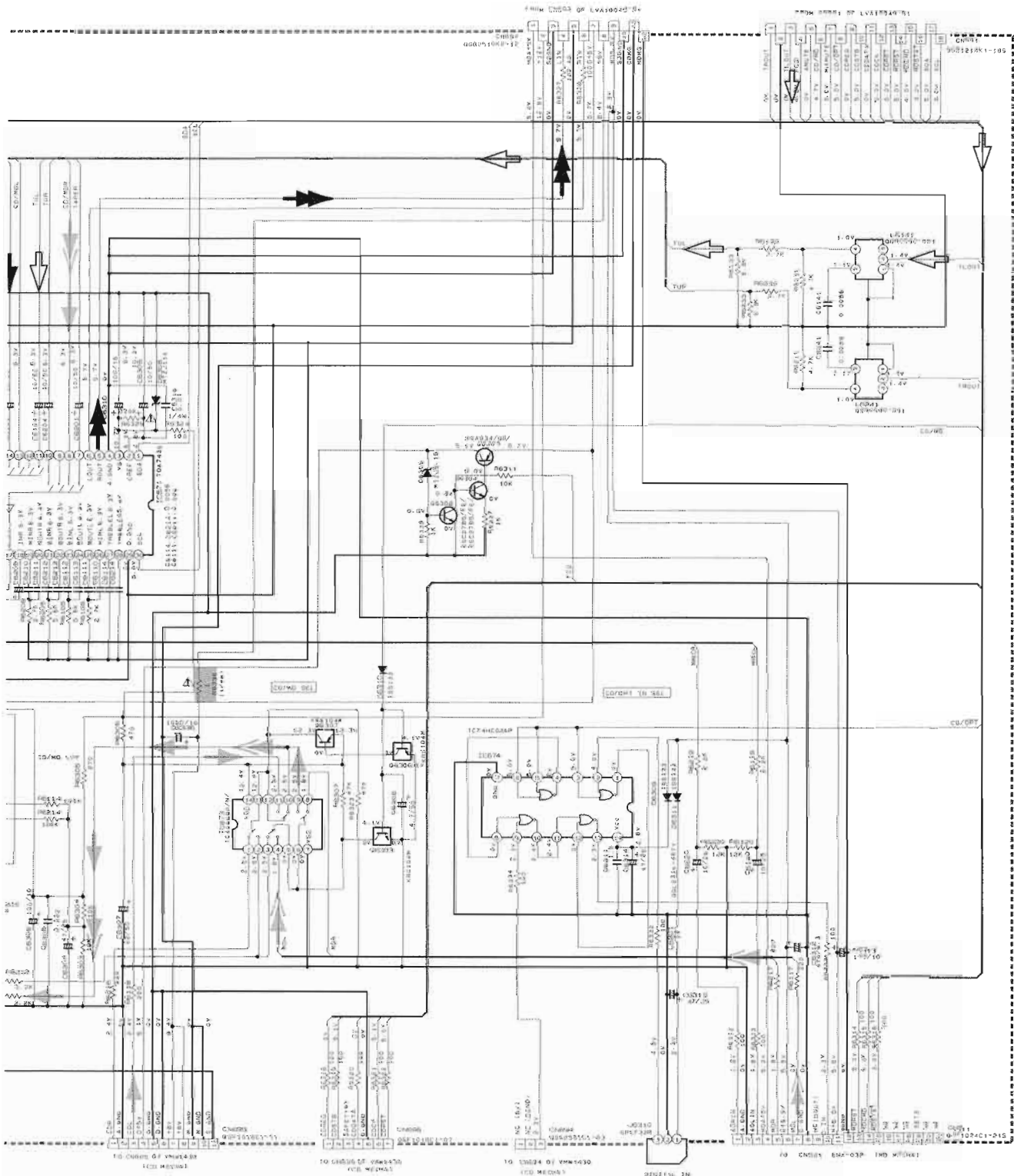
10 (N:P)















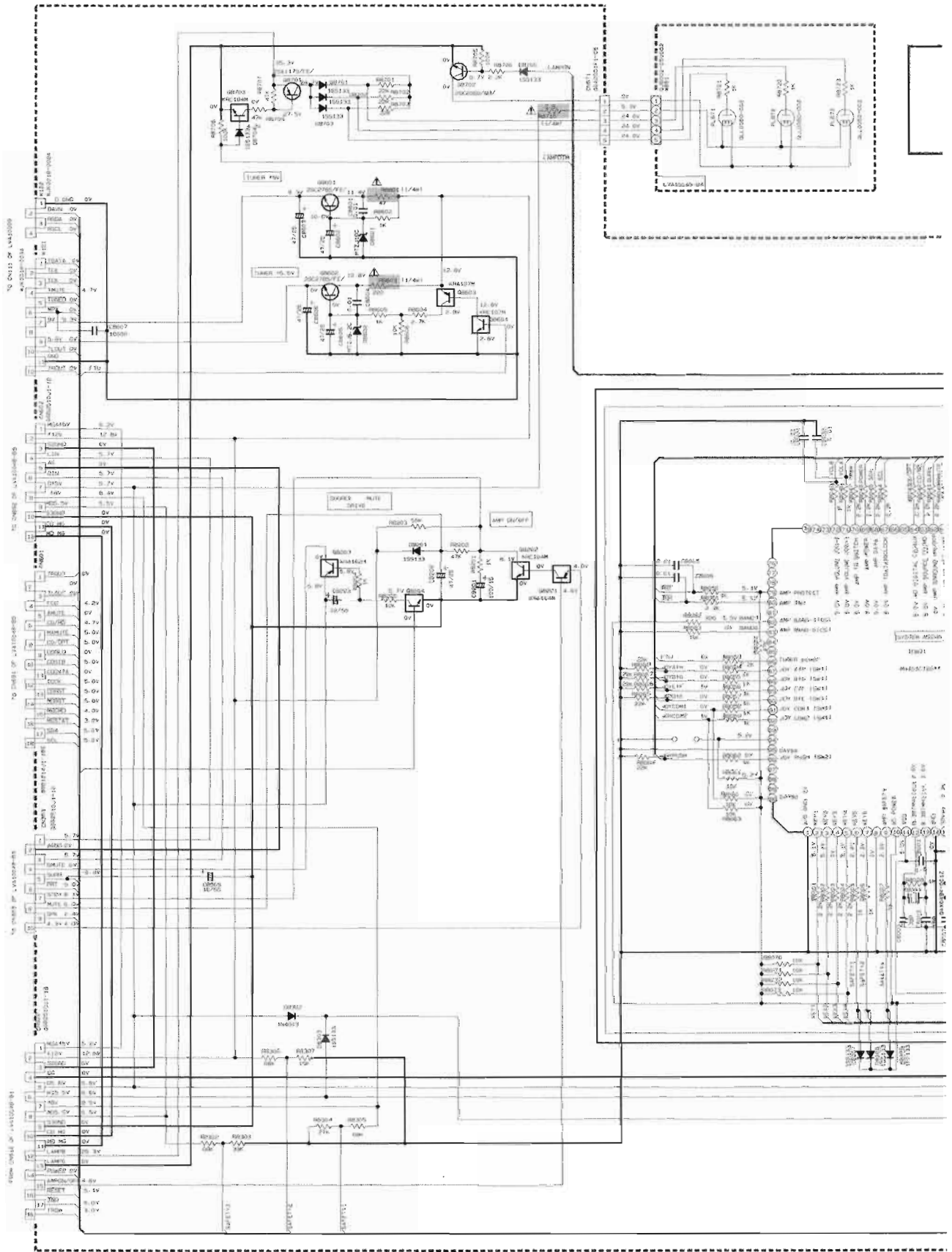


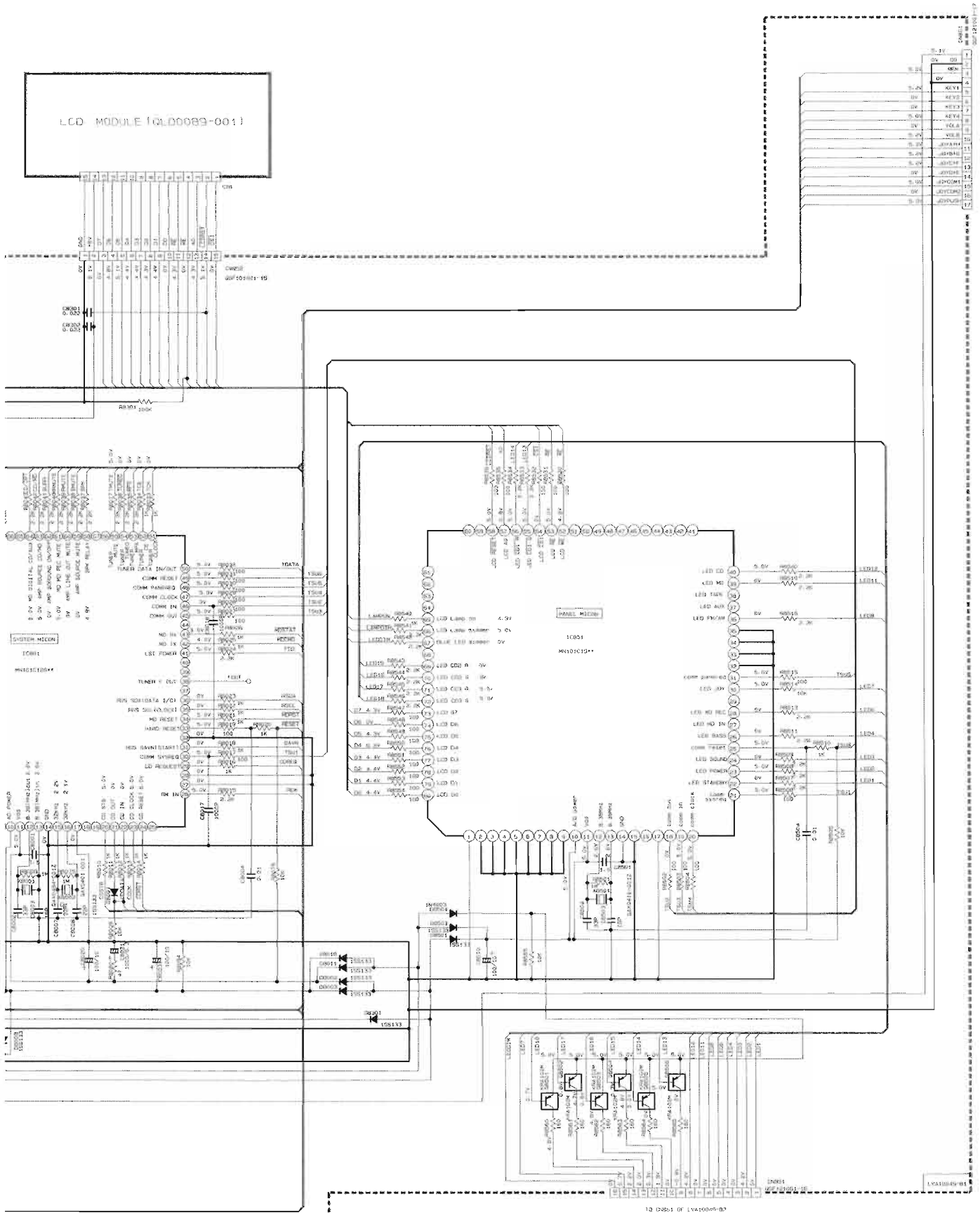
-  TAPE SIGNAL
-  TUNER SIGNAL
-  CD SIGNAL
-  MD SIGNAL
-  MAIN SIGNAL

 Parts are safety assurance parts.  
When replacing those parts make  
sure to use the specified one.

■ System control section for B, E, EN version

5  
4  
3  
2  
1





NOTES:

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER (OR OSCILLOSCOPE WITHOUT INPUT SIGNAL) CONDITION- CD STOP MODE
2. UNLESS OTHERWISE SPECIFIED, RESISTORS ARE 1/8W ± 5% CAPACITORS ARE:

ALL RESISTANCE VALUES ARE IN OHMS (Ω)  
 ALL CAPACITANCE VALUES ARE IN PICO (P), NANO (N), MICRO (U), OR MILLI (M) FARADS  
 ALL INDUCTANCE VALUES ARE IN MILLI (M) HENRYS  
 ALL DIMENSIONS ARE SHOWN IN THE FORM RESET OF DIM CAPACITANCE (M/1) (MATELCO, TABLE 1).

⚠ Parts are safety assurance parts.  
 When replacing those parts make sure to use the specified one.

■ Power supply section for B, E, EN version

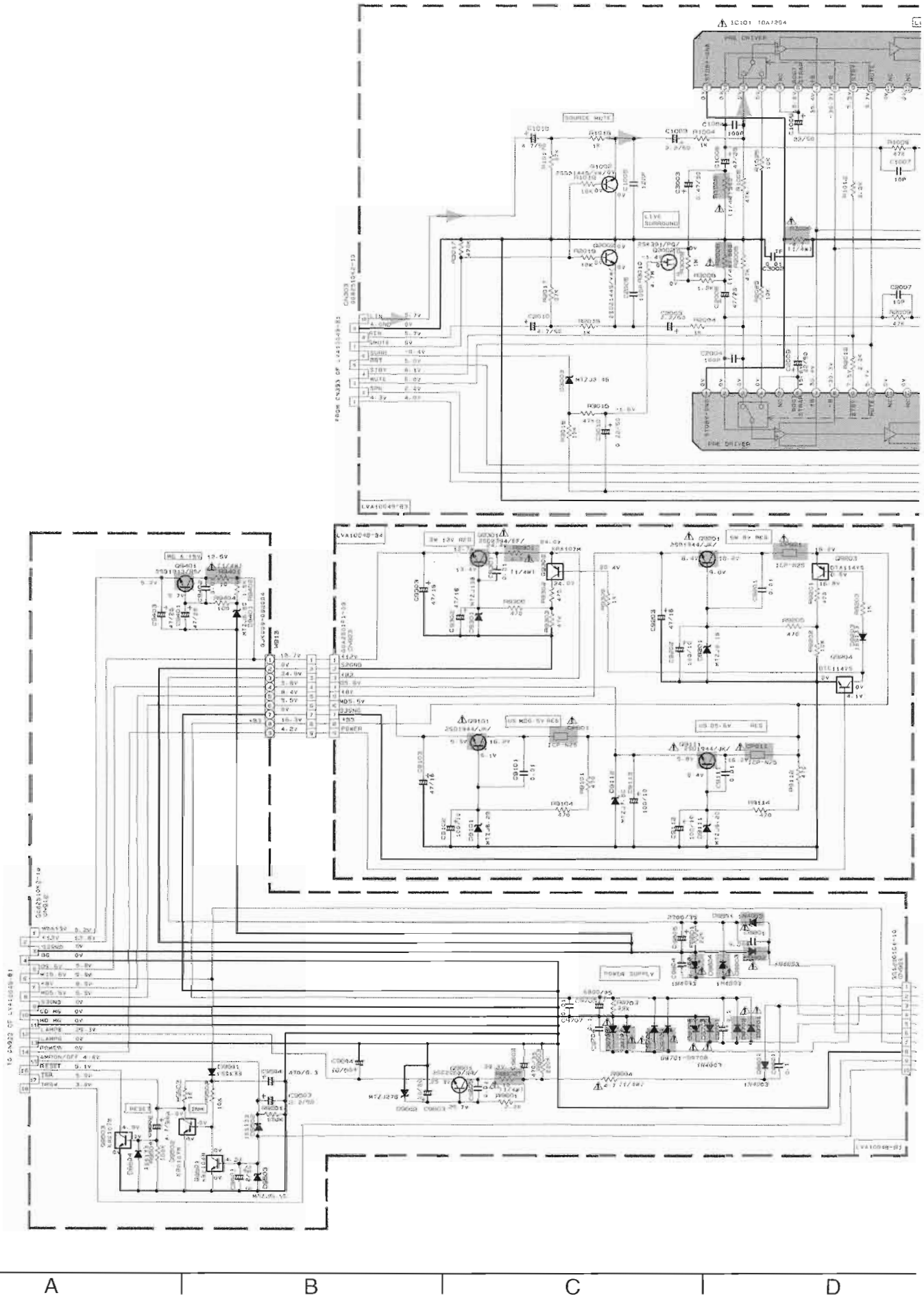
5

4

3

2

1

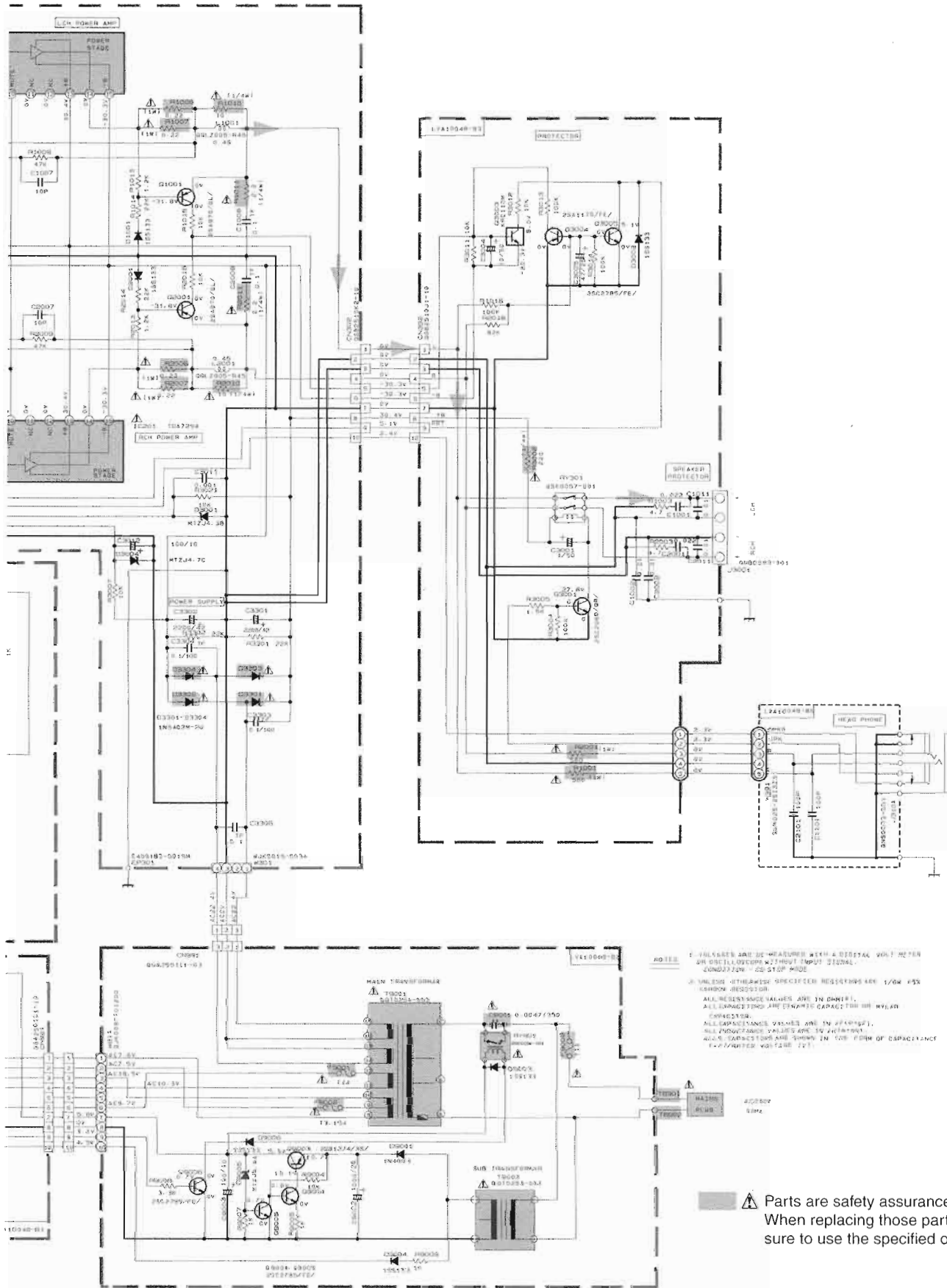


A

B

C

D

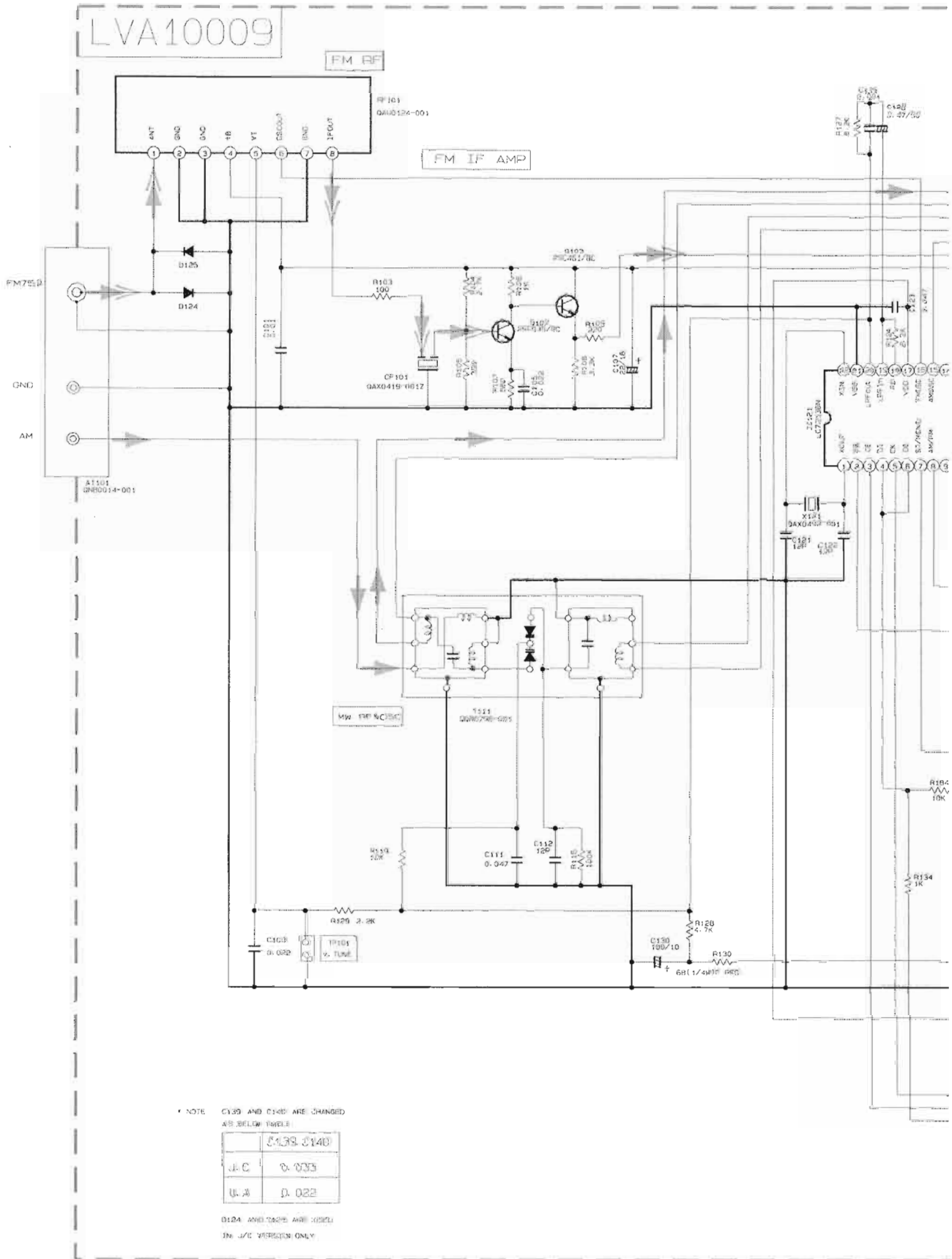


NOTES:  
 1. VALUES ARE TO BE MEASURED WITH A DIGITAL VOLT METER OR GOTTINGER WITHOUT INPUT SIGNAL.  
 CONDITIONS: 100% STOP MODE  
 2. VALUES OTHERWISE SPECIFIED RESISTORS ARE 1/4W ±5% USUALLY RESISTION.  
 ALL RESISTANCE VALUES ARE IN OHMS!  
 ALL CAPACITANCE VALUES ARE IN PICOSECS!  
 ALL INDUCTANCE VALUES ARE IN MICROSECS!  
 ALL CAPACITANCE ARE SHOWN IN THE FORM OF CAPACITANCE (E.G. 100P OR 100N)

▲ Parts are safety assurance parts.  
 When replacing those parts make  
 sure to use the specified one.

➔ MAIN SIGNAL

■ Tuner section for US, UB, UT version



5

4

3

2

1

A

B

C

2-80

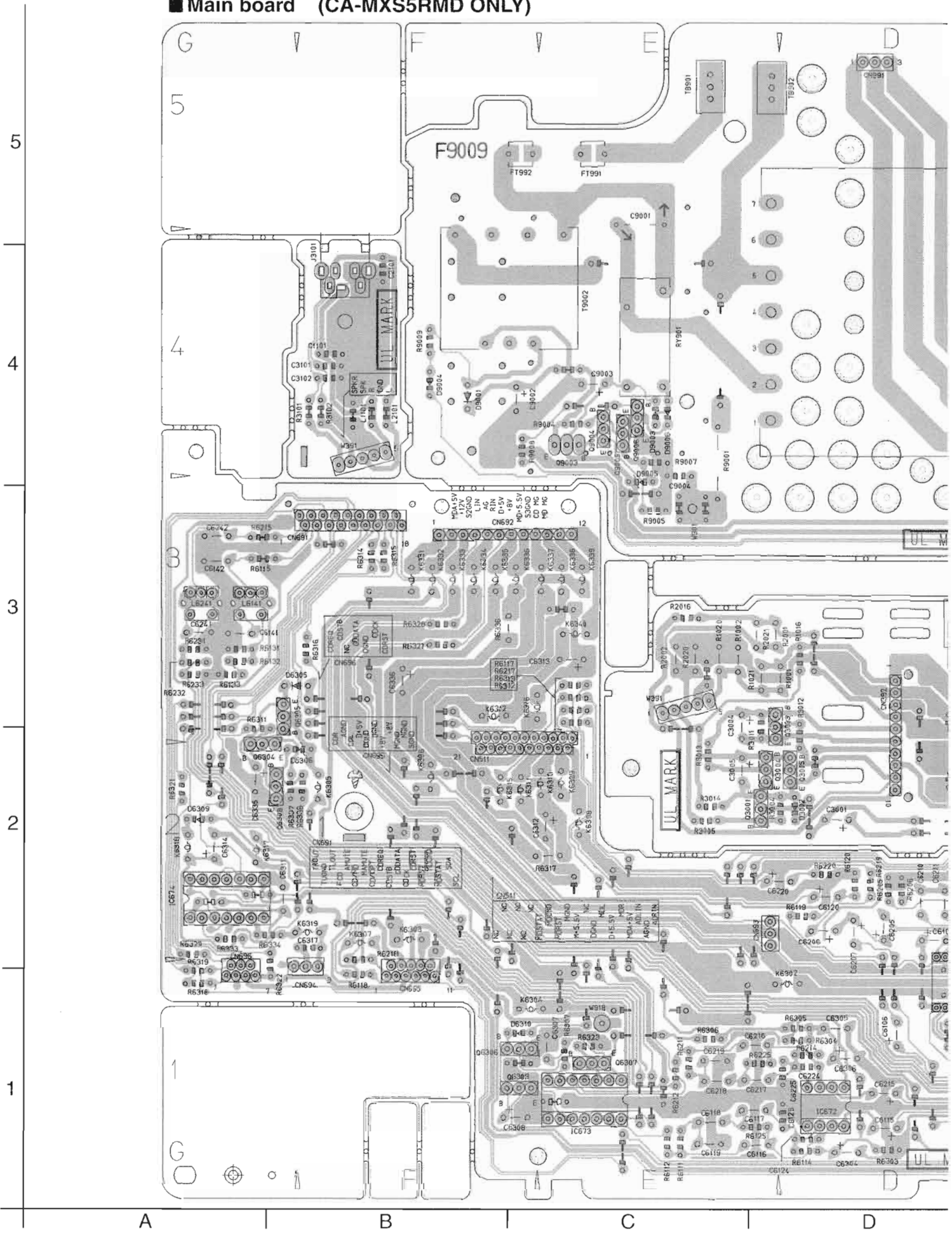
D

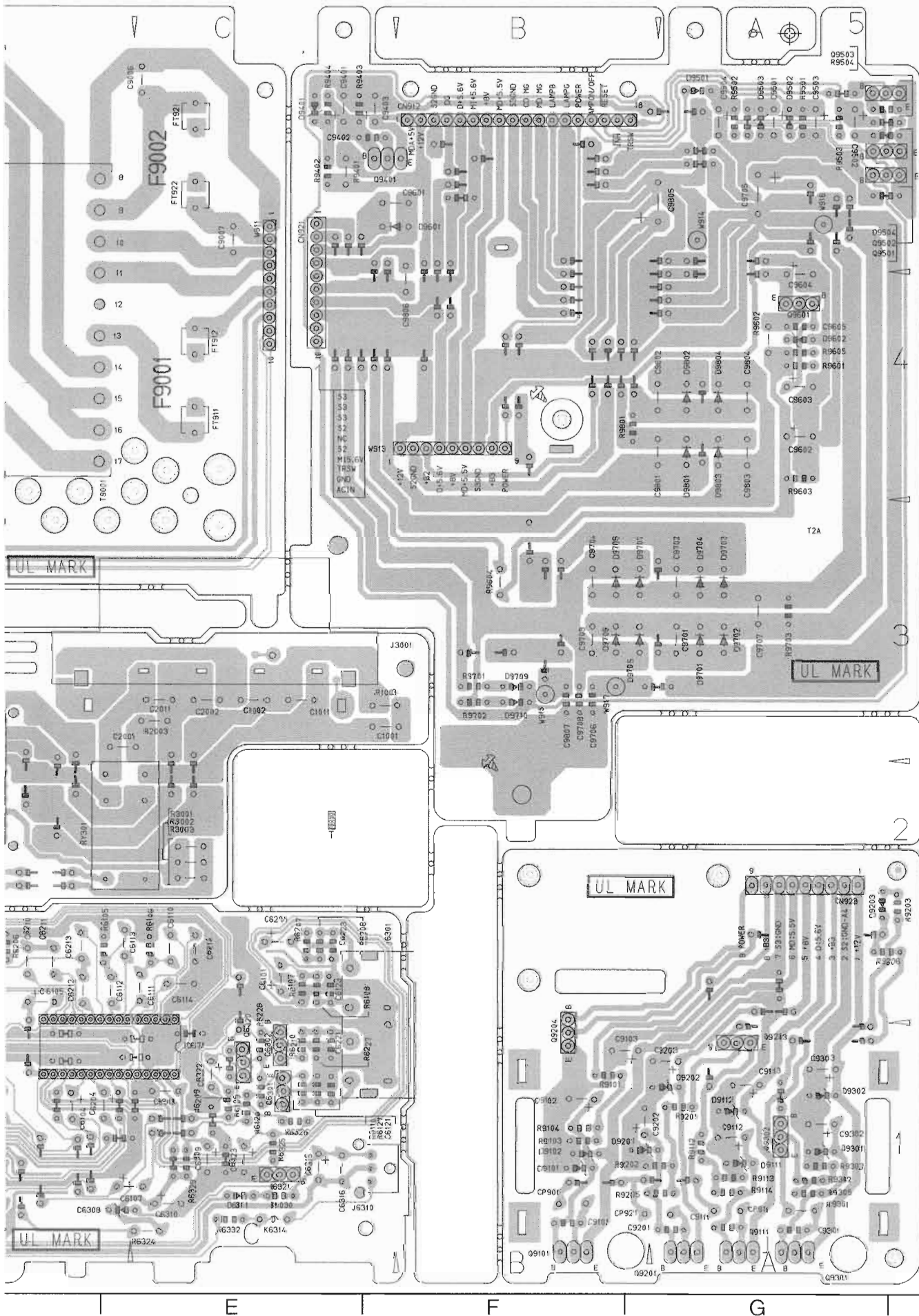




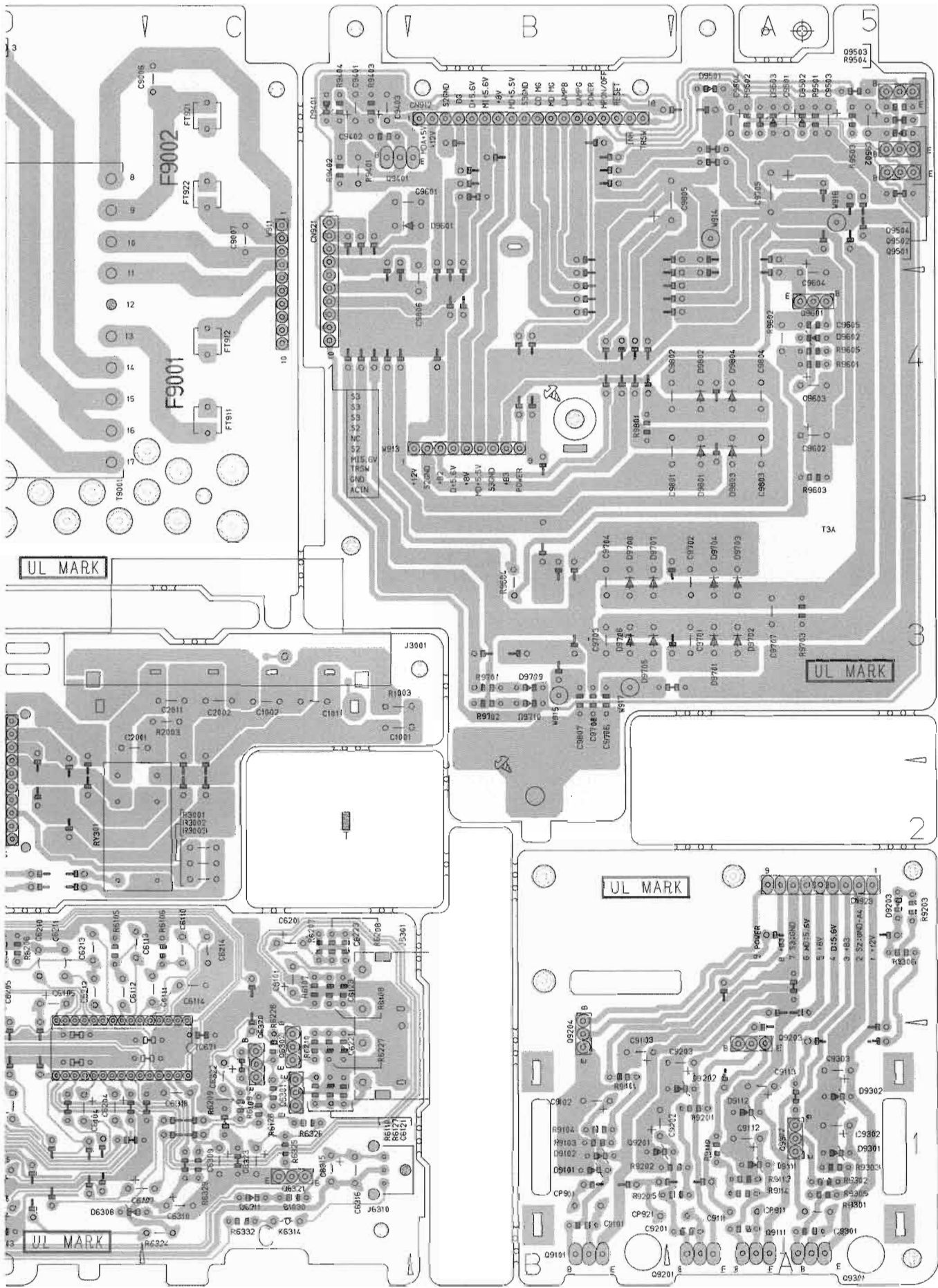
# Printed circuit boards

■ Main board (CA-MXS5RMD ONLY)



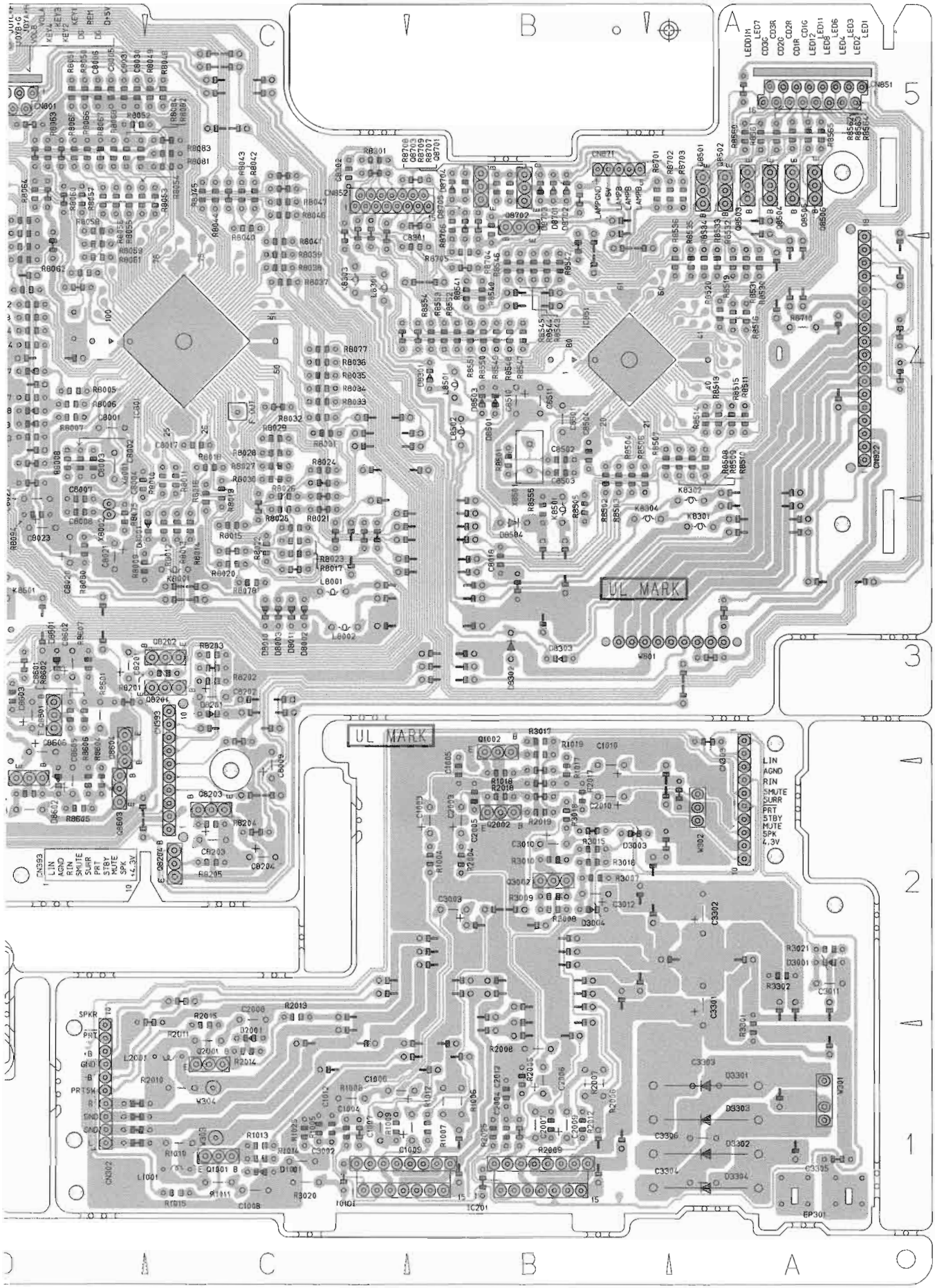




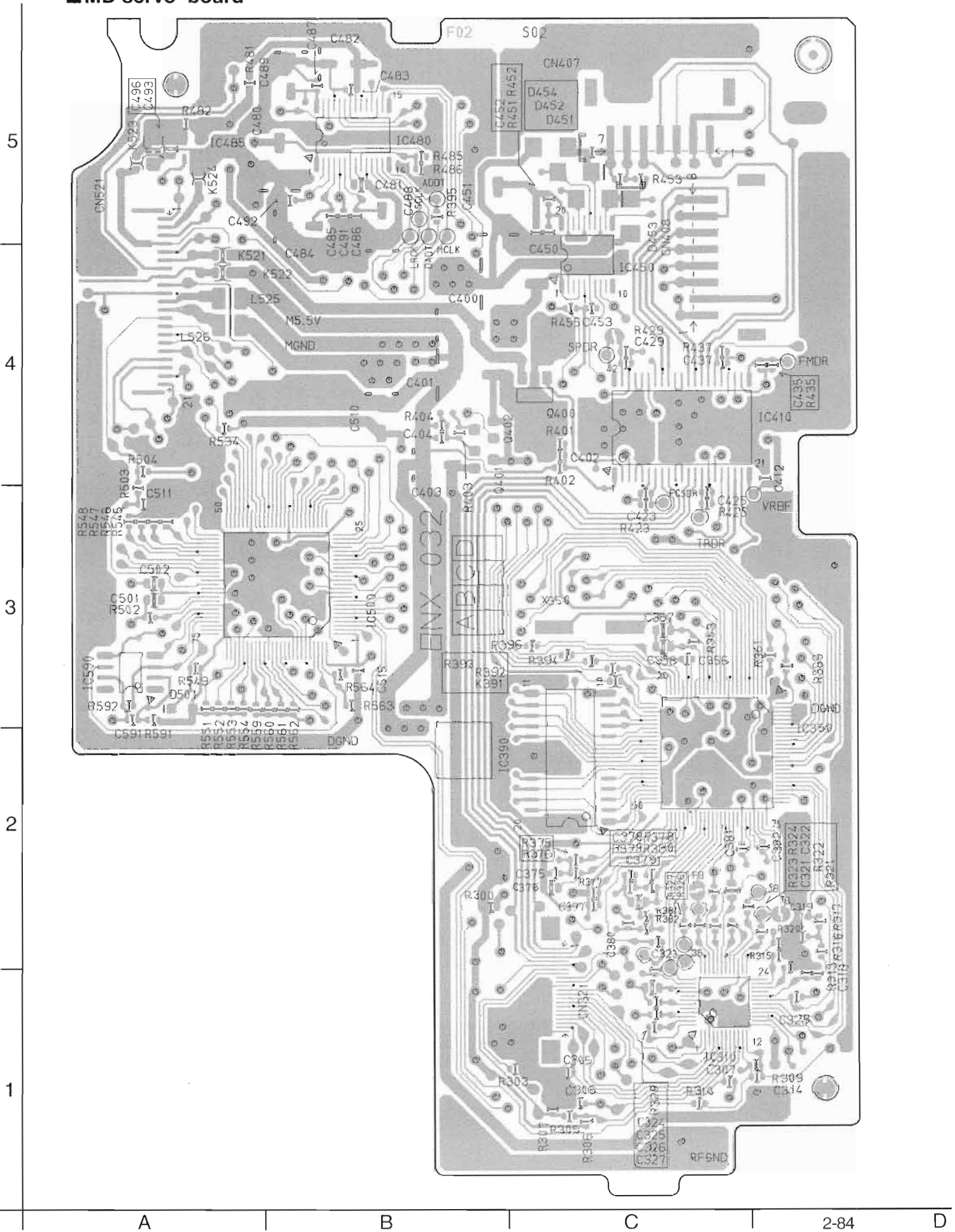


D | E | F | G | H





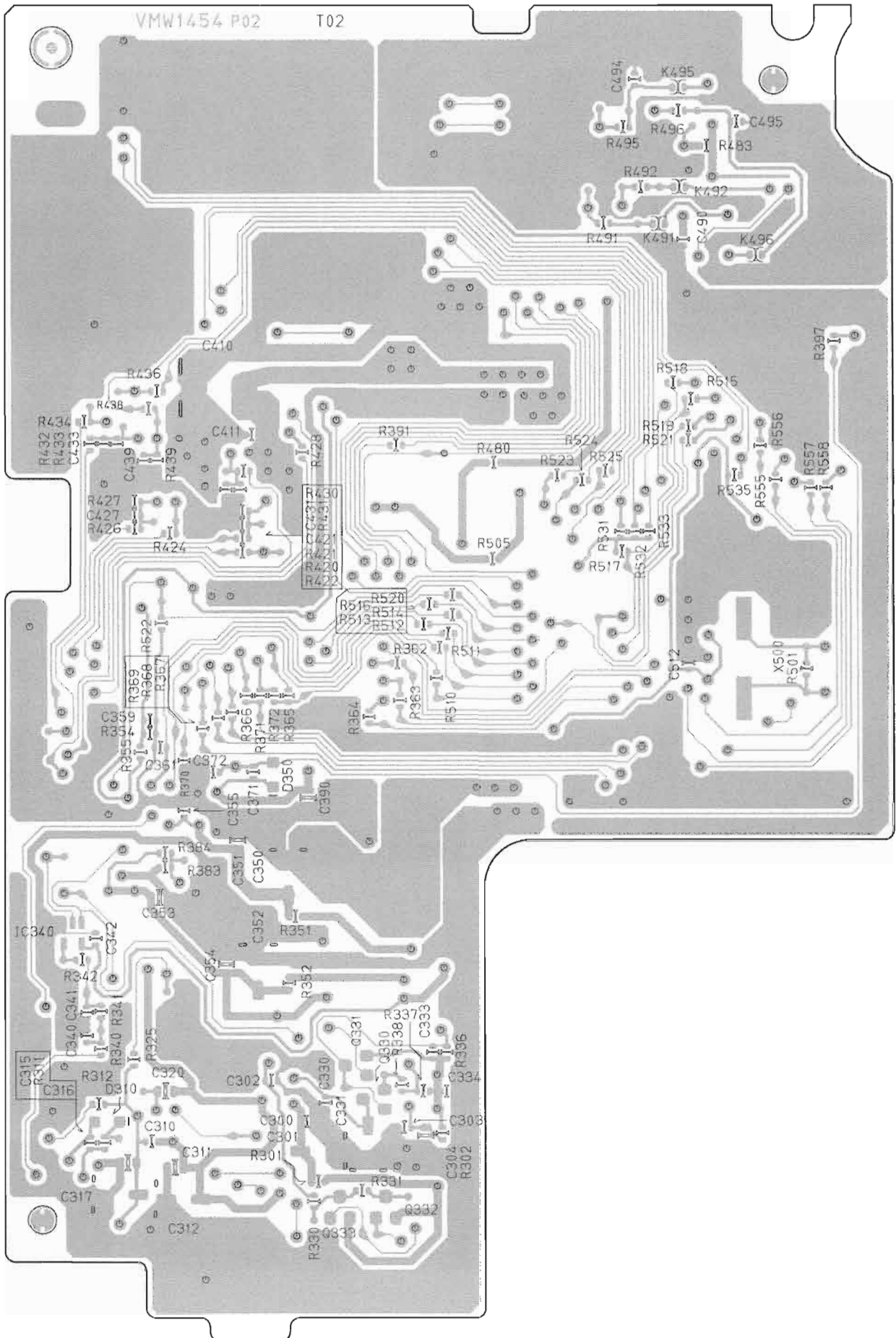
■ MD servo board





VMW1454 P02

T02



D | E | F | G | H



**PARTS LIST**

[ CA-MXS5MD ]  
[ CA-MXS5RMD ]  
[ SP-MXS5MD ]

\* All printed circuit boards and its assemblies are not available as service parts.

<b>CA-MXS5MD</b>	
Areas suffix	
UB -----	Hong Kong
US -----	Singapore
UT -----	Taiwan

<b>SP-MXS5MD</b>	
Areas suffix	
U -----	for CA-MXS5MD UB
US -----	for CA-MXS5MD US
UT -----	for CA-MXS5MD UT
E -----	for CA-MXS5RMD B CA-MXS5RMD E CA-MXS5RMD EN

<b>CA-MXS5RMD</b>	
Areas suffix	
B -----	U.K.
E -----	Continental Europe
EN -----	Northern Europe

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Exploded view of general assembly and parts list .....	3-2
CD changer mechanism assembly and parts list .....	3-5
MD mechanism assembly and parts list .....	3-8
Electrical parts list .....	3-10
Packing materials and accessories parts list .....	3-24

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ Parts list (General assembly)

BLOCK NO.

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
1	LV10216-002A	FRONT PANEL		1		
2	E75896-002	FELT SPACER	FOOT	2		
3	LV20373-004A	WINDOW SCREEN	CA-MXS5RMD	1		
	LV20373-003A	WINDOW SCREEN	CA-MXS5MD	1		
4	E406971-001SM	JVC MARK		1		
5	LV20380-003A	ORNAMENT		1		
6	LV30611-004A	SHUTTER	MD	1		
7	LV41165-002A	SPRING	SHUTTER	1		
8	E72405-001SS	SPECIAL SCREW	SHUTTER+F.PANEL	1		
9	LV31114-001A	REFLECTOR(JOY)		1		
10	LV41037-002A	SHEET		1		
11	LV31113-001A	BUTTON KNOB	JOY STICK	1		
12	QYSDSF2608Z	SCREW	JOY PWB SA+ F.P	2		
13	E72405-001SS	SPECIAL SCREW	JOY PWB	1		
14	LV40992-001A	INDICATOR	(STAND BY)	1		
15	LV31111-001A	INDICATOR	(ACTIV,SOUND)	1		
16	LV40993-001A	INDICATOR	(REC/PAUSE)	1		
17	LV20374-001A	PUSH BOTTON	(PWR,CLOCK/TIME	1		
18	LV20375-001A	PUSH BUTTON	PLAY	1		
19	LV20377-001A	PUSH BUTTON	MD EJECT	1		
20	LV31151-001A	PUSH BUTTON	REC	1		
21	LV31152-001A	PUSH BUTTON	MODE	1		
22	LV20378-001A	P.BUTTON ASSY	CD	1		
23	QLD0089-001	LCD MODULE		1		
24	LV31115-001A	LAMP CASE		1		
25	LV40996-001A	LCD FILTER		1		
26	QYSDSF2608Z	SCREW	FOR LAMP CASE	2		
27	QYSDSF2608Z	SCREW	SWITCH PWB	11		
28	QUQ412-1710DM	FFC WIRE		1		
29	QUQ412-1615DM	FFC WIRE		1		
30	LV31116-001A	STAY BKT	MD	1		
31	QYSDSF2608Z	SCREW	STAY BKT	4		
32	-----	CD CHANGER MECH		1		
33	QJJ008-030803	SIN CR C-C WIRE	3CD MECHA-AUDIO	1		
34	LV30225-035A	SPACER	FOR QJJ008 WIRE	1		
35	QUQ110-0708AJ	FFC WIRE	3CD MECHA-AUDIO	1		
36	QUQ110-1108AJ	FFC WIRE	3CD MECHA-AUDIO	1		
37	LV10217-001A	BOTTOM CHASSIS		1		
38	QYSBST3006Z	T.SCREW	3CD MECHA+CHASS	4		
39	E75896-006	FELT SPACER	FOOT FOR CHASSI	2		
40	QYSBSGG3008Z	TAP.SCREW	SPEAKER PWB	1		
41	QYSBSGG3008Z	TAP.SCREW	HEADPHONE PWB	1		
42	LV20425-002A	TRANS BKT		1		
43	LV41551-001A	TRANS SPACER		2		
44	QYSBSGG3008Z	TAP.SCREW	TRANS BKT+B.CHA	4		
45	QYSDSTL4008Z	SPECIAL SCREW	TRANS+TRANS BKT	4		
46	QMP5530-0085LBS	POWER CORD	B	1		
	QMPR120-200-JD	POWER CORD	UT	1		
	QMP3900-200L	POWER CORD	E,EN,US	1		
	QMPN100-200-JD	POWER CORD	UB	1		
47	QQR0216-001	NOISE FILTER		1		
48	QZW0033-001	STRAIN RELIEF		1		
49	-----	MD MECHA		1		
50	LV20381-001A	MD CHASSIS		1		
51	E406294-003	C.D INSULATOR		4		



BLOCK NO. MM

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
52	LE30570-001A	BKT	MECHA SIDE	1		
53	QYSBSSG3008Z	TAP.SCREW	CHASSIS + BKT	1		
54	QYSBSSG3006Z	T.SCREW	MECHA + T.WIRE	1		
55	QYSBSSG3006Z	T.SCREW	T.WIRE+MD CHASS	1		
56	LV20382-001A	MD CHASSIS BASE	MD LOWER	1		
57	LV30225-042A	SPACER		1		
58	LV30225-043A	SPACER		1		
59	QYSBSSG3006Z	T.SCREW	MD CHASS + BASE	2		
60	LV31117-001A	CB BKT		3		
61	QYSBSSG3006Z	T.SCREW	CB BKT+ MD CHAS	3		
62	QUQ110-210BAJ	FFC WIRE	MD MECHA-AUDIO	1		
63	LV31231-002A	HEAT SINK		1		
64	QYSBSSG3014Z	T.SCREW	IC HOLDER+H.SIN	2		
65	QYSBSSG3014Z	T.SCREW	IC HOL+H.SNK(CE	1		
66	FMPK4003-001	MICA SHEET	POWER AMP IC	1		
67	FMKL4007-001	BRACKET	POWER AMP IC	1		
68	QYSBSSG3014Z	T.SCREW	BKT + H.SINK	1		
69	QQT0254-002	POWER TRANSF	T9001(CA-MXS5RM	1		
70	QQT0254-003	POWER TRANSF	T9001(CA-MXS5MD	1		
70	LV31230-202A	COVER	TRANS PWB	1		
71	QMF51E2-1R6-J1	FUSE(F9009)	CA-MXS5MD	1		
72	QMF51E2-1R0-J1	FUSE(F9009)	CA-MXS5RMD	1		
72	QMF51E2-1R0-J1	FUSE(F9001)		1		
73	QMF51E2-3R15-J1	FUSE(F9002)		1		
74	QMF51E2-1R0-J1	FUSE(F9008)	CA-MXS5MD	1		
75	QYSBSSG3008Z	TAP.SCREW	MD UNIT+TRNS BK	2		
76	QYSBSSG3008Z	TAP.SCREW	MD UNIT+TRNS BK	1		
77	QYSBSSG3008Z	TAP.SCREW	MD CHASS+MD STA	2		
78	QYSBSSG3008Z	TAP.SCREW	AUDIO PWB+CB BK	1		
79	QYSBSSG3008Z	TAP.SCREW	REG.PWB+CB BKT	1		
80	QYSBSSG3008Z	TAP.SCREW	REG.PWB+B.CHASS	1		
81	LV31123-201A	HEAT COVER	HEAT GUARD	1		
82	QUQ110-1510AJ	FFC WIRE	MAIN-CONTROL PW	1		
83	QZW0036-001	PC SUPPORT	DN MAIN PWB	3		
84	LV20384-003A	REAR PANEL		1		
85	QYSBSSGY3008M	SPECIAL SCREW	REAR PANEL+CHAS	1		
87	QYSBSSG3008Z	TAP.SCREW	TUNER PWB+CB BK	1		
88	QYSBSSGY3008M	SPECIAL SCREW	R.PANE+TRANS BK	1		
89	QYSBSSGY3008M	SPECIAL SCREW	TUNER JACK	2		
90	QYSBSSGY3008M	SPECIAL SCREW	FOR TAPE JACK	1		
91	QYSBSSGY3008M	SPECIAL SCREW	FOR DEGITAL IN	1		
92	QYSBSSGY3008M	SPECIAL SCREW	FOR SPEAKER JAC	2		
93	QYSBSSGY3008M	SPECIAL SCREW	FOR HEAT SINK	2		
94	QYSBSSGY3008M	SPECIAL SCREW	AMP PWB EARTH	1		
95	LV10218-005A	REAR COVER	CA-MXS5RMD	1		
96	LV10218-008A	REAR COVER	CA-MXS5MD	1		
96	QYSBSSG3008E	T.SCREW	REAR COVER+R.PA	2		
97	QYSDSF3012M	SCREW(VOL.SEL.)	CA-MXS5MD	1		
98	QYSBSSG3008Z	TAP.SCREW	F.PANEL+BOTTOM	2		
99	LV31121-001A	VOL.KNOB	MASTER VOLUME	1		
100	LV20385-001A	CD FITTING		1		
101	LE40352-001A	SPRING		1		
102	LV20386-003A/S/	METAL COVER		1		
103	LV30225-044A	SPACER		2		

CA-MXS5MD/MXS5RMD  
 SP-MXS5MD

BLOCK NO. M1MM111

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
104	LV30225-045A	SPACER		2		
105	LV30225-046A	SPACER		2		
106	LV30225-047A	SPACER		1		
107	QYSDSG3006N	T.SCREW	REAR	4		
108	QYSDSG3006N	T.SCREW	SIDE	2		
109	LV31122-002A	NAME PLATE	B/E/EN	1		
	LV31122-003A	NAME PLATE	UT	1		
	LV31122-004A	NAME PLATE	UB/US	1		
110	VND4118-004	CAUTION LABEL	TO REAR COVER	1		
111	LV30093-047A	UT LABEL	UT	1		
112	LV31119-002A	IC HOLDER		1		
113	QGZ2506C1-09	CABLE HOLDER		2		
114	E307572-001	FASTENER	PWR CORD ON PWB	1		

# Exploded view of general assembly and parts list

Block No. 

M	1	M	M
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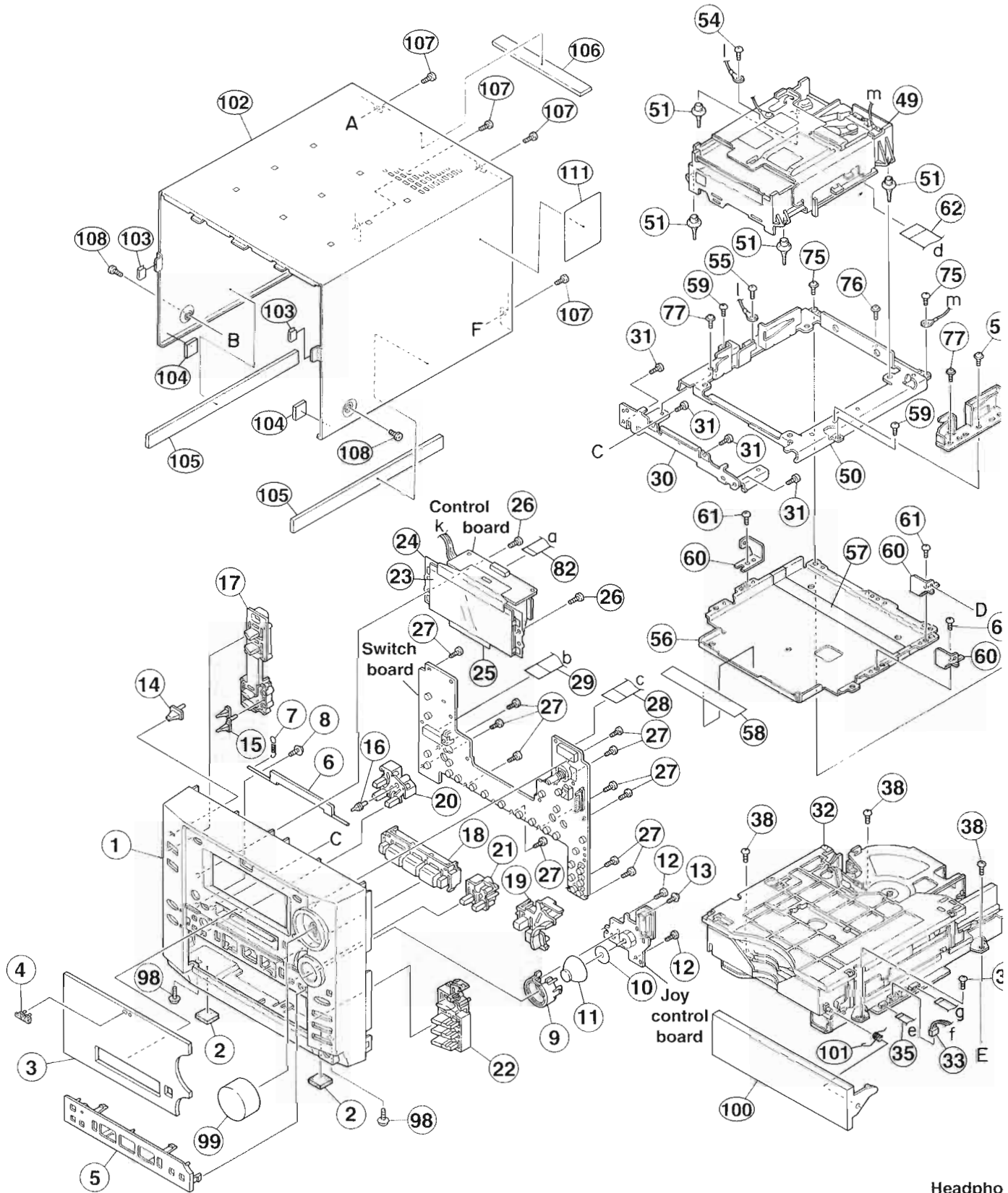
5

4

3

2

1



Headpho board -

A

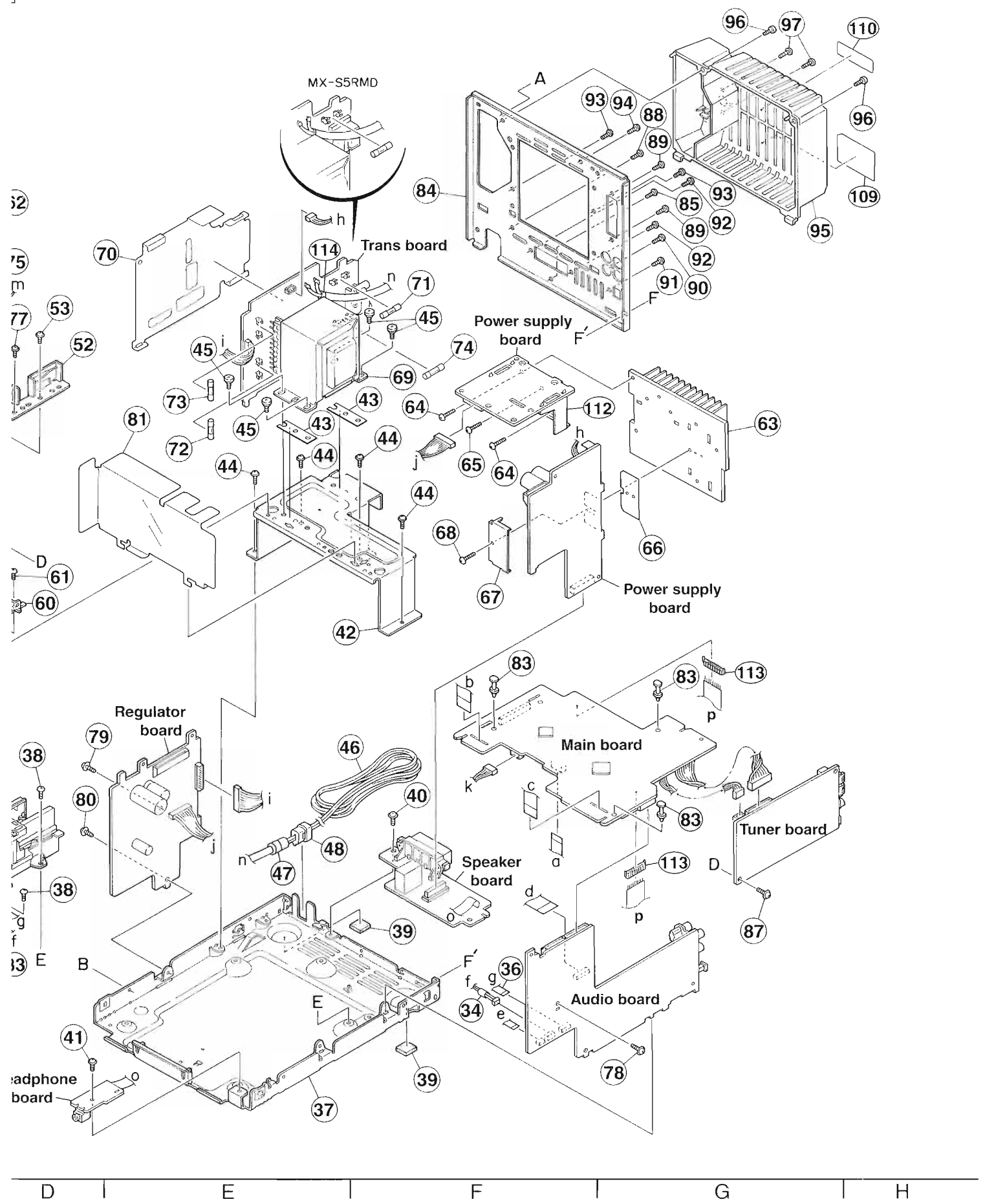
B

C

3-4

D

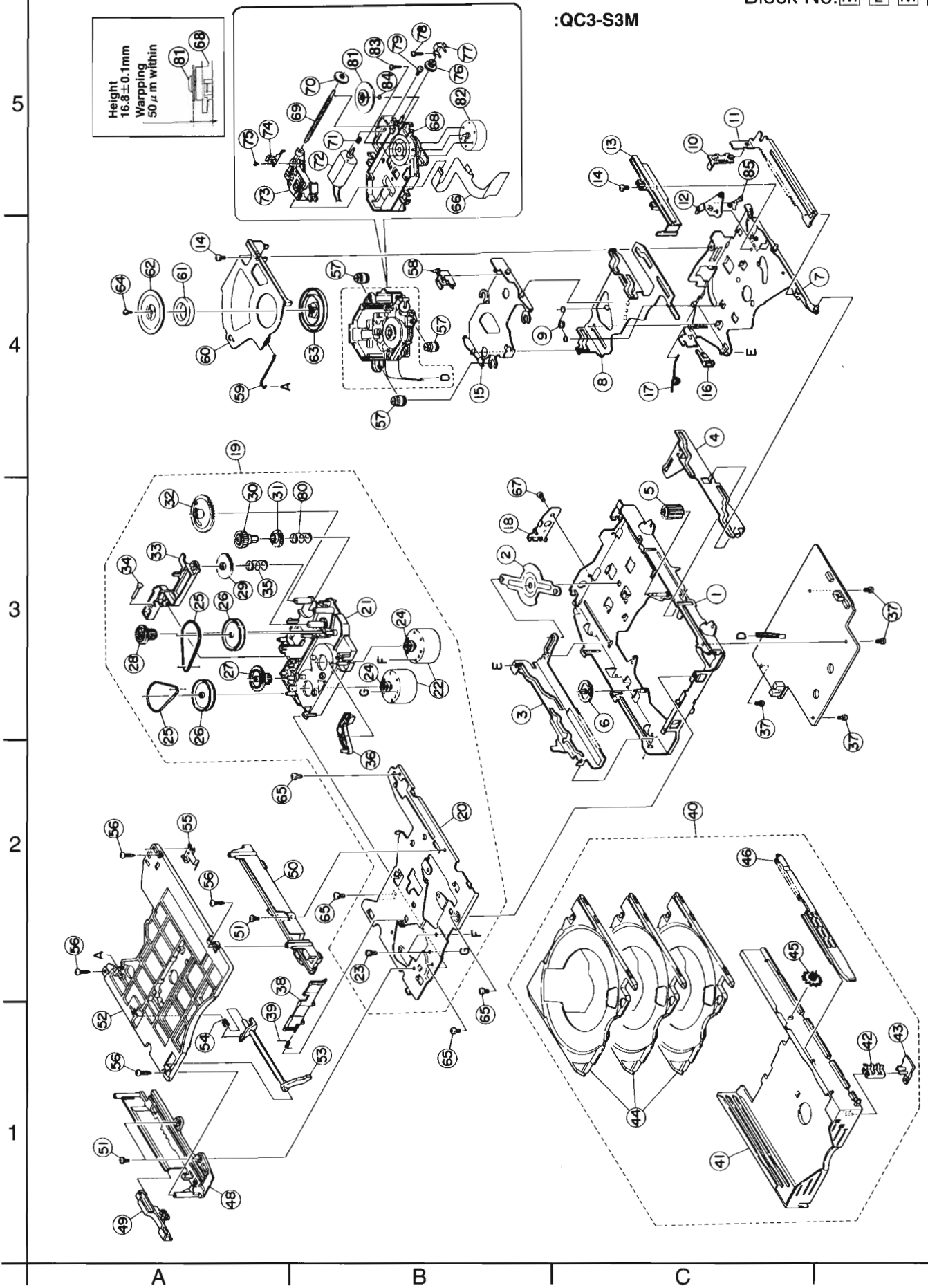






# CD changer mechanism assembly and parts list

Block No. M 2 M M



CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ Parts list (CD changer mechanism)

BLOCK NO. **M2MM** □ □ □ □

△ REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
1	VKM3893-00B	CHASSIS ASS'Y		1		
2	VKL7846-00B	CON.ARM ASS'Y		1		
3	VKL2763-001	SLIDE CAM(L)		1		
4	VKL2764-001	SLIDE CAM(R)		1		
5	VKS3765-001	HOOK GEAR		1		
6	VKS3766-001	POSTION GEAR		1		
7	VKM3895-00C	LIFTER BASE ASS		1		
8	VKL2766-004	LIFTER		1		
9	VKW5245-003	DIRECTION SPRIN		1		
10	VKS3767-001	HOOK		1		
11	VKM3896-002	HOOK SLIDER		1		
12	VKM3897-001	LOCK ARM		1		
13	VKS3768-002	GUIDE RAIL		1		
14	QYSDST2605Z	SCREW		2		
15	VKM3898-00C	FLOATING BASE S		1		
16	VKS3769-001	TRAY HOLDER		1		
17	VKW5250-002	LIFT SPRING		1		
18	VKL7881-003	PROTECTOR		1		
19	VKS2267-00E	ACTUATOR UNIT		1		
20	VKL2768-001	TRAY BASE		1		
21	VKS1162-001	ACTUATOR BASE		1		
22	MSN5G257A	MOTOR		2		
23	QYSPSPL2606Z	SCREW		2		
24	VKS5548-001	MOTOR PULLEY		2		
25	VKB3000-177	BELT		2		
26	VKS5549-001	PULLEY GEAR		2		
27	VKS5550-001	THIRD GEAR(C)		1		
28	VKS5551-001	THIRD GEAR(T)		1		
29	VKS5552-001	ELEVATOR GEAR		1		
30	VKS5553-002	M.T GEAR		1		
31	VKS5554-001	UP.DOWN GEAR		1		
32	VKS3770-003	SWITCH GEAR		1		
33	VKS2269-001	ELEVATOR ARM		1		
34	VKH5783-001	ELEVATOR PIN		1		
35	VKW5246-001	ELEVATOR SPRING		1		
36	VKS3772-001	M.T DETECTOR		1		
37	QYSDST2605Z	SCREW	FOR PWB	4		
38	VKS3773-001	FLAP		1		
39	VKW5247-003	FLAP SPRING		1		
40	VKS2270-00D	TRAY UNIT		1		
41	VKS1157-002	MAIN TRAY		1		
42	VKM3900-002	CLIC SPRING(S)		1		
43	VKS3774-001	SPRING COVER		1		
44	VKS1158-003	SUB TRAY		3		
45	VKS5555-001	PLANET GEAR		1		
46	VKS3775-001	DOOR OPNER		1		
48	VKS1159-001	TRAY GUIDE(L)		1		
49	VKS3777-001	SELECT SW		1		
50	VKS1160-001	TRAY GUIDE(R)		1		
51	QYSDST2605Z	SCREW	FOR TRAY GUIDE	3		
52	VKS1163-003	TOP COVER		1		
53	VKS3778-001	SELECTOR		1		
54	VKW5248-001	SELECTOR SPRING		1		
55	VKM3901-001	CLICK SPRING(M)		1		
56	QYSBSF2608Z	T.SCREW	FOR TOP COVER	4		

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

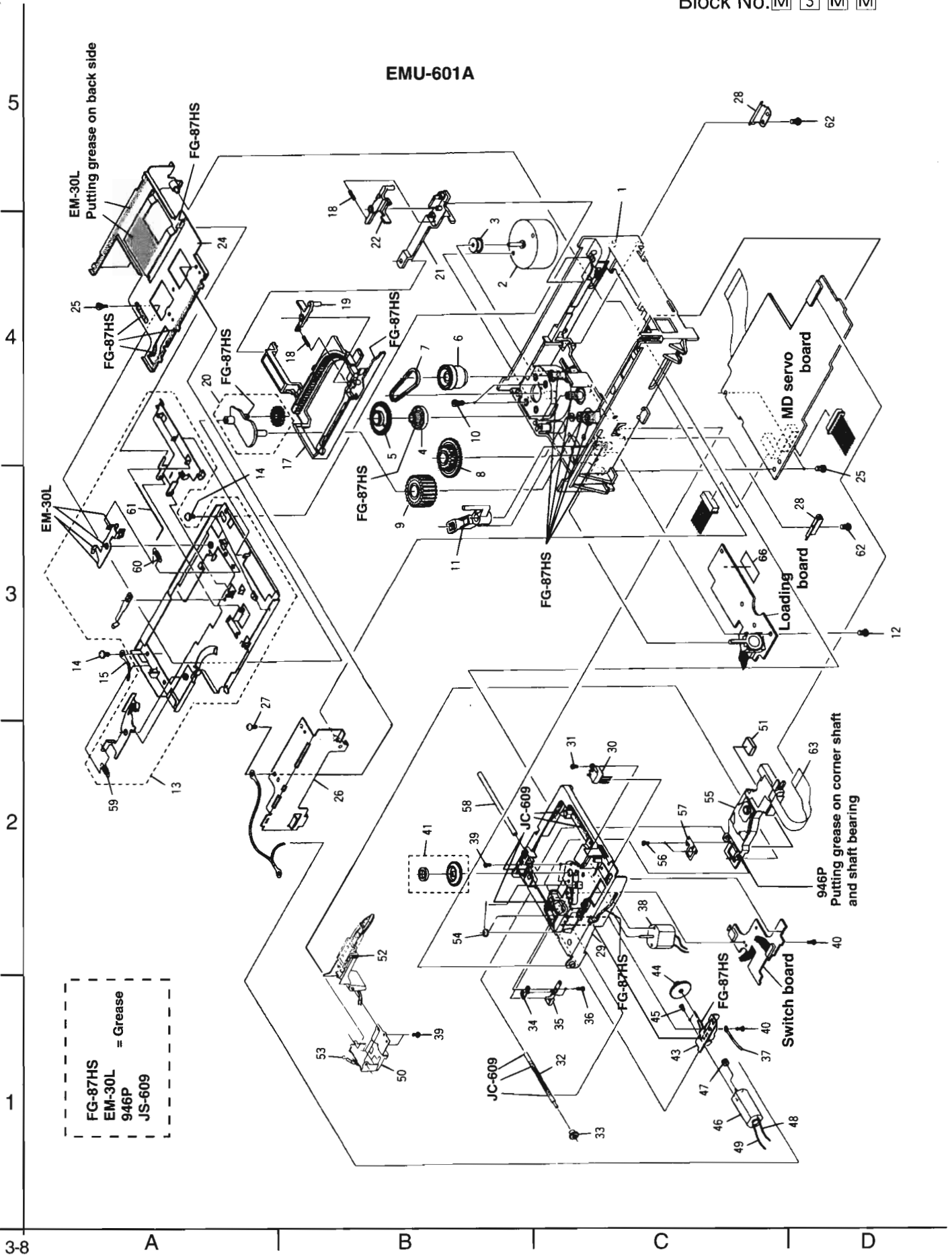
BLOCK NO. **M2MM**

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
57	VKZ4791-001	INSULATOR		3		
58	VKS3779-001	STOPPER		1		
59	VKW5249-001	ROD		1		
60	VKL2769-003	CLAMPER BASE		1		
61	VYH7313-003	MAGNET		1		
62	VKL7757-001	YOKE		1		
63	VKS3780-002	CLAMPER		1		
64	QYSPSF2604Z	SCREW		1		
65	QYSDST2605Z	SCREW	FOR TRAY BASE	4		
66	VMW3699-001	F.P.C (PWB)		1		
67	QYSDST2605Z	SCREW		1		
68	VKS1161-002	T.MECHA CHASSIS		1		
69	VKZ4781-001	SCREW SHAFT		1		
70	VKS5556-001	S.S. GEAR		1		
71	VKS5557-001	F.M. GEAR		1		
72	PPN-13KA10C	MOTOR		1		
73	OPTIMA-610B1	C.D PICK UNIT(C		1		
74	VKM3903-001	RACK ARM		1		
75	QYSPSPT1714M	MINI SCREW		2		
76	VKS5558-001	MIDDLE GEAR		1		
77	VKM3904-001	SHAFT HOLDER		1		
78	VKZ4248-206	MINI SCREW		1		
79	QYSPSPL2004Z	SCREW		1		
80	VKW5314-001	UP DOWN SPRING		1		
81	VKS3782-001	TURN TABLE		1		
82	MDN3BT3CSDS	SPINDLE MOTOR		1		
83	VKZ4743-001	SPECIAL SCREW		2		
84	WFM214025	WASHER		1		
85	VKM3964-001	THRUST PLATE		1		

# MD mechanism assembly and parts list

Block No. M 3 M M

EMU-601A



■ Parts list (MD mechanism)

BLOCK NO. M3MM | | | |

△ REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	E103156-002	LOADING BASE	1		
	2	MSN5G543C	MOTOR	1		
	3	E75984-222SS	MOTOR PULLEY	1		
	4	E409146-001	GEAR(5)	1		
	5	E409143-001	GEAR(2)	1		
	6	E409142-002	GEAR(1)	1		
	7	E75950-002	BELT	1		
	8	E409144-001	GEAR(3)	1		
	9	E409145-001	GEAR(4)	1		
	10	QYSPSPT2640Z	MINI SCREW	2		
	11	E409149-002	SW LEVER	1		
	12	QYSBSF2606M	SCREW	1		
	13	E309825-010	CAR.BASE ASSY	1		
	14	QYSBSFG2606Z	SCREW	3		
	15	EWZ01-027	TERMINAL WIRE	1		
	17	E208853-001	RACK	1		
	18	E409153-002	SPRING	2		
	19	E409152-002	HOOK(L)	1		
	20	E409195-002	P.GEAR ASSY	1		
	21	E309824-001	LINK	1		
	22	E409154-002	HOOK(R)	1		
	24	E309829-004	S.BKT (R) ASSY	1		
	25	E409163-001	SPECIAL SCREW	3		
	26	E409164-003	S.BKT (L) ASSY	1		
	27	QYSBST2606Z	T.SCREW	1		
	28	LV40591-001A	BRACKET	2		
	29	E103258-001	CHASSIS BAS	1		
	30	QSW0508-001	PUSH SW	1		
	31	QYSPSGT2035M	MINI SCREW	1		
	32	E409553-001	LEAD SCREW	1		
	33	E409542-001	GEAR F.LEAD	1		
	34	E409548-001	TH.PLATE	1		
	35	E409135-001	THRUST SPRING	1		
	36	E409332-001	SPECIAL SCREW	2		
	37	EWT025-008	TERMINAL WIRE	1		
	38	FF-110PH-08280	P.MOTOR	1		
	39	QYSPSPU1720M	MINI SCREW	4		
	40	QYSPST2606Z	SCREW	2		
	41	LE30470-001A	T.TABLE ASSY	1		
	43	E409129-006	M.BKT ASSY	1		
	44	E409133-001	MIDDLE GEAR	1		
	45	QYSPSPU1420Z	MINI SCREW	2		
	46	FF-N30VA-09210	FEED MOTOR	1		
	47	E409550-001	F.M.GEAR	1		
	48	QWE269-06BB	WIRE ASSY	1		
	49	QWE260-05BB	WIRE ASSY	1		
	50	E310179-001	H.JOINT	1		
	51	LE30001-008A	SPACER	1		
	52	HMD-7C	HEAD UNIT	1		
	53	E409158-004	SPRING	1		
	54	E409165-001	M.SPRING	1		
△	55	KMS-260B	MD PICK UNIT	1		
	56	QYSPSPT1414Z	SCREW	2		
	57	E408255-003	RACK SPRING	1		
	58	E409141-001	GUIDE SHAFT	1		
	59	E409158-002	SPRING	1		
	60	E409158-003	SPRING	1		
	61	E409167-001	SPRING BAR	1		
	62	QYSBSF2606M	SCREW	2		
	63	EMW40008-001	FPC CABLE	1		
	66	VYSA1R4-056	SPACER	1		

# Electrical parts list

■ Main board

BLOCK NO. 04111111				BLOCK NO. 04111111							
A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CN392	GG2510J1-10	CONNECTOR				C6217	GFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	CN511	GGF1024C1-21S	CONNECTOR				C6218	GFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	CN691	GBB1214K1-18S	CONNECTOR				C6219	QFLM1HJ-102Z	M CAPACITOR	1000PF 5% 50V	
	CN692	GG2510K2-12	CONNECTOR				C6220	QFLM1HJ-106	E CAPACITOR	10MF 20% 25V	
	CN694	GG2501C1-03	3P CONNECTOR				C6223	QCB81HK-151Y	C CAPACITOR	CA-MXS5RMD	
	CN695	GGF1016C1-11	CONNECTOR				C6261	QFLM1HJ-52Z2	M CAPACITOR	5000PF 5% 50V	
	CN696	GGF1016C1-07	CONNECTOR				C6304	QEK41EM-476	E CAPACITOR	47MF 20% 25V	
	CN912	EMV5163-018R	CONNECTOR				C6305	QFLM1HJ-225Z	M CAPACITOR	.022MF 5% 50V	
	CN923	GG2501C1-10	10P CONNECTOR				C6306	QEK41EM-476	E CAPACITOR	100MF 20% 10V	
	CN925	GG2501F1-09	CONNECTOR				C6307	QEK41EM-226	E CAPACITOR	22MF 20% 50V	
	CN991	GG2501C1-03	3P CONNECTOR				C6308	QEK41EM-275	E CAPACITOR	4.7MF 20% 50V	
	CP901	ICP-N25-T	ICP I.M				C6309	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V	
	CP911	ICP-N25-T	ICP I.M				C6310	QEK41EM-107Z	E CAPACITOR	10MF 20% 50V	
	CP921	ICP-N25-T	ICP I.M				C6311	QEK41EM-107Z	E CAPACITOR	100MF 20% 16V	
	C1001	QFLM1HJ-223Z	M CAPACITOR				C6312	QEK41EM-107Z	E CAPACITOR	1.5MF	
	C1002	QFLM1HJ-103Z	M CAPACITOR	CA-MXS5RMD			C6313	QEK41EM-476	E CAPACITOR	470MF 20% 6.3V	
	C1101	QFLM1HJ-103Z	M CAPACITOR	CA-MXS5RMD			C6314	QEK41EM-476	E CAPACITOR	100MF 20% 10V	
	C1101	QCB81HK-101Y	C CAPACITOR	CA-MXS5RMD			C6315	QEK41EM-476	E CAPACITOR	47MF 20% 25V	
	C2001	QFLM1HJ-223Z	M CAPACITOR	CA-MXS5RMD			C6318	GFV41HJ-104	TF CAPACITOR	47MF 20% 25V	
	C2002	QFLM1HJ-103Z	M CAPACITOR	CA-MXS5RMD			C6322	QEK41EM-105	E CAPACITOR	.10MF 5% 50V	
	C2011	QFLM1HJ-103Z	M CAPACITOR	CA-MXS5RMD			C6336	QEK41EM-108	E CAPACITOR	1.0MF 20% 50V	
	C2101	QCB81HK-101Y	C CAPACITOR	CA-MXS5RMD			C9001	QZ9019-472	C CAPACITOR	CA-MXS5RMD	
	C3001	QEK41EM-105	E CAPACITOR	1.0MF 20% 50V			C9002	QEK41EM-108	E CAPACITOR	CA-MXS5RMD	
	C3004	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V			C9003	QEK41EM-107	E CAPACITOR	CA-MXS5RMD	
	C3005	QEK41EM-476	E CAPACITOR	47MF 20% 25V			C9101	QDV81E2-103Y	C CAPACITOR	CA-MXS5RMD	
	C4101	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V			C9102	QED31EM-107Z	E CAPACITOR	100MF 20% 10V	
	C4104	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V			C9103	QED31EM-476Z	E CAPACITOR	47MF 20% 16V	
	C6105	QEK41EM-225	E CAPACITOR	2.2MF 20% 50V			C9111	QDV81E2-105Y	C CAPACITOR	100MF 20% 10V	
	C6106	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V			C9112	QED31EM-107Z	E CAPACITOR	100MF 20% 10V	
	C6107	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V			C9113	QED31EM-107Z	E CAPACITOR	100MF 20% 10V	
	C6110	QFLM1HJ-183Z	M CAPACITOR	.018MF 5% 50V			C9201	QDV81E2-103Y	C CAPACITOR	100MF 20% 10V	
	C6111	QFLM1HJ-223Z	M CAPACITOR	.022MF 5% 50V			C9202	QED31EM-107Z	E CAPACITOR	47MF 20% 16V	
	C6112	QFLM1HJ-154Z	TF CAPACITOR	.15MF 5% 50V			C9203	QED31EM-476Z	E CAPACITOR	47MF 20% 16V	
	C6113	QFLM1HJ-154Z	TF CAPACITOR	.15MF 5% 50V			C9301	QDV81E2-103Y	C CAPACITOR		
	C6114	QFLM1HJ-562Z	M CAPACITOR	5600PF 5% 50V			C9302	QED31EM-476Z	E CAPACITOR	47MF 20% 16V	
	C6115	QEK41EM-226Z	E CAPACITOR	22MF 20% 50V			C9303	QED31EM-476Z	E CAPACITOR	47MF 20% 16V	
	C6116	QFLM1HJ-472Z	M CAPACITOR	4700PF 5% 50V			C9401	QEK41EM-476	E CAPACITOR	47MF 20% 25V	
	C6117	GFV41HJ-104	TF CAPACITOR	.10MF 5% 50V			C9402	QDY81EM-103Y	E CAPACITOR	47MF 20% 25V	
	C6118	GFV41HJ-104	TF CAPACITOR	.10MF 5% 50V			C9403	QDY81EM-476	E CAPACITOR	47MF 20% 25V	
	C6119	QFLM1HJ-102Z	M CAPACITOR	1000PF 5% 50V			C9501	QEK41EM-225Z	E CAPACITOR	47MF 20% 25V	
	C6120	QEK41EM-106	E CAPACITOR	10MF 20% 25V			C9502	QEK41EM-475	E CAPACITOR	2.2MF 20% 50V	
	C6123	QCB81HK-151Y	C CAPACITOR	CA-MXS5RMD			C9503	QEK41EM-225Z	E CAPACITOR	4.7MF 20% 50V	
	C6141	QFLM1HJ-562Z	M CAPACITOR	5600PF 5% 50V			C9504	QEK41EM-477Z	E CAPACITOR	2.2MF 20% 50V	
	C6201	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V			C9601	GFV41HJ-104	TF CAPACITOR	470MF 20% 6.3V	
	C6204	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V			C9602	QEK41EM-477	E CAPACITOR	.10MF 5% 50V	
	C6205	QEK41EM-225	E CAPACITOR	2.2MF 20% 50V			C9603	QEK41EM-106Z	E CAPACITOR	470MF 20% 35V	
	C6206	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V			C9604	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V	
	C6207	QEK41EM-106Z	E CAPACITOR	10MF 20% 50V			C9605	QDY81EM-103Y	E CAPACITOR	10MF 20% 50V	
	C6210	QFLM1HJ-183Z	M CAPACITOR	.018MF 5% 50V			C9701	QEK41EM-104	TF CAPACITOR	.10MF 5% 50V	
	C6211	QFLM1HJ-223Z	M CAPACITOR	.022MF 5% 50V			C9704	GFV41HJ-104	TF CAPACITOR	10MF 5% 50V	
	C6212	QFV41HJ-154Z	TF CAPACITOR	.15MF 5% 50V			C9705	QEK41EM-688	E CAPACITOR	6800MF 20% 25V	
	C6213	QFV41HJ-154Z	TF CAPACITOR	.15MF 5% 50V			C9707	GFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C6214	QFLM1HJ-562Z	M CAPACITOR	5600PF 5% 50V			C9801	QFLM1HJ-683Z	M CAPACITOR	.068MF 5% 50V	
	C6215	QEK41EM-226Z	E CAPACITOR	22MF 20% 50V			C9804	QFLM1HJ-683Z	M CAPACITOR	.068MF 5% 50V	
	C6216	QFLM1HJ-472Z	M CAPACITOR	4700PF 5% 50V			C9805	QEK41EM-228	E CAPACITOR	2200MF 20% 35V	



BLOCK NO. 01111111				BLOCK NO. 01111111					
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
A D3002	1S5133-T2	DIODE			A J3101	QNS0072-001	HEADPHONE JACK		
A D6306	MTZJ5-1B-T2	ZENER DIODE			A J6301	QNN0173-001	PIN JACK		
A D6308	MTZJ11A-T2	ZENER DIODE			A L6310	GP1F32R	OPTICAL JACK		
A D6309	1S6133-T2	DIODE			A L6141	QGR0590-001	FILTER		
A D6310	1S8133-T2	DIODE			A L6241	QGR0590-001	FILTER		
A D6311	1S9133-T2	DIODE			A Q3001	2SC2060/QR/-T	TRANSISTOR		
A D9001	1N4003S-T5	SI DIODE	CA-MXS5RMD		A Q3003	KRC110M-T	TRANSISTOR		
A D9003	1S9133-T2	DIODE	CA-MXS5RMD		A Q3004	28A1175/FE/-T	TRANSISTOR		
A D9004	1S9133-T2	DIODE	CA-MXS5RMD		A Q3005	2SC2785/FE/-T	TRANSISTOR		
A D9005	MTZJ5-6A-T2	ZENER DIODE	CA-MXS5RMD		A Q6301	2SC2001/LK/-T	TRANSISTOR		
A D9006	1S9133-T2	DIODE	CA-MXS5RMD		A Q6302	2SC2001/LK/-T	TRANSISTOR		
A D9101	MTZJ6-2B-T2	ZENER DIODE			A Q6303	KRC104M-T	D.TRANSISTOR		
A D9102	MTZJ6-8C-T2	ZENER DIODE	CA-MXS5MD		A Q6304	2SC2785/FE/-T	TRANSISTOR		
A D9111	MTZJ6-2C-T2	ZENER DIODE			A Q6305	28A934/QR/-T	TRANSISTOR		
A D9112	MTZJ7-5C-T2	ZENER DIODE			A Q6306	KRC104M-T	D.TRANSISTOR		
A D9201	MTZJ9-1B-T2	ZENER DIODE			A Q6307	KRA104M-T	D.TRANSISTOR		
A D9202	MTZJ10C-T2	ZENER DIODE			A Q6308	2SC2785/FE/-T	TRANSISTOR		
A D9203	1S9133-T2	DIODE	CA-MXS5MD		A Q6320	KRA104M-T	D.TRANSISTOR		
A D9301	MTZJ13B-T2	ZENER DIODE			A Q6321	KRC107M-T	D.TRANSISTOR		
A D9302	MTZJ15A-T2	ZENER DIODE	CA-MXS5MD		A Q9003	2S91274/RS/	TRANSISTOR	CA-MXS5RMD	
A D9401	MTZJ5-6C-T2	ZENER DIODE			A Q9005	2SC2785/FE/-T	TRANSISTOR	CA-MXS5RMD	
A D9501	1S9133-T2	DIODE			A Q9006	2SC2785/FE/-T	TRANSISTOR	CA-MXS5RMD	
A D9502	1S9133-T2	DIODE			A Q9101	2SD1944/JK/	TRANSISTOR	CA-MXS5RMD	
A D9503	MTZJ5-1C-T2	ZENER DIODE			A Q9111	2SD1944/JK/	TRANSISTOR		
A D9504	1S9133-T2	DIODE			A Q9201	2SD1944/JK/	TRANSISTOR		
A D9601	1N6003S-T5	SI DIODE			A Q9203	KRA107M-T	D.TRANSISTOR		
A D9602	MTZJ27B-T2	ZENER DIODE			A Q9204	KRC107M-T	D.TRANSISTOR		
A D9701	1N4003S-T5	SI DIODE			A Q9301	2SD2394/JEF/	D.TRANSISTOR		
A D9702	1N4003S-T5	SI DIODE			A Q9302	KRA107M-T	D.TRANSISTOR		
A D9703	1N4003S-T5	SI DIODE			A Q9401	2SD1913/RS/	TRANSISTOR		
A D9704	1N4003S-T5	SI DIODE			A Q9501	KRC104M-T	D.TRANSISTOR		
A D9705	1N4003S-T5	SI DIODE			A Q9502	KRC107M-T	D.TRANSISTOR		
A D9706	1N4003S-T5	SI DIODE			A Q9503	KRC107M-T	D.TRANSISTOR		
A D9707	1N4003S-T5	SI DIODE			A Q9601	2SC2060/QR/-T	TRANSISTOR		
A D9708	1N4003S-T5	SI DIODE			A RY301	QSK0057-001	RELAY	CA-MXS5RMD	
A D9709	1S9133-T2	SI DIODE	CA-MXS5MD		A RY901	QSK0094-001	RELAY	540 5X 1/1W	
A D9710	1S9133-T2	SI DIODE	CA-MXS5MD		A R1001	QRL01DJ-561X	OMF RESISTOR	CA-MXS5RMD	
A D9801	1N4003S-T5	SI DIODE			A R1003	QR29006-4R7X	F RESISTOR	100K 5X 1/4W	
A D9802	1N4003S-T5	SI DIODE			A R1016	QRE141J-104Y	C RESISTOR	500 5X 1/1W	
A D9803	1N4003S-T5	SI DIODE			A R2001	QRL01DJ-561X	OMF RESISTOR	CA-MXS5RMD	
A D9804	1N4003S-T5	SI DIODE			A R2003	QR29006-4R7X	F RESISTOR	CA-MXS5RMD	
A FT911	1N60020-001Z	FUSE CLIP	FOR F9001		A R2016	QRE141J-823Y	C RESISTOR	82K 5X 1/4W	
A FT912	1N60020-001Z	FUSE CLIP	FOR F9002		A R3002	QR29005-221X	F RESISTOR	220 1/0W	
A FT921	1N60020-001Z	FUSE CLIP	FOR F9002		A R3004	QRE141J-104Y	C RESISTOR	100K 5X 1/4W	
A FT922	1N60020-001Z	FUSE CLIP	FOR F9002		A R3005	QRE141J-152Y	C RESISTOR	1.5K 5X 1/4W	
A FT981	1N60020-001Z	FUSE CLIP	CA-MXS5MD		A R3011	QRE141J-103Y	C RESISTOR	10K 5X 1/4W	
A FT982	1N60020-001Z	FUSE CLIP	CA-MXS5MD		A R3012	QRE141J-103Y	C RESISTOR	10K 5X 1/4W	
A FT991	1N60020-001Z	FUSE CLIP	FOR F9009		A R3013	QRE141J-104Y	C RESISTOR	100K 5X 1/4W	
A FT992	1N60020-001Z	FUSE CLIP	FOR F9009		A R3014	QRE141J-104Y	C RESISTOR	100K 5X 1/4W	
A IC671	TD7A739	IC			A R6105	QRE141J-562Y	C RESISTOR	5.6K 5X 1/4W	
A IC672	NJM4580D	IC			A R6106	QRE141J-272Y	C RESISTOR	2.7K 5X 1/4W	
A IC673	TC4066BP/N/	IC			A R6107	QRE141J-273Y	C RESISTOR	27K 5X 1/4W	
A IC674	TC74HC02AP	IC			A R6108	QRE141J-273Y	C RESISTOR	27K 5X 1/4W	
A J3001	QNB0089-001	SPK TERMINAL	CA-MXS5RMD		A R6109	QRE141J-392Y	C RESISTOR	3.9K 5X 1/4W	
A J3001	QNB0090-001	SPK TERMINAL	CA-MXS5MD						

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

■ Micon board

BLOCK NO. 04111111				BLOCK NO. 04111111					
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R6110	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R3229	GRE141J-224Y	C RESISTOR	220K 5% 1/4W	
R6111	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R3232	GRE141J-101Y	C RESISTOR	100 5% 1/4W	
R6112	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R3333	GRE141J-101Y	C RESISTOR	100 5% 1/4W	
R6117	GRE141J-104Y	C RESISTOR	100K 5% 1/4W		R3334	GRE141J-101Y	C RESISTOR	100 5% 1/4W	
R6118	GRE141J-221Y	C RESISTOR	220 5% 1/4W		R3336	GRJ146J-1R0X	UNF. C. RESISTOR	1.0 5% 1/4W	
R6119	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R3337	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R6120	GRE141J-223Y	C RESISTOR	12K 5% 1/4W		R3338	GRE141J-103Y	C RESISTOR	1.0K 5% 1/4W	
R6125	GRE141J-113Y	C RESISTOR	11K 5% 1/4W		R9004	GRE141J-103Y	C RESISTOR	CA-MXS5RMD	
R6127	GRE141J-183Y	C RESISTOR	18K 5% 1/4W		R9005	GRE141J-102Y	C RESISTOR	CA-MXS5RMD	
R6128	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R9007	GRE141J-102Y	C RESISTOR	CA-MXS5RMD	
R6131	GRE141J-472Y	C RESISTOR	4.7K 5% 1/4W		R9008	GRE141J-332Y	C RESISTOR	CA-MXS5RMD	
R6132	GRE141J-272Y	C RESISTOR	2.7K 5% 1/4W		R9009	GRE141J-102Y	C RESISTOR	CA-MXS5RMD	
R6133	GRE141J-682Y	C RESISTOR	6.8K 5% 1/4W		R9101	GRE141J-471Y	C RESISTOR	470 5% 1/4W	
R6205	GRE141J-562Y	C RESISTOR	5.6K 5% 1/4W		R9104	GRE141J-471Y	C RESISTOR	470 5% 1/4W	
R6206	GRE141J-272Y	C RESISTOR	2.7K 5% 1/4W		R9112	GRE141J-471Y	C RESISTOR	470 5% 1/4W	
R6207	GRE141J-273Y	C RESISTOR	27K 5% 1/4W		R9114	GRE141J-471Y	C RESISTOR	470 5% 1/4W	
R6208	GRE141J-273Y	C RESISTOR	27K 5% 1/4W		R9201	GRE141J-471Y	C RESISTOR	470 5% 1/4W	
R6209	GRE141J-392Y	C RESISTOR	3.9K 5% 1/4W		R9202	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R6210	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R9203	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R6211	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R2005	GRE141J-471Y	C RESISTOR	470 5% 1/4W	
R6212	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R9301	GRJ146J-4R7X	C RESISTOR	4.7 5% 1/4W	
R6214	GRE141J-104Y	C RESISTOR	100K 5% 1/4W		R9302	GRE141J-471Y	C RESISTOR	470 5% 1/4W	
R6217	GRE141J-221Y	C RESISTOR	220 5% 1/4W		R9303	GRE141J-473Y	C RESISTOR	47K 5% 1/4W	
R6218	GRE141J-221Y	C RESISTOR	220 5% 1/4W		R9305	GRE141J-471Y	C RESISTOR	470 5% 1/4W	
R6219	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R9306	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R6220	GRE141J-123Y	C RESISTOR	12K 5% 1/4W		R9401	GRJ146J-100K	UNF.-C. RESISTOR	10 5% 1/4W	
R6225	GRE141J-113Y	C RESISTOR	11K 5% 1/4W		R9402	GRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
R6227	GRE141J-183Y	C RESISTOR	18K 5% 1/4W		R9404	GRE141J-101Y	C RESISTOR	100 5% 1/4W	
R6228	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R9501	GRE141J-104Y	C RESISTOR	100K 5% 1/4W	
R6231	GRE141J-472Y	C RESISTOR	4.7K 5% 1/4W		R9502	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R6232	GRE141J-272Y	C RESISTOR	2.7K 5% 1/4W		R9503	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R6233	GRE141J-682Y	C RESISTOR	6.8K 5% 1/4W		R9504	GRE141J-104Y	C RESISTOR	100K 5% 1/4W	
R6303	GRE141J-103Y	C RESISTOR	10K 5% 1/4W		R9601	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R6304	GRE141J-103Y	C RESISTOR	10K 5% 1/4W		R9602	GNZ903B-100K	F. RESISTOR	10 1/0W	
R6305	GRE141J-271Y	C RESISTOR	270 5% 1/4W		R9603	GRE141J-224Y	C RESISTOR	220K 5% 1/4W	
R6306	GRE141J-471Y	C RESISTOR	470 5% 1/4W		R9604	GRJ146J-4R7X	C RESISTOR	4.7 5% 1/4W	
R6311	GRE141J-103Y	C RESISTOR	10K 5% 1/4W		R9701	GRE141J-103Y	CARBON RESISTOR	CA-MXS5MD	
R6312	GRE141J-101Y	C RESISTOR	100 5% 1/4W		R9702	GRE141J-103Y	CARBON RESISTOR	CA-MXS5MD	
R6313	GRE141J-101Y	C RESISTOR	100 5% 1/4W		R9703	GRE141J-223Y	C RESISTOR	22K 5% 1/4W	
R6314	GRE141J-101Y	C RESISTOR	100 5% 1/4W		R9801	GRE141J-223Y	C RESISTOR	22K 5% 1/4W	
R6315	GRE141J-101Y	C RESISTOR	100 5% 1/4W		S8001	GSW081E-001	VOLTAGE SWITCH	CA-MXS5MD	
R6316	GRE141J-101Y	C RESISTOR	100 5% 1/4W		TB901	GNZ0079-0012	TAB I.M		
R6318	GRE141J-101Y	C RESISTOR	100 5% 1/4W		TB902	GNZ0079-0012	TAB I.M		
R6319	GRE141J-101Y	C RESISTOR	100 5% 1/4W		T9002	GNZ0253-002	POWER TRANS	CA-MXS5RMD	
R6320	GRE141J-101Y	C RESISTOR	100 5% 1/4W		W 391	QUM025-232323	PARA RIBON WIRE		
R6321	GRE141J-101Y	C RESISTOR	100 5% 1/4W		W 911	QJK009-101200	SIN CR C-B WIRE		
R6322	GRE141J-101Y	C RESISTOR	100 5% 1/4W		W 913	QJK020-091509	CONN-WIRE ASSY		
R6323	GRE141J-473Y	C RESISTOR	47K 5% 1/4W		WC911	QZW003B-001	WIRE CLAMP		
R6324	GRJ146J-101X	UNF. C. RES	100 5% 1/4W						
R6325	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W						
R6326	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W						
R6327	GRE141J-101Y	C RESISTOR	100 5% 1/4W						
R6328	GRE141J-101Y	C RESISTOR	100 5% 1/4W						

BLOCK NO. 02111111				BLOCK NO. 02111111					
A REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	A REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
CN302	QGB2510K2-10	CONNECTOR			C8020	GET41AM-107	E CAPACITOR	100MF 20% 10V	
CN303	QGB2510K2-10	CONNECTOR			C8021	GET41AM-108Z	E CAPACITOR	1000MF 20% 6.3V	
CN393	QGB2510J1-10	CONNECTOR			C8023	GET41AM-107	E CAPACITOR	100MF 20% 10V	
CN601	QGB1214J1-18S	CONNECTOR			C8030	QDV81CM-103Y	C CAPACITOR		
CN602	QGB2510J1-12	CONNECTOR			C8031	QDV81CM-103Y	C CAPACITOR		
CN701	QGB2011MP-08	B TO B CONNE			C8201	GET41CM-107	E CAPACITOR	100MF 20% 16V	
CN791	QGB2011L1-08	B TO B CONNECTO			C8202	GET41EM-476	E CAPACITOR	47MF 20% 25V	
CN801	GGF1210G1-17	CONNECTOR			C8203	GET41HM-226	E CAPACITOR	22MF 20% 50V	
CN851	GGF1210G1-16	CONNECTOR			C8301	GDVB1E2-223Y	E CAPACITOR		
CN852	GGF1016C1-15	FFC CONNECTOR			C8302	GDVB1E2-223Y	C CAPACITOR		
CN831	GGF1210G1-16	CONNECTOR			C8501	GC20202-155Z	ML C CAPACITOR	1.5MF	
CN871	VMC0075-R05	SP PLUG ASSY			C8502	QCS11HJ-330	C CAPACITOR	33PF 5% 50V	
CN891	GGF1210G1-17	CONNECTOR			C8503	QDCB1HJ-160Y	C CAPACITOR		
CN922	EMV7163-018	CONNECTOR			C8504	QDCB1HK-103Y	C CAPACITOR	.010MF 10% 50V	
C1003	GETN1HM-225Z	E CAPACITOR			C8510	GET41AM-107	E CAPACITOR	100MF 20% 10V	
C1004	QGBB1HK-101Y	C CAPACITOR	2.2MF 20% 50V		C8601	GDY81CM-103Y	C CAPACITOR		
C1005	QGBB1HK-101Y	C CAPACITOR	100PF 10% 50V		C8602	GET41EM-476	E CAPACITOR	47MF 20% 25V	
C1006	QTE1E28-476Z	E CAPACITOR	100PF 10% 50V		C8603	GET41EM-476	E CAPACITOR	47MF 20% 25V	
C1007	QCS11HJ-100	C CAPACITOR	10PF 5% 50V		C8604	QDV81CM-103Y	C CAPACITOR		
C1008	GFV41HJ-104	TF CAPACITOR	.10MF 5% 50V		C8605	GET41EM-476	E CAPACITOR	47MF 20% 25V	
C1009	GET41HM-226	E CAPACITOR	22MF 20% 50V		C8606	GET41EM-476	E CAPACITOR	47MF 20% 25V	
C1010	GET41HM-475	E CAPACITOR	4.7MF 20% 50V		C8607	QDGB1HK-102Y	C CAPACITOR	CA-MXS5RMD	
C1012	QGBB1HK-101Y	C CAPACITOR	100PF 10% 50V		D1001	1SS133-T2	DIODE		
C2003	QGBB1HK-225Z	E CAPACITOR	2.2MF 20% 50V		D2001	1SS133-T2	DIODE		
C2004	QGBB1HK-101Y	C CAPACITOR	100PF 10% 50V		D3001	MTZ14-3B-T2	ZENER DIODE		
C2005	QGBB1HK-101Y	C CAPACITOR	100PF 10% 50V		D3003	MTZ12-4B-T2	ZENER DIODE		
C2006	QTE1E28-476Z	E CAPACITOR	10PF 5% 50V		D3004	MTZ14-7C-T2	ZENER DIODE		
C2007	QCS11HJ-100	C CAPACITOR	10PF 5% 50V		A D3301	1N5402M-20	DIODE		
C2008	GFV41HJ-104	TF CAPACITOR	.10MF 5% 50V		A D3302	1N5402M-20	DIODE		
C2009	GET41HM-226	E CAPACITOR	22MF 20% 50V		A D3303	1N5402M-20	DIODE		
C2010	GET41HM-475	E CAPACITOR	4.7MF 20% 50V		A D3304	1N5402M-20	DIODE		
C2012	QGBB1HK-101Y	C CAPACITOR	100PF 10% 50V		D7011	SELU1E10CXM	LED	BLUE :JOY	
C3002	GFV41HJ-103	TF CAPACITOR	.010MF 5% 50V		D7012	1SS133-T2	DIODE		
C3003	GET41HM-474	E CAPACITOR	.47MF 20% 50V		D7021	SLR-342DC-T	LED	ORANGE :CD	
C3010	GETN1HM-224Z	E CAPACITOR	.22MF 20% 50V		D7022	SLR-342DC-T	LED	ORANGE :MD	
C3011	QFLM1HJ-103Z	M CAPACITOR	.010MF 5% 50V		D7023	SLR-342DC-T	LED	ORANGE :FM/AM	
C3012	GET41AM-107	E CAPACITOR	100MF 20% 10V		D7024	SLR-342VC-T	LED	RED :MD REC	
C3301	GEZ0428-228	E CAPACITOR	2200MF		D7025	SLR-342DC-T	LED	ORANGE :BASS	
C3302	GEZ0428-228	E CAPACITOR	2200MF		D7026	SLR-342DC-T	LED	ORANGE :SOUND	
C3303	GFV2AJ-104Z	M CAPACITOR	.10MF 5% 100V		D7027	SLR-342MC-T	LED	GREEN :POWER O	
C3304	GFV2AJ-104Z	M CAPACITOR	.10MF 5% 100V		D7028	SLR-342VC-T	LED	RED :STANDBY	
C3506	GFV2AJ-104Z	M CAPACITOR	.10MF 5% 100V		D7051	SPR-325MVW/L/-T	LED	CD1	
C7003	QKCIAM-107Z	E CAPACITOR	100MF 20% 10V		D7032	SPR-325MVW/L/-T	LED	CD2	
C7004	QGBB1HK-102Y	C CAPACITOR	100MF 20% 10V		D7033	SPR-325MVW/L/-T	LED	CD3	
C8001	GC20202-155Z	ML C CAPACITOR	1.5MF		D7034	MTZ110C-T2	ZENER DIODE		
C8002	QCS11HJ-330	C CAPACITOR	33PF 5% 50V		D8001	1SS133-T2	DIODE		
C8003	QDCB1HJ-160Y	C CAPACITOR			D8002	1SS133-T2	DIODE		
C8004	QDV81CM-103Y	C CAPACITOR			D8003	1SS133-T2	DIODE		
C8005	QDV81CM-103Y	C CAPACITOR			D8007	1SS133-T2	DIODE		
C8006	QDV81CM-103Y	C CAPACITOR			D8008	1SS133-T2	DIODE		
C8007	QDCB1HJ-220Y	C CAPACITOR			D8009	1SS133-T2	DIODE		
C8008	QCS11HJ-220	E CAPACITOR	22PF 5% 50V		D8010	1SS133-T2	DIODE		
C8009	GETN1HM-106Z	E CAPACITOR	10MF 20% 50V		D8011	1SS133-T2	DIODE		
C8017	QDGB1HK-102Y	C CAPACITOR			D8201	1SS133-T2	DIODE		
C8018	QDGB1HK-102Y	C CAPACITOR			D8501	1SS133-T2	DIODE		

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

BLOCK NO. 02				BLOCK NO. 02					
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
D8302	1N40035-T5	SI DIODE	CA-MXS5RMD		Q8702	2SC20607GR/-T	TRANSISTOR		
D8303	1SS133-T2	DIODE			Q8703	KRC104N-T	D. TRANSISTOR	1.0K 5% 1/4W	
D8501	1SS133-T2	DIODE			R1004	GRE141J-102Y	C. RESISTOR	47K 5% 1/4W	
D8502	1SS133-T2	DIODE			R1005	GRE141J-473Y	C. RESISTOR	5% 1/4W	
D8504	1N40035-T5	SI DIODE			R1006	GRT01DJ-R22X	UNF.-MF.-RES.-I.M	5% 1/1W	
D8601	MTZJ105-T2	ZENER DIODE			R1007	GRT01DJ-R22X	UNF.-MF.-RES.-I.M	560 5% 1/4W	
D8602	MTZJ6.2C-T2	ZENER DIODE			R1008	GRJ146J-561K	UNF.-C.RES.- I/M	47K 5% 1/4W	
D8701	1SS133-T2	DIODE			R1009	GRE141J-473Y	C. RESISTOR	10 5% 1/4W	
D8702	1SS133-T2	DIODE			R1010	GRJ143J-100K	UNF.-C.RES.-I.M	2.2 1/0W	
D8703	1SS133-T2	DIODE			R1011	GRZ9042-2R2X	F.RES.-I.M	2.2K 5% 1/4W	
D8704	1SS133-T2	DIODE			R1012	GRE141J-222Y	C. RESISTOR	1.2K 5% 1/4W	
D8705	1SS133-T2	DIODE			R1013	GRE141J-122Y	C. RESISTOR	22K 5% 1/4W	
E8301	E409182-0015M	GRAND TERMINAL			R1014	GRE141J-223Y	C. RESISTOR	10K 5% 1/4W	
I1C101	DA7294	IC			R1015	GRE141J-103Y	C. RESISTOR	10K 5% 1/4W	
I1C201	DA7294	IC			R1017	GRE141J-273Y	C. RESISTOR	27K 5% 1/4W	
I1C701	GP1U271X	RM RECIVER			R1018	GRE141J-102Y	C. RESISTOR	1.0K 5% 1/4W	
I1C801	MN101C12GBZ2	IC			R1019	GRE141J-103Y	C. RESISTOR	10K 5% 1/4W	
I1C851	MN101C15FBY1	IC			R1025	GRE141J-103Y	C. RESISTOR	10K 5% 1/4W	
J5701	OSM0500-001	ROTARY SW			R2004	GRE141J-102Y	C. RESISTOR	1.0K 5% 1/4W	
L5701	GSW0828-001	LEVER SWITCH			R2005	GRE141J-473Y	C. RESISTOR	47K 5% 1/4W	
L1001	GBLZ003-R45	INDUCTOR			R2006	GRT01DJ-R22X	UNF.-MF.-RES.-I.M	5% 1/1W	
L2001	GBLZ003-R45	INDUCTOR			R2007	GRT01DJ-R22X	UNF.-MF.-RES.-I.M	5% 1/1W	
PL871	GLL0050-002	LAMP			R2008	GRJ146J-561K	UNF.-C.RES.- I/M	560 5% 1/4W	
PL872	GLL0050-002	LAMP			R2009	GRE141J-473Y	C. RESISTOR	47K 5% 1/4W	
PL873	QLL0050-002	LAMP			R2010	GRJ143J-100K	UNF.-C.RES.-I.M	10 5% 1/4W	
Q1001	2SA9707GL/-T	TRANSISTOR			R2011	GRZ9042-2R2X	F.RES.-I.M	2.2 1/0W	
Q1002	2SD2144S/VW/-T	TRANSISTOR			R2012	GRE141J-222Y	C. RESISTOR	2.2K 5% 1/4W	
Q2001	2SA9707GL/-T	TRANSISTOR			R2013	GRE141J-122Y	C. RESISTOR	1.2K 5% 1/4W	
Q2002	2SD2144S/VW/-T	TRANSISTOR			R2014	GRE141J-223Y	C. RESISTOR	22K 5% 1/4W	
Q3002	2SK3017PQ/-T	FET I/M			R2015	GRE141J-103Y	C. RESISTOR	10K 5% 1/4W	
Q7001	2SD1991A/RS/-T	TRANSISTOR			R2017	GRE141J-273Y	C. RESISTOR	27K 5% 1/4W	
Q7002	2SD1991A/RS/-T	TRANSISTOR			R2018	GRE141J-102Y	C. RESISTOR	1.0K 5% 1/4W	
Q7011	KRC102M-T	D. TRANSISTOR			R2019	GRE141J-103Y	C. RESISTOR	10K 5% 1/4W	
Q7012	KRC102M-T	D. TRANSISTOR			R2025	GRE141J-103Y	C. RESISTOR	10K 5% 1/4W	
Q7013	KRC102M-T	D. TRANSISTOR			R3007	GRE141J-103Y	C. RESISTOR	10K 5% 1/4W	
Q7014	KRC102M-T	D. TRANSISTOR			R3008	GRE141J-103Y	C. RESISTOR	1.2K 5% 1/4W	
Q7015	KRC102M-T	D. TRANSISTOR			R3009	GRE141J-105Y	C. RESISTOR	1.0M 5% 1/4W	
Q7016	KRC102M-T	D. TRANSISTOR			R3010	GRE141J-475Y	C. RESISTOR	4.7M 5% 1/4W	
Q7017	KRC102M-T	D. TRANSISTOR			R3015	GRE141J-473Y	C. RESISTOR	47K 5% 1/4W	
Q7018	KRC102M-T	D. TRANSISTOR			R3016	GRE141J-153Y	C. RESISTOR	15K 5% 1/4W	
Q8501	KRA104M-T	D. TRANSISTOR			R3017	GRE141J-474Y	C. RESISTOR	470K 5% 1/4W	
Q8502	KRC104M-T	D. TRANSISTOR			R3020	GRZ9006-4R7K	F. RESISTOR	4.7 1/0W	
Q8503	KRA102M-T	D. TRANSISTOR			R3021	GRE141J-103Y	C. RESISTOR	10K 5% 1/4W	
Q8504	KRA102M-T	D. TRANSISTOR			R3025	GRE141J-223Y	C. RESISTOR	22K 5% 1/4W	
Q8505	KRA102M-T	D. TRANSISTOR			R3302	GRE141J-223Y	C. RESISTOR	22K 5% 1/4W	
Q8506	KRA102M-T	D. TRANSISTOR			R3002	GRE141J-223Y	C. RESISTOR	22K 5% 1/4W	
Q8507	KRA102M-T	D. TRANSISTOR			R7001	GRE141J-102Y	C. RESISTOR	1.0K 5% 1/4W	
Q8508	KRA102M-T	D. TRANSISTOR			R7002	GRE141J-102Y	C. RESISTOR	1.0K 5% 1/4W	
Q8509	KRA102M-T	D. TRANSISTOR			R7003	GRE141J-122Y	C. RESISTOR	1.2K 5% 1/4W	
Q8510	KRA102M-T	D. TRANSISTOR			R7004	GRE141J-152Y	C. RESISTOR	1.5K 5% 1/4W	
Q8511	KRA102M-T	D. TRANSISTOR			R7005	GRE141J-222Y	C. RESISTOR	2.2K 5% 1/4W	
Q8601	2SC2785/FE/-T	TRANSISTOR			R7006	GRE141J-222Y	C. RESISTOR	2.2K 5% 1/4W	
Q8602	2SC2785/FE/-T	TRANSISTOR			R7007	GRE141J-272Y	C. RESISTOR	2.7K 5% 1/4W	
Q8603	KRA107M-T	D. TRANSISTOR			R7008	GRE141J-392Y	C. RESISTOR	3.9K 5% 1/4W	
Q8604	KRC107M-T	D. TRANSISTOR			R7009	GRE141J-102Y	C. RESISTOR	1.0K 5% 1/4W	
Q8701	2SA1175/FE/-T	TRANSISTOR			R7010	GRE141J-122Y	C. RESISTOR	1.2K 5% 1/4W	

BLOCK NO. 021111					BLOCK NO. 021111				
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R7011	GRE141J-152Y	C RESISTOR	1.5K 5% 1/4W		R8025	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R7012	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R8026	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R7013	GRE141J-222Y	C RESISTOR	2.7K 5% 1/4W		R8027	GRE141J-101Y	C RESISTOR	100 5% 1/4W	
R7014	GRE141J-302Y	C RESISTOR	3.9K 5% 1/4W		R8028	GRE141J-101Y	C RESISTOR	100 5% 1/4W	
R7015	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8029	GRE141J-101Y	C RESISTOR	100 5% 1/4W	
R7016	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8030	GRE141J-101Y	C RESISTOR	100 5% 1/4W	
R7017	GRE141J-122Y	C RESISTOR	1.2K 5% 1/4W		R8031	GRE141J-101Y	C RESISTOR	100 5% 1/4W	
R7018	GRE141J-152Y	C RESISTOR	1.5K 5% 1/4W		R8032	GRE141J-101Y	C RESISTOR	100 5% 1/4W	
R7019	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R8033	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R7020	GRE141J-222Y	C RESISTOR	2.7K 5% 1/4W		R8034	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R7021	GRE141J-302Y	C RESISTOR	3.9K 5% 1/4W		R8035	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7022	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8036	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7023	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8037	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7024	GRE141J-122Y	C RESISTOR	1.2K 5% 1/4W		R8038	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7025	GRE141J-152Y	C RESISTOR	1.5K 5% 1/4W		R8039	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7026	GRE141J-103Y	C RESISTOR	10K 5% 1/4W		R8040	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7027	GRE141J-103Y	C RESISTOR	10K 5% 1/4W		R8041	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7028	GRE141J-103Y	C RESISTOR	150 5% 1/4W		R8042	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7029	GRE141J-151Y	C RESISTOR	150 5% 1/4W		R8043	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7030	GRE141J-201Y	C RESISTOR	200 5% 1/4W		R8044	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7031	GRE141J-201Y	C RESISTOR	160 5% 1/4W		R8045	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7032	GRE141J-161Y	C RESISTOR	160 5% 1/4W		R8046	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7033	GRE141J-161Y	C RESISTOR	160 5% 1/4W		R8047	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7034	GRE141J-161Y	C RESISTOR	180 5% 1/4W		R8048	GRE141J-103Y	C RESISTOR	1.0K 5% 1/4W	
R7035	GRE141J-181Y	C RESISTOR	180 5% 1/4W		R8049	GRE141J-103Y	C RESISTOR	1.0K 5% 1/4W	
R7036	GRE141J-161Y	C RESISTOR	160 5% 1/4W		R8050	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R7037	GRE141J-161Y	C RESISTOR	160 5% 1/4W		R8051	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R7038	GRE141J-181Y	C RESISTOR	180 5% 1/4W		R8052	GRE141J-473Y	C RESISTOR	47K 5% 1/4W	
R7039	GRE141J-271Y	C RESISTOR	270 5% 1/4W		R8053	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R7040	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8054	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R7041	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8055	GRE141J-103Y	C RESISTOR	1.0K 5% 1/4W	
R7042	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8056	GRE141J-103Y	C RESISTOR	1.0K 5% 1/4W	
R7043	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8057	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R7044	GRE141J-103Y	C RESISTOR	10K 5% 1/4W		R8058	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R8001	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R8059	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
R8002	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R8060	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R8003	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R8061	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R8004	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R8062	GRE141J-103Y	C RESISTOR	1.0K 5% 1/4W	
R8005	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8063	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R8006	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8064	GRE141J-223Y	C RESISTOR	22K 5% 1/4W	
R8007	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8065	GRE141J-223Y	C RESISTOR	22K 5% 1/4W	
R8008	GRE141J-103Y	C RESISTOR	1.0M 5% 1/4W		R8066	GRE141J-223Y	C RESISTOR	22K 5% 1/4W	
R8009	GRE141J-103Y	C RESISTOR	10K 5% 1/4W		R8067	GRE141J-223Y	C RESISTOR	22K 5% 1/4W	
R8010	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8068	GRE141J-223Y	C RESISTOR	22K 5% 1/4W	
R8011	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8070	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R8012	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8071	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R8013	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8072	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R8014	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8073	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R8015	GRE141J-223Y	C RESISTOR	2.2K 5% 1/4W		R8074	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R8016	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8075	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R8017	GRE141J-101Y	C RESISTOR	100 5% 1/4W		R8076	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R8018	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8077	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
R8019	GRE141J-101Y	C RESISTOR	100 5% 1/4W		R8078	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R8020	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8079	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
R8021	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8080	GRE141J-470Y	C RESISTOR	47 5% 1/4W	
R8022	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8081	GRE141J-103Y	C RESISTOR	CA-MXS5MD	
R8023	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W		R8082	GRE141J-221Y	C RESISTOR	CA-MXS5RMD	
R8024	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		R8083	GRE141J-103Y	C RESISTOR	CA-MXS5RMD	
					R8084	GRE141J-221Y	C RESISTOR	CA-MXS5MD	

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

BLOCK NO. 02		BLOCK NO. 02		BLOCK NO. 02		BLOCK NO. 02					
A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R8094	GRE141J-103Y	C RESISTOR	10K 5% 1/4W			R8563	GRE141J-161Y	C RESISTOR	160 5% 1/4W	
	R8201	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W			R8563	GRE141J-161Y	C RESISTOR	140 5% 1/4W	
	R8202	GRE141J-475Y	C RESISTOR	47K 5% 1/4W			R8564	GRE141J-161Y	C RESISTOR	160 5% 1/4W	
	R8203	GRE141J-563Y	C RESISTOR	56K 5% 1/4W			R8565	GRE141J-161Y	C RESISTOR	160 5% 1/4W	
	R8204	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W			R8601	GR29005-470X	F RES I M	47 1/0W	
	R8205	GRE141J-103Y	C RESISTOR	10K 5% 1/4W			R8602	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8301	GRE141J-104Y	C RESISTOR	100K 5% 1/4W			R8603	GRJ146J-221X	UNF C RES I/M	220 5% 1/4W	
	R8302	GRE141J-683Y	C RESISTOR	68K 5% 1/4W			R8604	GRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R8303	GRE141J-393Y	C RESISTOR	39K 5% 1/4W			R8605	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8304	GRE141J-273Y	C RESISTOR	27K 5% 1/4W			R8606	GRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R8305	GRE141J-683Y	C RESISTOR	68K 5% 1/4W			R8701	GRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R8306	GRE141J-683Y	C RESISTOR	68K 5% 1/4W			R8702	GRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R8307	GRE141J-153Y	C RESISTOR	15K 5% 1/4W			R8703	GRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R8501	GRE141J-105Y	C RESISTOR	1.0M 5% 1/4W			R8705	GRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R8502	GRE141J-101Y	C RESISTOR	100 5% 1/4W			R8706	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R8503	GRE141J-101Y	C RESISTOR	100 5% 1/4W			R8707	GRE141J-673Y	C RESISTOR	47K 5% 1/4W	
	R8504	GRE141J-101Y	C RESISTOR	100 5% 1/4W			R8708	GRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R8505	GRE141J-103Y	C RESISTOR	10K 5% 1/4W			R8709	GRE141J-475Y	C RESISTOR	47K 5% 1/4W	
	R8506	GRE141J-101Y	C RESISTOR	100 5% 1/4W			R8710	GRJ146J-3R9X	UNF. C. RESISTOR	3.9 5% 1/4W	
	R8507	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			R8721	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8508	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			R8722	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8509	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			R8723	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8510	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W			S7001	QSW0651-001Z	TACT SWITCH	CANCEL	
	R8511	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7002	QSW0651-001Z	TACT SWITCH	PLAY/REC MODE	
	R8512	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7003	QSW0651-001Z	TACT SWITCH	DIMMER	
	R8513	GRE141J-103Y	C RESISTOR	10K 5% 1/4W			S7004	QSW0651-001Z	TACT SWITCH	ENTER	
	R8514	GRE141J-101Y	C RESISTOR	100 5% 1/4W			S7005	QSW0651-001Z	TACT SWITCH	CD3 EJECT	
	R8515	GRE141J-101Y	C RESISTOR	100 5% 1/4W			S7006	QSW0651-001Z	TACT SWITCH	CD2 EJECT	
	R8516	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7007	QSW0651-001Z	TACT SWITCH	CD1 EJECT	
	R8519	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7008	QSW0651-001Z	TACT SWITCH	CD3	
	R8520	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7009	QSW0651-001Z	TACT SWITCH	CD2	
	R8530	GRE141J-101Y	C RESISTOR	100 5% 1/4W			S7010	QSW0651-001Z	TACT SWITCH	CD1	
	R8531	GRE141J-101Y	C RESISTOR	100 5% 1/4W			S7011	QSW0651-001Z	TACT SWITCH	STOP	
	R8532	GRE141J-101Y	C RESISTOR	100 5% 1/4W			S7012	QSW0651-001Z	TACT SWITCH	CD PLAY	
	R8533	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7013	QSW0651-001Z	TACT SWITCH	FM/AM	
	R8534	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7014	QSW0651-001Z	TACT SWITCH	TAPE/AUX	
	R8535	GRE141J-101Y	C RESISTOR	100 5% 1/4W			S7015	QSW0651-001Z	TACT SWITCH	TITLE	
	R8536	GRE141J-101Y	C RESISTOR	100 5% 1/4W			S7016	QSW0651-001Z	TACT SWITCH	EDIT	
	R8540	GRE141J-102Y	C RESISTOR	1.0K 5% 1/4W			S7017	QSW0651-001Z	TACT SWITCH	MD EJECT	
	R8541	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7018	QSW0651-001Z	TACT SWITCH	MD PLAY	
	R8542	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7019	QSW0651-001Z	TACT SWITCH	BEST HIT	
	R8543	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7020	QSW0651-001Z	TACT SWITCH	CD TO MD	
	R8544	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7021	QSW0651-001Z	TACT SWITCH	REC PAUSE	
	R8545	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7022	QSW0651-001Z	TACT SWITCH	SOUND	
	R8546	GRE141J-222Y	C RESISTOR	2.2K 5% 1/4W			S7023	QSW0651-001Z	TACT SWITCH	BASS	
	R8547	GRE141J-101Y	C RESISTOR	100 5% 1/4W			S7024	QSW0651-001Z	TACT SWITCH	CLOCK	
	R8548	GRE141J-101Y	C RESISTOR	100 5% 1/4W			S7025	QSW0651-001Z	TACT SWITCH	POWER	
	R8549	GRE141J-101Y	C RESISTOR	100 5% 1/4W			W 121	WJK0016-001A	E-SI C WIRE C-B		
	R8550	GRE141J-101Y	C RESISTOR	100 5% 1/4W			W 122	WJK0016-002A	4P BIN WIRE		
	R8551	GRE141J-101Y	C RESISTOR	100 5% 1/4W			W 301	WJK0056-001A	E-SI C WIRE C-B		
	R8552	GRE141J-101Y	C RESISTOR	100 5% 1/4W			W 801	GUM029-2DGDG	PARA RIBON WIRE		
	R8553	GRE141J-101Y	C RESISTOR	100 5% 1/4W			W 881	GJB002-050802	SIN ID C-B WIRE		
	R8554	GRE141J-101Y	C RESISTOR	100 5% 1/4W			W 801	QZB0038-001	WIRE CLAMP		
	R8555	GRE141J-103Y	C RESISTOR	10K 5% 1/4W			X8001	GAX0494-001Z	RESONATOR I. M		
	R8560	GRE141J-161Y	C RESISTOR	160 5% 1/4W			X8002	GAX0401-001Z	CRYSTAL		
	R8561	GRE141J-161Y	C RESISTOR	160 5% 1/4W			X8501	GAX0416-001Z	CERA LOCK		

**Tuner board**

BLOCK NO. 03		BLOCK NO. 03		
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
A1101	GNB0014-001	ANT TERMINAL		
BK 1	E308963-224SM	SHIELD BKT		
C 101	NCB21HK-103X	C CAPACITOR		
C 103	NCB21HK-223X	C CAPACITOR		
C 105	NCB21HK-223X	C CAPACITOR		
C 107	GEK41CM-226	E CAPACITOR	22MF 20% 16V	
C 111	NCB21HK-473X	C CAPACITOR		
C 112	NCB21HK-120X	C CAPACITOR		
C 113	QCS11HJ-150	C CAPACITOR	CA-MXS5RMD	
C 121	NCB21HK-120X	C CAPACITOR		
C 122	NCB21HK-120X	C CAPACITOR		
C 123	NCB21HK-473X	C CAPACITOR		
C 126	NCB21HK-101X	C CAPACITOR		
C 128	GEN41HM-474	N.P.E.CAPA. I.M	.47MF 20% 50V	
C 130	NCB21HK-102X	C CAPACITOR		
C 132	GEK41CM-107Z	E CAPACITOR	100MF 20% 10V	
C 133	GEK41CM-226	E CAPACITOR	22MF 20% 16V	
C 134	NCB21HK-222X	C CAPACITOR		
C 135	NCB21HK-223X	C CAPACITOR		
C 136	GEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
C 137	NCB21HK-680X	C CAPACITOR	CA-MXS5RMD	
C 137	NCB21HK-331X	C CAPACITOR	CA-MXS5MD	
C 139	NCB21HK-223X	C CAPACITOR	CA-MXS5MD	
C 139	NCB21HK-393X	C CAPACITOR	CA-MXS5RMD	
C 140	NCB21HK-393X	C CAPACITOR	CA-MXS5RMD	
C 140	NCB21HK-223X	C CAPACITOR	CA-MXS5MD	
C 141	NCB21HK-473X	C CAPACITOR		
C 143	NCB21HK-223X	C CAPACITOR		
C 144	NCB21HK-473X	C CAPACITOR		
C 146	GEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
C 147	GEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
C 148	GEK41HM-224	E CAPACITOR	22MF 20% 50V	
C 149	GEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
C 150	GEK41CM-226	E CAPACITOR	22MF 20% 16V	
C 156	GDGB1HK-102Y	C CAPACITOR		
C 157	NCB21HK-473X	C CAPACITOR		
C 158	GEK41CM-226	E CAPACITOR	22MF 20% 16V	
C 161	GEK41CM-106	E CAPACITOR	10MF 20% 16V	
C 162	GEK41CM-106	E CAPACITOR	10MF 20% 16V	
C 163	NCB21HK-223X	C CAPACITOR		
C 164	NCB21HK-473X	C CAPACITOR		
C 168	GEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
C 184	GEK41CM-107Z	E CAPACITOR	100MF 20% 16V	
C 185	GEK41CM-106	E CAPACITOR	10MF 20% 16V	
C 186	GEK41CM-106	E CAPACITOR	10MF 20% 16V	
C 191	NCB21HK-820X	C CAPACITOR	CA-MXS5RMD	
C 192	NCB21HK-470X	C CAPACITOR	CA-MXS5RMD	
C 193	NCB21HK-561X	C CAPACITOR	CA-MXS5RMD	
C 194	NCB21HK-104X	C CAPACITOR	CA-MXS5RMD	
C 195	NCB21HK-331X	C CAPACITOR	CA-MXS5RMD	
C 196	GEK41HM-225	E CAPACITOR	CA-MXS5RMD	
C 197	NCB21HK-473X	C CAPACITOR	CA-MXS5RMD	
C 199	GEK41CM-104	E CAPACITOR	CA-MXS5RMD	
CF101	GAX0285-001Z	C FILTER		
CF101	GAX0419-001Z	C FILTER		

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
CF102	GAX0419-001Z	C FILTER	CA-MXS5MD	
CF102	GAX0285-001Z	C FILTER	CA-MXS5RMD	
CF103	GAY0519-001Z	C FILTER		
CN111	QGB2501K2-12	CONNECTOR	CA-MXS5RMD	
CN112	QGB2501K1-04	CONNECTOR		
D 121	1SS133-T2	DIODE		
D 123	1SS133-T2	DIODE		
D 129	1SS133-T2	DIODE		
D 131	1SS133-T2	DIODE	CA-MXS5RMD	
IC102	LA1838	IC		
IC121	LC75136N	IC		
IC191	SA6588	IC(RDS)	CA-MXS5RMD	
L 112	QGL231K-2R7Y	INDUCTOR	CA-MXS5RMD	
Q 102	2SC335/BC/-T	TRANSISTOR		
Q 103	2SC461/BC/-T	TRANSISTOR		
Q 111	KTC3199/6L/-T	TRANSISTOR	CA-MXS5RMD	
Q 112	KTC3199/6L/-T	TRANSISTOR	CA-MXS5RMD	
Q 113	DTA114YKA-X	TRANSISTOR	CA-MXS5RMD	
Q 121	DTA124ESA-T	D-TRANSISTOR		
R 103	NRS02J-101X	MG RESISTOR		
R 104	NRS02J-272X	MG RESISTOR		
R 105	NRS02J-391X	MG RESISTOR		
R 106	NRS02J-102X	MG RESISTOR		
R 107	NRS02J-561X	MG RESISTOR		
R 108	NRS02J-332X	MG RESISTOR		
R 109	NRS02J-251X	MG RESISTOR		
R 111	NRS02J-472X	MG RESISTOR	CA-MXS5RMD	
R 112	GRE141J-472Y	C RESISTOR	CA-MXS5RMD	
R 114	NRS02J-122X	MG RESISTOR	CA-MXS5RMD	
R 115	NRS02J-104X	MG RESISTOR		
R 119	NRS02J-103X	MG RESISTOR		
R 122	NRS02J-472X	MG RESISTOR		
R 124	NRS02J-252X	MG RESISTOR		
R 126	NRS02J-562X	MG RESISTOR		
R 127	NRS02J-822X	MG RESISTOR		
R 128	NRS02J-472X	MG RESISTOR		
R 129	NRS02J-222X	MG RESISTOR		
R 130	GRZ9005-680X	F RESISTOR	68 1/0W	
R 132	NRS02J-393X	MG RESISTOR		
R 133	NRS02J-392X	MG RESISTOR		
R 134	NRS02J-102X	MG RESISTOR		
R 140	NRS02J-563X	MG RESISTOR	CA-MXS5RMD	
R 140	NRS02J-183X	MG RESISTOR	CA-MXS5MD	
R 141	NRS02J-102X	MG RESISTOR		
R 142	NRS02J-470X	MG RESISTOR		
R 143	NRS02J-562X	MG RESISTOR		
R 144	NRS02J-332X	MG RESISTOR		
R 145	NRS02J-103X	MG RESISTOR		
R 146	NRS02J-472X	MG RESISTOR		
R 147	NRS02J-332X	MG RESISTOR		
R 150	NRS02J-331X	MG RESISTOR		
R 157	NRS02J-682X	MG RESISTOR	CA-MXS5MD	
R 157	NRS02J-272X	MG RESISTOR	CA-MXS5RMD	
R 158	NRS02J-272X	MG RESISTOR	CA-MXS5RMD	
R 158	NRS02J-682X	MG RESISTOR	CA-MXS5MD	

■ CD servo / changer control board

BLOCK NO. 05111111				BLOCK NO. 05111111					
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R 161	NRSA02J-102X	MG RESISTOR			C 602	NCB21HJ-5R0AY	C CAPACITOR	5.0PF 5% 50V	
R 162	NRSA02J-102X	MG RESISTOR			C 604	QEKJ0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
R 182	NRSA02J-103X	MG RESISTOR			C 605	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
R 183	NRSA02J-103X	MG RESISTOR			C 607	NCB21HK-822X	C CAPACITOR	8200PF 10% 50V	
R 184	NRSA02J-103X	MG RESISTOR			C 608	QEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
R 191	NRSA02J-102X	MG RESISTOR	CA-MXS5RMD		C 609	NCB21HJ-101X	C CAPACITOR	100PF 5% 50V	
R 192	NRSA02J-474X	MG RESISTOR	CA-MXS5RMD		C 610	NCB21HK-273X	C CAPACITOR	.022MF 10% 50V	
R 193	NRSA02J-103X	MG RESISTOR	CA-MXS5RMD		C 611	NCB21HK-472X	C CAPACITOR	4700PF 10% 50V	
R 194	NRSA02J-103X	MG RESISTOR	CA-MXS5RMD		C 612	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
RF101	GAU0119-001	FM FRONT END	CA-MXS5RMD		C 613	NCB21HJ-331X	C CAPACITOR	330PF 5% 50V	
RF101	GAU0124-001	FM FRONT END	CA-MXS5MD		C 614	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
T 111	QR0871-001	COIL BLOCK	CA-MXS5MD		C 615	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
T 111	QR0796-001	COIL BLOCK	CA-MXS5MD		C 616	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
T 142	QR0973-001	IFT			C 617	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
X 121	GAX0402-001	CRYSTAL			C 618	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
X 191	GAX0263-001Z	CRYSTAL	CA-MXS5RMD		C 619	NCB21HJ-271X	C CAPACITOR	270PF 5% 50V	
					C 620	NCB21HJ-151X	C CAPACITOR	150PF 5% 50V	
					C 621	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
					C 622	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
					C 623	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
					C 628	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
					C 629	QEKJ0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
					C 631	QEKJ1AN-107Z	E CAPACITOR	100MF 20% 10V	
					C 632	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
					C 633	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
					C 634	NCB21HK-222X	C CAPACITOR	2300PF 10% 50V	
					C 651	NCB21HJ-120X	C CAPACITOR	12PF 5% 50V	
					C 652	NCB21HJ-150X	C CAPACITOR	15PF 5% 50V	
					C 653	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
					C 654	NCB21HJ-6R0X	C CAPACITOR	6.0PF 5% 50V	
					C 655	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
					C 657	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
					C 658	QEKJ0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
					C 659	QEKJ0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
					C 661	NCB21HJ-471X	C CAPACITOR	470PF 5% 50V	
					C 662	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
					C 663	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
					C 664	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
					C 665	NCB21EK-104X	E CAPACITOR	.10MF 10% 25V	
					C 666	QEK40JM-227	E CAPACITOR	220MF 20% 6.3V	
					C 671	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
					C 672	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
					C 673	QEK40JM-227	E CAPACITOR	2200PF 10% 50V	
					C 674	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
					C 675	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
					C 676	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
					C 681	QEK40JM-227	E CAPACITOR	220MF 20% 6.3V	
					C 687	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
					C 688	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
					C 691	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
					C 692	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
					C 693	QC20313-1052	C CAPACITOR	1.0MF	
					C 694	QC20313-1052	C CAPACITOR	1.0MF	
					C 695	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
					CN601	QGF1201C3-23	CONNECTOR		



BLOCK NO. 04		BLOCK NO. 04		
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R 655	NRSA02J-471X	MG RESISTOR	470 5X 1/10W	
R 656	NRSA02J-102X	MG RESISTOR	1.0K 5X 1/10W	
R 657	NRSA02J-102X	MG RESISTOR	1.0K 5X 1/10W	
R 658	NRSA02J-100X	MG RESISTOR	10 5X 1/10W	
R 659	NRSA02J-471X	MG RESISTOR	470 5X 1/10W	
R 661	NRSA02J-683X	MG RESISTOR	68K 5X 1/10W	
R 662	NRSA02J-155X	MG RESISTOR	1.5M 5X 1/10W	
R 663	NRSA02J-124X	MG RESISTOR	120K 5X 1/10W	
R 664	NRSA02J-471X	MG RESISTOR	470 5X 1/10W	
R 665	NRSA02J-102X	MG RESISTOR	1.0K 5X 1/10W	
R 666	NRSA02J-472X	MG RESISTOR	4.7K 5X 1/10W	
R 667	NRSA02J-472X	MG RESISTOR	4.7K 5X 1/10W	
R 668	NRSA02J-472X	MG RESISTOR	4.7K 5X 1/10W	
R 669	NRSA02J-472X	MG RESISTOR	4.7K 5X 1/10W	
R 670	NRSA02J-470X	MG RESISTOR	47 5X 1/10W	
R 671	NRSA02J-102X	MG RESISTOR	1.0K 5X 1/10W	
R 672	NRSA02J-102X	MG RESISTOR	1.0K 5X 1/10W	
R 673	NRSA02J-100X	MG RESISTOR	10 5X 1/10W	
R 674	NRSA02J-102X	MG RESISTOR	1.0K 5X 1/10W	
R 675	NRSA02J-104X	MG RESISTOR	100K 5X 1/10W	
R 676	NRSA02J-104X	MG RESISTOR	100K 5X 1/10W	
R 681	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 682	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 683	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 684	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 685	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 686	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 687	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 688	NRSA02J-102X	MG RESISTOR	1.0K 5X 1/10W	
R 691	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 692	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 693	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 694	NRSA02J-223X	MG RESISTOR	22K 5X 1/10W	
R 695	NRSA02J-103X	MG RESISTOR	10K 5X 1/10W	
R 696	NRSA02J-181X	MG RESISTOR	180 5X 1/10W	
S 691	GSW0449-001	SWITCH		
S 692	GSW0449-001	SWITCH		
S 693	GSW0472-001	SWITCH		
X 651	GAY0413-001Z	CRYSTAL		
X 681	GAY0248-001Z	CERA LOCK		
Z 651	VYH7237-003	IC HOLDER		
Z 681	VYH7237-001MM	IC HOLDER		

■ CD traverse mecha board

BLOCK NO. 05111111

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
CN699	EW7119-006R	CONNECTOR		
S 699	VSH1173-001	LEAF SWITCH		

■ MD servo board

BLOCK NO. 05111111

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C 2	NEA70JM-476X	C CAPACITOR	.10MF +80: -20%	
C 3	NEA70JM-476X	E CAPACITOR	.47MF 20% 6.3V	
C 4	NEA70JM-476X	E CAPACITOR	.10MF +80: -20%	
C 5	NEA70JM-476X	C CAPACITOR	3300PF 10% 50V	
C 6	NEA70JM-476X	C CAPACITOR	1.0MF +80: -20%	
C 7	NEA70JM-476X	C CAPACITOR	.22MF 10% 16V	
C 8	NEA70JM-476X	C CAPACITOR	.22MF 10% 16V	
C 10	NEA70JM-476X	C CAPACITOR	1.0MF +80: -20%	
C 11	NEA70JM-476X	C CAPACITOR	.022MF 10% 25V	
C 12	NEA70JM-476X	C CAPACITOR	.47MF 10% 16V	
C 13	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 14	NEA70JM-476X	C CAPACITOR	.47MF 10% 16V	
C 15	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 17	NEA70JM-476X	C CAPACITOR	.033MF 10% 16V	
C 18	NEA70JM-476X	C CAPACITOR	1.0MF +80: -20%	
C 19	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 20	NEA70JM-476X	E CAPACITOR	10MF 20% 16V	
C 21	NEA70JM-476X	C CAPACITOR	.047MF 10% 16V	
C 22	NEA70JM-476X	C CAPACITOR	1000PF 10% 50V	
C 23	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 24	NEA70JM-476X	C CAPACITOR	1000PF 10% 50V	
C 25	NEA70JM-476X	C CAPACITOR	.033MF 10% 16V	
C 26	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 27	NEA70JM-476X	C CAPACITOR	.15MF 10% 16V	
C 28	NEA70JM-476X	TS E CAPACITOR		
C 29	NEA70JM-476X	C CAPACITOR	.082MF 10% 16V	
C 30	NEA70JM-476X	C CAPACITOR	4700PF 10% 50V	
C 31	NEA70JM-476X	C CAPACITOR	.47MF 10% 16V	
C 32	NEA70JM-476X	C CAPACITOR	.033MF 10% 16V	
C 33	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 34	NEA70JM-476X	C CAPACITOR	.47MF +80: -20%	
C 35	NEA70JM-476X	C CAPACITOR	.022MF 10% 25V	
C 36	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 37	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 40	NEA70JM-476X	E CAPACITOR	10MF 20% 16V	
C 43	NEA70JM-476X	E CAPACITOR	47MF 20%	
C 53	NEA70JM-476X	C CAPACITOR	2700PF 10% 50V	
C 54	NEA70JM-476X	C CAPACITOR	3300PF 10% 50V	
C 55	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 56	NEA70JM-476X	C CAPACITOR	.022MF 10% 25V	
C 57	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 58	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 59	NEA70JM-476X	C CAPACITOR	3300PF 10% 50V	
C 61	NEA70JM-476X	C CAPACITOR	3300PF 10% 50V	
C 62	NEA70JM-476X	C CAPACITOR	.22MF 10% 16V	
C 64	NEA70JM-476X	C CAPACITOR	2200PF 10% 50V	
C 65	NEA70JM-476X	C CAPACITOR	.10MF 10% 16V	
C 66	NEA70JM-476X	C CAPACITOR	2200PF 10% 50V	
C 67	NEA70JM-476X	C CAPACITOR	.22MF 10% 16V	
C 68	NEA70JM-476X	C CAPACITOR	.22MF 10% 16V	
C 69	NEA70JM-476X	C CAPACITOR	47PF 5% 50V	
C 70	NEA70JM-476X	C CAPACITOR	.010MF 10% 50V	
C 71	NEA70JM-476X	C CAPACITOR	.10MF +80: -20%	
C 72	NEA70JM-476X	C CAPACITOR	.10MF +80: -20%	
C 73	NEA70JM-476X	C CAPACITOR	.10MF +80: -20%	

BLOCK NO. 06111111

BLOCK NO. 06111111

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C	74	NCF31E2-104X	C CAPACITOR	.10MF +80:-20X		C	492	NCB31HR-222X	C CAPACITOR	2200PF 10% 50V	
C	75	NCF31E2-104X	C CAPACITOR	.10MF +80:-20X		C	493	NCF21C2-105X	C CAPACITOR	1.0MF +80:-20X	
C	76	NCF31E2-104X	C CAPACITOR	.10MF +80:-20X		C	500	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X	
C	80	NCF31E2-104X	C CAPACITOR	.10MF +80:-20X		C	501	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X	
C	82	NCF21E2-104X	C CAPACITOR	.10MF +80:-20X		C	502	NEA71CM-106X	E CAPACITOR	10MF 20% 16V	
C	83	NCF31E2-104X	C CAPACITOR	.10MF +80:-20X		C	505	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X	
C	84	NCF31E2-104X	C CAPACITOR	.10MF +80:-20X		C	590	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X	
C	85	NBE50JM-226X	TA E CAPACITOR			CN	1	GGF501F2-21X	CONNECTOR		
C	86	NCF31E2-104X	C CAPACITOR	.10MF +80:-20X		CM	407	GA2001F2-07X	SOCKET		
C	87	NCF31E2-104X	C CAPACITOR	.10MF +80:-20X		CM	408	GA2001F2-08X	SOCKET		
C	90	NC521HJ-120X	C CAPACITOR	12PF 5% 50V		CN	521	GGF1006F2-21W	SOCKET		
C	91	NC531HJ-180X	C CAPACITOR	18PF 5% 50V		D	7	MA111X	DIODE		
C	107	NCB31HK-332X	C CAPACITOR	3300PF 10% 50V		D	8	MA111X	DIODE		
C	108	NC531HJ-101X	C CAPACITOR	100PF 5% 50V		D	451	SC802-06-X	DIODE		
C	109	NCB31HK-472X	C CAPACITOR	4700PF 10% 50V		D	452	SC802-06-X	DIODE		
C	110	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V		IC	1	AN8771NFH	IC		
C	111	NEA70JM-226X	E CAPACITOR	22MF 20% 6.3V		IC	3	MN66614R4C	IC		
C	116	NBE40JM-226X	TA E CAPACITOR			IC	6	TC7W04FU-X	IC (DIGITAL)		
C	119	NCB31HK-102X	C CAPACITOR	1000PF 10% 50V		IC	351	TK11335BMC-X	IC		
C	122	NCB11C2-105X	C CAPACITOR	1.0MF 10% 16V		IC	390	MN41V44001T-08	IC		
C	125	NCB30J-105X	C CAPACITOR	1.0MF 10% 6.3V		IC	410	MG3008FP-X	IC		
C	127	NCB21CK-154X	C CAPACITOR	.15MF 10% 16V		IC	450	BD7910FV-X	IC M-HEAD DRIVE		
C	128	NC531HJ-470X	C CAPACITOR	47PF 5% 50V		IC	480	AK4519VF-X	IC A/D.D/A CONV		
C	129	NC531HJ-101X	C CAPACITOR	100PF 5% 50V		IC	485	TK71340M-W	IC 4.0V REG		
C	130	NCF31E2-104X	C CAPACITOR	.10MF +80:-20X		IC	500	MN1015FBI1	IC		
C	132	NCB31HK-102X	C CAPACITOR	1000PF 10% 50V		IC	590	AK93C45AF-W	IC		
C	400	NEA70JM-226X	E CAPACITOR	22MF 20% 6.3V		K	491	NGR0129-004X	FERRITE BEADS		
C	401	NEA70JM-107X	E CAPACITOR	100MF 20% 6.3V		K	492	NGR0129-004X	FERRITE BEADS		
C	402	NCB31HK-331X	C CAPACITOR	330PF 10% 50V		K	495	NGR0129-004X	FERRITE BEADS		
C	403	NEA70GM-476X	E CAPACITOR	47MF 20X		K	496	NGR0129-004X	FERRITE BEADS		
C	404	NCF21E2-104X	C CAPACITOR	.10MF +80:-20X		K	522	NGR0155-002X	INDUCTOR		
C	405	NCB21CK-473X	C CAPACITOR	.047MF 10% 16V		K	522	NGR0155-002X	INDUCTOR		
C	410	NEA70JM-107X	E CAPACITOR	100MF 20% 6.3V		K	523	NGR0129-002X	FERRITE BEADS		
C	411	NCF31A2-105X	C CAPACITOR	1.0MF +80:-20X		K	524	NRSA63J-OROX	MG RESISTOR	5%	
C	412	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X		L	1	NGL114K-100X	INDUCTOR		
C	417	NCB31HK-561X	C CAPACITOR	560PF 10% 50V		L	2	NGL114K-100X	INDUCTOR		
C	437	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V		L	3	NRS181J-OROX	MG RESISTOR	5% 1/8W	
C	439	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V		L	3	NGL114K-100X	INDUCTOR		
C	450	NEA70JM-107X	E CAPACITOR	100MF 20% 6.3V		L	500	NGL114K-100X	INDUCTOR		
C	451	NEA70GM-107X	E CAPACITOR	100MF 20X		L	525	NGL114M-1ROX	INDUCTOR		
C	452	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X		L	526	NGL114M-1ROX	INDUCTOR		
C	453	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X		Q	1	2SA1362/G/-X	TRANSISTOR		
C	455	NC32A2-101X	C CAPACITOR	47MF 20X 6.3V		Q	3	DTA1132KA-X	TRANSISTOR		
C	480	NEA70JM-476X	E CAPACITOR	47MF +80:-20X		Q	4	DTA1132KA-X	D-TRANSISTOR		
C	481	NCF21C2-105X	C CAPACITOR	.10MF +80:-20X		Q	5	DTA1132KA-X	D-TRANSISTOR		
C	482	NEA70JM-226X	E CAPACITOR	22MF 20X 6.3V		Q	6	DTA1132KA-X	D-TRANSISTOR		
C	483	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X		Q	9	DTA1132KA-X	D-TRANSISTOR		
C	484	NEA71CM-106X	E CAPACITOR	10MF 20X 16V		Q	12	DTA1132KA-X	D-TRANSISTOR		
C	485	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X		Q	400	2SA1363/EF/-X	CHIP TR-C-M		
C	486	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X		R	1	NRSA63J-472X	MG RESISTOR	4.7K 5%	
C	487	NCF31C2-104X	C CAPACITOR	.10MF +80:-20X		R	2	NRSA63J-OROX	MG RESISTOR	5%	
C	488	NEA71CM-106X	E CAPACITOR	10MF 20X 16V		R	3	NRSA63J-OROX	MG RESISTOR	4.7 5%	
C	489	NEA71EM-107X	E CAPACITOR	4.7MF 20X 25V		R	5	NRSA63J-4R7X	MG RESISTOR	100K 5%	
C	490	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V		R	6	NRSA63J-104X	MG RESISTOR	5%	
C	491	NCB31HK-222X	C CAPACITOR	2200PF 10% 50V		R	7	NRSA63J-OROX	MG RESISTOR	5%	

CA-MXS5MD/MXS5RMD  
SP-MXS5MD

BLOCK NO. 06				BLOCK NO. 06							
A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R	8	NRSA63J-471X	MG RESISTOR	470 5%		R	96	NRSA63J-102X	MG RESISTOR	1.0K 5%	
R	10	NRSA63J-474X	MG RESISTOR	470K 5%		R	97	NRSA63J-681X	MG RESISTOR	680 5%	
R	11	NRSA63J-222X	MG RESISTOR	2.2K 5%		R	106	NRSA63J-222X	MG RESISTOR	2.2K 5%	
R	12	NRSA63J-223X	MG RESISTOR	22K 5%		R	108	NRSA63J-102X	MG RESISTOR	1.0K 5%	
R	14	NRSA63J-103X	MG RESISTOR	10K 5%		R	109	NRSA63J-471X	MG RESISTOR	470 5%	
R	15	NRSA63J-223X	MG RESISTOR	22K 5%		R	123	NRSA63J-681X	MG RESISTOR	680 5%	
R	16	NRSA02J-104X	MG RESISTOR	100K 5%	1/10W	R	125	NRSA63J-103X	MG RESISTOR	10K 5%	
R	17	NRSA63J-473X	MG RESISTOR	47K 5%		R	126	NRSA63J-OROX	MG RESISTOR	5% 5%	
R	18	NRSA63J-103X	MG RESISTOR	10K 5%		R	141	NRSA63J-103X	MG RESISTOR	10K 5%	
R	19	NRSA63J-102X	MG RESISTOR	1.0K 5%		R	401	NRVA63D-123X	MG RESISTOR	12K	
R	20	NRSA63J-393X	MG RESISTOR	39K 5%		R	402	NRVA63D-512X	MG RESISTOR	5.1K	
R	22	NRSA63J-270X	MG RESISTOR	27 5%		R	415	NRSA63J-243X	MG RESISTOR	24K 5%	
R	23	NRSA63J-153X	MG RESISTOR	15K 5%		R	417	NRSA63J-273X	MG RESISTOR	27K 5%	
R	24	NRSA63J-102X	MG RESISTOR	1.0K 5%		R	421	NRSA63J-OROX	MG RESISTOR	5%	
R	25	NRSA63J-104X	MG RESISTOR	100K 5%		R	422	NRVA63D-513X	C.M.F. RESISTOR	51K	
R	26	NRSA63J-103X	MG RESISTOR	10K 5%		R	424	NRVA63D-273X	C.M.F. RESISTOR	27K	
R	27	NRSA63J-391X	MG RESISTOR	390 5%		R	425	NRVA63D-243X	C.M.F. RESISTOR	24K	
R	28	NRSA63J-102X	MG RESISTOR	1.0K 5%		R	427	NRSA63J-OROX	MG RESISTOR	5%	
R	29	NRSA63J-222X	MG RESISTOR	2.2K 5%		R	428	NRVA63D-393X	C.M.F. RESISTOR	39K	
R	30	NRSA63J-391X	MG RESISTOR	390 5%		R	429	NRVA63D-273X	C.M.F. RESISTOR	27K	
R	32	NRSA63J-102X	MG RESISTOR	1.0K 5%		R	431	NRSA63J-OROX	MG RESISTOR	5%	
R	33	NRSA63J-223X	MG RESISTOR	22K 5%		R	433	NRSA63J-OROX	MG RESISTOR	5%	
R	34	NRSA63J-471X	MG RESISTOR	470 5%		R	434	NRVA63D-333X	C.M.F. RESISTOR	33K	
R	35	NRSA63J-331X	MG RESISTOR	330 5%		R	435	NRVA63D-153X	C.M.F. RESISTOR	15K	
R	36	NRSA63J-102X	MG RESISTOR	1.0K 5%		R	436	NRSA63J-223X	MG RESISTOR	22K 5%	
R	37	NRSA63J-102X	MG RESISTOR	1.0K 5%		R	437	NRSA63J-302X	MG RESISTOR	3.0K 5%	
R	38	NRSA63J-102X	MG RESISTOR	1.0K 5%		R	438	NRSA63J-223X	MG RESISTOR	22K 5%	
R	39	NRSA63J-101X	MG RESISTOR	100 5%		R	439	NRSA63J-302X	MG RESISTOR	3.0K 5%	
R	40	NRSA63J-101X	MG RESISTOR	100 5%		R	451	NRSA63J-103X	MG RESISTOR	10K 5%	
R	41	NRSA63J-333X	MG RESISTOR	33K 5%		R	452	NRSA63J-682X	MG RESISTOR	6.8K 5%	
R	42	NRSA63J-102X	MG RESISTOR	1.0K 5%		R	453	NRSA63J-1ROX	MG RESISTOR	1.0 5%	
R	44	NRSA63J-103X	MG RESISTOR	10K 5%		R	454	NRSA63J-1ROX	MG RESISTOR	1.0 5%	
R	46	NRSA63J-101X	MG RESISTOR	100 5%		R	455	NRSA63J-223X	MG RESISTOR	22K 5%	
R	48	NRSA63J-101X	MG RESISTOR	100 5%		R	481	NRSA63J-100X	MG RESISTOR	10 5%	
R	49	NRSA63J-153X	MG RESISTOR	15K 5%		R	483	NRSA63J-OROX	MG RESISTOR	5%	
R	50	NRSA63J-471X	MG RESISTOR	470 5%		R	491	NRSA63J-471X	MG RESISTOR	470 5%	
R	51	NRSA63J-333X	MG RESISTOR	33K 5%		R	492	NRSA63J-471X	MG RESISTOR	470 5%	
R	53	NRSA63J-471X	MG RESISTOR	470 5%		R	493	NRSA63J-OROX	MG RESISTOR	5%	
R	54	NRSA63J-472X	MG RESISTOR	4.7K 5%		R	495	NRSA63J-471X	MG RESISTOR	470 5%	
R	55	NRSA63J-472X	MG RESISTOR	4.7K 5%		R	496	NRSA63J-471X	MG RESISTOR	470 5%	
R	56	NRSA63J-472X	MG RESISTOR	4.7K 5%		R	500	NRSA63J-102X	MG RESISTOR	1.0K 5%	
R	58	NRSA63J-153X	MG RESISTOR	15K 5%		R	501	NRSA63J-102X	MG RESISTOR	1.0K 5%	
R	59	NRSA63J-392X	MG RESISTOR	3.9K 5%		R	502	NRSA63J-102X	MG RESISTOR	1.0K 5%	
R	60	NRSA63J-153X	MG RESISTOR	15K 5%		R	503	NRSA63J-223X	MG RESISTOR	22K 5%	
R	61	NRSA63J-822X	MG RESISTOR	8.2K 5%		R	505	NRSA63J-102X	MG RESISTOR	1.0K 5%	
R	62	NRS181J-OROX	MG RESISTOR	5% 178W		R	506	NRSA63J-102X	MG RESISTOR	1.0K 5%	
R	63	NRS181J-OROX	MG RESISTOR	5% 178W		R	507	NRSA63J-102X	MG RESISTOR	1.0K 5%	
R	66	NRSA63J-104X	MG RESISTOR	100K 5%		R	508	NRSA63J-333X	MG RESISTOR	33K 5%	
R	68	NRSA63J-101X	MG RESISTOR	100 5%		R	509	NRSA63J-103X	MG RESISTOR	10K 5%	
R	69	NRSA63J-101X	MG RESISTOR	100 5%		R	510	NRSA63J-102X	MG RESISTOR	1.0K 5%	
R	81	NRSA63J-101X	MG RESISTOR	100 5%		R	511	NRSA63J-104X	MG RESISTOR	100K 5%	
R	82	NRSA63J-101X	MG RESISTOR	100 5%		R	512	NRSA63J-104X	MG RESISTOR	100K 5%	
R	83	NRSA63J-105X	MG RESISTOR	1.0M 5%		R	513	NRSA63J-104X	MG RESISTOR	100K 5%	
R	94	NRSA63J-105X	MG RESISTOR	10K 5%		R	514	NRSA63J-104X	MG RESISTOR	100K 5%	
R	95	NRSA63J-102X	MG RESISTOR	1.0K 5%		R	515	NRSA63J-102X	MG RESISTOR	1.0K 5%	



CA-MXS5MD/MXS5RMD  
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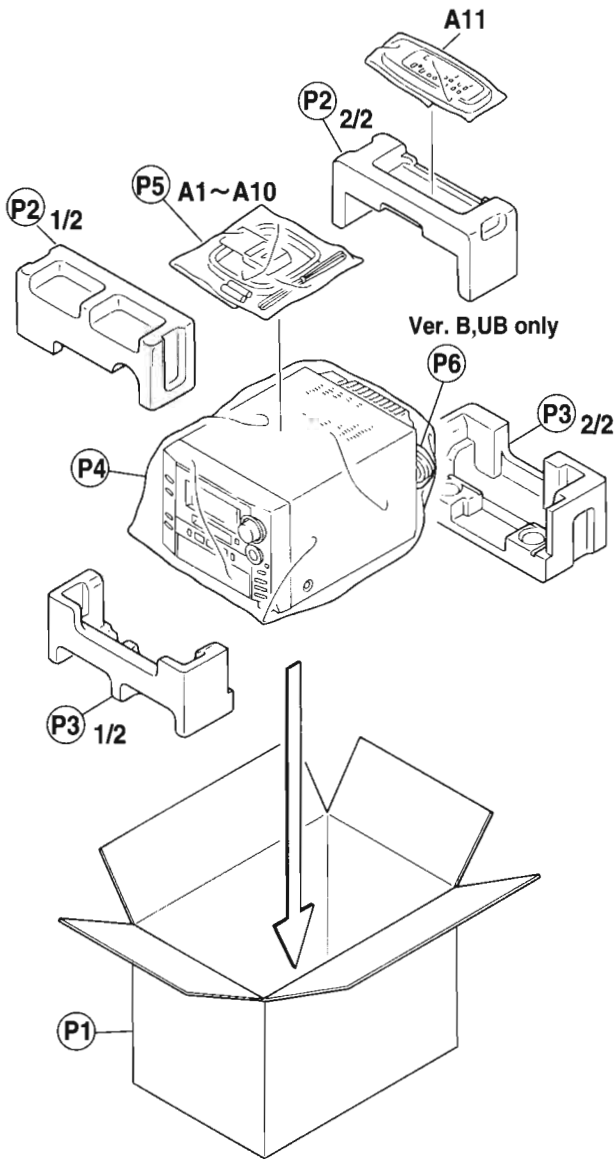
# Packing materials and accessories parts list

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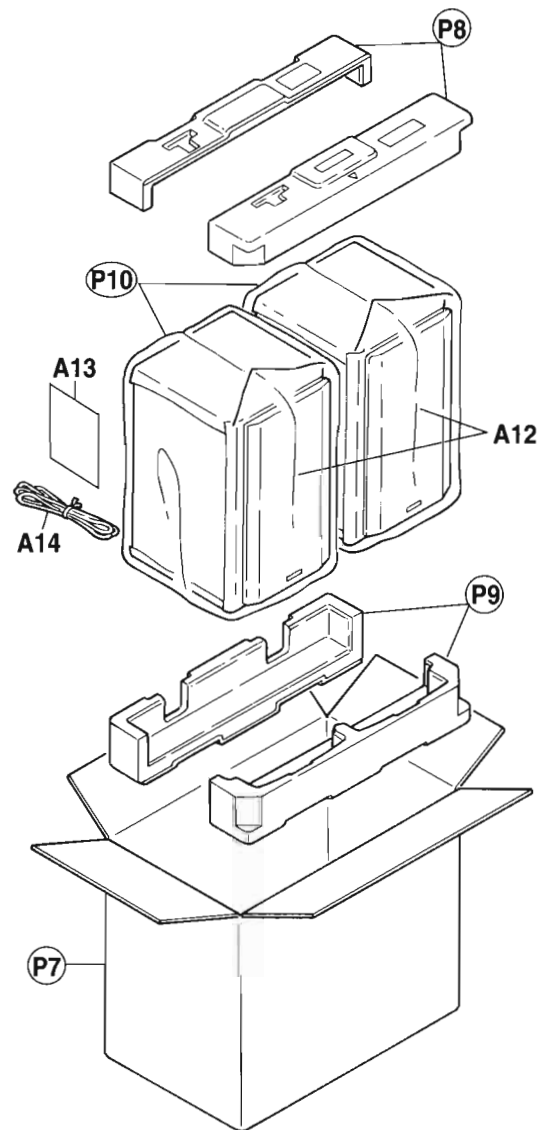
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Block No. 

M	5	M	M
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**CA-MXS5MD**  
**CA-MXS5RMD**



**SP-MXS5MD**

■ Packing parts list

BLOCK NO. **M4MM** [ ] [ ] [ ] [ ]

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	LV20387-002A	PACKING CASE	E,EN	1		
		LV20387-003A	PACKING CASE	US,UT	1		
		LV20501-001A	PACKING CASE	B	1		
		LV20501-002A	PACKING CASE	UB	1		
	P 2	LV20499-001A	PACKING PAD(UPP	B,UB	1		
		LV20388-001A	PACKING PAD(UPP	E,EN,US,UT	1		
	P 3	LV20500-001A	PACKING PAD(BOT	B,UB	1		
		LV20389-001A	PACKING PAD(BOT	E,EN,US,UT	1		
	P 4	QPC05006515P	POLY BAG	FOR SET	1		
	P 5	QPC02503510P	POLY BAG	FOR ACCESSARY	1		
	P 6	QPA01504505	POLY BAG	B,UB	1		
	P 7	LV30184-021A	SP PACKING CASE	U,US	1		
		LV30184-022A	SP PACKING CASE	UT	1		
		LV30184-020A	SP PACKING CASE	E	1		
	P 8	LV20394-001A	SP CUSHION(UPE		1		
	P 9	LV20396-001A	SP CUSHION(BOTT		1		
	P 10	8500028981	POLY BAG	FOR SPEAKER	2		

■ Accessories parts list

BLOCK NO. **M5MM** [ ] [ ] [ ] [ ]

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	LVT0358-001A	INST.BOOK(UB,US	ENG,CHI	1		
		LVT0356-001A	INST.BOOK(EN)	GER,FRE,DUT,SWE	1		
		LVT0356-001A	INST.BOOK(EN)	FIN,DAN	1		
		LVT0355-001A	INST.BOOK(E)	ENG,GER,FRE,DUT	1		
		LVT0357-001A	INST.BOOK(UT)	ENG,CHI	1		
		LVT0355-001A	INST.BOOK(E)	SPA,ITA	1		
		LVT0354-001A	INST.BOOK(B)	ENG	1		
	A 3	QAL0014-001	AM LOOP ANT		1		
	A 4	EWP503-001	ANT.WIRE		1		
	A 5	VNA3000-202	REGIST.CARD	B	1		
	A 6	E43486-340A	BS=SAFETY INST	B	1		
	A 7	BT-54008-2	WARRANTY CARD	B,E,EN	1		
	A 8	LV30258-060A	UB SHEET	UB	1		
	A 9	QAM0027-001	AC PLUG ADAPTER	UT	1		
	A 9	QAM0112-001	AC PLUG ADAPTER	US	1		
	A 10	-----	BATTERY		1		
	A 11	RM-SMXS5MDU	REMOCON	CA-MXS5MD	1		
		RM-SMXS5MDR	REMOCON	CA-MXS5RMD	1		
	A 12	MXS5RMDK-SPBOX	SPEAKER ASS'Y	SP-MXS5MD	2		
	A 13	8700079101	SP INST.BOOK	E	1		
		8700079201	SP INST.BOOK	U,US,UT	1		
	A 14	6200036801	SPEAKER CORD	E	1		


**CA-MXS5MD  
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SP-MXS5MD**

**JVC**

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