JVC

SERVICE MANUAL

COMPACT DISC PLAYER

XL-Z463TN
XL-Z464BK

COMPACT disc DIGITAL AUDIO

COMPU LINK
Remote
Control Component

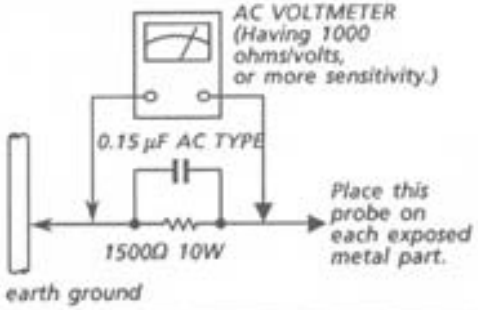
※ *(NOTE) Adjustment is not necessary for this player.*

Contents

No. 20408
Mar. 1993

Safety Precautions

1. The 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 (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement 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 currnet 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, contorl 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 1,500Ω 10 W resistor paralleled by a 0.15 μF 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 meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured 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.

Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER : Invisible laser radiation when open and interlock 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 laser radiation 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.
7. CAUTION : The compact disc player provides a laser diode of wavelength 760-800nm and optical output power typical 3mW at the laser diode.

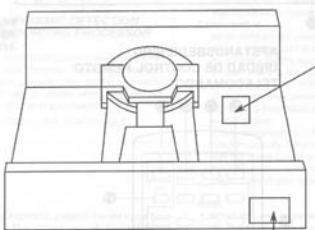
VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

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

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

ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS



WARNING LABEL
(Except for the U. S. A.)

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

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

ADVARSEL: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgåudsættelse for stråling. (d)

VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)

CLASS 1
LASER PRODUCT

CLASSIFICATION LABEL
(Except for the U. S. A. and Canada)

Instruction Book

FRONT PANEL
VORDERSEITE
FACE AVANT

VOORPANEEL
PANEL FRONTAL
PANNELLO FRONTALE

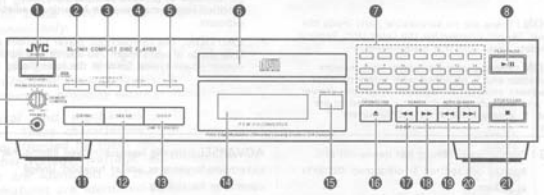


FIG. 1
ABB. 1
AFB.1

DISPLAY
ANZIGE
AFFICHAGE

DISPLAY
VISUALIZACIÓN
DISPLAY

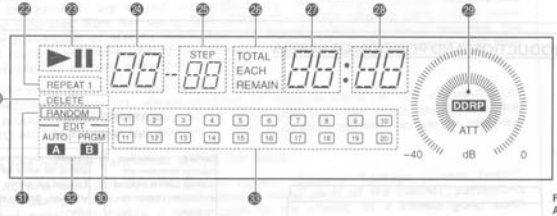


FIG. 2
ABB. 2
AFB. 2

REMOTE CONTROL UNIT
FERNBEDIENUNGSGERÄT
TELECOMMANDE

AFSTANDSBEDIENING
UNIDAD DE CONTROL REMOTO
TELECOMANDO

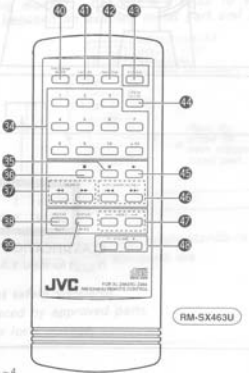


FIG. 3
ABB. 3
AFB. 3

ENGLISH

CONTENTS

Thank you for purchasing this JVC product. Before you begin operating this unit, please read the instructions carefully to be sure you get the best possible performance.
If you have any question, consult your JVC dealer.

COMPU LINK
Remote
Control System

COMPU LINK (remote) Control System is a convenient system using COMPU LINK-1, 3/SYNCHRO terminals on the rear panel.
For further details, refer to page 2.

D • D • R • P

DYNAMIC DETECTION RECORDING PROCESSOR

This product can be combined with a DDRP (Dynamic Detection Recording Processor) system (compact disc player + cassette deck, etc.) to enable setting the optimum recording level automatically.
For further details, refer to page 2.

Notes:

- **XL-Z463TN/XL-Z464BK has the same function. The differences of XL-Z463TN/XL-Z464BK are as follows:**

Model Name	Color
XL-Z463TN	Titanium
XL-Z464BK	Black

PRECAUTION IN USE

Installation
- Select a location which is level, dry and **Neither too cold nor too hot [between 5°C (41°F) and 35°C(95°F)].**
- Avoid a dusty location or a location subject to vibrations.

Power
- When unplugging from the wall outlet, always pull on the plug, not on the power cord.

Malfunctions, etc.
- Do not insert any metallic object into the player.
- The discs to be played on this player are limited to those bearing the mark below

COMPACT disc DIGITAL AUDIO

Fig. 4

- Placing anything other than a compact disc on the tray may cause the player to malfunction.
- If something goes wrong, turn the power off immediately. If the same phenomenon occurs when the power is turned on again, turn the power off and consult your JVC dealer.

Volume setting

As a compact disc causes almost no noise, it is difficult to set the volume level by listening to noise as in the case of an ordinary analog turntable or a tape deck. If the volume level is raised too much because the beginning of the selection is quiet, the speakers may be damaged by a sudden increase in the sound level.

Condensation

As the compact disc player uses optical parts, moving it from a cold to warm place or using it in a room subject to excessive humidity or in a room where a fire has just been lit may cause condensation on the optical parts. This phenomenon may prevent the light from being correctly transmitted, and may cause noise or malfunction.
If dew condenses and the player does not function correctly, leave it on for several hours with the power turned on.
If the player does not function even after such period, consult your dealer.

Note:

- **When this unit is placed near a tuner or a receiver, noise may occur. If this happens, move this unit as far from the tuner or the receiver as possible, or briefly turn off the power of the unit.**

HOW TO HANDLE A COMPACT DISC

Since compact discs are made of plastic, they can be easily damaged; if the disc gets dirty, dusty, damaged or warped, the sound will not be picked up correctly, and such discs may cause the player to malfunction. When handling compact disc,use the following precautions.

- Do not touch the surface of the disc (reflective silver i.e. the side without the label) When handling the discs.
- **Storage**
  Make sure to keep discs in their cases. If discs are piled on top of the one another without cases, they can be damaged. Do not put discs in a location exposed to direct sunlight or in a place with high temperature and humidity.
  Avoid leaving discs in your car.
- **Maintenance of discs (Fig. 5)**
  When fingerprints and dirt adhere to a disc, wipe the disc off with a soft, dry cloth from the inside towards the outside. If it is difficult to clean, wipe the disc with a cloth moistened with water.
- Do not use record cleaners, benzine, alcohol or antistatic agent.
- Do not damage the label side or stick paper or adhesive to the surface.
- In the case of an 8 cm (3") single CD, place it in the disc hold, for an 8 cm (3") disc, within the tray.

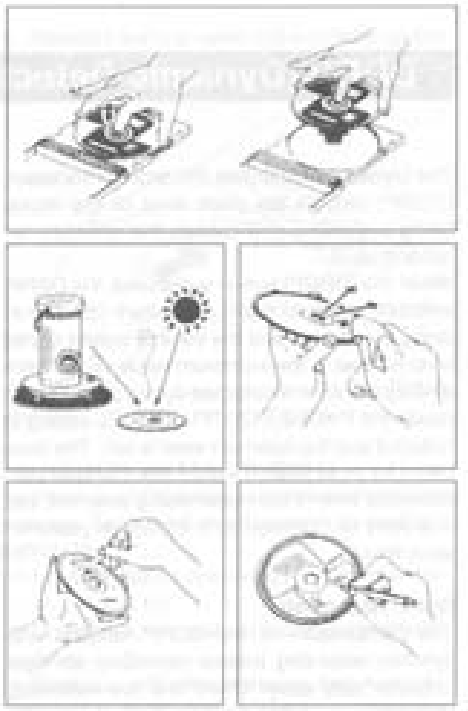


Fig. 5

COMPU LINK CONTROL SYSTEM

The Compu Link Remote Control System controls relative operations between components automatically and facilitates various operations. This is a system originated and developed by JVC for facilitating various system operations. There are two versions of this system; version 1 and 3. (For version 1 components, "COMPU LINK-1 SYNCHRO" is marked on the rear panel. For version 3 components, "COMPU LINK-3 SYNCHRO" is marked on the rear panel. This unit belongs to version 3.) The version 3 system controls relative functions between this unit and an amplifier or receiver, in addition to all of the functions of version 1.

Automatic Source Selection

When the provided remote cable are used for connecting this unit to other components which have COMPU LINK-1, 3/SYNCHRO terminals, the switch-over of all system components is possible with simple one-touch of the source selector button of the JVC amplifier or receiver. By doing this, the corresponding component will start playing automatically. The source select button of the remote control unit or the select button of the desired component can also be used for this purpose.
When the components have been switched over, the previously used component will stop playing within five seconds.

Synchronized Recording

If a cassette deck with COMPU LINK-1, 3/SYNCHRO terminals is connected with the remote cable supplied, synchro recording becomes possible.
Synchronized recording refers to the process in which the cassette deck starts recording in the synchronism with the CD player. Perform the synchronized recording as follows.

1. Set the cassette deck to the REC/PAUSE mode in accordance with the procedures in the instructions.
2. If you want programmed recordings, program the desired selections in any order you wish to hear them.
3. Press the [PLAY►/IIPAUSE] button of the CD player. By doing so, the cassette deck is placed in the record mode and synchronized with the CD player for recording. Synchronized recording thus can be made possible.

Automatic power ON/OFF

This feature works only when this unit is connected to an amplifier or receiver with COMPU LINK-3 SYNCHRO terminals.
By pressing the [PLAY►/IIPAUSE] or (►) button, you can turn on this unit and the connected equipment (amplifier or receiver), and by turning off the connected equipment, you can turn off this unit.

Notes:

- **Synchronized recording stops automatically when the CD player stops playing.**
- **To cancel synchronized recording, press the [STOP/CLEAR (■)] button of the CD player or cassette deck.**

CAUTION:

- **When the REC/PAUSE mode is set by pressing [PAUSE (II)] button after pressing the [REC (○)] and [PLAY (►)] buttons simultaneously, synchronized recording is not possible. For details, refer to the instructions of the cassette deck.**
- **Abnormal operation will result if the power supply of the component(s) is interrupted. If this happens, you must start all over again.**
- **Ensure that the COMPU LINK-1, 3/SYNCHRO terminals of the individual components are connected with the provided remote cables. Also be sure to fully read the instructions for each component.**

DDRP (Dynamic Detection Recording Processor)

The Dynamics Detection Recording Processor (DDRP) detects the peak level of the music being performed and outputs the optimum recording level.
When the [DDRP] button is pressed, the DDRP indicator starts to flash, the letters "ddrp" run along the display and the volume output signal level is reset to the maximum value. Each time a new peak level is detected during peak search mode, the PHONES OUTPUT LEVEL setting is reduced and the optimum level is set. The time taken for peak search varies with the total performance time of the music being scanned, but is around two minutes for a 40 minute performance time.

DDRP Recording

The combination of the DDRP function and synchro recording makes recording on tape cassette very easy. There are two recording methods - according to which type of cassette deck is being used.

1. In combination with a DDRP compatible JVC cassette deck :
   Peak search is initiated by pressing the [DDRP] button. As soon as the peak search is terminated, recording starts. The cassette deck should be operated in accordance with the instructions supplied with it.
2. In combination with any JVC cassette deck not DDRP-compatible:
   Where connection is made to a cassette deck not DDRP-compatible, via the synchro terminals, pressing the [DDRP] button will start the recording process.
   In this case, the cassette deck input level will not be automatically set.
   Where a none DDRP-compatible cassette deck is used, a preliminary recording should be made in order to ascertain ideal input levels - the input level being then set up in accordance with the instructions for the cassette deck. If the input-level knob is subsequently reset to the same position, this enables recording at the optimum level to be done, without resetting every time.

DDRP Cancel

Press the [(OPEN/CLOSE)⏏] button to cancel DDRP mode.

Note:

- The graphic equalizer should not be used during DDRP recording. Using this facility will disturb the optimum recording level setting just found by the DDRP.
- Please do not turn off the power to the CD player while the DDRP mode is active. If this should be turned off by accident then the cassette deck should also be switched off for a few seconds in order to clear the DDRP recording mode from the cassette deck.
- When the cassette deck is connected via the synchro terminals, it is set in recording mode when DDRP is pressed. Take care, therefore, not to erase a tape by mistake.

Supplementary Notes

- *Whenever any addition or cancellation is made to the music tracks programme, the DDRP mode is cancelled.*
- *DDRP recording is automatically stopped when the CD player stops.*

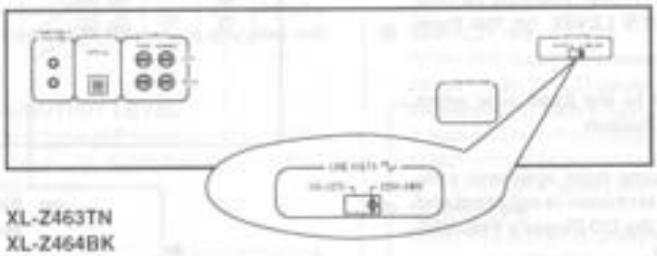
ENGLISH

BEFORE USE

Set the voltage selector to your local line voltage. (Fig. 6)
When this equipment is used in an area where the supply voltage is different from the preset voltage, reset the voltage selector to the correct position.
(Not provided on units for U.S.A., Canada, Australia, U.K. and Continental Europe.)

CHECKING YOUR LINE VOLTAGE (Except for U.S.A., Canada, Australia, U.K. and Continental Europe.)
Before inserting the power plug, please check this setting to see that it corresponds with the line voltage in your area. If it doesn't be sure to adjust the voltage selector switch to the proper setting before operating this equipment. The voltage selector switch is located on the rear panel.

CAUTION:
- Before setting the "Voltage selector switch" to proper voltage, disconnect the power plug.



XL-Z463TN
XL-Z464BK

Fig. 6

HOW TO INSTALL THE BATTERIES

The service life of the batteries depends on the condition of use; the standard life is about one year.
When the batteries become weak, the effective distance of the remote control unit will become shorter. If this happens, replace the batteries with new ones.

- **How to install batteries**

1. Remove the rear cover of the remote control unit by pressing down on it with your thumb and simultaneously pulling it backwards, as shown in Fig. 7.

Fig. 7

2. Install batteries as shown in Fig. 8.
Be sure batteries are installed with correct polarity, (+) and (–).

RM-SX463U
(AAA R03 UM-4)

Fig. 8

3. Reinstall the rear cover of the remote control unit. Slide the rear cover back as shown in Fig. 9.

Fig. 9

Important Notes About Batteries
Incorrect use of batteries can cause corrosion or damage. Note the following points to lenghten battery life.
- Install batteries observing the correct polarity, (+) and (–).
- Do not use new and old batteries simultaneously.
- Batteries with similar shapes may have different voltage ratings. Be sure to use the correct batteries.
- Remove batteries from the remote control unit if it will not be used for a long period of time.
- The lower the temperature, the shorter battery life.

CAUTION:
Do not heat batteries or attempt to dispose of them by burning.

CONNECTION DIAGRAM

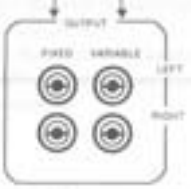
- Do not connect the power plug unless all the connection is completed.
- Connect the audio plug firmly.
- The synchronized recording is only possible with JVC products which have the COMPU LINK-1, 3/SYNCHRO terminals. To carry out synchronized recording, connect to the amplifier's CD terminal. For further details, consult your JVC dealer.
- The AC power cord which is supplied by JVC must be connected to the unit before use.

Connecting to the Analog Output Terminals

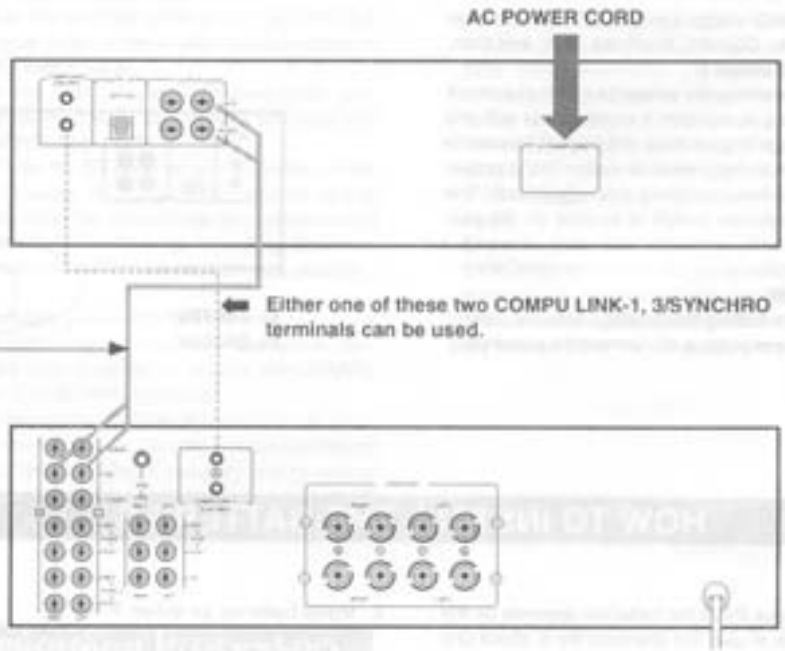
The sound volume from speakers connected to these terminals can be adjusted by the CD Player's remote control unit and PHONES LEVEL on the front panel.

Please connect to the fixed side when you use DDRP System.

The sound volume from speakers connected to these terminals is constant and independant of the CD Player's PHONES LEVEL position.



This cord is designed to connect the CD or AUX terminals. Do not connect this cord to the PHONO terminals of the amplifier.



An example of an amplifier

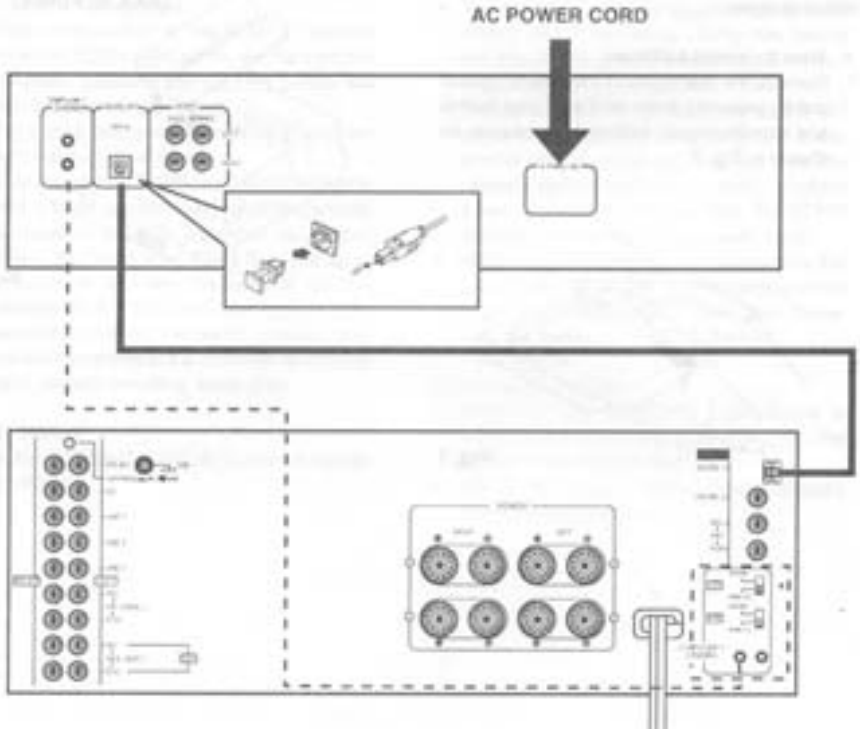
Fig. 10

Connecting to the Digital Output Terminals

Note:

- Automatic recording level setting cannot work properly if the DIGITAL out terminal is in use.
- When connecting the optical terminal please purchase an optical fiber cable for the connection cord. For details, consult your JVC dealer.
- Remove the terminal cover and the cable's protective cap before connecting the optical fiber cable.

> * To operate COMPU LINK controls system and DDRP system correctly, read the Amplifier Manual precisely if you connect to the Amplifier equipped with changeover switch between digital and analog.



An example of an amplifier

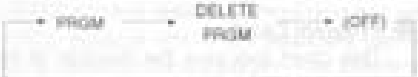
DESCRIPTION AND FUNCTIONS

ENGLISH

❶ **POWER (ON/STANDBY) switch and STANDBY indicator**
Press this switch to turn the power on. Press again to turn the power off and activate the standby mode.
A small amount of power (3 watts) is consumed and the STANDBY indicator is lit in the standby mode. To turn the power off completely, disconnect the power cord from the wall outlet.

❷ **REPEAT ALL/1**
Press this button to play one selection, all the selections or the programmed selections of the disc repeatedly.
When desiring all the selections, press the button once. "REPEAT" will be lit in the display window. When desiring one selection, press the button once again. "REPEAT 1" will be lit in the display window. To release this repeat play, press the [(REPEAT ALL/1)] button again.

❸ **PRGM/DELETE PRGM/OFF**
To program the sequence of the selections to be played, press this button while the CD player is in the stop mode.
Each time [PRGM/DELETE PRGM/OFF] button or (PROGRAM MODE) button on the remote control unit is pressed, the indication changes in the following order.



Up to 32 selections can be programmed.

PRGM: You can indicate your favourite song to be programmed by numeric button.

DELETE PRGM: You can indicate the song to be taken out of the program by numeric button.

❹ **CANCEL**
Press this button to cancel a programmed tune, each time it is pressed, one tune is cancelled.

❺ **RANDOM**
In stop mode press this button to put the CD player in random playmode.
To disengage this mode while CD player is in stop mode, press this button again.

❻ **Disc Tray**
Load the disc to be played.

❼ **Numeric buttons**
To designate the desired track numbers or establish the time interval during the tape editing, use these buttons. If the desired number is 20 or less, use the [1] – [20] buttons. However, to assign a track number greater than 20, use the [+10] button and the [1] – [20] button.

Examples
- To assign the 25th track, press the [+ 10] button once then press the [15] button.
- To assign the 30 minutes, press [+ 10] button once then press the [20] button.

❽ **PLAY/PAUSE ►/ ■**
Press to start play. If the disc tray is out press this button, and disc tray will then move in and play will start (without pressing the [(OPEN/CLOSE)≜] button).
Press this button again to suspend play temporarily. The optical pickup stops and the disc continues to rotate. This status is called the pause mode.

Note:
- **If the button is pressed with no disc loaded, the disc tray will come out.**
  If the button is pressed in the standby mode, the power will turn on and play will start.

❾ **PHONES/OUTPUT LEVEL**
Adjust the volume of the headphones and the output level of VARIABLE OUTPUT Terminals.

Note:
- **When listening to music by the headphones, be careful not to abuse your ears by setting the volume too high. Adjust the volume properly to obtain ear-pleasing listening.**

❿ **PHONES**
Insert the headphones into this jack.

⓫ **EDITING**
When editing the disc data in the cassette tape, the time interval can be established in advance in accordance with the tape length. When this button is pressed, "EDIT" appears in the display window.

⓬ **SIDE A/B**
Use this button to designate the tape side when programming for edit recording.

⓭ **DDRP**
Press for DDRP recoding. If the player is connected to a DDRP system compatible cassette deck, when this button is pressed, the optimum recording level is automatically set and recording is started.

⓮ **Display Window (MULTI MODE DISPLAY)**
This shows the total number of selections on the disc, the total playing time, the elapsed playing time, the remaining playing time, various program data, etc.

⓯ **REMOTE SENSOR**

⓰ **OPEN/CLOSE ≜**
Press to move the disc tray in and out. Press once and the disc tray will move out; now you can load a disc. Press again to move the tray back in. The disc is now ready to be played. If it is pressed during play, play will be interrupted. And the program will be erased from memory and the disc tray will come out.

Note:
- **If the button is pressed in the standby mode, the power will turn on and play will start.**

⓱ **SEARCH ◄◄**
When this button is pressed during play or pause mode, the CD player will begin to scan backwards. In such a case, when the button is kept pressed, the CD player will backward-search slowly for about 3 seconds, and then go into a higher speed search.

⓲ **SEARCH ►►**
When this button is pressed during play or pause mode, the CD player will begin to scan forward. In such a case, when the button is kept pressed, the CD player will forward-search slowly for about 3 seconds and then go into a higher speed search.

⓳ **AUTO/SEARCH ⏮◄◄**
Press this button to locate the start of the current selection or to go back to the previous selection during play. Play will go back one selection each time the button is pushed. If the button is held down, play will continue to go back one selection at a time until the button is released.

⓴ **AUTO/SEARCH ►►⏭**
Press to go to the start of the next selection. Every time this button is pressed, the pickup goes forward by one selection. Holding the button down moves the pickup forward continuously.

㉑ **STOP/CLEAR ■**
Press to stop play. A few seconds after the disc has stopped rotating, the player goes into the stop mode with the track number "1" shown in the display window. The player is then ready to play. Pressing this button during a halt in the PROGRAM MODE cancels the program displayed.

DISPLAY

REPEAT
Lights when the repeat play is ready.
REPEAT : Lights when the repeat play of all the selections is entered.
REPEAT 1 : Lights when the repeat play of only one selection is entered.

PLAY/PAUSE indicators
► : Lights during play.
II : Lights in the pause mode.

TRACK
Lights when all the selections of the disc are shown.
Shows the programmed selection numbers or the current selection number of the disc during programmed play.

STEP
Shows the numbers of memory steps of the programmed selections.

TOTAL/EACH/REMAIN
Each time the (DISPLAY MODE) button on the remote control unit is pressed, the indication changes in the following order.

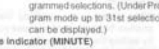
EACH : Shows elapsed time for the each selection.
EACH REMAIN : Shows the remaining playing time of each selection. (Under Program mode up to 31st selection can be displayed.)
TOTAL : Shows the elapsed playing time of the disc or the programmed selections. (Under Program mode up to 31st selection can be displayed.)
TOTAL REMAIN : Shows the remaining playing time of the disc or the programmed selections. (Under Program mode up to 31st selection can be displayed.)

Time indicator (MINUTE)
Shows the total playing time, elapsed playing time, or the remaining playing time in minutes.

Time indicator (SECOND)
Shows the total playing time, elapsed playing time, or the remaining playing time in seconds.

DDRP INDICATORS
DDRP : Blinks during DDRP operation and lights steadily during DDRP recording.
ATT : Indicates the output level from the CD player during DDRP operation.
dB : Indicates the sound volume level during playback and during DDRP operation.

PRGM/DELETE PRGM/OFF
Each time [PRGM/DELETE PRGM/OFF] button or (PROGRAM MODE) button on the remote control unit is pressed, the indication changes in the following order.



PRGM : You can indicate your favourite song to be programmed by numeric button.
DELETE PRGM: You can indicate the song to be taken out of the program by numeric button.

RANDOM
Lights in RANDOM MODE.

EDIT
Lights during editing recording.
[EDIT AUTO] : Lights during Auto Edit Recording.
[EDIT PRGM] : Lights during Program Edit Recording.
A : Lights when the A side of the tape is designated.
B : Lights when the B side of the tape is designated.

Program Chart
This chart indicates the number of each selection on the disc.
When a selection is programmed, the selection number lights.

REMOTE CONTROL UNIT

ENGLISH

The remote control range is approximately 7 metres (23 ft.)
Pointing the remote control on an angle to the receiver, will reduce the useful distance of the remote control.
Use gentle but firm pressure when pressing the remote control buttons.

If you can not do remote control, the disc tray sliding out, the REMOTE SENSOR might be behind the disc tray. So operate as below.

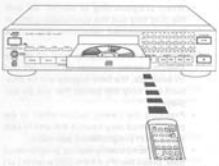


Fig. 12

Notes:

- **The provided remote control unit has operating buttons which are basically identical with those of the CD player. The differences are the following button which are not on the CD player.**
- **(■) button on the remote control unit cannot cancel the programmmed selections.**

① Numeric key operating buttons
To designate the desired track numbers or establish the time interval during the tape editing, use these buttons. If the desired number is 10 or less, use the [1]–[10] buttons: However, to assign a track number greater than 10, use the [+10] button and the [1]–[10] buttons.

Example
- To assign the 25th track, press the [+10] button twice then press the [5] button.

② Pause (⏸)
Press to stop play temporarily.

Note:
- **To continue playing, press the (►) button again.**

③ Stop (■)
Press to stop play. However, this does not clear the programmed selections.

④ SEARCH (◄◄, ►►)
◄◄ : Scans backward quickly during play.
►► : Scans forward quickly during play.

⑤ REPEAT ALL/1
Press this button to play one selection, all the selections or the programmed selections of the disc repeatedly.

⑥ DISPLAY MODE
This button changes the time data in the display window.

⑦ PROGRAM MODE
To program the sequence of the selections to be played, press this button while the CD player is in the stop mode. The PROGRAM indicator lights and up to 32 selections can be programmed. This can operate the same function as PROM/DELETE, PROM/OFF button in main unit. Please refer to P.5.

⑧ CANCEL
Press this button to cancel the programmed tune.Each time it is pressed, one tune is cancelled.

⑨ RANDOM
When this button is pressed, the CD player will be ready for random play.

⑩ POWER
Press this button to turn ON/OFF the power of this set.

⑪ OPEN/CLOSE
Press to move the disc tray in and out.

⑫ Play (►)
Press to start play.

⑬ AUTO SEARCH/CHECK (⏮, ⏭)
⏮ : Skips to the beginning of the previous track.
⏭ : Skips to the beginning of the next track.
It can be also used to check the program order, or to cancel part of the program.

⑭ INDEX
(—): To start play from the desired index point, scan backward to the desired index point with this button.
(—): To start play from the desired index point, scan forward to the desired point with this button.

⑮ VOLUME (PHONES and Output Level)
[+] : The volume increases slowly and continuously in proportion to how long the [+] button is being pressed.
[–] : The volume decreases slowly and continuously in proportion to how long the [–] button is being pressed.

HOW TO OPERATE

[ ] : The button on the main unit.
( ) : The button on the remote control.

Preliminary Operation

1. Turn on and adjust components such as an amplifier.
2. Turn on the CD player.
3. Press the [(OPEN/CLOSE)⏏] button to slide the disc tray out.
4. With its label side up, load a disc on the disc tray.
5. Press the [(OPEN/CLOSE)⏏] button again to slide the disc tray in.

Notes:

- **The display shows the number of tracks and total playing time of the disc for 3 seconds.**
- **You can also close the disc tray by pressing the [PLAY/PAUSE ►/II] or (►) button. In such a case, play starts immediately with the first selection of the disc.**

To Play From the First Selection

Press the [PLAY/PAUSE ►/II] or (►) button.

To Play From Any Desired Selection

1. Designate the desired selection number by the numeric buttons.

Examples:

- To assign the 25th track, press the [+10] button twice and then press the [5] button.
- To assign the 30th track, press the [+10] button twice and then press the [10] button.

The same operation can also be carried out using [(⏮◄, ►►⏭)] button.

1. Designate the desired selection number by the [(►►⏭)] button.
2. Press the [PLAY/PAUSE ►/II] or (►) button.

To Stop Play Temporarily

Press the [PLAY/PAUSE ►/II] or (II) button.

Note:

- **To continue playing, press the [PLAY/PAUSE ►/II] or (►) button again.**

To Switch Selections During Play

- **To skip to the next selection**
  Press the [(►►⏭)] button.
- **To skip to the previous selection**

1. Press the [(⏮◄)] button once and locate the start of the current selection.
2. Immediately after step 1, press the [(⏮◄)] button again.

To Repeat Play

- **To repeat all the selections**

1. Press the [(REPEAT ALL/1)] button once.
2. Press the [PLAY/PAUSE ►/II] or (►) button.

- **To repeat one selection**

1. Press the [(REPEAT ALL/1)] button twice.
2. Designate the desired selection number by the [(►►⏭)] button or numeric button.
3. Press the [PLAY/PAUSE ►/II] or (►) button.

To Stop Play

Press the [STOP/CLEAR (■)] button.

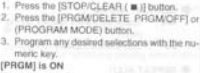
To Remove the Disc

Press the [(OPEN/CLOSE)⏏] button.

To Program Play

1. Press the [STOP/CLEAR (■)] button.
2. Press the [PRGM/DELETE PRGM/OFF] or (PROGRAM MODE) button.
3. Program any desired selections with the numeric key.

[PRGM] is ON
The sequence of the songs that you programmed will be indicated by pressing numeric button.
ex : 19th song will be played first and 3rd song will be played second.



[DELETE, PRGM] is ON
The sequence of the songs that you want to delete from program will be indicated by pressing numerical buttons.
ex : All the song will be played except 2 4 6

4. Press the [PLAY/PAUSE ►/II] or (►) button.

To Correct the Program

- **To correct all the program**

1. Press the [STOP/CLEAR (■)] button.
2. Start programming again from the beginning.

- **To correct each content of the program during programming**

1. Press the [(⏮◄)] button to go back to the program which needs to be cancelled.
2. Press the [(CANCEL)] button.
3. Program a desired selection with the numeric key.
   * Newly programmed selection is added to the last of the program.

To Check the Program

Press the [(⏮◄ , ►►⏭)] button.

Notes:

- **A maximum of 32 out of 99 tunes can be selected.**
- **When the programmed play is performed, the selection number programmed first and the total playing time of programmed selections are displayed.**
- **The total playing time display is useful when making recording from the CD player.**
- **When programming is carried out with the disc tray out, the total playing time of the programmed selections will not be displayed.**
- **When the total playing time of all the selected tunes exceeds 99 minutes and 59 seconds, the time display will be disabled and only the center bar will be displayed.**
- **Pressing the [(►►⏭)] button when in the programmed play causes the unit to skip to the next programmed selection.**
- **To stop temporarily during programmed play, press the [PLAY/PAUSE ►/II] or (II) button. Press [PLAY/PAUSE ►/II] or (►) button again to restart.**

To Random Play

1. Press the [STOP/CLEAR (■)] button.
2. Press the [(RANDOM)] button.
3. Press the [PLAY/PAUSE ►/II] or (►) button.

To Cancel the part of Random Play

- **After the [STOP/CLEAR] or (■) button is pressed and then [(RANDOM)] button is pressed:**

1. Select the track(s) you want to cancel with the numeric buttons.
2. Press the [PLAY/PAUSE ►/II] or (►) button.

To add cancelled track(s) to Random Play

1. Select the cancelled track(s) you want to add to Random Play with the numeric buttons or [(⏮◄, ►►⏭)] button.
2. Press the [PRGM/DELETE PRGM/OFF] button.
3. Press the [PLAY/PAUSE ►/II] or (►) button.

To Perform Synchronized Recording

Synchronized recording is possible by connecting the cassette deck to the COMPU LINK-1, 3/ SYNCHRO terminals of the CD player through the remote cable.

1. Press the [REC (○)] and [PAUSE (II)] buttons of the cassette deck.
2. Press the [PLAY/PAUSE ►/II] button of the CD player or (►) to start the synchronized recording.
3. Press the [STOP/CLEAR (■)] button to stop recording.

To record using DDRP

Whenever the remote cable supplied is connected to the COMPU LINK-1, 3/SYNCHRO terminals housed in a DDRP-compatible cassette deck, DDRP recording mode is available. By pressing the [DDRP] button, recording is automatically started as soon as the peak level search routine is completed.

To Perform Edit Recording

- **Auto Edit Recording**

Automatically distributes and edits the tracks accommodated within the specified time to sides A and B.

1. Set a disc and press the [STOP/CLEAR (■)] button.
2. Press the [EDITING] button to light AUTO.
3. Set the recording time corresponding with the tape used, using the numerical buttons.

Examples:

- To assign the 54 minutes, press [+10] button 5 times then press the [4] button.
- To assign the 90 minutes, press [+10] button 8 times then press the [10] button.

When the length of tape corresponds with the time displayed then the [SIDE A/B] button should be pressed.

4. Press the [DDRP] button.
When automatic setting of the recording level is not required, set the cassette deck to standby (REC PAUSE) and press the CD player [PLAY/PAUSE ►/II] or (►).
When the synchro terminals are not connected, once the peak search is completed, set the cassette deck to record, and press the CD player [PLAY/PAUSE ►/II] or (►).

When the side A music programme has terminated, recording is automatically stopped.
If side B is also to be recorded, turn the tape over and again press the [DDRP] button, now recording will start immediately.

- **Program Edit Recording**

Edits the tracks accommodated within the specified time in the desired track order.

1. Set a disc and press the [STOP/CLEAR (■)] button.
2. Press the [EDITING] button to light PRGM.
3. Set the recording time corresponding with the tape used, using the numeric buttons.

Examples:

- To assign the 54 minutes, press [+10] button 5 times then press the [4] button.
- To assign the 60 minutes, press [+10] button 4 times then press the [20] button.

When the length of tape corresponds with the time displayed then the [SIDE A/B] button should be pressed.

4. Select the tracks to be recorded on side A, using the numeric buttons.
ex: 1 2 3 5 7 8 9 11 13 15 16 17 were selected on side A and there is 38 seconds left for recording.

5. Press the [SIDE A/B] button.
6. Select the tracks to be recorded on side B, using the numeric buttons.

7. Press the [DDRP] button.
(When automatic setting of the recording level is not required, set the cassette deck to standby (REC PAUSE) and press the CD player [PLAY/PAUSE ►/II] or (►) button.

When the synchro terminals are not connected, once the peak search is completed, set the cassette deck to record, and press the CD player [PLAY/PAUSE ►/II] or (►) button.

When the side A music programme has terminated, recording is automatically stopped.
If side B is also to be recorded, turn the tape over and again press the [DDRP] button, now recording will start immediately.

Connecting to a cassette deck not DDRP-compatible, via the synchro terminals

Where connection is made to a cassette deck not DDRP compatible, via the synchro terminals, the recording process will be started by pressing the [DDRP] button.
In this case, the cassette deck input level will not be automatically set.
A preliminary recording should be made in order to ascertain input levels - the input level being then set up in accordance with the cassette deck instruction manual. Subsequently setting the input-level knob to the same position enables recording at the optimum level without a resetting process every time.

TROUBLE SHOOTING

What appears to be a malfunction may not always be serious.
Make sure first.

Malfunction	Reason	Troubleshooting
Although the disc is inserted in the CD player, DISPLAY shows no data.	Is the disc placed upside down?	Place the disc on the disc tray with its label side up.
Selections cannot be programmed.	Is the "PROGRAM" indicator lit?	Press the [PRGM/DELETE PRGM/OFF] button.
Compu Link does not function.	Is the Compu Link cable connected?	Connect the Compu Link cable.
The remote control unit does not function.	Are the batteries fresh?	Replace the batteries with new ones.
The sound is intermittent and is harsh to the ear.	Is the disc dirty	Wipe off the surface with a soft cloth.
	Is the disc warped?	Replace the disc with a new one.

SPECIFICATION

ENGLISH

XL-Z463TN / XL-Z464BK

System	: Compact disc player
Signal detection system	: Non-contact optical system
Number of channels	: 2 channels
Frequency response	: 2 Hz – 20,000 Hz
Dynamic range	: 100 dB (1 kHz)
Signal/noise ratio	: 110 dB (at digital 0)
Channel separation	: 106 dB (1 kHz)
Harmonic distortion	: 0.0015 % (1 kHz)
Wow and flutter	: Less than measurable limit
Output level	: 2.0 Vrms (full scale)
Digital Output Level (OPTICAL)	: −21 dBm – −15 dBm (optical)
Number of program steps	: 32 steps
Dimensions	: 435 (W) x 103 (H) x 279 (D) mm (17-3/16" x 4-1/16" x 10-15/16")
Weight	: 3.8 kg (8.4 lbs)

Accessories

Necessary : **Power cord 1**

Optional
- : Signal cord (1 m • 3.28 ft.) 1
- : Remote cable (1 m • 3.28 ft.) 1
- : Remote control unit (RM-SX463U) 1
- : Battery (AAA, R03, UM-4) ... 2

Design and specifications subject to change without notice.

POWER SPECIFICATIONS

Area	Line Voltage & Frequency	Power Consumption
Continental Europe	AC230V ∿, 50Hz	16 Watts
U.K.	AC240V ∿, 50Hz	
Other areas	AC115 - 127/220 - 240 V∿, selectable, 50/60 Hz	

(No.20408) 1-15

Description of Major LSIs

■ MN17P1602JHH (IC201) : CD SYSTEM CONTROLLER

1. Terminal Layout

2. Key Matrix

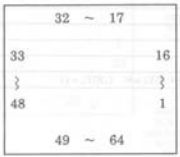
	KEY IN 0	KEY IN 1	KEY IN2	KEY IN3	KEY IN4	KEY IN5
1G	POWER	REPEAT	PROG	CANCEL	+10	—
2G	EDIT	A/B	DDRP	RANDOM	▶/II	—
3G	1	2	3	4	5	—
4G	6	7	8	9	10	—
5G	11	12	13	14	15	—
6G	16	17	18	19	20	—
7G	◀◀	▶▶	⏮	⏭	■	⏏

3. Description

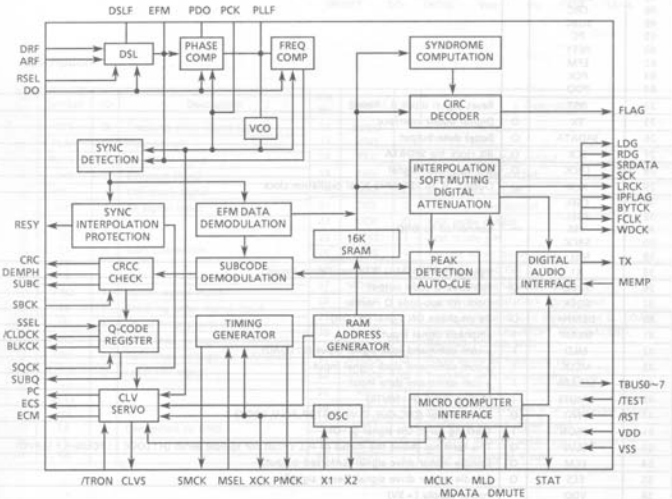
Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	VDD	--	Power supply	33	P20	O	FL segment control output
2	KEY IN0	I	Key matrix input	34	TLOCK	I	Tracking sirvo an incoming signal input
3	KEY IN1	I	〃	35	FLOCK	I	Focus sirvo an incoming signal input
4	KEY IN2	I	〃	36	MCLK	O	μ-com command clock signal output
5	KEY NI3	I	〃	37	MLD	O	μ-com command load signal output
6	1G	O	FL grid control output	38	MDATA	O	μ-com command data output
7	2G	O	〃	39	DMUTE	O	Muting signal output
8	3G	O	〃	40	SQCK	I	80-bit Sub Q and 16-bit PCM Peak Level Data
9	4G	O	〃	41	SUBQ	O	Sub-code Q-code output
10	5G	O	〃	42	POWER ON/OFF	O	H : power off, L : power on.
11	6G	O	〃	43	RESET	I	Reset signal input
12	7G	O	〃	44	STATUS	I	Status signal input
13	P1	O	FL segment control output	45	SENSE	I	Sense Sigal input
14	P2	O	〃	46	KEY IN4	I	Key matrix input
15	P6	O	〃	47	KEY INS	I	Key matrix input
16	P7	O	〃	48	RM IN	I	Remote control signal input
17	P3	O	〃	49	REST SW	I	Rest sw input
18	- VDISP	--	Power supply for FL display	50	OPEN SW	I	"L" with tray opened
19	P5	O	FL segment control output	51	CLOSE SW	I	"L" with tray closed
20	P4	O	〃	52	CLOSE	O	"CLOSE" signal output
21	P8	O	〃	53	OPEN	O	"OPEN" signal output
22	P9	O	〃	54	LSI RESET	O	LSI reset signal output
23	P13	O	〃	55	TEST	I	Entering test mode with "L"
24	P14	O	〃	56	VOL DOWN	O	Volume down signal output
25	P10	O	〃	57	VOL UP	O	Volume up signal output
26	P12	O	〃	58	DCS IN	I	Compulink signal input
27	P11	O	〃	59	DCS OUT	O	Compulink signal output
28	P16	O	〃	60	X1	--	Connected to GND
29	P15	O	〃	61	X2	--	Non connection
30	P18	O	〃	62	Vss	--	Connected to GND
31	P17	O	〃	63	OSC2	O	Clock oscillation output
32	P19	O	〃	64	OSC1	I	Clock oscillation input

■ MN6626M (IC401) : DIGITAL SIGNAL PROCESSER

1. Terminal Layout



2. Block Diagram

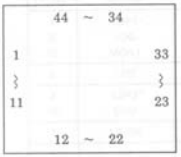


3. Description

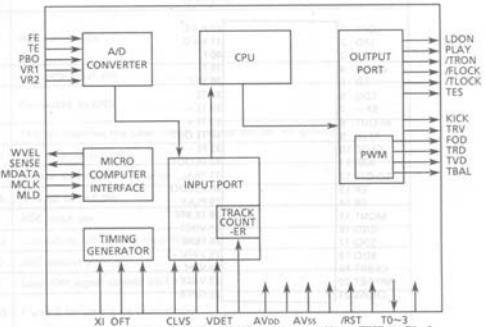
Pin No	Symbol	I/O	Description
1	AVSS	—	GND (for DSL, PLL)
2	IREF	I	Reference current input pin
3	ARF	I	RF signal input pin
4	DRF	I	Bias adjustment pin for DSL
5	DSLF	O	Loop filter pin for DSL
6	PLLF	I/O	Loop filter pin for PLL
7	AVDD	I	Power supply (for DSL, PLL) (+5V)
8	RSEL	I	This terminal designates the polarity of RF signal (H:RSEL = H L:RSEL = L)
9	TBUS7	—	Non connection
}	}		
16	TBUS0		
17	FLAG		
18	IPFLAG		
19	FCLK		
20	BYTCK		
21	WDCK		
24	LDG		
25	RDG		
30	PMCK		
34	X2		
38	/CLDCK		
39	BLKCK		
46	SMCK		
48	CRC		
49	SUBC		
53	PC		
60	RESY		
62	EFM		
63	PCK		
64	PDO		
22	/RST	I	Reset signal input (L : Reset)
23	TX	O	Digital audio interface
26	SRDATA	O	Serial data output
27	SCK	O	Bit clock for SRDATA
28	LRCK	O	L/R distinction signal
29	XCK	O	Output of 16.9344MHz X'tal oscillation clock
31	CSEL	—	Connected to GND
32	PSEL		
35	VSS		
50	SBCK		
59	MSEL		
33	X1	I	Input of 16.9344MHz X'tal oscillation circuit
36	SUBQ	O	Sub-code Q-code output
37	SQCK	I	Clock for sub-code Q resister
40	DEMPH	O	De-emphasis ON signal (H : ON)
41	MEMP	I	Emphasis signal input
42	MLD	I	μ-com command load signal input (L : LOAD)
43	MCLK	I	μ-com command clock signal input
44	MDATA	I	μ-com command data input
45	DMUTE	I	Muting input (H : MUTE)
47	STAT	O	Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK)
51	/TRON	I	Tracking servo ON signal (L : ON)
52	CLVS	O	This terminal shows the status of PLL circuit for spindle servo (H : LOCK L : ROUGHLY SERVO)
54	ECM	O	Spindle motor drive signal (Enforced output)
55	ECS	O	Spindle motor drive signal (Servo signal)
56	VDD	—	Power supply (+5V)
57	/TEST	—	Pull up (+5V)
58	SSEL	—	Pull up (+5V)
61	DO	I	Dropout signal

■ MN6650AC (IC601) : DIGITAL SERVO PROCESSER

1. Terminal Layout



2. Block Diagram



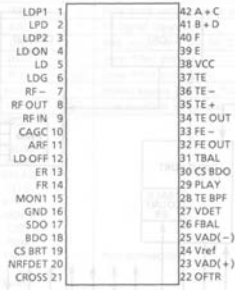
3. Description

Pin No	Symbol	I/O	Description
1	TES	O	Tracking error shunt signal
2	PLAY	O	Play signal
3	/RFDET	I	RF detect signal
4	DO	I	Dropout signal
5	OFT	I	Off track signal
6	ARF	I	RF signal input
7	WVEL		
35	T0		
36	T1	–	Non connection
37	T2		
38	T3		
8	PBO	I	Buffer signal input
9	TE	I	Tracking error signal input
10	FE	I	Focus error signal input
11	VR2	I	Reference voltage for A/D (Lch)
12	VR1	I	Reference voltage for A/D (Hch)
13	LDON	O	Laser ON signal
14	VSS		
15	AVSS		
24	VSS		
39	T4	–	Connected to GND
40	T5		
41	T6		

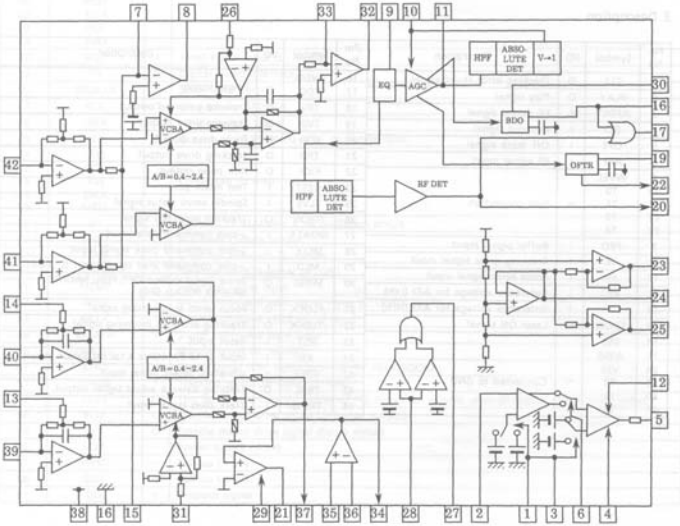
Pin No	Symbol	I/O	Description
16	AVDD		
17	VDD	–	Power supply
18	TRV	O	Traverse enforced output
19	TVD	O	Traverse drive output
20	FOD	O	Focus drive output
21	TRD	O	Tracking drive output
22	KICK	O	Kick pulse output
23	/TEST	I	Test mode pin
25	CLVS	I	Spindle servo status signal
26	/TRON	O	Tracking servo ON signal
27	MDATA	I	μ-com command data input
28	MCLK	I	μ-com command clock signal input
29	MLD	I	μ-com command load signal input (L : LOAD)
30	SENSE	O	Sense signal output (OFT, FESL, NACEND, NAJEND, POSAD, SFG)
31	/FLOCK	O	Focus servo an incoming signal
32	/TLOCK	O	Tracking servo an incoming signal
33	/RST	I	Reset input
34	X1	I	Input of 16.9344MHz X'tal oscillation circuit
42	VDET	I	Vibration detect signal input
43	TBAL	O	Tracking Balance adjust signal output
44	TRCRS	I	Track cross signal input

■ AN8801SC (IC501) : RF & SERVO AMP

1. Terminal Layout



2. Block Diagram

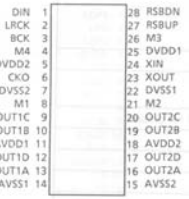


3. Description

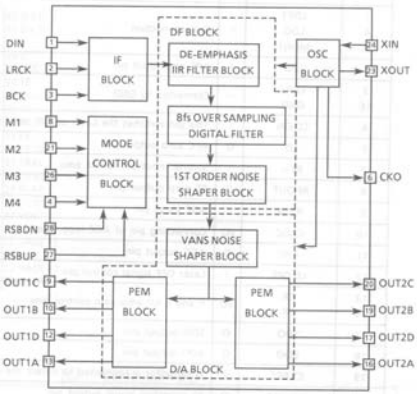
Pin No.	Symbol	I/O	Description
1 6 15	LDP1 LDG MON1	–	Non connection
2	LPD	I	APC amp input pin
3 16	LDP2 GND	–	Connected to GND
4	LD ON	I	This pin switches the Laser on/off : on for Vcc, off for ground
5	LD	O	APC amp output pin
7	RF –	I	Inverse input pin for RF amp
8	RF OUT	O	RF amp output pin
9	RF IN	I	AGC input pin
10	CAGC	I/O	Connecting pin of AGC loop filter
11	ARF	O	AGC output pin
12	LD OFF	I	Laser OFF signal control pin
13 14	ER FR	I/O	F and E I-V amp gain control pins
17	SDO	O	SDO output pin
18	BDO	O	BDO output pin
19	CS BRT	I/O	A capacitor is connected to detect the lower envelope of the RF signal
20	NRFDET	O	RF detection signal output pin
21	CROSS	O	Tracking error cross output pin
22	OFTR	O	Of-track status signal output pin
23	VAD(+)	O	VAD(+) output pin
24	Vref	O	Reference voltage output pin
25	VAD(–)	O	VAD(–) output pin
26	FBAL	I	Forcus balance control pin
27	VDET	O	Vibration detection signal output pin
28	TE BPF	I	Input pin of tracking error through BPF
29	PLAY	I	Play signal input pin
30	CS BDO	I/O	A capacitor is connected to detect the upper envelope of the RF signal
31	TBAL	I	Tracking balance control pin
32	FE OUT	O	Output pin of focus error
33	FE –	I	Inverse input pin for focus error amp
34	TE OUT	O	Tracking error signal output pin (1)
35	TE +	I	Non-inverse input pin for tracking error amp
36	TE –	I	Inverse input pin for tracking error amp
37	TE	O	Tracking error signal output pin (2)
38	Vcc	–	Power supply
39 40 41 42	E F B+D A+C	I	I-V amp input pin

■ MN35500(IC301) : D / A CONVERTER

1. Terminal Layout



2. Block Diagram



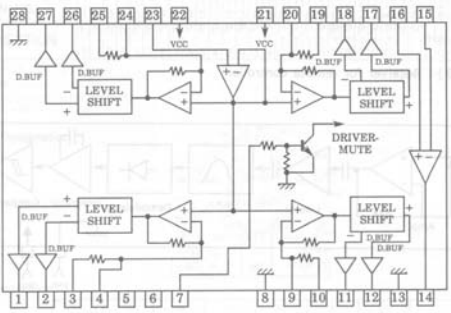
3.Description

Pin No	Symbol	I/O	Description	Pin No	Symbol	I/O	Description
1	DIN	I	Data input	15	AVSS2	--	Analog ground 2
2	LRCK	I	LR clock input	16	OUT2A	O	2A PEM output
3	BCK	I	Bit clock input pin	17	OUT2D	O	2D PEM output
4	M4	I	Operational mode control 4	18	AVDD2	--	Analog power supply 2
5	DVDD2	--	Digital power supply 2	19	OUT2B	O	2B PEM output
6	CKO	I	Clock output	20	OUT2C	O	2C PEM output
7	DVSS2	--	Digital ground 2	21	M2	I	Operational mode control 2
8	M1	I	Operational mode control 1	22	DVSS1	--	Digital ground pin 1
9	OUT1C	O	1C PEM output	23	XOUT	O	Crystal oscillator output
10	OUT1B	O	1B PEM output	24	XIN	I	Crystal oscillator input
11	AVDD1	--	Analog power supply 1	25	DVDD1	--	Digital power supply 1
12	OUT1D	O	1D PEM output	26	M3	I	Operational mode control 3
13	OUT1A	O	1A PEM output	27	RSBUP	I	Reset signal / Digital Att. control signal input
14	AVSS1	--	Analog ground 1	28	RSBDN	I	Reset signal / Digital Att. control signal input

■ BA6393FP(IC801) : BTL DRIVER

1. Terminal Layout

2. Block Diagram



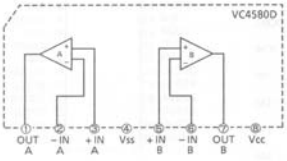
3.Description

Pin No.	Symbol	I/O	Description
1	CH1-OUT A	O	Focus drive output
2	CH1-OUT B		
3	CH1-IN A	—	Non connection
5,6	NC		
10	CH2-IN A		
19	CH3-IN A		
25	CH4-IN A		
4	CH1-IN B	I	Input pin of Gain adjustment
9	CH2-IN B		
20	CH3-IN B		
24	CH4-IN B		
7	MUTE	I	Mute signal input pin

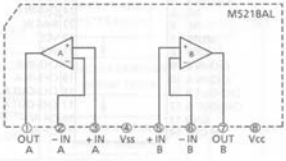
Pin No.	Symbol	I/O	Description
8,13,28	GND	—	GND
11	CH2-OUT B	O	Spindle motor drive output
12	CH2-OUT A		
14	OP OUT	O	OP amp output
15,16	OP IN	I	OP amp input
17	CH3-OUT A	O	Feed motor output
18	CH3-OUT B		
21,22	Vcc	—	Power supply
23	BIAS IN	I	Input pin of Bias
26	CH4-OUT B	O	Tracking drive output
27	CH4-OUT A		

Internal Block Diagram of Other ICs

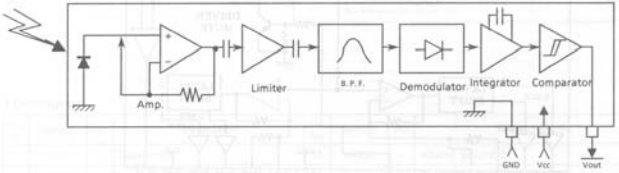
■ VC4580D (IC302,303,304,305) : Dual OP Amp.



■ M5218AP (IC352) : Dual OP Amp.

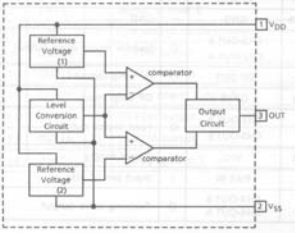


■ GP1U501X (IC203) : Receiver for remote controller



■ MN1281(P,Q) (IC202) : Reset IC

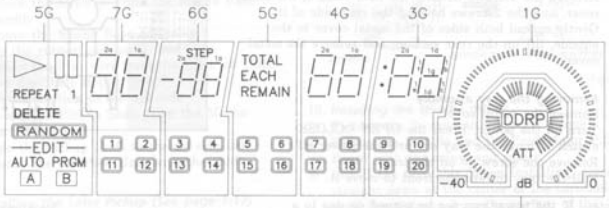
Block Diagram



Pin No.	Symbol	Description
1	V_{DD}	Power supply
2	V_{SS}	Ground
3	OUT	Reset signal output : Low level is output when resetting : High level is output when cancelling the reset.

Internal Connection of FL Display Tube

■ Grid Assignment



■ Pin Connection

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
CONNECTION	F1	F1	NP	NP	P1	P2	P6	P7	P3	P5	P4	P8	P9	10	11	12	13	14	15	16	17	18	19	20	NC	NC	7G	6G	5G	4G	3G	2G	1G	NP	NP	F2	F2

NOTE 1) F1, F2 ------ Filament
2) NP ------ No pin
3) NC ------ No connection
4) 1G~7G ----- Grid

■ Segment Designation

■ Anode Connection

	7G	6G	5G	4G	3G	2G	1G
P1	1a	1a	TOTAL	1a	1a	–	B20
P2	1b	1b	▷	1b	1b	–	B19
P3	1c	1c	DELETE	1c	1c	–	B18
P4	1d	1d	RANDOM	1d	1d	–	B17
P5	1e	1e	EACH	1e	1e	–	B16
P6	1f	1f	REPEAT	1f	1f	–	B15
P7	1g	1g	▯▯	1g	1g	–	B14
P8	2a	2a	— EDIT —	2a	2a	–	B13
P9	2b	2b	AUTO	2b	2b	–	B12
P10	2c	2c	PRGM	2c	2c	–	B11
P11	2d	2d	B	2d	2d	S1	B10
P12	2e	2e	REMAIN	2e	2e	DDRP	B9
P13	2f	2f	1	2f	2f	B28	B8
P14	2g	2g	A	2g	2g	B27	B7
P15	1	3	5	7	9	B26	B6
P16	2	4	6	8	10	B25	B5
P17	11	13	15	17	19	B24	B4
P18	12	14	16	18	20	B23	B3
P19	–	—	–		:	B22	B2
P20	–	STEP	–	–	–	B21	B1

Disassembly Procedures

1. Removing the metal cover

1) Remove the 4screws holding the both sides of the metal cover, and the 2screws holding the rear side of it.
2) Gently spread both sides of the metal cover to the outside, lift up the rear section, and remove the metal cover.

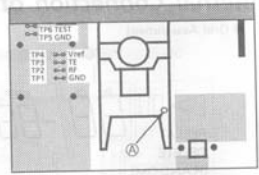


Figure 1

2. Removing the tray assembly

1) Remove the metal cover.
2) Turn on the power. Press the OPEN / CLOSE switch to move the tray out and the power off.
3) Remove the screw Ⓐ on the tray.
4) Pull the tray toward the front to move it.

Note: If the power can not be turned on due to a malfunction, etc., insert a Philips screwdriver through the hole on the bottom and turn it counter-clockwise to move the tray out.

3. Removing the mechanism assembly

1) Remove the metal cover.
2) Remove the tray assembly.
3) Remove the 2screws Ⓑ holding the clamp assembly, then remove the clamp assembly.
4) Remove the 3screws Ⓒ holding the mechanism assembly.

※ Please install the stand disregarding the arrow described on it so that the stand can be secured tightly on the Bottom Chassis.

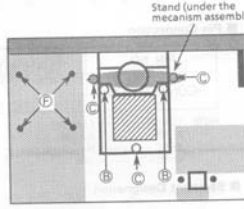


Figure 2

4. Removing the rear panel

1) Remove the 7screws Ⓓ holding the rear panel. (9sc rews Ⓓ and Ⓔ for with AC selector)
2) Remove the rear panel.

5. Removing the main P.C. Board

1) Remove the metal cover.
2) Remove the rear panel.
3) Remove the 4screws Ⓕ holding the P.C.board.
4) Remove the connectors connecting with the main P.C.board.

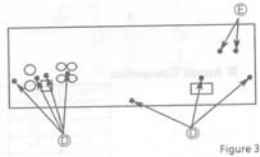


Figure 3

6. Removing the front panel assembly

1) Remove the metal cover.
2) Remove the tray assembly.
3) Remove the 2screw Ⓖ on the bottom of the front panel.
4) Remove the connector.
5) Remove the screw Ⓘ holding the bracket.
6) Release the hooks Ⓙ holding the front panel and remove the front panel assembly.

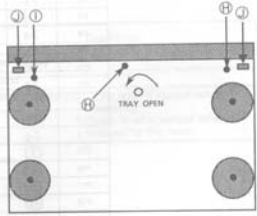


Figure 4

7. Removing the Laser Pickup

1) Remove the metal cover, tray assembly and the clamp.
2) Remove the screw ① from the Mecha Base assembly.
3) Remove the Mecha Base assembly from the rubber cushion ② and ③.
4) Remove the Flat wire from the CD Pick Unit.
5) Move the Shaft stopper from the rest position to the left side Ⓐ.
6) Remove the Pickup Shaft from the Mecha Base assembly. (Slide the Pickup shaft to the up side ⑬)
7) Remove the CD Pick Unit with the shaft.

8. Installing the Laser Pickup (See page 1-17)

1) Install the Gear ⑥ in CD Pick Unit.
2) Connect the Flat wire with the connectors of APC (Automatic Power C ontrol) P.C.Board.
3) While installing the ④ in the CD Support, set the shaft on the base hook ⑤.
4) Install the Mecha Base assembly to the rubber cushion ② and ③.

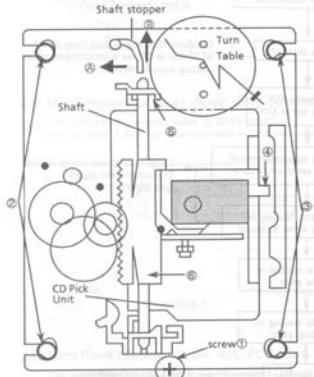


Figure 5

9. Removing the spindle motor

1) Remove the Mechanism assembly.
2) Remove the turntable, and remove the two screws retaining the spindle motor.
3) Remove the screw retaining the spindle and the Feed Motor P.C.Board and unsolder it.

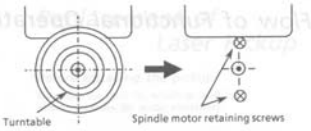


Figure 6

10. Installing the spindle motor

1) Tighten the 2screws to the same torque.
2) Fasten the Spindle and the Feed Motor P.C. Board with the screw and solder.
3) Install the turntable. When installing, press straight down at the center of the turntable until the distance from the surface of the mechanism base to the top of the turntable is exactly 19.4±0.1mm.

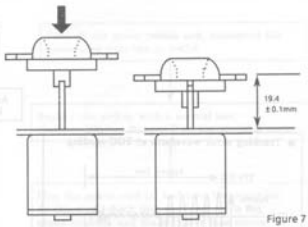


Figure 7

4) After insertion is complete, bond the motor shaft and turntable together (at the section marked by an arrow in the figure on the left below).

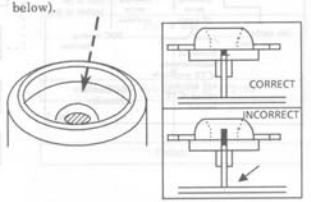
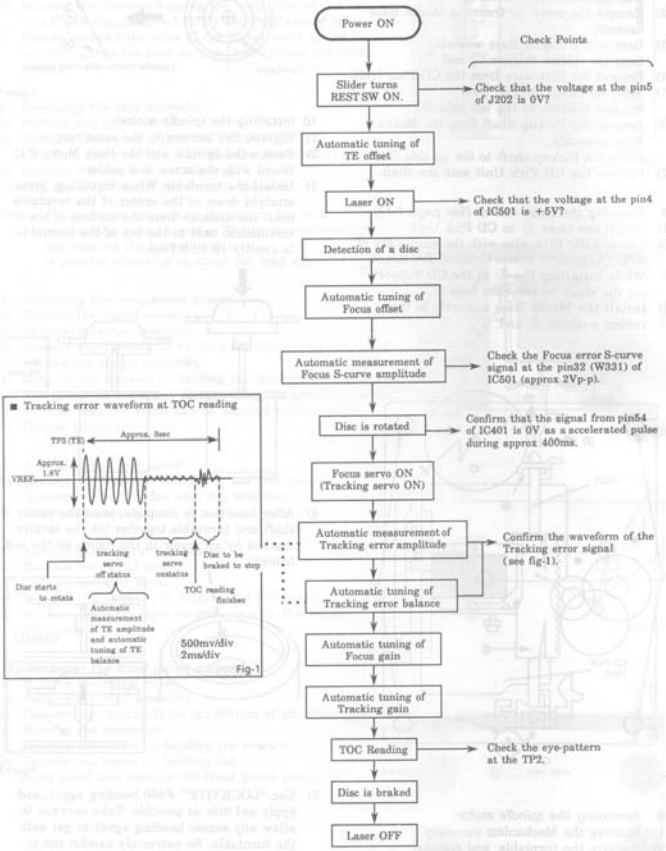


Figure 8

5) Use "LOCKTITE" #460 bonding agent, and apply as l ittle as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearings (the section marked by an allow in the figure on the right).

Flow of Functional Operation Until TOC is Read

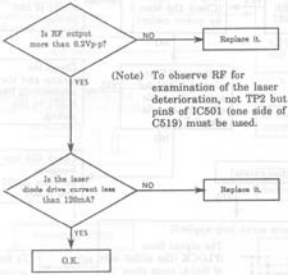


Maintenance of Laser Pickup

(1) Life of the laser diode

When the life of the laser diode has expired, the following symptoms will appear.

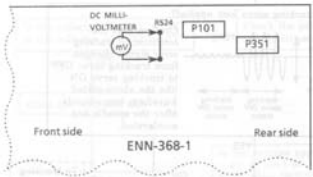
1. The level of RF output (EFM output: amplitude of eye pattern) will be low.
2. The drive current required by the laser diode will be increased.
   In such a case, check the life of the laser diode following the flowchart below



(Note) To observe RF for examination of the laser deterioration, not TP2 but pin8 of IC501 (one side of C519) must be used.

(2) Measurement of laser diode drive current

The voltage of the both sides of R524 must be less than 1.88V by measurement with a voltmeter.



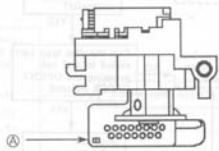
(3) Semi-fixed resistor on the APC PC board

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

Before installing the pickup

Unsolder the part Ⓐ, which is used for countermeasure for static electricity.



Turn off the power switch and, disconnect the power cord from the ac outlet.

Replace the pickup with a normal one.
(Refer to "Pickup Removal" on the previous page)

Plug the power cord in, and turn the power on.
At this time, check that the laser emits for about 3seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.

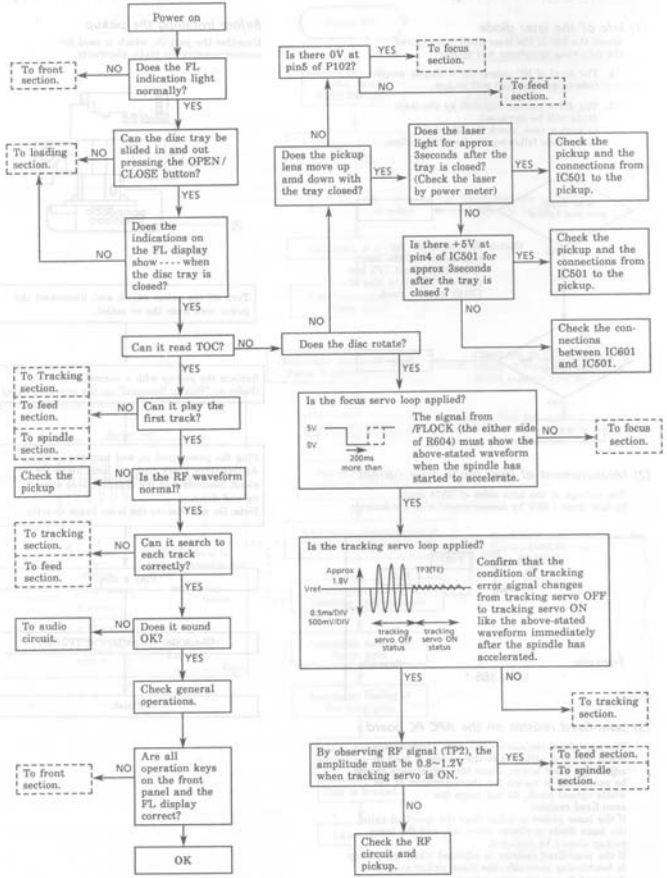
Play a disc.

Check the eye-pattern at TP2 (RF)

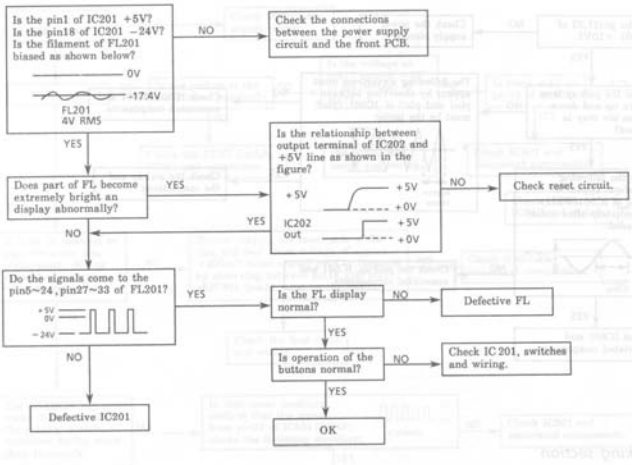
Finish.

Troubleshooting

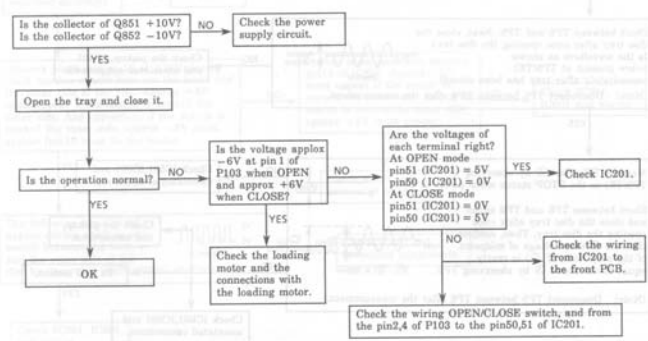
The following shows the status of the various circuits from turning on the power to the start of disc play.



Front Section

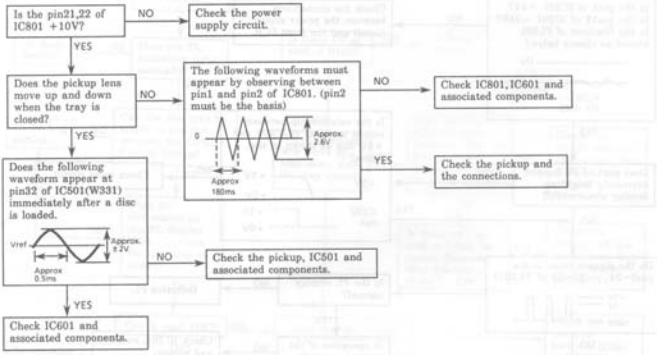


Loading section

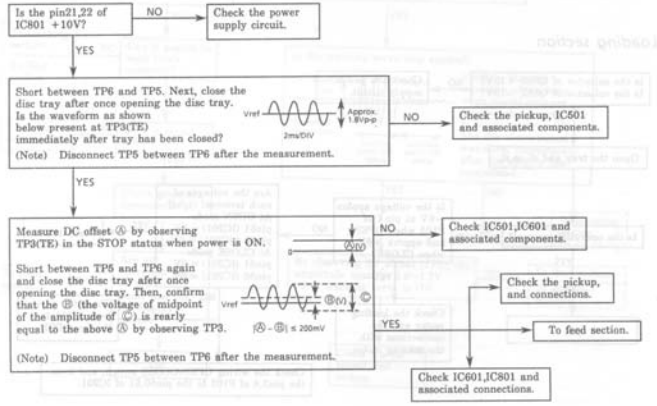


Focus section

Note) When checking the voltages between pin1 and pin2 of IC801 with an oscilloscope, do not connect the other probes.

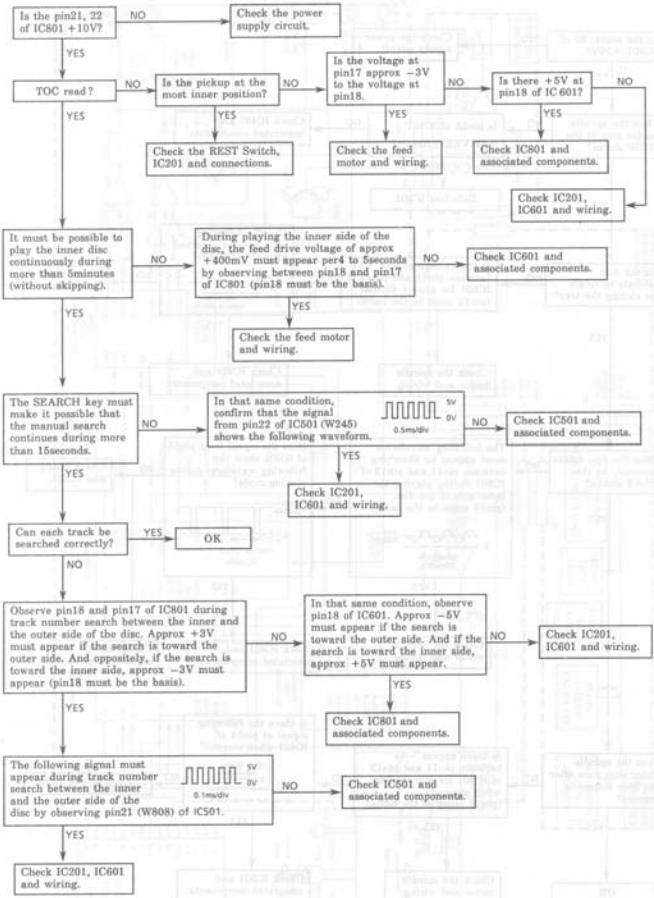


Tracking section



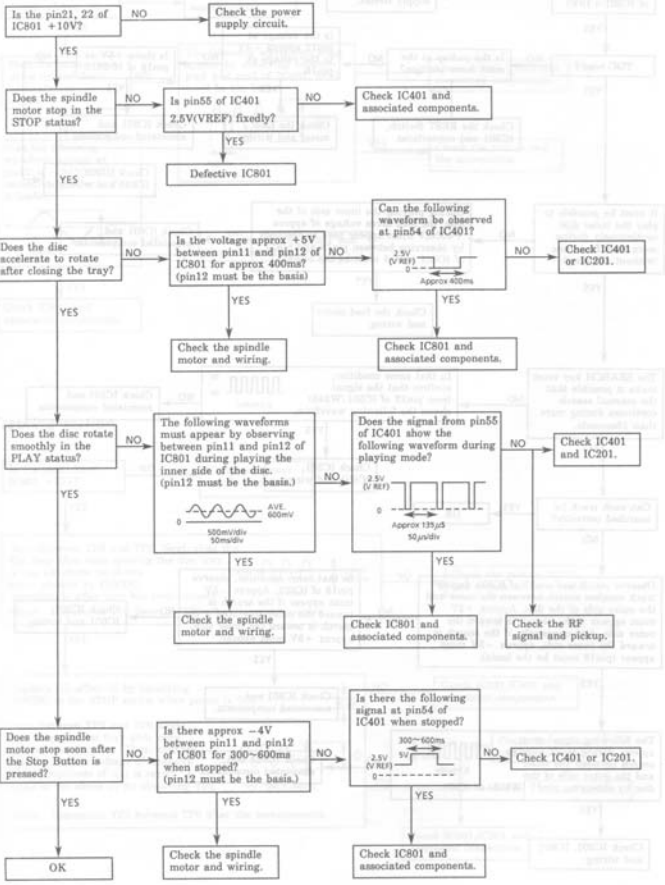
Feed section

Note) When checking the voltages between pin18 and pin17 of IC801 with an oscilloscope, do not connect the other probes.

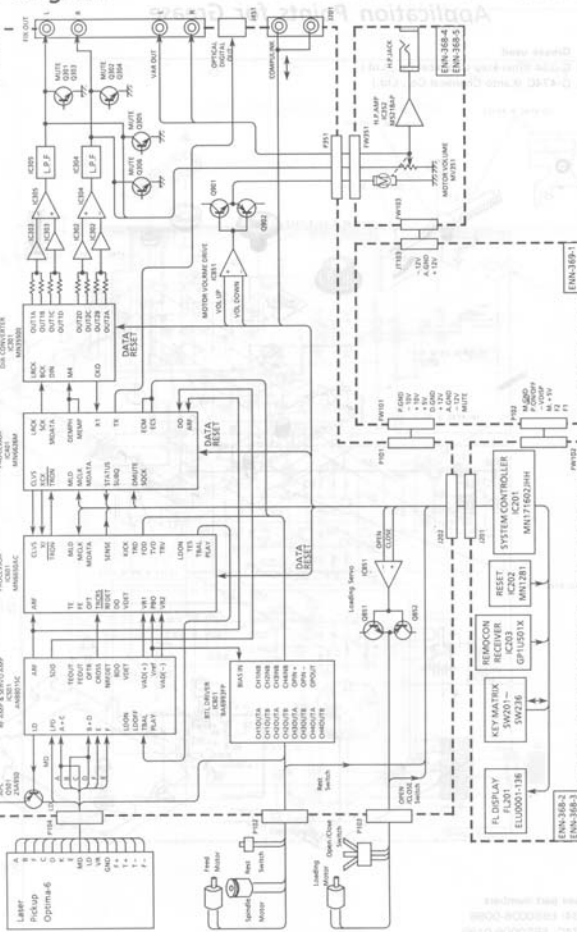


Spindle section

Note) When checking the voltages between pin11 and pin12 of IC801 with an oscilloscope, do not connect the other probes.



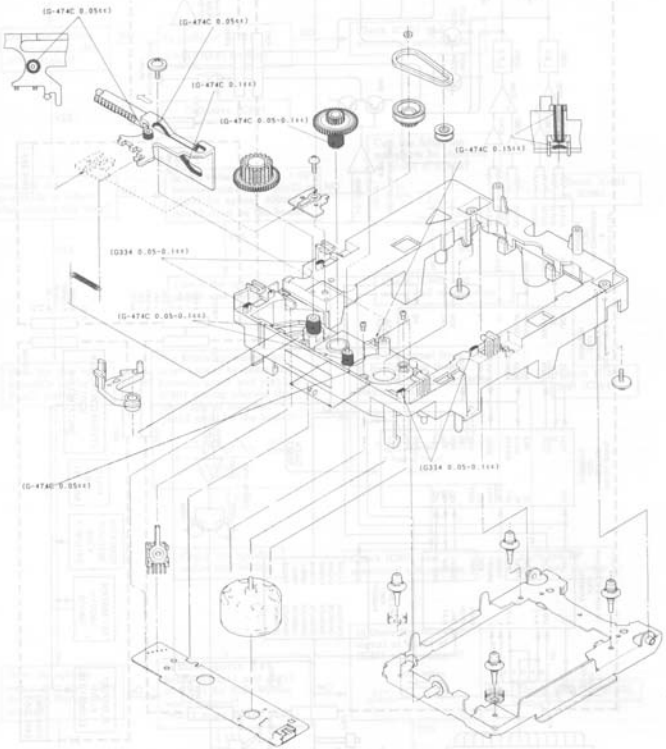
Block Diagram



Exploded View of Assemblies and Application Points for Grease

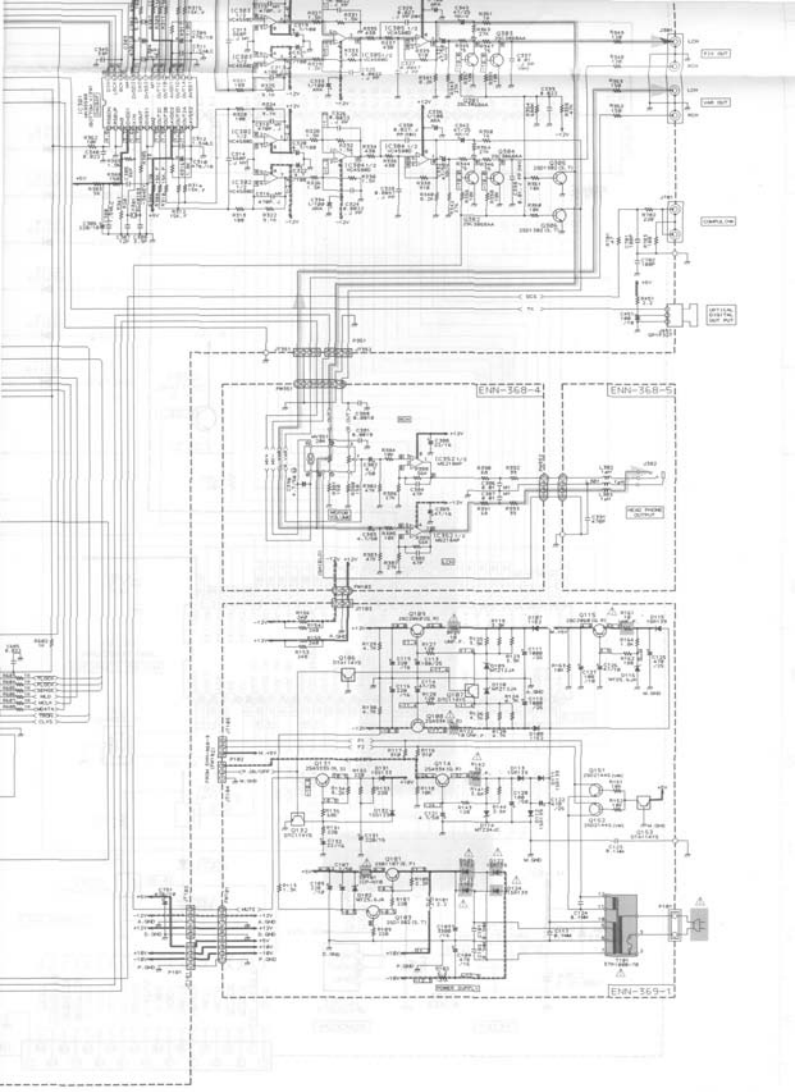
Grease used

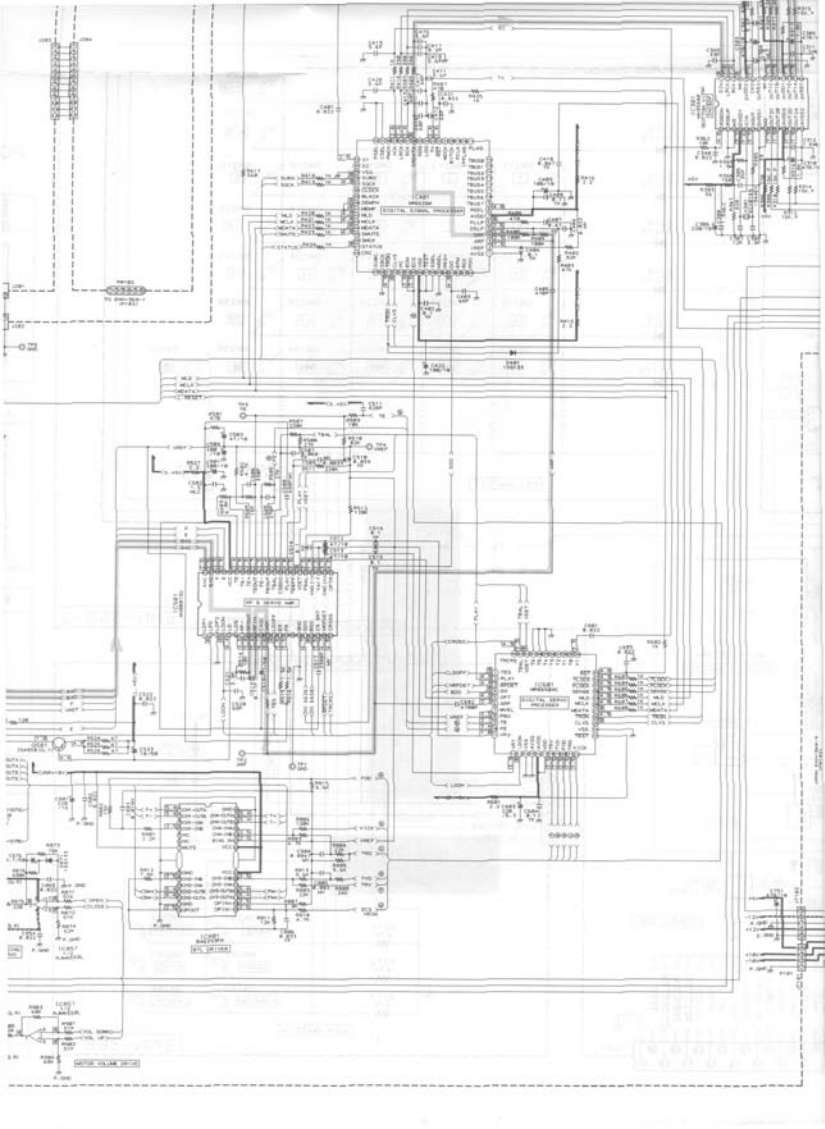
- G-334 (Shin-Etsu Chemical Co., Ltd.)
- G-474C (Kanto Chemical Co., Ltd.)



Grease part numbers

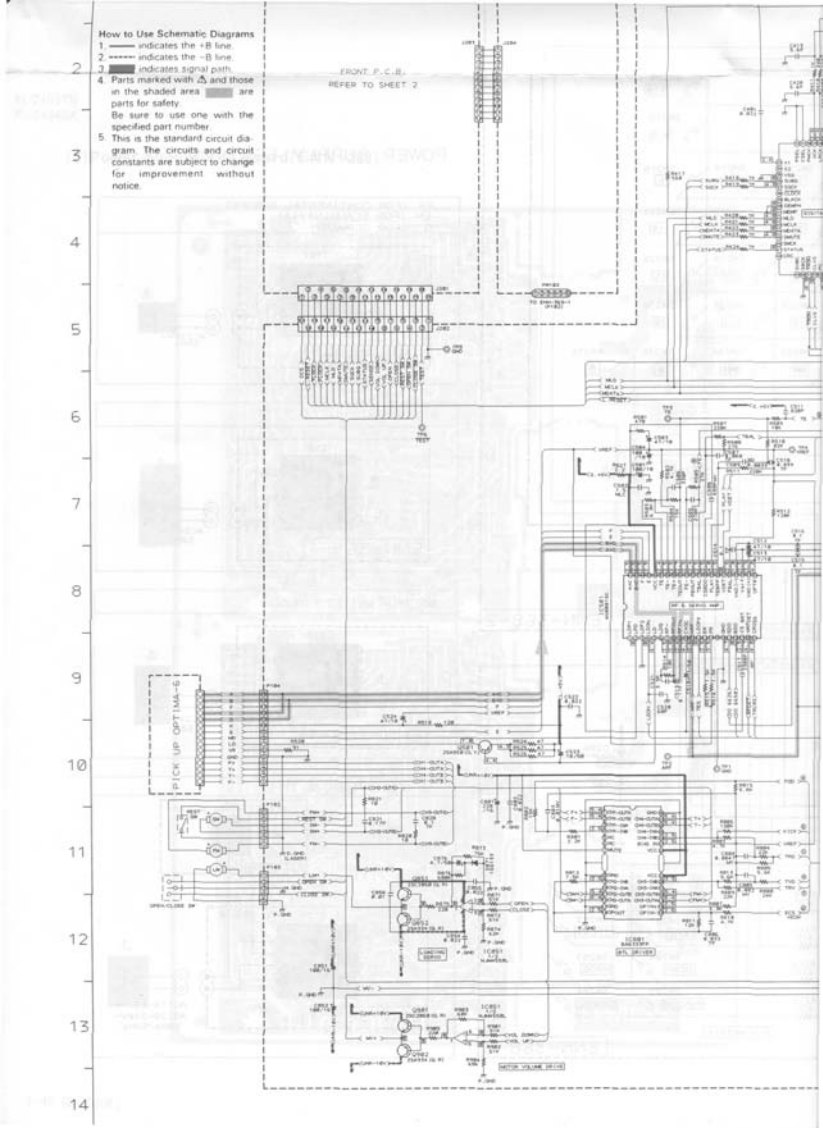
G-334: EBS0006-009B
G-474C: EBS0006-019B

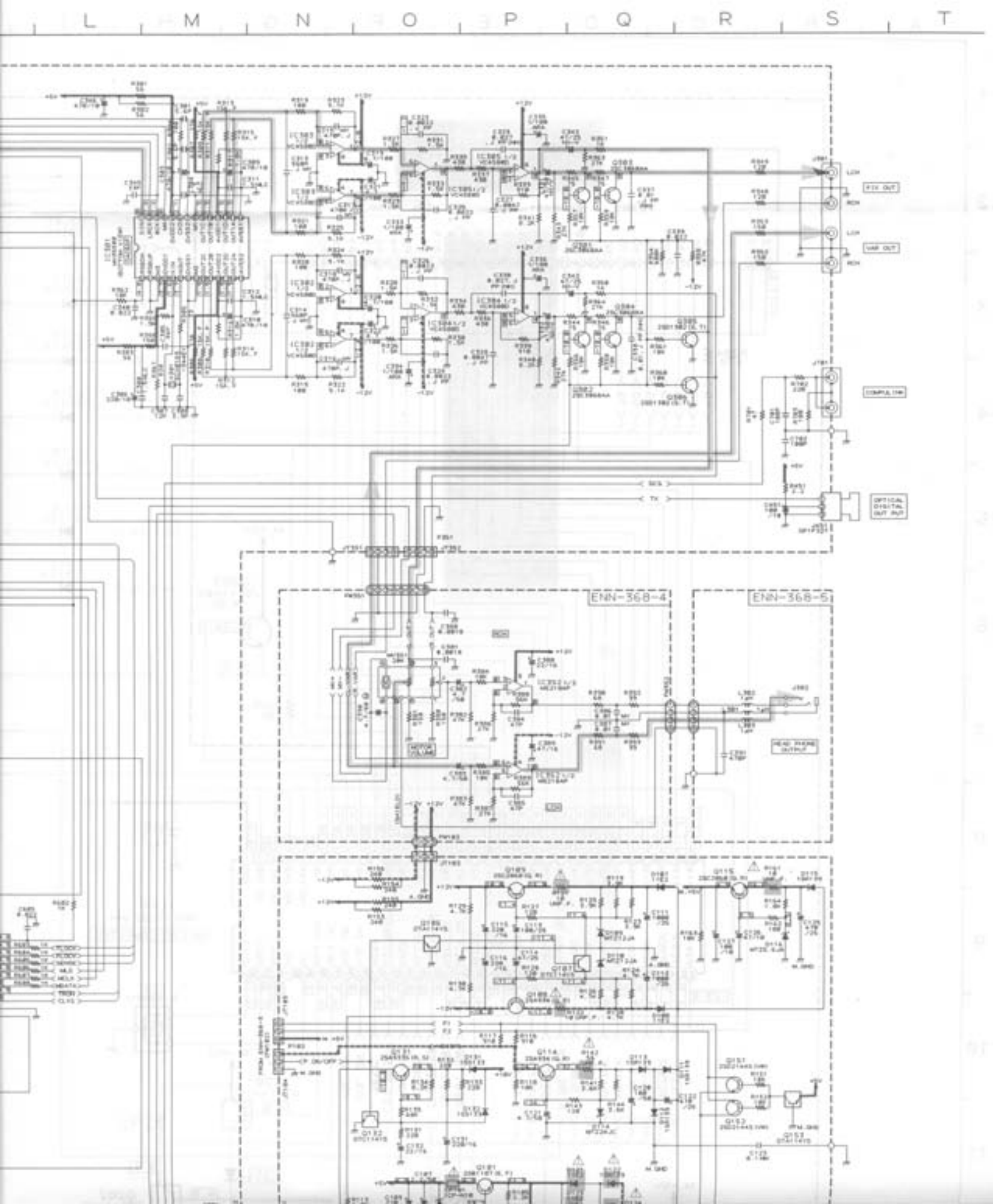

ENN-368-4
ENN-368-5
ENN-369-1



How to Use Schematic Diagrams

1. —— indicates the +B line.
2. - - - - indicates the −B line.
3. ▬▬ indicates signal path.
4. Parts marked with ⚠ and those in the shaded area ▬ are parts for safety.
   Be sure to use one with the specified part number.
5. This is the standard circuit diagram. The circuits and circuit constants are subject to change for improvement without notice.




L
M
N
O
P
Q
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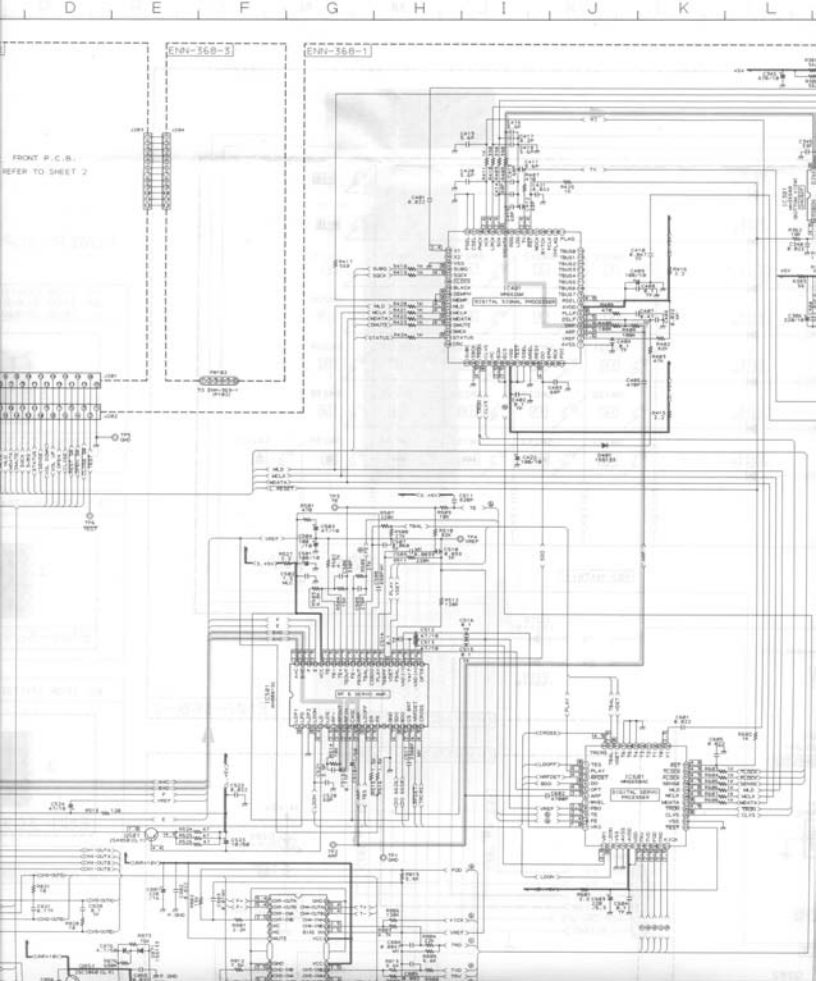
T
ENN-368-4
ENN-368-5

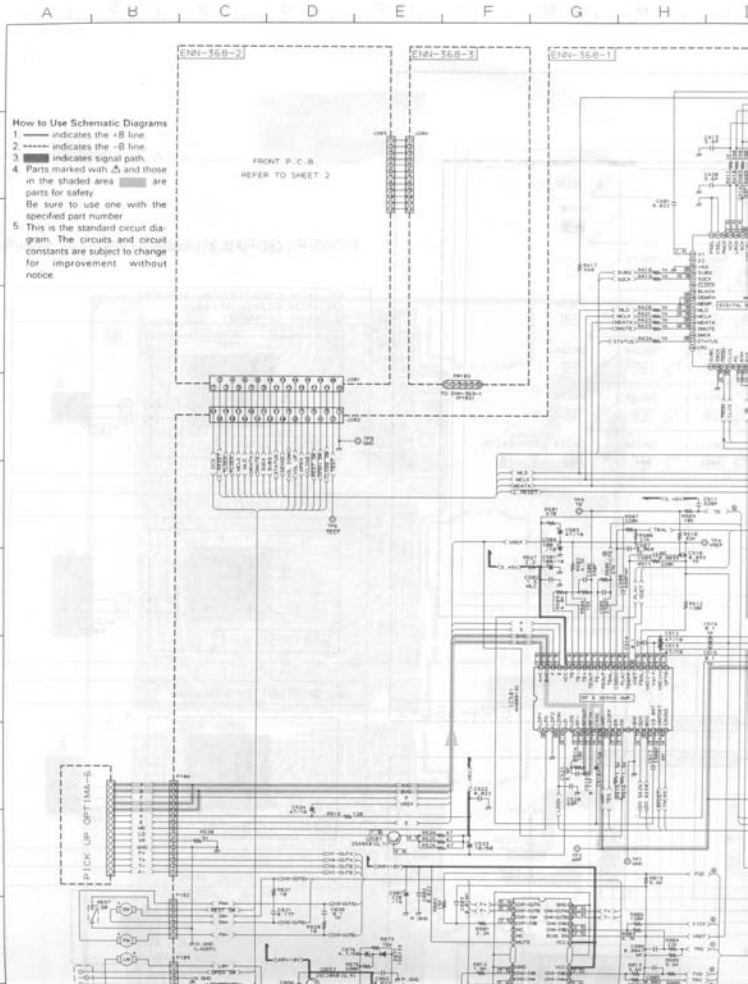
matic Diagram

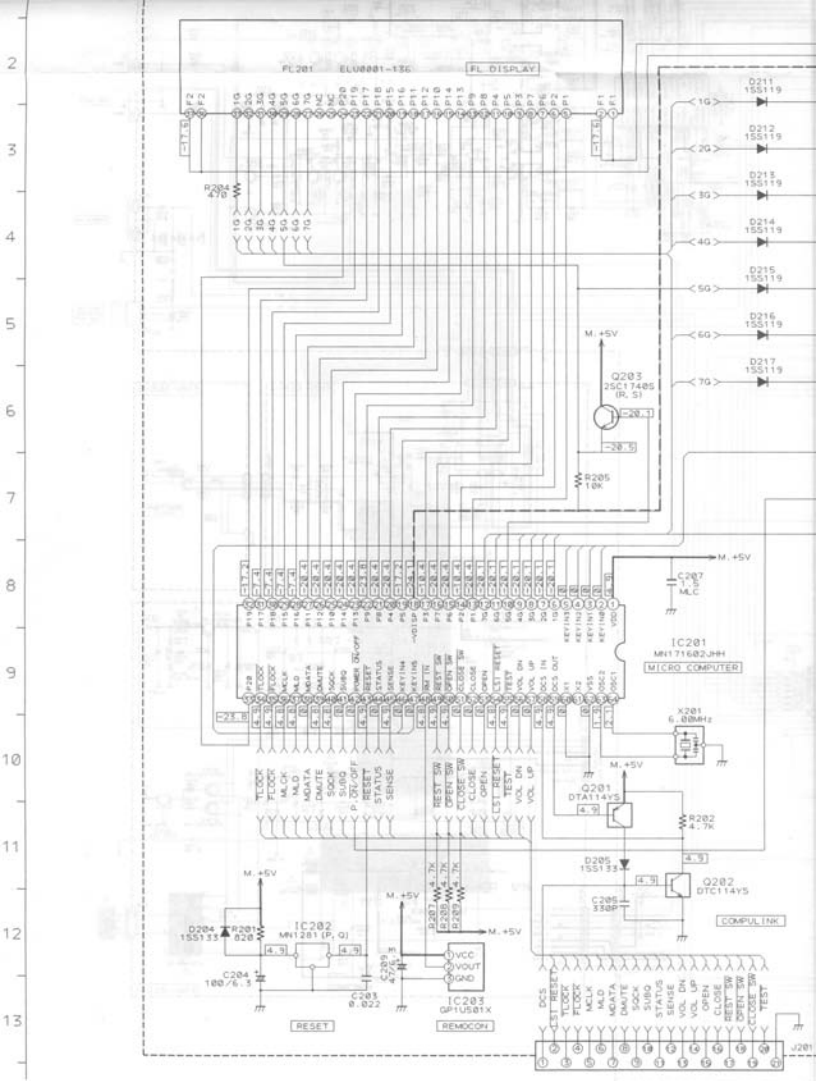
o&Power Supply Section

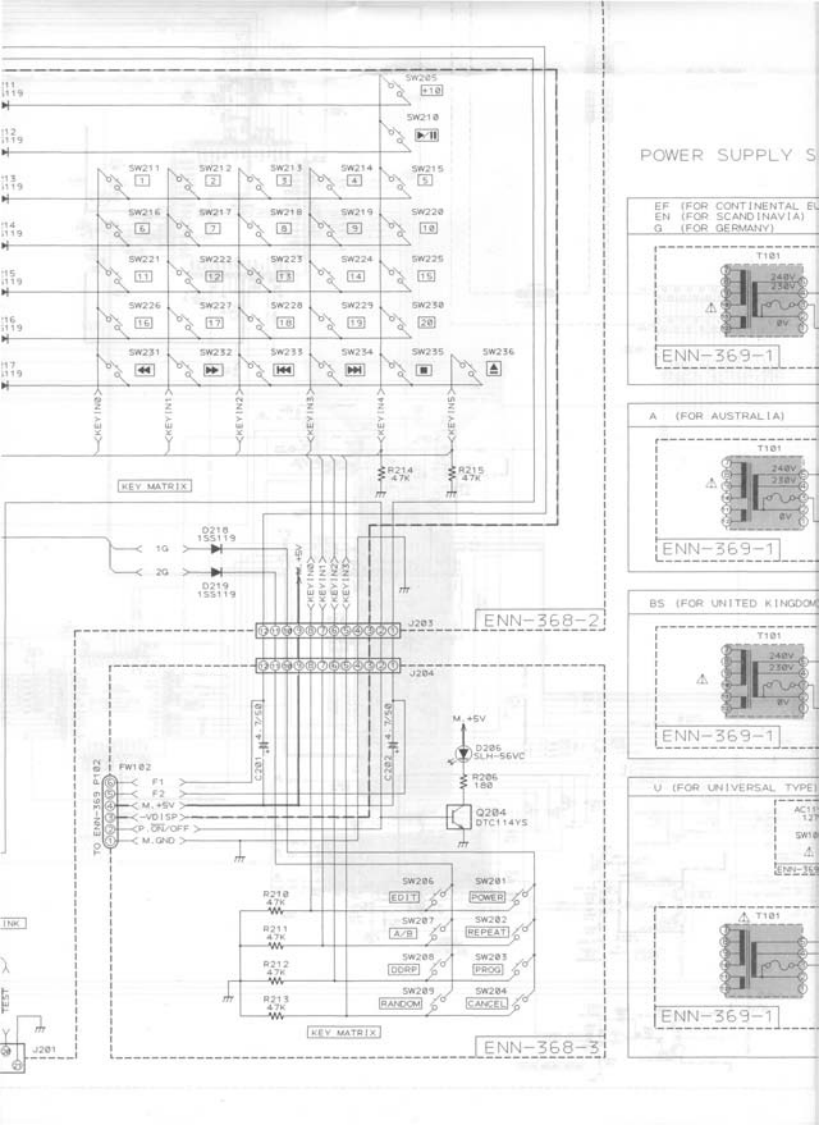


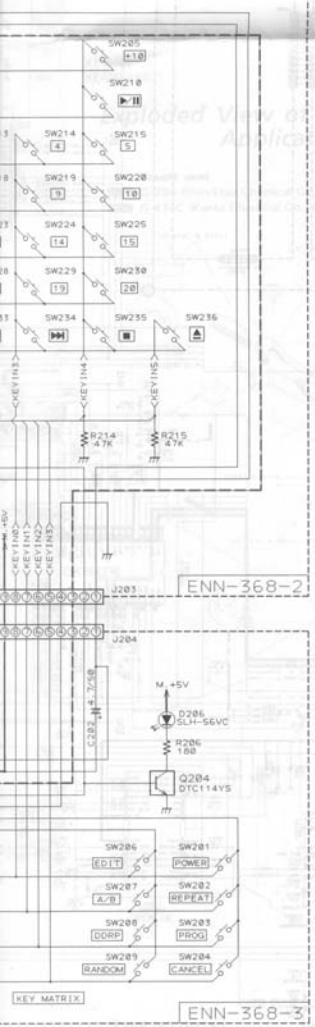
Schematic Diagram

(1)Servo&Power Supply Section



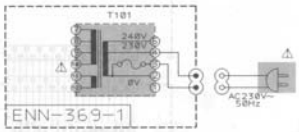

FL DISPLAY
IC201
MN71602JHH
MICRO COMPUTER
IC202
MN281(P,Q)
IC203
GP1US01X
RESET
REMOCON
COMPULINK
Q201
DTA114YS
Q202
DTC114YS
Q203
2SC1740S
(R,S)
X201
6.00MHz
J201


SW205
+10
SW210
SW211
SW212
SW213
SW214
SW215
SW216
SW217
SW218
SW219
SW220
SW221
SW222
SW223
SW224
SW225
SW226
SW227
SW228
SW229
SW230
SW231
SW232
SW233
SW234
SW235
SW236
KEY IN0
KEY IN1
KEY IN2
KEY IN3
KEY IN4
KEY IN5
KEY MATRIX
R214 47K
R215 47K
D218 1SS119
D219 1SS119
1G
2G
J203
J204
ENN-368-2
FW102
F1
F2
M.+5V
-VDISP
P.ON/OFF
M.GND
TO ENN-369 P102
C201 4.7/16
C202 4.7/16
M.+5V
D206 SLM-56VC
R206 180
Q204 DTC114YS
SW206 EDIT
SW201 POWER
SW207 A/B
SW202 REPEAT
SW208 DDRP
SW203 PROG
SW209 RANDOM
SW204 CANCEL
R210 47K
R211 47K
R212 47K
R213 47K
KEY MATRIX
ENN-368-3
J201
POWER SUPPLY S
EF (FOR CONTINENTAL EU
EN (FOR SCANDINAVIA)
G (FOR GERMANY)
T101
240V
230V
0V
ENN-369-1
A (FOR AUSTRALIA)
BS (FOR UNITED KINGDOM
U (FOR UNIVERSAL TYPE)

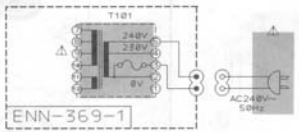


POWER SUPPLY SECTION

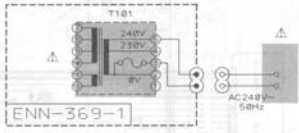
EF (FOR CONTINENTAL EUROPE)
EN (FOR SCANDINAVIA)
G (FOR GERMANY)



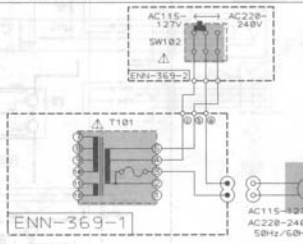
A (FOR AUSTRALIA)



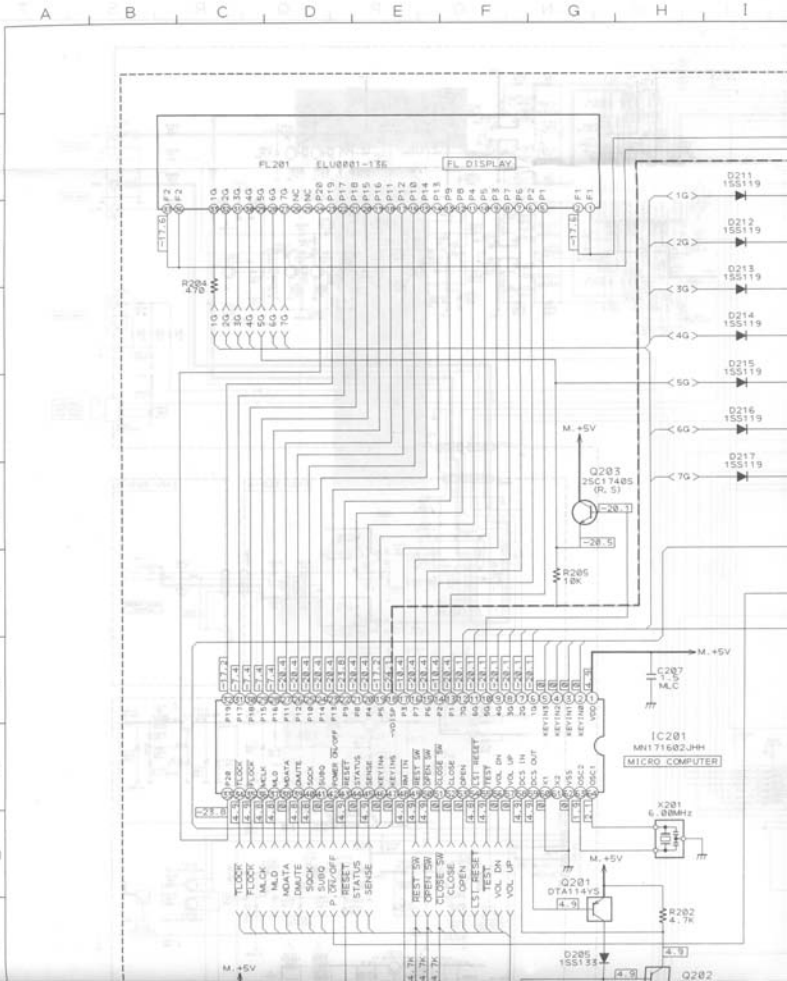
BS (FOR UNITED KINGDOM)

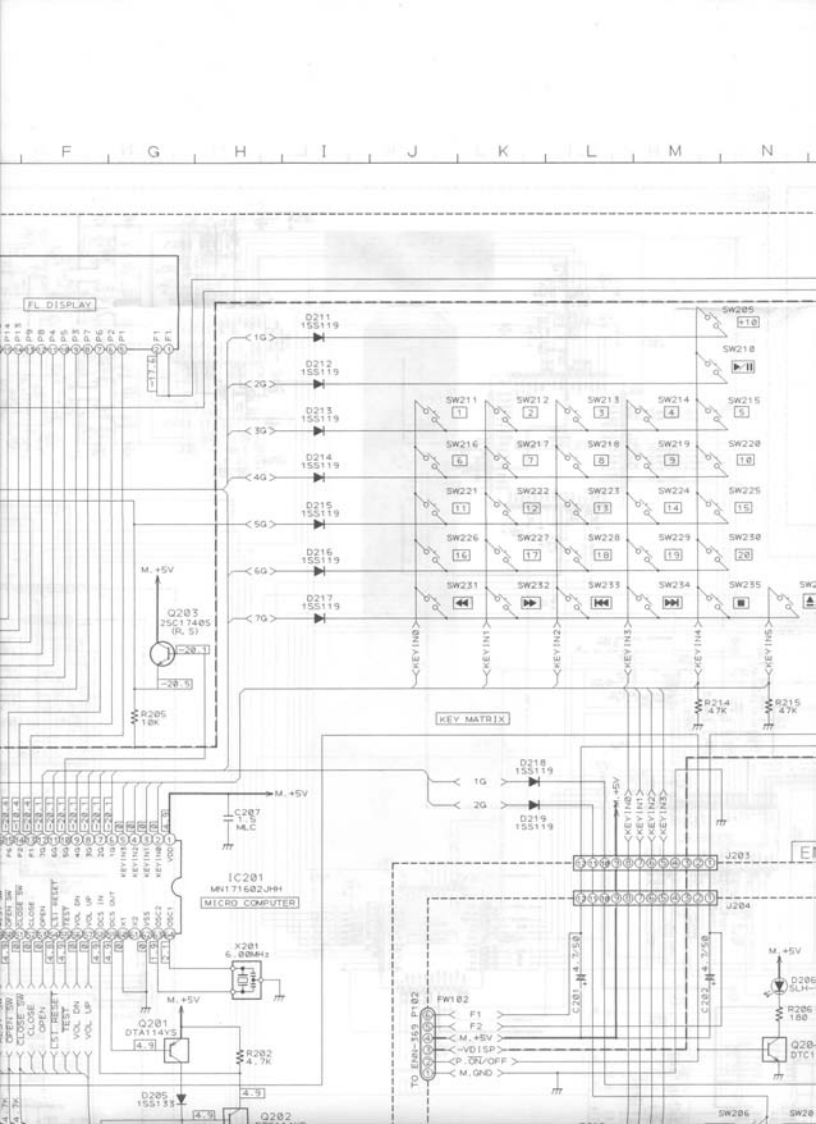


U (FOR UNIVERSAL TYPE)



(2)System Control&Front Section

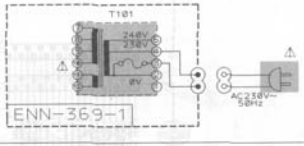



F
G
H
I
J
K
L
M
N
FL DISPLAY
D211 1SS119
D212 1SS119
D213 1SS119
D214 1SS119
D215 1SS119
D216 1SS119
D217 1SS119
1G
2G
3G
4G
5G
6G
7G
SW205
SW210
SW211
SW212
SW213
SW214
SW215
SW216
SW217
SW218
SW219
SW220
SW221
SW222
SW223
SW224
SW225
SW226
SW227
SW228
SW229
SW230
SW231
SW232
SW233
SW234
SW235
KEYIN0
KEYIN1
KEYIN2
KEYIN3
KEYIN4
KEYIN5
KEY MATRIX
M..+5V
Q203 2SC1740S (R, S)
R205 10K
R214 47K
R215 47K
D218 1SS119
D219 1SS119
C207 0.1 MLC
IC201 MN1716020HH MICRO COMPUTER
X201 6.00MHz
Q201 DTA114VS
R202 4.7K
D205 1SS133
Q202
J203
J204
C201 4.7/50
C202 4.7/50
FW102
TO ENN-369 P102
F1
F2
M..+5V
<VDISP>
<P.ON/OFF>
M.GND
D206 SLH-
R206 100
Q204 DTC1
SW206
SW20

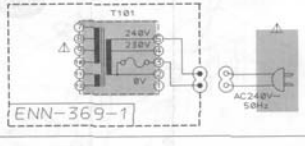
L M N O P Q R S

POWER SUPPLY SECTION

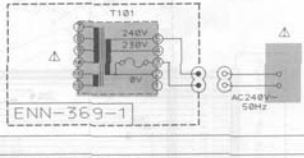
EF (FOR CONTINENTAL EUROPE)
EN (FOR SCANDINAVIA)
G (FOR GERMANY)



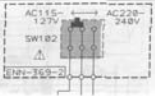
A (FOR AUSTRALIA)



BS (FOR UNITED KINGDOM)

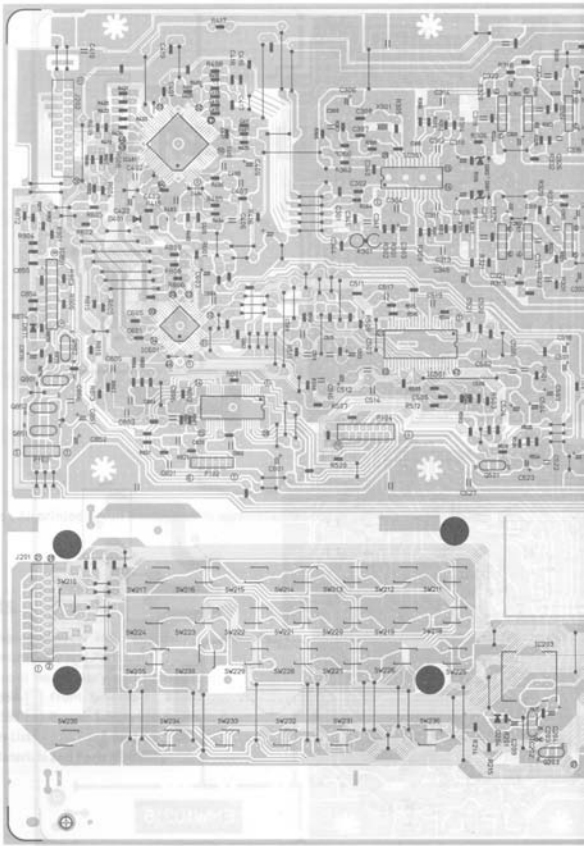


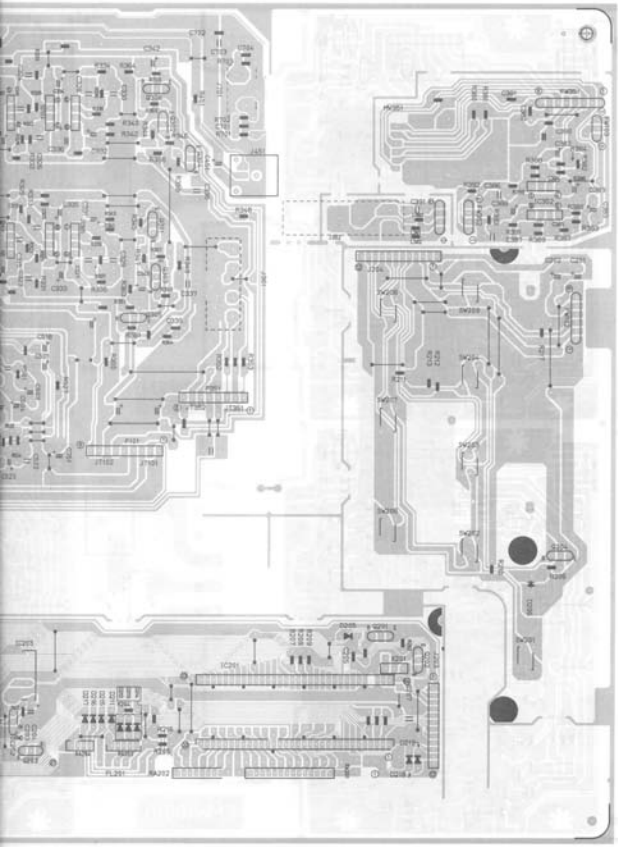
U (FOR UNIVERSAL TYPE)

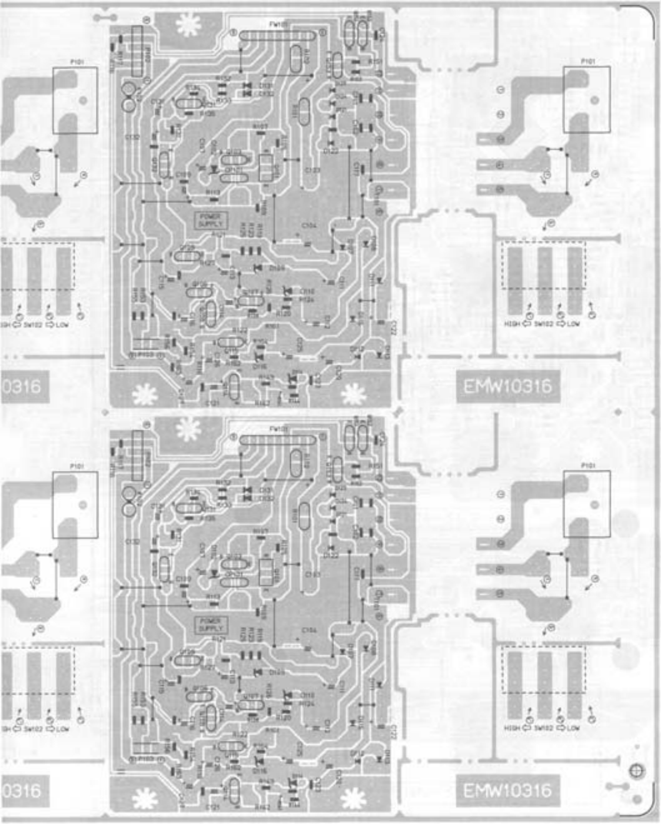


Printed Circuit Board

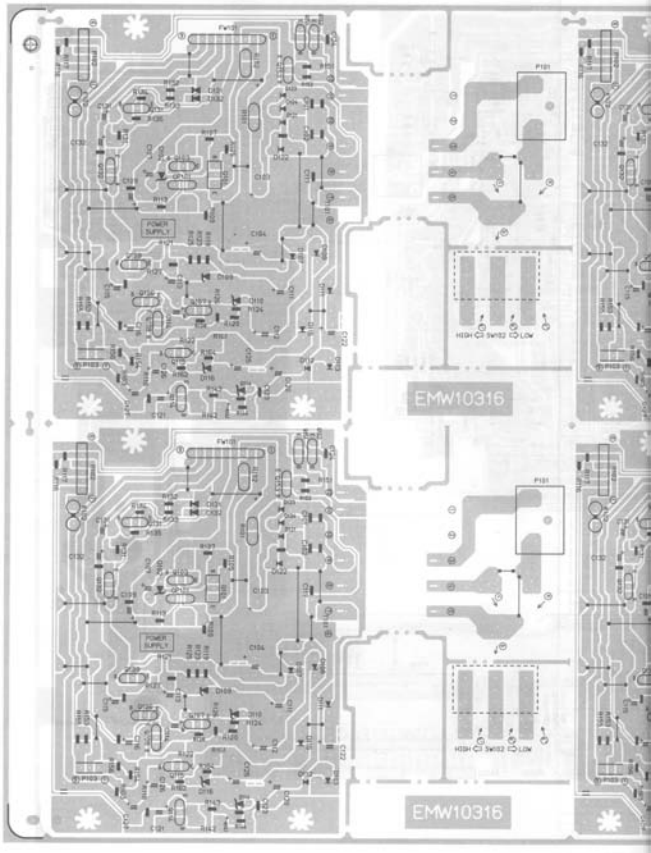
(1)Front&Servo P.C.Board(ENN-368)






P101
FW101
POWER SUPPLY
HIGH SW102 LOW
EMW10316
0316
P101
FW101
POWER SUPPLY
HIGH SW102 LOW
EMW10316
0316

(2)Power Supply P.C.Board(ENN-369)

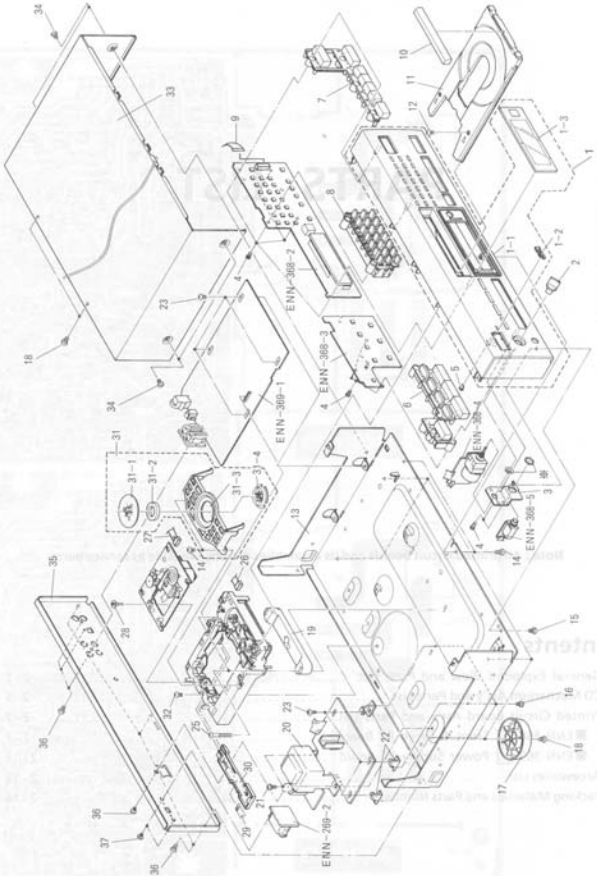


PARTS LIST

Note : All printed circuit boards and its assemblies are not available as service parts.

Contents

General Exploded View and Parts List



■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	1	EFP-XLZ464BKE(S	FRONT PANEL	1		
	1-1	E102657-012SF	FRONT PANEL	1		
	1-2	E308404-003	WINDOW SCREEN	1		
	1-3	VJDS429-001	JVC MARK	1		
	2	E74179-009	VOLUME KNOB	1		
	3	E407416-001SF	HEADPHONE BRACKET	1		
	4	SDSF2608Z	SCREW	9		
	5	FSJD4001-001	POWER INDICATOR	1		
	6	FSXP2002-012SS	PUSH BUTTON	1		
	7	FSXP2003-012SS	PUSH BUTTON	1		
	8	E207728-002	PUSH BUTTON	1		
	9	EWR121K-18TTJ3	FLAT WIRE	1		
	10	E308406-002SF	CD FITTING	1		
	11	E10235B-002SF	CD TRAY	1		
	12	SBSF3008M	SCREW	3		
	13	E10235S-221SF	CHASSIS BASE	1		
	14	SDSF3008M	SCREW	2		
	15	SBSG3008M	SCREW	1		
	16	SBSG3006Z	SCREW	3		
	17	E406282-004SF	FOOT ASSY	4		A
		E406282-005SF	FOOT ASSY	4		BS
		E406282-005SF	FOOT ASSY	4		EF
		E406282-005SF	FOOT ASSY	4		EN
		E406282-005SF	FOOT ASSY	4		G
		E406282-004SF	FOOT ASSY	4		U
		E406282-004SF	FOOT ASSY	4		UT
	18	SBST3008M	SCREW	4		
	19	E30715B-003SS	STAND	1		
⚠	20	ETP1000-74EAJ	POWER TRANSFORMER	1		A
⚠		ETP1000-74EAJBS	POWER TRANSFORMER	1		BS
⚠		ETP1000-74EAJ	POWER TRANSFORMER	1		EF
⚠		ETP1000-74EAJ	POWER TRANSFORMER	1		EN
⚠		ETP1000-74EAJ	POWER TRANSFORMER	1		G
⚠		ETP1000-78LHJ	POWER TRANSFORMER	1		U
⚠		ETP1000-78LHJ	POWER TRANSFORMER	1		UT
	21	E65389-002	SPECIAL SCREW	2		
	22	E685B7-004	ARM BRACKET	3		
	23	SBSG3008CC	SCREW	7		
	24	----------	CD MECHANISM ASSY	1	See page 2-4	
	25	SBST3025Z	SCREW	2		
	26	EWS265-B408	SOCKET WIRE	1		
	27	EWS266-B410	SOCKET WIRE	1		
	28	E406293-002	SPECIAL SCREW	1		
	29	EWPZ02-003	FFC CABLE	1		
	30	E30B181-221SS	FFC HOLDER	1		
	31-1	E306836-223SS	YOKE PLATE	1		
	31-2	E74897-002	MAGNET	2		
	31-3	E26756-331SF	CLAMPER BASE	1		
	31-4	E30683S-221SS	CD CLAMPER	1		
	32	SBST3008Z	SCREW	1		

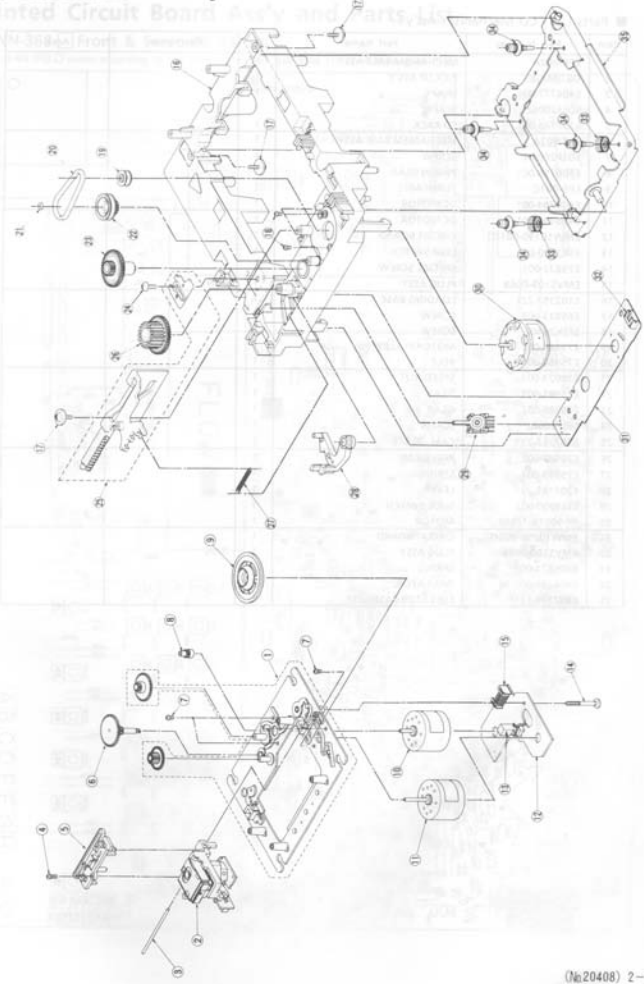
⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	33	E206906-223	METAL COVER	1		
	34	E406308-001	SPECIAL SCREW	4		
	35	E207326-223SF	REAR PANEL	1		A
		E207326-223SF	REAR PANEL	1		EF
		E207326-223SF	REAR PANEL	1		EN
		E207326-223SF	REAR PANEL	1		BS
		E207326-223SF	REAR PANEL	1		G
		E207326-226SF	REAR PANEL	1		U
		E207326-226SF	REAR PANEL	1		UT
	-	E70891-001	RATING LABEL	1		
	-	E308287-036	RATING LABEL	2		UT
	-	E308453-021	RATING LABEL	1		EF
	-	E308453-021	RATING LABEL	1		EN
	-	E308453-022F	RATING LABEL	1		G
	36	E73273-006	SPECIAL SCREW	7		
	37	SBSF2608M	SCREW	2		U
		SBSF2608M	SCREW	2		UT
	-	E61029-005	NUMBER LABEL	1		
	-	E70027-001	LABEL	1		EN
	-	E406507-001	CAUTION LABEL	1		
	-	QZL1031-101	LABEL	1		EF
	-	E70419-002F	F.MARK LABEL	1		G

⚠ : Safety Parts

The Marks for Designated Areas

A ..... Australia
UT .... Taiwan
EN .... Scandinavia
G ..... Germany
BS .... the U.K.
No mark indicates all area.
U ..... Universal Type
EF ..... Continental Europe

CD Mechanism Ass'y and Parts List



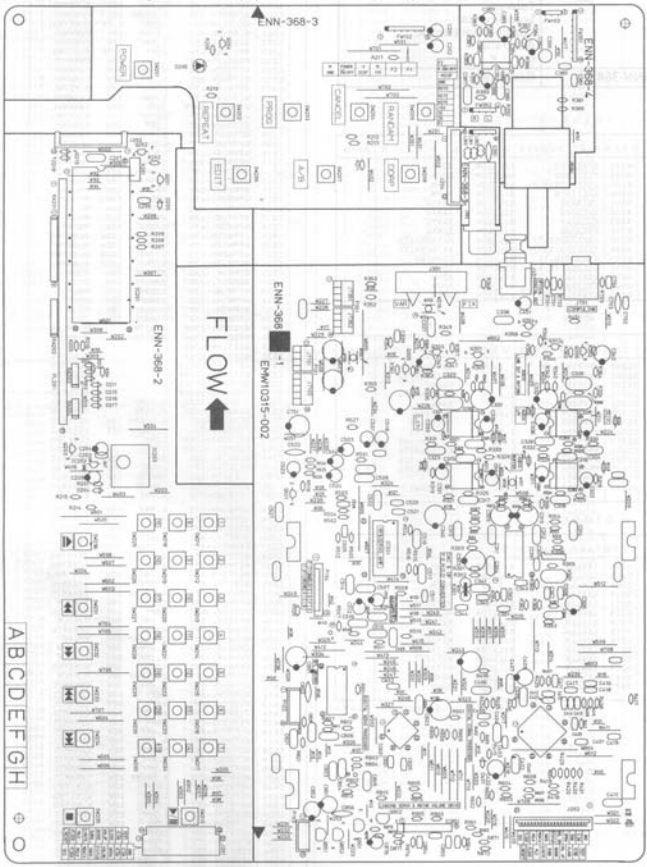
■ Parts List (CD Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Area
1	EPB-002A	MECHANISM BASE ASSY	1		
2	OPTIMA-65	PICK UP ASS'Y	1		
3	E406777-001	SHAFT	1		
4	SDSF2006Z	SCREW	1		
5	E307746-001	CD RACK	1		
6	EPB-003A	MECHANISM BASE ASSY	1		
7	SDSP2003N	SCREW	4		
8	E406750-001	PINION GEAR	1		
9	EPB-001C	TURNTABLE	1		
10	E406784-001	DC MOTOR	1		
11	E406783-001	DC MOTOR	1		
12	EMW10190-001(S)	CIRCUIT BOARD	1		
13	ESB1100-005	LEAF SWITCH	1		
14	E75832-001	SPECIAL SCREW	1		
15	EMV5109-006B	PLUG ASSY	1	6PIN	
16	E102357-221	LOADING BASE	1		
17	E65923-003	SCREW	3		
18	SPSK2640Z	SCREW	2		
19	E75984-001	MOTOR PULLEY	1		
20	E75950-002	BELT	1		
21	E72024-001	SPEED NUT	1		
22	E75985-001	GEAR	1		
23	E75986-002	GEAR	1		
24	SBSF3008Z	SCREW	1		
25	E307252-221	CAM - PLATE	1		
26	E75987-001	REEL GEAR	1		
27	E75989-001	SPRING	1		
28	E307162-221	LEVER	1		
29	ESS1200-002	SLIDE SWITCH	1		
30	RF-500TB-12560	MOTOR	1		
31	EMW10255-002(S)	CIRCUIT BOARD	1		
32	EMV5109-005B	PLUG ASSY	1	5PIN	
33	E406871-001	SPRING	2		
34	E406294-002	INSULATOR	4		
35	E307179-221	ELEVATOR BASE ASSY	1		

Printed Circuit Board Ass'y and Parts List

■ENN-368 □ Front & Servo PC Board

Note : ENN-368□ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENN-368 A	Universal Type Taiwan Scandinavia Continental Europe Australia the U.K.
ENN-368 B	Germany

TRANSISTORS

△	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q201	DTA114YS	SILICON	ROHM	
	Q202	DTC114YS	SILICON	ROHM	
	Q203	2SC1740S(R,S)	SILICON	ROHM	
	Q204	DTC114YS	SILICON	ROHM	
	Q301	2SC3068	SILICON	SANYO	
	Q302	2SC3068	SILICON	SANYO	
	Q303	2SC3068	SILICON	SANYO	
	Q304	2SC3068	SILICON	SANYO	
	Q305	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q306	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q501	2SA950(O,Y)	SILICON	TOSHIBA	
	Q851	2SC2060(Q,R)	SILICON	ROHM	
	Q852	2SA934(Q,R)	SILICON	ROHM	
	Q901	2SC2060(Q,R)	SILICON	ROHM	
	Q902	2SA934(Q,R)	SILICON	ROHM	

I. C. S.

△	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC201	MN1371602/HN	I.C.	MATSUSHITA	
	IC202	MN1281CF(P-B)	I.C.	MATSUSHITA	
	IC203	GP1U301X	I.C.	SHARP	
	IC301	MN35500	I.C.	MATSUSHITA	
	IC302	VC45800	I.C.	DAINICHI	
	IC303	VC45800	I.C.	DAINICHI	
	IC304	VC45800	I.C.	DAINICHI	
	IC305	VC45800	I.C.	DAINICHI	
	IC352	M5218AP	I.C.	MITSUBISHI	
	IC401	MN6624M	I.C.	MATSUSHITA	
	IC501	AN8011SC	I.C.	MATSUSHITA	
	IC601	MN6650AC	I.C.	MATSUSHITA	
	IC801	BA5393FP	I.C.	ROHM	
	IC851	NJM4558L	I.C.	DAINICHI	

DIODES

△	ITEM	PART NUMBER	DESCRIPTION		AREA
	D204	1SS133	SILICON	ROHM	
	D205	1SS133	SILICON	ROHM	
	D206	SLM-56VC50F130	L.E.D.	ROHM	
	D211	1SS119	SILICON	HITACHI	
	D212	1SS119	SILICON	HITACHI	
	D213	1SS119	SILICON	HITACHI	
	D214	1SS119	SILICON	HITACHI	
	D215	1SS119	SILICON	HITACHI	
	D216	1SS119	SILICON	HITACHI	
	D217	1SS119	SILICON	HITACHI	
	D218	1SS119	SILICON	HITACHI	
	D219	1SS119	SILICON	HITACHI	
	D401	1SS133	SILICON	ROHM	
	D871	1SS133	SILICON	ROHM	

△ : SAFETY PARTS

CAPACITORS

△	ITEM	PART NUMBER	DESCRIPTION		AREA
	C201	GET81HM-475	4.7MF	50V ELECTRO	
	C202	GET81HM-475	4.7MF	50V ELECTRO	
	C203	GCH81E2-223	0.022MF	25V CERAMIC	
	C204	GER50JM-107	100MF	6.3V ELECTRO	
	C205	GCB81HK-331	330PF	50V CERAMIC	
	C207	GCZ0205-155	1.5MF	25V CERAMIC	
	C209	GER50JM-478	47MF	6.3V ELECTRO	
	C300	GCZ0205-155	1.5MF	25V CERAMIC	
	C301	GCT30CH-5R6	5.6PF	50V CERAMIC	
	C302	GCT30CH-5R6	5.6PF	50V CERAMIC	
	C303	GET81AM-477	470MF	10V ELECTRO	
	C304	GCZ0205-155	1.5MF	25V CERAMIC	
	C305	GCS81HJ-360Y	36PF	50V CERAMIC	
	C306	GET81AM-227	220MF	10V ELECTRO	
	C307	GCT30CH-220	22PF	50V CERAMIC	
	C308	GCT30CH-3R9	3.9PF	50V CERAMIC	
	C309	GET81AM-477	470MF	10V ELECTRO	
	C310	GET81AM-477	470MF	10V ELECTRO	
	C311	GCZ0205-155	1.5MF	25V CERAMIC	
	C312	GCZ0205-155	1.5MF	25V CERAMIC	
	C313	GFN81HJ-561	560PF	50V MYLAR	
	C314	GFN81HJ-561	560PF	50V MYLAR	
	C315	GFN81HJ-471	470PF	50V MYLAR	
	C316	GFN81HJ-471	470PF	50V MYLAR	
	C317	GFN81HJ-471	470PF	50V MYLAR	
	C318	GFN81HJ-471	470PF	50V MYLAR	
	C319	GET82AM-475	4.7MF	100V ELECTRO	
	C320	GET82AM-475	4.7MF	100V ELECTRO	
	C321	GET82AM-475	4.7MF	100V ELECTRO	
	C322	GET82AM-475	4.7MF	100V ELECTRO	
	C323	GFP81HJ-222	2200PF	50V POLY	
	C324	GFP81HJ-222	2200PF	50V POLY	
	C325	GFP81HJ-222	2200PF	50V POLY	
	C326	GFP81HJ-222	2200PF	50V POLY	
	C327	GFP81HJ-472	4700PF	50V POLY	
	C328	GFP81HJ-472	4700PF	50V POLY	
	C329	EFZ0101-273S	0.027MF	M.MYLAR	
	C330	EFZ0101-273S	0.027MF	M.MYLAR	
	C331	GE231HM-476R		ELECTRO	
	C332	GE231HM-476R		ELECTRO	
	C333	EET2A0Z-1052E		ELECTRO	
	C334	EET2A0Z-1052E		ELECTRO	
	C335	EET2A0Z-105EE		ELECTRO	
	C336	EET2A0Z-105EE		ELECTRO	
	C337	EFZ0101-103S	0.01MF	M.MYLAR	
	C338	EFZ0101-103S	0.01MF	M.MYLAR	
	C339	GCH81E2-223	0.022MF 25V	CERAMIC	
	C340	GCH81E2-223	0.022MF 25V	CERAMIC	
	C342	EET2502-476N	47MF	ELECTRO	
	C343	EET2502-476N	47MF	ELECTRO	
	C345	GCS81HJ-330	33PF	50V CERAMIC	
	C346	GET81AM-477	470MF	10V ELECTRO	
	C380	GCX81CM-182	1800PF	16V CERAMIC	
	C381	GCX81CM-182	1800PF	16V CERAMIC	
	C382	GET81HM-475	4.7MF	50V ELECTRO	
	C383	GET81HM-475	4.7MF	50V ELECTRO	
	C384	GCS81HJ-470	47PF	50V CERAMIC	
	C385	GCS81HJ-470	47PF	50V CERAMIC	
	C386	GFN81HJ-103	0.01MF	50V MYLAR	
	C387	GFN81HJ-103	0.01MF	50V MYLAR	
	C388	GET81CM-226	22MF	16V ELECTRO	
	C389	GET81CM-476	47MF	16V ELECTRO	
	C390	GEN51HM-475	4.7MF	50V NON POLE	
	C391	GCS21HJ-471	470PF	50V CERAMIC	
	C401	GCH81E2-223	0.022MF	25V CERAMIC	
	C402	GFV81HJ-104	0.1MF	50V T.FILM	
	C403	GCS81HJ-680	68PF	50V CERAMIC	
	C404	GFV81HJ-104	0.1MF	50V T.FILM	
	C405	GCB81HK-471	470PF	50V CERAMIC	
	C406	GFN81HJ-223	0.022MF	50V MYLAR	
	C407	GFV81HJ-474	0.47MF	50V T.FILM	
	C408	GFV81HJ-104	0.1MF	50V T.FILM	
	C409	GET81AM-107	100MF	10V ELECTRO	
	C410	GFV81HJ-473	0.047MF	50V T.FILM	
	C411	GCT30CH-5R6	5.6PF	50V CERAMIC	
	C412	GCS81HJ-680	68PF	50V CERAMIC	
	C413	GCS81HJ-680	68PF	50V CERAMIC	
	C414	GCS81HJ-680	68PF	50V CERAMIC	
	C415	GCS81HJ-680	68PF	50V CERAMIC	
	C416	GCT30CH-5R6	5.6PF	50V CERAMIC	
	C417	GCT30CH-8R2	8.2PF	50V CERAMIC	
	C418	GCT30CH-5R6	5.6PF	50V CERAMIC	
	C419	GCT30CH-5R6	5.6PF	50V CERAMIC	
	C420	GCT30CH-5R6	5.6PF	50V CERAMIC	
	C421	GCH81E2-223	0.022MF	25V CERAMIC	
	C422	GET81AM-107	100MF	10V ELECTRO	
	C451	GET81AM-107	100MF	10V ELECTRO	
	C501	GET81AM-107	100MF	10V ELECTRO	
	C502	GCZ0205-155	1.5MF	25V CERAMIC	
	C503	GET81AM-476	47MF	10V ELECTRO	
	C504	GET81AM-107	100MF	10V ELECTRO	
	C505	GCB81HK-271	270PF	50V CERAMIC	
	C506	GCB81HK-331	330PF	50V CERAMIC	
	C507	GFV81HJ-683	0.068MF	50V T.FILM	
	C508	GFN81HJ-681	680PF	50V MYLAR	

△ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C509	QFN81NJ-392	3900PF	50V	MYLAR	
	C510	QFV81MJ-393	0.039MF	50V	T.FILM	
	C511	QCG81HK-821	820PF	50V	CERAMIC	
	C512	QET81AM-476	47MF	10V	ELECTRO	
	C513	QET81AM-476	47MF	10V	ELECTRO	
	C514	QFV81MJ-104	0.1MF	50V	T.FILM	
	C515	QFV81MJ-104	0.1MF	50V	T.FILM	
	C516	QFV81MJ-104	0.1MF	50V	T.FILM	
	C517	QFW81MJ-332	3300PF	50V	MYLAR	
	C518	QET81HM-105	1MF	50V	ELECTRO	
	C519	QFV81MJ-104	0.1MF	50V	T.FILM	
	C520	QCS81CJ-680	68PF	50V	CERAMIC	
	C521	QCT50CH-3R9	3.9PF	50V	CERAMIC	
	C522	QCF21HP-223	0.022MF	50V	CERAMIC	
	C523	QET81HM-106	10MF	50V	ELECTRO	
	C524	QET81AM-476	47MF	10V	ELECTRO	
	C601	QCH81E2-223	0.022MF	25V	CERAMIC	
	C602	QCK81CH-472	4700PF	16V	CERAMIC	
	C603	QET80JM-227	220MF	6.3V	ELECTRO	
	C604	QFV81HJ-104	0.1MF	50V	T.FILM	
	C605	QCH81E2-223	0.022MF	25V	CERAMIC	
	C701	QCS81HK-101	100PF	50V	CERAMIC	
	C702	QCS81HK-101	100PF	50V	CERAMIC	
	C751	QET81CM-477	470MF	10V	ELECTRO	
	C801	QET81CM-227	220MF	16V	ELECTRO	
	C802	QCF21HP-223	0.022MF	50V	CERAMIC	
	C803	QFN81HJ-103	0.01MF	50V	MYLAR	
	C804	QFN81HJ-472	4700PF	50V	MYLAR	
	C805	QFN81HJ-823	0.082MF	50V	MYLAR	
	C806	QFN81HJ-333	0.033MF	50V	MYLAR	
	C820	QFV81HJ-104	0.1MF	50V	T.FILM	
	C821	QFV81HJ-104	0.1MF	50V	T.FILM	
	C851	QET81CM-107	100MF	16V	ELECTRO	
	C852	QET81CM-107	100MF	16V	ELECTRO	
	C854	QCH81E2-223	0.022MF	25V	CERAMIC	
	C855	QCH81E2-223	0.022MF	25V	CERAMIC	
	C856	QCF21HP-103	0.01MF	50V	CERAMIC	
	C876	QET81HM-475	4.7MF	50V	ELECTRO	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R201	QRD167J-821	820	1/6W	CARBON	
	R202	QRD167J-4R7	4.7K	1/6W	CARBON	
	R204	QRD167J-471	470	1/6W	CARBON	
	R205	QRD167J-103	10K	1/6W	CARBON	
	R206	QRD167J-181	180	1/6W	CARBON	
	R207	QRD167J-472	4.7K	1/6W	CARBON	
	R208	QRD167J-472	4.7K	1/6W	CARBON	
	R209	QRD167J-472	4.7K	1/6W	CARBON	
	R210	QRD167J-473	47K	1/6W	CARBON	
	R211	QRD167J-473	47K	1/6W	CARBON	
	R212	QRD167J-473	47K	1/6W	CARBON	
	R213	QRD167J-473	47K	1/6W	CARBON	
	R214	QRD167J-473	47K	1/6W	CARBON	
	R215	QRD167J-473	47K	1/6W	CARBON	
	R301	QRD167J-560	56	1/6W	CARBON	
	R302	QRD167J-560	56	1/6W	CARBON	
	R303	QRD167J-560	56	1/6W	CARBON	
	R304	QRD167J-181	180	1/6W	CARBON	
	R305	QRD167J-330	33	1/6W	CARBON	
	R306	QRD167J-271	270	1/6W	CARBON	
	R307	QRD167J-271	270	1/6W	CARBON	
⚠	R308	QRV144F-1502	15K	1/4W	M.FILM	
⚠	R309	QRV144F-1502	15K	1/4W	M.FILM	
⚠	R310	QRV144F-1502	15K	1/4W	M.FILM	
⚠	R311	QRV144F-1502	15K	1/4W	M.FILM	
⚠	R312	QRV144F-1502	15K	1/4W	M.FILM	
⚠	R313	QRV144F-1502	15K	1/4W	M.FILM	
⚠	R314	QRV144F-1502	15K	1/4W	M.FILM	
⚠	R315	QRV144F-1502	15K	1/4W	M.FILM	
	R316	QRD167J-182	1.8K	1/6W	CARBON	
	R317	QRD167J-182	1.8K	1/6W	CARBON	
	R318	QRD167J-101	100	1/6W	CARBON	
	R319	QRD167J-101	100	1/6W	CARBON	
	R320	QRD167J-101	100	1/6W	CARBON	
	R321	QRD167J-101	100	1/6W	CARBON	
	R322	QRD167J-912	9.1K	1/6W	CARBON	
	R323	QRD167J-912	9.1K	1/6W	CARBON	
	R324	QRD167J-912	9.1K	1/6W	CARBON	
	R325	QRD167J-912	9.1K	1/6W	CARBON	
	R326	QRD167J-152	1.5K	1/6W	CARBON	
	R327	QRD167J-152	1.5K	1/6W	CARBON	
	R328	QRD167J-152	1.5K	1/6W	CARBON	
	R329	QRD167J-152	1.5K	1/6W	CARBON	
	R330	QRD167J-152	1.5K	1/6W	CARBON	
	R331	QRD167J-152	1.5K	1/6W	CARBON	
	R332	QRD167J-152	1.5K	1/6W	CARBON	
	R333	QRD167J-152	1.5K	1/6W	CARBON	
	R334	QRD167J-431	430	1/6W	CARBON	
	R335	QRD167J-431	430	1/6W	CARBON	
	R336	QRD167J-431	430	1/6W	CARBON	

⚠ :SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R337	QRD167J-431	430	1/6W	CARBON	
	R338	QRD167J-911	910	1/6W	CARBON	
	R339	QRD167J-911	910	1/6W	CARBON	
	R340	QRD167J-822	8.2K	1/6W	CARBON	
	R341	QRD167J-822	8.2K	1/6W	CARBON	
	R342	QRD167J-273	27K	1/6W	CARBON	
	R343	QRD167J-273	27K	1/6W	CARBON	
	R344	QRD167J-750	75	1/6W	CARBON	
	R345	QRD167J-750	75	1/6W	CARBON	
	R346	QRD167J-750	75	1/6W	CARBON	
	R347	QRD167J-750	75	1/6W	CARBON	
	R348	QRD167J-121	120	1/6W	CARBON	
	R349	QRD167J-121	120	1/6W	CARBON	
	R350	QRD167J-102	1K	1/6W	CARBON	
	R351	QRD167J-102	1K	1/6W	CARBON	
	R352	QRD167J-151	150	1/6W	CARBON	
	R353	QRD167J-151	150	1/6W	CARBON	
	R354	QRD167J-684	680K	1/6W	CARBON	
	R355	QRD167J-473	47K	1/6W	CARBON	
	R356	QRD167J-103	10K	1/6W	CARBON	
	R357	QRD167J-103	10K	1/6W	CARBON	
	R358	QRD167J-103	10K	1/6W	CARBON	
	R359	QRD167J-103	10K	1/6W	CARBON	
	R360	QRD167J-103	10K	1/6W	CARBON	
	R361	QRD167J-103	10K	1/6W	CARBON	
	R362	QRD167J-103	10K	1/6W	CARBON	
	R363	QRD167J-273	27K	1/6W	CARBON	
	R364	QRD167J-273	27K	1/6W	CARBON	
	R365	QRD167J-155	1.5M	1/6W	CARBON	
	R366	QRD167J-151	150	1/6W	CARBON	
	R367	QRD167J-821	820	1/6W	CARBON	
	R380	QRD167J-151	150	1/6W	CARBON	
	R381	QRD167J-151	150	1/6W	CARBON	
	R382	QRD167J-473	47K	1/6W	CARBON	
	R383	QRD167J-473	47K	1/6W	CARBON	
	R384	QRD167J-103	10K	1/6W	CARBON	
	R385	QRD167J-103	10K	1/6W	CARBON	
	R386	QRD167J-273	27K	1/6W	CARBON	
	R387	QRD167J-273	27K	1/6W	CARBON	
	R388	QRD167J-563	56K	1/6W	CARBON	
	R389	QRD167J-563	56K	1/6W	CARBON	
	R390	QRD167J-680	68	1/6W	CARBON	
	R391	QRD167J-680	68	1/6W	CARBON	
	R392	QRD167J-390	39	1/6W	CARBON	
	R393	QRD167J-390	39	1/6W	CARBON	
	R402	QRD167J-823	82K	1/6W	CARBON	
	R403	QRD167J-473	47K	1/6W	CARBON	
	R404	QRD167J-104	100K	1/6W	CARBON	
	R405	QRD167J-104	100K	1/6W	CARBON	
	R406	QRD167J-471	470	1/6W	CARBON	
	R407	QRD167J-471	470	1/6W	CARBON	
	R408	QRD167J-391	390	1/6W	CARBON	
	R409	QRD167J-391	390	1/6W	CARBON	
	R410	QRD167J-391	390	1/6W	CARBON	
	R411	QRD167J-102	1K	1/6W	CARBON	
	R415	QRD167J-282	2.2	1/6W	CARBON	
	R416	QRD167J-282	2.2	1/6W	CARBON	
	R417	QRD167J-561	560	1/6W	CARBON	
	R418	QRD167J-102	1K	1/6W	CARBON	
	R419	QRD167J-102	1K	1/6W	CARBON	
	R420	QRD167J-102	1K	1/6W	CARBON	
	R421	QRD167J-102	1K	1/6W	CARBON	
	R422	QRD167J-102	1K	1/6W	CARBON	
	R423	QRD167J-102	1K	1/6W	CARBON	
	R424	QRD167J-102	1K	1/6W	CARBON	
	R425	QRD167J-102	1K	1/6W	CARBON	
	R451	QRD167J-282	2.2	1/6W	CARBON	
	R501	QRD167J-471	470	1/6W	CARBON	
	R502	QRD167J-472	4.7K	1/6W	CARBON	
	R503	QRD167J-682	6.8K	1/6W	CARBON	
	R504	QRD167J-153	15K	1/6W	CARBON	
	R505	QRD167J-273	27K	1/6W	CARBON	
	R507	QRD167J-224	220K	1/6W	CARBON	
	R508	QRD167J-274	270K	1/6W	CARBON	
	R509	QRD167J-103	10K	1/6W	CARBON	
	R510	QRD167J-823	82K	1/6W	CARBON	
	R511	QRD167J-224	220K	1/6W	CARBON	
	R512	QRD167J-124	120K	1/6W	CARBON	
	R514	QRD167J-103	10K	1/6W	CARBON	
	R515	QRD167J-152	1.5K	1/6W	CARBON	
	R516	QRD167J-152	1.5K	1/6W	CARBON	
	R518	QRD167J-121	120	1/6W	CARBON	
	R520	QRD167J-910	91	1/6W	CARBON	
	R524	QRD167J-470	47	1/6W	CARBON	
	R525	QRD167J-470	47	1/6W	CARBON	
	R526	QRD167J-470	47	1/6W	CARBON	
	R527	QRD167J-282	2.2	1/6W	CARBON	
	R601	QRD167J-282	2.2	1/6W	CARBON	
	R602	QRD167J-102	1K	1/6W	CARBON	
	R603	QRD167J-102	1K	1/6W	CARBON	

⚠ :SAFETY PARTS

RESISTORS

△	ITEM	PART NUMBER	DESCRIPTION	AREA
	R604	QRD167J-102	1K 1/6W CARBON	
	R605	QRD167J-102	1K 1/6W CARBON	
	R606	QRD167J-102	1K 1/6W CARBON	
	R607	QRD167J-102	1K 1/6W CARBON	
	R608	QRD167J-102	1K 1/6W CARBON	
	R701	QRD167J-470	47 1/6W CARBON	
	R702	QRD161J-221	220 1/6W CARBON	
	R703	QRD167J-101	100 1/6W CARBON	
	R801	QRD167J-222	2.2K 1/6W CARBON	
	R802	QRD167J-153	15K 1/6W CARBON	
	R803	QRD167J-472	4.7K 1/6W CARBON	
	R804	QRD167J-223	22K 1/6W CARBON	
	R805	QRD167J-562	5.6K 1/6W CARBON	
	R806	QRD167J-124	120K 1/6W CARBON	
	R807	QRD167J-332	3.3K 1/6W CARBON	
	R808	QRD167J-243	24K 1/6W CARBON	
	R809	QRD167J-223	22K 1/6W CARBON	
	R810	QRD167J-472	4.7K 1/6W CARBON	
	R811	QRD167J-123	12K 1/6W CARBON	
	R812	QRD167J-752	7.5K 1/6W CARBON	
	R813	QRD167J-562	5.6K 1/6W CARBON	
	R815	QRD167J-562	5.6K 1/6W CARBON	
	R820	QRD167J-100	10 1/6W CARBON	
	R821	QRD167J-100	10 1/6W CARBON	
	R871	QRD167J-513	51K 1/6W CARBON	
	R872	QRD167J-513	51K 1/6W CARBON	
	R873	QRD167J-753	75K 1/6W CARBON	
	R874	QRD167J-623	62K 1/6W CARBON	
	R875	QRD161J-221	220 1/6W CARBON	
	R876	QRD167J-684	680K 1/6W CARBON	
	R901	QRD167J-513	51K 1/6W CARBON	
	R902	QRD167J-513	51K 1/6W CARBON	
	R903	QRD167J-683	68K 1/6W CARBON	
	R904	QRD167J-683	68K 1/6W CARBON	
	R905	QRD161J-221	220 1/6W CARBON	

△ : SAFETY PARTS

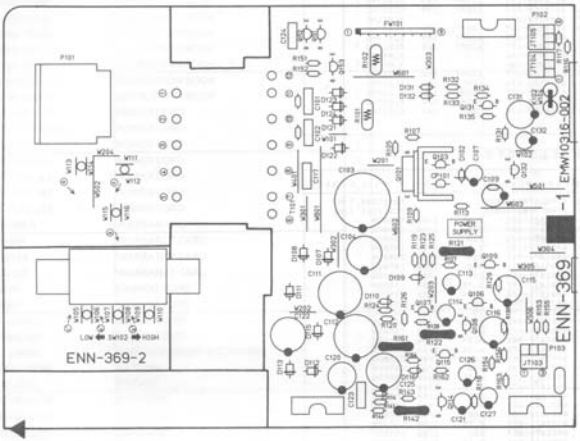
OTHERS

△	ITEM	PART NUMBER	DESCRIPTION	AREA
		E306805-010	SPACER	
		E306951-2215S	FL DISPLAY HOLDER	
		E606604-001	EARTH BRACKET	
		E606656-001	EARTH PLATE	
		E70859-001	EARTH PLATE	
		E75484-001	EARTH PLATE	
	J201	EMV7123-021B	CONNECTOR21PIN	
	J202	EMV7123-021	CONNECTOR21PIN	
	J203	EMV7120-012	CONNECTOR12PIN	
	J204	EMV5120-012	PLUG ASS'Y12PIN	
	J301	EMN00TV-A09AJ4	AP PIN JACK	
	J302	QMS6302-131	HEADPHONE JACK	
	J431	OPI132T	OPTICAL JACK	
	J701	QMS3501-020J4	MINI JACK	
	L301	EQL4004-1R0	INDUCTOR	
	L302	EQL4004-1R0	INDUCTOR	
	L303	EQL4004-1R0	INDUCTOR	
	P102	EMV5109-006A	PLUG ASS'Y6PIN	
	P103	EMV5109-005A	PLUG ASS'Y5PIN	
	P104	EMV7144-015	CONNECTOR15PIN	
	X201	ECX0060-000EM	RESONATOR	
	X301	ECX0169-344EYJ	RESONATOR	
	FL701	ELU0001-136	FL TUBE	
	FW102	EWR368-16LST	FLAT WIRE6PIN	
	FW103	EWR368-13LST	FLAT WIRE5PIN	
	FW351	EWR388-45LST	FLAT WIRE8PIN	
	FW352	EWR369-08LST	FLAT WIRE4PIN	
	J7101	EMV7122-004	CONNECTOR4PIN	
	J7102	EMV7122-005	CONNECTOR5PIN	
	J7351	EMV7122-004	CONNECTOR4PIN	
	J7352	EMV7122-004	CONNECTOR4PIN	
	MV351	QVD8948-824F	VARIABLE RESISTOR	
	SW201	ESP0001-018	TACT SWITCHPOWER	
	SW202	ESP0001-018	TACT SWITCHREPEAT	
	SW203	ESP0001-018	TACT SWITCHPROGRAM	
	SW204	ESP0001-018	TACT SWITCHCANCEL	
	SW205	ESP0001-018	TACT SWITCH +10	
	SW206	ESP0001-018	TACT SWITCHEDIT	
	SW207	ESP0001-018	TACT SWITCHA/B	
	SW208	ESP0001-018	TACT SWITCHDIRP	
	SW209	ESP0001-018	TACT SWITCHRANDOM	
	SW210	ESP0001-018	TACT SWITCHPLAY/PAUSE	
	SW211	ESP0001-018	TACT SWITCH1	
	SW212	ESP0001-018	TACT SWITCH2	
	SW213	ESP0001-018	TACT SWITCH3	
	SW214	ESP0001-018	TACT SWITCH4	
	SW215	ESP0001-018	TACT SWITCH5	
	SW216	ESP0001-018	TACT SWITCH6	
	SW217	ESP0001-018	TACT SWITCH7	
	SW218	ESP0001-018	TACT SWITCH8	
	SW219	ESP0001-018	TACT SWITCH9	
	SW220	ESP0001-018	TACT SWITCH10	
	SW221	ESP0001-018	TACT SWITCH11	
	SW222	ESP0001-018	TACT SWITCH12	
	SW223	ESP0001-018	TACT SWITCH13	
	SW224	ESP0001-018	TACT SWITCH14	
	SW225	ESP0001-018	TACT SWITCH15	
	SW226	ESP0001-018	TACT SWITCH16	
	SW227	ESP0001-018	TACT SWITCH17	
	SW228	ESP0001-018	TACT SWITCH18	
	SW229	ESP0001-018	TACT SWITCH19	
	SW230	ESP0001-018	TACT SWITCH20	
	SW231	ESP0001-018	TACT SWITCH◀◀	
	SW232	ESP0001-018	TACT SWITCH▶▶	
	SW233	ESP0001-018	TACT SWITCH■■	
	SW234	ESP0001-018	TACT SWITCH▶■	
	SW235	ESP0001-018	TACT SWITCHSTOP	
	SW236	ESP0001-018	TACT SWITCHOPEN/CLOSE	

△ : SAFETY PARTS

■ENN-369 □ Power Supply PC Board

Note : ENN-369 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENN-369 [F]	Universal Type Taiwan
ENN-369 [E]	Scandinavia Continental Europe
ENN-369 [A]	Australia
ENN-369 [B] BS	the U.K.
ENN-369 [G]	Germany

TRANSISTORS

△	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q101	2SB1187(E,F)	SILICON	ROHM	
	Q103	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q106	DTA114YS	SILICON	ROHM	
	Q107	DTC114YS	SILICON	ROHM	
	Q108	2SA934(Q,R)	SILICON	ROHM	
	Q109	2SC2060(Q,R)	SILICON	ROHM	
	Q114	2SA934(Q,R)	SILICON	ROHM	
	Q115	2SC2060(Q,R)	SILICON	ROHM	
	Q131	2SA933S(R,S)	SILICON	ROHM	
	Q132	DTC114YS	SILICON	ROHM	
	Q151	2SD2144S(VW)	SILICON	ROHM	
	Q152	2SD2144S(VW)	SILICON	ROHM	
	Q153	DTA114YS	SILICON	ROHM	

△ :SAFETY PARTS

DIODES

△	ITEM	PART NUMBER	DESCRIPTION		AREA
	D102	MTZ5.6JA	ZENER	ROHM	
	D107	1SE2	SILICON	NIHONINTER	
	D108	1SE2	SILICON	NIHONINTER	
	D109	MTZ12JA	ZENER	ROHM	
	D110	MTZ12JA	ZENER	ROHM	
	D111	1SR139-200	SILICON	ROHM	
	D112	1SR139-200	SILICON	ROHM	
	D113	1SR139-200	SILICON	ROHM	
	D114	MTZ24JC	ZENER	ROHM	
	D115	1SR139-200	SILICON	ROHM	
	D116	MTZ5.6JA	ZENER	ROHM	
	D121	1SE2	SILICON	NIHONINTER	
	D122	1SR139-200	SILICON	ROHM	
	D123	1SE2	SILICON	NIHONINTER	
	D124	1SR139-200	SILICON	ROHM	
	D131	1SS133	SILICON	ROHM	
	D132	1SS133	SILICON	ROHM	

CAPACITORS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
	C101	EFH001J-104			M,MYLAR	
	C102	EFH001J-104			M,MYLAR	
	C103	GETB1CM-338	3300MF	16V	ELECTRO	
	C104	GETB1CM-477	470MF	16V	ELECTRO	
	C107	GETB1HM-225	2.2MF	50V	ELECTRO	
	C109	GETB1AM-227	220MF	10V	ELECTRO	
	C111	GETB1EM-108	1000MF	25V	ELECTRO	
	C112	GETB1EM-108	1000MF	25V	ELECTRO	
	C113	GETB1EM-107	100MF	25V	ELECTRO	
	C114	GETB1EM-476	47MF	25V	ELECTRO	

△ :SAFETY PARTS

CAPACITORS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
	C115	QETB1CM-227	220MF	16V	ELECTRO	
	C116	QETB1CM-227	220MF	16V	ELECTRO	
	C117	EFHD01J-104			M.MYLAR	
	C120	QETB1HM-107	100MF	50V	ELECTRO	
	C121	QETB1HM-475	4.7MF	50V	ELECTRO	
	C122	QETB1EM-477	470MF	25V	ELECTRO	
	C123	EFHD01J-104			M.MYLAR	
	C124	EFHD01J-104			M.MYLAR	
	C125	QETB1EM-477	470MF	25V	ELECTRO	
	C126	QETB1AM-476	47MF	10V	ELECTRO	
	C127	QETB1AM-107	100MF	10V	ELECTRO	
	C131	QETB1CM-227	220MF	16V	ELECTRO	
	C132	QETD1CM-226	22MF	16V	ELECTRO	

RESISTORS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
	R101	PTHBL07B82R2N1B			POSITIVE T ME	
	R102	PTHBL07B82R2N1B			POSITIVE T ME	
	R105	QRD167J-222	2.2K	1/6W	CARBON	
	R107	QRD161J-221	220	1/6W	CARBON	
	R109	QRD161J-221	220	1/6W	CARBON	
	R113	QRD167J-132	1.3K	1/6W	CARBON	
	R116	QRD167J-911	910	1/6W	CARBON	
	R117	QRD167J-911	910	1/6W	CARBON	
	R118	QRD167J-103	10K	1/6W	CARBON	
	R119	QRD167J-392	3.9K	1/6W	CARBON	
	R120	QRD167J-472	4.7K	1/6W	CARBON	
△	R121	QRZ0077-100	10	1/4W	FUSIBLE	
△	R122	QRZ0077-100	10	1/4W	FUSIBLE	
	R123	QRD167J-392	3.9K	1/6W	CARBON	
	R124	QRD167J-472	4.7K	1/6W	CARBON	
	R125	QRD167J-392	3.9K	1/6W	CARBON	
	R126	QRD167J-472	4.7K	1/6W	CARBON	
	R127	QRD167J-121	120	1/6W	CARBON	
	R128	QRD167J-121	120	1/6W	CARBON	
	R129	QRD167J-472	4.7K	1/6W	CARBON	
	R130	QRD167J-472	4.7K	1/6W	CARBON	
	R131	QRD161J-221	220	1/6W	CARBON	
	R132	QRD161J-221	220	1/6W	CARBON	
	R133	QRD161J-221	220	1/6W	CARBON	
	R134	QRD167J-822	8.2K	1/6W	CARBON	
	R135	QRD167J-683	68K	1/6W	CARBON	
	R141	QRD167J-362	3.6K	1/6W	CARBON	
△	R142	QRZ0077-560	56	1/4W	FUSIBLE	
	R143	QRD167J-121	120	1/6W	CARBON	
	R144	QRD167J-362	3.6K	1/6W	CARBON	
	R151	QRD167J-103	10K	1/6W	CARBON	
	R152	QRD167J-103	10K	1/6W	CARBON	
	R153	QRD167J-241	240	1/6W	CARBON	
	R154	QRD167J-241	240	1/6W	CARBON	
	R155	QRD167J-241	240	1/6W	CARBON	
	R156	QRD167J-241	240	1/6W	CARBON	
△	R161	QRZ0077-100	10	1/4W	FUSIBLE	
	R162	QRD167J-181	180	1/6W	CARBON	
	R163	QRD167J-103	10K	1/6W	CARBON	
△	R164	QRV144F-1801	1.8K	1/4W	M.FILM	

OTHERS

△	ITEM	PART NUMBER	DESCRIPTION		AREA
		670306-001	HEAT SINK		
		670859-001	EARTH PLATE		
		S88E3008Z	SCREW		
	P101	QMCB001-E02H	AC SOCKET		A
	P101	QMCB001-E02HBS	AC SOCKET		BBS
	P101	QMCB001-E02H	AC SOCKET		E
	P101	QMCB001-E02H	AC SOCKET		F
	P101	QMCB001-E02H	AC SOCKET		G
△	CP101	ICP-N10	I.C. PROTECTOR		
	PW101	EWR598-25LST	FLAT WIRE 5PIN		
	JT103	EMV7122-103	CONNECTOR 3PIN		
	JT104	EMV7122-103	CONNECTOR 3PIN		
	JT105	EMV7122-103	CONNECTOR 3PIN		
	SW102	6S91L22-E01	SLIDE SWITCH VOLTAGE SELECTOR		F

△ SAFETY PARTS

Accessories List

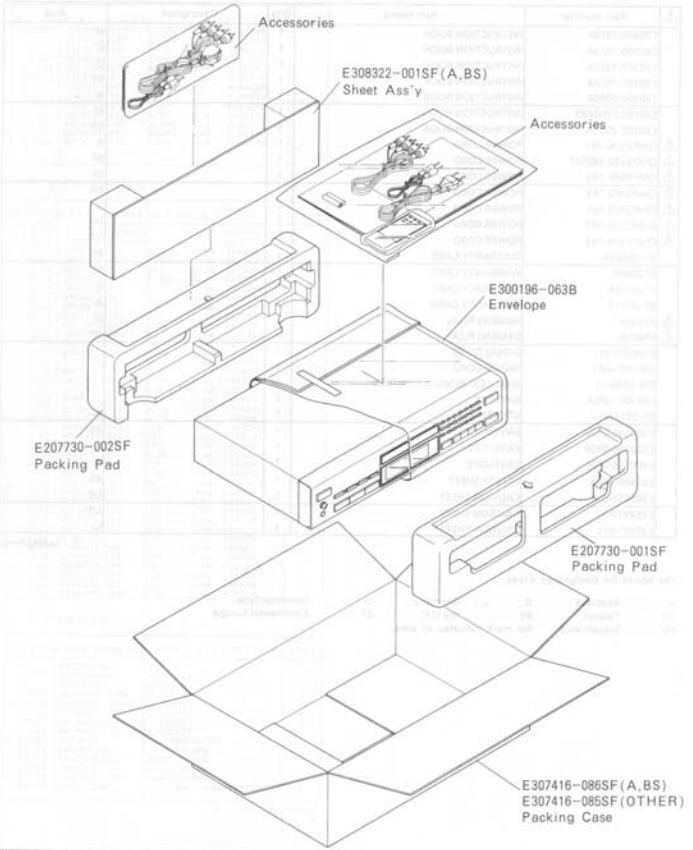
⚠	Part Number	Part Name	Q'ty	Description	Area
	E30580-1923A	INSTRUCTION BOOK	1		EF
	E30580-1923A	INSTRUCTION BOOK	1		G
	E30580-1923A	INSTRUCTION BOOK	1		U
	E30580-1923A	INSTRUCTION BOOK	1		UT
	E30580-2000A	INSTRUCTION BOOK	1		A
	E30580-2000ABS	INSTRUCTION BOOK	1		BS
	E30580-2001A	INSTRUCTION BOOK	1		EN
⚠	QMP25D0-183	POWER CORD	1		A
⚠	QMP5520-18358S	POWER CORD	1		BS
⚠	QMP39F0-183	POWER CORD	1		EF
⚠	QMP39F0-183	POWER CORD	1		EN
⚠	QMP39F0-183	POWER CORD	1		G
⚠	QMP7530-183	POWER CORD	1		U
⚠	QMP7530-183	POWER CORD	1		UT
	BT-20066A	WARRANTY CARD	1		BS
	BT20060	WARRANTY CARD	1		BS
	BT-20134	WARRANTY CARD	1		G
	BT-20122	WARRANTY CARD	1		A
⚠	E04056	SIEMENS PLUG	1		U
⚠	E04056	SIEMENS PLUG	1		UT
	EWP302-011	SIGNAL CORD	1		
	EWP805-001	SIGNAL CORD	1		
	RM-SX463U	WIRE-LESS REMOTE CONTROL	1		
	UM-4NJ-2PSA	BATTERY	2		
	BT-20122-1	STICKER	1		A
	E300196-010B	ENVELOPE	1		BS
	E300196-010B	ENVELOPE	1		U
	E300196-010B	ENVELOPE	1		A
	E43486-340A	SAFETY SHEET	1		BS
	E306858-003	CAUTION SHEET	1		UT
	E35497-022	CAUTION SHEET	1		UT
	E35497-022	CAUTION SHEET	1		U

⚠ : Safety Parts

The Marks for Designated Areas

A ..... Australia
UT .... Taiwan
EN .... Scandinavia
G ..... Germany
BS ..... the U.K.
No mark indicates all area.
U ..... Universal Type
EF ..... Continental Europe

Packing Materials and Part Numbers



The Marks for Designated Areas		
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－MEMO－