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# SECTION 1. GENERAL PART

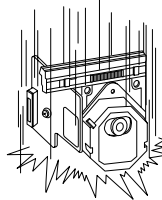
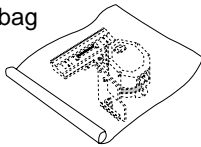
## SERVICING PRECAUTIONS

### NOTES REGARDING HANDLING OF THE PICK-UP

#### 1. Notes for transport and storage

- 1) The pick-up should always be left in its conductive bag until immediately prior to use.
- 2) The pick-up should never be subjected to external pressure or impact.

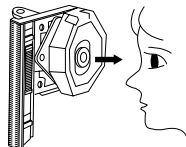
Storage in conductive bag



Drop impact

#### 2. Repair notes

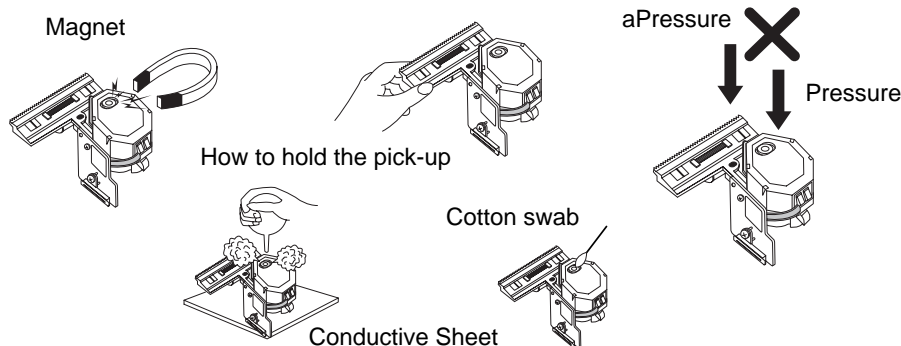
- 1) The pick-up incorporates a strong magnet, and so should never be brought close to magnetic materials.
- 2) The pick-up should always be handled correctly and carefully, taking care to avoid external pressure and impact. If it is subjected to strong pressure or impact, the result may be an operational malfunction and/or damage to the printed-circuit board.
- 3) Each and every pick-up is already individually adjusted to a high degree of precision, and for that reason the adjustment point and installation screws should absolutely never be touched.
- 4) Laser beams may damage the eyes!  
Absolutely never permit laser beams to enter the eyes!  
Also NEVER switch ON the power to the laser output part (lens, etc.) of the pick-up if it is damaged.



NEVER look directly at the laser beam, and don't let contact fingers or other exposed skin.

#### 5) Cleaning the lens surface

If there is dust on the lens surface, the dust should be cleaned away by using an air bush (such as used for camera lens). The lens is held by a delicate spring. When cleaning the lens surface, therefore, a cotton swab should be used, taking care not to distort this.



#### 6) Never attempt to disassemble the pick-up.

Spring by excess pressure. If the lens is extremely dirty, apply isopropyl alcohol to the cotton swab. (Do not use any other liquid cleaners, because they will damage the lens.) Take care not to use too much of this alcohol on the swab, and do not allow the alcohol to get inside the pick-up.

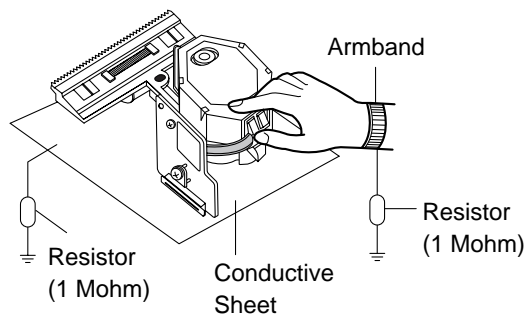
# NOTES REGARDING COMPACT DISC PLAYER REPAIRS

## 1. Preparations

- 1) Compact disc players incorporate a great many ICs as well as the pick-up (laser diode). These components are sensitive to, and easily affected by, static electricity. If such static electricity is high voltage, components can be damaged, and for that reason components should be handled with care.
- 2) The pick-up is composed of many optical components and other high-precision components. Care must be taken, therefore, to avoid repair or storage where the temperature of humidity is high, where strong magnetism is present, or where there is excessive dust.

## 2. Notes for repair

- 1) Before replacing a component part, first disconnect the power supply lead wire from the unit
- 2) All equipment, measuring instruments and tools must be grounded.
- 3) The workbench should be covered with a conductive sheet and grounded.  
When removing the laser pick-up from its conductive bag, do not place the pick-up on the bag. (This is because there is the possibility of damage by static electricity.)
- 4) To prevent AC leakage, the metal part of the soldering iron should be grounded.
- 5) Workers should be grounded by an armband (1M $\Omega$ )
- 6) Care should be taken not to permit the laser pick-up to come in contact with clothing, in order to prevent static electricity changes in the clothing to escape from the armband.
- 7) The laser beam from the pick-up should NEVER be directly facing the eyes or bare skin.



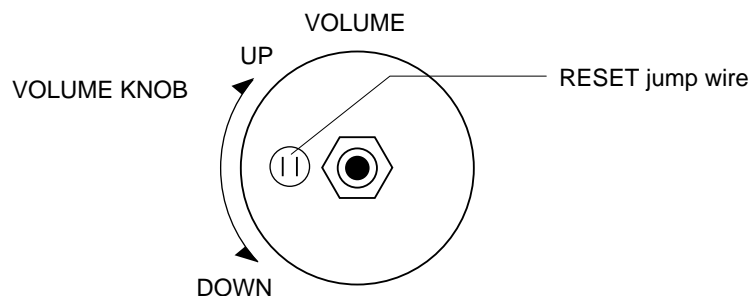
## CLEARING MALFUNCTION

You can reset your unit to initial status if malfunction occur(button malfunction, display, etc.).

Using a pointed good conductor(such as driver), simply short the RESET jump wire on the inside of the volume knob for more than 3 seconds.

If you reset your unit, you must reenter all its settings(stations, clock, timer)

- NOTE:** 1. To operate the RESET jump wire, pull the volume rotary knob and release it.  
2. If you wish to operate the RESET jump wire, it is necessary to unplug the power cord.



# ESD PRECAUTIONS

## Electrostatically Sensitive Devices (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive Devices (ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ESD devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ESD devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESD devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESD devices.
6. Do not remove a replacement ESD device from its protective package until immediately before you are ready to install it. (Most replacement ESD devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive materials).
7. Immediately before removing the protective material from the leads of a replacement ESD device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION : BE SURE NO POWER IS APPLIED TO THE CHASSIS OR CIRCUIT, AND OBSERVE ALL OTHER SAFETY PRECAUTIONS.**

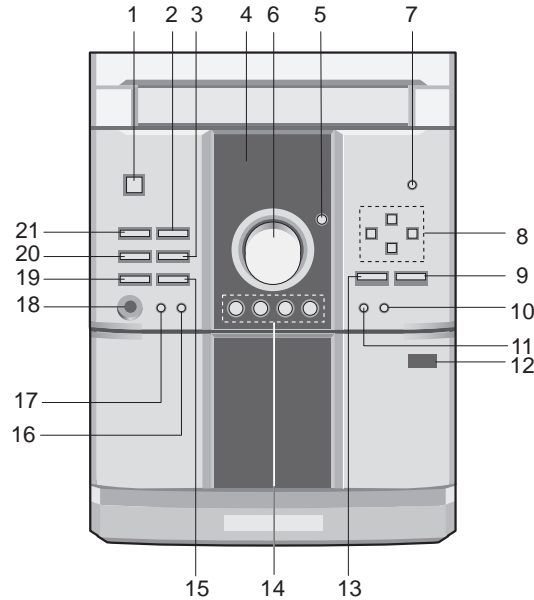
8. Minimize bodily motions when handling unpackaged replacement ESD devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ESD device).

# SPECIFICATIONS

<b>[General]</b>	Power supply	Refer to the back panel		
	Power consumption	95W		
	Mass	5.5kg		
	External dimensions (W x H x D)	180 x 248 x 287.3mm		
<b>[CD/DVD]</b>	Laser	Semiconductor laser, wavelength 650m		
	Signal system	PAL 625/50, NTSC 525/60		
	Frequency response(audio)	40 - 18,000 Hz		
	Signal-to-noise ratio(audio)	More than 70dB(1kHz)		
	Signal-to-noise ratio(vidio)	More than 60dB(1kHz)		
	Dynamic range (audio)	More than 70dB		
	Harmonic distortion(audio)	02%(1kHz)		
<b>[Video]</b>	Video output	1.0V (p-p), 75Ω, negative sync., RCA jack		
	S-video output	(Y) 1.0V (p-p), 75Ω, negative sync., Mini DIN 4-pin X 1 (C) 0.3V (p-p), 75Ω		
<b>[TURE]</b>	<b>FM</b>	Tuning Range	87.5~108.0MHz or 65 ~74 MHz, 87.5 ~108.0MHz	
		Intermediate Frequency	10.7MHz	
		Signal to Noise Ratio	60 dB	
		Frequency Response	60~10,000Hz	
	<b>AM(MW)</b>	Tuning Range	522~1611KHz or 530 ~1610KHz	
		Intermediate Frequency	450kHz	
		Signal to Noise Ratio	40dB	
<b>[Amplifier]</b>	output Power	STEREO: 20W X (6Ω 2CH THD 10%) SURROUND MODE: 16W X 5(6Ω 5CH THD 10%)		
	T.H.D	0.2%		
	Frequency Response	30 ~ 30,000Hz		
	Signal-to-noise ratio	80dB		
<b>[Speakers]</b>	Model name	Front Speaker(FE-DV25VE)	Satellite Subwoofer(FE-DV25TE)	
	Type	6Ω	6Ω	
	Impedacne	2Way 2 Speaker	1Way 1Speaker	
	Frequency Response	70 ~20,000Hz	120~20,000Hz	
	Sound Pressure Level	86dB/W(1m)	84dB/W(1m)	
	Rated Input Power	25W	16W	
	Max. Input Power	50W	30W	
	Net Dimensions(W x H x D)	160 x 240 x 175mm	90 x 125 x 106mm	
	Net Weight	2.35kg	0.61kg	
<b>[TAPE]</b>	Tape Speed	3KHz ± 50Hz		
	Wow Flutter	0.25%(MTT-111, JIS-WTD)		
	F.F/REW Time	120sec(C-60)		
	Frequency Response	125~8,000Hz		
	Signal to Noise Ratio	43dB		
	Channel Separation	45dB(P/B)42dB(R/P)		
	Erase Ratio	52dB(MTT-511)		
<b>[Supplied Accessories]</b>	• Audio cable .....	1		
	• Speakers .....	5		
	• Remote control .....	1		
	• AM loop antenna .....	1		
	• Video cable .....	1		
	• Speaker cables.....	3		
	• Batteries .....	2		
• FM antenna .....	1			

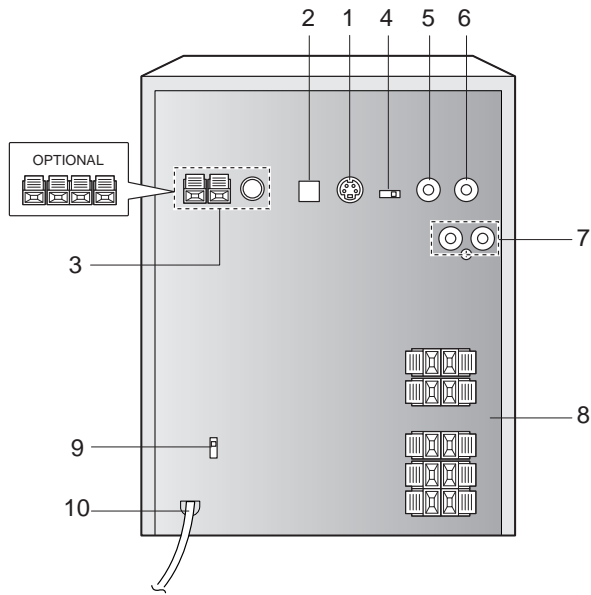
# IDENTIFICATION OF CONTROLS

## FRONT PANEL



- |   |  |
|---|--|
| <p><b>1.</b> STADBY/ON BUTTON</p> <p><b>2.</b> SET/PAUSE/STEP/TAPE COUNTER/RDS BUTTON(OPTION)</p> <p><b>3.</b> PLAY MODE BUTTON<br/>EQ PATTEN BUTTON(OPTIONAL)</p> <p><b>4.</b> DISPLAY</p> <p><b>5.</b> REMOTE SENSOR</p> <p><b>6.</b> VOLUME</p> <p><b>7.</b> CD DOOR OPEN/CLOSE (▲) BUTTON</p> <p><b>8.</b> • TUNING (+)(-) BUTTONS (RADIO)<br/>• SKIP/SEARCH(▶▶▶▶/◀◀◀◀)BUTTONS(CD/DVD)<br/>• REWIND/FAST FORWARD BUTTONS(TAPE)<br/>• ◀▶ =TAPE PLAY DIRECTION BUTTONS (◀ : OPTIONAL)<br/>• PRESET(-)(+) BUTTONS (RADIO)<br/>• CD PLAY BUTTON(◀ )</p> | <p><b>9.</b> ENTER/SELECT BUTTON(DVD)</p> <p><b>10.</b> SET UP BUTTON</p> <p><b>11.</b> STOP/RESET BUTTON</p> <p><b>12.</b> ▲PUSH EJECT POSITION</p> <p><b>13.</b> MENU BUTTON</p> <p><b>14.</b> FUNCTION SELECT BUTTON<br/>(TUNER/BAND, CD/DVD, TAPE, AUX)</p> <p><b>15.</b> PROG./MEMO. BUTTON</p> <p><b>16.</b> MDSS BUTTON</p> <p><b>17.</b> RECORD/RECORD PAUSE BUTTON(TAPE)</p> <p><b>18.</b> HEADPHONE SOCKET(3.5mm)</p> <p><b>19.</b> CD SYNCHRO/MODE/RIF BUTTON</p> <p><b>20.</b> TIMER BUTTON</p> <p><b>21.</b> CLOCK BUTTON</p> |
|---|--|

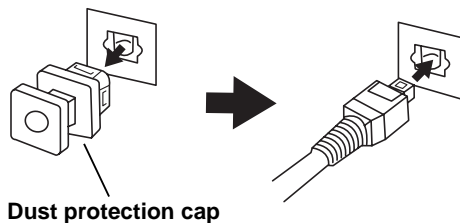
## REAR PANEL



1. S-VIDEO OUT JACK
2. OPTICAL OUT JACK\*
3. ANTENNA TERMINAL
4. VIDEO SELECTOR SWITCH
5. VIDEO OUT JACK
6. SUB WOOFER OUT CONNECTOR
7. AUXILIARY INPUT SOCKETS
8. SPEAKER CONNECTORS
9. VOLTAGE SELECTOR(OPTIONAL)
10. POWER CORD

### \*OPTICAL DIGITAL AUDIO OUT jack

Remove the dust protection cap from the connector and connect the optical digital cable (not supplied) firmly so that the configurations of both the cable and the connector match. Keep the dust protection cap and always reattach the cap when not using the connector to protect against dust.



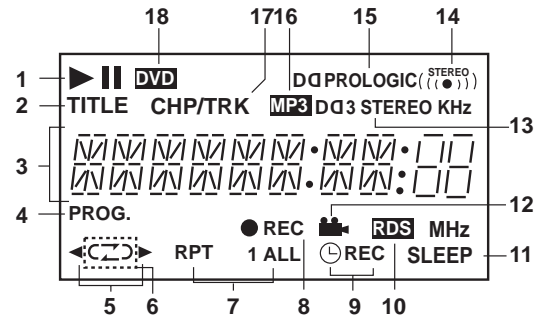
### \*\*VIDEO SELECTOR SWITCH

You can enjoy NTSC or PAL discs by using your VIDEO SELECTOR switch to choose the appropriate system.

- if you try to play back PAL disc with NTSC-TV. The unit will not playback the disc.
- When the selected VIDEO SELECTOR switch does not coincide with the system of your TV, normal color picture may not be displayed.
- Adjust the VIDEO SELECTOR switch when the power is turned off.
- When you playback NTSC disc with PAL-TV, some discs may produce black bands at the top and bottom of the screen.

Position of VIDEO SELECTOR switch	Connected TV	Available disc
PAL	PAL	PAL DVD disc
NTSC	NTSC	NTSC DVD disc
AUTO	MULTI system TV	NTSC/PAL DVD disc

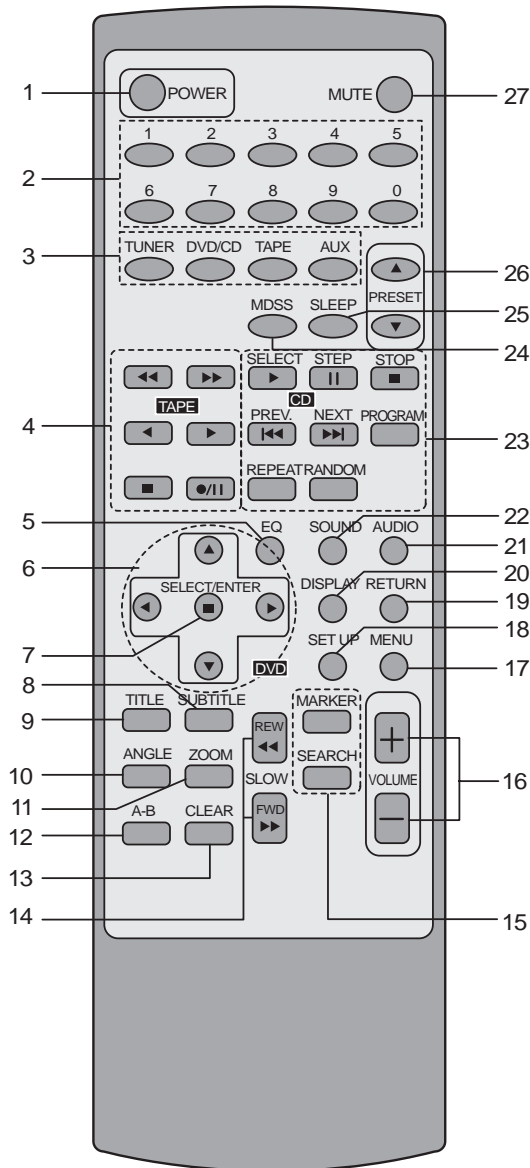
## DISPLAY WINDOWS



1. PLAY/PAUSE indicator
2. TITLE NUMBER indicator
3. FUNCTION, VOLUME LEVEL, CLOCK, FREQUENCY, TAPE COUNTER, CD PALYING TIME, MDSS, EQ PATTERN display
4. PROGRAM indicator
5. PLAY DIRECTION indicator
6. PLAY MODE indicator(OPTIONAL)
7. CD REPEAT indicator
8. RECORD indicator
9. TIMER indicator
10. RDS indicator(OPTIONAL)
11. SLEEP indicator
12. ANGLE icon indicator
13. DOLBY 3 STEREO indicator
14. FM STEREO indicator
15. DOLBY PROLOGIC SURROUND indicator
16. MP3 indicator
17. CHAPTER/TRACK indicator
18. DVD indicator

## Remote Control

- you will find instructions for each of the remote control functions in the appropriate sections of this instruction manual.



### \*MENU button

Use the MENU button to display the menu screen included on DVD video discs. To operate a menu screen, follow the instructions in "Using a DVD Menu".

### \*\*Directional arrow buttons

(up, down, left, right) for use in highlighting a selection on a GUI menu screen, TITLE and MENU screen.

### \*\*\*TITLE button

Use the TITLE button to display the title screen included on DVD video discs. To operate a menu screen, follow the instructions in "Using a Title Menu".

1. POWER button
2. NUMBER buttons
3. FUNCTION SELECT buttons
4. • TAPE FUNCTION button
  - REWIND/FAST FORWARD PLAY
  - FORWARD PLAY
  - BACKWARD PLAY(OPTIONAL)
  - STOP
  - RECORD/RECORD PAUSE
5. EQ PATTERN button
6. ARROW buttons
7. SELECT/ENTER button
8. SUBTITLE button
9. TITLE button
10. ANGLE button
11. ZOOM button
12. REPEAT A-B button
13. CLEAR button
14. SLOW buttons
15. MARKER/SEARCH buttons
16. VOLUME +/- buttons
17. MENU button
18. SET UP button
19. RETURN button
20. DISPLAY button
21. AUDIO button
22. SOUND button
23. • DVD/CD CONTROL buttons
  - PLAY/SELECT
  - PAUSE/STEP
  - STOP
  - SKIP/PREV.
  - SKIP/NEXT
  - PROGRAM
  - REPEAT
  - RANDOM
  - SKIP◀◀▶▶

Press and hold button for about two seconds for search function.
24. MDSS button
25. SLEEP button
26. PRESET▲/▼ buttons
27. MUTE button