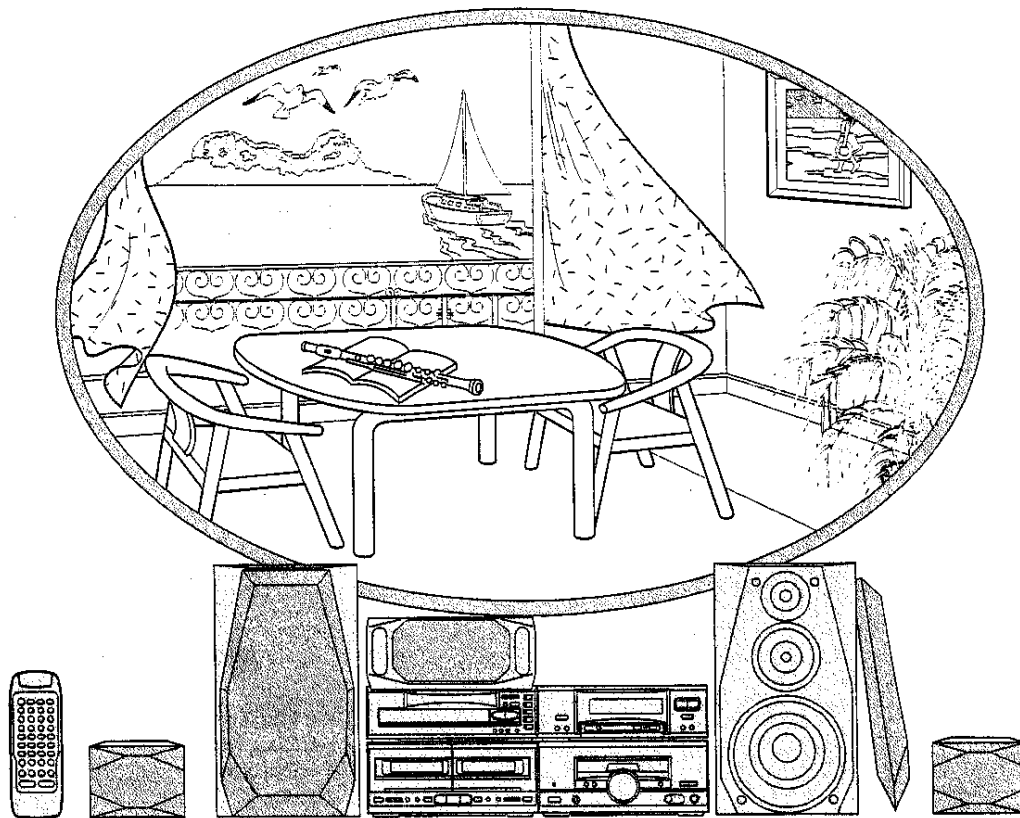


Box 4

Technics[®]

System Component SC-CH770

Operating Instructions



The illustrations show SC-CH770 for United Kingdom.

Note:

The "EB" indication shown on the outside packing case indicates United Kingdom.

Before connecting, operating or adjusting this product, please read these instructions completely.



EB GN

RQT3579-B

Dear customer

Thank you for purchasing this system.
For optimum performance and safety, please read these instructions carefully.

These operating instructions are applicable to the following systems.

System		SC-CH770
Tuner/sound processor		ST-CH770
Amplifier		SE-CH770
CD changer		SL-CH770
Cassette deck		RS-CH770
Speakers	Front	SB-CH770
	Center	SB-PC10
	Surround	SB-PS10

CAUTION!

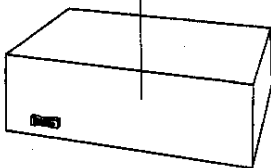
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION!

DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT IN CABINET OR IN ANOTHER CONFINED SPACE IN ORDER TO KEEP WELL VENTILATED CONDITION. ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION CONDITION TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING.



(Back of product)



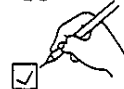
CD changer

DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.	(inside of product)
ADVVARSEL	USYMLIG LASERSTRÅLING VED ÅBNING. UNØYDELSIGT SIKKERHEDSOPRYDDEDE ER UDDE AF FUNKTION. UNØYDELSIGT UDSETTELSE FOR STRÅLING.	(Indersiden af apparatet)
VAROI	AVATTAESSA JA SUOJALUKUTUS ON TETTTAESSA OLET ALTTIINA NÄKYMÄTÖNTÄ LASERSÄTELYLLE. ÄLÄ KATSO SÄTTESEN.	(Tuotteen sisällä)
VARNING	OSYMLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN.	(Apparatens insida)
ADVVARSEL	USYMLIG LASERSTRÅLING NÄR DEKSEL ÅPNEES OG SIKKERHEDSLÅS BRYTES. UNØYDELSIGT UDSETTELSE FOR STRÅLEN.	(Produktets inside)
VORSICHT	UNSIICHTBARE LASERSTRÄHLUNG, WEIEN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.	(Im Inneren des Gerätes)

(For Australia and N.Z.)

THIS MUSIC SYSTEM IS CAPABLE OF RECEIVING THE NEW AM STEREO BROADCASTS FROM THE AM BAND RADIO STATIONS. HOWEVER LIKE MANY MUSIC SYSTEM CURRENTLY AVAILABLE ON THE MARKET IT WILL REPRODUCE THIS AM STEREO SIGNAL ONLY IN AM MONO, WHICH, IN EFFECT, IS OF NO LESSER QUALITY THAN YOUR EXISTING AM MONO MUSIC SYSTEM.

Supplied accessories



Please check and identify the supplied accessories.

- AC power supply cord 1 pc.
For United Kingdom (RJA0049-K) For Australia and N.Z. (RJA0036-K)



- Flat cable (long) (REX0661) 1 pc.



- Flat cable (middle) (REX0660) 1 pc.



- Flat cable (short) (REX0608) 1 pc.



- Remote control transmitter 1 pc.
(RAK-CH202WH)



- Remote control batteries 2 pcs.



- FM indoor antenna 1 pc.
For United Kingdom (RSA0007) For Australia and N.Z. (RSA0006)



- AM loop antenna set (RSA0012)
• AM loop antenna 1 pc.
• Antenna holder 1 pc.
• Screw 1 pc.



- Speaker cords (REE0393) 2 pcs.



- Antenna plug adaptor (SJP9009) 1 pc.
(United Kingdom only)



Use numbers indicated in parentheses when asking for replacement parts.

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Caution for AC mains lead

(For United Kingdom)



("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

IMPORTANT


The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

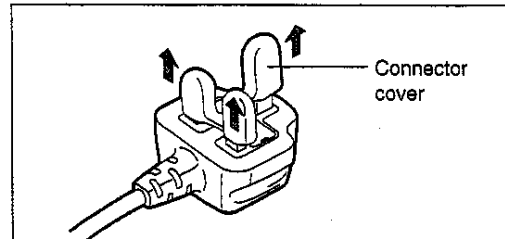
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol .

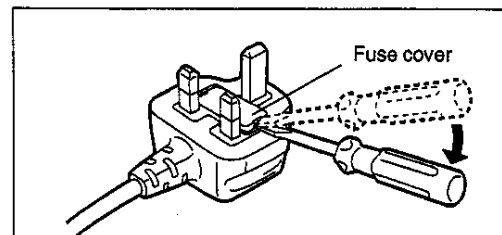
Before use

Remove the connector cover as follows.

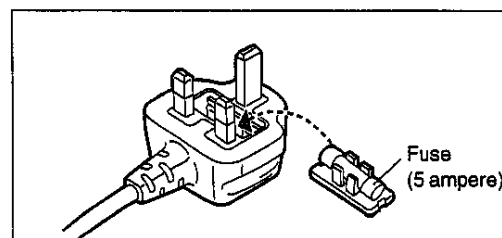


How to replace the fuse

1. Remove the fuse cover with a screwdriver.



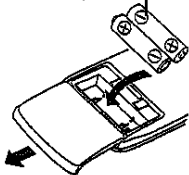
2. Replace the fuse and attach the fuse cover.



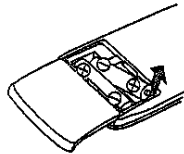
Preparing for the remote control

Battery installation

Insert the batteries in the correct polarities (⊕, ⊖).



To remove the batteries, pull out the ⊕ side.



Use of batteries

- Do not mix old and new batteries, or batteries of different types (manganese and alkaline, etc.).
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote control is not to be used for a long period of time, remove the batteries and store them in a cool, dark place.
- Do not attempt to recharge alkaline or manganese batteries.
- Do not use rechargeable type batteries.

Battery life

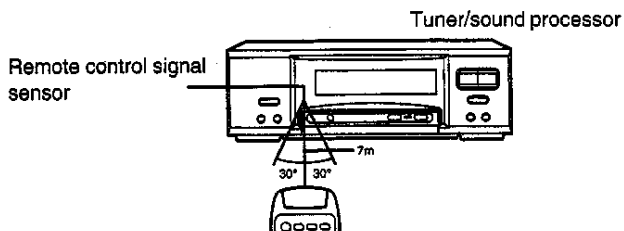
The battery life is about one year.

The batteries should be replaced if commands from the remote control transmitter do not operate the unit even when the transmitter is held close to the front panel.

When you need to replace these batteries

Use two R03/LR03 (AAA SIZE, UM-4) or equivalent batteries.

Correct method of use



Operation notes

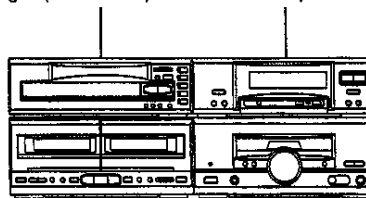
- Aim the remote control's transmission window toward the unit's sensor. Avoid any obstacles.
- The maximum distance is within 7 meters directly facing toward the remote control signal sensor.
- Be sure the transmission window and the unit's sensor are free from dust. Excessive dust might affect its performance.
- The operation may not be correct if direct sunlight or other strong light source strikes the receiving sensor of this unit. If there is a problem, place the unit away from the light source.
- If this system is installed in a rack with glass doors, the glass doors' thickness or color might make it necessary to use the remote control a shorter distance from the system.
- Never place heavy items.
- Do not disassemble or reconstruct.
- Do not spill water or other liquids.

Installation

Stacking the components

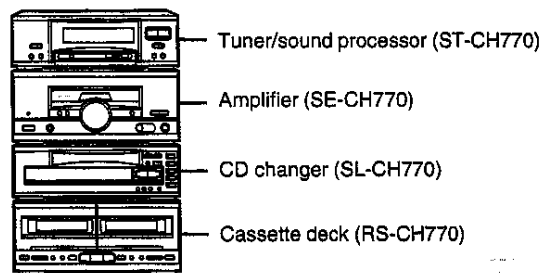
Horizontal stacking

CD changer (SL-CH770) Tuner/sound processor (ST-CH770)



Cassette deck (RS-CH770) Amplifier (SE-CH770)

Vertical stacking

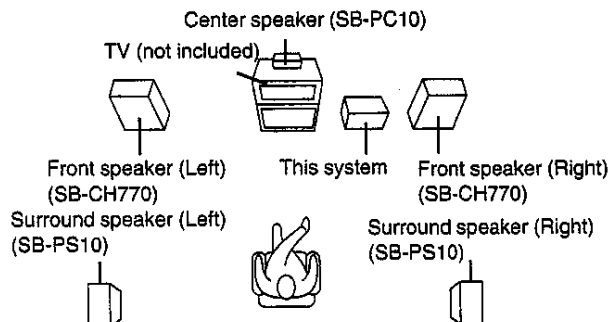


Placement of speakers

As well as enjoying normal stereo reproduction with the left and right front speakers, a center speaker and surround speakers can also be connected to the unit in order to enjoy the sound performance of DOLBY PRO LOGIC Systems.

We recommend that surround speakers be placed on the side of or slightly behind the listener, and about one meter higher than ear level.

However the position should be adjusted to your personal preference, because the effect varies to some degree depending upon the type of music and the music source.



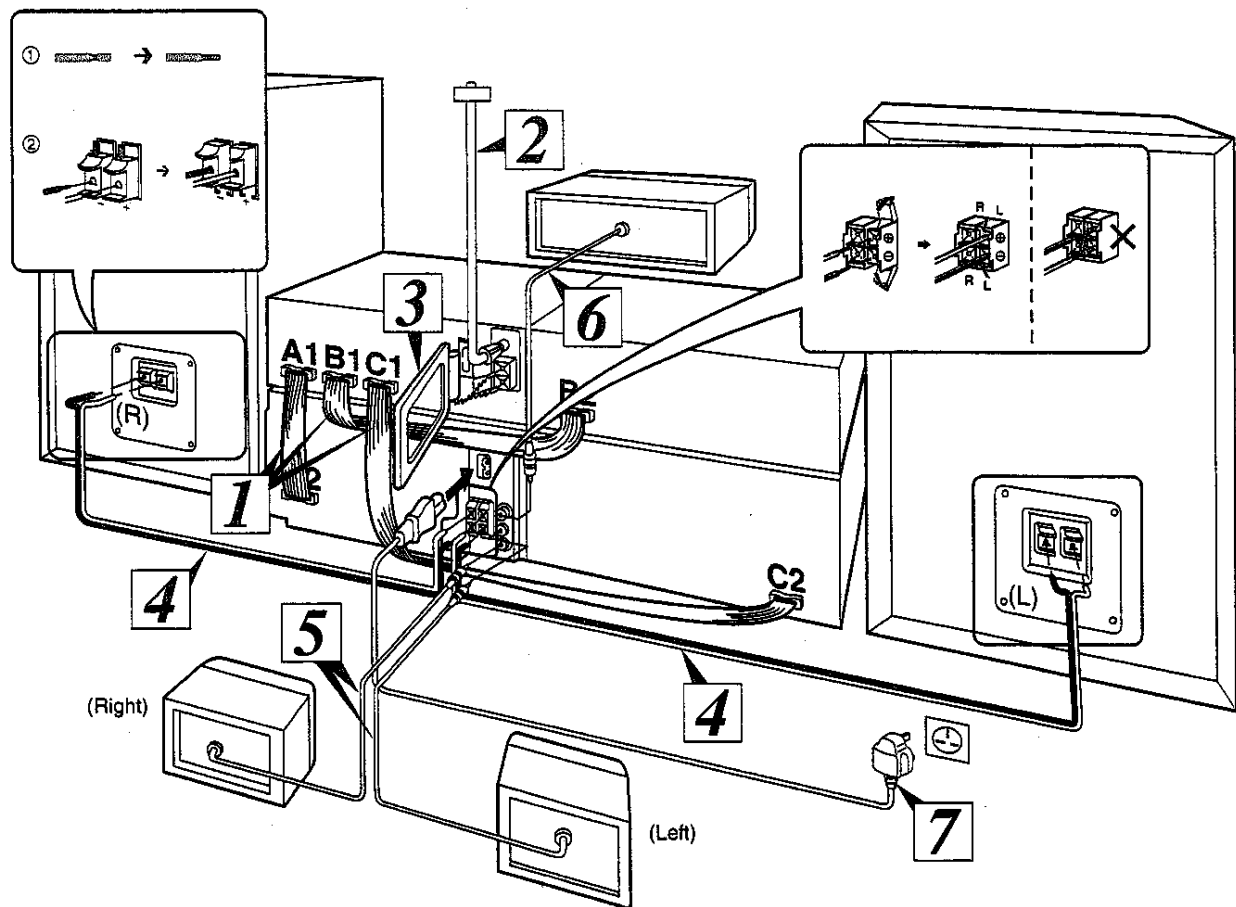
Caution

Use these speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speaker, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.

Connections

For Australia and N.Z.

The configuration of AC mains lead and FM antenna terminal are different.



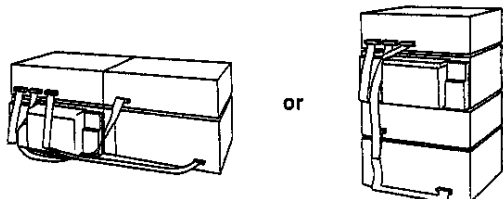
Connect the AC mains lead after you have connected all other cables.

1 Connect the flat cables.

Hold the connector with the recessed part up and press in at the center until you hear a click.

1. Connect the shorter flat cable to the terminal of the A1 and A2.
2. Connect the longer flat cable to the terminal of the B1 and B2.
3. Connect the longest flat cable to the terminal of the C1 and C2.

To disconnect the flat cable, hold the connector, and pull it out.



After connection, fold and press the cable as flat to the back of the unit as possible. [To minimize noise pickup while listening to an MW/LW (For Australia and N.Z.: AM) broadcast]

Do not try connecting or disconnecting the flat cables while the power is switched to ON.

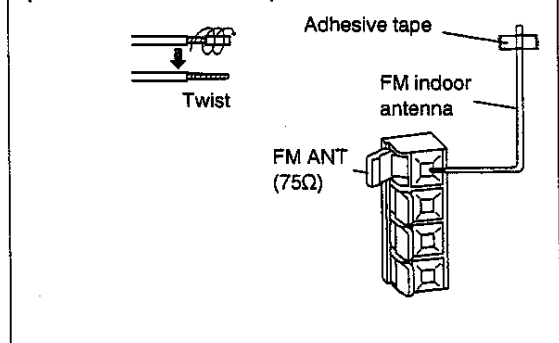
2 Connect the FM indoor antenna.

Note

When you cannot get a good reception of FM radio broadcast:

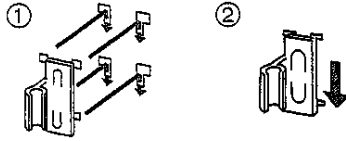
- Install the antenna on a wall at a height and in a direction which result in the best reception.
- When you cannot get a good reception with this FM indoor antenna, we recommend you install an FM outdoor antenna (not included).

(For Australia and N.Z.)



3 Connect the AM loop antenna.

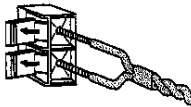
1. Attach the antenna holder to the rear panel. Press the antenna holder hard enough to get it fixed firmly in place, with a click.



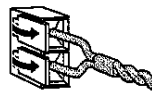
2. Strip off the outer covering.



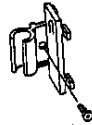
3. Insert the wire.



4. Close the lever.



5. Attach the AM loop antenna to the antenna holder. While listening to an MW/LW (or AM) broadcast, position the loop antenna for the best reception. You may attach the antenna holder to a rack or other structure. Use a screw (included) to attach as shown in the figure.



Note

To minimize noise pickup, bundle the loop antenna cord using a tape or so to keep the flat cables away from the AM loop antenna cord.

4 Connect the right (R) and left (L) front speaker cables.

Notes

- To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.
- Be sure to connect only positive (red) wires to positive (+) terminals and negative (black) wires to negative (-) terminals.

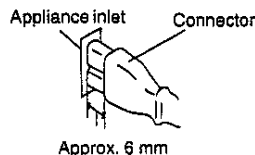
5 Connect the surround speaker cables.

6 Connect the center speaker cable.

(United Kingdom only)
BE SURE TO READ THE CAUTION FOR AC MAINS LEAD ON PAGE 4 BEFORE PROCEEDING TO STEP 7.

Connect the AC mains lead. Insertion of Connector (United Kingdom only)

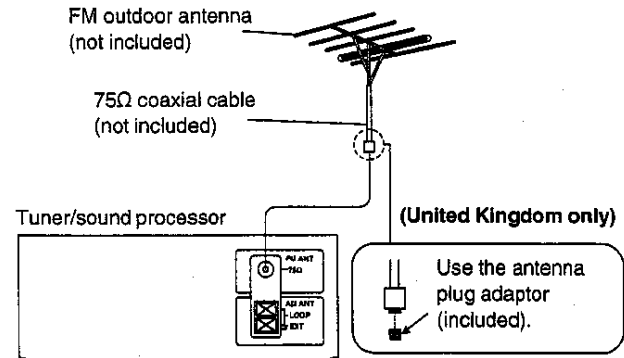
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing. However there is no problem using the unit.



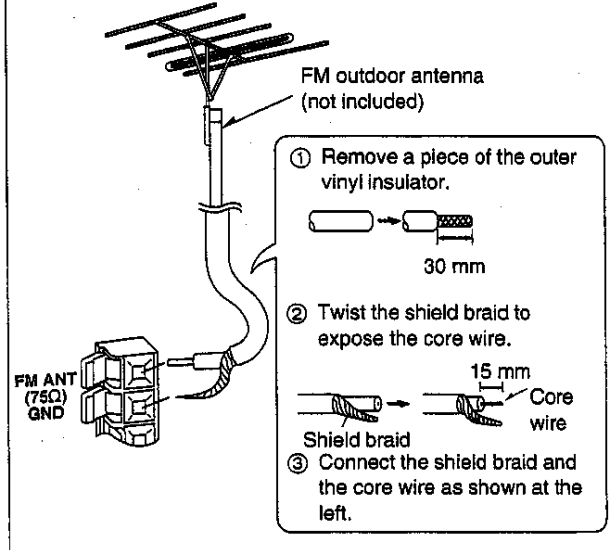
Optional antenna connections

FM outdoor antenna (not included)

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc. An outdoor antenna should be installed by a competent technician only.



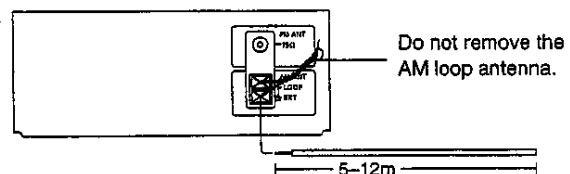
(For Australia and N.Z.)



AM outdoor antenna (not included)

An outdoor antenna may be required in a mountainous region, or if this system is located inside a reinforced-concrete building, etc.

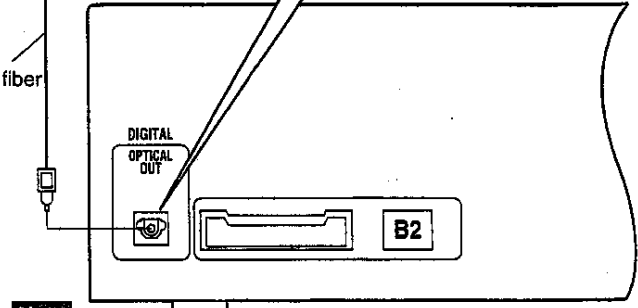
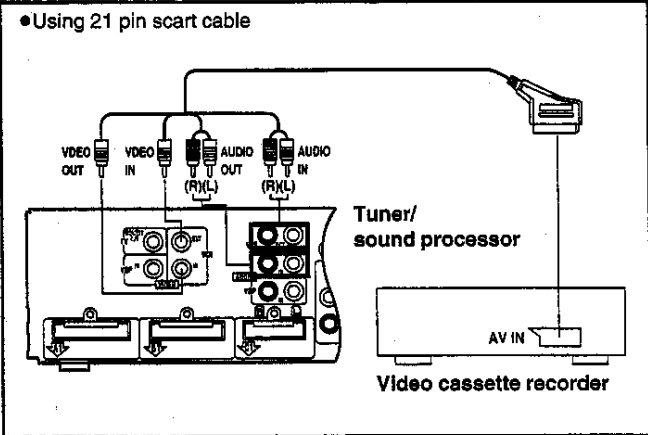
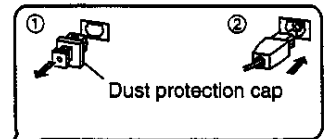
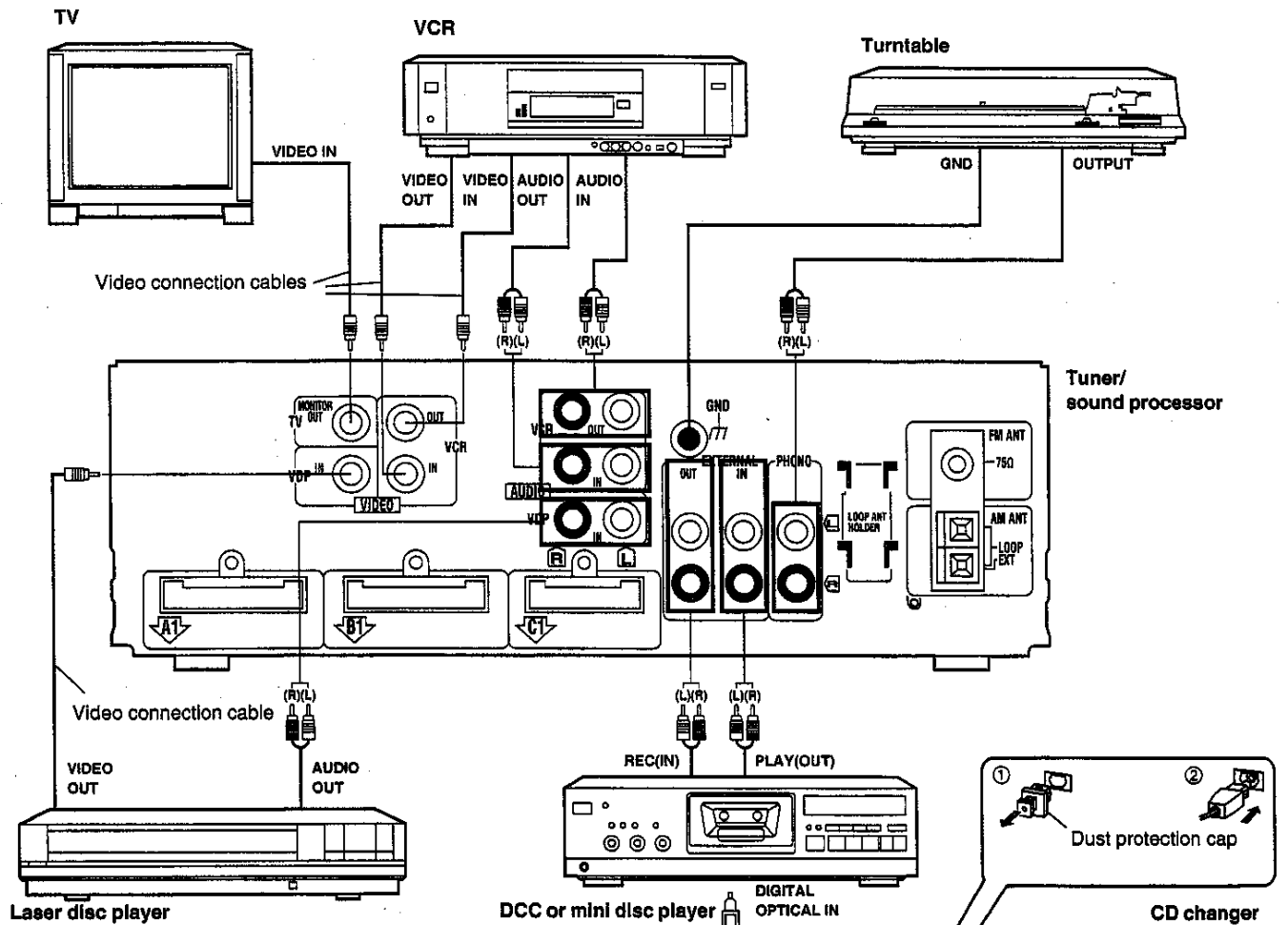
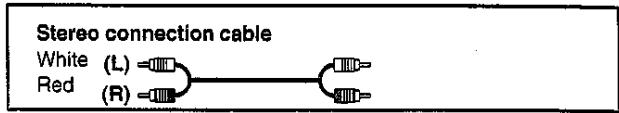
Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.



Connections

External unit connections

- Make sure that the power supply for all components has been turned off before making any connections.
- For details, refer to the operating instructions of the units which are to be connected.
- All peripheral components and cables are sold separately.

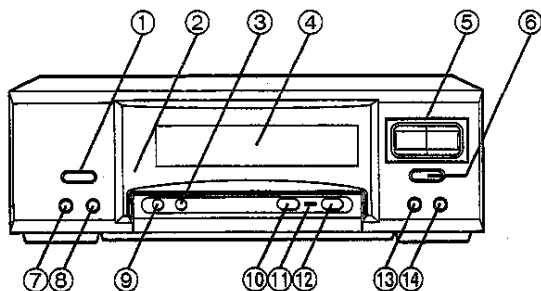
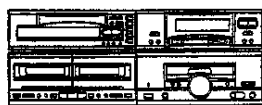


Note

- Never force the optical fiber cables to bend excessively.
- Store the dust protection cap securely, and replace it whenever cables are not connected to the terminals.

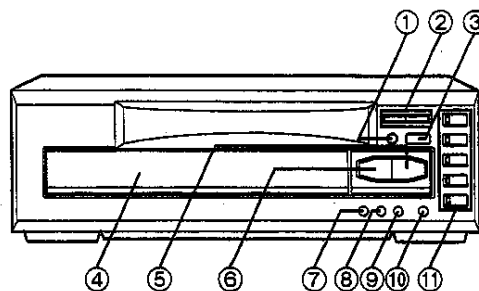
Front panel controls

Tuner section



No.	Name	Ref. page
①	Source input select button (SELECTOR)	37
②	Remote control signal sensor (SENSOR)	5
③	Karaoke button (KARAOKE)	31
④	Display	
⑤	Tuning/timer select button (TUNING/TIMER)	11
⑥	Set button (SET)	11
⑦	Record timer button (⊙ REC)	35
⑧	Play timer button (⊙ PLAY)	33
⑨	(Australia and N.Z. only) Echo button (ECHO)	31
⑩	FM/FM mode select button (FM, -AUTO/MONO)	14
⑪	Tuner Indicator (TUNER)	
⑫	(For United Kingdom) LW/MW select button (LW/MW) (For Australia and N.Z.) AM select button (AM)	12 12
⑬	Tuning mode select button (TUNING MODE)	12
⑭	Clock/timer button (CLOCK/TIMER)	11

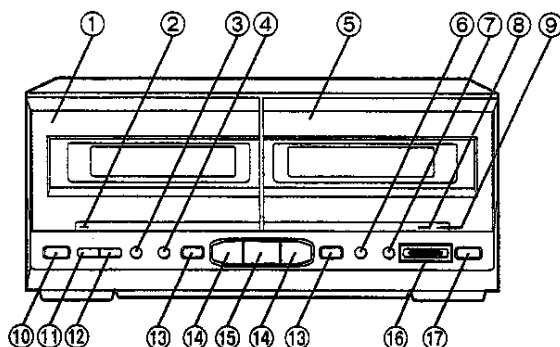
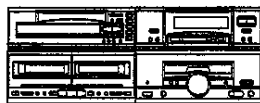
CD changer section



No.	Name	Ref. page
①	Pause button ()	16
②	Skip/search buttons (SKIP/SEARCH)	16
③	Disc tray open/close button (▲ OPEN/CLOSE)	15
④	Disc tray	15
⑤	Play button and indicator (▷)	16
⑥	Stop button (□)	16
⑦	Random play button (RANDOM)	17
⑧	Repeat button (REPEAT)	16
⑨	AI edit button (AI EDIT)	28
⑩	Disc check button (DISC CHECK)	15
⑪	Disc select buttons and indicators (DISC)	15

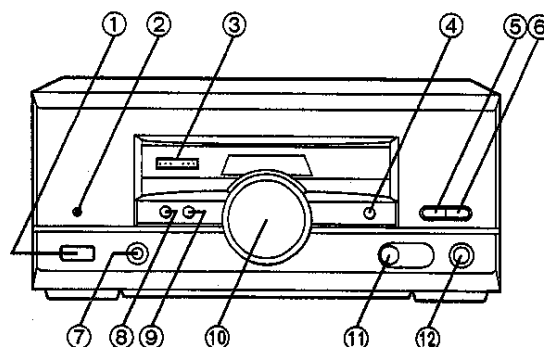
Front panel controls

Cassette deck section



No.	Name	Ref. page
①	Deck 1 cassette holder	19
②	Deck 1 Indicator (DECK 1)	20
③	Deck 1/deck 2 select button (DECK 1/2)	20
④	Reverse mode select button (REV MODE)	19
⑤	Deck 2 cassette holder	25
⑥	Dolby noise reduction button (DOLBY NR)	25
⑦	Record pause button (● REC PAUSE)	25
⑧	Record pause indicator (REC PAUSE)	25
⑨	Deck 2 Indicator (DECK 2)	20
⑩	Deck 1 cassette holder open button (▲ OPEN)	19
⑪	Counter reset button (RESET)	19
⑫	Counter display button (DISPLAY)	25
⑬	Fast forward/rewind/tape program sensor buttons (◀◀, ▶▶)	20
⑭	Playback buttons and indicators (◀, ▶)	19
⑮	Stop button (□)	19
⑯	Tape edit buttons (TAPE EDIT, NOR, HIGH)	30
⑰	Deck 2 cassette holder open button (▲ OPEN)	25

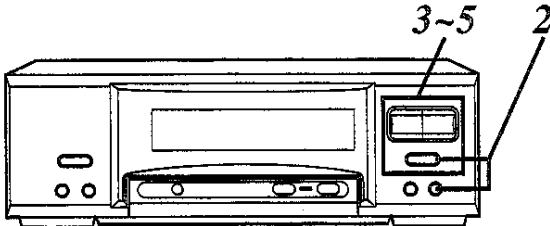
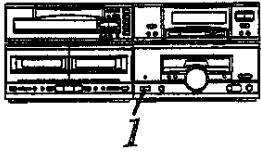
Amplifier section



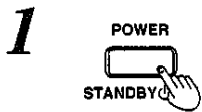
No.	Name	Ref. page
①	Power "STANDBY ⏻/ON" switch (POWER, STANDBY ⏻/ON)	11
	Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.	
②	Standby indicator (STANDBY)	11
	When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.	
③	Dolby Pro Logic indicators (SURROUND, 3 STEREO)	—
④	Center mode select button (CENTER MODE)	21
⑤	EQ SPACE/flat button (EQ SPACE/FLAT)	23
⑥	V. bass button (V. BASS)	23
⑦	Headphones jack (PHONES)	37
⑧	DOLBY PRO LOGIC mode select button (□□ PRO LOGIC)	21
⑨	Test signal button (TEST)	22
⑩	Volume control (VOLUME)	14
⑪	Microphone jack (MIC)	31
⑫	Microphone volume control (MIC VOL)	31

Setting the time

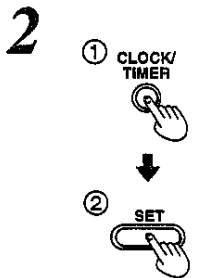
This is a 24-hours display clock.




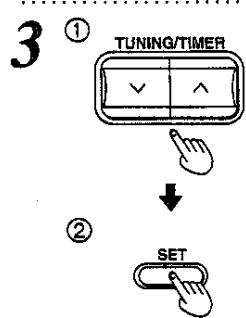
These instructions explain how to set the timer for 16:25 (4:25 p.m.) on Wednesday.

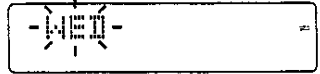


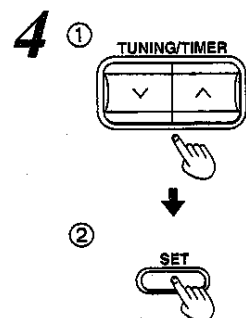
Switch on the power.
The very first time you turn ON the power or whenever you turn it ON after having unplugged and plugged the stereo in again, you will hear the sound of the tray mechanism. There is nothing wrong with your CD changer. This happens because of initial settings.

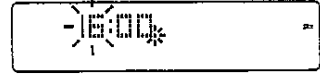


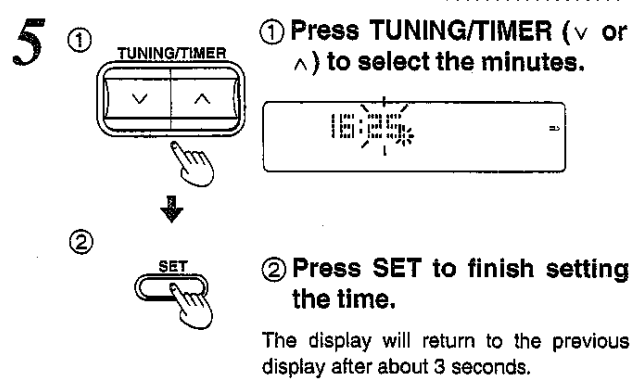
1 Press CLOCK/TIMER to show "CLOCK".

2 Press SET.
Within 8 seconds:



1 Press TUNING/TIMER (v or ^) to select the day.

2 Press SET.



1 Press TUNING/TIMER (v or ^) to select the hour.

2 Press SET.



When "SUN 0:00" flashes:
It flashes when you connect the AC power supply cord for the first time or if there has been a power failure. If this happens, reset the time.

If the minutes setting has gone wrong:

1. Press CLOCK/TIMER.
2. Press SET 3 times.
3. Press TUNING/TIMER (v or ^) to set the minute, and then press SET.

To display the clock again:
Press CLOCK/TIMER.
The clock display will appear for about 8 seconds.

For your reference:
When you turn OFF the power from the POWER button, the stereo goes on standby and the STANDBY indicator lights up.

Memory presetting

By presetting the desired broadcast stations into the memory channels of this unit, broadcast stations can be selected simply by pressing TUNING/TIMER (∨ or ∧) on the tuner/sound processor or by the remote control.

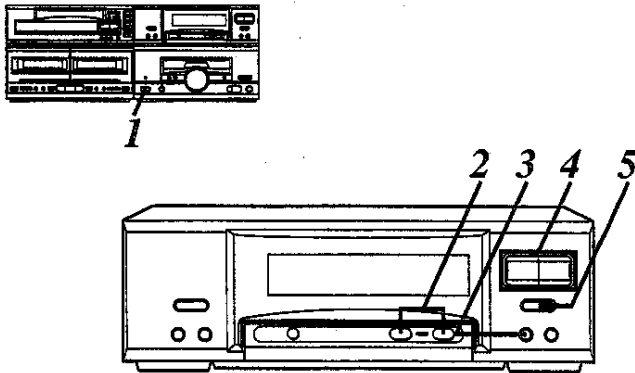
Automatic memory presetting

(For United Kingdom)

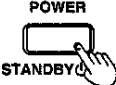
The frequencies are automatically preset (in sequence from lower to higher frequencies) into the memory: "channels" 1 to 39 are available for the presetting of FM stations, "channels" 21 to 39 are available for MW stations and "channels" 31 to 39 are available for LW stations.

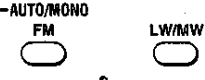
(For Australia and N.Z.)

The frequencies are automatically preset (in sequence from lower to higher frequencies) into the memory: "channels" 1 to 39 are available for the presetting of FM stations, "channels" 21 to 39 are available for AM stations

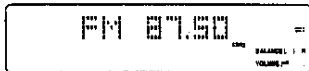



This example in the figure shows how to preset FM stations.

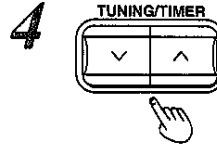
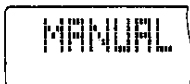
1  Switch on the power.

2  (For United Kingdom) Press FM or LW/MW to select the desired band. Each time you press LW/MW, "MW" and "LW" will appear alternately.

(For Australia and N.Z.) Press FM or AM to select the desired band.



3  Press TUNING MODE to select "MANUAL". Each time you press this button, "MANUAL" and "PRESET" will appear alternately.



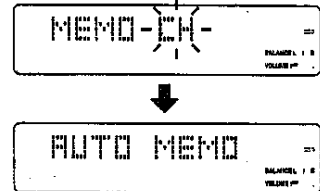
Press and hold TUNING/TIMER (∨ or ∧) until the display shows the frequency from which you want to begin automatic memory presetting.

Press TUNING/TIMER (∨ or ∧) momentarily to stop changing frequencies when the displayed frequency approaches the lowest frequency. Tap TUNING/TIMER (∨ or ∧) a few times until the lowest frequency is reached.



Press and hold SET and the automatic memory presetting will begin.

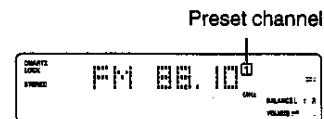
Keep SET depressed until "AUTO MEMORY" will be displayed, then release the button.



After completing the automatic memory presetting, the display shows "SET OK" and the last preset channel and frequency.

To confirm the preset stations:

1. Press TUNING MODE to select "PRESET".
2. Press TUNING/TIMER (∨ or ∧).



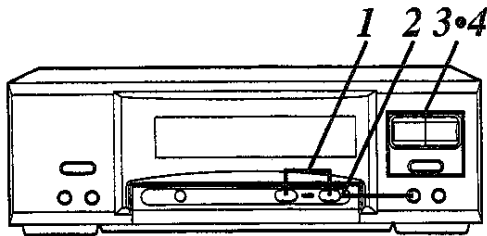
When "ERROR" appears:

Automatic memory presetting does not work when radio waves from the broadcasting station are too strong or too weak. In such case, carry out presetting manually.

Note

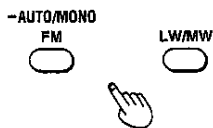
When you preset a broadcast station to a channel that has already been preset, the previous presetting will be erased. So if, for example, FM frequencies are preset from channel 1 to 39 and then MW (or AM) frequencies are preset, the first MW (or AM) frequency will be preset to channel 21 (thus erasing the FM presetting to channel 21), the second MW (or AM) frequency will be preset to 22 (erasing FM 22), and so on.

Manual memory presetting



This example in the figure shows how to memorize FM 88.10 MHz into preset channel 1.

1



(For United Kingdom)
Press FM or LW/MW to select the desired band.

Each time you press LW/MW, "MW" and "LW" will appear alternately.

(For Australia and N.Z.)
Press FM or AM to select the desired band.

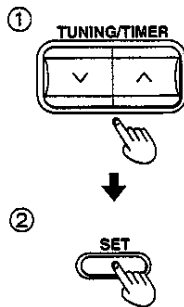
2



Press TUNING MODE to select "MANUAL".

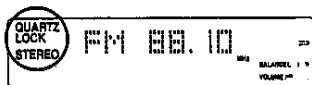
Each time you press this button, "MANUAL" and "PRESET" will appear alternately.

3



① Press TUNING/TIMER (v or ^) to tune in the desired broadcast.

"STEREO" lights when an FM stereo broadcast is being received. "QUARTZ LOCK" lights when you precisely tune in a broadcast station.



Automatic scanning:

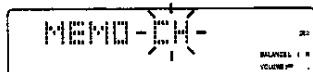
Press and hold TUNING/TIMER (v or ^) until the displayed frequency begins to change.

- The changing of the displayed frequency will automatically stop if a broadcast station frequency is located during the tuning process.
- When there is excessive interference, the automatic scanning may not function.

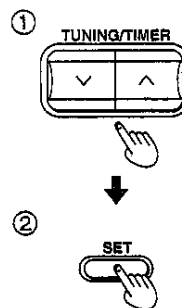
To cancel the automatic scanning, press TUNING/TIMER (v or ^) once again.

② Press SET momentarily.

"MEMO" will light and "CH" flashes.



4



① Press TUNING/TIMER (v or ^) to select the desired preset channel.

② Press SET momentarily. "CH" lights and the display returns to the frequency after about two seconds.



To continue presetting:

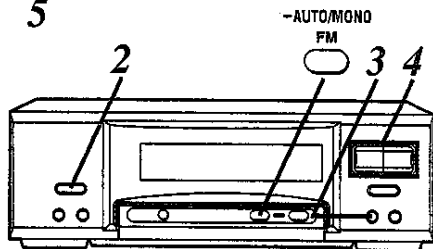
Repeat steps 1 through 4.

To preset FM stations in monaural position:

1. Select the desired frequency.
2. Press and hold FM -AUTO/MONO for 2 seconds. "MONO" will light.
3. Follow steps 3-② and 4 above.

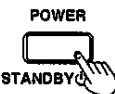

Listening to radio broadcasts


Preset tuning



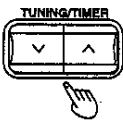
Preparation

Before tuning, memorize a radio station (see pages 12–13).

- 1**  **Switch on the power.**
- 2**  **Press SELECTOR to select "TUNER".**

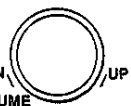
TUNER
- 3**  **Press TUNING MODE to select "PRESET".**

Each time you press this button, "MANUAL" and "PRESET" will appear alternately.

PRESET
- 4**  **Press TUNING/TIMER (∨ or ∧) to select the desired channel.**

CH 1

↓

FM 88.10
- 5**  **Adjust the volume level as you like.**

VOL 48dB

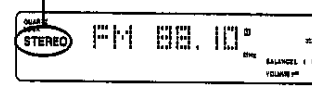
When the FM stereo broadcast is received:

This unit will automatically switch to FM stereo reception and the "STEREO" indicator will light up.

Note

When the FM station is preset to "MONO", the "STEREO" indicator will not light up even if a stereo broadcast is being received.

Lights up



Switching the mode from stereo to monaural while listening to an FM station:

Press and hold FM -AUTO/MONO for 2 seconds.

The sound reception mode switches to "MONO" (monaural) and "MONO" lights.

To cancel the "MONO" mode, press the button again, holding it down for about two seconds or more.

When "MONO" indicator lights up:

Use this setting when listening to or recording in monaural. All sound reception including stereo sound is in monaural.

When "MONO" indicator goes off:

Use this setting for normal listening. Both stereo and monaural sounds can be heard as they are.

For your reference

If the broadcast signal is weak, or if there is a large amount of interference, you will get a clearer sound in "MONO" mode.

If you change frequencies in the "MONO" mode, the "MONO" mode will be cancelled.

For your reference:

Even if the power is switched to the standby or the power cord is disconnected from the household AC outlet, the memory will retain its contents for approximately 2 weeks.

For tuning by remote control

Specify the channel you want with the numeric keys (see page 39).

To designate channels 1–9

Press the appropriate (1–9) preset-tuning button.

To designate channels 10–39

(Example: Channel 12)

≥10 → 1 → 2
(within 10 sec.) (within 10 sec.)

Sequential tuning

If the desired broadcast stations are not preset, use TUNING/TIMER (∨ or ∧) to search for them.

1 (For United Kingdom)

Press FM or LW/MW to select the desired band.

Each time you press LW/MW, "MW" and "LW" will appear alternately.

(For Australia and N.Z.)

Press FM or AM to select the desired band.

2 Press TUNING MODE to select "MANUAL".

Each time you press this button, "MANUAL" and "PRESET" will appear alternately.

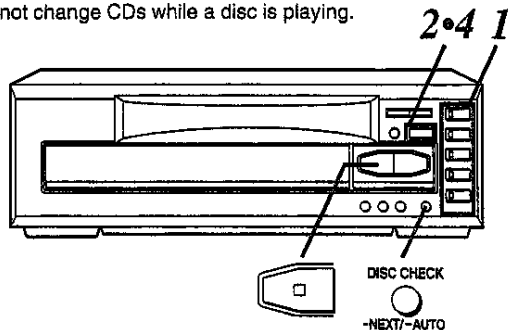
3 Press TUNING/TIMER (∨ or ∧) to tune in the desired broadcast station.

4 Adjust the volume level as you like.

Listening to compact discs

Loading and checking CDs

Always stop the changer before loading or changing CDs. You cannot change CDs while a disc is playing.



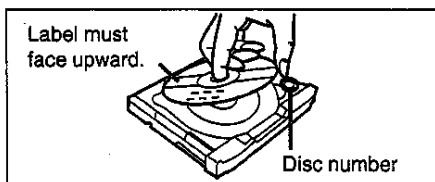
How to load CDs

1 Press DISC 1-5, whichever you want to open.

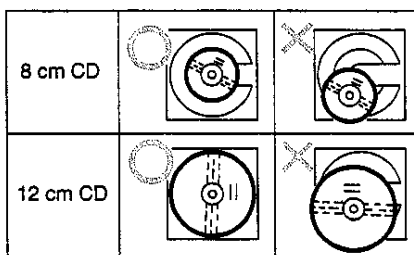
2 Press \blacktriangle OPEN/CLOSE.

3 Set the CD in the tray.

•How to hold CDs



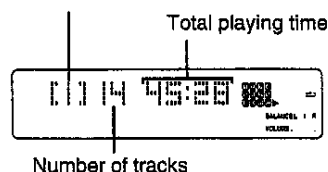
•Load CDs as shown below.



4 Press \blacktriangle OPEN/CLOSE.

The open tray will close.

Disc number



Number of tracks

5 To load other CDs, repeat steps 1 through 4.

For your reference:

If the tray you want to open is already shown on the display, you obviously do not need to perform step 1.

How to check which trays have discs

DISC CHECK is a convenient way to know what discs you have in your changer and where.

Press DISC CHECK (-NEXT).

Not the disc number shown on the display, but the next tray after that will open. For example, when disc 4 is displayed, tray 5 will open.

- Every time you press the button, the next tray opens.
- You can change the CD while the tray is open.
- To close the tray, press \blacktriangle OPEN/CLOSE.

Hold down DISC CHECK (-AUTO).

The trays will open (and close) automatically one after another. The first one to open will be the next tray after the disc number shown on the display. This way, you can check all trays in a row.

- To stop the auto check in course, press \square .

Note

Do not attempt to change CDs while trays are opening and closing in the auto check.

Disc indicators

When you open or close a tray with the \blacktriangle OPEN/CLOSE button, the changer automatically detects whether there is a CD in the tray or not. The indicator will act as follows.

\blacksquare (orange)	There's a CD in the tray.
Out	There isn't a CD in the tray.

While the CD is playing, its indicator is green.

Note

In the following cases, CD detection is OFF. The indicators will be orange whether there is a disc in the tray or not.

- When the tray is closed with DISC CHECK
- When the tray is closed with DISC 1-5
- When the tray is closed by selecting a mode other than CD

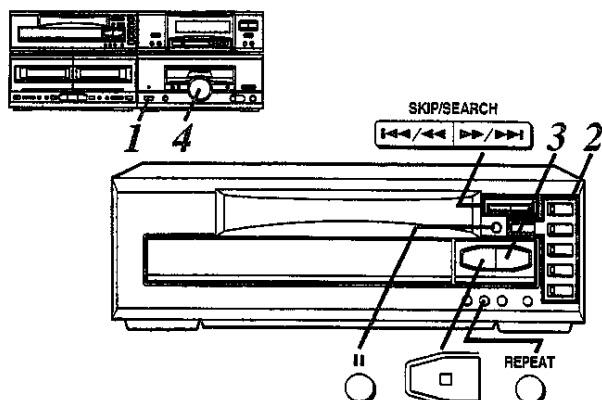
For your reference:

While the CD changer is changing discs, the disc indicators act as follows.

- All the indicators the changer skips through will flash.
- The indicator of the selected disc (or last disc in auto DISC CHECK) will light up.

Listening to compact discs

Sequential play



1 **POWER**
Switch on the power.
 STANDBY

2 **OPEN/CLOSE**
Insert CDs in the trays.
 (For details, see page 15.)
 When the "CD" input source is selected, disc number, total number of tracks, and total playing time will appear on the display.
 When there are 13 or more tracks on the CD, ">" will appear.
 Disc number
 Total playing time
 Total number of tracks

Note
 The total playing time displayed when a disc is loaded includes intervals between tracks. This is why sometimes the displayed time is longer than that listed on the CD.

3 **SKIP/SEARCH**
Press >. Elapsed play time
 The changer will automatically play all tracks on all discs. It will start from the first track on the disc shown on the display, and will continue until playing the last track of the final disc (see below).

4 **VOLUME**
Adjust the volume level as you like.
 DOWN UP

To stop the disc play:
 Press □.

To temporarily stop the disc play:
 Press ■■ button. > indicator flashes up green.
 To play again, press >.

What is meant by "final disc"?:

For example, if play starts from disc 4, disc 3 will be the "final disc".

Order of progression:

Disc 4 → 5 → 1 → 2 → 3

When "NO DISC" display appears:

It indicates that the disc tray now shown on the display is empty.

About > indicator:

While halted: Lights up orange.

While playing: Lights up green.

For your reference:

If you press > instead of ▲ OPEN/CLOSE after inserting a CD, the tray will close and play will start directly from the track 1.

Skip function

Available only from the main unit

Press either <<</>>> or >>>/<<<.

>>>/>>>: To skip forward

You can skip as many tracks as the number of times you press the button.

<<</<<<: To skip backward

You can skip to the beginning of the track being played. If you press the button again quickly, you can skip to the beginning of the previous track.

For your reference:

- In random play mode (See page 17), you cannot skip to the previous track.

- In program play mode (See page 18), you can skip only the programmed tracks.

Search function

Available only from the main unit

While in play mode, press and hold either <<</>>> or >>>/<<<.

Release the button when you have reached the desired point.

>>>/>>>: To search forward

<<</<<<: To search backward

For your reference:

During random play and program play, search will take place within the track being played. (See pages 17 and 18.)

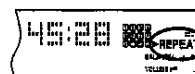
Repeat function

Available only from the main unit

This function repeats the play of all tracks.

Press REPEAT before or during play.

"REPEAT" will light.



To cancel repeat play:

Press REPEAT once again.

"REPEAT" will go out.

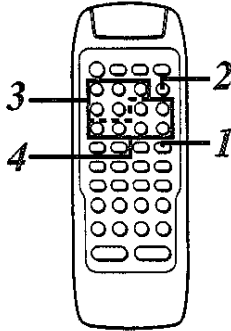
For your reference:



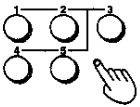
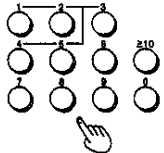
In program play mode (See page 18), the CD changer will repeat only the programmed tracks. You can enjoy the same track over and over by programming only one track.

Direct access play

by remote control only

Direct access allows you to start sequential play from a specific track to the last track on the final disc.



- 1**  **Press CD.**
- 2**  **Press DISC.**
- 3**  **(within 10 seconds or so)
Press DISC 1–5, whichever disc you want.**
If wanting to listen to the disc from the first track, there is no need to perform step 4.
- 4**  **Press the numeric button to select the desired track number.**
Play will start with the track you select.

To select a two-digit track:

Press ≥ 10 and then the two numbers you want within 10 seconds or so.

For example:

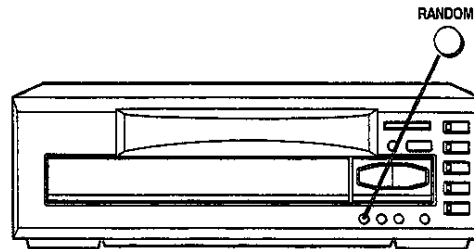
Track no. 20: $\geq 10 \rightarrow 2 \rightarrow 0$

Track no. 35: $\geq 10 \rightarrow 3 \rightarrow 5$

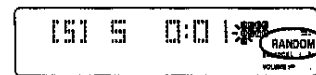
Random play

Available only from the main unit

In random play, the changer randomly selects the tracks. It will play each track once until all tracks on all the loaded discs have been played, and will then stop automatically.



- Press RANDOM.**
"RANDOM" will light, and then random play will start.
Play will stop automatically when all tracks on all of the discs finish playing randomly.



To cancel random play:

Press RANDOM once again.

"RANDOM" will go out. The CD changer resumes the sequential play mode.

For your reference:

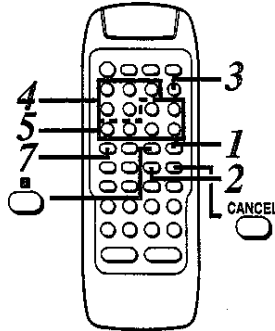
In the program play mode (See page 18), the programmed tracks will be played randomly.

Listening to compact discs

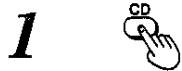
Program play

by remote control only

This function allows you to program up to 24 tracks.



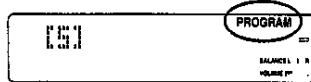
This example shows how to program track 8 from disc 2 and track 3 from disc 5.



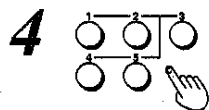
Press CD.



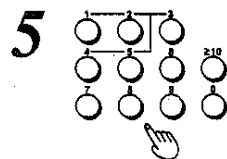
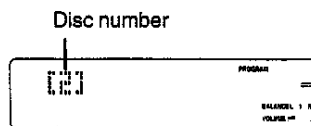
Press PROGRAM.
"PROGRAM" will light.



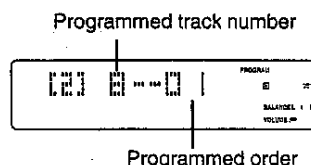
Press DISC.



(within 10 seconds or so)
Press DISC 1-5, whichever disc you want.



Press the numeric button to select the track you want to play in the desired sequence.



To select a two-digit track:

Press ≥ 10 and then the two numbers you want.

For example:

Track no. 20: $\geq 10 \rightarrow 2 \rightarrow 0$

Track no. 35: $\geq 10 \rightarrow 3 \rightarrow 5$

6

Repeat steps 3 through 5 until you have programmed all the tracks you want.

7



Press ►.

Play will start in the programmed sequence.

When all the programmed tracks have been played, the changer will stop automatically.

When "FULL" appears:

The number of programmed tracks is limited to 24. No further tracks can be programmed.

When "--:--" appears:

The total playing time of the programmed tracks has exceeded 99 minutes 59 seconds, or you tried programming track number 25 or more, or you tried programming a disc not in playing position. In any case, you can still program and play discs.

To check programmed tracks:

1. Press CANCEL.
"CANCEL" lights.



2. Press \lll or \ggg on the CD changer.
The programmed track number and programmed order will be displayed each time one of the buttons is pressed.
3. Press \lll or \ggg on the CD changer. After "--:--" or the time appears on the display, press CANCEL.
"CANCEL" goes out.

To clear a programmed track one by one:

(Using the numeric button)

1. Press CANCEL.
"CANCEL" lights.
2. Press DISC.
3. (Within 10 seconds)
Press the disc button (1-5) to select the desired disc number.
4. Press the numeric button of the track you want to cancel.
The track you specified will be canceled.
5. Repeat steps 2-4 to finish cancelling track.
6. Press CANCEL.
"CANCEL" goes out.

(Using \lll or \ggg on the CD changer)

1. Press CANCEL on the remote control.
"CANCEL" lights.
2. Press \lll or \ggg on the CD changer repeatedly until the display shows the track number you want to cancel.
3. (Within 10 seconds)
Press CANCEL.
The track you specified will be canceled.
4. Repeat steps 2 and 3 to finish cancelling track.
5. Press CANCEL.
"CANCEL" goes out.

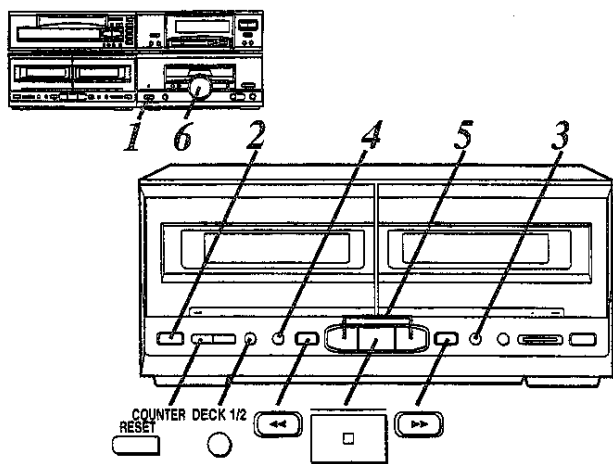
To clear all tracks:

Press PROGRAM.

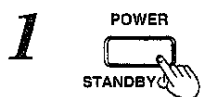
"CLEAR" will appear on the display for approximately 1 second. Even while play is stopped, pressing \blacksquare will clear all tracks.

Listening to tapes

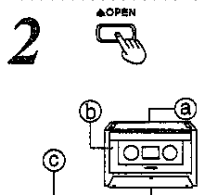
Playback



- Both deck 1 and 2 can be used to playback tapes.
- This page shows an example using deck 1.

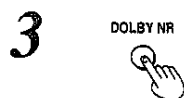


Switch on the power.

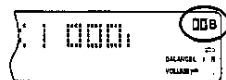


Press ▲ OPEN on deck 1, and then insert the tape.

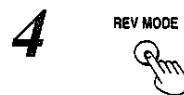
- Ⓐ Reverse side
 - Ⓑ Forward side
 - Ⓒ Tape opening facing downward
- Close the cassette holder.**



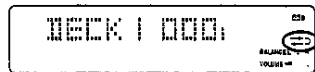
Press DOLBY NR to select ON or OFF.



"000" appears when the Dolby NR system is on.

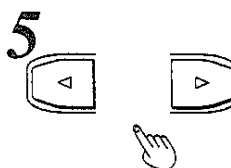


Press REV MODE to select the reverse mode.



Each time you press REV MODE, one of the indicators will appear.

- ⇌: The deck plays one side only, and then stops automatically.
 - ↔: The deck plays both sides, and then stops automatically.
 - ↔↔: The deck plays both sides 8 times, and then stops automatically.
- When you load tapes into both decks; sequential playback will be made. (See page 20.)



Press ◀ or ▶.

- ▶: The forward side will play.
- ◀: The reverse side will play.



Adjust the volume level as you like.

To stop tape playback:

Press □.

To change the deck to be used:

Press DECK 1/2 to select the deck you want to play. Deck 1 or deck 2 indicator lights up.

To reset the tape counter:

It is convenient to reset the counter when you want to memorize a certain point (For example, when you want to rewind the tape to the midway of the tune, etc.). The tape counter indicates the amount of tape travel as a numerical value based on the number of revolutions of the tape hub.

- 1 Press DECK1/2 to select the deck to be used.
- 2 Press RESET.

• When the tuner or CD mode display shows, the tape counter display will appear for about 1 second.

For your reference:

When the tape is travelling in the reverse direction, the value displayed on the tape counter will count down.

After "000_" is reached, the display will switch to "999_" and then continue counting down.

About the ◀ and ▶ indicators:

While halted, fast forwarding, or rewinding:

Lights up orange.

While playing or recording:

Lights up green.

While finding the beginning of a program or recording is on standby:

Flashes green.

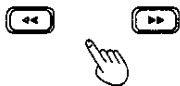
Type of tape which can be played correctly:

The unit automatically identifies the type of tape.

Normal position/TYPE I	○
High position/TYPE II	○
Metal position/TYPE IV	○

Listening to tapes

To fast forward or rewind the tape



Press ◀◀ or ▶▶ while the tape is in the stop mode.

If the forward side (▷) indicator lights:

▶▶: The tape will be fast forwarded.

◀◀: The tape will be rewound.

If the reverse side (◁) of the tape is selected:

The reverse operation will take place.

High-speed rewind/fast-forward:

The deck rewind/fast-forward the tape with high-speed when:

- The deck rewinds from around the end of the tape
 - The deck fast-forwards from around the beginning of the tape
- While the high-speed rewind/fast forward is activated, high speed rewind/fast-forward indicator flashes.

When you press ◀◀ or ▶▶ while the high-speed rewind/fast-forward is activated, the deck resumes the normal-speed rewind/fast-forward.

For your reference:

- Each decks' play direction is stored in the system's memory.
- The deck may sometimes make the high-speed rewind/fast-forward from around the midway of the tape.
- You can fast forward or rewind the tape while you are playing or recording a tape in another deck. Press DECK 1/2 to switch to the non playing deck, and then press ◀◀ or ▶▶. After above operation, be sure to press DECK 1/2 to select the deck in which you are playing a tape.

To find the beginning of a program (TPS: tape program sensor)



Press ◀◀ or ▶▶ while the tape is playing.

If the forward side (▷) is playing:

▶▶: The tape will play from the beginning of the next tune.

◀◀: The tape will rewind to the beginning of the present tune.

Then the tune will play again.

If the reverse side (◁) of the tape is playing:

The reverse operation should take place.

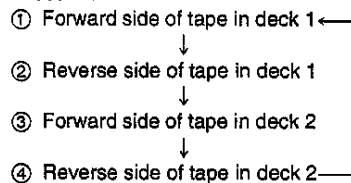
Note

TPS is the function that searches for the silent passage in a tape program. So, it may sometimes fail to operate correctly in the following situations:

- When there is no blank space between tape programs (for example, a tape recorded from a microphone)
- When the interval between programs is less than 4 seconds
- When there is a particular low-level passage in a program (for example, classical music)
- When the program is less than 10 seconds, or when it is less than 10 seconds from the listening point to the beginning of the next tune
- When a tape recorded with fade-ins or fade-outs

Series playback among 2 tapes

- 1 Press ▲ OPEN on decks 1 and 2, and then insert the tapes. Load with the side that you wish to listen to first facing you in deck 1. Close each deck's cassette holder.
- 2 Press DOLBY NR to select ON or OFF.
- 3 Press REV MODE to select "C↔▷" mode.
- 4 Press DECK 1/2 to select deck 1. The deck 1 indicator will light up.
- 5 Press ▷.



- After repeating above operation 8 times, the tape will automatically stop.
- You can also start playback from a position other than the forward side in deck 1 (①). In this case, too, the deck counts 1 time after finishes playback of the reverse side of tape in deck 2 (④).

To stop tape playback:

Press □.

For your reference:

You cannot select Dolby NR for deck 1 and 2 respectively. We recommend you use tapes of the same type (Dolby noise reduction).

About priority of the deck:

When you load tapes in both decks, deck 1 or 2 indicator will light to show which deck you loaded last.

If tapes are loaded in both decks when you switch on the power, the deck 1 indicator will light.

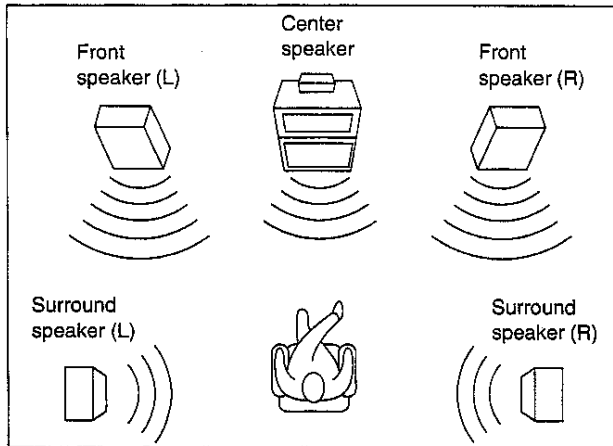
Enjoying sound with DOLBY PRO LOGIC

By combining front, center and surround speakers, you can enjoy the SURROUND mode which conveys a feeling of presence or the 3 STEREO mode which conveys a feeling of orientation.

SURROUND

By reproducing the feeling of depth and movement of sound, video software or compact discs recorded with Dolby Surround provide the listener with a feeling of presence like that of a movie theater.

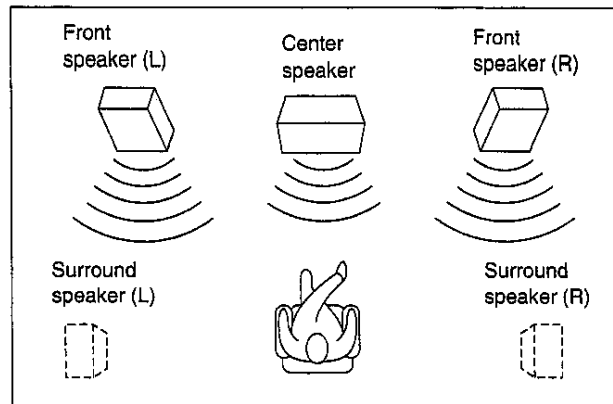
To enjoy SURROUND, be sure to connect the surround speakers.




3 STEREO

You can enjoy audio/video sources with clear sound, more presence and a good feeling of orientation. 3 STEREO can be used with sources not recorded in DOLBY SURROUND.

To enjoy 3 STEREO, be sure to connect the center speaker.

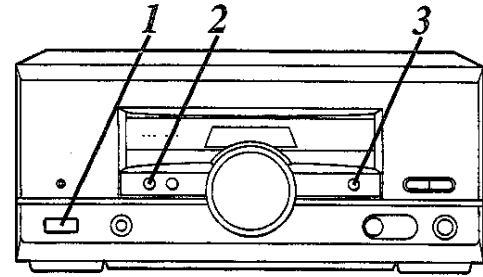
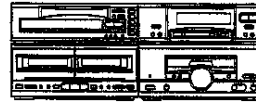


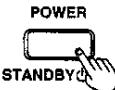
Manufactured under license from Dolby Laboratories Licensing Corporation.
DOLBY, the double-D symbol  and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.



Setting the center mode

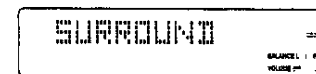
For Dolby Pro Logic systems, center mode setting is necessary to play back bass sounds effectively.

Set the center mode in accordance with the size of your center speaker.

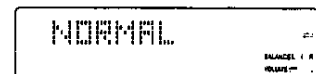


1  **Switch on the power.**

2  **Press  PRO LOGIC to select "SURROUND" or "3 STEREO".**
Each time you press the button, the display will change as follows:
SURROUND → 3 STEREO → OFF



3  **Press CENTER MODE to select "NORMAL" mode.**



Each time you press the button, the display will change as follows:
NORMAL → WIDE → PHANTOM

Note


"PHANTOM" will not be displayed when you select "3 STEREO" in step 2.

NORMAL:

When the center speaker is smaller than the front speakers

WIDE:

When the center speaker is the same or larger size as the front speakers

PHANTOM:  **only**

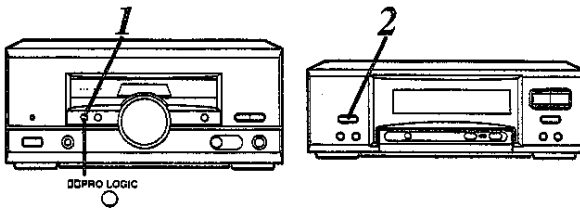
When no center speaker is connected.

Note

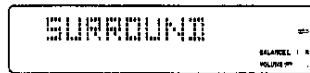
In the PHANTOM mode, the sound which would have been sent to the center speaker will be divided equally between both the left and right front speakers.

Enjoying with SURROUND or 3 STEREO

Before trying anything, have you set the center mode and adjusted speaker output level?
When viewing a video, turn on the power supply for the TV and set the TV to video mode.



Press **PRO LOGIC** to select "SURROUND" or "3 STEREO".



Press **SELECTOR** to select the desired external source.

Each time you press this button, sound sources will be switched as follows.

TUNER→CD→TAPE→EXT
↑ ↓
PHONO←VDP←VCR

These indications correspond to terminals on the tuner/sound processor's rear panel. Switch the displayed indication to the source you want to use.

Note

You can not enjoy SURROUND or 3 STEREO in the tuner mode.

3

Start the desired source.

To operate external sources, see the instruction manual provided with the specific unit.

Note

When employing SURROUND, use software recorded in Dolby Surround.

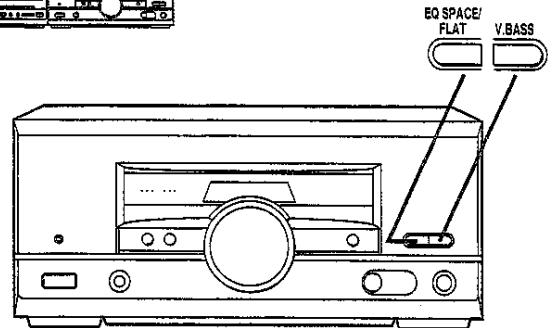
To turn off the DOLBY PRO LOGIC systems:

Press **PRO LOGIC** to select "OFF".

Note

You cannot record acoustical effects produced in the SURROUND and 3 STEREO modes.

Changing the tone



To retrieve the equalization curves and simulated listening environments



Press **EQ SPACE/FLAT** to select the mode.

Each time you press EQ SPACE/FLAT, EQ and SPACE modes will be switched as follows.

HALL→CLEAR→HEAVY→FLAT
↑ ↓

Select "FLAT" to cancel EQ SPACE effect.

1 HALL

Use to impart a deep bass and spread which will make you feel as if you were in a large concert hall.

2 CLEAR

Use to clarify the treble range of jazz, etc.

3 HEAVY

Use to add "punch" to rock and other music.

Note:

- You cannot record with HALL, CLEAR or HEAVY mode.
- "HALL", "CLEAR" and "HEAVY" indicator light off while recording, and light up when the recording finishes.

To listen with augmented bass (V. BASS)



Press **V. BASS**.

Each time you press the button, the display will change as follows:

V. BASS1→V. BASS 2→OFF
↑ ↓

Select "OFF" to cancel V. BASS effect.

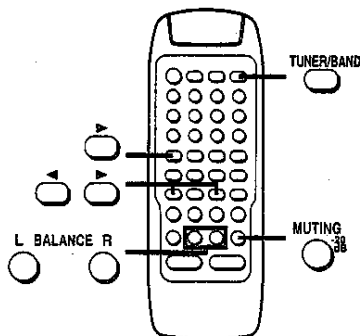
V. BASS 2 is more effective than V. BASS 1.

Note

You cannot record with the V. BASS effect.

"V. BASS" effect added only to the sound heard through the speakers or headphones.

Convenient functions



Easy play

by remote control only

- From the power standby condition, you can start play directly.
- The play will start with volume increasing gradually.

Listening to compact discs

Press ►.

The play will start from the first track of the compact disc in the play position. When the tracks has been programmed (See page 18), the play will start in the programmed sequence.

Listening to radio broadcasts

Press TUNER/BAND.

You can receive the station last tuned in.

Listening to tapes

Press ◀ or ▶.

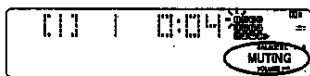
- Playback will automatically start under the same conditions (reverse mode) as last set.
- When tapes have been loaded in both decks, deck 1 has priority.

To mute the volume

by remote control only

Press MUTING –20 dB.

"MUTING" will light.



This feature is convenient when you have a telephone call, etc. Sound remains muted when you put the stereo on standby. To cancel, press MUTING –20 dB once again. To cancel from the amplifier, reduce the volume level to the minimum position (— dB) and then reset to the desired volume.

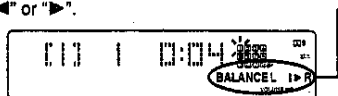
To adjust the left-right volume balance

by remote control only

Press L or R of BALANCE.

(When "R" is pressed)

The display shows "◀" or "▶".



(The display in the diagram shows when "R" button is pressed) Pressing L and R of BALANCE simultaneously will restore the balance to the center position.

If balance is set to either the right or left, when you turn the power ON, "◀ ▶" will flash on the display for approximately 5 seconds.

Before recording

DECK 2 only

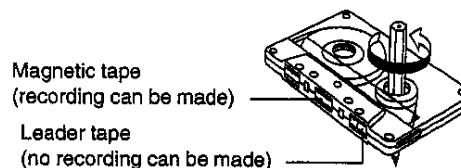
Type of tape which can be recorded correctly

The unit automatically identifies the type of tape.

Normal position/TYPE I	○
High position/TYPE II	○
Metal position/TYPE IV	○

How to advance the leader tape

Wind the leader tape forward so that recording can start as soon as you press the button. But, this is not necessary if one-touch editing from CDs.



About Dolby noise-reduction system

The Dolby noise-reduction system is designed to effectively reduce the annoying high-frequency "hissing" noise typical of cassette tapes. During recording, the system functions to increase the high-frequency sound level, the sound, and then, during playback, that same portion is weakened to bring it back to the previous level. This unit includes one type of Dolby noise-reduction system, the Dolby B NR-type.

Dolby B-type noise reduction:

Noise is reduced to about one-third.

Use this system when playing back tapes recorded by the Dolby-B noise-reduction system, such as prerecorded music tapes, etc.

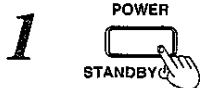
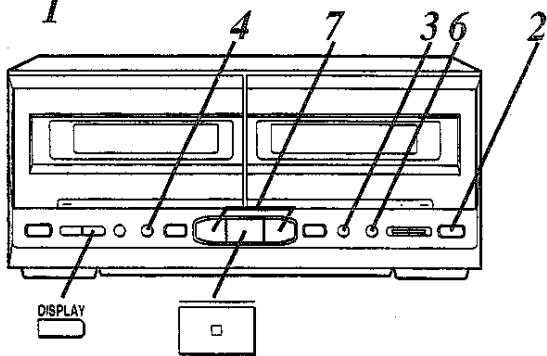
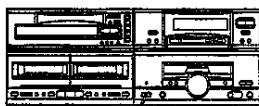
Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

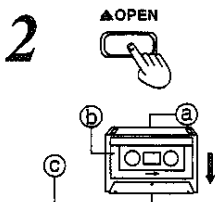
Your attention is drawn to the fact that recording pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

Recording from radio broadcasts

DECK 2 only

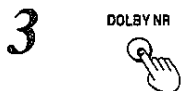


1 Switch on the power.

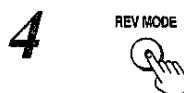
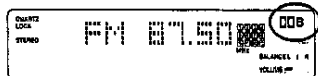


2 Press **▲ OPEN** on deck 2, and then insert the tape.

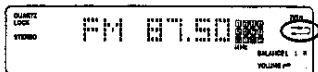
- Ⓐ Reverse side
 - Ⓑ Forward side
 - Ⓒ Tape opening facing downward
- Close the holder.



3 Press **DOLBY NR** to select **ON** or **OFF**.
 "000" lights up when the Dolby NR system is on.



4 Press **REV MODE** to select the reverse mode.



- ↔ : One side will record, and then the tape will stop automatically at the tape end.
- ↔↔ : Both sides will record (forward side→reverse side), and then the tape will stop automatically at the tape end.
- ↔↔↔ : Same as above (When you press ● REC PAUSE, "↔↔" will be automatically switched over to "↔").

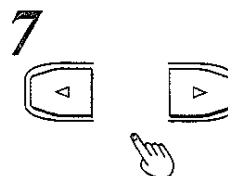
5

Tune in the desired station.
 See page 14.



6 Press ● **REC PAUSE** to put the cassette deck into the recording standby mode.

REC PAUSE indicator will light.
 "◀" or "▶" indicator on the playback buttons flashes.



7 Press ◀ or ▶ to start recording.

- ▶: To begin recording from the forward side.
- ◀: To begin recording from the reverse side.

To stop recording:

Press □.

To display the tape counter while recording:

Press DISPLAY.

The tape counter will be displayed for approximately 5 seconds. This is a useful way for knowing what point of the tape you're at.

To cut an unnecessary part while recording:

1. Press ● REC PAUSE.
 The cassette deck will go into the recording standby state.
2. To resume recording, press ◀ or ▶, whichever is flashing.

Recording from compact discs

DECK 2 only

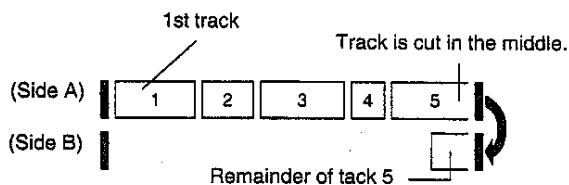
There are 2 ways to record from compact discs, normal recording and one-touch editing.

Normal recording

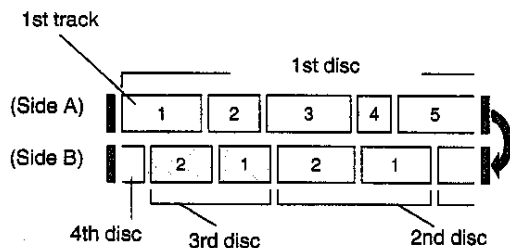
In normal recording, no blank space is left at the end of side A. But, this means a track will be cut off in the middle when the end of the side is reached. This method can also be used to record onto a tape from a desired point halfway through one side, or to record from programmed CDs.



When recording from only one CD



When recording from 2 to 5 discs



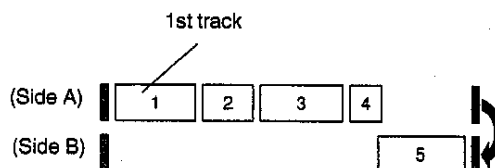
One-touch editing [AI EDIT (ALBUM)]

The tape deck automatically reads the length of the loaded tape, and then calculates which tracks go on which side of the tape so that no track is cut in the middle at the end of either side.

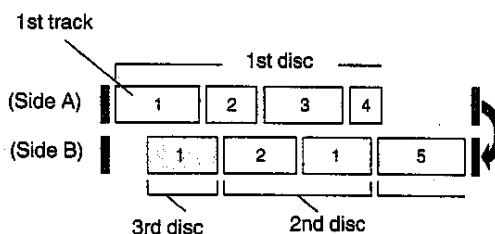
Recording will begin from the first track of the disc shown on the display. It will continue through the last track on disc 5 and will then stop automatically.



When recording from only one CD



When recording from 2 to 5 discs



Note

- Use a tape of under 99 minutes.
- You cannot edit-record tracks numbering higher than 24.
- In one-touch editing, you cannot record from programs that contain selections from two or more discs.

Recording onto left over space on tapes (LINK):

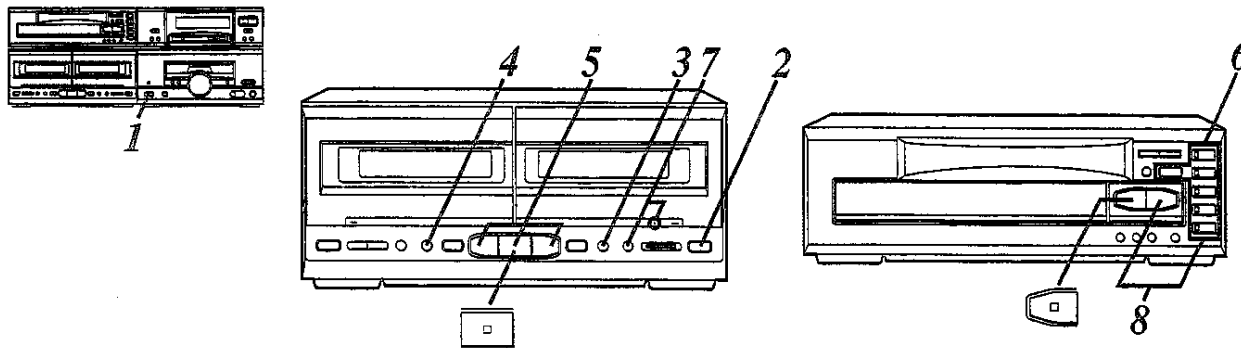
After the edit-recording of loaded CDs have finished, you can subsequently edit-record other CD(s) on the remaining blank portion of the tape.


This function is convenient when recording from 8 cm CDs successively.


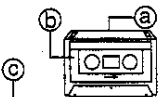
For your reference:


It is better to use a tape slightly longer than the CD playing time when recording.


Normal recording

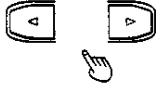




1 **POWER**
 **STANDBY**
 Switch on the power.


2 **OPEN**

 Press **OPEN** on deck 2, and then insert the tape.
 (a) Reverse side
 (b) Forward side
 (c) Tape opening facing downward.

Close the holder.


3 **DOLBY NR**

 Press **DOLBY NR** to select **ON** or **OFF**.
 "B" lights up when the Dolby NR system is on.

4 **REV MODE**

 Press **REV MODE** to select the reverse mode.
 ⇐: One side will record, and then the tape will stop automatically at the tape end.
 ⇐⇒: Both sides will record (forward side→reverse side), and then the tape will stop automatically at the tape end.
 ⇐⇒: Same as above (When you press ● **REC PAUSE**, "⇐⇒" will be automatically switched over to "⇐⇒").

5 **◀ ▶**

 To change the tape travel direction, first press **<** or **>** on the cassette deck, then **□**.
 ▶: Recording from the forward side
 <: Recording from the reverse side

6 **DISC**

OPEN/CLOSE

1 2 3 4 5
Insert CDs in the trays.
 (For details, see page 15.)
 Recording will begin from the first track of the disc shown on the display. For example, if disc {4} is displayed, recording will begin from the first track on disc 4, and will continue in progressive order.
Order of progression:
 Disc 4→5→1→2→3

7 **REC PAUSE**

 Press ● **REC PAUSE** to put the cassette deck into the recording standby mode.
 REC PAUSE indicator lights.
 "<" or ">" indicator on the playback buttons flashes.

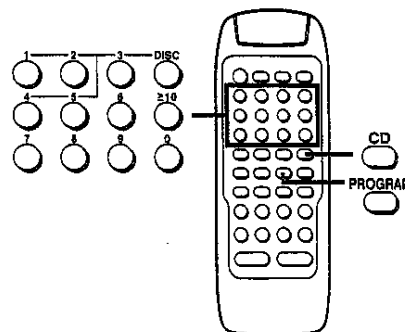
8 **DISC**

1 2 3 4 5
 Press **>** on the CD changer.
 To record from disc 1, press DISC 1.
 The recording will automatically start corresponding to the tape travel direction.

Approximately 4 seconds after the CD finishes playing, the tape deck will automatically put recording on standby.

To stop recording:

- **To add a 4 second silent interval before stopping**
 Press **□** on the CD changer.
 The cassette deck will go into the recording standby state.
- **To stop recording without a silent interval**
 Press **□** on the tape deck.

To record programmed tracks

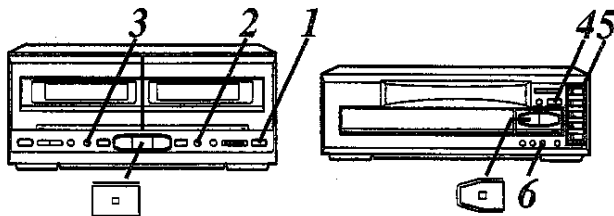


- ① Perform steps 1–6 above, and then press **CD** on the remote control.
- ② Press **PROGRAM** on the remote control.
- ③ Press **DISC** on the remote control.
- ④ Select the CD from the remote control with buttons 1–5.
- ⑤ Select the track number from the remote control with the numeric buttons.
- ⑥ Repeat steps ③ through ⑤ until programming all tracks (max. 24 tracks).
- ⑦ Perform above steps 7 and 8.

Recording from compact discs

One-touch editing

One-touch editing automatically positions the leader tape for you, so you don't have to do it manually.



Note

One-touch editing is designed to record all the way through disc 5. If you want to record just one CD, set it in tray 5.

1



Press **▲ OPEN** on deck 2, and then insert a tape.

Insert the tape with the exposed tape facing down.
Close the holder.

2



Press **DOLBY NR** to select **ON** or **OFF**.

"**00 B**" lights up when the Dolby NR system is on.

3



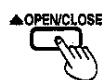
Press **REV MODE** to select the reverse mode.

↔: One side will record, and then the tape will stop automatically at the tape end.

↔↔: Both sides will record (forward side → reverse side), and then the tape will stop automatically at the tape end.

↔↔↔: Same as above (When you press AI EDIT, "↔↔↔" will be automatically switched over to "↔↔").

4

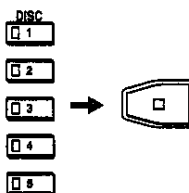


Insert CDs in the trays.

(For details, see page 15.)

Recording will begin from the first track of the disc shown on the display.

5



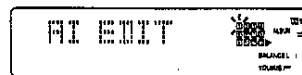
Specify the disc (**DISC 1-5**) you want to start recording from. Then, press **□** on the CD changer.

Of course, if the number of the disc you wanted is already displayed, you do not have to select it.

6



Press **AI EDIT**.



The deck will rewind the tape and recording will start. In the meantime, "AI EDIT" will scroll across the display from right to left. However, it will take a moment for recording to actually begin.

To stop one-touch editing:

Press **□** on the cassette deck.

The CD changer also stops.

"EDIT OUT" will scroll across the display from right to left.

One-touch editing operation:

1. The cassette deck will fast-forward and rewind to measure its length.
2. The cassette deck will advance the tape beyond the leader tape, and then stop.
3. The CD changer assigns tracks to tape side A and B, and display the result. In addition to the above information, the remaining time of the tape side A and B will be also displayed.
4. Actual recording starts.
5. When the first CD has been recorded, the deck will start recording the next CD if there is enough room on the tape. If so, "LINK" will appear on the display.

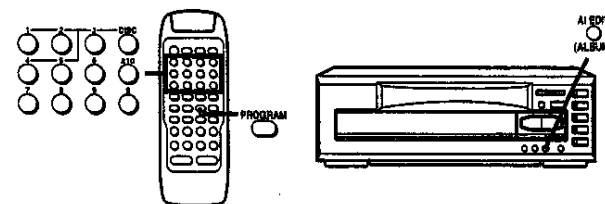
When there are tracks allotted on tape side B:

After recording tracks allotted on tape side A, the cassette deck will continue recording making the blank portion on tape side A.

To edit-record programmed tracks

Note

In one-touch editing, you cannot record from programs that contain selections from two or more discs.



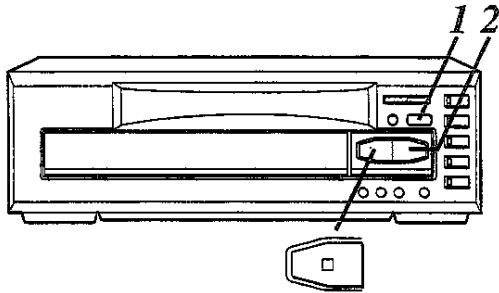
- 1 Perform steps 1-4 above, and then press **PROGRAM** on the remote control.
- 2 Select the disc you want to record with **DISC** and the numeric buttons (1-5).
- 3 Select the track number from the remote control with the numeric buttons.
- 4 Repeat step 3 until programming all tracks (max. 24 tracks).
- 5 Press **AI EDIT**. Recording will begin.

After edit-recording has finished:

The tape deck automatically puts recording on standby. In the meantime, if "LINK" is flashed on the display, there is enough space on the tape that you can continue recording from another CD (see page 29). If you want to link the tracks, do not press **□** on the CD changer.

Recording onto left over space on tapes (LINK)

You can link up another CD when "LINK" flashes after editing a CD.



1



Press **▲ OPEN/CLOSE** to replace the CD with another one.

The time remaining on tape



The tray of the last disc (disc 5) recorded will open. Load the new CD in there.

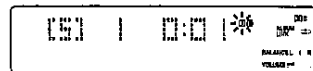
Note:

If you were recording programmed tracks, the tray of the disc you were recording from will open.

2



Press **▶**. Linking will start.



To continue linking tracks:

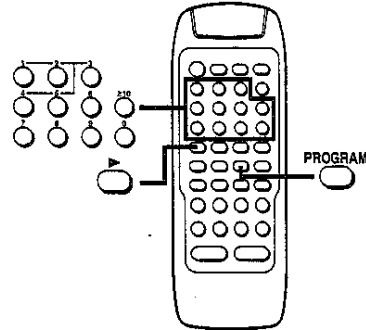
Repeat steps 1 and 2.

As long as there is space on the tape to record, when the recording finishing, the tape deck will put linking on standby.

To cancel the LINK function:

Press **□** on the CD changer.

Linking programmed tracks

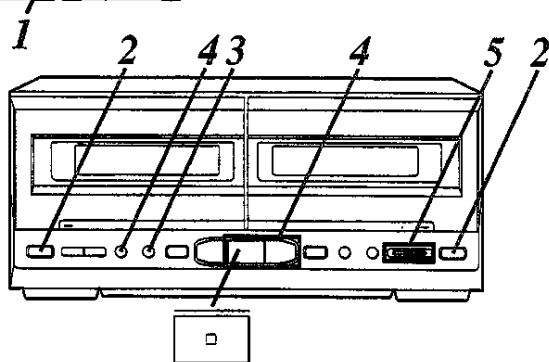


- ① Perform step 1 above, and then press PROGRAM on the remote control.
- ② Select the track number from the remote control with the numeric buttons.
- ③ Repeat step ② until programming all tracks (max. 24 tracks).
- ④ Press **▶**. Linking will begin.

Note:

- While linking is in course, you cannot open and close trays other than disc 5. When recording from a program, you can open only the tray used in programming. To open other trays, cancel the link function.
- When the display shows "0:00", you cannot record from another CD. Press **□** on the CD changer.
- If the time remaining on the tape is shorter than the length of the tracks to be recorded, you cannot record the tracks. Replace the CD with the tracks shorter than the time remaining on the tape or press **□** on the CD changer.

Tape-to-tape recording



Preparation

The leader tapes in both decks must be wound up beforehand. (See page 24.)

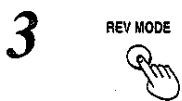


Press **SELECTOR** to select "TAPE".



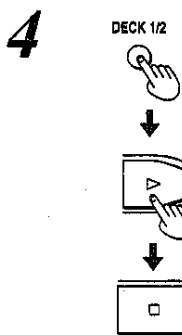
Press **▲ OPEN** on the both decks, and then insert the tapes.

DECK 1: For playback
DECK 2: For recording
Close each deck's holder.



Press **REV MODE** to select the reverse mode.

- Single-sided recording
- Two-sided recording (forward side → reverse side)
- Same as above (When you press NOR or HIGH, "↔" will be automatically switched over to "↔").

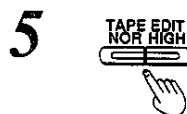


Set the tape direction to "▷" of deck 1 and 2.

Press **DECK 1/2** and confirm both deck's tape directions are "▷".

To change the tape direction, first press ▷, and then □.

To record on the reverse side, set deck 2 to "◁".



Press **NOR** or **HIGH** of **TAPE EDIT** to start recording.

NOR: When you wish to monitor the sound while recording

HIGH: When you wish to record at high speed (about 2.0 times normal speed)

While recording, both deck 1 and 2 indicators light up. Tape direction indicator (◁ or ▷) shows deck 2 direction.

If either of deck 1 or deck 2 stops, the other deck also stops.

To stop recording:

Press □.

Both decks will stop.

To enjoy another source while recording:

Start playing the other sound source.

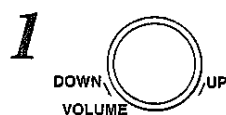
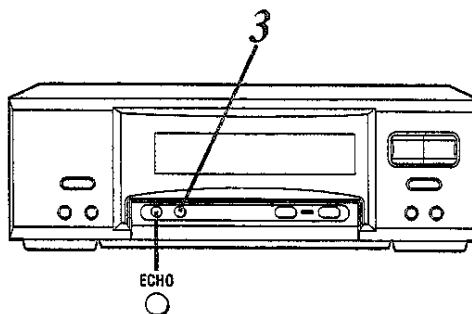
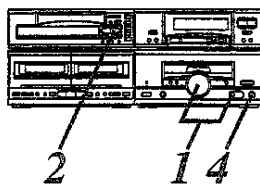
You can change the volume level and tone quality without affecting the recording.

Note

- During high speed recording, turn OFF TVs or any other image projecting equipment so as to prevent static from being recorded.
- Tone changes and special effects cannot be recorded.
- The recording level and the noise reduction effect of the original (playback) tape will be recorded on the new tape.

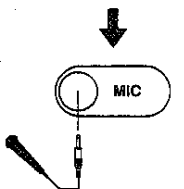
Singing along with KARAOKE

This function enables you to enjoy KARAOKE.



1 Connect the microphone to the MIC jack after reducing the volume level.

Plug type: Monaural-large type



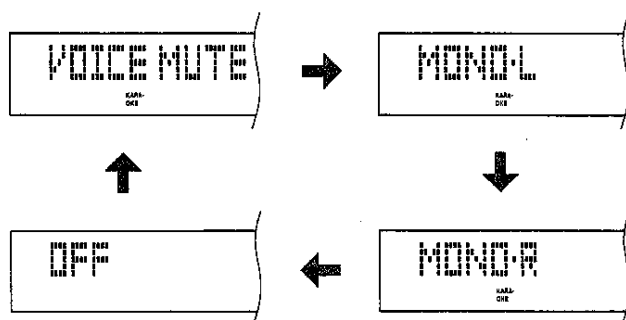
2 Start playing a CD and so on.



3 Press KARAOKE to select a mode.

Each time you press KARAOKE, KARAOKE mode will be switched as follows.

VOICE MUTE → MONO • L → MONO • R
 ← OFF ←



VOICE MUTE	You can use a normal CD.
MONO • L or MONO • R	You can use a sound multiplex CD, or multiplex tape.
OFF	You can use normal karaoke tape, a normal karaoke CD.



4 Start enjoying KARAOKE, and adjust the microphone level.

To cancel the "KARAOKE" mode:

Press KARAOKE to go out the KARAOKE mode indicator.

When "VOICE MUTE" lights: Press 3 times.

When "MONO • L" lights: Press twice.

When "MONO • R" lights: Press once.

To record of your "KARAOKE" performance:

Start recording in deck 2, then start "KARAOKE" performance.

To playback the tape recorded in "KARAOKE" mode, press KARAOKE to go out the KARAOKE mode indicator.

You cannot use "KARAOKE" function with:

- a tone quality effect (HALL, CLEAR, HEAVY)
- a radio source

You cannot record in "KARAOKE" mode using:

- a tone quality effect (HALL, CLEAR, HEAVY and V. BASS effect)
- a radio and a tape sources

Notes:

- This function may not be effective according to the type of music.
- If you hear strange noises (squealing or howling) during mixing, move the microphone farther away from the speakers or turn down the volume and microphone volume on the amplifier.
- When you are not using the microphone, disconnect it from the MIC jack, and turn down the microphone volume level to MIN.

To record your voice:

1. Connect the microphone to the MIC jack.
2. Press SELECTOR to select "TAPE".
3. Adjust the microphone volume level.
4. Press REC PAUSE to put the cassette deck into the recording standby mode.
5. Press < or > to start recording.
6. Speak to the microphone.

(Australia and N.Z. only)

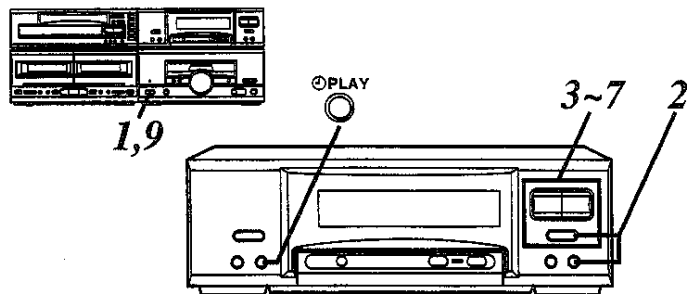
To adjust the reverberation sound:

1. Press ECHO.
The ECHO indicator will light.
2. Adjust the reverberation sound pressing ECHO.
You can adjust the reverberation sound within the range of ECHO 1 to ECHO 4.
ECHO 1 → ECHO 2 → ECHO 3 → ECHO 4
 ← OFF ←

Using the timer

Setting the play timer

Make sure that you have completed "Setting the time" on page 11. Select this timer when you want to use the timer as an alarm clock. You can wake up with listening to music (CD, tuner, tape) at a desired volume level and time.



The following example in the figure shows how to set the play timer for; playing a CD at -40 dB everyday from Monday through Friday 6:30 to 7:40.

1 **Switch on the power.**

2 **1 Press CLOCK/TIMER three times to show "Ⓞ PLAY" on the display.**

2 Press SET.

within 8 seconds:

3 **1 Press TUNING/TIMER (v or ^) to select the day.**

2 Press SET.

About the variation of the day setting:
 One day from Sunday to Saturday:
 SUN...SAT
 Everyday from Sunday to Saturday:
 SUN TO SAT
 Everyday from Monday to Saturday:
 MON TO SAT
 Everyday from Monday to Friday:
 MON TO FRI
 Saturday and Sunday only:
 SAT, SUN

4 **1 Press TUNING/TIMER (v or ^) to select the hour.**

2 Press SET.

3 Press TUNING/TIMER (v or ^) to select the minutes.

4 Press SET.

5 **1 Press TUNING/TIMER (v or ^) to select the hour.**

2 Press SET.

3 Press TUNING/TIMER (v or ^) to select the minutes.

4 Press SET.

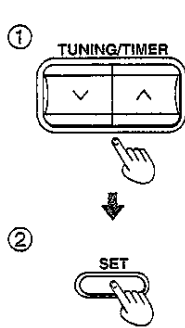
6 **1 Press TUNING/TIMER (v or ^) to select the desired source.**

The display will change as follows.
 CD → TAPE → TUNER

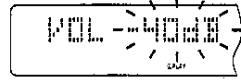
2 Press SET.

When you select "TUNER", select a desired preset channel using TUNING/TIMER (v or ^), and then press SET.

7



- ① Press TUNING/TIMER (∨ or ∧) to adjust the volume level for the timer play.



②



- ② Press SET.

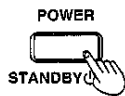
The display will show the day, ON time, OFF time, the source you select, and the volume level alternately, and then resumes the previous display.

8

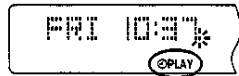
Prepare for the play.

When you play a CD: Load a CD.
When you play a tape: Load a tape.

9



- Press POWER to switch the power to standby mode.



Please confirm "⊙ PLAY".

The timer play will start at the preset time with volume increasing gradually up to the volume level you preset.

To confirm the play timer:

Press CLOCK/TIMER to show "⊙ PLAY".

The display will show the day, ON time, OFF time, the source you select, and the volume level alternately.

You can operate this even if the system is in the standby mode.

To change the play timer setting:

Follow the procedure from the first step.

Using the timer at the same time setting continuously:

You can operate this even if the system is in the standby mode.

The play timer setting will stay in the memory.

1. Press ⊙ PLAY to show "⊙ PLAY".
2. Press POWER to switch the power to standby mode.

To enjoy the desired source after the timer setting is completed:

1. Start playing the desired source.

Even if you change the volume level or music source, the timer play will start with the preset condition.

2. Press POWER to standby mode after enjoying the play.

To cancel the timer:

Press ⊙ PLAY to go out "⊙ PLAY".

The play timer function will be canceled, but the setting stays in the memory.

Note:

- If the power is on, the timer will not function. The system must be in the standby mode.
- This system retains the ON/OFF time settings until you make a new setting. If you make a new ON time setting, the previous OFF time setting will change to the same setting.
- You cannot make the ON time and OFF time same setting.
- The play timer will function until you cancel the play timer mode. When the display shows "⊙ PLAY", the play timer will be activated.
- If you switch the power to standby mode while play timer is functioning, the OFF time setting will not be activated.

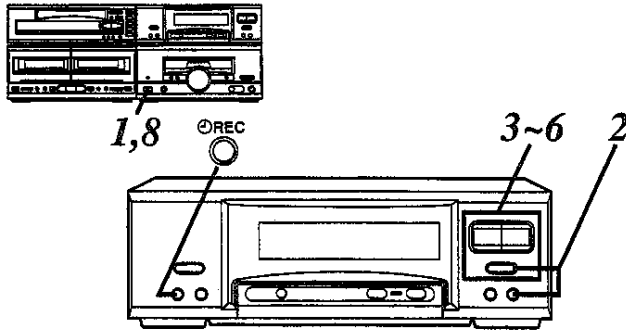
For your reference:

When you insert cassettes in both deck 1 and 2, deck 1 has priority for timer play on tape.

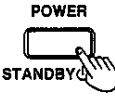

Using the timer


Setting the record timer

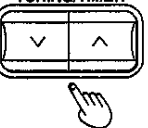
Make sure that you have completed "Setting the time" on page 11. Select this timer when you want to use the timer to record a midnight program or while you are out. The system will record a desired radio broadcast at a desired time.

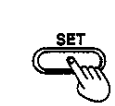


The following example in the figure shows how to set the record timer for; recording preset channel no. 1 on Saturday from 18:30 to 20:00.

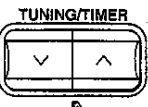
- 1**  **Switch on the power.**
- 2**  **Press CLOCK/TIMER twice to show "Ⓞ REC" on the display.**

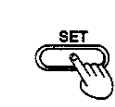
 **within 8 seconds:**

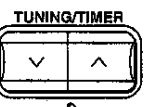
2 Press SET.
- 3**  **Press TUNING/TIMER (∨ or ∧) to select the day.**

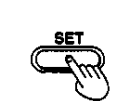
 **Press SET.**

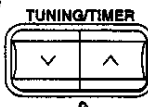
About the variation of the day setting:
 One day from Sunday to Saturday:
 SUN...SAT
 Everyday from Sunday to Saturday:
 SUN TO SAT

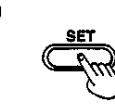
- 4**  **Press TUNING/TIMER (∨ or ∧) to select the hour.**

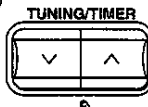
 **Press SET.**

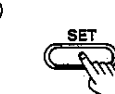
 **Press TUNING/TIMER (∨ or ∧) to select the minutes.**

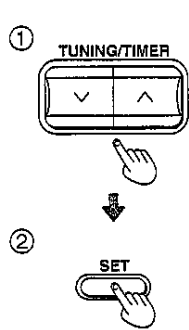
 **Press SET.**

- 5**  **Press TUNING/TIMER (∨ or ∧) to select the hour.**

 **Press SET.**

 **Press TUNING/TIMER (∨ or ∧) to select the minutes.**

 **Press SET.**

6

① Press TUNING/TIMER (∨ or ∧) to select the desired pre-set channel.

The display will change as follows.
CH1 → CH2...CH38 → CH39



If you press TUNING/TIMER (∨), the reverse operation will take place.

② Press SET.

The display will show the day, ON time, OFF time, the broadcast station you select alternately, and then resumes the previous display.

To confirm the record timer:

Press CLOCK/TIMER to show "⊙ REC".

The display will show the day, ON time, OFF time, the broadcast station you select alternately.

You can operate this even if the system is in the standby mode.

To change the record timer setting:

Follow the procedure from the first step.

Using the timer at the same time setting continuously:

You can operate this even if the system is in the standby mode.

The record timer setting will stay in the memory.

1. Press ⊙ REC to show "⊙ REC".

2. Press POWER to switch the power to standby mode.

To enjoy the desired source after the timer setting is completed:

1. Start playing the desired source.

When listening to a cassette tape, use the deck 1.

Even if you change the music source, the timer recording will start with the preset condition.

2. Press POWER to standby mode after enjoy the play.

To cancel the timer:

Press ⊙ REC to go out "⊙ REC".

The record timer function will be canceled, but the setting stays in the memory.

Note:

● If the power is on, the timer will not function.

● This system retains the ON/OFF time settings until you make a new setting. If you make a new ON time setting, the previous OFF time setting will change to the same setting.

● You cannot make the ON time and OFF time same setting.

● Once the record timer operation finishes, it clears the record timer mode (except for everyday mode "SUN TO SAT"). When the display shows "⊙ REC", the record timer will be activated.

● If you switch the power to standby mode while record timer is functioning, the OFF time setting will not be activated.

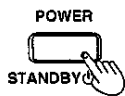
For your reference:

When you want to record a same program over several weeks (except when you select everyday mode "SUN TO SAT"), press ⊙ REC to show "⊙ REC" after the timer recording has finished.

7

Prepare for recording.

1. Insert a tape into deck 2.
2. Select the Dolby NR mode.
3. Select the reverse mode.
4. Select the tape travel direction.

8

Press POWER to switch the power to standby mode.



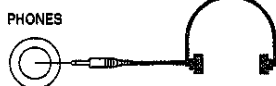
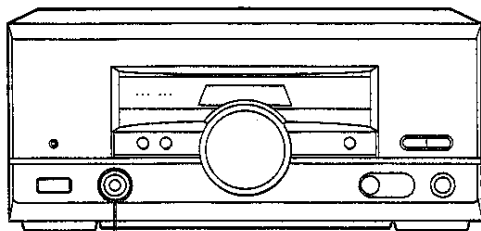
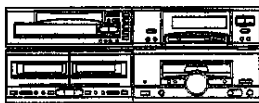
Please confirm "⊙ REC".

The tuner recording will start 30 seconds before the setting time.

The sound will be automatically muted during timer recording.

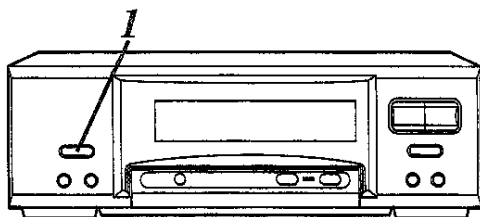
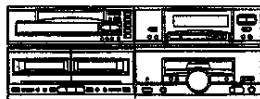
Using an external unit

To use headphones



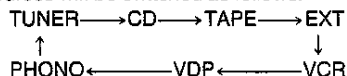
Connect the headphones to the headphones jack. Before connecting, reduce the volume level. Avoid listening for prolonged periods of time to prevent hearing damage.
Plug type: Stereo mini

Listening to an external source



1 Press **SELECTOR** to select the desired external source (EXT, VCR, VDP, PHONO).

Each time you press this button, sound sources will be switched as follows.



These indications correspond to terminals on the tuner's rear panel. Switch the displayed indication to the source you want to use.

2

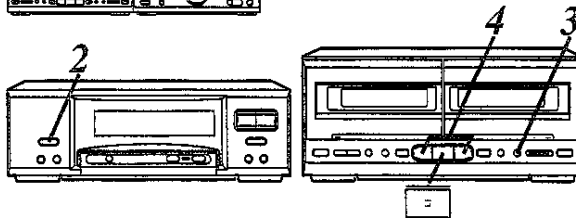
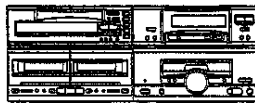
Operate the unit which is connected to the system.

See the instruction manual of the unit concerned for the operation.

When viewing a video, turn on the power supply for the TV and set the TV to video mode.

This stereo has a built-in DOLBY PRO LOGIC circuit, so you can enjoy the live sound of videos and laser discs recorded in Dolby Surround (see page 21).

Recording from an external source



1

Follow steps 1–4 on page 25.

2



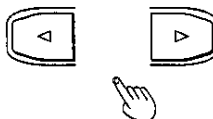
Press **SELECTOR** to select the desired external source (EXT, VCR, VDP, PHONO).

3



Press **REC PAUSE** to put the cassette deck into the recording standby mode.

4



Press **<** or **>** to start recording.

5

Start playing the source to be recorded.

See the instruction manual of the unit concerned for the operation.

To stop recording:

Press **□** on the cassette deck.

To briefly interrupt recording:

Press **● REC PAUSE**.

The cassette deck will go into the recording standby mode.

To resume recording:

Press **<** or **>** corresponding to the direction in which recording is taking place.

Recording on an external unit

You can record pictures from laser disc players when a VCR is connected to the "VCR" terminal on the rear of the stereo. For audio recordings, a DCC or minidisc player has to be connected to the "EXTERNAL" terminal.

First, select the source—video or audio—with the **SELECTOR**. Then, start recording on an external unit, and then start playing the source to be recorded.

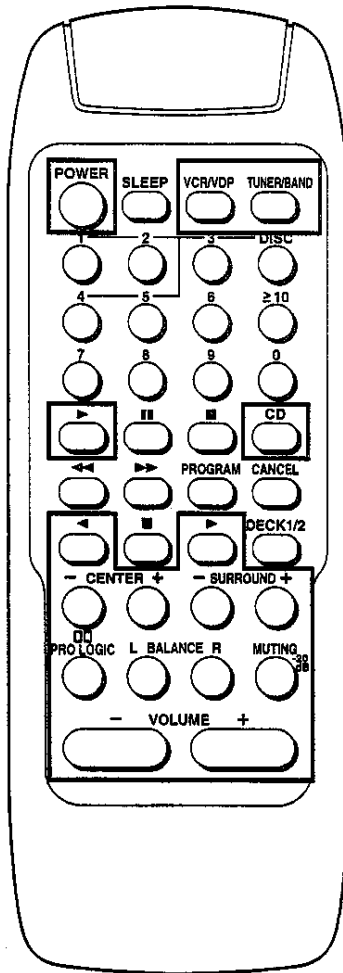
See the instruction manual of the unit concerned for the operation.

You can make digital audio recordings of CDs on DCCs or minidisc players when the CD changer, DCC or minidisc player you are using is connected by optical fiber cable (sold separately).

(For an explanation on how to make connections, see page 8.)

Quick reference of remote control operations

Basic operation



Switching the system on and power standby mode



Starting play directly from the power standby condition



Selecting the input source



Switching between DOLBY PRO LOGIC Surround modes



Adjusting the center speaker level



Adjusting the surround speaker level



Adjusting the volume balance



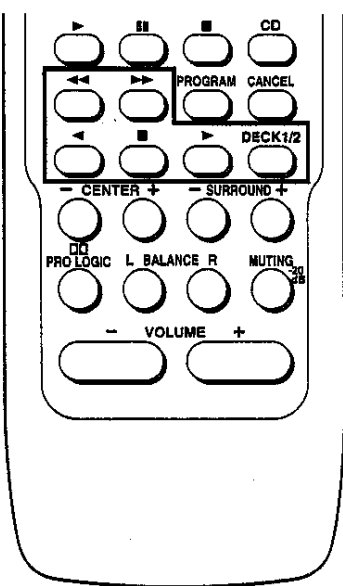
Muting the volume temporarily



Adjusting the volume



Tape section



Switching between deck 1 and deck 2



Starting playback



Fast forwarding or rewinding the tape

In the stop mode



Finding the beginning of a track

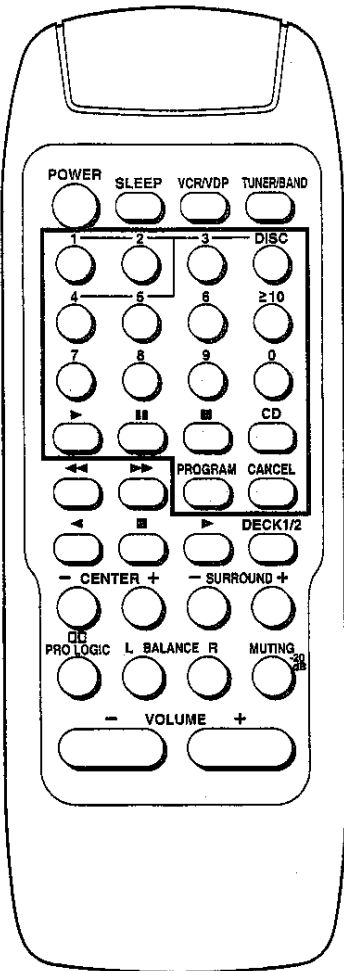
During playback



Stopping playback and recording

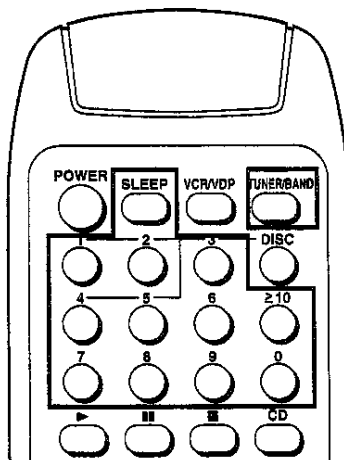


Compact disc section



Starting play	
Temporarily stopping play	
Stopping play	
Starting play from a particular track	
Playing the particular track you programmed	
Cancelling the particular track you programmed	

Tuner, timer operation



Listening to the radio broadcasts	
Changing the receiving band	
Operating/releasing the sleep timer	

Suggestions for safety

Placement

Avoid placing the unit in areas of:

- direct sunlight
- high temperature
- high humidity
- excessive vibration
- uneven surfaces (Place the unit on a flat level surface.)

Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.

To protect the unit against sound distortion and acoustical effects, please place the unit at least 15 cm away from wall surfaces etc.

Ventilation

- Place the unit in a well-ventilated position at least 10 cm away from wall surfaces etc.
- Ensure that curtains and similar materials do not obstruct the ventilation holes.

Stacking

Never place heavy items on top of the unit or the power cord.

Voltage

- It is very dangerous to use an AC power source of high voltage such as for an air conditioner.
A fire might be caused by such a connection.
- A DC power source can not be used.
Be sure to check the power source carefully, especially if on a ship or other place where DC is used.

Power cord protection

- Avoid cuts, scratches or poor connection of the AC main cord, as this may result in fire or electric shock.
Excessive bending, pulling or slicing of the cord should also be avoided.
- Do not pull on the cord when you are disconnecting the power, as this could cause an electric shock. Grasp the plug firmly when you disconnect the power supply.
- Never touch the plug with wet hands or a serious electric shock could result.

Foreign materials

- Ensure that no foreign objects, such as needles, coins, screwdrivers etc., accidentally fall into the unit or through the ventilation holes.
Otherwise, a serious electric shock or malfunction could occur.
- Be extremely careful about spilling water or liquid on/into the unit, as a fire or electric shock could occur.
(Disconnect the power plug and contact your dealer immediately if this occurs.)
- Avoid spraying insecticides onto the unit as they contain flammable gases which can be ignited.
- Insecticides, alcohol, paint thinner and similar chemicals should never be used to clean the unit as they can cause flaking or cloudiness to the cabinet finish.

Service

- Never attempt to repair, disassemble or reconstruct the unit if there seems to be a problem.
A serious electric shock could result if you ignore this precautionary measure.
- If a problem occurs during operation (the sound is interrupted, indicators fail to light up, smoke is detected, etc.) contact your dealer or Authorized Service Center immediately.
- Disconnect the power supply if the unit will not be used for a long time. Otherwise the operation life could be shortened.

Before moving or shipping this CD changer:

Prepare the CD changer as described below to prevent damage to the mechanism.

1. Remove all CDs.
2. Select "CD" with SELECTOR on the tuner/sound processor.
3. Hold down stop button (□) on the changer for 2 seconds and then without releasing it, hold down both it and DISC 5 for 2 more seconds. (This will turn OFF the unit and set the so-called "shipping mode".)
4. Unplug the stereo.

Avoid strong vibrations or impact while moving the equipment. The shipping mode will turn OFF automatically when you turn the power ON the next time.

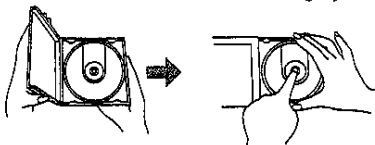
Concerning compact discs

Only compact discs having this mark can be used with this unit.



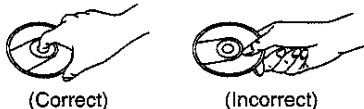
To remove a disc from its case

Press the center holder and lift the disc holding by the edges.



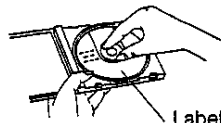
To hold the disc

Hold the disc by the edges so the surface is not soiled with fingerprints. Fingerprints, dirt and scratches can cause skipping and distortion.



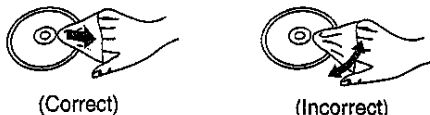
To store a disc in its case

Insert the disc with label facing upwards and press downward at the center.



If the surface is soiled

Wipe gently with a soft, damp (water only) cloth.



If the disc is brought from a cold to a warm environment, moisture may form on the disc

Wipe this moisture off with a soft, dry, lint-free cloth before using the disc.

Improper disc storage:

You can damage discs if you store them in the following places;

- Areas exposed to direct sunlight
- Humid or dusty areas
- Areas directly exposed to a heat outlet or heating appliance

Handling precautions:

- Do not write on the label side with a ball-point pen or other writing utensils.
- Do not use record cleaning sprays, benzene, thinner, static electricity prevention liquids or any other solvent.
- Do not soil with fingerprints.

Concerning cassette tapes

Selection of cassette tapes

Cassette tape of 100 minutes or longer:

These tapes are handy for their long playback and recording time but be careful about repeatedly stopping, starting, rewinding and fast forwarding these tapes in short intervals as they are thin, tend to stretch and may become entangled in the mechanism.

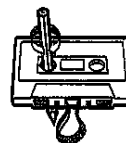
Endless tapes:

Failure to operate these tapes correctly may cause the tape to wind around the revolving parts.

For this unit, it is recommended to use the tape which is appropriate to the auto reverse mechanism.

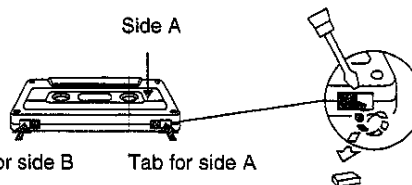
If the tape loosens, take up the slack

Tape slack may cause the tape to break.



To prevent erasure of recorded sounds

Remove the tabs with a screwdriver or a similar object.



To re-record on a protected cassette, cover the slot with adhesive tape.

Do not cover the detection holes on high position and metal tapes.

To erase recorded sounds

1. Press SELECTOR on the tuner/sound processor to select "TAPE".
2. Insert the recorded tape into deck 2.
3. Press DOLBY NR so that the Dolby NR indicator ("□□ B") are off.
4. Press REV MODE to select reverse mode.
5. Press ● REC PAUSE.
6. Press < or >, whichever side you want to erase.

Improper tape storage:

You can damage tapes if you store them in the following places;

- in high temperature (35°C or higher) or high humidity (80% or higher) areas
- in a strong magnetic field (near a speaker, on top of a TV, etc.) This can erase a recording.
- Areas exposed to direct sunlight

Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

Problem	Probable cause(s)	Suggested remedy
---------	-------------------	------------------

Problems common to all systems		
The location of the various musical instruments is not well defined.	The (+) and (-) connections to one of the speakers are reversed.	Connect the speaker cord correctly.
The left and right sounds are reversed.	The left and right connections to the speaker are reversed.	Connect the speaker cords correctly.
Humming is heard while playing.	A power cord or fluorescent lamp is located in the vicinity of cables.	Keep electric appliances away from the stereo. Try plugging the cord in, the other way.
Only one speaker is emitting sound.	One of the wires of the speaker cord is disconnected.	Connect the speaker cord correctly.
There is no sound when a source is being played.	The (+) and (-) wire of the speaker cords are shorted.	Switch the system to the standby mode, and reconnect the speaker cords so that they are not shorted. Then switch on the power.
<u>"U70" appears on the display.</u>	Flat cables are not connected steadily.	Connect the flat cable steadily. When the "U70" display is not cleared after the flat cable have been connected properly, the unit is damaged. Consult your dealer.

While listening to FM broadcasts		
There is a "rushing noise" during a stereo broadcast which is not audible during a monaural broadcast.	The transmitting station is a long distance away.	<ul style="list-style-type: none"> • If you are using an indoor antenna, change to an outdoor antenna. • If you are using a high-grade outdoor antenna, try changing the installation location, height, and orientation.
You hear excessive noise during a stereo broadcast, and occasionally the sound disappears.	The installation location and orientation of the antenna are unsuitable.	
The stereo indicator flickers and does not light completely.	The transmitting station is a long distance away. The power of the TV set or VCR is ON.	Try switching off the TV set or VCR.
The sound during a stereo broadcast is highly distorted.	There is a building or mountain nearby. [Distortion is caused by interference between the signal from the transmitting station (direct wave) and the signal reflected from the building or mountain (reflected wave).]	Use a high-grade outdoor antenna, and install it in a good location, height, and orientation for reception.

While listening to LW/MW (or AM) broadcasts		
You hear an unusual beat sound.	You are using the system at the same time you are playing a TV set.	Switch off the TV set, or use the system further away from it.
You hear a low-frequency hum.	The antenna wire is near the power cord.	Separate the antenna wire from the power cord.

When there is a television set nearby		
The picture on the TV disappears or stripes appear on the screen.	The location and orientation of the antenna are incorrect.	If you are using an indoor antenna, change to an outdoor antenna.
	The wiring at the back of the system is unsuitable.	Separate the antenna wire of the TV set from the system.

Problem	Probable cause(s)	Suggested remedy
---------	-------------------	------------------

While listening to tapes

Sound is low, intermittent, or poor quality, noisy, scratchy, or unsteady.	Heads are dirty.	Clean the heads.
	Dolby noise reductions is set in the wrong position.	Set it to match the Dolby NR recording mode.
The deck does not enter the recording mode.	The erase-prevention tabs are removed from the cassette.	Attach tape to cover the space left by removal of the erase-prevention tabs.

While listening to compact discs

The display will not show the correct indication. Disc play does not start when you press the play button.	The disc is not positioned correctly in the disc tray.	Load the disc on the tray correctly.
	The disc is loaded upside down.	Reload the disc.
	The disc is dirty.	Wipe the disc with a soft cloth.
	The disc is scratched.	Replace the disc with a new one.
	The disc is badly warped.	
	The disc is a nonstandard one.	Replace the disc with a different one.
	There is condensation inside the CD changer.	Switch the power ON, and then wait for 60 minutes before using the CD changer.
"ERROR" appears on the display.	You tried playing back in the program mode without programming any tracks.	Program tracks and then press the play button.

During one-touch editing

"NO TAPE" appears on the display.	No tape is loaded into deck 2.	Load a tape.
"CHANGE TAPE" appears on the display.	The protector tab on the tape is broken.	Cover the tab's hole with adhesive tape or use another tape.
"ERROR" appears on the display.	You tried to record tracks from a program containing more than one disc.	You cannot record programs if containing tracks from more than one disc. If wanting to do so, set the tape deck to normal recording.

While using the remote control

The system cannot be operated with the remote control.	The batteries are installed in the reverse polarity.	Reinsert the batteries in the correct polarity.
	The batteries are worn.	Replace the batteries with new batteries.

The servicer will require all components to service your system. Therefore, should service ever be necessary, be sure to bring the entire system.

Maintenance

■ Maintenance of external surfaces

To clean this unit, use a soft, dry cloth. If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

Wring the cloth well before wiping the unit.

Wipe once again with a soft, dry cloth.

Never use alcohol, paint thinner, benzene, or chemically treated cloths to clean this unit. Such chemicals may damage the finish of your system.

■ Tape head care

To assure sound quality for recording and playback, be sure to clean the heads after approximately every 10 hours of use by the cleaning tape (sold separately).

Technical specifications (DIN 45 500)

TUNER/SOUND PROCESSOR

■ Pre-amplifier section	
Input sensitivity/impedance	
PHONO	2.5 mV/47 k Ω
EXTERNAL, VCR, VDP	250 mV/15 k Ω
Output level	
EXTERNAL/VCR RECOUT	150 mV/1.5 k Ω
Frequency response	
PHONO	30 Hz–15 kHz/ +1.5 to –2.0 dB
EXTERNAL, VCR, VDP	20 Hz–40 kHz
S/N	
PHONO	DIN 73 dB (77 dB, IHF)
EXTERNAL, VCR, VDP	DIN 80 dB (82 dB, IHF)
■ EQ/SFP section	
Center frequency	120 Hz, 1 kHz, 7 kHz
EQ SPACE mode	
3 modes	HALL, CLEAR, HEAVY
V. BASS mode	
Center frequency	70 Hz
V. BASS 1	+3 dB
V. BASS 2	+6 dB
■ DOLBY PRO LOGIC section	
PRO LOGIC mode	
	SURROUND, 3 STEREO
CENTER mode	
	NORMAL, WIDE, PHANTOM
DELAY TIME	20 ms (Fixed)
■ FM tuner section	
Frequency range	87.50–108.00 MHz (0.05 MHz steps)
Sensitivity	1.8 μ V (IHF usable)
S/N 26 dB	1.5 μ V
S/N	
MONO	70 dB (75 dB, IHF)
Stereo separation	
1 kHz	35 dB
Antenna terminal(s)	75 Ω (unbalanced)
■ AM tuner section (For United Kingdom)	
Frequency range	
MW	522–1611 kHz (9 kHz steps) 530–1620 kHz (10 kHz steps)
LW	144–288 kHz (9 kHz steps)
Sensitivity (S/N 20 dB)	
MW	500 μ V/m
LW	50 μ V
(For Australia and N.Z.)	
Frequency range	
	522–1611 kHz (9 kHz steps) 530–1620 kHz (10 kHz steps)
Sensitivity (S/N 20 dB)	500 μ V/m
■ Timer section	
Clock	Quartz-lock type
Function	24-hour programmable; Play timer (1 time), Rec timer (1 time), Sleep (120 min, 30 min intervals)
Setting	1 minute–23 hours 59 minutes (1 min intervals)
■ General	
Dimensions (W×H×D)	270×89×282 mm
Weight	1.7 kg

AMPLIFIER

■ Amplifier section	
Power output	
DIN 1 kHz, THD 1%, both channels driven	2×50 W (6 Ω)
RMS 1 kHz, THD 10%, both channels driven	2×70 W (6 Ω)
PRO LOGIC mode	
DIN 1 kHz, THD 1%	
MAIN (both channels driven)	2×40 W (6 Ω)
CENTER	40 W (8 Ω)
SURROUND	40 W (4 Ω +4 Ω)
RMS 1 kHz, THD 10%	
MAIN (both channels driven)	2×50 W (6 Ω)
CENTER	50 W (8 Ω)
SURROUND	50 W (4 Ω +4 Ω)
Total harmonic distortion	
Rated power at 1 kHz	1% (6 Ω)
Half power at 1 kHz	0.09% (6 Ω)
Load impedance	
MAIN	6–8 Ω
CENTER	8 Ω
SURROUND	4–8 Ω
S/N (rated power)	
MAIN	90 dB
■ General	
Power consumption	210 W
Power supply	230–240 V, AC 50 Hz
Dimensions (W×H×D)	270×118.5×342.5 mm
Weight	4.9 kg
CD CHANGER	
■ Audio	
DA converter	1 bit 2 DAC MASH
■ Pickup	
Wavelength	780 nm
■ General	
Dimensions (W×H×D)	270×89×330 mm
Weight	2.4 kg
CASSETTE DECK	
Deck system	Stereo cassette deck
Track system	4 track, 2 channel
Recording system	AC bias
Bias frequency	100 kHz
Erasing system	AC erase
Heads	
Deck 1	
(Playback head)	Permalloy head
Deck 2	
(Recording/Playback head)	Permalloy head
(Erasing head)	Double gap ferrite head
Motors	
Deck 1, 2	
Capstan drive	DC servo motor
Tape speed	4.8 cm/s
Wow and flutter	0.16% (WRMS)
Fast forward and rewind times	
	Approx. 110 seconds with C-60 cassette tape

Frequency response (Dolby NR off)

TYPE I (NORMAL)	20 Hz–16 kHz (DIN)
TYPE II (HIGH)	20 Hz–16 kHz (DIN)
TYPE IV (METAL)	20 Hz–16 kHz (DIN)
S/N (Signal level=max recording level, TYPE II type tape)	
NR off	56 dB (A weighted)
Dolby NR B on	66 dB (A weighted)
Input sensitivity and impedance	
REC (IN)	400 mV/23 k Ω
Output voltage and impedance	
PLAY (OUT)	280 mV/360 Ω
■ General	
Dimensions (W×H×D)	270×118.5×269.5 mm
Weight	1.9 kg
FRONT SPEAKER	
Type	3 way, 3 speakers, Bass-reflex
Speaker(s)	
Woofer:	14 cm cone type
Mid range	6 cm cone type
Tweeter:	piezo type
Impedance	6 Ω
Input power	100 W (Music), 50 W (DIN)
Output sound pressure level	86 dB/W (1.0 m)
Cross over frequency	1.5 kHz, 10 kHz
Frequency range	40 Hz–22 kHz (–16 dB) 45 Hz–20 kHz (–10 dB)
■ General	
Dimensions (W×H×D)	230×413×270 mm
Weight	4.8 kg
CENTER SPEAKER	
Type	1 way, 2 speakers, Bass-reflex
Speaker(s)	
Full range:	8 cm cone type×2
Impedance	8 Ω
Input power	160 W (Music), 80 W (DIN)
Output sound pressure level	91 dB/W (1.0 m)
Frequency range	138 Hz–18 kHz (–16 dB)
■ General	
Dimensions (W×H×D)	270×118×159 mm
Weight	1.8 kg
SURROUND SPEAKER	
Type	1 way, 1 speaker
Speaker	
Full range:	8 cm cone type
Impedance	4 Ω
Input power	50 W (Music), 25 W (DIN)
Output sound pressure level	84 dB/W (1.0 m)
Frequency range	120 Hz–20 kHz (–16 dB)
■ General	
Dimensions (W×H×D)	168×118×151 mm
Weight	1.0 kg
Notes:	
1.	Specifications are subject to change without notice. Weight and dimensions are approximate.
2.	Total harmonic distortion is measured by the digital spectrum analyzer.

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