

Mini Hi-Fi Component System

Operating Instructions



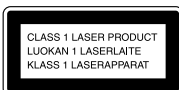
*MHC-VX99
MHC-VX77/VX77J
MHC-VX55/VX55J*

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.


Do not install the appliance in a confined space, such as a bookcase or built-in cabinet.





This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

This stereo system is equipped with the Dolby B-type noise reduction system*. (MHC-VX99 only).

* Manufactured under license from Dolby Laboratories Licensing Corporation.

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

This system can play the following discs

	VIDEO CDs	Audio CDs
Disc logo		
Contents	Audio + Video (moving pictures)	Audio
Disc size	12 cm/8 cm	12 cm/8 cm
Play time	74 min./20 min.	74 min./20 min.

Note on VIDEO CDs

This system conforms to VIDEO CDs without PBC functions (Ver. 1.1) and VIDEO CDs with PBC functions (Ver. 2.0) of VIDEO CD standards. You can enjoy two kinds of playback according to the disc type.

Disc type	You can
VIDEO CDs without PBC functions (Ver. 1.1 discs)	Enjoy video playback (moving pictures) as well as audio CDs.
VIDEO CDs with PBC functions (Ver. 2.0 discs)	Play interactive software using menu screens displayed on the TV screen (menu playback), in addition to the video playback function of VIDEO CDs without PBC functions. Moreover, you can play high or standard quality still picture.

* PBC = Play Back Control

About this manual

The instructions in this manual are for MHC-VX99/VX77/VX77J/VX55/VX55J. MHC-VX99 is the model used for illustration purposes only. The location of some buttons on MHC-VX77/VX77J/VX55/VX55J is different, but the name of the buttons is the same.

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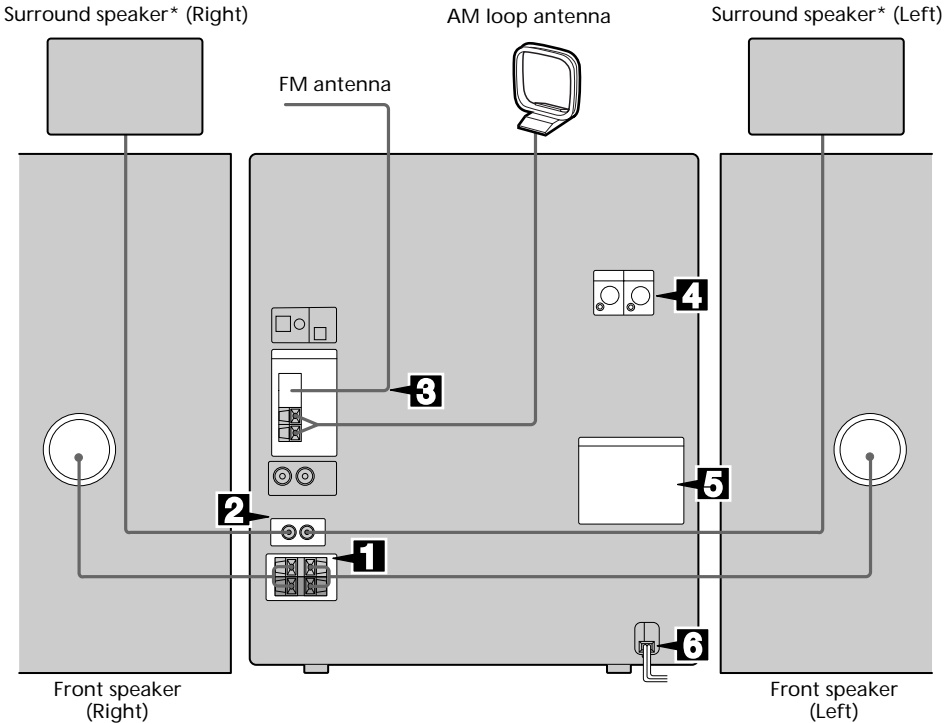
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Step 1: Hooking up the system

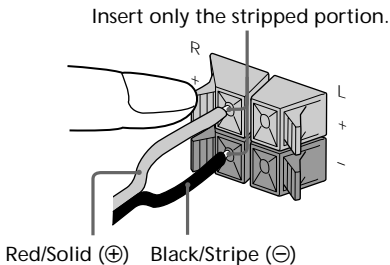
Do the following procedure **1** to **7** to hook up your system using the supplied cords and accessories.



* MHC-VX77/VX77J only.

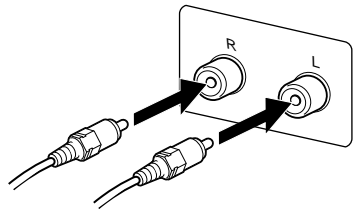
1 Connect the speakers.

Connect the speaker cords of front speakers to the SPEAKER jacks as below.



2 Connect the surround speaker

(MHC-VX77/VX77J only).
Connect the speaker cords to SURROUND SPEAKER jacks.

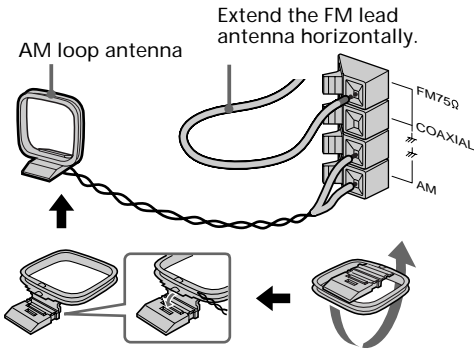


Notes

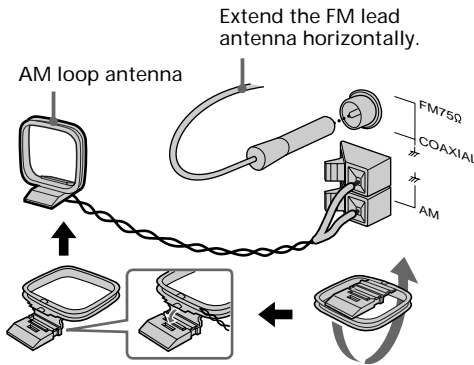
- Keep the speaker cords away from the antennas to prevent noise.
- The type of speakers supplied varies according to the model you purchased (see "Specifications" on page 53).

- 3** Connect the FM/AM antennas.
Set up the AM loop antenna, then connect it.

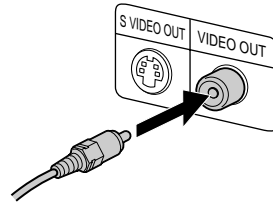
Jack type ①



Jack type ②



- 4** Connect the video input jack of your TV to the VIDEO OUT jack with the supplied video cable.



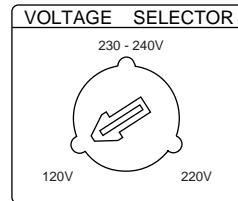
When using a TV

Turn on the TV and select the video input so you can view the pictures from this system.

Tip

For even higher quality video images, you can use an optional S-video cable to connect the S VIDEO input jack on your TV to the S VIDEO OUT jack.

- 5** For models with a voltage selector, set VOLTAGE SELECTOR to the position of your local power line voltage.



- 6** Connect the power cord to a wall outlet.

The demonstration appears in the display. When you press I/⏻, the system turns on and the demonstration automatically ends.

If the supplied adaptor on the plug does not fit your wall outlet, detach it from the plug (only for the model equipped with an adaptor).

continued

Step 1: Hooking up the system (continued)

7 Follow the instructions below to set the color system according to your TV. The factory setting is AUTO. Make sure the power is off each time before setting the color system. After you set the color system, the power turns on automatically and the function is set to CD.

If your TV automatically changes the color system according to the input signal:

Press **I/⏻** while holding down **III**. The color system is set to AUTO.

AUTO automatically changes the color system of the video output according to the color system of the current VIDEO CD.

If the color system of your TV is NTSC:

Press **I/⏻** while holding down **▶▶I**. The color system is set to NTSC.

If the color system of your TV is PAL:

Press **I/⏻** while holding down **I◀◀**. The color system is set to PAL.

Note

When you set color system to NTSC and play back a VIDEO CD recorded in the PAL color system, the picture image may be distorted depending on the disc. Similarly, when you set color system to PAL and play back a VIDEO CD recorded in the NTSC color system, the picture image may be distorted depending on the disc.

To connect optional components

See page 46.

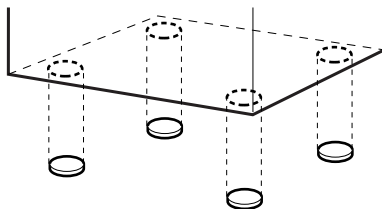
To deactivate the demonstration

When you set the time (see “Step 2: Setting the time”), the demonstration is deactivated.

To activate/deactivate the demonstration again, press DISPLAY while the system is off.

To attach the front speaker pads

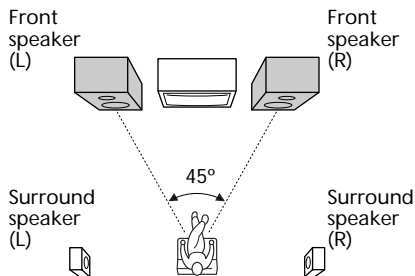
Attach the supplied front speaker pads to the bottom of the speakers to stabilize the speakers and prevent them from slipping.



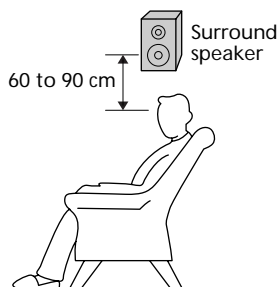
Positioning the speakers (MHC-VX77/VX77J only)

Before you connect them, determine the best location for your speakers.

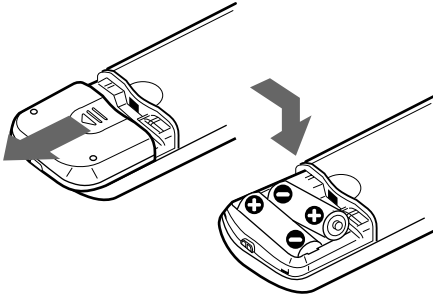
- 1 Place the front speakers at an angle of 45 degrees from your listening position.



- 2 Place the surround speakers facing each other at about 60 to 90 cm above your listening position.

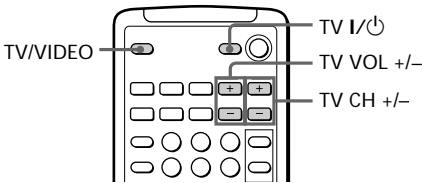


Inserting two size AA (R6) batteries into the remote



Using the remote

You can use the shaded buttons shown below to operate a Sony TV.



To	Press
Turn the TV on or off	TV I/⏻
Switch the TV's video input	TV/VIDEO.
Change the TV channels	TV CH +/-.
Adjusts the volume of the TV speaker(s)	TV VOL +/-.

Tip

With normal use, the batteries should last for about six months. When the remote no longer operates the system, replace both batteries with new ones.

Note

If you do not use the remote for a long period of time, remove the batteries to avoid possible damage from battery leakage.

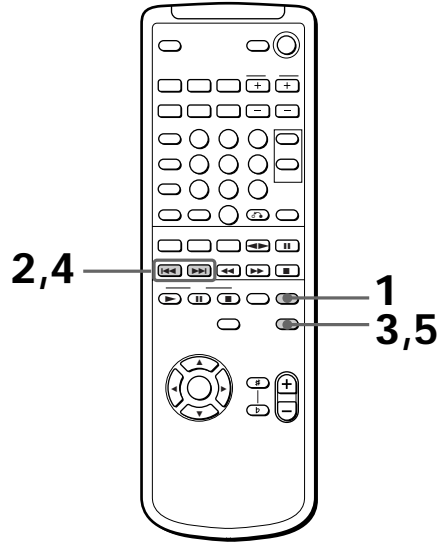
When carrying this system

Do the following to protect the CD mechanism.

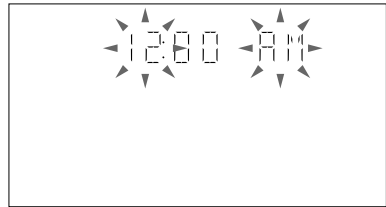
- 1 Make sure that all discs are removed from the unit.
- 2 Hold down CD and then press I/⏻ so that "LOCK" appears in the display.
- 3 Unplug the AC power cord.

Step 2: Setting the time

You must set the time before using the timer functions.



- 1 Press CLOCK/TIMER SET.
The hour indication flashes.



- 2 Press ◀◀ or ▶▶ repeatedly to set the hour.

continued

Step 2: Setting the time (continued)

- 3** Press ENTER.
The minute indication flashes.



- 4** Press ◀◀ or ▶▶ repeatedly to set the minute.

- 5** Press ENTER.
The clock starts working.

Tip

If you've made a mistake, start over from step 1.

To change the time

The previous explanation shows you how to set the time while the power is off. To change the time while the power is on, do the following:

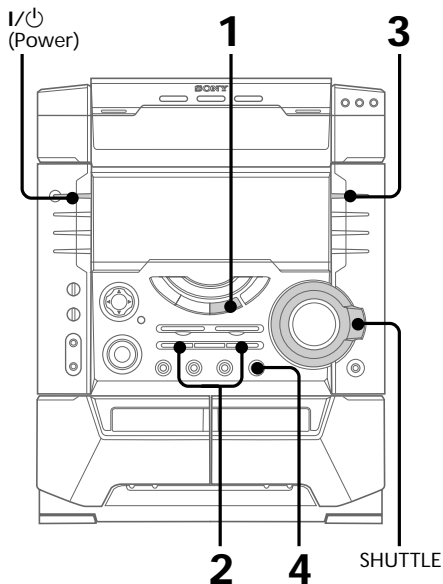
- 1 Press CLOCK/TIMER SET.
- 2 Press ◀◀ or ▶▶ repeatedly to select SET CLOCK.
- 3 Press ENTER.
- 4 Perform steps 2 through 5 above.

Note

The clock settings are canceled when you disconnect the power cord or if a power failure occurs.

Step 3: Presetting radio stations

You can preset 20 stations for FM and 10 stations for AM.



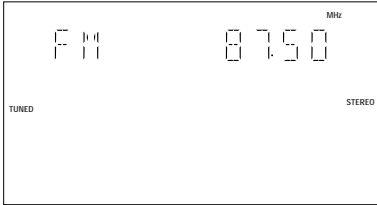
- 1** Press TUNER/BAND repeatedly until the band you want appears in the display.

Every time you press this button, the band changes as follows:

FM ↔ AM

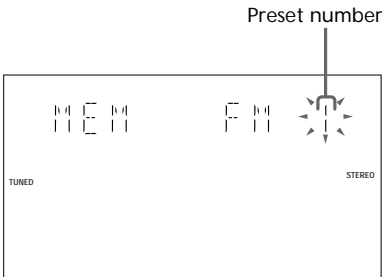
-
- 2** Press and hold + or - (or TUNING +/- on the remote) until the frequency indication starts to change, then release.

Scanning stops when the system tunes in a station. "TUNED" and "STEREO" (for a stereo program) appear.



-
- 3** Press TUNER MEMORY.

A preset number appears in the display. The stations are stored from preset number 1.



-
- 4** Press ENTER.

"COMPLETE" appears in the display. The station is stored.

-
- 5** Repeat steps 1 to 4 to store other stations.
-

To tune in a station with a weak signal

Press + or - (TUNING +/- on the remote) repeatedly to tune in the station manually.

To set another station to the existing preset number

Start over from step 1. After step 3, turn SHUTTLE until it clicks to select the preset number you want to store the other station.

You can add a new preset number after the last preset number.

To erase the preset station

- 1 Hold down TUNER MEMORY until a preset number appears in the display.



- 2 Turn SHUTTLE until it clicks to select the preset number you want to erase.

Select "ALL ERASE" when you want to erase all the preset stations.

- 3 Press ENTER.

"COMPLETE" appears.

When you erase a preset number, the preset number decreases by one and all preset numbers following the erased one are renumbered.

To change the AM tuning interval (Except for Middle Eastern models)

The AM tuning interval is factory set to 9 kHz (10 kHz in some areas). To change the AM tuning interval, tune in any AM station first, then turn off the power. While holding down the ENTER button, turn the power back on. When you change the interval, AM preset stations will be erased. To reset the interval, repeat the same procedure.

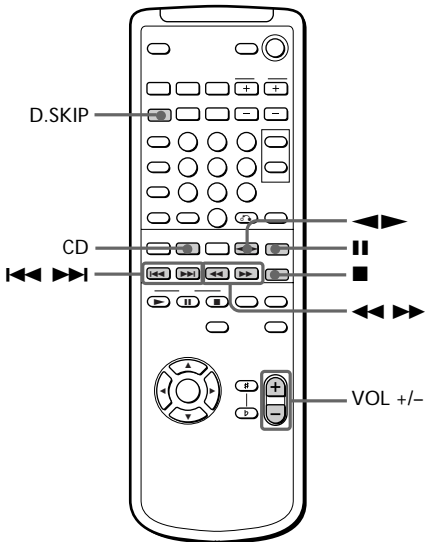
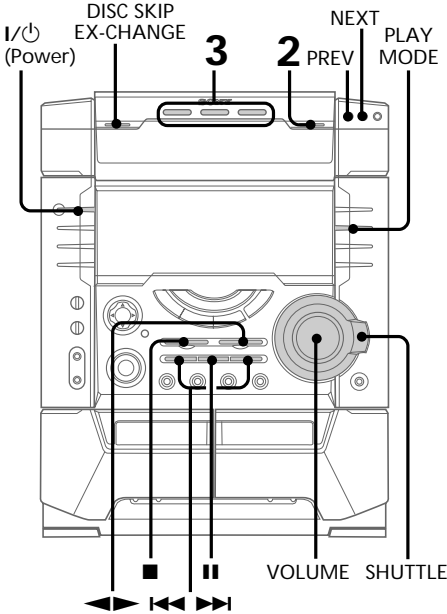
Tip

The preset stations are retained for half a day even if you unplug the power cord or if a power failure occurs.

Playing a VIDEO CD

You can play both VIDEO CDs without PBC functions (Ver. 1.1) and VIDEO CDs with PBC functions (Ver. 2.0).

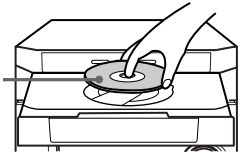
You can enjoy two kinds of playback according to the disc type.



- 1 Turn on your TV and select the video input.
Refer to the operating instructions supplied with your TV if you need help.

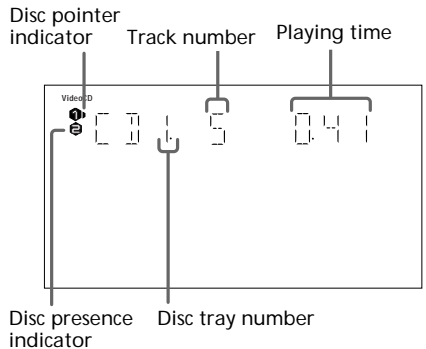
- 2 Press **▲ OPEN/CLOSE** and place a VIDEO CD on the disc tray.
If a disc is not placed properly, it will not be recognized.

Place the label side up. When you play a VIDEO CD single, place it on the inner circle of the tray.



To insert additional discs, press DISC SKIP EX-CHANGE to rotate the disc tray.

- 3 Press one of the DISC 1~3 buttons.
The disc tray closes and playback starts.
If you press **◀▶** when CD is selected as the function and the disc tray is closed, playback starts from the CD loaded on the tray whose disc pointer indicator is lit.



To	Do this
Stop play	Press ■.
Pause	Press ■* ¹ . Press again to resume playback.
Select a track or scene ²	Press NEXT or ►►1 to go forward, PREV or ◀◀1 to go back. When you play VIDEO CDs with PBC functions (Ver 2.0), see page 21.
Find a point in a track or scene (Lock Search function)	<p>There are two types of searching:</p> <p>① Turn SHUTTLE until it clicks during playback and hold. According to the length of turning the shuttle, speed changes as follows (press and hold down ◀◀/►► on the remote): 1 (slow) → 2 (normal) → 3 (high) Release SHUTTLE at the desired speed and the search goes on at the speed. Press ◀► to stop searching and start playback at the desired point.</p> <p>② Turn SHUTTLE until it clicks during playback. Each time it is turned, speed changes as follows (press ◀◀/►► on the remote): 1 (slow) → 2 (normal) → 3 (high) → 1 (slow) ... Press ◀► to stop searching and start playback at the desired point.</p>
Select a VIDEO CD in stop mode	Press a DISC 1~3 button or DISC SKIP EX-CHANGE (or D.SKIP on the remote).
Play only the VIDEO CD you have selected	Press PLAY MODE repeatedly until "CONTINUE 1 DISC"* ² , "PBC 1 DISC"* ³ or "SHUFFLE 1 DISC"* ⁴ appears.
Play all VIDEO CDs	Press PLAY MODE repeatedly until "CONTINUE ALL DISCS"* ² , "PBC ALL DISCS"* ³ or "SHUFFLE ALL DISCS"* ⁴ appears.
Remove the VIDEO CD	Press ▲ OPEN/CLOSE.
Exchange other VIDEO CDs while playing	Press DISC SKIP EX-CHANGE.
Adjust the volume	Turn VOLUME (or press VOL +/- on the remote).

*¹There may be some disturbance in the video image.

*²Only when setting the PBC function to off or when playing VIDEO CDs without PBC functions (Ver. 1.1).

*³Only for VIDEO CDs with PBC functions (Ver. 2.0) while the PBC function is set to on.

*⁴SHUFFLE means to playback in random order (see page 31). This function cannot be used during menu playback of a VIDEO CD with PBC functions (Ver. 2.0).

Tips

- You can switch from another source to the VIDEO CD player and start playing a VIDEO CD just by pressing one of the DISC 1~3 buttons (Automatic Source Selection).
- If there is no VIDEO CD in the player, "CD NO DISC" appears in the display.
- When a disc tray holding a VIDEO CD is selected (or the VIDEO CD in the disc tray is playing) the disc pointer indicator lights. When a disc tray holding a VIDEO CD is not selected, the disc presence indicator lights, but the disc pointer indicator does not light. When all disc trays are empty, both the disc presence indicator and disc pointer indicator light.

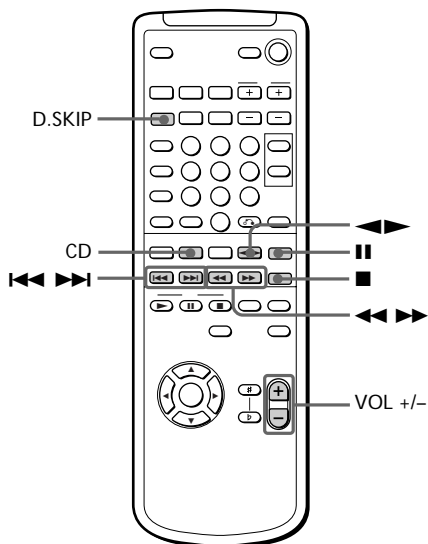
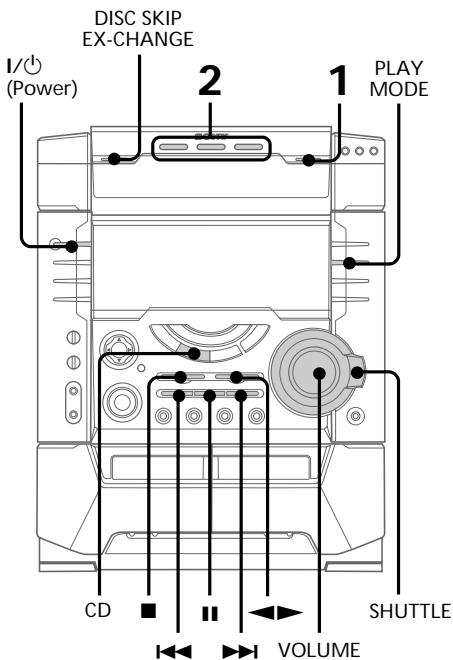
Note

When a tray has not been read by the unit, the disc presence indicator may light even though there is no disc on the tray.

Playing a CD

— Normal play

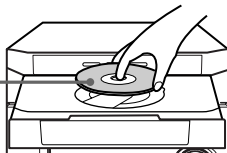
You can play up to three CDs in a row.



- 1 Press **▲** OPEN/CLOSE and place a CD on the disc tray.

If a disc is not placed properly, it will not be recognized.

With the label side up. When you play a CD single, place it on the inner circle of the tray.

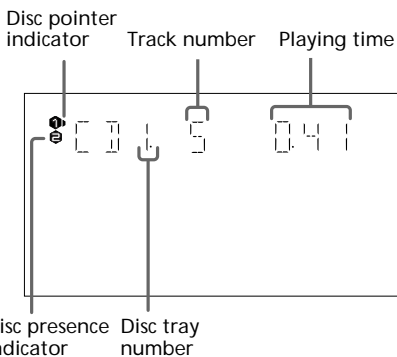


To insert additional discs, press DISC SKIP EX-CHANGE to rotate the disc tray.

- 2 Press one of the DISC 1~3 buttons.

The disc tray closes and play starts.

If you press **◀▶** when CD is selected as the function and the disc tray is closed, play starts from the CD loaded on the tray whose disc pointer indicator is lit.



To	Do this
Stop play	Press ■.
Pause	Press II. Press again to resume play.
Select a track	During play or pause, press ►► (to go forward) or ◄◄ (to go back).
Find a point in a track	Turn SHUTTLE clockwise (to go forward) or counterclockwise (to go back) until it clicks and hold. Release it when you reach the desired point (or press and hold down ►► or ◄◄ on the remote). Then press ◄►.
Select a CD in stop mode	Press a DISC 1-3 button or DISC SKIP EX-CHANGE (or D. SKIP on the remote).
Play only the CD you have selected	Press PLAY MODE repeatedly until "CONTINUE 1 DISC" or "SHUFFLE 1 DISC" appears.
Play all CDs	Press PLAY MODE repeatedly until "CONTINUE ALL DISCS" or "SHUFFLE ALL DISCS" appears.
Remove the CD	Press ▲ OPEN/CLOSE.
Exchange other CDs while playing	Press DISC SKIP EX-CHANGE.
Adjust the volume	Turn VOLUME (or press VOL +/- on the remote).

Tips

- You can switch from another source to the CD player and start playing a CD just by pressing the DISC 1-3 buttons (Automatic Source Selection).
- If there is no CD in the player, "CD NO DISC" appears in the display.
- When a disc tray holding a CD is selected (or the CD in the disc tray is playing) the disc pointer indicator lights. When a disc tray holding a CD is not selected, the disc presence indicator lights, but the disc pointer indicator does not light. When all disc trays are empty, both the disc presence indicator and disc pointer indicator light.

Note

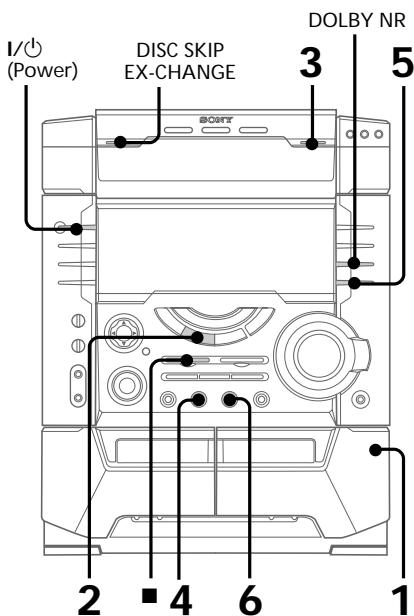
When a tray has not been detected by the unit, the disc pointer indicator may light even though there is no disc on the tray.

Recording a CD/VIDEO CD

— CD Synchro Recording

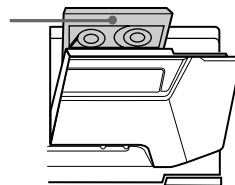
The CD SYNC HI-DUB button lets you record from a CD to a tape easily. You can use TYPE I (normal) or TYPE II (CrO₂)* tapes. The recording level is adjusted automatically.*

* MHC-VX99 only



- 1 Press ▲ and insert a recordable tape into deck B.

With the side you want to record facing forward



- 2 Press CD.

continued

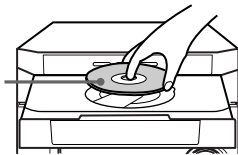
Recording a CD/VIDEO CD (continued)

- 3** Press **▲ OPEN/CLOSE** and place a CD.

Then, press **▲ OPEN/CLOSE** again to close the disc tray.

When the CD you want to record is not selected, press **DISC SKIP EX-CHANGE** repeatedly to select the CD you want.

With the label side up. When you play a CD single, place it on the inner circle of the tray.



- 4** Press **CD SYNC HI-DUB**. Deck B stands by for recording and the CD player stands by for playback. The **REC PAUSE/START** button flashes.

- 5** Press **DIRECTION** repeatedly to select **↔** to record on one side. Select **↔↔** (or **RELAY**) to record on both sides.

- 6** Press **REC PAUSE/START**. Recording starts.

To stop recording

Press **■**.

Tips

- If you want to record from the reverse side, press **TAPE A/B** to select deck B after step 1. Press **◀▶** to start playback of the reverse side, then press **■** where you want to start recording. **TAPE B** reverse side indicator lights up (see page 17).
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- When you want to reduce the hiss noise in low-level high-frequency signals, press **DOLBY NR** so that "DOLBY NR" appears after pressing **CD SYNC HI-DUB** (MHC-VX99 only).

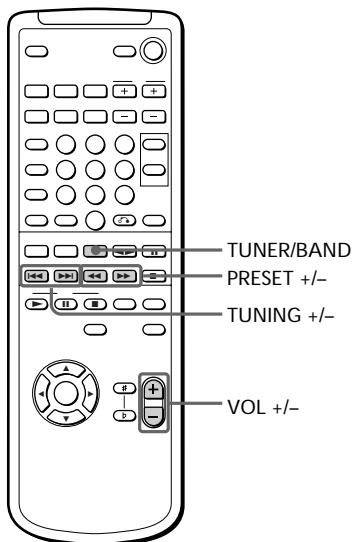
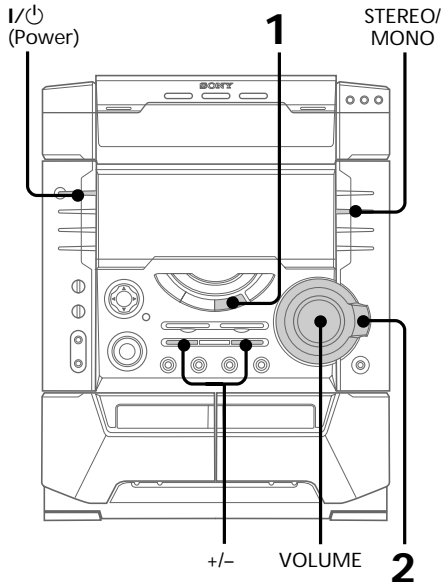
Note

You cannot listen to other sources while recording.

Listening to the radio

-- Preset Tuning

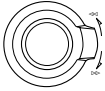
Preset radio stations in the tuner's memory first (see "Step 3: Presetting radio stations" on page 8).



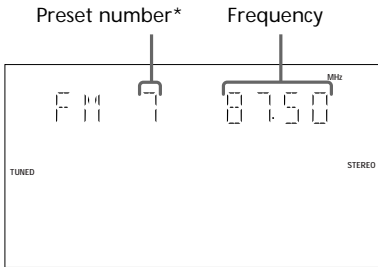
1 Press TUNER/BAND repeatedly to select FM or AM.

2 Turn SHUTTLE until it clicks (or press PRESET +/- on the remote) to tune in the preset station you want.

Turn counter-clockwise (or press PRESET - on the remote) for lower preset numbers.



Turn clockwise (or press PRESET + on the remote) for higher preset numbers.



* When only one station is preset, "ONE PRESET" appears in the display.

To	Do this
Turn off the radio	Press I/⏻.
Adjust the volume	Turn VOLUME (or press VOL +/- on the remote).

To listen to non-preset radio stations

Use manual or automatic tuning in step 2. For manual tuning, press + or - (or TUNING +/- on the remote) repeatedly. For automatic tuning, press and hold + or - (or TUNING +/- on the remote).

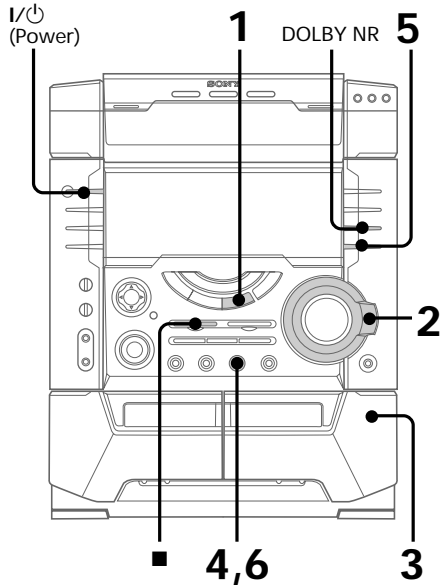
Tips

- You can switch from another source to the radio just by pressing TUNER/Band (Automatic Source Selection).
- When an FM program is noisy, press STEREO/MONO so that "MONO" appears in the display. There will be no stereo effect, but the reception will improve. Press the button again to restore the stereo effect.
- To improve broadcast reception, reorient the supplied antennas.

Recording from the radio

You can record the radio program on a tape by calling up a preset station. You can use TYPE I (normal) or TYPE II (CrO₂)* tapes. The recording level is adjusted automatically.*

* MHC-VX99 only



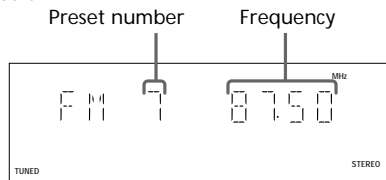
1 Press TUNER/BAND to select the band you want.

2 Turn SHUTTLE until it clicks (or press PRESET +/- on the remote) to tune in a preset station.

Turn counter-clockwise (or press PRESET - on the remote) for lower preset numbers.



Turn clockwise (or press PRESET + on the remote) for higher preset numbers.

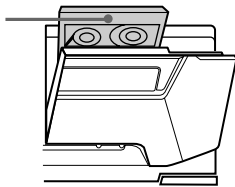


continued

Recording from the radio (continued)

- 3** Press **▲** and insert a recordable tape into deck B.

With the side you want to record facing forward



- 4** Press REC PAUSE/START.
Deck B stands by for recording.

- 5** Press DIRECTION repeatedly to select **↔** to record on one side. Select **↔↔** (or RELAY) to record on both sides.

- 6** Press REC PAUSE/START.
Recording starts.

To stop recording

Press **■**.

Tips

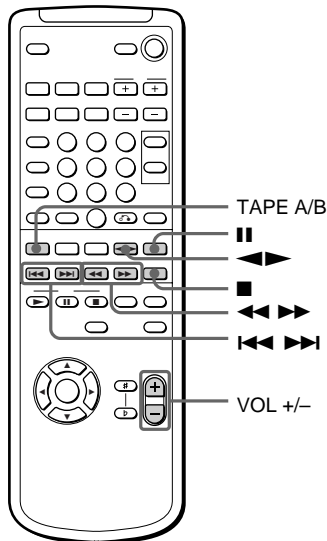
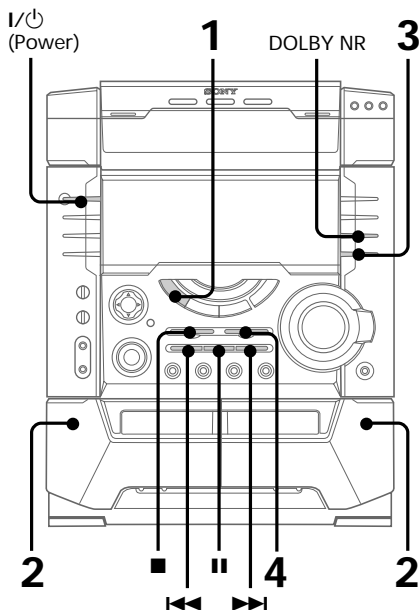
- If you want to record from the reverse side, press TAPE A/B to select deck B after step 1. Press **◀▶** to start playback of the reverse side, then press **■** where you want to start recording. TAPE B reverse side indicator lights up (see page 17).
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- To record non-preset stations, use + and - (or TUNING +/- on the remote) in step 2 to tune in the desired station manually.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so that "DOLBY NR" appears after pressing REC PAUSE/START in step 4 (MHC-VX99 only).
- If noise is heard while recording from the radio, move the respective antenna to reduce the noise.

Playing a tape

You can use TYPE I (normal) or TYPE II (CrO₂)* tapes. You can also use the **◀◀/▶▶** (AMS**) function to quickly search for songs you want to hear. To select either deck A or B, press TAPE A/B repeatedly.

* MHC-VX99 only

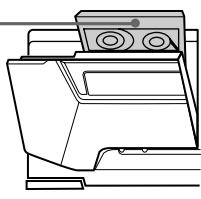
**AMS (Automatic Music Sensor)



1 Press TAPE A/B repeatedly to select deck A or B.

2 Press **▲** and insert a recorded tape in deck A or B.

With the side you want to play facing forward

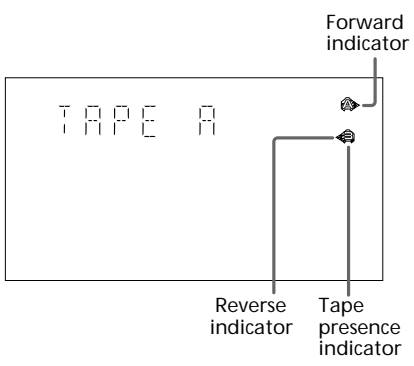


3 Press DIRECTION repeatedly to select **↔** to play one side. Select **↔↔** to play both sides.

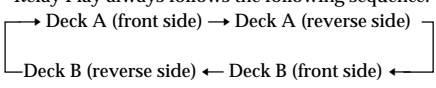
To play both decks in succession, select RELAY (relay play).*

4 Press **◀▶**.

Press **◀▶** again to play the reverse side. The tape starts playing.



* Relay Play always follows the following sequence:



To	Do this
Stop play	Press ■ .
Pause	Press ⏸ . Press again to resume play.
Fast-forward	Turn SHUTTLE clockwise until it clicks (or press ▶▶ on the remote) while playing the front side or counterclockwise until it clicks (or press ◀◀ on the remote) while playing the reverse side.
Rewind	Turn SHUTTLE counterclockwise until it clicks (or press ◀◀ on the remote) while playing the front side or clockwise until it clicks (or press ▶▶ on the remote) while playing the reverse side.
Remove the cassette	Press ▲ .
Adjust the volume	Turn VOLUME (or press VOL +/- on the remote).

Tips

- The deck stops automatically after repeating the sequence five times.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so that "DOLBY NR" appears (MHC-VX99 only).
- When no tapes are inserted, all indicators light. When a tape (tapes) is (are) inserted, corresponding presence and forward/reverse indicators light.

Searching for the beginning of a track (AMS*)

During playback, press **◀◀** or **▶▶** repeatedly for the number of songs you want to skip forward (or backward).

The search direction, + (forward) or - (back), and number of songs being skipped (1~9) appear in the display.

Example: searching forward 2 songs
 TAPE A: +2

* AMS (Automatic Music Sensor)

Note

The AMS function may not operate correctly under the following circumstances:

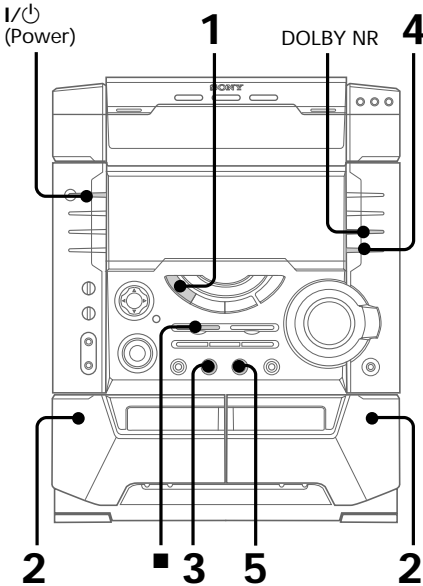
- When the unrecorded space between songs is less than 4 seconds long.
- If completely different information is recorded on the left and right channels.
- When there are continuous sections of extremely low level or low frequency sound (like those of a baritone sax).
- When the unit is placed near a television. (In this case, we recommend moving the unit farther away from the television or turning off the television.)

Recording from a tape


— High-speed Dubbing

You can use TYPE I (normal) or TYPE II (CrO₂)* tapes. The recording level is adjusted automatically.*

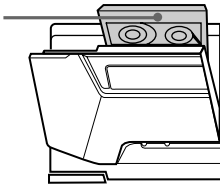
* MHC-VX99 only





1 Press TAPE A/B.

2 Press  and insert a recorded tape in deck A and a recordable tape in deck B.

With the side you want to play/record facing forward



3 Press CD SYNC HI-DUB.
Deck B stands by for recording.


4 Press DIRECTION repeatedly to select  to record on one side. Select  (or RELAY) to record on both sides.

5 Press REC PAUSE/START.
Dubbing starts.

To stop dubbing

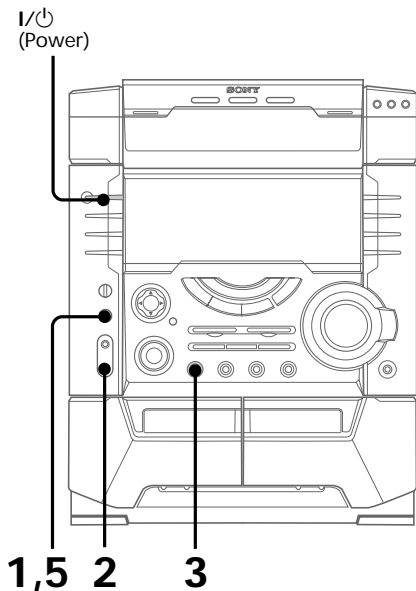
Press .

Tips

- When you dub on both sides, start recording from the front side. If you record from the reverse side, recording stops at the end of the reverse side.
- If you set DIRECTION to  when the tapes you use have different lengths, the tape in each deck reverses independently. If you select RELAY, the tapes in both decks reverse together.
- You don't have to set DOLBY NR, since the tape in deck B is automatically recorded in the same state as the tape in deck A (MHC-VX99 only).

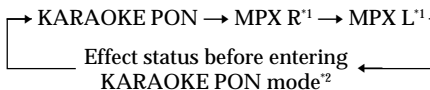
Singing along: Karaoke

You can sing along with any stereo CD or tape by turning down the singer's voice. You need to connect an optional microphone.




- 1 Turn MIC LEVEL to MIN to turn down the microphone control level.
- 2 Connect an optional microphone to MIC 1 or MIC 2.

- 3 Press KARAOKE PON/MPX.
Every time you press the button, the display changes as follows:



¹ Only for CD.

² KARAOKE PON is cancelled.

The  indicator appears in the display when a karaoke mode is activated.

To sing karaoke with decreasing the vocal level of a CD, select "KARAOKE PON".

To sing karaoke of multiplex CD, select "MPX R" or "MPX L".


- 4 Start playing the music and adjust the volume.
- 5 Adjust the microphone volume by turning MIC LEVEL.

When you use VIDEO CDs

Turn on your TV and switch it to the appropriate video input.

Refer to the operating instructions supplied with your TV for details.

When you are done

Turn MIC LEVEL to MIN and disconnect the microphone from MIC 1 or MIC 2, then press KARAOKE PON/MPX again so that "" disappears.

Tip

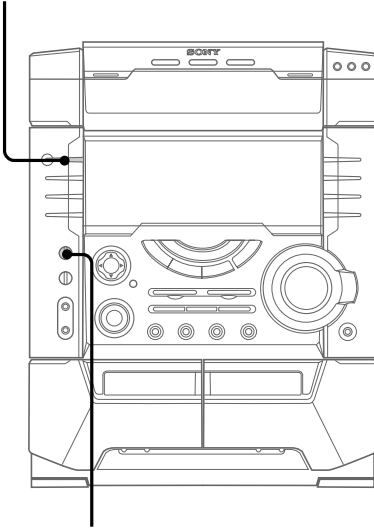
You can use two microphones connecting to MIC 1 and MIC 2 at the same time.

Notes

- With some songs, vocals may not be canceled when you select "KARAOKE PON".
- During KARAOKE PON, equalizer and surround settings cannot be changed.
- If you press ◀/▶/▲/▼ (or ON/OFF or MULTI MENU ◀/▶/▲/▼ on the remote) or recall a sound effect, the karaoke mode is canceled.
- The instrumental sound may be reduced as well as the singer's voice when the sound is recorded in monaural.
- The singer's voice may not be reduced when:
 - only a few instruments are playing.
 - a duet is being played.
 - the source has strong echoes or chorus.
 - the singer's voice deviates from the center.
 - the voice on the source is singing in high soprano or tenor.

Adjusting the microphone echo

I/⏻
(Power)



ECHO LEVEL

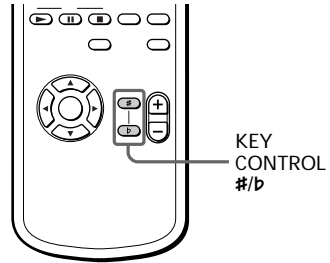
➔ Turn ECHO LEVEL to adjust the echo effect.

To cancel the echoing

Turn ECHO LEVEL to MIN.

Adjusting the key

This function allows you to adjust the key to suit your vocal range when playing a VIDEO CD or standard audio CD.



➔ Press KEY CONTROL # or b.
You can adjust the key higher or lower in 13 halftone steps (b 6 ~ # 6).

Note

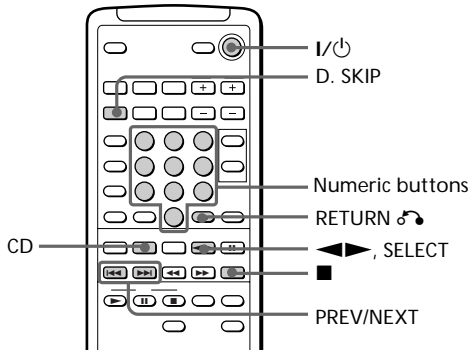
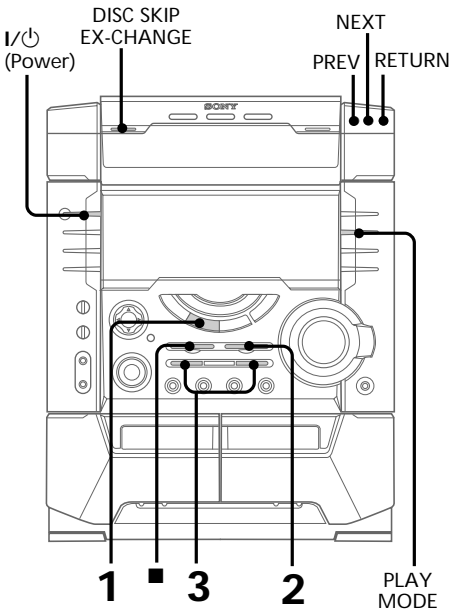
This function cannot be used with the tape deck.

Playing a VIDEO CD with PBC functions (Ver. 2.0)

-- PBC Play

The PBC (Play Back Control) function display menus on your TV screen to let you enjoy interactive software.

Be sure to read the instructions supplied with each disc for details regarding its use since different discs have different menu formats and structures.



1 Press CD.

2 Press ◀▶ to start playing a VIDEO CD with PBC functions (Ver. 2.0).

The VIDEO CD and PBC indicators light up and a PBC menu appears on your TV.

- Video CD : Lights during playback of a VIDEO CD.
- PBC : Lights during PBC playback of a PBC compatible VIDEO CD (Ver. 2.0).
- PBC OFF : Lights when a PBC compatible VIDEO CD (Ver. 2.0) is played without using the PBC functions (see next page).

3 Press ◀◀ or ▶▶ repeatedly to select a number from the menu, then press ENTER or SELECT.

4 Continue according to the instructions on the menus to enjoy interactive playback.

To	Do this
Stop play	Press ■.
See the rest of a menu	Press NEXT.
Go back to the top of a menu	Press PREV.
Go back to a previous menu	Press RETURN (or RETURN ↻ on the remote).

continued

Playing a VIDEO CD with PBC functions (Ver. 2.0) (continued)

To cancel PBC Playback of VIDEO CDs with PBC functions (Ver. 2.0)

There are two ways to cancel the PBC functions.


- Before you start playing, select the track you want using ◀◀/▶▶, then press ENTER or SELECT.
- Before you start playing, select the track number using the numeric buttons on the remote.

The PBC OFF indicator lights up and playback begins from the selected track. Still images, such as the menu screens, will not be shown.

To select a menu number using the remote

Press the numeric buttons in the order you want in step 2. To enter track numbers 10 or over, first press >10, then press the numeric buttons. To enter 0, use the 10/0 button.

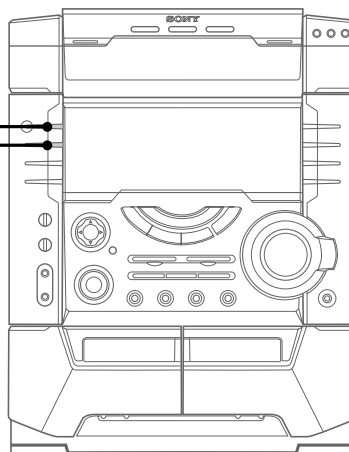
Tips

- When  appears on the TV screen, you have pressed an invalid button. Press a button indicated by the instructions on the menu screen.
- When you press NEXT during menu playback or while playing moving pictures, the next scene on the disc appears. Also refer to the instructions supplied with the disc.

Checking the remaining time

You can check the remaining time of the current track or that of the CD.

I/⏻
(Power)



DISPLAY

➔ Press DISPLAY.

Each time you press the button during normal playback or when playback is stopped, the display changes as follows:

During normal playback

- Playing time of the current track
- ↓
- Remaining time of the current track
- ↓
- Remaining time of current CD (1 DISC mode) or “-.-.-” display (ALL DISCS mode)
- ↓
- Clock display (for eight seconds)
- ↓
- Effect status

(VIDEO CDs with PBC functions (Ver. 2.0))

- Playing time on the current track*
- ↓
- Clock display (for eight seconds)
- ↓
- Effect status

* May not appear with still images, etc.

When playback is stopped

During Program Play mode when there is a program

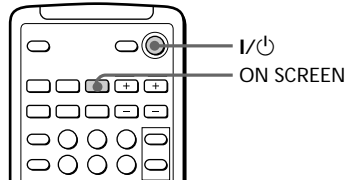
- The last track number of the program and the total playing time
- ↓
- Total number of programmed tracks (for eight seconds)
- ↓
- Clock display (for eight seconds)
- ↓
- Effect status

In other conditions

- Total number of tracks and total playing time
- ↓
- Clock display (for eight seconds)
- ↓
- Effect status

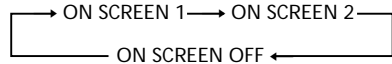
Using the on-screen display

You can check the current operating status and disc information of VIDEO CDs or audio CDs during playback or in stop mode by superimposing a display on top of the images on your TV screen.



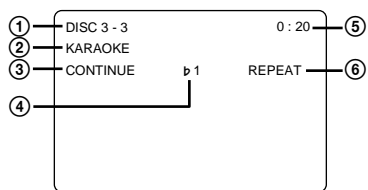
➔ Press ON SCREEN.

Each time you press this button, the on-screen display changes as follows:



ON SCREEN 1 display

- During playback of an audio CD (except Program Play mode)

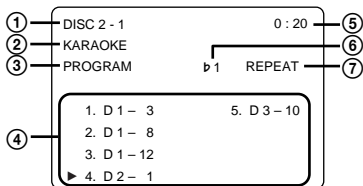


- ① Current disc and track number
- ② KARAOKE effect status
- ③ Play mode
- ④ Key control level or no display
- ⑤ Elapsed time of current track
- ⑥ “REPEAT”, “REPEAT 1” or no display

continued

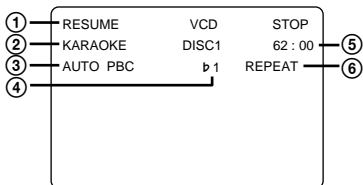
Using the on-screen display (continued)

- During playback of an audio CD in Program Play mode



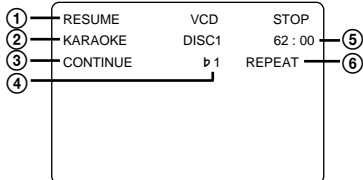
- ① Current disc and track number
- ② KARAOKE effect status
- ③ "PROGRAM"
- ④ Programmed disc and track numbers
- ⑤ Elapsed time of current track
- ⑥ Key control level or no display
- ⑦ "REPEAT", "REPEAT 1" or no display

- During stop mode of a VIDEO CD with PBC functions



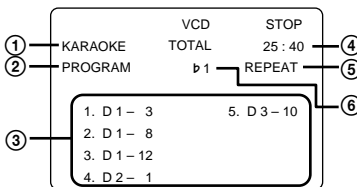
- ① "RESUME" or no display
- ② KARAOKE effect status
- ③ "AUTO PBC"
- ④ Key control level or no display
- ⑤ Total playing time of current disc
- ⑥ "REPEAT", "REPEAT 1" or no display

- During stop mode of a VIDEO CD or audio CD (except Program Play mode)



- ① "RESUME" or no display
- ② KARAOKE effect status
- ③ Play mode
- ④ Key control level or no display
- ⑤ Total playing time of current disc
- ⑥ "REPEAT", "REPEAT 1" or no display

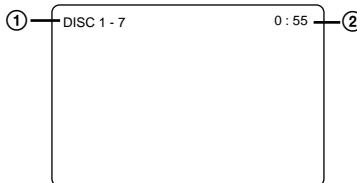
- During stop mode of a VIDEO CD or audio CD in Program Play mode



- ① KARAOKE effect status
- ② "PROGRAM"
- ③ Programmed disc and track numbers
- ④ Total playing time of program
- ⑤ "REPEAT", "REPEAT 1" or no display
- ⑥ Key control level or no display

ON SCREEN 2 display

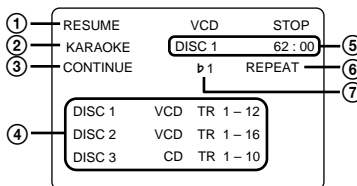
- During playback of a VIDEO CD



- ① Current disc and track number*
 - ② Elapsed time of current track
- * "SCENE" and number is displayed during playback of a VIDEO CD with PBC functions

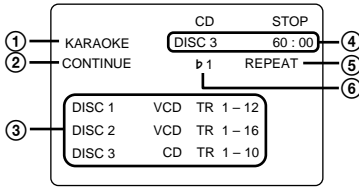
- During playback of an audio CD
Display is the same as ON SCREEN 1.

- During stop mode of a VIDEO CD (except Program Play mode)



- ① "RESUME" or no display
 - ② KARAOKE effect status
 - ③ Play mode*
 - ④ Total track numbers of each disc
 - ⑤ Current disc number and total playing time of current disc
 - ⑥ "REPEAT", "REPEAT 1" or no display
 - ⑦ Key control level or no display
- * "AUTO PBC" display for a VIDEO CD with PBC functions

- During stop mode of an audio CD (except Program Play mode)



- ① KARAOKE effect status
- ② Play mode
- ③ Disc number and track numbers
- ④ Current disc number and total playing time of current disc
- ⑤ "REPEAT", "REPEAT 1" or no display
- ⑥ Key control level or no display

- During stop mode of a VIDEO CD or audio CD in Program Play mode

Display is the same as ON SCREEN 1.

ON SCREEN OFF

No display (except for special menus).

Note

Normally, leave the display mode set to either ON SCREEN 1 or 2. When you select ON SCREEN OFF, you cannot check the operating status while operating the CD player. In this case, check the information on the front panel display.

To switch language of on-screen display (Chinese model only)

You can switch the messages in the on-screen display from Chinese to English.

- 1 Press SPECIAL MENU.
- 2 Press 4.

The messages switch from Chinese to English.

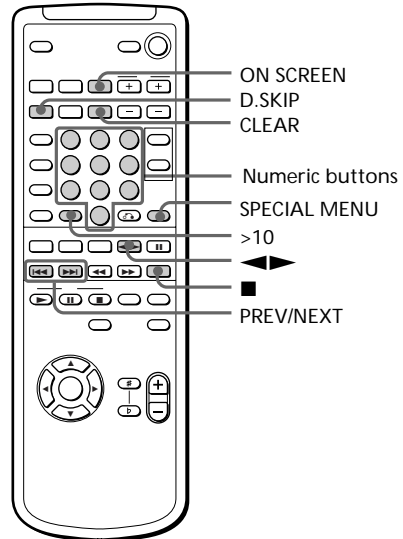
To switch back to Chinese messages, repeat this operation.

Locating a specific part of a disc

-- Special Menu

This player has 3 different search features. Select the search feature you want from the SPECIAL MENU.

The TV screen must be ON to use these functions.



continued

Locating a specific part of a disc (continued)

Locating by elapsed time

-- Time Search

You can use elapsed time as a guide to find a certain part of a VIDEO CD. "Elapsed time" means the time from the beginning of the disc. It is not the playing time of the current track as shown in the display.

It is especially useful when playing discs that have only a few track divisions.

This function cannot be used during playback of VIDEO CDs with PBC functions (Ver. 2.0).

1 Press SPECIAL MENU.

2 Press 1 to select "1) TIME SEARCH."

3 Press the numeric buttons (1 - 10/0) to enter the time (in minutes) for the section you want.

To enter 10 minutes: Press 1 → 10/0.

The selected elapsed time appears on the TV screen.

To reenter the time: Press CLEAR, and then press numeric buttons again.

4 Press ◀▶.
Playback starts from the selected time.

To stop playback

Press ■.

To use time search with VIDEO CDs with PBC functions (Ver. 2.0)

Select "1) TIME SEARCH" before you start playing the VIDEO CD, to light the PBC OFF indicator and play without PBC functions.

Locating the track you want

-- Disc Digest

You can select the track you want by viewing the first frame of each track. 9 different tracks can be displayed on the TV screen at one time.

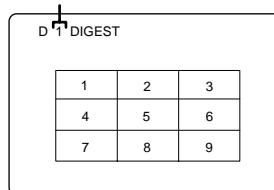
This function cannot be used during playback of VIDEO CDs with PBC functions (Ver. 2.0).

1 Press SPECIAL MENU.

2 Press 2 to select "2) DISC DIGEST."
The first frame of tracks 1 through 9 on the current disc are displayed.

The sound of the first three seconds of each track on an audio CD plays, but there is no sound when using a VIDEO CD.

Current disc number



3 Press the numeric buttons (1 - 10/0) to select the track you want.

To stop playback

Press ■.

To display the next 9 tracks

Press NEXT. The first frame of tracks 10 through 18 are displayed.

When there are more tracks in the disc, "▶▶1" appears in the upper right corner of the TV screen.

To display previous tracks, press PREV.

To switch to the digest of another disc during disc digest

Press D. SKIP during disc digest.

To use disc digest with VIDEO CDs with PBC functions (Ver. 2.0)

Select "2) DISC DIGEST" before you start playing the VIDEO CD, to light the PBC OFF indicator and play without PBC functions.

Tip

In step 2, you can select tracks even if they have not been displayed yet. Use the numeric buttons to select the track you want.

Notes

- Video images will not be shown for audio CDs.
- The play mode automatically switches to CONTINUE mode if you start disc digest during Shuffle or Program Play.

Locating a section within a track

— Track Digest

You can have the CD player divide a VIDEO CD track into 9 different sections and display the first scene of each section on the TV screen. This might be useful when playing discs with few track divisions, such as movies.

This function cannot be used during playback of VIDEO CDs with PBC functions (Ver. 2.0).

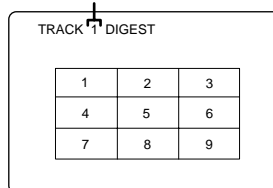
1 Press SPECIAL MENU.

2 Press 3 to select "3) TRACK DIGEST."

The current track is divided into 9 sections and the first frame of each section is displayed.

The sound of the first three seconds of each track on an audio CD plays, but there is no sound when using a VIDEO CD.

Current track number



3 Press the numeric buttons to select the section you want.

Playback starts from a point near the selected frame.

To stop playback

Press ■.

continued

Locating a specific part of a disc (continued)

To switch to the digest of another track during track digest

Press PREV or NEXT during track digest.

To use track digest with VIDEO CDs with PBC functions (Ver. 2.0)

Select "3) TRACK DIGEST" before you start playing the VIDEO CD, to light the PBC OFF indicator and play without PBC functions.

Tip

In step 2, you can select sections even if they have not been displayed yet.

Use the numeric buttons to select the track you want.

Notes

- Tracks less than 40 seconds long may be divided into fewer than 9 sections.
- You cannot use this function during Shuffle Play or Program Play.

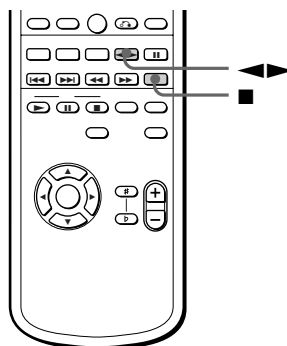
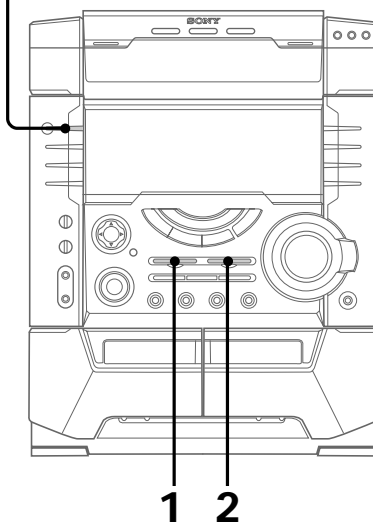
Resuming playback from the point you stopped a VIDEO CD

-- Resume Play

The unit memorizes the point where you stopped the VIDEO CD so you can resume from that point. Resume play is not cancelled when you turn off the system.

Note that resume play is not available when playing an audio CD.

I/⏻
(Power)



-
- 1 While playing a VIDEO CD, press **■** to stop playback.
“RESUME” appears on your TV screen.
If “RESUME” does not appear, Resume Play is not available.
-

- 2 Press **◀▶**.
The player starts playback from the point you stopped the VIDEO CD in step 1.
-

To view from the beginning of the VIDEO CD

When “RESUME” appears in the display, press **■**, then press **◀▶**.

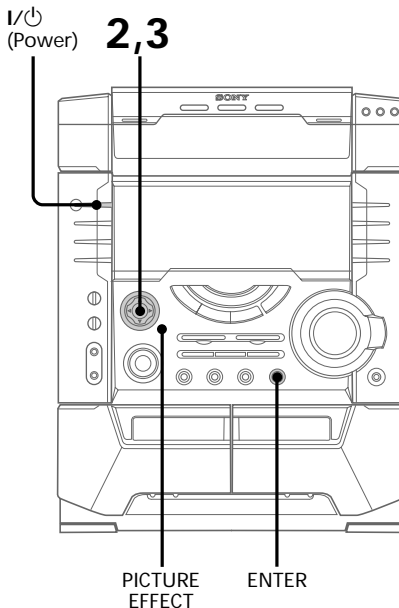
Notes

- Resume Play is not available in the Digest, Shuffle, or Program Play modes.
- Depending on where you stopped the VIDEO CD, the player may resume playback from a different point.
- The point at which you stopped playback is cleared when:
 - you press numeric buttons, PLAY MODE, or **■**.
 - you press DISC SKIP EX-CHANGE (or D. SKIP on the remote).
 - you press SPECIAL MENU.
 - you press **◀▶**.
 - you remove the VIDEO CD.
 - you unplug the unit's AC power cord.

Adjusting the picture

-- Picture Effect

You can adjust the hue and sharpness of the picture.



-
- 1 Press **PICTURE EFFECT** during playback.
 - 2 Press **◀** or **▶** repeatedly to adjust the hue.
 - 3 Press **▲** or **▼** repeatedly to adjust the sharpness.
 - 4 Press **ENTER** or **PICTURE EFFECT**.
-

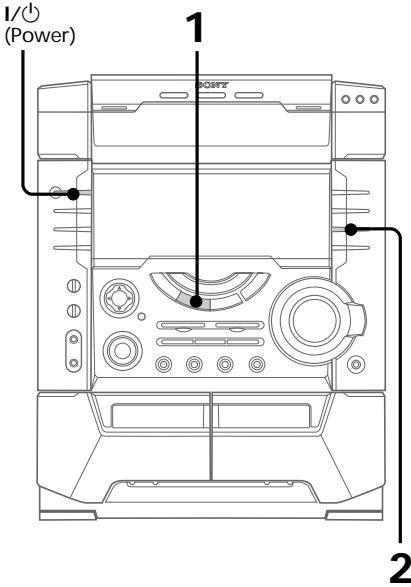
Tips

- The hue and sharpness can be adjusted in 11 steps (from -5 to +5).
- To use the **◀/▶/▲/▼**, see page 39.

Playing the CD tracks repeatedly

-- Repeat Play

This function lets you repeat a single CD or all CDs in normal play, Shuffle Play and Program Play.



1 Press CD, then place a CD.

2 Press REPEAT during playback until “REPEAT” appears in the display. “REPEAT ALL” scrolls in the display and Repeat Play starts. Do the following procedure to change the repeat mode.

To repeat	Press
All the tracks on the current CD up to 5 times	PLAY MODE repeatedly until “CONTINUE 1 DISC” or “SHUFFLE 1 DISC” appears in the display.
All the tracks on all CDs up to 5 times	PLAY MODE repeatedly until “CONTINUE ALL DISCS” appears in the display.
Only one track	REPEAT repeatedly until “REPEAT 1” appears in the display while playing the track you want to repeat.

To cancel Repeat Play

Press REPEAT until “REPEAT OFF” scrolls and “REPEAT” or “REPEAT 1” disappears from the display.

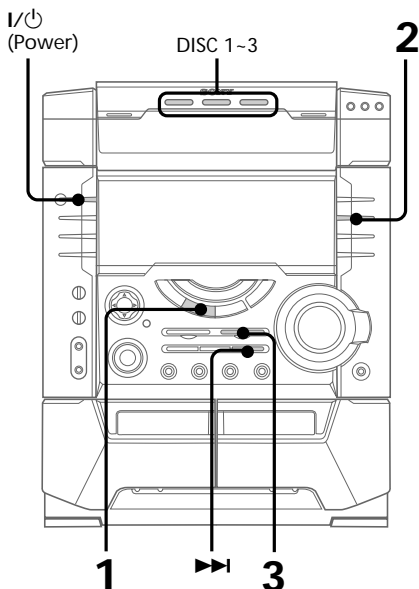
Notes

- REPEAT (ALL) mode is canceled if you press PLAY MODE repeatedly until “SHUFFLE ALL DISCS” appears.
- During Program Play, the program is also repeated up to 5 times.

Playing the CD tracks in random order

-- Shuffle Play

You can play all the tracks on one CD or all CDs in random order.



To cancel Shuffle Play

Press PLAY MODE repeatedly until "SHUFFLE" or "PGM" disappears from the display. The tracks continue playing in their original order.

To select a desired CD

Press DISC 1~3.

Tips

- You can start Shuffle Play during normal play by pressing PLAY MODE repeatedly to select "SHUFFLE".
- To skip a track, press ►►.

1 Press CD, then place a CD.

2 Press PLAY MODE repeatedly until "SHUFFLE 1 DISC" or "SHUFFLE ALL DISCS" appears in the display. "ALL DISCS" shuffles all the CDs in the player. "1 DISC" shuffles the CD whose DISC indicator is lit green.

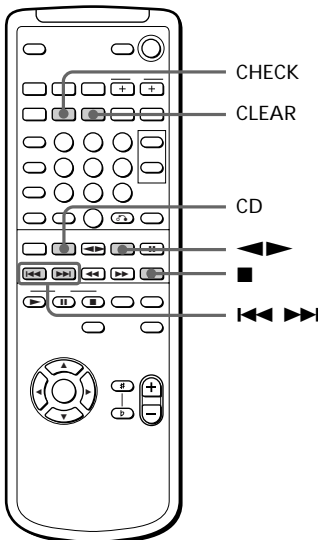
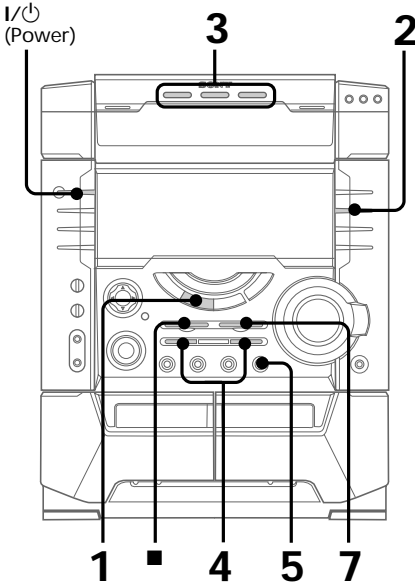
3 Press ◀▶.

All the tracks play in random order.

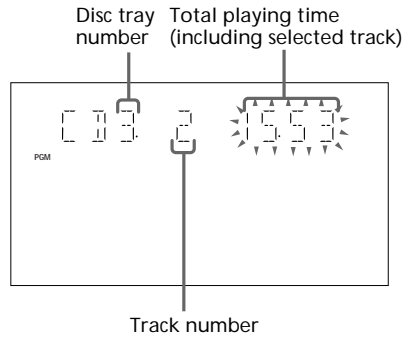
Programming the CD tracks

-- Program Play

You can make a program of up to 32 tracks from all the CDs in the order you want them to be played.



- 1 Press CD, then place a CD.
- 2 Press PLAY MODE repeatedly until "PROGRAM" scrolls and "PGM" appears in the display.
- 3 Press one of the DISC 1~3 buttons to select a CD.
To program all the tracks on a CD at once, proceed to step 5 while "AL" appears on the display.
- 4 Press ◀◀ or ▶▶ repeatedly until the track you want appears in the display.



- 5 Press ENTER.
The track(s) is (are) programmed. The program step number appears, followed by the total playing time.
- 6 To program additional tracks, repeat steps 3 to 5.
Skip step 3 to select tracks from the same disc.
- 7 Press ◀▶.
All the tracks play in the order you selected.

To cancel Program Play

Press PLAY MODE repeatedly until "PGM" or "SHUFFLE" disappears from the display.

To	Press
Check the program	CHECK on the remote repeatedly. After the last track, "CHECK END" appears.
Clear a track from the end	CLEAR on the remote in stop mode.
Clear a specific track in stop mode	CHECK on the remote repeatedly until the number of the track to be erased lights up, then press CLEAR.
Add a track to the program in stop mode	1 Select the disc tray with a DISC 1~3 button. 2 Select the track by pressing ◀◀ or ▶▶. 3 Press ENTER.
Clear the entire program	■ once in stop mode or twice while playing.

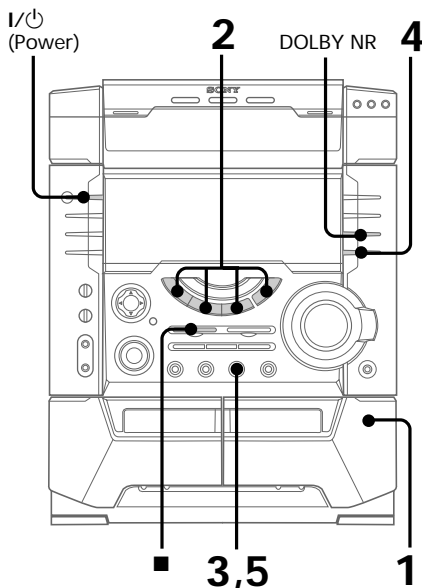
Tips

- The program you made remains in the CD player even after it has been played back. Press ◀▶ to play the same program again.
- If "--:--" appears instead of the total playing time during programming, this means:
 - you have programmed a track number which exceeds 20.
 - the total playing time has exceeded 100 minutes.

Recording on a tape manually

You can record from CD, tape, or radio as you like. For example, you can record just the songs you want or record from the middle of the tape. The recording level is adjusted automatically.*

* MHC-VX99 only



1 Insert a recordable tape into deck B.

2 Press one of the function buttons you want to record from (e.g., CD). When you want to record from TAPE A, press TAPE A/B repeatedly until TAPE A is selected.

3 Press REC PAUSE/START. Deck B stands by for recording. The REC PAUSE/START button flashes.

4 Press DIRECTION repeatedly to select \rightleftarrows to record on one side. Select \leftrightarrow (or RELAY) to record on both sides.

5 Press REC PAUSE/START. Recording starts.

6 Press $\blacktriangleleft\blacktriangleright$ to start playing the source to be recorded.

To	Press
Stop recording	■
Pause recording	REC PAUSE/START.

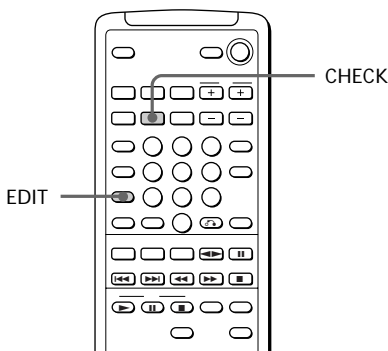
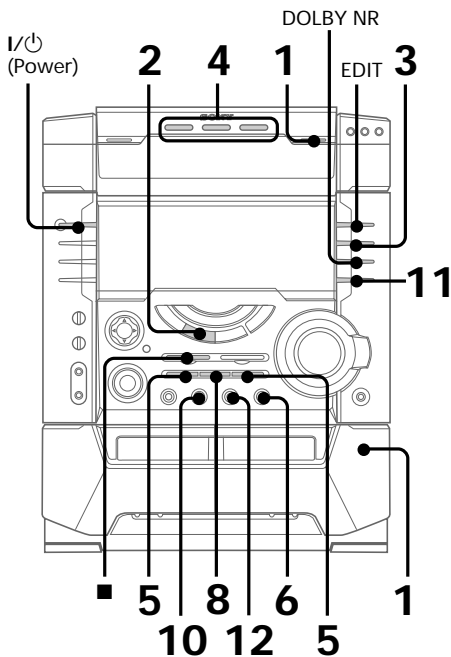
Tips

- If you want to record from the reverse side, press TAPE A/B to select deck B after step 1. Press $\blacktriangleleft\blacktriangleright$ to start playback of the reverse side, then press ■ where you want to start recording. TAPE B reverse side indicator lights up (see page 17).
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so that "DOLBY NR" appears after pressing REC PAUSE/START in step 3 (MHC-VX99 only).
- When recording from a CD, you can press $\blacktriangleleft\blacktriangleright$ or $\blacktriangleright\blacktriangleleft$ to select tracks during recording pause mode (after pressing REC PAUSE/START in step 3 and before pressing REC PAUSE/START in step 5).

Recording a CD by specifying track order

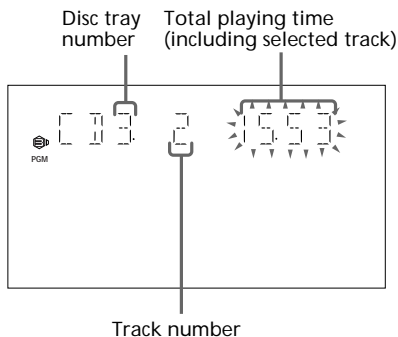
— Program Edit

You can record tracks from all the CDs in the order you want. When programming, make sure the playing times for each side do not exceed the length of one side of the tape.



- 1** Place a CD and insert a recordable tape into deck B
- 2** Press CD.
- 3** Press PLAY MODE repeatedly until “PROGRAM” scrolls and “PGM” appears in the display.
- 4** Press one of the DISC 1~3 buttons to select a CD.
To program all the tracks on a CD at once, proceed to step 6 while “AL” appears in the display.

- 5** Press ◀◀ or ▶▶ until the track you want appears in the display.



- 6** Press ENTER.
The track(s) is(are) programmed. The program step number appears, followed by the total playing time.
- 7** To program additional tracks to be recorded on side A, repeat steps 4 to 6.
Skip step 4 to select tracks from the same disc.
- 8** Press || to insert a pause at the end of side A.
“P” appears in the display and the total playing time resets to “0.00” in the display.

Recording a CD by specifying track order (continued)

9 Repeat steps 5 and 6 for tracks from the same disc or steps 4 to 6 for tracks from another disc to program the remaining tracks to be recorded on side B.

10 Press CD SYNC HI-DUB.
Deck B stands by for recording and the CD player stands by for playback. REC PAUSE/START button blinks.

11 Press DIRECTION repeatedly to select \rightleftarrows to record on one side. Select \leftrightarrow (or RELAY) to record on both sides.

12 Press REC PAUSE/START.
Recording starts.

To stop recording

Press ■.

To check the order

Press CHECK on the remote repeatedly. After the last track, "CHECK END" appears.

To cancel Program Edit

Press PLAY MODE repeatedly until "PGM" or "SHUFFLE" disappears from the display.

Tip

When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so that "DOLBY NR" appears after pressing CD SYNC HI DUB (MHC-VX99 only).

Selecting tape length automatically

—Tape Select Edit

You can check the most suitable tape length for recording a CD. Do the following steps before recording.

1 Place a CD.

2 Press CD.

3 Press EDIT once, so that "EDIT" flashes.

The required tape length for the currently selected CD appears, followed by the total playing time for side A and side B respectively.

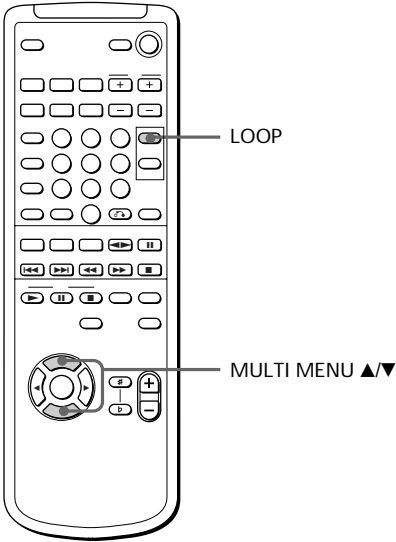
Note

You cannot use Tape Select Edit for discs containing over 20 tracks.

Looping part of a CD

— Loop

With the loop function, you can repeat part of a CD during playback. This lets you create original recordings.



➔ Press and hold LOOP during playback at the point you want to start the Loop function, and release to resume normal play.

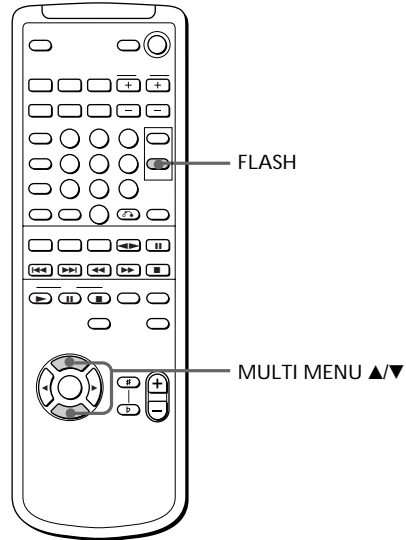
To adjust the loop length

Press MULTI MENU ▲/▼ while holding LOOP on the remote to select different LOOP lengths (LOOP 1~20).

Flashing part of a CD

— Flash

With the flash function, you can “flash” the CD sound during playback. This lets you create original recordings.



➔ Press and hold FLASH during playback at the point you want to start the Flash function, and release to resume normal play.

To adjust the flash length

Press MULTI MENU ▲/▼ while holding FLASH to select different flash lengths (FLASH 1~20).

To use LOOP and FLASH together

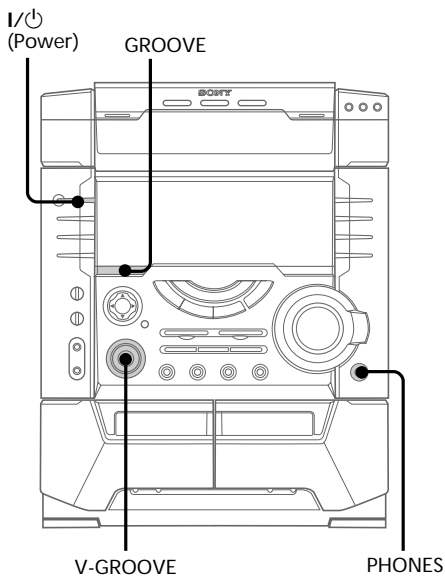
Press and hold both LOOP and FLASH at the same time.

Notes

- The loop and flash length cannot be adjusted during this operation. Adjust the loop and flash lengths independently beforehand if necessary.
- To record the loop or flash effect, use the tape deck on this unit.

Adjusting the sound

You can reinforce the bass, create a more powerful sound, and listen with headphones.



Note

The V-GROOVE function will be automatically cancelled, when you select GROOVE.

To listen through the headphones

Connect the headphones to the PHONES jack. No sound will come from the speakers.

To reinforce lower bass sound (V-GROOVE)

Press V-GROOVE. “V-GROOVE ON” appears in the display.

The lower bass frequency of the music you are listening to is powerfully reinforced, the equalizer curves changes, loudness increased and the “V-GROOVE” button lights up.

Press V-GROOVE again to return to the previous level.

For a powerful sound (GROOVE)

Press GROOVE. “GROOVE ON” appears in the display.

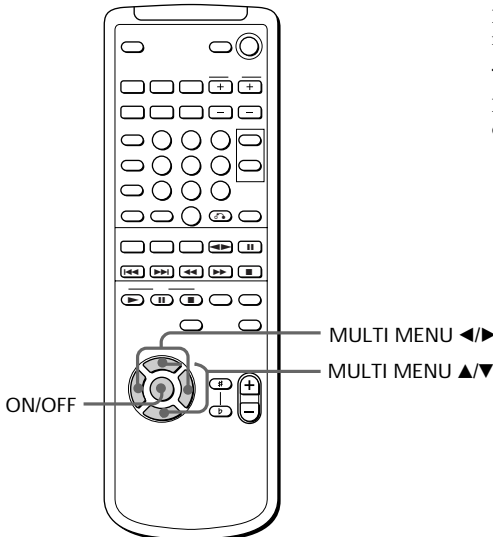
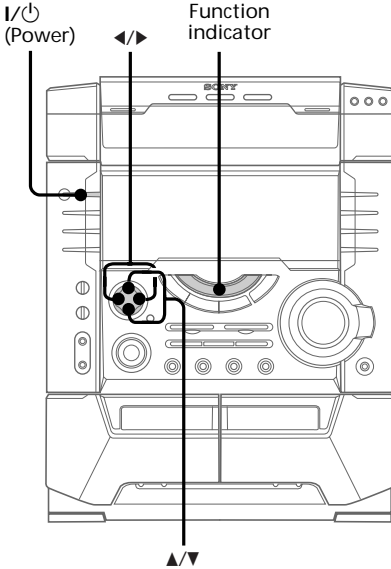
The volume switches to power mode, the equalizer curve changes, and the “GROOVE” indicator lights up.

Press GROOVE again to return to the previous volume.

Selecting the audio emphasis

The audio emphasis menu lets you select the sound characteristics according to the sound you are listening to.

Selecting the effect from music menu



➔ Press ◀/▶ (or MULTI MENU ◀/▶ on the remote) to select the preset you want.
The preset name appears in the display.
See the chart “Music menu options”.

To select USER FILE

Press ▲ (MULTI MENU ▲ on the remote).

To cancel the effect

Press ▼ (MULTI MENU ▼ or ON/OFF on the remote) repeatedly so that “EFFECT OFF” appears in the display.

Music menu options

“SURROUND” appears if you select an effect with surround effects.

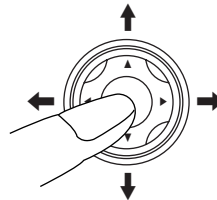
Effect	For
ROCK	Standard music sources
POP	
JAZZ	
DANCE	
SOUL	
ORIENTAL	
ACTION	Soundtracks and special listening situations
DRAMA	
SF	
GAME	
USER FILE	(see page 41)

Note

During EFFECT OFF or SPECTRUM OFF mode, the function indicator will automatically turn off.

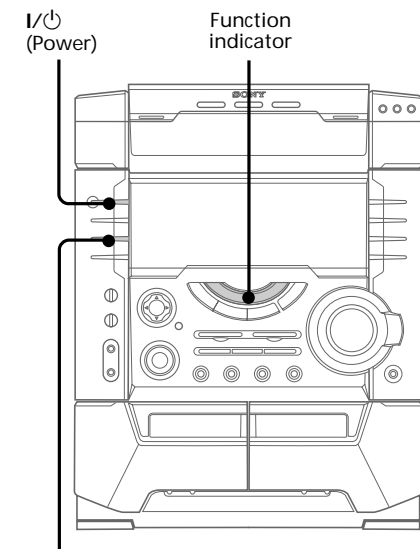
Tip

Place your finger in the concave and move in the direction you want (▲/▼/◀/▶) as shown below.



Changing the spectrum analyzer display

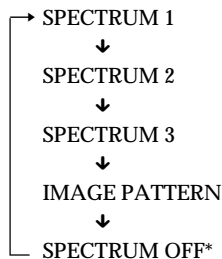
You can enjoy changing the display while listening to the music.



SPECTRUM

➔ Press SPECTRUM.

Every time you press the button, the display changes as follows:



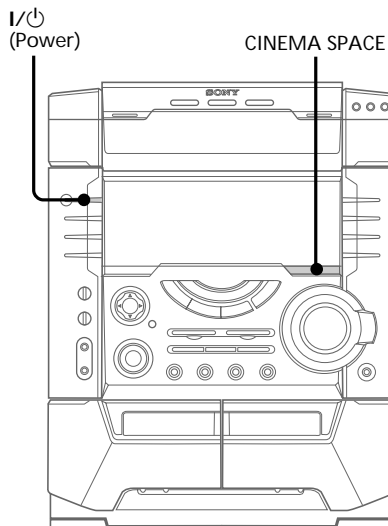
* The display slightly dims.

Note

During EFFECT OFF or SPECTRUM OFF mode, the function indicator will automatically turn off.

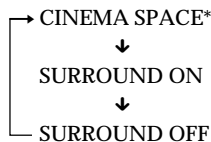
Selecting the surround effect

You can enjoy the surround effect.



➔ Press CINEMA SPACE repeatedly to select the surround effect you desire.

Every time you press the button, the display changes as follows:



* CINEMA SPACE is the surround effect for movies.

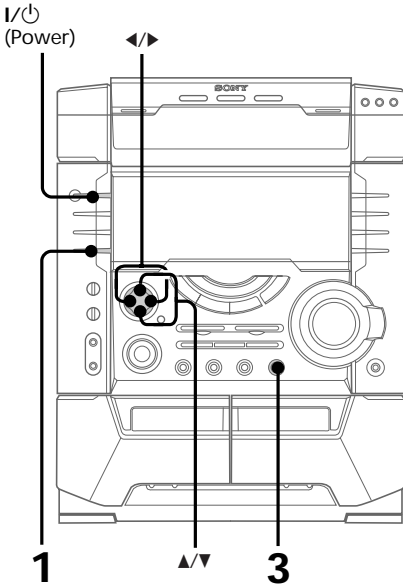
Note

When you choose other sound effects, the surround effect will be canceled.

Adjusting the graphic equalizer

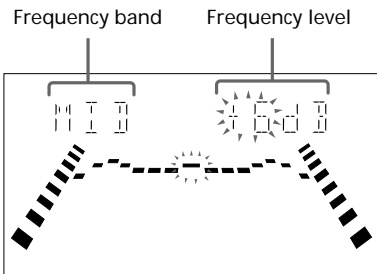
You can adjust the sound by raising or lowering the levels of specific frequency ranges.

Before operation, first select the audio emphasis you want for your basic sound.



1 Press EQ EDIT.

2 Press ◀/▶ to select the frequencies, then press ▲/▼ to adjust the level.



3 Press ENTER.

This setting is automatically stored as USER FILE.

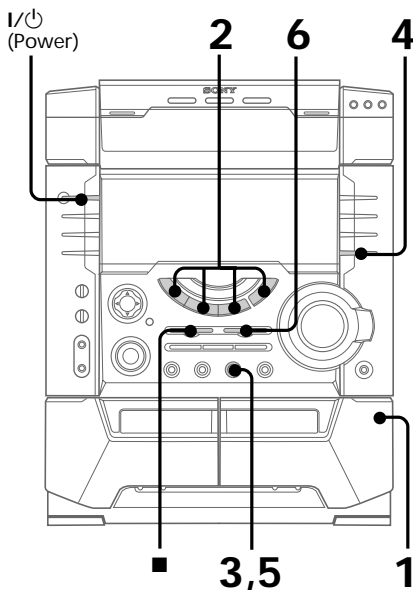
Tip

If you want to select the previously adjusted equalizer settings (USER FILE), press ▲ (or MULTI MENU ▲ on the remote).

Mixing and recording sounds

You can “mix” sounds by playing one of the components and singing or speaking into a microphone (not supplied).

The mixed sound can be recorded on a tape.



1 Do the procedures for singing along (steps 1 to 5 on page 19). Then, insert a recordable tape in deck B.

2 Press one of the function buttons you want to record from (e.g., CD). When you want to record from TAPE A, press TAPE A/B repeatedly until TAPE A is selected.

3 Press REC PAUSE/START. Deck B stands by for recording. The REC PAUSE/START button blinks.

4 Press DIRECTION repeatedly to select \rightleftarrows to record on one side. Select \leftrightarrow (or RELAY) to record on both sides.

5 Press REC PAUSE/START. Recording starts.

6 Press $\blacktriangleleft\blacktriangleright$ to start playing the source to be recorded. Start singing along with the music.

To stop recording

Press ■.

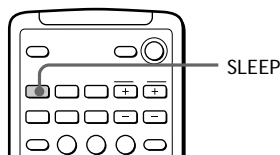
Tips

- If acoustic feedback (howling) occurs, move the microphone away from the speakers or change the direction of the microphone.
- If you want to record your voice through the microphone only, you can do so by selecting the CD function and not playing a CD.
- When high level sound signals are input, the unit automatically adjusts the recording level to prevent distortion of the recorded sound signal (Auto Level Control Function).

Falling asleep to music

— Sleep Timer

You can let the system turn off at the preset time, so you can sleep to the music. You can preset the time to be turned off by 10 minutes.



➔ Press SLEEP.

Every time you press the button, the minute display (the turn-off time) changes as follows:

AUTO → 90 → 80 → 70
→ ... → 10 → OFF → AUTO ...

When you choose "SLEEP AUTO"

The power turns off when the current CD or tape finishes playback (for up to 100 minutes).

To check the remaining time

Press SLEEP once.

To change the time to turn off

Select the time you want by pressing SLEEP.

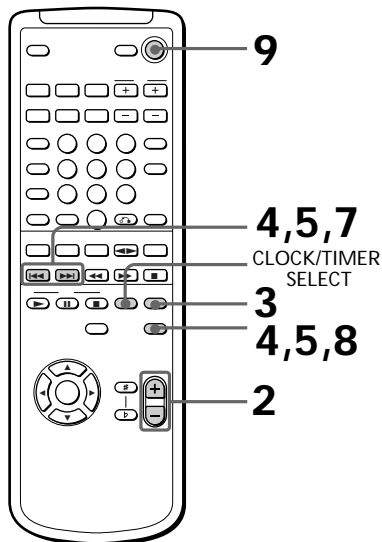
To cancel the Sleep Timer function

Press SLEEP repeatedly until "SLEEP OFF" appears.

Waking up to music

— Daily Timer

You can wake up to music at a preset time every day. Make sure you have set the clock (see "Step 2: Setting the time" on page 7).



1 Prepare the music source you want to play.

- CD: Insert a CD. To start from a specific track, make a program (see "Programming the CD tracks" on page 32).
- Tape: Insert a tape with the side you want to play facing forward.
- Radio: Tune in the preset station you want (see "Step 3: Presetting radio stations" on page 8).

2 Adjust the volume.

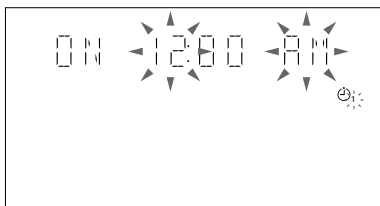
3 Press CLOCK/TIMER SET. "SET (DAILY 1)" appears.

continued

Waking up to music (continued)

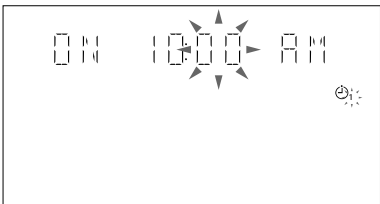
- 4** Press **◀◀** or **▶▶** repeatedly to select “DAILY 1 (or 2)”, then press ENTER.

“ON” appears and the hour digits flash in the display.



- 5** Set the time to start playback. Press **◀◀** or **▶▶** repeatedly to set the hour, then press ENTER.

The minute indication starts flashing.



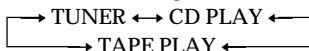
Press **◀◀** or **▶▶** repeatedly on the remote to set the minute, then press ENTER.

The hour indication flashes again.

- 6** Set the time to stop playback following the above procedure.

- 7** Press **◀◀** or **▶▶** repeatedly until the music source you want appears.

The indications change as follows:



- 8** Press ENTER.

The type of timer (DAILY 1 or DAILY 2), followed by the start time, stop time and the music source, appears, then the original display appears.

- 9** Turn off the power.

To check the setting

Press CLOCK/TIMER SELECT and press **◀◀** or **▶▶** repeatedly to select the respective mode (DAILY 1 or DAILY 2), then press ENTER on the remote.

To change the setting, start over from step 1.

To cancel the timer operation

Press CLOCK/TIMER SELECT and press **◀◀** or **▶▶** repeatedly to select “TIMER OFF”, then press ENTER.

Notes

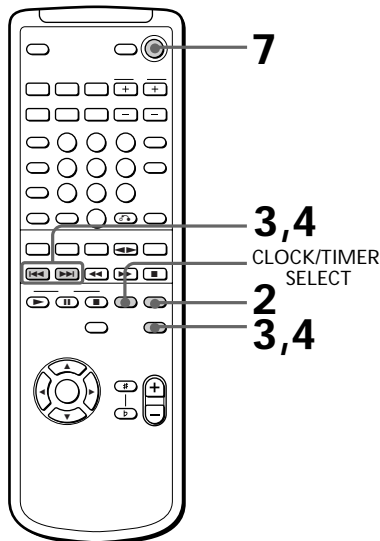
- You cannot activate DAILY 1 and DAILY 2 timer at the same time.
- You cannot set timer if the timer on and off times are the same.
- When you use the Sleep Timer, Daily Timer and Timer recording will not turn on the system until the Sleep Timer turns it off.
- You cannot activate Daily Timer and Timer recording at the same time.

Tip

The power turns on 15 seconds before the preset time.

Timer-recording radio programs

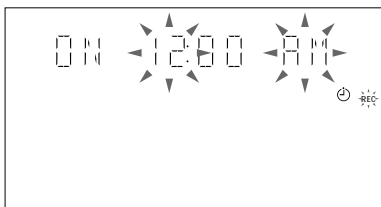
To timer-record, you must preset the radio station (see “Step 3: Presetting radio stations” on page 8) and set the clock (see “Step 2: Setting the time” on page 7) beforehand.



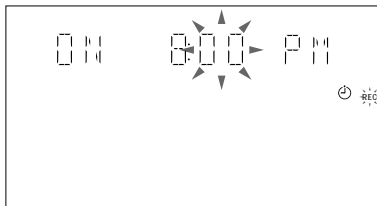
1 Tune in the preset radio station (see “Listening to the radio”).

2 Press CLOCK/TIMER SET.
“SET (DAILY 1)” appears.

3 Press ◀◀ or ▶▶ repeatedly to select “REC”, then press ENTER.
“ON” appears and the hour indication flash in the display.



4 Set the time to start recording.
Press ◀◀ or ▶▶ repeatedly to set the hour, then press ENTER.
The minute indication starts flashing.



Press ◀◀ or ▶▶ repeatedly to set the minute, then press ENTER.
The hour indication flashes again.

5 Set the time to stop recording following the above procedure.
The start time appears, followed by the stop time, the preset radio station to be recorded (e.g., “TUNER FM 5”), then the original display appears.

6 Insert a recordable tape into deck B.

7 Turn off the power.
When the recording starts, the volume level is set to the minimum.

To check the setting

Press CLOCK/TIMER SELECT and press ◀◀ or ▶▶ repeatedly to select “REC”, then press ENTER.

To change the setting, start over from step 1.

To cancel the timer operation

Press CLOCK/TIMER SELECT and press ◀◀ or ▶▶ repeatedly to select “TIMER OFF”, then press ENTER.

Notes

- If the power is on at the preset time, the recording will not be made.
- You cannot set the timer if the timer on and off times are the same.
- You cannot activate the Timer-recording and Daily Timer at the same time.
- When you used the Sleep Timer, Daily Timer and Timer recording will not turn on the system until the Sleep Timer turns it off.

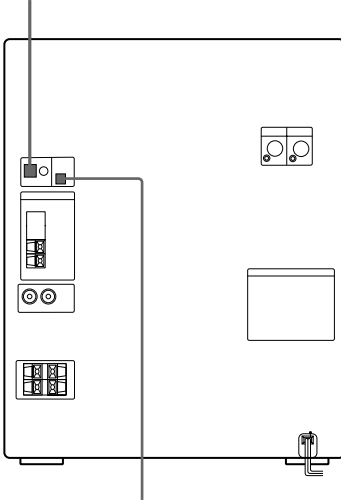
Connecting audio components

Select one of the following two connections, depending on the equipment to be connected and method of connecting. Refer to the instructions of each component below.

Connecting an MD deck for digital recording

You can record from CD into the MD deck digitally by connecting an optical cable.

To the DIGITAL IN jack of the MD deck



Optical Cover Holder

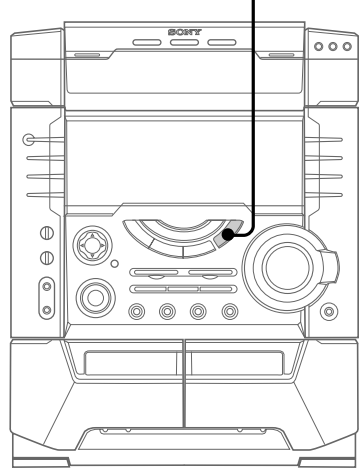
Tip

Keep the optical cover at the optical cover holder provided.

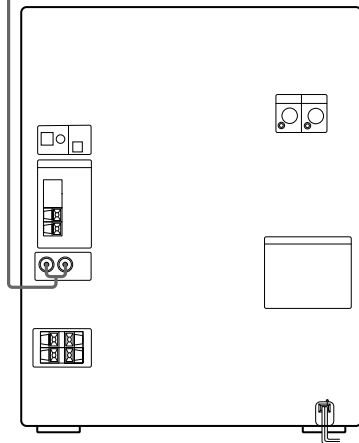
Connecting an MD deck for listening to music

Make sure to match the color of the plugs and the connectors. To listen to the sound of the connected MD deck, press MD (VIDEO).

MD (VIDEO)



To the audio output of the MD deck



Tip

When you connect a Sony MD deck, you can use the MD **▶**, **||**, and **■** buttons on this unit's remote to perform play, pause, and stop operations.

Note

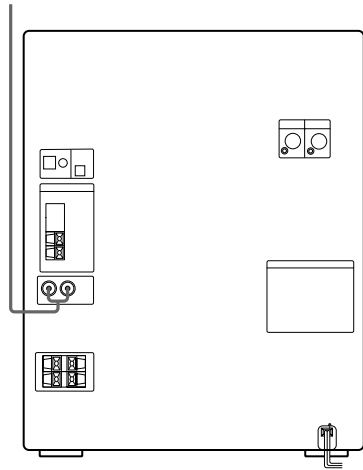
If you cannot select "MD" even when you have pressed MD (VIDEO), press I/⏻ while pressing MD (VIDEO) when the power is turned off. "VIDEO" will be switched to "MD". To return to "VIDEO" do the same procedure.

Connecting a VCR

Make sure to match the color of the plugs and the connectors. To listen to the sound of the connected VCR, hold down MD (VIDEO) and press I/⏻ when the power is turned off. This switches the "MD" function to "VIDEO". Once you enable the "VIDEO" function, just press MD (VIDEO).

By connecting the audio output jacks of your VCR to the MD/VIDEO (AUDIO) jacks using an optional audio cable, you can enjoy video playback in powerful stereo sound.

To the audio output of the VCR



Note

If the sound is distorted or too loud when selecting "VIDEO", or you want to switch back to "MD", repeat the operation described above for switching to "MD".

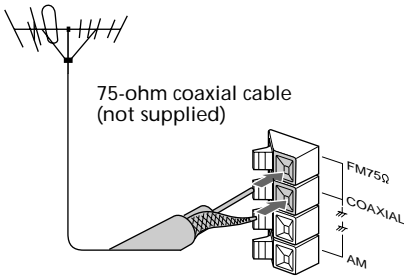
Connecting external antennas

Connect the external antenna to improve the reception.

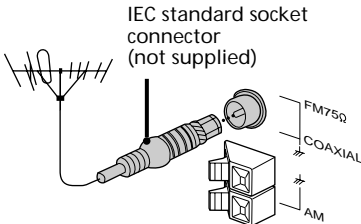
FM antenna

Connect the optional FM external antenna. You can also use the TV antenna instead.

Jack type ①



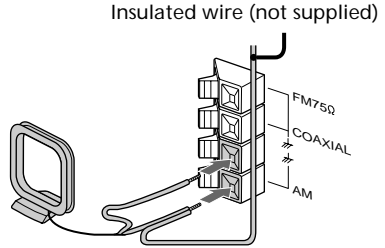
Jack type ②



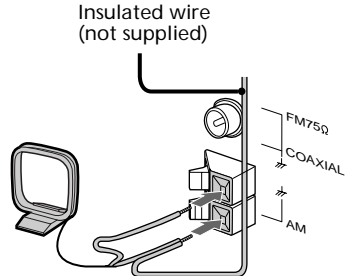
AM antenna

Connect a 6- to 15- meter (20- to 50- feet) insulated wire to the AM antenna terminal. Leave the supplied AM loop antenna connected.

Jack type ①



Jack type ②



Precautions

On operating voltage

Before operating the unit, check that the operating voltage of your unit is identical with the voltage of your local power supply.

On safety

- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Unplug the unit from the wall outlet (mains) if it is not to be used for an extended period of time. To disconnect the cord (mains lead), pull it out by the plug. Never pull the cord itself.
- Should any solid object or liquid fall into the component, unplug the unit and have the component checked by qualified personnel before operating it any further.
- The AC power cord must be changed only at the qualified service shop.

On placement

- Place the unit in a location with adequate ventilation to prevent heat build-up in the unit.
- Do not place the unit in an inclined position.
- Do not place the unit in locations where it is;
 - Extremely hot or cold
 - Dusty or dirty
 - Very humid
 - Vibrating
 - Subject to direct sunlight

On operation

- If the unit is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the CD player. Should this occur, the unit will not operate properly. Remove the CD and leave the unit turned on for about an hour until the moisture evaporates.
- When you move the unit, take out any discs.

If you have any questions or problems concerning your unit, please consult your nearest Sony dealer.

Notes on CDs

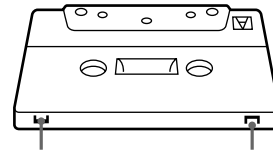
- Before playing, clean the CD with a cleaning cloth. Wipe the CD from the center out.
- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.
- Do not expose the CD to direct sunlight or heat sources such as hot air ducts, nor leave it in a car parked in direct sunlight.

Cleaning the cabinet

Use a soft cloth slightly moistened with mild detergent solution.

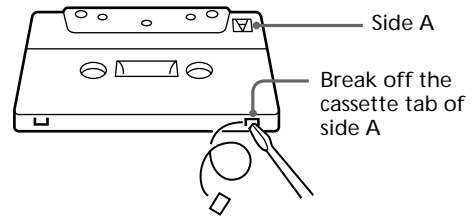
To save a tape permanently

To prevent a tape from being accidentally recorded over, break off the cassette tab from side A or B as illustrated.

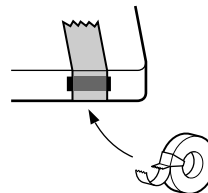


Tab of side B

Tab of side A



If you later want to reuse the tape for recording, cover the broken tab with adhesive tape.



continued

Precautions (continued)

Before placing a cassette in the tape deck

Take up any slack in the tape. Otherwise the tape may get entangled in the parts of the tape deck and become damaged.

When using a tape longer than 90 minutes

The tape is very elastic. Do not change the tape operations such as play, stop, and fast-winding etc. frequently. The tape may get entangled in the tape deck.

Cleaning the tape heads

Clean the tape heads after every 10 hours of use.

When the tape heads become dirty;

- the sound is distorted
- there is a decrease in sound level
- the sound drops out
- the tape does not erase completely
- the tape does not record

Make sure to clean the tape heads before you start an important recording or after playing an old tape. Use separately sold dry-type or wet-type cleaning cassette. For details, refer to the instructions of the cleaning cassette.

Demagnetizing the tape heads

Demagnetize the tape heads and the metal parts that have contact with the tape every 20 to 30 hours of use with a separately sold demagnetizing cassette. For details, refer to the instructions of the demagnetizing cassette.

In case color irregularity is observed on nearby a TV screen.

With the magnetically shielded type of speaker system, the speakers can be installed near a TV set. However, color irregularity may still be observed on the TV screen depending on the type of your TV set.

If color irregularity is observed...

Turn off the TV set once, then turn it on after 15 to 30 minutes.

If color irregularity is observed again...

Place the speakers farther away from the TV set.

Troubleshooting

If you run into any problem using this unit, use the following check list.

First, check that the power cord is connected firmly and the speakers are connected correctly and firmly.

Should any problem persist, consult your nearest Sony dealer.

General

The display starts flashing as soon as you plug in the power cord even though you haven't turned on the power (demonstration mode).

- Press DISPLAY when the power is turned off.

The demonstration mode appears automatically the first time you plug in the power cord or if there is a power outage.

The clock setting is canceled.

- The power cord is disconnected or a power failure occurs. Redo "Step 2: Setting the time" (on page 7). If you have set the timer, redo "Waking up to music" (on page 43) and "Timer-recording radio programs" (on page 45).

The radio presetting/timer setting is canceled.

- The power cord is disconnected or a power failure occurs for longer than half a day. Redo "Step 3: Presetting radio stations" (on page 8).

There is no sound.

- Turn VOLUME clockwise.
- The headphones are connected.
- Insert only the stripped portion of the speaker cord into the SPEAKER jack. Inserting the vinyl portion of the speaker cord will obstruct the speaker connections.
- The protective device on the amplifier has been activated because of short circuit. ("PROTECT" and "PUSH POWER" flash alternately.) Turn off the unit, eliminate the short-circuit problem and turn on the power again.
- There is no audio output during timer recording.

There is severe hum or noise.

- A TV or VCR is placed too close to the stereo system. Move the stereo system away from the TV or VCR.

The sound from the connected source is distorted.

- If "VIDEO" appears in the display when you press MD (VIDEO), switch the display to "MD" (see "Note: Connecting a VCR" on page 47).

"0:00" (or "12:00 AM") flashes in the display.

- A power interruption occurred. Set the clock and timer settings again.

The timer does not function.

- Set the clock correctly.

DAILY 1, DAILY 2, and REC do not appear when you press the CLOCK/TIMER SELECT button.

- Set the timer correctly.
- Set the clock.

The remote does not function.

- There is an obstacle between the remote and the system.
- The remote is not pointing in the direction of the system's sensor.
- The batteries have run down. Replace the batteries.

There is acoustic feedback.

- Decrease the volume level.
- Move the microphone away from the speakers or change the direction of the microphone.

The color irregularity on a TV screen persists.

- Turn off the TV set once, then turn it on after 15 to 30 minutes. If the color irregularity still persists, place the speakers farther away from the TV set.

"PROTECT" and "PUSH POWER" appear alternately.

- A strong signal was input. Press I/⏻ to turn off the power, leave the system turned off for a while, then press I/⏻ again to turn on the power.
 - Check the speaker cables in case "PROTECT" and "PUSH POWER" appear alternately again after you turn the system on.
-

Speakers

Sound comes from one channel or unbalanced left and right volume.

- Check the speaker connection and speaker placement.

Sound lacks bass.

- Check that the speaker's + and - jacks are connected correctly.
-

VIDEO CD/CD Player

There is no picture.

- Check that the player is connected securely.
- Make sure you operate the TV correctly.
- Make sure you set the color system correctly, according to your TV (color) system.
- Press CD.

The CD tray does not close.

- The CD is not placed properly.
-

The CD will not play.

- The CD is not lying flat in the disc tray.
- The CD is dirty.
- The CD is inserted label side down.
- Moisture condensation has built up. Remove the CD and leave the system turned on for about an hour until the moisture evaporates.

Play does not start from the first track.

- The player is in program or shuffle mode. Press PLAY MODE repeatedly until "PGM" or "SHUFFLE" disappears.
-

"OVER" is displayed.

- You have reached the end of the CD. Turn SHUTTLE counterclockwise.
-

continued

Troubleshooting (continued)

Tape Deck

The tape does not record.

- No tape in the cassette holder.
 - The tab has been removed from the cassette (see “To save a tape permanently” on page 49).
 - The tape has reeled to the end.
-

The tape does not record nor play or there is a decrease in sound level.

- The heads are dirty. Clean them (see “Cleaning the tape heads” on page 50).
 - The record/playback heads are magnetized. Demagnetize them (see “Demagnetizing the tape heads” on page 50).
-

The tape does not erase completely.

- The record/playback heads are magnetized. Demagnetize them (see “Demagnetizing the tape heads” on page 50).
-

There is excessive wow or flutter, or the sound drops out.

- The capstans or pinch rollers are dirty. Clean them (see “Cleaning the tape heads” on page 50).
-

Noise increases or the high frequencies are erased.

- The record/playback heads are magnetized. Demagnetize them (see “Demagnetizing the tape heads” on page 50).
-

Tuner

Severe hum or noise (“TUNED” or “STEREO” flashes in the display).

- Adjust the antenna.
 - The signal strength is too weak. Connect the external antenna.
-

A stereo FM program cannot be received in stereo.

- Press STEREO/MONO so that “MONO” disappears.
-

If other troubles not described above occur, reset the system as follows:

- 1 Press ■, ENTER and I/⏻ at the same time.
- 2 Unplug the power cord.
- 3 Plug the power cord back in.
- 4 Press I/⏻ to turn on the power.

The unit is reset to factory settings. All the settings you made, such as the preset stations, clock, and timer are cleared. You should set them again.

Specifications

Amplifier section

MHC-VX99

The following measured at AC 120, 220, 240V
50/60 Hz

DIN power output (rated) 220 + 220 watts
(4 ohms at 1 kHz, DIN)

Continuous RMS power output (reference)
300 + 300 watts
(4 ohms at 1 kHz,
10% THD)

MHC-VX77/VX77J

The following measured at AC 120, 220, 240V
50/60 Hz

DIN power output (rated) 160 + 160 watts
(6 ohms at 1 kHz, DIN)

Continuous RMS power output (reference)
200 + 200 watts
(6 ohms at 1 kHz,
10% THD)

MHC-VX55/VX55J

The following measured at AC 120, 220, 240V
50/60 Hz

DIN power output (rated) 95 + 95 watts
(6 ohms at 1 kHz, DIN)

Continuous RMS power output (reference)
125 + 125 watts
(6 ohms at 1 kHz,
10% THD)

Inputs

MD/VIDEO (AUDIO) IN: voltage 450 mV/250 mV,
(phono jacks) impedance 47 kilohms
MIC 1/2: sensitivity 1 mV,
(phone jack) impedance 10 kilohms

Outputs

VIDEO OUT: max. output level 1 Vp-p,
(Phono jack) unbalanced, Sync
negative, load impedance
75 ohms

S-VIDEO OUT: Y: 1 Vp-p, unbalanced
(4 pin/mini-DIN jack) Sync negative
C: 0.286 Vp-p

PHONES: load impedance 75 ohms
(stereo mini jack) accepts headphones of 8
FRONT SPEAKER: ohms or more

MHC-VX77/VX77J/VX55/VX55J:
accepts impedance of 6 to
16 ohms

MHC-VX99: accepts impedance of 4 to
16 ohms

SURROUND SPEAKER: accepts impedance of
(MHC-VX77/VX77J only) 16 ohms

VIDEO CD/CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser ($\lambda=780\text{nm}$) Emission duration: continuous
Laser output	Max. 44.6 μW^* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Frequency response	2 Hz - 20 kHz (± 0.5 dB)
Wavelength	780 - 790 nm
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB
Video color system format	NTSC, PAL
CD OPTICAL DIGITAL OUT	
(Square optical connector jack, rear panel)	
Wavelength	660 nm
Output Level	-18 dBm

Tape player section

Recording system	4-track 2-channel stereo
Frequency response (DOLBY NR OFF*)	40 - 13,000 Hz (± 3 dB), using Sony TYPE I cassette 40 - 14,000 Hz (± 3 dB), using Sony TYPE II cassette*
Wow and flutter	$\pm 0.15\%$ W.Peak (IEC) 0.1% W.RMS (NAB) $\pm 0.2\%$ W.Peak (DIN)

* MHC-VX99 only

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 - 108.0 MHz
Antenna	FM lead antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	
Middle Eastern models:	531 - 1,602 kHz (with the interval set at 9 kHz)
Other models:	531 - 1,602 kHz (with the interval set at 9 kHz) 530 - 1,710 kHz (with the interval set at 10 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

continued

Specifications (continued)

Speaker

Front speaker SS-VX99 for MHC-VX99

Speaker system	2-way, 3-unit, bass-reflex type
Speaker units	
Woofer:	17 cm, cone type
Tweeter:	2.5 cm, horn type
Nominal impedance	4 ohms
Dimensions (w/h/d)	Approx. 260 x 480 x 415 mm ($10\frac{1}{4}$ x 19 x $16\frac{3}{8}$ in.)
Mass	Approx. 10 kg net per speaker (22 lb. 0 oz.)

Front speaker SS-VX77/SS-VX77B for MHC-VX77

Front speaker SS-VX77 for MHC-VX77J

Speaker system	3-way, 3-unit, bass-reflex type
Speaker units	
Super Woofer:	15 cm, cone type
Woofer:	15 cm, cone type
Tweeter:	5 cm, cone type
Nominal impedance	6 ohms
Dimensions (w/h/d)	Approx. 250 x 360 x 360 mm ($9\frac{7}{8}$ x $14\frac{1}{4}$ x $14\frac{1}{4}$ in.)
Mass	Approx. 7 kg net per speaker (15 lb. 7 oz.)

Surround speaker SS-RS155V/SS-RS155VB for MHC-VX77

Surround speaker SS-RS155V for MHC-VX77J

Speaker system	Full range, bass-reflex type, magnetically shielded
Speaker units	
Full range:	8 cm, cone type
Nominal impedance	16 ohms
Dimensions (w/h/d)	Approx. 250 x 100 x 241.2 mm ($9\frac{7}{8}$ x $3\frac{15}{16}$ x $9\frac{1}{2}$ in.)
Mass	Approx. 1.54 kg net per speaker (3 lb. 5 oz.)

Front speaker SS-VX55/SS-VX55B for MHC-VX55

Front speaker SS-VX55J for MHC-VX55J

Speaker system	3-way, 3-unit, bass-reflex type
Speaker units	
Super Woofer:	15 cm, cone type
Woofer:	15 cm, cone type
Tweeter:	5 cm, cone type
Nominal impedance	6 ohms
Dimensions (w/h/d)	Approx. 250 x 395 x 360 mm ($9\frac{7}{8}$ x $15\frac{1}{2}$ x $14\frac{1}{4}$ in.)
Mass	Approx. 7 kg net per speaker (15 lb. 7 oz.)

General

Power requirements

Thailand models:	220 V AC, 50/60 Hz
Other models:	120 V, 220 V or 230 - 240 V AC, 50/60 Hz
	Adjustable with voltage selector

Power consumption

MHC-VX99	300 watts
MHC-VX77/VX77J	250 watts
MHC-VX55/VX55J	230 watts

Dimensions (w/h/d)

HCD-VX99/VX77/VX77J/VX55/VX55J	Approx. 280 x 360 x 425 mm (11 x $14\frac{3}{16}$ x $16\frac{11}{16}$ in.)
--------------------------------	---

Mass:

HCD-VX99	Approx. 11 kg (24 lb. 5 oz.)
HCD-VX77/VX77J/VX55/VX55J	Approx. 9.5 kg (21 lb.)

Supplied accessories:

AM loop antenna (1)
Remote commander (1)
Batteries (2)
Video cable (1)
FM lead antenna (1)
Front speaker pads (8)

Design and specifications are subject to change without notice.

Glossary

Auto Pause

An automatically pauses according to the signal encoded on the disc while playing a VIDEO CD. If the CD player does not resume play for a long time, press ◀▶ to resume play manually.

Menu Playback

Playback using the menu screens recorded on VIDEO CDs with PBC functions. You can enjoy simple interactive software using the menu playback function.

Playback Control (PBC)

Signals encoded on VIDEO CDs (Version 2.0) to control playback.

By using menu screens recorded on VIDEO CDs with PBC functions, you can enjoy playing simple interactive software, software with search functions, and so on.

When you select a VIDEO CD with PBC functions on this player, the PBC indicator lights up.

Track

Sections of a picture or a music piece on disc. Each track is assigned a track number to help you locate the track you want.

VIDEO CD

A compact disc which contains moving pictures.

VIDEO CDs contain compact picture information using the MPEG 1 format, one of the world wide standards of digital compact technology. The picture information is compressed about 120 times. Consequently, a 12 cm VIDEO CD can contain up to 74 minutes of moving pictures.

VIDEO CDs also contain compact audio information. Sounds outside the range of human hearing are compressed while the sounds we can hear are not compressed. VIDEO CDs can hold six times the audio information of conventional audio CDs.

There are two versions for VIDEO CDs:

Version 1.1 (VIDEO CDs without PBC functions):

You can play only moving pictures and sounds.

Version 2.0 (VIDEO CDs with PBC functions):

You can play still pictures and enjoy PBC functions.

This player can play to both versions.

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