

Mini Hi-Fi Component System

Operating Instructions

Owner's Record

The model and serial numbers are located on the rear panel. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____



Game SYNC

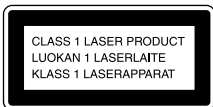
***MHC-MG510AV
MHC-MG310AV
MHC-MG110***

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.

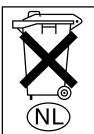
Do not install the appliance in a confined space, such as a bookcase or built-in cabinet.



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

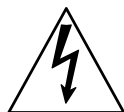
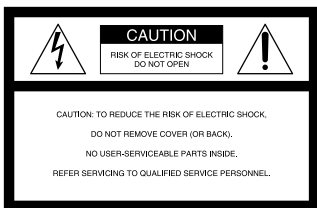
To prevent fire, do not cover the ventilation of the apparatus with newspapers, table-cloths, curtains, etc. And don't place lighted candles on the apparatus.

To prevent fire or shock hazard, do not place vases on the apparatus.



Don't throw a battery, dispose it as the injurious wastes.

NOTICE FOR THE CUSTOMERS IN THE U.S.A.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with The limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

CAUTION

- The use of optical instruments with this product will increase eye hazard.
- You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.
- Use of this appliance with some systems may present a shock or fire hazard. Do not use with any units which have the following marking located near output. "WARNING! HAZARDOUS ENERGY! ..."

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

NOTICE FOR THE CUSTOMERS IN CANADA

CAUTION

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

FOR THE CUSTOMERS IN NORTH AMERICA



ENERGY STAR® is a U.S. registered mark. As an ENERGY STAR® partner, Sony Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

MHC-MG510AV/MG310AV only

This stereo system is equipped with the Dolby® Pro Logic Surround decoder.


* Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", and the double-D symbol  are trademarks of Dolby Laboratories. Confidential unpublished works. ©1992-1997 Dolby Laboratories. All rights reserved.

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Additional Information

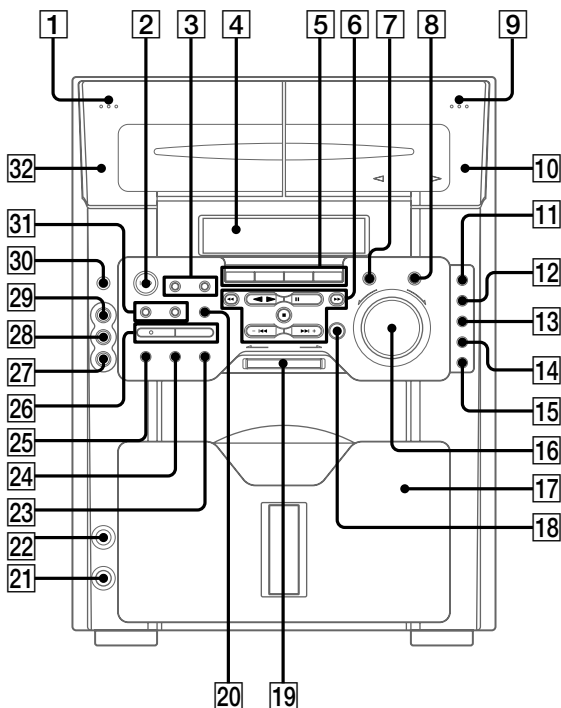
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* MHC-MG510AV/MG310AV only

**MHC-MG310AV only

The items are arranged in alphabetical order.
Refer to the pages indicated in parentheses () for details.

Main unit



5.1CH/VIDEO (MD)* **5** (28)
 AUDIO IN L jack **28** (29)
 AUDIO IN R jack **27** (29)
 CD **5** (14, 21)
 CDSYNCHRO **26** (21, 22)
 CLEAR **20** (15, 19, 34)
 Deck A **32** (20)
 Deck B **10** (20)
 DIRECTION **31** (20)
 DISC ACCESS **19** (12, 21)
 Display window **4**
 DISPLAY **23** (12, 17, 19, 34)
 ENTER **18** (11, 15, 18, 22, 26, 28)
 FRONT* **13** (25)
 GAME **30** (26, 29)
 KEYBOARD INPUT jack **22**
 LINK* **15** (25)
 MENU **31** (16, 18)

PHONES jack **21**
 PLAY MODE **24** (14, 22)
 PRESET EQ **7** (24)
 PRO LOGIC* **12** (11, 25)
 PUSH OPEN (Front cover) **17**
 (12)
 REAR* **14** (25)
 REC PAUSE/START **26** (21, 22)
 REPEAT **25** (14)
 STEREO/MONO **25** (19)
 SURROUND* **11** (25)
 SURROUND MODE **8** (25)
 TAPE A/B **5** (20)
 TIMER SELECT **3** (23, 27)
 TIMER SET **3** (11, 23, 26)
 TUNER/BAND **5** (18)
 VIDEO IN jack **29** (29)
 VIDEO (MD)** **5** (28)
 VOLUME control **16**

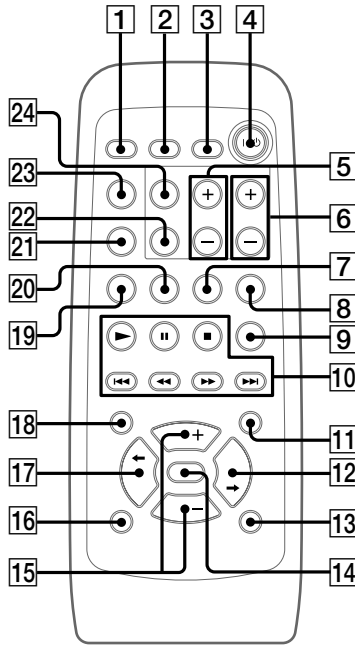
BUTTON DESCRIPTIONS

- ▲ (deck A) **1**
- I/⏻ (power) **2**
- ◀◀ (rewind) **6**
- ▶▶ (play) **6**
- ⏸ PAUSE **6**
- ▶▶ (fast forward) **6**
- (stop) **6**
- ◀◀ (go back) **6**
- ▶▶ (go forward) **6**
- ▲ (deck B) **9**

* MHC-MG510AV/MG310AV only
 ** MHC-MG110 only

Remote Control

For MHC-MG510AV/MG310AV



- 5.1CH **21** (30)
- CD **19** (14, 21)
- CENTER +/- **5** (11)
- DBFB **13** (24)
- DISPLAY **9** (12, 17, 19)
- GAME **8** (26, 29)
- GROOVE **14** (24)
- PLAY MODE **2** (14, 22)
- PRESET EQ **18** (24)
- PRO LOGIC **24** (11, 25)
- REAR +/- **6** (11)
- REPEAT **3** (14)

- SCROLL **11** (17)
- SLEEP **1** (26)
- SURROUND **16** (25)
- TAPE A/B **20** (20)
- TEST TONE **22** (11)
- TUNER/BAND **7** (18)
- VIDEO (MD) **23** (28)
- VOL +/- **15**

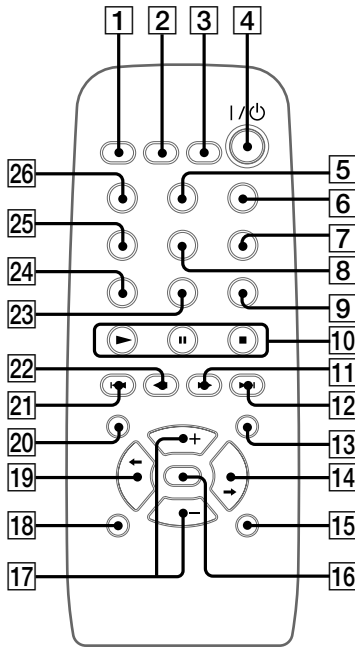
BUTTON DESCRIPTIONS

- I/⏻ (power) **4**
- ▶ (play) **10**
- ⏸ (pause) **10**
- (stop) **10**
- ◀◀ (go back) **10**
- ◀ (rewind) **10**
- ▶▶ (fast forward) **10**
- ▶▶▶ (go forward) **10**
- ◀-DISC/DISC-▶ **12 17**

continued

Remote Control (continued)

For MHC-MG110



CD **24** (14, 21)
 CLOCK/TIMER SELECT **2**
 (23, 27)
 CLOCK/TIMER SET **3** (23, 26)
 DBFB **15** (24)
 DISPLAY **26** (12, 17, 19)
 ENTER **5** (11, 15, 18, 22, 26,
 28, 34)
 GAME **7** (26, 29)
 GROOVE **16** (24)
 PLAY MODE **25** (14, 22)
 PRESET EQ **20** (24)
 REPEAT **8** (14)

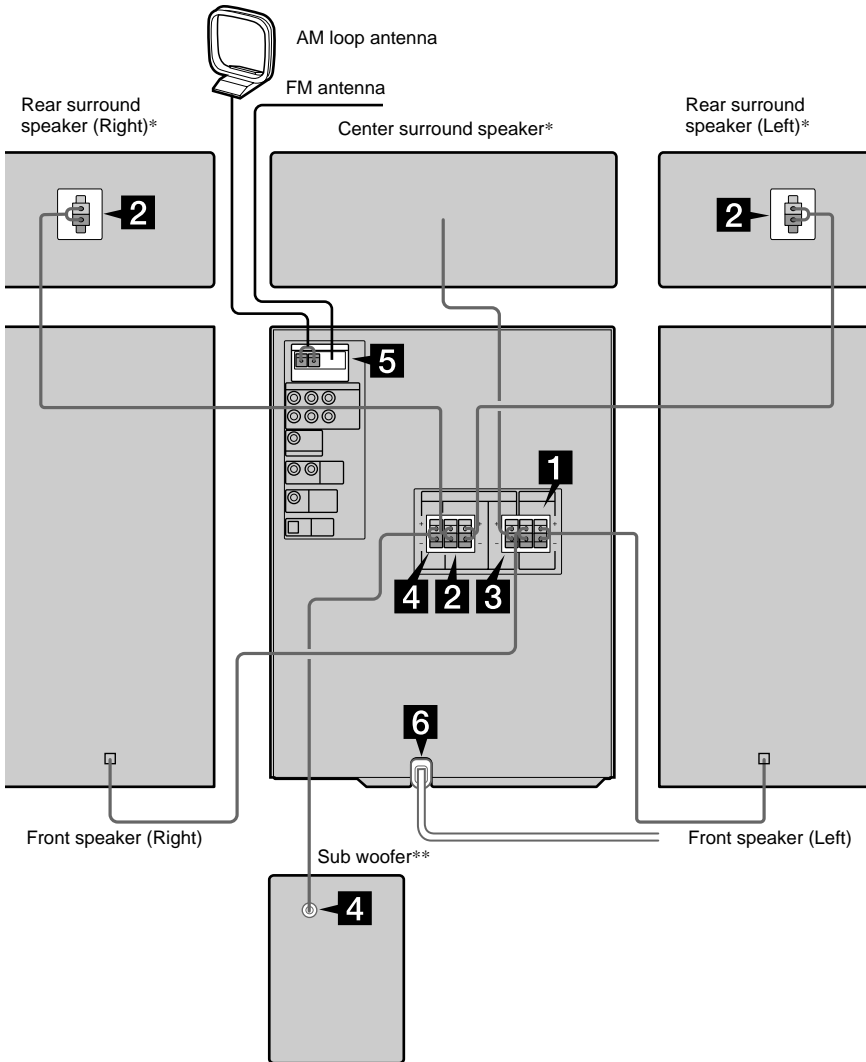
SCROLL **13** (17)
 SLEEP **1** (26)
 SURROUND **18** (25)
 TAPE A/B **23** (20)
 TUNER/BAND **9** (18)
 VIDEO (MD) **6** (28)
 VOL +/- **17**

BUTTON DESCRIPTIONS

I/⏻ (power) **4**
▶ (play) **10**
⏸ (pause) **10**
■ (stop) **10**
◀◀ (go back) **21**
◀◀ (rewind) **22**
▶▶ (fast forward) **11**
▶▶ (go forward) **12**
←DISC/DISC→ **14 19**

Hooking up the system

Perform the following procedure **1** to **6** to hook up your system using the supplied cords and accessories.



MHC-MG510AV is the model used for illustration purpose.

* MHC-MG510AV/MG310AV only

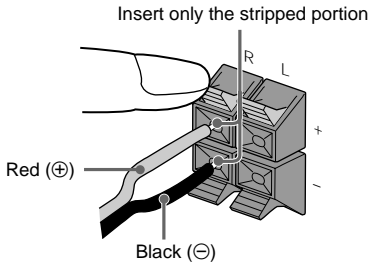
** MHC-MG510AV only

continued

Hooking up the system (continued)

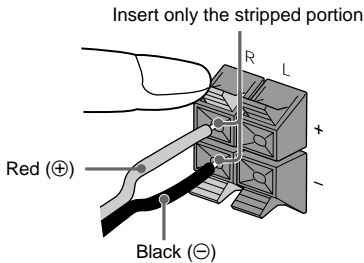
1 Connect the front speakers.

Connect the speaker cords to the FRONT SPEAKER jacks on the unit as shown below.



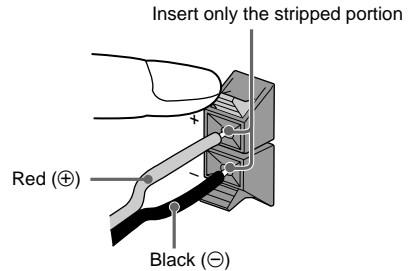
2 Connect the rear surround speakers. (MHC-MG510AV/MG310AV only)

Connect the speaker cords to the SURROUND SPEAKER REAR jacks on the unit and to the jacks on the rear surround speakers as shown below.



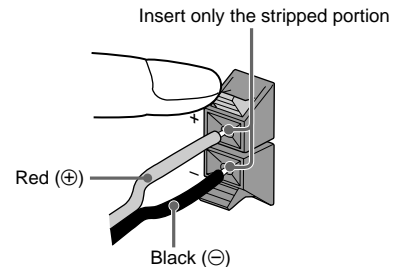
3 Connect the center surround speaker. (MHC-MG510AV/MG310AV only)

Connect the speaker cords to the SURROUND SPEAKER CENTER jacks on the unit as shown below.



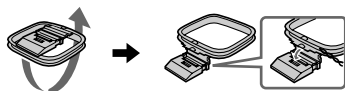
4 Connect the sub woofer. (MHC-MG510AV only)

Connect the speaker cords to the SURROUND SPEAKER SUB WOOFER jacks on the unit as shown below.



5 Connect the FM/AM antennas.

Set up the AM loop antenna, then connect it.



Jack type **A**

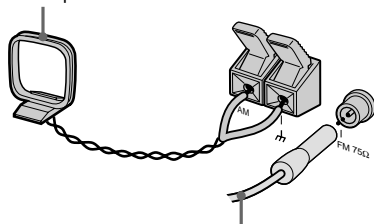
AM loop antenna



Extend the FM antenna horizontally

Jack type **B**

AM loop antenna



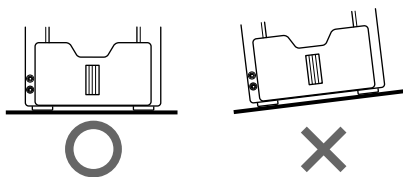
Extend the FM antenna horizontally

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.

Note on placement

Be sure to place this unit on a horizontal place. If the unit is slanted, it may cause malfunction or damage to the system.

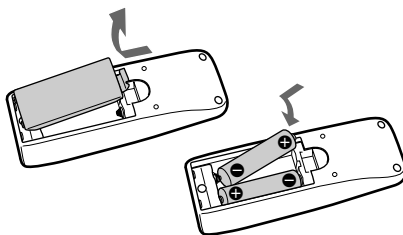


To connect optional components
See page 28 for details.

Notes

- Keep the speaker cords away from the antennas to prevent noise.
- Do not place the rear surround speakers on top of a TV. This may cause distortion of the colors in the TV screen.
- Be sure to connect both left and right rear surround speakers. Otherwise, the sound will not be heard.
- The type of speakers supplied vary according to the model you purchased (see "Specifications" on page 35).
- The MHC-MG110 speaker system is not magnetically shielded. Therefore, leave a space of 5 to 10 cm or more when placing the front speakers next to a television.

Inserting two size AA (R6) batteries into the remote



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.

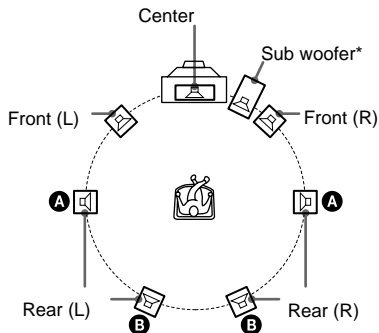
Note

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

Setting up your speakers for Dolby Pro Logic

(MHC-MG510AV/MG310AV only)

Positioning the speakers



* MHC-MG510AV only

Each speaker should face the listening position. Better surround effect will result if all speakers are set at the same distance from the listening position.

Place the front speakers 5 to 10 cm or more away from the left and right of the television.

For MHC-MG510AV, place the sub woofer on either side of the television.

Place the center speaker on the top-center of the TV set.

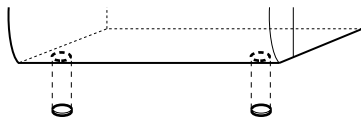
The placement of rear speakers greatly depends on the configuration of the room. The rear speakers may be placed on both sides of the listening position **A** or behind the listening position **B**.

Tip

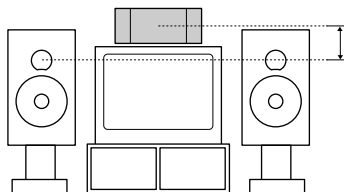
For MHC-MG310AV customers, you can connect an optional sub woofer speaker (see page 30).

Setting the center speaker

Attach the supplied speaker pads to the bottom of the center surround speaker to stabilize the speaker and prevent it from slipping.

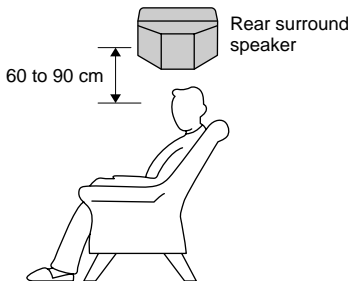


Place the center surround speaker at about the same height as the front speakers. Align the center surround speaker with the front speakers or place it slightly back from the position of the front speakers.



Setting the rear speakers

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



Adjusting the speaker volume of each speaker

— **Test tone**

1 Press PRO LOGIC.

“DOLBY PL ON” appears.

2 Press TEST TONE on the remote.

The test tone is heard from the speakers in the following order.

Front (left) → Center → Front (right) →

Rear → Front (left) → ...

3 From your listening position, press CENTER (+/-) and REAR (+/-) on the remote to adjust the volume until the each volume level becomes the same.

4 Press TEST TONE when you finish adjusting.

The test tone turns off.

Note

The test tone feature works only for Dolby Pro Logic Surround sound.

Setting the time

1 Turn on the system.

2 Press TIMER SET.

When you set the clock for the first time, go to step 5.

3 Press – I◀◀ or ▶▶ I + repeatedly to select “CLOCK SET”.

4 Press ENTER.

5 Press – I◀◀ or ▶▶ I + repeatedly to set the hour.

6 Press ENTER.

7 Press – I◀◀ or ▶▶ I + repeatedly to set the minute.

8 Press ENTER.

Tip

If you made a mistake or want to change the time, start over from step 1.

Note

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

Saving the power in standby mode

Press **DISPLAY** repeatedly while the system is off. Each time you press the button, the system switches cyclically as follows:

Demonstration → Clock display → Power Saving Mode

Tips

- I/⏻ indicator lights up even in the Power Saving Mode.
- The timer functions in the Power Saving Mode.

Note

You cannot set the time in the Power Saving Mode.

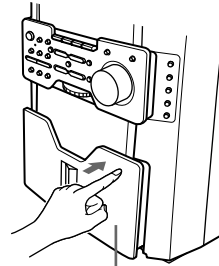
To cancel the Power Saving Mode

Press **DISPLAY** once to show the demonstration or twice to show the clock display.

Loading a CD

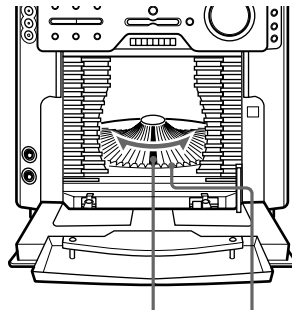
You can load up to 60 discs into this unit.
Turn on the system before you load CDs.

- 1 Open the front cover by pushing the right edge of the cover.



Front cover

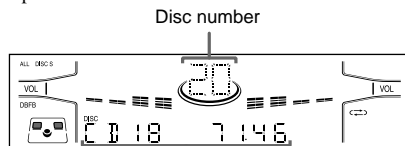
- 2 Turn **DISC ACCESS** (or press ←**DISC** or **DISC**→ on the remote) until you find the disc slot where you want to insert a disc, while checking the disc number (written beside every slot and also indicated in the display).



Disc slot at the loading position
(located at the very front)

The disc number* at the loading position appears in the display. As you turn DISC ACCESS, the disc number or Disc Memo changes.

* If you have already loaded discs, the disc number at the playing position appears. When you turn DISC ACCESS, the displayed disc number changes to the one at the loading position.

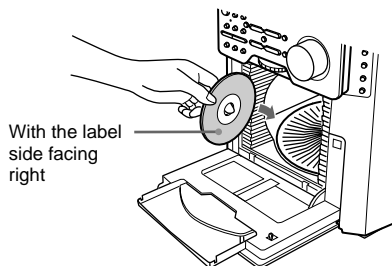


Total number of tracks and total playing time

3 Insert a disc with the label side facing right.

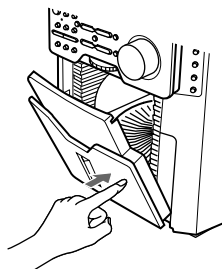
Notes

- Make sure you have loaded the disc into each slot at a right angle to the rotary table. If the disc is not put in straight, it may damage the unit or the disc.
- Make sure the rotary table comes to a complete stop before loading or removing discs.



4 Repeat steps 2 and 3 to load additional discs.

5 Close the front cover by pushing the right edge of the cover until it clicks.



The rotary table turns and the disc slot at the loading position is set to the playing position.

Removing CDs

After following step 1 of “Loading a CD” on page 12, remove the discs. Then close the front cover.

Notes

- Always close the front cover except when you load or remove discs.
- Do not load an empty 8 cm CD adaptor. It may damage the unit.
- Do not attach anything such as seals or sleeves to CDs. It may damage the unit or the disc.
- If you drop a disc into the unit and the CD will not go into the slot correctly, consult your nearest Sony dealer.
- When transporting the unit, remove all discs from the unit.
- If you want to remove the disc played, open the front cover. The disc comes to the loading position. Remove the disc after the rotary table comes to a complete stop.

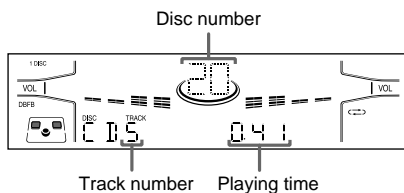
Tip

You can display the original Disc Memos instead of the disc numbers (see “Labeling a CD” on page 16) to locate the disc easily when you start playing. When you select a CD-TEXT disc, the disc title is displayed instead of the disc number.

Playing a CD

— Normal Play/Shuffle Play/Repeat Play

You can play up to 60 CDs continuously. This system lets you play the CD in different play modes.



- 1 Press **CD** to switch the function to **CD**.
- 2 When you want to specify the disc for **1 DISC**, turn **DISC ACCESS** (or press **←DISC** or **DISC→** on the remote) until the desired disc number or **Disc Memo** appears.
- 3 Press **PLAY MODE** repeatedly until the mode you want appears.

Select	To play
ALL DISCS (Normal Play)	All CDs in the disc tray continuously.
1 DISC (Normal Play)	The CD you have selected in original order.
ALL DISCS SHUF (Shuffle Play)	The tracks on all CDs in random order.
1 DISC SHUF (Shuffle Play)	The tracks on the CD you have selected in random order.
PGM (Program Play)	The tracks on all CDs in the order you want them to be played. (see "Programing CD tracks" on page 15.)

- 4 Press **◀▶** (or **▶** on the remote).

Other Operations

To	Do this
Stop play	Press ■ .
Pause	Press ⏸ PAUSE (or ⏸ on the remote). 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	During play, press and hold ▶▶ (to go forward) or ◀◀ (to go back). Release it when you find the desired point.
Select a CD in stop mode	Turn DISC ACCESS to the right (to go forward) or to the left (to go back) and release it when you reach the desired CD (or press ←DISC or DISC→ on the remote).
Play repeatedly (Repeat Play)	Press REPEAT during play until "REP" or "REP 1" appears. ALL DISCS REP : For all the tracks on all CDs up to five times. 1 DISC REP : For all the tracks on the current CD up to five times. REP 1* : For a single track only. To cancel Repeat Play, press REPEAT until "REP" or "REP 1" disappears.

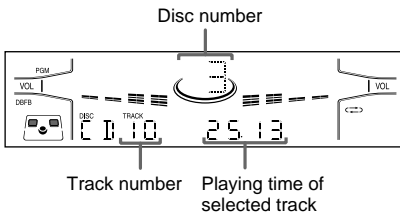
* When you select "REP 1", that track is repeated endlessly until Repeat Play is canceled.

Programing CD tracks

— Program Play

You can make a program of up to 25 tracks from all the CDs in the order you want to play them.

- 1 Press **CD** to switch the function to **CD**.
- 2 Press **PLAY MODE** repeatedly until **"PGM"** appears.
- 3 Turn **DISC ACCESS** (or press **←DISC** or **DISC→** on the remote) to select a **CD**.
To program all the tracks on a CD at once, go to step 5 with **"CDAL"** displayed.
- 4 Press **←I◀◀** or **▶▶I** + (or **I◀◀** or **▶▶I** on the remote) repeatedly until the desired track appears.



- 5 Press **ENTER**.
The track is programmed. The programmed track and corresponding step (playing order) appear.
- 6 Program additional discs or tracks.

To program	Repeat steps
Other discs	3 and 5
Other tracks on the same disc	4 and 5
Other tracks on other discs	3 to 5

- 7 Press **◀▶** (or **▶** on the remote).

Other Operations

To	Do this
Cancel Program play	Press PLAY MODE repeatedly until "PGM" disappears.
Check the program	Press ←I◀◀ or ▶▶I + (or I◀◀ or ▶▶I on the remote) repeatedly during Program Play.
Clear a track or disc from the end	Press CLEAR in stop mode.
Clear the entire program	Press and hold CLEAR .
Add tracks or discs to the program in stop mode	Perform steps 3 to 5.

Tips

- The program you made remains after Program Play finishes. To play the same program again, press **CD**, then press **◀▶** (or **▶** on the remote) in Program Play mode.
- **"--:--"** appears when the total CD program time exceeds 100 minutes, or when you select a CD track whose number is 21 or over.
- The programmed disc and track numbers remain until you erase them, so that the system plays only the existing disc and track numbers if you replace discs. However, the disc and track numbers that are not found in the system or on the disc are deleted from the program, and the rest of the program is played in the programmed order.

Labeling a CD

— Disc Memo

You can label up to 60 CDs with titles of up to 20 characters. Whenever you load a labeled CD, the title appears in the display.

You can also label CDs using an optional keyboard (see “Labeling titles through the keyboard” on page 27).

Notes

- You cannot label a CD for which “TEXT” appears in the display.
- You can label a CD only during Normal Play (when “1 DISC” or “ALL DISCS” is displayed).

1 Press CD to switch the function to CD.

2 Turn DISC ACCESS until the disc number you want to label appears.

3 Press MENU.

4 Press \blacktriangleleft or \blacktriangleright + (or \blacktriangleleft or \blacktriangleright on the remote) repeatedly until “NAME IN” appears.

5 Press ENTER.

6 Turn DISC ACCESS until the character you want appears.

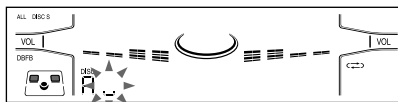
The cursor disappears and the first space for the disc title flashes.

You can input the following characters:

- Upper cases (A – Z)
- Numbers (0 – 9)
- Symbols (‘ - / , + < > _ = `)

7 Press \blacktriangleright .

The character you selected in step 6 stops flashing and the cursor shifts to the right.



8 Repeat steps 6 and 7 to complete the entire title.

If you made a mistake

Press \blacktriangleleft or \blacktriangleright until the character you want to change flashes, then repeat steps 6 and 7.

To erase a character

Press CLEAR while the character is flashing. You cannot insert characters.

9 Press ENTER to complete the labeling procedure.

Repeat steps 2 to 9 to label additional discs.

To cancel labeling

Press MENU.

Tip

When you replace a disc with a CD-TEXT disc, the Disc Memo of the CD-TEXT disc is automatically restored. The Disc Memo of the CD-TEXT disc is no longer stored (disappears) when the disc is removed. Note that you cannot change the Disc Memo of a CD-TEXT disc.

Note

The Disc Memo stores the number of the slot in which the CD was loaded. Re-enter the Disc Memo when loading a new CD into that slot.

Checking the Disc Memos

- 1 Press CD to switch the function to CD.
- 2 Press MENU.
- 3 Press - **◀◀** or **▶▶** + (or **◀◀** or **▶▶** on the remote) repeatedly until "NAME CHECK" appears.
- 4 Press ENTER.
- 5 Turn DISC ACCESS to select the disc titles stored in the system memory between 01 and 60.
- 6 Press MENU.

To check the current disc title
Press SCROLL on the remote in stop mode.

Erasing a Disc Memo

- 1 Press CD to switch the function to CD.
- 2 Press MENU.
- 3 Press - **◀◀** or **▶▶** + (or **◀◀** or **▶▶** on the remote) repeatedly until "NAME ERASE" appears.
- 4 Press ENTER.
- 5 Turn DISC ACCESS to select the disc number with the title you want to erase.
- 6 Press ENTER.

Erasing all Disc Memos of all discs

- 1 Press CD to switch the function to CD.
- 2 Press MENU.
- 3 Press - **◀◀** or **▶▶** + (or **◀◀** or **▶▶** on the remote) repeatedly until "ALL ERASE" appears.
- 4 Press ENTER.

Using the CD display

You can check the remaining time of the current track or the entire CD. When a CD-TEXT disc is loaded, you can also check the information recorded on the disc, such as the titles.

Press DISPLAY repeatedly.

The display changes cyclically as follows:

During normal play

Elapsed playing time of the current track →
Remaining time of the current track → Track title (CD-TEXT disc only) → Clock display → Effect status

In stop mode

During Program Play mode when there is a program:

The last track number and the total playing time of the program → The disc number of the program, the last track number and total number of steps → Disc title or Disc Memo*¹ → Clock display → Effect status

In other conditions:

TOC display*² → Disc title or Disc Memo*¹ → Clock display → Effect status

*¹ For labeled CD or CD with CD-TEXT

*² TOC = Table of Contents; displays current disc number, total number of tracks on the disc, and total playing time of the disc

Depending on the disc, some CD-TEXT information may not appear.

Presetting radio stations

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

- 1 Press **TUNER/BAND** repeatedly to select **"FM"** or **"AM"**.
- 2 Press and hold **◀◀** or **▶▶** until the frequency indication starts to change, then release it.

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



- 3 Press **MENU**.
- 4 Press **-◀◀** or **▶▶+** (or **◀◀** or **▶▶** on the remote) repeatedly until **"MEMORY"** appears, then press **ENTER**.

A preset number appears.



Preset number

- 5 Press **-◀◀** or **▶▶+** (or **◀◀** or **▶▶** on the remote) repeatedly to select the desired preset number.
- 6 Press **ENTER**.
"COMPLETE" appears.
 The station is stored.
- 7 Repeat steps 1 to 6 to store other stations.

To tune in a station with a weak signal

Press **◀◀** or **▶▶** repeatedly in step 2 to tune in the station manually.

To set another station to an existing preset number

Start over from step 1. After step 4, press **-◀◀** or **▶▶+** repeatedly to select the preset number you want to store the other station.

To change the AM tuning interval

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 system. While holding down **ENTER**, turn the system back on. When you change the interval, all the AM preset stations are erased. To reset the interval, repeat the same procedure.

Tip

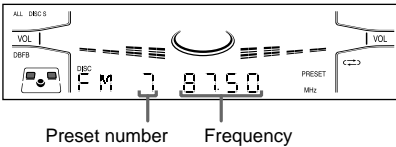
The preset stations are retained for half a day even if you unplug the power cord or if a power failure occurs.

Listening to the radio

— Preset Tuning

Preset radio stations in the tuner's memory first (see "Presetting radio stations" on page 18).

- 1 Press **TUNER/BAND** repeatedly to select "FM" or "AM".
- 2 Press **- I◀◀** or **▶▶+** (or **I◀◀** or **▶▶+** on the remote) repeatedly to tune in the desired preset station.



To listen to non-preset radio stations
Use manual or automatic tuning in step 2.
For manual tuning, press **◀◀** or **▶▶** repeatedly. For automatic tuning, press and hold **◀◀** or **▶▶**.

Tips

- When an FM stereo program has static noise, press **STEREO/MONO** repeatedly until "MONO" appears. There will be no stereo effect, but the reception will improve.
- To improve broadcast reception, adjust the supplied antennas or connect a commercially available external antenna.

Labeling the preset stations

— Station Name

You can label each preset station with up to 12 characters (Station Name).

You can also label preset stations using an optional keyboard (see "Labeling titles through the keyboard" on page 27).

- 1 Tune the desired station you want to label (see "Listening to the radio" on this page).
- 2 Follow the same procedures as from steps 3 to 9 of "Labeling a CD" on page 16.

To check the preset number and frequency

The station name appears when you tuned the labeled station.

To check the preset number and frequency, press **DISPLAY**. The preset number and frequency are displayed for 4 seconds and it returns to the station name display.

To erase the name

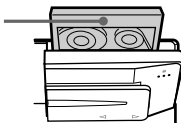
- 1 Tune the station.
- 2 Press **MENU**.
- 3 Press **I◀◀** or **▶▶+** repeatedly to select "NAME IN", then press **ENTER**.
- 4 Press **CLEAR** repeatedly to erase the name.
- 5 Press **ENTER**.

Loading a tape

You can use only TYPE I (normal) tape.

- 1 Press **TAPE A/B** repeatedly to select deck A or B.
- 2 Press **▲**.
- 3 Insert a tape in deck A* or B with the side you want to play/record facing forward.

With the side you want to play/record facing forward



* Playback only

Playing a tape

- 1 Load a tape.
- 2 Press **DIRECTION** repeatedly to select **↔** to play one side. Select **↔*** to play both sides.

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

- 3 Press **◀▶**.

Press **◀▶** again to play the reverse side for the deck B. When you select **↔** or **RELAY**, the deck automatically stops after repeating the sequence five times.



Tape playback side

>>> appears for the front side, and <<< for the reverse side.

- * Deck A does not play the reverse side.
- ** After the playback of the front side of deck A, deck B repeats the sequence five times.

Other Operations

To	Do this
Stop play	Press ■ .
Pause	Press ⏸ PAUSE (or ⏸ on the remote). Press again to resume play.
Fast-forward or rewind	Press ⏩ or ⏪ .
Remove the cassette	Press ▲ .

Searching for beginning of a track (AMS)*

Press **- ⏪** or **⏩ +** (or **⏪** or **⏩** on the remote) repeatedly during playback for the number of songs you want to skip forward (or backward).

The display shows the number of tracks to be skipped.

- * The Automatic Music Sensor (AMS) feature detects a blank space of more than four seconds between tracks to locate tracks quickly.

Notes

- The AMS function may not operate correctly under the following circumstances:
 - When the unrecorded space between songs is less than 4 seconds long.
 - When the system is placed near a television.
- If the system stops during tape playback or recording due to a power failure or other reason, do not attempt to forcibly eject the tape as this may damage the heads. Wait until the power is restored, then be sure to press **I/⏻** to turn on the system before ejecting the tape.

Recording to a tape

— CD Synchro Recording/Recording Manually/Program Edit

You can record from a CD, tape or radio. The recording level is adjusted automatically.

Steps	Recording from a CD (CD Synchro Recording)	Recording from a CD/tape/radio manually
1	Load a recordable tape into deck B.	
2	Press CD.	Press the function button of the source you want to record.
3	Turn DISC ACCESS (or press ←DISC or DISC→ on the remote) to select the CD you want to record.	Insert the CD or tape, or tune in the station you want to record.
4	Press CD SYNCHRO.	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.	
7	Start playing the music source to be recorded.	

Tape

To stop recording
Press ■.

Tip
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.

continued

Recording to a tape (continued)

Recording a CD by specifying track order

— Program Edit

When programing, make sure the playing times for each side do not exceed the length of one side of the tape.

- 1 Load a recordable tape into deck B.**
- 2 Press CD.**
- 3 Press PLAY MODE repeatedly until “PGM” appears.**
- 4 Turn DISC ACCESS (or press ←DISC or DISC→ on the remote) to select a CD.**

To program all the tracks on a CD at once, go to step 6 with “CDAL” displayed.
- 5 Press – I◀◀ or ▶▶ I + (or I◀◀ or ▶▶ I on the remote) repeatedly until the desired track appears.**
- 6 Press ENTER.**

The track is programed. The programed track and corresponding step (playing order) appear, followed by the total playing time.
- 7 Repeat steps 5 and 6 for the same disc or 4 to 6 for tracks from another disc to program additional discs or tracks.**
- 8 Press CD SYNCHRO.**

Deck B stands by to record in the direction of the indication. The CD player pauses for play.

- 9 Press DIRECTION repeatedly to select ⇌ to record on one side. Select ⇔ (or RELAY) to record on both sides.**

10 Press REC PAUSE/START.

Recording starts.

Tip

If you select both sides recording and the tape reaches the end of the front side part-way through a track, the entire track is recorded again from the beginning of the reverse side.

Timer-recording radio programs

You can record a preset radio station from a specified time.

To timer-record, you must first preset the radio station (see “Presetting radio stations” on page 18) and set the clock (see “Setting the time” on page 11).

- 1 Tune in the preset radio station (see “Listening to the radio” on page 19).**
- 2 Press TIMER SET (or CLOCK/TIMER SET on the remote for MHC-MG110).**
- 3 Press – ⏪ or ⏩ + (or ⏪ or ⏩ on the remote) repeatedly to select “REC SET,” then press ENTER.**
“ON” appears and the hour indication flashes.
- 4 Set the time to start recording.**
Press – ⏪ or ⏩ + (or ⏪ or ⏩ on the remote) repeatedly to set the hour, then press ENTER.
The minute indication flashes.
Press – ⏪ or ⏩ + (or ⏪ or ⏩ on the remote) repeatedly to set the minute, then press ENTER.
- 5 Set the time to stop recording following the procedure in step 4.**
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 Load a recordable tape into deck B.**
- 7 Press I/⏻ to turn off the system.**
When the recording starts, the volume is reduced to minimum.

Other Operations

To	Do this
Check the setting	Press TIMER SELECT (or CLOCK/TIMER SELECT on the remote for MHC-MG110) and press – ⏪ or ⏩ + (or ⏪ or ⏩ on the remote) repeatedly to select “REC SELECT”. Then, press ENTER. To change the setting, start over from step 1.
Cancel the timer	Press TIMER SELECT (or CLOCK/TIMER SELECT on the remote for MHC-MG110) and press – ⏪ or ⏩ + (or ⏪ or ⏩ on the remote) repeatedly to select “TIMER OFF”, then press ENTER.

Notes

- If the system is on at the preset time, the recording will not be made.
- When you use the Sleep Timer, Timer-recording will not turn on the system until the Sleep Timer turns it off.

Adjusting the sound

Reinforcing the bass sound

— **DBFB**

You can listen to music with stronger bass tones.

Press DBFB* on the remote.

“DBFB” appears and the bass is reinforced.

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

DBFB NORMAL → DBFB HIGH → DBFB OFF (off)

* DBFB: Dynamic Bass Feedback

Tip

DBFB is factory set to on.

Enjoying the powerful sound

— **GROOVE/V-GROOVE**

You can reinforce the bass and create a more powerful sound.

The GROOVE setting is ideal for music sources, and the V-GROOVE setting is ideal for video sources (movies, VCDs, etc.).

Press GROOVE on the remote.

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

GROOVE ON → V-GROOVE ON → GROOVE OFF (off)

Tip

GROOVE and V-GOOVE are factory set to on.

Selecting the sound effect

The preset music menu lets you select the sound characteristics according to the sound you are listening to.

Selecting the effect from the music menu

Press PRESET EQ repeatedly to select the preset you want.

The preset name appears in the display. See the chart “Sound effect options”.

To cancel the effect

Press PRESET EQ repeatedly until “FLAT” appears.

Sound effect options

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

Effect	
ROCK	Standard music sources
POP	
JAZZ	
GAME	PlayStation 1, 2 and other video game music sources

Selecting the surround effect

For MHC-MG510AV/MG310AV

- 1 Press **SURROUND** to turn on the surround mode.
- 2 Press **SURROUND MODE** repeatedly to select the surround effect you want.
SUR ON: Reproduces stereo sources in surround sound.*
HALL: Reproduces the acoustics of a concert hall.*
THEATER: Reproduces the acoustics of a movie theater.*
E THEATER: Reproduces the acoustics of a large movie theater.*
SUR OFF: Turns off the surround mode.
* The indicator on the SURROUND button lights up.

For MHC-MG110

Press **SURROUND MODE** (or **SURROUND on the remote**) repeatedly to turn the surround mode on or off.

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


SUR ON (SUR) ↔ SUR OFF (off)

Note

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

Enjoying Dolby Pro Logic Surround sound

(MHC-MG510AV/MG310AV only)

You can enjoy Dolby Pro Logic Surround sound from Dolby Surround-encoded () video tapes. Complete the setup and adjustments first (see page 10).

Press **PRO LOGIC** while playing a program source.

Press **PRO LOGIC** again to cancel the Dolby Pro Logic Surround sound.

Notes




- You cannot use both Dolby Pro Logic Surround sound and other surround effects at the same time.
- When recording the sound, be sure to turn off Dolby Pro Logic Surround sound.

Selecting the sound formation

— Multi room selector

(MHC-MG510AV/MG310AV only)

You can select the sound formation with the press of a button. The speakers producing sound light up on the display.

Press	Display	Sound output
FRONT		Stereo sound from the front speakers.
REAR		Stereo sound from the rear surround speakers.
LINK		Front speaker stereo sound from both the front and rear surround speakers.

Enhancing video game sound

— *Game Sync*

You need to connect a video game machine (See “Connecting a video game machine” on page 29).

Press **GAME**.

Tips

- The **GAME** (effect status) is automatically selected.
- These operations cannot be performed in the Power Saving Mode.

Falling asleep to music

— *Sleep Timer*

You can set the system to turn off after a certain time, so that you can fall asleep to music.

Press **SLEEP** on the remote.

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

SLEEP AUTO* → SLEEP 90MIN → SLEEP 80MIN → SLEEP 70MIN → ... → SLEEP 10MIN → SLEEP OFF

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

To	Press
Check the remaining time	SLEEP once.
Change the time to turn off	SLEEP repeatedly to select the time you want.
Cancel the Sleep Timer function	SLEEP repeatedly until “SLEEP OFF” appears.

Waking up to music

— *Daily Timer*

You can wake up to music at a preset time. Make sure you have set the clock (see “Setting the time” on page 11).

1 Prepare the music source you want to play.

- **CD:** Load a CD. To start from a specific track, make a program (see “Programing CD tracks” on page 15).
- **Tape:** Load a tape with the side you want to play facing forward.
- **Radio:** Tune in the preset station you want (see “Listening to the radio” on page 19).

2 Adjust the volume.

3 Press **TIMER SET** (or **CLOCK/TIMER SET** on the remote for **MHC-MG110**).

4 Press **←** or **→** (or **←** or **→** on the remote) repeatedly to select “**DAILY SET**”, then press **ENTER**.

“**ON**” appears and the hour indication flashes.

5 Set the time to start playing.

Press **←** or **→** (or **←** or **→** on the remote) repeatedly to set the hour, then press **ENTER**.

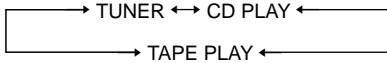
The minute indication flashes.

Press **←** or **→** (or **←** or **→** on the remote) repeatedly to set the minute, then press **ENTER**.

6 Set the time to stop playing following the procedure in step 5.

- 7 Press **←** or **→** + (or **←** or **→** on the remote) repeatedly until the music source you want appears.

The indication changes as follows:



- 8 Press **ENTER**.

The type of timer, followed by the start time, stop time, and the music source, appear, then the original display appears.

- 9 Press **I/⏻** to turn off the system.

Other Operations

To	Do this
Check the setting	Press TIMER SELECT (or CLOCK/TIMER SELECT on the remote for MHC-MG110) and press ← or → + (or ← or → on the remote) repeatedly to select "DAILY", then press ENTER .
Change the setting	Start over from step 1.
Cancel the timer	Press TIMER SELECT (or CLOCK/TIMER SELECT on the remote for MHC-MG110) and press ← or → + (or ← or → on the remote) repeatedly to select "TIMER OFF", then press ENTER .

Tip

The system turns on 15 seconds before the preset time.

Notes

- When you use the Sleep Timer, Daily Timer will not turn on the system until the Sleep Timer turns it off.
- You cannot activate the Daily Timer and Timer-recording at the same time.

Setting the keyboard

You can use the Sony KB-10 keyboard (not supplied). In principle, you may use any IBM*-compatible keyboard with a PS/2 interface.**

However, not all keyboards are guaranteed to work properly, so we recommend using the KB-10 keyboard.

* IBM is the registered trademark of International Business Machines Corporation.

** The power consumption must be 120 mA or less.

Note

Hum or noise may enter the AM radio sound depending on the operating environment.

Connect the keyboard connector to the **KEYBOARD INPUT** jack.

You can connect the keyboard even when the system is turned on.

Labeling titles through the keyboard

You can quickly enter or edit names using a keyboard. You can label a CD only during Normal Play (when "1 DISC" or "ALL DISCS" is displayed).

- 1 Perform the following procedure depending on what you want to label.

To label	Do this
A CD	Switch the function to CD and select the desired CD.
A preset station	Switch the function to TUNER and select the desired preset radio station number.

- 2 Press **[Enter]**.

The text input screen appears and the cursor flashes.

- 3 Enter a title.

Besides letter keys, you can also use the keys shown in the following table.

- 4 Press **[Enter]**.

"COMPLETE" appears for a few seconds and the title you labeled appears.

Labeling titles through the keyboard (continued)

Editing operations while labeling

To	Press
Cancel the operation	[Esc]
Move the cursor	[←] or [→]
Erase the character at the cursor position	[Delete]
Erase the character preceding the cursor	[Back Space]

Operating the system through the keyboard

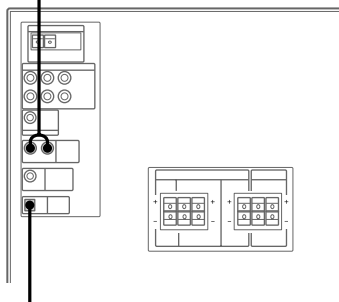
You can operate the system without using the buttons and controls on the unit or on the remote.

As the keyboard substitutes for the following functions	Press
CD PLAY	[F5]
CD PAUSE	[F6]
CD STOP	[F7]
DISC ACCESS (DISC→)	[F8]
TUNER/BAND	[F9]
– ⏪	[F10]
⏩ +	[F11]
DISPLAY	[F12]

Hooking up the optional A/V components

You can connect a digital or an analog component to this system.

To the audio output jacks of an MD deck, a VCR, etc.



To the digital input jack of a digital component

To	Do this
Make a digital recording from CD to MD	Connect an optical cable.
Listen to the analog sound of a connected VCR	Connect the audio cords. Press 5.1CH/VIDEO (MD)* repeatedly until “VIDEO” appears.
Listen to the analog sound of the connected MD deck	With the system turned off, press 5.1CH/VIDEO (MD)* while holding down ENTER. This switches the “VIDEO” function to “MD”. Once you enable the “MD” function, just press 5.1CH/VIDEO (MD)*. Then connect the audio cords. Press 5.1CH/VIDEO (MD)* repeatedly until “MD” appears.
Make an analog recording from MD onto a tape	Connect the audio cords. Press 5.1CH/VIDEO (MD)* repeatedly until “MD” appears.

* VIDEO (MD) for MHC-MG110 or on the remote

Notes

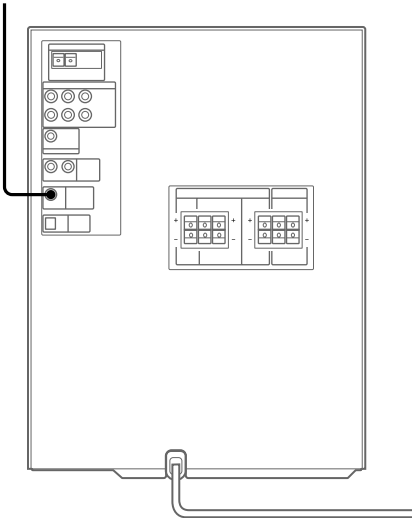
- Make sure to match the color of the plugs and the connectors.
- If you want to switch back to VIDEO function, perform the operation described in the previous page to switch to VIDEO function.

Connecting a video game machine

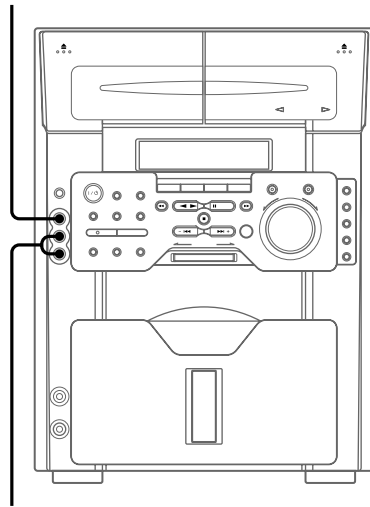
Connect the video output of the video game machine to the VIDEO IN jack, and the audio output to the AUDIO IN jacks on the front panel of the unit. Connect the VIDEO OUT jack on the rear panel of the unit to the video input of a TV using the optional video cable.

To listen to the sound of the connected video game machine, press GAME.

To the video input of a TV



To the video output of the video game machine



To the audio output of the video game machine

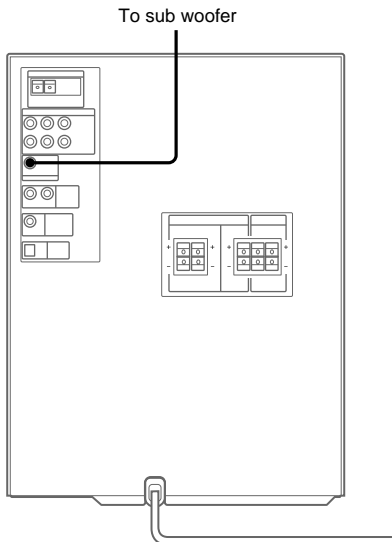
Notes

- The video game machine image may appear on the TV screen even if the system is turned off.
- See “Selecting the sound effect” on page 24 for video game sound effects.
- If you press GAME while the system is off, the system turns on, the function switches to GAME, and the equalizer also switches to the GAME (effect status).

Connecting a sub woofer speaker

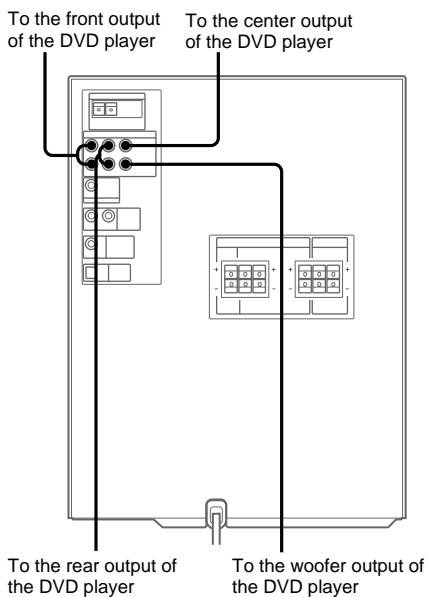
(MHC-MG310AV only)

You can connect an optional sub woofer speaker.



Connecting a DVD player

(MHC-MG510AV/MG310AV only)



When your DVD player has 5.1 channel analog outputs

Make sure to match the color of the plugs and the connectors. To listen to the sound of the connected DVD player, press 5.1CH/VIDEO (MD) (or 5.1CH on the remote) until "5.1CH" appears.

Note

You cannot enjoy the 5.1 channel surround sound if you connect a DVD player which does not have the 5.1 channel analog outputs.

Precautions

On operating voltage

Before operating the system, check that the operating voltage of your system 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 system 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 system and have it checked by qualified personnel before operating it any further.
- The AC power cord must be changed only at a qualified service shop.
- The nameplate is located on the rear exterior.

On placement

- Do not place the system in an inclined position.
- Do not place the system in locations where it is:
 - Extremely hot or cold
 - Dusty or dirty
 - Very humid
 - Subject to vibrations
 - Subject to direct sunlight.

On heat buildup

- Although the unit heats up during operation, this is not a malfunction.
- Place the unit in a location with adequate ventilation to prevent heat buildup in the unit.

If you continuously use this unit at a large volume, the cabinet temperature of the top, side and bottom rises considerably. To avoid burning yourself, do not touch the cabinet.

To prevent a malfunction, do not cover the ventilation hole for the cooling fan.

On operation

- If the system 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 system will not operate properly. Remove the CD and leave the system turned on for about an hour until the moisture evaporates.
- When you move the system, take out any discs.

If you have any questions or problems concerning your stereo system, 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.
- Do not expose the CD to direct sunlight or heat sources.
- Discs with non-standard shapes (e.g., heart, square, star) cannot be played on this unit. Attempting to do so may damage the unit. Do not use such discs.

Note on CD-R/CD-RW playback

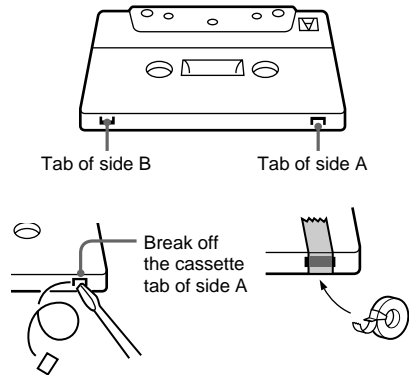
Discs recorded on CD-R/CD-RW drives may not be played back because of scratches, dirt, recording condition or the drive's characteristics. Besides, the discs, which are not yet finalized at the end of recording, cannot be played back.

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. 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 frequently. The tape may get entangled in the tape deck.

Cleaning the tape heads

Clean the tape heads after every 10 hours of use.

Be sure to clean the tape heads before you start an important recording or after playing an old tape. Use a 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.

Troubleshooting

If you have any problem using this system, 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 have not turned on the system (See step 6 of “Hooking up the system” on page 9).

- Press DISPLAY twice when the system is turned off. The demonstration disappears.
-

The clock setting/radio presetting/timer is canceled.

- The power cord is disconnected or a power failure occurs longer than half a day.

Redo the following:

— “Setting the time” on page 11

— “Presetting radio stations” on page 18

If you have set the timer, also redo “Waking up to music” on page 26 and “Timer-recording radio programs” on page 23.

There is no sound.

- Turn VOLUME clockwise (or press VOL + on the remote).
 - 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.
 - 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.
- Connect the system to a different wall outlet.
- Install a noise filter (commercially available) to the power line.

The sound from the connected source is distorted when VIDEO function is selected.

- Select MD function. If “VIDEO” appears in the display when you press 5.1CH/VIDEO (MD) (for MHC-MG510AV/MG310AV) or VIDEO (MD) (for MHC-MG110 or on the remote), switch the function to MD (see “Hooking up the optional A/V components” on page 28).

“- - : -” 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”, and “REC” do not appear when you press TIMER SELECT.

- 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.

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.

Speakers

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

- Connect the speaker cords properly (see page 8).
- Place the speakers as symmetrically as possible.
- Connect only one of the supplied speakers to each set of speaker terminals.
- Connect the supplied speakers.

The sound comes from the center speaker only (for MHC-MG510AV/MG310AV only).

- The source being played back is monaural. Press PRO LOGIC to turn off the Dolby Pro Logic mode.

There is no sound from the center speaker (for MHC-MG510AV/MG310AV only).

- Connect the speaker cords properly (see page 8).

There is no sound from the rear speakers (for MHC-MG510AV/MG310AV only).

- Connect the speaker cords properly (see page 8).

Sound lacks bass.

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

CD Player

The CD will not play.

- Close the front cover.
- Check if the CD is correctly loaded in the slot.
- The CD is dirty.
- The CD is loaded with the label side facing left.
- There is moisture on the CD.

Play does not start from the first track.

- The player is in Program or Shuffle Play mode. Press PLAY MODE repeatedly until “PGM” or “SHUF” disappears.

The sound skips.

- The CD is dirty.
- Replace the CD.
- Try moving the system to a place without vibration (e.g., on top of a stable stand).
- Try moving the speakers away from the system, or placing them on separate stands.
- When you listen to a track with bass sounds at high volume, the speaker vibration may cause the sound to skip.

“OVER” is displayed.

- You have reached the end of the CD.

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 31).
- 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 (see “Cleaning the tape heads” on page 32).
- The record/playback heads are magnetized (see “Demagnetizing the tape heads” on page 32).

The tape does not erase completely.

- The record/playback heads are magnetized (see “Demagnetizing the tape heads” on page 32).

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

- The capstans or pinch rollers are dirty (see “Cleaning the tape heads” on page 32).

Noise increases or the high frequencies are erased.

- The record/playback heads are magnetized (see “Demagnetizing the tape heads” on page 32).

After pressing ◀▶ (or ▶ on the remote) or ▲, there is a mechanical noise, “EJECT” appears, and the system enters standby mode automatically.

- The tape was not loaded correctly.
-

Tuner

There is severe hum or noise (“TUNED” or “STEREO” flashes in the display).

- Adjust the antenna.
- The signal strength is too weak. Connect the external antenna.
- The supplied FM antenna receives signals along its entire length, so make sure you extend it fully.
- Locate the antennas as far away from the speaker cords as possible.
- Consult your nearest Sony dealer if the supplied AM antenna has come off the plastic stand.
- Try turning off surrounding electrical equipments.

A stereo FM program cannot be received in stereo.

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

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

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

The system is reset to the factory settings. All the settings you made are cleared. Be sure to restore all necessary settings.

Messages

One of the following messages may appear or flash in the display during operation.

NO DISC

- There is no CD in the disc slot.
-

OVER

- You have reached the end of the CD.
-

Specifications

Amplifier section

MHC-MG510AV/MG310AV/MG110

U.S.A. models:

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL

HARMONIC DISTORTION:

with 8 ohm loads both channels driven, from 120 – 10,000 Hz; rated 75 watts per channel minimum RMS power, with no more than 10% total harmonic distortion from 250 milliwatts to rated output.

MHC-MG510AV

Front speaker:

Continuous RMS power output
75 + 75 watts
(8 ohms at 1 kHz,
10% THD)

Total harmonic distortion
less than 0.09%
(8 ohms at 1 kHz,
40 watts)

Center speaker:

Continuous RMS power output
45 watts
(8 ohms at 1 kHz,
10% THD)

Rear speaker:

Continuous RMS power output
45 + 45 watts
(8 ohms at 1 kHz,
10% THD)

Sub woofer:

Continuous RMS power output
45 watts
(8 ohms at 100 Hz,
10% THD)

MHC-MG310AV

Front speaker:

Continuous RMS power output
75 + 75 watts
(8 ohms at 1 kHz,
10% THD)

Total harmonic distortion
less than 0.09%
(8 ohms at 1 kHz,
40 watts)

Center speaker:

Continuous RMS power output
25 watts
(8 ohms at 1 kHz,
10% THD)

Rear speaker:

Continuous RMS power output
25 + 25 watts
(8 ohms at 1 kHz,
10% THD)

MHC-MG110

Continuous RMS power output
75 + 75 watts
(8 ohms at 1 kHz,
10% THD)

Total harmonic distortion
less than 0.09%
(8 ohms at 1 kHz,
40 watts)

Inputs

VIDEO/MD IN (phono jacks):
voltage 250 mV/450 mV,
impedance 47 kilohms

5.1CH (MHC-MG510AV/MG310AV only):
FRONT (phono jacks):
voltage 450 mV,
impedance 47 kilohms

REAR (phono jacks):
voltage 450 mV,
impedance 47 kilohms

CENTER (phono jack):
voltage 450 mV,
impedance 47 kilohms

SUB WOOFER (phono jack):
voltage 450 mV,
impedance 47 kilohms

continued

Specifications (continued)

Outputs

PHONES (stereo phone jack):	accepts headphones of 8 ohms or more
FRONT SPEAKER:	accepts impedance of 8 to 16 ohms (except for the North American model)
SURROUND SPEAKER REAR (MHC-MG510AV/MG310AV only):	accepts impedance of 8 to 16 ohms (except for the North American model)
SURROUND SPEAKER CENTER (MHC-MG510AV/MG310AV only):	accepts impedance of 8 ohms (except for the North American model)
SURROUND SPEAKER SUB WOOFER (MHC-MG510AV only):	accepts impedance of 8 ohms (except for the North American model)
SUB WOOFER (MHC-MG310AV only):	voltage 1 V, impedance 1 kilohm

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser ($\lambda = 780 \text{ nm}$) Emission duration: continuous
Frequency response	2 Hz – 20 kHz ($\pm 0.5 \text{ dB}$)
Wavelength	780 – 790 nm
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB
OPTICAL OUT (CD)	
(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	40 – 13,000 Hz ($\pm 3 \text{ dB}$), using Sony TYPE I cassette
Wow and flutter	$\pm 0.15\%$ W.Peak (IEC) 0.1% W.RMS (NAB) $\pm 0.2\%$ W.Peak (DIN)

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 – 108.0 MHz
Antenna	FM lead antenna
Antenna terminals	
North American model:	75 ohms unbalanced
Australian model:	75 ohms balanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	
North American model:	530 – 1,710 kHz (with the interval set at 10 kHz) 531 – 1,710 kHz (with the interval set at 9 kHz)
Australian model:	531 – 1,602 kHz (with the interval set at 9 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

Speaker

Front speaker

SS-MG510AV for MHC-MG510AV/MG310AV:

Speaker system	3-way, bass-reflex type magnetically shielded type
Speaker units	
Woofers:	17 cm, cone type
Tweeters:	5 cm, cone type
Super Tweeter:	2 cm, dome type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 215 × 383 × 258 mm
Mass	Approx. 4.1 kg net per speaker

SS-MG110 for MHC-MG110:

Speaker system	3-way, bass-reflex type
Speaker units	
Woofers:	17 cm, cone type
Tweeters:	5 cm, cone type
Super Tweeter:	2 cm, dome type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 215 × 383 × 223 mm
Mass	Approx. 3.7 kg net per speaker

Rear speaker (MHC-MG510AV/MG310AV only)**SS-RS560 for MHC-MG510AV:**

Speaker system	2-way, 2-unit, bass-reflex type
Speaker units	
Full-range:	10 cm, cone type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 215 × 120 × 127 mm
Mass	Approx. 0.8 kg net per speaker

SS-RS360 for MHC-MG310AV:

Speaker system	1-way, 1-unit, bass-reflex type
Speaker units	
Full-range:	8 cm, cone type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 215 × 120 × 127 mm
Mass	Approx. 0.8 kg net per speaker

Center speaker (MHC-MG510AV/MG310AV only)**SS-CT560 for MHC-MG510AV:**

Speaker system	1-way, 1-unit, bass-reflex type magnetically shielded
Speaker units	
Full-range:	10 cm, cone type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 280 × 120 × 127 mm
Mass	Approx. 1.0 kg net per speaker

SS-CT360 for MHC-MG310AV:

Speaker system	1-way, 1-unit, bass-reflex type magnetically shielded
Speaker units	
Full-range:	8 cm, cone type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 280 × 120 × 127 mm
Mass	Approx. 1.0 kg net per speaker

Sub woofer (MHC-MG510AV only) SS-WG60

System	
Speaker system	Passive sub woofer, Magnetically shielded
Speaker unit	Woofer: 16 cm cone type
Enclosure type	Advanced SAW type
Reproduction frequency range	20 – 245 Hz
High frequency cut-off frequency	245 Hz
Dimensions (w/h/d)	Approx. 205 × 383 × 312 mm, including front grille
Mass	Approx. 6.6 kg

General

Power requirements	
North American model:	120 V AC, 60 Hz
Australian model:	220 – 240 V AC, 50/60 Hz

Power consumption

North American model	
MHC-MG510AV:	220 watts
MHC-MG310AV:	200 watts
MHC-MG110:	150 watts
Australian model	
MHC-MG310AV:	200 watts

Dimensions (w/h/d) incl. projecting parts and controls	Approx. 280 × 383 × 480 mm
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Mass	
MHC-MG510AV:	Approx. 11.5 kg
MHC-MG310AV:	Approx. 11.3 kg
MHC-MG110:	Approx. 10.9 kg

Supplied accessories:	Remote commander (1)
	Batteries (2)
	AM loop antenna (1)
	FM lead antenna (1)
	Rear speaker cords (MHC-MG510AV/MG310AV only) (2)
	Center speaker pads (attached to the backside of the center speaker) (MHC-MG510AV/MG310AV only) (2)
	Video cable (Australian model only) (1)

Design and specifications are subject to change without notice.

