

SONY[®]

4-248-229-11 (2)

Mini Hi-Fi Component System

Operating Instructions



Game SYNC
M I X I N G

MHC-GN70V

—
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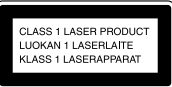
MHC-GN70V 4-248-229-11 (2)

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 label is located on the rear exterior.

The following caution label is located inside the apparatus.



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 objects filled with liquids, such as vases, on the apparatus.



Don't throw away the battery with general house waste, dispose of it correctly as chemical waste.



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.

Playable discs

You can play back the following discs on this system. Other discs cannot be played back.

List of playable discs

Format of discs	Disc logo	Contents
VIDEO CDs		Audio + Video
Audio CDs		Audio
CD-R/CD-RW (Audio CDs)		Audio
CD-R/CD-RW (Discs with MP3 audio tracks)		Audio

Discs that this system cannot play

- CD-ROMs (except for extension “.MP3”)
- CD-Rs/CD-RWs other than those recorded in the following formats:
 - audio CD format
 - VIDEO CD format
 - MP3 audio track format that conforms to ISO9660*¹ Level 1, Level 2 or Joliet in expansion format
- Data part of CD-Extras*²
- DVDs
- Super Audio CDs or Super Video CDs
- MP3 audio tracks other than MPEG 1 Audio Layer 3 format.
- A disc that has a non-standard shape (e.g., card, heart).
- A disc with paper or stickers on it.
- A disc that has the adhesive, cellophane tape, or a sticker still left on it.

*¹ISO9660 Format

The most common international standard for the logical format of files and folders on a CD-ROM. There are several specification levels. In Level 1, file names must be in the 8.3 format (no more than eight characters in the name, no more than three characters in the extension “.MP3”) and in capital letters. Folder names can be no longer than eight characters. There can be no more than eight nested folder levels. Level 2 specifications allow file names and folder names up to 31 characters long. Each folder can have up to 8 trees.

For Joliet in the expansion format, file and folder names can have up to 64 characters.

*²CD-Extra

This format records audio (audio CD data) on the tracks in session 1 and data on the tracks in session 2.

Notes on discs

- This system can play CD-R/CD-RW discs edited by the user. However, note that playback of some discs may not be possible depending on the recording device used for recording or the disc condition.
- Disc recorded on CD-R/CD-RW drives may not be played back because of scratches, dirt, recording condition or the driver’s characteristics.
- CD-R and CD-RW discs that have not been finalized (processing to allow play by a normal CD player) cannot be played back.
- The system may be unable to play MP3 format files that do not have the extension “.MP3”.
- Attempting to play non-MP3 format files that have the extension “.MP3” may result in noise or malfunction. Playback is possible up to 8 levels.
- With format other than ISO9660 level 1, level 2 or Joliet in expansion format folder titles or file titles may not be displayed correctly.
- The disc recorded with complicated tree structure take a longer time to start playback.
- Some CD-Rs or CD-RWs cannot be played on this system depending upon the recording quality or physical condition of the disc, or the characteristics of the recording device. Furthermore, the disc will not play if it has not been correctly finalized. For more information, see the operation instructions for the recording device.
- A disc recorded in packet write format cannot be played back.

Music discs encoded with copyright protection technologies

This product is designed to playback discs that conform to the Compact Disc (CD) standard. Recently, various music discs encoded with copyright protection technologies are marketed by some record companies.

Please be aware that among those discs, there are some that do not conform to the CD standard and may not be playable by this product.

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List of Button Location and Reference Pages

How to use this page

Use this page to find the location of buttons and other parts of the system that are mentioned in the text.

Illustration number	
PLAY MODE 7	(12, 15-17, 22, 40)
Name of button/part	Reference page

Main unit

ALPHABETICAL ORDER

A - D

ALBUM +/- **15** (13, 15)
 AMP MENU **45** (19, 26, 39)
 CD **42** (10, 12-15, 19, 21, 22)
 CD SYNC **17** (21, 22)
 DECK A **29** (20)
 DECK B **23** (20-23)
 DIRECTION **9** (20-22, 31)
 DISC 1-3 **3** (13, 15, 22)
 DISC SKIP EX-CHANGE **4**
 (13, 17)
 Disc tray **6** (12)
 DISPLAY **43** (27)
 Display **2**

E - L

ECHO LEVEL **25** (31)
 EDIT **9** (22, 40)
 EFFECT ON/OFF **46** (24)
 FM MODE **8** (19, 39)

GAME **38** (30, 35)
 GAME EQ **32** (9, 24)
 GAME INPUT (jacks) **28** (21, 30)
 GAME MIXING **36** (21, 30, 38)
 GROOVE **35** (24)
 IR (receptor) **44**
 ILLUMINATION **30** (26)
 KARAOKE/MPX **34** (30, 31)

M - Q

MD (VIDEO) **39** (35, 37)
 MIC (jack) **27** (30)
 MIC LEVEL **26** (30, 31)
 MOVIE EQ **16** (9, 24)
 MUSIC EQ **37** (9, 24)
 OPEN/CLOSE **5** (12, 13)
 P FILE **21** (25)
 PHONES (jack) **24** (37)
 PLAY MODE **7** (12, 15-17,
 22, 40)

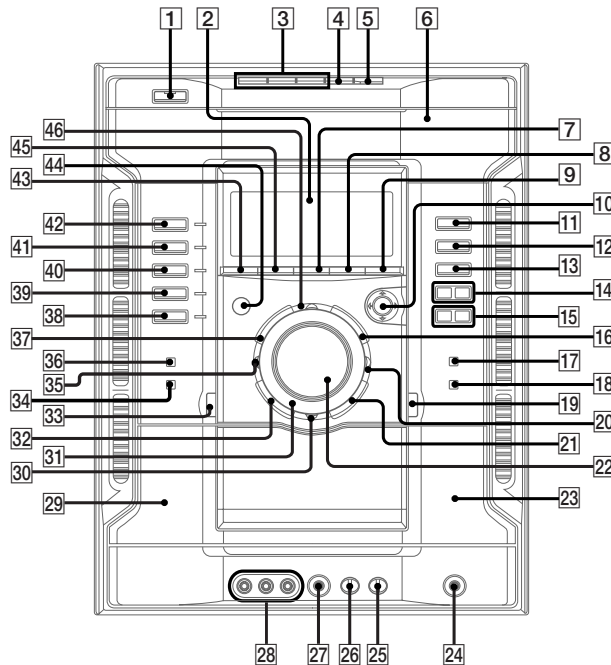
Power illuminator **31** (26)
 PUSH ENTER **10** (11, 14, 15, 18,
 22, 23, 25, 26, 32, 33)

R - Z

REC PAUSE/START **18** (21, 22,
 31)
 REPEAT **8** (13)
 SURROUND SPEAKER MODE
20 (24)
 TAPE A/B **40** (20, 21, 31)
 TUNER/BAND **41** (18, 19)
 TUNER MEMORY **7** (18)
 VOLUME **22** (26, 37)

SYMBOLS

I/⏻ (power) **1**
 ◀▶ (play) **11**
 ■ (stop) **12**
 || (pause) **13**
 -◀◀ (go backward) **14**
 ▶▶+ (go forward) **14**
 ◀◀ (rewind) **15**
 ▶▶ (fast forward) **15**
 ⏪/⏩/⏮/⏭ **10**
 ⏏ A (Eject A) **33**
 ⏏ B (Eject B) **19**



6 GB

Remote Control

ALPHABETICAL ORDER

A - D

ALBUM +/- **32** (13, 15)
 CD **44** (12-15, 19, 21, 22)
 CINEMA SPACE **22** (25)
 CLEAR **14** (16, 22)
 CLOCK/TIMER SELECT **2**
 (23, 33, 40)
 CLOCK/TIMER SET **3** (11, 22,
 32, 37)
 D.SKIP **11** (13, 15, 17)
 DIMMER **38** (26)
 DISPLAY **40** (27)

E - M

EFFECT ON/OFF **21** (24)
 ENTER **28** (11, 14, 15, 18, 22,
 23, 25, 26, 32, 33)
 GAME **41** (30, 35)
 GAME EQ **27** (24)
 GAME MIXING **42** (21, 30, 38)
 KARAOKE/MPX **19** (30)
 KEY CONTROL #/b **20** (31)
 MD (VIDEO) **43** (35, 37)
 MOVIE EQ **24** (24)
 MUSIC EQ **29** (24)

N - R

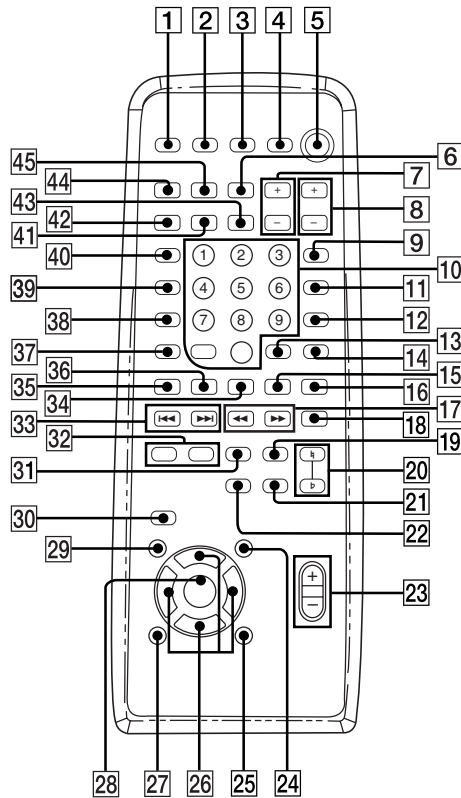
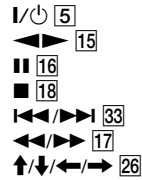
NEXT **36** (15, 17)
 Numeric buttons **10** (14-17)
 ON SCREEN **13** (28)
 P FILE **25** (25)
 PLAY MODE **31** (15-17, 22, 40)
 PRESET +/- **33** (18, 19)
 PREV **35** (15, 17)
 REPEAT **12** (13)
 RETURN **34** (15)

S - Z

SELECT **15** (14)
 SLEEP **1** (32)
 SPECIAL MENU **37** (16, 17, 40)
 SPECTRUM **39** (26)
 SURROUND SPEAKER MODE
30 (24)

TAPE A/B **6** (20, 21)
 TUNER/BAND **45** (18, 19)
 TUNING +/- **17** (18, 19)
 TV CH +/- **8** (10)
 TV I/⏻ **4** (10)
 TV VOL +/- **7** (10)
 TV/VIDEO **9** (10)
 VOL +/- **23** (26)

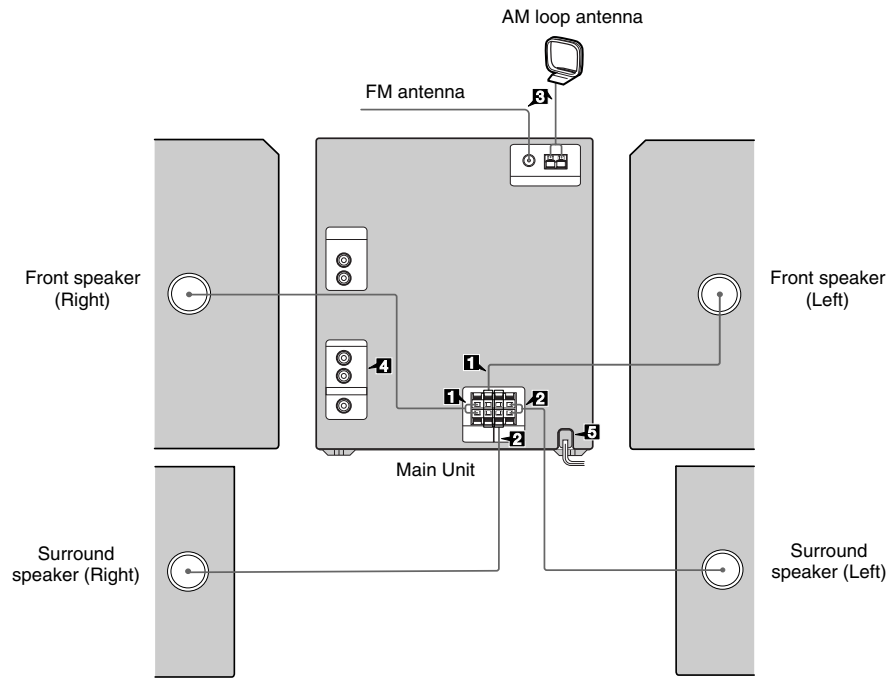
SYMBOLS



Getting Started

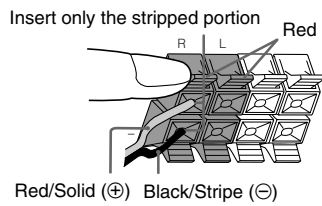
Hooking up the system

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



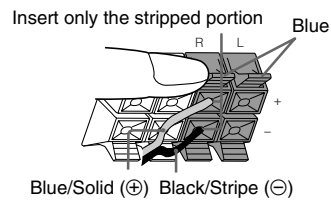
1 Connect the front speakers.

Connect the speaker cords to the FRONT SPEAKER terminals.



2 Connect the surround speakers

Connect the speaker cords to SURROUND SPEAKER terminals.



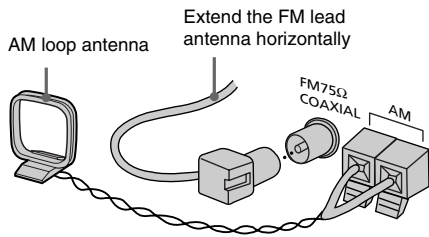
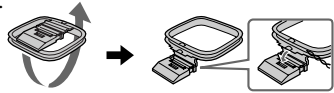
Note

Keep the speaker cords away from the antennas to prevent noise.

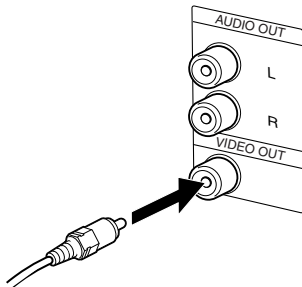


3 Connect the FM and AM antennas.

Set up the AM loop antenna, then connect it.



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



5 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.

6 Set the color system according to your TV while the power is off.

The color system of your TV	Do this
NTSC	Press I/⏻ while holding down GAME EQ on the system. The color system is set to NTSC.
PAL	Press I/⏻ while holding down MUSIC EQ on the system. The color system is set to PAL.
AUTO*	Press I/⏻ while holding down MOVIE EQ on the system. The color system is set to AUTO.

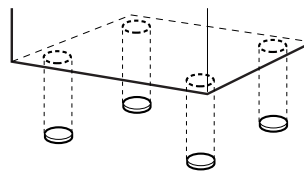
* Your TV automatically changes the color system according to the input signal.

To connect the optional components

See page 34.

To attach the speaker pads

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

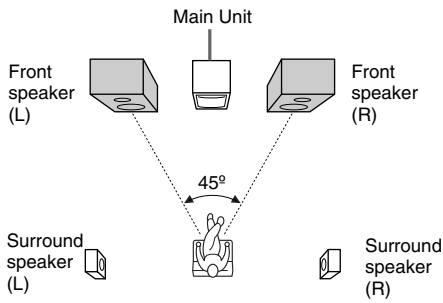


continued

Hooking up the system (continued)

Positioning the speakers

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

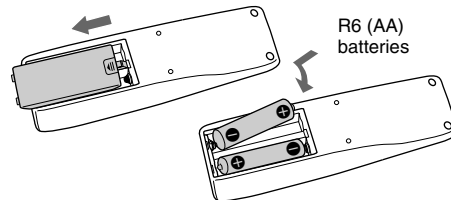


Notice for carrying this system

Do the following to protect the CD mechanism. Use buttons on the system for the operation.

- 1 Make sure that all discs are removed from the system.
- 2 Hold down CD and then press I/⏻ until "LOCK" appears in the display.
- 3 Release I/⏻ first, then release CD.
- 4 Unplug the AC power cord.

Inserting two R6 (size AA) batteries into the remote



Tip

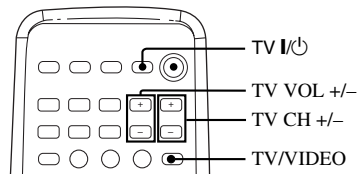
With normal use, the batteries should last for about six months. When the remote no longer operates the system, replace both batteries with new ones.

Note

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

Using the remote

You can control Sony TVs using the buttons below.



To	Press
turn the TV on or off	TV I/⏻
switch the TV's video input	TV/VIDEO
change the TV channel	TV CH +/-
adjust the volume of the TV	TV VOL +/-

Note

Depending on the TV, you may not be able to control your TV or to use some of the buttons above.

Setting the clock

- 1** Press I/⏻ to turn on the system.
- 2** Press CLOCK/TIMER SET on the remote.
- 3** Press ↑ or ↓ repeatedly to set the hour.
- 4** Press PUSH ENTER (or ENTER on the remote).
- 5** Press ↑ or ↓ repeatedly to set the minute.
- 6** Press PUSH ENTER (or ENTER on the remote).

The clock starts functioning.

To adjust the clock

- 1** Press CLOCK/TIMER SET on the remote.
- 2** Press ↑ or ↓ repeatedly to select “CLOCK SET?” and then press PUSH ENTER (or ENTER on the remote).
- 3** Do the same procedure as steps 3 to 6 above.

Note

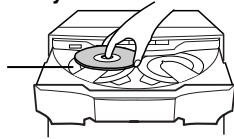
The clock settings are cancelled when you disconnect the power cord or if a power failure occurs.

VIDEO CD/CD/MP3

Loading a disc

- 1 Press **OPEN/CLOSE** \blacktriangle .
The disc tray slides out.
- 2 Place a disc with the label side facing up on the disc tray.

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.

- 3 Press **OPEN/CLOSE** \blacktriangle to close the disc tray.

Playing a disc

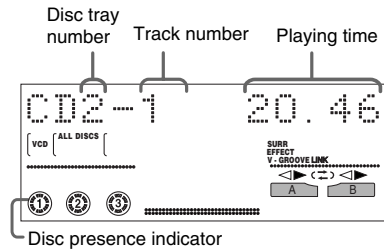
—Normal Play/Shuffle Play/Repeat Play

You can play up to three discs (VIDEO CD, audio CD or disc with MP3 audio tracks) in a row. Depending on the VIDEO CD, some operations may be different or restricted. Refer to the operating instructions supplied with the disc.

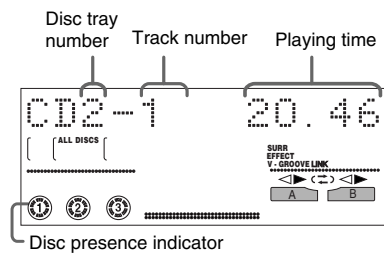
Before playing a VIDEO CD, turn on your TV and select the video input. Refer to the operating instructions supplied with your TV if you need help.

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

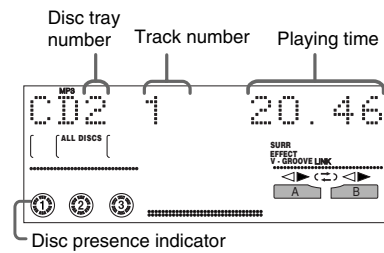
When playing a VIDEO CD:



When playing a CD:



When playing MP3 audio tracks:



- 1 Press **CD**.
- 2 When playback is stopped, press **PLAY MODE** repeatedly until the play mode you want lights up in the display.

Select	To play
ALL DISCS ¹⁾ (Normal Play)	All discs in the disc tray continuously.
1 DISC (Normal Play)	The tracks on the disc you have selected in the original order.
ALBM ²⁾ (Normal Play)	The MP3 audio tracks in the album you have selected in the original order.
ALL DISCS SHUF (Shuffle Play)	The tracks on all discs in random order.
1 DISC SHUF (Shuffle Play)	The tracks on the disc you have selected in random order.
ALBM SHUF ³⁾ (Shuffle Play)	The MP3 audio tracks in the album you have selected in random order.
PGM (Program Play)	The tracks on all discs in the order you want them to be played back (see "Creating your own program" on page 15).

3 Press ◀▶ .

Tip

You cannot change the play mode during playback. To change the play mode, press ■ to stop playback.

Other Operations

To	Do this
Stop playback	Press ■.
Pause playback	Press ■ ⁴⁾ . Press again to resume playback.
Select a track or scene ⁵⁾	Press ►► or ◀◀.
Select an album of MP3 audio tracks ⁶⁾	Press ALBUM + or -.
Find a point in a track ⁷⁾ or scene (Lock Search function)	Press ►► or ◀◀ during playback. For VIDEO CDs, each time you press the buttons, speeds changes cyclically as follows: 1 (slow) → 2 (normal) → 3 (high)
Select a disc when playback is stopped	Press one of the DISC 1~3 buttons or DISC SKIP EX-CHANGE (or D.SKIP on the remote).

To	Do this
Switch to CD function from another source	Press CD or one of the DISC 1~3 buttons (Automatic Source Selection).
Play repeatedly (Repeat Play)	Press REPEAT repeatedly to select "REP" ⁸⁾ or "REP1" ⁹⁾ .
Cancel Repeat Play	Press REPEAT until "REP" or "REP1" disappears from the display.
Exchange other discs while playing	Press DISC SKIP EX-CHANGE.
Remove the disc	Press OPEN/CLOSE ▲.

- ¹⁾ Depending on VIDEO CDs with PBC function (Version 2.0), the disc does not change.
- ²⁾ When playing a VIDEO CD or audio CD, ALBM play performs same operations as 1 DISC play.
- ³⁾ When playing a VIDEO CD or audio CD, ALBM SHUF play performs same operations as 1 DISC SHUF play.
- ⁴⁾ There may be some disturbance in the video image.
- ⁵⁾ Only when PBC function is set to off or when playing VIDEO CDs without PBC functions (Version 1.1).
- ⁶⁾ You cannot select an album during ALL DISCS SHUF and 1 DISC SHUF.
- ⁷⁾ For discs with MP3 audio tracks, you cannot search for a point between multiple tracks.
- ⁸⁾ All the tracks on the disc are played back repeatedly up to five times. You cannot select "REP" and "ALL DISCS SHUF" at the same time.
- ⁹⁾ The current track is played back repeatedly until "REP1" is cancelled.

Tips

- When you press CD or one of the DISC 1~3 buttons to switch to CD function from tuner, you may require a longer time to access the disc. Set "CD POWER ON" by CD power manage function (page 19).
- If you press CD while the power is off, the power turns on and CD is selected as a function.

continued

Playing a disc (continued)

To play a track by entering the track number

You can also select the track you want using the remote during Normal Play.

Press the numeric button(s).

To enter a track number over 10

- 1 Press > 10.
- 2 Press numeric button(s).
To enter 0, press 10/0.
For example:
To play track number 30, press > 10, then press 3 and 10/0.

Notes

- With format other than ISO9660 level 1, level 2 or Joliet in expansion format, album titles or file titles may not be displayed correctly.
- If you save up the extension “.MP3” to a track other than MP3 audio tracks, the system cannot recognize the track properly and will generate random noise that could damage your speakers.
- You are recommended not to save other type of tracks or unnecessary album on a disc that has MP3 audio tracks.
- The disc recorded with complicated tree structure takes a longer time to start playback.
- When the disc is inserted, this system reads all the tracks in the disc. If there are many albums or non MP3 audio tracks on the disc, it may take longer time for playback to begin or for the next MP3 audio track to start playback.
- An album that does not include an MP3 audio track is skipped.
- The maximum number of albums on a disc which can be recognize by this system is 256.
- The maximum number of MP3 audio tracks and album on the disc which can be recognize by this system is 512.
- Playback follows the recorded order of albums and tracks on the disc.
- Depending on the encoding/writing software, recording device, or the recording media used at the time an MP3 audio track is recorded, you may encounter problems such as cannot playback, sound interruptions and noise.

Playing a VIDEO CD with PBC functions (Version 2.0)

— PBC Playback

You can use menus on your TV screen to enjoy the disc's interactive software. The menu format and structure may differ with each disc.

1 Press CD.

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

The VCD and PBC indicators light up and a PBC menu appears on the TV screen.


- VCD : Lights up during playback of a VIDEO CD.
- PBC : Lights up during PBC playback of a VIDEO CD with PBC functions (Version 2.0).
- PBC OFF : Lights up when a VIDEO CD with PBC functions (Version 2.0) is played back without using the PBC functions.

3 Press ◀◀ or ▶▶ repeatedly to select a number from the menu, then press PUSH ENTER (press SELECT on the remote or press the numeric buttons on the remote).

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

To	Do this
Stop playback	Press ■.
Go to the next menu page or scene	Press NEXT on the remote.
Go back to the previous menu page or scene	Press PREV on the remote.
Go back to the previous menu	Press RETURN ↵ on the remote.
Cancel playback with PBC function (Version 2.0)	When the playback is stopped, press ◀▶ repeatedly to select the track you want, then press PUSH ENTER (or ENTER on the remote or press numeric buttons on the remote). The PBC OFF indicator lights up and playback starts from the selected track. Still images, such as the menu screens will not be shown.
Playback with PBC function (Version 2.0) after cancelling the playback with PBC function	Press ■ in stop mode, then press ◀▶.
Select a menu number using the remote	Press the numeric buttons on the remote. To enter menu number 11 or above, first press > 10, then press numeric buttons. To enter 0, use the 10/0. For example, to enter track number 30, press > 10, then 3 and 10/0.

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 on the remote during menu or while playing moving pictures, the next scene on the disc appears. Refer to the instructions supplied with the disc.

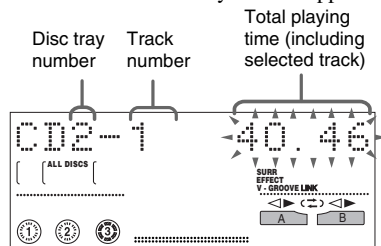
Creating your own program

— Program Play

You can make a program of up to 25 tracks from all the discs in the order you want them to be played back.

- 1 Press CD.
- 2 Press PLAY MODE repeatedly until “PGM” lights up in the display.
- 3 Press one of the DISC 1-3 button or DISC SKIP EX-CHANGE (or D.SKIP on the remote) to select a disc.
- 4 Press ◀▶ or ▶▶ repeatedly until the track number you want appears in the display.

To program an MP3 audio track, press ALBUM + or – to select the album you want, then press ◀▶ or ▶▶ repeatedly until the track number you want appears.



- 5 Press PUSH ENTER (or ENTER on the remote).

The track is programmed. The program step number appears, followed by the total playing time.

continued

Creating your own program (continued)

6 Program additional tracks.

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

7 Press <◀▶>.

Other Operations

To	Do this
Cancel Program Play	Press PLAY MODE repeatedly until "1 DISC" or "ALL DISCS" lights up in the display.
Clear a track from the end of the program	Press CLEAR on the remote when playback is stopped.

Tips

- The program you made remains in the system's memory 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.
 - you have programmed an MP3 audio track.

Locating a specific part of a disc on a VIDEO CD

— Time Search/Disc Digest

Before using these functions, make sure to turn on your TV screen.

Use buttons on the remote for the operation.

Locating by elapsed time from the beginning of a VIDEO CD

— Time Search

- 1 Press SPECIAL MENU when the playback is stopped.**
- 2 Press 1 to select "1) TIME SEARCH".**
- 3 Press the numeric buttons to enter the time (in minutes) for the section you want.**

The selected elapsed time appears on the TV screen.

To re-enter the time: Press CLEAR, and then press numeric buttons again.

- 4 Press <◀▶>.**

Playback starts from the selected time.

Tip

To exit from Time Search, press ■ or SPECIAL MENU.

Locating the track you want on a VIDEO CD

— Disc Digest

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

1 Press SPECIAL MENU when the playback is stopped.

2 Press 2 to select “2) DISC DIGEST”.

The first frame of tracks 1 through 9 on the current disc are displayed.

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

Playback starts from a point near the selected frame.

To display the next 9 tracks

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

When there are more tracks in the disc, “►►” appears in the upper right corner of the TV screen.

To display previous tracks, press PREV or ◀◀.

Tip

To exit from Disc Digest, press ■.

Resuming playback from the point you stopped a VIDEO CD

— Resume Play

The system memorizes the point where you stopped the disc so you can resume from that point.

Resume Play is not available for an audio CD and a disc with MP3 audio tracks.

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 system starts playback from the point you stopped in step 1.

To play from the beginning of the disc

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

Notes

- Resume Play is not available in the Shuffle or Program Play modes.
- Depending on where you stopped the tracks, the system may resume playback from a different point.
- Resume play is cancelled when:
 - you press numeric buttons, PLAY MODE, ■, DISC SKIP EX-CHANGE (or D. SKIP on the remote), NEXT or ►►.
 - you remove the VIDEO CD.
 - you turn off the system.
 - you change the function to TUNER when “CD POWER OFF” is selected.
 - you disconnect the power cord.

Tuner

Presetting radio stations

You can preset up to 20 FM stations and 10 AM stations. You can then tune in any of those stations simply by selecting the corresponding preset number.

There are two ways to store the station presets.

To	Do this
Automatically tune in all of the stations that can be received in your area and store your favourite stations manually	Setting presets through automatic tuning
Manually tune in and store the radio frequency of your favourite stations	Setting presets through manual tuning

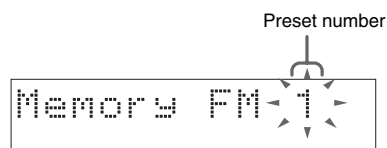
Setting presets through automatic tuning

- 1 Press **TUNER/BAND** repeatedly to select "FM" or "AM".
- 2 Press and hold **▶▶** or **◀◀** (or **TUNING +** or **-** on the remote) until "AUTO" appears in the display and the frequency indication starts to change, then release.

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

- 3 Press **TUNER MEMORY**.

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



- 4 Press **▶▶** or **◀◀** (or **PRESET +** or **-** on the remote) repeatedly to select the preset number you want to store.

- 5 Press **PUSH ENTER** (or **ENTER** on the remote).

"Complete!" appears in the display. The station is stored.

- 6 Repeat steps 1 to 5 to store other stations.

Setting presets through manual tuning

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

- 2 Press **▶▶** or **◀◀** (or **TUNING +** or **-** on the remote) repeatedly to tune in the station you want.

- 3 Press **TUNER MEMORY**.

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

- 4 Press **▶▶** or **◀◀** (or **PRESET +** or **-** on the remote) repeatedly to select the preset number you want.

- 5 Press **PUSH ENTER** (or **ENTER** on the remote).

"Complete!" appears in the display. The station is stored.

- 6 Repeat steps 1 to 5 to store other stations.

Other Operations

To	Do this
Tune in a station with a weak signal	Follow the procedure described in "Setting presets through manual tuning".
Set another station to an existing preset number	Start over from step 1. After step 3, press ▶▶ or ◀◀ (or PRESET + or - on the remote) repeatedly to select the preset number you want to store the other station.

To improve tuner reception

When the tuner reception is poor, set the CD power manage function to "CD POWER OFF". The default setting is "CD POWER ON". Use buttons on the system for the operation.

- 1 Press CD.
- 2 Press I/⏻ to turn off the system.
- 3 Press I/⏻ while holding down ■.
"CD POWER OFF" appears.

To set CD power on

Repeat the procedure above.

Notes

- When "CD POWER OFF" is selected, the CD access time is increased.
- You cannot change the setting in Power Saving Mode.

To change the AM tuning interval

The factory settings for AM tuning interval is 9 kHz (10 kHz in some areas). To change the AM tuning interval, select any AM station first, then turn off the power. While holding down the AMP MENU 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. Use buttons on the system for the operation.

Tips

- The preset stations are retained for half a day even if you unplug the power cord or if a power failure occurs.
- If you press TUNER/BAND while the power is off, the power turns on automatically and TUNER is selected as a function.

Listening to the radio

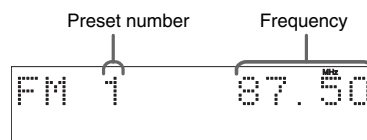
You can listen to a radio station either by selecting a preset station, or by manually tuning in the station.

Listening to a preset station

— Preset Tuning

Before tuning to preset stations, be sure to preset them (see "Presetting radio stations" on page 18).

- 1 Press TUNER/BAND repeatedly to select "FM" or "AM".
- 2 Press ►► or ◀◀ (or PRESET + or – on the remote) repeatedly to tune in the preset station you want.



Tip

You can use the numeric buttons on the remote to select a preset station. Press >10, then press numeric buttons to enter the preset number over 10.

Listening to non-preset radio station

— Manual Tuning

- 1 Press TUNER/BAND repeatedly to select "FM" or "AM".
- 2 Press ►► or ◀◀ (or TUNING + or – on the remote) repeatedly to tune in the station you want.

Tips

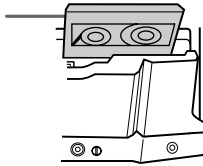
- To improve broadcast reception, adjust the supplied antennas.
- When an FM stereo program has static noise, press FM MODE repeatedly until "MONO" appears. There will be no stereo effect, but the reception will improve.
- Press and hold ►► or ◀◀ (or TUNING + or – on the remote). The frequency indication changes and scanning stops when the system tunes in a station (Automatic Tuning).
- To record from the radio, see "Recording to a tape" on page 21 or "Timer Recording radio programs" on page 22.

Tape

Loading a tape

- 1 Press **TAPE A/B** repeatedly to select deck A or B.
- 2 Press **▲** on the selected deck.
- 3 Insert a tape in deck A or B.

Insert with the side you want to play or record facing forward.



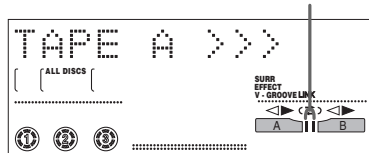
Playing a tape

You can use TYPE 1 (normal) tape.

- 1 Load a tape.
- 2 Press **DIRECTION** repeatedly to select “**→**” to play one side, “**↔**” to play both sides or “**RELAY**”^{*} (Relay Play) to play both decks in succession.
- 3 Press **<▶**.

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

Tape presence indicator



^{*} Relay Play follows this cyclic sequence:
Deck A (front side) → Deck A (reverse side) →
Deck B (front side) → Deck B (reverse side)

To	Do this
Stop playback	Press ■ .
Pause playback	Press . Press again to resume playback.
Fast forward	Press ▶▶ while playing the front side, or press ◀◀ while playing the reverse side.
Rewind	Press ◀◀ while playing the front side, or press ▶▶ while playing the reverse side.
Remove the tape	Press ▲ A or ▲ B.

Tips

- During **↔** or Relay Play, the deck stops automatically after repeating the sequence five times.
- If you press **TAPE A/B** while the power is off, the power turns on automatically and **TAPE** is selected as a function.
- When a tape (tapes) is (are) inserted, corresponding presence indicators light up.

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 – (backward), and the 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.
- When the system is placed near a television.

Recording to a tape

— CD Synchro Recording/Recording Manually/Program Edit

You can record from a disc, tape, radio or other connected components. The recording level is adjusted automatically.

Steps	Recording from a disc (CD Synchro Recording)	Recording Manually
1	Insert a recordable tape into deck B.	
2	Press CD.	Press a function button for the recording source.
3	Load the disc you want to record.	Load the disc or tape (or other audio sources), or tune to the station you want to record.
4	Press CD SYNC.	Press REC PAUSE/START.
	DECK B stands by for recording. REC PAUSE/START indicator 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. If you are recording manually, press ◀▶ to start playing the source (for disc or tape). Recording starts.	
7	Press ■ to stop recording.	

Tape

Tips

- 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.
- For recording from the reverse side:
After step 1, press TAPE A/B to select deck B and press ◀▶ twice to start playback of the reverse side. Press ■ at the point where you want to start recording. The TAPE B reverse side indicator lights up.
- For recording from the radio:
If noise is heard while recording from the radio, move the respective antenna to reduce the noise.
- For recording from a disc to a tape manually:
You can press ▶▶ or ◀◀ to select tracks during recording pause mode (after step 4 and before step 6).

- You can mix the sound from the component connected to the GAME INPUT jacks with another function such as disc, tape, radio or MD connected to this system. To record the mixed sound, press GAME MIXING after step 4 of "Recording Manually" and then press REC PAUSE/START to start recording. Game Mixing does not function during CD Synchro Recording.

Note

You cannot listen to other sources while recording.

continued

Recording to a tape (continued)

Recording a disc by specifying track order

— Program Edit

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

- 1** Insert a recordable tape into deck B, then press CD.
- 2** Press PLAY MODE repeatedly until “PGM” lights up in the display.
- 3** Press one of the DISC 1~3 button or DISC SKIP EX-CHANGE (or D.SKIP on the remote) to select a disc.
- 4** Press ►► or ◀◀ repeatedly until the tracks you want appears in the display.
When programming an MP3 audio track, press ALBUM + or – to select album, then press ◀◀ or ►► repeatedly until the track number you want appears.
- 5** Press PUSH ENTER (or ENTER on the remote).
The track is 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 CD SYNC.
Deck B standby for recording. The REC PAUSE/START indicator flashes.

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

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

To	Do This
Cancel Program Edit	Press PLAY MODE repeatedly until “1 DISC” or “ALL DISCS” lights up in the display.
Clear a track from the end of the program	Press CLEAR on the remote when playback is stopped.

Tip

To check the required tape length for recording a disc, press EDIT after you have loaded a disc and pressed CD. The required tape length for the currently selected disc appears, followed by the total playing time for side A and side B respectively (Tape Select Edit).

Note

You cannot use Tape Select Edit for discs containing over 20 tracks or MP3 audio tracks.

Timer recording radio programs

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

- 1** Tune in the preset radio station (see “Listening to the radio” on page 19).
- 2** Press CLOCK/TIMER SET on the remote.
“DAILY SET?” appears in the display.
- 3** Press ↑ or ↓ repeatedly to select “REC SET?”, then press PUSH ENTER (or ENTER on the remote).
“ON” appears and the hour indication flashes in the display.

4 Set the time to start recording.

Press **↑** or **↓** repeatedly to set the hour, then press PUSH ENTER (or ENTER on the remote).

The minute indication starts flashing.

Press **↑** or **↓** repeatedly to set the minute, then press PUSH ENTER (or ENTER on the remote).

5 Repeat step 4 to set the time to stop recording.

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.

Make sure the tape is in forward direction.

7 Press I/⏻ to turn off the power.

When the recording starts, the volume level is set to the minimum.

Notes

- You cannot activate the Timer Recording and Daily Timer at the same time.
- If you activate the Timer Recording and the Sleep Timer at the same time, the Sleep Timer has priority.
- If the system is on at the preset time, the Timer Recording and Daily Timer will not be activated.
- The volume is reduced to minimum during Timer Recording.
- Do not operate the system from the time the system turns on until the recording starts (about 15 seconds before the preset time).

Tip

The system turns on 15 seconds before the preset time.

Tape

To	Do this
Check the setting	Press CLOCK/TIMER SELECT on the remote and press ↑ or ↓ repeatedly to select "REC SELECT?". Then, press PUSH ENTER (or ENTER on the remote).
Change the setting	Start from step 1.
Cancel timer operation	Press CLOCK/TIMER SELECT on the remote and press ↑ or ↓ repeatedly to select "TIMER OFF?". Then, press PUSH ENTER (or ENTER on the remote).

Sound Adjustment

Adjusting the sound

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

Press GROOVE repeatedly.

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

GROOVE ON → V-GROOVE ON
→ GROOVE OFF

GROOVE ON

The volume switches to power mode and the equalizer curve changes to suit the music source.

V-GROOVE ON

The volume switches to power mode and the equalizer curve changes to suit the movie source.

Selecting the sound system

You can enjoy different sounds by selecting the sound mode you want.

Press SURROUND SPEAKER MODE repeatedly to select the sound mode you want.

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

LINK¹⁾ → MATRIX SURR²⁾

¹⁾ LINK : Reproduces the same sound with different output levels.

²⁾ MATRIX SURR : Reproduces a wide range of sound that can actually sense the size of the room.

Selecting the preset effect

Press MUSIC EQ, MOVIE EQ or GAME EQ repeatedly to select the preset effect you want.

The preset effect name appears in the display. See the chart "Preset effect options".

To cancel the effect

Press EFFECT ON/OFF repeatedly until "EFFECT OFF" appears in the display.

Preset effect options

"SURR" lights up if you select an effect with cinema space effect.

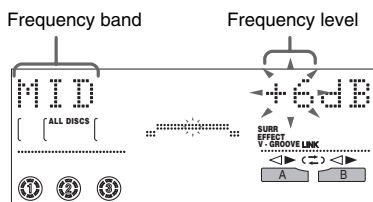
MENU button	Effect	For
MUSIC EQ	ROCK POP JAZZ DANCE SOUL ORIENTAL	standard music sources.
MOVIE EQ	ACTION DRAMA MUSICAL	soundtracks and special listening situations.
GAME EQ	ARCADE RACING ADVENTURE	Play station 1, 2 and other video game music sources.

Adjusting the graphic equalizer and storing the personal file

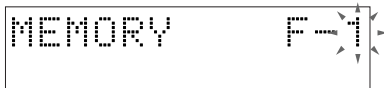
You can adjust the sound by raising or lowering the level of specific frequency band, then store up to three personal files (P FILE) in the memory.

Before adjustment, select the preset effect you want for your basic sound.

- 1 Press **←** or **→** repeatedly to select a frequency band or cinema space effect, then press **↑** or **↓** repeatedly to adjust the level or select the cinema space effect you want.



- 2 Press and hold **P FILE** until the personal file number appears in the display.



- 3 Press **↑** and **↓** or **←** and **→** repeatedly to select the personal file number where you want to store the equalizer setting.

You can select from "P FILE 1" to "P FILE 3".

- 4 Press **PUSH ENTER** (or **ENTER** on the remote).

The setting is stored automatically in the personal file number you selected in step 3. The previous setting stored at this memory location is erased and replaced by the new setting.

To call up the personal file

Press **P FILE** repeatedly until the personal file number you want appears in the display.

Tip

If you do not want to store a personal file, press **PUSH ENTER** (or **ENTER** on the remote) after step 1.

Selecting the cinema space effect

Press **CINEMA SPACE** on the remote.

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

C.SPACE LOW → C.SPACE HIGH → C.SPACE OFF

Note

When you select certain preset effects, the cinema space effect may be cancelled.

Display

Changing the spectrum analyzer display

- 1 Press AMP MENU.**
“SPECTRUM” appears in the display.
- 2 Press PUSH ENTER (or ENTER on the remote).**
The last selected spectrum appears.
- 3 Press ← or → repeatedly to select the setting you want.**
The display changes as follows:

```
graph TD
    S1[SPECTRUM 1] --> S2[SPECTRUM 2]
    S2 --> S3[SPECTRUM 3]
    S3 --> S4[SPECTRUM 4]
    S4 --> S1
    S1 <--> SO[SPECTRUM OFF]
    S3 <--> SO
```
- 4 Press PUSH ENTER (or ENTER on the remote).**

Adjusting the brightness of the display

- 1 Press AMP MENU.**
“SPECTRUM” appears.
- 2 Press ↑ or ↓ repeatedly to select “DIMMER”, then press PUSH ENTER (or ENTER on the remote).**
The last selected dimmer appears.
- 3 Press ← or → repeatedly to select the setting you want.**
The display changes as follows:

```
graph TD
    D1[DIMMER 1] --> D2[DIMMER 2]
    D2 --> D3[DIMMER 3]
    D3 --> D1
```
- 4 Press PUSH ENTER (or ENTER on the remote).**

Changing the power illuminator

You can select the power illuminator as you want.

Press ILLUMINATION repeatedly to select the power illuminator you want when the system is turned on.

Each time you press the button, the power illuminator mode changes cyclically as follows:

PATTERN 1 → PATTERN 2 → PATTERN 3 → PATTERN 4 → PATTERN OFF

Notes

- When you turn VOLUME (or press VOL +/- on the remote), power illuminator shows the current volume level.
- During the demonstration display, you can turn on or off power illuminator by pressing ILLUMINATION.

Turning off the display

— Power Saving Mode

The demonstration display and the clock display can be turned off to minimize the amount of power consumed during standby mode (Power Saving Mode).

Press DISPLAY repeatedly while the system is turned off until the demonstration display or the clock display disappears.

To cancel Power Saving Mode

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

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

Demonstration¹⁾ → Clock²⁾ → Power Saving Mode

¹⁾ The display changes and the indicators flashes even when the system is turned off.

²⁾ “-.-” appears in the display if you have not set the clock.

Tips

- The **I/O** indicator lights up even in Power Saving Mode.
- The timer continues to operate in Power Saving Mode.
- During Power Saving Mode, the following items do not function:
 - Setting the clock.
 - Changing the AM tuning interval.
 - Pressing a function button to turn the power on.
 - Switching the function of MD (VIDEO).
 - Changing "CD POWER" settings (page 19).
 - Changing the color system of video output (page 9).

Viewing information about the disc in the display

Checking the playing time, remaining time and titles

Press **DISPLAY** repeatedly during playback.

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

■ When playing an audio CD/an MP3 audio track/VIDEO CD without PBC function

Playing time of the current track → Remaining time of the current track¹⁾ → Remaining time of the current disc²⁾ → Title of the current track³⁾ → Title of the current album (for 2 seconds)⁴⁾ → Clock display (for 8 seconds) → Effect status or Karaoke status⁵⁾

■ When playing a VIDEO CD with PBC function (Version 2.0)

Playing time of the current track⁶⁾ → Clock display (for 8 seconds) → Effect status or Karaoke status⁵⁾

Checking the total playing time and titles

Press **DISPLAY** repeatedly when playback is stopped.

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

■ During play modes other than "PGM"

• Audio CD/VIDEO CD

Total number of tracks and total playing time → Title of the current disc⁷⁾ → Clock display (for 8 seconds) → Effect status or Karaoke status⁵⁾

• Disc with MP3 audio tracks

Total number of albums in the disc⁸⁾ or total track number of the current album⁹⁾ → Title of the current disc⁸⁾ or title of current album⁹⁾ → Clock display (for 8 seconds) → Effect status or Karaoke status⁵⁾

Display

continued

Viewing information about the disc in the display (continued)

■ During “PGM” mode

The last track number of the program and the total playing time¹⁰⁾ → Total number of programmed tracks (for 8 seconds)¹¹⁾
 → Title of current disc³⁾¹²⁾ or title of current track³⁾¹³⁾ → Clock display (for 8 seconds)
 → Effect status or Karaoke status⁵⁾

- 1) “---” appears while MP3 audio track is played back.
- 2) “---” appears in the following cases:
 - while MP3 audio track is played back.
 - all play mode except “1 DISCS” or “ALBM” mode.
- 3) Only for CD-TEXT disc and a disc with MP3 audio tracks.
- 4) Only for a disc with MP3 audio tracks.
- 5) When KARAOKE PON, MPX L or MPX R is selected only.
- 6) May not appear with still images.
- 7) For CD-TEXT disc only.
- 8) When the play mode is not “ALBM” or “ALBM SHUF”.
- 9) When the play mode is “ALBM” or “ALBM SHUF”.
- 10) “---” appears in the following cases:
 - When the audio CD or VIDEO CD contains 21 tracks or more, and the track number which exceeds 20 is selected.
 - When the total program exceeds 100 minute.
 - When the program list contains MP3 audio tracks.
- 11) “NO STEP” appears if there is no program.
- 12) When there is no program.
- 13) When there is a program.

Notes

- Some characters may not be displayed for track title, album title or disc title.
- If the MP3 audio tracks which are played back has ID3 tag, the title name in ID3 tag is displayed as track title.
- This system only support ID3 tag Version 1.0 or Version 1.1.
- This system can only display disc title and track title from CD TEXT disc. Other information cannot be displayed.

Viewing information about the disc on the on-screen display

You can check the current operating status and disc information of VIDEO CDs, audio CDs or MP3 audio track during playback or when playback is stopped. Depending on conditions, some items are displayed and others are not.

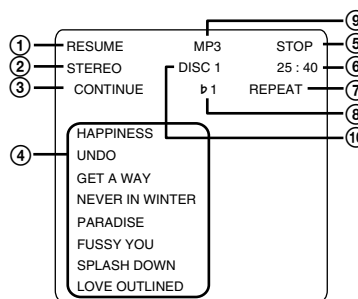
Press ON SCREEN on the remote.

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

ON SCREEN 1 → ON SCREEN 2 →
 ON SCREEN OFF*

* No display (except for special menus)

ON SCREEN 1, 2 display



① VIDEO CD/CD/MP3 status	Displayed item
When playback is stopped	“RESUME” or no display
During playback	Current disc and track number

② KARAOKE status or “STEREO”*

* “STEREO” appears when karaoke effect is set to OFF.

③ Play mode or “AUTO PBC”*

* “AUTO PBC” appears for a VIDEO CD with PBC functions (Version 2.0).

④ VIDEO CD/CD/ MP3 status	Displayed item
When playback is stopped (Disc with MP3 audio track)	Album title
During playback of a disc with MP3 audio tracks*	Current album title and track title
In program mode	Programmed disc and track numbers
Other conditions	No display

* When the MP3 audio track information includes an ID3 tag, the on-screen display information may differ from the ID3 information shown on the system's display.

⑤ VIDEO CD/CD/ MP3 status	Displayed item
When playback is stopped	"STOP"
During playback	Playing time or remaining time of the current track or disc

⑥ VIDEO CD/CD/ MP3 status	Displayed item
When playback is stopped	Total playing time of current disc*
During playback	No display

* In program mode, total playing time of the program appears.

⑦ "REPEAT", "REPEAT 1" or no display

⑧ Key control level or no display

⑨ "CD", "MP3" or "VCD"

⑩ VIDEO CD/CD/ MP3 status	Displayed item
When playback is stopped	Disc number or "TOTAL"
During playback	No display

Tips

- During playback of VIDEO CD and ON SCREEN 1 is selected, nothing appears on the on-screen display. When any button for VIDEO CD operation is pressed, or when performing Time Search or Disc Digest function, the reaction is displayed on the on-screen display.
- Select ON SCREEN OFF when recording video signal played back by this system onto a video tape etc. Otherwise the display information will also be recorded into the video tape.

Note

Noise may be heard during changing of on screen display.

Other Features

Enhancing the video game sound

— Game Sync

You need to connect a video game player (see “Hooking up optional components” on page 34).

Press GAME.

“GAME EQ” is selected automatically.

Tip

If you press GAME while the power is off, the power turns on automatically and GAME is selected as the function.

Mixing video game sound with other sound source

— Game Mixing

You can mix the sound from the component connected to the GAME INPUT jacks with another source such as disc, tape, radio or MD connected to this system.

1 Select the sound source you want.

2 Press GAME MIXING.

Each time you press the button, the level of the game sound changes cyclically as follows:

MIXING LOW → MIXING MID →
MIXING HIGH → MIXING OFF

Tips

- To record the mixed sound, press GAME MIXING after step 4 of “Recording Manually” on page 21 and then press REC PAUSE/START to start recording.
- The GAME MIXING indicator lights up while Game Mixing is activated and it will remain active while the power is on even if the function is changed.

Notes

- If you press GAME MIXING during CD function, the TV screen will display the video image from the component connected to the GAME INPUT jacks.
- Game Mixing is cancelled when you press REC PAUSE/START.
- Game Mixing does not function during CD Synchro Recording.

Singing along: Karaoke

You can sing along with any disc 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 volume.

2 Connect an optional microphone to MIC jack.

3 Press KARAOKE/MPX.

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

KARAOKE PON → MPX L → MPX R
→ KARAOKE OFF

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


To sing karaoke by decreasing the vocal level of the music source, select “KARAOKE PON”.

To sing karaoke of multiplex audio CD or VIDEO CD, select “MPX L” or “MPX R”.

4 Start playing the music and adjust the volume.

5 Adjust the microphone volume by turning MIC LEVEL.

Other Operations

To	Do this
Use VIDEO CDs	Turn on your TV and select the video input.
Cancel karaoke mode	Turn MIC LEVEL to MIN, disconnect the microphone from MIC jack, then press KARAOKE/MPX repeatedly until “  on the remote to suit your vocal range. You can adjust the key higher or lower in 13 half-tone steps (b6 ~ #6).

Notes

- With some songs, vocals may not be cancelled when you select “KARAOKE PON”.
- When Karaoke mode is activated, the equalizer and cinema space effect settings cannot be changed.
- If you press EFFECT ON/OFF or recall a preset 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.
- Karaoke can be used during CD function only.
- 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.

Mixing and recording sounds

You can mix sounds by playing one of the components and singing or speaking into a microphone.

The mixed sound can be recorded on a tape.



1 Do the procedure for singing along (steps 1 to 5 on page 30). Then, insert a recordable tape in deck B.

2 Press the function button of the source you want to record.

If you want to record from TAPE A, press TAPE A/B repeatedly until TAPE A is selected.


3 Press REC PAUSE/START.

Deck B standby for recording. The REC PAUSE/START indicator flashes.

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

5 Press REC PAUSE/START.

Recording starts.

6 Press  to start playing the source to be recorded.

Start singing along with the music.

After you have finished.

Turn MIC LEVEL to MIN and disconnect the microphone from MIC jack.

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 disc.
- When high level sound signals are input, the system automatically adjust the recording level to prevent distortion of the recorded sound signals (Auto Level Control Function).

Falling asleep to music

— Sleep Timer

You need to use the remote to activate the Sleep Timer. You can set the system to turn off after a certain time, so you can fall asleep to the music.

Press SLEEP.

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

AUTO* → 90 → 80 → 70 → ... → 10 → OFF

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

To	Do this
Check the remaining time**	Press SLEEP once.
Change the time to turn off	Press SLEEP repeatedly to select the time you want.
Cancel the Sleep Timer	Press SLEEP repeatedly until "SLEEP OFF" appears in the display.

** You cannot check the remaining time when you select "SLEEP AUTO".

Tip

You can use the sleep timer even if you have not set the clock.

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 clock" on page 11).

1 Prepare the music source you want to play.

- Disc: Load a disc. To start from a specific track, make a program (see "Creating your own program" 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 CLOCK/TIMER SET on the remote.

"DAILY SET?" appears in the display.

4 Press PUSH ENTER (or ENTER on the remote).

"ON" appears and the hour indication flashes in the display.

5 Set the time to start playback.

Press ↑ or ↓ repeatedly to set the hour, then press PUSH ENTER (or ENTER on the remote).

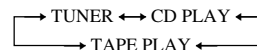
The minute indication flashes.

Press ↑ or ↓ repeatedly to set the minute, then press PUSH ENTER (or ENTER on the remote).

6 Set the time to stop playback following step 5 above.

7 Press ↑ or ↓ repeatedly until the music source you want appears.

The display change as follows:



8 Press PUSH ENTER (or ENTER on the remote).

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

9 Press I/⏻ to turn off the system.

Other Operations

To	Do this
Check the setting	Press CLOCK/TIMER SELECT on the remote and press ↑ or ↓ repeatedly to select "DAILY SELECT?", then press PUSH ENTER (or ENTER on the remote).
Change the setting	Start from step 1.
Cancel the timer operation	Press CLOCK/TIMER SELECT on the remote and press ↑ or ↓ repeatedly to select "TIMER OFF?", then press PUSH ENTER (or ENTER on the remote).

Notes

- You cannot activate the Daily Timer and Timer Recording at the same time.
- If you use the Daily Timer and the Sleep Timer at the same time, the Sleep Timer has priority.
- If the system is on at the preset time, the Daily Timer will not be activated.

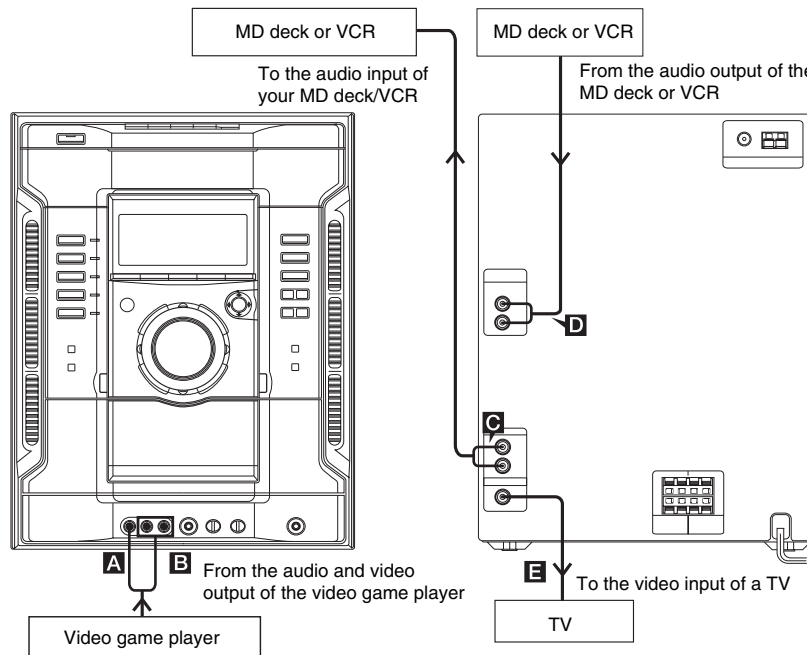
Tip

The systems turns on 15 seconds before the preset time.

Optional Components

Hooking up optional components

To enhance your system, you can connect optional components. Refer to the operating instructions provided with each component.



A GAME INPUT VIDEO jack

Use a video cable (not supplied) to connect the video output of the optional video game player to this jack.

B GAME INPUT AUDIO jacks

Use audio cords (not supplied) to connect the audio output of the optional video game player to these jacks. You can then output audio through this system.

Note

To enjoy video game sound, see “Enhancing the video game sound” on page 30, or see “Selecting the preset effect” on page 24 for video game sound effects.

C AUDIO OUT jacks

Use audio cords (not supplied) to connect the audio input of the optional component to these jacks. You can then output audio to the component from this system.

D MD/VIDEO (AUDIO) IN jacks

Use audio cords (not supplied) to connect the audio output of the optional component (such as MD deck or VCR) to these jacks. You can then output audio through this system.

E VIDEO OUT jack

Use a video cable (supplied) to connect the video input of TV to this jack.

Listening to audio from a connected component

To	Do This
Listen to a connected MD deck	<ol style="list-style-type: none"> 1 Connect the audio cords. See "Hooking up optional components" on page 34. 2 Press MD (VIDEO). Start playing the connected MD deck.
Listen to a connected VCR	<ol style="list-style-type: none"> 1 Connect the audio cords. See "Hooking up optional components" on page 34. 2 Hold down MD (VIDEO) on the system and press I/⏻ on the system while the power is on. Release I/⏻ first, then release MD (VIDEO). This switches the function from MD to VIDEO. Start playing the connected VCR.
Listen to the sound of a connected video game player	<ol style="list-style-type: none"> 1 Press GAME. 2 Select the preset effect. See "Selecting the preset effect" on page 24.

Notes

- If you press MD (VIDEO) while the power is off, the power turns on automatically and MD (VIDEO) is selected as the function.
- If the sound is distorted or too loud when VIDEO function is selected, or you want to switch back to MD function, repeat step 2 of "Listen to a connected VCR".
- If you press GAME while the power is off, the power turns on automatically and GAME is selected as a function. The equalizer switches to GAME EQ and the previously selected effect is restored.

Recording on a connected component

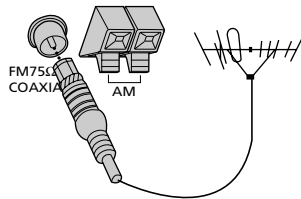
To	Do This
Make an analog recording from CD, TAPE or TUNER onto a connected MD deck	<ol style="list-style-type: none"> 1 Connect an optional audio cord from AUDIO OUT jack to the audio input of the MD deck. See "Hooking up optional components" on page 34. 2 Start recording. Refer to operating instructions provided with the connected MD deck.
Record the audio and video signals from a VIDEO CD onto a video tape	<ol style="list-style-type: none"> 1 Connect an optional audio cords from AUDIO OUT jack and the supplied video cable from the VIDEO OUT jack to the audio and video input of your VCR. See "Hooking up optional components" on page 34. 2 Start recording. Refer to operating instructions provided with the connected VCR.

Connecting external antennas

Connect an external antenna to improve the reception.

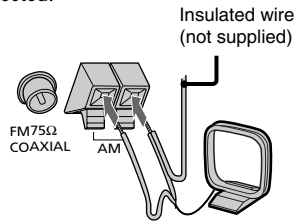
FM antenna

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



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.



Troubleshooting

Problems and remedies

If you run into 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.

When the I/⏻ indicator flashes

Immediately unplug the power cord and check the following items.

- Are the + and – speaker cords short circuited?
- Are you using only the prescribed speakers?
- Is anything blocking the ventilation holes on the rear of the system?

After checking the above items and fixing any problems, connect the power cord again and turn on the system. If the indicator still flashes, or if the cause of the problem cannot be found even after checking all the above items, 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.

The demonstration mode started. Press I/⏻ (see step 6 on page 9).

The clock/timer setting is cancelled.

- The power cord is disconnected or a power failure occurs. Redo "Setting the clock" (on page 11). If you have set the timer, redo "Waking up to music" (on page 32) and "Timer Recording radio programs" (on page 22).

The radio presetting is canceled.

- The power cord is disconnected or a power failure occurs for longer than half a day. Redo "Presetting radio stations" (on page 18).

There is no sound.

- Turn VOLUME clockwise.
- The headphones is connected to the PHONES jack.
- 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 system. Move the system away from the TV or VCR.

The sound from the component connected to the MD (VIDEO) jacks is distorted.

- If "VIDEO" appears in the display when you press MD (VIDEO), switch to "MD" function (see "Listening to audio from a connected component" on page 35).

"-- --:-- --" appears in the display.

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

The timer does not function.

- Set the clock correctly.
- You cannot activate the Daily timer and Timer Recording simultaneously.

"DAILY SET?", and "REC SET?" do not appear when you press the CLOCK/TIMER SET button on the remote.

- 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 sensor.
- The batteries have run down. Replace the batteries.

continued

Problems and remedies (continued)

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.
-

Speakers

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

- Check the speaker connection and speaker placement.
-

Sound lacks bass.

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

VIDEO CD/CD/MP3 Player

The disc tray does not open and "LOCKED" appears on the front panel display.

- Contact your Sony dealer or local authorized Sony service facility.
-

There is no picture.

- Check the system is connected securely.
 - Make sure you set the color system correctly, according to your TV color system.
 - Press CD.
 - Press GAME MIXING until "MIXING OFF" appears.
-

The disc tray does not close.

- The disc is not placed properly.
-

The disc does not play.

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

Disc access takes a longer time.

- Set "CD POWER ON" by CD power manage function (page 19).
-

Playback does not start from the first track.

- The system is in Program Play or Shuffle Play mode. Press PLAY MODE repeatedly until "1 DISC", "ALBM" or "ALL DISCS" appears.
-

MP3 audio track cannot be played back.

- Recording was not performed according to the ISO9660 Level 1 or Level 2 or Joliet in the expansion format.
 - The MP3 audio track does not have the extension ".MP3".
 - The file is not stored in MP3 format.
 - The tracks other than MPEG 1 Audio Layer 3 format cannot be played back.
-

MP3 audio tracks takes a longer time to playback than others.

- After the system reads all tracks on the disc, playback may take more time than usual if
 - the number of albums or tracks on the disc is very large.
 - the album and track organization structure is very complex.
-

The disc title, album title, track title, ID3 tag and the CD-TEXT characters do not appear properly.

- Use a disc that conforms with ISO9660 level 1, level 2, or Joliet in the expansion format.
 - The ID3 tag is not Version 1.0 or Version 1.1.
 - The character code that can be displayed by this system are as follows.
 - Upper cases (A to Z)
 - Lower cases (a to z)
 - Numbers (0 to 9)
 - Symbols (<> * +, - / [] \ _)
 - Other characters may not be displayed correctly.
-

Tape Deck

The tape does not record.

- The tab has been removed from the tape. Cover the broken tab with adhesive tape.
 - The tape has reeled to the end.
-

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

- The tape heads are dirty. (See "Cleaning the tape heads" on page 42).
 - The record/playback heads are magnetized. (See "Demagnetizing the tape heads" on page 42).
-

The tape does not erase completely.

- The record/playback heads are magnetized. (See "Demagnetizing the tape heads" on page 42).
-

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 42).
-

Noise increases or the high frequencies are erased.

- The record/playback heads are magnetized. (See "Demagnetizing the tape heads" on page 42).
-

Tuner

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

- Adjust the antenna.
 - The signal is too weak. Connect an external antenna.
 - Set "CD POWER OFF" by CD power manage function (page 19).
-

A stereo FM program cannot be received in stereo.

- Press FM MODE so that "MONO" disappears.
-

If the system still does not operate properly after performing the above measures or other troubles not described above occur, reset the system as follows:

Use buttons on the system for the operation.

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

The system is reset to factory settings. All the settings are cleared.

Messages

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

VIDEO CD/CD/MP3

Cannot Edit

- You pressed EDIT before the TOC information of a disc is read.
 - The selected disc is a disc with MP3 audio tracks.
 - The selected audio CD or VIDEO CD contains more than 20 tracks.
-

NO STEP

- You have cleared all the tracks you programmed.
-

OVER

- You have reached the end of the audio CD or VIDEO CD while pressing ►► during playback or pause.
 - You have reached the end at an MP3 audio track.
-

No Disc

- There is no disc on the disc tray.
-

Push STOP!

- You pressed PLAY MODE or SPECIAL MENU during playback.
-

Step Full!

- You tried to program 26 or more tracks (steps).
-

Please Wait

- The system is doing initialization process.
-

Reading

- The system is reading information of this disc. Some buttons are not available.
-

Not in Use

- You pressed an invalid button.
-

TAPE

No Tab

- You cannot record the tape because the tab has been removed from the tape.
-

No Tape

- There is no tape in the tape deck.
-

TIMER

OFF TIME NG!

- The on time and off time of Daily Timer or Timer Recording is same.
-

SET CLOCK!

- You pressed CLOCK/TIMER SELECT before the clock is set.
-

SET TIMER!

- You pressed CLOCK/TIMER SELECT before Daily Timer or Timer Recording is set.
-

OTHER

Cannot Edit

- You tried to adjust graphics equalizer or change cinema space setting when KARAOKE PON, MPX L or MPX R is selected.
-

Cannot Memory

- You tried to store to a personal file when KARAOKE PON, MPX L or MPX R is selected.
-

Additional Information

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 system is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the system 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 system, unplug the system and have the system checked by qualified personnel before operating it any further.
- The AC power cord must be changed only at the qualified service shop.

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
 - vibrating
 - subject to direct sunlight
- Use caution when placing the system or speakers on surfaces that have been specially treated (with wax, oil, polish, etc.) as staining or discoloration of the surface may result.

On heat build-up

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

If you use this system 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.

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

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

Notes on discs

- Before playing, clean the disc with a cleaning cloth. Wipe the disc from the center out.
- Do not use solvents.
- Do not expose the disc to direct sunlight or heat sources.
- Discs with non-standard shapes (e.g., heart, square, star) cannot be played on this system. Attempting to do so may damage the system. Do not use such discs.

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 tape tab. Refer to the instructions of the tape.

Before placing a tape 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.

continued

Precautions (continued)

Cleaning the tape heads

Clean the tape heads after every 10 hours of use. 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 tape.

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 tape. For details, refer to the instructions of the demagnetizing tape.

In case color irregularity is observed in a nearby 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 in 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.

Specifications

Amplifier section

The following are measured at AC 220V 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)

Inputs

GAME (VIDEO): 1 Vp-p, 75 ohms
(phono jack)
GAME (AUDIO): Voltage 250 mV,
(phono jacks) impedance 47 kilohms
MD/VIDEO (AUDIO) IN: voltage 450 mV/250 mV,
(phono jacks) impedance 47 kilohms
MIC: sensitivity 1 mV,
(phone jack) impedance 10 kilohms

Outputs

VIDEO OUT: max. output level 1 Vp-p,
(phono jacks) unbalanced, Sync.
negative load impedance
75 ohms
AUDIO OUT: Voltage 250 mV,
(phono jacks) impedance 47 kilohms
PHONES: accepts headphones of
(stereo mini jack) 8 ohms or more
FRONT SPEAKER: accepts impedance of 6 to
16 ohms
SURROUND SPEAKER: accepts impedance of
24 ohms or more

VIDEO CD/CD/MP3 player section

System Compact disc and digital audio system
Laser Semiconductor laser
($\lambda=795\text{nm}$)
Emission duration: continuous
Frequency response 2 Hz – 20 kHz (± 0.5 dB)
Wave length 795 nm
Video colour system format NTSC, PAL

Tape player section

Recording system	4-track 2-channel stereo
Frequency response	50 – 13,000 Hz (± 3 dB), using Sony TYPE I tape
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	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	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

Speaker

Front speaker SS-GN88D

Speaker system	3-way, 4-units, bass-reflex type magnetically shielded
Speaker units	
Super Woofer:	20 cm, cone type
Woofer:	8 cm, cone type
Tweeter:	5 cm, cone type
Nominal impedance	6 ohms
Dimensions (w/h/d)	Approx. 265 x 415 x 320 mm
Mass	Approx. 8.7 kg net per speaker

Surround speaker SS-RS77V

Speaker system	2 way, 3 units, bass-reflex type magnetically shielded
Speaker units	
Woofer	10 cm, cone type
Tweeter	5 cm, cone type
Nominal impedance	24 ohms
Dimensions (w/h/d)	Approx. 175 x 415 x 190 mm
Mass	Approx. 4.8 kg net per speaker

General

Power requirements	220 V AC, 50/60 Hz
Power consumption	210 watts
Dimensions (w/h/d)	Approx. 280 x 360 x 386.5 mm
Mass :	Approx. 11.1 kg
Supplied accessories:	AM loop antenna (1) Remote commander (1) Batteries (2) FM lead antenna (1) Video cable (1) Front speaker pads (8) Surround 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 system does not resume playback for a long time, press ◀▶ to resume playback manually.

Menu Playback

Playback using the menu screens recorded on VIDEO CDs with PBC functions (Version 2.0). You can enjoy simple interactive software using the menu playback function.

Playback Control (PBC)

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

By using menu screens recorded on VIDEO CDs with PBC functions (Version 2.0), you can enjoy playing simple interactive software, software with search functions, and so on.

When you select a VIDEO CD with PBC functions (Version 2.0) on this system, 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 data using the MPEG 1 format, one of the world wide standards of digital compressing technology. The picture data 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 data. 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 data 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 system can play both versions.