

6. Operate the component using the corresponding function buttons.

- If any of buttons fails to operate as they should, start from the step 1 again to enter the correct setup code.

■ **Note :**

- Manufacturers may use different setup codes for the same product category. For that reason, it is important that you check to see if the code you have entered operates as many controls as possible. If only a few functions operate, check to see if another code will work with more buttons.

7. Repeat the above steps 1 to 6 for each of your other components.

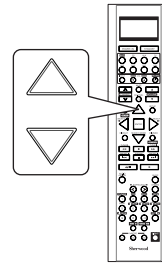
Searching a setup code

- In addition to enter a setup code using "Setup Code Table" on page 73, it is also possible to search through all the codes that are stored in the library of this remote control.

1. Turn on the component you want to operate.

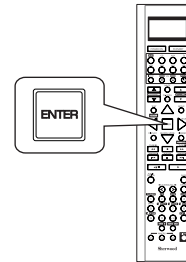
2. Perform the steps 3 and 4 in "Entering a setup code" procedure on page 20 to select the setup code mode ("CODE").

3. While "PRESET" is displayed, search a setup code, aiming the remote control at the remote sensor on the component.



- Each time the CURSOR UP(▲)/DOWN(▼) buttons are pressed, the setup code is selected one by one.
- If the selected code is correct, your component will be turned off.
- When your component is not turned off, repeat this step until you find one that works.

4. While "PRESET" is displayed, press the ENTER button to store the setup code.



- Then "OK" is displayed on the LCD screen.

5. Operate the component using the corresponding function buttons.

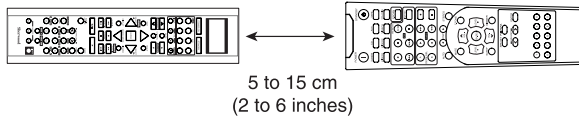
- If any of buttons fails to operate as they should, start from the step 1 again to find the correct setup code.

6. Repeat the above steps 1 to 5 for each of your other components.

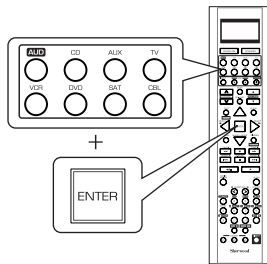
Programing the commands from other remote controls (LEARNING mode)

- If the setup codes are not available for your component or you want to program a missing or special function into one button of a device, the learning function enables this remote control to learn the commands from other remote controls.

1. Place this remote control and other remote control facing each other at a distance of 5 to 15 cm (2 to 6 inches) apart.



2. Press and hold down the ENTER button and the desired one of the DEVICE buttons for more than 2 seconds.

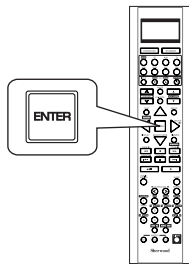


- Then "LEARN" is displayed on the LCD screen for several seconds

■ Note :

- During setting operation, to exit from the setting mode, press any of the DIVICE buttons.

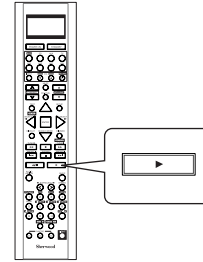
3. While "LEARN" is displayed, press the ENTER button.



- Then "SEL" is flickering.
- If "SEL" goes off, start again from the above step 2.

4. While "SEL" is flickering, on this remote control, press the button corresponding to the function to be learned.

Example: If the function to be learned is playback, press the PLAY(▶) button.



- Then "READY" is displayed.

■ Note:

- You cannot program a function into some buttons such as DEVICE, MACRO and LIGHT buttons.

5. While "READY" is displayed, on the other remote control, press the button of the function to be learned.

- If the command has been learned successfully, "OK" is displayed and then "SEL" is flickering.
- If "ERROR" is displayed and then "SEL" is flickering, it means that for some reason the command was not learned. In this case, repeat the above steps 4 and 5.

■ Notes :

- If an incorrect signal has been sent or, in some cases, the command from other remote control simply cannot be learned.
- In some "ERROR" cases, the remote controls just need to be moved closer together or farther apart.

6. While "SEL" is flickering, repeat the above steps 4 and 5 to program all the commands you want to the buttons on this remote control under the same device mode.

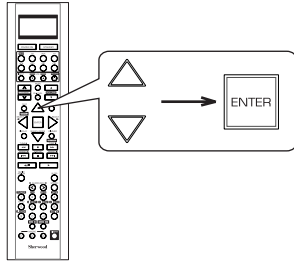
- To exit from the setting mode, press any of the DEVICE buttons.

7. Repeat the above steps 1 to 6 to program the commands from a different remote control.

8. Operate the newly programmed buttons to make sure the learning function was performed properly.

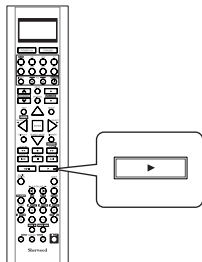
Erasing the programmed command from one button

1. Perform the steps 3 and 4 in "Entering a setup code" procedure on page 20 to select the deleting mode ("DELETE").
 - Then "BTTN" is displayed on the LCD screen for several seconds.
2. While "BTTN" is displayed, press the CURSOR UP(▲)/DOWN(▼) buttons to select the one command deleting mode (BTTN), then press the ENTER button.



- Each time the CURSOR UP(▲)/DOWN(▼) buttons are pressed, "BTTN" or "LEARN"(all command deleting mode) is selected.
 - Then "SEL" is flickering.
 - If "SEL" goes off, start again from the above step 1.
3. While "SEL" is flickering, press the button for the command you want to erase.

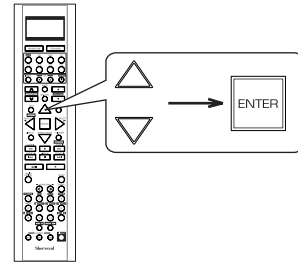
Example: When the button for the command to be erased is PLAY button.



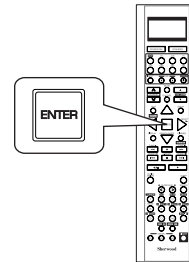
- "OK" is displayed and then "SEL" is flickering.
4. While "SEL" is flickering, repeat the above step 3 to erase other commands.

Erasing all the commands programmed under a device mode

1. Perform the steps 3 and 4 in "Entering a setup code" procedure on page 20 to select the deleting mode ("DELETE").
 - Then "BTTN" is displayed on the LCD screen for several seconds.
2. While "BTTN" is displayed, press the CURSOR UP(▲)/DOWN(▼) buttons to select the all command deleting mode ("LEARN"), then press the ENTER button.



- Then "SURE?" is displayed .
 - If "SURE?" goes off, start again from the above step 1.
3. While "SURE?" is displayed, press the ENTER button.



- Then all the commands programmed are erased.
4. To erase all the commands programmed under other device mode, repeat the above steps 1 to 3.

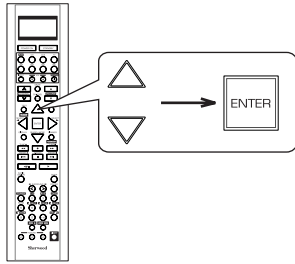
Programming a macro function

- The macro function enables you to program a series of button operations (up to 15) on this remote control into a single button.
- You can store up to three separate macro command sequences into "M1", "M2" and "M3" buttons.

1. Perform the steps 3 and 4 in "Entering a setup code" procedure on page 20 to select the macro mode ("MACRO").

- Then "M1" is displayed on the LCD screen for several seconds.
- During macro setting operation, pressing any of the DEVICE buttons cannot exit from the macro mode.

2. While "M1" is displayed, press the CURSOR UP(▲)/DOWN(▼) buttons to select the MACRO button to be programmed into, then press the ENTER button.



- Each time the CURSOR UP(▲)/DOWN(▼) buttons are pressed, "M1", "M2" or "M3" is selected.
- Then "SEL" is flickering.
- If "SEL" goes off, start again from the above step 1.

3. While "SEL" is flickering, press the operation buttons you want to program in order.

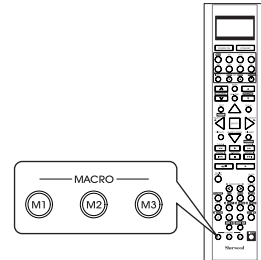
Example: When playing a DVD on the DVD player connected to VIDEO 2 jacks of this receiver.

- ① Press "AUDIO" button to control this receiver.
- ② Press "POWER ON" button to turn this receiver on.
- ③ Press "VIDEO 2(7)" button to select the desired input source.
- ④ Press "DVD" button to control the DVD player.
- ⑤ Press "POWER ON" button to turn the DVD player on.
- ⑥ Press "PLAY (▶)" button to start playback.



- Each time the operation buttons are pressed, the programmed order is displayed.

4. Press any of the MACRO buttons (M1~M3) to complete the programming.



- Then "OK" is displayed.

■ To erase a macro program

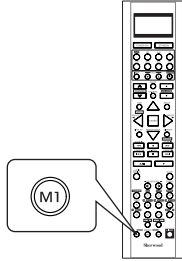
- When erasing a macro program, perform the above steps 1, 2 and 4, but ignore the step 3.

■ To change a macro program

- When a new macro program is stored into a MACRO button with performing the above steps 1 to 4, the previous macro program is erased from the memory of the MACRO button.

Operating a macro function

- Aim the remote control at the REMOTE SENSORS of the components to be controlled and press the MACRO button you want.
Example : When pressing "M1" button.



■ Notes:

- The codes programmed into a MACRO button will be transmitted at an interval of 0.5 seconds. However, some components may not be able to complete one operation in 0.5 seconds and may miss the next code. In this case, the macro function cannot control the corresponding components correctly.
- Be sure to use the remote control within the remote control operation range of the components.
- Depending on the operation status of the components, etc., the macro function cannot control the corresponding components correctly.

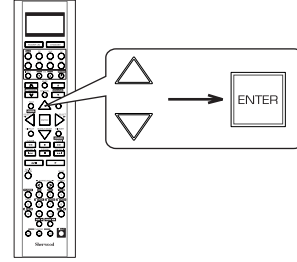
Programing a punch-through function

- The punch-through function allows the volume controls, channel controls or transport controls to link to a different device while a device is controlled with this remote control as a master device.
- For example, since this receiver will likely be used as the sound system while watching TV, you may want to use volume controls to operate this receiver although this remote control is set to control the TV.

1. Perform the steps 3 and 4 in "Entering a setup code" procedure on page 20 to select a master device and the punch-through mode ("PUNCH").

- Then "VOL" is displayed on the LCD screen for several seconds.

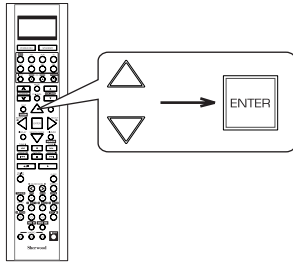
2. While "VOL" is displayed, press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired punch-through mode, then press the ENTER button.



- Each time the CURSOR UP(▲)/DOWN(▼) buttons are pressed, the mode changes as follows:
 - VOL : The volume punch-through mode allows the "VOLUME ▲/▼" and "MUTE" buttons to operate a different device.
 - ↕
 - DELETE : All punch-through deleting mode.
 - ↕
 - PLAY : The transport punch-through mode allows the "◀◀", "●", "▶▶", "I◀◀", "■", "▶▶", "◀/||" and "▶" buttons to operate a different device.
 - ↕
 - CH : The channel punch-through mode allows the "CHANNEL ▲/▼" and "CH. LEVEL" buttons to operate a different device.
- Then the device to which you can link the selected punch-through mode is displayed.

Continued

- 3.** While the device is displayed, press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired punch-through device, then press the ENTER button.



- Each time the CURSOR UP(▲)/DOWN(▼) buttons are pressed, depending on the selected punch-through mode, punch-through devices and the one punch-through deleting mode ("DELETE") are selected as follows :

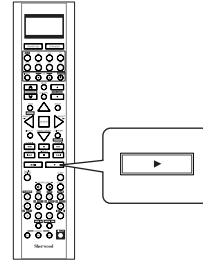
- In case of the volume punch-through,
→ AUDIO ↔ DELETE ↔ TV ←
- In case of the transport punch-through,
→ CD ↔ DELETE ↔ DVD ↔ VCR ↔ AUX ←
- In case of the channel punch-through,
→ TV ↔ DELETE ↔ SAT ↔ CABLE ↔ VCR ←
- Then "OK" is displayed and the current punch-through mode is displayed.

- 4.** While the punch-through mode is displayed, repeat the above steps 2 and 3 to program other punch-through function under the same master device mode.

- 5.** To program punch-through functions under other master device mode, repeat the above steps 1 to 4.

Operating a punch-through function

- While this remote control is set to control a master device, aim the remote control at the REMOTE SENSOR of the punch-through device and press the desired button of the programmed punch-through controls.
Example: When pressing "PLAY (▶)" button.



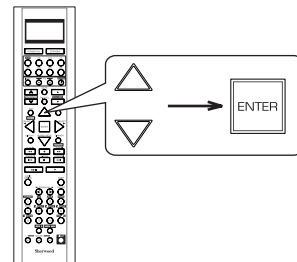
- Then the punch-through device is displayed on the LCD screen.

Erasing the programmed punch-through function

- 1.** Perform the steps 3 and 4 in "Entering a setup code" procedure on page 20 to select a master device and the punch-through mode ("PUNCH").

- Then "VOL" is displayed on the LCD screen for several seconds.

- 2.** While "VOL" is displayed, press the CURSOR UP(▲)/DOWN(▼) buttons to select the punch-through mode to be erased, then press the ENTER button.



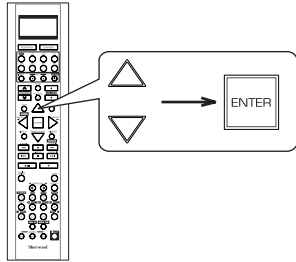
- Each time the CURSOR UP(▲)/DOWN(▼) buttons are pressed, the mode changes as follows:

→ VOL ↔ DELETE ↔ PLAY ↔ CH ←

- Then the device is displayed .

Continued

3. While the device is displayed, press the CURSOR UP(▲)/DOWN(▼) buttons to select the one punch-through deleting mode ("DELETE"), then press the ENTER button.



- Each time the CURSOR UP(▲)/DOWN(▼) buttons are pressed, depending on the selected punch-through mode, the punch-through devices and the deleting mode ("DELETE") are selected.
- Then "OK" is displayed and the current punch-through mode is displayed .

4. While the punch-through mode is displayed, repeat the above steps 2 and 3 to erase other punch-through function under the same master device mode.

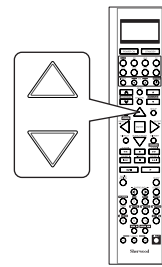
5. To erase punch-through functions under other master device mode, repeat the above steps 1 to 4.

Erasing all the punch-through functions programmed under a master device mode

1. Perform the steps 3 and 4 in "Entering a setup code" procedure on page 20 to select a master device and the punch-through mode ("PUNCH").

- Then "VOL" is displayed on the LCD screen for several seconds.

2. While "VOL" is displayed, press the CURSOR UP(▲)/DOWN(▼) buttons to select the all punch-through deleting mode ("DELETE").

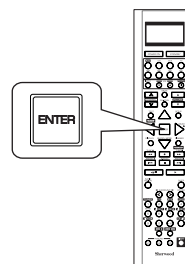


- Each time the CURSOR UP(▲)/DOWN(▼) buttons are pressed, the mode changes as follows:

→ VOL ↔ DELETE ↔ PLAY ↔ CH ←

- Then "DELETE" is displayed .

3. While "DELETE" is displayed, to erase all the punch-through functions programmed under the master device mode, press ENTER button.



- Then "OK" is displayed and "DELETE" is displayed.
- To exit from the deleting mode, press any of the DEVICE buttons.

4. To erase all the punch-through functions programmed under other master device mode, repeat the above steps 1 to 3.

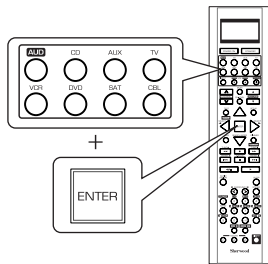
Changing the transmission signal

- This remote control can emit not only the infrared beams which the conventional remote control uses but also the RF(Radio Frequency) beams which are stronger than those.
- When you want to control this receiver from longer distance even if there are obstacles such as walls, furniture, etc. in the way, change the transmission signal into "RF"(Radio Frequency).

■ Notes:

- When the RF remote antenna is not connected, remote operation will become unreliable. (For details, refer to "CONNECTING RF REMOTE ANTENNA" on page 12.)
- If the transmission signal mode is set to "RF" (Radio Frequency), this remote control cannot control other audio and video components.

1. Press and hold down the ENTER button and any of the DEVICE buttons for more than 2 seconds.

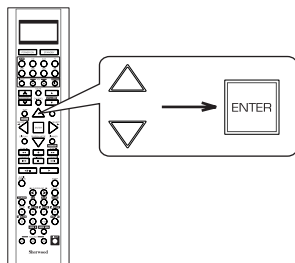


- Then "LEARN" is displayed on the LCD screen for several seconds.

■ Note:

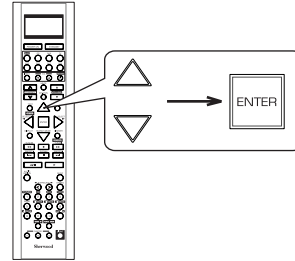
- During setting operation, to exit from the setting mode, press any of the DEVICE buttons.

2. While "LEARN" is displayed, press the CURSOR UP(▲)/DOWN(▼) buttons to select the transmission signal mode("RF-IR"), then press the ENTER button.



- Then "RF" (or "IR") is displayed.
- If "RF" (or "IR") goes off, start again from the above step 1.

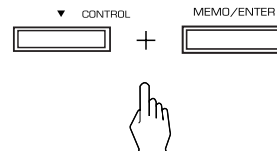
3. While "RF" (or "IR") is displayed, press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired transmission signal, then press the ENTER button.



- Each time the CURSOR UP(▲)/DOWN(▼) buttons are pressed, the mode changes as follows :
 "RF" : This remote control emits the RF(Radio Frequency) beams which stronger than the infrared beams.
 ↑
 "IR" : This remote control emits the infrared beams which the conventional remote control uses.
 ↓
 • Then "OK" is displayed.

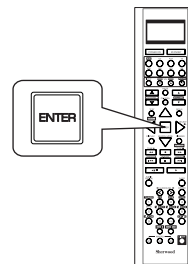
■ When "RF" is set to.

4. To pair up this remote control and the receiver, press the CONTROL DOWN(▼) button and the MEMORY/ENTER button simultaneously on the receiver.

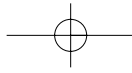


- "RF REMOCON PAIRING MODE" is displayed for several seconds on the display of the receiver.
- If "RF REMOCON PAIRING MODE" goes off, press these buttons again.

5. While "RF REMOCON PAIRING MODE" is displayed, press the ENTER button, aiming at the receiver.



- Then "PAIRING SUCCESS" is displayed.

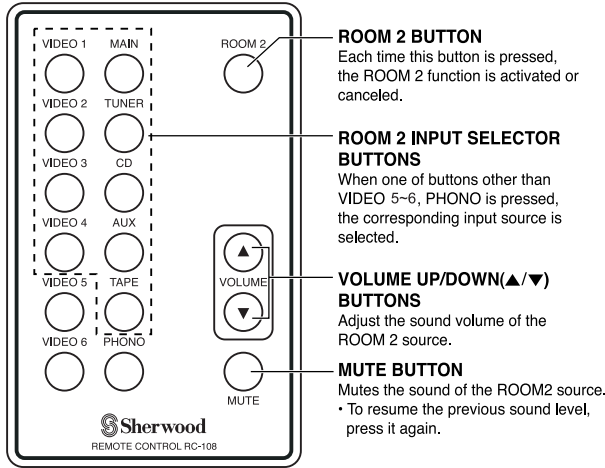


ROOM 2 Remote Controls

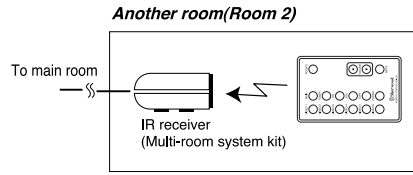
This remote control unit is an additional remote control unit for the ROOM 2 source playback only.

- You can use the ROOM 2 functions with this remote control unit more conveniently in another room than with the universal remote control unit.
- For details on ROOM 2 operation, refer to "ROOM 2 SOURCE PLAYBACK" on page 44.

REMOTE CONTROL OPERATION RANGE



- Aim the ROOM 2 remote control at the IR receiver installed in another room. (For details, refer to "CONNECTING MULTI-ROOM SYSTEM KIT" on page 13.)

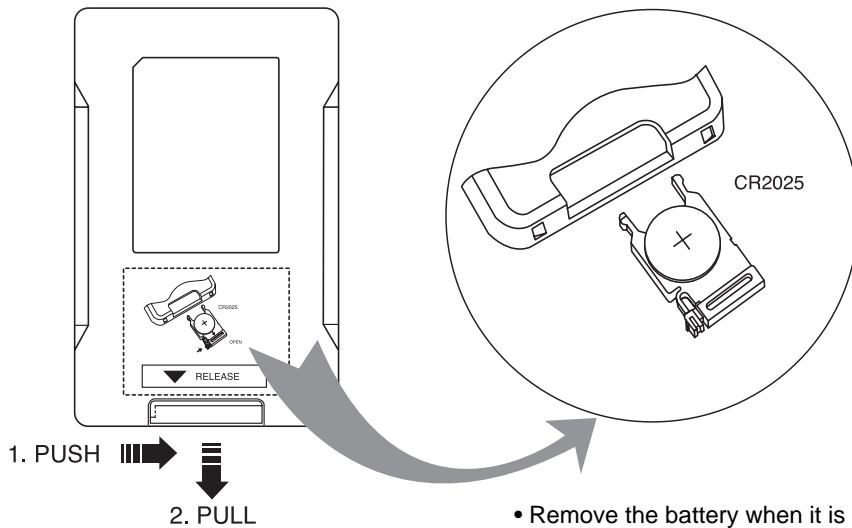


- When you operate the ROOM 2 function in the main room, aim the ROOM 2 remote control at the remote sensor of this receiver.

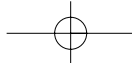
LOADING BATTERY

1. Remove the cover.

2. Load the battery (CR2025) matching the polarity.



- Remove the battery when it is not used for a long time.



Operations

■Notes:

- Before operating this receiver with the supplied remote control, refer to "Universal Remote Controls" on page 17 for details about operation.
- Before operating this receiver, first set this unit as desired for optimum performance, doing the OSD menu setting procedures. (For details, refer to "OSD Menu Settings" on page 47.)

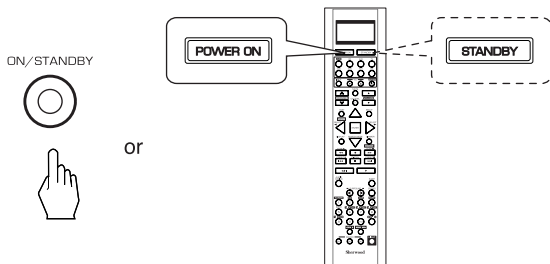
LISTENING TO A PROGRAM SOURCE

Before operation

- Enter the standby mode.
- The POWER ON/STANDBY button lights up amber. This means that the receiver is not disconnected from the AC mains and a small amount of current is retained to support the operation readiness.
- To switch the power off, push the POWER switch again. Then the power is cut off and the POWER ON/STANDBY button goes off.



1. In the standby mode, turn the power on.



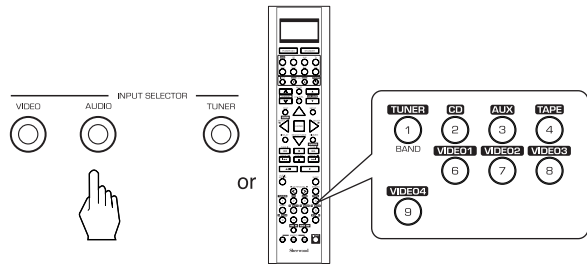
- Each time the POWER ON/STANDBY button on the front panel is pressed, the receiver is turned on to enter the operating mode (the POWER ON/STANDBY button lights up blue) or off to enter the standby mode (the POWER ON/STANDBY button lights up amber).
- On the remote control, press the POWER ON button to enter the operating mode or press the STANDBY button to enter the standby mode.
- In the standby mode, if the INPUT SELECTOR button is pressed, the receiver is turned on automatically and the desired input is selected.

2. Switch the speakers on.

- Then the SPEAKER indicator lights up and the sound can be heard from the speakers connected to the speaker terminals.
- When using the headphones for private listening, press the SPEAKER button again to switch the speakers off.



3. Select the desired input source.

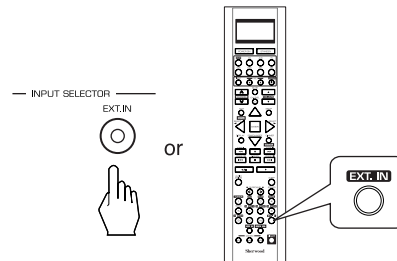


- Each time the "AUDIO" button on the front panel is pressed, the input source changes as follows:
→ CD → AUX → TAPE →

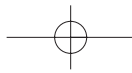
- Each time the "VIDEO" button on the front panel is pressed, the input source changes as follows:
→ VIDEO 1 → VIDEO 2 → VIDEO 3 → VIDEO 4 →

- Each time the "TUNER" button is pressed, the band changes as follows:
→ FM STereo → FM MONO → AM → XM →

■ When selecting the EXTERNAL IN as desired,



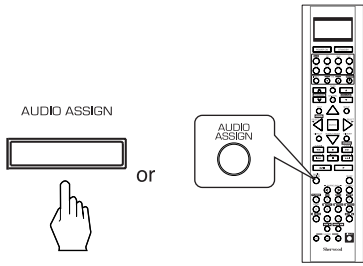
- Depending on the power amplifier setting for the surround back channels and the surround back speaker setting, "EXT. IN" is displayed and 8/(7/6) separate analog signals from the component connected to this input pass through the tone and volume circuits only and can be heard from your speakers.
- Select the desired input source to cancel the external in function.
- These analog signals can be heard only, not recorded.



When CD, AUX, VIDEO 1~ 4 is selected as an input source

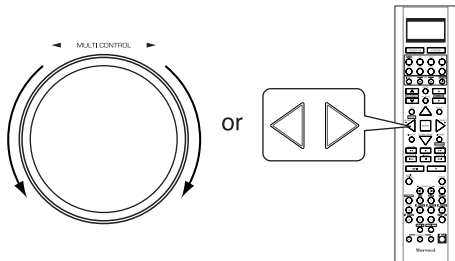
- If the AUDIO MODE is set to the mode other than "DIGITAL" for the corresponding input source on the INPUT SETUP menu, you cannot hear the sound from the selected digital input. (For details, refer to "SETTING THE INPUT SETUP" on page 53.)

4. Press the AUDIO ASSIGN button.

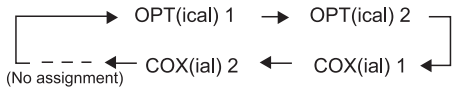


- "AUD ~ " is displayed for several seconds.
- "AUD ~ " disappears, press the AUDIO ASSIGN button again.

5. Select the desired of the digital inputs connected while displaying "AUD ~ ".



- Each time the MULTI CONTROL knob is rotated or the CURSOR LEFT(◀)/RIGHT(▶) buttons are pressed, the corresponding input is selected as follows :



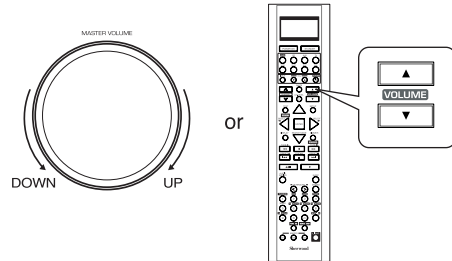
Notes:

- When the selected digital input is not connected or assigned, "o1", "c1", etc (, meaning no digital signal input from it) or "d" (, meaning no audio assignment) flickers and no sound will be heard.
- The selected digital input is automatically assigned to the corresponding input source on the INPUT SETUP menu. (For details, refer to "SETTING THE INPUT SETUP" on page 53.)
- The sound from the component connected to the selected digital input can be heard regardless of the selected input source.

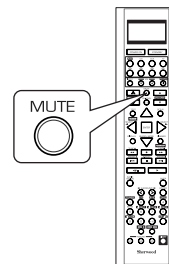
6. Operate the selected component for playback.

- When playing back the program sources with surround sound, refer to "ENJOYING SURROUND SOUND" on page 34.

7. Adjust the (overall) volume.

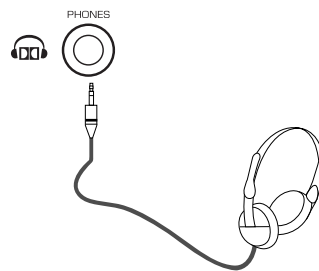


Muting the sound



- "MUTE" flickers.
- To resume the previous sound level, press it again.

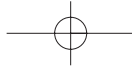
Listening with headphones

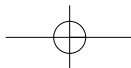


- Ensure that the SPEAKER button is set to off.
- Depending on the signal format which is being input, you can listen in Dolby Headphone mode, stereo mode, etc. (For details, refer to "Listening in Dolby Headphone mode" on page 35).
- When the EXTERNAL IN is selected as an input source, only front left and front right channel signals can be reproduced through the headphones.

Note:

- Be careful not to set the volume too high when using headphones.





SURROUND SOUND

- This receiver incorporates a sophisticated Digital Signal Processor that allows you to create optimum sound quality and sound atmosphere in your personal Home Theater.

ENGLISH

Surround modes

■ DTS Digital Surround

DTS Digital Surround(also called simply DTS) is a multi-channel digital signal format which can handle higher data rates. Discs bearing the "DTS" include the recording of up to



5.1 channels of digital signals, which can be generally thought to provide better sound quality due to the lower audio compression required.

It also provides wide dynamic range and separation, resulting in magnificent sound.

■ DTS - ES Extended Surround™ ()

This is a new multi channel digital signal format which greatly improves the 360- degree surround impression and space expression thanks to further expanded surround signals, offering high compatibility with the conventional DTS format. In addition to the 5.1 channels, DTS-ES Extended Surround also offers the surround back (sometimes also referred to as "surround center") channel for surround playback with a total of 6.1 channels. DTS-ES Extended Surround includes two signal formats with different surround signal recording methods as follows:

• DTS-ES™ Discrete 6.1

Because the signals for 6.1 channels (including the surround back channel) are fully independent, it is possible to achieve a sense that the acoustic image are moving about freely among the background sounds surrounding the listener from 360 degrees. Though maximum performance is achieved when sound tracks recorded with this system are played using a DTS -ES decoder, when played with a conventional DTS decoder, the surround back channel signals are automatically downmixed to the surround left and surround right channels so that none of the signal components are lost.

• DTS - ES™ Matrix 6.1

With this format, the additional surround back channel signals undergo matrix encoding and are input to the surround left and surround right channels beforehand. During playback, they are decoded to the surround left, surround right and surround back channels.

Because the bit stream format is 100% compatible with conventional DTS signals, the effect of the DTS-ES Matrix 6.1 format can be achieved even with DTS 5.1- channel signal sources. Of course, it is possible to play DTS-ES Matrix 6.1 - channel signal sources with a DTS 5.1 - channel decoder. When DTS-ES Discrete 6.1 or Matrix 6.1 sources are decoded with a DTS - ES decoder, the format is automatically detected upon decoding and the optimum surround mode is selected. However, some DTS - ES Matrix 6.1 sources may be detected as DTS sources. In this case, the DTS - ES Matrix mode should be selected manually to play these sources.

■ DTS Neo : 6™ surround

This mode applies conventional 2-channel signals such as digital PCM or analog stereo signals to the high precision digital matrix decoder used for DTS-ES Matrix 6.1 to achieve 6.1-channel surround playback. DTS Neo : 6 surround includes two modes for selecting the optimum decoding for the signal source.

• DTS Neo : 6 Cinema

This mode is optimum for playing movies. Decoding is performed with emphasis on separation performance to achieve the same atmosphere with 2-channel sources as with 6.1-channel sources.

• DTS Neo : 6 Music

This mode is suited mainly for playing music. The front left and front right signals bypass the decoder and are played directly so there is no loss of sound quality, and the effect of the surround signals from the center, surround left, surround right and surround back channels adds a natural sense of expansion to the sound field.


■ DTS 96/24

Conventional surround formats used sampling frequencies of 48 or 44.1 kHz, so 20 kHz was about the maximum playback signal frequency. With DTS 96/24, the sampling frequency is increased to 96 or 88.2 kHz to achieve a wide frequency range of over 40 kHz. In addition, this format has a resolution of 24 bits, resulting in the same frequency band and dynamic range as 96kHz / 24 bit PCM signals.


As with conventional DTS surround, DTS 96/24 is compatible with a maximum of 5.1 channels. DTS 96/24 is fully compatible with the conventional DTS surround format, so DTS 96/24 sources can be played using a conventional DTS 5.1 channel decoder.

"DTS" and "DTS-ES | Neo:6" are registered trademarks of DTS, Inc. "96/24" is a trademarks of DTS, Inc.

■ Dolby Digital

Dolby Digital is the multi- channel digital signal format developed by Dolby Laboratories. Discs bearing the "  " includes the recording of up to 5.1 channels of digital signals, which can reproduce much better sound quality, spatial expansion and dynamic range characteristics than the previous Dolby Surround effect.

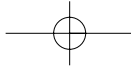
■ Dolby Digital EX

This mode creates the back (sometimes also referred to as "surround center") signals from the surround left and right signals in Dolby Digital 5.1 channel source using a matrix decoder and provides 6.1 channel surround playback. For the best results, this mode should be selected during playback of sources(bearing the "  ") recorded in Dolby Digital

EX. With this additional channel, you can experience more dynamic and realistic moving sound especially.

When Dolby Digital EX sources are decoded with a Dolby Digital EX decoder, the format is automatically detected upon decoding and the Dolby Digital EX mode is selected.

However, some Dolby Digital EX sources may be detected as Dolby Digital sources. In this case, the Dolby Digital EX mode should be selected manually to play these sources.



■ **Dolby Pro Logic IIx surround**

Dolby Pro Logic IIx decodes all stereo (2 channel) and 5.1 channel sources and extends to 7.1channel surround playback. It delivers the most natural, full range and immersing 7.1 channel listening experience. Dolby Pro Logic IIx surround includes three modes as follows :

• **Dolby Pro Logic IIx Movie**

When enjoying movies, this mode allows you to further enhance the cinematic quality by adding processing that emphasizes the sounds of the action special effects.

• **Dolby Pro Logic IIx Music**

When listening to music, this mode allows you to further enhance the sound quality by adding processing that emphasizes the musical effects.

• **Dolby Pro Logic IIx Game**

When playing games, this mode allows you to further enhance the dynamic surround effects by adding processing that emphasizes the surrounded and exciting sound.

■ **Dolby Pro Logic II surround**

This mode applies conventional 2-channel signals such as digital PCM or analog stereo signals as well as Dolby Surround signals, etc. to surround processing to offer improvements over conventional Dolby Pro Logic circuits. Dolby Pro Logic II surround includes Dolby Pro Logic II Movie, Dolby Pro Logic II Music and Dolby Pro Logic II Game like Dolby Pro Logic IIx surround.

■ **Dolby Virtual Speaker**

This mode creates a virtual surround sound field using as few as two front speakers, allowing you to experience listening from 5.1 channel speakers.

This mode is effective not only for 5.1 channel sources but also for stereo(2 channel) sources. Dolby Virtual Speaker includes two listening mode as follows:

• **Dolby Virtual Speaker Reference**

The width of the front sound image is defined by the actual distance between front speakers.

• **Dolby Virtual Speaker Wide**

The width of the front sound image seems to extend beyond the front speakers.

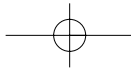
- When using the EXTERNAL INs to play back the sound from the additional multi-channel decoder for surround sound, you can enjoy the corresponding surround sound, too.(For details, refer to the operating instructions of the component to be connected.)

For your reference, the sound from each channel can be reproduced according to the surround modes as follows:

Modes	Channels	FRONT L/R	CENTER	SURROUND L/R	SURROUND BACK L/R	SUBWOOFER
DTS, DTS 96/24		○	○	○	—	○
DTS ES DISCRETE/MATRIX		○	○	○	○	○
DTS NEO: 6 CINEMA/MUSIC		○	○	○	○	—(*)
DOLBY DIGITAL		○	○	○	—	○
DOLBY DIGITAL EX		○	○	○	○	○
DOLBY PRO LOGIC IIx MOVIE/MUSIC/GAME		○	○	○	○	○
DOLBY PRO LOGIC II MOVIE/MUSIC/GAME		○	○	○	—	○
DOLBY VIRTUAL SPEAKER		○	○	○	—	—(*)
MULTI PCM		○	○	○	○/—	○
Other Surrounds		○	○	○	○	—(*)
STEREO		○	—	—	—	—(*)
EXTERNAL IN		○	○	○	○	○

(*): Depending on the subwoofer setting, the sound from the subwoofer channel may be reproduced.

- Depending on the speaker settings and the number of the encoded channels, etc., the sound from the corresponding channels cannot be reproduced.(For details, refer to "SETTING THE SPEAKER / ROOM EQ SETUP" on page 57.)



ENJOYING SURROUND SOUND

■ **Notes:**

- Before surround playback, first perform the speaker setup procedure, etc. on the OSD menu for optimum performance. (For details, refer to "SETTING THE SPEAKER/ROOM EQ SETUP" on page 57.)
- When playing digital signals from the Dolby Digital program source or selecting the surround mode such as Dolby Pro Logic II /Dolby Pro Logic IIx Music, Dolby Headphone, Dolby Virtual Speaker modes, you can adjust their parameters for optimum surround effect. (For details, refer to "SETTING THE SOUND PARAMETER" on page 66.)
- When the EXTERNAL IN is selected as an input source, the surround modes cannot be selected.

Depending on how to select a surround mode, select the auto surround mode or the manual surround mode.



- Each time this button is pressed, the mode changes as follows :

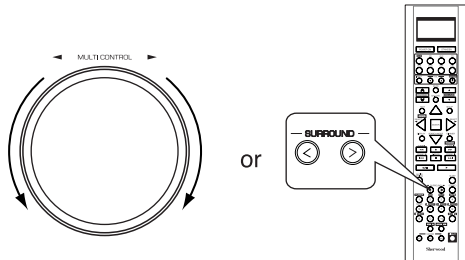
Auto surround mode : The optimum surround mode will be ("AUTO" lights up.) automatically selected depending on the signal format being input.

Manual surround mode : You can select the desired of different surround modes selectable for the signal being input with using the MULTI CONTROL knob or the SURROUND MODE UP/DOWN (> / <) buttons.

■ **Notes :**

- Even when the auto surround mode is selected and the same type of digital signal format is being input, the optimum surround mode may vary depending on whether the speaker type is set to "NO" or not.
- When the auto surround mode is selected, the surround modes other than the optimum surround mode cannot be selected.

- When selecting the manual surround mode with pressing the SURROUND MODE button on the front panel. Select the desired surround mode.



- Each time the MULTI CONTROL knob is rotated or the SURROUND MODE UP / DOWN (> / <) buttons are pressed, the surround mode changes depending on the input signal format as follows :

Signal format being input	Selectable surround mode
Dolby Digital EX 6.1 channel sources, Dolby Digital 5.1 channel sources	<DOLBY DIGITAL EX, DOLBY D + PLIIx MUSIC>, (DOLBY D + PLIIx MOVIE), DOLBY DIGITAL, DOLBY VS REF, DOLBY VS WIDE
Dolby Digital 2 channel sources	<DOLBY PLIIx MOVIE, DOLBY PLIIx MUSIC, DOLBY PLIIx GAME>, [DOLBY PLII MOVIE, DOLBY PLII MUSIC, DOLBY PLII GAME], DOLBY VS REF, DOLBY VS WIDE
DTS ES Discrete/Matrix 6.1 channel sources	<corresponding DTS ES mode, DTS + PLIIx MUSIC>, (DTS + PLIIx MOVIE), DTS, DOLBY VS REF, DOLBY VS WIDE
DTS sources, DTS 96/24 sources	correnponding DTS mode, DOLBY VS REF, DOLBY VS WIDE, <DTS + NEO:6, DTS + PLIIx MUSIC>, (DTS + PLIIx MOVIE)
PCM (multi-channel) sources*	MULTI PCM, <DOLBY PLIIx MOVIE, DOLBY PLIIx MUSIC>, DOLBY VS REF, DOLBY VS WIDE
96 kHz PCM (2 channel) sources PCM (2 channel) sources, Analog stereo sources	<DOLBY PLIIx MOVIE, DOLBY PLIIx MUSIC, DOLBY PLIIx GAME>, [DOLBY PLII MOVIE, DOLBY PLII MUSIC, DOLBY PLII GAME], DOLBY VS REF, DOLBY VS WIDE, NEO:6 CINEMA, NEO:6 MUSIC, THEATER, HALL, STADIUM, ROOM, PANORAMA, CLASSIC, MULTI CH STEREO

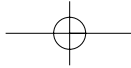
- Depending on surround back speaker setting, some surround modes can be selected or not as follows:

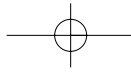
< > : Possible only when surround back speaker is not set to "NO".

[] : Possible only when surround back speaker is set to "NO".

() : Possible only when surround back speaker is set to " 2CH".

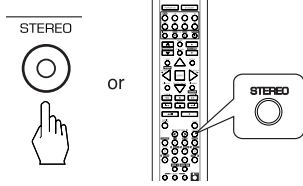
* : Depending on the signal format being input, the Dolby Pro Logic IIx modes and the Dolby Virtual Speaker modes may not be selected.





Continued

■ To cancel the surround mode for stereo operation



- Depending on the signal format which is being input, either the stereo mode or the 2CH downmix mode is selected.
- To cancel either the stereo mode or the 2CH downmix mode, select the surround mode with using the MULTI CONTROL knob on the front panel or the SURROUND MODE UP/DOWN (>/<) buttons on the remote control.

■ 2CH downmix mode

- This mode allows the multi-channel signals encoded in DTS or Dolby Digital format, etc. to be mixed down into 2 front channels and to be reproduced through only two front speakers or through headphones.
- When the SPEAKER button is set to off to listen with headphones, if the STEREO button is pressed while playing the multi-channel digital signals from DTS or Dolby Digital sources, etc., it will enter the 2CH downmix mode automatically.
- To cancel the 2CH downmix mode, select the Dolby Headphone mode with using the MULTI CONTROL knob on the front panel or the SURROUND MODE UP/DOWN (>/<) buttons on the remote control.

Listening in Dolby Headphone mode

- The Dolby Headphone function simulates 5.1 channel surround sound, which allows you to enjoy 5.1 channel surround sound through 2 channel headphones, just like listening from 5.1 channel speakers.

■ Note :

- Only when the SPEAKER button is set to off, the Dolby Headphone mode can be selected.
- Switch the speakers off to listen with headphones.

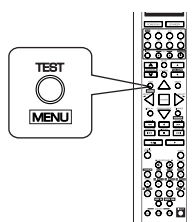


- Then "DOLBY HEADPHONE" (or "DOLBY H ~ ") is displayed and the Dolby Headphone mode is selected.
- To cancel the Dolby Headphone mode, press the SPEAKER button again.

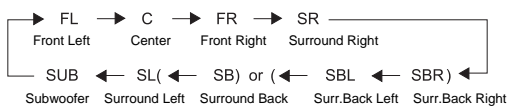
Adjusting each channel level with test tone

- The volume level of each channel can be adjusted easily with the test tone function.
- Note : When the SPEAKER button is set to off, the test tone function does not work.

1. Enter the test tone mode.

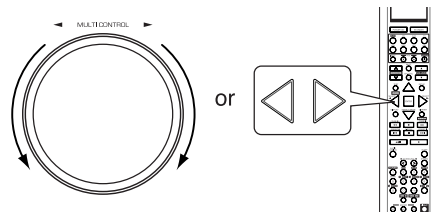


- The test tone will be heard from the speaker of each channel for 2 seconds as follows:



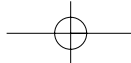
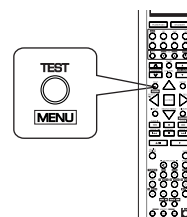
- When the speaker setting is "NO", the test tone of the corresponding channel is not available.
- () : Possible depending on whether the surround back channel is set to "2 CH" or "1 CH".

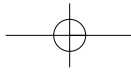
2. At each channel, adjust the level as desired until the sound level of each speaker is heard to be equally loud.



- You can select the desired channel with pressing the CONTROL UP/DOWN (▲/▼) buttons or the CURSOR UP/DOWN (▲/▼) buttons.

3. Cancel the test tone function.

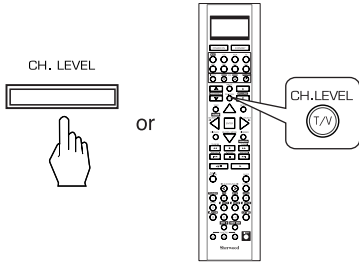




Adjusting the current channel level

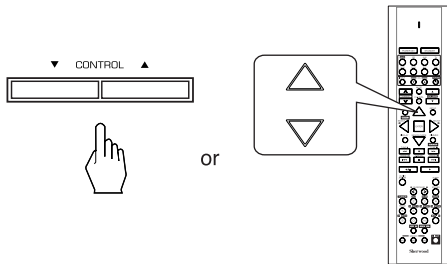
- After adjusting each channel level with test tone, adjust the channel levels either according to the program sources or to suit your tastes.
- You can adjust the current channel levels as desired. These adjusted levels are just memorized into user's memory ("CAL"), not into preset memory("REF 1", "REF 2").

1. Press the CHANNEL LEVEL button.



- Then the memory mode ("CAL" or "REF 1") is displayed for several seconds.
- When the memory mode or channel level disappears, press this button again.

2. Select the desired channel.



- Each time these buttons are pressed, the corresponding channel is selected as follows:

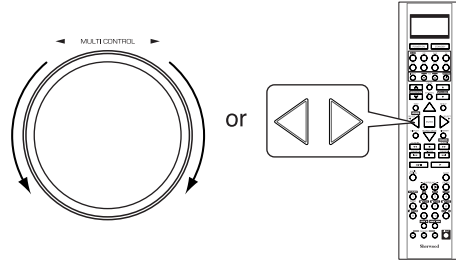
→ REF 1(or CAL) ↔ FL ↔ C ↔ FR ↔ SR ←
 < LFE > ↔ SUB ↔ SL(↔ SB) or (↔ SBL ↔ SBR) ←
DTS LFE or Dolby Digital LFE

(): Possible depending on whether the surround back channel is set to "2 CH" or "1 CH".

< >: Possible only when the digital signals from Dolby Digital or DTS program sources that include LFE signal are input.

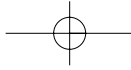
- Depending on the speaker settings("NO", etc.) and surround mode, etc., some channels cannot be selected.
- When the SPEAKER button is set to off, only the Front Left, Front Right (and LFE) channels can be selected.

3. Adjust the level of the selected channel as desired.



- The LFE level can be adjusted within the range of -10~0 dB and other channel levels within the range of -15~+15 dB.
- In general, we recommend the LFE level to be adjusted to 0 dB.(However, the recommended LFE level for some early DTS software is -10 dB.) If the recommended levels seem too high, lower the setting as necessary.

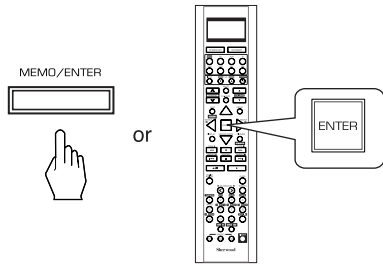
4. Repeat the above steps 2 and 3 to adjust each channel level.



Memorizing the adjusted channel levels

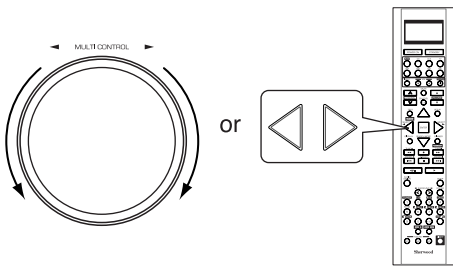
- You can memorize the adjusted channel levels into preset memory("REF 1", "REF 2") and recall the memorized whenever you want.

- After performing the steps 1 ~ 4 in "Adjusting the current channel level" procedure on page 36, press the (MEMORY) ENTER button.



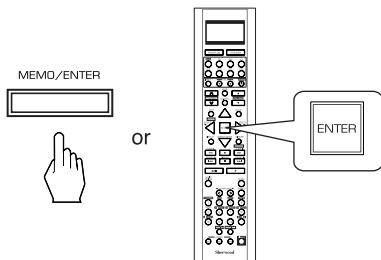
- The "1" of "REF 1" indication flickers for several seconds.

- Select the desired one of REF 1 and REF 2.



- If the preset memory disappears, perform the above step 1 again.

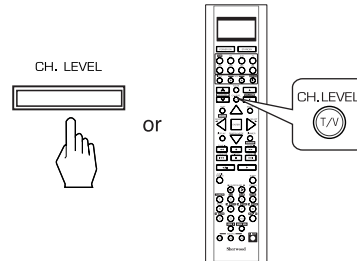
- Confirm your selection.



- The adjusted channel levels have now been memorized into the selected memory.

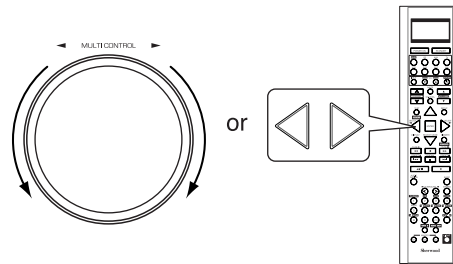
Recalling the memorized channel levels

- Press the CHANNEL LEVEL button.



- "REF 1" (or "CAL") is displayed for several seconds.
- If the channel level mode display disappears, press this button again.

- Select the desired one of REF 1 and REF 2.

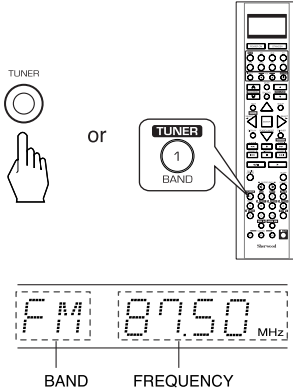


- Then the channel levels memorized into the selected preset memory are recalled.

LISTENING TO RADIO BROADCASTS

Auto tuning

1. Select the desired band.

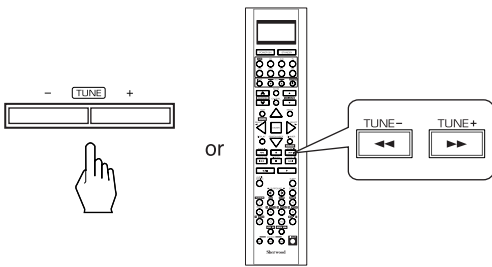


- Each time this button is pressed, the band changes as follows :

→ FM STereo → FM MONO → AM → XM
 ("ST" lights up) ("ST" goes off)

- When FM stereo broadcasts are poor because of weak broadcast signals, select the FM mono mode to reduce the noise, then FM broadcasts are reproduced in monaural sound.
- To listen to XM Satellite Radio, select XM mode. (For details, refer to "XM Satellite Radio (only for North America)" on page 40.)

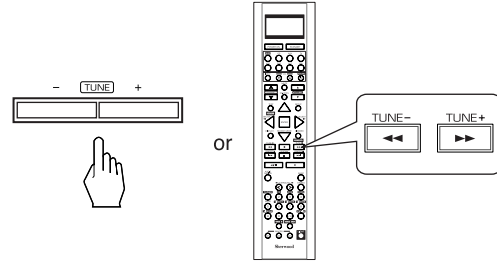
2. Press the TUNING UP(+)/DOWN(-) buttons for more than 0.5 second.



- The tuner will now search until a station of sufficient strength has been found. The display shows the tuned frequency and "TUNED".
- If the station found is not the desired one, simply repeat this operation.
- Weak stations are skipped during auto tuning.

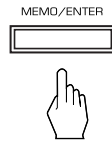
Manual tuning

- Manual tuning is useful when you already know the frequency of the desired station.
- After selecting the desired band, press the TUNING UP(+) / DOWN(-) buttons repeatedly until the right frequency has been reached.

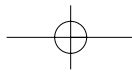


Auto presetting

- Auto presetting function automatically searches for FM stations only and store them in the memory.
- While listening to FM or AM radio broadcasts, press and hold down the MEMORY/ENTER button for more than 2 seconds.
- Then "AUTO MEM" flickers and this receiver starts auto presetting.
- Up to 30 FM stations can be stored.



- **Notes:**
- FM stations of weak strength cannot be memorized.
- To memorize AM stations or weak stations, preform "Manual presetting" procedure with using "Manual tuning" operation.

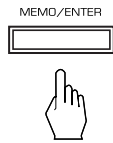


Manual presetting

- You can store up to 30 preferred stations in the memory.

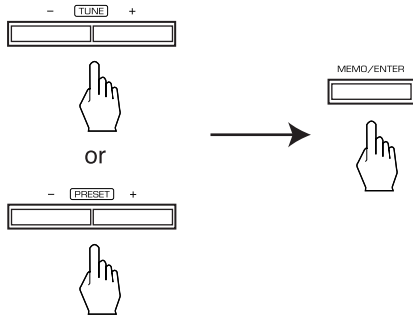
1. Tune in the desired station with auto or manual tuning.

2. Press the MEMORY/ENTER button.



- "MEM" is flickering for several seconds.

3. Select the desired preset number (1~30) and press the MEMORY/ENTER button.



- The station has now been stored in the memory.
- A stored frequency is erased from the memory by storing another frequency in its place.
- If "MEM" goes off, start again from the above step 2.

4. Repeat the above steps 1 to 3 to memorize other stations.

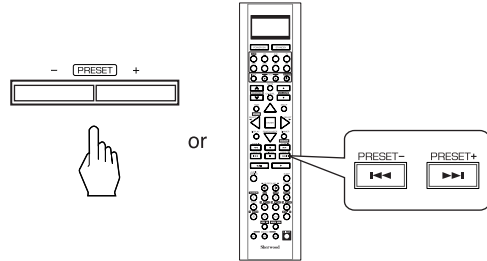
■ MEMORY BACKUP FUNCTION

The following items, set before the receiver is turned off, are memorized.

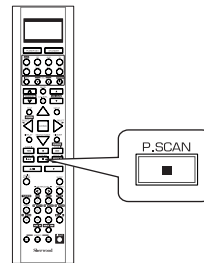
- INPUT SELECTOR settings
- Surround mode settings
- Preset stations, etc.

Tuning to preset stations

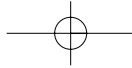
- After selecting the tuner as an input source, select the desired preset number.

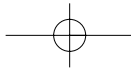


Scanning preset stations in sequence



- The receiver will start scanning the stations in the preset sequence and each station is received for 5 seconds.
- At the desired station, press this button again to stop scanning.





XM Satellite Radio (only for North America)

• This receiver is the XM Ready® receiver. You can receive XM Satellite Radio® by connecting to the XM Mini-Tuner system (sold separately) and subscribing to the XM service.

■ About XM Satellite Radio for U.S. & Canadian products

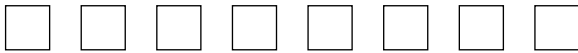
XM Satellite Radio offers an extraordinary variety of commercial-free music, plus the best in sports, news, talk and entertainment. XM is broadcast in superior digital audio from coast to coast. From rock to reggae, from classical to hip hop, XM has something for every music fan. XM's dedication to playing the richest selection of music is matched by its passion for live sporting events, talk radio, up-to-the-minute news, stand-up comedy, children's programming, and much more. For U.S. customers, information about XM Satellite Radio is available online at www.xmradio.com. For Canadian customers, information about XM Canada is online at www.xmradio.ca.

■ XM Ready® legal for U.S. & Canadian products

Hardware and required monthly subscription sold separately. Other fees and taxes, including a one-time activation fee may apply. Subscription fee is consumer only. All fees and programming subject to change. Channels with frequent explicit language are indicated with an XL. Channel blocking is available for XM radio receivers by calling 1-800-XMRADIO (US residents) and 1-877-GET-XMSR (Canadian residents). For a full listing of the XM commercial-free channels and advertising-supported channels, visit lineup.xmradio.com (US residents) or xmradio.ca (Canadian residents). Subscriptions subject to Customer Agreement available at xmradio.com (US residents) and xmradio.ca (Canadian residents). Only available in the 48 contiguous United States and Canada. ©2006 XM Satellite Radio Inc. All rights reserved. All other trademarks are the property of their respective owners.

■ XM Ready® subscriptions for U.S. Products & Canadian products

Once you have installed the XM Mini-Tuner Dock, inserted the XM Mini-Tuner, connected the XM Dock to your XM Ready® home audio system, and installed the antenna, you are ready to subscribe and begin receiving XM programming. There are three places to find your eight character XM Radio ID: on the XM Mini-Tuner, on the XM Mini-Tuner package, and on XM Channel 0. Record the Radio ID in the following eight squares for reference.



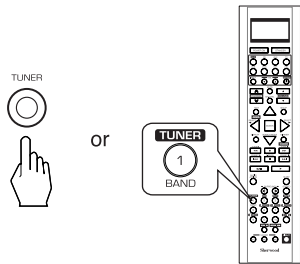
Note: The XM Radio ID does not use the letters "I", "O", "S" or "F". Activate your XM Satellite Radio service in the U.S. online at <http://activate.xmradio.com> or call 1-800-XM-RADIO (1-800-967-2346). You will need a major credit card. XM will send a signal from the satellites to activate the full channel lineup. Activation normally takes 10 to 15 minutes, but during peak busy periods you may need to keep your XM Ready home audio system on for up to an hour. When you can access the full channel lineup on your XM Ready home audio system you are done. For more information or to subscribe in Canada, visit XM on the Web at www.xmradio.ca or call XM's Listener Care at 1-877-GET-XMSR (1-877-438-9677).

LISTENING TO XM SATELLITE RADIO

Signing up for XM Satellite Radio

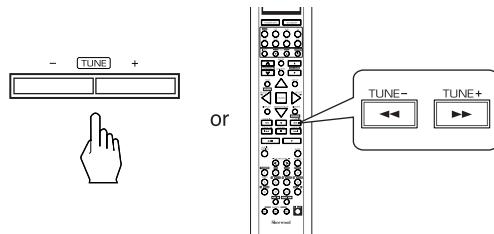
• Before using XM Satellite Radio, you must first sign up for an account. You will need a major credit card and your XM Satellite Radio ID, which you can get from this receiver as explained below.

1. Press the TUNER button repeatedly to select XM mode.



• Then "XM ~" is displayed.

2. Press the TUNING UP(+)/DOWN(-) buttons repeatedly to select "XM 000".



• Then your XM Satellite Radio ID is displayed.
• You can find the XM Satellite Radio ID on the XM Mini-Tuner itself and the XM Mini-Tuner package, too.

3. To sign up, access the website at "<http://activate.xmradio.com>" or call "1-800-967-2346".

