

SONY[®]

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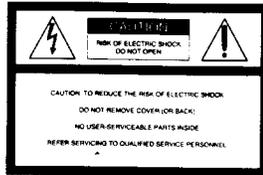
FM Stereo FM-AM Receiver

Operating Instructions

STR-471

WARNING

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



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



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

INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

CAUTION

You are cautioned that any change or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note to CATV system installer

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

Owner's record

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

Model No. STR-471

Serial No. _____

For the customers in Canada

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

CAUTION:

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

Precautions

On safety

- Should any solid object or liquid fall into the cabinet, unplug the receiver and have it checked by qualified personnel before operating it any further.

On power sources

- Before operating the receiver, check that the operating voltage is identical with your local power supply. The operating voltage is indicated on the nameplate at the rear of the receiver.
- The receiver is not disconnected from the AC power source (MAINS) as long as it is connected to the wall outlet, even if the receiver itself has been turned off.
- If you are not going to use the receiver for a long time, be sure to disconnect the receiver from the wall outlet. To disconnect the AC power cord, grasp the plug itself; never pull the cord.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- Should the AC power cord need to be changed, have it done at a qualified service shop only.

On placement

- Place the receiver in a location with adequate ventilation to prevent heat build-up and prolong the life of the receiver.
- Do not place the receiver near heat sources, or in a place subject to direct sunlight, excessive dust or mechanical shock.
- Do not place anything on top of the cabinet that might block the ventilation holes and cause malfunctions.

On operation

- Before connecting other components, be sure to turn off and unplug the receiver.

On cleaning

- Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

If you have any question or problem concerning your receiver, please consult your nearest Sony dealer.

About This Manual

Conventions

The instructions in this manual describe the controls on the receiver. You can also use the controls on the remote if they have the same or similar names as those on the receiver.

- A "Quick Reference Guide" is supplied on page 23.
- The "Remote Button Descriptions" section on page 22 provides an overview of the remote buttons.
- The following icons are used in this manual:



Indicates that you can use only the remote to do the task.



Indicates hints and tips for making the task easier.

This receiver has the Dolby Surround system.

Manufactured under license from Dolby Laboratories Licensing Corporation.

"Dolby," the double-D symbol  and "Pro Logic" are trademarks of Dolby Laboratories Licensing Corporation.

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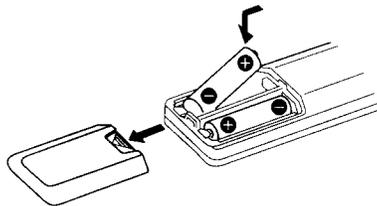
Unpacking

Check that you received the following items with the receiver:

- FM wire antenna (1)
- AM loop antenna (1)
- Remote controller (remote) (1)
- Size AA (R6) batteries (2)

Inserting batteries into the remote

Insert two size AA (R6) batteries in accordance with the + and - markings on the battery compartment. When using the remote, point it at the remote sensor on the receiver.



When to replace batteries

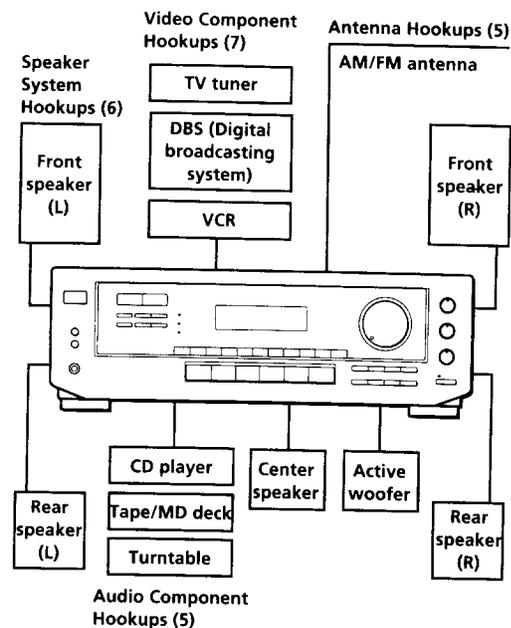
Under normal use, the batteries should last for about 6 months. When the remote no longer operates the receiver, replace both batteries with new ones.

Notes

- Do not leave the remote in an extremely hot or humid place.
- Do not use a new battery with an old one.
- Do not expose the remote sensor to direct sunlight or lighting apparatuses. Doing so may cause a malfunction.
- If you don't use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.

Hookup Overview

The receiver allows you to connect and control the following audio/video components. Follow the hookup procedures for the components that you want to connect to the receiver on the pages specified. To learn the locations and names of each jack, see "Rear Panel Descriptions" on page 21.



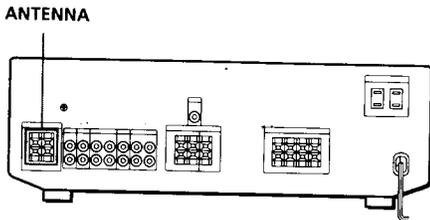
Before you get started

- Turn off the power to all components before making any connections.
- Do not connect the AC power cords until all of the connections are completed.
- Be sure to make connections firmly to avoid hum and noise.
- When connecting an audio cable, be sure to match the color-coded pins to the appropriate jacks on the components: White (left, audio) to White; and Red (right, audio) to Red.

Antenna Hookups

Overview

This section describes how to connect AM and FM antennas to the receiver. If you want to receive radio broadcasts with the receiver, complete these connections first, then go to the following pages. For specific locations of the terminals, see the illustration below.

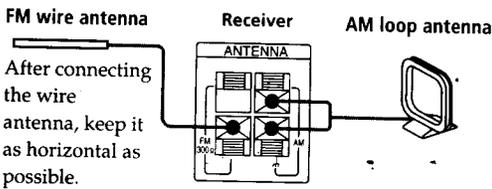


What antennas will I need?

- FM wire antenna (supplied) (1)
- AM loop antenna (supplied) (1)

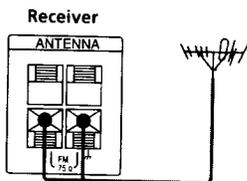


Hookups



💡 If you have poor FM reception

Connect a 75-ohm coaxial cable (not supplied) to an FM outdoor antenna. Pull back the mesh portion surrounding the inner cable and connect it to the earth terminal (right side). Connect the inner cable to the FM terminal (left side).

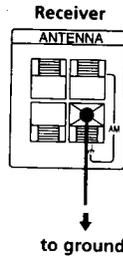


💡 If you have poor AM reception

Connect a 20 to 50 ft. (6 to 15-meter) insulated wire (not supplied) to the AM antenna terminal in addition to the AM loop antenna. Try to extend the wire outdoors and keep it horizontal.

Connecting a ground wire

To prevent hum, connect a ground wire (not supplied) to the $\#$ ground terminal. If you've connected an outdoor antenna, be sure to connect the ground for lightning protection.



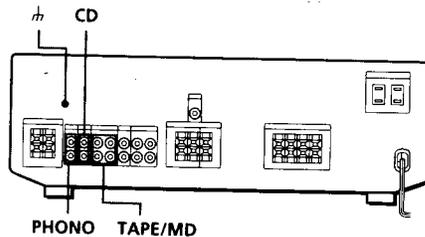
Where do I go next?

If you want to connect other components, go on to the next section. If you're only planning to use the receiver to listen to the radio, go to "Speaker System Hookups" on pages 6 and 7.

Audio Component Hookups

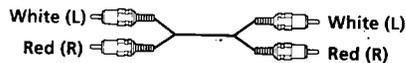
Overview

This section describes how to connect your audio components to the receiver. If you want to use the receiver as an amplifier, complete these connections. For specific locations of the jacks, see the illustration below.



What cords will I need?

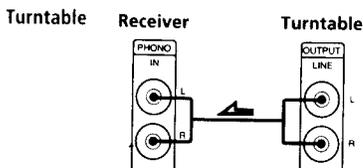
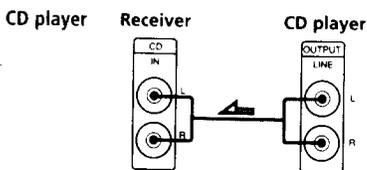
Audio cords (not supplied) (1 for each CD player or turntable; 2 for each tape deck or MD recorder)



(continued)

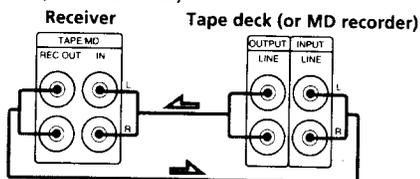
Hookups

The arrow \Rightarrow indicates signal flow.



- If your turntable has an earth lead
To prevent hum, connect the earth lead to the ⏏ ground terminal on the receiver.

Tape deck (or MD recorder)



Where do I go next?

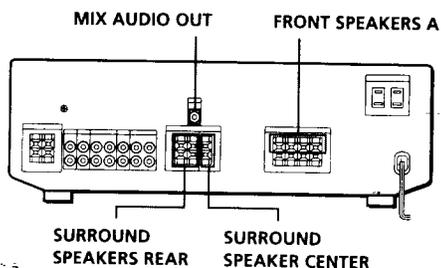
Go on to the next section to connect the speakers.

Speaker System Hookups

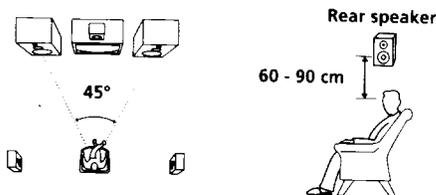
Overview

This section describes how to connect your speakers to the receiver. Although front (left and right) speakers are required, center and rear speakers are optional. Adding center and rear speakers will enhance the surround effects. Connecting an active woofer will increase bass response.

For specific locations of the terminals, see the illustration below.



For optimum surround sound effect, place your speakers as shown below.



What cords will I need?

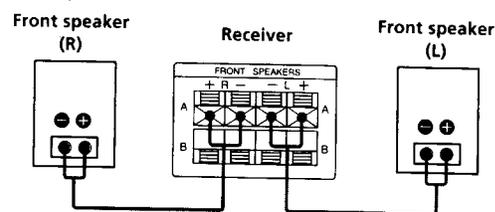
Speaker cord (not supplied) (1 for each speaker)



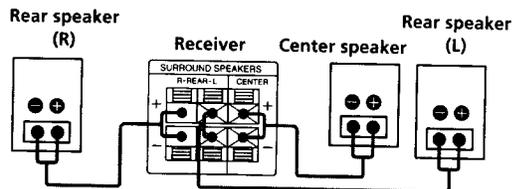
Twist the stripped ends of the cord about 2/3 inch (15 mm). Be sure to match the speaker cord to the appropriate terminal on the components: + to + and - to -. If the cords are reversed, the sound will be distorted and will lack bass.

Hookups

Front speakers



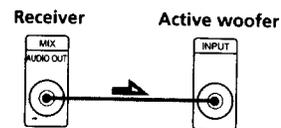
Rear and center speakers



Note

Be sure to connect the both rear speakers (L and R). No sound is heard if only one speaker is connected.

Active woofer



- If you have an additional front speaker system...
Connect them to the FRONT SPEAKERS B terminals.

Selecting the speaker system

To drive the speakers, select the speaker system as follows:

To drive	Depress SPEAKERS button
Speaker system A (connected to the FRONT SPEAKERS A terminals)	A
Speaker system B (connected to the FRONT SPEAKERS B terminals)	B
Both speaker systems A and B (series connection)	A+B

Notes

- If you want to enjoy the surround sound, be sure to connect the front speakers to the FRONT SPEAKERS A terminal.
- No sound is heard when you press SPEAKERS A+B without connecting speaker system B.

Where do I go next?

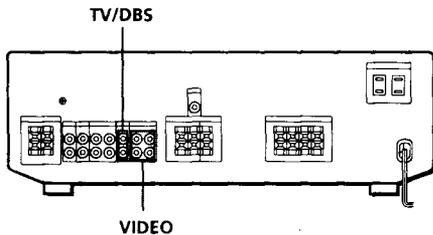
To complete your system, go to "AC Hookups" on page 8. If you want to connect video components to enjoy surround sound when listening to TV programs or video tapes, go on to the next section.

Video Component Hookups

Overview

This section describes how to connect video components to the receiver. For specific locations of the jacks, see the illustration below.

This unit is only capable of inputting and outputting audio signals. Connect the video cables from your VCR (etc.) directly to your monitor.



What cables will I need?

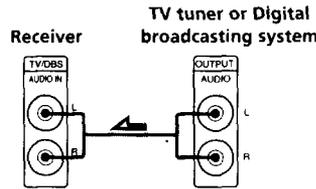
- Audio cable (not supplied) (1 for each TV tuner or Digital broadcasting system; 2 for the VCR)



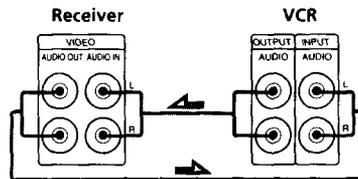
Hookups

The arrow indicates signal flow.

TV/DBS



VCR



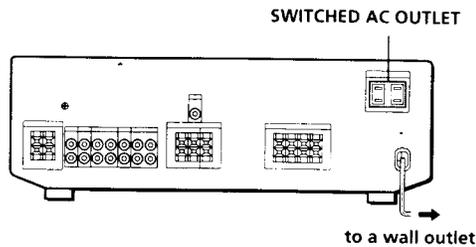
Where do I go next?

Go on to the next section to connect the AC power cord and complete your home theater system.

AC Hookups

Connecting the AC power cord

Connect the AC power cord from this receiver and from your audio/video components to a wall outlet. If you connect other audio components to the SWITCHED AC OUTLET on the receiver, the receiver can supply power to the connected components so you can turn on/off the whole system when you turn on/off the receiver.



Caution

Make sure that the power consumption of the component connected to the receiver's AC outlet does not exceed 120 watts. Do not connect high-wattage electrical home appliances such as electric irons, fans, or TVs to this outlet.

Where do I go next?

Before you use the receiver, go to the next section to make sure that all the controls are set to the appropriate positions.

Before You Use Your Receiver

Before you start using your receiver, make sure that you have:

- Turned MASTER VOLUME to the leftmost position (0).
- Selected the appropriate speaker system. (See "Selecting the speaker system" on page 7.)
- Set BALANCE to the center position.

Turn on the receiver and check the following display.

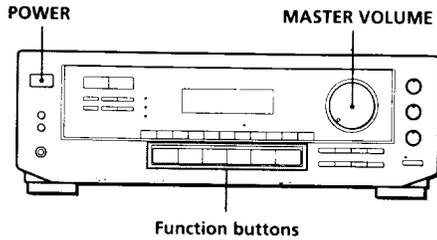
- Press MUTING on the remote if "MUTING" is displayed.

Selecting a Component

To listen to a connected component, first select the function on the receiver or with the remote.

Before you begin, make sure you have:

- Connected all components securely and correctly as indicated on pages 5 to 8.
- Turned MASTER VOLUME to the leftmost position (0) to avoid damaging your speakers.



- 1 Press POWER to turn on the receiver.
- 2 Press a function button to select the component you want to use:

To listen to	Press
Records	PHONO
Radio programs	TUNER
Compact discs (CD)	CD
Audio tapes or MiniDiscs (MD)	TAPE/MD
TV programs or Digital broadcasting system	TV/DBS
Video tapes	VIDEO

- 3 Turn on the component, for example, a CD player, and then start playing.
To tune in radio stations on this receiver, see "Receiving Broadcasts" on page 11.
- 4 Turn MASTER VOLUME to adjust the volume.
To adjust the volume of the TV's speakers, use the volume control on the TV.

To	Do this
Mute the sound	Press MUTING on the remote. Press again to restore the sound
Reinforce the bass	Press BASS BOOST to turn on the BASS BOOST indicator.
Adjust the balance	Turn the BALANCE control left or right.
Adjust the tone quality	Adjust the BASS and TREBLE controls.

💡 When you listen with headphones
Connect the headphones to the PHONES jack and set the SPEAKERS buttons to OFF.

Listening to TV or video programs

When you listen to TV or video programs, we recommend you play audio portion through the receiver instead of your TV's speaker. This lets you take advantage of the receiver's surround sound effects, like Dolby Pro Logic Surround and lets you use the receiver's remote to control the audio. Turn off the speakers on your TV before you start so you can enjoy the surround sound from your receiver.

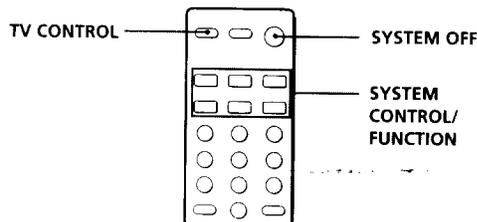
To watch/listening to TV programs, turn on the TV, TV tuner and the receiver and press TV/DBS on the receiver.

To watch/listening to videos, do the following:

- 1 Press VIDEO to select the VCR.
- 2 Turn on the TV and set the TV's video input to match your video component.
- 3 Turn on the VCR, and start playback.

Using the remote

The remote lets you operate the receiver and the Sony components that are connected to it.



(continued)

- Press one of the SYSTEM CONTROL/FUNCTION buttons to select the component you want to use. The SYSTEM CONTROL/FUNCTION buttons on the remote are factory-set as follows:

To listen to	Press
Records	PHONO
Radio programs	TUNER
Compact discs (CD)	CD
Audio tapes or MiniDiscs (MD)	TAPE/MD
TV programs	TV
VHS Video tapes (VTR-3 mode)	VIDEO

If you want to change the factory setting of a button, see page 11.
The receiver and the selected component turn on.

If the component does not turn on

Press the power switch on the component.

- Start playing.
Refer to "Remote Button Descriptions" on page 22 for details.

To turn off the components

Press SYSTEM OFF. You can turn off the video and audio components connected to the SWITCHED AC OUTLET at the same time.

If you use a Sony TV

When you press TV to watch a TV program, the TV turns on and switches to the TV input. The TV also turns on when you press VIDEO and switches to the appropriate video input.

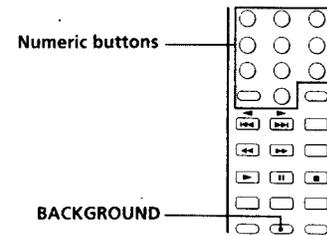
If the TV does not switch to the appropriate input automatically, press TV/VIDEO.

When you watch TV without using the receiver (only for Sony TVs)

Press TV CONTROL to set the remote to operate only the TV. When you press this button, the TV turns on and switches to the TV input. If the TV does not switch to the TV input automatically, press TV/VIDEO.

Operating one component while using another (Background Operation)

You can temporarily operate other components while listening to a program.



- Hold down BACKGROUND.
- Press both the corresponding numeric button of the component you're going to use (see the table below) and one of the following buttons at the same time; VISUAL POWER, TV/VIDEO, CH PRESET +/-, ANT TV/VTR, D.SKIP +/-, <<, >>, <</>>, <</>>, II.

Example: To start rewinding on a tape deck while listening to a CD
While holding down BACKGROUND, press 4 (or 5) and press << at the same time.

The numeric buttons are assigned to select the functions as follows:

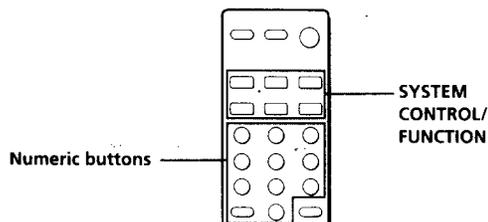
Numeric button	Operates
1	CD player
2	DAT deck
3	MD deck
4	Tape deck A
5	Tape deck B
6	LD player
7	VCR (remote control mode VTR 1*)
8	VCR (remote control mode VTR 2*)
9	VCR (remote control mode VTR 3*)
0	TV
>10	DBS

* Sony VCRs are operated with a VTR 1, 2 or 3 setting. These correspond to Beta, 8mm and VHS respectively.

Changing the factory setting of a function button

If the factory settings of the FUNCTION buttons (page 9) don't match your system components, you can change them. For example, if you have two CD players and you don't have a tape deck or an MD recorder, you can assign the TAPE button to your second CD player.

Note that the settings of the TUNER and PHONO buttons cannot be changed.



- 1 Hold down the SYSTEM CONTROL/FUNCTION button whose function you want to change (TAPE, for example).
- 2 Press the corresponding numeric button of the component you want to assign to the SYSTEM CONTROL/FUNCTION button (1 - CD player, for example).

For the numeric buttons, see the table in "Operating one component while using another" on page 10.

Now you can use the TAPE button to control a second CD player.

To reset the setting to the factory setting

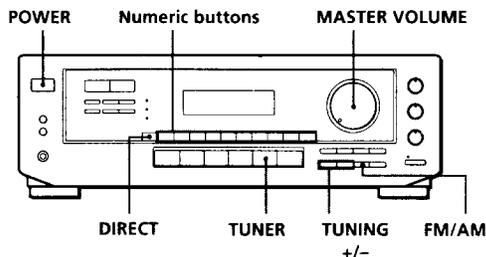
Repeat the above procedure.

Receiving Broadcasts

This receiver lets you enter a station's frequency directly by using the numeric buttons (direct tuning). If you don't know the frequency of the station you want, see "Receiving broadcasts by scanning stations (automatic tuning)" on page 12.

Before you begin, make sure you have:

- Connected an FM/AM antenna to the receiver as indicated on page 5.
- Selected the appropriate speaker system. (See "Selecting the speaker system" on page 7.)



- 1 Press POWER to turn on the receiver.
- 2 Press TUNER.
The last received station is tuned in.
- 3 Press FM/AM to select FM or AM stations.
- 4 Press DIRECT.
- 5 Press the numeric buttons to enter the frequency.
Example 1: FM 102.50 MHz **Example 2: AM 1350 kHz**

(You don't have to enter the last "0.")
- 6 When you tune in AM stations, adjust the direction of the AM loop antenna for optimum reception.

To receive other stations

Repeat Steps 3 to 5.



If the STEREO indicator remains off

Press FM MODE when an FM stereo broadcast is received.

(continued)

💡 If an FM stereo program is distorted

The STEREO indicator flashes. Press FM MODE to change to monaural (MONO). You will not have the stereo effect but the distortion will be reduced. To return to stereo mode, press this button again.

💡 If you cannot tune in a station and the entered numbers are flashing

Make sure you've entered the right frequency. If not, press DIRECT and re-enter the frequency you want. If the entered numbers still flash, the frequency is not used in your area.

💡 To watch FM simulcast TV programs

Make sure that you tune in the simulcast program both on the TV (or the VCR) and on the receiver.

💡 If you enter a frequency not covered by the tuning interval

The entered value is automatically rounded up or down to the closest covered value.

Tuning intervals for direct tuning are:

FM: 50 kHz intervals

AM: 10 kHz intervals (to change to 9 kHz intervals, see page 18)

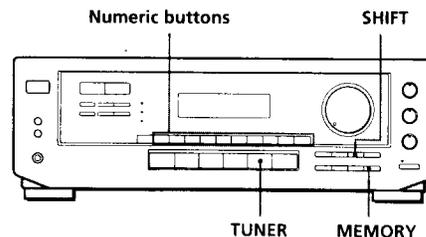
Receiving broadcasts by scanning stations (automatic tuning)

If you don't know the frequency of the radio station you want, you can have the receiver scan all the receivable stations to locate the one you want.

- 1 Press TUNER.
The last received station is tuned in.
- 2 Press FM/AM to select FM or AM.
- 3 Press TUNING + or -.
Press the + button for a higher station number; press the - button for a lower one. When you tune past either end of the band, the receiver automatically jumps to the opposite end. Every time a station is received, the receiver stops scanning. To continue scanning, press the button again.

Presetting Radio Stations

You'll most likely want to preset the receiver with the radio stations you listen to often so that you don't have to tune in the station every time. The receiver can store a total of 30 FM or AM stations. You can store the stations on preset numbers combining 3 characters (A, B, C) and numbers (0 - 9). For example, you can store a station as preset number A1, B6 or C9, etc.



- 1 Press TUNER.
The last received station is tuned in.
- 2 Tune in the station you want.
If you are not familiar with how to tune in a station, see "Receiving Broadcasts" on page 11.
- 3 Press MEMORY.
"MEMORY" appears for a few seconds.
Do steps 4 and 5 before "MEMORY" goes out.
- 4 Press SHIFT to select a character (A, B or C).
Each time you press SHIFT, the letter "A," "B" or "C" appears in the display.
If "MEMORY" disappears, start again from step 3.
- 5 While MEMORY is displayed, press the number you want to use (0 to 9).
- 6 Repeat Steps 2 to 5 to preset other stations.

To change a preset station

Preset a new station on the number you want to change.

Note

If the AC power cord is disconnected for about one week, the preset stations will be cleared from the receiver's memory, and you will have to preset the stations again.

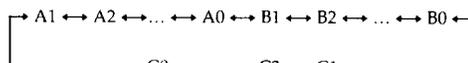
Tuning preset stations (preset tuning)

You can tune directly to a preset station by entering its preset number. If you don't know which stations are preset on which numbers, you can tune by scanning the preset stations.

- 1 Press TUNER.
The last received station is tuned in.
- 2 Press SHIFT to select a character (A, B or C), then press the number.
For example, select A and then press 7 to tune in the station preset as A7.

You can tune by scanning the preset stations

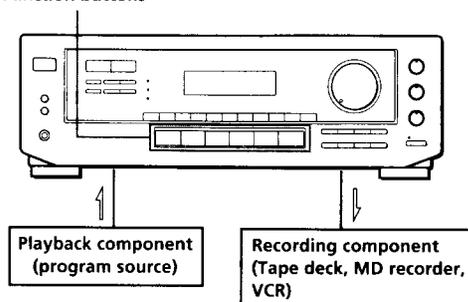
First press TUNER and then press PRESET TUNING + or - to select the station you want. Each time you press the buttons, the preset numbers change as follows:



Recording

This receiver makes it easy to record to and from the components connected to the receiver. You don't have to connect playback and recording components directly: once you select a program source on the receiver, you can record and edit as you normally would using the controls on each component. Before you begin, make sure you've connected all components properly.

Function buttons



⇒: Audio signal flow

Recording on an audio tape or MiniDisc

You can record on a cassette tape or MiniDisc using the receiver. See the instruction manual of your tape deck or MD recorder if you need help.

- 1 Press one of the function buttons to select the program source.
- 2 Set the component to be ready for playing.
For example, insert a CD into the CD player.
- 3 Insert a blank tape or disc into the recording deck and adjust the recording level, if necessary.
- 4 Start recording on the recording deck and then start playing the component.