

FM Stereo/FM-AM Receiver

STR-GX10ES
STR-GX9ES

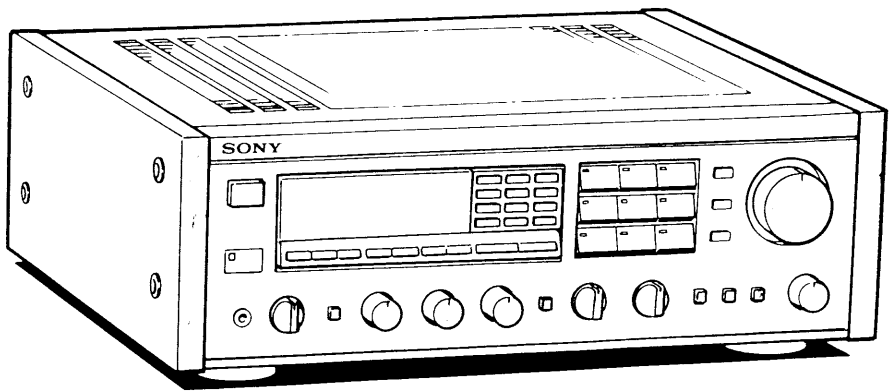
Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

Owner's Record


The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____




WARNING

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

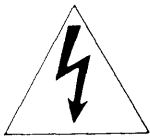


CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



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.

For the customers in Canada

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

Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-22 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.

Differences between the STR-GX10ES and STR-GX9ES

	STR-GX10ES	STR-GX9ES
Rated power output	150 + 150 watts	130 + 130 watts
Copper-plated rear panel	Yes	No

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Features

The STR-GX10ES or STR-GX9ES is combined receiver and audio/video controls in. The unit allows you to switch easily among a variety of audio/video programs.

Higher quality sound

- A head chassis, called “Gibraltar”, which provides high rigidity and periodic dampening characteristics, is employed to reduce distortion caused by vibration. This reduces the vibration from the floor and speakers and also from the power transformer and power transistors.
- These receivers have a spontaneous twin drive power circuit. Condensers having large capacity are used for the voltage amplification drive stage of class A and power output stage of class B. Thus, a stable output and high quality sound are obtained, resulting in exclusion of power interferences. The class A stage realizes a stable operation free from interference of the power stage even when an instantaneous or strong output is received.
- Supper legato linear system is employed to drive low impedance speakers and to assure powerful reproduction without low crossover distortion and switching distortion over a wide range.
- A source direct switch is employed to reproduce high fidelity sound. Any source can be reproduced without passing through the circuits of tone control, loudness switch and balance control.
- Copper-plated rear panel for reducing distortion in high frequencies (only for STR-GX10ES).

Tuner

- Precise tuning is obtained thanks to the quartz-locked digital synthesizer system.
- A total of 20 FM/AM stations can be preset.
- The newly developed MPX IC employs a WODSD (Wave Optimized Digital Stereo Decoder) circuit for optimum performance. The need to remove beat products with a filter is eliminated, resulting in outstanding channel separation and superb frequency characteristics.
- A high-speed PLL IC direct decoder ensures a high signal-to-noise ratio. In this type of decoder, the comparator frequency is identical to the channel spacing frequency.

TV/video programs

A variety of audio program sources can be added to a video tape during tape editing.

Programmable remote commander

Allows you to control most of Sony's audio and video equipment from a distance. It is also equipped with an infrared ray transmitter/receiver which allows it to “read” and “store” control information from other remote commanders. This includes the commander produced by manufacturers other than Sony.

Precautions

On safety

- Operate the unit only on 120 V AC, 60 Hz.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.

On operation

- Before making program source connections, be sure to turn the power switch off and unplug the unit.
- When the unit is not used, turn the power off, to conserve energy and to extend the useful life of your unit.

On cleaning the cabinet

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

For the customers in the United States

For detailed safety precautions, see the “IMPORTANT SAFEGUARDS” leaflet.

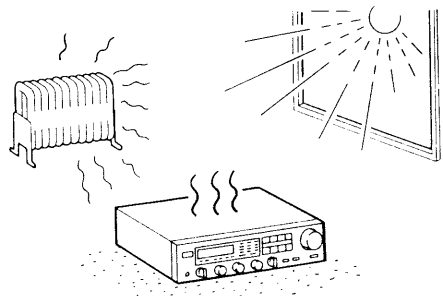
If you have any question or problem concerning your unit, please consult your nearest Sony dealer.

Installing

Notes on Installation

Place the unit in a location with adequate air circulation to prevent internal heat build-up in the unit.

Not this way



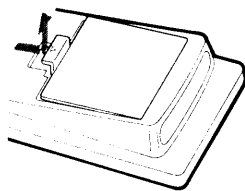
Do not install the unit:
— near heat sources such as radiators or air ducts.
— in a place subject to direct sunlight, excessive dust, mechanical vibration or, shock.

Do not place anything on top of the cabinet. The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.

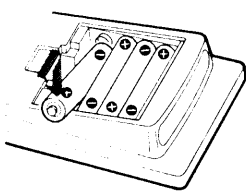
Installing Batteries

Before operating the remote commander install the batteries as shown.

1



2



four size AA (R6)
batteries

Do not throw away the carton and packing material!
It will be an ideal container when transporting the system for repair work, etc.

To avoid damage caused by battery leakage and corrosion
When the commander will not be used for a long time, remove the batteries.

On battery life
About half a year of normal operation can be expected when using Sony SUM-3(NS) batteries.
When the batteries are run down, the remote commander will not operate the unit. In this case, replace batteries with new ones.

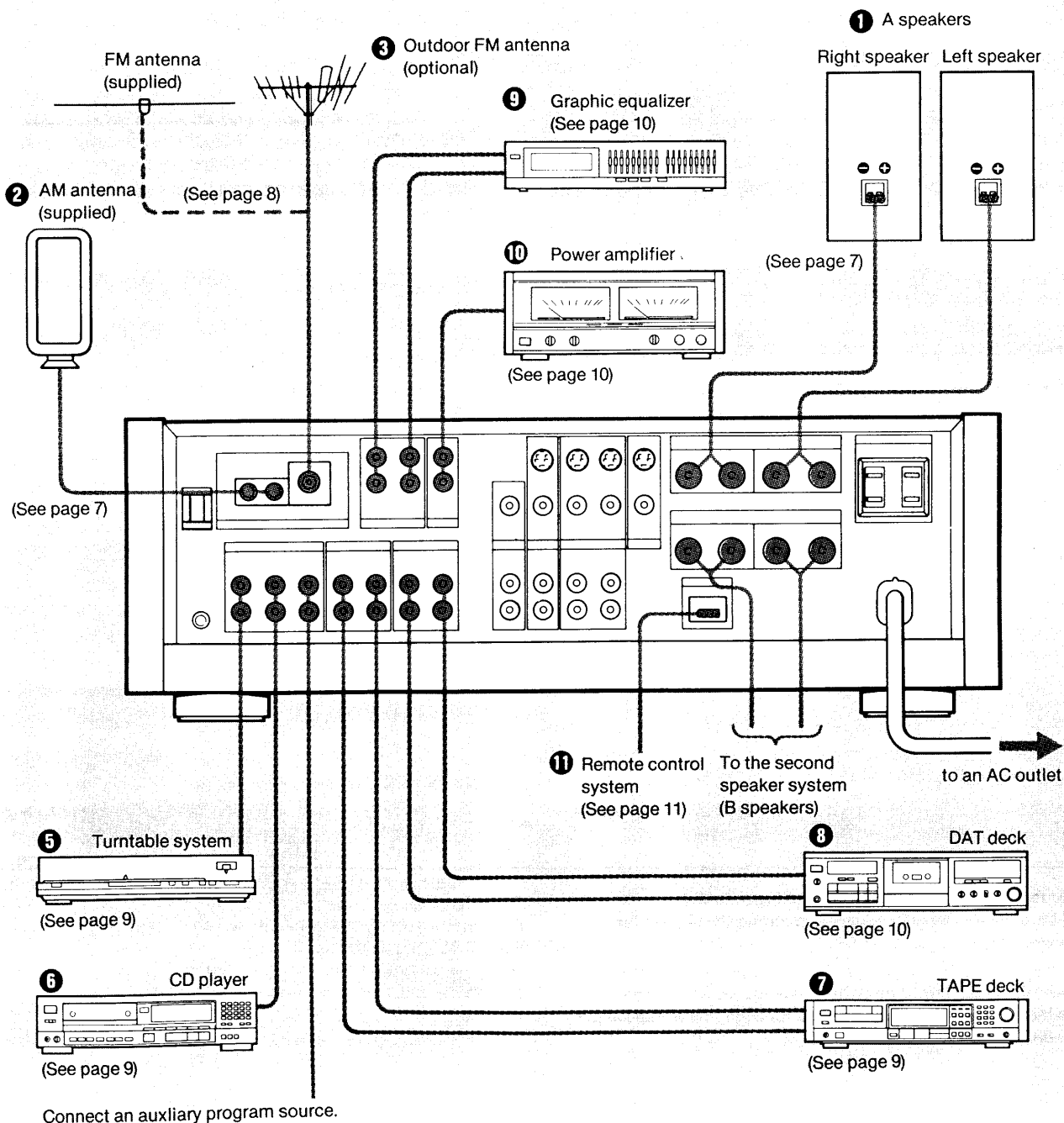
Connecting the System

Notes on Connection

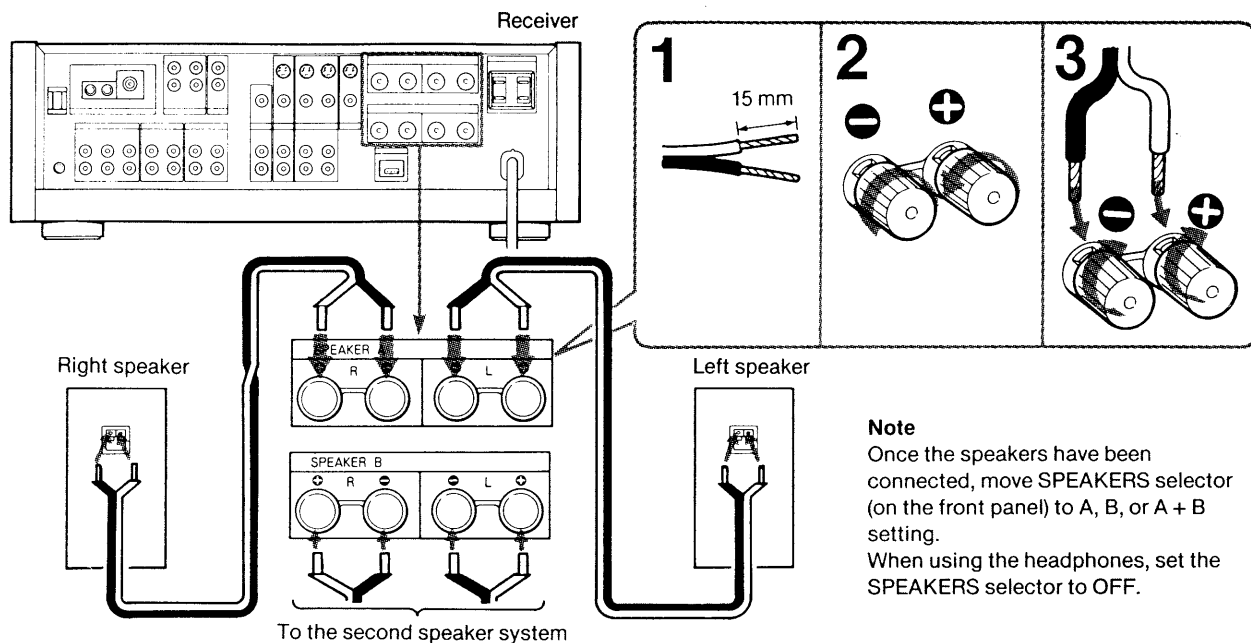
- The power cord should be connected last of all, after making sure that the POWER switch is turned off.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
- Cord plugs and jacks are color coded. The red plugs and jacks are to be connected to the right-channel(R) and white ones to the left-channel(L).

Audio Connection Diagram

The circled numbers correspond to the individual connecting diagram.



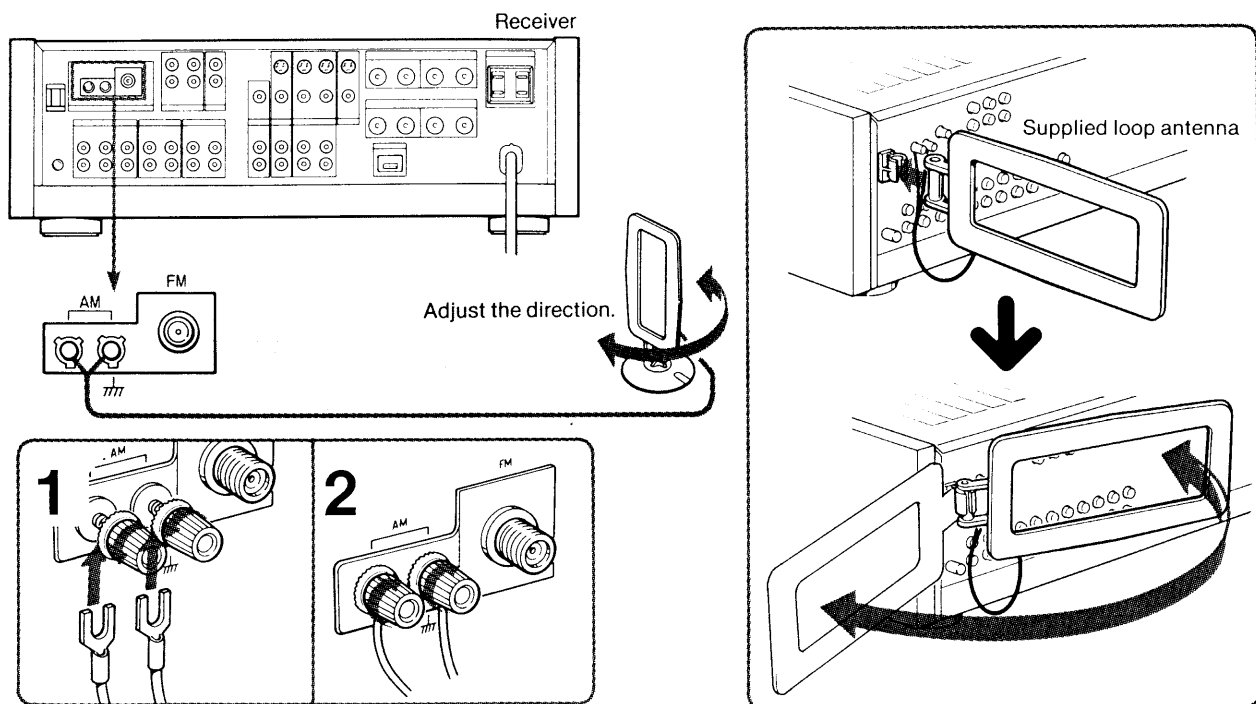
① Connecting the Speakers



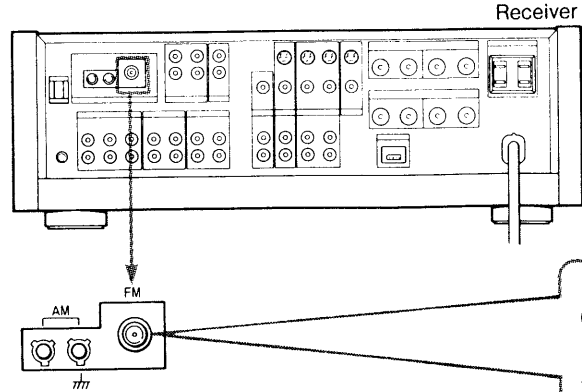
② Connecting the AM Antenna

For areas with difficult AM reception

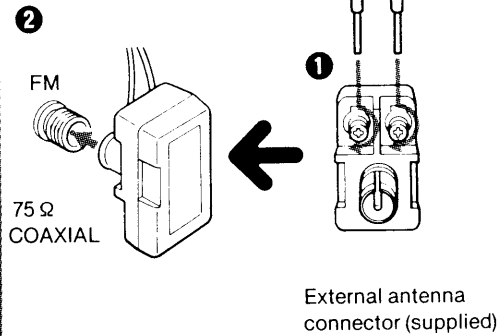
In areas with troubled reception, connect a 6- to 15-meter (20-to 50-foot) insulated wire to the AM antenna terminal. Extend this out of doors if possible, keeping the greater portion horizontal. (There is no need to disconnect the supplied antenna.)



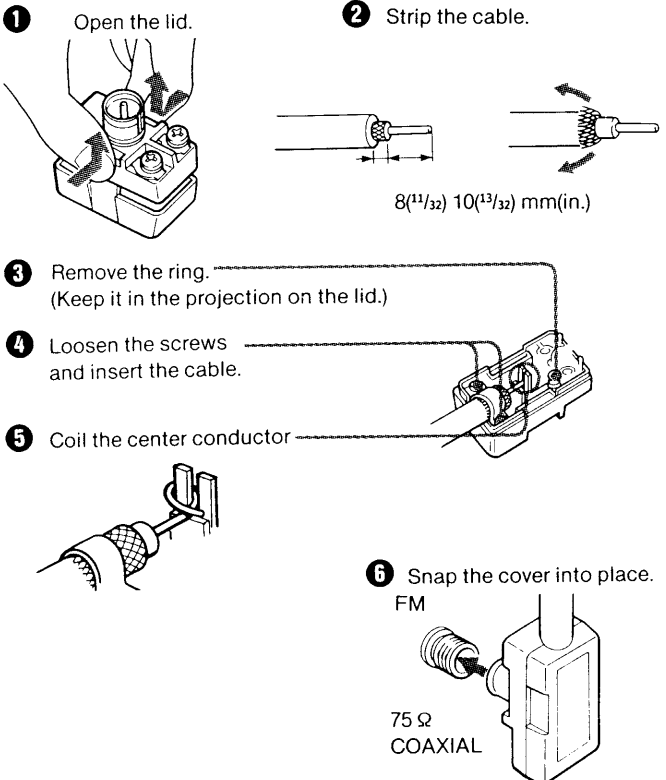
3 Connecting the FM Antenna



Ribbon antenna supplied (or 300-ohm twinlead) connection



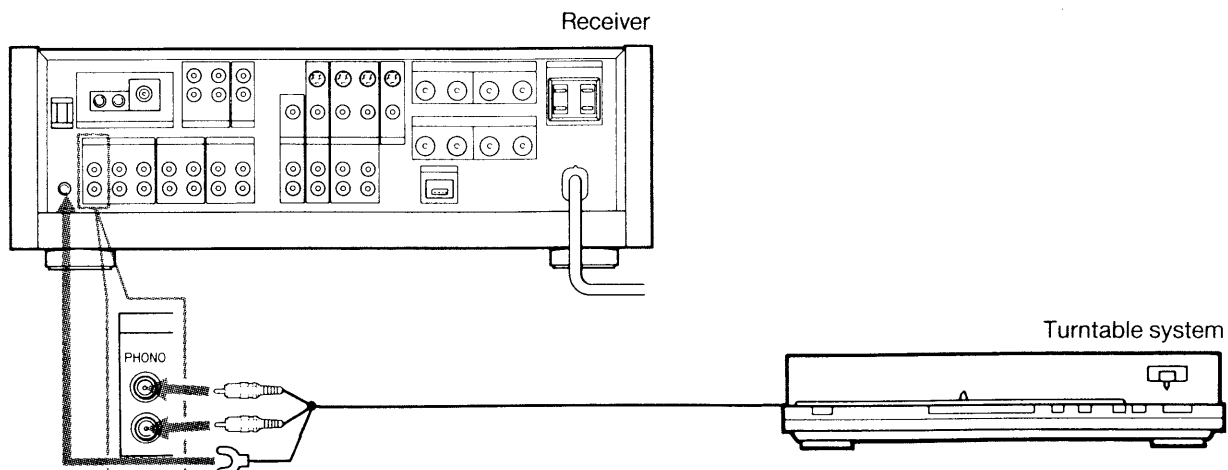
Outdoor FM antenna connection



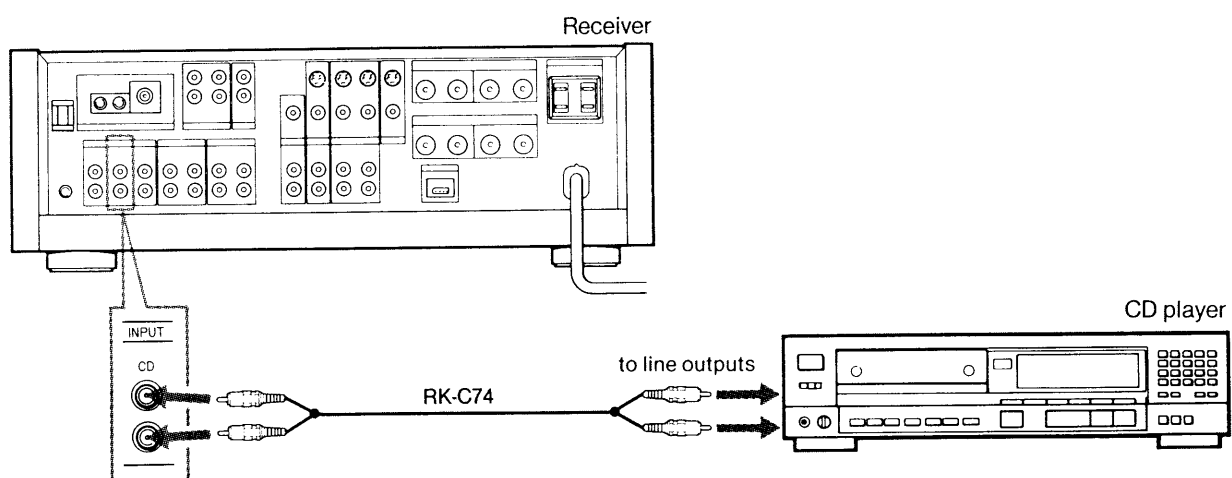
4 Connecting the Antenna Ground

To prevent hum, connect the ground wire to ANTENNA ground terminal (⏏).
When an outdoor antenna is installed, be sure to connect the ground wire for lightning protection.

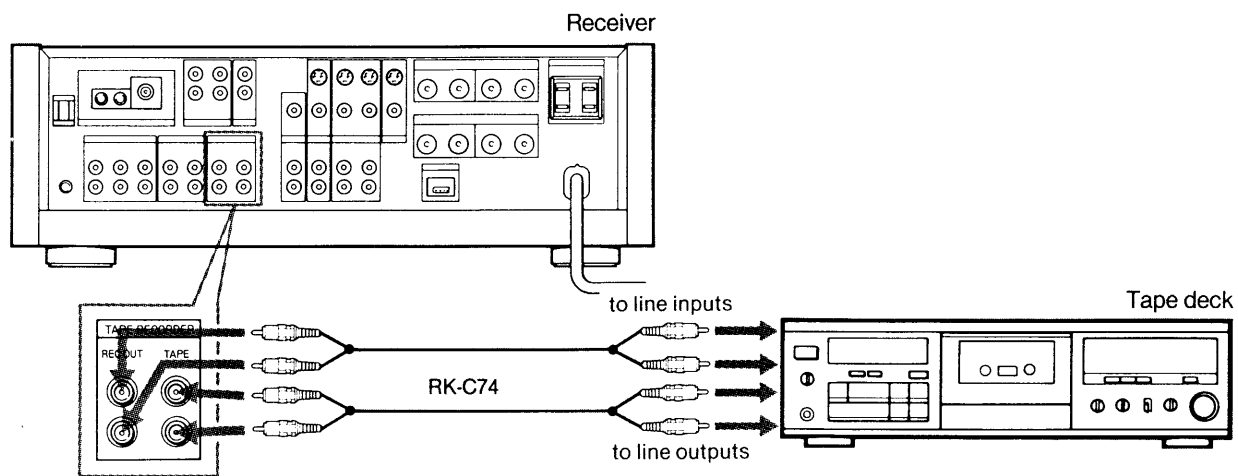
5 Connecting a Turntable System



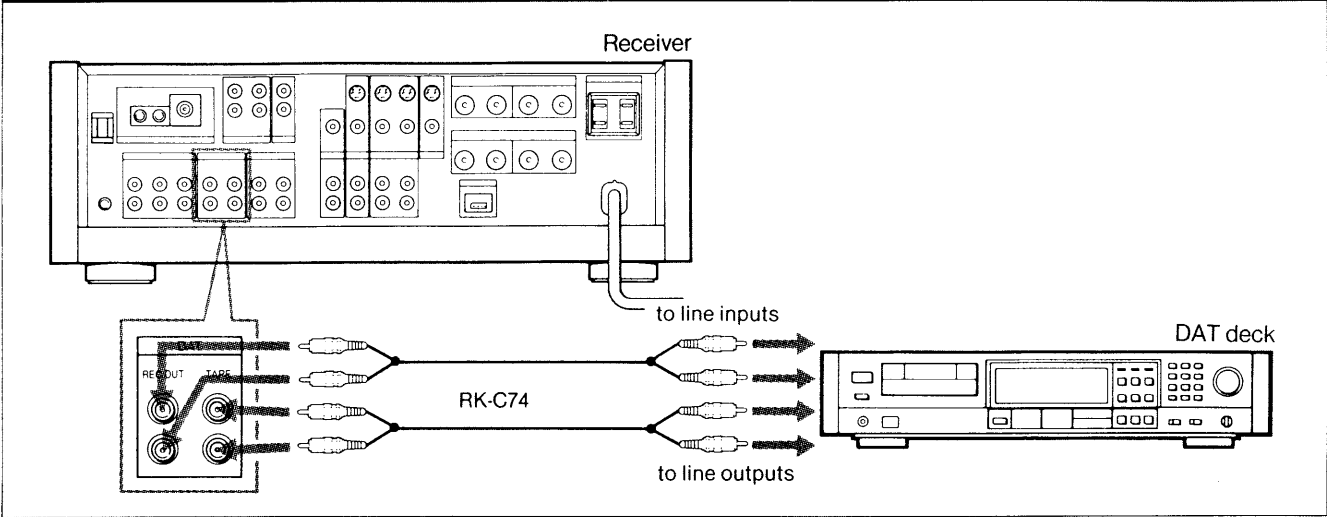
6 Connecting a CD Player



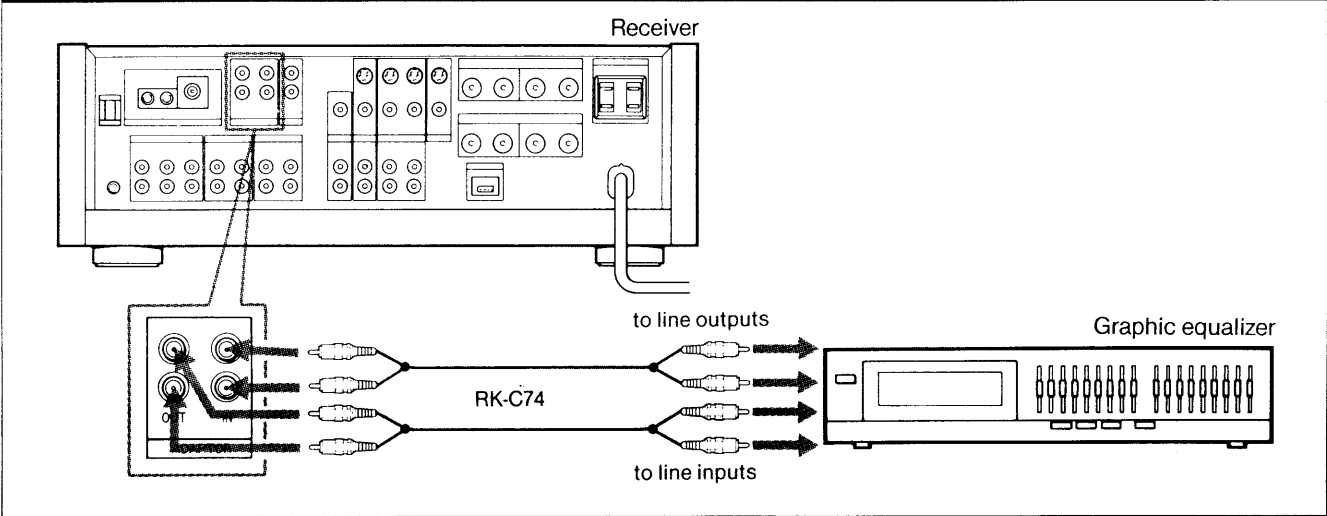
7 Connecting a Tape Deck



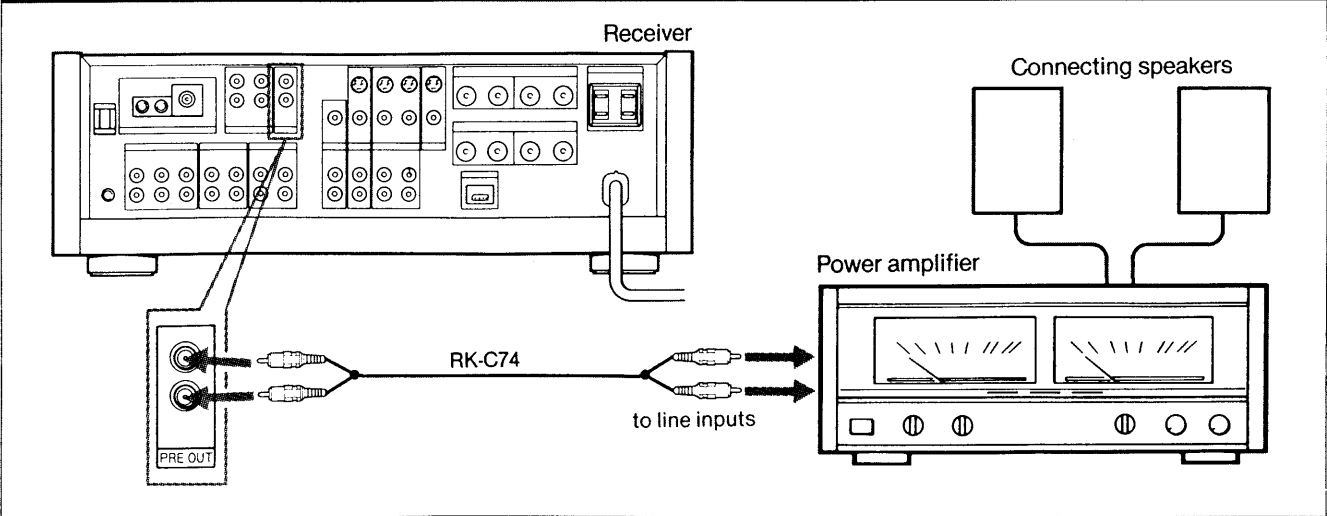
8 Connecting a DAT (Digital Audio Tape) Deck



9 Connecting a Graphic Equalizer

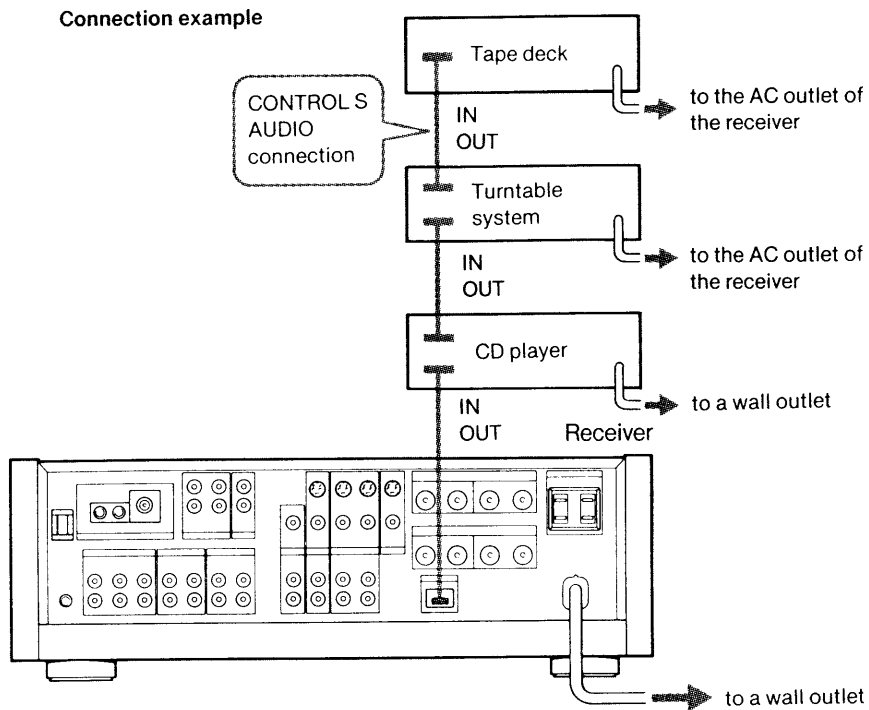


10 Connecting a Power Amplifier

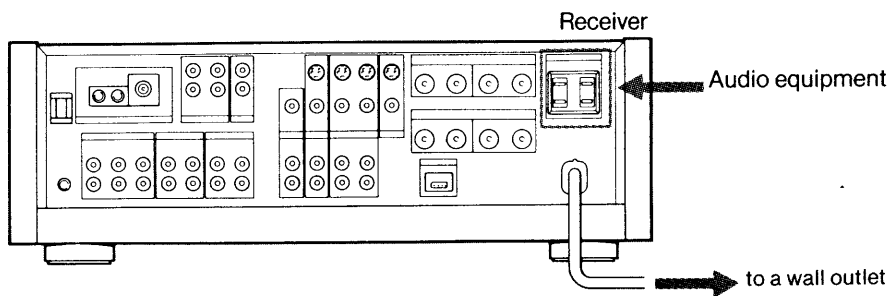


⑪ Connecting the Remote Control System

To control the equipment connected to the receiver with the remote commander, connect the CONTROL S OUT connector and the CONTROL S IN connector of each piece of equipment as illustrated.



⑫ Connecting the AC Power



Connect equipment whose power consumption is less than 100 watts.

SWITCHED: Connect equipment which you want to turn on and off using the receiver's POWER switch.

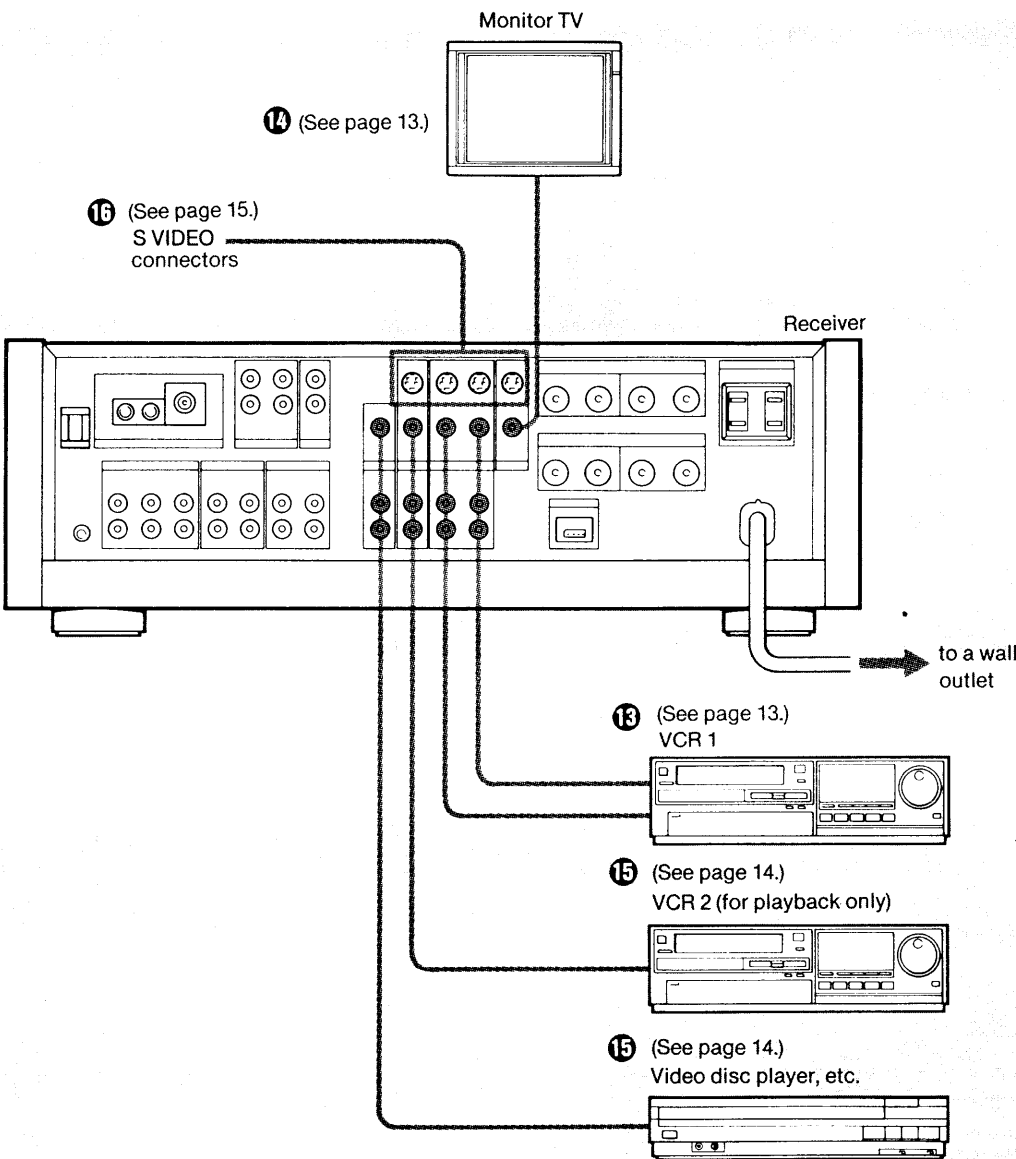
UNSWITCHED: Connect equipment which you want to be always powered regardless of the receiver's POWER switch setting.

Caution

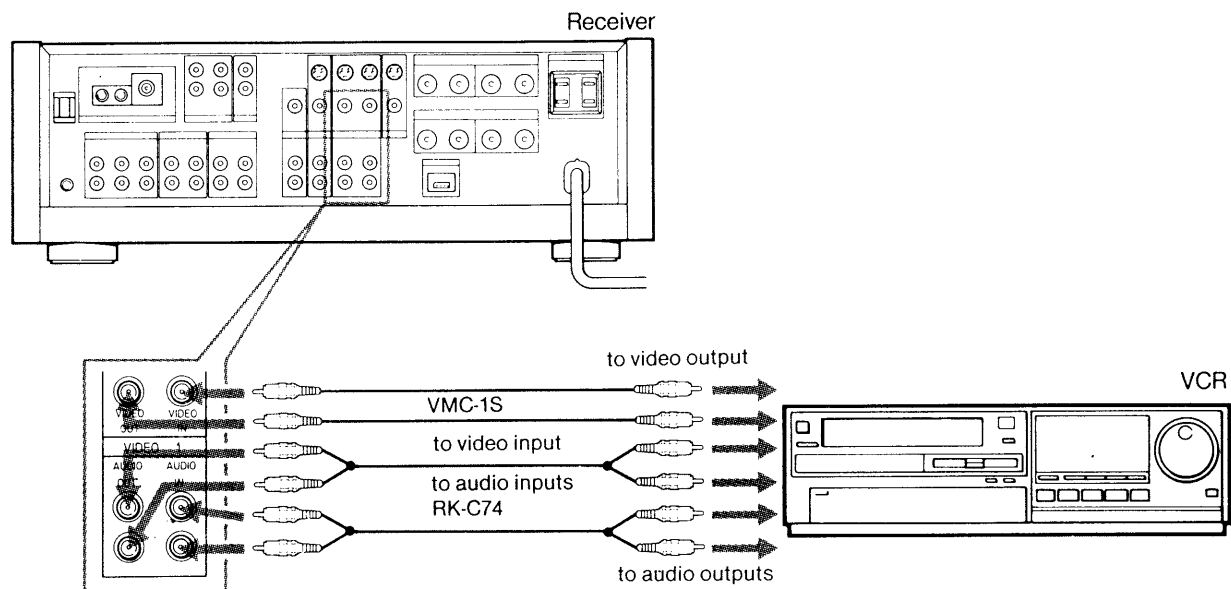
Do not connect electrical home appliances such as an electric iron, fan, TV, or other high-wattage equipment to these outlets.

VCR and TV Connection Diagram

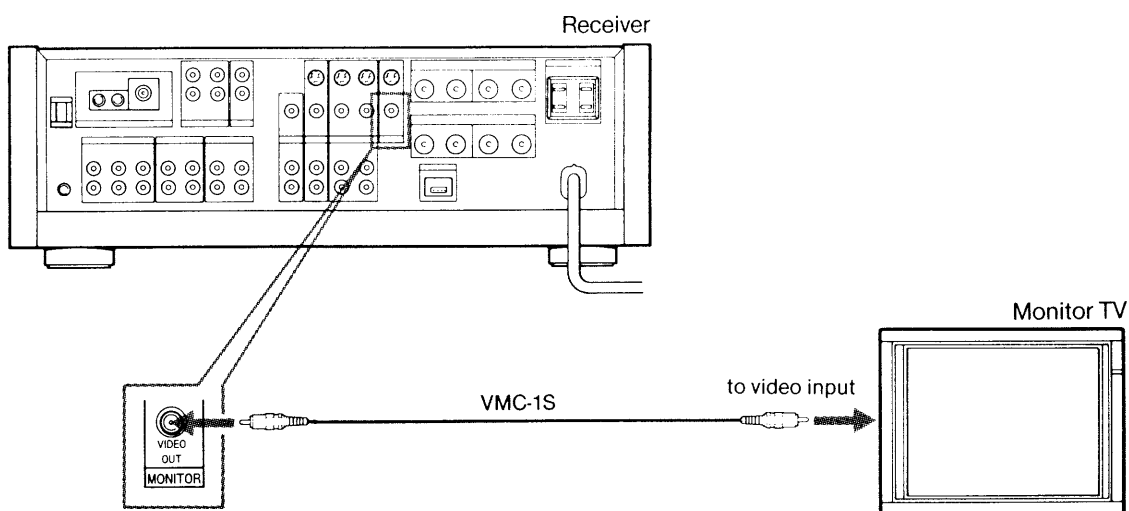
The circled numbers correspond to the individual connection diagram.



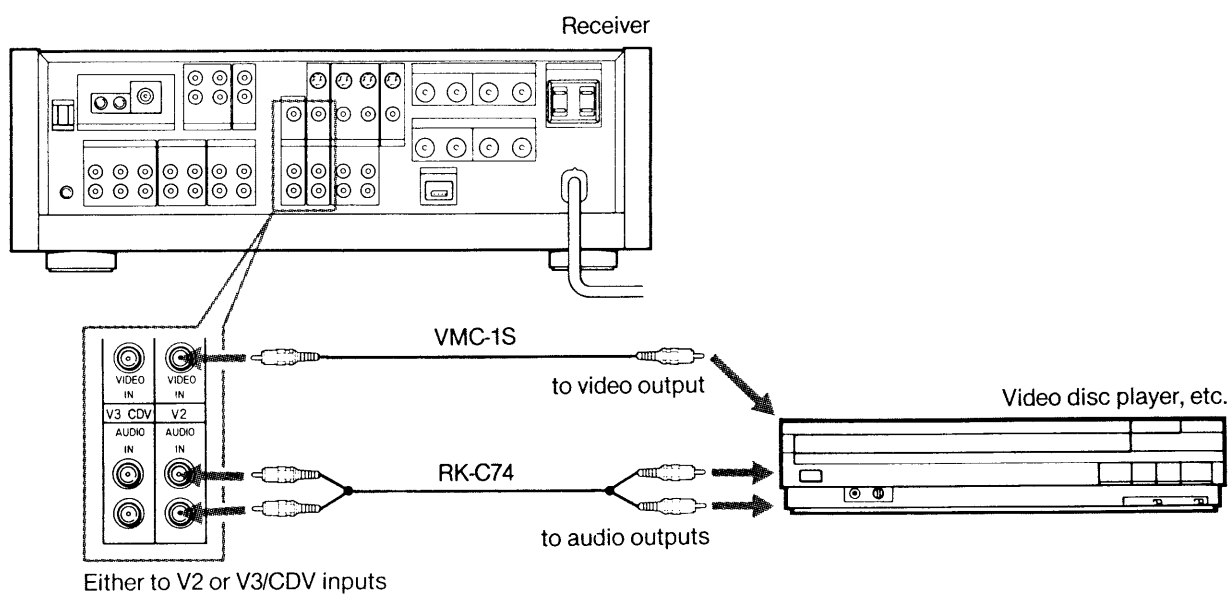
13 Connecting a VCR



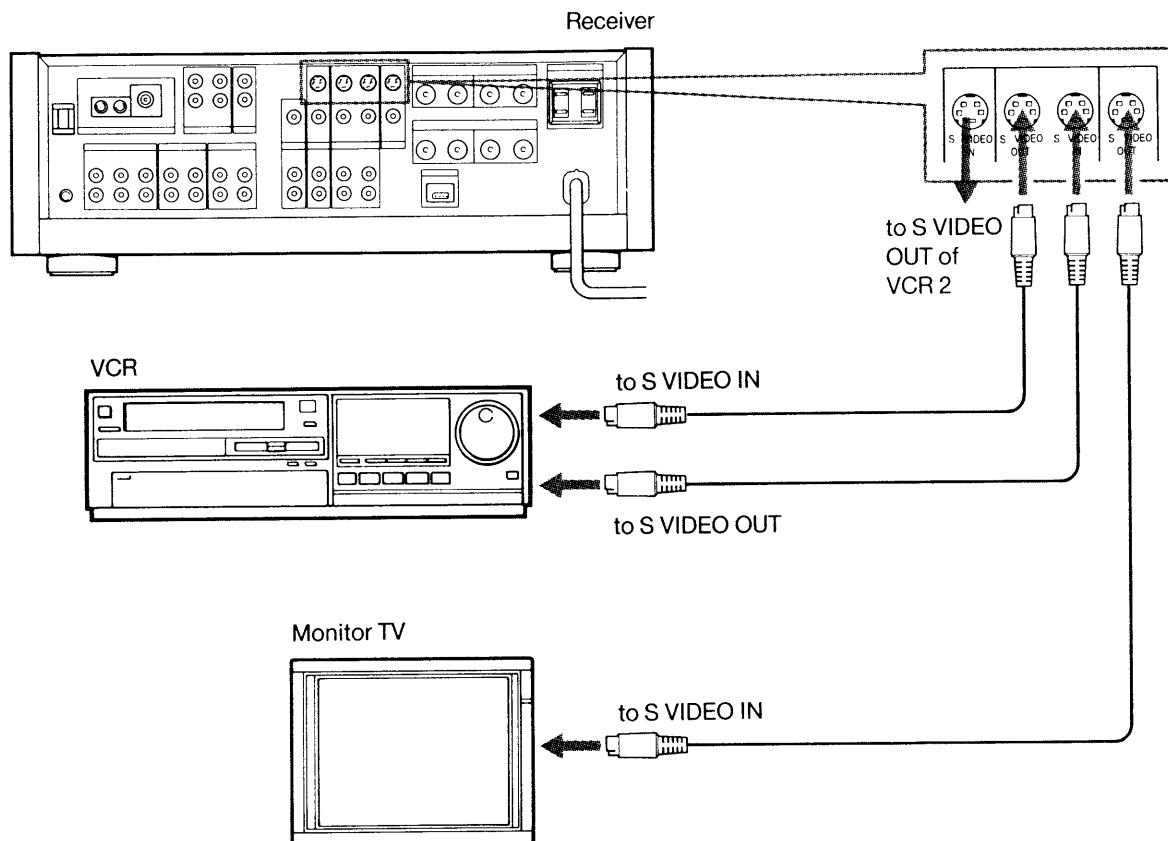
14 Connecting a Monitor TV



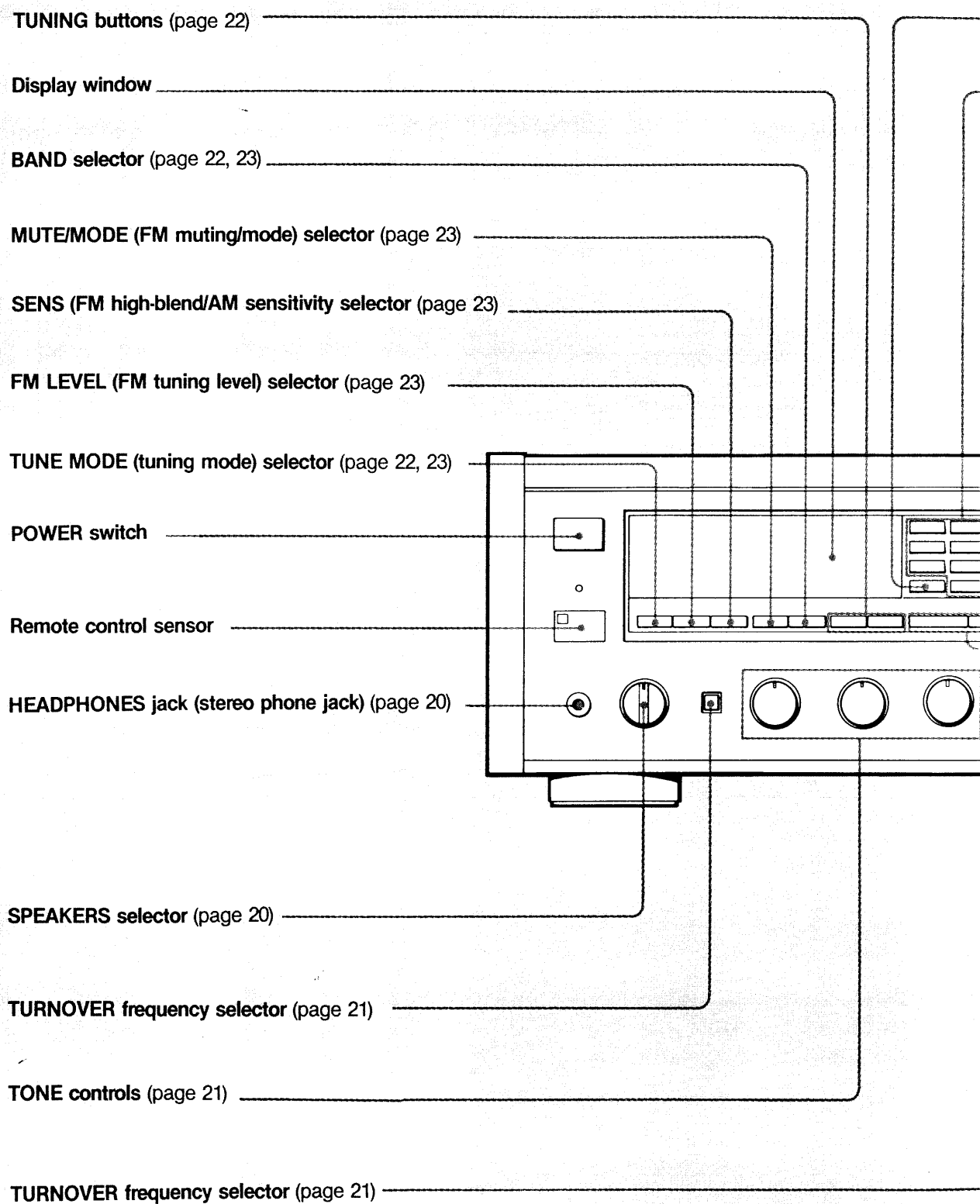
15 Connecting a Video Disc Player, TV Tuner, etc.

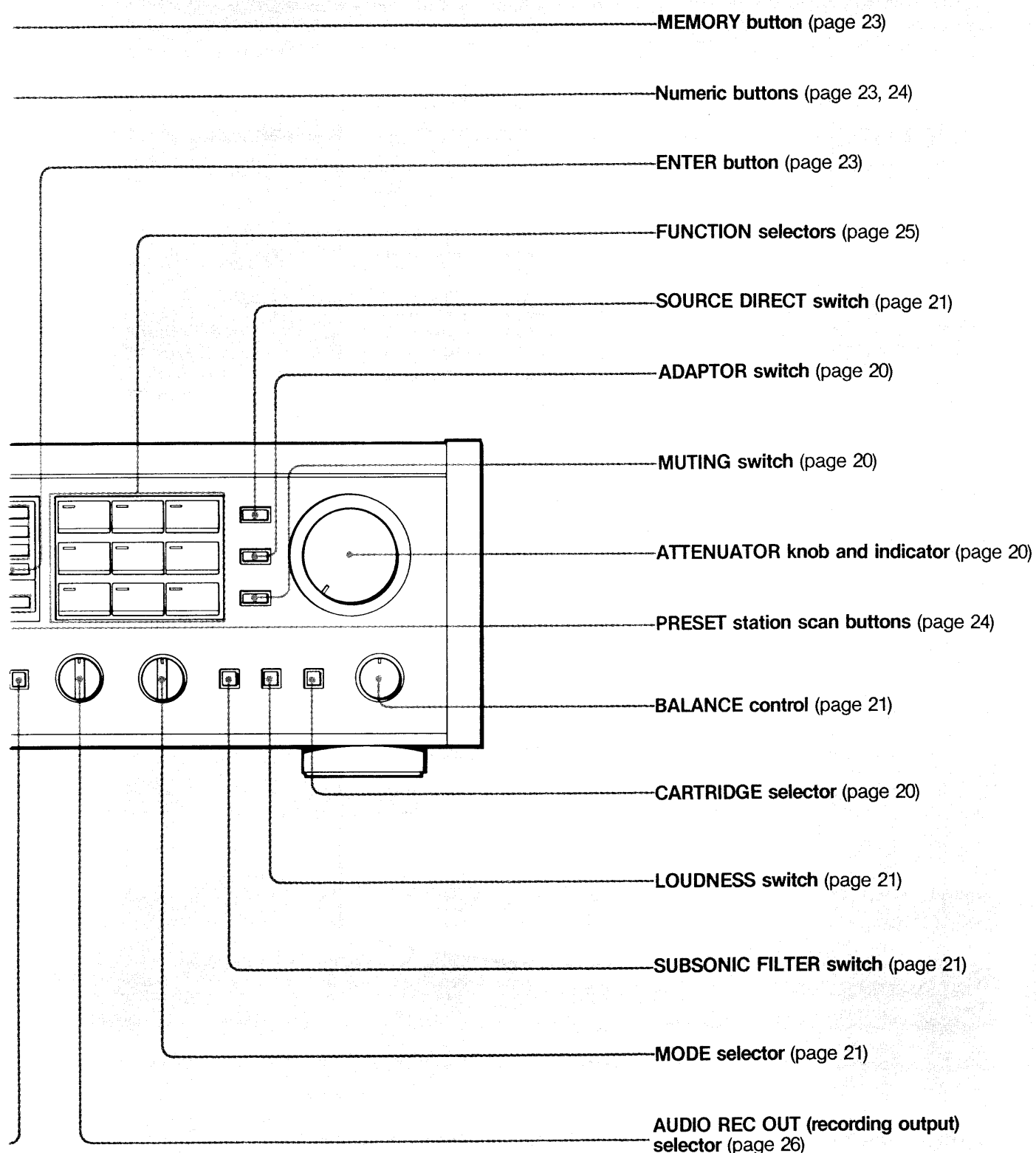


⑩ Connecting a VCR, Monitor TV, and Other Equipment with the Connectors for Component Video Signal of the Luminance and the Chrominance



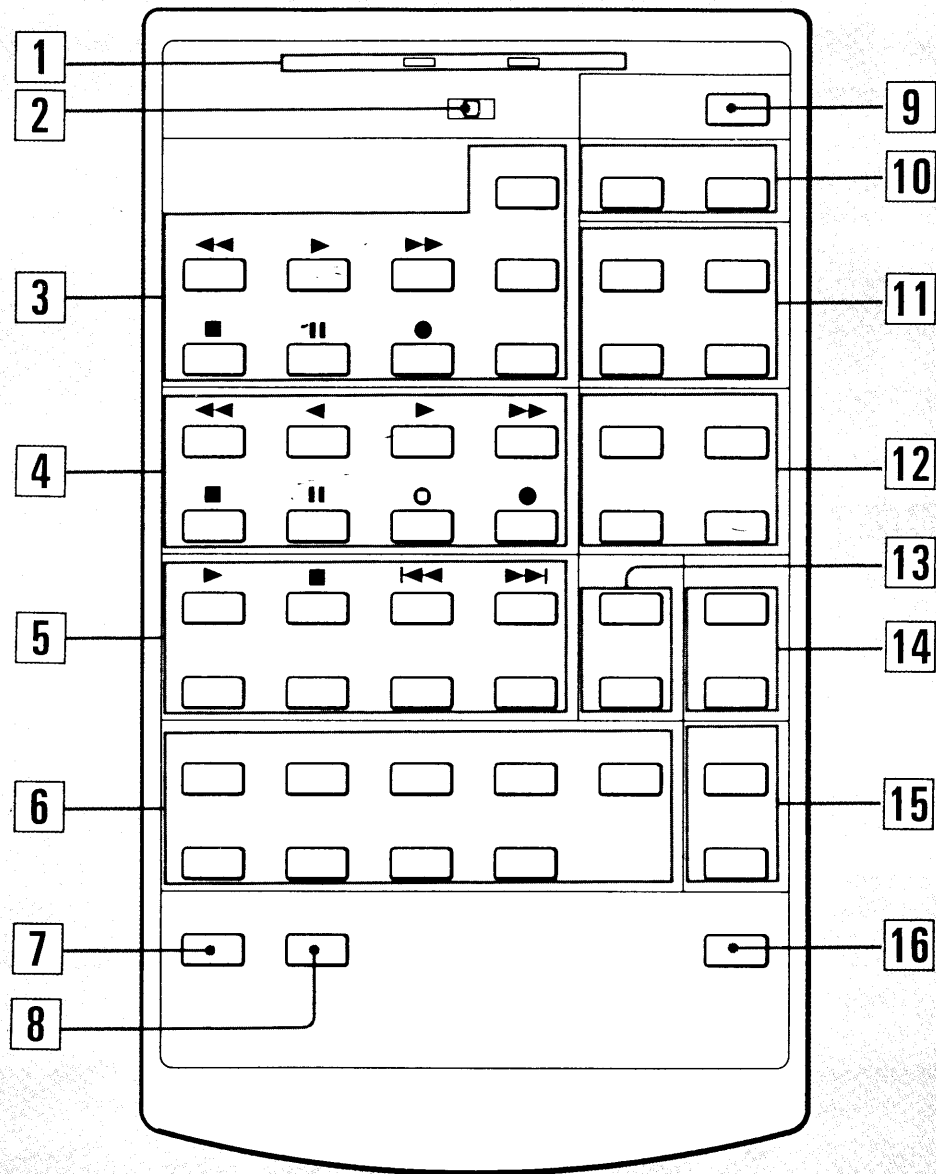
Use commercially available connecting cord appropriate for your equipment.





Programmable commander RM-P103

The supplied programmable commander RM-P103 can learn various functions of other remote commanders emitting infrared rays.
When the command mode selector is set to SONY STD (Sony standard), its buttons can be used to perform the functions below.



only buttons in the blue section of this remote are programmable (Top 2 sections).

CD buttons are non programmable and therefore operate only Sony CD players. If using another manufacturers cdp you can, however, memorize its functions in the programmable (Blue) sections of this remote.

The following functions are available with the command mode selector set to SONY STD.

1 LEARNED and READY indicators (See page 30)

2 Command mode selector (See page 30)

3 VTR buttons

TV/VTR: Selects the signal to be output from the VCR, either a TV signal or VCR programs.

◀◀: Rewind

▶: Play

▶▶: Fast forward

■: Stop

||: Pause

●: Recording (While pressing ●, press ▶)

VTR CH: Selects the VCR channel.

If your VCR has a command mode selector

When the command mode selector is set to VTR 1, you should set the command mode selector of the RM-P103 commander to SONY STD.

When the command mode selector is set to VTR 2, you should set the command mode selector to USER STD.

4 TAPE buttons

◀◀: Reverse fast winding

◀: Reverse play

▶: Forward play

▶▶: Forward fast winding

■: Stop

||: Pause

○: Record muting

●: Recording (while pressing ●, press ◀ or ▶)

5 CD buttons

▶: Starts play

■: Stops play

◀◀/▶▶: AMS (Automatic Music Sensor) buttons

PGM: Program play

SHUFFLE: Shuffle play

6 Function selectors

7 SOURCE DIRECT button

8 ADAPTOR button

9 POWER ON/OFF button

Turns the power of the receiver on or off.

10 VTR and TV POWER ON/OFF buttons

TV: Turns the power of the TV on or off.

VTR: Turns the power of the VCR on or off.

11 TV buttons

VOL: Adjusts the sound level of the TV.

CH: Selects the channel to be received by the TV.

12 Free buttons

13 PHONO buttons

START: Starts record playing.

STOP: Stops record playing.

14 TUNER PRESET CH buttons

+ : Selects a higher preset number.

- : Selects a lower preset number.

15 VOLUME control buttons

Adjusts the volume of the sound.

16 MUTING button

Notes

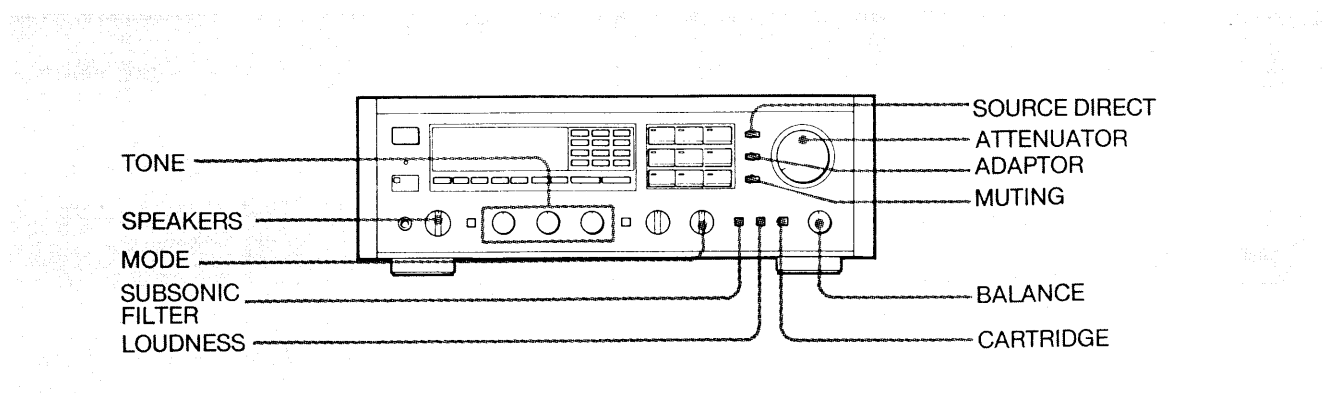
- SHUFFLE and PGM modes of some CD players cannot be cleared by this remote commander. In such cases, clear the modes using the CD player itself or with the remote commander supplied with the CD player.
- When the CONTROL S OUT connector is connected to the CONTROL S IN connector of each piece of equipment, you can control the connected equipment using this remote commander (See page 11).

Note on the ● (recording) button under 3 VTR buttons

If your VCR is of such type as pressing ● puts it in REC PAUSE mode, first press ● on this commander and then ||.

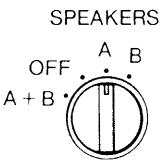
Adjusting Audio

For getting the optimum sound, you can adjust volume and sound quality using the functions below.

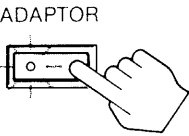


Preparing Equipment

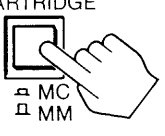
To select speaker system
Set the SPEAKERS selector to the desired position.
A + B: To drive both A and B speaker systems.
OFF: For headphone listening.
A: To drive only A speaker system.
B: To drive only B speaker system.



To listen to the sound adjusted by a graphic equalizer
Turn on ADAPTOR switch.
Be sure to turn it off when the graphic equalizer is disconnected.

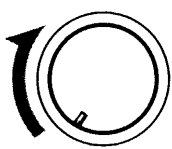


To play a record
Select the cartridge type.
MC: For moving-coil type cartridge
MM: For moving-magnet type cartridge

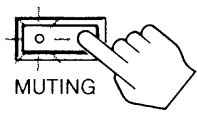


Adjusting Volume

To adjust volume



To reduce the sound to a low level temporarily (-20 dB ATT)
Press MUTING.
Press again to restore the same listening level as before.



Adjusting Balance

To change the relative strength of the right and left speaker output

Adjust BALANCE to correct stereo imaging, when the speaker position is not symmetrical.
To check the stereo balance, set the MODE selector to MONO.

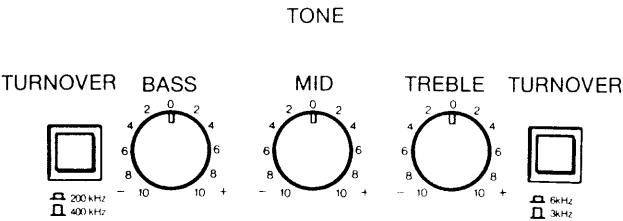


Adjusting Sound Quality

To adjust the tone quality

Use BASS, MID, TREBLE controls to adjust the tone to suit the characteristics of the listening room and the program source.

- 1 Turn off SOURCE DIRECT switch.
- 2 Select the frequency range controlled by BASS (below 200 Hz or 400 Hz) and TREBLE (below 3 kHz or 6 kHz) controls respectively.
- 3 Adjust BASS, MID, TREBLE controls.

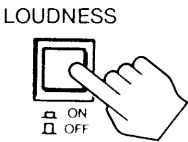


Note

Be sure to turn on the SOURCE DIRECT switch when the tone control is not required.

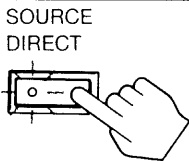
To reinforce the bass and high frequency response

Depress LOUDNESS.
The lower the speaker output level is, the more bass and high frequency sound is emphasized.



To bypass the tone control circuit

Press SOURCE DIRECT.
TONE controls, BALANCE control, SUBSONIC FILTER and MODE selector are bypassed.



To reduce subsonic noise components created by warped phonograph records, etc.
Depress SUBSONIC FILTER.



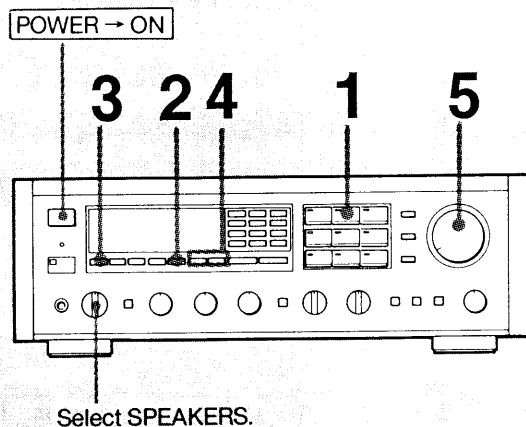
On the standby indicator on the ATTENUATOR knob

Immediately after turning on the power, the standby indicator flickers for approx. 8 seconds to show the built-in muting circuit is activated.

When the indicator flickers at other times, it shows a short circuit of the speaker outputs or of the inputs of DC components. In such a case, disconnect the power source and check the connected components and speaker systems.

Receiving FM/AM Broadcasts

Tuning in an FM/AM Station Manually—Manual Tuning



When you do not know the frequency of an FM/AM station, proceed as follows:

- 1 Press TUNER.**
- 2 Select FM or AM.**
- 3** When AUTO indicator appears, **press TUNE/MODE** (AUTO indicator disappears.)
- 4 Press “+” or “-” TUNING.**
“+”: Frequency ascends.
“-”: Frequency descends.
Each time “+” or “-” is pressed, the frequency will change by 0.1 MHz at FM, 10 kHz at AM. To change the frequency continuously, keep the button pressed.
- 5 Adjust the volume.**

Changing the AM tuning interval

The AM tuning interval is preset to 10 kHz. To use the receiver where the frequency allocation system is based on a 9 kHz interval, make the following adjustments.

- 1** Turn on the power and tune in any AM station.
- 2** Turn off the power.
- 3** Press POWER while pressing the “+” TUNING button.

To reset the AM tuning interval, repeat the above steps.

Caution

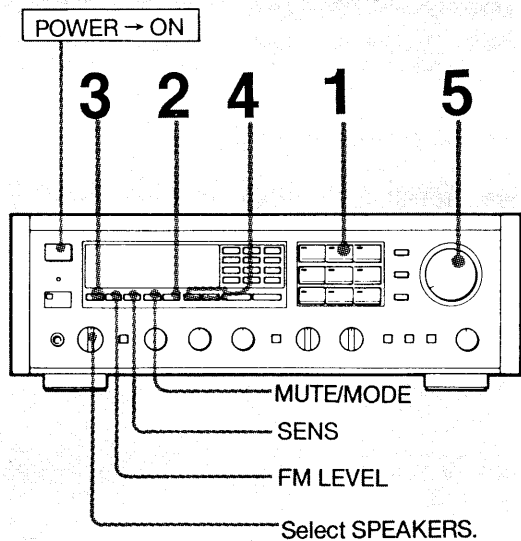
When the interval is changed, all preset stations which you have memorized will be erased. After changing the interval, be sure to preset the stations again.

When an FM stereo program is noisy or hard to receive

Press SENS. The SENSE indicator appears. The stereo effect will be reduced a little, but the stereo program reception will be improved.

Press MUTE/MODE when the reception is still noisy even though the SENS button has been pressed. The sound is heard in monaural but the reception will be improved. To return to the stereo mode, press MUTE/MODE again or tune in another station.

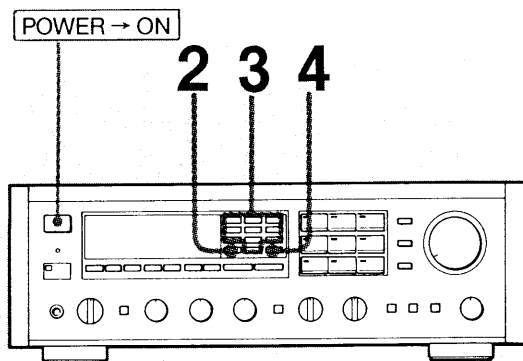
Tuning in a Station Automatically—Automatic Tuning



- 1** Press TUNER.
- 2** Select FM or AM.
- 3** Press TUNE MODE.
(AUTO indicator appears.)
- 4** Press “+” or “-” TUNING.
“+”: Starts frequency-ascending sweep.
“-”: Starts frequency-descending sweep.
When a station is received, Automatic Tuning automatically stops.
- 5** Adjust the volume.

Memorizing a Station

A total of 20 FM/AM stations can be memorized in any desired sequence.



- 1** Tune in the desired station. (See “Manual Tuning” or “Automatic Tuning”.)
- 2** Press MEMORY.
MEMORY indicator appears for a few seconds.
- 3** Press the desired numeric button (1 to 20), while the MEMORY indicator is displayed.
- 4** Press ENTER.

When sweeping does not stop at the desired station

The signal strength is weak.

To stop sweeping, press TUNE/MODE again. AUTO indicator disappears and automatic tuning stops.

Then tune in the station as described in “Manual Tuning”.

To receive only stations with sufficient signal strength

Press FM LEVEL to make the HIGH indicator appear.

To turn it off, press it again.

When an AM program is noisy

Press SENS.

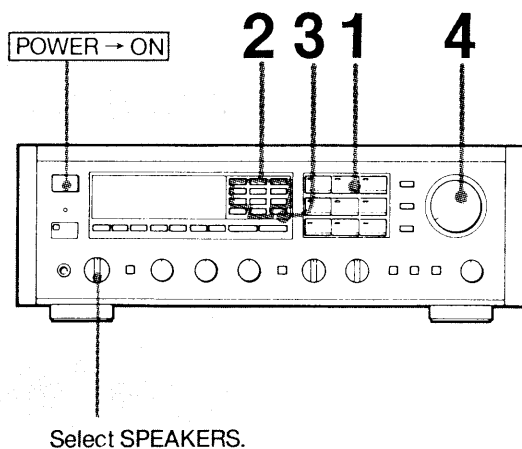
Replacing a preset station

Preset another station on the number of the station to be replaced. The previously preset station will be erased.

Receiving FM/AM Broadcasts

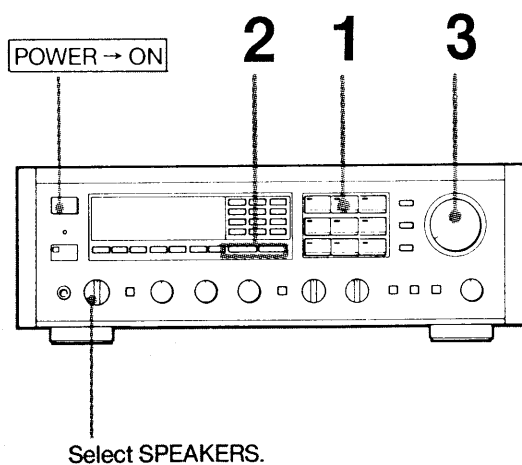
Tuning in a Preset Station

Method A



- 1 Press TUNER.
- 2 Press the preset numeric button.
- 3 Press ENTER.
- 4 Adjust the volume.

Method B

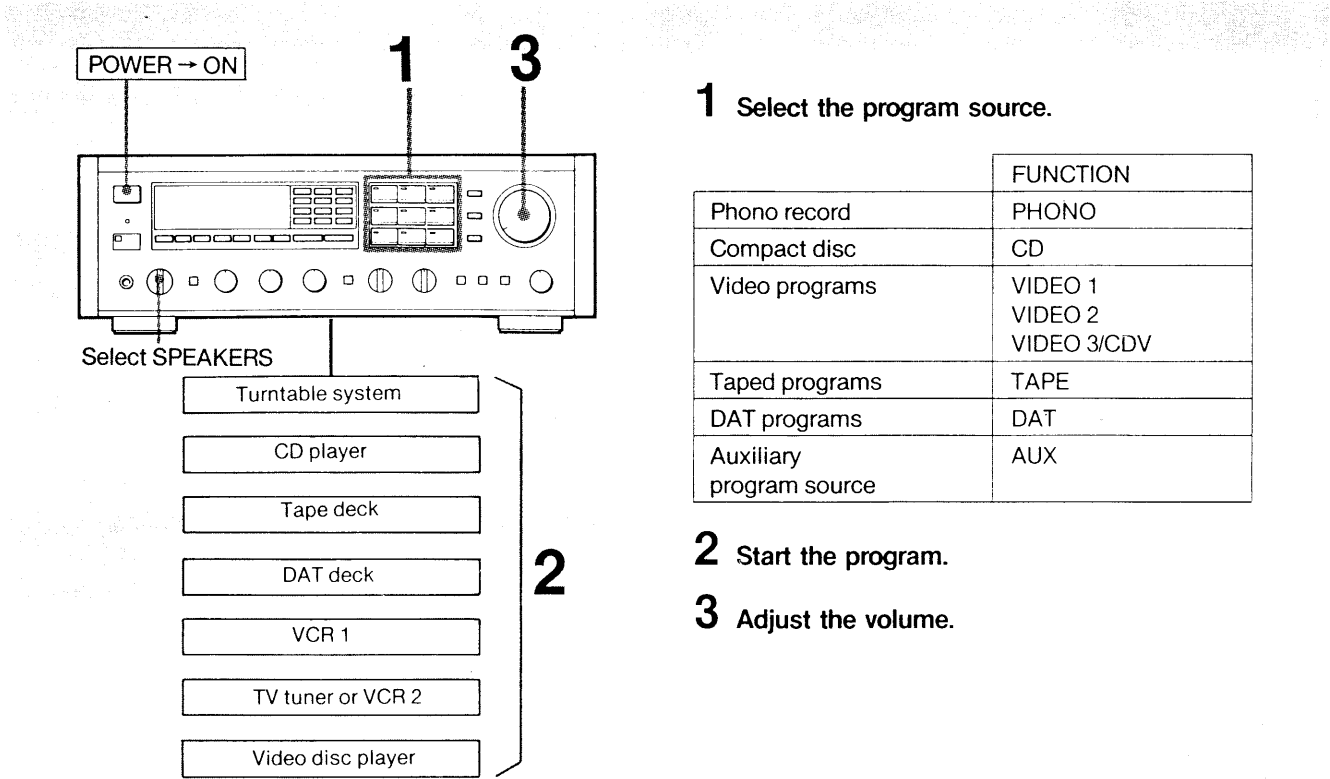


- 1 Press TUNER.
- 2 Press “+” or “-” PRESET.
Each time you press “+” (or “-”), the preset station of the next higher (or lower) number is tuned in.
- 3 Adjust the volume.

Note on Method B

If you keep pressing “+” (or “-”), preset stations are successively tuned in in the increasing (or decreasing) order of number. Release the button when the desired preset station is tuned in.

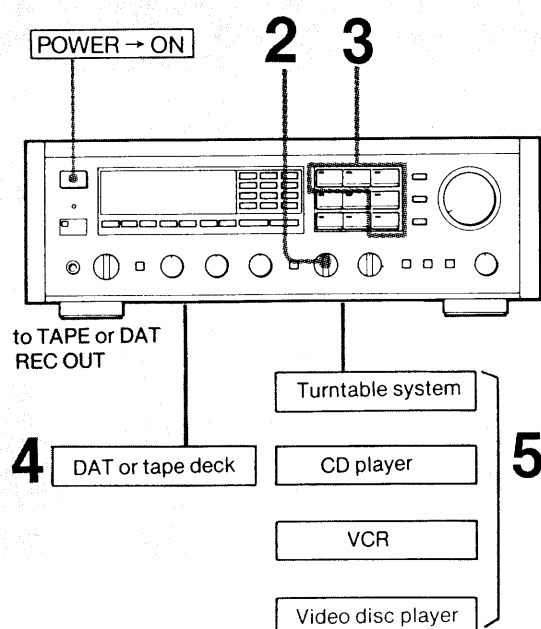
Listening to Program Sources Other than Broadcasts



Do not switch the AUDIO REC OUT selector while listening
Otherwise, the sound from the speakers will be interrupted momentarily when switching it.

Recording on an Audio Tape

Recording

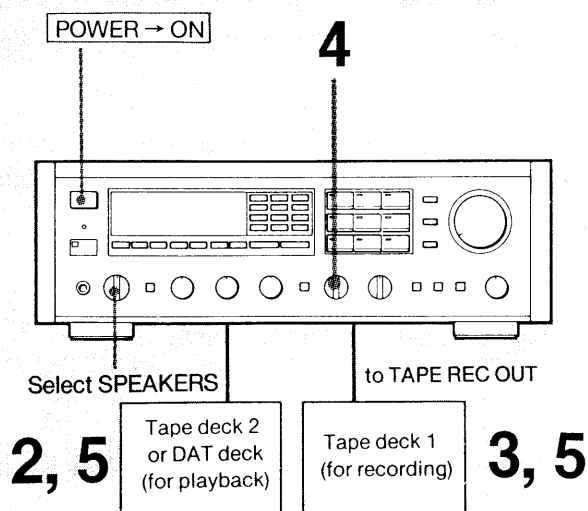


- 1 Turn on the receiver and the equipment to be used.
- 2 Select SOURCE with AUDIO REC OUT selector.
- 3 Select the desired program source with FUNCTION (CD, TUNER, PHONO, AUX, VIDEO 3/CDV) selectors.
For an FM/AM broadcast, tune in the desired station.
- 4 Set the DAT or tape deck in the recording mode.
- 5 Start the desired program source.

Note on recording

The setting of the volume, TONE, and BALANCE controls do not have any effect on recording.

Tape Dubbing



- 1** Turn on the receiver and the equipment to be used.
- 2** Insert the recorded tape into tape deck 2 (or a DAT deck).
- 3** Insert a blank tape into tape deck 1 and adjust the recording level.
- 4** Select DAT with AUDIO REC OUT selector.
- 5** Start the playback of tape deck 2 (or the DAT deck) and set tape deck 1 in the recording mode.

Dubbing will start.

You can listen to a program source during dubbing by pressing FUNCTION selector.

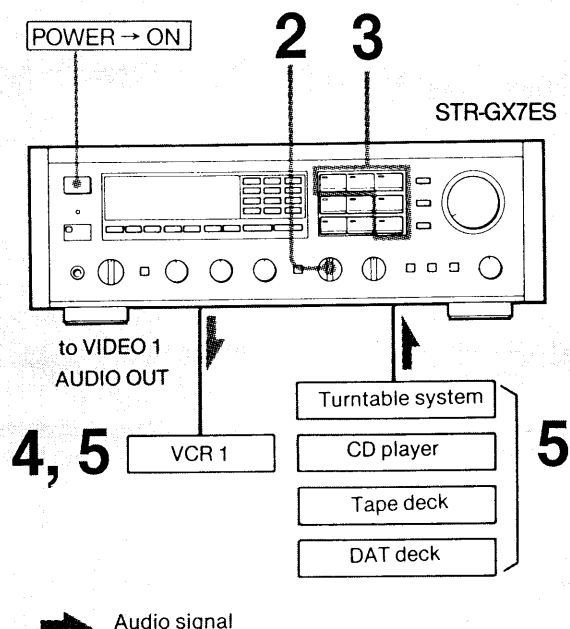
Note on dubbing

You can dub an audio tape from tape deck 1 to tape deck 2 (or the DAT deck), if you connect tape deck 1 to TAPE IN and tape deck 2 to DAT REC OUT (select TAPE at the step 4 above).

Recording on a VCR

Recording Audio Programs

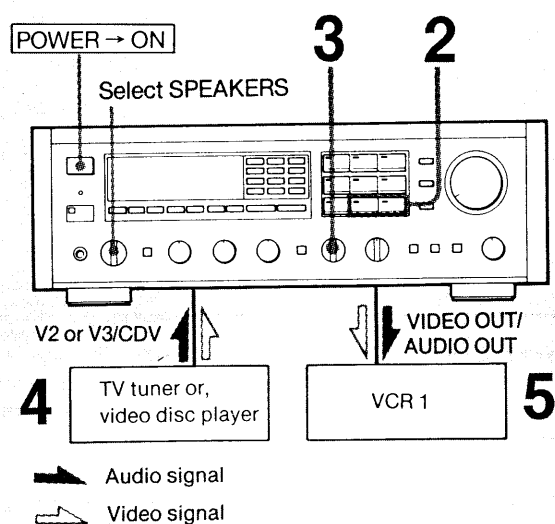
To record an audio program source on a video tape, proceed as follows:



- 1 Turn on the receiver and the equipment to be used.
- 2 Select SOURCE with AUDIO REC OUT selector.
- 3 Select the desired program source with FUNCTION (CD, TUNER, PHONO, AUX, VIDEO 3/CDV) selectors.
- 4 Insert a video tape into the VCR and adjust the recording level.
- 5 Start the program source and set the VCR in the recording mode.

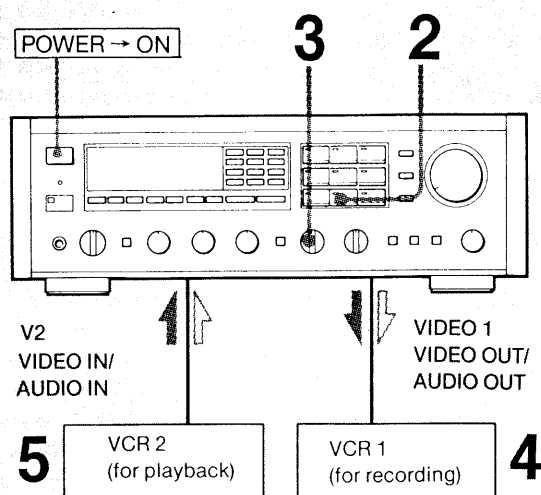
Recording Video Programs

To record the picture and the sound of a TV or video disc program, proceed as follows:



- 1 Turn on the receiver and the equipment to be used.
- 2 Press VIDEO 2 or VIDEO 3/CDV.
- 3 Select SOURCE with AUDIO REC OUT selector.
- 4 Play the program source.
- 5 Set the VCR 1 to the recording mode.

Video Tape Editing

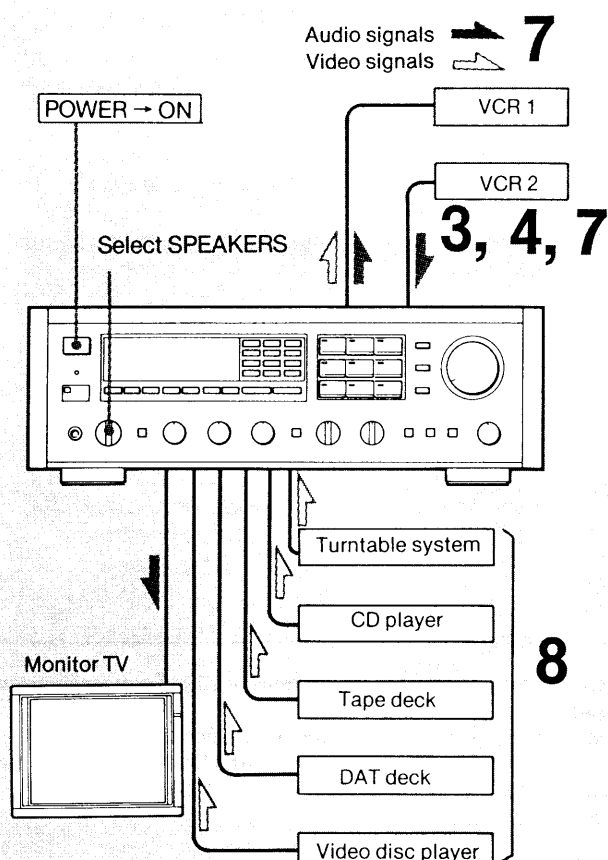


- 1 Turn on the receiver and the equipment to be used.
- 2 Press VIDEO 2.
- 3 Select V2 with AUDIO REC OUT selector.
- 4 Set VCR 1 in the recording mode.
- 5 Set VCR 2 in the playback mode.

You can listen to a program source during video tape editing by selecting FUNCTION selectors.

Adding new sound on a video tape during editing

During video tape editing, you can replace the sound previously recorded on a video tape with sound from another audio source, thus making your own personalized video tape.

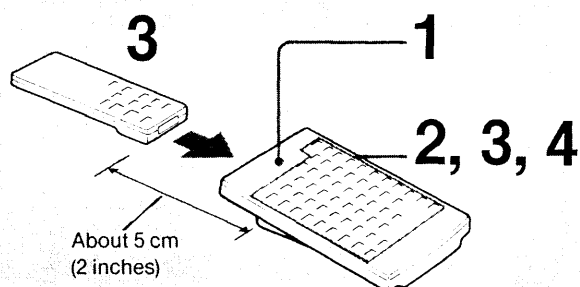


- 1 Turn on the receiver and the equipment to be used.
- 2 Press VIDEO 2.
- 3 Insert a recorded tape into the VCR 2 and set it in the playback mode.
- 4 At the point where audio dubbing is to start, press the PAUSE button on the VCR 2.
- 5 Select SOURCE with AUDIO REC OUT selector.
- 6 Select the desired program source with FUNCTION (CD, TUNER, PHONO, AUX, VIDEO 3/CDV) selectors.
- 7 Release the pause mode of the VCR2 and the VCR1 to the recording mode.
- 8 Start playing the selected program source.

Note

You cannot edit a video tape from VCR 1 to VCR 2.

How to Use the Learning Function



- 1** Set **LEARN/USER STD./SONY STD.** to **LEARN**.
The **READY** indicator lights up.
- 2** Turn this commander towards another commander and press a button to which a function is to be memorized.
If the selected button is inoperative, the **READY** indicator flickers.
- 3** While keeping the button pressed, press the desired function button on the other commander.
Begins learning function of the other commander.
- 4** When the **READY** indicator goes out and the **LEARNED** indicator lights up, **release the button**.

Repeat steps 2 to 4 if you want to memorize more functions. After completing the learning function, set the function selector to **SONY** or **USER STD.**

When learning is finished

- Set the mode selector to **USER STD.** to use learned functions.
- Set the mode selector to **SONY STD.** to use Sony standard functions.

The memorization will be remained

For two or three days without installing the batteries.

Caution

Be sure to check if the functions have been stored, because a few of the functions of other manufacturer's commanders are not storable on this commander.

If the remote commander cannot control other Sony audio/video equipments

Make it learn functions of the remote commander for each equipment following the above steps. After learning operation, be sure to use it with the mode selector set to **USER STD.** in this case, too.

If both **LEARNED** and **READY** indicators light up

The batteries are becoming exhausted. Replace all four batteries with new ones.

Making the commander learn the recording function

Be sure to press the ◀ or ▶ button while keeping the ● button pressed. The learning may not be performed if you press ● only.

To activate recording using the learned function, press ◀ or ▶ while keeping ● pressed.

When the mode selector is set to USER STD.

- Pressing a button on which no function has been learned will always activate the Sony standard function assigned to that button.
- No function will be activated if the pressed button has learned unrelated signals such as noise from fluorescent light.
- The TV/VTR buttons control VCR 2 such as Sony 8 mm VCR, and the TAPE buttons control "B" deck of a Sony double-deck unit.

Avoiding memorization of noise or useless signals

When using the learning function, be sure to handle both commanders away from a noise source and put the commanders themselves close to each other.

If the READY indicator doesn't light up at step 1 or 4

The learning function will not work well. This may occur when you handle the commanders close to a noise source such as a fluorescent light or an equipment emitting infrared rays.

Remove both commanders away from the noise source.

If the LEARNED indicator flickers at step 3

The RM-P103's memory has been occupied by noise or useless signals to it's all capacity.

If this situation occurs, you cannot use the learning function any more before once erasing all contents of the memory.

Erasing the contents of the memory

1. Set the mode selector to LEARN.
2. While keeping the ◀◀ of the VCR buttons pressed, press the MUTING button.

Troubleshooting Guide

Before proceeding through the checklist below, examine the connections and the procedures outlined the manual.

Should any problem persist after you have checked the following items, consult your nearest Sony dealer.

	Problem	Cause	Remedy
Amplifier	Sound is not heard.	The speaker or program source equipment is not connected correctly.	Connect the equipment correctly. (See pages 7-13.)
		The correct speakers is not selected with SPEAKERS selector.	Set the SPEAKERS selector correctly.
		The correct FUNCTION selectors is not pressed.	Press the correct FUNCTION selector.
		The volume is set to minimum.	Increase the volume.
		The ADAPTOR switch is turned on when the ADAPTOR jacks are not used.	Turn off the ADAPTOR switch.
		The equipment connected to the ADAPTOR jack is not turned ON.	Set the ADAPTOR switch to OFF or turn on the connected equipment.
	One channel does not transmit audio, or the volume from the left and right speakers is unbalanced.	The BALANCE control is not set appropriately.	Adjust the BALANCE control.
		The speaker or program source is not connected correctly.	Connect the equipment correctly. (See pages 7-14.)
	There is an abrupt loss of sound from one or both of the speakers, and the standby indicator on the ATTENUATOR knob flickers.	A short-circuit problem activates the protective circuit.	Turn off the receiver, eliminate the short-circuit problem and turn on the power again. If there is no short-circuit, consult your nearest Sony dealer.
	Sound transmitted from the speakers is reversed.	The speakers are not connected correctly.	Connect the right speaker to the R SPEAKER terminals and the left speaker to the L SPEAKER terminals.
	There is lack of bass sound or the instrument position is obscure.	The speakers are not connected correctly.	Connect the speaker with the correct ⊕ ⊖ polarities. (See page 7.)
	Severe hum or noise is heard.	The connecting cords are not of shielded type.	Use shielded type cords.
		A transformer, motor, TV or fluorescent light affects the connecting cord.	Place the connecting cords in a location away from a transformer or motor, and at least 3 meters (10 feet) from a TV set or a fluorescent light.
		The audio components are too close to a TV set.	If both are used at the same time, separate the TV from the audio components.
		The receiver is not grounded.	Connect the ground wire to the antenna ground terminal.
		The connections are loose.	Make secure connections.
		The plugs and jacks are dirty.	Wipe the plugs and jacks with a cloth lightly dampened with alcohol.

Broadcast program Video	STEREO indicator flickers or does not appear when receiving stereo programs.	A very weak FM station or a noisy FM program is received.	Adjust the antenna or connect an external FM antenna. Press the MUTE/MODE button to disengage the stereo mode.
	The desired station cannot be found during Automatic Tuning.	The signal strength is too weak for Automatic Tuning.	Adjust the antenna. Tune in the station with the manual tuning system. (See page 22.)
	Preset stations cannot be tuned in.	The stations have not been memorized.	Memorize the stations. (See page 23.)
	AM station cannot be tuned in.	The AM tuning interval is set incorrectly.	Change the tuning interval according to the AM frequency allocation system of your country. (See page 22.)
	Picture does not appear.	VCR, TV tuner or TV connection is not correct.	Connect the equipment correctly. (See page 12-15.)
		The TV is not turned on.	Turn the TV on.
Remote Commander	The remote commander does not operate.	The batteries are exhausted.	Replace the batteries with new one.
		There is any object between the unit and the commander head.	Remove the object.

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm load, both channels driven, from 20 – 20,000 Hz, rated 150 watts (STR-GX10ES) or 130 watts (STR-GX9ES) per channel minimum RMS power, with no more than 0.007% total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

Dynamic power output
STR-GX10ES
230 watts + 230 watts (8 ohms)
360 watts + 360 watts (4 ohms)
STR-GX9ES
200 watts + 200 watts (8 ohms)
310 watts + 310 watts (4 ohms)
Harmonic distortion
Less than 0.007% at rated output
Frequency response
PHONO: RIAA equalization curve ±0.3 dB
CD,DAT
TAPE
VIDEO 1,2,V3/CDV
(AUDIO)
ADAPTOR
2 Hz – 200 kHz +0 -3 dB
20 Hz – 20 kHz +0 -0.2 dB
Residual noise
Less than 115µV (8 ohms, network A)
Damping factor
60 (8 ohms, 1 kHz)
Dynamic headroom
1.85 dB

Inputs

		Sensitivity	Impedance	S/N(weighting network, input level)
PHONO	MM	2.5 mV	50 kilohms	90 dB 80 dB * (A, 5 mV)
	MC	160 µV	100 ohms	73 dB 74 dB * (A, 0.5 mV)
CD, AUX VIDEO 1,2 V3/CDV TAPE, DAT ADAPTOR IN		150 mV	50 kilohms	105 dB 84 dB * (A, 150 mV)

* '78 IHF

Outputs
VIDEO (1) AUDIO OUT
REC OUT
Voltage 150 mV
Impedance 1 kilohms
HEADPHONES
30 mW (at 8Ω)
Accepts low and high impedance headphones.
Tone controls
BASS
±7,5 dB at 100 Hz (turnover 200 Hz)
±10 dB at 100 Hz (turnover 400 Hz)
TREBLE
±6 dB at 10 kHz (turnover 6 kHz)
±10 dB at 10 kHz (turnover 3 kHz)
MID
±12 dB at 1 kHz
Muting
-20 dB
Subsonic
15 Hz 6 dB/oct
Loudness
+10 dB at 50 Hz
+3 dB at 10 kHz
(ATTENUATOR at -30 dB position)

Video section

Inputs
VIDEO 1, 2, 3: 1 Vp-p, 75 ohms
Outputs
VIDEO 1, MONITOR: 1 Vp-p, 75 ohms

FM tuner section AM tuner section

	FM tuner section	AM tuner section
Tuning range	87.5 – 108.0 MHz	530 – 1,610 kHz (with the AM tuning interval set at 10 kHz) 522 – 1,611 kHz (with the AM tuning interval set at 9 kHz)
Antenna terminals	300 ohms, balanced 75 ohms, unbalanced	External antenna terminal, loop antenna
Intermediate frequency	10.7 MHz	450 kHz
Sensitivity at 50 dB quieting	16.8 dBf, 1.8µV (mono) 37.9 dBf, 22.5µV (stereo)	—
Usable sensitivity	10.3 dBf, 0.9µV (IHF)	Loop antenna: 50 dB µV/m (at 1,000 kHz) External antenna: 100 µV (at 1,000 kHz)
Signal-to- noise ratio	91 dB (mono) 87 dB (stereo)	50 dB (at 50 mV/m)
Harmonic distortion	0.06% (mono), 0.08% (stereo) at 1 kHz	0.3% (at 50 mV/m, 400 Hz)
Selectivity	90 dB at 400 kHz	40 dB at 10 kHz 35 dB at 9 kHz
Separation	60 dB at 1 kHz	
Frequency response	15 Hz – 15 kHz ^{+0.2} _{-0.5} dB	
IM distortion	0.06% (mono) 0.08% (stereo)	
Capture ratio	1.2 dB	
AM suppression ratio	65 dB	
Image response ratio	80 dB	
IF response ratio	90 dB	
Spurious response ratio	100 dB	
RF Intermodulation	80 dB (800 kHz)	

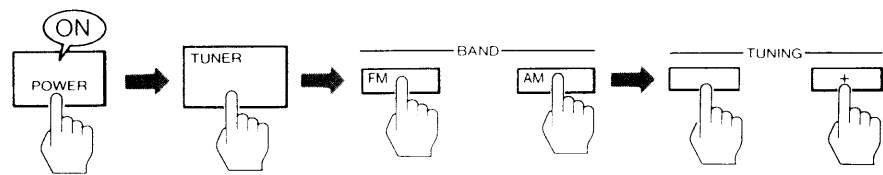
General
System

	Tuner section: PLL quartz-locked digital synthesizer system Preamplifier section: low-noise NF type Hi GAIN equalizer amplifier, Double-stage-differential, 3 position tone control Power amplifier section: pure complementary paralel SEPP
Power requirements	120 V AC, 60 Hz
Power consumption	STR-GX10ES: For the U.S.A model: 250 watts For the canadian model: 540 VA STR-GX9ES: 230 watts
AC outlets	1 switched (100 W max) 1 unswitched (100 W max)
Dimensions	Approx. 470 × 161 × 436 mm (w/h/d) (18½ × 6⅜ × 17¼ inches) including projecting parts and controls
Weight	Approx. 18.5 kg (40 lb 14 oz) net
Accessories supplied	FM ribbon antenna (1) Antenna connector (1) AM loop antenna (1) Remote Commander Sony battery SUM-3(NS) (for the remote commander)

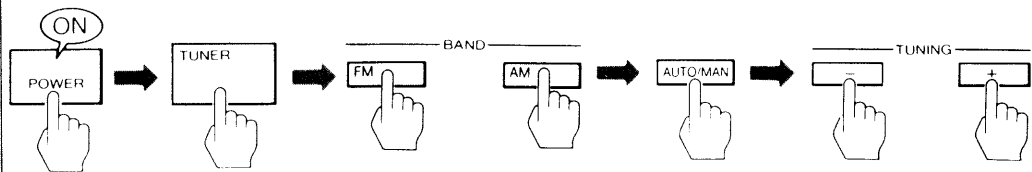
Design and specifications subject to change without notice.

Quick Reference

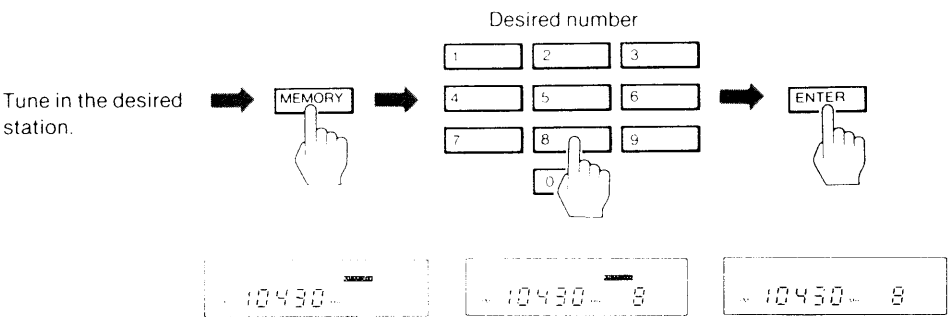
Tuning in an FM/AM station manually



Tuning in an FM/AM station automatically



Memorizing a station



Tuning a preset station.

