

SONY.

3-769-919-22 (1)

FM Stereo/FM-AM Receiver

STR-AV700

Operating Instructions

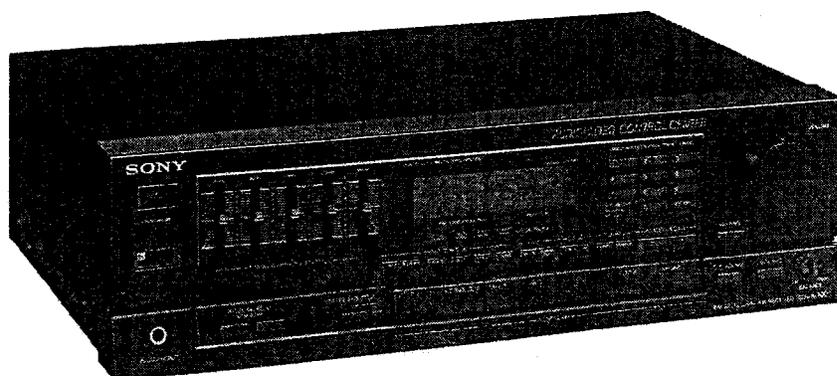
Before operating the unit, please read this manual thoroughly and retain it for future reference.

Owner's Record

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

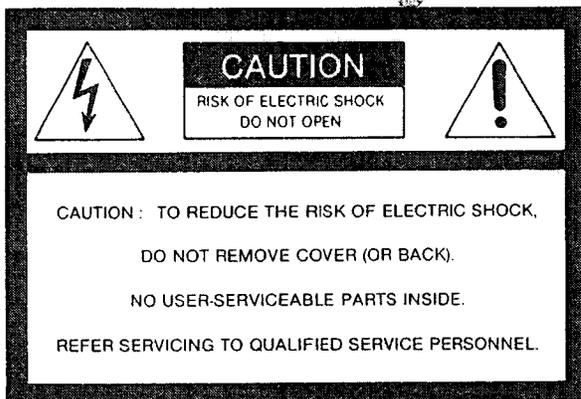
Model No. STR-AV700

Serial No. _____



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.

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.

Features

The STR-AV700 is a combined receiver and audio/video controls in. The unit allows you to switch easily between a variety of audio/video programs.

TV/Video programs

- TV programs can be enjoyed using the FM simulcast.
- Various audio program sources can be added on a video tape during tape editing.

Tuner

- Precise tuning with the quartz-locked digital synthesizer system.
- All of the receivable FM/AM stations can be automatically preset for easy automatic tuning later.
- The 4 music indexes allow you to classify stations as you preset them for easy access later.

General

- The tone can be adjusted using the 5-band graphic equalizer.
- The supplied remote commander allows you to control the connected equipment, as well as receiver, from a distance.
- The surround sound system gives audio programs an "alive" feeling.

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

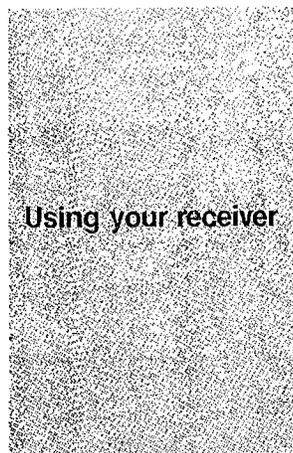
For detailed safety precautions, see the "IMPORTANT SAFEGUARDS" leaflet.

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

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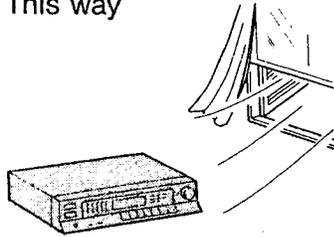
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Installation

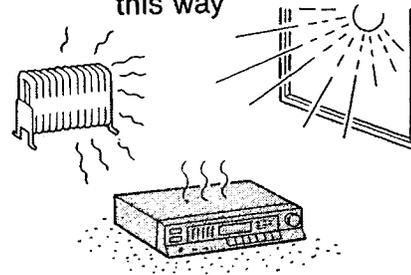
Notes on Installation

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

This way



Not this way



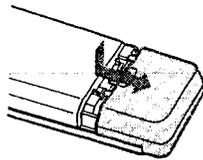
Do not install the unit:

- near heat sources such as radiators or air ducts.
- in a place subject to direct sunlight, excessive dust, mechanical vibration, or shock.

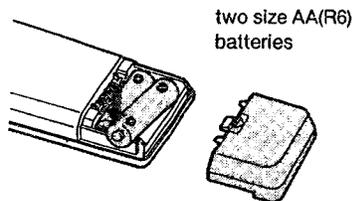
Installing Batteries

Install the batteries in the supplied remote commander for remote control operation.

1



2



Do not throw away the carton and the packing material

It will be an ideal container when transporting the unit 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 the Sony SUM-3 (NS) batteries.

When the batteries are run down, the remote commander will not operate the unit. In this case, replace both batteries with new ones.

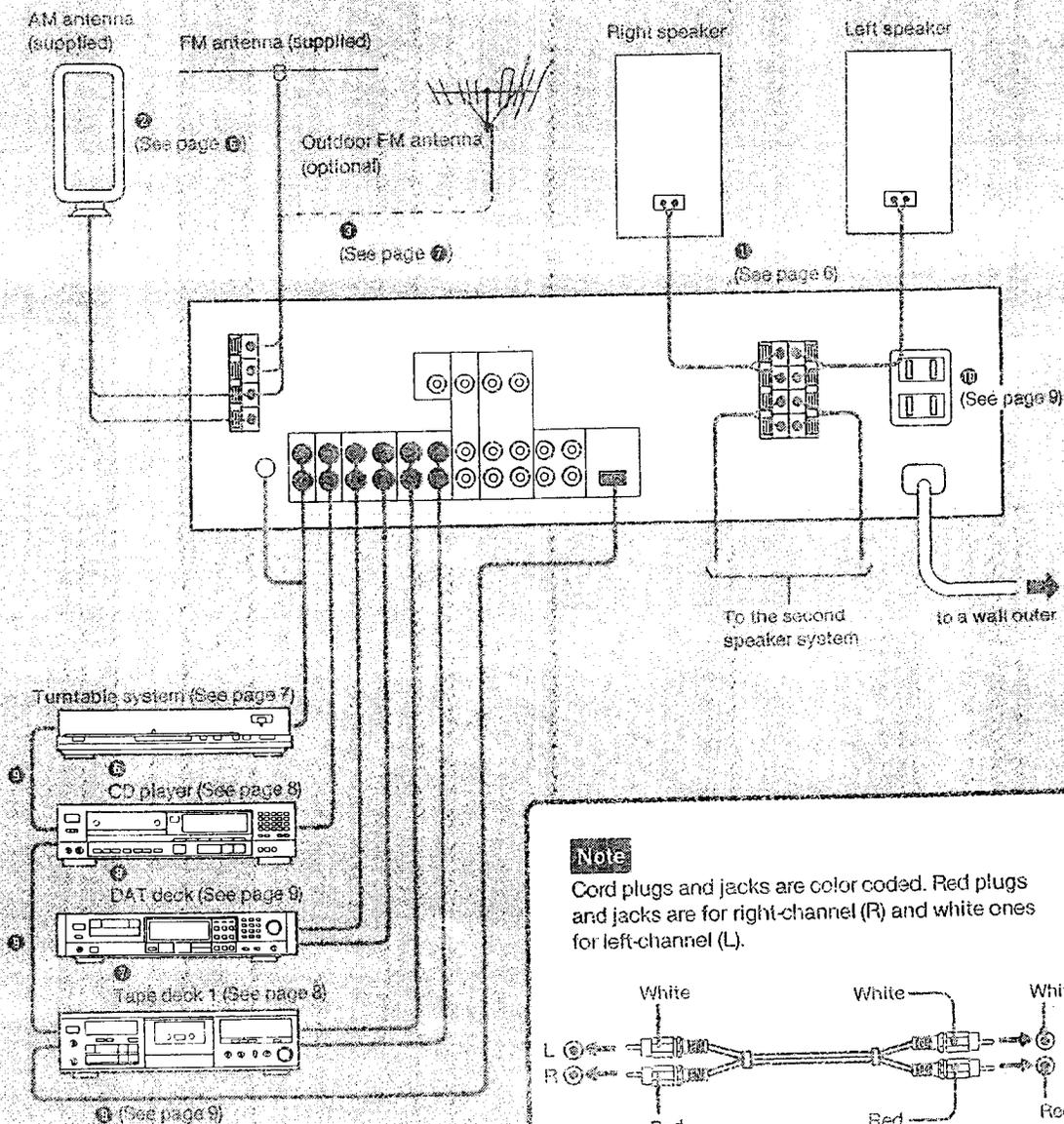
Connecting the System

Connection Notes

- The power cord should be connected last of all, first making sure that the SYSTEM POWER switch is turned off.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.

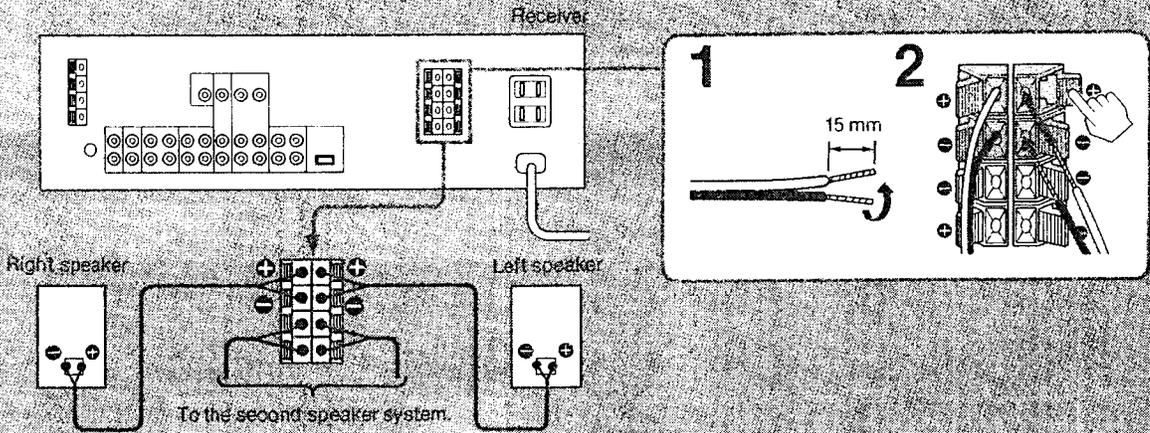
Audio Connection Diagram

The circled numbers correspond to the individual connection diagram.



Connecting the System

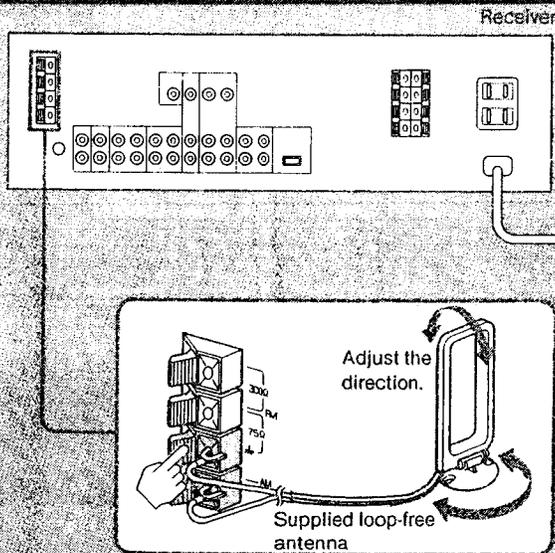
1 Connecting the Speakers



Speaker Impedance and power capability

This receiver is designed to work best with speakers having nominal impedance from 8 to 16 ohms, at rated 70 watts minimum RMS per channel with an 8-ohm load from 20 - 20,000 Hz.

2 Connecting the AM Antenna



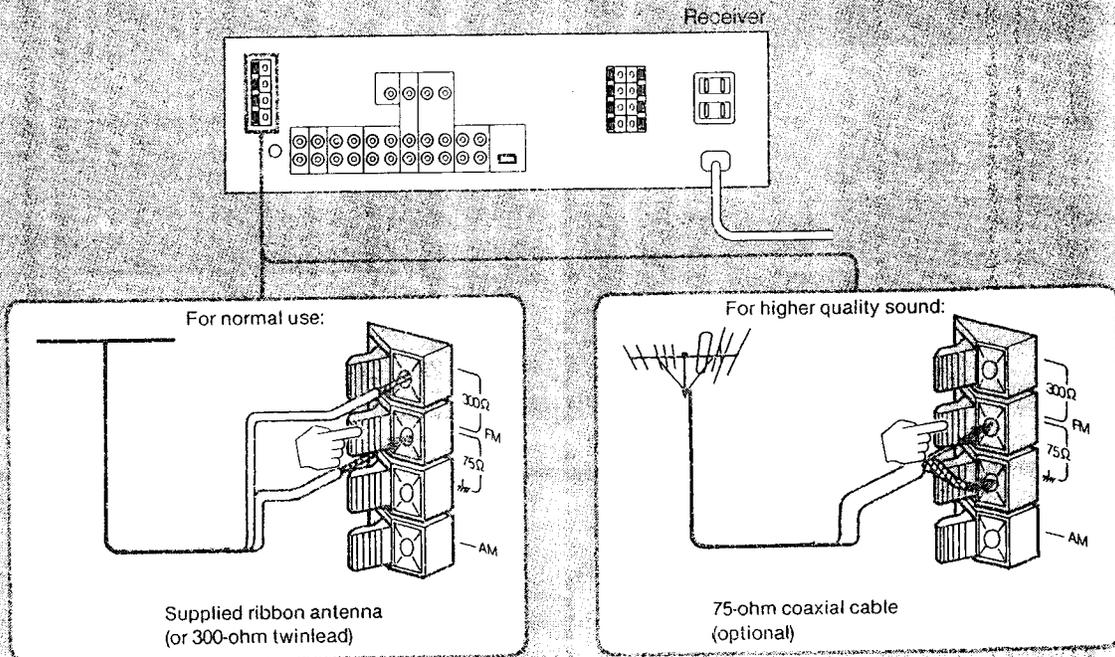
For areas with difficult AM reception

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.)

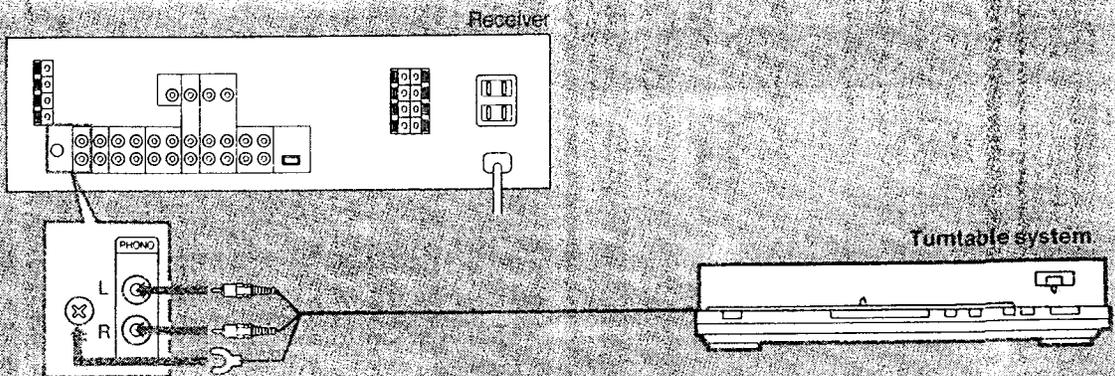
3 Connecting the FM Antenna



4 Connecting the Antenna Ground

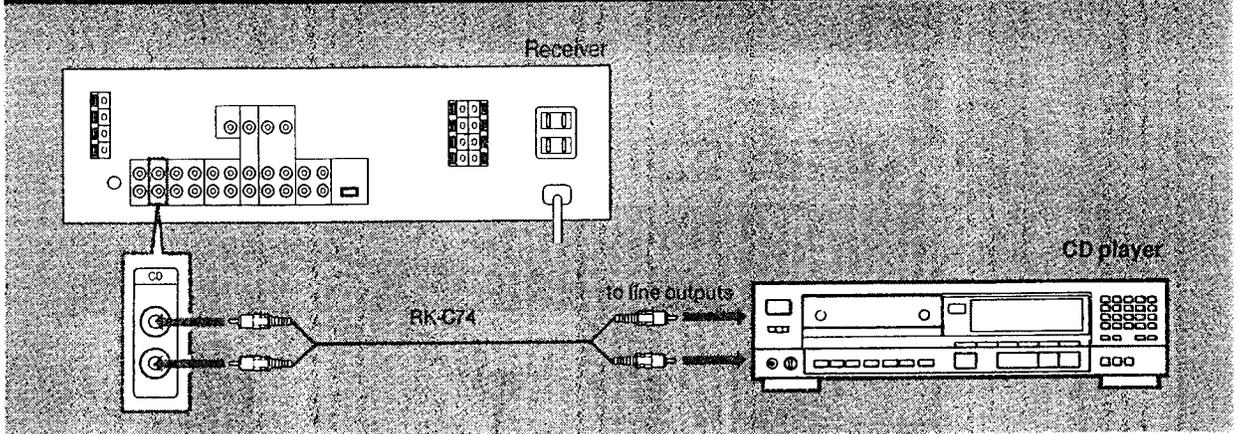
To prevent hum, connect the ground wire to ANTENNA ground terminal (ANT).
When an outdoor antenna is installed, be sure to connect the ground wire for lightning protection.

5 Connecting a Turntable System

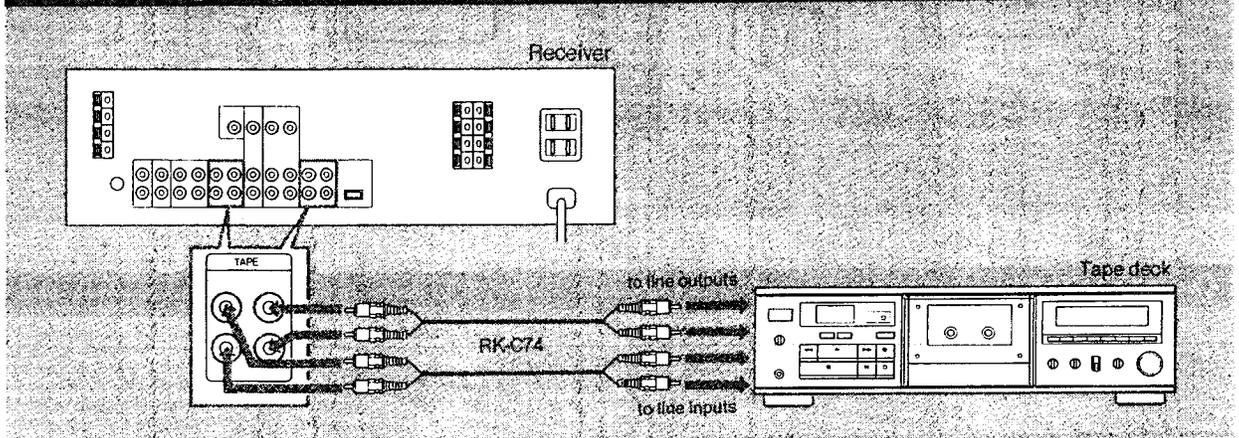


Connecting the System

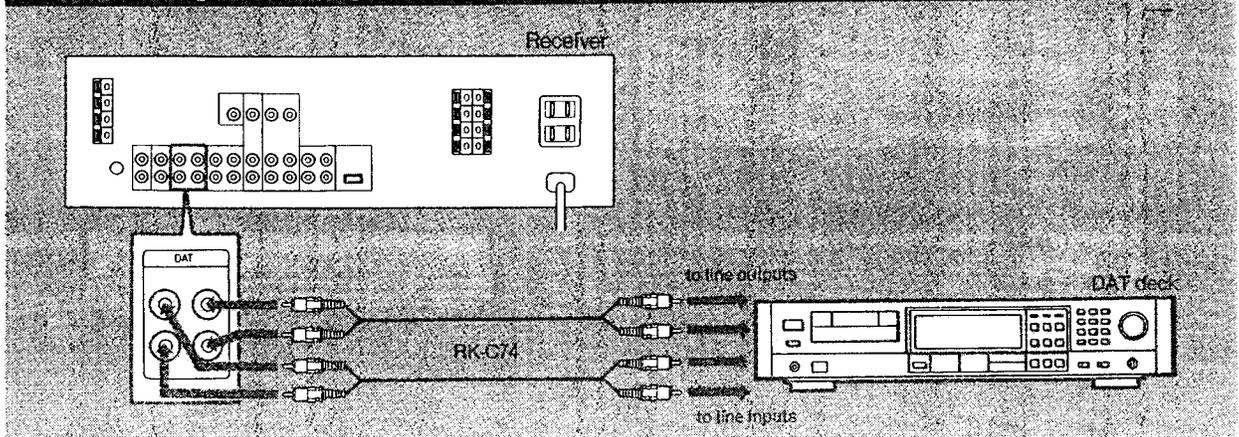
6 Connecting a CD Player



7 Connecting a Tape Deck

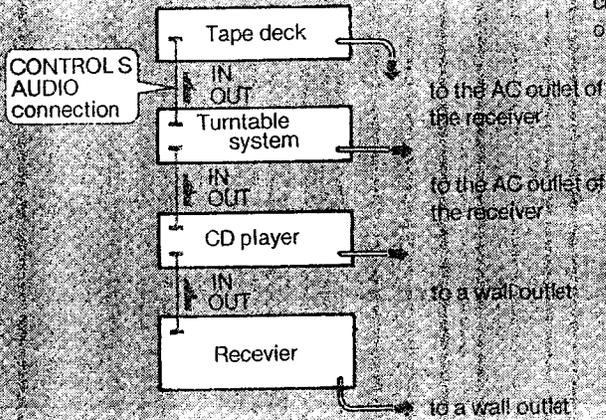


8 Connecting a DAT (Digital Audio Tape) Deck



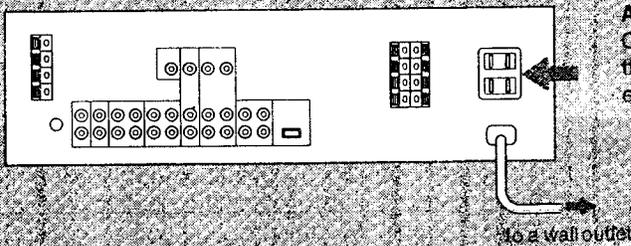
9 Connecting the System for Remote Control

Connection example



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

10 Connecting the AC Power



AC outlets

Connect the AC power cord of each piece of equipment to the AC outlet on the receiver so that you can turn the equipment on and off using receiver's SYSTEM-POWER.

Caution

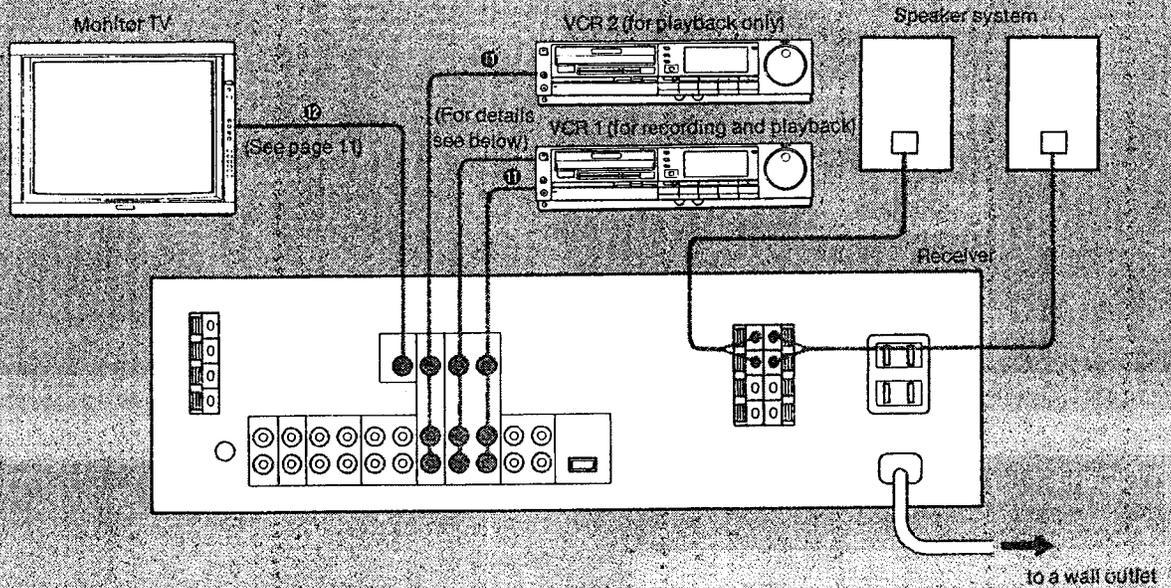
Be careful that the total power consumption of each piece of equipment connected to the outlets on the receiver does not exceed 100 watts.

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

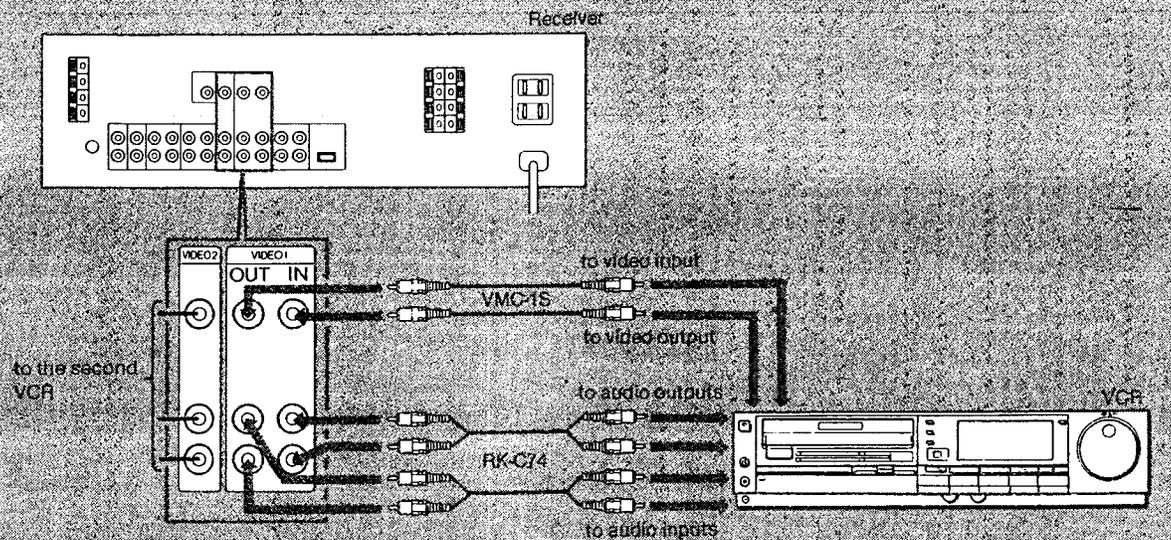
Connecting the System

VCR and TV Connection Diagram

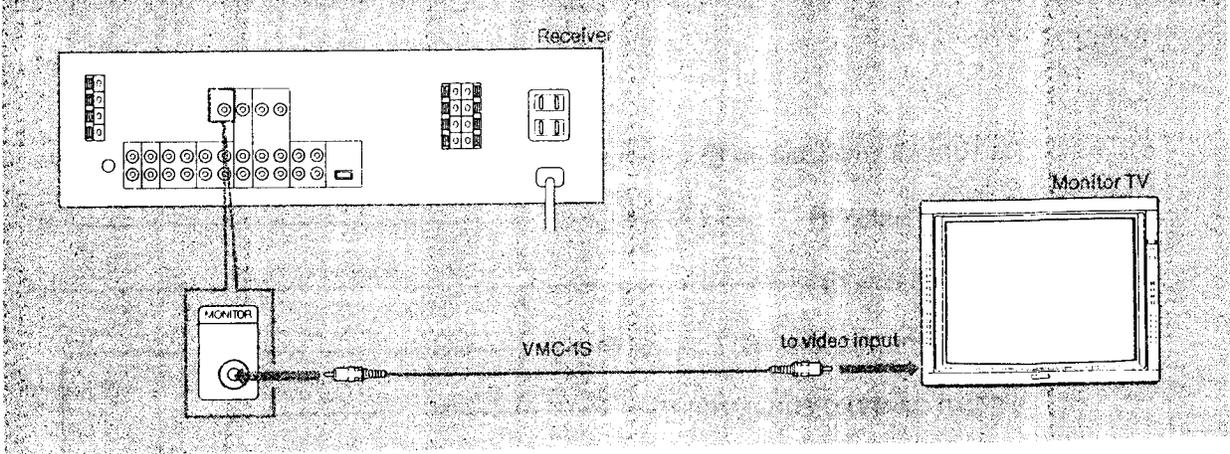
The circled numbers correspond to the individual connection diagram.



1 Connecting a VCR

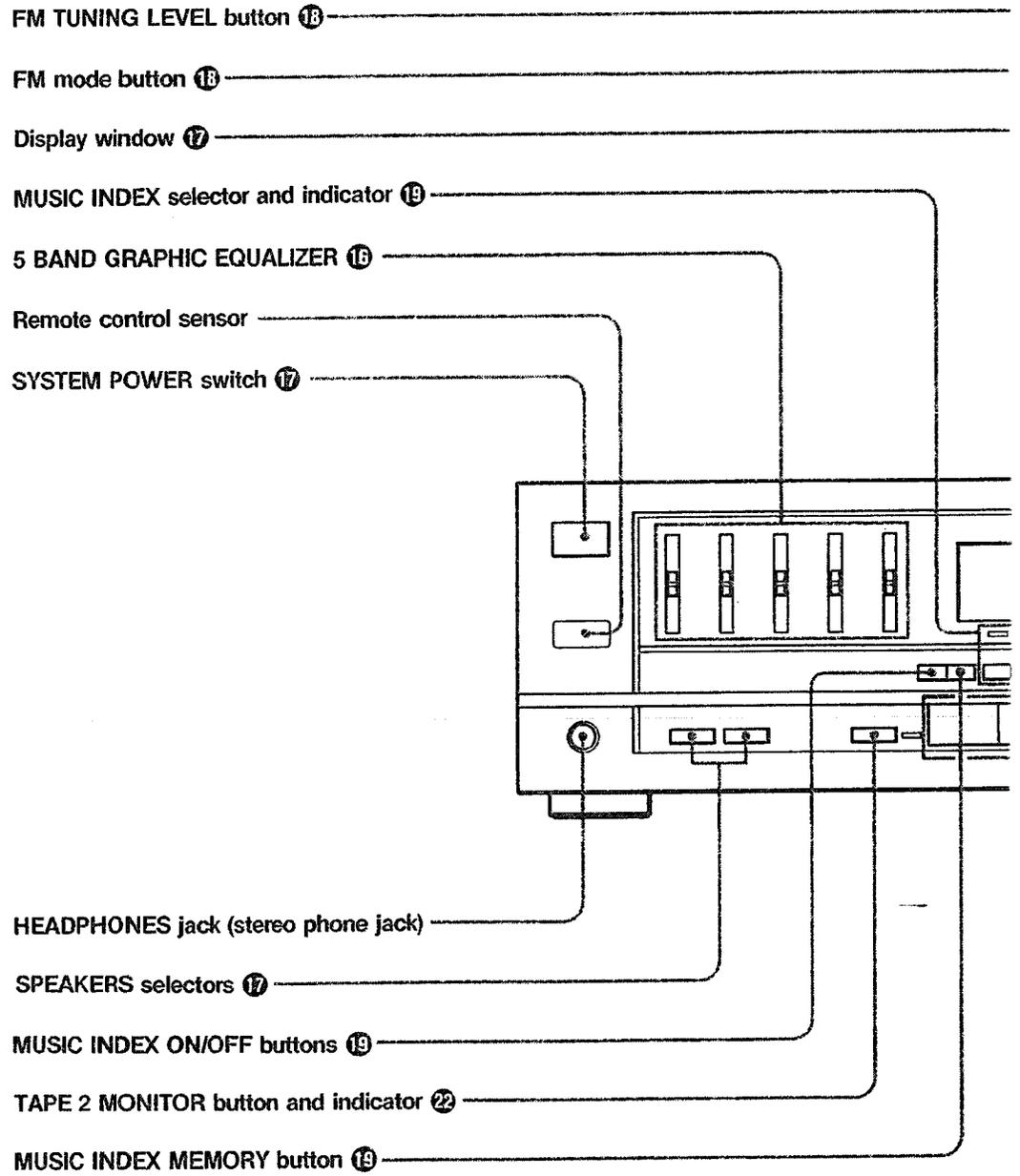


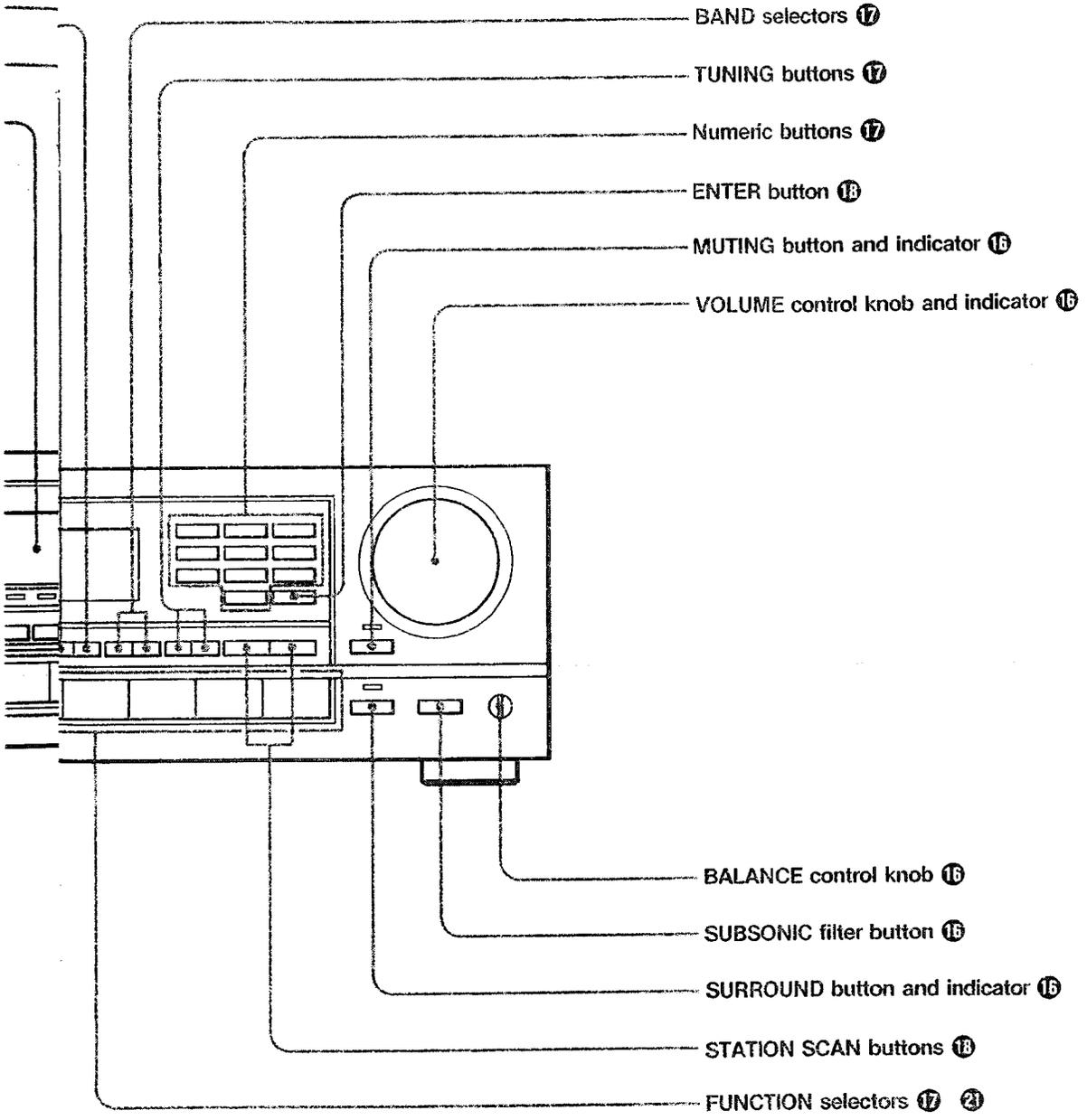
12 Connecting a Monitor TV



Parts Identification

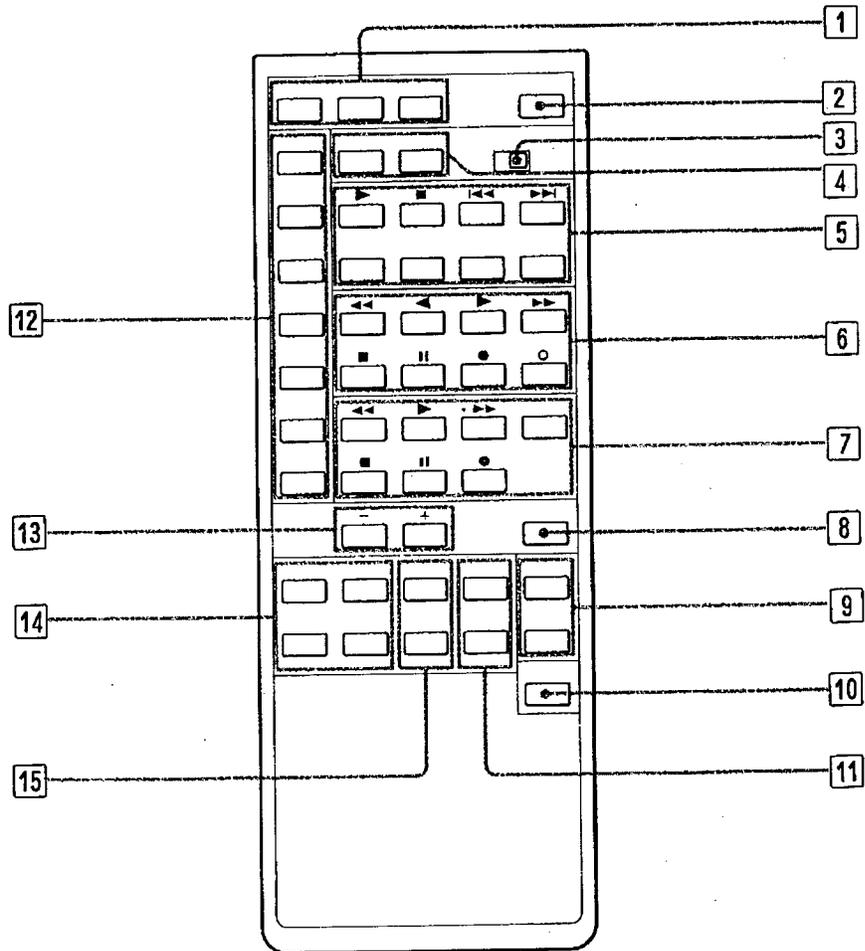
Refer to the pages indicated in ● for details.





Parts Identification

Remote Commander RM-U80



1 POWER ON/OFF buttons

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

VTR: Turns the power of the VCR 1, 2 (selected one of the VCR selector) on and off.

AUDIO: Turns the power of the receiver on and off.

2 SYSTEM POWER OFF button

Turns off the power of the receiver, TV and VCR 1, 2.

3 TAPE and VTR selector

Select TAPE A: To listen to a tape in a single-deck unit or to a tape in the "A" deck of a double-deck unit.

Select TAPE B: To listen to a tape in the "B" deck of a double-deck unit.

Select VTR 1, 2: If your VCR has a command mode selector, set this selector to the same position as that set on the VCR.

If your VCR does not have one, set to VCR 1.

If a Sony 8 mm VCR is connected, set to VCR 2.

4 PHONO buttons

START: Starts record play.

STOP: Stops record play.

5 CD buttons

▶: Starts play

■: Stops play

◀▶/▶▶: AMS (Automatic Music Sensor)

PGM: Program play

D.SELECT: Disc select (for a CD player equipped with disc changer)

REPEAT: Repeat play

SHUFFLE: Shuffle play

6 TAPE buttons

◀◀: Reverse fast winding

◀: Reverse play

▶: Forward play

▶▶: Forward fast winding

■: Stop

||: Pause

●: Recording (While you press ●, press ◀ or ▶.)

○: Record muting

7 VTR buttons

◀◀: Rewind

▶: Play

▶▶: Fast forward

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

■: Stop

||: Pause

●: Recording (While you press ●, press ▶.)

8 SURROUND button

9 VOLUME control buttons

10 MUTING button

11 TUNER PRESET buttons

+: Selects a higher preset number.

-: Selects a lower preset number.

12 FUNCTION selectors

13 INDEX buttons

+: Each time you press this button, the music index category changes as follows.

→ROCK→JAZZ→POPS→CLASSIC→

-: Each time you press this button, the music index category changes as follows.

→CLASSIC→POPS→JAZZ→ROCK→

14 TV buttons

VOL: Adjusts the TV sound level.

CH: Selects the TV reception channel.

15 VTR CHANNEL buttons

+: Selects a higher-numbered channel.

-: Selects a lower-numbered channel.

Note

• 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.

• 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.

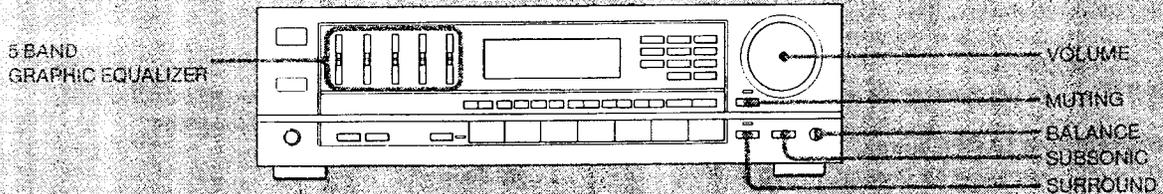
Note on the TAPE and VTR selector (3)

The tape A/B selector on the commander is usable for TC-WR950.

If you use another double deck with "control-S", you can operate one side of the deck.

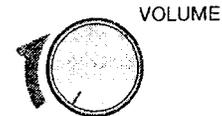
Audio Adjustment

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



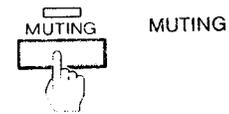
Volume Adjustment

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.



Balance Adjustment

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.



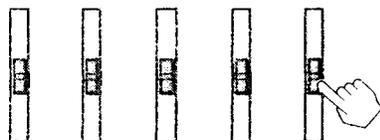
Sound Quality Adjustment

To equalize the sound

Slide the equalizer controls up or down to achieve the desired effect.

The equalizer controls and their frequency coverage

- | | |
|-----------------|---|
| 63 Hz control | Adjusts the bass. |
| 250 Hz control | Adjusts the amount of power and warmth of the sound. |
| 1 kHz control | Provides more presence for vocals. Moves the sound forward, or into the background. |
| 3.3 kHz control | Adjusts the brightness of the sound. |
| 10 kHz control | Adjusts the treble. |



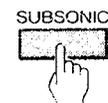
To enjoy the surround sound

Press SURROUND when listening to a stereo source.
Press again to turn off the effect.



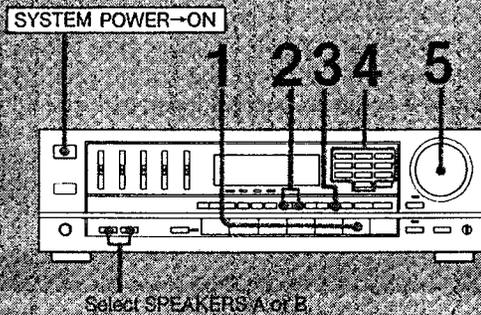
To reduce unwanted subsonic noise components created by warped records, etc.

Press SUBSONIC.
Press again to disengage the subsonic.



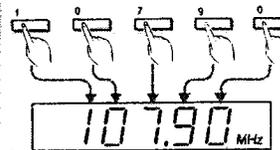
Receiving FM/AM Broadcasts

Direct Tuning

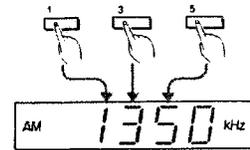


- 1 Press TUNER.
- 2 Select FM or AM.
- 3 Press DIRECT.
- 4 Press the appropriate numeric buttons to enter the frequency. (See examples below).
- 5 Adjust the volume.

Example 1: FM 107.90 MHz



Example 2: AM 1350 kHz



For entering AM frequencies, you need not enter the last "0". However, if you have changed the AM tuning interval to 9 kHz, enter all the digits.

To correct the entered frequency
Repeat the above steps from the beginning.

If the frequency figures flash in the display window
The entered number is outside the receiver's frequency range (FM 87.5 to 107.9 MHz; AM 530 to 1,610 kHz.) Enter the correct frequency.

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 unit.
- 3 Depress SYSTEM POWER again while pressing the "+" STATION SCAN button.

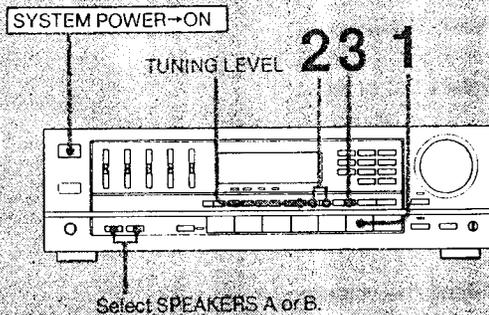
To reset the AM tuning interval, repeat the above steps.

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.

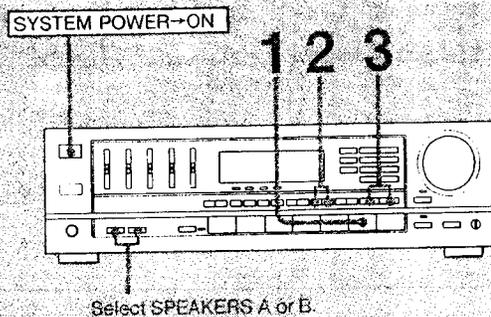
Receiving FM/AM Broadcasts

Automatic Searching Stations — Auto-preset



- 1 Press **TUNER**.
- 2 Select **FM** or **AM**.
- 3 Press **SEARCH**.
Search will start and every station which can be picked up will be memorized. When the search is complete, the station with the highest frequency will be tuned in.

Tuning in a Preset Station — Station Scan Tuning



- 1 Press **TUNER**.
- 2 Select **FM** or **AM**.
- 3 Press **“+”** or **“-”** **STATION SCAN**.
Each time you press **“+”** or **“-”**, the receiving station will change in the memorized order.

When you know the preset number of the station you want to tune in

You can tune the station in directly.

- 1 Press **TUNER**.
- 2 Select **FM** or **AM**.
- 3 Select the preset station number with the numeric buttons.
- 4 Press **ENTER**.

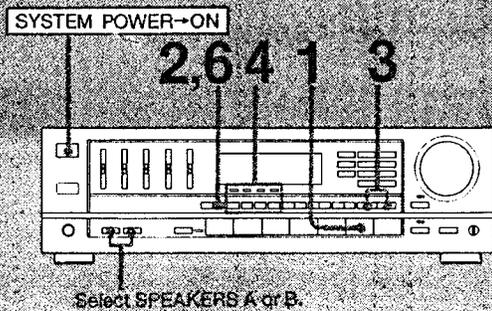
You can select the strength of the FM stations to be tuned in
Press **TUNING LEVEL** to select **HIGH** or **LOW**.
HIGH: Only strong stations will be picked up.
LOW: All stations will be picked up.

To stop searching
Press **TUNER**.

When an FM stereo program is noisy or hard to receive
Press **FM MODE**. The **STEREO** indicator goes out (the sound is heard in monaural, but the reception will be improved). To return to the stereo mode, press again or change the frequency.

Categorizing Preset Stations Using the Music Index

You can divide preset stations into categories, ROCK, JAZZ, POPS or CLASSIC. These groups are called music indexes. Once divided, only the stations in a music index can be scanned. (Initially, all preset stations are filed in the unit's memory under CLASSIC.)



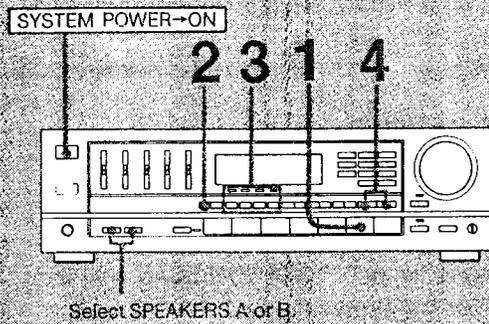
- 1** Press **TUNER**.
- 2** Press **MEMORY**. (The **MEMORY** indicator will appear.)
- 3** Press **“+”** or **“-”** **STATION SCAN** until the station you want is tuned in.
- 4** Assign the station to the music index which corresponds to the kind of music being played on that station. (The indicator of the index you have chosen will blink.)
- 5** Repeat steps 3 and 4 for each of stations you want to assign to the indexes.
- 6** Press **MEMORY** again. (The **MEMORY** indicator will disappear.)

Note

This function cannot be used while the unit is in direct tuning mode.
Only preset stations can be stored in music indexes.

Receiving FM/AM Broadcasts

Tuning in a Station According to its Music Index



- 1 Press TUNER.
- 2 If a MUSIC INDEX indicator is not lit, press MUSIC INDEX ON/OFF. (A MUSIC INDEX indicator will light up.)
- 3 Select the music index you want. (The indicator of the index you have selected will light up.)
- 4 Press “+” or “-” STATION SCAN.

As you are assigning preset stations to indexes

The station will be assigned a number according to its order in the index. Use that number while the music index function is on. The preset number assigned when you search the stations are also solid. These numbers are used while preset tuning.

If the music index indicator does not come on even when you select an index.

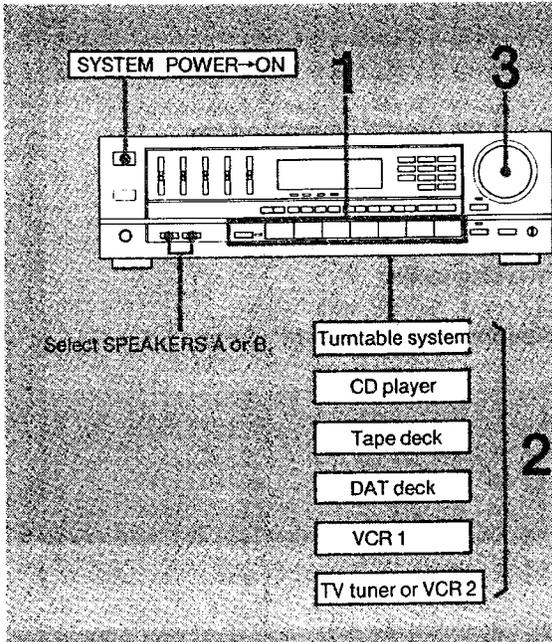
No stations have been assigned to the music index you have selected.

When you know the station number in the music index of the station you want

You can tune in the station directly.

- 1 Press TUNER.
- 2 Select the music index you want.
- 3 Select the preset station number with the numeric buttons.
- 4 Press ENTER.

Listening to Other Sound Sources



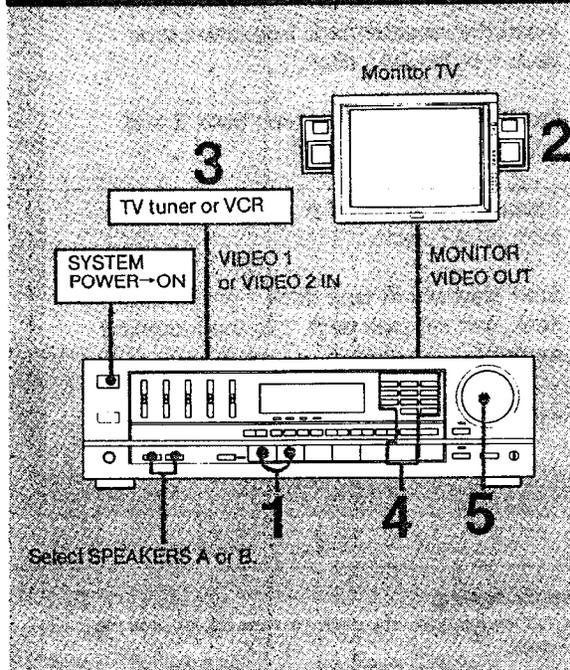
1 Select the program source.

	FUNCTION
Phono record	PHONO
Compact disc	CD
Video programs	VIDEO 1, 2/CDV
Taped programs	TAPE 1, TAPE 2 MONITOR
DAT programs	DAT

2 Start the program.

3 Adjust the volume.

TV reception with the FM simulcast



1 Press VIDEO 1 or VIDEO 2/CDV.

VIDEO 1: When the VHF antenna is connected to the TV tuner or VCR connected to the VIDEO 1 inputs.

VIDEO 2/CDV: When the VHF antenna is connected to the TV tuner or VCR connected to the VIDEO 2/CDV inputs.

2 Turn on the TV.

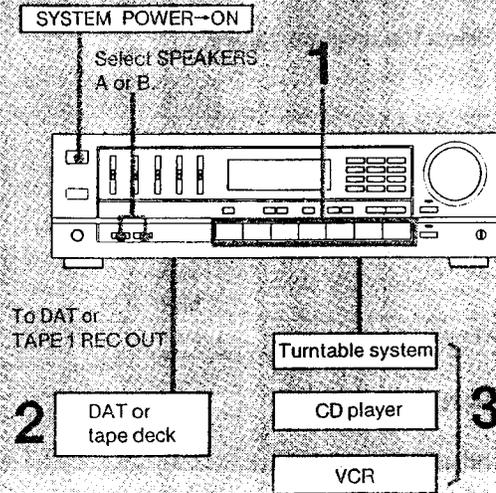
3 Select the desired program with the TV tuner or VCR.

4 Tune in the TV program by FM simulcast with this receiver.

5 Adjust the volume.

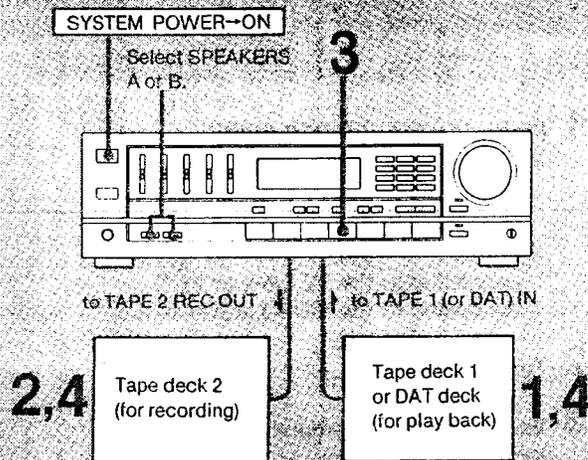
Audio Tape Recording

Recording



- 1** Select the desired program source.
For an FM/AM broadcast, tune in the desired station.
- 2** Set the DAT deck or tape deck in the recording mode.
- 3** Start the desired program source.

Tape Dubbing



- 1** Insert the recorded tape into either tape deck 1 or the DAT deck.
- 2** Insert a blank tape into tape deck 2 and adjust the recording level.
- 3** Press TAPE 1 (or DAT if you are dubbing from a DAT deck).
- 4** Start playback in tape deck 1 or the DAT deck, and set tape deck 2 to the recording mode.

Dubbing will start.

Note on recording

The settings of the VOLUME and equalizer controls do not have any effect on recording.

To monitor the recorded sound

If you have connected a tape deck having separate record and playback heads to the TAPE 2 jacks, you can monitor the recording results. While recording or dubbing, press the TAPE 2 MONITOR button. To listen to the source sound again, press the button again.

Notes on dubbing

You cannot dub from tape deck 2 to tape deck 1 or to the DAT deck.

You can dub from the DAT deck to tape deck 1 if you connect the DAT deck to DAT IN and tape deck 1 to TAPE 1 REC OUT (press DAT after step 2 above).

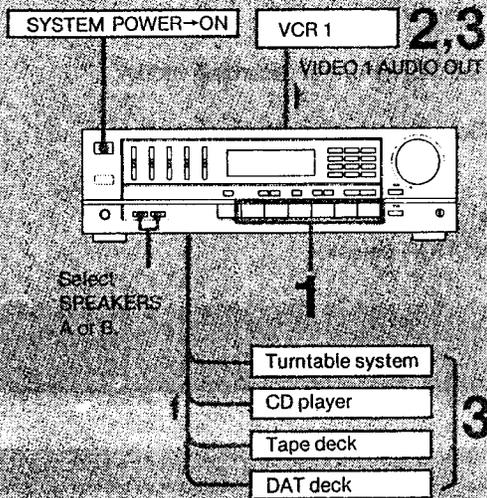
You can dub from tape deck 1 to DAT deck, if you connect tape deck 1 to TAPE 1 IN and the DAT deck to DAT REC OUT (press TAPE 1 after step 2 above).

Recording on a VCR

To operate the VCR, refer to its instruction manual.

Recording Audio Programs

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

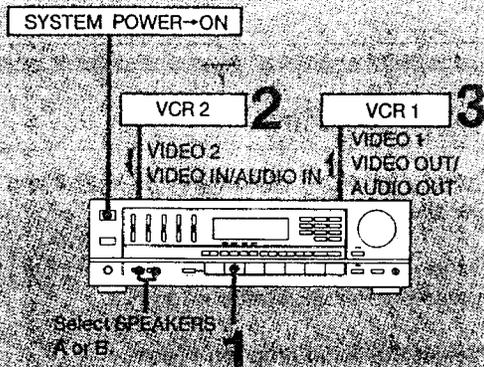


Turn on the receiver and the equipment to be used.

- 1 Select the desired program source.
- 2 Insert a video tape into the VCR and adjust the recording level.
- 3 Start the program source and set the VCR to the recording mode.

Recording TV Programs

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



Turn on the receiver and the equipment to be used.

- 1 Press VIDEO 2/CDV.
- 2 Select the desired program.
- 3 Set the VCR 1 to the recording mode.

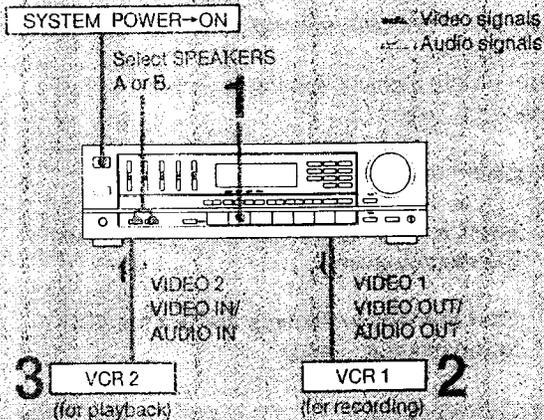
You cannot record on a VCR connected to the VIDEO 2 inputs.

Note on recording

The VOLUME and equalizer settings on the receiver do not have any effect on the recording.

Video Tape Editing

Turn on the receiver and the equipment to be used.

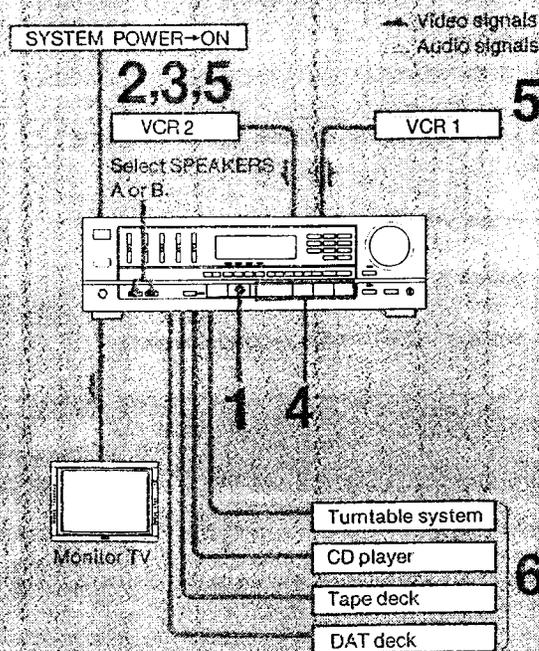


- 1** Press VIDEO 2/CDV.
- 2** Set VCR 1 to the recording mode.
- 3** Set VCR 2 in the playback mode.

You can listen to an audio program source during video tape editing by pressing the FUNCTION selector.

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.



Turn on the receiver and the equipment to be used.

- 1** Press VIDEO 2/CDV.
- 2** Insert a recorded video tape into VCR 2 and set the VCR in the playback mode.
- 3** At the point where audio dubbing is to start, press the PAUSE button on VCR 2.
- 4** Select the audio program source.
- 5** Release the pause mode of VCR 2 and set VCR 1 to the recording mode.
- 6** Start playing the selected program source.

Note

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

Specifications

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm load, both channels driven, from 20 – 20,000 Hz, rated 70 watts per channel minimum RMS power, with no more than 0.08% total harmonic distortion from 250 milliwatts to rated output.

Other Specifications

Amplifier section

Continuous RMS power output

75 watts + 75 watts (8 ohms, at 1 kHz less than 0.08% total harmonic distortion)

Dynamic power

90 W + 90 W (8 ohms at 1 kHz IHF)

120 W + 120 W (4 ohms at 1 kHz IHF)

Harmonic distortion

Less than 0.08% at rated output

Frequency response

PHONO: RIAA equalization curve ± 0.5 dB

CD

VIDEO 1, 2/CDV 10 Hz – 70 kHz ± 0 dB

TAPE 1, 2

DAT

Inputs

	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	2.5 mV	50 kilohms	74 dB 72 dB * (A, 2.5 mV)
CD VIDEO 1, 2/CDV TAPE 1, 2 DAT	150mV	50 kilohms	100 dB 80 dB * (A, 150 mV)

* '78 IHF

Outputs

VIDEO 1 AUDIO OUT

REC OUT

Voltage 150 mV

Impedance 10 kilohms

SPEAKER A, B

Accepts speakers of 8 – 16 ohms.

HEADPHONES

Accepts low and high impedance headphones.

Muting

-20 dB

Graphic equalizer ± 10 dB (63 Hz, 250 Hz, 1 kHz, 3.3 kHz, 10 kHz)

	FM tuner section	AM tuner section
Tuning range	87.5 – 107.9 MHz	530 – 1,610 kHz (with the AM tuning interval set at 10 kHz) 531 – 1,602 kHz (with the AM tuning interval set at 9 kHz)
Antenna terminals	300 ohms, balanced 75 ohms, unbalanced	External antenna terminal
Intermediate frequency	10.7 MHz	450 kHz
Sensitivity at 50 dB quieting	18.3 dBf, 4.5 μ V (mono) 38.3 dBf, 45 μ V (stereo)	—
Usable sensitivity	11.2 dBf, 2 μ V (IHF)	Loop antenna: 500 μ V (at 1,000 kHz)
Signal-to-noise ratio	80 dB (mono) 74 dB (stereo)	54 dB (at 50 mV/m)
Harmonic distortion	0.15% (mono), 0.3% (stereo) at 1 kHz	0.3% (at 50 mV/m, 400 Hz)
Selectivity	60 dB at 400 kHz	40 dB at 10 kHz 35 dB at 9 kHz
Separation	45 dB at 1 kHz	—
Frequency response	30 Hz – 15 kHz ± 0.5 dB ± 1.5 dB	—

General

System

Tuner section: PLL quartz-locked digital synthesizer system

Preamplifier section: low-noise NF type equalizer amp

Power amplifier section: quasi-complementary SEPP

Power requirements

120 V AC, 60 Hz

Power consumption

125 watts (U.S.A. model)

195 watts (Canadian model)

In standby condition

5 watts

AC outlets

Two switched (total 100 watts)

Dimensions

Approx. 430 x 130 x 295 mm (w/h/d)
(17 x 5 $\frac{1}{8}$ x 11 $\frac{5}{8}$ inches)

including projecting parts and controls

Weight

Approx. 6.9 kg (15 lbs 4 oz) net

Approx. 8.7 kg (19 lbs 3 oz) in shipping carton

Accessories supplied

FM ribbon antenna (1)

AM loop antenna (1)

Remote Commander RM-U80 (1)

Sony battery SUM-3 (NS) (2) (for the remote commander)

Design and specifications subject to change without notice.

Troubleshooting Guide

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

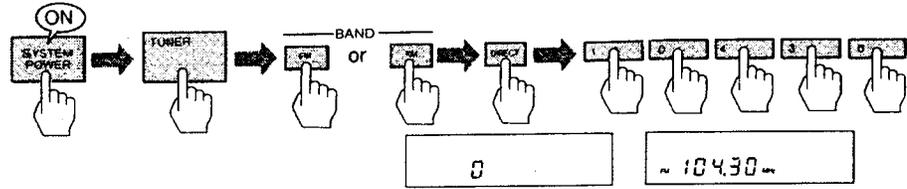
Should any problem persist after you have checked the following items, consult your nearest Sony dealer.

	PROBLEM	CAUSE	REMEDY	
Broadcast program	STEREO indicator flickers or does not appear when receiving stereo programs.	A very weak FM station is received.	Adjust the antenna or connect an external FM antenna. Press the FM MODE button to disengage the stereo mode.	
	AM stations 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 17.)	
Video program	Picture does not appear.	VCR, TV tuner or TV connection is not correct.	Connect the equipment correctly. (See pages 10 and 11.)	
		The TV is not turned on.	Turn the TV on.	
Amplifier	Sound is not heard.	The speaker or program source equipment is not connected correctly.	Connect the equipment correctly. (See pages 6~11.)	
		The both SPEAKERS selectors are pressed.	Press the appropriate SPEAKERS selector.	
		The correct FUNCTION selector is not pressed.	Press the correct FUNCTION selector.	
		The volume is set to minimum.	Increase the volume.	
	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 6~11.)	
		There is an abrupt loss of sound from one or both of the speakers, and the PROTECTOR indication flickers in the display window.	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 speaker is connected with the polarities reversed.	Connect the speaker with the correct ⊕ ⊖ polarities. (See page 6.)		

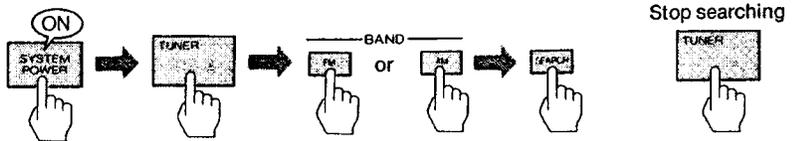
	PROBLEM	CAUSE	REMEDY
Amplifier	Severe hum or noise is heard.	The connecting cords are not of shielded type.	Use shielded type cords.
		A transformer, motor, TV or fluorescent light affects the connecting cord.	Place the connecting cords in a location away from a transformer or motor, and at least 3 meters (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.
	The remote commander does not operate.	The batteries are exhausted.	Replace the batteries with new ones.
		There is any object between the unit and the commander head.	Remove the object.

Quick Reference

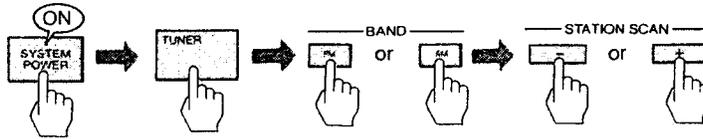
Tuning in a FM/AM station directly



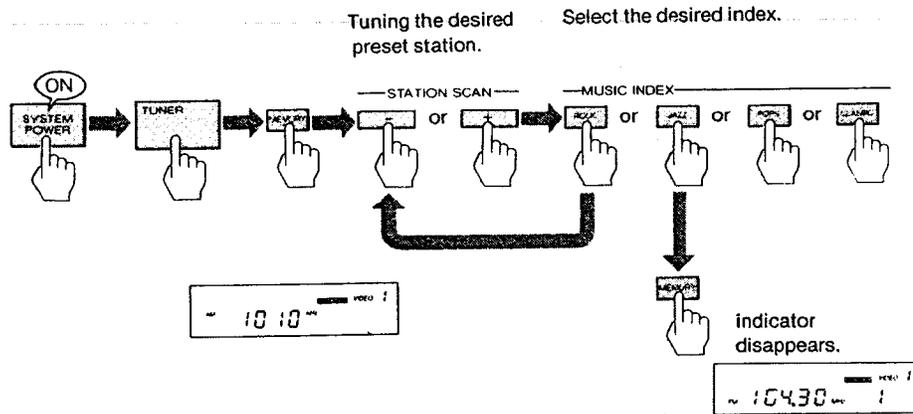
Automatic searching stations



Tuning in a preset station



Categorizing preset stations using the music index



Tuning in a station according to its music index

