SONY.

FM Stereo/FM-AM Receiver

Operating Instructions

STR-D315

WARNING

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 number is located on the rear exterior and serial number is on 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-D315   Serial No. _____

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.

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.

This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations.

Table of Contents

Introduction

Overview

The STR-D315 is an FM Stereo/FM-AM receiver and you can listen to various audio/video program sources with this unit.

Tuner
- Precise tuning is ensured by a quartz locked digital synthesizer.
- A total of 30 FM/AM stations can be preset in 3 memory pages (A, B and C) that allow you to classify stations.

Remote control
- The supplied remote commander allows you to remotely control this unit.

Precautions

On safety
- For U.S.A. and Canadian models, operate the unit only on 120 V AC, 60 Hz.
- For Australian model, operate the unit only on 240 V AC, 50 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. (not applicable to Australian customers)
- AC power cord must be changed only at the qualified service shop.
- This unit is not disconnected from the AC power source as long as it is connected to the mains outlet, even if the unit itself has been turned off.

On operation
Before making program source connections, be sure to turn the power switch off and unplug the unit.

To prevent internal heat buildup in the unit,
place the unit in a location with adequate air circulation.

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.

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 U.S.A.
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.

Unpacking

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

Checking the Supplied Accessories

After unpacking, check that the following accessories are present.
- FM wire antenna .... (1)
- AM loop antenna .... (1)
- Remote commander RM-U141 .... (1)
- Sony batteries SUM-3 (NS) .... (2)

Inserting the Batteries into the Remote Commander

Before operating remote commander, install the batteries as shown below.

1 Open the cover.
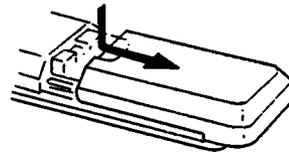
2 Insert two size-AA (R6) batteries with correct polarity.
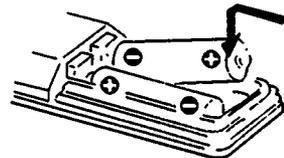
To avoid damage caused by battery leakage and corrosion
When the commander will not be used for a long time, remove the batteries.

Battery life
Normal operation can be expected about a half year using Sony SUM-3 (NS) (size-AA), and a year using Sony AM-3 (NW) (size-AA) alkaline batteries.
When the batteries are run down, the remote commander will not operate the unit. In this case, replace both batteries with new ones.

Hooking Up the System

Notes on Connections

At first, this section describes about the connection with the other equipments, the antenna connection, speaker connection and then the AC power connection.

- Do not connect the power cord to an AC outlet nor press the POWER switch before accomplishing all other connections.
- The cable connectors should be fully inserted into the jacks. Loose connection may cause hum and noise.
- Jacks and plugs of the connecting cord are color-coded as follows:
  Red jacks and plugs: For the right channel of audio signals
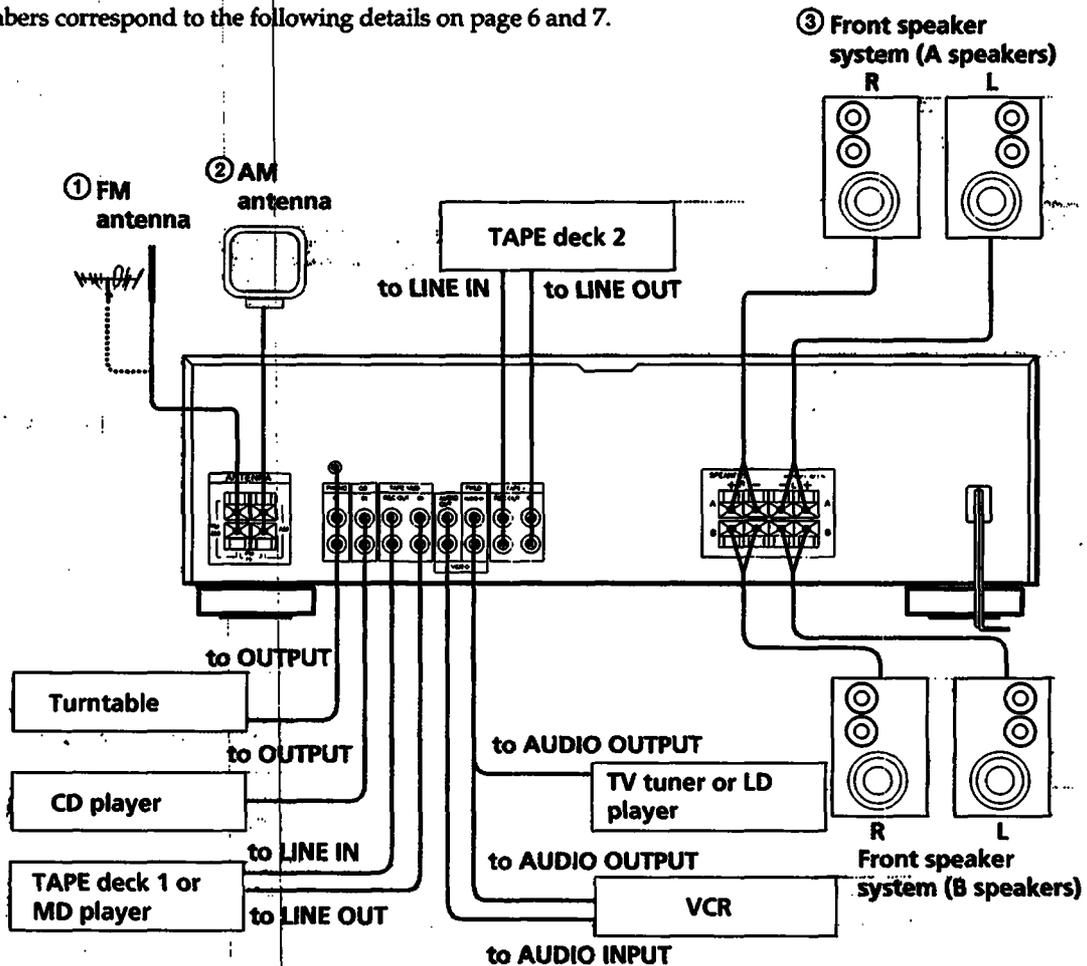 White jacks and plugs: For the left channel of audio signals
  Yellow jacks and plugs: For video signals

Connecting Equipment

The numbers correspond to the following details on page 6 and 7.

③ Front speaker system (A speakers)
R   L

① FM antenna

② AM antenna

TAPE deck 2
to LINE IN   to LINE OUT

to OUTPUT

Turntable

to OUTPUT

CD player

to LINE IN

TAPE deck 1 or MD player

to LINE OUT

to AUDIO OUTPUT
TV tuner or LD player

to AUDIO OUTPUT

VCR

to AUDIO INPUT

R   L
Front speaker system (B speakers)

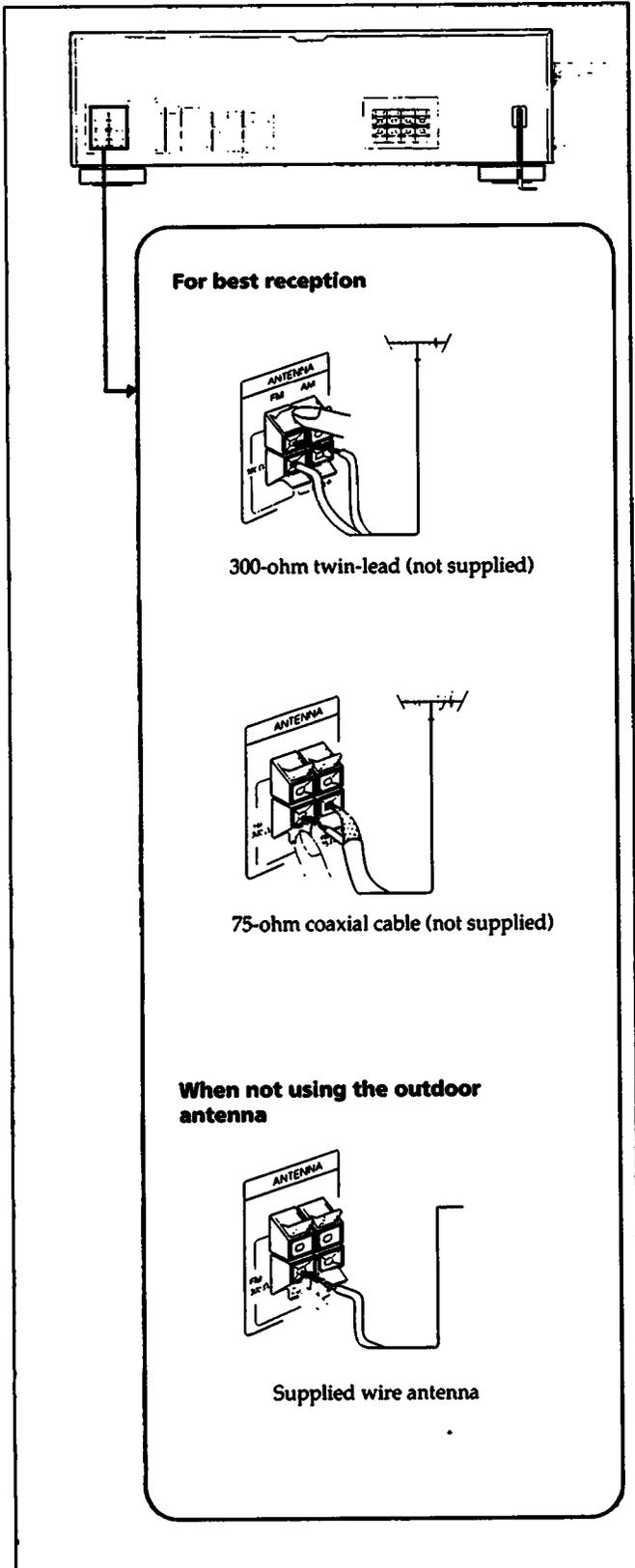| Receiver		Other equipment	
	White	White	
L	◉ ←	→ ◉	L
R	◉ ←	→ ◉	R
	Red	Red	

Note
When using the LD player or VTR connected to the TV/LD inputs, be sure to connect the video output jack of these equipments to the VIDEO or VIDEO 1 input jack of TV. (To remotely control these equipments correctly.)

5

① Connecting the FM Antenna

Though the wire antenna is supplied with this unit, the higher quality sound will be obtained with 75-ohm coaxial cable. (optional)

For best reception

300-ohm twin-lead (not supplied)

75-ohm coaxial cable (not supplied)

When not using the outdoor antenna

Supplied wire antenna

Connecting the Antenna Ground

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

② Connecting the AM Antenna

The AM reception is adequate with the supplied AM loop antenna. However, the connection of insulated wire is also available for areas with difficult AM reception.

Adjust the direction.

Supplied loop antenna
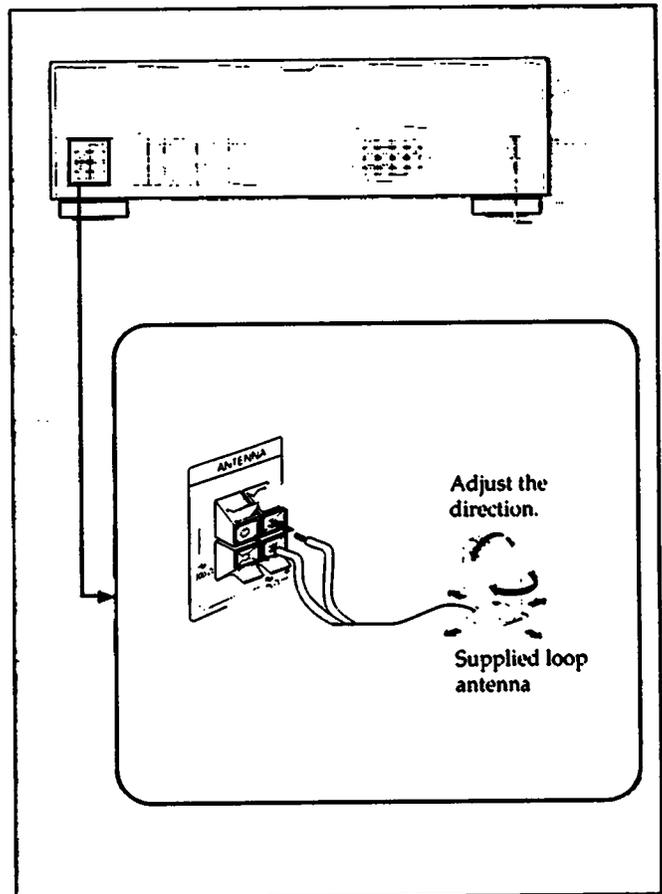
AM antenna extension
For best reception, attach a length of insulated wire (6 - 15 m long) to the AM screw connector in addition to the loop antenna.

Approx.15 mm
(9/16 inches)

Twist.

Speaker (R)   Speaker (L)

Note
As the speakers A and B are connected in series, the sound volume will be slightly decreased with both speaker systems driven.
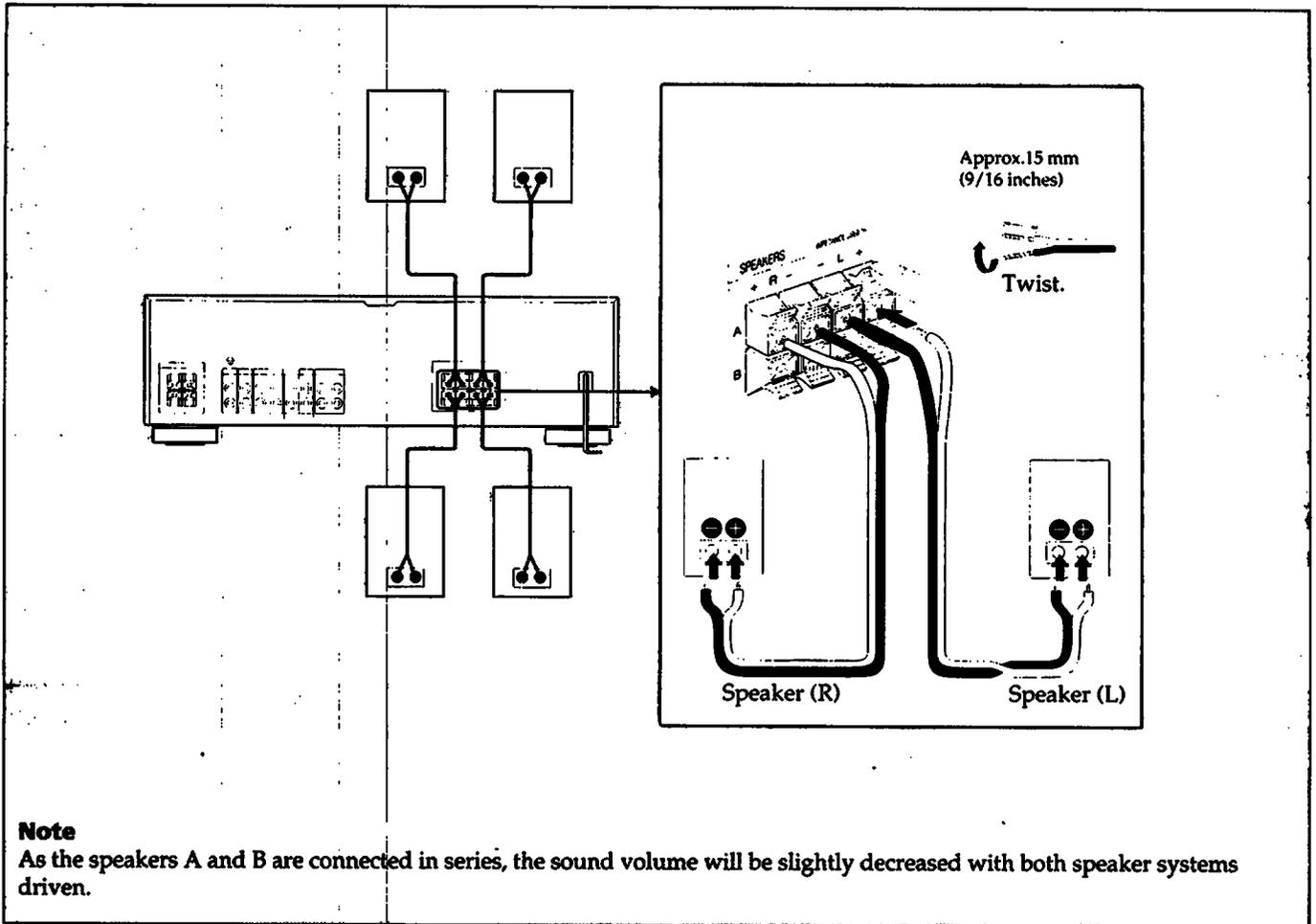
Connecting the AC Power

Be careful that the power consumption of equipment connected to the outlet on the receiver does not exceed 120 watts for U.S.A. and Canada models or 100 watts for Australian model.
Do not connect electrical home appliance such as an electric iron, fan, TV, or other high-wattage equipment to the outlet.

Listening to/Watching a program source

Selecting a Program Source

POWER → ON

Turntable
CD player
Tape deck or MD player
TV/LD player

1 Select the progam source.

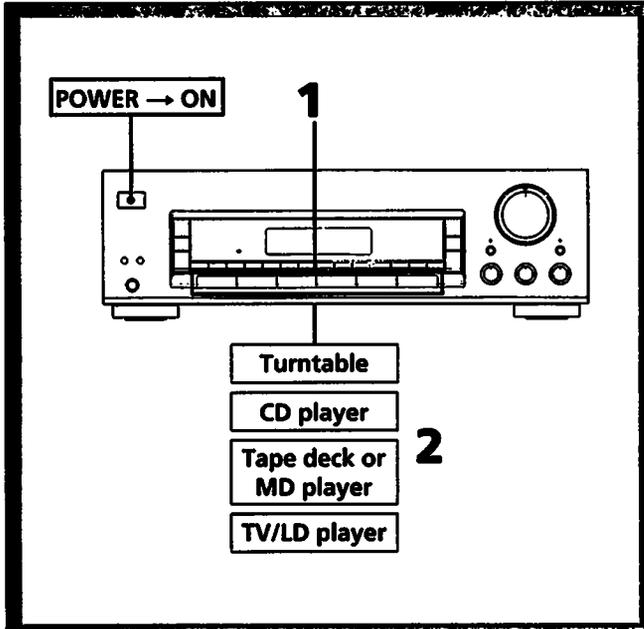| To listen to or watch	Press
Phono record	PHONO
Radio Broadcast	TUNER
Compact disc	CD
MD or Taped programs	TAPE 1/MD, TAPE 2 MONITOR
TV, LD or Video programs	TV/LD

If only pressing one of the FUNCTION buttons on the supplied remote commander, both the power of its operating equipment and the receiver are turned on.

2 Start the selected program.

Selecting the Speaker System

SPEAKERS A/B
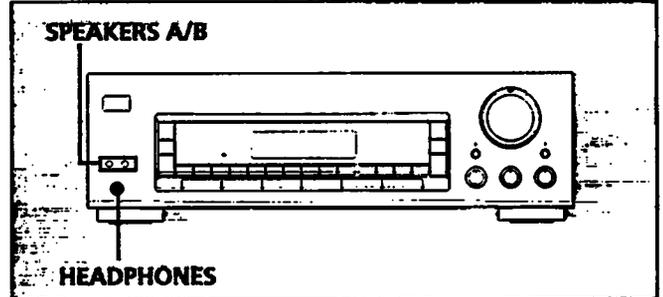
HEADPHONES

To drive speaker system A: Press SPEAKERS A.
To drive speaker system B: Press SPEAKERS B.
To drive both speaker systems A and B: Press both SPEAKERS A and B.
For headphones listening: Connect headphones to HEADPHONES and set SPEAKERS A and B to off.

IMPORTANT
Speaker systems A and B are connected in series. No sound can be heard if the SPEAKERS A and B buttons are set to on when only one speaker system is connected.

Adjusting the Audio

VOLUME
MUTING | LOW BOOST
BASS and TREBLE
BALANCE
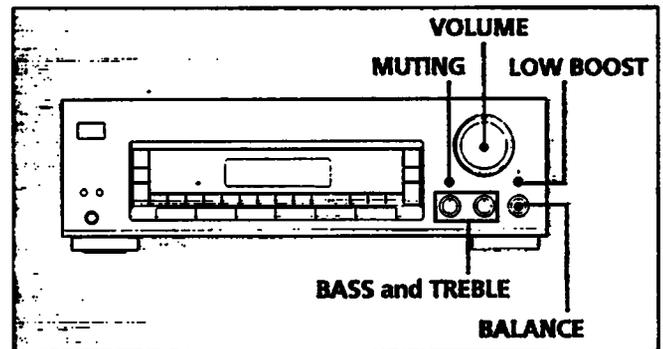
Adjusting volume
Turn VOLUME.

Reducing the sound to a low level temporarily (– 20 dB attenuation)
Press MUTING and the indicator lights up.
Press again to restore the same listening level as before and the indicator goes off.

Adjusting Tone Quality
Adjust BASS or TREBLE for the optimum sound.

Adjusting Left and Right Sound Balance
Adjust BALANCE to correct stereo imaging, when the speaker position is not symmetrical.

Reinforcing the Bass
Press LOW BOOST and the indicator lights up.
Press again to cancel the LOW BOOST effect and the indicator goes off.

Receiving FM/AM Broadcasts

POWER → ON

2   **4**   **3**
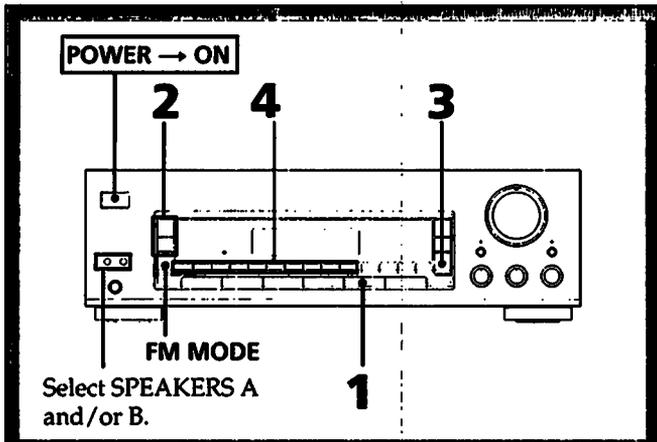
FM MODE
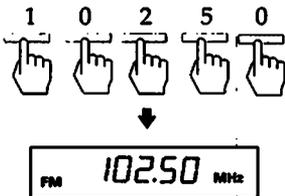Select SPEAKERS A
and/or B.

1

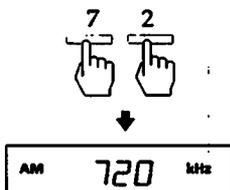## 1 Press TUNER.

2 Select FM or AM.

3 Press DIRECT.

4 Press the appropriate numeric buttons to enter the frequency. (See examples below.)
The entered frequency is displayed.

Example 1: FM 102.50 MHz

1   0   2   5   0

↓

FM 102.50 MHz

Example 2: AM 720 kHz

7   2

↓

AM 720 kHz

Note on AM tuning
You need enter the last "0" for Australian model.

To correct the entered frequency
Repeat steps 3 to 4.

If you enter a frequency not covered by the tuning interval
The entered value is automatically rounded up or down to the closest value covered by the tuning interval.
Tuning intervals for direct tuning are the followings:
FM: 50 kHz interval
AM: 10 kHz interval (for U.S.A. and Canadian models)
     9 kHz interval (for Australian model)
(To switch the tuning interval between 9 kHz and 10 kHz, see page 17.)

When the entered frequency does not exist in the receivable frequency range
The entered digits (up to 5 digits for FM or up to 4 digits for AM) blink in the frequency display area, and reception does not take place.
If this occurs, press DIRECT again, and enter the correct frequency. The frequency range of the receiver is 87.50 to 108.0 MHz for FM, and 530 to 1710 kHz with 10 kHz interval (U.S.A. and Canadian models) or 531 to 1602 kHz with 9 kHz interval (Australian model) for AM.

## When an FM stereo program is noisy
When the unit receives an FM stereo program, the STEREO indicator lights in the display window. If the stereo program is noisy, press FM MODE to change the mode over to MONO. This eliminates the stereo effect, but the noise will be greatly reduced.
To return to the stereo mode, press FM MODE again.

Automatic Tuning

When you do not know the frequency of the station, proceed as follows.

POWER → ON

Select SPEAKERS A and/or B.
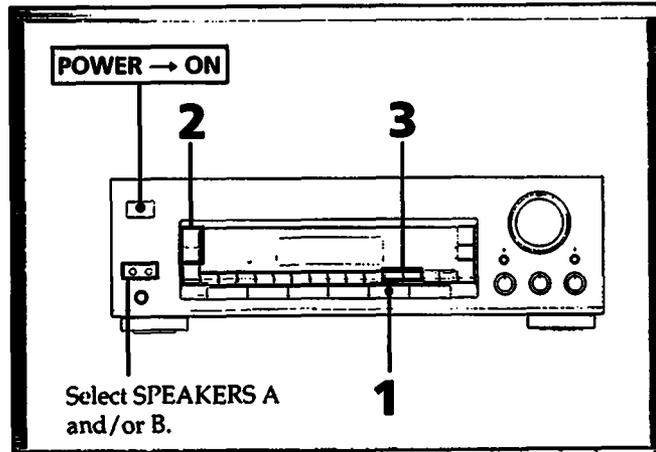
1 Press TUNER.

2 Select FM or AM.

3 Press TUNING + or –.
For a higher frequency, press TUNING +.
For a lower frequency, press TUNING –.

When a station is received, automatic tuning stops automatically. To change the station, press + or – again.

When sweeping does not stop at the desired station
The signal strength is weak. Tune in the station as described in "Tuning in a Station Directly" on page 9.

Presetting Stations

A total of 30 FM/AM stations can be memorized in any desired sequence.

POWER → ON

Select SPEAKERS A and/or B.
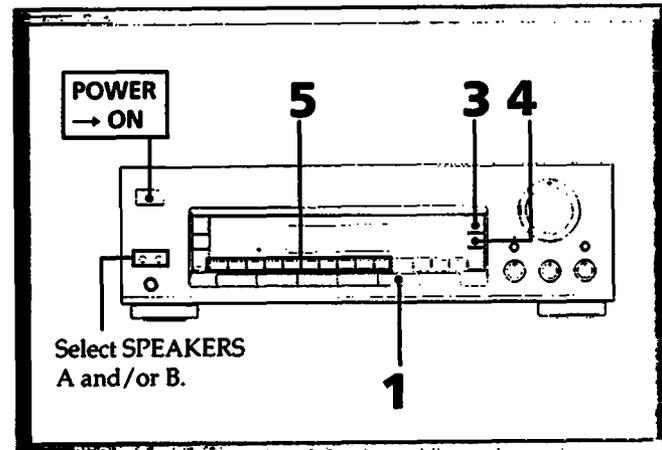
1 Press TUNER.

2 Tune in the desired station. (See "Automatic Tuning" or "Tuning in a Station Directly".)

3 Press MEMORY.
The MEMORY indicator appears for a few seconds.

4 Press SHIFT to select the memory page (A, B or C).
Each time the button is pressed, A, B or C is selected cyclically.

5 Press the desired numeric button (1 to 0) while the MEMORY indicator is displayed.
Repeat steps from 2 through 5 for presetting other desired stations.

Use of memory pages
The memory pages (A, B and C) can be used to classify stations according to the music category, station band, etc.

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

IMPORTANT
The memorized station is maintained for approximately one month even if the power cord is disconnected from the AC power outlet. If they are erased, store the stations again.

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Tuning in a Preset Station - Preset Tuning

There are two ways to perform the preset tuning.
In method A (direct tuning), select by designating the desired preset station number directly with the numeric button. In method B (scan tuning), select the preset station with the PRESET TUNING –/+ buttons.

Method A: Direct tuning

POWER → ON

2

Select SPEAKERS A and/or B. 3 1
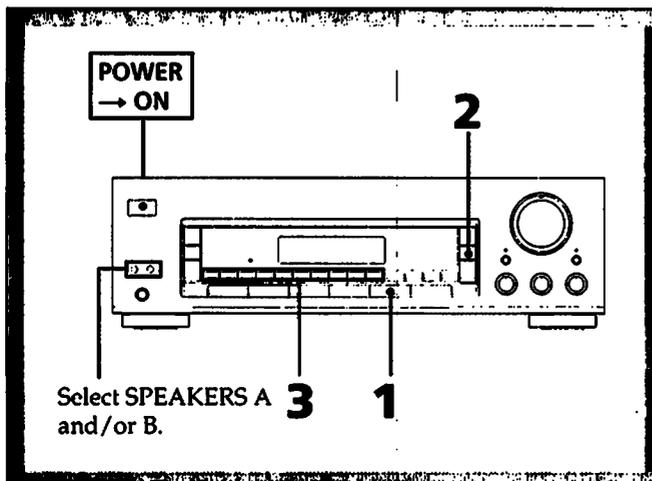
1 Press TUNER.

2 Press SHIFT to select the memory page (A, B or C).

Each time the button is pressed, A, B or C is selected cyclically.

3 Press the numeric button.

Method B: Scan tuning

POWER → ON

2

Select SPEAKERS A and/or B. 1
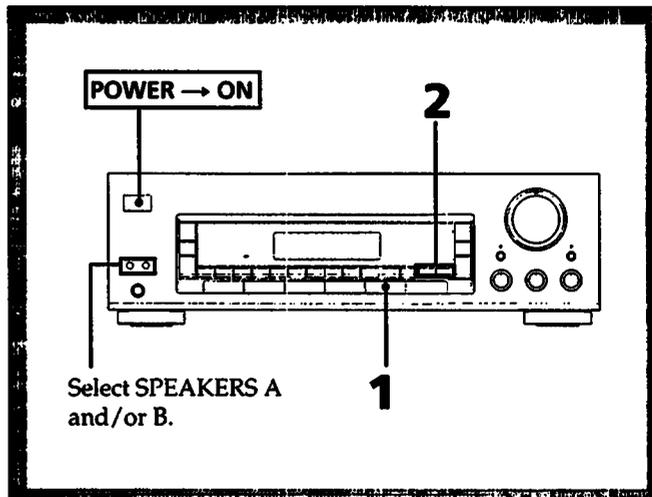
1 Press TUNER.

2 Press PRESET TUNING – or +.
For a higher frequency, press +.
For a lower frequency, press –.

Each time you press + or –, the preset station of the next higher or lower number is tuned in.

A1 ⇄ A0 ⇄ B1 ⇄ B0

C0 ⇄ C1
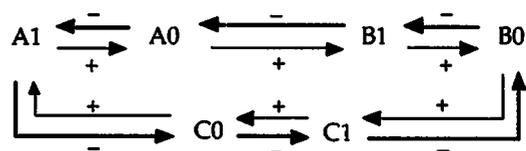
- If you keep pressing + or –, preset stations are successively tuned in. Release the button when the desired preset station is tuned in.

Using the Remote

he remote lets you operate the connected components as 'ell as the receiver. Press one of the FUNCTION buttons rst to select the program source, then use the following uttons to operate each component.

he FUNCTION buttons are factory set in the following list.

:UNCTION to be >ressed	Operating equipment
:UNER	Tuner
:D	CD player
:APE/MD	Tape deck
:V/LD	TV
:HONO	(The receiver enters the PHONO mode)

his remote commander can control Sony stereo cassette eck having RMS function.
or more information on the availability of Sony stereo :ssette deck with RMS capability, contact your nearest Sony ealer.

urning power of each equipment

1 Press one of the FUNCTION button.
This unit and the corresponding equipment are turned on.

Only for Sony TV
When you press the TV/LD button, the power of the TV (VTR or LD) player is also turned on.
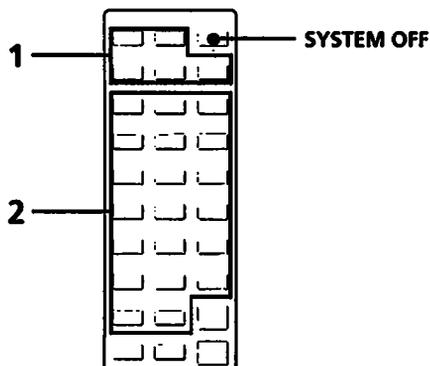When an LD player or VTR is selected, the input of TV switches to VIDEO, and when TV is selected, the input of TV switches to TV reception mode. (When you want to turn on the power of TV and switch the TV input simultaneously, keep pressing the button you have selected until its power is turned on, or press the button again after the TV is turned on.)
• If the TV input does not switch to the appropriate mode, switch the input signal with the remote commander supplied with TV.

Note
To operate each equipment correctly, the function mode of the receiver should be same with that of the remote commander. So, be sure to press the desired FUNCTION button at first and then the operative button.

2 Operate the units with each buttons.
The buttons you can operate differ among function mode see "Operative Buttons"

Turning off the power of equipments
By pressing the SYSTEM OFF button, you can turn off the power of all equipments. If the power of TV can not be turned off with the SYSTEM OFF button, turn off the power with the remote commander supplied with the TV.

Operative Buttons
For FM/AM tuner

To	Press
Select memory pages for preset tuning	SHIFT
Designate preset numbers	Numeric buttons

For CD player

To	Press
Designate numbers	Numeric buttons
Designate number more than 10	>10
Skip discs	D.SKIP
Search selections	►►, ◄◄
Pause play	II
Start play	►
Stop play	■

For tape deck/DAT/MD player

To	Press
Designate numbers	Numeric buttons
Designate number more than 10 (For tape deck and MD player)	>10
Fastforward	►►
Rewind	◄◄
Pause play	II
Start play	►
Start reverse play (For tape deck)	◄
Select the tape running direction (For tape deck having RMS function)	RMS DIRECTION
Stop play	■
Clear the RMS program contents (For tape deck having RMS function)	RMS CLEAR
Start recording (Forward direction)	● + ►
Start recording (Reverse direction for tape deck)	● + ◄
Program selections (For tape deck having RMS function)	RMS/START

For TV/VTR/LD player

To	Press
Designate channel numbers of TV/VTR or selections of LD player	Numeric buttons
Designate selections of LD player more than 10	>10
Select the output signal from the antenna terminal on the VTR: a TV signal or VTR program (For VTR)	ANT TV/VTR
Fast forward (For VTR and LD player)	►►
Rewind (For VTR and LD player)	◄◄
Pause play (For VTR and LD player)	II
Start play (For VTR and LD player)	►
Stop play (For VTR and LD player)	■
Start recording (For VTR)	● + ►
Enter selected TV/VTR channel	ENTER

You can replace the functions stored in the FUNCTION buttons.

To change the settings of the SYSTEM CONTROL/ FUNCTION buttons

While pressing one of the FUNCTION button to be changed, press 1 to 0 button to select the desired function.
After changing the setting of the FUNCTION button, the equipment can be operated with the FUNCTION button you have changed.

To return the function to the initial mode, perform the same operation above.

With the numeric buttons from 1 to 0, each function can be selected as described in the following table:

Numeric buttons	The function to be selected
1	CD player
2	DAT deck
3	MD player
4	DECK A'
5	DECK B
6	LD player
7	VTR 1 (Remote control mode)
8	VTR 2 (Remote control mode)
9	VTR 3 (Remote control mode)
0	TV

Example: To change the CD FUNCTION button to the DAT function button.

1 Keep pressing CD

2 Press 2
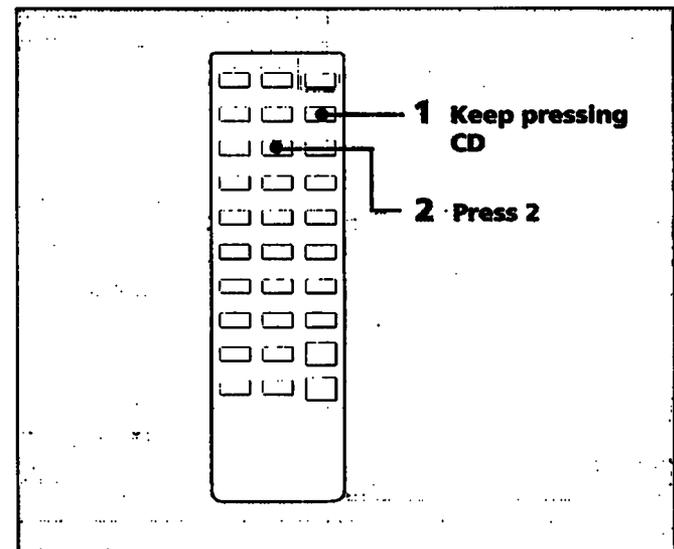
Note
The settings of the TUNER button and the PHONO button can not be changed.

13

Recording an Audio Source

Recording

POWER → ON

1

to TAPE/MD OUT or TAPE 2 REC OUT ⇩

2 Tape deck or MD player

⇧
| Turntable |
| Tuner |
| CD player |
| TV tuner or LD player |

3
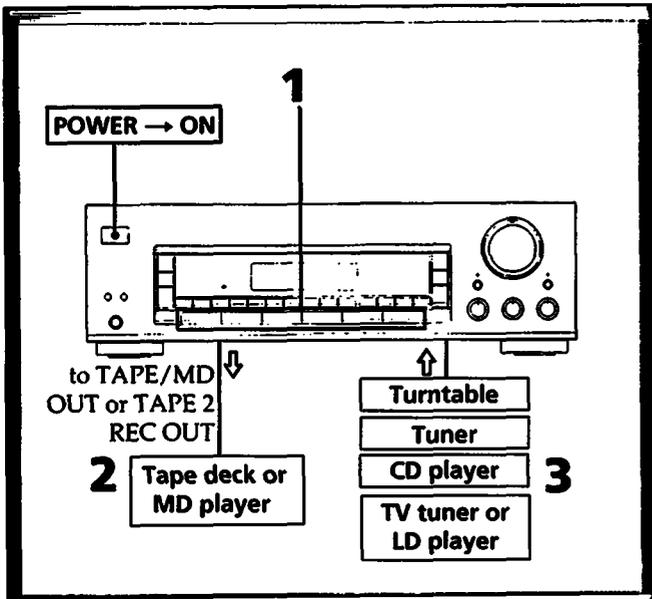
1 Select the desired program source with the function selector.

For an FM/AM broadcast, tune in the desired station.

| TAPE 2 MONITOR | TV/LD | TAPE 1/MD | CD | TUNER | PHONO |

2 Set the tape deck or MD player to the recording mode.

3 Start the selected program source.

Tape Dubbing

POWER → ON

2

to TAPE 2 REC OUT ⇩

1, 3 Tape deck 2 (for recording)

to TAPE 1 /MD IN ⇧

Tape deck 1 or MD player (for playback) 1, 3

1 Insert the recorded tape into tape deck B and a blank tape into tape deck A.

2 Press TAPE 1/MD to select the deck for playback.

3 Start playback of the tape in tape deck B, and set tape deck A to the recording mode.

Dubbing will start.

Note on recording

The settings of VOLUME, BASS/TREBLE, LOW BOOST, BALANCE and MUTING do not have any effect on recording.

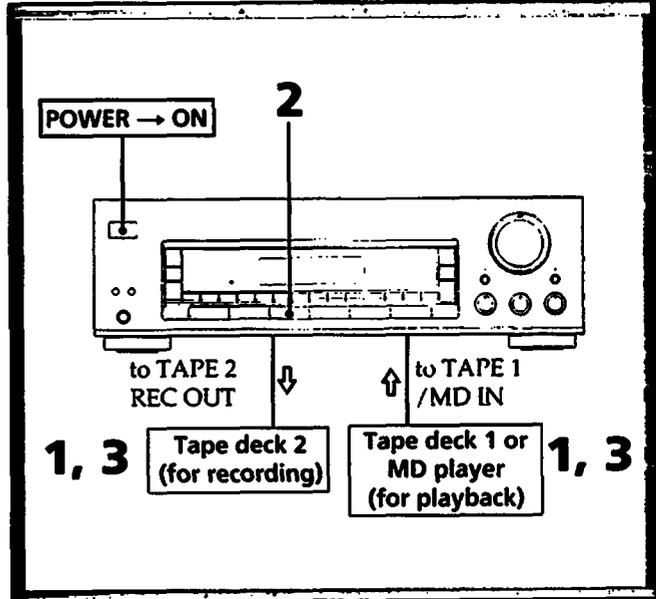**To monitor recorded sound during recording (when a cassette deck with a three-head system is connected)**

Select the program to be recorded and then press TAPE 2 MONITOR so that the TAPE 2 MONITOR indicator lights up. If TAPE 2 MONITOR is pressed before selecting the program to be recorded, the monitor function is released.

Note

Only the recorded sound of a cassete deck connected to TAPE 2 jacks can be monitored.

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Troubleshooting Guide

Before proceeding through the check list 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	Solution
The 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 FM MODE to MONO mode.
No station can be tuned in by Automatic Tuning operation.	The AM tuning interval is set incorrectly. (For U.S.A. and Canada models)	Change the tuning interval according to the AM frequency allocation system of your country. (See page 17)
	The signal strength of the station is too weak for Automatic Tuning.	Adjust the antenna.
		Directly tune in the stations. (See page 12)
No stations can be tuned in with scan tuning.	No stations have been preset.	Preset the stations. (See page 14)
No sound is heard even if you adjust VOLUME.	The speaker or program source equipment is not connected correctly.	Connect the equipment correctly.
	The SPEAKERS A/B buttons are not set correctly.	Set the buttons correctly. If the A and B buttons are both depressed, check that both speaker systems are properly connected.
	A wrong function selector has been pressed.	Press the correct function selector.
There is an abrupt loss of sound from one or both of the speakers, or PROTECT appears in the display.	A short-circuit problem activates the protective circuit.	Turn off the unit, eliminate the short-circuit problem and turn on the power again. If there is no short-circuit problem, consult your nearest Sony dealer.
Sound is heard only at a very low volume.	MUTING has been pressed. (The muting indicator is lit.)	Press the button to cancel the muting function.
Sound is heard only from one channel, 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.	Check and properly connect the equipment.
Sound 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.

Troubleshooting Guide

Problem	Cause	Solution
There is lack of bass sound or the instrument position is obscure.	The ⊕/⊖ connection of the speaker is reversed.	Connect the speaker with the correct phase.
Severe hum or noise is heard.	The connecting cords are not shielded type.	Use shielded type cords.
	A transformer, motor, TV or fluorescent light affects the connecting cords.	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.	Place TV away from the audio components.
	The unit 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 will not operate.	The batteries are exhausted.	Replace the batteries with new ones.
	The commander head is not pointed toward the unit's front.	Point the commander head toward the receiver.

Specifications

(For USA and Canadian models)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 8-ohm load, both channels driven, from 40 - 20,000 Hz, rated 100 watts per channel minimum RMS power, with less than 0.8% total harmonic distortion from 250 milliwatts to rated output.

Other Specifications

Amplifier section

Continuous RMS power output (8 ohms, at 40 Hz - 20 kHz less than 0.8% total harmonic distortion)
    100 W + 100 W
Dynamic power (at 1 kHz IHF)
    140 W + 140 W (8 ohms), 220 W + 220 W (4 ohms)
Harmonic distortion
    Less than 0.8% at rated output
Frequency response
    PHONO: RIAA equalization curve ±0.5 dB
    CD ⌐
    TAPE ⌐ 10 Hz - 50 kHz ±1 dB

Inputs

	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	2.5 mV	50 kilohms	75 dB (A) 75 dB* (A, 5.0 mV)
CD	300 mV	50 kilohms	82 dB (A) 82 dB* (A, 500 mV)
TAPE 1/ MD, TV/LD, TAPE 2	250 mV		

* '78 IHF

Outputs

REC OUT, TV/LD (AUDIO) OUT	Voltage 250 mV Impedance 10 kilohms
HEADPHONES	Accepts low and high impedance headphones

Tone controls
    BASS: ±8 dB at 100 Hz
    TREBLE: ±8 dB at 10 kHz
Muting
    -20 dB
LOW BOOST
    +10 dB at 70 Hz

Tuner section

	FM tuner section	AM tuner section
Tuning range	87.5 — 108 MHz	530 – 1710 kHz (10 kHz step)** 531 – 1710 kHz (9 kHz step)
Antenna terminals	300 ohms, balanced 75 ohms, unbalanced	External antenna terminal
Sensitivity at 50 dB quieting	18.3 dBf, 4.5 µV (mono) 38.3 dBf, 45 µV (stereo)	—
Usable sensitivity	11.2 dBf, 2 µV (IHF)	Loop antenna: 500 µV (at 1,000 kHz)
Signal-to-noise ratio	76 dB (mono) 70 dB (stereo)	54 dB (at 50 mV/m)
Harmonic distortion	0.3% (mono), 0.5% (stereo) at 1 kHz	0.5% (at 50 mV/m, 400 Hz)
Selectivity	60 dB at 400 kHz	40 dB at 10 kHz
Separation	45 dB at 1 kHz	—
Frequency response	30 Hz — 15 kHz $^{+0.5}_{-2}$ dB	—

General

System
    Tuner section: PLL quartz-locked digital
      synthesizer system
    Preamplifier section: low-noise NF type equalizer amp
    Power amplifier section: pure complementary SEPP
Power requirements
    120 V AC, 60 Hz
Power consumption
    U.S.A. model: 186 W
    Canadian model: 290 VA
AC outlet
    One switched (120 W/1A Max.)
Dimensions
    Approx. 430 x 135 x 295 mm (w/h/d)
      (17 x 5 ³/₈ x 11 ⁵/₈ inches)
    including projecting parts and controls
Mass
    Approx. 7.2 kg (13 lb 15 oz)
Accessories supplied
    FM wire antenna (1)
    AM loop antenna (1)
    Remote Commander RM-U141 (1)
    Sony batteries SUM-3(NS) (2)

Design and specifications are subject to change without notice.

** For the models in U.S.A. and Canada
    You can change the AM tuning interval to 9 kHz. After tuning in any AM tuning in any AM station, turn off the power of receiver once. While holding down numeric button 9, press the POWER switch. When you change the interval, all the preset stations will be erased. To reset the interval from 9 kHz to 10 kHz, press the POWER switch while pressing the 0 button.

Specifications

(For Australian model)

Amplifier section

Continuous RMS power output (8 ohms, at 40 Hz - 20 kHz less than 0.8% total harmonic distortion)
   80 W + 80 W

Dynamic power (at 1 kHz IHF)
   110 W + 110 W (8 ohms), 150 W + 150 W (4 ohms)

Harmonic distortion
   Less than 0.8% at rated output

Frequency response
   PHONO: RIAA equalization curve ±0.5 dB
   CD
   TAPE   10 Hz - 50 kHz ±1 dB

Inputs

	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	2.5 mV	50 kilohms	75 dB (A) 75 dB* (A, 5.0 mV)
CD	300 mV	50 kilohms	82 dB (A) 82 dB* (A, 500 mV)
TAPE 1/ MD, TV/LD, TAPE 2	250 mV		

* '78 IHF

Outputs

REC OUT, TV/LD (AUDIO) OUT	Voltage 250 mV Impedance 10 kilohms
HEADPHONES	Accepts low and high impedance headphones

Tone controls
   BASS: ±8 dB at 100 Hz
   TREBLE: ±8 dB at 10 kHz

Muting
   −20 dB

LOW BOOST
   +10 dB at 70 Hz

Tuner section

	FM tuner section	AM tuner section
Tuning range	87.5 — 108 MHz	531 — 1,602 kHz
Antenna terminals	300 ohms, balanced 75 ohms, unbalanced	External antenna terminal
Sensitivity at 46 dB quieting	18.3 dBf, 4.5 µV (mono) 38.3 dBf, 45 µV (stereo)	—
Usable sensitivity	11.2 dBf, 2 µV (IHF)	Loop antenna: 500 µV (at 999 kHz)
Signal-to-noise ratio	70 dB (mono) 66 dB (stereo)	54 dB (at 50 mV/m)
Harmonic distortion	0.3% (mono), 0.5% (stereo) at 1 kHz	0.5% (at 50 mV/m, 400 Hz)
Selectivity	60 dB at 400 kHz	30 dB at 9 kHz
Separation	45 dB at 1 kHz	—
Frequency response	30 Hz — 15 kHz $^{+0.5}_{-2}$ dB	—

General

System
   Tuner section: PLL quartz-locked digital synthesizer system
   Preamplifier section: low-noise NF type equalizer amp
   Power amplifier section: pure complementary SEPP

Power requirements
   240 V AC, 50 Hz

Power consumption
   160 W
   In standby condition: 5 W

AC outlet
   One switched (100 W Max.)

Dimensions
   Approx. 430 x 135 x 295 mm (w/h/d)
   (17 x 5 $^3/_8$ x 11 $^5/_8$ inches)
   including projecting parts and controls

Mass
   Approx. 7.2 kg (13 lb 15 oz)

Accessories supplied
   FM wire antenna (1)
   AM loop antenna (1)
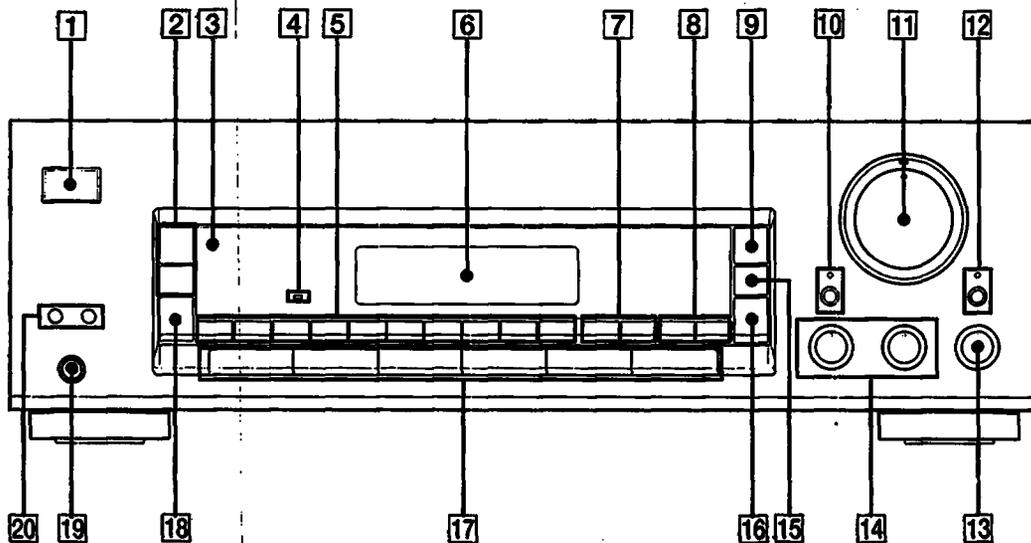   Remote Commander RM-U141 (1)
   Sony batteries SUM-3(NS) (2)

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Identifying the Parts and Controls

Front Panel

[1] **POWER switch**

[2] **FM/AM band selectors** (See pages 9 and 10.)

[3] **Remote sensor**

[4] **TAPE 2 MONITOR indicator** (See page 14.)

[5] **Numeric buttons** (See pages 9, 10 and 11.)

[6] **Display window**

[7] **TUNING –/+ buttons** (See page 10.)

[8] **PRESET TUNING –/+ buttons** (See page 11.)

[9] **MEMORY button** (See page 10.)

[10] **MUTING button and indicator** (See page 8.)

[11] **VOLUME control** (See page 8.)

[12] **LOW BOOST button and indicator** (See page 8.)

[13] **BALANCE control** (See page 8.)

[14] **BASS/TREBLE controls** (See page 8.)

[15] **SHIFT button** (See pages 10 and 11.)

[16] **DIRECT button** (See page 9.)

[17] **Function selectors** (See page 8.)
When the TAPE 2 MONITOR is pressed, the indicator of the last selected function also remains lit. But the TAPE 2 MONITOR button has priority and the taped or digital audio taped program can be heard.
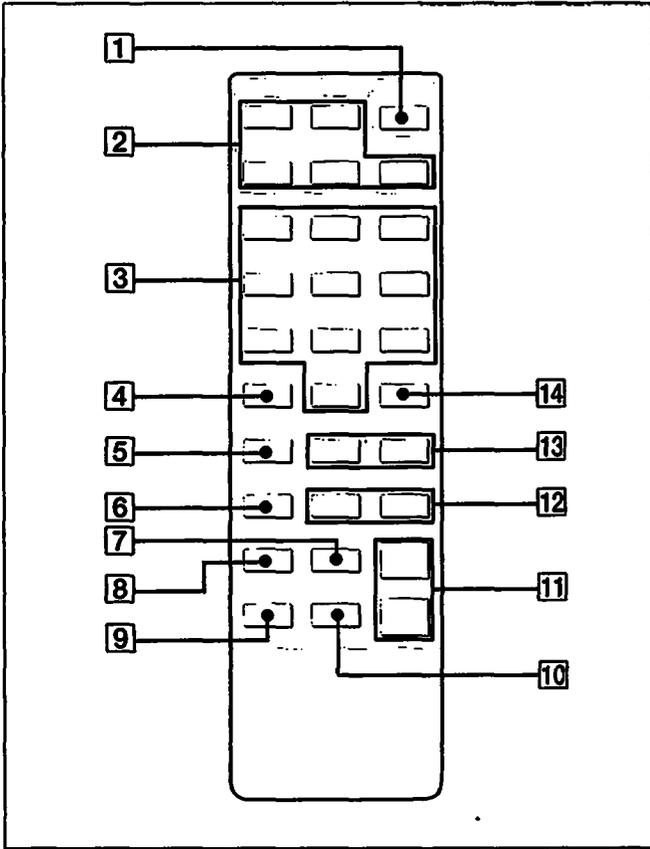
[18] **FM MODE button** (See page 9.)

[19] **HEADPHONES jack** (See page 8.)

[20] **SPEAKERS A/B buttons** (See page 8.)

Identifying the Parts and Controls

[8] **II** button (See pages 12 and 13.)

[9] LOW BOOST button (See page 8.)

[10] MUTING button (See page 8.)

[11] VOLUME +/– buttons (See page 8.)

[12] ◄, ►, RMS DIRECTION buttons (See pages 12 and 13.)

[13] ◄◄, ►► buttons (See pages 12 and 13.)

[14] RMS/START, ENTER button (See pages 12 and 13.)

[1] SYSTEM OFF button (See page 12.)

[2] FUNCTION
CD, TUNER, PHONO, TV/LD, TAPE/MD buttons (See pages 12 and 13.)

[3] Numeric buttons (1 to 0) (See pages 9, 10, 11, 12 and 13.)

[4] SHIFT, >10 button (See pages 10, 11, 12 and 13.)

[5] ANT TV/VTR, D (disc) SKIP button (See pages 12 and 13.)

[6] CLEAR, ■ button (See pages 12 and 13.)

[7] ● button (See pages 12 and 13.)

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