

# COMPACT HI-DENSITY COMPONENT SYSTEM

# FH-211W

## OPERATING INSTRUCTIONS

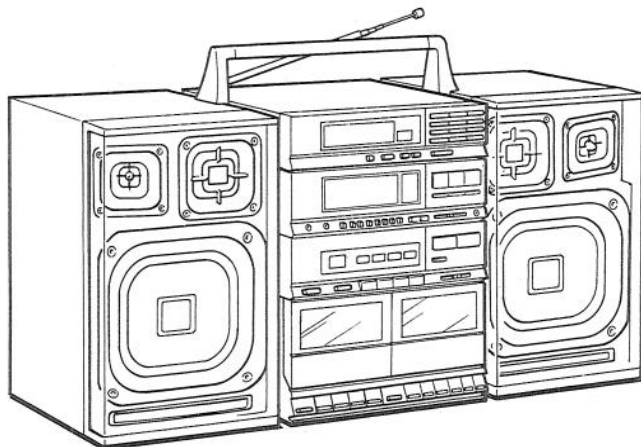
Before operating the unit, please read this manual thoroughly and retain it for future reference.

## OWNER'S RECORD

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

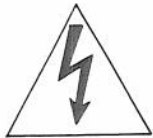
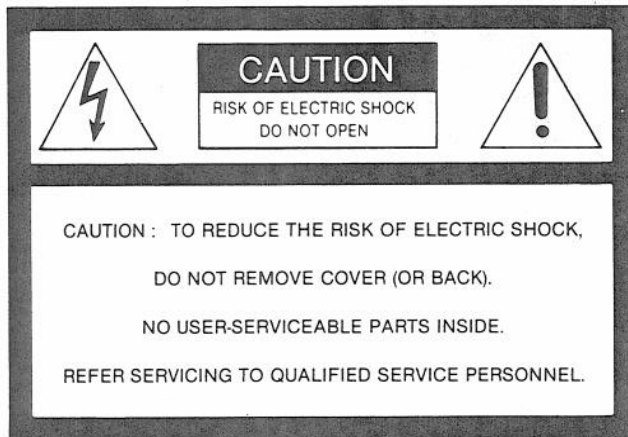
Model No. ST-211	Serial No. _____
Model No. TC-211W	Serial No. _____
Model No. TA-211	Serial No. _____
Model No. APM-215	Serial No. _____

*B*



## 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.

### **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.

### **INFORMATION**

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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 the receiving antenna

Relocate the equipment with respect to the receiver

Move the equipment away from the receiver

Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful :

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

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# FEATURES

## Compact hi-density component system

FH-211W consists of an FM stereo FM-AM tuner, a cassette deck and an integrated amplifier.

## Tuner section

- Permits precise tuning of FM/AM stations with the digital readout on the frequency display.
- A total of 20 stations of any band can be memorized in any sequence.
- Station scanning is possible with MEMORY SCAN.

## Amplifier section

- A 7-band graphic equalizer with a spectrum analyzer for fine adjustment of tone quality for both recording and playback.
- DBFB (Dynamic Bass Feedback System) for obtaining sufficient bass sounds.

## Cassette-deck section

- Relay play for playing both decks consecutively.
- Two synchro dubbing speeds available.

## PRECAUTIONS

### On safety

- Operate the unit only on 120 V AC, 60 Hz.
- Unplug the stereo system 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 plug out by the cord.
- Should any solid object or liquid fall into the component, unplug the stereo system and have the component checked by qualified personnel before operating it any further.

### On installation

- Do not place anything on top of the unit. The ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.
- Avoid installing or leaving the unit in a location:
  - near heat sources such as radiators, airducts or heaters
  - subject to direct sunlight
  - exposed to rain or moisture
  - where it is liable to come into contact with dust or dirt
  - that is unventilated, such as a bookcase

### When transporting the unit

To transport the unit, attach the supplied carrying handle.

If you have any question or problem concerning your unit that is not covered in this manual, please consult your nearest Sony dealer.

For repairs, take in all the components together, even if only one needs repairing.

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

## TO CHANGE THE AM TUNING INTERVAL

The AM tuning interval is preset at the factory to 10 kHz. To change the interval to match the frequency allocation system of your area, proceed as follows.

- 1 Depress POWER.
- 2 Tune in any AM station.
- 3 Press POWER to turn the power off and wait for a few seconds.
- 4 While pressing the "+" TUNING, press POWER to turn the power on.

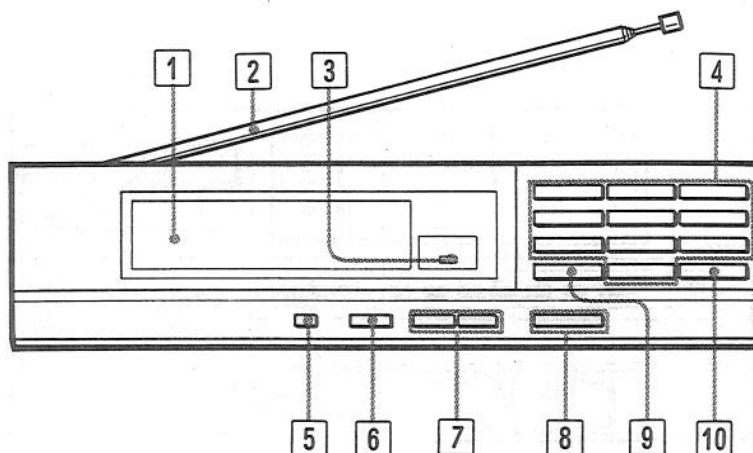
The AM tuning interval has been set to 9 kHz.

**To reset the interval to 10 kHz**, follow the above steps.

When the interval is changed, all the memorized stations will be erased.

# LOCATION AND FUNCTION OF CONTROLS

## ST-211 Tuner



**1 Band/frequency display**

**2 Telescopic antenna**

**3 STEREO indicator**

**4 PRESET (10-key station preset) selectors**

**5 STEREO/MUTING switch**

Normally keep this switch engaged to eliminate FM interstation noise while tuning from station to station. (The MUTING indication appears.)

Press to disengage when listening to the noisy FM stereo program. There is no stereo effect, but the reception will be improved.

**6 BAND select button**

Press to select the appropriate band. (FM→AM)

**7 TUNING buttons**

Use to change radio stations.

Press + to move to a higher frequency station.

Press – to move to a lower frequency station.

Hold the button down for continuous frequency change.

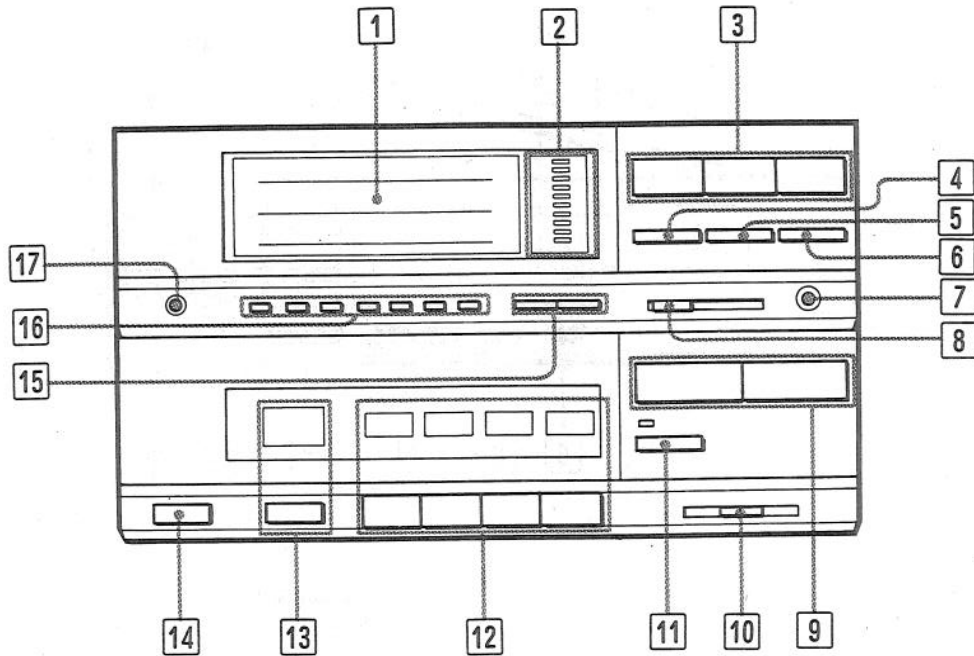
**8 MEMORY SCAN button**

**9 MEMORY button**

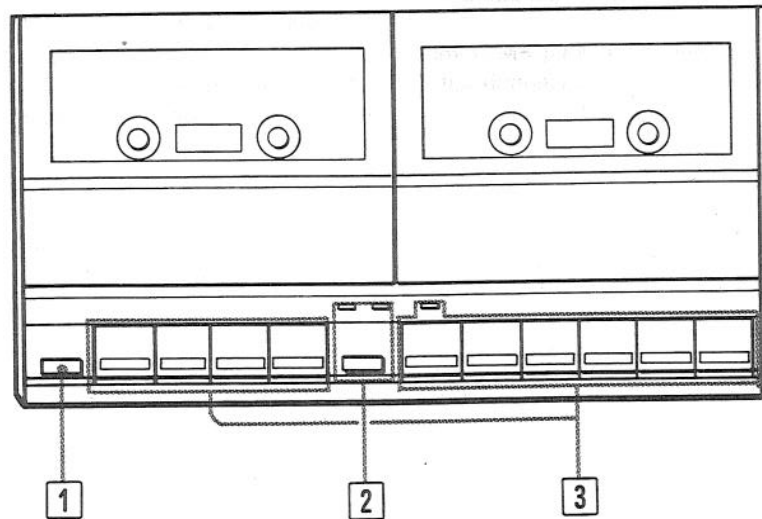
**10 ENTER button**

Completes station preset selections. See p.10.

TA-211 Amplifier



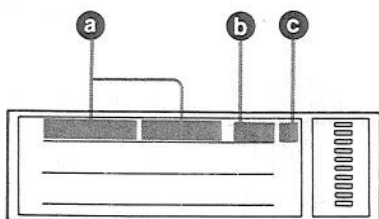
TC-211W Stereo cassette deck





## TA-211 Amplifier

### 1 Display window



#### a SPECTRUM ANALYZER/GRAPHIC EQUALIZER display

Usually displays the SPECTRUM ANALYZER. When the DISPLAY button or any other equalizer control is pressed, it changes to the GRAPHIC EQUALIZER display.

SPECTRUM ANALYZER	The sound level in 7 bands is displayed.
GRAPHIC EQUALIZER	The equalizer adjustment setting is displayed.

#### b MEMORY indicator

Appears when the EQ MEMORY button is pressed.

#### c Equalizer preset number indicator

Shows the selected preset number of the graphic equalizer setting.

### 2 VOL LEVEL (volume level) indicator

### 3 EQ PRESET (equalizer preset) selectors

Press to select the preset number of the graphic equalizer setting.

### 4 DISPLAY button

Selects the display function; spectrum analyzer or graphic equalizer display.

### 5 EQ FLAT (flat equalization) switch

Press to listen without equalization.

### 6 EQ MEMORY (equalization memory) button

Press to memorize the graphic equalizer settings.

### 7 MIC (microphone) jack (minijack)

### 8 MIC LEVEL (microphone level) control

Slide toward MAX to increase the microphone input level, and towards MIN to decrease it.

### 9 VOLUME control buttons

### 10 BALANCE control

Changes the relative strength of right and left speaker output levels.

### 11 MUTING switch

Press to momentarily mute the sound by 20 dB. To disengage the button, press it again.

### 12 FUNCTION select buttons and indicators

TAPE: Press to listen to tapes.

CD: Press to listen to or to record from compact discs or auxiliary sources.

TUNER: Press to listen to or to record radio programs.

PHONO: Press to listen to or to record from phonograph records.

### 13 DBFB (Dynamic Bass Feed Back) button and indicator

Depress to reinforce bass sound in playback. To disengage the button, press it again.

### 14 POWER switch

### 15 EQ LEVEL (equalization level) control buttons

Press "+" to increase, or "-" to decrease the sound level in the selected band during both listening and recording.

### 16 Graphic equalizer band selectors

Press to select the frequency band to equalize.

### 17 PHONES (headphones) jack (stereo minijack)

## TC-211W Stereo cassette deck

### 1 DOLBY NR\* (noise reduction) switch

### 2 DUBBING SPEED select button and indicators

### 3 Tape operation buttons

▶ PLAY (play back) button

◀ REW (rewind) button


▶▶ FF (fast forward) button

■▲ STOP/EJECT button

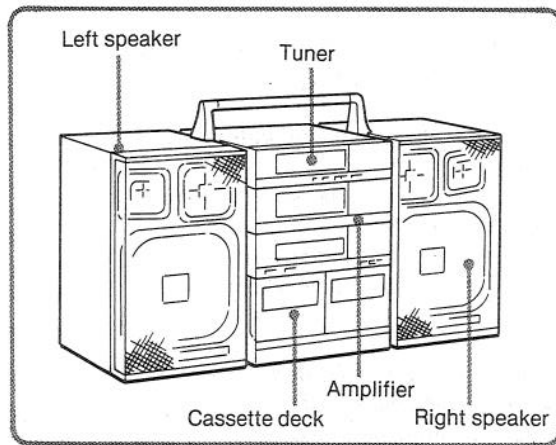
● REC (record) button and indicator

|| PAUSE button

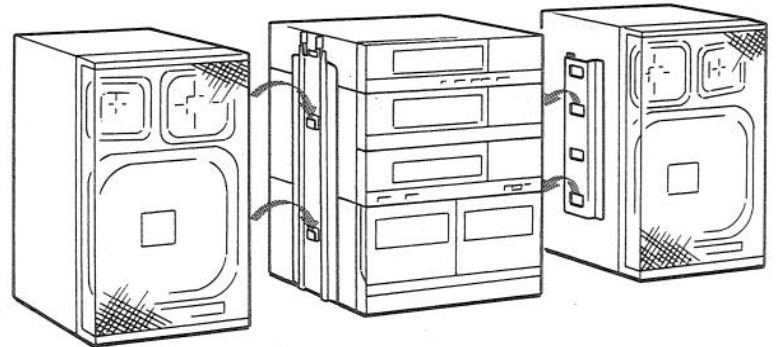
\* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

# SET-UP

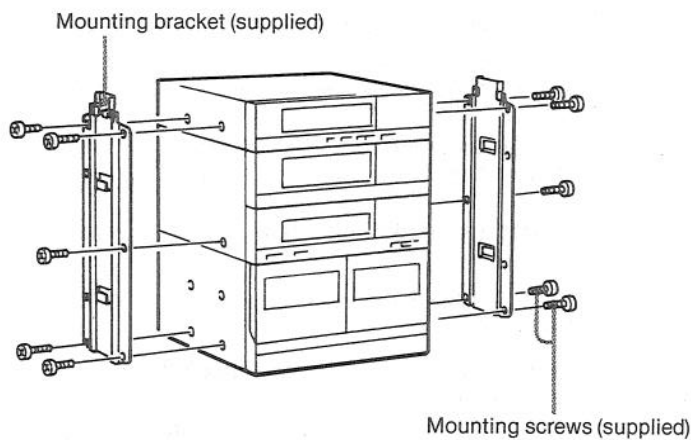


2

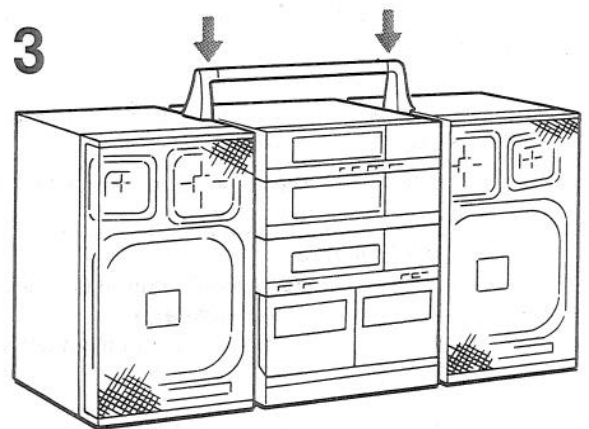


To attach carrying handle

1

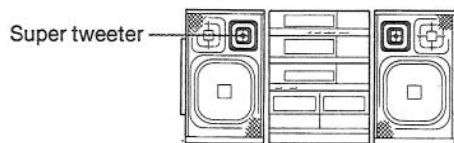


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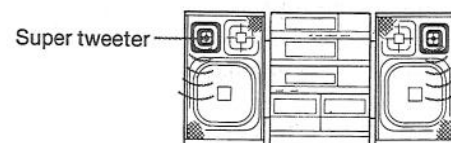


## Speaker installation examples

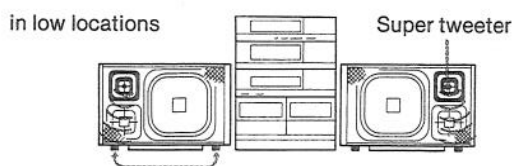
To make the sound localization distinctive:



To widen the sound field:

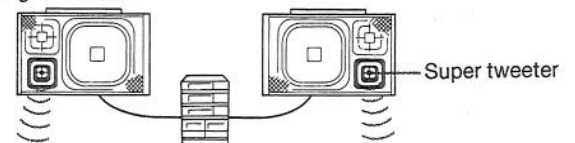


To widen the sound field more effectively:



Speaker cushions (supplied)

in high locations



## Notes on set-up

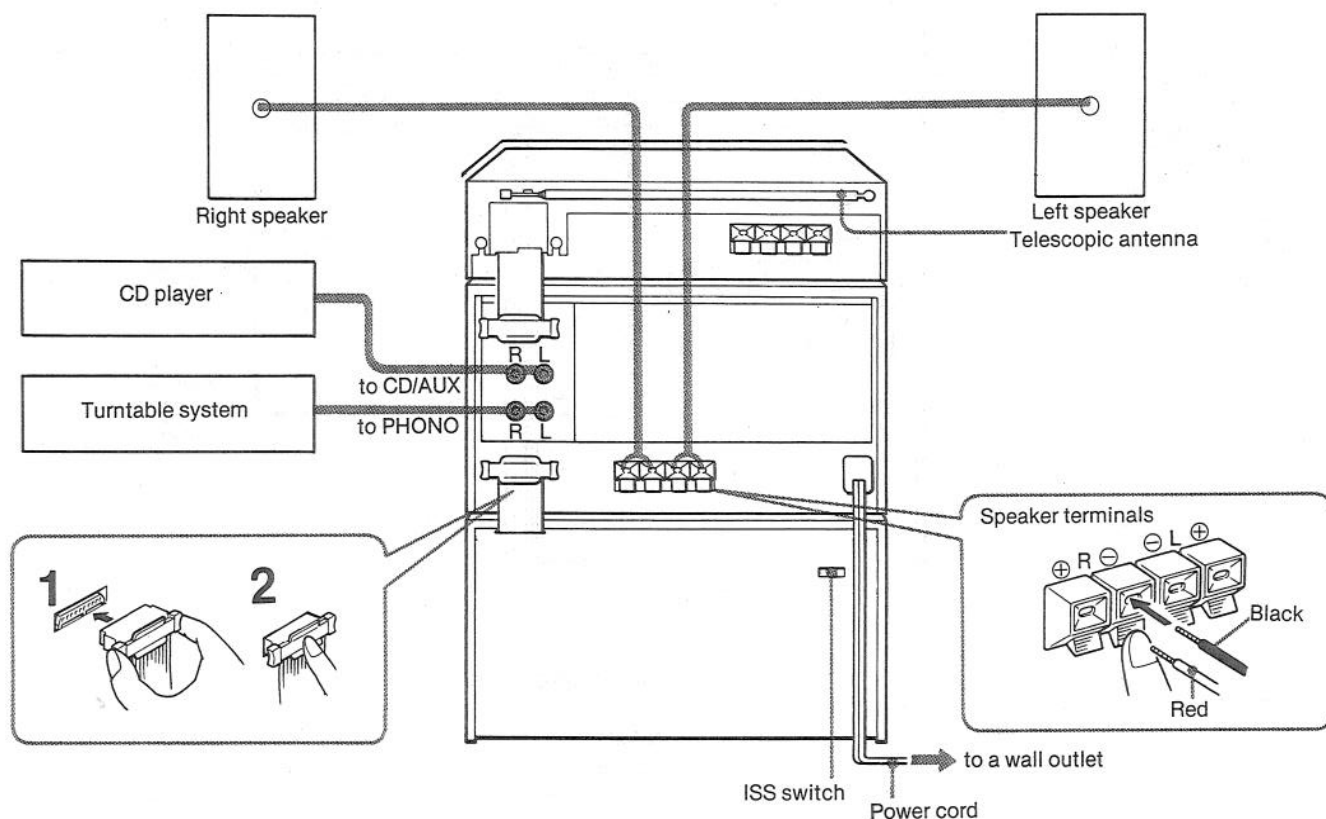
- Do not place the cassette deck on top of the tuner or amplifier.
- Do not place anything on top of the unit.



# CONNECTIONS

## SYSTEM CONNECTION

The power cord should be connected last of all, first making sure that the POWER switch is turned off.

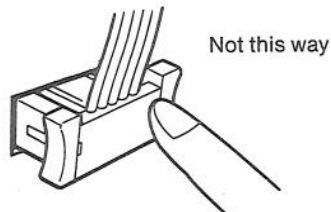


### Note on connection

The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.

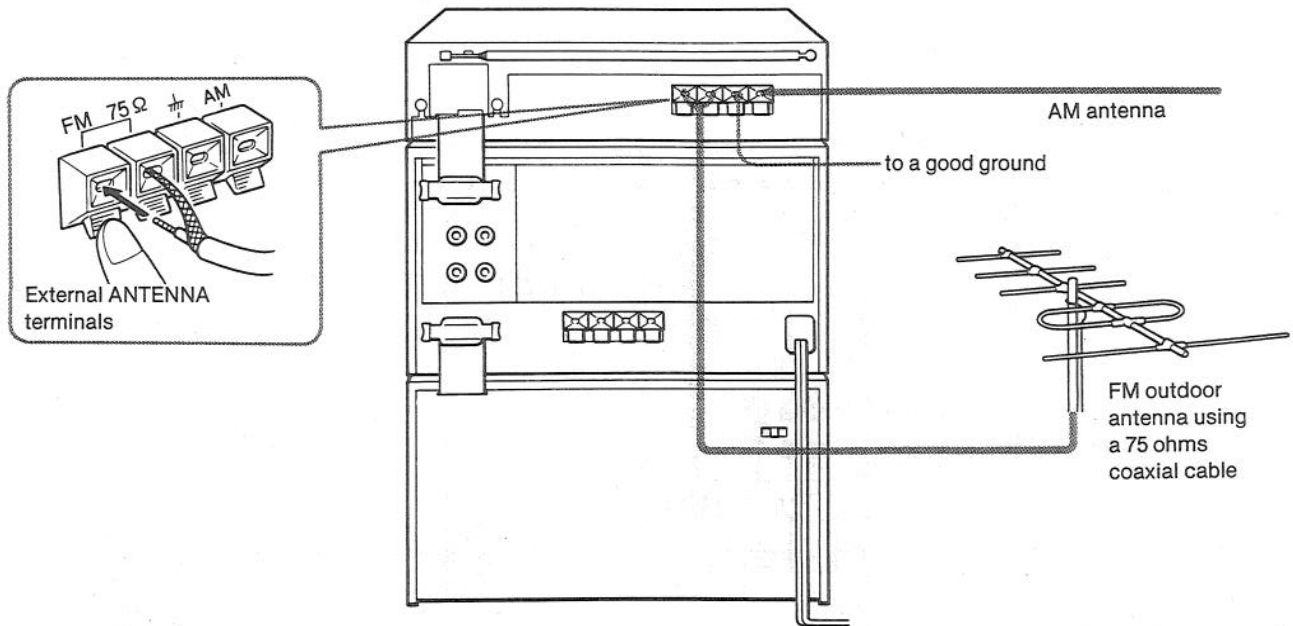
### Flat cord connection

To connect, press the middle of the connector until it clicks into the male connector.



To disconnect, pull the connector out. Never pull the cord itself.

EXTERNAL ANTENNA CONNECTION



**FM antenna connection**

When satisfactory reception is not obtained with the telescopic antenna, connect an FM outdoor antenna using a 75-ohm coaxial cable to the FM ANTENNA terminal on the rear.

This cable is free from external interference, reduces noise pickup, and is the ideal transmission line for most FM installations.

**AM antenna connection**

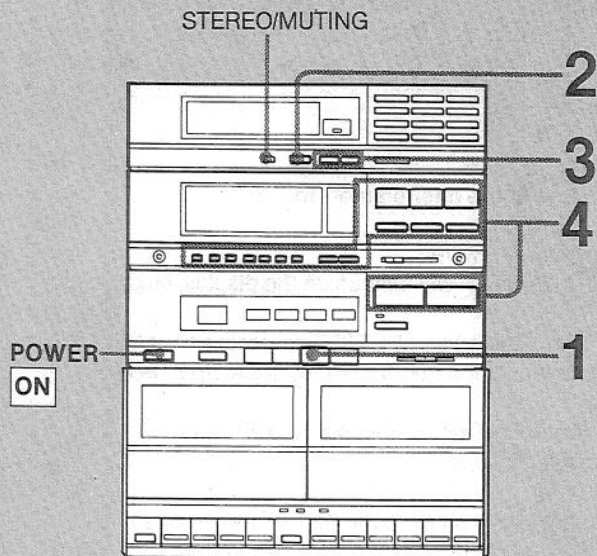
In most areas, the built-in ferrite bar antenna will provide satisfactory reception. In difficult reception areas, it may be necessary to connect a length of insulated wire 5 - 15 meters (20 - 50 feet) long to AM ANTENNA terminal. If possible, extend this out of doors keeping the greater portion horizontal.

**Antenna ground connection**

When an outdoor antenna is installed, the direct connection of the  $\perp$  (ground) terminal to a good ground is recommended.

# RADIO BROADCAST RECEPTION

## TO TUNE IN A STATION MANUALLY — Manual tuning



### 1 Press **TUNER**.

It is not necessary when you first listen to radio programs after turning on the unit.

### 2 Press **BAND** to select the desired band.

### 3 Press **TUNING + or -** to tune in the desired station.

The **TUNED** indication appears in the display window when a station is tuned in.

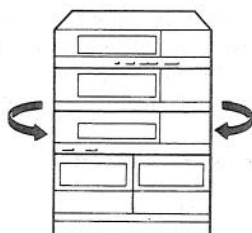
### 4 Adjust **VOLUME** and **GRAPHIC EQUALIZER** (see page 17).

## Antenna adjustment

For FM reception



For AM reception



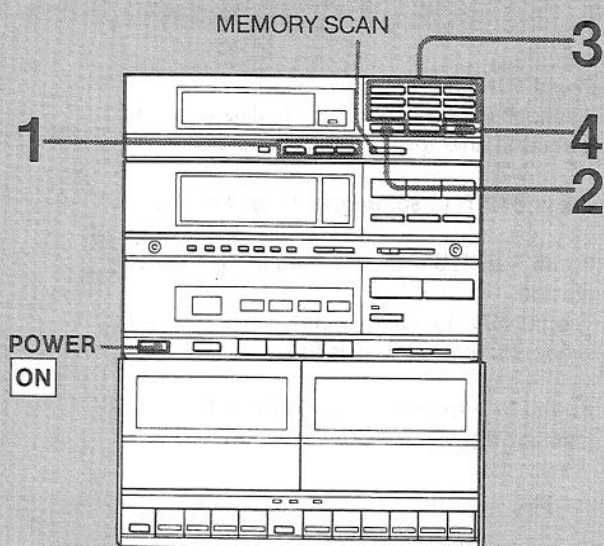
### When listening to an FM stereo program

The **STEREO** indicator will light up when an FM stereo signal of sufficient strength is received.

### When an FM stereo program is noisy or hard to receive

Disengage **STEREO/MUTING**. The **STEREO** indicator goes off and there is no stereo effect, but the reception will be improved. Press again to restore stereo effect.

## TO TUNE IN A PRESET STATION — Preset tuning



### To memorize station frequencies

You can memorize a favorite station on each preset station number (1 to 20) in any desired order. A total of 20 stations can be memorized.

- 1 Tune in the desired station.**
- 2 Press MEMORY.**  
"MEMORY" will light up on the display window.
- 3 Press the 10-key PRESET selectors** to select a preset station number, while "MEMORY" is lit.
- 4 Press ENTER, while "MEMORY" is lit.**  
MEMORY will go out.

Repeat above steps to memorize other frequencies.

### To receive a preset station

- 1 Press the desired PRESET selector.**
- 2 Press ENTER.**

### To scan preset stations

- 1 Press MEMORY SCAN.**  
A preset station number flashes on the display window.
- 2 Press TUNING + or –, while the number is flashing.**  
Scanning starts automatically. Each preset station is tuned in for a few seconds.
- 3 Press MEMORY SCAN again at the desired station.**  
Scanning stops at that station.

### Important

The previously memorized station will be erased when you enter a new frequency on the same preset number.

### To enter a frequency after "MEMORY" has gone off

Press the MEMORY button again.

### To check a preset station

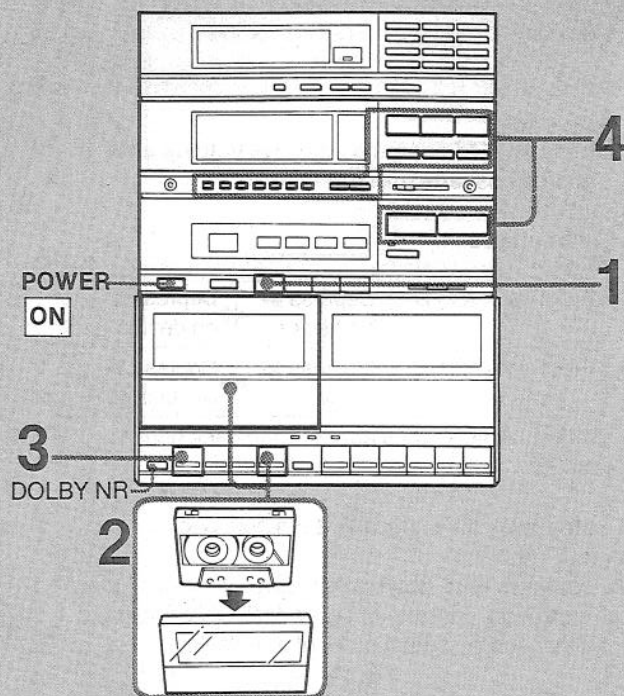
After memory presetting, confirm the preset stations as follows: Select an unrelated station using the + and – TUNING buttons. Then, select the preset number to be checked and press ENTER. Confirm the proper frequency appears on the display window.

### Memory of the preset stations include:

- Band setting
  - STEREO/MUTING switch setting
- There is no need to select the band and the STEREO/MUTING switch setting manually.

# TAPE PLAYBACK

## SINGLE DECK PLAYBACK (either on deck A or B)



- 1 Press TAPE.
- 2 Press ■ ▲ to open the cassette holder and insert a cassette with the desired side toward you.
- 3 Depress ►. Playback begins.
- 4 Adjust VOLUME and GRAPHIC EQUALIZER.

### Various tape operation

To stop playback	Press ■ ▲.
To pause (deck B only)	Depress ■■.
To resume playback	Press ■■ again.

#### To playback a tape recorded with Dolby NR

For best results, turn DOLBY ON. Play back other tapes with Dolby off. Playing back non-Dolby tapes with Dolby on will distort the high-frequency output.

#### The tape types usable for this system

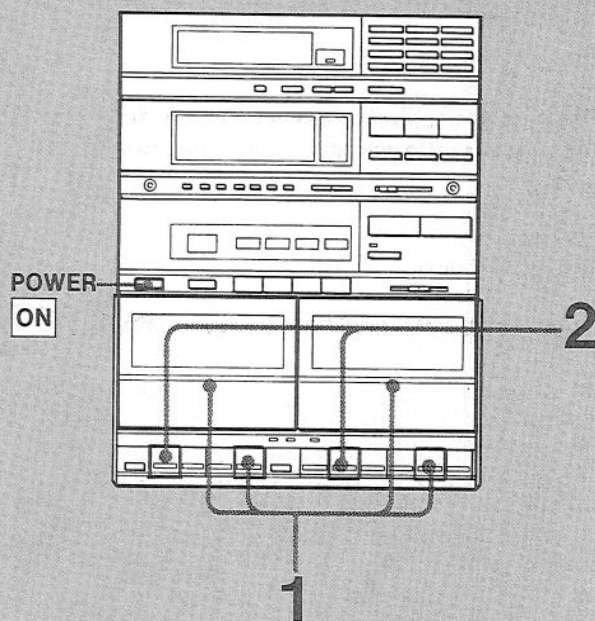
The tape types that can be used for this stereo system are TYPE I (Normal) and TYPE II (CrO<sub>2</sub>).

#### There is no need to select tape type

The tape type used for playback and recording is automatically detected by the Automatic tape selector.



## TO PLAY BACK BOTH DECKS CONTINUOUSLY — Relay play



Continuous playback of one side of each cassette from deck A to B or vice versa is possible.

**1** Press ■ ▲ to open the cassette holders and insert a cassette into both decks.

**2** Start playback.

From deck A to B	Depress ► on deck A	Depress ► on deck B
From deck B to A	Depress ► on deck B	Depress ► on deck A

Relay playback stops after playing back both decks.

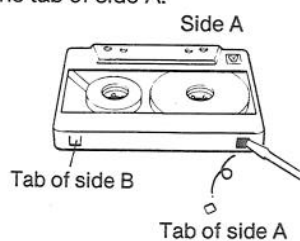
To stop relay play, press ■ ▲ on both decks.

To continue relay playback, change the cassette or the side of the cassette of either deck while playing the other one, and depress ► of that deck.

## NOTES ON CASSETTES

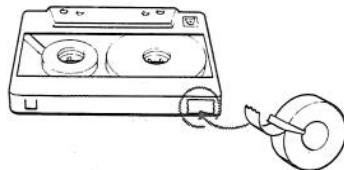
## To protect the side A recording

Break out the tab of side A.



## To reuse a protected cassette

Cover each slot with cellophane tape.

When using TYPE II (CrO<sub>2</sub>) cassettes

Be careful not to cover the detector slots as they are necessary for automatic tape selector.



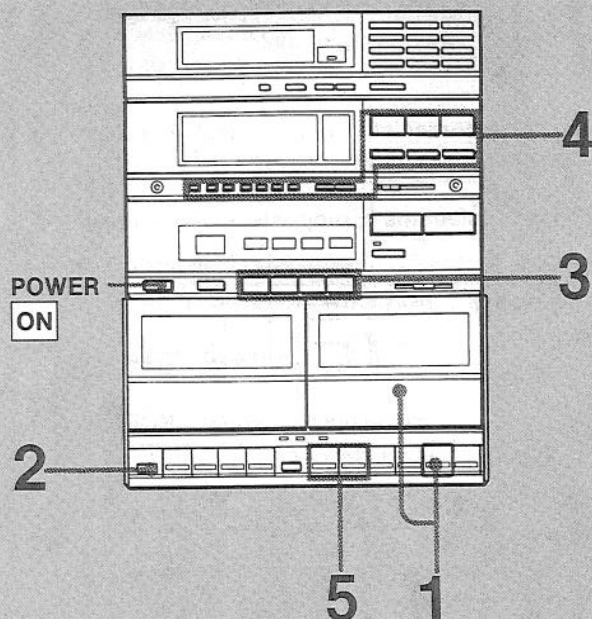
C-120 cassettes are not recommended except when necessary for long continuous recording and playback

## Cassette care

- Avoid touching the tape surface of a cassette, as any dirt or dust will contaminate the heads.
- Keep cassettes away from equipment with magnets, such as speakers and amplifiers, as erasure or distortion on the recorded tape could occur.
- Do not expose cassettes to direct sunlight, extremely cold temperatures or moisture.



## TAPE RECORDING (deck B)



- 1** Insert a cassette with the desired side to be recorded toward you.
- 2** Select the DOLBY NR system.
- 3** Press **FUNCTION** to select the desired program source and play it.
- 4** Adjust the **GRAPHIC EQUALIZER** (See page 15).
- 5** Depress ● (▶ is depressed at the same time.)  
The REC indicator lights up.

To stop recording, press ■ ▲.

**If interference is encountered while recording an AM program**  
Slide the ISS (interference suppress switch) at the rear to position 1, 2 or 3 whichever best reduces the noise.

### **Note on recording level adjustment**

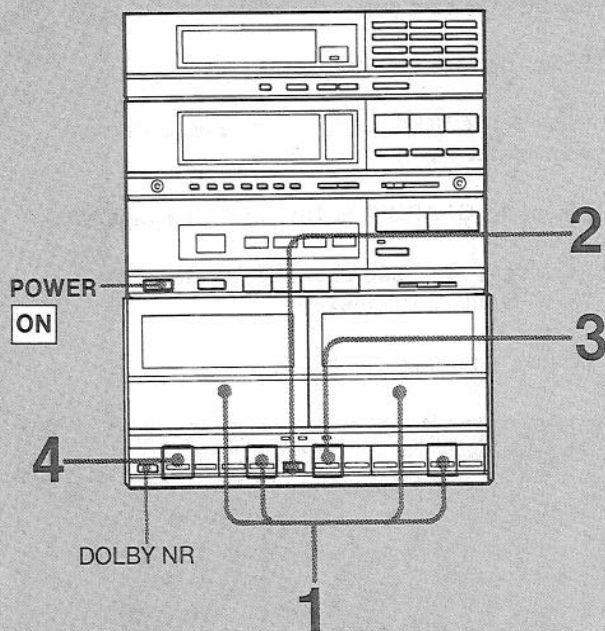
No recording level adjustment is necessary. The **VOLUME** or **BALANCE** control setting has no effect on the recording.

**To start recording more precisely**  
After performing the above step 4,

- 1** Depress ■■.
- 2** Depress ●.
- 3** Press ■■ again at the desired point.  
Recording starts.

# TAPE DUBBING (deck A for playback and deck B for recording)

The tape in deck B is dubbed with the same Dolby NR system as was used for the tape in deck A, regardless of the DOLBY NR switch position.



**1** Insert a recorded cassette into deck A and the cassette to be dubbed into deck B.

**2** Press to select the appropriate dubbing speed.

		Indicator
For normal speed	HIGH/NORM/OFF Press once.	HIGH NORMAL
For high speed	HIGH/NORM/OFF Press twice.	HIGH NORMAL

**3** Depress ● on deck B.  
Deck B enters the pause mode.

**4** Depress ► on deck A.  
Dubbing starts.

To stop dubbing, press ■ ▲ on deck A, then ■ ▲ on deck B.

When dubbing is completed, press DUBBING SPEED until the indicator goes off.

## TO DUB WITH THE DOLBY NR SYSTEM AND/OR GRAPHIC EQUALIZER ADJUSTMENT

**1** Press TAPE.

**2** Set DUBBING SPEED to OFF.

**3** Set DOLBY NR to ON, and/or adjust GRAPHIC EQUALIZER.

**4** Depress ● on deck B and ► on deck A.  
Dubbing starts.

The Dolby NR system, however, has no effect on the playback sound of deck A heard from the speakers.

To listen to the playback sound of deck A (when the DUBBING SPEED select button is set to NORM.)

Press TAPE.

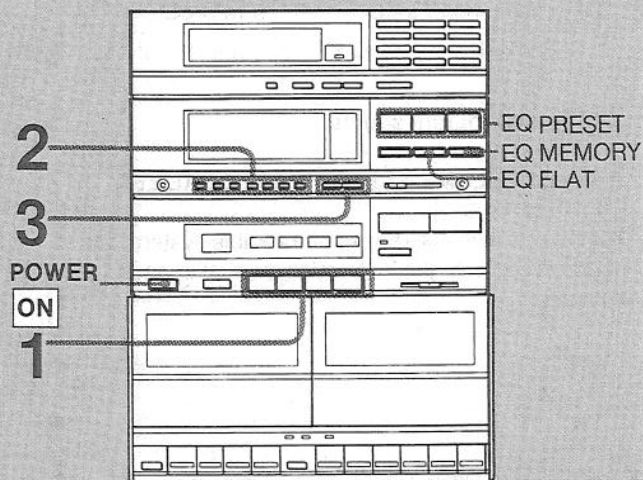
If the tape to be dubbed has been recorded with Dolby NR on, set the DOLBY NR switch to ON.

To listen to another program sources during dubbing  
Press the desired FUNCTION select button.

# HOW TO USE THE GRAPHIC EQUALIZER

The equalizer controls activates during both listening and recording.

## TO EQUALIZE SOUND



**1** Press **FUNCTION** to select the desired program source, and play it.

**2** Press the desired equalizer band selector.

**3** Press **EQ LEVEL +** or **-**, while the indicator is flashing on the display window.

To boost the sound level	Press +.
To reduce the sound level	Press -.

**To listen without equalization**  
Press **EQ FLAT**.

### Frequency coverage of each equalizer band selector

63 Hz: Use to boost or cut heavy bass.

150 Hz: Use to boost or cut normal bass.

400 Hz: Use to adjust the power, spaciousness and warmth of the sound.

1 kHz: Use to provide more presence for vocals.

3 kHz: Use to boost a brighter sound and to reduce stridency.

6 kHz: This selector governs the treble. Use to adjust the brightness of the sound and to reduce tape hiss.

14 kHz: Use to highlight the delicate quality of instrumental sound.

## TO MEMORIZE THE EQUALIZER SETTING

**1** Set the graphic equalizer controls.

**2** Press **EQ MEMORY**.

"MEMORY" flashes on the display window.

**3** Press the desired **EQ PRESET** selector, while "MEMORY" is flashing on the display window.

Your desired setting is memorized.

Repeat these steps for each **EQ PRESET** selector.

## TO RECALL THE MEMORY

**Press the desired EQ PRESET selector.**

The equalizer setting is displayed graphically on the display window for a few seconds.

### Important

Each **EQ PRESET** selector stores only one setting. The previously memorized setting will be erased when you enter a new one on the same selector.

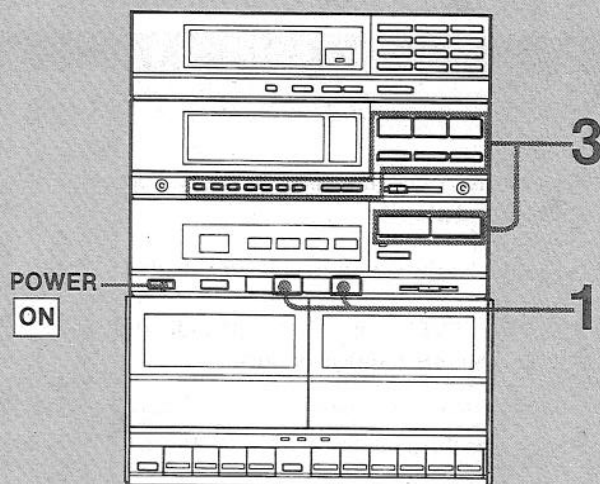
**To memorize a setting after "MEMORY" has gone off**

Press the **EQ MEMORY** again.

**To change the memorized setting temporarily**

Simply adjust the setting as you want. To recall the original setting, press one of the **EQ PRESET** selectors.

# COMPACT DISC OR RECORD PLAYING



## **1** Select a program source to be played.

For listening to a CD	Press CD.
For listening to a record	Press PHONO.

## **2** Play the program source.

## **3** Adjust VOLUME and GRAPHIC EQUALIZER.

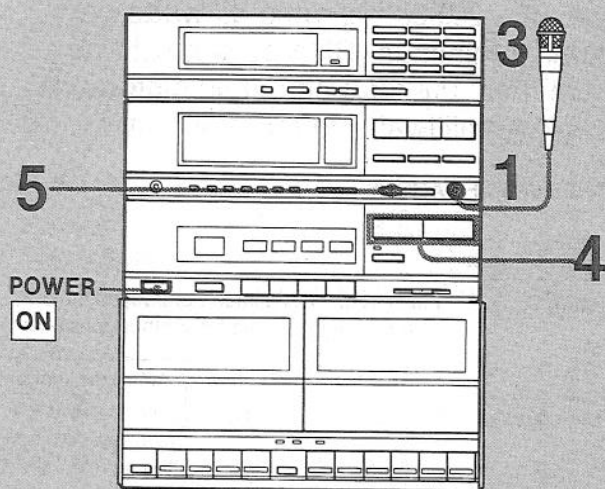
For details on the CD player or turntable system operation, refer to the instruction manual of each equipment.



# MICROPHONE MIXING

This function allows you to add live singing or narration to a background program.

## TO MIX THE MICROPHONE SOUND



**1** Connect a microphone with a miniplug to the MIC jack.

**2** Play the program source to be mixed.

**3** Speak or sing into the microphone.

**4** Adjust the overall sound level.

**5** Adjust the MIC LEVEL control.

## TO RECORD THE MIXED SOUND

**To record the microphone sound mixed with record, compact disc, or radio broadcasting**

- 1** Play the program source.
- 2** Insert a blank cassette into deck B and start recording.
- 3** Speak or sing into the microphone.

**To record the microphone sound mixed with a taped program**

- 1** Insert a recorded tape into deck A, and a blank cassette into deck B.
- 2** Press TAPE. Start playing tape deck A, and start recording tape deck B.
- 3** Speak or sing into the microphone.

**To record only the sound from the microphone**

- 1** Turn off any equipment connected to CD/AUX input.
- 2** Press CD.
- 3** Start recording.
- 4** Speak or sing into the microphone.

**When you have finished mixing,** be sure to disconnect the microphone from the MIC jack and slide the MIC LEVEL control to the MIN position.

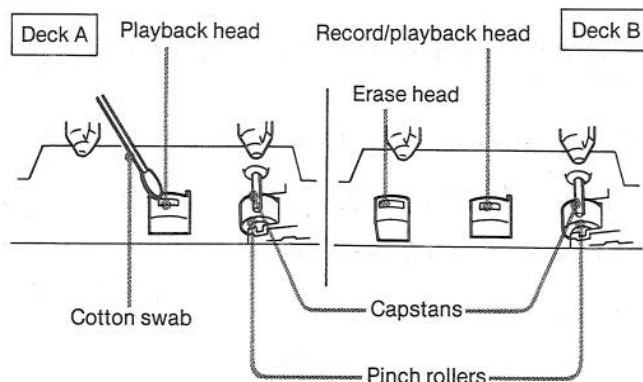
### **To stop acoustic feedback**

Placing the microphone too close to the speakers may cause a howling sound. Change the direction of the microphone setting and/or lower the volume to stop this noise.

# MAINTENANCE

## CLEANING THE HEADS AND TAPE PATH

Clean after every 10 hours of operation, and before recording for optimum record/playback quality.



1 Press **■** **▲** to open the cassette holder.

2 Slightly moisten the tip of a cotton swab with cleaning fluid or alcohol, and wipe heads, pinch rollers and capstans.

Do not insert a cassette until the cleaned areas are completely dry.

## DEMAGNETIZING THE HEADS

After 20 to 30 hours of use, or when you notice hiss and/or loss of high frequencies, it is necessary to remove residual magnetism built up on the heads.

1 Turn off **POWER**.

2 Demagnetize heads with any commercially available demagnetizer. Consult the user's manual of the demagnetizer for detailed instructions.

## CLEANING THE CABINET

To clean the cabinet, use a soft cloth slightly moistened with mild detergent solution.

### Important

Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene.

# SPECIFICATIONS

## AUDIO POWER SPECIFICATIONS

### POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 6 ohm loads both channels driven, from 40 – 20,000 Hz; rated 30 watts per channel minimum RMS power, with no more than 1% total harmonic distortion from 250 milliwatts to rated output.

## OTHER SPECIFICATIONS

### ST-211 Tuner

System FM stereo, FM/AM superheterodyne tuner  
Quartz-locked PLL digital synthesizer system

	FM tuner section	AM tuner section
Tuning range	87.5 – 108 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	75 ohms, unbalanced	External antenna terminal
Intermediate frequency	10.7 MHz	450 kHz
Usable sensitivity	2.3 $\mu$ V (S/N = 30 dB/75 ohms)	Built-in ferrite bar antenna: 250 $\mu$ V/m (at 1,000 kHz) External antenna: 100 $\mu$ V (at 1,000 kHz)
Signal-to-noise ratio	78 dB (mono) 70 dB (stereo)	52 dB (at 50 mV/m)
Harmonic distortion	0.2% (mono), 0.5% (stereo) at 1 kHz	0.3% (at 50 mV/m, 400 Hz)
Separation	40 dB at 1 kHz	—
selectivity	55 dB at 400 kHz	—

Dimensions Approx. 215 × 55 × 240 mm (w/h/d)  
(8 1/2 × 2 1/4 × 9 1/2 inches)  
incl. projecting parts and controls  
Weight Approx. 0.9 kg (2 lb) net

### TC-211W Cassette deck

Recording system 4-track 2-channel stereo  
Frequency response DOLBY NR OFF (DIN)  
with TYPE II cassette (Sony UCX-S)  
60 – 14,000 Hz ( $\pm$  3 dB)  
with TYPE I cassette (Sony HF-S)  
60 – 13,000 Hz ( $\pm$  3 dB)  
Wow & flutter 0.1% WRMS  
 $\pm$  0.3% (DIN)  
Dimensions Approx. 225 × 120 × 230 mm (w/h/d)  
(8 7/8 × 4 3/4 × 9 1/8 inches)  
Weight Approx. 2.1 kg (4 lb 11 oz) net



### TA-211 Amplifier

#### Inputs

	Sensitivity	Impedance
PHONO (phono jacks)	2.5 mV	50 kilohms
CD/AUX (phono jacks)	450 mV	50 kilohms
MIC (minijack)	1 mV	600 ohms

#### Outputs

PHONES (stereo-minijack)	Accepts headphones of 8 ohms or more
SPEAKER	Accepts speakers of 6 to 16 ohms

#### Frequency response

PHONO: RIAA curve  $\pm 0.5$  dB  
CD/AUX: 40 Hz – 30 kHz  $\pm \frac{0}{3}$  dB  
MIC: 100 Hz – 10 kHz  $\pm \frac{0}{3}$  dB

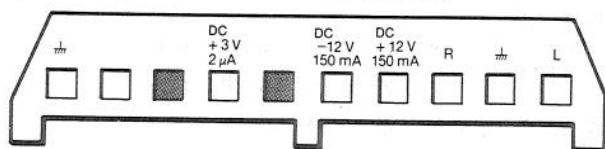
#### Dimensions

Approx. 215 × 120 × 280 mm (w/h/d)  
(8½ × 4¾ × 11⅛ inches)  
incl. projecting parts and controls

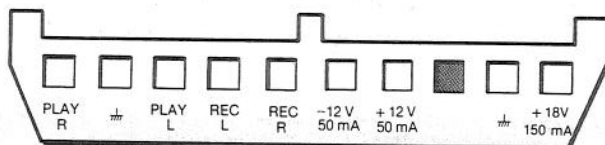
#### Weight

Approx. 4.0 kg (8 lb 14 oz) net

10 pin DC output connector of TA-211 to ST-211



10 pin DC output connector of TA-211 to TC-211W



### APM-215 Speaker

Speaker system	3-way speaker system
Speaker units	Woofer: 134 cm² APM type Tweeter: 5 cm dia. cone type Super tweeter: 3.5 cm dia. ceramic type
Enclosure type	Bass reflex
Frequency range	60 Hz – 20 kHz
Sensitivity	88 dB/W/m
Impedance	6 ohms
Dimensions	Approx. 175 × 290 × 220 mm (w/h/d) (7 × 11½ × 8¾ inches)
Weight	Approx. 3.3 kg (7 lb 5 oz) net per speaker

### General

#### Power requirements

120 V AC, 60 Hz

#### Power consumption

90 W

#### Dimensions

Approx. 585 × 355 × 280 mm (w/h/d)  
(23⅞ × 14 × 11⅛ inches)  
incl. projecting parts and controls

#### Weight

Approx. 14.3 kg (31 lb 9 oz) net  
Approx. 15.8 kg (34 lb 14 oz) in shipping  
carton

#### Accessories supplied

Carrying handle (1)  
Mounting brackets (2)  
Mounting screws (10)  
Speaker cushions (4)

Design and specifications subject to change without notice.

# TROUBLE CHECKS

The following checks will assist in the correction of most problems which you may encounter with your system. Before going through the check list below, first check the following points.

- The power cord must be connected firmly.
  - The speaker connection must also be firm.
  - The flat cord must be connected firmly.
- Should any problem persist after you have made these checks, consult your nearest Sony service facility.

## RADIO PROGRAM RECEPTION

The TUNED indication flickers.	• Adjust the antenna.
The STEREO indicator flickers.	• Adjust the antenna.
Severe hum or noise	<ul style="list-style-type: none"> <li>• The signal strength is too weak. Connect the external antenna. See page 10.</li> <li>• Adjust the antenna.</li> <li>• Connect the ground wire.</li> </ul>

## CASSETTE DECK OPERATION

The ● button cannot be activated.	<ul style="list-style-type: none"> <li>• No cassette in the cassette holder.</li> <li>• The tab is removed from the cassette. See page 14.</li> </ul>
The ● or ► button cannot be activated.	• The tape is wound completely.
Tape does not move even when the ► button is activated.	• The ■■ button is activated.
Recording or playback cannot be made or there is a decrease in sound level.	<ul style="list-style-type: none"> <li>• Dirty heads.</li> <li>• Magnetic built-up on the record/playback head.</li> </ul>
Excessive wow or flutter, or sound drop-out	• Contamination of the capstans or pinch rollers.
Insufficient erasure	• Magnetic built-up on the erase head.
Increase of noise or erasure of high frequencies.	• Magnetic built-up on the erase head.
Unbalanced tone in higher frequencies.	• Improper setting of the DOLBY NR switch.
Dubbing does not start.	• The DUBBING SPEED select button is set to OFF.

## GENERAL

No audio	• Press VOLUME + to increase volume.
No audio from one channel or unbalanced left and right volume	<ul style="list-style-type: none"> <li>• Adjust the BALANCE control.</li> <li>• Check the speaker connections of the inoperative channel.</li> </ul>
Reversed left and right sound	• Check the speaker cord connection and speaker location.
Lack of bass sound or apparently imprecise physical location of musical instruments	• Check the speaker connection for proper phasing.
No microphone sound	• Slide the MIC LEVEL control rightward.
Severe hum or noise	<ul style="list-style-type: none"> <li>• A TV or VCR is too close to the stereo system. Separate the stereo system from the TV or VCR.</li> </ul>

