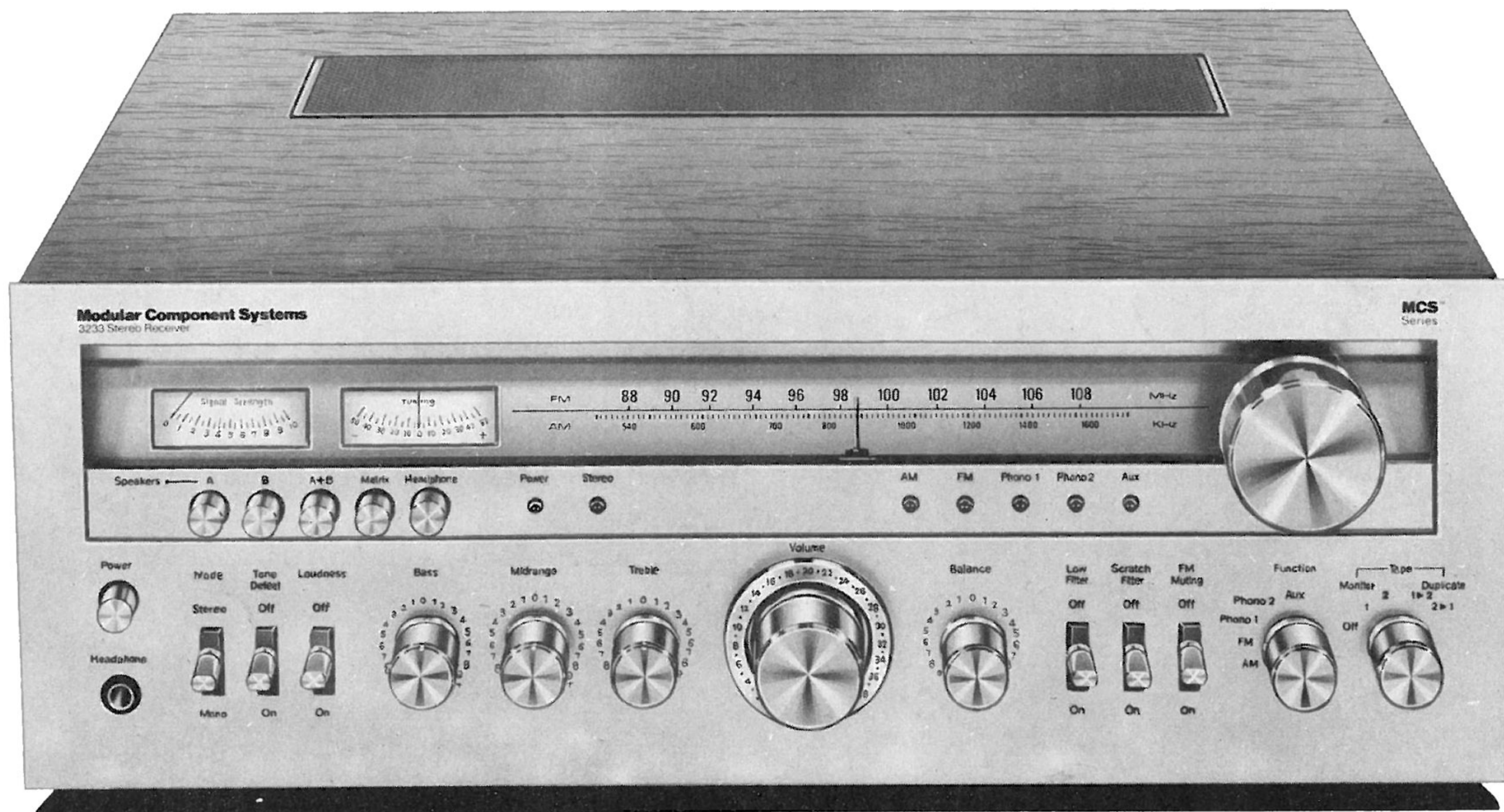


# MCS™

## Series

# Modular Component Systems

## Stereo Receiver



**Dear Penney Customer:**

The product you have purchased has been carefully engineered and manufactured to give you dependable operation. Read this handbook before operating your unit to become familiar with its features, and assure your obtaining the performance that will bring you continued enjoyment for many years. In the event you require technical assistance please contact your local retail store or catalog desk. Retain this handbook for future reference.

**WARNING . . .**  
**TO PREVENT FIRE OR SHOCK HAZARD**  
**DO NOT EXPOSE THIS APPLIANCE TO**  
**RAIN OR MOISTURE.**

In the spaces provided below, record the model and serial numbers located on the back of the receiver cabinet.

**MCS™**  
Series  
**Modular Component Systems**  
Stereo Receiver

Model \_\_\_\_\_ SN \_\_\_\_\_

*Retain this number for future reference.*

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## — Product Features —

- Power Output 33 Watts RMS Minimum Per Channel, 2 Channels Driven at 8 Ohms, 20-20,000Hz, with Not More Than 0.8% Total Harmonic Distortion.
- Phase-Lock Loop IC (Integrated Circuit in the FM Stereo Multiplex Decoder Section)
- FET (Field Effect Transistor) in the Tuner Section
- Flywheel Tuning
- Scratch Filter
- Low Filter
- FM Muting
- Tone Defeat
- Bass, Treble, and Midrange Controls
- Loudness Switch
- Tape Monitor Switch
- Balance Switch with Center Detent
- Signal Strength Meter
- Tuning Meter
- AC Switched and AC Unswitched Main Fuse to Protect the AC Power Input
- Speaker Protection Fuses

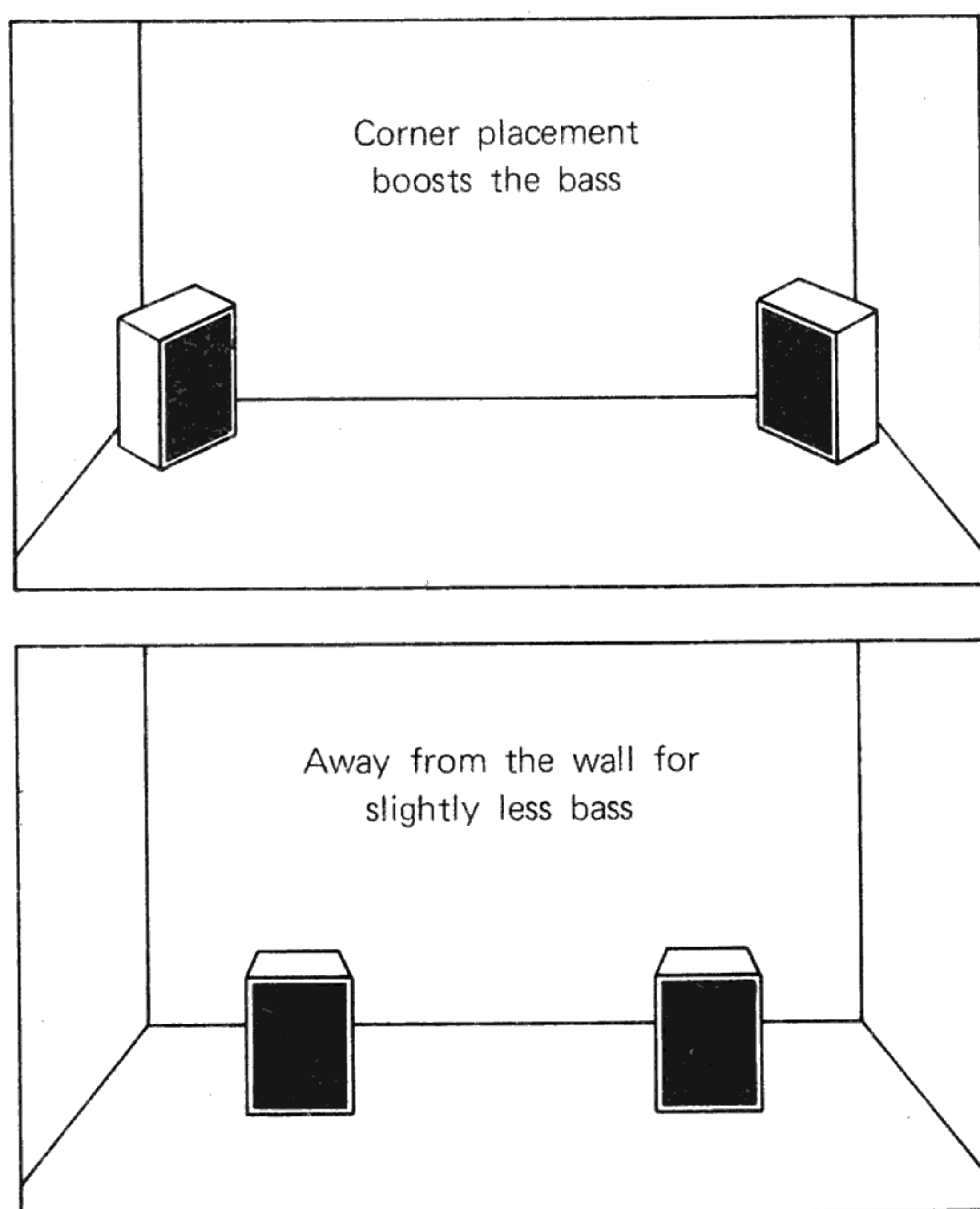
## — Important Note —

- Avoid installing the unit in locations described below.
  - Places exposed to direct sunlight or close to heat radiating appliances such as electric heaters.
  - On top of other stereo equipment that radiates much heat.
  - Places lacking ventilation or dusty places.
  - Places subject to constant vibration.
  - Humid or moist places.
- Take care not to obstruct the ventilating openings on top and rear panels.
- Operate controls and switches as described in manual.
- Before turning the power switch on for the first time, make certain all connecting cords and power cords are properly installed.



## Connection of Speakers (Refer to Figures 1, 2, 3)

Place the speakers at convenient locations on either side of the unit. They can be separated up to the distance permitted by the speaker cord lengths. Usually a distance of five to eight feet between speakers provides the best stereo effect, but this may vary depending on the size and acoustics of your room. Connect each speaker to the terminal or jack marked FRONT on the rear of the unit that corresponds to the position of the speaker—left, right, etc. Connect one set of speakers to terminals A; a second set of speakers for use in another room is connected to terminals B. Make all connections before connecting unit to AC power source. If an auxiliary pair of speakers are used for matrix, connect them to the terminals marked REAR. Rear speakers are used in conjunction with A speakers. NEVER OPERATE THE UNIT WITHOUT THE SPEAKERS CONNECTED. BE SURE THAT THERE IS NO SHORT BETWEEN THE SPEAKER TERMINALS OR WIRES.



**Note** The rated impedance of each speaker must be at least 8 ohms. Care must be taken that each speaker's negative (–) terminal goes to the negative (–) terminal of the unit, and the positive (+) terminal to the positive (+) terminal of the unit. Both speakers must be connected in the same polarity, in phase, for correct stereo sound. Never connect more than one set of speakers to terminals for speakers A, B or Rear. Your receiver is designed to use one 8 ohm load speaker per left or right channel. Connection of other than an 8 ohm speaker or more than one 8 ohm speaker can damage your unit.

**Headphone . . .** For private listening connect low impedance (8 ohm) stereo headphones to the headphone jack. Should you want to cut sound from external speakers press the headphone button.

## Record Changers and Turntables (Refer to Figure 4)

This stereo receiver permits use of a record changer or turntable having a magnetic or a ceramic cartridge. The procedure for connection and use is as follows:

- Step 1. Connect the record change ground wire, if any, to the PHONO GROUND terminal on the rear panel of the stereo receiver. An undesirable hum will be heard if your turntable has a ground wire and you do not connect it to the ground terminal.
- Step 2. When using a record changer or turntable having a low gain magnetic cartridge, connect the output plugs to the receiver input jacks marked Phono 1.
- Step 3. When using a record changer or turntable having a high gain ceramic cartridge, connect the output plugs to the receiver input jacks marked Phono 2.
- Step 4. Set the selector switch on the front panel to the correct PHONO position.
- Step 5. Plug the turntable into the "unswitched" AC convenience outlet. If a hum is heard, try reversing the polarity of the turntable power plug.

## Auxiliary Program Sources (Refer to Figure 5)

Your stereo receiver may be used for playing additional mono or stereo program sources through the AUX jacks. Connect the output plugs from the external program source to the AUX input jacks on rear panel, and set the selector switch on the front panel to AUX position.

**Aux. Input . . .** Connect your auxiliary equipment to these jacks for playing, and rotate Function Selector to AUX. Typical auxiliary equipment which may be connected are a tape deck, turntable, tuner, etc.

## Connection of External Jacks (Refer to Figure 6)

**Tape Output . . .** Tape output jacks (REC) on the back of the set permit recording by using a patch cord (not included) from this set to the Tape-In jacks on your auxiliary tape recorder.

**Tape Input . . .** Connect patch cord (not included) from your Tape Recorder to the Tape-In (PLAY) jacks on the back of this unit to playback recorded tapes.

## Tape Recorders and Decks

Any conventional ree-to-reel, 8 track cartridge, or cassette tape player or recorder may be connected to your stereo receiver. A general guide for playback of tapes and recording/monitoring is explained below:

**Playback . . .** Set the TAPE SELECTOR switch to either TAPE 1 or TAPE 2 position and set MODE switch to either stereo or mono as required by the source. The position of the FUNCTION SELECTOR switch is of no consequence because only material on tape will be heard. Remember to always set the TAPE SELECTOR switch to OFF position after you have finished playing or recording tapes; otherwise no program source (AM/FM/Phono/Aux) will be heard until you do.

**Recording/Monitoring . . .** Proceed with the following steps:

Step 1. Set the FUNCTION SELECTOR switch to the desired program source. Set the MODE switch to either stereo or mono depending upon whether program source and tape unit are monaural or stereophonic.

Step 2. Follow the instruction manual of your tape unit to make a recording.

Step 3. If your tape unit has facilities for tape monitoring you may compare the sound of the original program material to that which you are recording. To monitor the tape, alternate the TAPE SELECTOR switch between OFF to hear the original program material, and TAPE 1 or TAPE 2 to hear the same material through your tape unit. This procedure can be repeated as often as desired without affecting or interrupting the recording process. For tape units that do not have tape monitoring facilities the TAPE SELECTOR switch should be in OFF position. This will allow you to hear the original program material. With this type of tape unit no material will be heard if TAPE SELECTOR switch is not in OFF position.

**Tape Duplicate . . .** Proceed with the following steps:

Step 1. Connect two tape decks to the appropriate jacks.

Step 2. If you desired to record on tape deck 2 from a pre-recorded tape in tape deck 1, set the tape selector switch to DUPLICATE TAPE 1→2. If you desire to record on tape deck 1 from tape deck 2, set the tape selector switch to DUPLICATE TAPE 2→1.

### **Antenna (Refer to Figure 7)**

**AM:** This unit incorporates a built-in ferrite core antenna for AM broadcasting signals. This built-in antenna will provide excellent reception in all but unusually remote locations. Terminal connections are provided on the rear of set for attaching an external antenna if needed.

#### **(Refer to Figure 8)**

**FM:** An efficient 300 ohm dipole antenna is supplied with your unit. Connect the antenna to the FM terminals and run wire along floor behind unit for better reception.

#### **(Refer to Figure 9)**

If you live in an urban area with severe FM multipath interference, near steel structures, or in suburban area with weak signal reception, an external antenna may be required. Terminal connections for both 75 ohm co-ax cable and 300 ohm antennas are provided on the rear of set. Connect external antennas.

### **AC Convenience Outlets (Refer to Figure 10)**

Two AC outlets are located on the rear of unit to which your additional system components may be connected. The outlet marked "Unswitched" should be used for a component which has mechanical parts that can be allowed to operate even if the stereo receiver is turned off. Any component which does not have a separate power switch or other means of shutting power off, such as 8 track decks, should be connected to the "switched" outlet. The component connected to this outlet will shut off when you turn off your receiver. A component such as a turntable, which usually has an auto shut-off, should be connected to the "unswitched" outlet so that it may continue to operate and disengage internal moving parts even if you turn off the receiver.

## **Radio**

**AM/FM Reception . . .** Select the appropriate function by rotating the selector switch to the AM or FM position. Press power switch ON, and rotate the tuning knob to the desired radio station. The tuning knob should be adjusted on AM for maximum deflection on the signal meter, and on FM for a center scale reading on the FM tuning meter. This will provide monophonic reception.

**Note** In areas where FM reception is weak or affected by local interference, an external antenna should be used. To improve reception, disconnect the 300 ohm dipole antenna supplied with your unit and connect the two wires of your external antenna to the screws marked 300 ohm or to 75 ohm for co-ax cable on the antenna terminal block.

### **Overload Protection**

Your stereo receiver is provided with three fuses to protect it against failure due to improper usage. Repeated failure of a fuse indicates improper installation or a fault in your stereo receiver.

**Main Fuse . . .** This fuse protects the AC power input system. If you should find that your stereo receiver will not operate (dial scale will not light), replace this fuse with a 3 AMP fuse of the commonly available type, 3 AG, or equivalent type.

**Speaker Fuse . . .** These fuses protect the speakers and the power output circuitry. If you should find that your stereo receiver operates but there is no sound from one or both speakers, please replace the appropriate (right, left or both) speaker fuse with a 3 AMP fuse of the commonly available type, 3 AG, or equivalent type.

**Note** Replacement fuses of the amperage and type mentioned above may be obtained at electrical parts stores and most hardware stores. Please be sure to replace fuses with one of the same amperage and same type or equivalent type as marked on the rear panel of your receiver. If a fuse continues to fail, return your stereo receiver to JCPenney store for proper servicing.

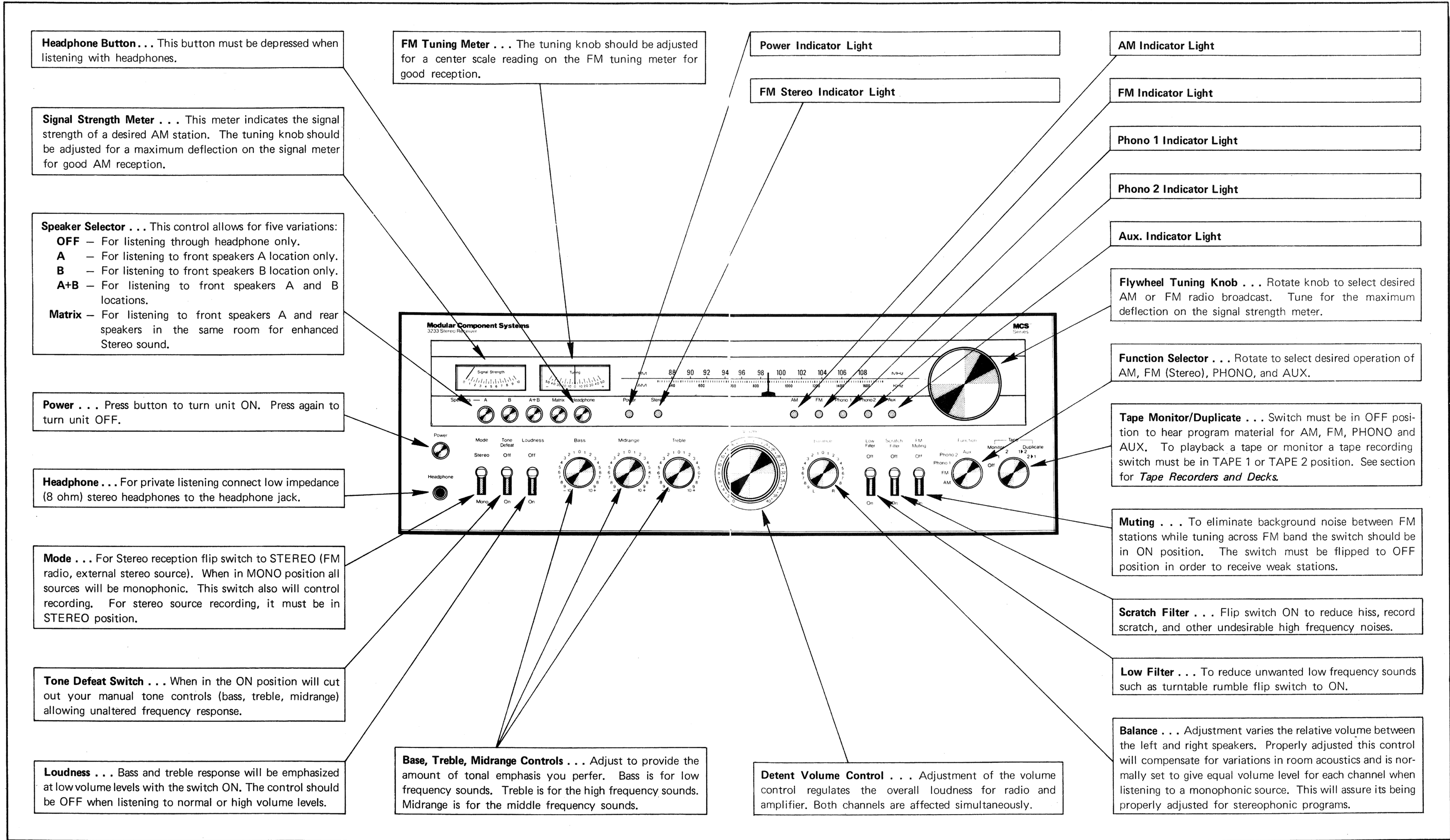
### **Power Source**

Place the unit on a level surface convenient to an AC outlet supplying ordinary household current (110-120 volt 60 Hz). Reversing the plug in the power outlet may reduce any background noise. NEVER CONNECT THE POWER CORD TO ANY OTHER VOLTAGE SOURCE AS THIS CAN DAMAGE THE UNIT, AND IS NOT COVERED BY THE WARRANTY.

### **Controls**

Before turning on your unit, set the BASS, TREBLE, MID-RANGE and BALANCE controls to the mid positions; and set the VOLUME control one third of the way between minimum and maximum. The balance control has a center detent to indicate mid position for equal left channel, right channel balance.

— Switches and Controls —



## — Troubleshooting Chart —

Feature	Cause	Remedy
No sound	Speakers not connected.	Check Speaker connections.
	Power not on.	Push Power button "ON".
	Unit not plugged in.	Plug in unit.
Noise in AM/FM reception	Station not tuned properly.	Tune station to maximum reception. (Outdoor Antenna may be necessary).
	Antenna not connected.	Check Antenna connections.
Cannot hear Record being played	Function selector not on Phono.	Turn Function selector to Phono position.
	Speakers not connected.	Check Speaker connection.
	Receiver not on.	Push Power button "ON".
Cannot hear Tape being played	Function selector not on Aux.	Turn Function selector to Aux. Position.
	Tape monitor not on.	Switch Tape monitor "ON".

## — Care and Maintenance —

### General

To keep your unit sounding its best for many years, follow these practices:

- Store your records and tapes in a cool area to avoid damage from heat.
- Keep your unit away from sources of high temperatures.
- Keep your records free of dust and finger marks by cleaning them regularly with a record cleaning kit available at JCPenney.
- Keep records and tapes stored in their protective jacket.

### Cleaning

- To prevent fire or shock hazard, disconnect your unit from the AC power source when cleaning. The finish on the receiver may be cleaned with a dust cloth and cared for as other furniture. Use caution when cleaning and wiping the plastic parts. Mild soap and a dampened cloth may be used on the front panel.
- The brown cabinet composition label may be removed. After removing label, use a mild soap and a dampened cloth to remove any residual adhesive.

### Service

Should service ever be required on your MCS Stereo Receiver Model 3233 contact your nearest JCPenney store or Product Service Center. Always refer to the Product Service number located on the back of the receiver cabinet whenever you contact someone regarding parts or service.

# — Electrical Specifications —

## Amplifier

Power output RMS watts/ channel at 8 ohms 20-20KHz	33 watts
Total harmonic distortion no more than	0.8%

## Tone Controls

Bass 100Hz—cut/Boost	±8 db
Midrange 1KHz—cut/Boost	±8 db
Treble 10KHz—cut/Boost	±8 db

## Filters

High (10 KHz)	-12 db
Low (100 Hz)	-10 db

## FM Tuner Section

Usable sensitivity mono	3 uV
Capture ratio	4 db
Alt. channel selectivity	50 db
Total harmonic distortion	
Mono-stereo	1.0%/2.0%
Stereo separation	1 KHz 30 db, 10 KHz 20 db

## AM Tuner Section

Sensitivity	500 uV/m
Selectivity	25 db

## General

Power requirements	110-120 V AC
Dimensions	18-3/4" x 15" x 16-1/2"
Weight	25 lbs - 11.5 kg.

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