

HANDBOOK OF INSTRUCTIONS



**MAGNAVOX**



model twenty six

*Stereophonic Receiver*

Hard Id. Thompson  
STERLING ELECTRONICS

Sam Rogers



4460 LAUREL College  
BEAUMONT, TEXAS 77704  
(713) 769-5255

# WARRANTY

This instrument is guaranteed under the conditions outlined below to its original, registered owner, provided the purchase was made from a franchised Marantz dealer.

This instrument is guaranteed to remain free from operating defects for 3 years from the date of purchase. In the event that service is required, all necessary parts and labor will be furnished free of charge during this period except for tubes, which are guaranteed for ninety days.

This warranty is void if the serial number has been altered, removed, or defaced. The warranty is void if the equipment is altered, misused, mishandled, maladjusted, or is serviced by any parties not authorized by the Marantz Company. The warranty does not include any transportation costs incurred because of the need for service, unless a special agreement is provided in writing by the Marantz National Service Manager. Ordinary periodic check-ups are not included in the free warranty.

Marantz reserves the right to make changes in design and improve upon its products without any obligation to install these improvements in any of its products previously manufactured.

This warranty is in lieu of any or all others expressed or implied.

Should there be any questions, please contact the  
Marantz National Service Manager, Marantz Company, Inc.  
P.O. Box 99, Sun Valley, California 91352.

# PURCHASER'S RECORD

## REGISTRATION FOR MARANTZ EXTENDED WARRANTY

Model: Marantz Model Twenty six

Serial No. [redacted]

Purchaser's Name [redacted]

Purchased From (Name) Sterling Electronics

Address College Street - Beaumont, Tex

Price Paid \$ 210 Date Purchased 10/26/70

Date Warranty Reply Card Mailed 7 (by Sterling)

The above information becomes your permanent record of a valuable purchase. It should be promptly filled in at the same time that you fill in and mail the warranty registration reply card to Marantz. This information provides a valuable insurance record and must also be referred to should you have any correspondence with Marantz.

### CONTENTS OF CARTON

- Marantz Model Twenty six - Solid State Stereophonic Receiver
- Handbook of Instructions
- Warranty Registration Card with Prepaid Reply Envelope

(Notices and other enclosures may also be included)

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## **GENERAL DESCRIPTION**

The Marantz Model Twenty-six is an all solid-state AM/FM stereo receiver. The circuitry of the Model 26 includes one IC, one FET, 38 transistors, and 28 diodes—a total of 68 solid-state devices. A tuner, preamplifier, and power amplifier make up the three basic components mounted on a single chassis and sharing a common power supply. Internal connections between these components have been designed to provide optimum performance from each component while retaining the full flexibility of separate units. The extraordinary flexibility of the Model 26 allows the connection of loudspeakers, headphones, a turntable and record changer, an additional tuner (such as AM/FM), a TV sound source, and tape recorder for recording and playback. Its flexibility will allow other connections to be made for special applications. Its performance is the equal of the finest separate component system of comparable power.

## INSTRUCTION MANUAL FOR MODEL 26

### FOREWORD

To obtain maximum performance and enjoyment from the 26 Stereo Receiver, please study these instructions carefully and save for future reference. Operation is not complicated, but the extraordinary flexibility provided by its numerous features may not be fully appreciated unless a little time is spent becoming familiar with its controls and facilities.

For convenience, this manual is divided into two parts. The first part covers operation in a simple, nontechnical manner. The second part provides a more detailed description of the features and facilities of the 26. It was written to answer the common question "What goes on inside?" and to help in special applications. Detailed technical specifications are also included in this section.

For quick identification of the many controls and connection facilities all references to them in this manual are printed in bold-face type. You will notice that the spelling, capitalization, abbreviation, and punctuation of all such markings appear exactly as lettered on the front and rear panels of the instrument.

### AFTER UNPACKING

It will be advantageous to save all the packing materials—carton, fillers, cushioning, etc. They will prove valuable in preventing damage should it ever become necessary to transport or ship the receiver. (Refer to Figure 9 for packing instructions.)

Please inspect the Model 26 carefully for any signs of damage incurred in transit. It has undergone very strict quality-control inspection and tests prior to packing; thus it left the factory in perfect operating condition. If you should discover damage, notify the transportation company without delay. Only the consignee, may institute a claim with the carrier for damage during shipment; however, the Marantz Company will cooperate fully in such an event. Save the carton as evidence of damage for their inspection.

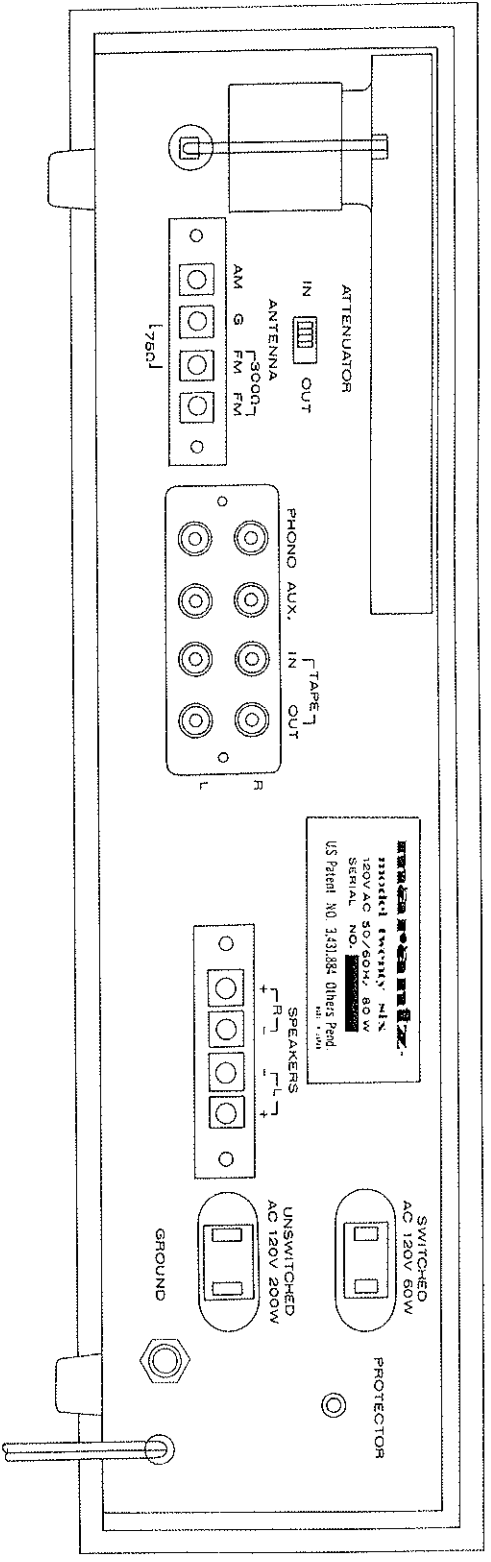


Figure 1. Rear Panel Connection Facilities



# PREPARATION FOR USE

## REAR PANEL CONNECTIONS

All signal connections to the Model 26, with the exception of the AM/FM antenna and loudspeakers, should be made with shielded audio cables. Figure 1 shows the location of the input and output jacks on the rear panel. These jacks are for "permanent" connections. Use of the front panel jacks will be discussed later. The rear panel signal connections are arranged in stereo pairs. To avoid confusion, connect one cable at a time to the other components of the system. In this way, mixing up the channels or mixing up signal sources and destinations can be avoided.

## PHONO JACKS

These jacks are intended for use with standard phono cartridges requiring a standard 47,000-

ohm resistive load.

If there is excessive hum when playing records, it is evidence of inadequate grounding or shielding of the record changer or connections. Try reversing the polarity of the turntable's power plug. If the tone arm is mounted on a wood panel or is otherwise insulated from the record changer chassis, connect the tone arm mounting base to the chassis with a short wire. If the two pairs of signal wires in the arm have a single, over-all shield, try grounding the shield instead of the arm itself. Keep the two phono connecting cables and the grounding wire close together. In three-wire (common-ground) systems, this will minimize "ground loops."

**TAPE IN** This pair of jacks serves two purposes:

1. With the **Tape Mon.** pushbutton switch depressed, signals from a tape recorder can be played through the system when the recorder is set for playback mode of operation. This configuration permits playing tape sources stereophonically or monophonically (determined by position of the **Stereo** pushbutton switch).

2. With the **Tape Mon.** pushbutton switch depressed the taping quality can be "monitored" when the recorder is set in the recording mode of operation (assuming, of course, that the recorder is equipped with separate record and playback heads and separate record and playback preamplifiers).

**AUX jacks** These high-level input jacks have been provided for connecting miscellaneous sources such as: extra tape players (with self-contained playback preamplifiers); phono cartridges which provide RIAA-equalized high-level output; additional tuners or receivers; and TV sound outputs.

**TAPE OUT jacks** Connecting these jacks to the line or "radio" inputs of a tape recorder permits the recording of any program source material (as indicated by position of selector switch).

The signals available at this pair of jacks are unaffected by the **balance, volume, treble, bass, low filter,** and **loudness** controls on the front panel. They are, however, controlled by the **Stereo** pushbutton switch.

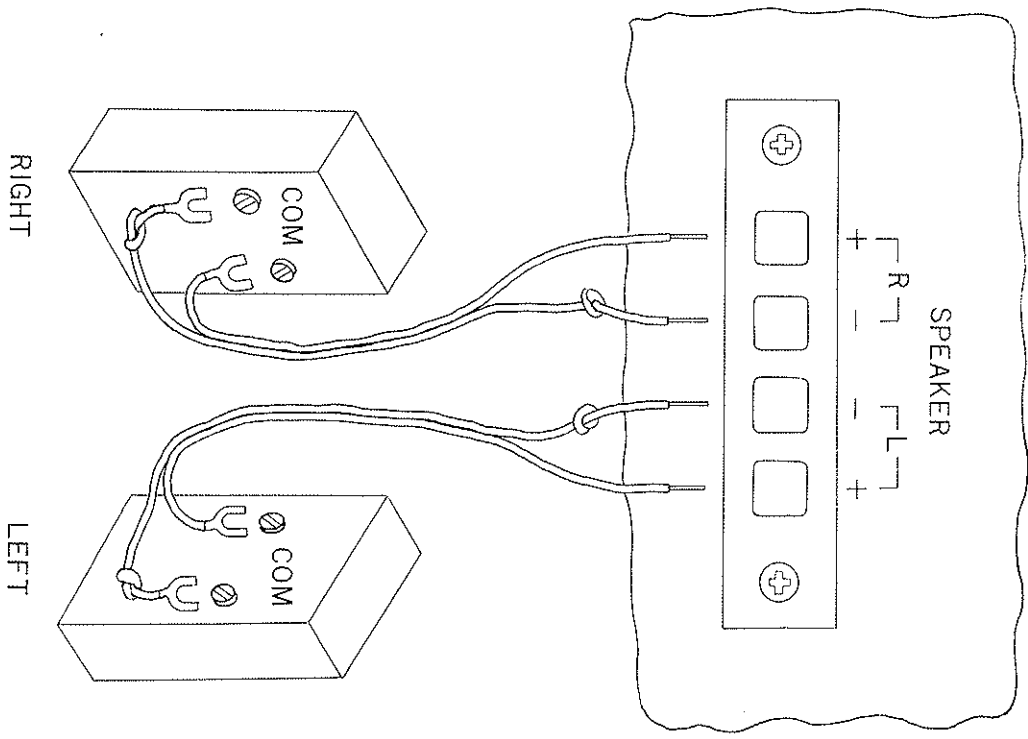


Figure 2. Loudspeaker Systems Connections

## LOUDSPEAKER SYSTEMS

(See Figure 2)

The **SPEAKER** terminals on the right side of the rear panel will accommodate a pair of loudspeaker systems, each having a rated impedance between 4 and 16 ohms.

Be careful in connecting the Model 26 to a loudspeaker which contains a built-in power supply—such as an electrostatic loudspeaker. The “common” speaker-connection terminal of these devices may be capacitively grounded through the power supply. Make sure the “—” terminals of the Model 26 are connected to the “common” terminals of the loudspeaker system.

Ordinary #18-gauge, two-conductor lamp cord (“zipcord”) may be used for normal distances (to about 25 feet) between the amplifier and the loudspeaker. For longer lengths, use #16-gauge or heavier wire, depending on distance.

In connecting two loudspeakers for stereo operation it is important to ensure correct relative phasing (polarity). This can best be achieved, when using identical loudspeakers, simply by coding each wire for identification.

One wire in each pair should be coded at both ends with a knot, tape, etc. The coded wires can then be used for identical connections in each channel. For example, the coded wire in each pair can be connected to the “common” terminal of each loudspeaker and the “—” of each amplifier channel. The uncoded wire of each pair is then connected to the remaining loudspeaker terminal and the remaining terminal on each amplifier channel (L and R). This procedure ensures correct polarity of phasing of identical loudspeakers.

### NOTE

Close inspection of standard zipcord will reveal some form of coding on the insulation (ridge or groove on one edge); or one of the wires may be tinned and the other wire not tinned.

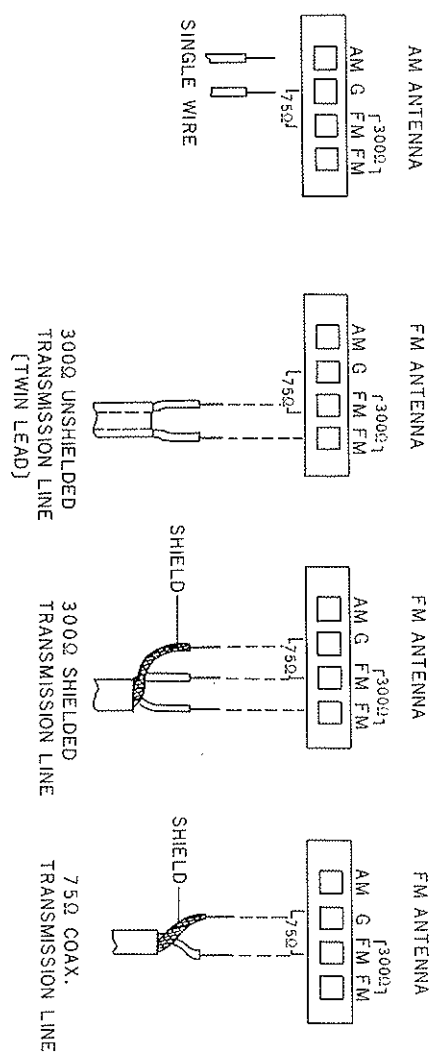
If there is any doubt about phasing of loudspeakers for stereo operation, particularly if they are not identical, a simple listening test can be made to verify correct phasing. With program signals fed to both channels of the unit, and the **Stereo** pushbutton switch not depressed, the sound should appear to originate at a point midway between the loudspeakers, when the **balance** control is centered. As the **balance** control is turned away from the

center position, the sound source should appear to move toward one of the loudspeakers.

In some situations undesirable room acoustics can make the results of this test ambiguous or confusing. Under such difficult circumstances, temporarily move the loudspeakers as close together as possible, (and, if possible, facing each other). Then, with the controls set for balanced Monophonic operation, listen to program material which contains strong bass passages. Reverse the wires to one of the loudspeakers and listen to the same passages again. If there is noticeably less bass with the reversed-wires connection, change the wire connections back to the original arrangement. If there is noticeably more bass, leave the wires connected in reverse.

### CAUTION

Never directly connect the loudspeaker terminals of one channel in parallel with those of any other. Any resulting damage is not covered under warranty.



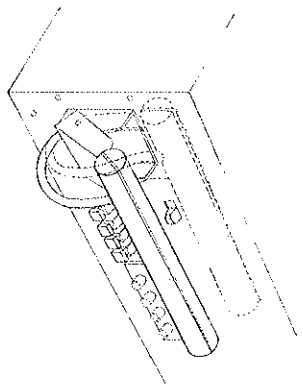
**Figure 3. FM and AM Antenna Connection**

**FM ANTENNA**  
(See Figure 3)

The best FM reception can be obtained with a log-periodic or yagi-type antenna, used in conjunction with a good-quality rotor system. In fringe areas, it is recommended that a high-gain log-periodic antenna be used which has six or more elements and has been designed expressly for FM reception. For the greatest immunity from local noise and multipath pickup by the lead-in wire, a balanced and shielded 300-ohm cable should be used. An unshielded lead-in wire acts as an omni-directional antenna. Its pickup can cancel the directional characteristics of your antenna. Low-loss 300-ohm shielded cables are manufactured by Belden, ITT-Federal, Columbia Wire, and other companies. These cables consist of two inner conductors plus an outer shield and insulating jacket. This type of shielded cable effectively prevents the lead-in from contributing multipath distortion.

In rural areas, it is recommended that a local dealer be consulted concerning antenna installation and lightning-arrestor protection. Master antenna systems are not recommended for use with the Model 26. Master antenna systems are usually designed expressly for television reception and may frequently use 88-108 MHz (FM) filters to suppress FM signals before distribution. In addition, master antenna towers are fixed installations with no facilities for rotation. Master antenna systems, at best, severely limit good-quality FM reception.

Where outdoor antennas are prohibited, or unsuitable for high-quality FM reception, the simplest form of 300-ohm TV "rabbit-ears" or a simple ribbon-type folded dipole antenna, which is supplied with the Model 26 as an accessory, are the most practical and will give satisfactory results in primary signal areas. The Model 26 Receiver will accept either a 75-ohm or a 300-ohm antenna cable. Refer to the appropriate connection diagram in Figure 3. Connection of signal leads of all



**Figure 4. AM Ferrite-rod Antenna**

300-ohm antenna cables are made between the two FM terminals of the ANTENNA terminal block. The G is provided for the connection of the antenna shield (when shielded cable is used). Connection of a 75-ohm antenna cable is made between the G (ground) terminal and one of the FM terminals. Be sure to connect the shield of the 75-ohm cable to the G (ground).

**FM ATTENUATOR SWITCH**

The Model 26 is equipped with an antenna attenuator which can be switched in or out from the antenna circuit. Use the ATTENUATOR switch in the IN position only when definite signs of overloading are apparent by reception of one station in multiple points of the dial, affecting the reception of a desired station. Overloading can also be noticed in some cases by the presence of severe distortion which does not disappear by proper antenna orientation. "Note: With the antenna attenuation switch in the IN position the sensitivity of the set is greatly reduced, reducing also the number of stations that can be received".

## AM ANTENNA

The Model Twenty-six is equipped with an AM ferrite-rod antenna. Before using the Model 26, pull the antenna out as shown in Figure 4. The ferrite-rod antenna will give satisfactory results in primary signal areas; no outdoor antenna will be necessary in these areas. In rural areas, an outdoor antenna may be required for best reception. Two single wires are required to make an AM outdoor antenna. First, connect one end of the single wire to the AM antenna terminal on the rear panel, and fix the other end at a very high position outdoors (the higher the better), or swing it from the window of a room. Next, connect one end of the other single wire to the G (ground) terminal and the other end to an earth ground, such as a water pipe.

## POWER CONNECTIONS

**Line Cord** With the Power switch on the front panel set to off (normal "out" position), plug the line cord into an electrical outlet providing 105 to 125 volts, 50 to 60 Hz, AC ONLY.

**Convenience Outlet** A SWITCHED and an UNSWITCHED AC OUTLET on the rear panel have been provided for powering an associated component such as a tape recorder

or record changer.

## OPERATION

### NOTE

### SIMPLIFIED OPERATING PROCEDURE

If operating the Marantz Model 26 Stereo Receiver for the first time, follow these simple directions. Later on, full advantage can be taken of the instrument's unusual versatility by learning to use the remaining controls and pushbuttons.

**Step 1.** Check that all pushbutton selectors are in the "out" position. Pushbutton switches which have been depressed should be pushed in and released to the "out" position.

**Step 2** Turn the volume control all the way to the left (fully counter-clockwise) and set the balance control to mid-position, 12 O'clock high, (pointer to dot).

**Step 3.** Rotate treble and bass controls to

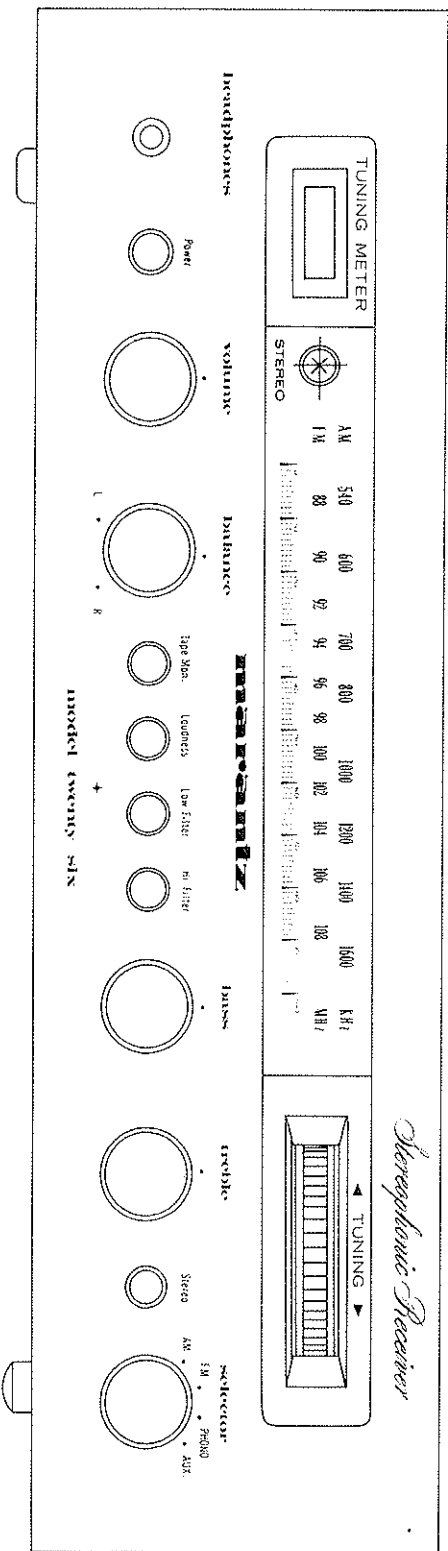
the "straight up" (12 o'clock high) position (each pair of pointers to dot).

**Step 4.** Turn on system power by depressing the Power switch.

**Step 5.** Select the desired program source by turning the selector switch to the appropriate position. If FM is selected, rotate the "Gyro-Touch TUNING" knob until the desired station is tuned. Turn the volume control to provide a comfortable listening volume.

The tuner section of the Model 26 is equipped with electronically triggered circuits which automatically switch to the proper mode of operation for stereo and monophonic FM broadcasts. In addition, the STEREO indicator light turns on in the presence of a stereo broadcast. These transistor switches have no moving parts and produce no mechanical or electrical noise during switching.

The tuning meter, which indicates the signal strength of any AM or FM broadcast, should be tuned for maximum meter deflection. This is accomplished by rotating the TUNING knob back and forth until the maximum reading is obtained.



**PUSHBUTTON SWITCHES**

The pushbutton switch functions are engaged when depressed. A depressed pushbutton can be released to its normal "out" position by pushing in once again and then releasing.

**Stereo Switch** When listening to FM stereo, or playing stereo records, or stereo tape, depress the **Stereo** pushbutton switch. When playing a single-channel source such as TV or AM, release the **Stereo** switch to feed the signal through both channels.

When playing a monophonic tape from a stereo tape recorder, turn down the recorder's playback volume control on the unused channel, then release the **Stereo** switch. This allows the signal from one of the TAPE-IN jacks to be fed through both channels. If the recorder has no facility for turning off the unused channel, it will be necessary tempo-

**Figure 5. Front Panel Controls, Jacks**

rarily to remove the audio cable of the unused channel.

**Tape Mon. Switch** When this pushbutton is "out", the program source being heard or recorded is determined by the setting of the **selector** switch. When the **Tape Mon.** pushbutton switch is depressed, only the program source connected to the TAPE IN jacks on the rear panel is heard. The program source indicated by the **selector** switch continues to be fed to the TAPE OUT jacks on the rear panel. This facility permits any program source to be fed to the tape recorder while listening to the "results" of the recording as it is in progress.

**Loudness Switch** When listening at a low volume level, the bass and treble should be boosted to match the difference in the Fletcher-Munson loudness contours. With the **Loudness** switch depressed, the bass and treble

are boosted and tonal balance is automatically compensated.

**Low Filter Switch** The low frequency filter can be used to reduce turntable rumble and low frequency noises. Obviously, use of this filter will reduce desired low frequency sounds as well as the unwanted noise; therefore, the filter should be used judiciously with troublesome program sources. With the **Low Filter** pushbutton switch in the "out" position, the low frequency filter is switched out of the circuits.

**Hi Filter Switch** The high frequency filter can be effective in suppressing tape "hiss" or the "scratchy" sound of worn records. When listening to AM broadcast, this filter will considerably reduce the 10 KHz "whistle" effect. With the **Hi Filter** switch in the "out" position, the high frequency filter is switched out of the circuit.

## MAIN CONTROLS

**Selector** As the name implies this switch selects the program source to be heard or recorded. If a tape recorder's playback output has been connected to the **TAPE IN** jacks on the rear panel, tape listening may be selected by depressing the **Tape Mon.** pushbutton switch.

When recording an FM broadcast, for example, the **selector** switch would be set to FM in order to feed the signals from the tuner section to the high-level (or "line") inputs of the tape recorder. The program heard would then come directly from the tuner. When the **Tape Mon.** pushbutton switch is depressed, the "results" of the recording will be heard ("monitored") while it is in progress (assuming, of course, that the recorder is equipped with separate record and playback heads and separate record and playback preamplifiers). You will note that the use of the **Tape Mon.** switch while recording in no way affects the signal recorded on the tape.

**Balance** This wide-range adjustment alters the level of either output channel in situations where it is necessary to correct unbalanced programs sometimes encountered in older stereo recordings, and in some present-day stereo broadcasts. As it is turned away from the "normal" position, balance simultaneously increases the output level in one channel and decreases the level in the other channel. (Because the **balance** control knob has been set for precise electrical balance when the pointer is at the indicator dot 12 O'clock position, there may be slightly greater mechanical rotation off-center in one direction

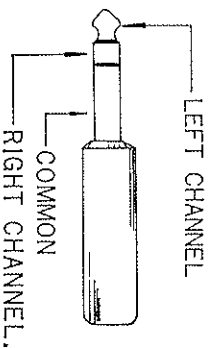


Figure 6. Stereo Phone Plug

than the other.)

**Volume** This precision control maintains stereo balance within 3 dB at all normal settings. It controls the level of both output channels simultaneously and has no effect on the recording outputs.

**Bass and Treble** These controls alter the tonal balance of program signals to suit individual listening preference.

**Headphones** This jack accepts the standard 3-conductor phono plug used on standard stereo headphones. (see Figure 6.) It is fed from the power-amplifier section through isolation resistors, and gives optimum results with popular low-impedance headphones. Excellent results, however, will also be obtained with high-impedance headphones. Two or more sets of headphones may be used with the aid of a "Y" connector.

**Recording and Playback** To make a recording, set the **selector** switch to the desired program source and put the recorder into the "record" mode of operation. With the **Tape Mon.** switch in the "out" position, the original program source will be monitored.

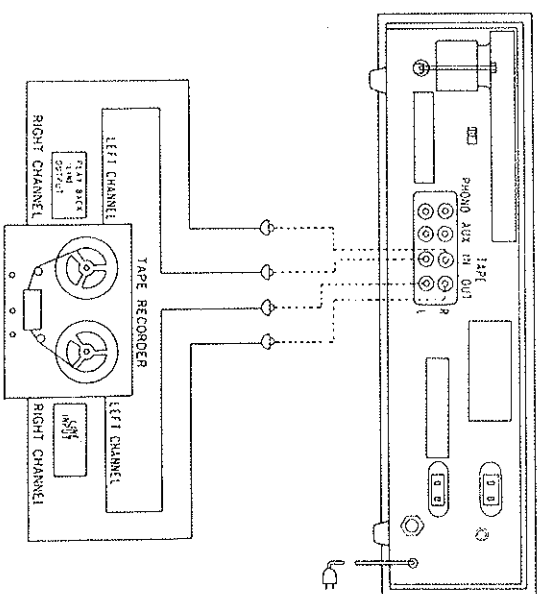


Figure 7. Tape Recorder Connection

By depressing the **Tape Mon.** switch the results of the recording while it is in progress will be monitored. If the recorder's playback level happens to be set higher than its record level, the resulting echo or "howl" will rapidly increase in volume level. No harm will be done to the recorder or to the Model 26, but the audible effect from the loudspeakers can be annoying.

To listen to a tape already recorded, put the recorder in the playback mode of operation and depress the **Tape Mon.** switch.

**TECHNICAL SPECIFICATIONS**

**AUDIO CIRCUITS:**

Rated continuous (RMS) power output	14 Watts at 8 ohms per channel,
High-level hum and noise (ref. 14W at 8 ohms)	-70 dB
Phono hum and noise	-60 dB
Dynamic range (Phono input to tape recording output)	92 dB Minimum
I. M. Distortion (SMPTE), at rated power	1.0% Maximum
Distortion decreases as output is lowered	
Total Harmonic Distortion, at rated power	0.9% Maximum
Distortion decreases as output is lowered	
Power Bandwidth (1HF) for 0.9% THD	20 Hz to 20,000 Hz
Damping Factor (ref. 8 ohms)	30 Minimum
Frequency Response	
High-level 20 Hz to 20,000 Hz	±1.0 dB
RIAA Phono Equalization	±1.0 dB
Input Sensitivity (for 14W at 8 ohms)	
High-level	100 mV
Phono (1,000 Hz)	2 mV
Input Impedance	
High-level	100,000 ohms
Phono	47,000 ohms
Channel Separation 20 Hz to 20,000 Hz	35 dB Minimum



## TECHNICAL SPECIFICATIONS

### FM SECTION :

IHF Usable Sensitivity .....	3.0 $\mu$ V
Noise Quieting .....	-60 dB at 1,000 $\mu$ V
Total Harmonic Distortion, 400 Hz, 100% Mod. ....	0.5 % Maximum
Frequency Response (ref. 75 $\mu$ -sec de-emphasis) .....	$\pm$ 2 dB
Multiplex Separation .....	1,000 Hz 34 dB Minimum 200 Hz 29 Minimum 10,000 Hz 20 Minimum
Subcarrier (38 KHz) Suppression .....	48 dB Minimum
SCA Pilot Carrier (67 KHz) Suppression.....	50 dB Minimum

### GENERAL :

Power Requirements .....	105 to 125 VAC 50 to 60 Hz
At rated output, both channels operating .....	80 Watts
Over-all Dimensions (including feet) .....	(H) $\times$ (W) $\times$ (D) 4 <sup>1</sup> / <sub>4</sub> $\times$ 15 <sup>1</sup> / <sub>2</sub> $\times$ 11 <sup>1</sup> / <sub>2</sub>
Front-Panel Dimensions .....	(H) $\times$ (W) 4 <sup>1</sup> / <sub>4</sub> $\times$ 16 <sup>1</sup> / <sub>16</sub>
Shipping Weight .....	22 pounds

## SERVICE NOTES

### PROTECTOR

The Marantz Model 26 Receiver is protected by an over-current circuit breaker situated on the rear panel.

In the event of an extended overcurrent the circuit breaker will operate and cut off the power supply. Thus, no fuse is necessary.

When the Model 26 is turned on, but is not operating and there is no dial illumination (assuming that the filament of the dial glass lamp is not burned out), reset the circuit breaker by simply pushing the Red button of the **PROTECTOR**.

Do not depress the Red button for more than

one second. If there is still no dial illumination, it is recommended that an authorized Marantz warranty station or dealer be consulted.

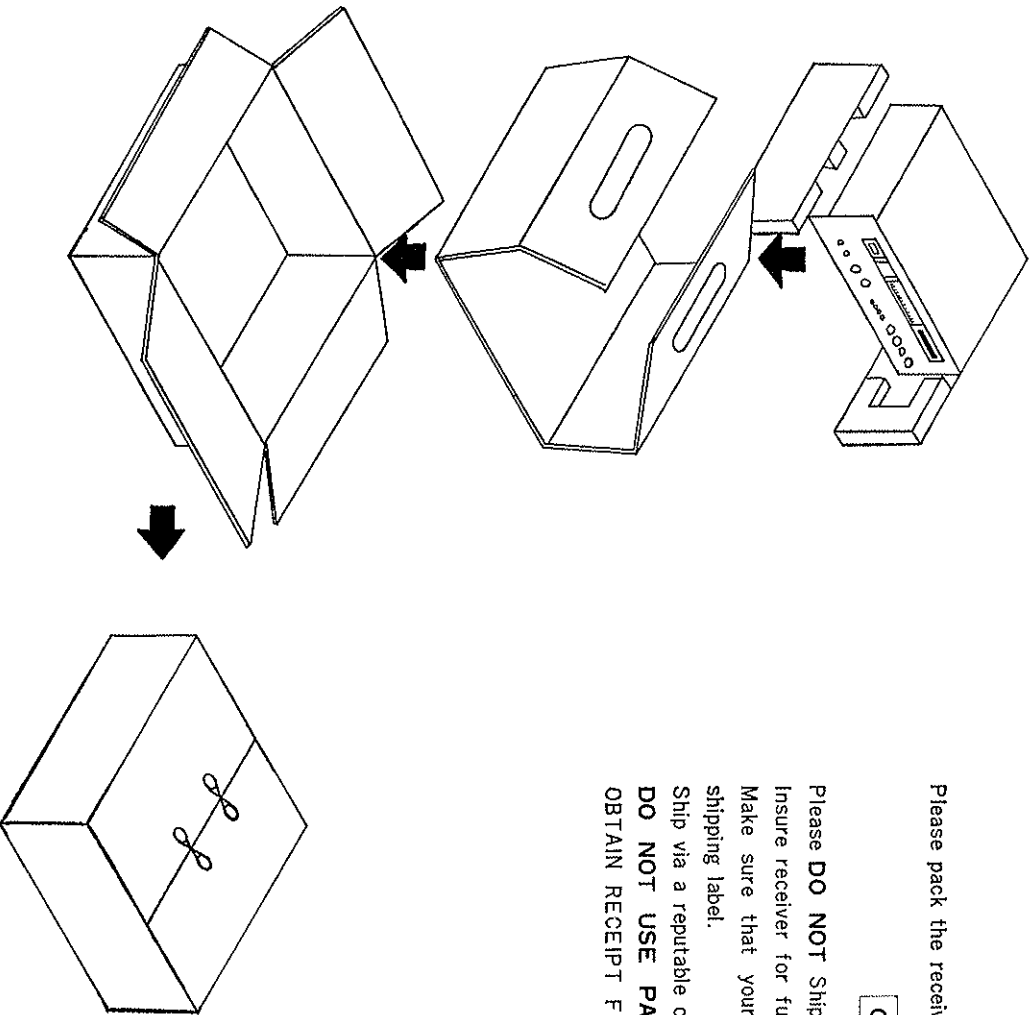
### REPAIRS

Only the most competent and qualified service technicians should be allowed to service a Marantz Receiver. The Marantz Company and its warranty station personnel have the knowledge and special equipment needed for repair and calibration of these precision instrument.

In the event of difficulty, write directly to the factory (to the attention of the Technical Service Department) for the name and address of the Marantz authorized warranty station nearest your business or home. Please include the model and serial number of the unit together with a description of the problem.

If it should ever be necessary to ship a unit to the factory, or authorized service station, pack the unit carefully, using the original packing material. If the packing material has been discarded, lost, or damaged, write to the factory (to the attention of the Technical Services Department) for new packing material, carton, fillers, and packing instructions to be shipped at a nominal charge. **DO NOT ATTEMPT TO USE ANY PACKING MATERIAL OTHER THAN THE ORIGINAL FACTORY PACK. IF IMPROPER PACKING IS USED IT MAY RESULT IN SEVERE DAMAGE. THIS DAMAGE IS NOT COVERED UNDER THE WARRANTY.**

No receiver should be returned to the factory without an Authorized Return Label which Marantz Company will supply if the description of difficulties appears to warrant factory service.



Please pack the receiver as illustrated.

**CAUTION**

Please **DO NOT** Ship receiver mounted in its cabinet.  
Insure receiver for full value.  
Make sure that your correct return address is on shipping label.  
Ship via a reputable carrier.  
**DO NOT USE PARCEL POST - BE SURE TO OBTAIN RECEIPT FROM CARRIER.**

**Figure 8. Packing Instructions**



# MARANTZ<sub>®</sub>

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