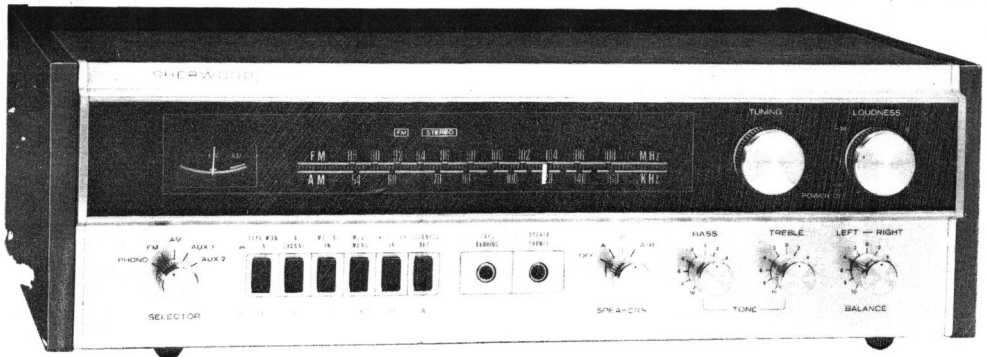


SHERWOOD

MODEL S-7200 AM/FM STEREO SOLID-STATE RECEIVER

- SOLID STATE CERAMIC IF FILTERS
- MICROCIRCUITS; FIELD EFFECT TRANSISTORS
- FM INTERCHANNEL "HUSH" MUTING CIRCUIT
- DIRECT COUPLED AMPLIFIER



INSTALLATION and

OPERATION MANUAL

Congratulations!

Your new Sherwood receiver provides you with the fullest enjoyment possible in the field of true high fidelity. Although the Sherwood receiver is simple to operate, it has many features designed to produce the utmost in listening pleasure in any location or room situation. To insure fullest enjoyment and maximum performance, please read this instruction booklet thoroughly before connecting it to the rest of your equipment.

installation

Sherwood receivers are usually placed so as to afford the greatest operating convenience: on a chairside table, desk, bookshelf, or in a conventional audio cabinet. We recommend that your record changer or turntable be located within ten feet of the receiver's input panel. However, magnetic phono cartridges should be located at least eight inches away from the receiver's power transformer. The speakers may be placed as far as 50 feet from your Sherwood receiver.

NOTES

IMPORTANT: Allow at least two inches in back of your receiver for adequate ventilation and cabling convenience. Never place the unit near radiators or in front of heating vents. Excessive heat tends to shorten the life of the parts. (This is an important fact to remember in caring for all the elements of your high-fidelity system, including records and tape.)

PANEL MOUNTING: The Sherwood receiver is a self-contained, self-cabineted unit which is easily adapted for panel mounting in custom cabinetry. The enclosed full-size mounting template should be used for custom installation.

To mount the Sherwood receiver behind a panel, follow the detailed instructions on the enclosed mounting template.

VERTICAL MOUNTING: Although your Sherwood receiver has been designed to be mounted in a horizontal plane, it can be operated vertically (with the face plate up). In this vertical type installation, do not use the Sherwood wood enclosure. The receiver

may be supported completely by its escutcheon in a custom installation; however, this type support is not adequate to withstand shipping.

The Sherwood receiver is designed primarily for horizontal installation. Therefore, the components contributing the greatest amount of heat have been placed near the back of the chassis. This enables the heat to be dissipated without affecting the other components in the receiver. When mounting your receiver vertically, special precautions must be taken to insure adequate ventilation. Since warmer air rises, it is recommended that vents are provided in the mounting board (near the escutcheon) to allow the heated air to escape. Vents should also be provided below and in back of the receiver to allow cool air to enter. If it is impractical to incorporate vents in the mounting board, an alternate and more effective solution would be to install a small exhaust fan near the back of the chassis.

PLACEMENT OF THE STEREO SPEAKERS: The speakers may be placed along any wall opposite to the area of listening. Putting the speakers near a corner or near the floor will boost the bass directed from the speakers. It is advisable to separate the speakers between 6 and 30 feet to give stereo music more realism. You may also prefer to toe the speakers in to give the music more direction—but this is finally matter of your listening taste. (See Fig. 1.)

PHONO SYSTEM LOCATION: The phono turntable or record changer should be mounted in a cabinet separate from the speakers so that acoustic feedback (howling or squealing) does not result. Sometimes this condition will result if the phono system is insufficiently shock-mounted. Use rubber sponges or soft, hollow rubber balls to support the turntable or changer base.

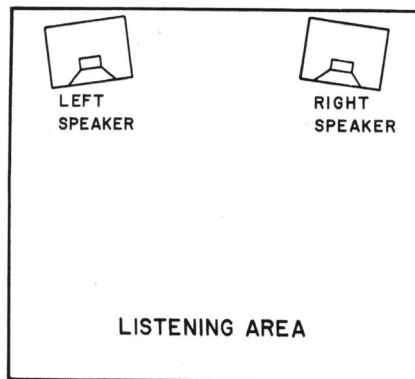


Fig. 1

stereo system hookup

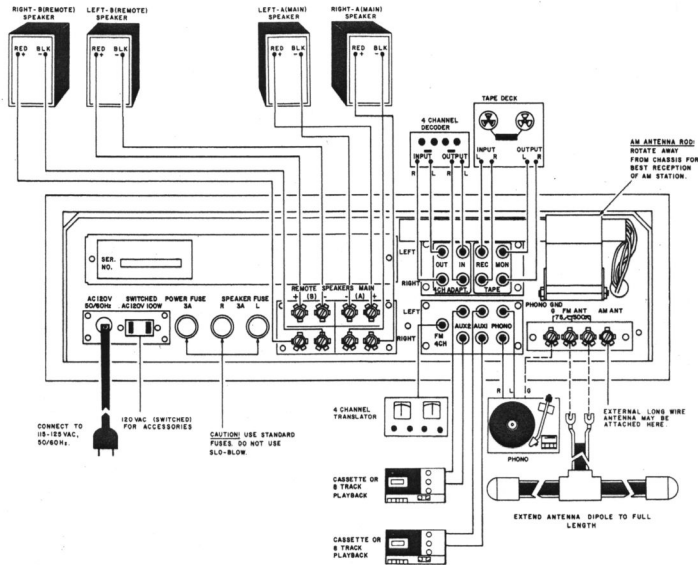


Fig. 2

interconnections

(See Fig. 2, above)

1. Connect plastic-covered lamp cord between your stereo speakers and the amplifier terminals labeled MAIN SPEAKER "LEFT" and MAIN SPEAKER "RIGHT." Please note: Speakers should be connected only as indicated. Be sure speaker outputs are not shorted before turning on receiver. See detailed instructions for extension speaker hookup.
2. Plug two shielded cables from your phono turntable or changer into the two jacks marked "PHONO" on the rear of Sherwood receiver. Attach phono ground wire (if any) to "GND" terminal as shown.
3. Plug the Sherwood receiver line cord into a wall outlet supplying 115-125V, 50/60-Hz current.
4. Fasten FM folded dipole antenna as shown and extend the ends in opposite directions and perpendicular to the direction of your FM station location.

detailed electrical connections

NOTE: Your Sherwood Receiver incorporates fused circuitry to prevent damage to the costly output transistors. However, care should be taken when connecting speakers and accessory equipment to avoid overloading the protection circuits. Speakers should be connected only as shown in Fig. 2. Special care should be taken to avoid shorting the amplifier's speaker outputs. Also, never plug or unplug audio cables into the rear panel while the receiver is turned on.

STEREO SPEAKER OUTPUTS: Examine your speaker system nameplate to determine its rated impedance. Your receiver is designed to work with speaker systems rated from 4 to 16 ohms.

Each speaker system has two leads which are to be connected to your new Sherwood receiver. Connect each stereo speaker to the corresponding speaker terminals on the rear panel of your receiver labeled "Main Speaker" "Left" and "Right".

A second set of stereo speaker terminals are available on the rear panel. The additional set ("Remote Speaker" "Left" and "Right") may be used to power a remote set of speakers anywhere in the home.

Plastic-covered lamp cord serves as excellent speaker connecting leads and may be extended as far as 50 feet with little power loss. For shorter distances, TV antenna lead can be used since it is especially convenient for installations where it is desirable to conceal speaker leads under a rug.

STEREO SPEAKER PHASING: Correct phasing is required to obtain maximum bass response and preserve a unity in sound when solo vocalists perform. To identify correct phasing, either play a mono music selection or switch your receiver or amplifier into the mono mode. Increase bass response slightly (to approximately 2 o'clock) and reduce treble slightly (to approximately 10 o'clock). Now, rotate the balance control from left-speaker only to right-speaker only.

If the speaker systems are in phase, the balanced (centered) bass response will exceed either left-only or right-only response. If the speaker systems are out-of-phase, the balanced bass response will be less than either left-only or right-only response.

If it is determined with this test that the speakers are out of phase, reverse (interchange) the connections to one speaker only. Repeat the test to verify that speakers are now correctly phased.

FM ANTENNA: Included with the accessories is an FM twin-lead folded dipole antenna. Attach the two exposed ends to the two terminals marked "FM ANT-300" on the rear panel. The antenna may be concealed by taping it to the back of the shelf on which the receiver is placed; however, best reception is normally obtained when the antenna is as high as possible above floor and when the dipole "arms" are extended to their full length, perpendicular to the direction of the FM station location.

If you are located a considerable distance from the FM station transmitters, an outdoor FM antenna may be required to reduce background noise, fading, or interference. FM antennas are available from your high-fidelity or TV parts distributor.

Direct interconnection with a TV antenna is also permissible. If interference from the interconnection is suspected, a connection with less coupling may be made by taping about 5 inches of the FM receiver 300-ohm twin-lead adjacent to the TV 300-ohm lead-in without actually making a direct connection.

Although the FM antenna input is designed for a 300-ohm balanced input, a 72- or 75-ohm unbalanced cable may be connected between one of the FM terminals and "Phono ground."

AM ANTENNA: Mounted at the rear of the receiver chassis is a directable ferrite antenna rod. This rod serves as a self-contained AM antenna and can be rotated for maximum signal strength from your desired AM station. The AM rod antenna should be rotated away from the chassis so the power transformer will not induce hum on AM.

Additional signal coverage in rural areas can be obtained by connecting a conventional long-line external AM antenna to the terminal marked "AM-ANT".

FM MULTIPLEX DISTORTION: An effect which can either severely distort the reproduced sound of FM reception or remove the stereo separation expected, is known as multipath interference. This problem is caused by the simultaneous reception of more than one FM signal and is due to the reflection of the desired signal from high-rise buildings or other structures in urban areas or hilly terrain in mountainous country. Unfortunately, no FM tuner can correct for this difficulty. However, improving the signal receiving conditions by relocating the antenna can often alleviate the problem.

PHONO INPUTS: The shielded cables from your phono arm should be provided with shielded "phono-type" plugs which can be connected to the "Left" and "Right" input jacks labeled "PHONO". To avoid loss in hi-frequency response, it is recommended that these cables not exceed 10 ft. in length. Either a three-wire or four-wire cartridge will operate correctly, but must be provided with two phono plugs.

The phono input connection feeds the phono pre-amplifier and has been designed primarily for use with a magnetic or variable-reluctance (constant-velocity type) cartridge. The cartridge load is located directly across the phono input jack and is 47,000 ohms. This value correctly loads most pickups (such as the Shure, Pickering, Empire, Grado, and ADC) for flat high-frequency response.

Should a cartridge be used where the manufacturer recommends a lower-valued load for flat responses, install a resistor across the pickup terminals which, in parallel with 47,000 ohms, will result in the recommended load impedance.

Lowest phono hum is obtained when the phono cartridge element is insulated from the metal parts of the turntable (or changer) chassis and tone arm. Interconnect these metal parts with a wire which is then connected to the terminal marked "PHONO GND" on the Sherwood receiver chassis. Note that this wire is separate from the shielded phono cable connected to the receiver. To reduce hum further, "ground" the "PHONO GND" terminal with a wire to the nearest water pipe or metal conduit which goes directly to true ground.

TAPE RECORDING—STEREO: To record from the Sherwood receiver, connect shielded phono cables between the two receiver output jacks marked "REC OUT" and the "line" or "high-level" inputs of your stereo tape recorder. Up to 50 feet of cable may be used. The record output signal level from the receiver is unaffected by the action of the LOUDNESS, BASS and TREBLE controls. Record level adjustment must be made at the tape recorder.

TAPE RECORDING—MONAURAL: To make a monaural recording of a stereo program, a "Y" cable (such as Switchcraft part No. 330F3P1) must be used. The "Y" end should be plugged into the two "REC OUT" jacks and the single end plugged into the high level input of the monaural recorder.

TAPE PLAYBACK AND MONITORING

TAPE MONITOR JACKS: To play back from a tape recorder containing its own playback preamplifiers, use shielded phono cables to connect the outputs of your tape recorder to the "MON" jacks on the rear panel of your Sherwood receiver. If you have a monophonic recorder with a single output jack, it may be connected to either of the two "MON" inputs. To direct the incoming MONO signal through both channels of your receiver, depress the "MODE" button to "MONO".

FRONT PANEL TAPE JACK: The front panel tape jack duplicates the input capabilities of the rear panel "TP MON" jacks when the "TAPE MONITOR" switch is depressed to "IN." (See Fig. 3)

AUXILIARY INPUTS: The high-level input jacks labeled "AUX 1" and "AUX 2" are for use with other tuners, TV receivers, or other equipment with at least 0.2V output. A shielded cable complete with a shielded "phono-type" plug should be used to connect each of these sources to your receiver. Unless the source has a low-impedance output such as a cathode follower (or emitter follower with which up to 50 ft. of cable can be used), the shortest possible connection should be made to prevent a loss of high-frequency response.

CHANNEL INPUTS: To connect a 4-channel adapter to your receiver, use shielded phono cables between the "4-CHANNEL OUT" jacks and the input jacks on the adapter. Connect the Front Left and Right outputs from your adapter to the "4-CHANNEL IN" jacks on rear of receiver. The "Rear Left and Right" outputs from your adapter must be connected to another stereo amplifier. Then depress "4-CHANNEL" button on front of receiver, adjust volume and balance controls for optimum channel listening.

The "4-CHANNEL" feature may also be used to connect a second tape recorder. Connect recorder as described in the paragraphs titled "TAPE RECORDING" and "TAPE PLAYBACK AND MONITORING."

Used as a second tape monitor, you may record from one recorder to the other, simply by depressing either the TAPE MONITOR or 4-CHANNEL button (depending on which tape deck you wish to monitor); the playback signal may then be recorded by the other tape recorder.

POWER CONNECTIONS: Plug the receiver's line cord into a wall outlet supplying 115-125V; 50-60 HZ. AC ONLY. (EXPORT models: 230V; 50-60 Hz.). Your components may be plugged into the SWITCHED outlet on the rear panel. The power to this equipment will then be controlled by the receiver's ON/OFF switch on the LOUDNESS CONTROL. A record changer should not be connected to this rear panel outlet to avoid shutting off the changer in mid-cycle.

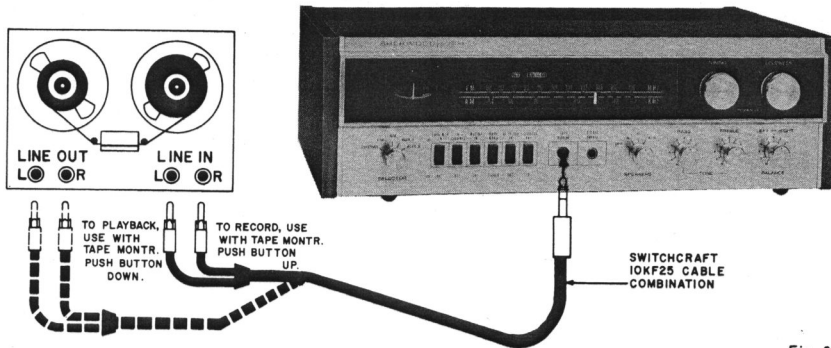


Fig. 3

ZERO CENTER TUNING METER
for precise tuning of your FM Station. (For AM: tune for maximum right hand deflection).

ILLUMINATED SELECTOR INDICATOR
Describes position of selector switch.

STEREO INDICATOR
Indicates multiplex FM stereo broadcasts.

4-CHANNEL
For connecting 4-channel matrix decoder. May also be used as a second Tape Monitor.

SELECTOR CONTROL
selects your listening source: Phono, FM, AM, AUX 1, or AUX 2.

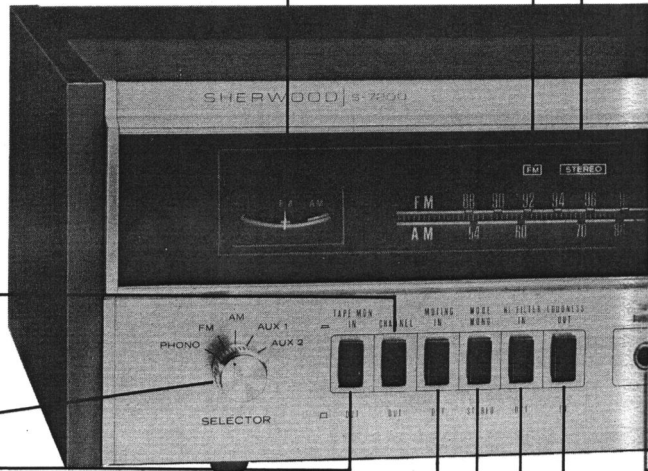
MUTING
When depressed, removes FM interstation noise.

HI FILTER
When depressed, cuts off scratch records, or background "hiss" from noisy FM stations. (Attenuates at 12 dB/octave).

TAPE MONITOR
Permits recording to, or (depressed) playing back from tape recorder; permits monitoring during recording.

MODE
Depress for Mono listening, or for sending a single channel to both speakers.

LOUDNESS
When depressed, controls bass



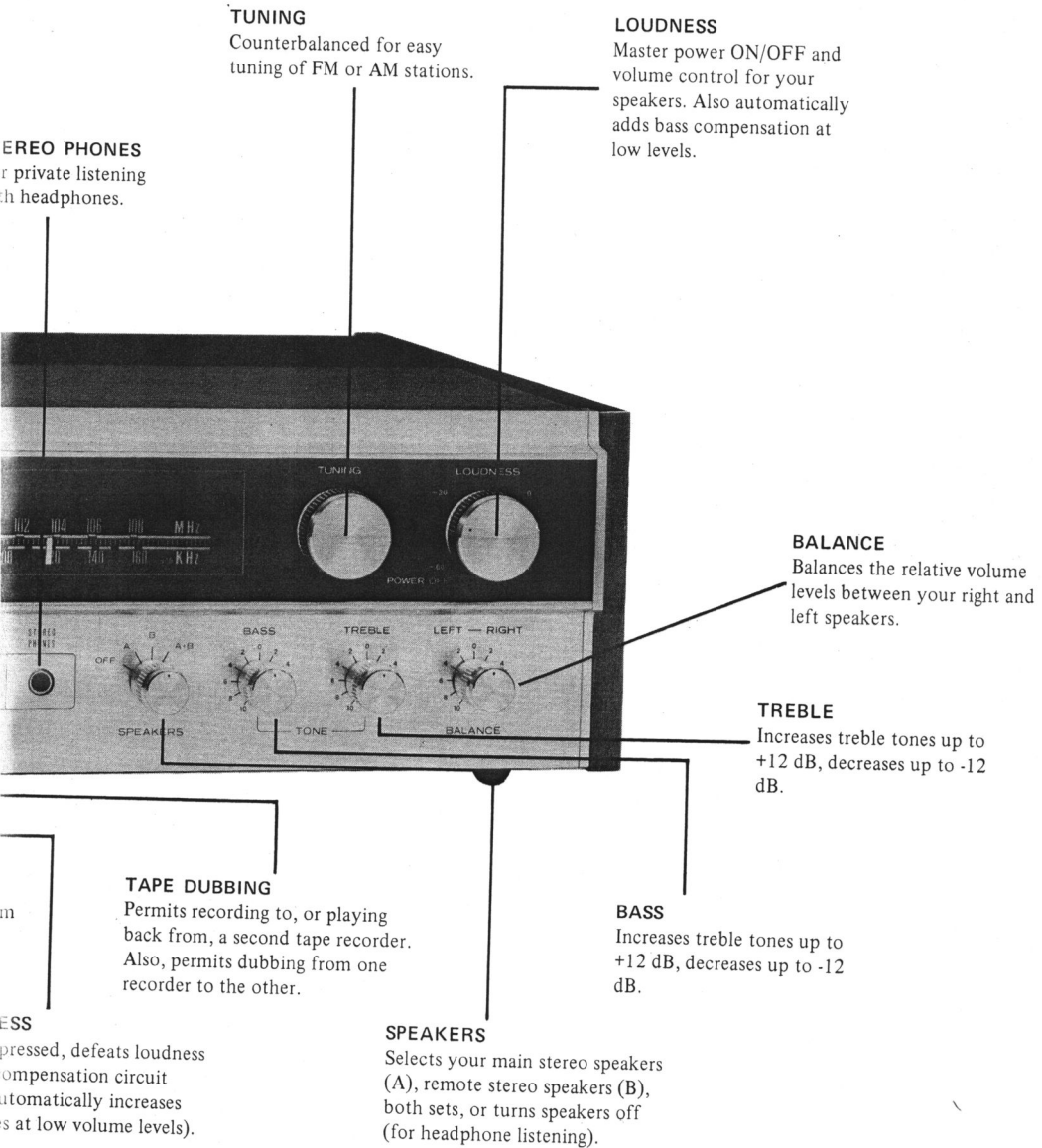


Fig. 4

operation

LISTENING TO FM: Release all push buttons to their normal position, which is out. Adjust the Bass, Treble, and Balance controls for mid-position (indicators pointing up). Select the speakers desired by rotating speaker switch. Turn the selector switch to the "FM" position. Turn the Loudness/Power On-Off switch clockwise to the first click. The dial lights will now be illuminated indicating that the receiver is on. Tune in the FM station desired with the tuning knob. Optimum reception will be obtained when the tuning meter indicator is in the center of the scale. (When tuning, notice that the center scale indication referred to falls between a left-hand and right-hand deflection of the pointer for each station.) Increase the Loudness control to obtain desired listening level.

FM INTERCHANNEL MUTING: A feature of your Sherwood receiver is an electronic muting circuit which automatically removes or reduces the noise (rushing sound) normally heard between the channels of highly sensitive FM receivers.

When the MUTING pushbutton is in, the Muting circuit will mute out this inter-station noise. Occasionally, the Muting circuit can mute out very weak or distant stations; to avoid this, the Muting circuitry can be defeated by releasing the MUTING pushbutton.

LISTENING TO FM/MX STEREO: FM multiplexed stereo programs will be received by your tuner when the mode switch is in its normal "STEREO" position. Conventional monophonic programs will also be received when the switch is in this position. If the station you are tuned to is broadcasting a multiplexed stereo program, the front panel Stereo Indicator Light will be illuminated. This feature provides you with the most effective means of locating stereo programming as you tune across the FM band.

It will be found that tuning is slightly more critical for stereo reception than for mono. This is because the reception of stereo programs with the same clarity and low background noise level as mono programs requires five times the signal strength at your antenna. Consequently, fringe or suburban area listening might require improvement in your FM antenna to get satisfactory reception. (See FM Antenna, Page 7). Methods of reducing noise in stereo programs are explained in the following two sections.

USE OF THE HI FILTER ON FM: Although the noise-threshold circuitry of your tuner will effectively reduce severe bursts of noisy interference, some background noise may persist. Depressing the Hi Filter switch will reduce this background noise by reducing the high frequency response of the amplifier section.

AUTOMATIC FM STEREO/MONO SWITCHING: Your new Sherwood receiver incorporates a unique noise-threshold-gated automatic FM stereo/mono switching circuit. In the normal FM mode of the receiver, this circuit will automatically switch the FM stereo multiplex circuitry from mono to stereo, if and when the station you are tuned to transmits a stereo program.

"4 CHANNEL FM OUTPUT": The Sherwood S-7200 receiver is equipped with a Four-channel FM output jack on the rear panel. This output will be used in conjunction with any adapter (when approved by the FCC) to produce 4 discreet channels from an FM source. In the event that the Federal Communications Commission approves a method of transmitting four discreet channels Sherwood will introduce at that time, a 4-channel demodulating adapter for use with this jack.

The FM stereo subchannel transmitted by an FM station broadcasting a stereo program is more susceptible to noise than is the main channel. A program may therefore have more background noise in stereo than in mono. A special noise-threshold circuit included in the receiver will automatically switch your receiver to stereo only if the background noise level is less than that which is considered acceptable for stereo. Should the noise increase, the receiver will automatically be switched to the mono mode. This feature is especially useful during the recording of stereo programs off-the-air, for it can save a valuable recording from being interrupted by noisy interference.

AUTOMATIC STEREO DEFEAT: Because of the additional noise introduced by the FM stereo subchannel, FM stereo listening might prove impractical on some very remote stations. Also, if an FM station transmits multiplexed storecasting (or multiplexed background musicasting) on 38 or 42 KHz instead of MX stereo, a "swishing" noise may be encountered. In either case it will then be desirable to completely

by pass the MX stereo circuitry. This is accomplished by depressing the MODE button to the Mono position.

PHONO: Turn the Selector switch to PHONO. The Loudness control should be used to compensate for variations in listening levels. Balance the relationship of volume between the right and left speaker with the Balance control.

It will be noted when playing subsequent phono records or tape recordings that a slightly different Balance adjustment might be required due to manufacturing variables.

MONOPHONIC PHONO RECORDS: To play monophonic phono records, use either a stereo cartridge or a monophonic cartridge (connected through Channel 1 or Channel 2) with the MODE button in its Mono position.

LISTENING TO AM: Turn the Selector switch to the "AM" position. Tune for maximum right-hand deflection of the tuning meter on the station desired.

BASE AND TREBLE CONTROLS: Independent increase or decrease of bass or treble response is accomplished with the tone controls. The markings are calibration guides to the boost or attenuation at 30 and 15,000 Hertz. These controls have unusually smooth action because of their freedom from "shelving" in their intermediate positions. This results in a less-obvious yet more-pleasing change in tone.

AUXILIARY INPUTS: With the SELECTOR switch in the "AUX 1" or "AUX 2" position, the corresponding high level output from a tuner, TV, etc., will feed through the amplifier.

Proper adjustment of the gain control on each high-level source is made with one of the higher-volume orchestral programs serving as source material. With the Loudness Control set to "0", adjust the gain control on the source to match the receiver's phono and FM output level. Thereafter, use only the Loudness Control to vary the sound level; the source gain control should remain at its preset position.

LOUDNESS CONTROL: A Loudness Control combines the function of a standard volume control with a tone compensating network which boosts the lowest bass frequencies when the Loudness Control is set for low-volume listening levels. To function properly (in accordance with the Fletcher-Munson hearing curves)

the loudness compensation should not affect your listening response at above-average listening levels. Therefore, your Sherwood receiver should, when possible, be operated with the Loudness Control set near "zero" for above-average listening levels, or near -20db for normal listening. There will be very little loudness compensation at this setting. However, when the Loudness Control is turned down for low listening levels, the bass frequencies, and to a lesser degree the treble frequencies, are automatically boosted to compensate for reduced response of the ear at low volume levels (in accordance with curves shown in Fig. 5, Page 16.

This compensation can be defeated by releasing the front panel LOUDNESS button.

MAKING RECORDINGS: Tape recordings may be made from your Sherwood receiver from any of its several sources such as PHONO, FM, etc. by incorporating the connections recommended under "TAPE RECORDING" (page 8). Since the BASS, TREBLE, and LOUDNESS do not affect the recorded output signal from receivers "REC" output jacks, "4 CHANNEL" output jacks, or front-panel tape jack all recording levels or tone adjustments must be made with the recording equipment.

TAPE MONITORING: It is desirable to use the tape monitor feature of your receiver to permit A-B comparisons between the signal available from your receiver and the signal produced by your recorder during the recording operation. This is only possible when the output of your recorder is connected to the "MON" input jacks, "4 channel" input jacks, or front panel tape jack of the receiver. During the recording operation, depressing the TAPE MONITOR or "4 channel" switch will permit you to listen to the output of your tape recorder without disturbing the signal being sent to the recorder which is determined by the position of the SELECTOR switch.

FOR OPERATION OTHER THAN TAPE PLAYBACK OR MONITORING, THE TAPE MONITOR OR "4 CHANNEL" SWITCH MUST NOT BE DEPRESSED TO PERMIT NORMAL OPERATION OF THE RECEIVER.

EXPORT MODELS are available with special power transformers for 50-60 Hertz power at 115-125V or 50-60 Hertz power at 220-240V and are marked thus on the rear of the chassis. These special models have also been treated with fungicide and anti-corona materials for added protection in humid climates.

NOTE: When converting from 120 to 240V operation, replace main power fuse with one rated approximately double value. (3 amp to 1-1/2 amp.)

trouble-shooting hints

SYMPTOM	POSSIBLE CAUSES AND SOLUTIONS
NO SOUND & DIAL IS NOT LIGHTED.	The main fuse is blown. (Replace it with a 3AG 3 amp fuse – do not use a slo-blo type.) (Export models use 3 AG 1½ amp fuse.)
NO SOUND, BUT DIAL IS LIGHTED.	The speaker switches are in the OFF position. (Switch them ON.) The TAPE MONTR or 4-CHANNEL switch is depressed (Switch it to its normal "OUT" position) or: Speaker fuses may be open. Replace with a 3 amp 3AG fuse – do not use a slo-blo type.
RECEIVER OPERATES IN PHONO MODE ONLY. NO FM RECEPTION.	The FM antenna has become disconnected. Reread the ELECTRICAL CONNECTIONS Section of the manual, and re-install the antenna.
DISTORTED SOUND ON FM OR AM.	If changing the position of the antenna results in a change in the sound, a better antenna is called for. FM Multipath reception might be suspected. See your local dealer for suggestions.
HUM ON PHONO. BUZZ ON PHONO.	The phono cables are not connected properly. Check for loose shield connections or a disconnected phono chassis ground wire. Move the tone arm on its pivot. If the hum changes, the phono cartridge is not properly shielded, or should be moved farther away from the receiver power transformer.

performance charts

