

low-distortion FM generator. With FM generator rf signal (@ 100% FM) feeding into antenna terminals, read IM distortion at audio output with tuner tuned for zero AFC volts. Adjust T8 (top) for minimum distortion.

TUBE SUBSTITUTION: A 12AX7, 12AD7, or 7025 tube may be used instead of the European 12AX7/ECC83 which is supplied with your receiver. The 6BS8 cascade tube has been found to offer optimum sensitivity when used in Model S-8000. However, either the 6BZ7, 6BQ7A or 6CX7 will operate at reduced sensitivity when substituted.

MATCHED OUTPUT TUBES: When replacing tubes, it is desirable to use matched pairs of tubes to facilitate minimum hum, low distortion, and optimum bass response. Matched tubes, such as those originally supplied in the Sherwood Receiver, are available either from your High Fidelity Supplier or the S.E.L. Service Dept.

The matched pair of 7591 tubes supplying the right-channel output are the 2 left-hand tubes as viewed from the rear of the amplifier. The right-hand pair of matched tubes supplies the left-channel output.

HUM - Hum or buzz might result from several causes in the receiver. To isolate the probable source, proceed as follows:

1. Turn loudness control to minimum and disconnect speaker. If hum or buzz persists, then vibrating power transformer laminations might be suspected. To cure, remove chassis case, tighten power transformer assembly bolts after receiver has been operating 3 hours to obtain full warmth.
2. If hum disappears with speaker disconnected, but is present with speaker connected and loudness control at

minimum, suspect output tube balance. Check output tubes and substitute with matched pair. If hum still persists, replace 12AX7 nearest output tubes.

3. If hum is satisfactorily low with loudness control at minimum, turn loudness to maximum, Phono Gain to minimum, bass and treble to 0, Selector to Phono. If hum now exists, replace 12AX7/ECC83 tubes. Finally, select tubes generating the least hum.

4. If hum is satisfactorily low with Phono Gain at minimum, turn Phono Gain to maximum. If hum now exists, remove phono cartridge connecting lead from input. Some hiss and a slight amount of hum is normal with this situation. A more careful check can be made by inserting a short-circuited phono plug into the phono input jack. If hum is excessive, reverse the polarity of the line cord. If still excessive, replace the first 12AX7/ECC83.

5. If hum is satisfactorily low except when the phono cartridge is connected, try the following. Increase the shielding around the cartridge and its lead if hum increases when the hand is placed near the cartridge. Ground the phono arm and turntable frame with a wire to the S-8000 chassis. Hum which is present only when the phono motor is operating, and which varies as the phono arm is moved across the phono table, is magnetic in type and caused by the magnetic fields around the phono motor. Try inserting one of the 2 phono plugs so that only its central prong makes contact. Be certain the power transformer in another piece of equipment such as a tuner is not causing difficulty.

FM DISTORTION: Your Sherwood tuner has been designed with the correct value of FM audio deemphasis feeding the audio system. Since this amount of deemphasis permits the overall FM audio response to be flat to 20,000 cps., any distortion generated at the FM

station will be heard without moderation by the tuner. With a good high-fidelity speaker system, your ear will be acutely aware of any distortion generated in the system. If you suspect distortion in your FM reception, check several other FM stations to ascertain the degree of distortion originating in the program. Your Sherwood FM tuner has been checked to have less than 1% intermodulation distortion before leaving the factory. Each FM program probably has not had a similar check.

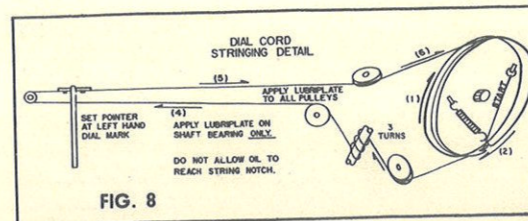
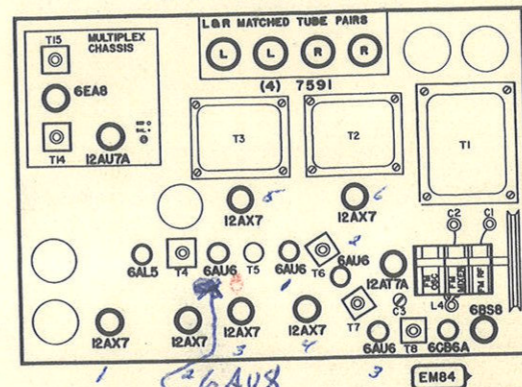


FIG. 9 - CHASSIS TOP VIEW



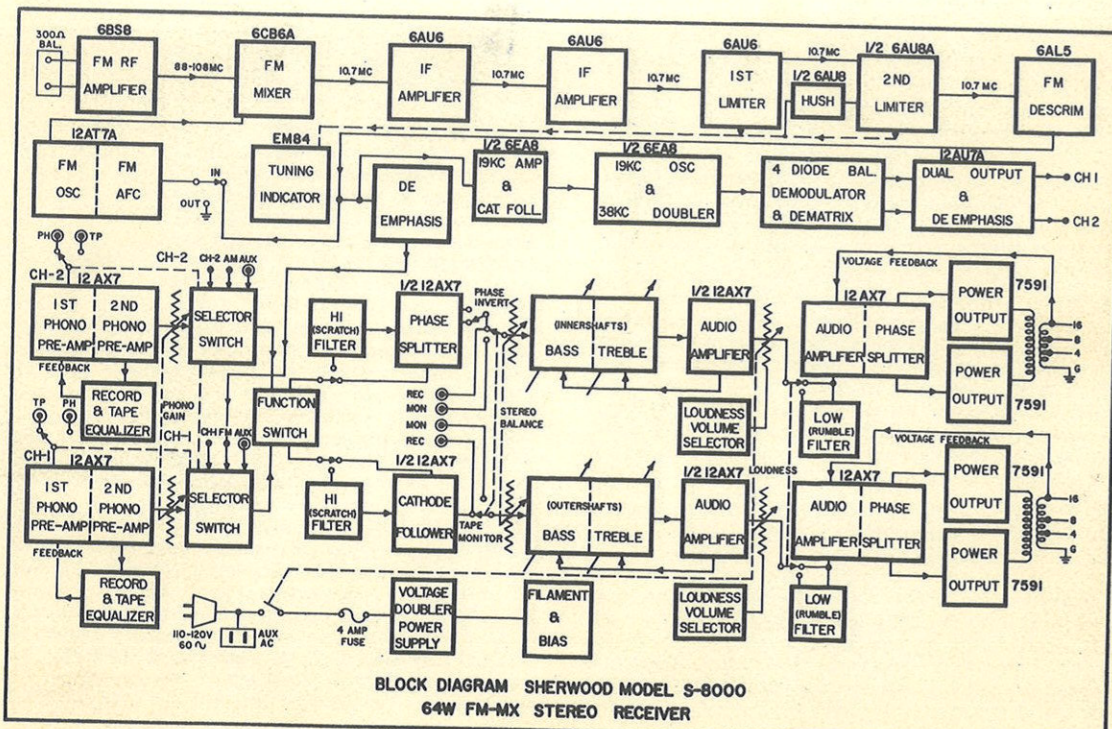
ALIGNMENT CHART

Generator Input: in every case, use the minimum generator input that will obtain a satisfactory output indication.

Alignment tools: IF transformers require a plastic 0.102 in. hexagonal tool such as GC No. 8606.

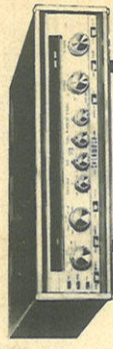
FM RF coils use a plastic screw-driver-type tool such as Amphenol No. 55 or GC No. 8606.

	Switch Setting	Signal Generator Input			Dial Setting	Indicating Instrument	Adjust	Indication	
		Coupling	Freq.	Modulation					
FM ALIGNMENT	1	FM AFC off	6CB6A tube shield insul. from chassis.	10.7mc	none	Point of no interference	Neg. DC VTVM on AGC (across C32)	T12, T11, T10 top & bottom	Maximum deflection
	2	"	"	"	"	"	Neg. DC VTVM through 100K ohms to R42	T7, top or bottom	" "
	3	"	"	"	"	"	Zero-center scale DC VTVM across C54	T8 bottom	Zero volts (between pos. & neg. reading)
	4	"	300-ohm balanced input to FM Ant. input	90 mc	400 cps. ±25kc FM	90 mc	AC voltmeter or CRO at audio output	L8, L4, L1, T8, top	Maximum deflection
	5	"	"	100 mc	" "	106 mc	" "	C63, C13, C3	" "
	6	Repeat steps 4 & 5 until no further improvement is possible.							
	7	"	"	"	400 cps ±25kc FM	"	CRO through 100K ohms to C31	T12, T11, T10 top and bottom	Recheck for maximum deflection while adjusting for symmetry
MX ALIGNMENT	Disconnect R216 (22K ohm 6EAB pin 3 voltage feed). Set R221 @ mid point of its range.								
	8	Select Phono Ph Gain Min.	Into C219 (.02 μF) @ 6EAB pin 9	19kc ± 2 cps (0.2V in)	none	Point of no interference	CRO @ junction R223, R229	L14, T14 top, T15 top & bottom	Max.
	9	Same as 8	Short above point to gnd.	19kc ± 2 cps on CRO horiz.	none	" "	" "	T14 bottom	Zero beat Lissajous
10	"	Same as 8	38kc stereo composite signal	R chan. only or L chan. only	"	CRO across R247 or R248	T14 bottom, R239, R242	Null @ unmodulated channel.	





SHERWOOD MODEL S-8000 64 WATT STEREO RECEIVER, OPERATION, INSTALLATION, and SERVICE MANUAL



SHERWOOD MODEL S-8000
64 WATT STEREO RECEIVER

With your purchase of Sherwood High Fidelity equipment, you join an ever-increasing group of proud Sherwood owners. To increase your appreciation of the many operating and performance features designed into every Sherwood product, this operating manual has been prepared. We urge you to read the entire manual carefully in order that you may benefit from these features.

Although many operating refinements have been included which initially may not seem essential to the operation of your equipment, further experience in good listening invariably results in your appreciation of these refinements provided by Sherwood. Consequently, we suggest you save this manual for reference to the valuable information contained herein.

SEE PAGE 3 FOR SIMPLIFIED HOOKUP & OPERATING PROCEDURE!

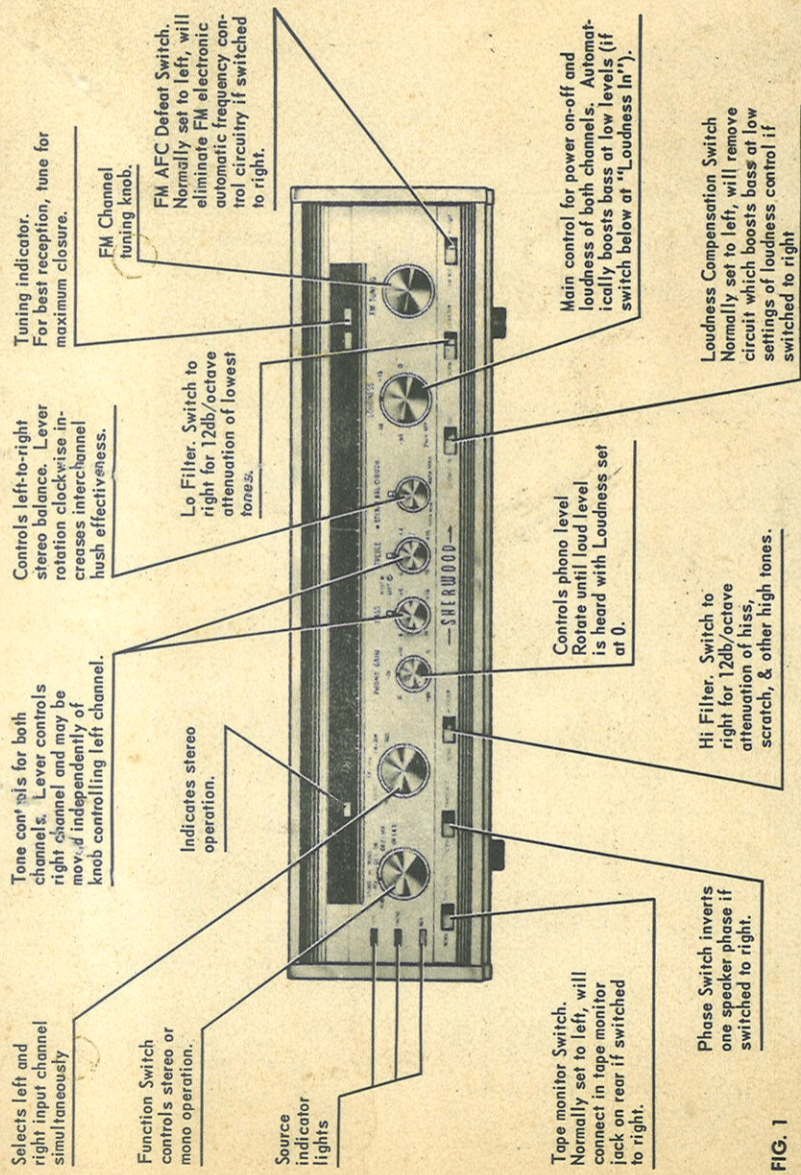
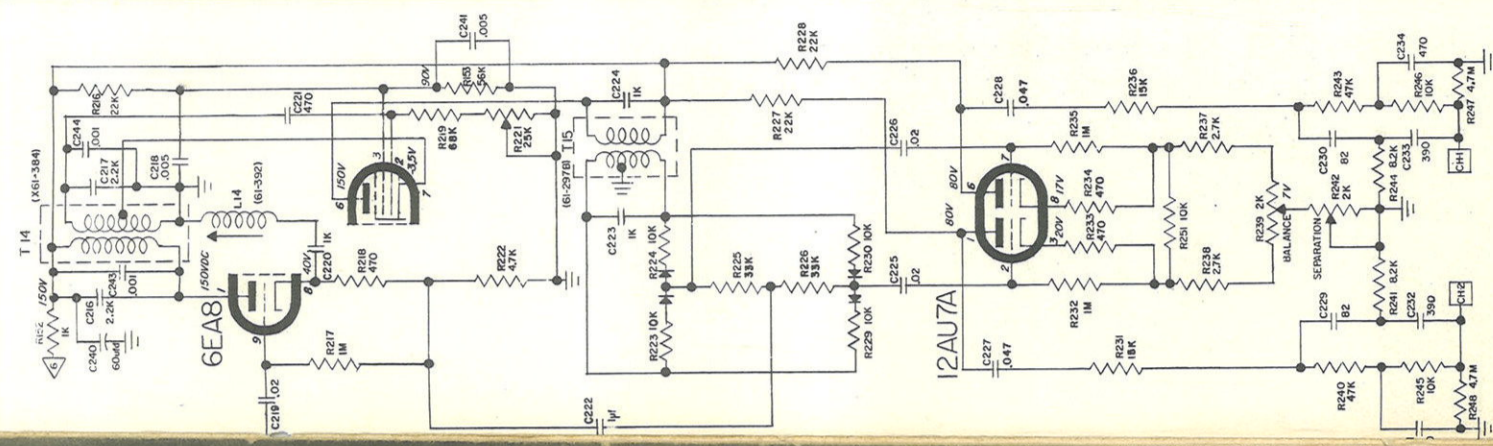


FIG. 1

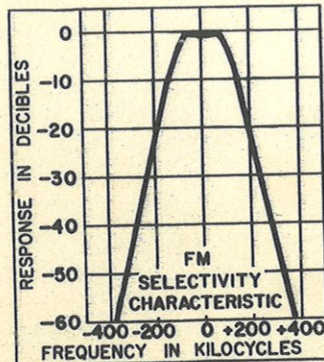
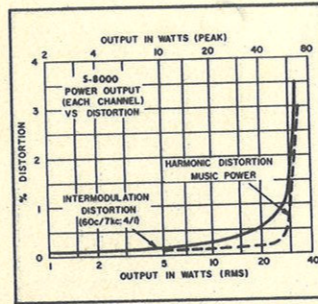
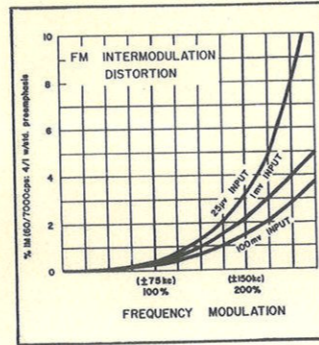
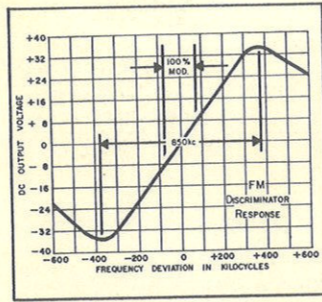


Litho in U.S.A.

SHERWOOD ELECTRONIC LABORATORIES, INC., CHICAGO 18, ILLINOIS

Price 50¢

MODEL S-8000 STEREO RECEIVER SPECIFICATIONS



TYPICAL SENSITIVITY: FM-0.95 μ v for 20db. quieting.

IHF M SENSITIVITY: 1.8 μ v for 30 db. noise & distortion below 100% FM.

TYPICAL SELECTIVITY: FM-200kc @-3db.

FM DISCRIMINATOR: 850kc peak/peak. TUNING RANGE; FM 87.5-108.5mc

FREQUENCY RESPONSE: FM mono: 20-20,000 cps \pm 1/2db.

FM stereo: 20-15,000 \pm 1/2db.

DISTORTION: FM, less than 1/3% IM @ 100% mod. (60:7kc/4:1 w/std pre-emphasis) less than 1/4% harmonic @ 100% mod., 400 cps.

HUM AND NOISE LEVEL: FM, 60db. below 100% mod.

FM DRIFT: \pm 2kc w/AFC. \pm 25kc w/o AFC.

AFC CORRECTION: 20db. or 10/1

REC. OUTPUT: 1.5 Volts 100% modulation

OSCILLATOR RADIATION: 6db. below FCC REQUIREMENTS

ANTENNA: 300 ohm balanced

INPUTS: 3 high level, 2 (RIAA) Phono-preamp, 2 (NAB) tapehead preamp., 2 tape monitor.

POWER OUTPUT: Stereo; each channel 32 watts music power (30 watts continuous, 60 watts peak) or Mono: 64 watts music power (60 watts continuous, 120 watts peak) @ 1 1/2% IM distortion (60:7kc/4:1)

OUTPUTS: 16, 8, and 4-ohm left and right spkr: 2 recording.

INVERSE FEEDBACK: 14db.

DAMPING FACTOR: 5:1

FREQUENCY RESPONSE (30w) 20cps to 20kc \pm 1/2db.

TONE CONTROL RESPONSE: Flat setting, 20cps to 20kc \pm 1/2db.

TONE CONTROL RANGE: 15kc, 14db boost or cut. 40 cps. 16db boost, 14db cut

LO FILTER: 20cps, 18db. rejection; 60cps less than 2db. down.

PREAMP. EQUALIZER CURVES: AES/RIAA phono and NAB tape.

SENSITIVITY: Radio 0.4v, Phono 1.5 mv, Phono & Tape inputs are adjustable with phono level control.

MAX. INPUT CAPABILITY: Phono: 200mv for less than 1% dist.

MAX. HUM & NOISE: Vol. control min., 86db (weighted) below rated output. Radio input (controls max.), 75db (weighted) below rated output. Phono input (controls flat) 63db below rated output, 72db below 10mv (equivalent to 1/2 μ v referred to input grid).

INTERCHANNEL CROSSTALK: less than 50db @ 1 kc.

FM STEREO MX SEPARATION: 40db, 150 cps to 10kc.

MX 38KC OUTPUT AT REC. OUT: less than 5mv out.

POWER CONSUMPTION: 110-120v, 60cps, 225 watts, 2.2 amp., fused.

SIZE: 16 1/4 x 14 x 4 1/2 high

SHIPPING WEIGHT: 39 lbs. (with case).

