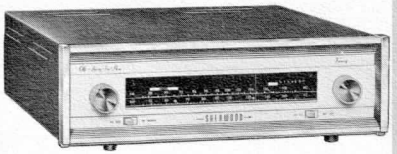
SHERWOOD
MODEL S-2100
FM/MX-STEREO/AM TUNER
OPERATION, INSTALLATION, and SERVICE MANUAL



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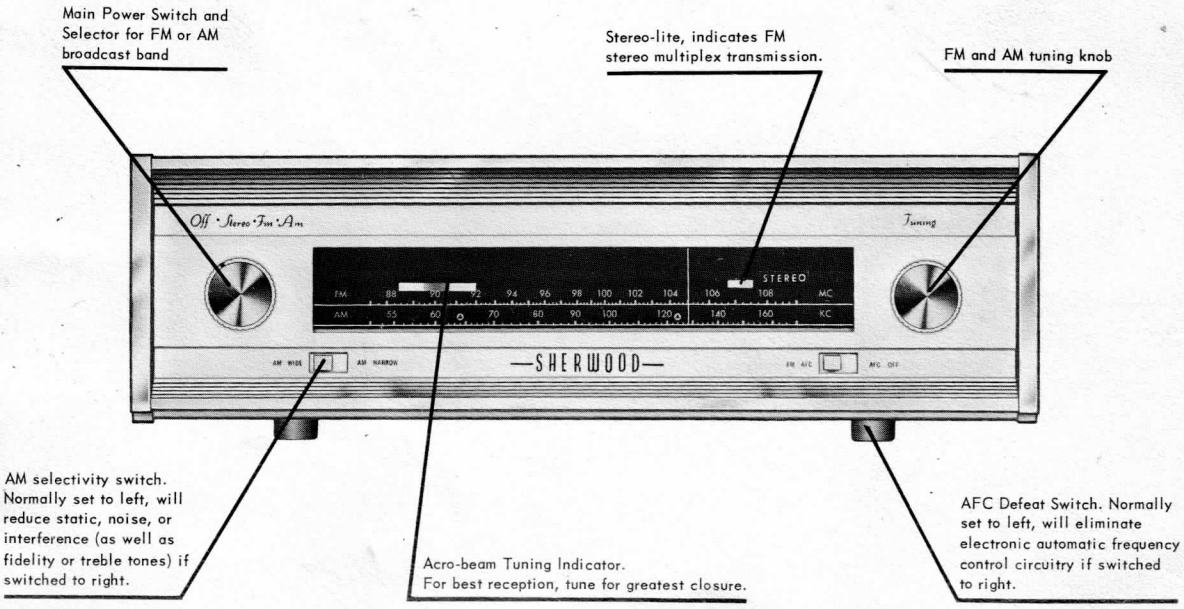
With your purchase of Sherwood High Fidelity equipment, you join an ever-increasing group of proud Sherwood owners. To increase your appreciation of the many operating and performance features designed into every Sherwood product, this operating manual has been prepared. We urge you to read the entire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



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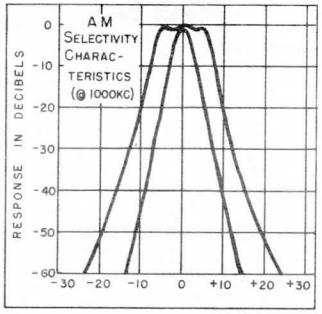
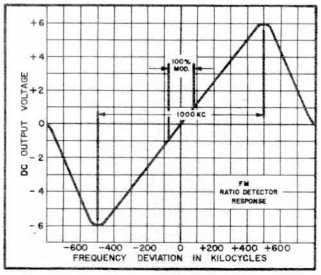
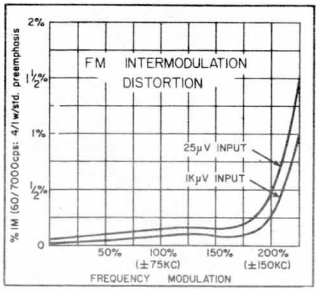
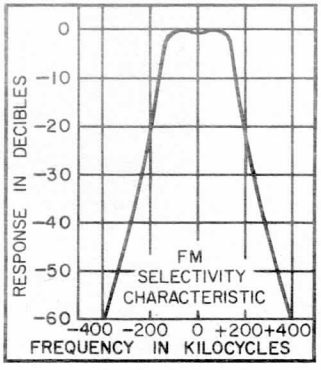








MODEL S-2100 FM/MX-STEREO/AM TUNER SPECIFICATIONS

CIRCUITS: FM — Low-noise balanced antenna input transformer feeding cascode RF amplifier. Pentode mixer, 2 IF amplifiers, gated-beam limiter, 2nd limiter, and ratio detector. Delayed AGC applied to RF and IF stages. AFC on oscillator. Inter-channel noise muting with rear-panel control. FM multiplex circuitry with FM stereo-lite indicator. AM — Superheterodyne with two tuned RF circuits, penragrid mixer, double-tuned IF stage with switched coupling, and low-distortion diode detector. Separate diode for delayed AVC which is applied to RF, mixer, and IF stages. Directable ferrite-rod antenna. Split-bar tuning eye for both FM and AM.

TYPICAL SENSITIVITY: FM — 0.95 uv for 20 db. quieting. AM — 2.0 uv @ 60% mod. for 0.5v output, 6 db. S/N

IHFM FM SENSITIVITY: . . . . . 1.8 uv for 30 db. noise & distortion below 100% FM

TYPICAL SELECTIVITY: . . . . FM — 200kc @ -3 db. AM — (wide) 15kc @ -6 db. (narrow) 5kc @ -6 db.

FM DETECTOR: . . . . . 1000kc. peak-to-peak

TUNING RANGE: . . . . . FM, 87.5-108.5 mc. AM, 535-1630kc

FREQUENCY RESPONSE: . . . . . FM monaural 20-20,000 cps ±1/2 db. FM stereo, 20-15,000 cps ±1/2 db. AM, (wide 20-7,500 cps @ -6 db.)

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

FM STEREO SEPARATION: . . 40 cps to 12kc; 40 db. typical, 30 db. min.

HUM AND NOISE LEVEL: . . . . . FM, 60 db. below 100% mod. AM, 55 db. below 100% mod.

FM DRIFT: . . . . . 5kc w/AFC, 25kc w/o AFC

CONTROLS (rear panel): Hush adjust, AM level, Stereo FM level, Balance, Separation, Stereo-lite sensitivity

AFC CORRECTION: . . . . . 15 db. (5/1 or 80%)

NOISE MUTING CONTROL RANGE: . . 0 db. to -40 db. audio reduction

OUTPUT: . . . . . 1.2 Volts @ 100% modulation

OSCILLATOR RADIATION: . . . . . 3 db. below FCC requirements

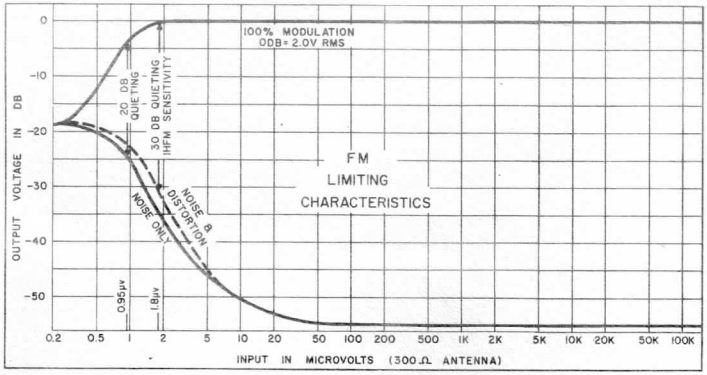
ANTENNA: . . . . FM — 300 ohm balanced, AM — directable ferrite rod, w/external ant. connection

OUTPUTS: . . . . . Low-impedance audio

POWER CONSUMPTION: . . . . . 0.8a, 85 watts, 115-125v, 50-60 cps

DIMENSIONS: . . . . . 14 x 10-1/2 x 4 in. high

SHIPPING WEIGHT: . . . . . 21 lbs. (with case)



SIMPLIFIED HOOKUP & OPERATING PROCEDURE

Interconnections:

1. Connect two audio cables from the CH 1 and CH 2 output jacks on the rear panel of the tuner to two hi-level inputs (Tuner, Aux, etc.) on your amplifier.
2. Connect power cord into AC power receptacle on rear of your amplifier.
3. Unwind wires on FM antenna terminals, extend to fullest length, left and right.
4. Remove rubber band retaining AM rod antenna; rotate antenna about 2 inches away from chassis.

Operation:

1. Set both slide switches to their normal position which is to the left.
2. Adjust Hush and Stereo-lite sensitivity controls to their mid-positions.
3. To turn tuner power on, rotate left-hand selector switch to Stereo, FM, or AM position. Tune in desired station with right-hand tuning knob. Tune for greatest closure of tuning eye.
4. To turn off tuner, rotate selector switch to "Off".

(For further information, see detailed instructions.)

GENERAL INFORMATION

To obtain the utmost satisfaction with your new Sherwood tuner, review carefully the operation and installation sections of this booklet. Your tuner has been styled and designed primarily as an operating mate for Sherwood amplifiers; however, it has operating flexibility enabling it to work effectively with practically any good high-fidelity amplifier system.

Your Sherwood tuner can be used either in its self-contained metal cabinet (for open-shelf or tabletop mounting), or the cabinet can be removed and the tuner built into your custom cabinetry. Refer to section under "Panel Mounting" for further details.

UNPACKING — After unpacking your tuner, examine it carefully for indications of damage caused by shipping. If, for example, the cabinet has been dented or tubes broken, file a claim immediately with your carrier or dealer.

Enclosed with this manual are two J-bolts, washers, wing nuts, two audio interconnecting cables, and your warranty card. The warranty card explains Sherwood's one-year warranty against defects. It should be mailed immediately to fulfill warranty requirements.

INSTALLATION

Your Sherwood tuner usually is located to provide the greatest operating convenience — on a chairside table, desk, bookshelf, or in a conventional radio cabinet. It is recommended that tuner installations in the fringe area of radio stations use external antennas. In this case, the tuner should be located where it is accessible to the antenna lead-in. Metropolitan or suburban installations can satisfactorily use the built-in antennas without need for antenna lead-in considerations. No more than four feet of shielded cable should separate the tuner and amplifier.

IMPORTANT: Allow at least 2 inches behind the rear of your tuner 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.

PANEL MOUNTING: The Sherwood tuner 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.

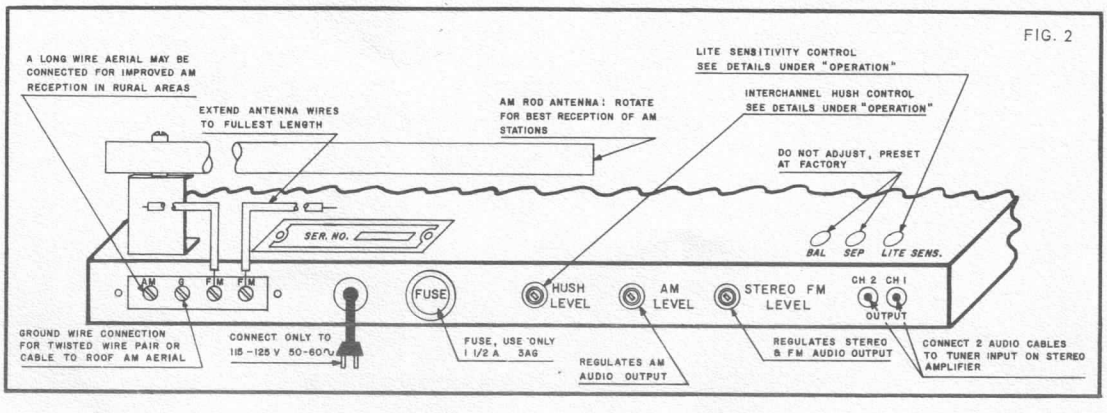
To mount the Sherwood tuner behind a panel, first remove the metal case by unscrewing the 4 sheet metal screws securing it to the bottom of the chassis. Slide case back, away from panel.

Cut panel cutout 3-3/4 x 13-15/16 as shown on template. Remove the 4 rubber feet attached to the bottom coverplate. Slide tuner through cutout from the front. The chassis should be provided with either a shelf or rails to support its weight. To fasten the chassis securely with the J-bolts provided, two 3/8" dia. holes should be drilled in the supporting members as shown on template. For adequate ventilation provide cutout beneath chassis.

ELECTRICAL CONNECTIONS (See Fig. 2)

AUDIO OUTPUT: Connect the two shielded audio cables from the FM-MX Stereo outputs on the rear panel of the S-2100 marked "CH 1" and "CH 2" to two hi-level inputs on your amplifier (Tuner, AUX, etc.).

FIG. 2



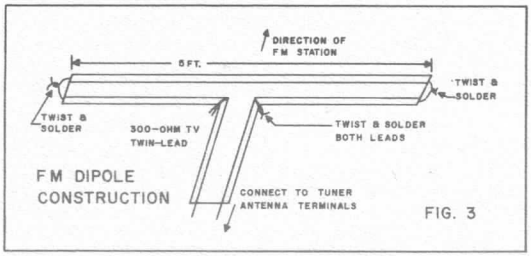


FIG. 3

FM ANTENNA: Connected to the FM antenna terminals are two lengths of plastic covered wire. Unwrap these wires and extend them in opposite directions and perpendicular to the direction of your station location. For urban locations having good signal strength, the antenna lead can be concealed by Scotch taping to the line cord. To reduce noise, fading, or interference on weak, distant stations, use a roof-top 300-ohm FM antenna array and 300-ohm ribbon lead-in. A somewhat less effective antenna system can be built in the attic from 5 feet of 300-ohm TV lead-in. Split one side of this lead and connect another piece of 300-ohm lead-in to serve as its lead-in. Twist the two ends together as shown in Fig. 3 and solder. Tack antenna perpendicular to the direction of your station location. Best performance will be indicated by greatest closure of the tuning eye.

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

Although the FM antenna input is designed to 300-ohm balanced input, a 70-ohm unbalanced cable may be connected between one of the FM terminals and ground.

OPERATION (See Fig. 1, Pg. 1)

To operate, turn selector switch to the Stereo, FM or AM position, the dial will then be illuminated. Tune in desired station with the right hand tuning knob; the tuning eye will show greatest closure at the point of best tuning.

FM INTERCHANNEL HUSH: A feature of the Model S-2100 tuner is an electronic muting circuit which automatically removes or reduces the noise (rushing sound) normally heard between channels on highly sensitive FM tuners. The degree of effectiveness of this electronic circuit can be adjusted with the rear panel control marked "Hush Level".

To adjust the Hush control, rotate completely counterclockwise (the electronic muting circuit is completely disabled with this setting.)Tune in between FM stations where a rushing noise is heard. Advance (turn clockwise) Hush control until noise is satisfactorily eliminated. If you ordinarily listen only to local, strong signal stations, then the Hush control can be turned completely clockwise for greatest effectiveness; however, in this position, the sound of extremely distant, weak-signal stations will also be attenuated along with the inter-channel noise. When tuning for distant stations, it might be necessary to turn the Hush control counter-clockwise to increase the distant-station volume to a satisfactory level.

LEVEL CONTROLS: Two rear panel level controls are provided to regulate the amount of audio signal feeding the amplifier. Clockwise rotation increases the level until maximum is reached.

The AM level control varies the AM signal only, while the FM mono and stereo signals are both regulated by the Stereo FM Level control.

STEREO-BALANCE AND SEPARATION: Do not adjust the two rear panel controls labeled BAL. and SEP. These controls are preset at the factory and should only be adjusted during alignment or servicing.

STEREO-LITE SENSITIVITY: Adjust the Stereo-lite sensitivity control as follows: Increase the sensitivity control to the maximum clockwise position. Tune to a station broadcasting F.M. stereo multiplex. The Stereo-lite should now glow indicating stereo transmission.

Now tune between stations to a region where "rushing" noise may be heard. Next decrease (counterclockwise) the sensitivity control to eliminate any false indications due to noise when tuning between stations and flickering on stereo stations. Best results will be obtained when the sensitivity control is adjusted for the minimum amount of sensitivity needed to obtain a reliable stereo indication.

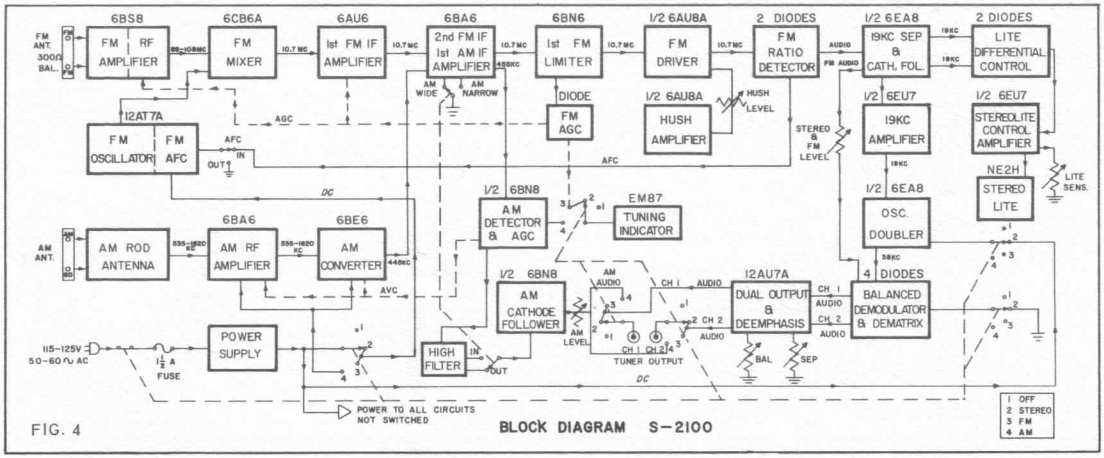
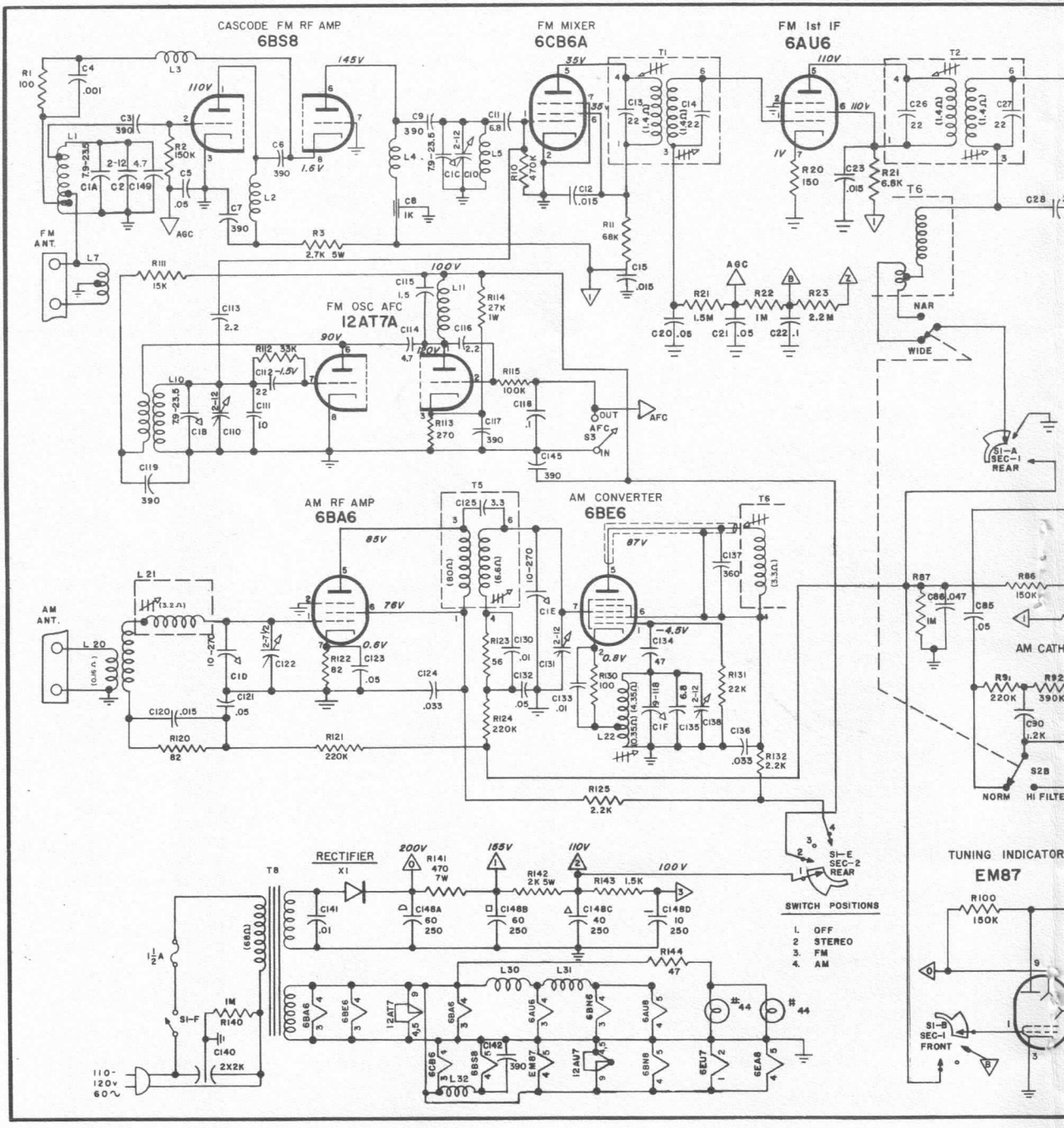


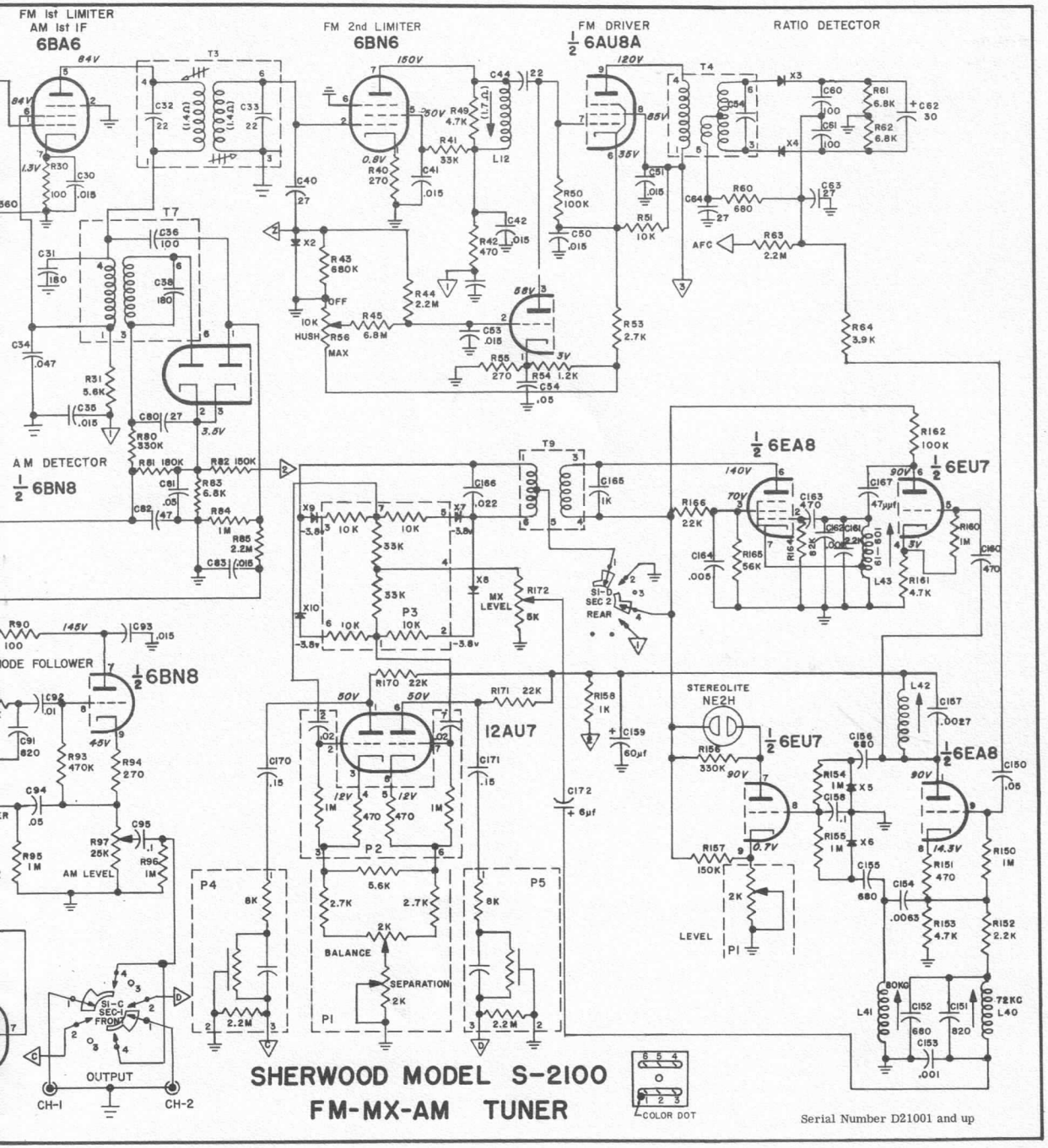
FIG. 4 BLOCK DIAGRAM S-2100

STATIONS TRANSMITTING FM/MX STEREOCASTS

Ala., Birmingham	WSFM	93.7
Alaska, Anchorage	KBYR	102.1
Arizona, Phoenix	KEPI	96.9
	KNIX	
California, Beverly Hills	KCBH	98.7
Fresno	KCIB	
	KXQR	102.7
Garden Grove	KGGK	94.3
Los Angeles	KFMU	97.1
	WGGK	
	KMLA	100.3
	KNOB	
	KRHM	94.7
Monterey	KHFR	
Oceanside	KUDE	102.1
Riverside	KDUO	97.5
Sacramento	KSFM	96.9
Santa Barbara	KMUZ	103.3
San Diego	KGB	101.5
	KLRO	94.9
	KPRI	106.5
San Francisco	KBAY	104.5
	KBCO	105.3
	KJAZ	
	KPEN	101.3
	KSFR	94.9
San Jose	KSJO	92.3
Santa Maria	KEYM	99.1
Visalia	KONG	92.9
Walnut Creek	KWME	92.1
Woodland	KATT	102.5
Connecticut, Brookfield	WGHF	95.1
Delaware, Wilmington	*WJBR**	99.5
Florida, Cocoa Beach	WRKT	
Fort Lauderdale	WFLM	105.9
Miami Beach	WAEZ	94.9
	WVCG	99.1
Orlando	WHOO	96.5
Pensacola	WPEX	91.1
St. Petersburg	WTCX	99.5
Sarasota	WYAK	102.5
Georgia, Atlanta	WKLS	
Columbus	WRBL	93.3
Illinois, Chicago	WEFM	99.5
	WFMQ	107.5
	WFMT	98.7
	*WKFM**	103.5
	WSBC	93.1
Quincy	WGEM	105.1
Rock Island	WHBF	98.9
Indiana, Evansville	WIKY	104.1
Indianapolis	WFMS	95.5
	WISH	107.9
Iowa, Des Moines	KDMI	97.3
Kansas, Lawrence	KANU	91.5
Wichita	KCMB	107.3
Kentucky, Lexington	WVLK	
Maryland, Bethesda	WHFS	102.3
Towson	WAQE	101.9
Mass., Boston (Waltham)	WCRB	102.5
Lynn	WUPY	105.3
Michigan, Detroit	WDTM	106.7
	WGPR	107.5
	WLDM	95.5
	WOMC	104.3
East Lansing	WSWM	99.1
Grand Rapids	WJEF	93.7
	WOOD	105.7
Midland	WQDC	
Minnesota, Minneapolis	WAYL	96.1
	KWFM	97.1
Missouri, Kansas City	KCMO	94.9
St. Louis	KCFM	93.7
	KSHE	94.7
	KWIX	102.5
Nebraska, Omaha	KQAL	94.1
Nevada, Las Vegas	KORK	
New Jersey, Dover	WDHA	105.5
Long Branch	WRLB	107.1
New Mexico, Albuquerque	KHFM	96.3
N.Y., Garden City	WLIR	92.7
New York	WQXR	96.3
	WTFM	103.4
Rochester	WCMF	96.5
Schenectady	WGFM	99.5
Syracuse	WSTR	94.5
Westbury	WGFM	99.5
N.C., Burlington	WBBB	101.1
Greensboro	WMDE	98.7
Ohio, Akron	WDBN	94.9
Canton	WCNO	106.9
Cleveland	WDGO	95.5
	WNOB	107.9
Columbus	WBNS	97.1
Findlay	WFIN	100.5
Middletown	WPFM	105.9
Portsmouth	WPAY	104.1
Oklahoma, Tulsa	KOOW	
Oregon, Eugene	KFMY	97.9
	KWFS	
Portland	KGMG	95.5
	KPFM	97.1
Pennsylvania, Braddock	WLOA	96.9
Johnstown	WJAC	95.5
Philadelphia	WFLN	96.7
	WHAT	96.5
	WIFI	92.5
	WQAL	106.1
Pittsburgh	WKJF	93.7
Wilkes-Barre	WYZZ	103.3
R.I., Providence	WPFM	95.5
S.C., Spartanburg	WSPA	98.9
Tennessee, Nashville	WNFO	
Texas, Austin	KTBC	93.7
Beaumont	KHGM	
Dallas	KIXL	104.9
	KSFM	105.3
Houston	KODA	99.0
	*KFMK**	97.9
	KGHM	99.1
	KRBE	104.1
Port Arthur	KFMP	93.3
Wichita Falls	KNTO	
Virginia, Martinsville	WMVA	96.3
Norfolk	WYFI	99.7
	WTAR	
Richmond	WFMV	103.7
Washington, D.C.	WASH	97.1
Washington, Seattle	KETO	101.5
	KISW	99.9
	KLSN	96.5
West Virginia, Charleston	WKNA	98.5
Wisconsin, Milwaukee	WFMR	96.5
	WMKE	102.1
	WTMJ	94.5
Ontario, Oshawa	CKLB	93.5
Toronto	CFRB	99.9
	CHFI	98.1

* Stereocasts use Sherwood-built FM/MX equipment.


CASCODE FM RF AMP
6BS8
FM MIXER
6CB6A
FM 1st IF
6AU6
FM OSC AFC
12AT7A
AM RF AMP
6BA6
AM CONVERTER
6BE6
RECTIFIER
X1
TUNING INDICATOR
EM87
SWITCH POSITIONS
1. OFF
2. STEREO
3. FM
4. AM
AGC
NAR
WIDE
NORM
AM ANT.
FM ANT.
110-120v 60~



NOTES: All resistors are 1/2 watt, ±10% tolerance unless otherwise specified. All fractional-valued capacitors are in µf and are 400v. molded paper; other capacitors, except electrolytics, are in µµf and are mica or ceramic.

Notation	Multiplier
K	1000
M	1,000,000
µ	1/1,000,000

DC voltages are measured with VTVM and are with 117v. power source.

FM AFC SWITCH: Normal usage is with "AFC On," allowing the electronic automatic frequency control to aid in tuning to the center or least-distorted point of each FM station. In addition, AFC reduces any tendency for the tuner to drift or detune away from a station. Where a weak station is being tuned on a channel adjacent to a much stronger station, the AFC may be turned to "off" to prevent the stronger station from pulling the tuning away from the desired weaker station.

AM WIDE-NARROW SWITCH: Operating only when the selector is in the AM position, this switch determines the bandwidth or selectivity of the AM tuner section. For strong, local stations use the "WIDE" position where the 16-KC bandwidth permits high-fidelity reception up 8KC of audio response.

During noisy reception of weak stations, use the "NARROW" position where the 5KC, bandwidth cuts out much of the noise and "pulls-in" the station. Most accurate tuning of an AM broadcast is with the band-switch in the narrow position. After optimum tuning has been obtained, switch to wideband position for best "hi-fi" results.

LISTENING TO FM/MX STEREO: With the S-2100 tuner selector switch in the Stereo position and tuned to an FM station transmitting FM stereo FM/MX can be received automatically. FM mono reception will also be received in this position, the circuitry will automatically switch from mono to stereo reception if and when the station is transmitting stereo. It might be found that tuning is slightly more critical for the stereo FM reception than for mono FM. The use of the FM stereo subchannel increases background noise (about 9db) over listening to the same station in mono. Consequently fringe or suburban area listening might require improvement in your FM antenna to get satisfactory reception. (See FM Antenna Pg. 4.)

Because of the additional noise introduced by the stereo MX channel, fringe area FM stereo listening might prove to be impractical because of the background noise. Also, if an FM station transmits mono FM and MX *store*casts on 38 or 42KC instead of MX stereo, a "swishing" noise may be encountered. In either case, it will then be desirable to bypass the MX stereo circuitry. This is accomplished by setting the tuner selector switch (left knob) to the FM (mono) position.

SERVICING

REALIGNMENT: To check alignment, follow the chart on Page 10. Do not attempt realignment unless adequate test equipment is available. All coil cores have been sealed at the factory to prevent detuning during shipment; however, the sealing wax can be loosened when the proper alignment tool is used.

As suggested in Step 4, optimum FM alignment, similar to the original factory alignment, consists of feeding a properly-terminated FM signal into the antenna terminals. To simulate a balanced 300-ohm input with the typical low-impedance single-ended generator, connect a 120-ohm carbon 1/2 watt resistor from each generator terminal to a tuner FM antenna input terminal. While observing the IF response curve with an oscilloscope connected through a 100K ohm resistor across R50, carefully adjust T1, T2, T3, L12, top and bottom for the maximum symmetrical response. Check the bandpass for 180kc flat top with 100% FM modulation. With this flat-top bandpass centered on the oscilloscope, repeat step 3 for a zero reading. This adjustment will ascertain that the AFC action will always pull the tuning to the center of the pass band, resulting in a minimum of distortion.

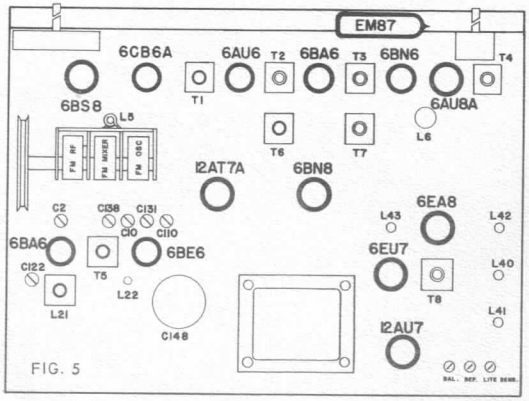


FIG. 5

All Sherwood tuners are also adjusted and checked to see that they meet 1/3% IM distortion at 100% FM. To adjust, feed 60 cps: 7kc @ 4:3.35 (equivalent to 4:1 ratio considering standard preemphasis at 7kc.) into a 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 T4 (top) for minimum distortion.

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 a maximum of 1/3% intermodulation distortion before leaving the factory. Each FM program probably has not had a similar check.

DIAL DRIVE SLIPPAGE: If turning the tuning knob does not result in corresponding movement of the dial pointer, dial drive string slippage should be suspected. To remedy, remove the chassis from its cabinet. Ascertain that no oil has reached the drive shaft string notch. If this has occurred, it will be necessary to remove the dial string and clean the notch with carbon tetrachloride. Replace string as per Fig. 6 details. Adjust spring in drum notch to furnish sufficient tension to prevent slippage on the drive shaft.

If dial pulleys and shaft appear to be dry or "squeak", apply one small drop of lubriplate to their bearings being careful that no lubricant reaches the dial string itself or the dial shaft string notch. If the dial string shows evidence of oil, it will be necessary to replace the string.

CLEANING ESCUTCHEON FACE PLATE: The white face on your Sherwood equipment has been finished with a durable baked enamel. To clean, wipe with a chamois or soft cloth dampened with a water solution of liquid detergent. Wipe with dry cloth. Do not use an abrasive scouring powder.

SPECIAL SERVICE NOTES FOR MX

1. Symptom: Stereo MX reception has high background-noise (hiss) level.

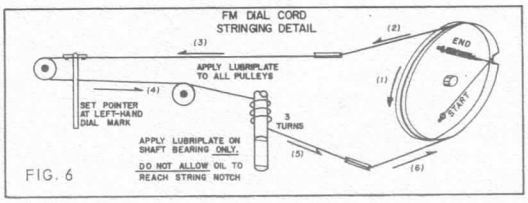


FIG. 6

Cause: Stereo MX subchannel increases background noise (at least 9 db) over listening to the same station in mono.

Cure: Background noise will be reduced by listening to the FM program in a mono mode. To reduce background noise in FM stereo mode, it will be necessary to increase the signal strength at the tuner antenna terminals by improving the antenna installation. See typical suggestions under "FM Antenna" on page 4.

2. Symptom: 400 cps (approx.) fluttering tone accompanying stereo signal and stereo separation poor.

Cause: 19-kc MX oscillator is not being locked properly to pilot signal.

Cure: Carefully adjust slug in oscillator coil (#61-601) until fluttering ceases. Continue to adjust for optimum separation when announcer talks on one channel only.

3. Symptom: No separation when receiving stereo MX.

Cause: MX 19-kc oscillator not properly aligned for separation.

Cure: Ascertain that FM station is actually transmitting a stereo program. Easiest alignment is possible during announcement when announcer talks on one channel only (carefully make adjustment described under (2) above. Further improvement in separation can be attempted by very carefully adjusting the separation control ("SEP" screwdriver adjustment on top of tuner chassis) for minimum output on unmodulated channel.

4. Symptom: Use with tape recorder results in whistling during recording.

Cause: 38-kc and stereo MX signal and their harmonics are being fed into tape-recorder circuitry where they beat with the recorder's bias oscillator which ordinarily falls within the range of 35 to 90 kc.

Cure: Adjust bottom slug on 38-kc doubler can (#62-212) found near rear of chassis) for minimum interference on recording channel with tuner tuned for no station and maximum "hush" action. If interference still exists, check to see that the 4 germanium diodes in the balanced MX demodulator are matched along with their associated 10K-ohm loads (match to ±2% of each other).

5. Symptom: Very weak whistle tones heard only when receiving a station broadcasting stereo MX.

Cause: Interference is due to station transmitting 67-kc FM multiplexed background musicasting simultaneously with stereo MX.

Cure: Adjust 72-kc trap (L2) for null.

PARTS LIST

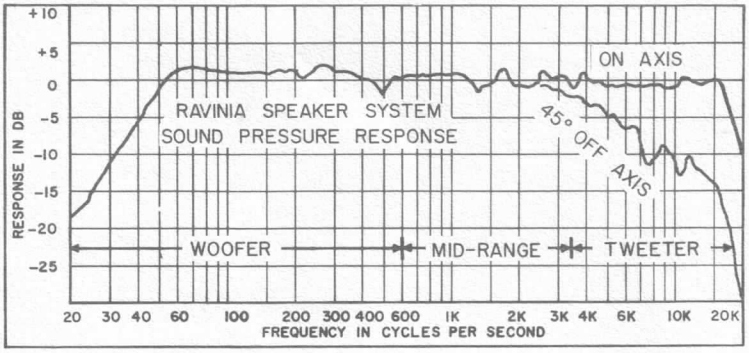
DESCRIPTION	PART NO.	LIST
Capacitors		
Electrolytic, 60-60-40-10µf @ 250 wv. (C148 A-D)	A120D1-6	$2.70
Electrolytic, 30µf @ 40 wv (C62)	A120L9-0	.60
Electrolytic, 60µf @ 150 wv (C159)	A120M2-0	1.10
Electrolytic, 6µf @ 50 wv (C172)	A120M4-1	.90
Tuning, 6 gang. (C1A-F)	B125D10-4	9.09
Variable ceramic, 2 to 7.5µµf (C122)	A126R2-3	.13
Variable ceramic, 2 to 12µµf (C2, 10, 110, 131, 138)	A126R3-3	.13
Transformers		
Power	B922D3-0	9.18
AM 1st IF (T6)	55-274	3.90
AM 2nd IF (T7)	55-275	3.84
AM RF (T5)	62-196	1.26
FM 1st and 2nd IF (T1, 2)	61-467	3.12
FM ratio detector (T4)	62-159	3.60
MX doubler (T9)	62-212	3.20
Coils & Chokes		
Balun (L7)	A150G2-0	.60
AM antenna (L21)	62-214	1.26
AM oscillator (L22)	62-199	1.38
AM antenna rod assy. (L20)	B1100D3-0	3.00
FM antenna (L1)	60-406C	1.64
FM RF (L5)	59-401B	.60
FM oscillator (L10)	59-546D	1.50
FM RF choke (L4)	62-179	.40
FM limiter (L6)	A150G1-2	.22
FM choke (L2, 11)	B150G11-2	.23
FM choke (L3, 32)	B150G12-2	.23
MX 19KC trap (L41)	61-392	1.44
MX 72KC trap (L40)	62-118	1.50
MX 19KC peaking (L42)	62-197	1.50
MX 19KC oscillator (L43)	61-601	1.90
Filament choke (L30, 31)	55-213	.60
Switches & Controls		
Hush level 10K ohm (R56)	A670D7-0	.96
AM level 25K ohm (R97)	A670D8-0	.96
FM level 5K ohm (R172)	A670M13-3	.72
MX balance, separation and lite level 3-2K ohm (P1)	A680M8-2	1.44
Off-Stereo-FM-AM selector switch (S1)	A860D6-1	5.58
AFC & AM Wide-Narrow Switch (S2,3)	A864X4-4	.60
Miscellaneous		
Knob, white unmarked	A460L3-2	.29
Knob, white with mark	A460L4-2	.32
Printed circuit, FM deemphasis and 38KC Filter (P4, 5)	A680M1-2	.95
Printed circuit, MX amplifiers (P2)	A680M4-1	.58
Printed circuit, MX bridge (P3)	A680M5-2	.97
Silicon rectifier (X1)	A692X8-3	1.50
Germanium diode (X2, 3, 4, 5, 6, 7, 8, 9, 10)	A691M2-0	.32
Dial cord	203AD1-2	.40
Fuse, 1-1/2 A. 3AG	312015	.15
Fuse post	A796X1-1	.72
Dial glass	B322D5-2	2.00

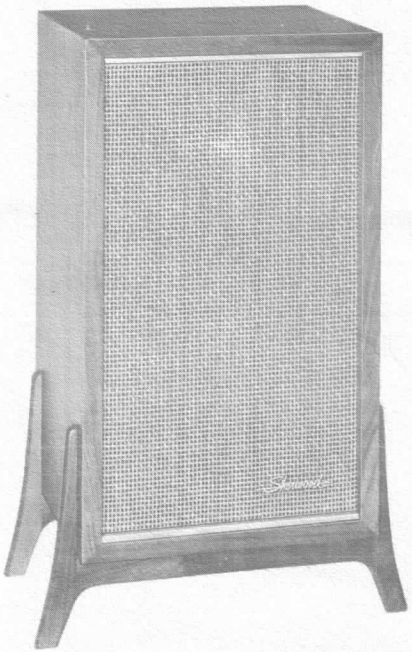
ALIGNMENT CHART

		Switch Setting	Signal Generator Input			Dial Setting	Indicating Instrument	Adjust	Indication
			Coupling	Frequency	Modulation				
FM ALIGNMENT	1	FM AFC off Hush off	6CB6A tube shield insul. from chassis	10.7 mc	none	Point of no interference	Neg. DC VTVM on AGC from junction C40, R43 to ground	T1, T2, T3 top & bottom	Maximum deflection
	2	"	"	"	"	"	Neg. DC VTVM through 100K ohms across R50	L12	"
	3	"	"	"	,,,,	"	Zero-center scale DC VTVM across C63	T4 bottom	Zero volts (between pos. & neg. reading)
	4	"	300-ohm balanced input to FM Ant.	90 mc	400 cps ±25kc FM	90 mc	AC voltmeter or CRO at audio output	L1, L5, L10 T4 Top	Maximum deflection
	5	"	"	106 mc	"	106 mc	"	C2, C10, C110	"
	6	Repeat steps 4 & 5 until no further improvement is possible.							
	7	Same as step 5					CRO through 100K ohms across R50	T1, T2, T3, L12 top and bottom	Recheck for maximum deflection while adjusting for symmetry
AM ALIGNMENT	8	AM narrow	.01 µf to pin 7 6BE6	455kc	400 cps. 30% AM	Point of no interference	AC voltmeter at audio output	T6 & T7, top & bottom	Maximum deflection
	9	AM wide	"	"	400 cps. ±50kc FM	"	Audio output to CRO vert., connect gen. mod. to horiz.	"	Recheck for maximum deflection while adjusting for symmetry
	10	AM narrow	220 µµf to AM Ant. input	600kc	400 cps. 30% AM	Check pointer for alignment at left hand start mark, then tune to 600kc	AC voltmeter at audio output or Neg. DC VTVM on AVC (across C34)	L21, T5, L22	Maximum deflection
	11	"	"	1400kc	"	1400kc	"	C122, C131, C138	"
MX ALIGNMENT	12	Repeat steps 10 & 11 until no further improvement is possible.							
	13	Disconnect R64							
	14	Selector: FM Hush off	0.1V into C150 (.05 µf) @ 6EA8 pin 9	19kc ±2 cps 19kc to CRO horiz.	none	Point of no interference	DC VTVM across X5	L42	Adjust for maximum
	15	"	"	72kc	"	"	AC VTVM or CRO C153	L40	Minimum output
	16	Selector: Stereo Hush off	"	"	"	"	CRO @ junction X9, C166	T9 top & bottom	Maximum output
	17	"	.002V into C150 (.05 µf) @ 6EA8 pin 9	"	"	"	"	L43 bottom	Zero beat Lissajous
	18	"	0.2V into C150 (.05 µf) @ 6EA8 pin 9	"	"	"	"	T6 top	Adjust for 180° rotation of Lissajous
	19	Repeat step 16							
	20	Selector: Stereo Hush off	"	"	"	"	"	L43 & L42	Adjust for zero crossing on Lissajous thus (∞)
	21	"	1.0V into C150 (.05 µf) @ 6EA8 pin 9	400 cps	"	"	CH1 & CH2 outputs	Balance	Adjust for equal outputs
	22	"	"	38kc stereo composite signal	R chan. only or L chan. only	"	"	Fine adjust Separation L43	Null @ unmodulated channel output

SHERWOOD MODEL SR3 "RAVINIA" SPEAKER SYSTEM

A new medium priced 3-speaker, 3-way "bookshelf" high fidelity loudspeaker system is now available from Sherwood. The Sherwood "Ravinia" system features unusually smooth response ±2db from 45 cps to 17,500 cps with low IM distortion and smooth peak-free transient response for wide-dynamic range and absence of coloration. The system consists of one 12" high-compliance woofer, one 8" cone midrange speaker with sealed fibreglass fill backplate and one 3-1/2"specially-designed ring-radiator supertweeter, also with sealed fibreglass fill backplate. Crossover points are 600 cps and 3,500 cps with 12 db/octave attenuation. Level controls are provided for optimum midrange and tweeter balance under all room conditions. Contemporary styled cabinets are available in 3 finishes, Model SR3-W in hand-rubbed natural walnut and Model SR3-B unfinished hardwood suitable for staining or painting, as well as Model SR3-U utility finish. Grille cloth is matched to finish. Dimensions are 26-1/4" L x 15" H x 13-1/4" D. Price for Model SR3-W is $139.50, Model SR3-B is $129.50 and Model SR3-U is $119.50.





Sherwood's dramatic Correlaire Furniture Modules are the perfect setting for your Sherwood hi fi components.. Choose from sixteen interchangeable modules, styled with a contemporary flair in hand-rubbed Walnut and Pecan woods. For complete data, see your local Sherwood dealer.

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L & M TV & Hi-Fi Co.
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WISCONSIN, (Milwaukee), Hales Corners
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Your Sherwood equipment is covered by a full one-year warranty against defective material or workmanship (except tubes which carry the standard E.I.A 90-day warranty). This warranty is effective from the date of sale to the original purchaser and is void if the equipment has been altered in any manner, or if the enclosed warranty card has not been returned to S.E.L., within ten days from date of purchase. If your Sherwood unit is not operating satisfactorily immediately after purchase, contact your Sherwood dealer, who will either repair it or refer you to the most conveniently located service station (see list above).

S.E.L. maintains a complete factory service laboratory as well as Authorized Service Stations in larger cities where equipment of its manufacture will be repaired at nominal rates if older than 1 year or at no cost (except delivery charges) if within warranty provisions.

Before returning any equipment to S.E.L. for repair, please write to Service Department, Sherwood Electronic Laboratories, 4300 N. California Avenue, Chicago 18, Illinois, giving full details of any operating difficulties encountered. When writing S.E.L. about any maintenance problem, always specify the model and serial numbers of the units in question so that we can provide prompt, accurate service. For best handling, High-Fidelity equipment should *always* be shipped in its original carton by express (prepaid) rather than parcel post.

Sherwood reserves the right to change, improve, or modify its products without obligation to install same on those previously manufactured.

SHERWOOD

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CHICAGO 18, ILLINOIS.

Export Dept. – 400 W. Madison St., Chicago 6, Ill.

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