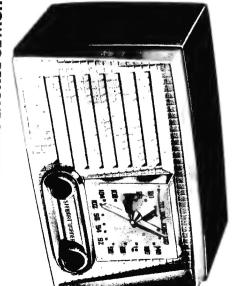
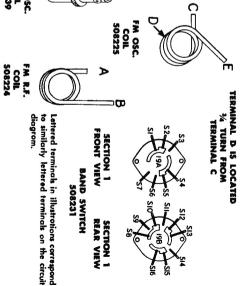


STEWART—WARNER AM-FM RADIO MODEL 9151-A



HOW TO REMOVE CHASSIS FROM CABINET

- . Remove all knobs by pulling them forward.
- Take off dial scale by pressing down on top center of plastic dial enclosure and at the same time pulling it forward.
- Remove pointer by pulling it forward
- Remove cabinet back by taking out three screws and two clips.
 Note: Cabinet back has a power cord interlock which is automatically disconnected when back is removed.
- Take out two chassis mounting screws at bottom of cabinet. Chassis may now be readily removed by sliding it out of cabinet.
- When replacing cabinet bock be sure that it is parallel to loop and power cord interlock plug fits into socket on chassis.



Stewart-Warner Model 9151-A, Continued

BROADCAST BAND-"AM"-ALIGNMENT PROCEDURE

- If alignment af bath AM and FM channels are required, it is advisable to align the AM channel first; then align the FM channel as instructed an Page 159.
- Remave chassis and laap antenna (which is mounted to chassis) from
 cabinet by following procedure autlined an Page 15.7. Allow
 laap to remain attached to chassis.
- In order to provide a coupling for signal generator during R.F. alignment as instructed in chart below, wind several turns of wire in a circular shape so that it may be placed adjacent and parallel to the loop.
- 4. Cannect an autput meter acrass the speaker vaice cail ar fram the

plate of the 50B5 tube to chassis through a 0.1 Mfd. candenser.

- 5. Set band switch to the "AM" (counter-clackwise) position.
- Set volume cantral at maximum and use a weak signal fram the signal generatar.
- 7. Since the dial scale is a part of the cabinet, when campletely assembled, it becames necessary to provide a temporary means of lacating the dial to abtain colibration points. Ratate going condenser fully counter-clockwise and replace pointer so that it is parallel with base of the chassis. Now, hald dial scale in front of pointer in such a position that the ends of the indicator point to the "AM" and "FM" markers. While halding the dial scale in this position, ratate tuning sleeve until pointer indicates desired frequency.

SIGNAL GENERAL	OR CONNECTIONS	SIGNAL					
CONNECT HIGH CONNECT GROUND SIDE OF SIGNAL LEAD OF SIGNAL GENERATOR TO		GENERATOR FREQUENCY	RECEIVER DIAL SETTING	TRIMMER OR SLUG NUMBER	TRIMMER DESCRIPTION	TYPE OF ADJUSTMENT	
Lug on trimmer #6 at top af gong (see figure 1 for location of trimmer).	Chassis ground. CAUTION: If your signol generator is designed with an AC-DC type power supply, connect ground lead of signal generator to receiver chassis through a .25 Mfd. condenser.		Any point where it does not affect the signal.	1 and 2	2nd I.F.	Adjust for moximum output. Then repeat adjustment.	
		455 KC		3 and 4	lst f.F.		
Connect directly to coabove far instruction	oupling turn. See Step 3 on coupling loap.	1500 KC	1500 KC See Step 7 obave far instructions an haw to obtain this callbratian point.	5	AM Oscillator	Adjust for moximum output.	
Cannect directly to coobove for instruction	oupling turn. See Step 3 on coupling loop.	1500 KC	Tune ta 1500 Kc. generatar signal.	6	AM Antenno	Adjust for moximum output.	

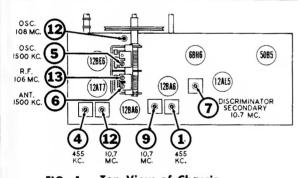
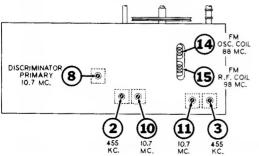


FIG. 1 Top View of Chassis



Bottom View of Chassis

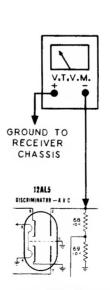


FIG. 3
VTVM Connections
for IF Alignment

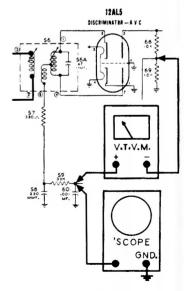


FIG. 4 VTVM and Oscilloscope Connections for Discriminator Alignment

Stewart-Warner Model 9151-A. Continued

FREQUENCY MODULATION—"FM"—ALIGNMENT PROCEDURE

- 1. If alignment of both AM and FM channels are required it is advisable to align the AM channel first as instructed in chart on Page 158. Then, accomplish FM channel alignment by using the procedure outlined in the chart below
- 2. Remove chassis and laap antenna (which is mounted to chassis) from cabinet by following pracedure outlined on Page 157. Allow loop ta remain attached to chassis.
- 3 Disconnect built-in FM lead from "FM ANT." terminal at back of chassis.
- Set band switch to the "FM" (middle) position.
- 5. Set volume control at maximum and use a weak signal from the signal
- 6. Dress FM circuit leads as short and straight as possible, particularly those in the oscillator circuit. IF plate and arid leads should also be kept short and straight.
- 7. Since the dial scale is a part of the cabinet, when completely assembled, it becomes necessary to provide a temporary means of locating the dial to obtain calibratian points. Rotate gang condenser fully counter-clockwise and replace pointer so that it is parallel with base of the chassis. Now, hold dial scale in front of pointer in such a position that the ends of the indicator point to the "AM" and "FM" markers. While holding the dial scale in this position, rotate tuning sleeve until painter indicates desired frequency.

STANDARD SIGNAL GENERATOR		SWEEP GENERATOR		VTVM OR OUTPUT METER	OSCILLOSCOPE CONNEC-	RECEIVER DIAL	TRIMMER OR SLUG	TYPE OF ADJUST-
CONNEC- TIONS	FREQUENCY	CONNECTIONS	FREQ.	CONNEC- TION	TIONS	SETTING	NUMBER	INDICATION
Cannect high side ta lug on trimmer #13 (see Fig. 1 far lacation of trimmer) using a .01 Mfd. candenser in series with generator lead. Cannect graund lead ta the	10.7 MC. Unmadulated	Nat used.		Cannect VTVM as shawn in Fig. 3.	Not used.	Any positian where it does not affect the signal.	#7 Discriminator secondary #8 Discriminator	Adjust these trimmers far maximum meter reading — the output voltage will be of negative polarity. Note that as slug #7 is rotated, a point will be found where the voltmeter will swing rather sharply fram a positive to a negative reading ar vice versa. The cor-
receiver chassis in vicinity af gang candenser,							primary	
CAUTION: If your signal generator is designed with an AC-DC type pawer							#9-10	
supply, connect ground lead af sig- nal generator ta re- ceiver chassis through a .25 Mfd. condenser.							#11-12	
Same as abave.	Same as abave.	Not used.		Cannect VTVM as shown in Fig. 4.	Not used,	Same as abave.	# 7 Discriminator secondary	rect setting is obtained when the meter reads zero as the slug is moved thru this point.
Same as abave,	Same as abave, Attenuate signal to prevent overload and distortion af response curve.	Connect high side to lug an trimmer #13 (see Fig. 1 for lacation of trimmer) using a .01 Mfd. condenser in series with generator lead. Cannect graund lead to the receiver chassis in vicinity of gang candenser. CAUTION: If your signal generator Is designed with an AC-DC type power supply, cannect ground lead of signal generator to receiver chassis through a .25 Mfd. condenser.	10.7 MC Sweeping ±300 Kc.	Nat used.	Cannect as shown in Fig. 4. Set vertical amplifier of 'scope far maximum amplification. Synchranize oscilla-scope with sweep generator by connecting 'harizantal input' terminals af 'scape ta saurce af harizantal sweep madulating valtage an the sweep generator.	Same as above.	# 7 Discriminator secondary	A pattern similar to that shawn in Fig. 5 should appear on the ascillascope screen. Check for symmetry about the 10.7 Mc. center point and linearity of the slape. 10.7 MC. FIG. 5 If the characteristic is not shaped properly, attempt to abrain symmetry by changing the setting of the setti
Connect high side in series with a 270 ohm corbon resistor to "FM ANT." ter- minal at rear of chassis. Connect ground lead to "FM GND." terminal.	108 MC. with 400 cycle AM Modulation.	Not used,		Connect VTVM as shown in Fig. 3.	Not used.	108 Mc. See Step 7 above for instructions on how to obtain this calibration point.	#12 FM Oscillator	adjustment of slugs #8, 9, 10, 11 and 12 should be undertaken. Set trimmer #12 to re- ceive 108 Mc. signal as indicated by maximum meter reading.
Same as above.	108 MC. with 400 cycle AM Modulation.	Not used.		Same as above.	Not used.	Tune to 108 Mc. generator signal.	#13 FM RF	Adjust trimmer for maximum meter reading.

Check calibration and tracking of receiver with input signals of 88 and 98 MC. If difference between dial pointer setting and the above mentioned frequencies does not exceed ± 0.3 MC, and RF clircuit is tracking properly then alignment may be considered satisfactory and no further adjustment is necessory. Where the calibration error is greater than ± 0.3 MC, it is advisable to make

Where the calibration error is greater than ±0.3 mc., it is advisable to induce the following adjustments:

Tune receiver to an 88 MC, signal and note whether dial pointer is above at belaw carrect calibration paint. Then tune receiver so that dial pointer is at the 88 MC, position. If generator signal was previously received at a setting above 88 MC, it will be necessary to slightly spread the windings af the Moscillator coil (#T4 in Fig. 2) so that signal will now be received at the correct

dial setting. On the other hand, if generator signal was received at a dial setting below 88 MC., then slightly campress the windings of the oscillator cail until the signal cames in at the correct calibration point.

Check calibration at 108 MC. and if it is in errar by more than ±0.3 MC., readjust setting of trimmer # 12. Repeat calibration adjustment at 88 and 108 MC. until desired accuracy is obtained.

Observe dial calibration at 98 MC. If it is found to be incarrect by an appreciable amount, then make a very slight adjustment in the spacing of the gang candenser plates to receive the 98 MC. signol at the correct dial setting. Then check adjustment at RF trimmer #13 to obtain maximum output