



DRAWN BY F.A.D.  
CHECKED BY E.B.M.

IF PEAK  
458 KC

Models 75AW, 175AW, 275AW 375AW

PART	VALUE	PART	VALUE	
R 1	200 OHMS	C 1	.05 MFD	200v.
R 2	20,000 "	C 2	.0004 "	"
R 3	250,000 "	C 3	.006 "	"
R 4	25,000 "	C 4	.00026 "	"
R 5	5,000 "	C 5	.00025 "	"
R 6	SENSITIVITY CONTROL	C 6	.0001 "	"
R 7	20,000 OHMS	C 7	.1 "	400v.
R 8	1 MEGOHM	C 8	.00025 "	"
R 9	250,000 OHMS	C 9	.5 "	200v.
R 10	250,000 "	C 10	.1 "	400v.
R 11	200,000 "	C 11	.25 "	400v.
R 12	VOLUME CONTROL 1 MEG.	C 12	.25 "	200v.
R 13	25,000 OHMS	C 13	.0005 "	"
R 14	15,000 "	C 14	.25 "	200v.
R 15	5,000 "	C 16	.1 "	400v.
R 16	20,000 "	C 17	.05 "	200v.
R 17	100,000 "	C 18	.0001 "	"
R 18	100,000 "	C 19	.16 "	25v.
R 19	5,000 "	C 20	.05 "	400v.
R 20	250,000 "	C 21	.05 "	200v.
R 21	15,000 "	C 22	.1 "	475v.
R 22	250 "	C 23	.5 "	450v.
R 23	250,000 "	C 24	.005 "	400v.
R 24	250,000 "			

Frequency bands referred to in the following instructions as:

- 1st Band—Broadcast 1500-550 K.C.
- 2nd Band—1.6-4.5 Megacycles
- 3rd Band—4.5-12 Megacycles
- 4th Band—11-20 Megacycles

**USE OF DOUBLET**

Remove link on antenna terminal strip on back of chassis. Connect doublet leads to terminals A and D. The usual ground connection may be used on terminal G but link connecting D and G must always be removed

when a doublet is used. A word of caution concerning the use of doublet antennas is deemed advisable. A properly engineered and installed doublet antenna is very efficient for short wave reception but unless properly engineered will give very poor results.

**ALIGNMENT OF INTERMEDIATE AMPLIFIER**—Connect the grid of the vacuum tube voltmeter to any point on the AVC bus and the ground lead of the vacuum tube voltmeter to ground on the chassis. Remove grid clips from 6B7—second I.F. tube, 6D6—first I.F. tube and 6A7—detector—oscillator tube. Place oscillator in operation on 458 KC. Apply output of oscillator to grid of 6B7 and adjust trimmers on I.F. transformer at right of 6B7 until loudest sound is heard in speaker and meter on vacuum tube voltmeter swings farthest toward "O." Replace cap and shield on 6B7 and apply oscillator signal to grid of 6D6. Adjust trimmers on I.F. transformer to left of 6D6 as described above, reducing oscillator output—if necessary to obtain a good readable swing on meter. Alignment of 1st I.F. being completed replace clip and shield on 6D6. Apply oscillator output to grid of 6A7 and adjust trimmers on I.F. transformer, located at right of 6A7 for maximum swing towards zero of vacuum tube voltmeter. If these instructions have been carefully followed, the intermediate frequency amplifier will be properly aligned.

**CALIBRATION OF BROADCAST BAND**—Turn switch to broadcast position. With vacuum tube voltmeter connected to AVC bus as described under Intermediate Amplifier alignment, place service oscillator in operation at 1400 KC. Turn set dial to 1400 KC and adjust oscillator trimmer for resonance as indicated by farthest swing toward "0" of vacuum tube voltmeter. Now adjust service oscillator to 600 KC. Turn set dial to 600 KC and adjust low frequency pad for resonance as indicated by vacuum tube voltmeter. Set service oscillator again at 1400 KC and turn set dial to 1400 KC. Readjust oscillator trimmer for resonance as indicated by vacuum tube voltmeter. Without moving dial setting, adjust detector and R.F. trimmers for maximum swing toward "0."

**CALIBRATION OF 2ND BAND (1.6-4.5 Megacycles)**—Turn switch to second band position. Turn set dial to 4.0 megacycles, place service oscillator in operation at 4.0 megacycles and adjust set oscillator and detector trimmers to resonance as described under 1400 KC adjustment of broadcast band. (Note—On some models

detector trimmer is unnecessary and is omitted from chassis assembly.)

**CALIBRATION OF 3RD BAND (4.5-12 Megacycles)**—Turn switch to third band position. Place service oscillator in operation at 12 megacycles. Turn set dial to 12 megacycles. Adjust oscillator trimmer until signal is heard loudest and then adjust detector trimmer for greatest vacuum tube voltmeter swing toward "0".

**CALIBRATION OF 4TH BAND (11-20 Megacycles)**—Before attempting any calibration of this band it will be necessary to determine the oscillator tracking. Some models were produced in which the oscillator beats SLOWER than the incoming signal. This is not the usual mode of operation but was used for more uniform tracking. In other production series the oscillator beats faster than the incoming signal, which is the usual method of operation.

To determine which model your set is, proceed as follows: Place service oscillator in operation at 15 megacycles. Tune signal in on set. If oscillator BEATS SLOWER, the real signal will come in at 15 megacycles and the image will come in at 15.916, i.e. The image will be almost 1 megacycle faster than the true signal. If oscillator BEATS FASTER, the real signal will come in at 15 megacycles and the image will come in at 14.084 megacycles, i.e., almost 1 megacycle slower than the incoming signal. After having determined which oscillator tracking is used in your set be sure to keep this setting, i.e., either faster or slower, as determined, throughout the entire band.

Place service oscillator in operation at 20 megacycles. Turn set dial to 20 megacycles. Adjust oscillator to a point faster or slower, as determined from above, where signal comes in loudest. Now adjust high frequency trimmer until vacuum tube voltmeter shows greatest swing toward "0". Now, place oscillator in operation at 12 megacycles. Turn dial slowly toward 12 megacycles until TRUE SIGNAL is heard. Adjust low frequency pad (the one on the end of the chassis which has 1/4 megohm resistor across it) until the vacuum tube voltmeter shows greatest swing toward zero.