

Allied Radio Corp.

Model: 8G-201

Chassis:

Year: Pre 1951

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

Riders Volume 20 - ALLIED 20-5

Riders Volume 20 - ALLIED 20-6

TUNING RANGE

This receiver is designed to operate over two tuning ranges; the broadcast band which extends from 535 to 1620 Kilocycles (KC) (185 to 560 Meters), and the Frequency Modulation (FM) Band which extends from 87 to 109 Megacycles (MC).

DIAL CALIBRATION. (Standard Broadcast Band.) The upper scale is calibrated from 55 to 160 (Standard Broadcast). This band covers all Standard Broadcast frequencies of the United States, Canada,

Mexico, Cuba, and many Central and South American Countries. Add a zero to figures on the scale to obtain kilocycles.

DIAL CALIBRATION. (Frequency Modulation Band.) The entire lower scale is calibrated from 88 to 108 Megacycles (201 to 300 FM channels) which covers the entire popular Frequency Modulation (FM) Band.

BROADCAST ALIGNMENT PROCEDURE

EQUIPMENT REQUIRED: Modulated Test Oscillator that will cover the frequencies of 455, 600, 1400 and 1620 KC, also an Output Meter to connect across the primary or secondary of the output transformer.

I. F. ALIGNMENT: Put switch in the broadcast position and connect the test oscillator to the converter grid through a .05 condenser. The ground lead of the test oscillator should be connected to the buss of the receiver. Adjust the four I. F. trimmers (F,G,L and K) for maximum reading on the output meter. Always use the peak on

the slug which is obtained when screw is out of the can the greatest distance.

R. F. ALIGNMENT: Connect the test oscillator to the antenna lead on the loop through a 100 mmf. condenser. Set the gang condenser to the maximum high frequency position and the test oscillator to 1620 KC. Adjust Trimmer "C" to the maximum output. Set test oscillator to 1400 KC and tune in signal with the gang condenser and adjust Trimmer "A" to maximum response. Set test oscillator to 600 KC and tune in signal with gang condenser. Check for damage to gang condenser or coils.

F. M. ALIGNMENT PROCEDURE

EQUIPMENT REQUIRED: F. M. Generator with frequencies of 90, 98, 106, and 109 megacycles, and generator without any modulation which covers 10.7 megacycles, also a zero center microammeter, and a DC Vacuum Tube Voltmeter (An oscilloscope and variable frequency audio oscillator can be used for better results. This method of alignment is described in the last paragraph).

DISCRIMINATOR ALIGNMENT: Connect DC Vacuum Tube Voltmeter between the buss and point "XX" on circuit diagram. Point "XX" is negative potential on the vacuum tube voltmeter. Isolate point "XX" and buss connections to vacuum tube voltmeter with chokes made by wrapping approximately 20 turns of hookup wire around a pencil. This is illustrated in Figure 1. Connect two 100,000 ohm resistors in series. (These resistors must match to 5%.) Connect them from point "XX" to buss. Between junction of 100,000 ohm resistors and the point "YY" connect Zero Center Meter, which is also isolated by the choke described above. These connections are illustrated in Figure 1. Connect test oscillator which is adjusted to 10.7 megacycles to grid of IF Driver through a 250 mmf condenser. Adjust slug "M" to maximum on the vacuum tube voltmeter. Reduce test oscillator to keep vacuum tube voltmeter to around 5 volts. Adjust slug "N" to bring zero center meter to zero point. Slug "N" should never be touched after this alignment.

PRELIMINARY IF ALIGNMENT: Connect test oscillator to the converter grid through a 250 mmf. mica condenser. Adjust slugs D, E, H and J to maximum output on the vacuum tube voltmeter. In making these adjustments reduce the generator input to keep the vacuum tube voltmeter at approximately 5 volts when making this adjust-

ment. Always use the peak on the slug which is obtained when the screw is out of the can the greatest distance.

FINAL I. F. ALIGNMENT: Set the test oscillator to 109 MC without frequency modulation and connect it to converter grid. Adjust trimmer "B" for approximate maximum output on the vacuum tube voltmeter and zero center for exact centering. Adjust test oscillator to approximately 25 KC deviation, carefully adjust trimmers D, E, H, J and M for maximum on vacuum tube voltmeter. It may be necessary to shift the frequency of the oscillator slightly to hold the zero center meter on center. In making this adjustment turn up volume control slightly to obtain an audio signal out of the speaker. If this signal is free of distortion, increase the deviation to approximately 75 KC and repeat the above alignment. If this is done carefully there will be no distortion in the speaker with this deviation. If distortion is obtained in the speaker with this deviation, it will be necessary to carefully repeat the I.F. alignment.

R. F. ALIGNMENT: Move the signal generator to the FM antenna terminals, using 150 ohm resistors between the generator terminals and each of the FM antenna terminals. Set the test oscillator to 106 megacycles and tune in signal with gang condenser to obtain approximate maximum on the vacuum tube voltmeter and zero center on the meter. Slightly bend the RF section in the gang condenser for maximum output with vacuum tube voltmeter. Set the signal generator to 98 megacycles, tune in signal with the gang condenser. Repeat the above procedure at this frequency and also at 90 megacycles. Recheck alignment at 106 megacycles.

POWER SUPPLY. This receiver is designed to operate on any alternating current supply (AC) ranging from 110 to 120 volts, 50 to 60 cycles; or on any direct current supply (DC) ranging from 110 to 120 volts.

FINAL ALIGNMENT OF FM IF WITH OSCILLOSCOPE AND VARIABLE AUDIO OSCILLATOR: The oscilloscope and variable audio oscillator should be connected as shown in Figure 2. Adjust the deviation to approximately 25 KC and align trimmers D, E, H, J and M to maximum on the vacuum tube voltmeter while watching the oscilloscope for a straight line. It may be necessary to vary the frequency of the variable audio oscillator in order to make the line straight on the scope. Next increase deviation to approximately

75 KC and repeat procedure, adjusting for maximum or as close to maximum as it is possible to obtain without losing the straight line on the oscilloscope. After all the trimmers have been properly adjusted to a maximum and a straight line on the scope, increase the deviation from approximately 125 to 150 KC. The curves illustrated in Figure 3 should be obtained. In making the above adjustments it may be necessary to make slight variations in the RF frequency in order to hold the zero center meter at the zero point.

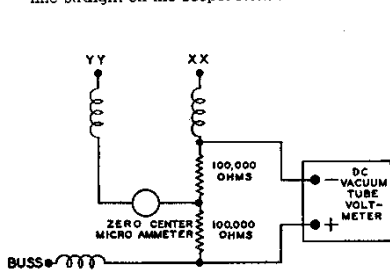


FIG. 1

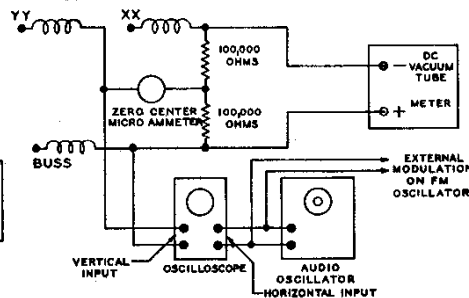
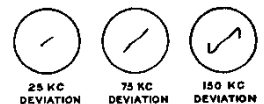


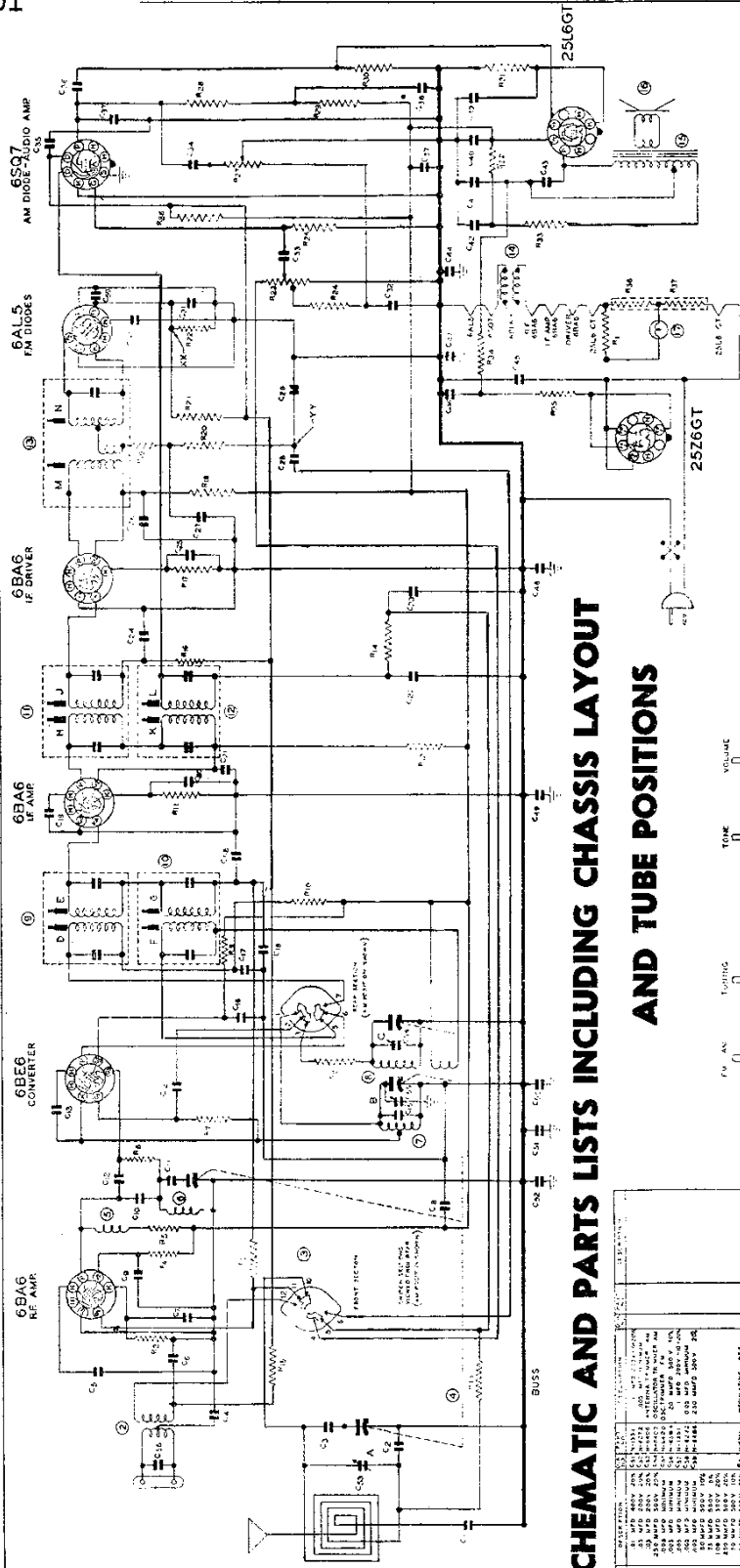
FIG. 2



OSCILLOSCOPE PATTERNS

FIG. 3

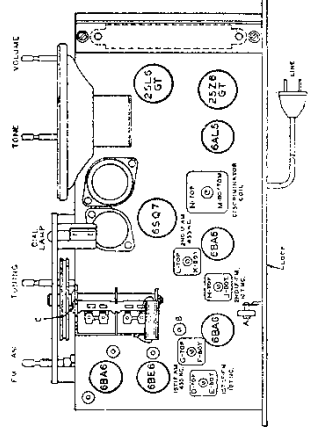
MODEL 8G-200,
8G-201



8 TUBE AC-DC
SUPERMETEROPINE
FM-AM
AM IF FREQ. 455 KC.
FM IF FREQ. 10.7 MC.
TUNING RANGE-AM-535 TO 1620 KC.
FM-88 TO 108 MC.

AUGUST 1947
WEU

**SCHEMATIC AND PARTS LISTS INCLUDING CHASSIS LAYOUT
AND TUBE POSITIONS**



QTY	DESCRIPTION	QTY	DESCRIPTION
1	ANTENNA	1	6BA6 IF AMP
1	6BA6 RF AMP	1	6BA6 IF DRIVER
1	6BA6 IF AMP	1	6BQ7
1	6AL5	1	25Z6GT
1	6SQ7	1	25L6GT
1	8 TUBE AC-DC SUPERMETEROPINE		

(Note: This is a partial representation of the detailed parts list provided in the original document.)