

GUILDCRAFT

OPERATING AND SERVICE INSTRUCTIONS

AM-FM CLOCK RADIO MODEL CF-11

FREQUENCY RANGE: AM 540 - 1650 KC and FM 88 - 108 MC.

POWER REQUIREMENT: 117 VOLTS AC at 60 cycles only.

DESCRIPTION: AM-FM Clock Radio Model CF-11 is a six tube plus a power rectifier AC operated superheterodyne radio receiver employing a built-in rod antenna for AM reception and a line cord antenna for FM reception which provides satisfactory reception under all normal conditions. The rod antenna for AM reception is directional therefore signal strength can be improved and noise interference minimized by rotating the receiver cabinet for best reception. The power cord used for FM reception must be unfolded before it is plugged into power outlet for best reception.

CONTROLS:

TO SET THE CLOCK: Your self-starting clock movement will begin to operate when the set is plugged into a 117 volt 60 cycles, AC outlet. Check the clock by noting the rotation of the sweep second hand. Set the correct time by means of the "Alarm and Time Set Knob" at the rear of the cabinet. Gently pull this knob back - away from the cabinet - which engages the hands of the clock. Set hands to correct time by turning this knob.

OPERATION AS A RADIO: To turn on radio, turn the clock knob at hour 6 to the "ON" position. After the tubes have warmed up for approximately half a minute the set is ready to operate. Rotate the volume control (upper knob) clockwise about half a turn, and rotate tuning (lower knob) until the frequency of the desired station is positioned at the indicating marker. On AM, dial numbers are converted to kilocycles by adding a zero: For example, 70 on the dial is 700 kilocycles. On FM dial numbers are converted to megacycles without the additional zero.

The switches (ON-AFC-OFF, FM-AM) must be moved from side to side to select the type of response from the radio. The "ON-AFC-OFF" switch operates only on FM. The procedure to be followed on FM is to first move the AFC switch to the OFF position. Tune to the desired FM station - Tune for loudest voice or music, adjust volume to desired level, then slide the AFC switch to the ON (left side) position. The radio will be "locked" to the selected radio station.

For AM reception, adjust the station selector knob until the desired station is received loudest. Adjust volume to the desired level: Poor tone quality will result if the station selector knob is used to set volume level. Reversing the line cord may reduce hum.

To turn off the radio, turn the clock knob to the "OFF" position.

AS A MUSICAL WAKE-UP ALARM: To operate the unit as an alarm, turn clock knob to the "ON" position as indicated in the paragraph "Operation As A Radio" and tune in the station by which you desire to be awakened. Adjust volume to desired level, then gently push the "Alarm and Time Set Knob" at rear of cabinet toward front of radio, setting the alarm hand to the hour at which you would desire to be awakened. Rotate clock knob to the "Auto" position.

CAUTION: This radio contains a built-in A.C. power line antenna for reception of the Frequency Modulated stations.

To obtain satisfactory reception on FM, the clip which is clamped to the power cord must be tightly fastened to one FM antenna terminal screw located at rear of the cabinet.

Do not place receiver on hot objects such as radiators.

ALIGNMENT & SERVICE INSTRUCTIONS: To eliminate shock hazard during service or alignment an insulation transformer must be used. The chassis must be removed from the cabinet before alignment can be performed. To remove chassis, unscrew the two screws securing the front panel to the cabinet and then separate the cabinet from the front panel on which the chassis is mounted.

AM ALIGNMENT PROCEDURE: Equipment Required: Modulated RF signal generator; output meter; insulated screwdriver, a .1 mfd 600 volt condenser.

To insure proper alignment, a radiated signal will be required during part of the alignment procedure. To radiate a signal, connect a loop of about 6 inches in diameter (one turn of No. 14 or No. 12 wire) across the output of the signal generator, and place this loop perpendicular to the rod antenna of the receiver to be aligned, at a distance of about 10 or 12 inches.

Connect the output meter and signal generator as follows:

Output Meter: Connect across the speaker voice coil and turn the volume control to maximum (extreme clockwise position).

Signal Generator: When the generator is not used to radiate a signal, connect the low side to the B-, clip the high side through a .1 mfd, 600 volt condenser to the point at which signal injection is required, and keep the output as low as possible. Proceed in the sequence shown in the alignment chart. Receiver selector switch to AM position.

AM ALIGNMENT CHART

STEP NO.	CONNECT HIGH SIDE OF SIGNAL GENERATOR TO-	SET SIGNAL GENERATOR TO-	TURN RECEIVER DIAL TO-	ADJUST THE FOLLOWING FOR MAXIMUM OUTPUT. (KEEP GENERATOR AS LOW AS POSSIBLE.)
1	Antenna Section Tuning Condenser in Series with .1 MFD Cond.	455 KC	Full Clockwise Position. (Condenser Plates Fully Open)	Bottom & Top of T2 and top of T3 in Same Order
2		1650 KC		C3 (Oscillator Trimmer)
3	Use Radiated Signal	1500 KC	Maximum Signal Approx. 1500 KC	C1 (Antenna Trimmer)
4		Repeat Steps 2 and 3		

FM ALIGNMENT PROCEDURE:

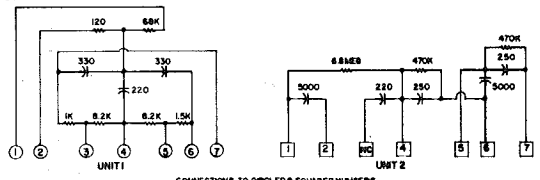
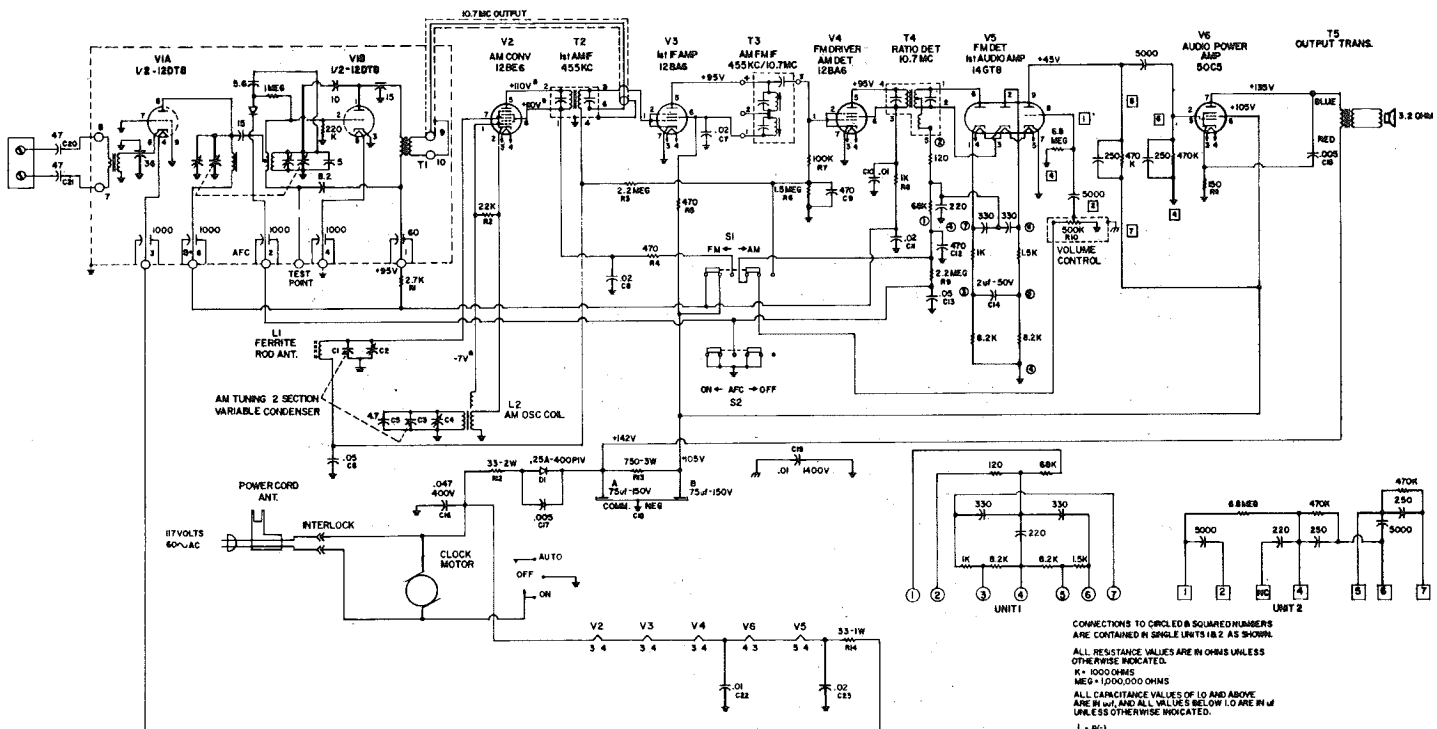
Equipment Required: 10.7MC Signal Generator, V.T.V.M., an insulated tube shield and a .047MFD 600V capacitor.

Receiver Selector Switch to the FM position. Volume set for maximum output and AFC in OFF position.

Keep generator output to minimum while maintaining signal level in receiver.

FM ALIGNMENT CHART

STEP NO.	GENERATOR FREQUENCY	CONNECT GENERATOR TO:	CONNECT V.T.V.M. TO:	Adjust the Following for Maximum Meter Deflection.
1	10.7MC (Unmod.)	High Side Thru .047MFD Capacitor to Pin 1 of V3. Low Side to Chassis Gnd	DC Probe to Negative Side of C14 Common to Chassis Gnd	T3 (Bottom) T4 (Bottom)
2	"	"	DC Probe to High Side of Volume Control. Common to Chassis Gnd	T4 (Top) Adjust for 'Zero' Indication on V.T.V.M. (Increase Generator Output for Better Response.
3	"	High Side Connected to 'Spray Shield' placed over V1 on FM Tuner. Low Side to Chassis Gnd. (Make certain Spray Shield does not become grounded).	Same as Step 1	T1 (Both Slugs) on FM Tuner for Maximum Meter Deflection.



CONNECTIONS TO GROUND & SQUARE NUMBERS ARE CONTAINED IN SINGLE UNITS 1 & 2 AS SHOWN.

ALL RESISTANCE VALUES ARE IN OHMS UNLESS OTHERWISE INDICATED.

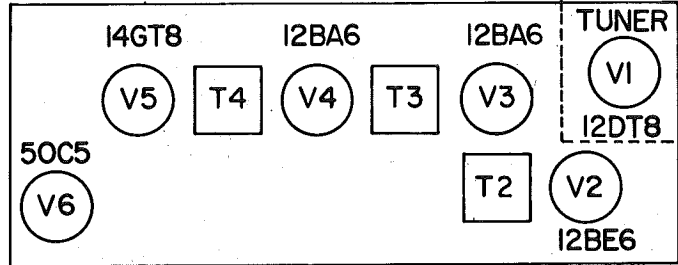
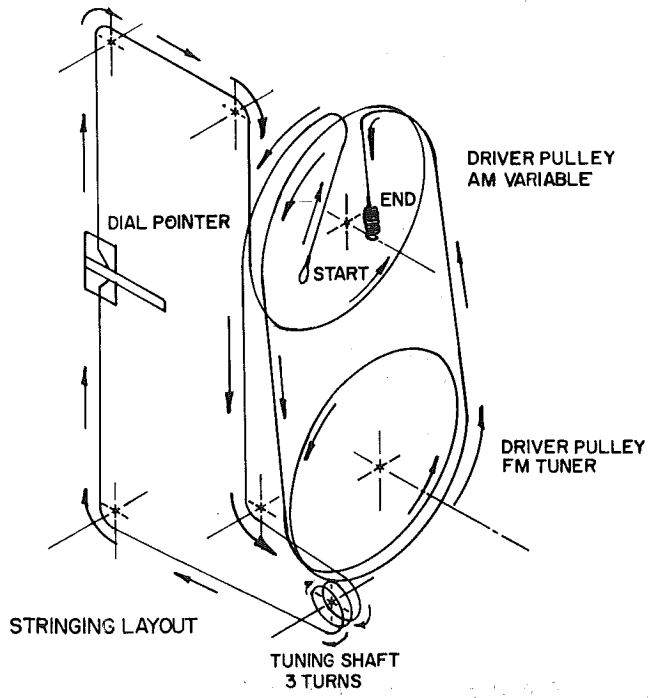
K = 1000 OHMS
M = 1000000 OHMS

ALL CAPACITANCE VALUES OF 1.0 AND ABOVE ARE IN μ F, AND ALL VALUES BELOW 1.0 ARE IN P.F. UNLESS OTHERWISE INDICATED.

\downarrow = B(-)

\downarrow = ISOLATED GROUND (FRONT PANEL AND CONTROL SHAFTS)

ALL VOLTAGES MEASURED TO CHASSIS GROUND WITH V7 VOLUME CONTROL AT 75 VOLTS ZERO SIGNAL CONDITION. STARRED VOLTAGE POINTS WILL SHOW READINGS IN "AM" POSITION ONLY.



TUBE LAYOUT

REPLACEMENT PARTS LIST

REF. NO.	DESCRIPTION	PART NO.
	FM Tuner Unit	50-05
C1-2-3-4	Variable Condenser	24-11-01
C5	Condenser, tubular, 4.7 mmfd	28-04-03
C6-13	Condenser, disc. .05 mfd	28-30-02
C7-8-11-23	Condenser, disc. .02 mfd	28-02-02
C9-12	Condenser, disc. 470 mmfd	28-19-02
C10-22	Condenser, disc. .01 mfd	28-03-02
C14	Condenser, Electrolytic, 2mfd 50V	26-09
C15-17	Condenser, disc. .005 mfd	28-37-02
C16	Condenser paper, .047 mfd 400V	28-18-01
C18	Condenser, Electrolytic, 75x75 mfd 150V	26-18
C19	Condenser, disc. .01 mfd 1400V	28-24-02
C20-21	Condenser, disc. 47 mmfd	28-38-03
D1	Silicon Rectifier, .25A 400 PIV	48-06
R1	Resistor, 2.7K ohms, ½W, 10%	29-68-05
R2	Resistor, 22K ohms, ½W, 20%	29-04-05
R3-9	Resistor, 2.2 M ohms, ½W, 20%	29-26-05
R4-5	Resistor, 470 ohms, ½W, 20%	29-17-05
R6	Resistor, 1.5M ohms, ½W, 20%	29-34-05
R7	Resistor, 100K ohms, ½W, 10%	29-29-05
R8	Resistor, 1K ohms, ½W, 20%	29-73-05
R10	Volume control, 1M ohms	23-13-01
R11	Resistor, 150 ohms, ½W, 20%	29-16-05
R12	Resistor, 33 ohms, 2W, 20%	29-72-20
R13	Resistor, 750 ohms, 3W, 10%	29-67-30
R14	Resistor, 33 ohms, 1W, 20%	29-06-10
S1, S2	Slide Switch	37-09-02
T2	AM I.F. Transformer	55-03
T3	AM-FM I.F. Transformer	55-04
T4	FM Detector Transformer	55-05
L1	Rod Antenna	25-13-02
L2	AM Osc. Coil	27-03
PCT 1	Couplate, FM Detector	47-06
PCT 2	Couplate, Audio Amplifier	47-01
	Speaker with Output Transformer	21-03
	Cabinet Shell	10-05-09
	Front Panel	11-37-1
	Knob, Volume or Tuning	12-38-60-1
	Knob, Clock	12-06
	Clock	16-01-1
	Line Cord	33-03
	Clock Face	17-28-1
	Clock Crystal	15-05-01
	Tuning & Volume Trimplate	14-50-1-6
	AFC and FM-AM Trimplate	14-48-1-6
	Extension Shaft	19-04

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