

RADIO TRANSMITTER MODEL HT-19

PRELIMINARY INSTRUCTIONS

INSTALLATION

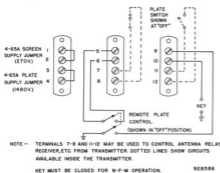


Fig. 1. Terminal connections for CW or NFM operation

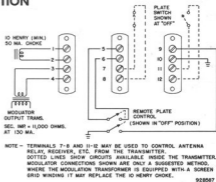


Fig. 2. Terminal connections for AM phone operation

OPERATION

Set PLATE switch at "OFF" and CHECK/OPERATION switch at "OPERATION". Set POWER switch at "POWER" and allow the unit a few minutes for warm up.

V.F.O. OPERATION - Variable frequency operation of the transmitter is accomplished as follows:

1. Set OPERATION control at "M.O.".
2. Set the BAND SELECTOR for the band of operation and select the corresponding final amplifier plate coil. (Match color dots on coil and jack bar when inserting coil.)

CAUTION - Set PLATE switch at "OFF" before opening cabinet to change or adjust coils.

3. Set the transmitter to frequency (roughly) using the V.F.O. dial calibrations or (exactly) by switching the CHECK/OPERATION switch to "CHECK" and zero beating the transmitter with a secondary frequency standard. (Receiver or frequency meter.) After a check return the switch to the "OPERATION" position.

4. Set PLATE switch at "ON" and resonate final amplifier with POWER AMP. TUNING control. Close the key circuit if operating CW.

5. Check final amplifier plate and grid current. The meter normally indicates total cathode current for the final amplifier. Cathode current for c-w operation or N-F-M runs approx 190 ma. For high level AM plate modulated phone operation the cathode current runs approx 165 ma. Press the GRID/PLATE CURRENT meter switch button for final amplifier grid current. This will generally run approx. 12 to 16 ma. depending on frequency of operation and antenna loading. To obtain the correct cathode current, the antenna matching network used must be capable of matching the antenna impedance and adjusting the load on the final amplifier.

CRYSTAL CONTROL OPERATION - The transmitter may be operated with crystal control as follows:

1. Plug in from one to three 80 meter (3500-4000 kc) crystals in the sockets provided. The sockets are accessible through the hinged cover of the unit.
2. Set the OPERATION control at the XTAL number corresponding to the socket containing the desired crystal.

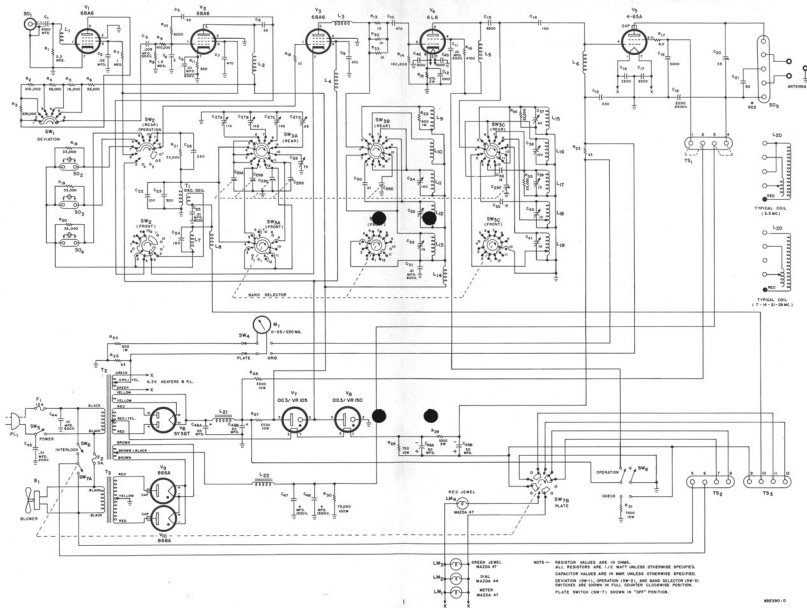
3. Set the BAND SELECTOR for the band of operation and select the corresponding final amplifier plate coil. (Match color dots on coil and jack bar when inserting coil.)

CAUTION - Set PLATE switch at "OFF" before opening cabinet to change or adjust coils.

4. Set V.F.O. dial roughly to crystal frequency.
5. Adjust the final amplifier as described in steps 4 and 5 under "V.F.O. OPERATION".

NARROW BAND FM OPERATION - Set up the controls as described for V.F.O. operation and check the operation of the entire transmitter. When satisfactory c-w operation is established set the OPERATION control at FM and DEVIATION control to correspond to the band in which the final amplifier is tuned. The deviation setting is important as it provides the required frequency shift. The gain of the audio system in the HT-19 has been adjusted to provide full modulation when microphones having output levels of -56 db or better are used. Nearly all crystal and communication type dynamic microphones can provide this output level. Moving about the band is accomplished as described for V.F.O. operation; however, it is not necessary to reset the OPERATION control to M.O. each time a new channel frequency is established.

the hallicrafters co.



TYPICAL COIL
 (1.5 MC)

TYPICAL COIL
 (7-14-21-28 MC)

- L_M ① GREEN JEWEL
 WIND 47
- L_M ② 24K
 WIND 44
- L_M ③ METER
 WIND 47

NOTE — RESISTOR VALUES ARE IN OHMS.
 ALL RESISTORS ARE 1/2 WATT UNLESS OTHERWISE SPECIFIED.
 CAPACITOR VALUES ARE IN MMF UNLESS OTHERWISE SPECIFIED.
 DETUNER (DW-1), OPERATOR (SW-2), AND BAND SELECTOR (SW-3)
 SWITCHES ARE SHOWN IN FULL COUNTERCLOCKWISE POSITION.
 PLATE SWITCH (SW-7) SHOWN IN "SWP" POSITION.

LAST CAPACITOR SYMBOL — C-48
 LAST RESISTOR SYMBOL — R-38

32920-G

SERVICE PARTS LIST

Ref. No.	Description	Hallcrafters Part Number	Ref. No.	Description	Hallcrafters Part Number
CONDENSERS					
C-1,3,19,42,43	5,000 mmf. 450 V., ceramic	47A168	L-16	Coil, 6L6 plate (7 mc)	51B1067
C-2	.02 mfd. 400 V., tubular	46AY2037	L-17	Coil, 6L6 plate (14 mc)	51B1068
C-6,11,25,31	.01 mfd. 400 V., tubular	46A21037	L-18	Coil, 6L6 plate (21 mc)	51B1069
C-4	5 mmf. 500 V., ceramic	CC21UK068D	L-19	Coil, 6L6 plate (28 mc)	51B1070
C-5,8	39 mmf. 500 V., mica	CM20A390K	L-20	Coil, final amp. (3.5 mc)	51B1074
C-7,9,10	470 mmf. 500 V., mica	CM20A471M	L-20	Coil, final amp. (7 mc)	51B1075
C-12	1000 mmf. 500 V., ceramic	47A165	L-20	Coil, final amp. (14 mc)	51B1077
C-13	6800 mmf. 500 V., mica	CM40A682M	L-20	Coil, final amp. (21 mc)	51B1077
C-14	100 mmf. 500 V., mica	CM20A101K	L-21	Coil, filter, 11/27 h @ 155/20 ma	56C094
C-15,26	330 mmf. 500 V., mica	CM20A331K	L-22	Choke, filter, 10 h @ 125 ma	56C095
C-16,17	2200 mmf. 500 V., ceramic	47B20A222M	SWITCHES		
C-18	2200 mmf. 2500 V., mica	CM30A222M	SW-1	Switch, DEVIATION	60B326
C-20	Capacitor, variable, POWER AMP TUNING	48B206	SW-2	Switch, OPERATION	60B325
C-21	Pad, fixed, 50 mmf., air dielectric	48B205	SW-3	Switch, BAND SELECTOR	60C331
C-22	100 mmf. 500 V., mica	CM20A101K	SW-4	Switch, push button, DPDT, (meter)	60A333
C-23	200 mmf. 500 V., ceramic	47A168	SW-5,8	Switch, toggle, DPDT	60A277
C-24	180 mmf. 500 V., mica	CM20A161J	SW-6	Switch, interlock	60B293-1
C-27	Trimmer assembly, 4 section	44A260	SW-7	Switch, PLATE	60B332
C-28	Trimmer, adjustable, air dielectric	48A190	PLUGS AND SOCKETS		
C-29	Capacitor, variable, VFO tuning	48C190	PL-1	Line cord	87A125
C-30	47 mmf. 500 V., mica	CM20A470K	SO-1	Receptacle, microphone	29A043
C-32,33,34,37,38,39,40,41	Part of coil assembly		SO-2,3,4	Receptacle, crystal	6A266
C-35	12 mmf. 500 V., mica	CM20A120K	SO-5	Jack for final amp.	8A069
C-36	18 mmf. 500 V., mica	CM20A180K		Receptacle, fuse	6A196
C-44,45	.01 mfd. 600 V., moulded paper	48B10326		Socket, octal (tube)	6A266
C-46	20-10 mfd. 475 V., electrolytic	45B132		Socket, miniature (tube)	6A268
C-47,48	4 mfd. 1500 V., oiled filled	45B133-1		Socket, 7 pin (4-85A tube)	6A210
C-49	30-30 mfd. 250 V., electrolytic	45B133		Socket, 4 pin (866A tube)	6A142
RESISTORS					
R-1	2.2 megohms watt, carbon	RC20AE225M	V-1,2,3	Type 6BA6, speech amp. modulator, and oscillator	90XB8A6
R-2	100,000 ohms watt, carbon	RC20AE104K	V-4	Type 6L6, power amp.	90X6L6
R-3	220,000 ohms watt, carbon	RC20AE224K	V-5	Type 4-85A, final amp.	90X4-85A
R-4	39,000 ohms watt, carbon	RC20AE390K	V-6	Type 5Y3GT, low voltage rectifier	90X5Y3GT
R-5	15,000 ohms watt, carbon	RC20AE150K	V-7	Type OC3/VR105, voltage regulator	90XVR-105
R-6	56,000 ohms watt, carbon	RC20AE563K	V-8	Type OD3/VR150, voltage regulator	90XVR-150
R-7	1 megohm watt, carbon	RC20AE105M	V-9,10	Type 866A, high voltage rectifier	90X866A
R-8	1.5 megohms watt, carbon	RC20AE155M	LM-1,3,4	Lamp, 6-8 V., Mazda #47 (brown bead)	39A060
R-9	470,000 ohms watt, carbon	RC20AE474K		Lamp, 6-8 V., Mazda #44 (blue bead)	39A060
R-10	8200 ohms watt, carbon	RC20AE822K	MISCELLANEOUS		
R-11	560 ohms watt, carbon	RC20AE561J	TS-1,2,3	Terminal strip, 4 terminal	88A575
R-12,13,32,33	10 ohms watt, carbon	RC20AE100M		Bracket, resistor mtg. (R-30)	24B178
R-14	180,000 ohms watt, carbon	RC20AE184K	F1	Fuse, type 3AG, 10 amps	39A310
R-15	470 ohms watt, carbon	RC20AE471K	F2	Fuse, type 3AG, 5 amps	39A316
R-16	4700 ohms watt, carbon	RC20AE472M	D-1	Motor blower, 117 V., AC	20D024
R-17	8.2 ohms watt, carbon	RC20AE082M		Fan blade	80B094
R-18,19,20,21	33,000 ohms watt, carbon	RC20AE333K		Coupler, flexible (C-20 drive shaft)	29A058
R-22	820 ohms watt, carbon	RC39AE821K		Shield, miniature tube	69A065
R-23,25	33 ohms watt, carbon	RC39AE330K		Dial glass and calibrations	29C219
R-24	300 ohms watt, carbon	RC39AE301J		Clip, dial glass	76A390
R-26	1800 ohms watts, W.W.	24BG182E		Pointer	82A155
R-27	2900 ohms watts, W.W.	24BG252E		Dial card	75A012
R-28	750 ohms watts, W.W.	24BG751E		Shaft, main tuning	74A284
R-29	1,500 ohms watts, carbon	RC40AE102K		Washer "C"	4A139
R-30	75,000 ohms watts, W.W.	24BG752E		Escutcheon	76A066
R-31	7500 ohms watts, W.W.	24BG752E		Lock, line cord	76A465
R-34	22,000 ohms watt, carbon	RC39AE223K		Jewel, pilot light (green)	86A022
R-35	33,000 ohms watt, carbon	RC39AE333K		Jewel, pilot light (red)	86A023
COILS AND TRANSFORMERS					
T-1	Transformer, oscillator grid	51B951	M-1	Foot, mounting	16A029
L-1	Coil, RF choke (14 mc)	53A009		Bushing, antenna feed thru	8A014
L-2,5,6	Coil, RF choke, 2.5 mh	53A033		Knob, meter switch	15A148
L-3	Coil, oscillator plate	53A917		Knob, BAND SELECTOR switch	15B088
L-4,8,14	Coil, RF choke, 165 uh	53A913		Knob, POWER AMP TUNING, and V.F.O. tuning control	15A047
L-7	Coil, oscillator cathode	53A110		Knob, OPERATION and DEVIATION controls	15A131
L-9	Coil, 6BA6 plate (3.5 mc)	53A119			
L-10	Coil, 6BA6 plate (7 mc)	53A109			
L-11	Coil, 6BA6 plate (14 mc)	51B948			
L-12	Coil, 6BA6 plate (21 mc)	51B949			
L-13	Coil, 6BA6 plate (28 mc)	51B950			
L-15	Coil, 6L6 plate (3.5 mc)	51B1066			