

ENGINEERING BULLETIN FOR MODEL HT-46 TRANSMITTER

PURPOSE

The following modification instructions have been prepared for owners of Hallicrafters Model HT-46 Transmitter. The modification serves to rectify a small frequency shift noted on the 40M, 15M, and 10M bands when switching from stand-by to transmit, and to correct the calibrate switching function for CW operation.

TOOLS REQUIRED

Straight blade screwdriver
Philips Screwdriver
Wire Cutters
Long Noise Pliers
Soldering Iron and Rosin Core Solder

COMPONENTS REQUIRED

- 1 ea Single terminal tie lug. (6-32 mounting hole)
- 1 ea 3300 ohm 1/2 W composition resistor
- 2 inches No. 22 AWG Tinned copper wire
- 10 inches No. 22 AWG stranded wire (Gray)

MODIFICATION PROCEDURE

1. Remove cabinet cover (6 screws at cabinet sides).
2. Remove bottom cover (7 screws).
3. At the VFO switch (S-5), clip the white-black lead 3 inches from the switch terminal. Strip the insulation back about 3/8 inch and solder the lead to the ground buss on the heterodyning crystal socket.
4. Carefully pull the remainder of the white-black lead out of the wiring harness. The white-black lead terminates at the center terminal of the CAL switch (S-3). Clip off this white-black lead only at the switch terminal. (Leave the remaining white-black lead connected to the switch.)

5. At the CAL switch (S-3), clip the ground jumper wire connected between the switch lugs at the CAL ON side of the switch. Also disconnect the green-black lead from the switch arm terminal.

6. Connect a No. 22 tinned wire jumper from the switch lug with the two black ground leads to the switch arm terminal left vacant when the green-black lead was disconnected in step 5.

7. Connect the green-black lead to the switch lug left vacant when the jumper wire was removed in step 5.

8. Add a gray No. 22 stranded wire lead to the unused terminal on the CAL switch (S-3), lay it along the wiring harness and bring it up to the OPERATION switch (S-1).

9. At the OPERATION switch (S-1) clip off the ground wire jumper running from contact 4 on the rear wafer (S-1B) to contact 4 on the front wafer (S-1A). Do not disturb the wiring on the front switch wafer.

10. Mount a single terminal tie lug to the chassis using one of the VFO capacitor mounting screws as shown.

11. Disconnect the green-black lead from its terminal on switch wafer S-1B and connect it to the tie lug.

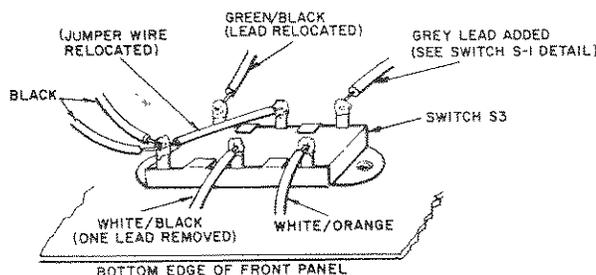
12. Connect the gray lead from the CAL switch (S-3) to the switch terminal left vacant when the green-black lead was removed in step 11.

13. Connect the 3300-ohm 1/2 watt resistor between the tie lug and the switch contact left vacant when the jumper wire was removed in step 9.

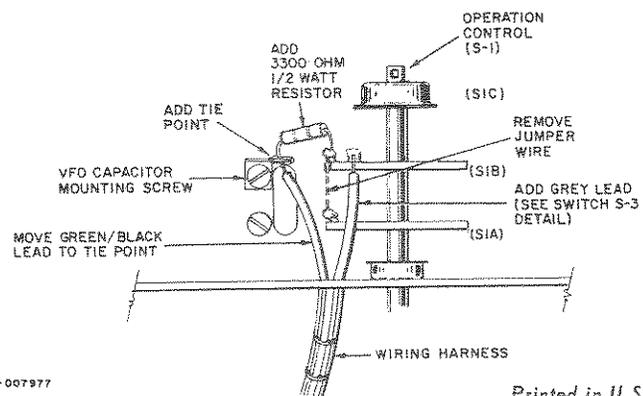
14. Replace the bottom cabinet cover and top cabinet cover. Make sure the long sheet metal screw is driven into the shield foot to ground the bottom cover.

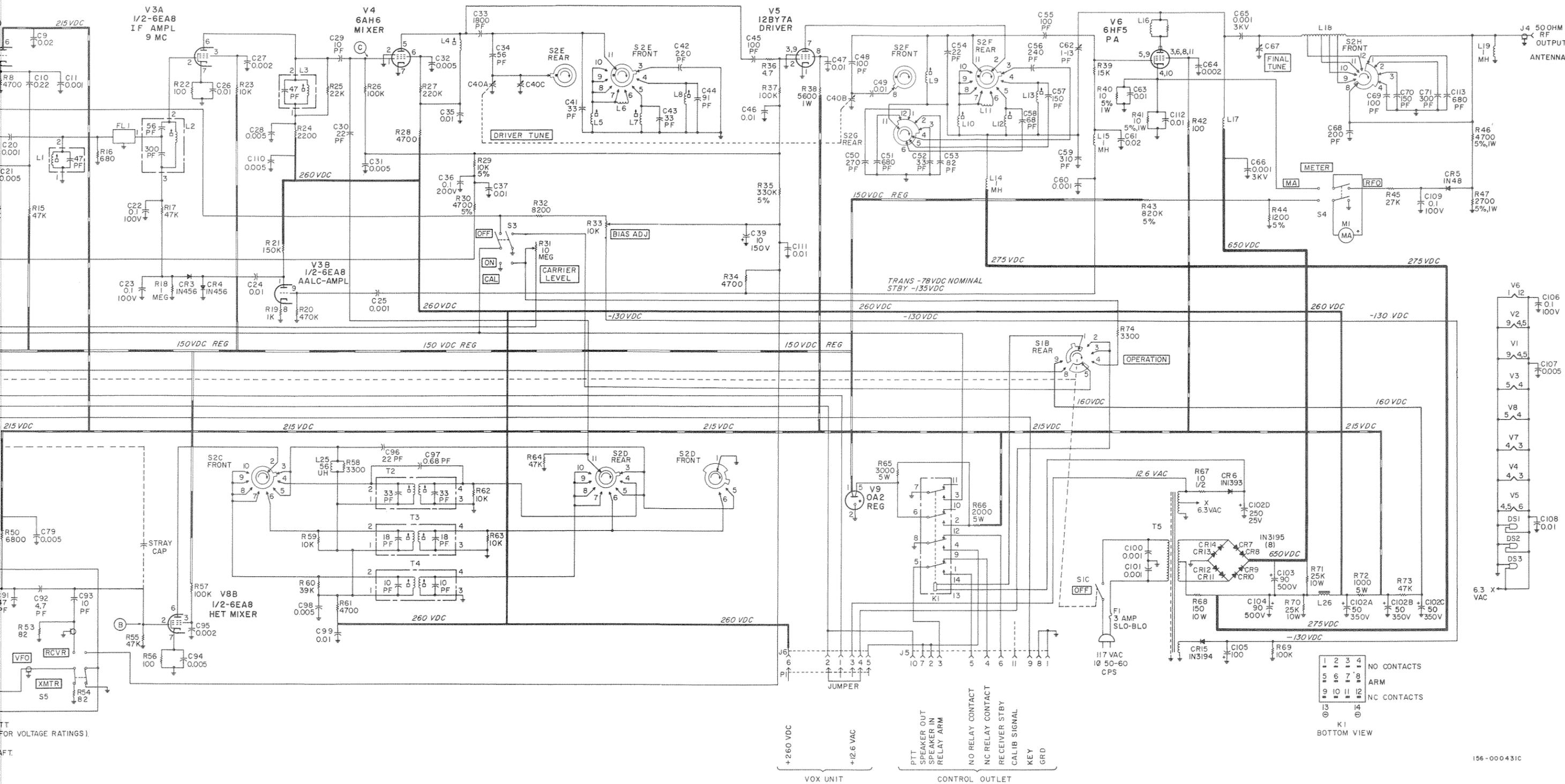
A schematic diagram and parts list incorporating these changes is enclosed.

CAL SWITCH WIRING



OPERATION SWITCH WIRING





TT
FOR VOLTAGE RATINGS).
FT.
AR ROTOR CONNECTED.
TTER. SEE PARTS LIST

Figure 15. Model HT-46 Schematic Diagram.

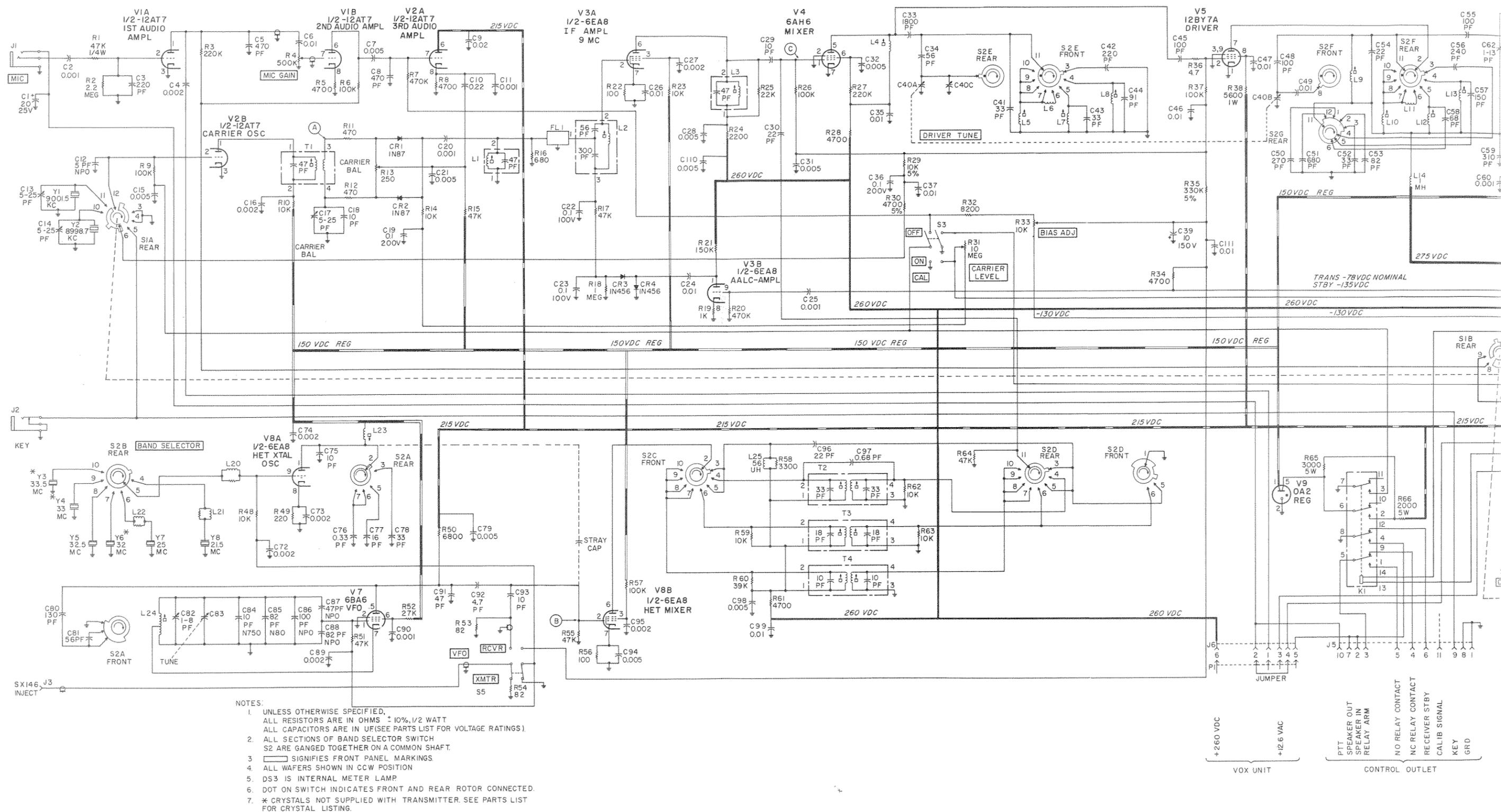


Figure 15. Model HT-46 Schematic Diagram.

SERVICE REPAIR PARTS LIST

Schematic Symbol	Description	Hallicrafters Part Number	Schematic Symbol	Description	Hallicrafters Part Number	Schematic Symbol	Description	Hallicrafters Part Number	Schematic Symbol	Description	Hallicrafters Part Number
CAPACITORS			CAPACITORS (CONT)			*RESISTORS (CONT)			CONNECTORS		
C1	20 μ F, 25V, Electrolytic	045-001147	C84	10 PF, \pm 0.25 PF, 500V, N750, Ceramic	491-001100-093	R67	10 Ohm	451-252100	J1	Jack, Three circuit, MIC	036-000391
C2,11,20,25,60,90	0.001 μ F, \pm 20%, 500V Ceramic	047-001671	C85	82 PF, \pm 2%, 500V, N80, Ceramic	491-054820-042	R68	150 Ohm, 5%, 10 Watt	024-001607	J2	Jack, Two circuit, KEY	036-000390
C3,42	220 PF, \pm 2%, 500V, Mica	493-110221-334	C86	100 PF, \pm 2%, 500V, NPO, Ceramic	491-054101-022	R70,71	25K Ohm, 10 Watt	445-032253	J3	Jack, Phono, SX-146	036-000396
C4,16,27,64,72,73,74,89,95	0.002 μ F, \pm 20%, 500V, Ceramic	047-100395	C87	47 PF, \pm 2%, 500V, NPO, Ceramic	491-024470-022	R72	1000 Ohm, 5%, 5 Watt	445-011102	J4	Jack, Phono, ANTENNA	036-100041
C5,8	470 PF, \pm 5%, 500V, Mica	493-110471-234	C88	82 PF, \pm 2%, 500V, NPO, Ceramic	491-054820-022	*ALL RESISTORS are carbon type, 10%, 1/2 watt, unless otherwise specified.			J5	Socket, 11-pin	005-200707
C6,24,26,35,37,46,47,49,63,99,108,111,112	0.01 μ F, \pm 20%, 500V, Ceramic	047-100354	C91	47 PF, \pm 2%, 500V, Mica	493-110470-333	COILS AND TRANSFORMERS			J6	Socket, 6-pin	006-001096
C7,15,21,28,31,32,79,94,98,107,110	0.005 μ F, \pm 20%, 500V, Ceramic	047-100442	C92	4.7 PF, \pm 2%, 500V, Mica	493-240470-331	L1,3	Coil, IF	050-002159	P1	Plug, 6-pin	035-000088
C9,61	0.02 μ F, \pm 20%, 500V, Ceramic	047-100471	C97	0.68 PF, \pm 10%, 500V, Ceramic	047-000403-001	L2	Coil, Filter Termination	050-002161	Plug, 11-pin		035-100043
C10	0.22 μ F, \pm 10%, 200V, Paper	046-001298-004	C100,101	0.001 μ F, -0%, +100%, 1400V, Ceramic	047-002217	L4	Coil, Mixer, 80 Meter	050-002114	Plug, Phono (SX-146)		010-000221
C12	5 PF, \pm 0.25 PF, 500V, NPO, Ceramic	491-001050-022	C102A,B,C,D	3 x 50 μ F, 350V; 250 μ F, 25V, Electrolytic	045-001370	L5	Coil, Mixer, 10 Meter	050-002110	INJECT and ANTENNA)		
C13,14,17	Variable, 5-25 PF, Trimmer	044-200545	C103	90 μ F, 500V, Electrolytic	045-001337	L6	Coil, Mixer, 15 Meter	050-002111	MISCELLANEOUS		
C18,29,75,93	10 PF, \pm 2%, 500V, Mica	493-110100-331	C104	90 μ F, 500V, Electrolytic	045-001338	L7	Coil, Mixer, 20 Meter	050-002112	Angle, Window Mounting		
C19,36	0.1 μ F, \pm 10%, 200V, Paper	046-001294-004	C105	100 μ F, 150 VDC, Electrolytic	045-001371	L8	Coil, Mixer, 40 Meter	050-002113	Bracket, Piston Capacitor Mounting		
C22,23,106,109	0.1 μ F, +80%, -20%, 100V, Ceramic	047-001428	C113	680 PF, 2%, 300V, Mica	493-110681-324	L9	Coil, Driver, 80 Meter	050-002119	Bracket, Socket Mounting		
C30,54,96	22 PF, 2%, 500V, Mica	493-110220-333	R1	47K ohm, 1/4 Watt	451-152473	L10	Coil, Driver, 10 Meter	050-002115	Cabinet, Bottom		
C33	1800 PF, \pm 5%, 500V, Mica	493-310182-234	R2	2.2 Megohm, 1/4 Watt	451-152225	L11	Coil, Driver, 15 Meter	050-002116	Cabinet, Bottom Rivet Assembly		
C34,81	56 PF, \pm 2%, 500V, Mica	493-110560-334	R3,27	220K Ohm	451-252224	L12	Coil, Driver, 20 Meter	050-002117	Chassis Rivet Assembly		
C39	10 μ F, 150V, Electrolytic	045-200307	R4	Variable, 500K Ohm, \pm 30%, 1/8 Watt, MIC GAIN	025-002528	L13	Coil, Driver, 40 Meter	050-002118	Coupler, Driver Tune		
C40A,B,C	Variable, DRIVER TUNE	048-000609	R5,8,28,34,61	4700 Ohm	451-252473	L14,15,19	Choke, 1.0 MH	050-001044-005	Coupler, Shaft		
C41,43,52,78	33 PF, \pm 2%, 500V, Mica	493-110330-333	R6,9,26,37,57,69	100K Ohm	451-252104	L16	Choke, Parasitic	050-002103	Cover, Final Tank		
C44	91 PF, \pm 2%, 500V, Mica	493-110910-334	R7,20	470K Ohm	451-252474	L17	Choke, RF	050-002106	Escutcheon, Meter		
C45,48,55,69	100 PF, \pm 2%, 500V, Mica	493-110101-334	R10,14,23,48,59,62,63	10K Ohm	451-252103	L18	Coil, PI Output	050-002105	Escutcheon, Panel		
C50	270 PF, \pm 2%, 500V, Mica	493-110271-334	R11,12	470 Ohm	451-252471	L20	Coil, Warping	051-002892	Filter, Crystal, 2.1 KC		
C53	82 PF, \pm 2%, 500V, Mica	493-110820-333	R13	250 Ohm, \pm 20%, 1/4 Watt CARRIER BAL.	025-002527	L21,22	Coil, Warping	051-002893	Flywheel		
C56	240 PF, \pm 2%, 500V, Mica	493-110241-334	R15,17,51,55,64,73	47K Ohm	451-252473	L23	Coil, Het. Xtal. Oscillator	050-002120	Foot, Front		
C57,70	150 PF, \pm 2%, 500V, Mica	493-110151-334	R16	680 Ohm	451-252681	L24	Coil, VFO	050-002109	Foot, Rear		
C58	68 PF, \pm 2%, 500V, Mica	493-110680-334	R18	1 Megohm	451-252105	L25	Choke, RF, 15 μ H	050-002311	Front Panel Assembly		
C59	310 PF, \pm 2%, 500V, Mica	493-110311-334	R19	1000 Ohm	451-252102	L26	Choke, Filter	056-000786	Fuse, 3 ampere, SLO-BLO		
C62	Variable, 1-13 PF, Trimmer	044-000520	R21	150K Ohm	451-252154	T1	Transformer, Carrier Oscillator Plate	050-002158	Fuseholder (F1)		
C65,66	0.001 μ F, \pm 20%, 3 KV, Ceramic	047-100397	R22,42,56	100 Ohm	451-252101	T2	Transformer, Bandpass, 40 Meter	050-002145	Knob, OPERATION, MIC GAIN, DRIVER TUNE, CARRIER LEVEL, BAND SELECTOR, FINAL TUNE		
C67	Variable, FINAL TUNE	048-000610	R24	2200 Ohm	451-252222	T3	Transformer, Bandpass, 15 Meter	050-002146	Knob, MAIN TUNING		
C68	200 PF, \pm 2%, 500V, Mica	493-210201-334	R25	22K Ohm	451-252223	T4	Transformer, Bandpass, 10 Meter	050-002147	Lamp, Dial, NO. 47		
C71	300 PF, \pm 2%, 500V, Mica	493-110301-334	R29	10K Ohm, 5%	451-251103	T5	Transformer, Power	050-002104	Lock, Line Cord		
C76	0.33 PF, \pm 10%, 500V, Ceramic	047-000403-016	R30	4700 Ohm, 5%	451-251472	V1,2	Tube, Type 12AT7	090-900034	Meter		
C77	16 PF, \pm 2%, 500V, Mica	493-110160-331	R31	10 Megohm, -20%, +40%, 1/8 Watt, CARRIER LEVEL	025-002531	V3,8	Tube, Type 6EA8	090-901350	Pointer, Dial		
C80	130 PF, \pm 2%, 500V, Mica	493-210131-334	R32	8200 Ohm	451-252822	V4	Tube, Type 6AH6	090-900793	Pulley, Brass		
C82	Variable, 1-8 PF, Trimmer	044-000593	R33	10K Ohm, \pm 20%, 3/4 Watt, BIAS ADJ	025-002330	V5	Tube, Type 12BY7A	090-901192	Pulley, Nylon		
C83	Variable, VFO	048-000595	R35	330K Ohm, 5%	451-251334	V6	Tube, Type 6HF5	090-901653	Rectifier Board		
C51	680 PF, 5%, 500V, Mica	493-210681-234	R36	4.7 Ohm	451-252047	V7	Tube, Type 6BA6	090-901112	Relay		
			R38	5600 Ohm, 1 Watt	451-352562	V9	Tube, Type OA2	090-900001	Shaft, BAND SELECTOR		
			R39	15K Ohm	451-252153	CR1,2	Diode, Type 1N87	019-002941	Shaft, DRIVER TUNE		
			R40,41	10 Ohm, 5%, 1 Watt	451-351100	CR3,4	Diode, Type 1N456	019-002964	Shaft, FINAL TUNE		
			R43	820K Ohm, 5%	451-251824	CR5	Diode, Type 1N48	019-101877	Shaft, TUNING		
			R44	1200 Ohm, 5%	451-251122	CR6	Diode, Type 1N3193	019-002768	Shield, Final Tank		
			R45,52	27K Ohm	451-252273	CR7 thru CR14	Diode, Type 1N3195	019-002770	Shield, Heat Insert Tube		
			R46	4700 Ohm, 5%, 1 Watt	451-351472	SWITCHES			Shield, Switch		
			R47	2700 Ohm, 5%, 1 Watt	451-351272	S1	Switch, Rotary, OPERATION	060-002802	Shield, Tube (V2,3,8)		
			R49	220 Ohm	451-252221	S2	Switch, Rotary, BAND SELECTOR	060-002803	Shield, Tube (V4)		
			R50	6800 Ohm	451-252682	S3,4,5	Switch, Slide, DPDT	060-000544	Shield, Tube (V5)		
			R53,54	82 Ohm	451-252820	CRYSTALS			Socket, Pilot Light (Left Side)		
			R58,74	3300 Ohm	451-252332	Y1	9001.5 KC	019-003653	Socket, Pilot Light (Right Side)		
			R60	39K Ohm	451-252393	Y2	8998.7 KC	019-003652	Socket, Tube, 9-pin (V1)		
			R65	3000 Ohm, 5 Watt	445-012302	Y3	33.5 MC (Not Supplied)	019-201966	Socket, Tube, 9-pin (V2,3,5,8)		
			R66	2000 Ohm, 5%, 5 Watt	445-011202	Y4	33 MC (Not Supplied)	019-201965	Socket, Tube, 7-pin (V4)		
						Y5	32.5 MC	019-201964	Socket, Tube, 12-pin (V6)		
						Y6	32 MC (Not Supplied)	019-201963	Socket, Tube, 7-pin (V7,9)		
						Y7	25.0 MC	019-201961	Spring, Dial Cord		
						Y8	21.5 MC	019-201960	Spring, Dial Plate		
									Window, Dial		
									Shield, Fiber		
									Shield, RF		

ERRATA SHEET

MODEL HT-46

Prior to production, but after the Instruction Manual was printed, certain wiring and component changes were made in the Model HT-46 Transmitter.

These changes are contained in the schematic diagram and parts list herein enclosed. Please discard the schematic diagram and parts list contained in the Instruction Manual and refer to those contained within this sheet whenever necessary.

Part Number 094-904440
Pack with Instruction Manual
Part Number 094-904161