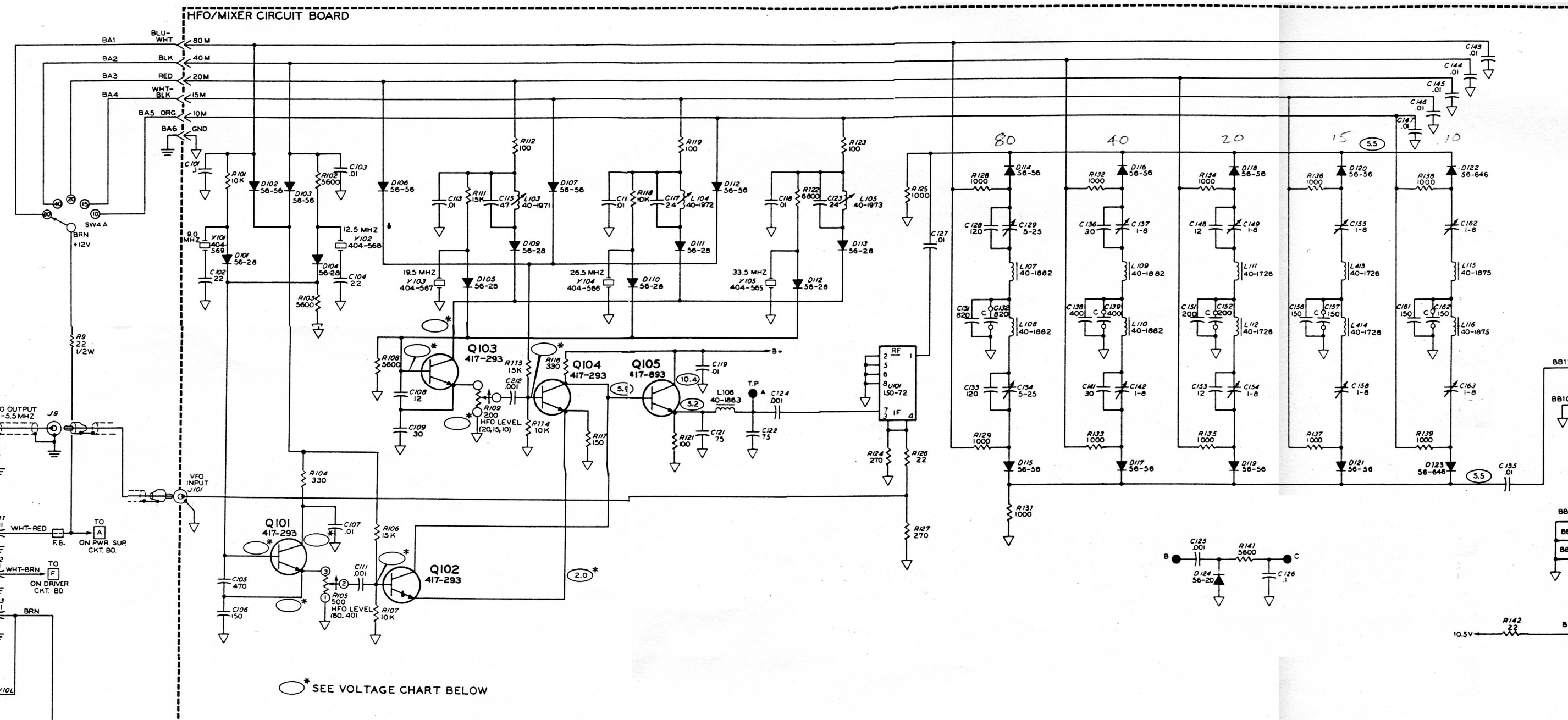
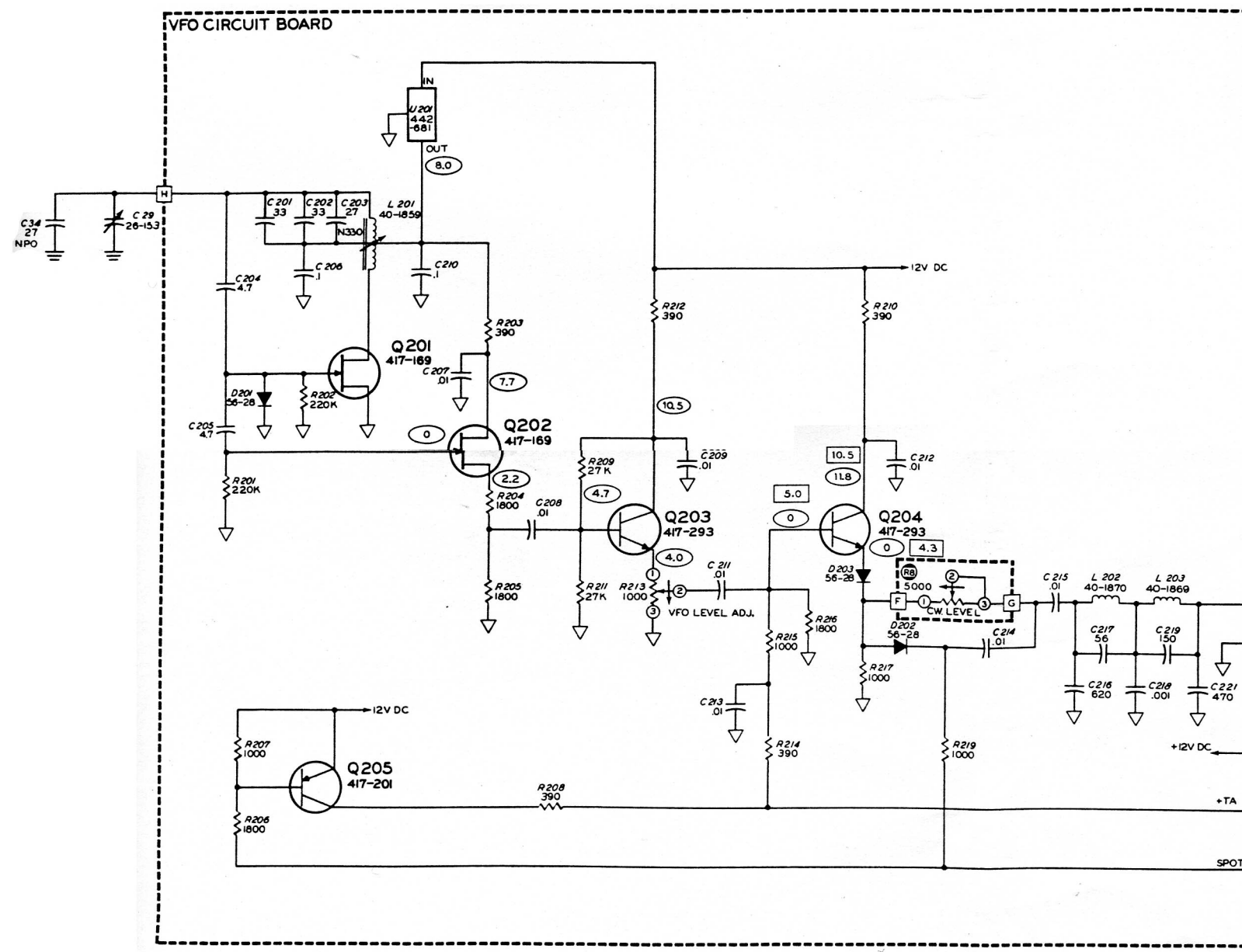


**HEATHKIT HX-1681
BLOCK DIAGRAM**



() = RF mV

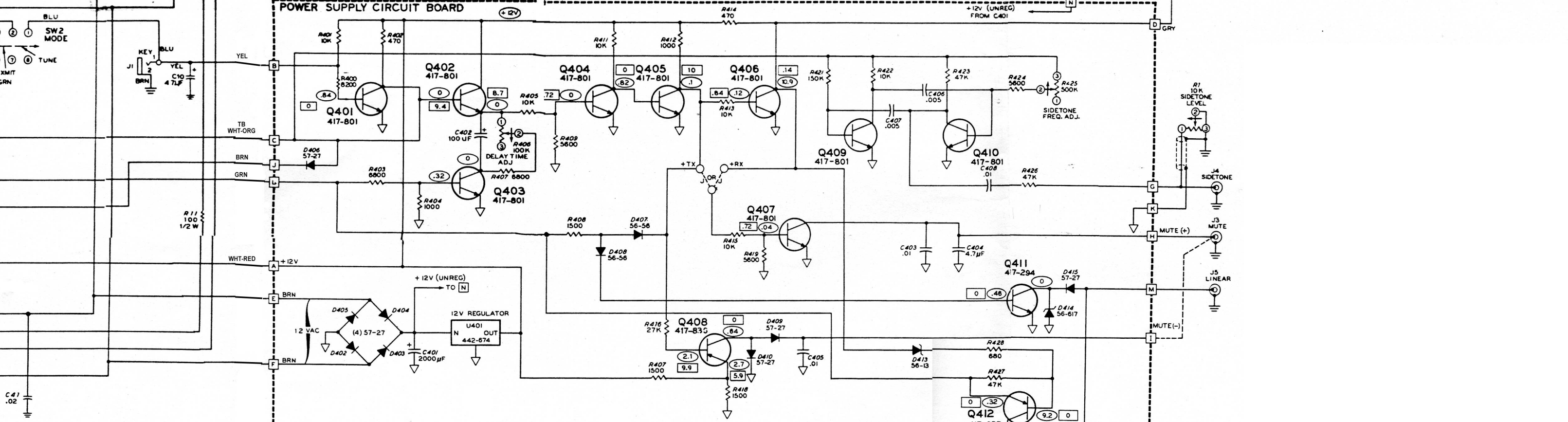
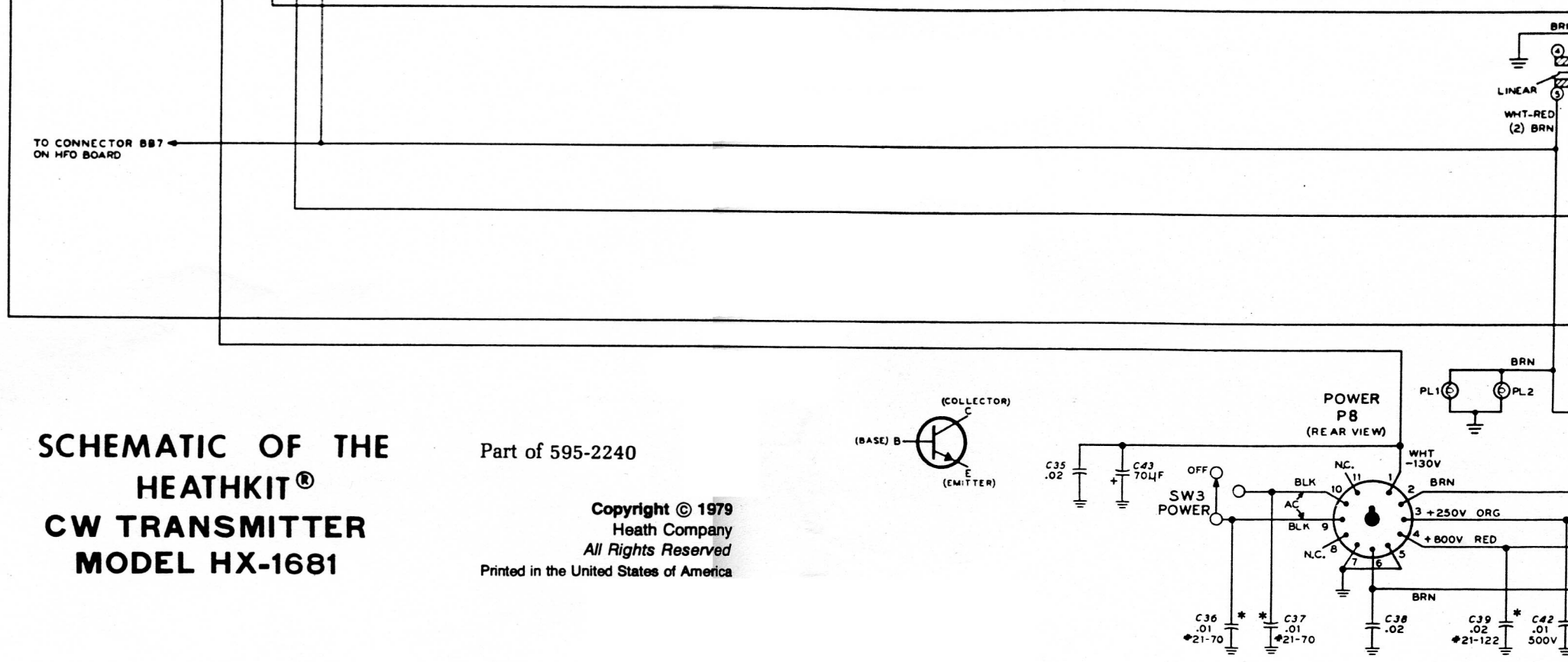
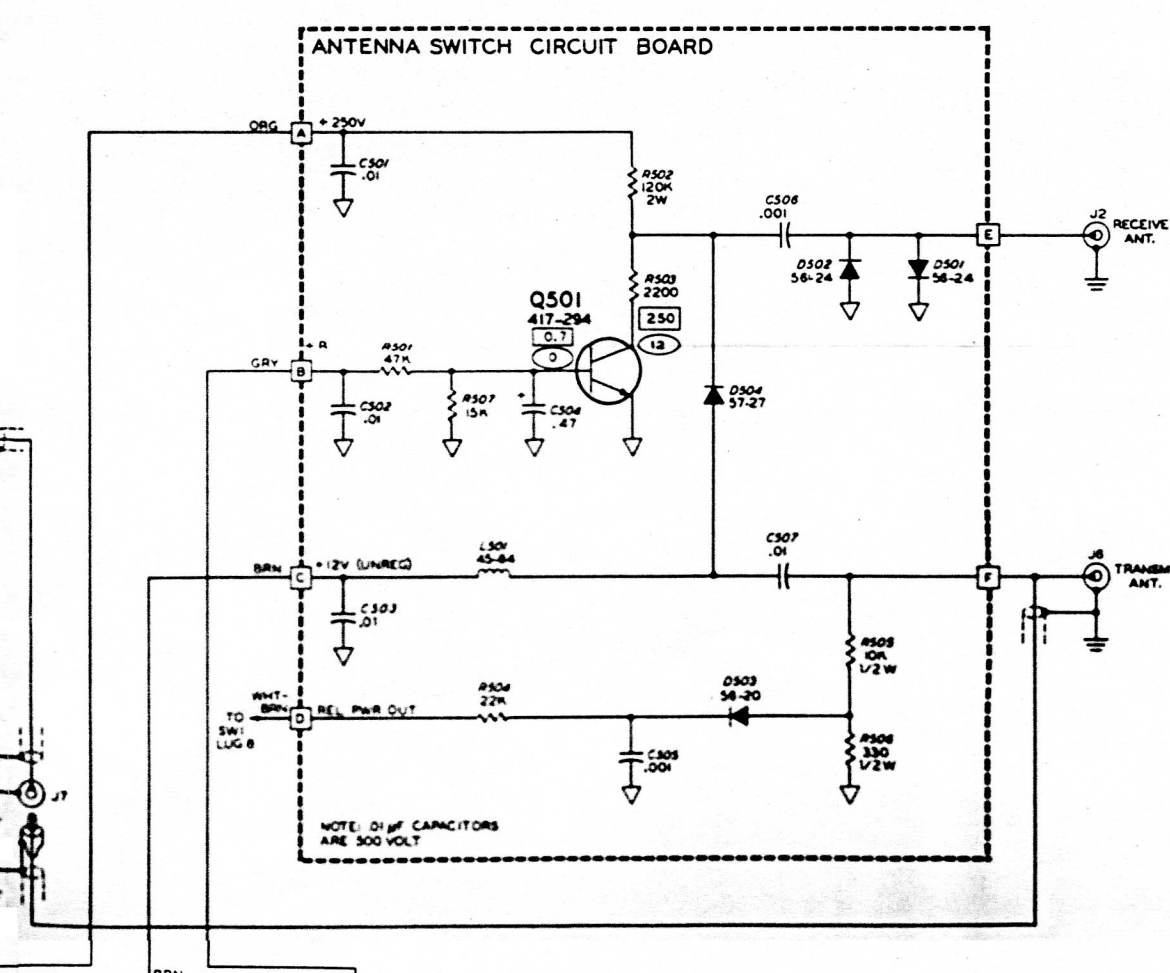
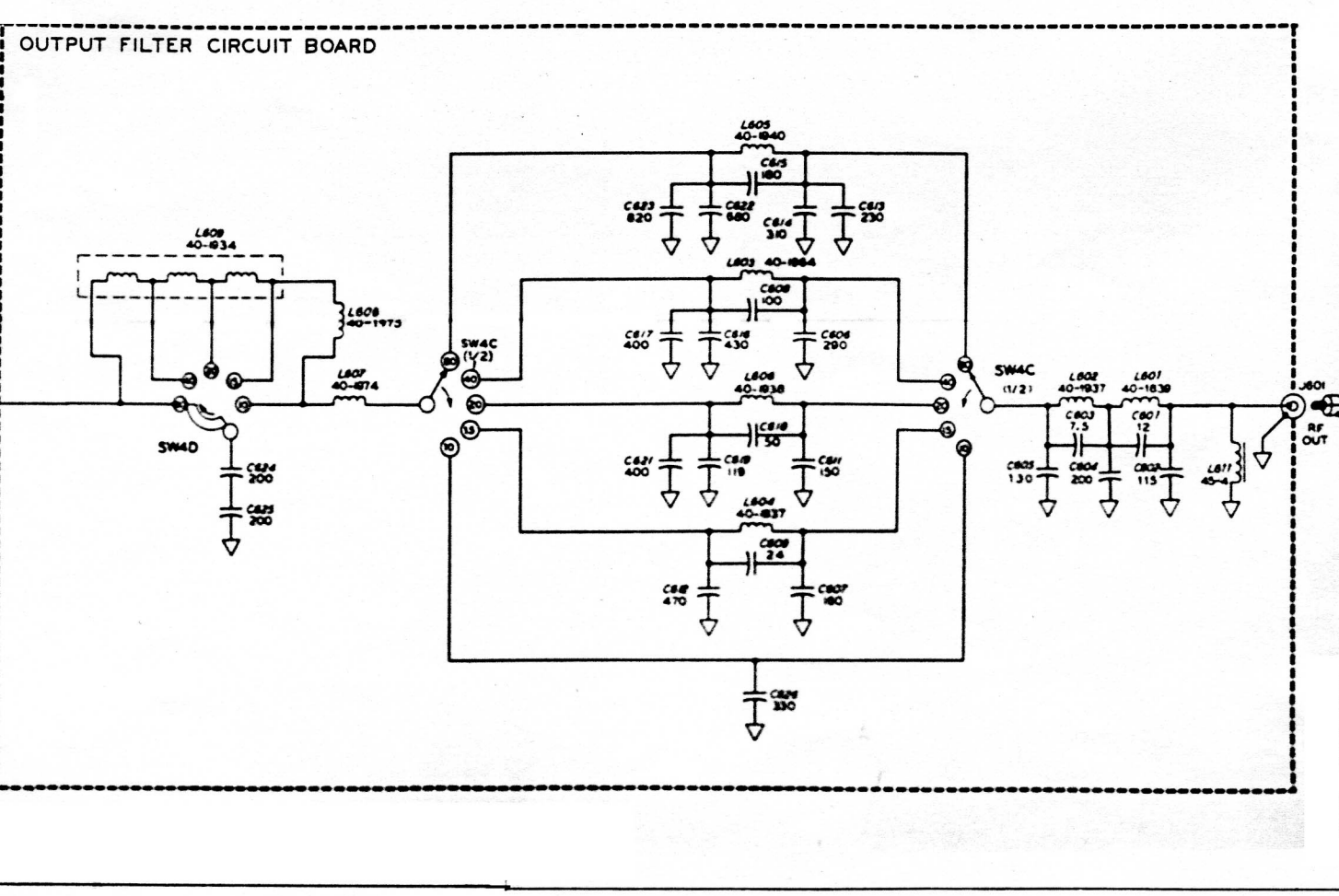
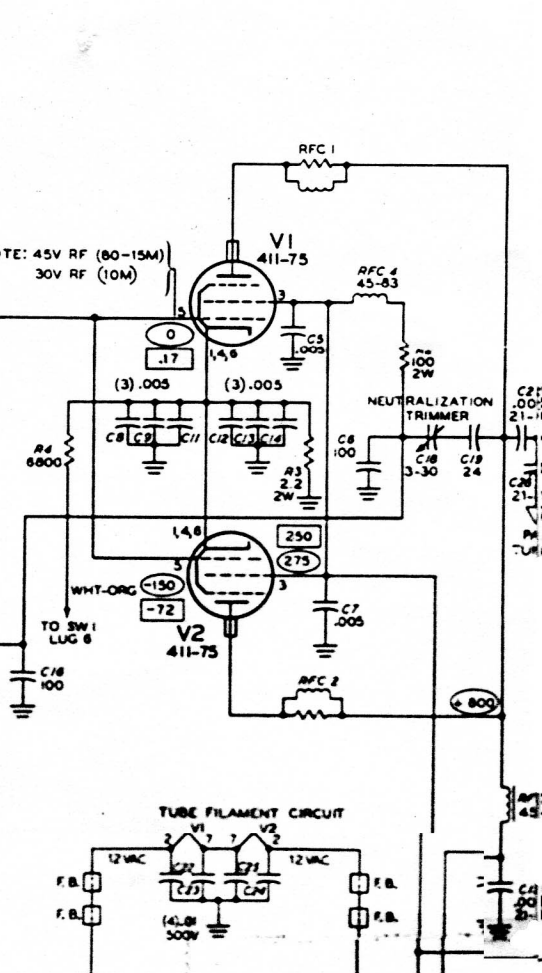
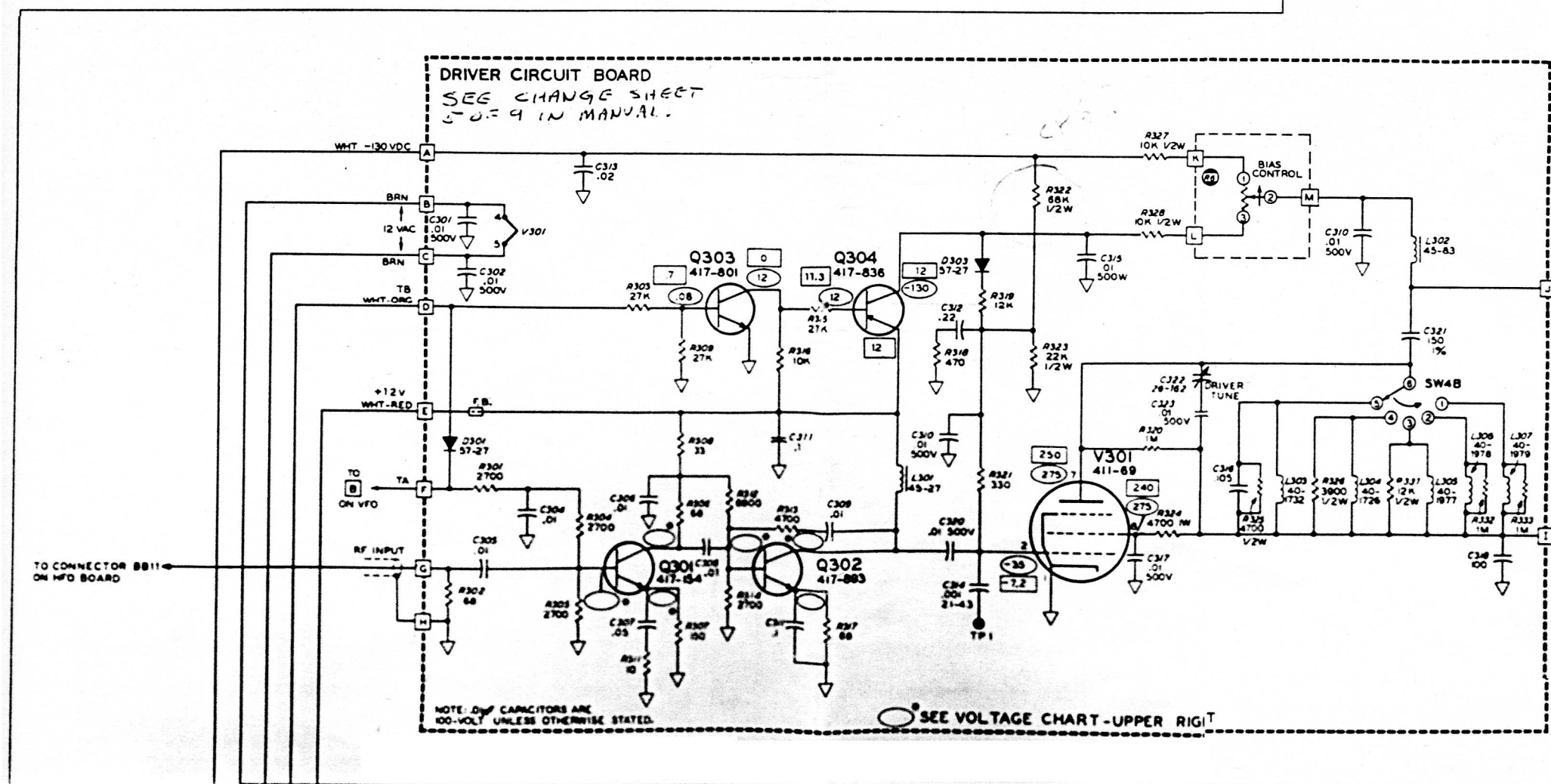
**DRIVER CIRCUIT BOARD
VOLTAGE CHART**

Transistor	Lead	Receive Mode Opn.	MODE SWITCH POS.			
			Spot	Tune (No RF)	Tune (20 M, 100 W)	Tune (20 M, 100 W)
Q301	E	0 V	2.2 V (0)	2.0 V (0)	2.0 V (0)	2.0 V (0)
	B	0 V	2.9 V (55)	2.7 V (17)	2.7 V (21)	2.7 V (21)
	C	12 V	10.5 V (120)	10.5 V (11)	10.5 V (29)	10.5 V (29)
Q302	E	2.5 V	2.5 V	2.5 V	2.5 V	2.5 V
	B	3.2 V	3.2 V (120)	3.2 V (3.5)	3.2 V (28)	3.2 V (28)
	C	12.0 V	12.0 V (5.3)	12.0 V (17)	12.0 V (1.7)	12.0 V (1.7)

HFO/MIXER VOLTAGE CHART

NOTE: READ + DC VOLTS. XMTR KEYS OR UNKEYED

Transistor	Lead	BAND SWITCH POSITION				
		80	40	20	15	10
Q101	E	3.2 V	3.2 V			
	B	4.0 V	4.0 V	(NOT USED)		
	C	8.5 V	8.5 V			
Q102	E	2.5 V	2.5 V	2.5 V	2.5 V	2.5 V
	B	3.4 V	3.4 V	0 V	0 V	0 V
	C	6.0 V	6.0 V	6.0 V	6.0 V	6.0 V
Q103	E			2.0 V	2.1 V	3.4 V
	B	(NOT USED)	(NOT USED)	2.7 V	3.1 V	4.0 V
	C			11.0 V	10.0 V	10.0 V
Q104	E	2.5 V	2.5 V	2.5 V	2.5 V	2.5 V
	B	0 V	0 V	3.4 V	3.4 V	3.4 V
	C	6.0 V	6.0 V	6.0 V	6.0 V	6.0 V



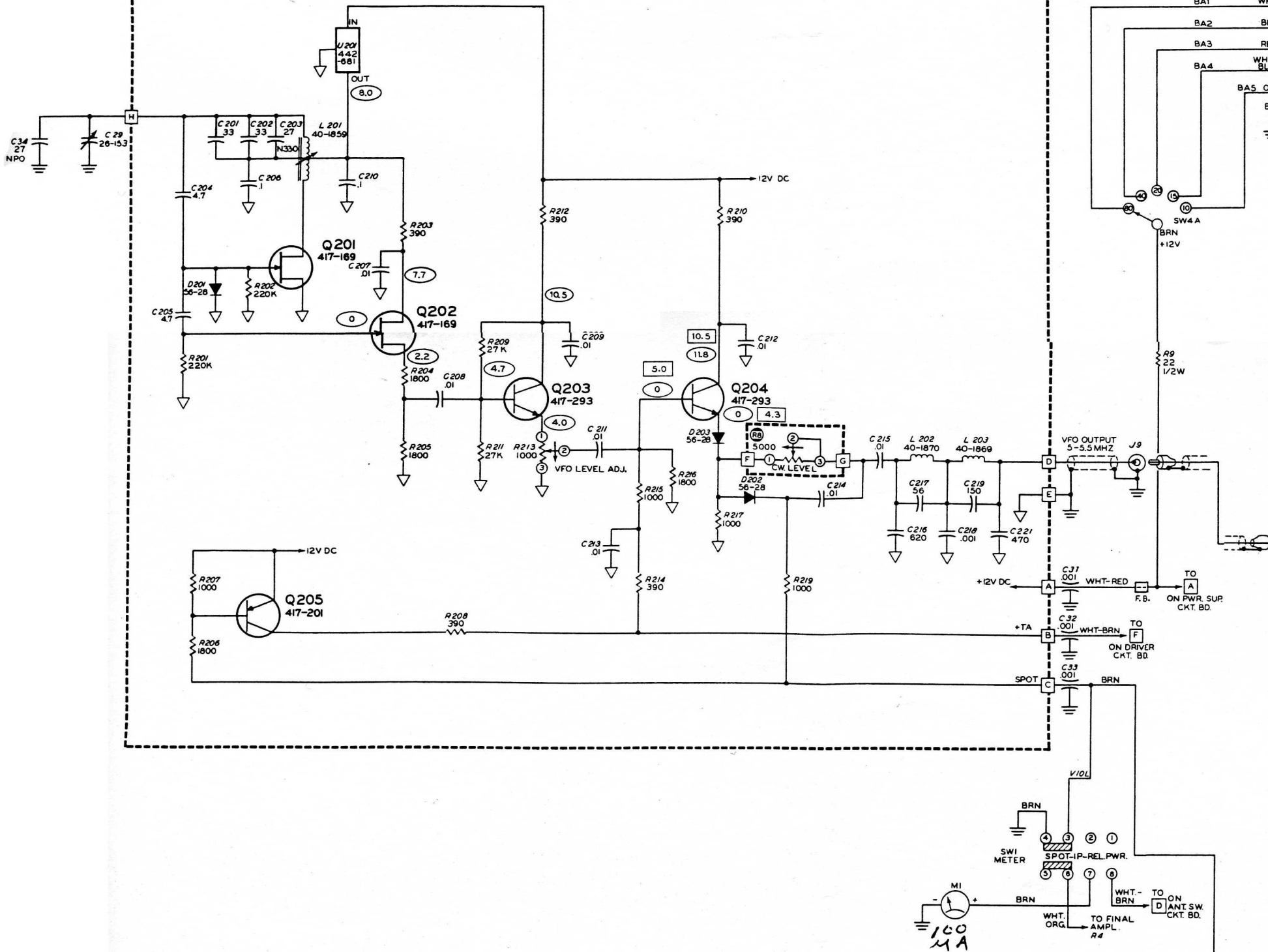
**SCHEMATIC OF THE
HEATHKIT®
CW TRANSMITTER
MODEL HX-1681**

Part of 595-2240

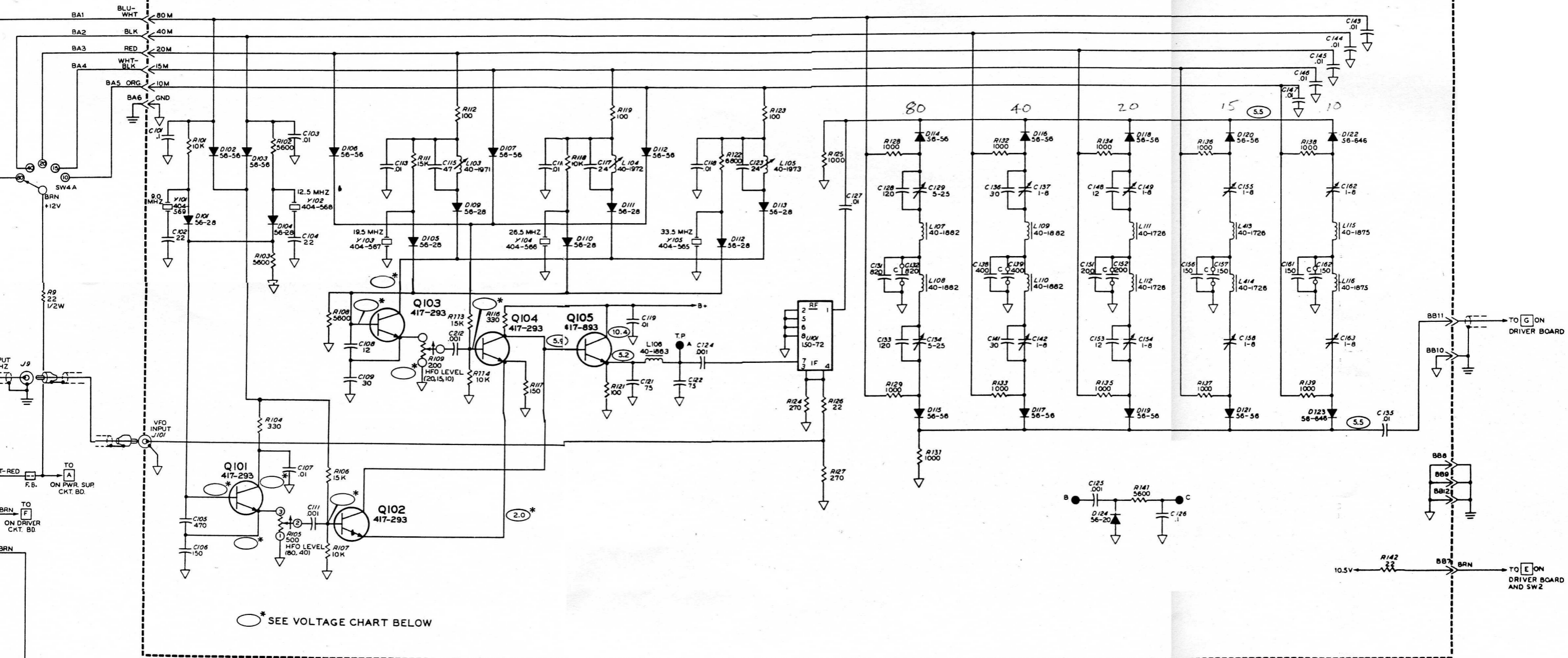
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- NOTES:
- COMPONENT NUMBERS ARE IN THE FOLLOWING GROUPS.
 - 1-99 PARTS MOUNTED ON THE CHASSIS.
 - 100-199 PARTS MOUNTED ON THE HFO/MIXER CIRCUIT BOARD.
 - 200-299 PARTS MOUNTED ON THE DRIVER CIRCUIT BOARD.
 - 300-399 PARTS MOUNTED ON THE VFO CIRCUIT BOARD.
 - 400-499 PARTS MOUNTED ON THE POWER SUPPLY CIRCUIT BOARD.
 - 500-599 PARTS MOUNTED ON THE ANTENNA SWITCH CIRCUIT BOARD.
 - 600-699 PARTS MOUNTED ON THE OUTPUT FILTER CIRCUIT BOARD.
 - ALL RESISTORS ARE 1/4-WATT, 5% TOLERANCE, UNLESS OTHERWISE NOTED. RESISTOR VALUES ARE IN OHMS (K=1,000, M=1,000,000).
 - CAPACITORS LESS THAN 1 ARE IN μF (MICROFARADS), ALL OTHER CAPACITORS ARE IN pF (PICOFARADS) UNLESS OTHERWISE NOTED.
 - ARROWS AT CONTROLS INDICATE CLOCKWISE ROTATION AS VIEWED FROM THE SHAFT END OF THE CONTROL.
 - THIS SYMBOL INDICATES A DC VOLTAGE (±10%) MEASURED WITH A HIGH-INPUT IMPEDANCE VOLTMETER FROM THE POINT INDICATED TO CHASSIS GROUND UNDER THE FOLLOWING CONDITIONS.
 - A. THE TRANSMITTER IS UNKEYED.
 - B. MODE SWITCH IN THE XMIT POSITION.
 - THIS SYMBOL INDICATES A DC VOLTAGE (±10%) MEASURED AS IN STEP 5, UNDER THE FOLLOWING CONDITIONS.
 - TRANSMITTER KEYS OR MODE SWITCH IN THE TUNE POSITION.
 - THIS SYMBOL INDICATES A CIRCUIT BOARD GROUND.
 - THIS SYMBOL INDICATES A CHASSIS GROUND.
 - THIS SYMBOL INDICATES A CHASSIS-MOUNTED PART, SHOWN ON A CIRCUIT BOARD.
 - THIS SYMBOL INDICATES A CIRCUIT BOARD WIRING CONNECTION.
 - THIS SYMBOL INDICATES AN EDGE-MOUNTED CIRCUIT BOARD CONNECTION.
 - THIS SYMBOL, SHOWN ON THE HFO/MIXER CIRCUIT BOARD, INDICATES A TEMPORARILY MOUNTED CAPACITOR USED ONLY DURING ALIGNMENT.
 - REPLACE CAPACITORS ONLY WITH HEATHKIT PART NUMBERS SHOWN.
 - REFER TO THE "CIRCUIT BOARD X-RAY VIEWS" FOR THE PHYSICAL LOCATION OF PARTS.

VFO CIRCUIT BOARD



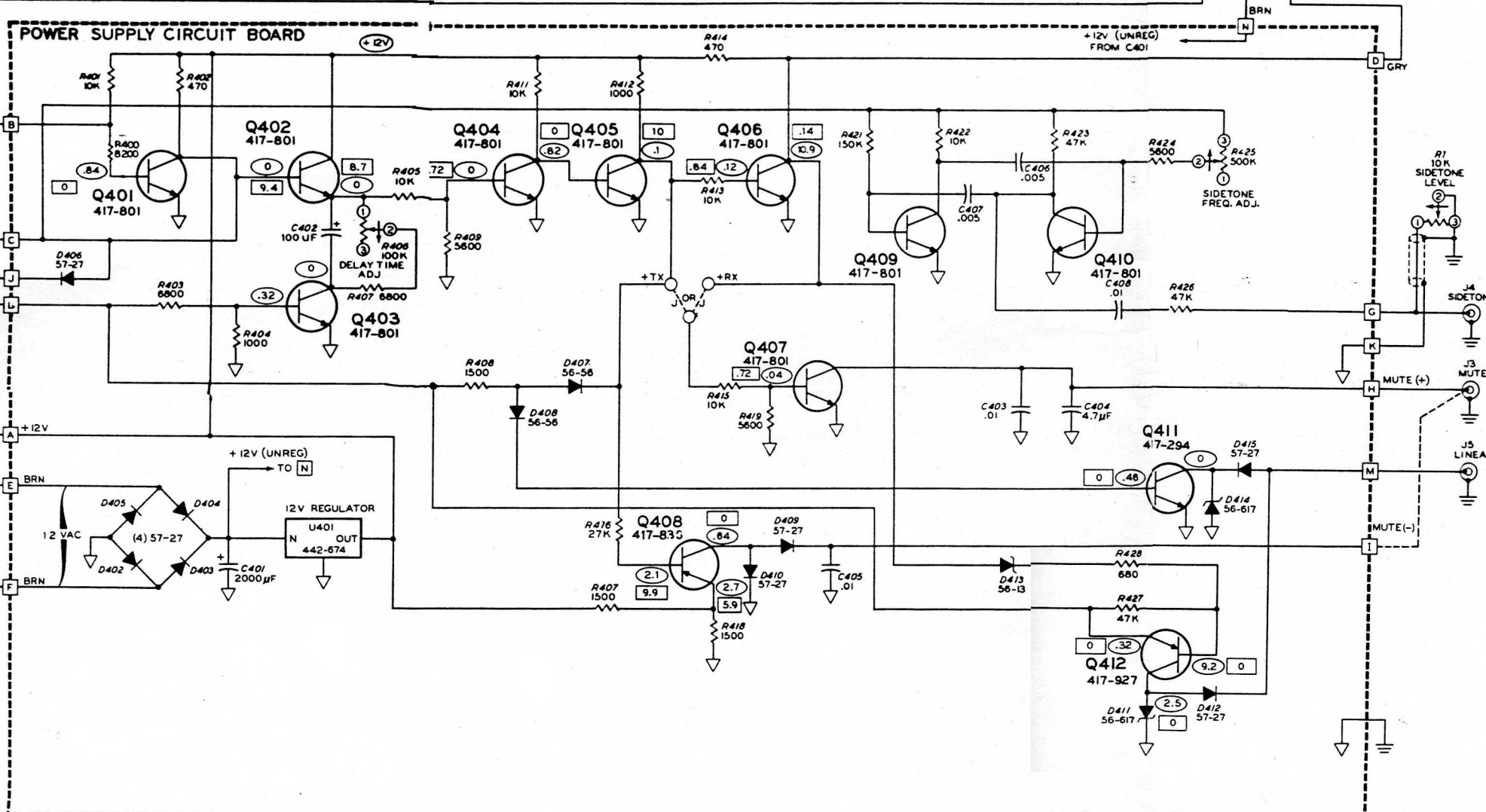
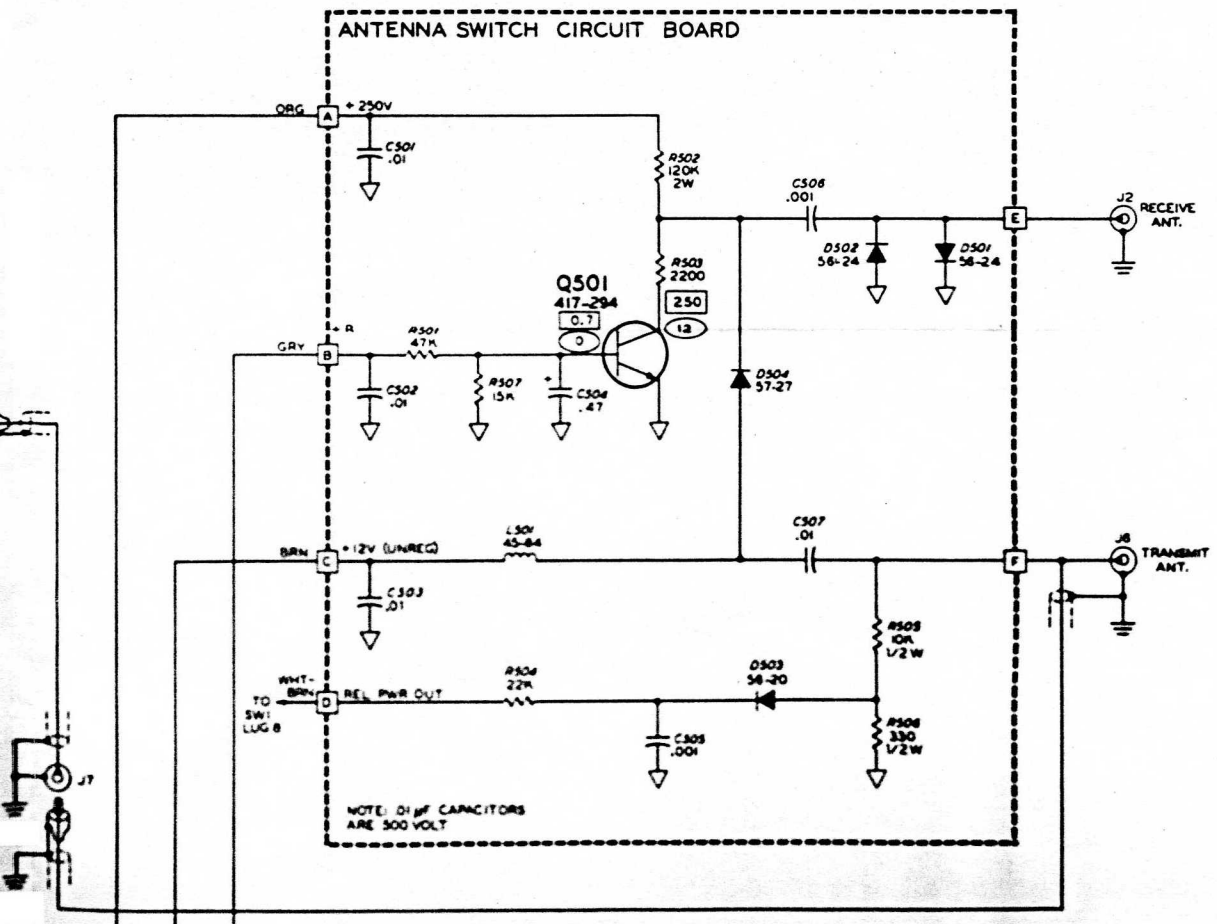
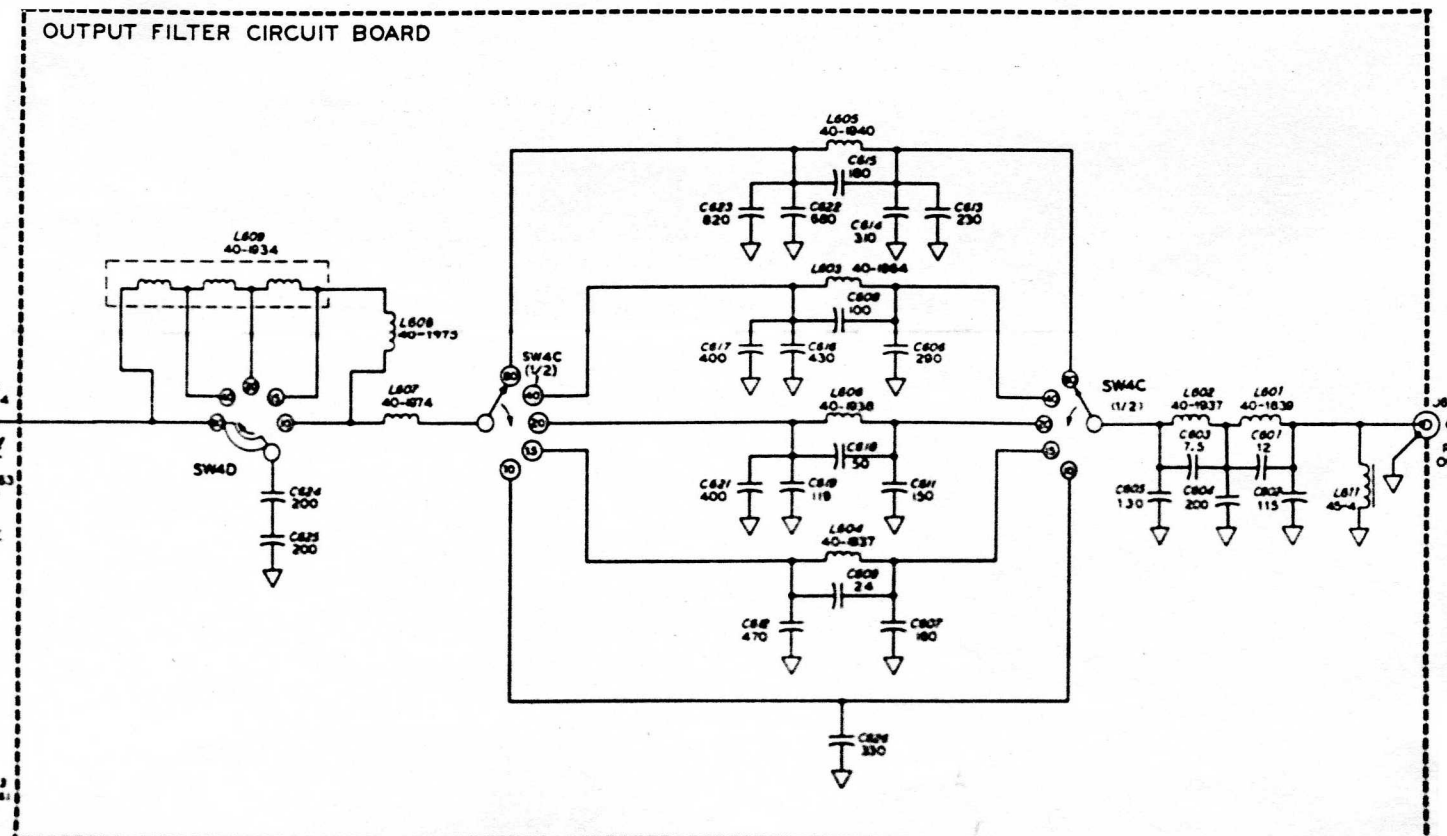
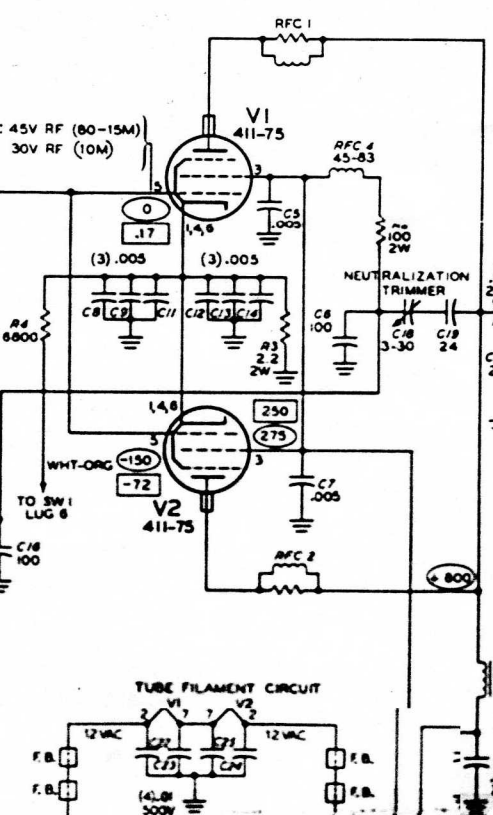
HFO/MIXER CIRCUIT BOARD



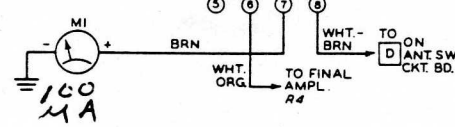
* SEE VOLTAGE CHART BELOW

① PWR.
 ② WHT.-BRN TO ON ANT. SW. CKT. BO.
 ③ FINAL I.P.L.

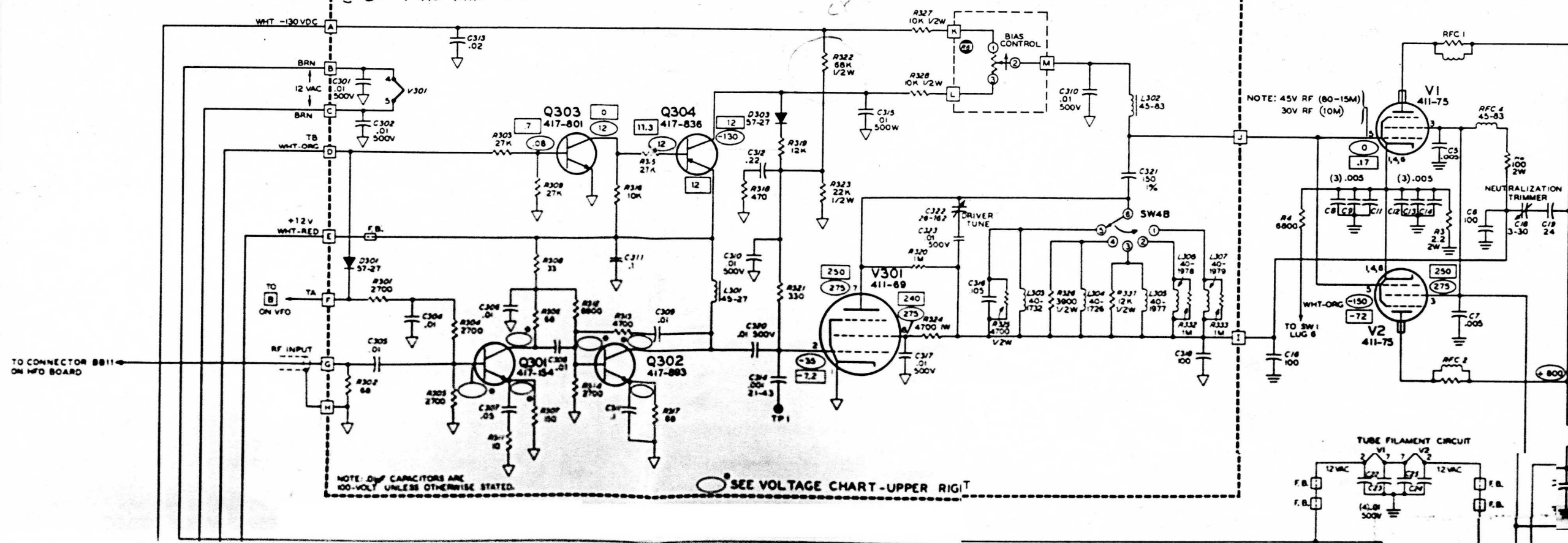
TO G ON DRIVER BOARD
 TO E ON DRIVER BOARD AND SW 2



CIRCUIT BOARD WIRED CONNECTION.
 N EDGE-MOUNTED CIRCUIT BOARD
 THE HFO/MIXER CIRCUIT BOARD,
 MOUNTED CAPACITOR USED



DRIVER CIRCUIT BOARD
SEE CHANGE SHEET
5-0-9 IN MANUAL.

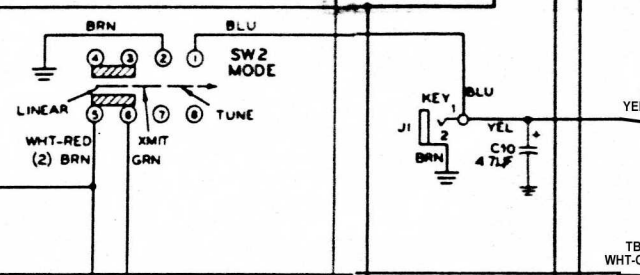


NOTE: .01μF CAPACITORS ARE 100-VOLT UNLESS OTHERWISE STATED.

SEE VOLTAGE CHART - UPPER RIGHT

TO CONNECTOR BB11 ON HFO BOARD

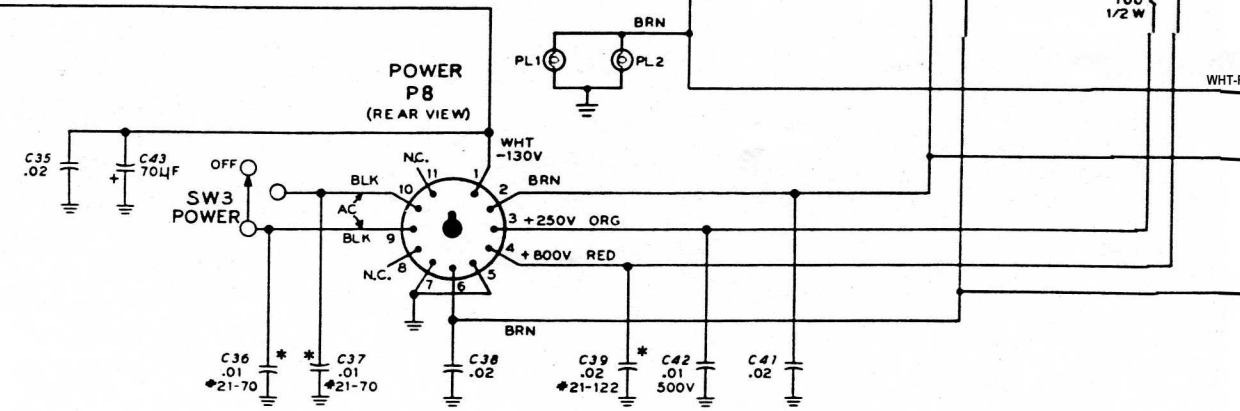
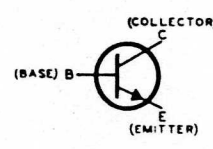
TO CONNECTOR BB7 ON HFO BOARD



**SCHEMATIC OF THE
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Part of 595-2240

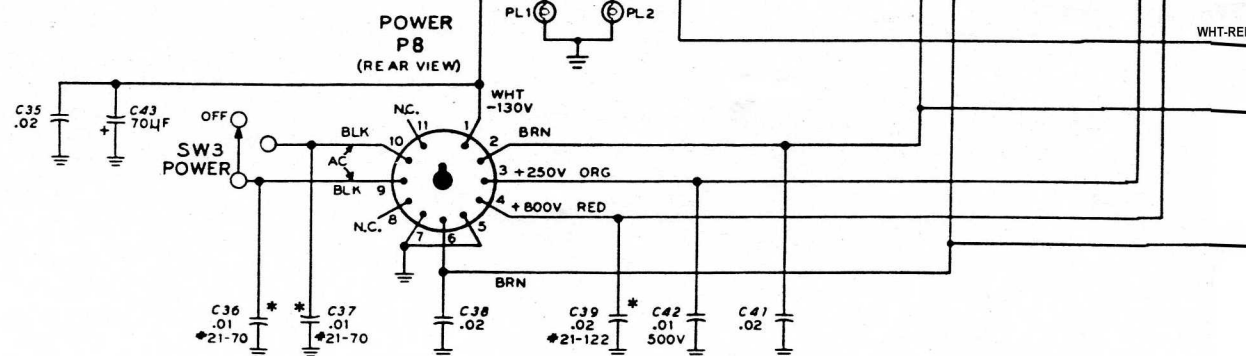
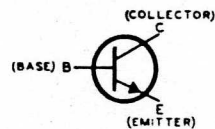
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SCHEMATIC OF THE HEATHKIT® CW TRANSMITTER MODEL HX-1681

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5. ○ THIS SYMBOL INDICATES A DC VOLTAGE (±10%) MEASURED WITH A HIGH-INPUT IMPEDANCE VOLTMETER FROM THE POINT INDICATED TO CHASSIS GROUND UNDER THE FOLLOWING CONDITIONS.

- A. THE TRANSMITTER IS UNKEYED.
- B. MODE SWITCH IN THE XMIT POSITION.

6. □ THIS SYMBOL INDICATES A DC VOLTAGE, (±10%) MEASURED AS IN STEP 5, UNDER THE FOLLOWING CONDITIONS.
TRANSMITTER KEYED OR
MODE SWITCH IN THE TUNE POSITION.

7. ▽ THIS SYMBOL INDICATES A CIRCUIT BOARD GROUND.

8. ≡ THIS SYMBOL INDICATES A CHASSIS GROUND.

9. ⊙ THIS SYMBOL INDICATES A CHASSIS-MOUNTED PART, SHOWN ON A CIRCUIT BOARD.

10. □ THIS SYMBOL INDICATES A CIRCUIT BOARD WIRED CONNECTION.

11. ≪ THIS SYMBOL INDICATES AN EDGE-MOUNTED CIRCUIT BOARD CONNECTION.

12. ○_C THIS SYMBOL, SHOWN ON THE HFO/MIXER CIRCUIT BOARD, INDICATES A TEMPORARILY MOUNTED CAPACITOR USED ONLY DURING ALIGNMENT.

13. ⚡* REPLACE CAPACITORS ONLY WITH HEATHKIT PART NUMBERS SHOWN.

14. REFER TO THE "CIRCUIT BOARD X-RAY VIEWS" FOR THE PHYSICAL LOCATION OF PARTS.