

NCX-A POWER SUPPLY

The NCX-A Power Supply is a conservatively rated supply capable of providing all necessary power to operate the National NCX-3 and NCX-5 transceivers. Included with the supply is a 4" x 6" oval speaker which is mounted behind the front panel. The supply is equipped with a power plug and 3' cable so that it may be connected directly to the transceiver, with no other power or speaker connections required.

CAUTION

THIS NCX-A POWER SUPPLY IS WIRED FOR USE WITH THE NCX-5 TRANSCEIVER WITHOUT MODIFICATION. IF THIS SUPPLY IS USED WITH THE NCX-3 TRANSCEIVER, IT WILL BE NECESSARY TO REMOVE RESISTOR R-9 (660 OHMS, 10 WATTS).

Referring to the schematic diagram, 117 or 234 VAC is supplied from the line cord through the power supply protection fuse. A pair of switching leads is connected through Pins 1 and 2 of the cable and plug. A bridge rectifier using diodes D1, D2, D3 and D4, swinging choke L1 and the filter capacitors C1 and C2 provide 700 volts dc to the final amplifier tubes in the transceiver. This high-voltage supply is capable of supplying 700 volts at 50 to approximately 300 ma. at better than 2% regulation from minimum to maximum load. In order to provide maximum efficiency in the NCX-A supply, the low-voltage dc is taken from the

center tap of the high-voltage winding. The low-voltage dc from the center tap is filtered by choke L2 and capacitor C3. It is dropped and further filtered by resistor R5, R6 and R9 and a filter capacitor inside the transceiver. This provides 280 volts at 200 ma. at terminal 9 of plug P1. Resistor R8 is a 30,000 ohm bleeder resistor to prevent shock hazard.

The output of the bias winding of T1 is rectified by diodes D5 and D6. This rectified output is filtered by the combination of resistor R7 and capacitor C4 and provides —80 volts at approximately 10 ma. for bias purposes to terminal 3 of the power plug P1.

NCX-A SUPPLY RATINGS

INPUT:

117 or 234 VAC $\pm 10\%$, 50-60 cycles/second	
150 Watts	receive
365 Watts	CW transmit

OUTPUT:

High Voltage	700 VDC at 50 to 300 ma.
Low Voltage	280 VDC at 200 ma.
Bias Voltage	—80 VDC at 10 ma.

DIMENSIONS

8 1/2" wide x 6 5/16" high x 12" deep

WEIGHT

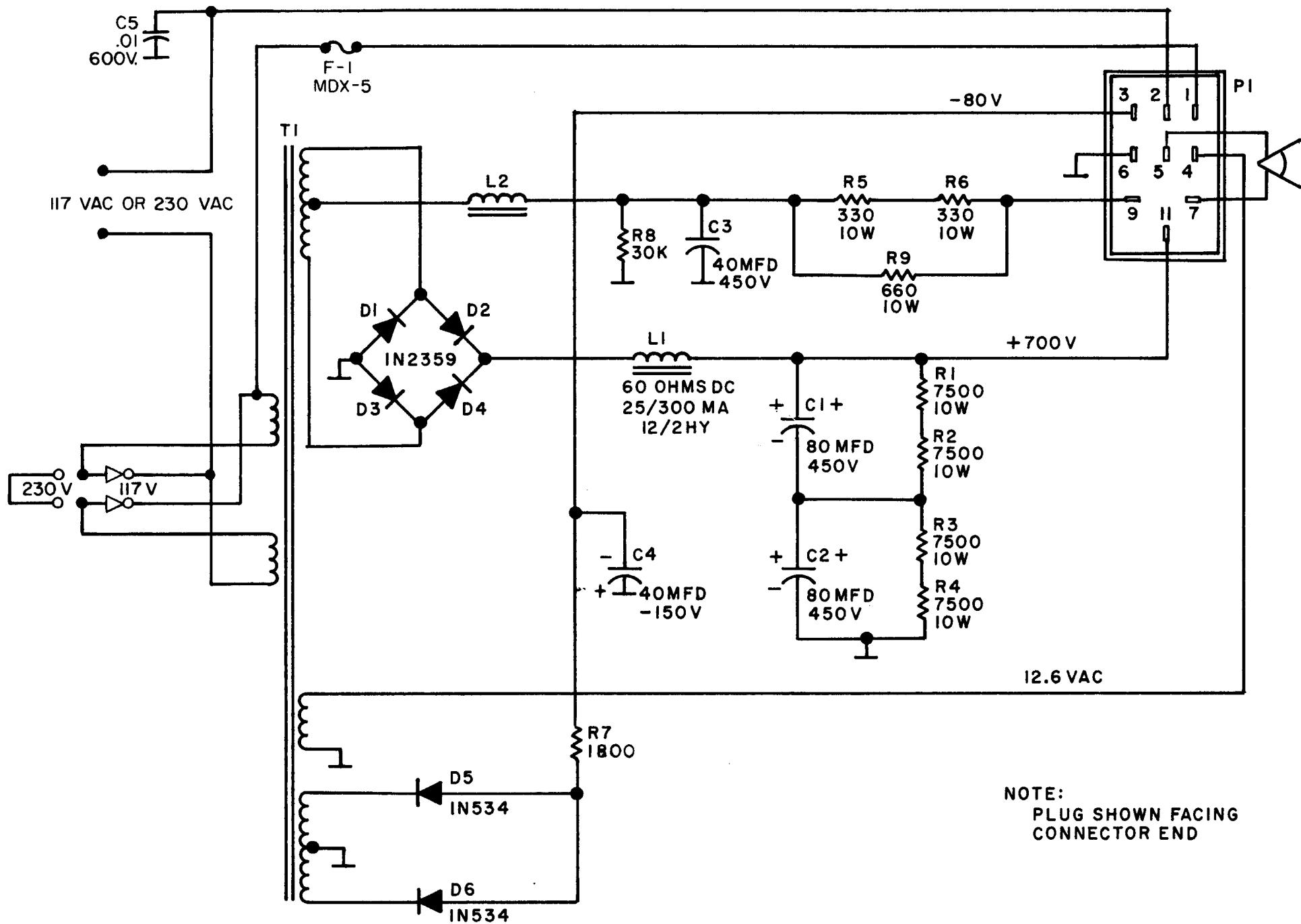
24 1/2 pounds

ALL READILY AVAILABLE RESISTORS AND CAPACITORS ARE OMITTED FROM THE FOLLOWING PARTS LIST, BUT ARE COMPLETELY IDENTIFIED ON THE SCHEMATIC.

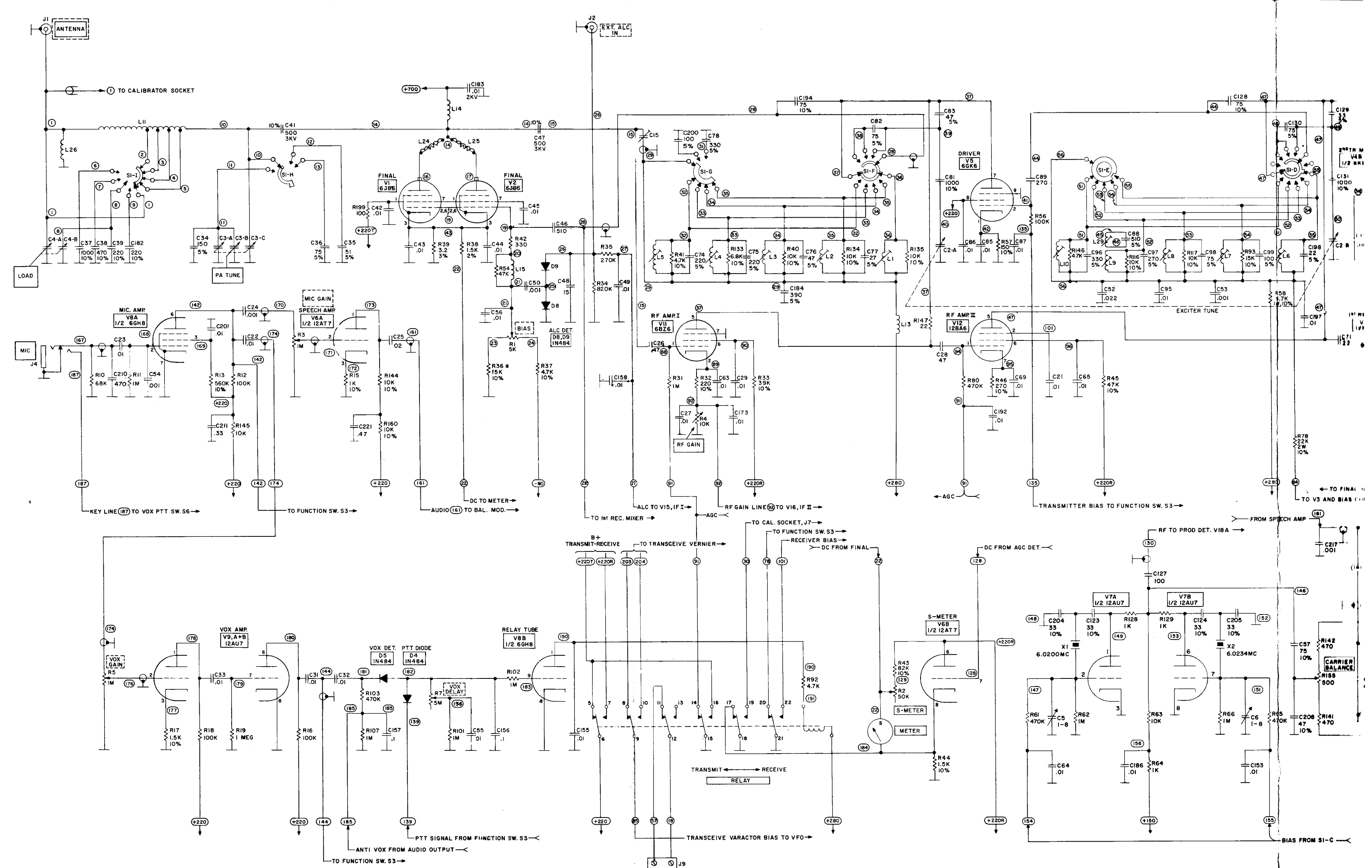
PARTS LIST

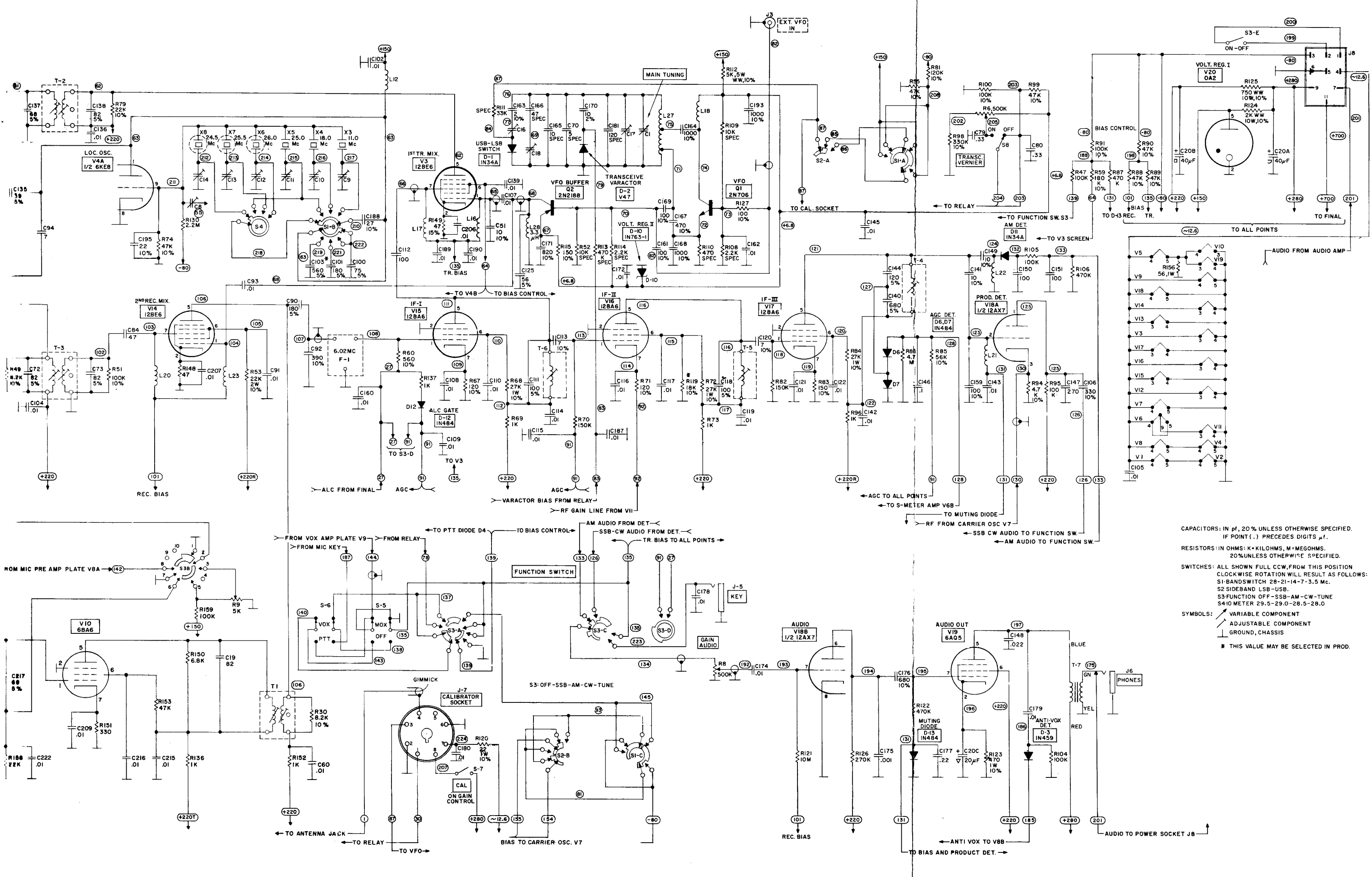
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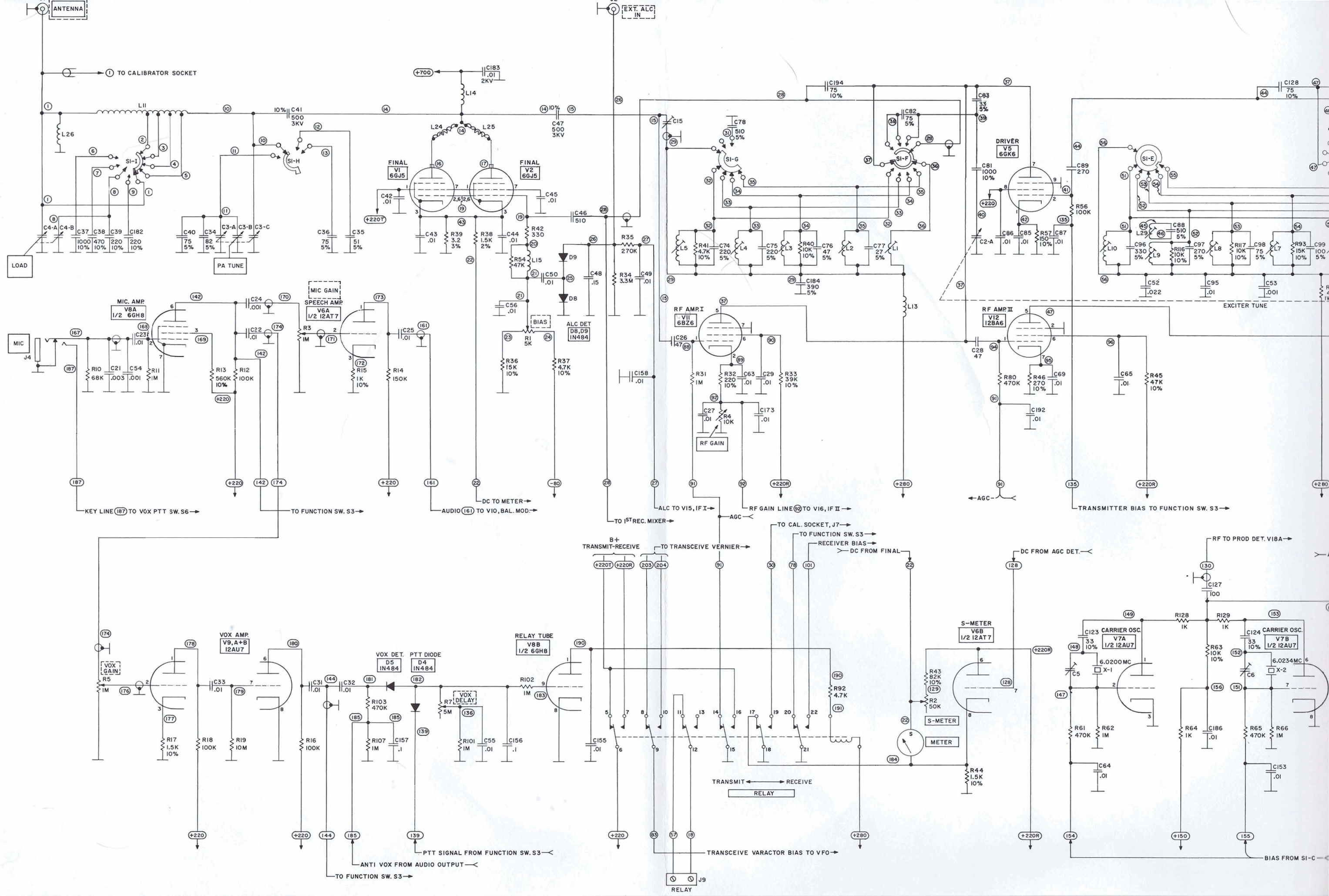
DESCRIPTION	PART NUMBER	
Plug, Jones, Female	A50828	
Strain Relief Bushing	A50892-1	
Capacitor, Electrolytic, 40 μ fd 450 VDCW	C19458-7	
Capacitor, Electrolytic, 40 μ fd 150 VDCW Tubular	C19411-3	
Capacitor, Electrolytic, 80 μ fd 450 VDCW Tubular	C19411-4	
Fuse Holder	A50862	
Transformer, Power	C51325	
Choke, Swinging	B51781	
Choke, Filter	B50864	
Switch, Transfer	B27662	
Rectifier, Silicon 1600 PIV	A50876	
Similar to IN2359		
Rectifier, Silicon, 500 PIV	A50874	
Similar to IN 534		
Resistor, 7,500 ohms, 5 w $\pm 10\%$	B17436-13	
Resistor, 30,000 ohms, 5 w $\pm 10\%$	B17436-14	
Resistor, 330 ohms, 10 w $\pm 10\%$	B17436-1	
Resistor, 660 ohms, 10 w $\pm 10\%$	B17436-22	
Line Cord	B22132-6	
Cable, 8 — Conductor	B50877	
Front Panel, Complete	D50875-2	
Speaker, 6" oval	C50882-3	
Cabinet, Complete	D50870-8	
Foot, Extension	A50850	
Foot, Rubber	A50851	

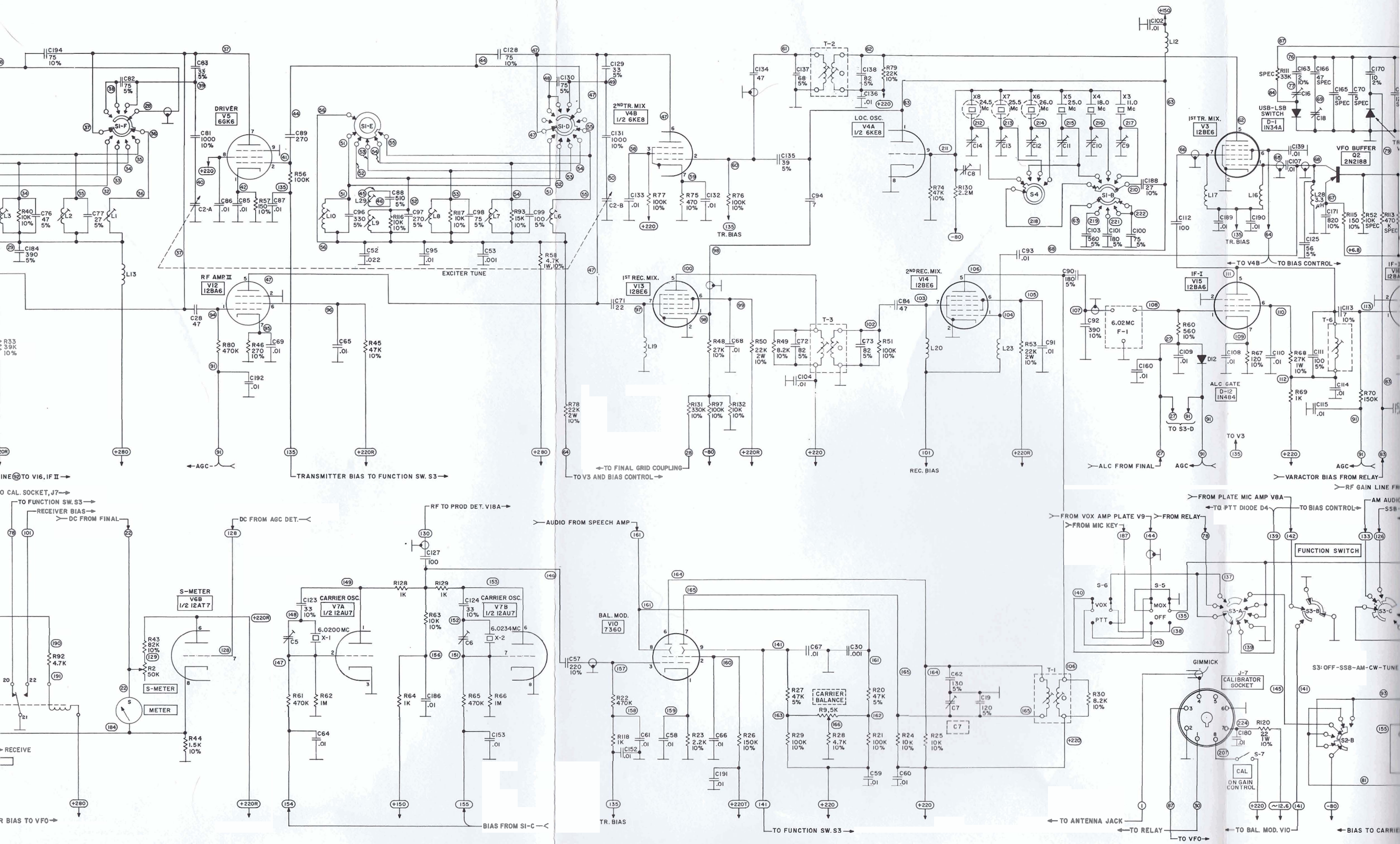


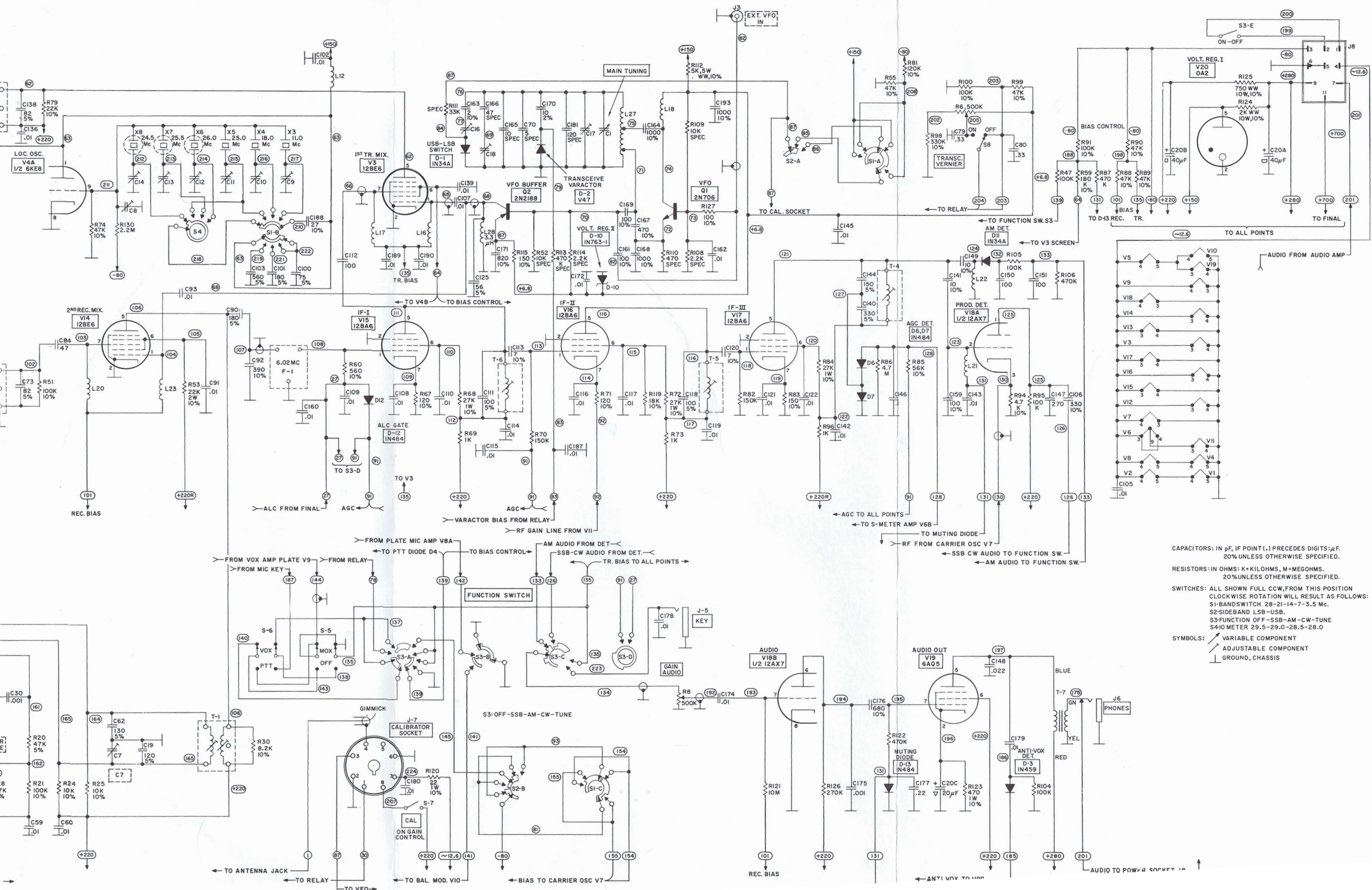
NCX-A Power Supply Schematic











CAPACITORS: IN P.F. IF POINT (.) PRECEDES DIGITS; μ F. 20% UNLESS OTHERWISE SPECIFIED.

RESISTORS: IN OHMS: K=KILOHMS, M=MEG OHMS. 20% UNLESS OTHERWISE SPECIFIED.

SWITCHES: ALL SHOWN FULL CCW. FROM THIS POSITION CLOCKWISE ROTATION WILL RESULT AS FOLLOWS:
 S1-BANDSWITCH 28-21-14-7-3.5 Mc.
 S2-SIDE BAND LSB-USB.
 S3-FUNCTION OFF-SSB-AM-CW-TUNE
 S4-10 METER 29.5-29.0-28.5-28.0

SYMBOLS:
 VARIABLE COMPONENT
 ADJUSTABLE COMPONENT
 GROUND, CHASSIS