

TUNE-UP INSTRUCTIONS FOR XL-150 - 450 Base

Pre-Hook-up Instructions: Before attempting to operate your Varmint Linear there are a few things that must be done **First**.

1. Be sure that your antenna is capable of handling the power rating of the linear. Varmint linears are rated in RMS watts. This means actual watts going to your antenna. Therefore, it is necessary to be sure of the rating of your antenna.
2. Be sure that your antenna has an SWR below 1.8:1. There is only one way of getting SWR out of an antenna, which is by adjusting the antenna itself. Cutting coax is **not** the proper way to get a low SWR.
3. Check your line voltage. The Varmint Linears are rated @ 120 VAC. If your line voltage is below 120 VAC, maximum power can not be obtained.
4. Check your drive power. The Varmint Linears are rated @ 4 Watts RMS drive power. Any less than this will result in lower power. The unit should not be driven with more than 6 watts.

Hook-Up Instructions:

1. Install RG 58 A/U coax jumper from radio to linear coax connector marked "Trans".
2. Hook antenna coax to linear connector marked "ant".
3. Plug unit into wall outlet. Do not use light weight extension cords.

NOTE: FCC regulations prohibits modification or operation of this unit between 24 and 35 MHz.

Tune-up Instructions:

1. Set final tuning knobs and driver plate knob to straight up positions.
2. Turn unit on, high power super modulation switch in high position, SSB switch in AM position, and stand-by switch in transmit position. Allow 5 minutes warm-up time.
3. If you have a watt meter inline for tuning, tune all controls for maximum output; however, if watt meter is to be removed from line, retuning will be necessary by the instructions on linear.
4. Key mic and tune final plate for maximum brightness of the RF tuning indicator lamp. Unkey.
5. Key mic and tune final load for maximum brightness of the RF tuning indicator lamp. Unkey.
6. Key mic and tune driver plate for maximum meter indication on unit. Unkey.
7. Repeat steps 4, 5 & 6 until maximum is obtained.
8. Remove cover. **CAUTION!!!! HAZARDOUS HIGH VOLTAGE PRESENT!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!**
Use plastic tuning wand with metal blade tip for tuning input and driver load. Be sure wand is long enough to keep hands above top of unit.
9. Tune input tuning trimmer for maximum meter indication [located in left rear corner inside].
10. Tune driver load for maximum meter indication on unit [located just behind final plate inside].
11. Replace cover and repeat steps 4, 5 and 6 again.
12. Unit is now ready for SSB operation. For AM operation, detune final load clockwise until meter on unit drops .05 divisions and repeak final plate for maximum brightness of RF tuning indicator.
13. For SSB operation, just flip switch to SSB and turn SSB delay clockwise until relays do not chatter with normal speech into mic.
14. For Super Modulation operation, just drop switch to Super Mod and talk; no retuning necessary.
15. For Low Power operation, just drop switch to Low PWR and talk, no retuning necessary. Also High and Super Mod operation is the same.
16. If unit is left on but not used over long periods of time, turn to stand-by. You can also transmit through the linear without amplification when on stand-by.
17. Brewer Labs, Inc. manufactures an external receive amplifier which is compatible with the XL-150 - XL-450 Base Amplifiers. Power provisions for receive amplifier comes from 13.8 VDC jack on rear of linear. Hook-up instructions are included with receive amplifier which will also work mobile. They may be ordered through Brewer Labs, Inc., P.O. Box 12, Porter, Oklahoma, 74454, 918-483-3825 or check your local Varmint dealer. Available now.

This schematic was provided by Stovebolt
For CBTricks.com

PARTS LIST FOR VARMINT MODEL XL-150 THRU XL-450

Part NO.	Description	Price
C1, C2, C3	2.2 UFD @ 16 VDC electrolytic	1.35
C4	22 UFD @ 16 VDC electrolytic	1.35
C5, C6	.01 @ 1.6 KV disc	.65
C7	Arco 303 trimmer	2.25
C8	.001 @ 3 KV disc	.65
C9	.1 @ 100V mylar	1.20
C10	.01 @ 1KV disc	.65
C11	Arco 304 trimmer	2.25
C12	.01 @ 1 KV disc	.65
C13	.1 2 100 V mylar	1.20
C14	.01 @ KV disc	.65
C15, C16	.001 @ 100V disc	.35
C17	220 UFD @ 25VDC electrolytic	1.65
C18	2111 Variable Capacitor	6.95
*C19	9pf (250 5pf) (350-4.7pf) (450-3.3pf)	.35
*C20	HF-50 variable capacitor (250-450- MC-50 variable)	6.45
C21	.0068 5 KV disc	.95
D1	1N662 or equivalent	.85
L1, L2	#1892 bulb	.30
J1, J2	50239 connector	.75
L3	3PDT 12 VDC 10 A	7.95
L4	56 UH	.95
L5	Z-28	2.25
L6	Z-28	2.25
L7	For 15 meters (150-12 turns) 250-350-11 turns) (450-10 turns)	.75
L8	56 UH	.95
L9	3/4" diameter tap @ 1/2T	.75
M1	56 UH	.95
Q1	0-1 ma	9.95
Q2	2N3416	1.20
R1	2N3417	1.20
R2, R3	47K 1/2 watt	.30
R4	1.2 K 1/2 watt	.30
R5	390 ohm 1/2 watt	.30
R6	4.7 K 1/2 watt	.30
R7	390 ohm 1/2 watt	.30
R8	390 ohm 1/2 watt	.30
R9	10 K pot	.30
R10	Z X 15 K 1/2 watt	1.95
R11	100 1 watt 3 T around	.30ea.
R12	150 ohm 2 watt 2T around	.50
R13	100 ohm pot	1.10
R14	2.7 ohm 1/2 watt	.30
R15	500 ohm 5 watt (10 watt on 450)	.90/1.40
S1, S2, S3	180 ohm 2 watt	.50
V1	SPST toggle	1.25
V2	6KV6A	9.95
	6R6 or 6LF6 sylvania (250-350 has two) (450 has three)	11.95ea.

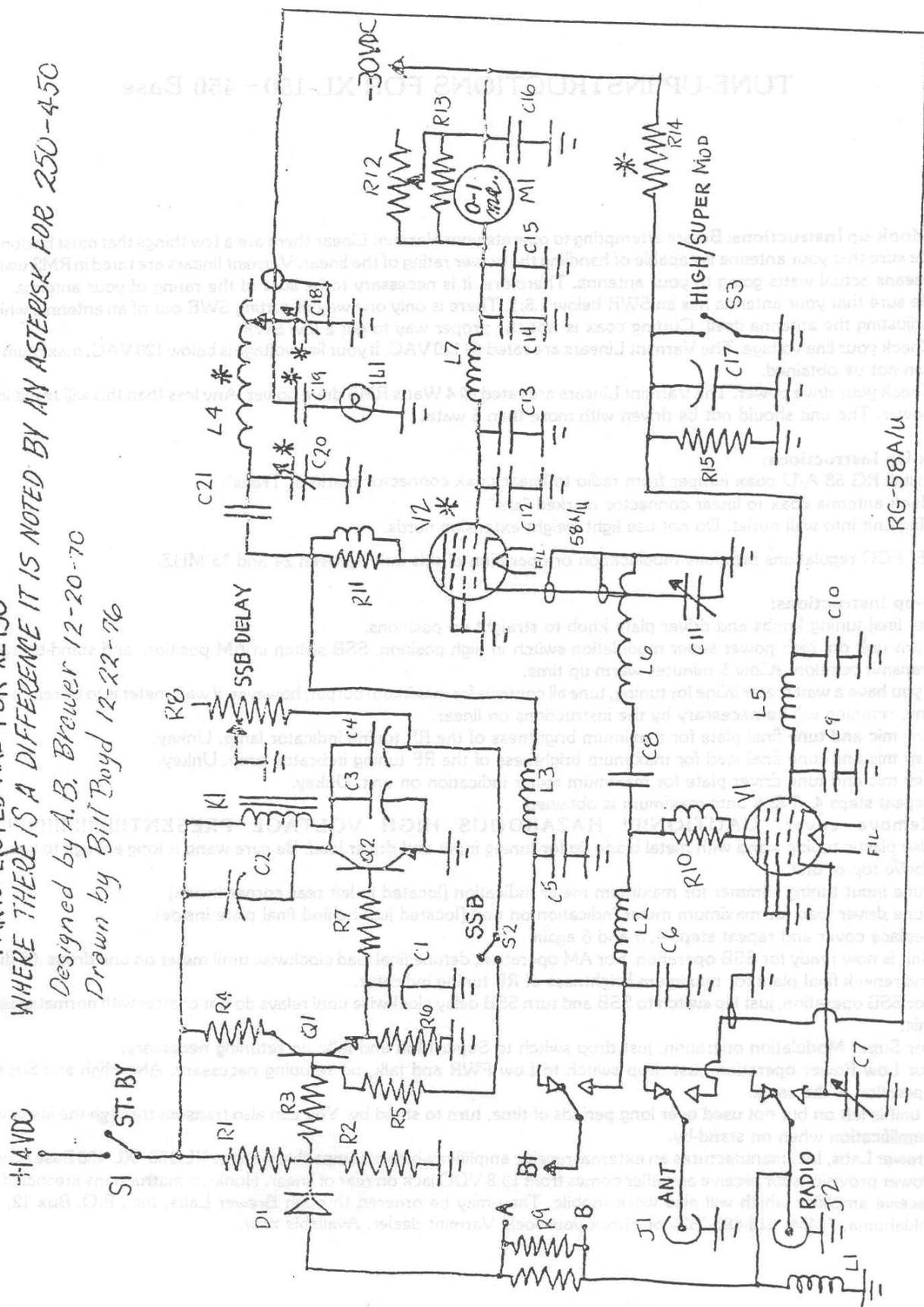
Vacuum Tube Model XL-150 thru 450

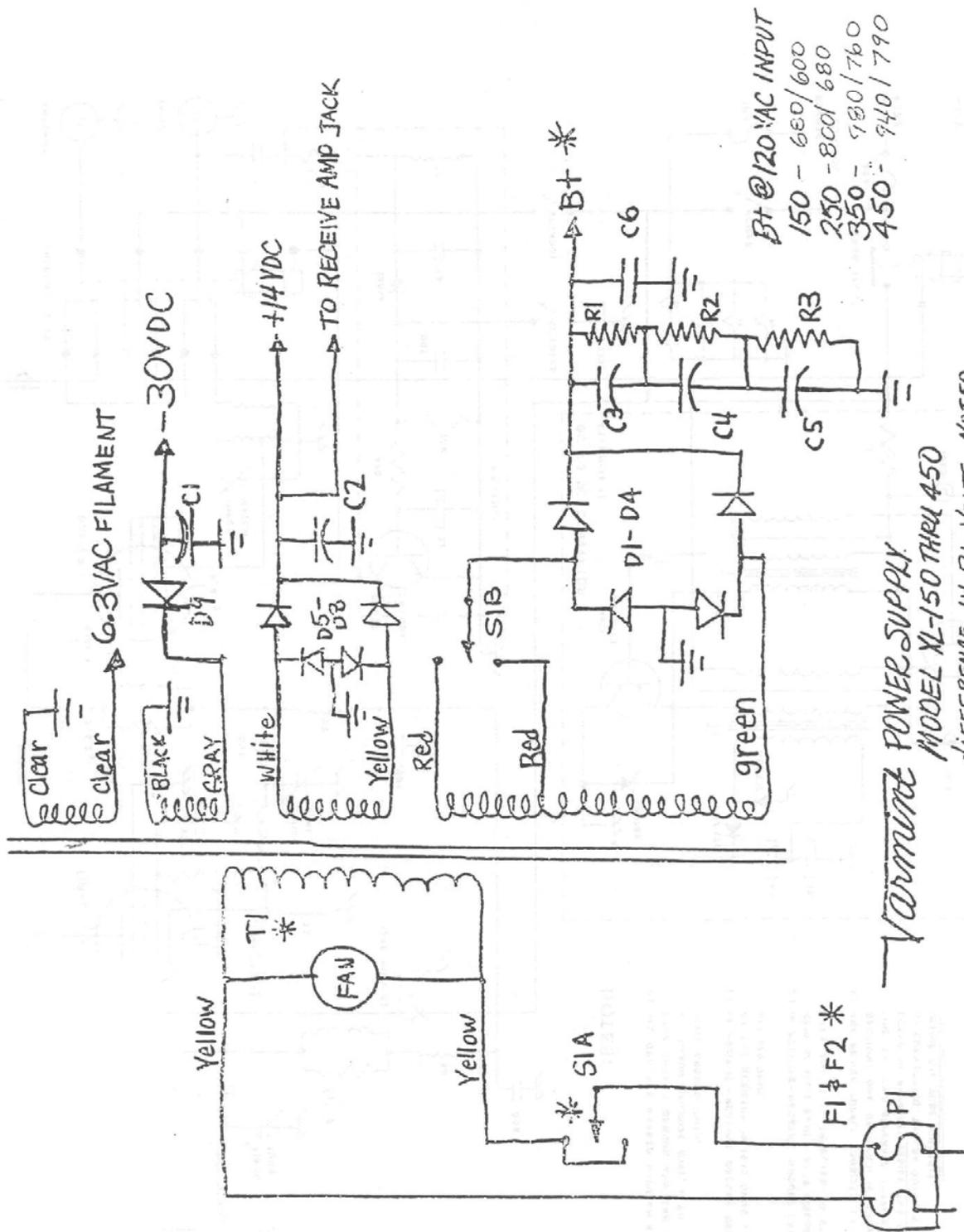
PARTS LISTED ARE FOR XL-150

WHERE THERE IS A DIFFERENCE IT IS NOTED BY AN ASTERISK FOR 250-450

Designed by A.B. Brewer 12-20-70

Drawn by Bill Boyd 12-22-76





B+ @ 120 VAC INPUT
 150 - 650/600
 250 - 800/680
 350 - 930/760
 450 - 940/790

Varmint POWER SUPPLY
 MODEL XL-150 THRU 450
 DIFFERENCE IN B+ VOLTS NOTED
 DRAWN 12-22-76 Bill Boyd