

be based on the modulating impedance of the Class C amplifier as described earlier in this chapter.

The choke is a "television" power supply filter choke modified to obtain the desired inductance by widening the air gap, using paper and cardboard spacers. Measured values of inductance with various air gaps are shown in Table 9-II. In reassembling the choke do not use the "finishing" laminations that overlap the I sections on each side of the core. The choke in the photograph is held together by clamps made from tempered Presdwood. The Presdwood mounting also serves to insulate the core from the chassis.

Air gap, inches	Inductance, henrys
0.003	0.71
0.010	0.62
0.020	0.48
0.025	0.46
0.050	0.36
0.075	0.31
0.100	0.28
0.125	0.26
0.15	0.24

**Operating Data**

With sine-wave input, the plate current at full output is 240 ma., when the load is adjusted to the appropriate value for the plate voltage in use, as listed earlier. This maximum current is practically the same at all plate voltages listed, since the plate dissipation rating of the 6146 does not permit using a bias value that gives a very large value of no-signal plate current. The grid bias

should be adjusted for a total plate current that represents a no-signal input of slightly under 50 watts at the particular plate voltage used.

The voltage gain from the microphone input to the modulator grids is such that full output can be secured with an input voltage of about 3 millivolts, r.m.s.

(Originally described in *QST* for December, 1954.)

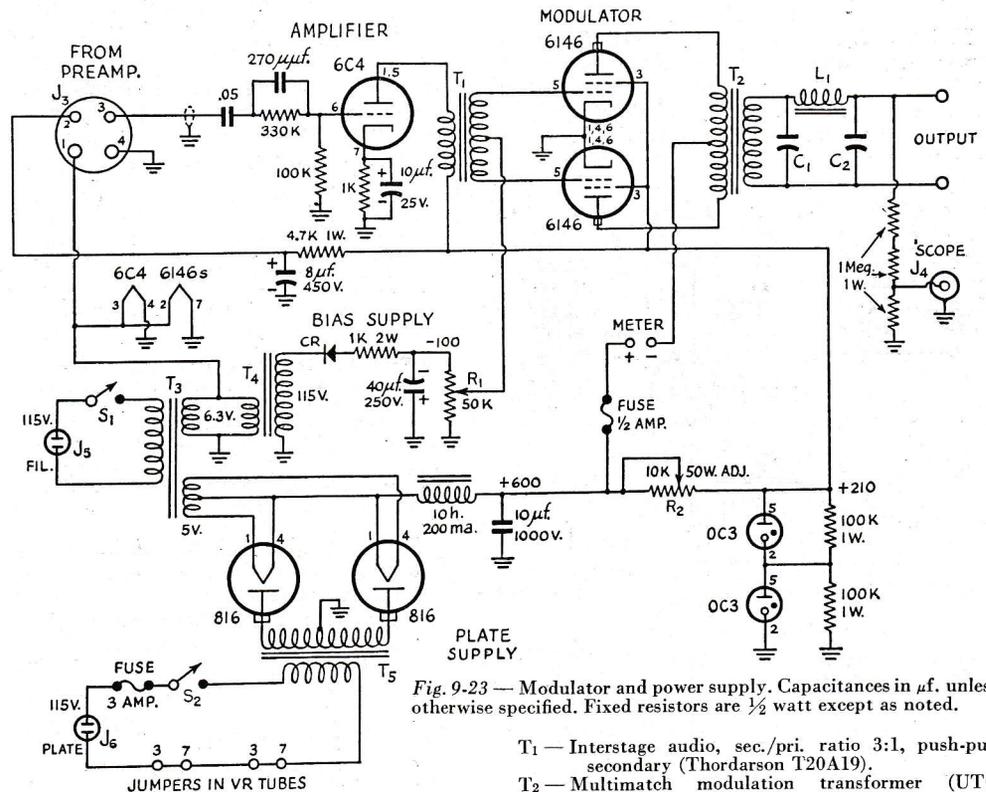


Fig. 9-23 — Modulator and power supply. Capacitances in  $\mu$ f. unless otherwise specified. Fixed resistors are  $\frac{1}{2}$  watt except as noted.

- C<sub>1</sub>, C<sub>2</sub> — 1600-volt paper. See text.
- R<sub>1</sub> — (Bias control) 50,000-ohm potentiometer, preferably wire-wound.
- R<sub>2</sub> — 10,000 ohms, 50 watts, adjustable.
- L<sub>1</sub> — See text.
- CR — Selenium rectifier, 20 ma. or larger, for 115 volt operation.
- J<sub>3</sub> — Four-prong connector, chassis mounting, female.
- J<sub>4</sub> — Phono connector.
- J<sub>5</sub>, J<sub>6</sub> — 115-volt connector, chassis mounting, male.
- S<sub>1</sub>, S<sub>2</sub> — S.p.s.t. toggle switch.

- T<sub>1</sub> — Interstage audio, sec./pri. ratio 3:1, push-pull secondary (Thordarson T20A19).
- T<sub>2</sub> — Multimatch modulation transformer (UTC CVM-2 or CVM-3, depending on audio output power level).
- T<sub>3</sub> — Filament transformer, 6.3 volts at 8 amp.; 5 volts at 3 amp. (Triad F-30A).
- T<sub>4</sub> — Filament transformer, 6.3 volts at  $\frac{1}{2}$  amp. (Triad F-14X).
- T<sub>5</sub> — Plate transformer. For 500 volts d.c.: 1235 v. c.t., 310 ma. (Triad P-7A); for 600 volts d.c.: 1455 v. c.t., 310 ma. (Triad P-11A); for 750 volts d.c.: 1780 c.t., 310 ma. (Triad type P-13A).

79  
..