

Fig. 6-70—Circuit of the all-purpose 813 amplifier. Unless otherwise designated, capacitances are in μf . Capacitors marked with polarity are electrolytic. Other capacitors not listed below should be ceramic. Resistances are in ohms.

- B₁—Ventilating blower, 100 c.f.m. (surplus).
C₁—250- μ mf. variable (Hammarlund MC-250-M).
C₂—1000- μ mf. mica.
C₃—Neutralizing capacitor, 10 μ mf. maximum (Johnson 159-250).
C₄—150- μ mf. 6000-volt variable (Johnson 153-12).
C₅—100- μ mf. 5000-volt fixed capacitor (surplus vacuum Ampere VC-100, or two 200- μ mf. 5000-volt micas in series).
CR₁—130-volt 50-ma. selenium rectifier.
J₁, J₂—Coaxial receptacle (SO-239).
K₁—Screen overload relay, 2500 ohms, 7 ma. (Potter & Brumfield KCP5).
L₁—3.5 Mc.—32 turns No. 20, 1-inch diam., 2 inches long, 5-turn link (B&W 3015 or Airdux 816).
—7 Mc.—18 turns No. 20, 3/4-inch diam., 1 1/2 inches long, 3-turn link (B&W 3011 or Airdux 616).

- 14 Mc.—10 turns No. 18, 5/8-inch diam., 1 1/4 inches long, 2-turn link (B&W 3006 or Airdux 508).
- 21 Mc.—7 turns No. 18, 3/8-inch diam., 7/8 inch long, 1-turn link (B&W 3006 or Airdux 508).
- 28 Mc.—5 turns No. 18, 5/8-inch diam., 5/8 inch long, 1-turn link (B&W 3006 or Airdux 508).
- L₂—3 turns 3/16-inch copper tubing, 1-inch diam., 1 3/4 inches long.
- L₃—15-μh. variable inductor (B&W 3852).
- L₄—See text.
- M₁, M₂—3 1/2-inch d.c. milliammeter.
- R₁—39 ohms, 1/2-watt carbon.
- R₂—3300 ohms, 2 watts.
- R₃—15,000 ohms, 10 watts with slider.
- R₄—2000-ohm 4-watt variable resistor (Mallory M2-MPK).
- RFC₁, RFC₃—2.5-mh. r.f. choke (National R-50 or similar).

- RFC₂—Plate r.f. choke (National R-175-A).
RFC₄—V.h.f. choke (National R-60).
S₁—Rotary switch: 3 wafers, 3 poles, 11 positions per pole, 5 positions used (Centralab PA-0 wafers, PA-301 index).
S₂—Rotary switch: single pole, 10 positions, progressively shorting, 6 positions used (Centralab PA-2042).
S₃—Rotary switch: s.p.s.t., ceramic (antenna link switch from BC-375 tuning unit, or Communications Products Model 65).
S₄—S.p.s.t. toggle switch.
S₅—D.p.d.t. rotary switch (Centralab 1405).
T₁—Filament transformer: 10 volts, 5 amp. (Thordarson 21F18).
T₂—Bias transformer: 120 volts, 50 ma.; 6.3 volts, 2 amp., filament winding not used; could be used for pilot light (Merit P-3045).