TABLE 12-III

Approx. D.C. Output		*Transformer Rating*		L_2 *H.*	*Voltage Rating* C_1, C_2	*R Watts*	*Approx. Bleeder-Load Output Volts*
Volts	*Ma.* [1]	*Approx. V.R.M.S.*	*Ma.*				
400/500	230	520/615	250	4	700	20	440/540
600/750	260	750/950	300	8	1000	50	650/800
1250/1500	240	1500/1750	300	8	2000	150	1300/1600
1250/1500	440	1500/1750	500	6	2000	150	1315/1615
2000/2500	200	2400/2900	300 [4]	8	3000	320 [2]	2050/2550
2000/2500	400	2400/2900	500	6	3000	320 [2]	2065/2565
2500/3000	380	2900/3450	500 [5]	6	4000	500 [3]	2565/3065

[1] Balance of transformer current rating consumed by bleeder resistor.
[2] Use two 160-watt, 12,500-ohm units in series.
[3] Use five 100-watt, 5000-ohm units in series.
[4] Regulation will be somewhat better with a 400- or 500-ma. choke.
[5] Regulation will be somewhat better with a 550-ma. choke.

voltages for the rectifier and other tubes in the receiver or low-power transmitter. Transformers are available with ratings to 1200 volts at 200 ma.

Fig. 12-14 shows a two-section fileter with capacitor input. However, depending upon the maximum hum level that may be allowable for a particular application, the last capacitor and choke may not be needed. In some low-current applications, the first capacitor alone may provide adequate filtering. Table 12-II shows the approximate full-load and bleeder-load output voltages and a.c. ripple percentages for several representative sets of components. Voltage and ripple values are given for three points in the circuit—Point A (first capacitor only used), Point B (last capacitor and choke omitted), and Point C (complete two-section filter in use). In each case, the bleeder resistor R should be used across the output.

Table 12-II also shows approximate output voltages and ripple percentages for choke-input filters (first filter capacitor omitted), for Point B (last capacitor and choke omitted), and Point C (two-section filter, first capacitor omitted).

Actual full-load output voltages may be somewhat lower than those shown in the table, since the voltage drop through the resistance of the transformer secondary has not been included.

Table 12-III shows typical values for representative higher-voltage supplies, based on commonly available components. A full-wave rectifier circuit and two-section filter with swing-choke input are assumed. A pair of 816 rectifiers could be used in the 400/500-volt supply; the others would require 866A or 3B28 rectifiers. L_2 is the smoothing choke, C_1 and C_2 the filter capacitors, and R the bleeder resistor. Ripple in the output of the first filter section will be approximately 5 per cent with a 4-μf. capacitor, or 10 per cent with a 2-μf. capacitor. Transformers made for amateur service are predominantly designed for choke-input filters; the d.c. output current rating of such transformers should be decreased about 30 per cent when used with capacitor-input filters.

Fig. 12-15—A—A series voltage-dropping resistor.

B—Simple voltage divider.

$$R_2 = \frac{E_1}{I_2};\ R_1 = \frac{E - E_1}{I_1 + I_2}.$$

I_2 must be assumed.

C—Multiple divider circuit.

$$R_3 = \frac{E_2}{I_3};\ R_2 = \frac{E_1 - E_2}{I_2 + I_3};\ R_1 = \frac{E - E_1}{I_1 + I_2 + I_3}.$$

I_3 must be assumed.