

For example, suppose it is desired to operate two 6L6GC's in class A<sub>1</sub> push-pull, fixed bias, with a plate voltage of 200 volts. The nearest published operating conditions for this class of service are for a plate voltage of 250 volts. The operating conditions for the new plate voltage can be determined as follows:

The voltage conversion factor,  $F_v$ , is equal to 200/250 or 0.8. The dashed lines on the nomograph of Fig. 44 indicate that for this voltage ratio  $F_1$  is approximately 0.72,  $F_p$  is approximately 0.57,  $F_r$  is 1.12, and  $F_{gm}$  is approximately 0.892. These factors may be applied directly to operating values shown in the tube data, or to values calculated by the methods described previously.

Because this method for conversion

of characteristics is necessarily an approximation, the accuracy of the nomograph decreases progressively as the ratio  $E_{des}/E_{pub}$  departs from unity. In general, results are substantially correct when the value of the ratio  $E_{des}/E_{pub}$  is between 0.7 and 1.5. Beyond these limits, the accuracy decreases rapidly, and the results obtained must be considered rough approximations.

The nomograph does not take into consideration the effects of contact potential or secondary emission in tubes. Because contact-potential effects become noticeable only at very small dc grid-No. 1 (bias) voltages, they are generally negligible in power tubes. Secondary emission may occur in conventional tetrodes, however, if the plate voltage swings below the grid-No. 2 voltage. Consequently, the conversion

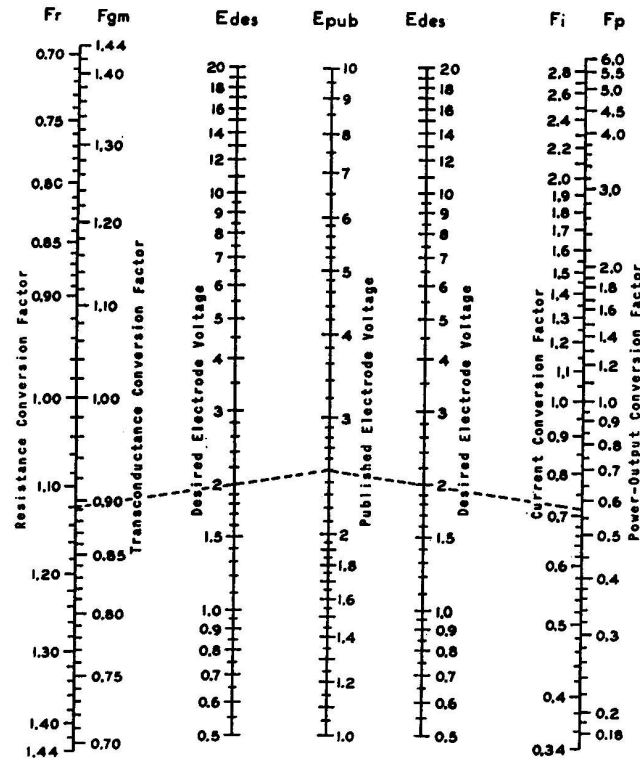


Fig. 44—Nomograph of tube conversion factors.