



APPLICATION

MECHANICAL

Mounting—The 152TH must be mounted vertically, base down or up. The plate and grid leads should be flexible, and the tube must be protected from vibration and shock.

Cooling—Heat Dissipating Connectors (Eimac HR-5 and HR-6 or equivalent) must be used at the plate and grid terminals of the 152TH. Forced-air cooling is not required in properly designed equipment operating at frequencies below 40 Mc. If the free circulation of air around the tube is restricted, a small fan or centrifugal blower should be used to provide additional cooling.

The temperature of the plate and grid seals must not be allowed to exceed 225° C. One method of measuring these temperatures is by the use of "Tempilaq," a temperature-sensitive lacquer manufactured by the Tempil Corporation, 132-34 West 22nd St., New York 11, N. Y.

ELECTRICAL

Filament Voltage—The filaments of the 152TH may be operated either at 10.0 volts when connected in series or at 5.0 volts when connected in parallel (see basing diagram). For maximum tube life the filament voltage should be maintained at the rated value. Variations must not be allowed to exceed $\pm 5\%$.

Bias Voltage—When grid-leak bias is used, suitable protective means must be provided to prevent excessive plate dissipation in the event of loss of excitation, and the grid-leak resistor should be made adjustable to facilitate maintaining the bias voltage and plate current at the desired value from tube to tube.

Grid Dissipation—The power dissipated by the grid of the 152TH must not exceed 30 watts. Grid dissipation may be calculated from the following expression.

$$P_g = e_{\text{emp}} I_c$$

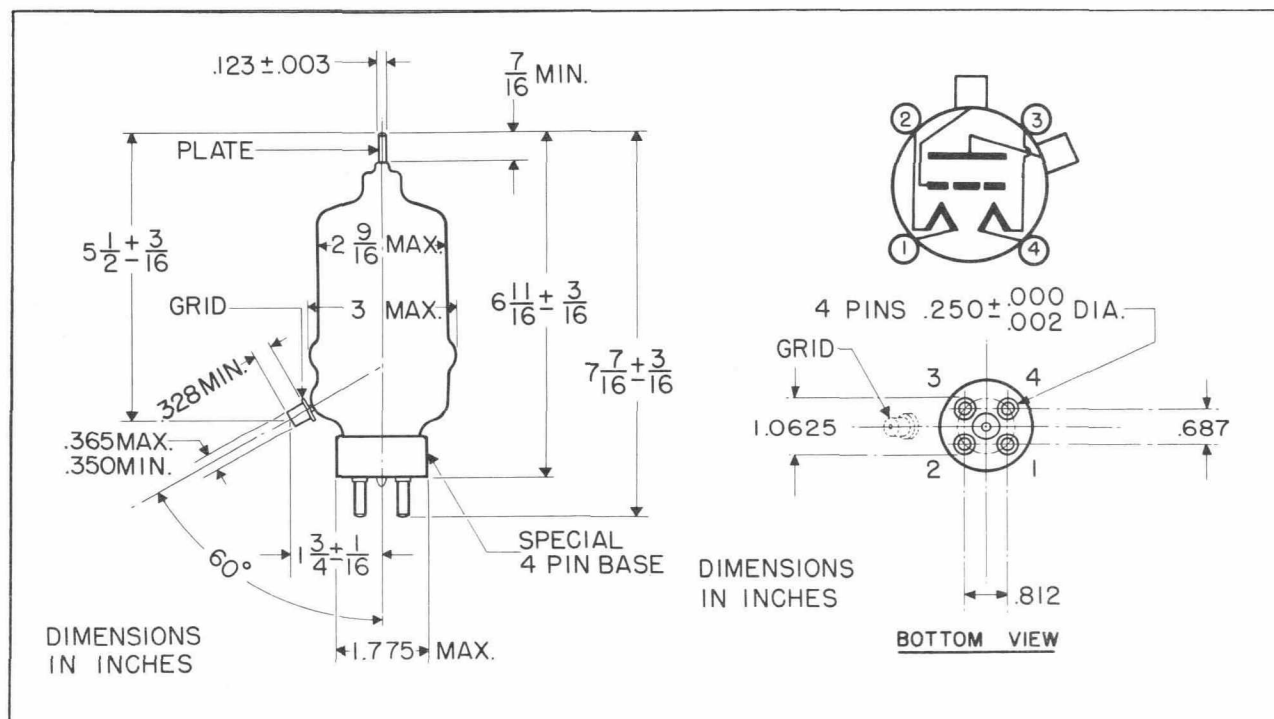
where P_g = grid dissipation,

e_{emp} = peak positive grid voltage, and

I_c = d-c grid current

e_{emp} may be measured by means of a suitable peak-reading voltmeter connected between filament and grid. In equipment in which the plate loading varies widely, such as oscillators used for radio-frequency heating, care should be taken to make certain that the grid dissipation does not exceed the maximum rating under any condition of loading.

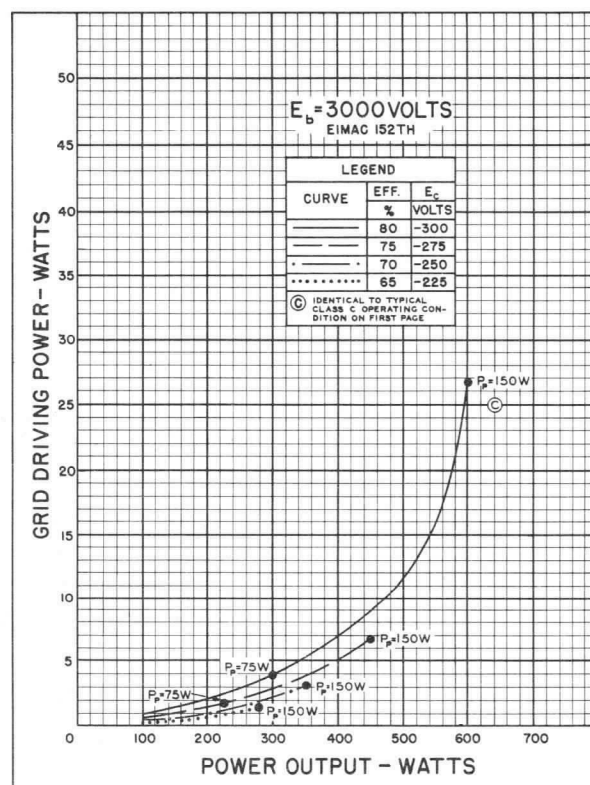
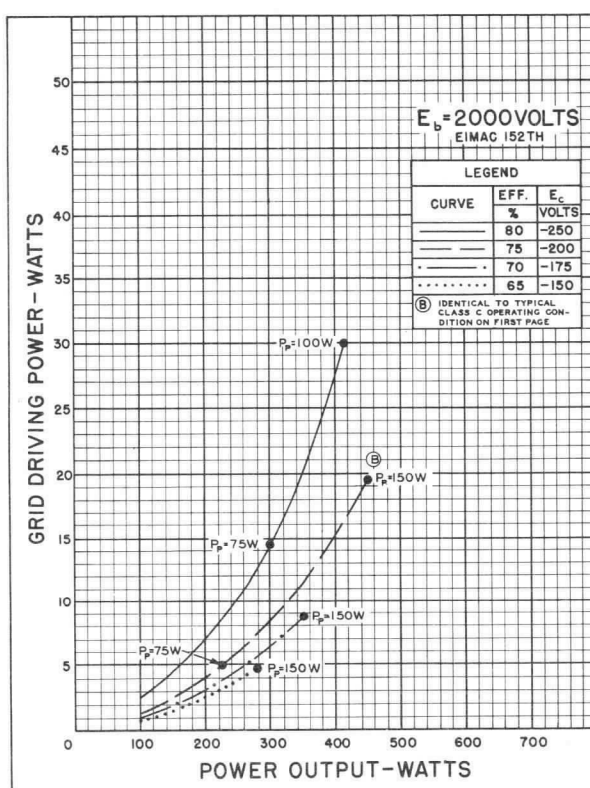
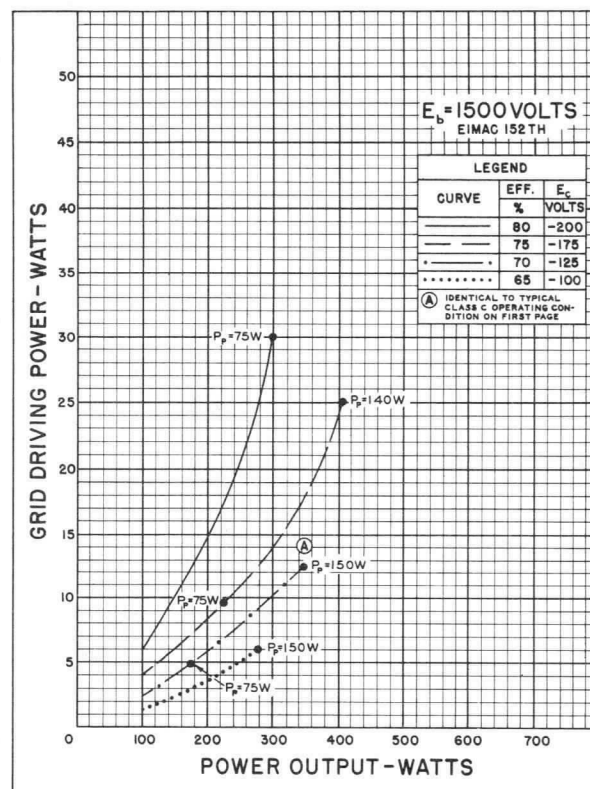
Plate Dissipation—The plates of the 152TH operate at a visible red color at the maximum rated dissipation of 150 watts. Plate dissipation in excess of the maximum rating is permissible only for short periods of time, such as during tuning procedures.



DRIVING POWER vs. POWER OUTPUT

The three charts on this page show the relationship of plate efficiency, power output and grid driving power at plate voltages of 1500, 2000 and 3000 volts. These charts show combined grid and bias losses only. The driving power and power output figures do not include circuit losses. The plate dissipation in watts is indicated by P_p .

Points A, B, and C are identical to the typical Class C operating conditions shown on the first page under 1500, 2000, and 3000 volts respectively.





152TH

EIMAC 152TH

TYPICAL

CONSTANT CURRENT CHARACTERISTICS

--- GRID CURRENT — AMPERES
— PLATE CURRENT — AMPERES

