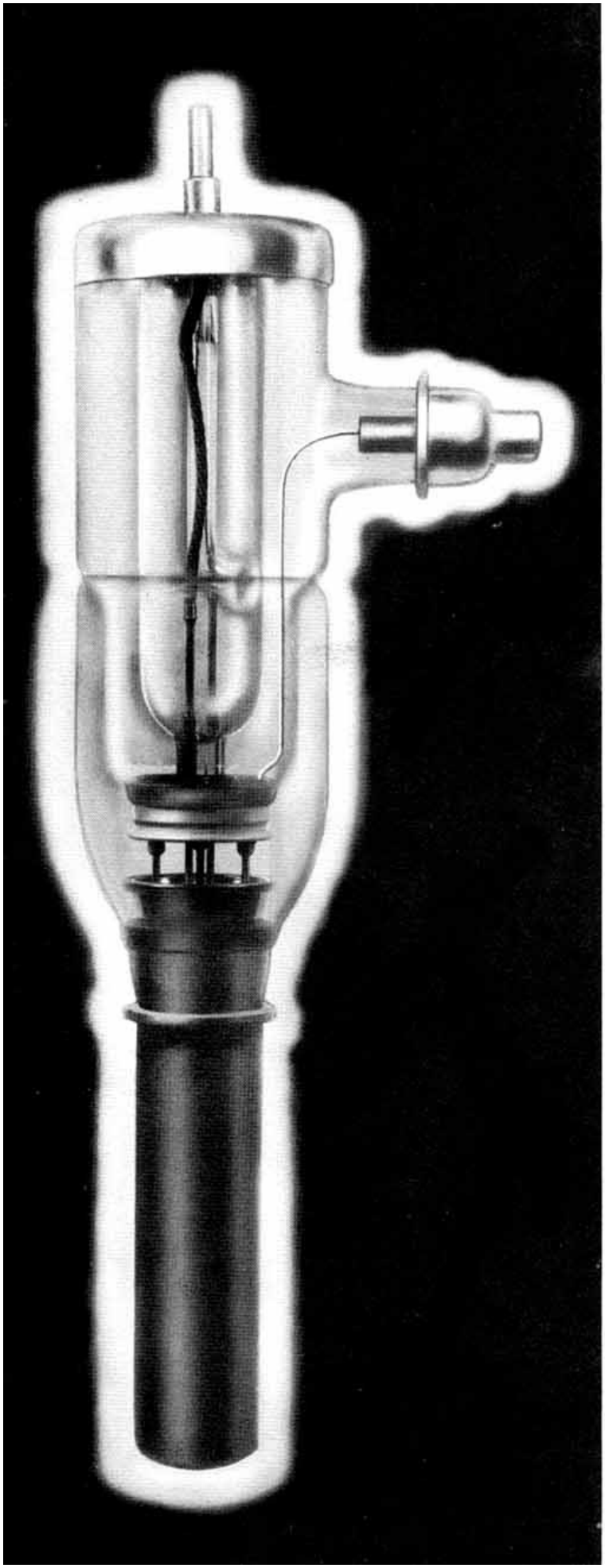


FEDERAL

F-116-A TRANSMITTING TUBE

TECHNICAL DATA

Main Use	R-F Power Amplifier, Oscillator
Number of Electrodes	3
Filament Voltage	20 volts
Current	71 amperes
Type	Tungsten
Thermionic Emission	13.5 amperes

Average Characteristic Values calculated at $E_b = 10000$, $I_b = 0.9$ ampere, $E_f = 20$ volts.

Grid Voltage (approximate)	0 volts
Amplification Factor	40
Mutual Conductance	6900 micromhos
Plate Resistance	5800 ohms

Approximate Direct Inter-electrode Capacitances

Plate to Grid	26 mmf.
Grid to Filament	17 mmf.
Plate to Filament	3 mmf.

Type of Cooling	Water
Water Jacket	Standard or Federal Type 1005-A

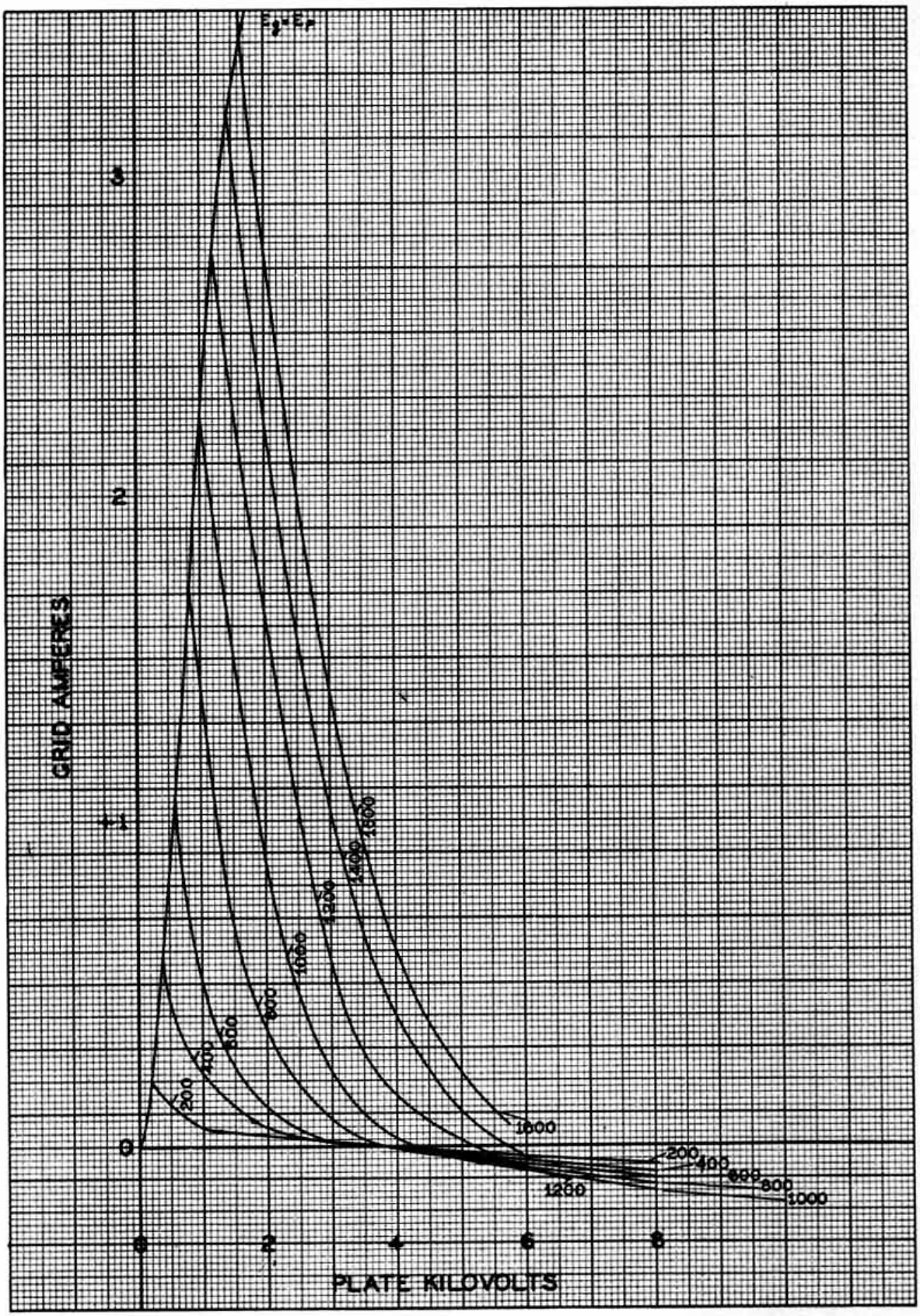
The information above and in the following pages by no means represents exact conditions of operation to be imposed for any particular situation. Since tubes are used under many widely different conditions the manufacturer will gladly furnish information regarding characteristics for design purposes.

Manufactured by

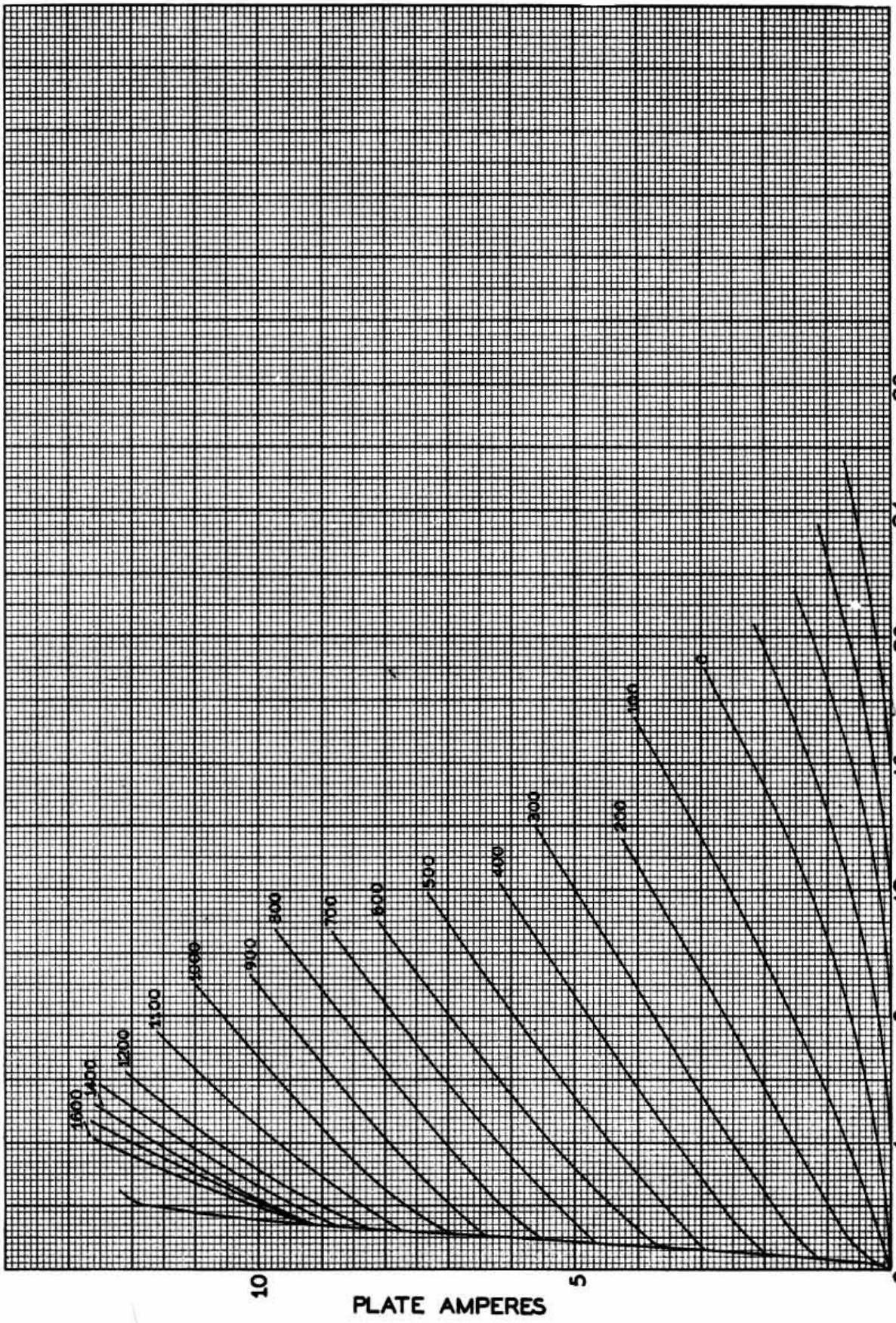
FEDERAL TELEGRAPH CO.

200 Mt. Pleasant Avenue Newark, N. J., U. S. A.

AVERAGE GRID CHARACTERISTICS F-116-A Transmitting Tube



AVERAGE PLATE CHARACTERISTICS F-116-A Transmitting Tube



Maximum Ratings

F-116-A Transmitting Tube

For maximum frequency of 3.0 megacycles

CLASS B R-F POWER AMPLIFIER TELEPHONY

(Carrier conditions per tube for use with modulation factor up to 1.0)

D-C Plate Voltage	20000 volts
D-C Plate Current	2.0 amperes
R-F Grid Current	40 amperes
Plate Input	30000 watts
Plate Dissipation	20000 watts

CLASS C R-F POWER AMPLIFIER TELEPHONY — PLATE MODULATED

(Carrier conditions per tube for use with modulation factor up to 1.0)

D-C Plate Voltage	14000 volts
D-C Plate Current	2.0 amperes
D-C Grid Current	0.30 ampere
R-F Grid Current	40 amperes
Plate Input	40000 watts
Plate Dissipation	15000 watts

CLASS C R-F POWER AMPLIFIER AND OSCILLATOR—TELEGRAPHY

(Key-down conditions per tube without modulation)*

D-C Plate Voltage	20000 volts
D-C Grid Voltage	-5000 volts
D-C Plate Current	3.0 amperes
D-C Grid Current	0.30 ampere
R-F Grid Current	40 amperes
Plate Input	50000 watts
Plate Dissipation	25000 watts

*Modulation essentially negative, may be used if the positive peak of the audio frequency envelope does not exceed 115% of the carrier condition value.

Typical Operation Data

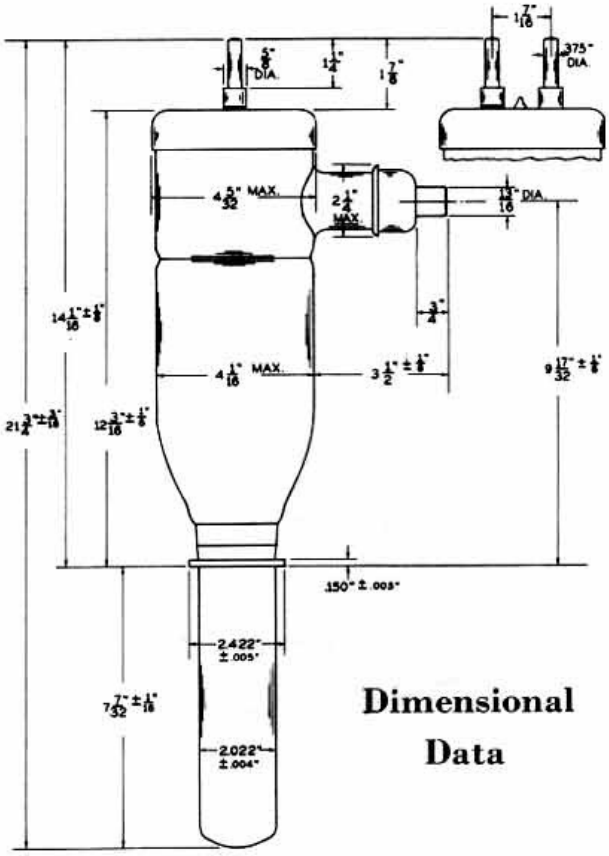
F-116-A Transmitting Tube

CLASS B R-F POWER AMPLIFIER

(Carrier conditions per tube for use with modulation factor up to 1.0)

Filament Voltage	20 volts
D-C Plate Voltage	17500 volts
D-C Grid Voltage	-430 volts (approx.)
Peak R-F Grid Input Voltage	760 volts (approx.)
D-C Plate Current	1.55 amperes
D-C Grid Current	0.021 amperes
Driving Power*	28 watts (approx.)
Load Impedance	2780 ohms
Power Output	8250 watts (approx.)

* At crest of A-F cycle



Dimensional Data