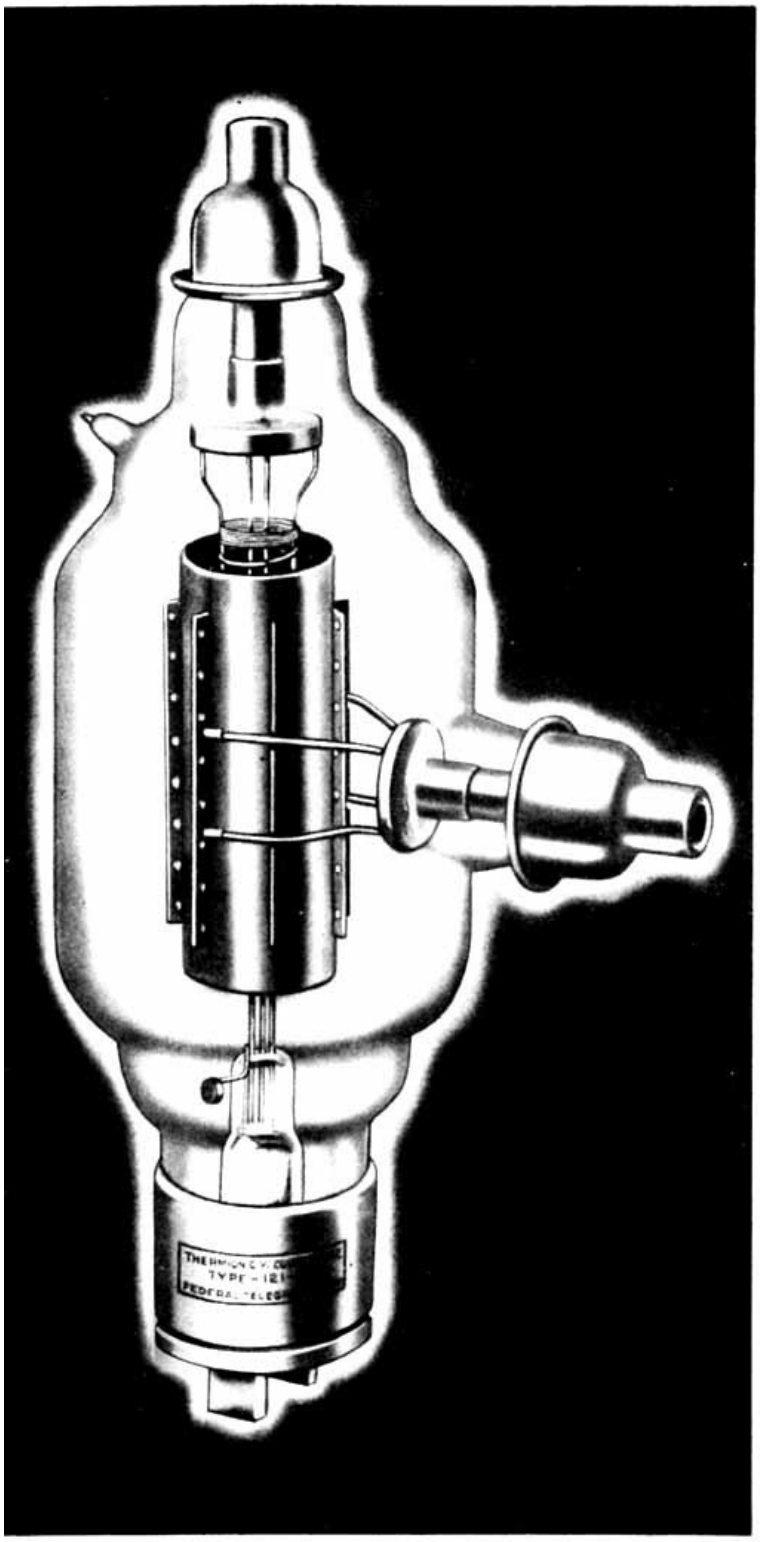
FEDERAL

F-121-A TRANSMITTING TUBE



TECHNICAL DATA

Main Use	R-F Power Amplifier, Oscillator
Number of Electrodes	3
Filament Voltage	11 volts
Current	14 amperes
Type	Thoriated Tungsten
Available Thermionic Emission	3.5 amperes

Average Characteristic Values calculated at $E_b = 2000$, $I_b = 0.195$ ampere, $E_f = 11$ A-C volts.

Grid Voltage (approximate)	—50 volts
Amplification Factor	14
Mutual Conductance	3340 micromhos
Plate Resistance	4200 ohms

Approximate Direct Inter-electrode Capacitances

Plate to Grid	12 mmf.
Grid to Filament	6 mmf.
Plate to Filament	1.5 mmf.

Type of Cooling	Air
Type Base	Federal
Mounting Socket	Federal Type 1003-A

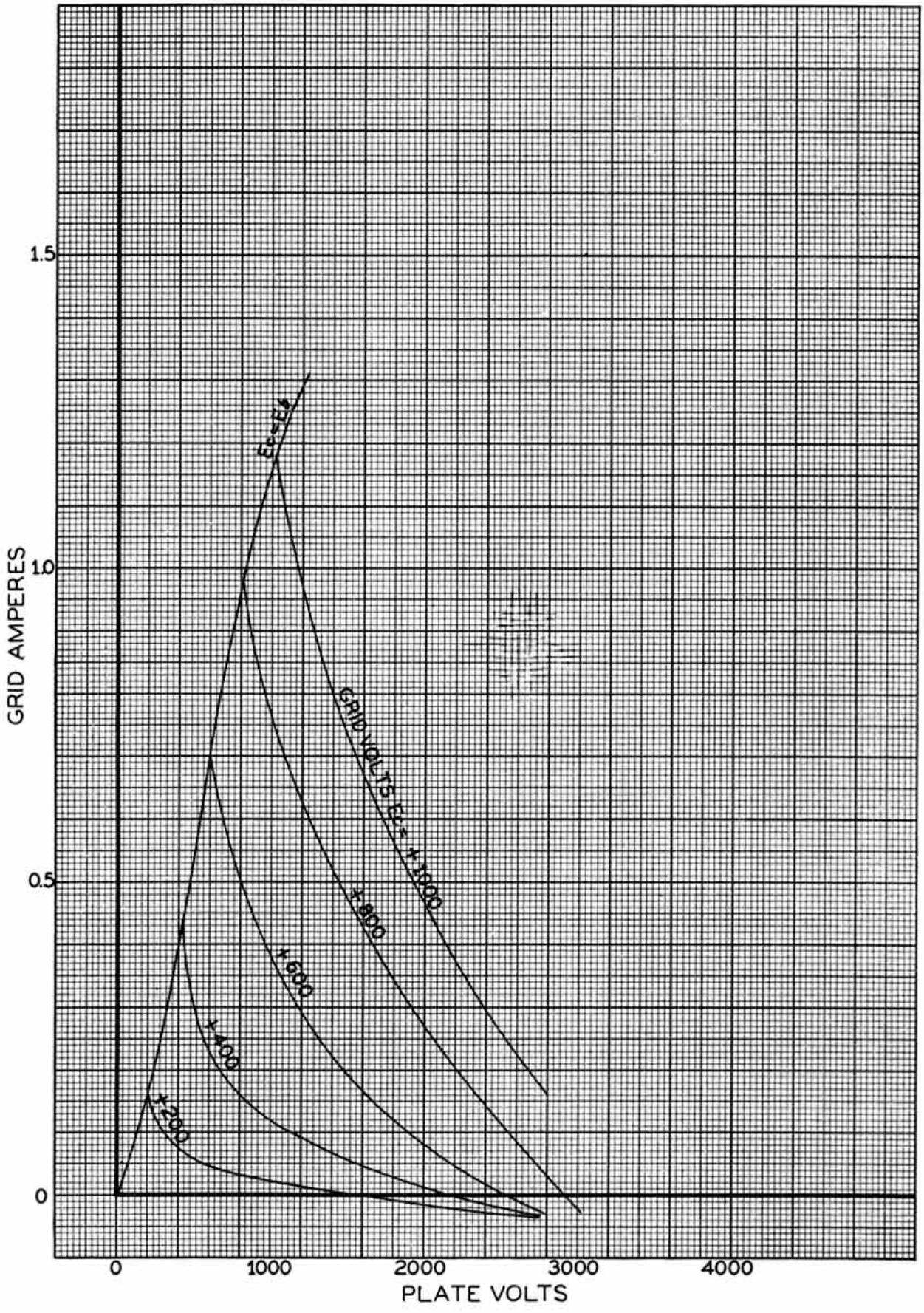
The information above and in the following pages by no means represents exact conditions of operation to be imposed for any particular situation. Since tubes are used under many widely different conditions the manufacturer will gladly furnish information regarding characteristics for design purposes.

Manufactured by

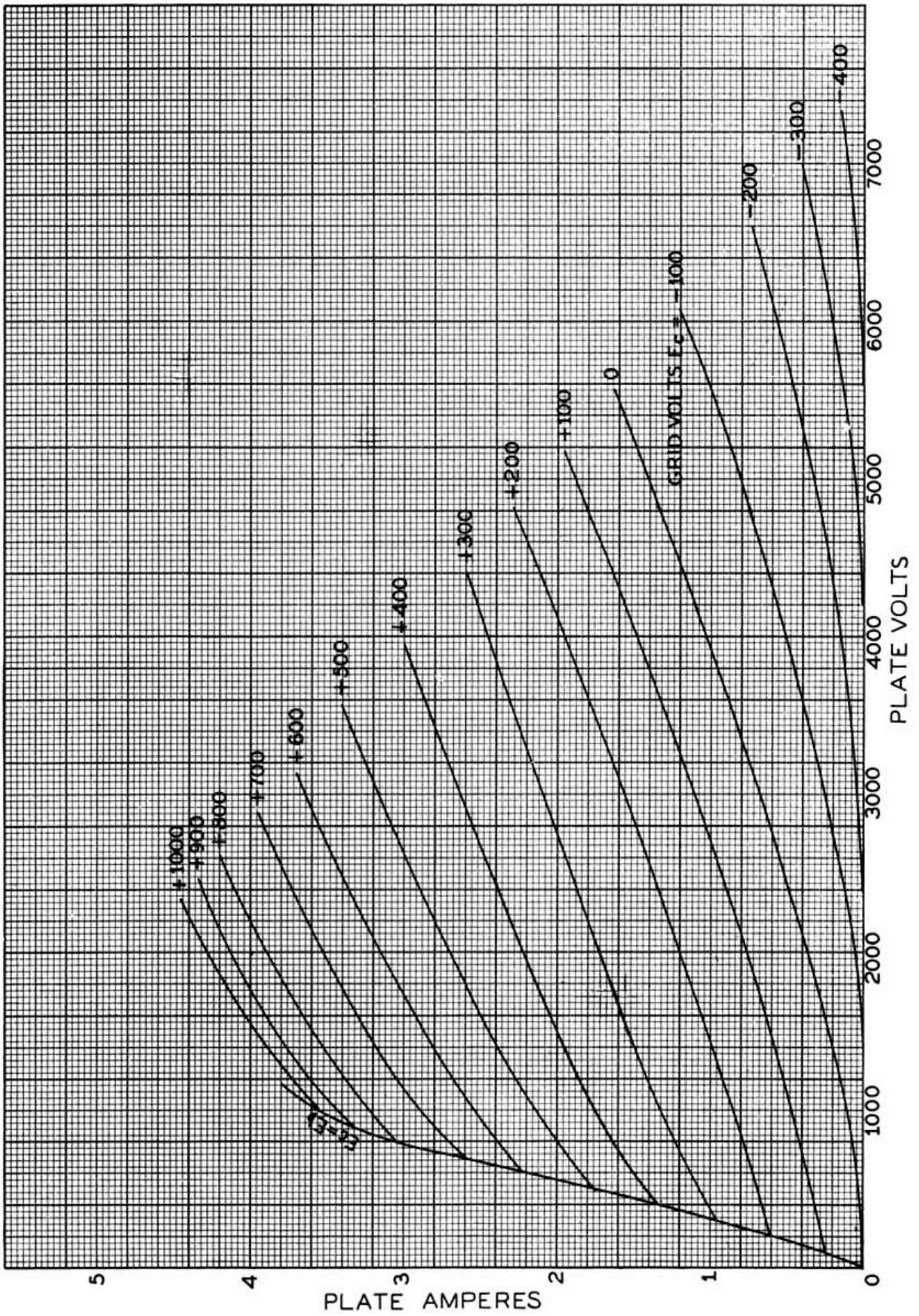
FEDERAL TELEGRAPH CO.

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

AVERAGE GRID CHARACTERISTICS F-121-A Transmitting Tube



AVERAGE PLATE CHARACTERISTICS F-121-A Transmitting Tube



Maximum Ratings

F-121-A Transmitting Tube

For maximum frequency of 30 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	3000 volts
D-C Plate Current	0.500 ampere
R-F Grid Current	30 amperes
Plate Input	750 watts
Plate Dissipation	500 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	3000 volts
D-C Plate Current	0.500 ampere
D-C Grid Current	0.150 ampere
R-F Grid Current	30 amperes
Plate Input	1500 watts
Plate Dissipation	500 watts

CLASS C R-F POWER AMPLIFIER AND OSCILLATOR—TELEGRAPHY

(Key-down conditions per tube without modulation)*

D-C Plate Voltage	3000 volts
D-C Gride Voltage	—1500 volts
D-C Plate Current	0.700 ampere
D-C Grid Current	0.150 ampere
R-F Grid Current	30 amperes
Plate Input	1500 watts
Plate Dissipation	500 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-121-A Transmitting Tube

CLASS B R-F POWER AMPLIFIER

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

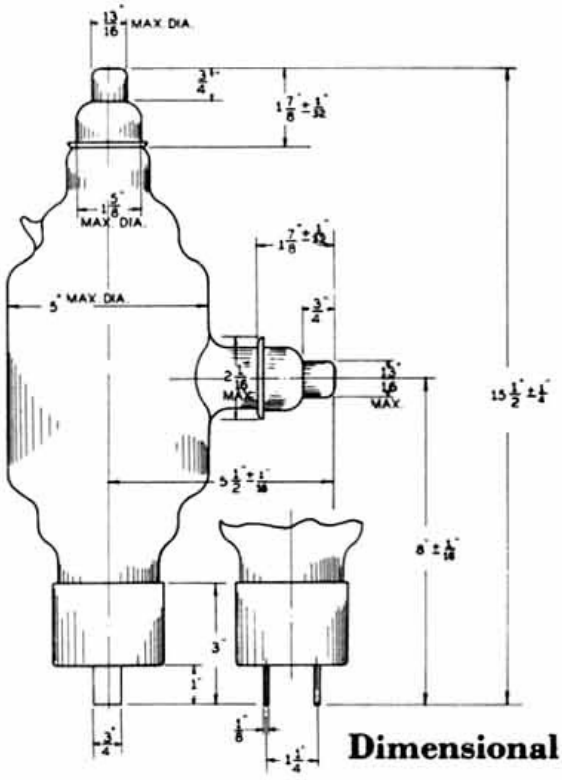
Filament Voltage	11 volts
D-C Plate Voltage	3000 volts
D-C Grid Voltage	—200 volts (approx.)
Peak R-F Grid Input Voltage	325 volts (approx.)
D-C Plate Current	0.250 ampere
D-C Grid Current	0.005 ampere
Driving Power*	48 watts (approx.)
Load Impedance	3200 ohms
Power Output	250 watts (approx.)

CLASS C R-F POWER AMPLIFIER & OSCILLATOR—PLATE MODULATED

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

Filament Voltage	11 volts
D-C Plate Voltage	3000 volts
D-C Grid Voltage	—800 volts (approx.)
Peak R-F Grid Input Voltage	1400 volts (approx.)
D-C Plate Current	0.490 ampere
D-C Grid Current	0.120 ampere
Driving Power	160 watts (approx.)
Power Output	1000 watts (approx.)

* At crest of A-F cycle



Dimensional Data