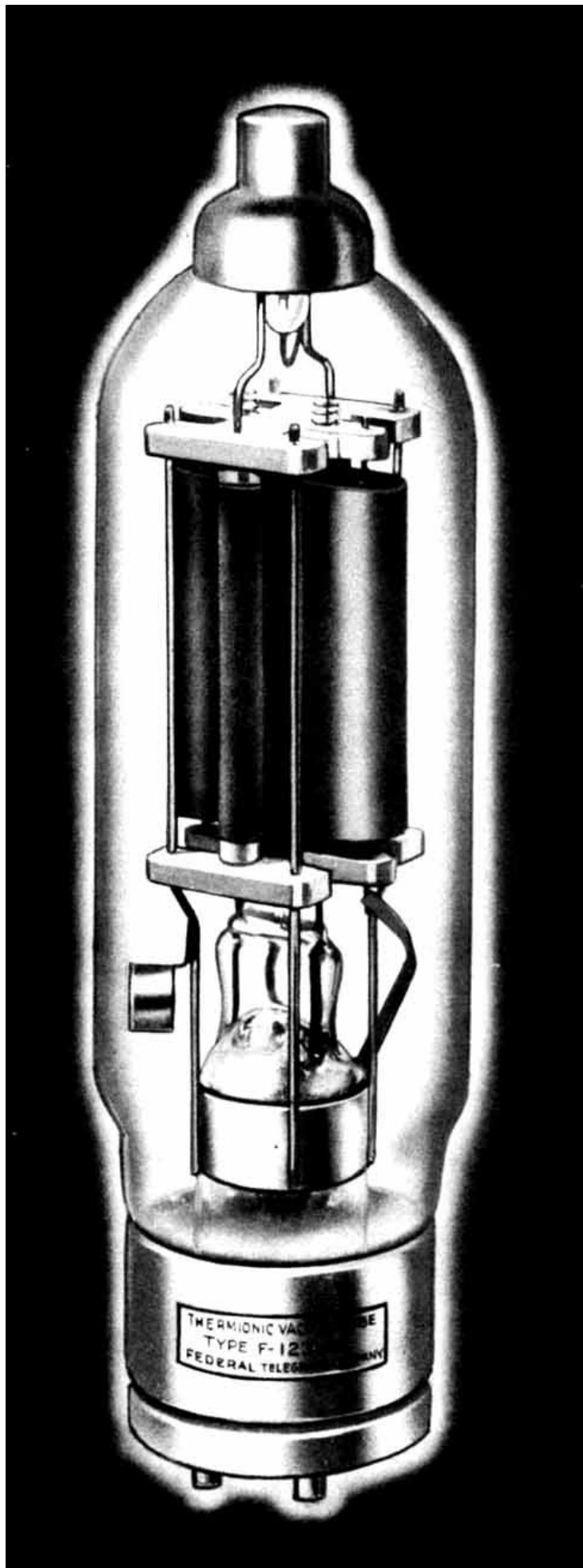


FEDERAL

F-123-A TRANSMITTING TUBE



TECHNICAL DATA

Main Use	R-F Power Amplifier, Oscillator, Class B Modulator
Number of Electrodes	3
Filament Voltage	10 volts.
Filament Current	4 amperes
Filament Type	Thoriated Tungsten
Available Thermionic Emission	1.8 amperes
Average Characteristic Values calculated at $E_b = 1000$, $I_b = 0.100$ ampere, $E_f = 10$ A-C volts.	
Grid Voltage (approximate)	-45 volts
Amplification Factor	14.5
Mutual Conductance	5800 micromhos
Plate Resistance	2500 ohms
Approximate Direct Inter-electrode Capacitances	
Plate to Grid	8.5 mmf.
Grid to Filament	6.5 mmf.
Plate to Filament	3.3 mmf.
Type of Cooling	Air
Type Base	Standard 50 Watt
Mounting Socket	Standard 50 Watt and Anode Clip

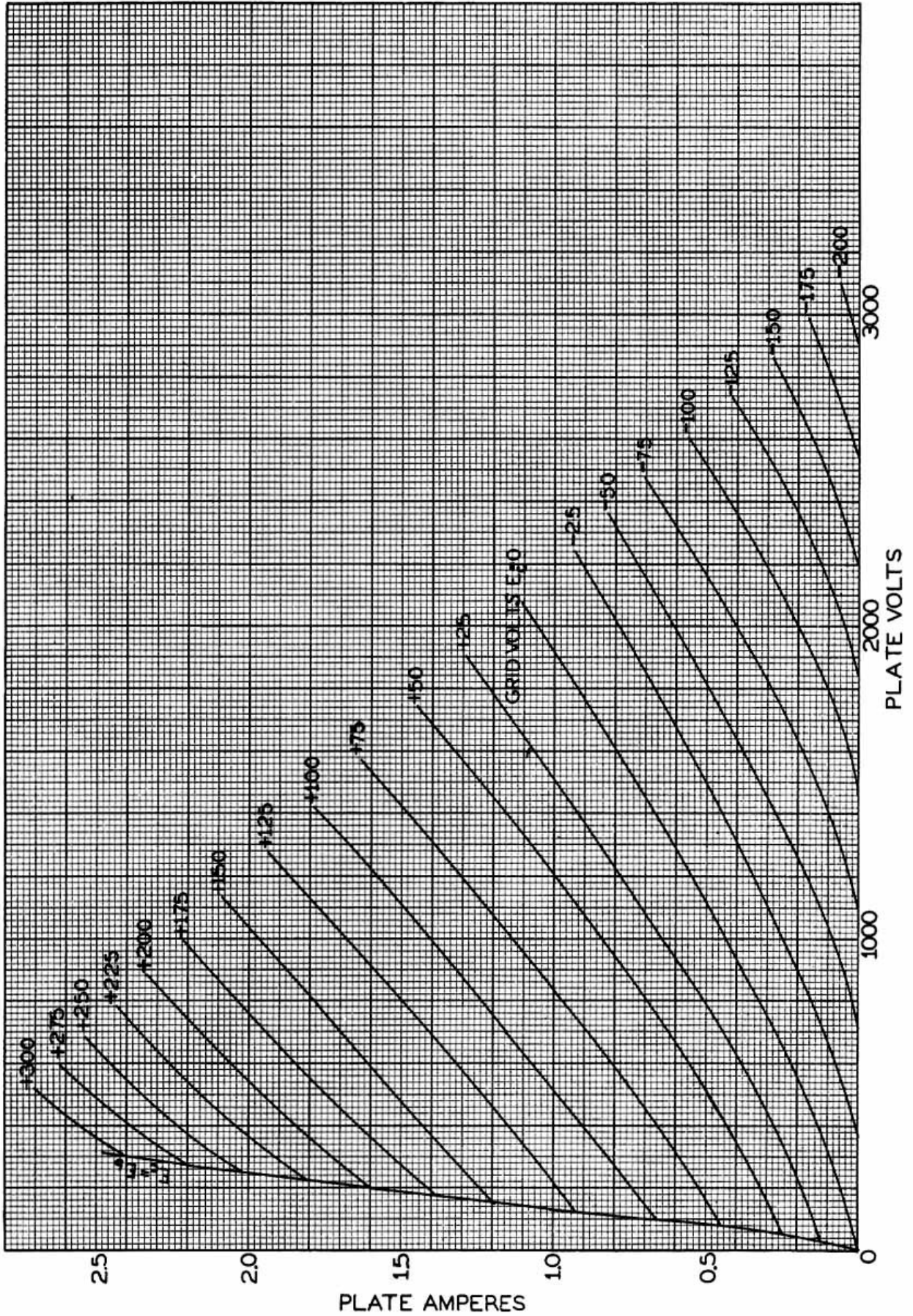
The information above and in the following pages by no means represents exact conditions of operation to be imposed for any particular situation. Since tubes are used under many widely different conditions the manufacturer will gladly furnish information regarding characteristics for design purposes.

Manufactured by

FEDERAL TELEGRAPH CO.

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

AVERAGE PLATE CHARACTERISTICS F-123-A Transmitting Tube



Maximum Ratings

Type F-123-A Vacuum Tube

For maximum frequency of 30 megacycles

CLASS B AUDIO AMPLIFIER OR MODULATOR

D-C Plate Voltage	2000 volts
Max. Signal D-C Plate Current	0.250 amperes
Max. Signal Plate Input	375 watts
Plate Dissipation	125 watts

CLASS C R-F POWER AMPLIFIER AND OSCILLATOR — TELEGRAPHY

(Key-down conditions per tube without modulation)*

D-C Plate Voltage	2000 volts
D-C Grid Voltage	-500 volts
D-C Plate Current	0.250 ampere
D-C Grid Current	0.070 ampere
R-F Grid Current	7.5 amperes
Plate Input	375 watts
Plate Dissipation	125 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.

CLASS B R-F POWER AMPLIFIER—TELEPHONY

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

D-C Plate Voltage	2000 volts
D-C Plate Current	0.200 ampere
R-F Grid Current	7.5 amperes
Plate Input	185 watts
Plate Dissipation	125 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	1500 volts
D-C Plate Current	0.250 ampere
D-C Grid Current	0.070 ampere
R-F Grid Current	7.5 amperes
Plate Input	240 watts
Plate Dissipation	85 watts

Typical Operation Data

F-123-A Transmitting Tube

CLASS B A-F POWER AMPLIFIER AND MODULATOR

Filament Voltage	10 volts
D-C Plate Voltage	2000 volts
D-C Grid Voltage	-130 volts (approx.)
Peak A-F Grid Input Voltage	217 volts (approx.)
Zero Signal Plate Current (per tube)	0.030 ampere
Max. Signal Plate Current (per tube)	0.175 ampere
Max. Signal Plate Input (per tube)	350 watts
Max. Signal Driving Power	3.4 watts (approx.)
Effective Load (plate to plate)	13800 ohms
Power Output (2 tubes)	522 watts (approx.)

CLASS C R-F POWER AMPLIFIER AND OSCILLATOR — TELEGRAPHY

(Key-down conditions per tube without modulation)*

Filament Voltage	10 volts
D-C Plate Voltage	1500 volts
D-C Grid Voltage	-250 volts (approx.)
Peak R-F Grid Input Voltage	400 volts (approx.)
D-C Plate Current	0.250 ampere
D-C Grid Current	0.030 ampere
Driving Power	11 watts (approx.)
Power Output	300 watts (approx.)

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

CLASS B R-F POWER AMPLIFIER

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

Filament Voltage	10 volts
D-C Plate Voltage	1500 volts
D-C Grid Voltage	-100 volts (approx.)
Peak R-F Grid Input Voltage	108 volts (approx.)
D-C Plate Current	0.120 ampere
D-C Grid Current	0.001 ampere
Driving Power*	6 watts (approx.)
Load Impedance	3680 ohms
Power Output	65.5 watts (approx.)

* At crest of A-F cycle

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

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

Filament Voltage	10 volts
D-C Plate Voltage	1500 volts
D-C Grid Voltage	-290 volts (approx.)
Peak R-F Grid Input Voltage	410 volts (approx.)
D-C Plate Current	0.160 ampere
D-C Grid Current	0.025 ampere
Driving Power	10 watts (approx.)
Power Output	200 watts (approx.)

Dimensional Data

