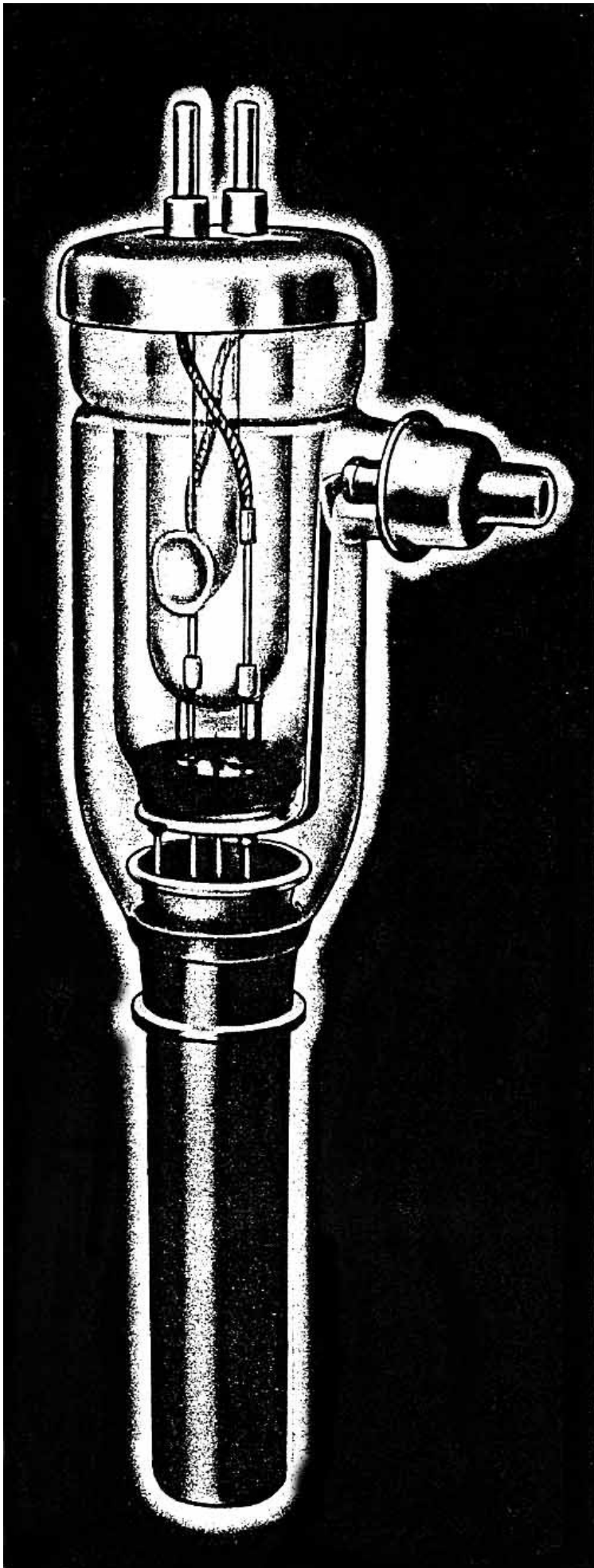


FEDERAL

F-320-B TRANSMITTING TUBE



TECHNICAL DATA

Main Use	R-F Power Amplifier, Oscillator, Class B Modulator
Number of Electrodes	3
Filament Voltage	21.5 volts
Current	41 amperes
Type	Tungsten
Thermionic Emission	7.5 amperes
Average Characteristic Values calculated at $E_b=10000$, $I_b=0.64$ ampere, $E_f=21.5$ volts.	
Grid Voltage (approximate)	-50 volts
Amplification Factor	40
Mutual Conductance	5000 micromhos
Plate Resistance	8000 ohms
Approximate Direct Inter-electrode Capacitances	
Plate to Grid	26 mmf.
Grid to Filament	20 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.

Maximum Ratings

F-320-B Transmitting Tube

For maximum frequency of 4.0 megacycles

CLASS B AUDIO AMPLIFIER OR MODULATOR

D-C Plate Voltage	15000 volts
Max. Signal D-C Plate Current	1.5 amperes
Max. Signal Plate Input	20000 watts
Plate Dissipation	10000 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	10000 volts
D-C Plate Current	1.1 amperes
D-C Grid Current	0.25 ampere
R-F Grid Current	30 amperes
Plate Dissipation	8000 watts

CLASS B R-F POWER AMPLIFIER—TELEPHONY

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

D-C Plate Voltage	14000 volts
D-C Plate Current	1.2 amperes
R-F Grid Current	30 amperes
Plate Input	14000 watts
Plate Dissipation	10000 watts

CLASS C R-F POWER AMPLIFIER AND OSCILLATOR—TELEGRAPHY

(Key-down conditions per tube without modulation)*

D-C Plate Voltage	15000 volts
D-C Grid Voltage	-3000 volts
D-C Plate Current	1.5 amperes
D-C Grid Current	0.30 ampere
R-F Grid Current	30 amperes
Plate Input	22500 watts
Plate Dissipation	10000 watts

* Modulation essentially negative, may be used if the positive peak of the audio frequency envelope does not exceed 11 2/3% of the carrier condition value.

Typical Operation Data

F-320-B Transmitting Tube

CLASS B, A-F POWER AMPLIFIER & MODULATOR

Filament Voltage	21.5 volts
D-C Plate Voltage	13500 volts
D-C Grid Voltage	-250 volts (approx.)
Peak A-F Grid-to-Grid Input Voltage	2100 volts (approx.)
Zero Signal Plate Current (per tube)	0.125 ampere
Max. Signal Plate Current (per tube)	1.25 ampere
Max. Signal Plate Input (per tube)	16,875 watts
Max. Signal Driving Power	450 watts (approx.)
Effective Load (plate to plate)	12000 ohms
Power Output (2 tubes)	24000 watts (approx.)

CLASS B, R-F POWER AMPLIFIER

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

Filament Voltage	21.5 volts
D-C Plate Voltage	12000 volts
D-C Grid Voltage	-275 volts (approx.)
Peak R-F Grid Input Voltage	1080 volts (approx.)
D-C Plate Current	0.630 ampere
D-C Grid Current	0.081 ampere
Driving Power*	80 watts (approx.)
Load Impedance	5400 ohms
Power Output	2500 watts (approx.)

* At crest of A-F cycle

