



# ELECTRON TUBE DIVISION

CLIFTON, NEW JERSEY

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

**F-2060  
TRAVELING  
WAVE TUBE**

## TENTATIVE

### GENERAL DESCRIPTION:

The F-2060 is a 1500 watt pulse traveling wave amplifier tube having 32 db gain and designed primarily for use in the 3350 to 3650 mc frequency range. It is constructed in a rugged metal envelope with a helix type slow wave structure. The integral matching circuit is in 50 ohm coaxial line and is provided with type "TNC" connectors. The tube is focused by a periodic permanent magnet which is integral with the tube. A convergent beam gun and oxide impregnated cathode are used. Duty cycles up to .01 and pulse widths up to 100 microseconds can be used.

### ELECTRICAL RATINGS, ABSOLUTE VALUES

Heater Voltage	6.3 ( $\pm 10\%$ )	volts	Maximum R-F Input Power	2	watts average
Heater Current	3.0	amperes	Maximum R-F Output Power	30	watts average
Maximum Anode Voltage (Note 1)	8000	volts	Maximum Duty Cycle	.01	
Maximum Helix Current	0.8	ampere peak	Maximum Pulse Width (beam)	100	microseconds
Maximum Collector Voltage	8000	volts	Maximum Cathode Current	2.0	ampere peak
Maximum Collector Dissipation	160	watts average			

### ELECTRICAL INFORMATION

Maximum Frequency (Note 2)	3650	mc	Minimum Cold Transmission Loss	50	db
Minimum Frequency (Note 2)	3350	mc			

### MECHANICAL INFORMATION

Type of Cathode	Oxide Impregnated Unipotential	Weight (not including magnet)	10 pounds	Maximum
Base	(See Outline Drawing)	R-F Connections	"TNC"	
Type of Envelope	Metal	Cooling Data	25 cfm of air	
Mounting Position	Any			

### TYPICAL OPERATION AS POWER AMPLIFIER

Frequency	3350 to 3650	mc	Gain	32	db
Anode Voltage (Note 1)	7200	volts	Duty	.01	
Cathode Current	1.4	amperes peak	Pulse Width	5	microseconds
Collector Voltage (tied to shell)	7200	volts	Small Signal Gain Variation	3	db
Collector Current	0.9	amperes peak	Saturated Power Variation	3	db
Power Output (Minimum)	1500	watts peak			

NOTE 1: All Voltages shown are with respect to cathode. The shell is normally operated at ground potential and the anode connection is made to the shell of the package.

NOTE 2: Useful gain and power output exists below 3350 mc and above 3650 mc and can be utilized by adjusting anode voltage to optimize the frequency range desired. However, bandwidth cannot be extended both upward and downward simultaneously and maximum gain and power output outside the normal bandwidth may be lower than rated values.

NOTE 3: Heater warm up of two minutes before applying high voltage is recommended.

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