



ELECTRON TUBE DEPARTMENT ■ COMPONENTS DIVISION
INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION, CLIFTON, NEW JERSEY

**X-368
TRAVELING
WAVE TUBE**

T E N T A T I V E

DESCRIPTION:

THE X-368 IS A SUPER-HIGH-FREQUENCY, INTERMEDIATE-POWER, TRAVELING WAVE AMPLIFIER TUBE, EMPLOYING A HELICAL WAVE PROPAGATING STRUCTURE. THE TUBE IS DESIGNED FOR USE AS A CONTINUOUS WAVE AMPLIFIER IN THE FREQUENCY RANGE OF 8 TO 12 KILOMEGACYCLES PER SECOND. IT IS OF ALL-METAL SHELL CONSTRUCTION, AND TYPE TNC FEMALE COAXIAL LINE R-F CONNECTORS ARE PROVIDED AS AN INTEGRAL PART OF THE STRUCTURE. THE TUBE IS SELF-ALIGNING IN THE PERMANENT MAGNET WHICH PROVIDES THE MAGNETIC FIELD REQUIRED TO DEFINE THE PATH OF THE ELECTRON BEAM.

ELECTRICAL DATA:

HEATER, FOR OXIDE-COATED, UNIPOTENTIAL CATHODE		
VOLTAGE	6.3	VOLTS
CURRENT	0.85	AMPERE
FREQUENCY	8 TO 12	KMC
GAIN (SMALL SIGNAL)(NOTE 1)	35	DB
GAIN (AT RATED POWER OUT) (NOTE 1)	30	DB
POWER OUTPUT (NOTE 1)	50	MW
CAPACITANCE (CONTROL ELECTRODE TO ALL ELEMENTS)	20	UUFD

MECHANICAL DATA:

MOUNT		SPECIAL
MOUNTING POSITION		ANY
BASE		MOULDED RUBBER
		FLEXIBLE LEADS
SIZE	11 1/4 x 2 1/4 x 2 1/4	INCHES
R-F CIRCUIT CONNECTORS		TNC FEMALE
TYPE OF COOLING		CONDUCTION

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MAXIMUM RATINGS:

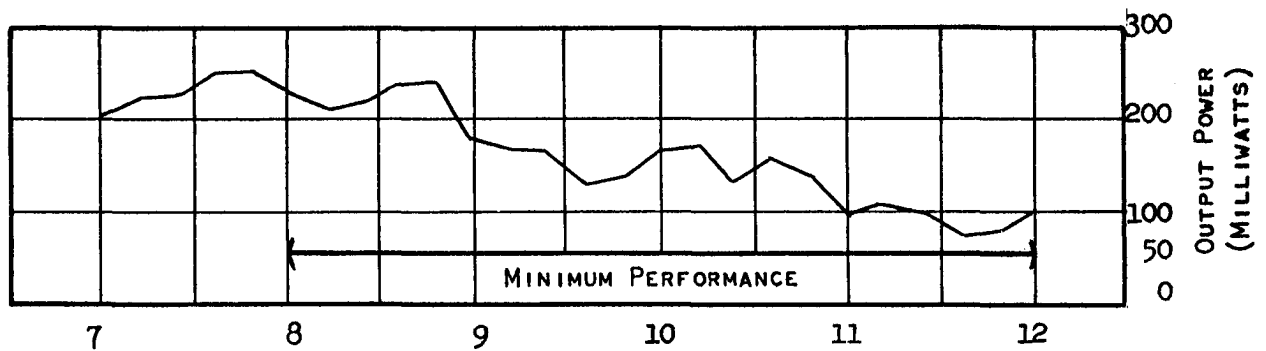
HELIX VOLTAGE WITH RESPECT TO GROUND (EXTERNALLY)	0	VOLTS
ANODE VOLTAGE WITH RESPECT TO GROUND	0	VOLTS
COLLECTOR VOLTAGE WITH RESPECT TO GROUND	0	VOLTS
CATHODE VOLTAGE WITH RESPECT TO GROUND	-1600	VOLTS
CATHODE CURRENT	8	MA
COLLECTOR CURRENT	8	MA
HELIX CURRENT	2	MA
FOCUS ELECTRODE VOLTAGE WITH RESPECT TO CATHODE	-100	VOLTS
BEAM DUTY CYCLE	100	PERCENT

NOTE 1: MINIMUM PERFORMANCE OVER THE FREQUENCY BAND OF 8 TO 12 KMC
WITH OPERATING CONDITIONS OPTIMIZED NEAR THE CENTER OF THE
BAND.

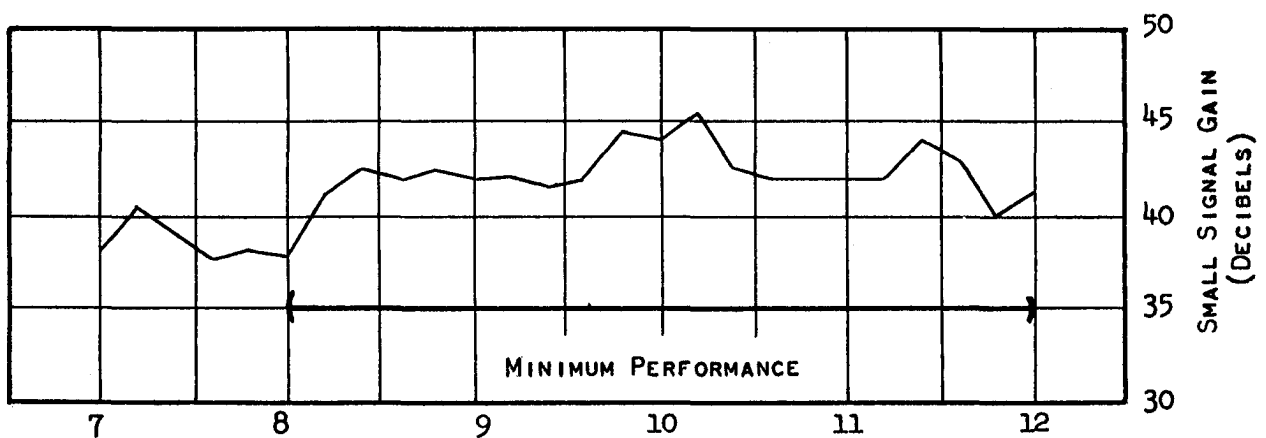
ADDITIONAL INFORMATION FOR SPECIFIC APPLICATIONS CAN BE OBTAINED FROM
THE:

ELECTRON TUBE APPLICATIONS SECTION
ITT COMPONENTS DIVISION
POST OFFICE BOX 412
CLIFTON, NEW JERSEY

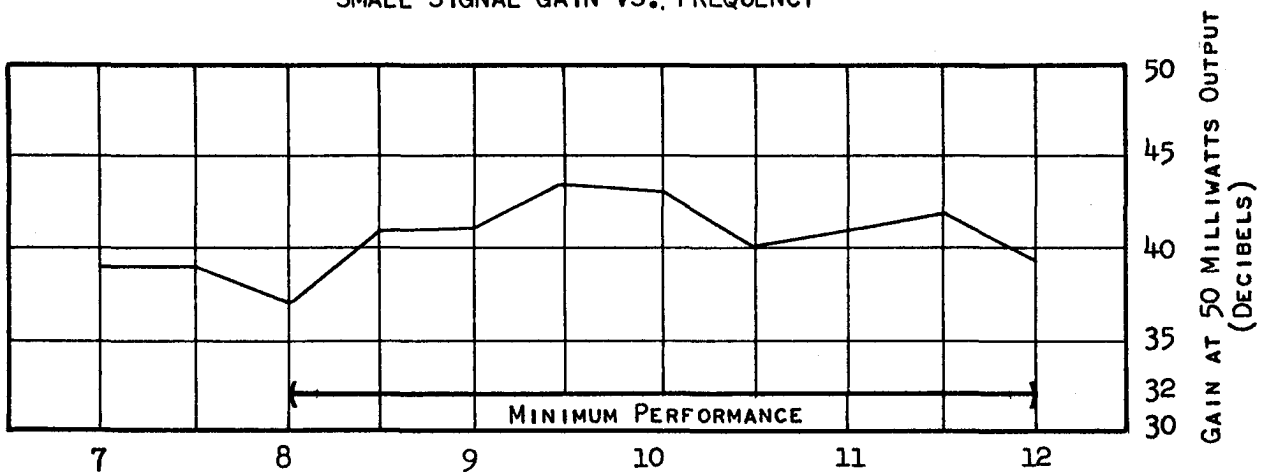
TYPICAL PERFORMANCE OF THE X-368 TRAVELING WAVE TUBE



FREQUENCY (KILOMEGACYCLES)
SATURATED OUTPUT POWER VS. FREQUENCY



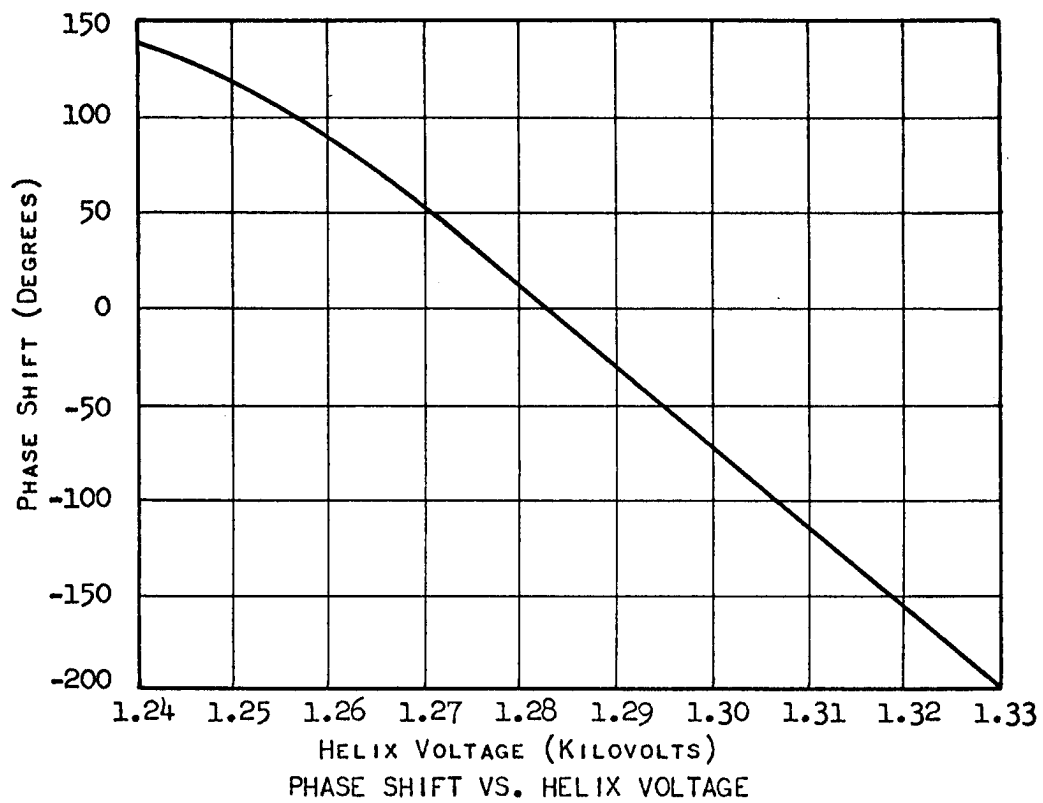
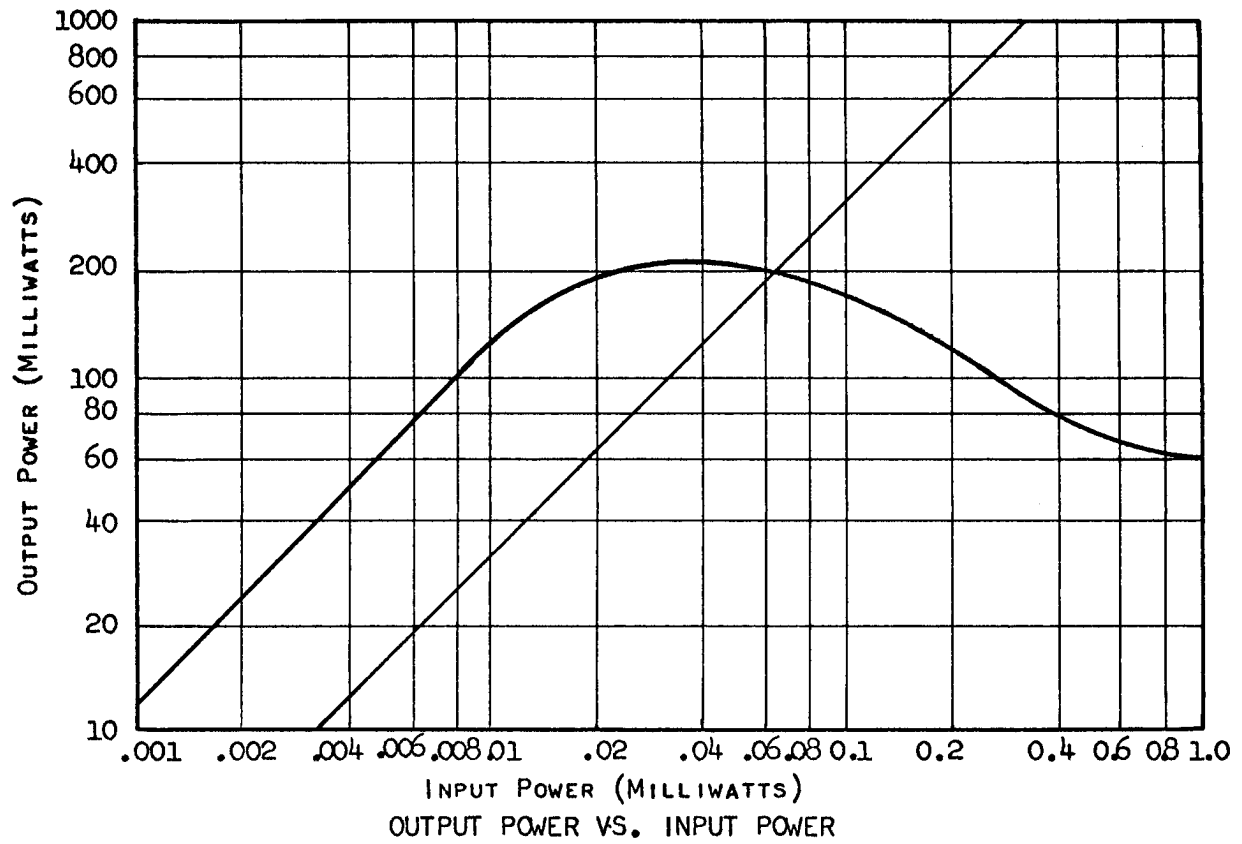
FREQUENCY (KILOMEGACYCLES)
SMALL SIGNAL GAIN VS. FREQUENCY



FREQUENCY (KILOMEGACYCLES)
GAIN AT 50 MILLIWATTS OUTPUT POWER VS. FREQUENCY

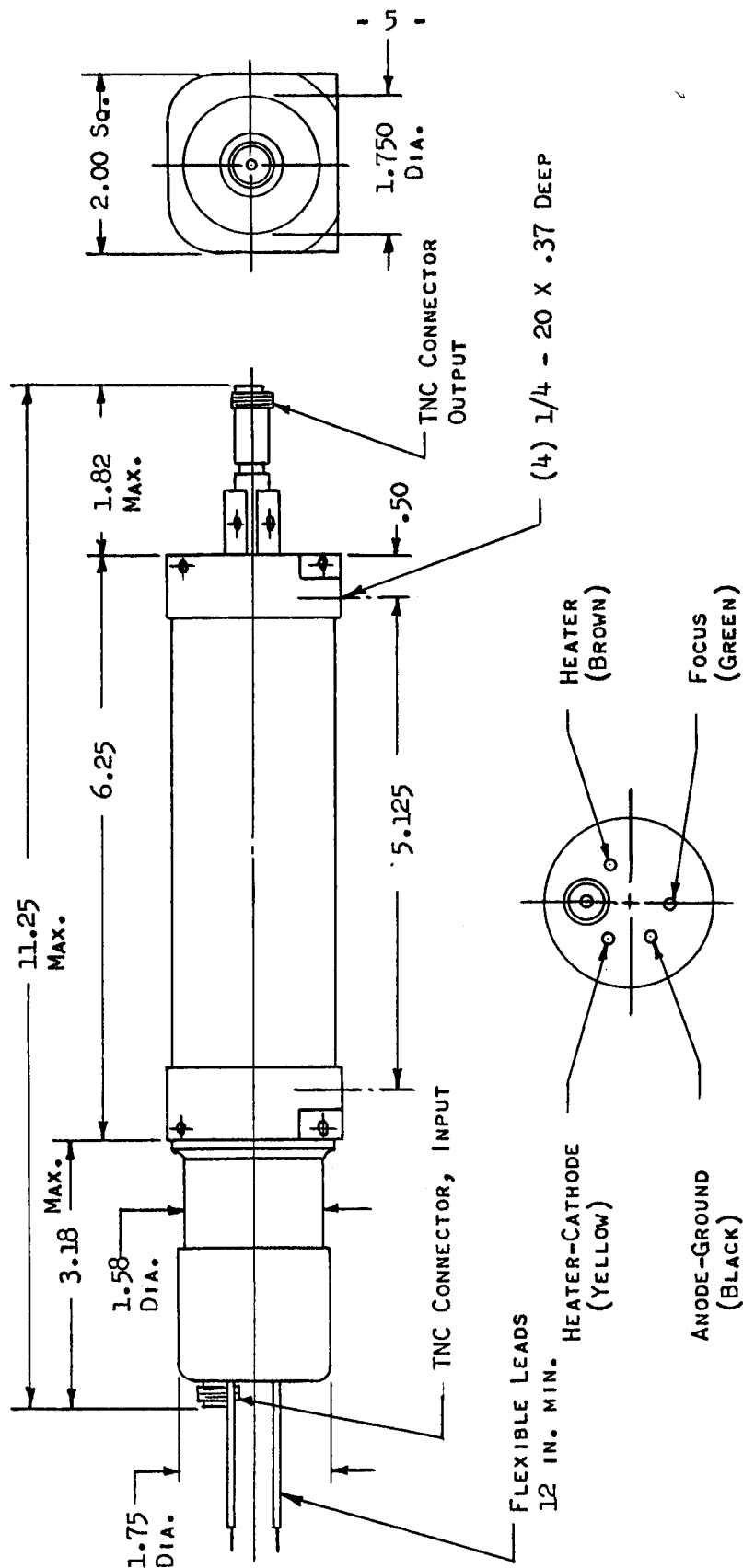


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X-368 TUBE AND MAGNET PACKAGE

(NOTE: SUPERSEDES OUTLINE DATED 10-60)