



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

**X-370
TRAVELING
WAVE TUBE**

T E N T A T I V E

DESCRIPTION:

THE X-370 IS A SUPER-HIGH-FREQUENCY TRAVELING WAVE AMPLIFIER TUBE, EMPLOYING A HELICAL WAVE PROPAGATING STRUCTURE. THE TUBE IS DESIGNED FOR USE AS AN R-F AMPLIFIER IN THE FREQUENCY RANGE OF 4000 TO 8000 MEGA-CYCLES PER SECOND. IT IS OF ALL-METAL SHELL CONSTRUCTION, AND TYPE TNC COAXIAL LINE R-F CONNECTORS ARE PROVIDED AS AN INTEGRAL PART OF THE STRUCTURE. THE TUBE IS SELF-ALIGNING IN A 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	2.0	AMPERES
FREQUENCY	4000-8000	MC
POWER OUTPUT (NOTE 1)	10	WATTS
GAIN, OPERATED AS		
POWER AMPLIFIER (NOTE 1)	30	DB
LOW-LEVEL AMPLIFIER (NOTE 1)	34	DB

MECHANICAL DATA:

MOUNT		SPECIAL
MOUNTING POSITION		ANY
BASE		MOULDED RUBBER WITH FLYING LEADS
SIZE	12 1/4 x 2 1/4 x 2 1/4	INCHES
NET WEIGHT	6.5	POUNDS
R-F CIRCUIT CONNECTORS		TYPE TNC
TYPE OF COOLING		AIR COOLED

NOTE 1: MINIMUM PERFORMANCE OVER THE FREQUENCY BAND OF 4000 TO 8000 MC.

MAXIMUM RATINGS:

CATHODE VOLTAGE WITH RESPECT TO GROUND	-3,000	VOLTS
CATHODE CURRENT	70	MA
FOCUS ELECTRODE VOLTAGE RANGE WITH RESPECT TO CATHODE	-15 TO 0	VOLTS
ANODE VOLTAGE	ANODE CONNECTED INTERNALLY TO SHELL	
SHELL CURRENT	70	MA
HELIX VOLTAGE WITH RESPECT TO SHELL	±500	VOLTS
HELIX CURRENT	3	MA
COLLECTOR VOLTAGE	ANODE CONNECTED INTERNALLY TO SHELL	
COLLECTOR CURRENT	SAME AS SHELL	
COLLECTOR DISSIPATION	200	WATTS
R-F POWER INPUT	1	WATT AVERAGE
LOAD VSWR	3.0:1	

TYPICAL OPERATION:

AS A POWER AMPLIFIER

FREQUENCY	6,000	MC
CATHODE VOLTAGE	2,800	VOLTS
CATHODE CURRENT	65	MA
FOCUS ELECTRODE VOLTAGE WITH RESPECT TO CATHODE	-5	VOLTS
SHELL CURRENT	63	MA
HELIX CURRENT	2	MA
POWER OUTPUT	10	WATTS
POWER GAIN	30	DB
DUTY	1.0	

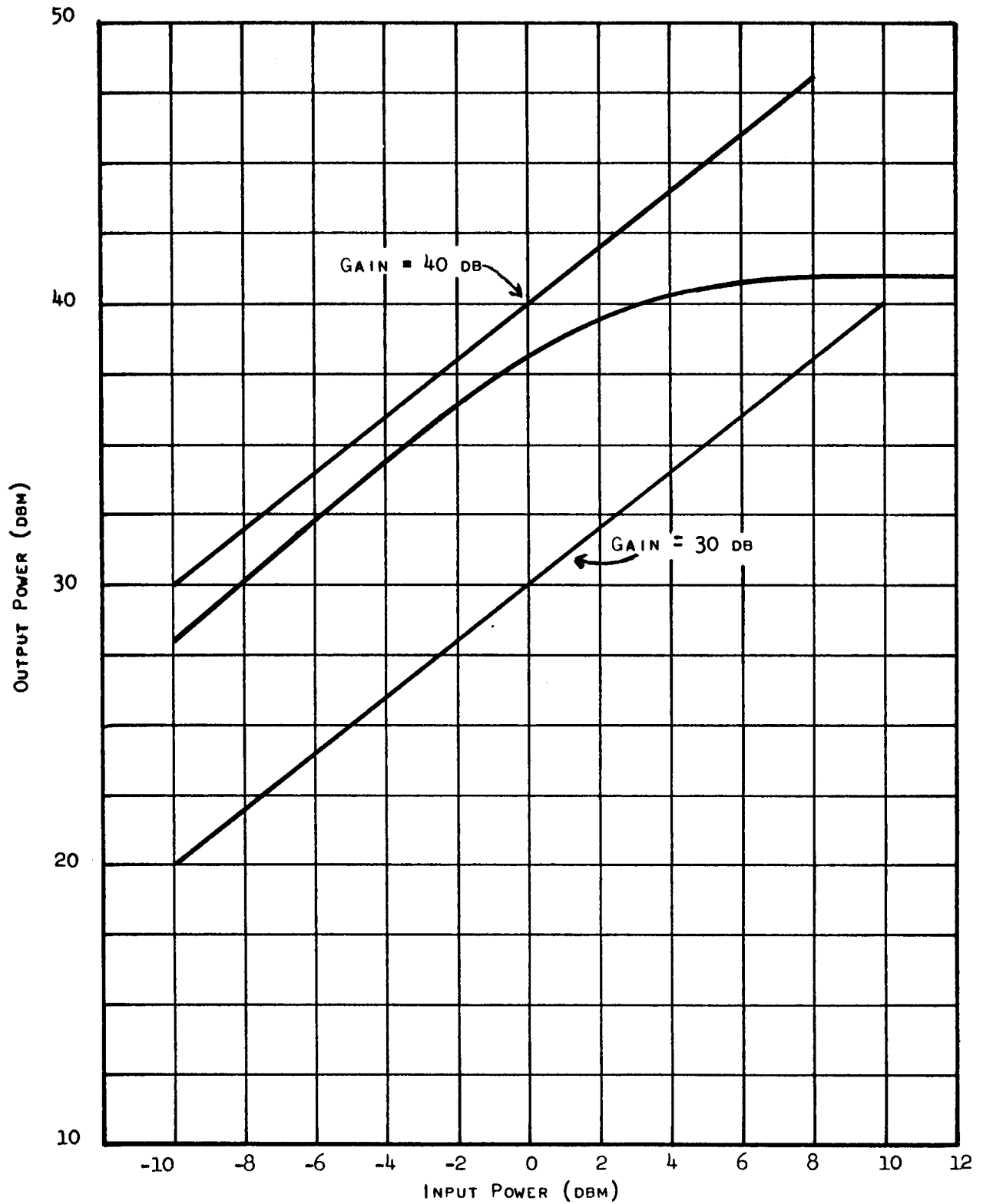
AS A LOW-LEVEL AMPLIFIER

FREQUENCY	6,000	MC
CATHODE VOLTAGE	2,600	VOLTS
CATHODE CURRENT	55	MA
FOCUS ELECTRODE VOLTAGE WITH RESPECT TO CATHODE	-5	VOLTS
SHELL CURRENT	54	MA
HELIX CURRENT	1.5	MA
POWER OUTPUT	300	MW
POWER GAIN	34	DB
DUTY	1.0	

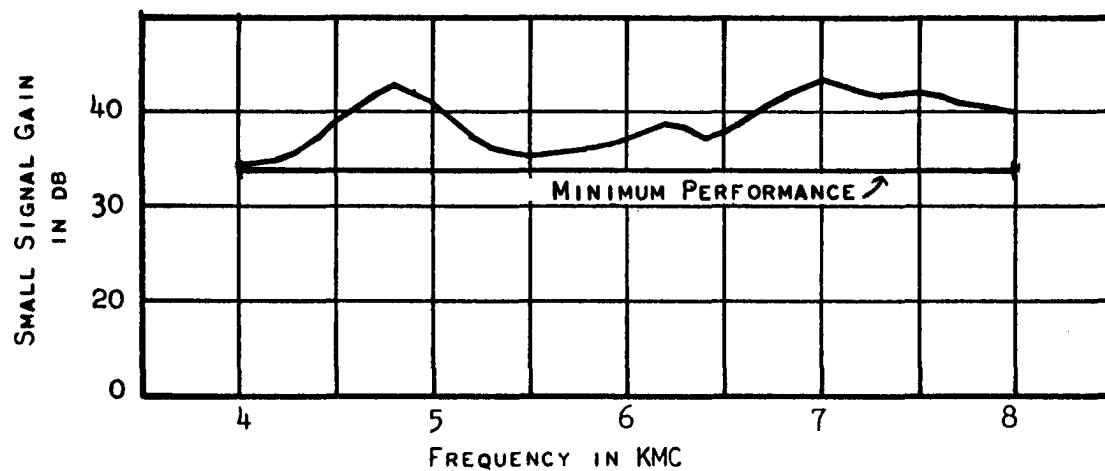
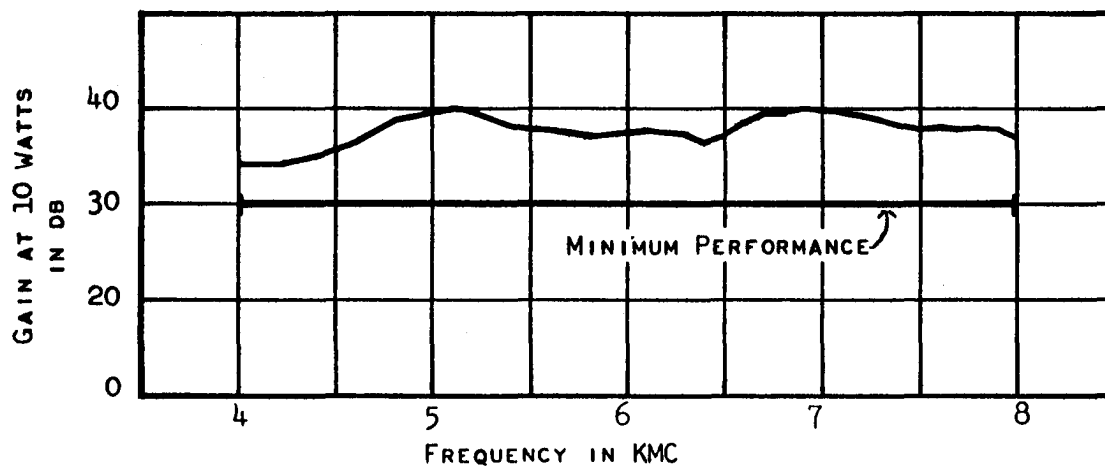
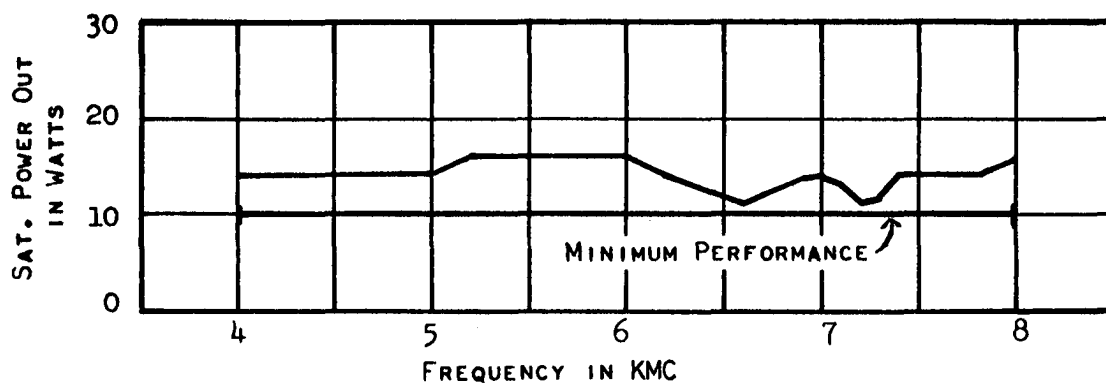
ADDITIONAL INFORMATION FOR SPECIFIC APPLICATIONS CAN BE OBTAINED FROM THE

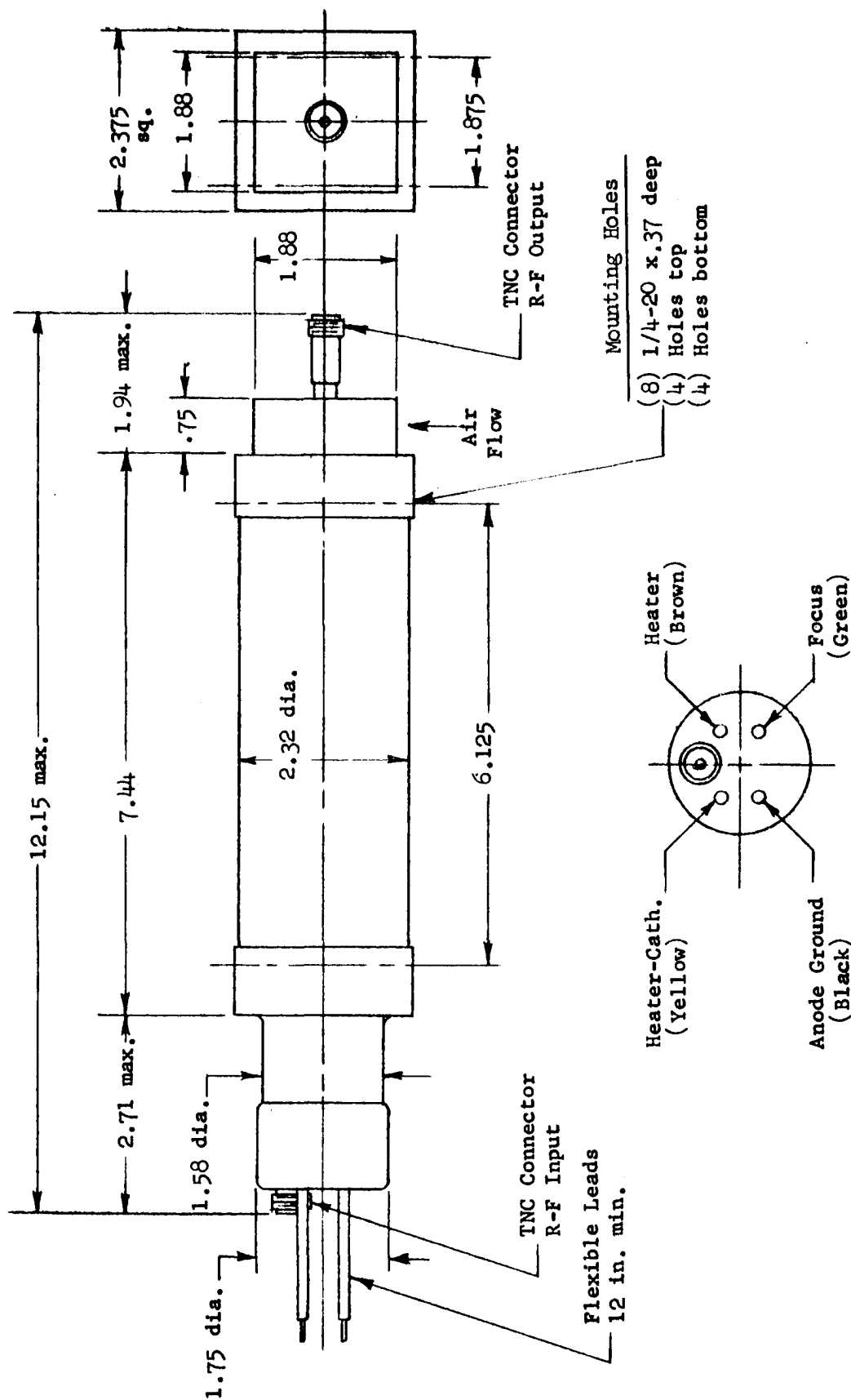
ELECTRON TUBE APPLICATIONS SECTION
ITT COMPONENTS DIVISION
POST OFFICE BOX 412
CLIFTON, NEW JERSEY

X-370 - POWER IN VS POWER OUT
TYPICAL PERFORMANCE



TYPICAL PERFORMANCE
X-370 TRAVELING WAVE TUBE





NOTE: All dimensions in inches

X-370 TUBE AND MAGNET PACKAGE



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