



EITEL-McCULLOUGH, INC.
SAN CARLOS, CALIFORNIA

TENTATIVE DATA

4K3CB

POWER AMPLIFIER
C-BAND KLYSTRON

The Eimac 4K3CB is an air cooled, permanent magnet focused, power amplifier klystron. It will deliver a minimum CW output power of one kilowatt at frequencies from 4.4 to 5.0 kMc, with a minimum power gain of 43 db. The 4K3CB is designed for use in transmitters where compactness and light weight are essential.

FEATURES

FREQUENCY. 4.4-5.0 kMc

MINIMUM OUTPUT POWER 1 kW

HALF POWER BANDWIDTH 7.5 Mc

MINIMUM POWER GAIN. . 43 db

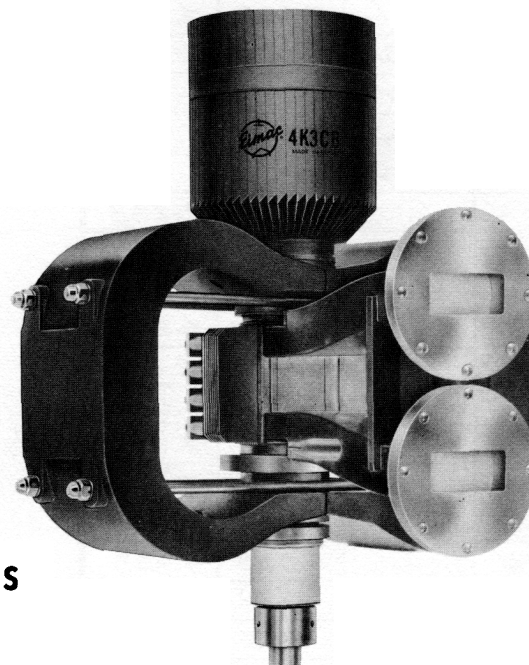
AIR COOLING

PERMANENT MAGNET FOCUSING

FOUR INTEGRAL CAVITIES

FIXED INPUT AND OUTPUT COUPLING

INSTANT FAULT RECYCLING



CHARACTERISTICS

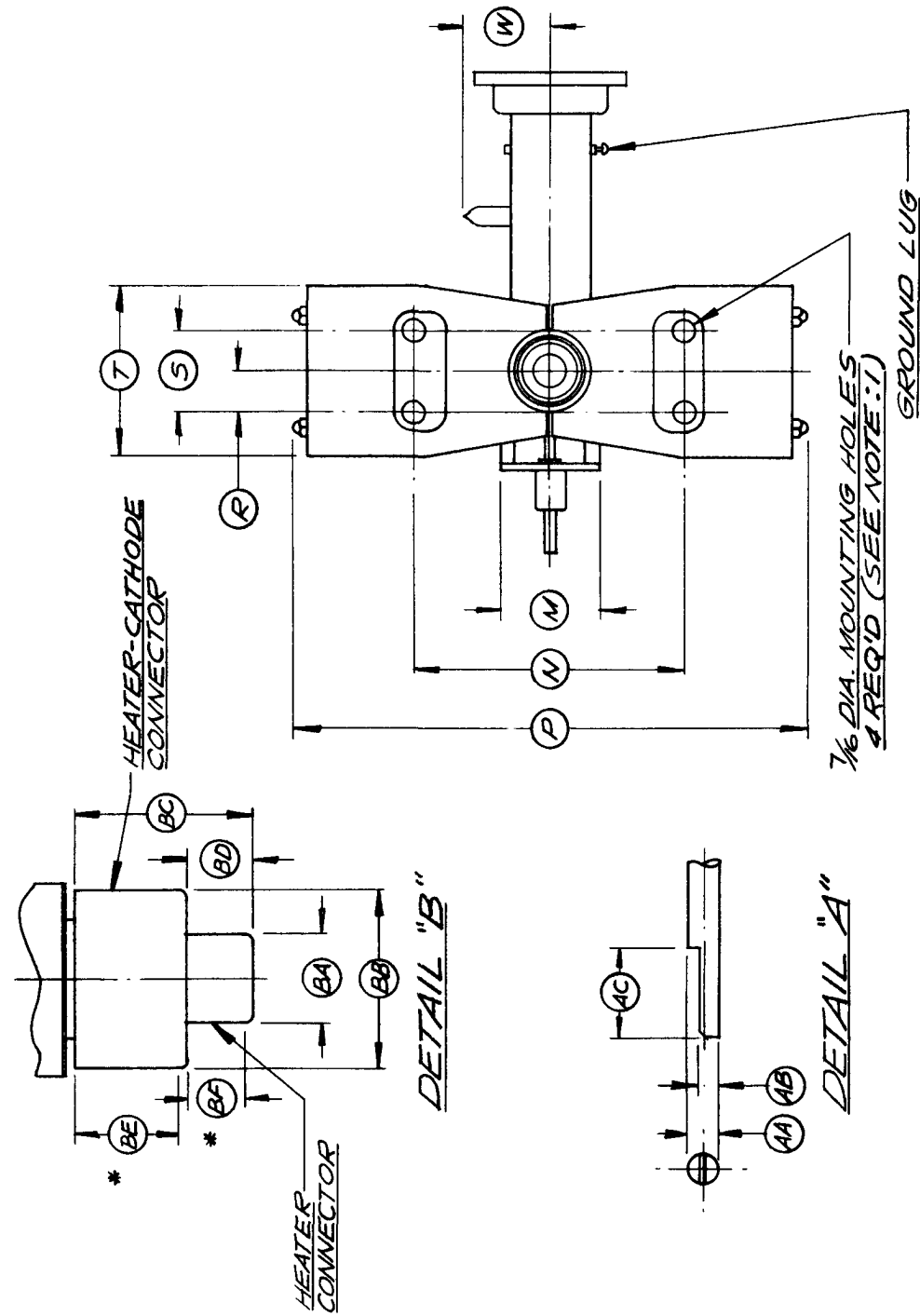
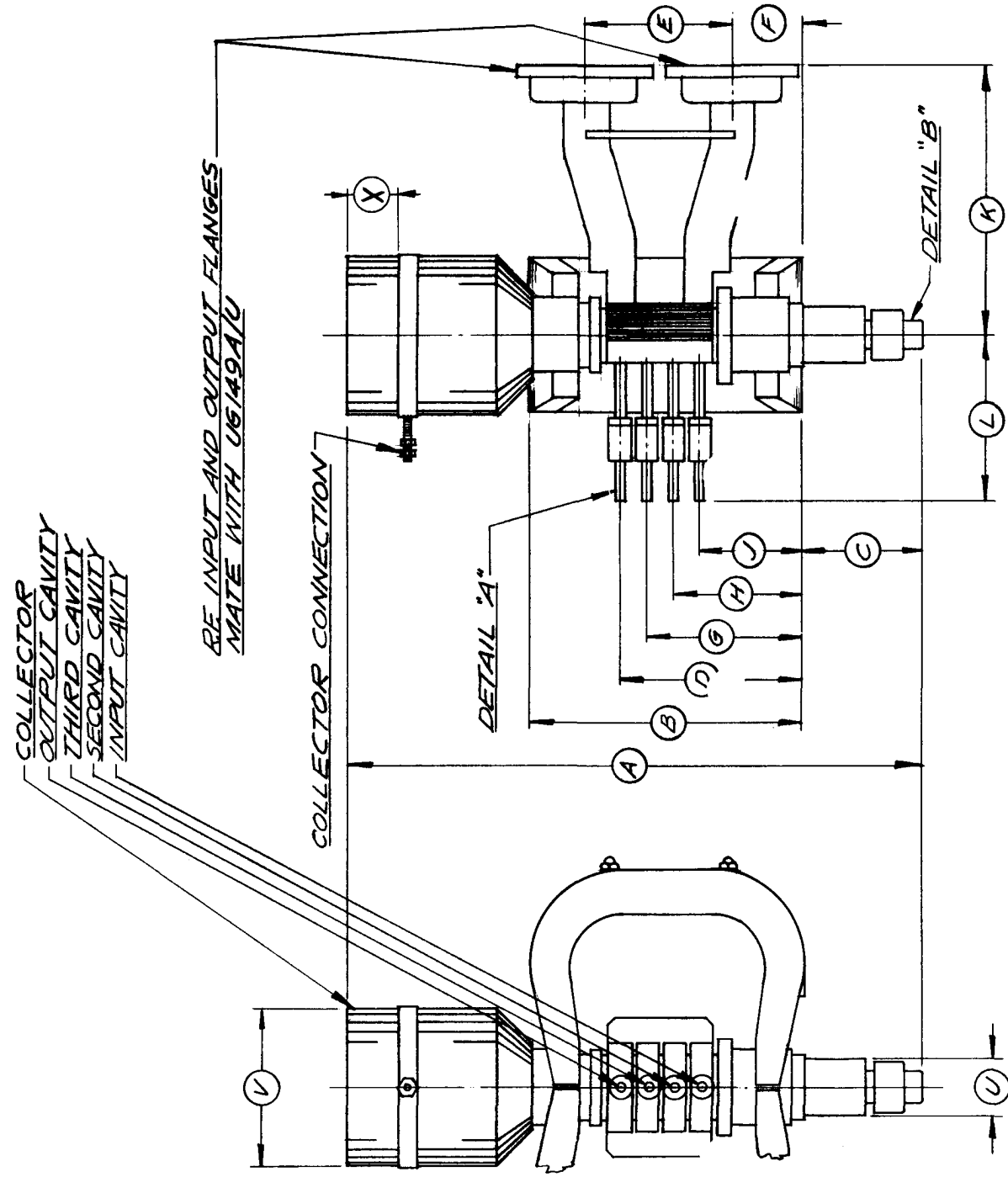
ELECTRICAL

Cathode:	Impregnated, Unipotential		
	Heating Time.	3	minutes
Heater:	Voltage.	6.5	volts
	Current	7.5	amperes
	Maximum Starting Current	15	amperes

MECHANICAL

Maximum Dimensions:			
	Length	15-1/2	inches
	Width	12-13/16	inches
	Depth	11-15/16	inches
	Maximum Weight (Tube and Magnet)	60	pounds
	Input Coupling.	UG149A/U	waveguide
	Output Coupling.	UG149A/U	waveguide
	Maximum Tuner Torque.	30	in-oz
	Mounting Position Preferred	Vertical, cathode down	

DIMENSIONAL DATA			
REF.	NOM.	MIN.	MAX.
A			15.500
B			7.500
C	2.723		
D	5.106		
E		3.629	3.879
F	2.281		
G	4.409		
H	3.714		
J	3.019		
K		7.038	7.288
L		4.481	4.605
M		2.328	2.359
N		6.500	6.625
P			12.812
R		.937	1.000
S		1.969	2.031
T			4.600
U			1.627
V		4.333	4.433
W			2.750
X		.875	1.125
AA		.248	.250
AB		.170	.180
AC		.740	.760
BA		.740	.760
BB		1.485	1.505
BC		1.450	1.490
BD		.530	
BE		.830	
BF		.450	



- NOTES:
1. KEEP MAGNETIC MATERIAL AT LEAST SIX INCHES AWAY FROM MAGNET; OTHER MAGNETS SHOULD BE AT LEAST TWELVE INCHES DISTANT.
 2. DIMENSIONS ARE IN INCHES.
 3. (*) MINIMUM CONTACT SURFACES.

4K3CB KLYSTRON



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MECHANICAL (continued)

Cooling: Forced Air (20° C at Sea Level)

	<u>Flow Rate</u>	<u>Pressure Drop</u>
Tuner (Ducted)	60 cfm	0.25 inches H ₂ O
Body.	60 cfm	free
Collector (Ducted)	200 cfm	2 inches H ₂ O

MAXIMUM RATINGS

DC BEAM VOLTAGE	8.0	KILOVOLTS
DC BEAM CURRENT	0.6	AMPERE
DC BEAM INPUT POWER	4	KILOWATTS
DC BODY CURRENT	60	MILLIAMPS
COLLECTOR DISSIPATION	4	KILOWATTS
LOAD VSWR.	2:1	
TEMPERATURE OF COLLECTOR, BODY AND TUNER FINS . . .	150° C	

TYPICAL OPERATION - TUNED FOR MAXIMUM EFFICIENCY

Frequency.	4.4	4.7	5.0	kilomegacycles
Output Power	1.42	1.32	1.22	kilowatts
Driving Power	40	40	40	milliwatts
Gain.	45.5	45	44.8	decibels
DC Beam Voltage.	7.5	7.5	7.5	kilovolts
DC Beam Current.	0.465	0.465	0.465	ampere
Beam Power Efficiency.	40.7	37.8	35	percent
Half Power Bandwidth	7.5	8	9	megacycles
DC Body Current	21	21	18	milliamperes

For additional information or information regarding a specific application, write to Eitel-McCullough, Inc., 301 Industrial Way, San Carlos, California.