



EITEL-McCULLOUGH, INC.
S A N B R U N O · C A L I F O R N I A

TENTATIVE DATA
4K50,000LQ
POWER AMPLIFIER
L-BAND KLYSTRON

The Eimac 4K50,000LQ is a ceramic and metal, four-cavity, magnetically focused, power-amplifier klystron designed for use at frequencies between 600 and 985 megacycles. It will deliver a minimum CW output power of 10 kilowatts with a power gain of more than 55 db. In applications requiring a 6-megacycle bandwidth at the 0.5-db power points, the 4K50,000LQ will deliver 10 kilowatts output power with a power gain of 30 db.

The resonant cavities for the 4K50,000LQ are completed through the cylindrical ceramic windows of the klystron and all tuning is accomplished outside the vacuum envelope. This design permits a wide tuning range and allows repeated tuning cycling without damage to vacuum seals.

An Eimac Klystron Amplifier Circuit Assembly (Catalog Number H-101A) has been designed for use with this tube and covers the frequency range of 720 to 985 megacycles. Other frequency ranges can be provided if required. This assembly includes an electromagnetic frame and coils, external tuning boxes, an adjustable output coupler, and an Eimac SK-110 Air-System Socket.

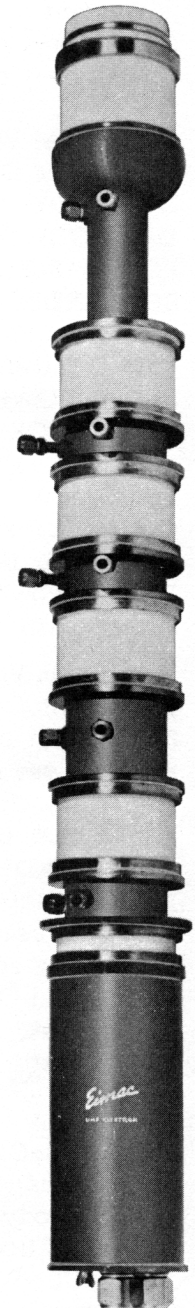
CHARACTERISTICS

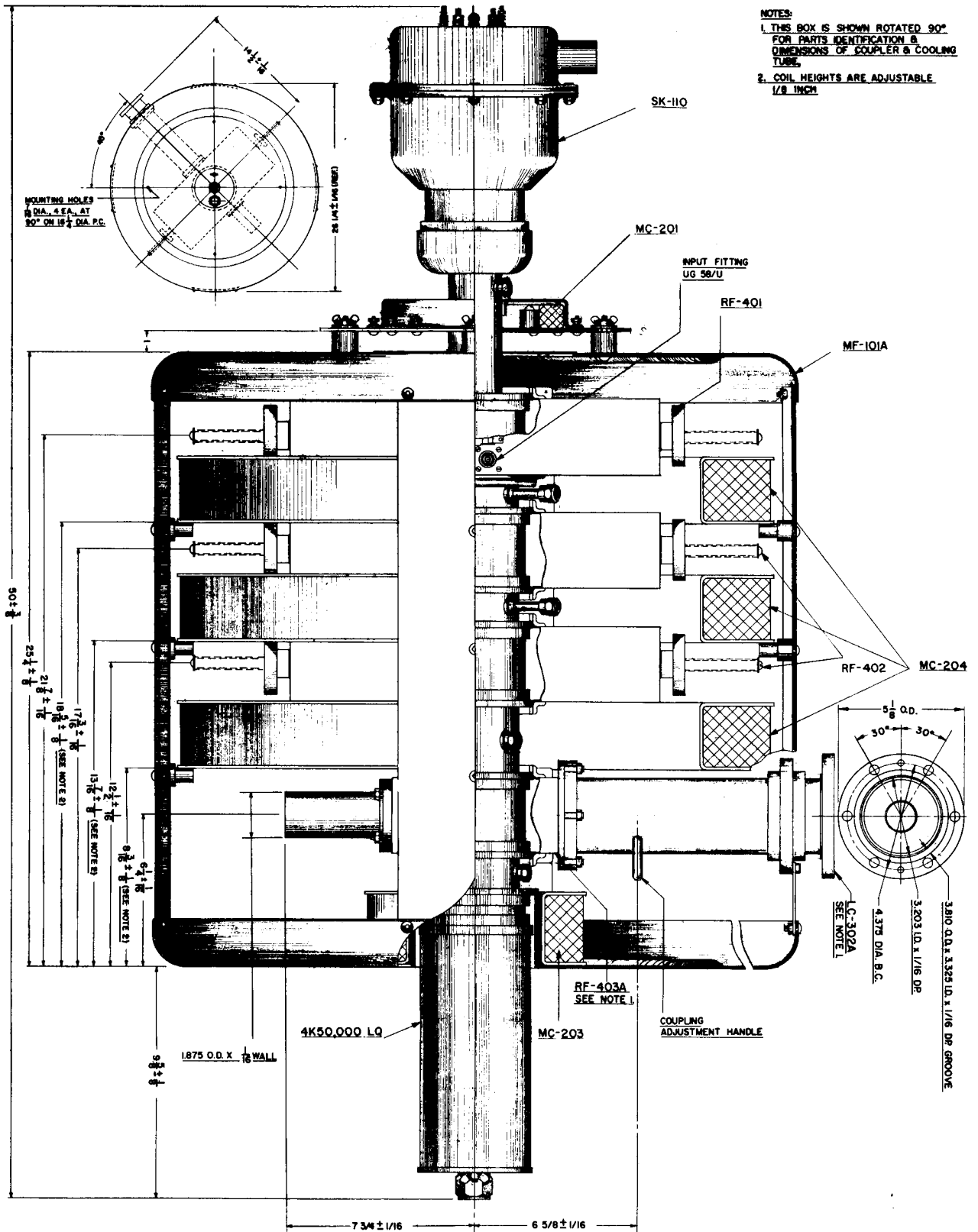
ELECTRICAL

Filament: Pure Tungsten					
Voltage	-	-	-	-	8.0 volts
Current	-	-	-	-	40 amperes
Maximum Starting Current	-	-	-	-	80 amperes
Cathode: Unipotential, Bombardment Heated					
Voltage	-	-	-	-	2250 volts
Current	-	-	-	-	0.71 ampere
Power	-	-	-	-	1600 watts
Power Gain:					
Narrow Band	-	-	-	-	55 db
Broad Band (6 mc at 0.5-db points)*	-	-	-	-	30 db
Output Power	-	-	-	-	10,000 watts
Frequency Range (In H-101A Assembly)	-	-	-	-	720 to 985 mc
*(9 mc at 3-db points)					

MECHANICAL

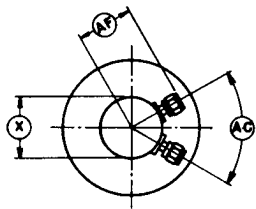
Operating Position	-	-	-	-	Vertical, cathode end up
R-F Input Coupling	-	-	-	-	Type "N" coaxial fitting
R-F Output Coupling	-	-	-	-	3 1/8-inch 50-ohm air line
Net Weight	-	-	-	-	53 pounds
Shipping Weight (approximate)	-	-	-	-	135 pounds
Cooling: Water and Forced Air					
Cathode (With SK-110)	-	-	-	-	<u>Flow Rate</u> - <u>Pressure Drop</u>
Output Cavity	-	-	-	-	52 cfm air - 5 inches H ₂ O
Body	-	-	-	-	50 cfm air - 1.5 inches H ₂ O
Collector	-	-	-	-	1 gpm water - 8 psi
	-	-	-	-	25 gpm water - 28 psi



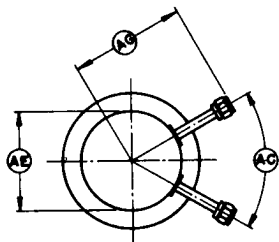


NOTES:
 1. THIS BOX IS SHOWN ROTATED 90° FOR PARTS IDENTIFICATION & DIMENSIONS OF COUPLER & COOLING TUBE.
 2. COIL HEIGHTS ARE ADJUSTABLE 1/8 INCH.

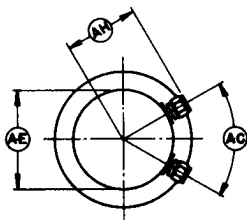
H-101A
KLYSTRON AMPLIFIER CIRCUIT ASSEMBLY



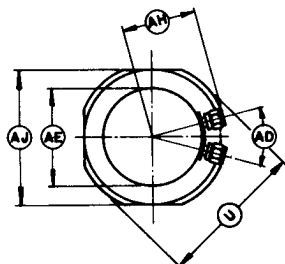
SECTION A-A



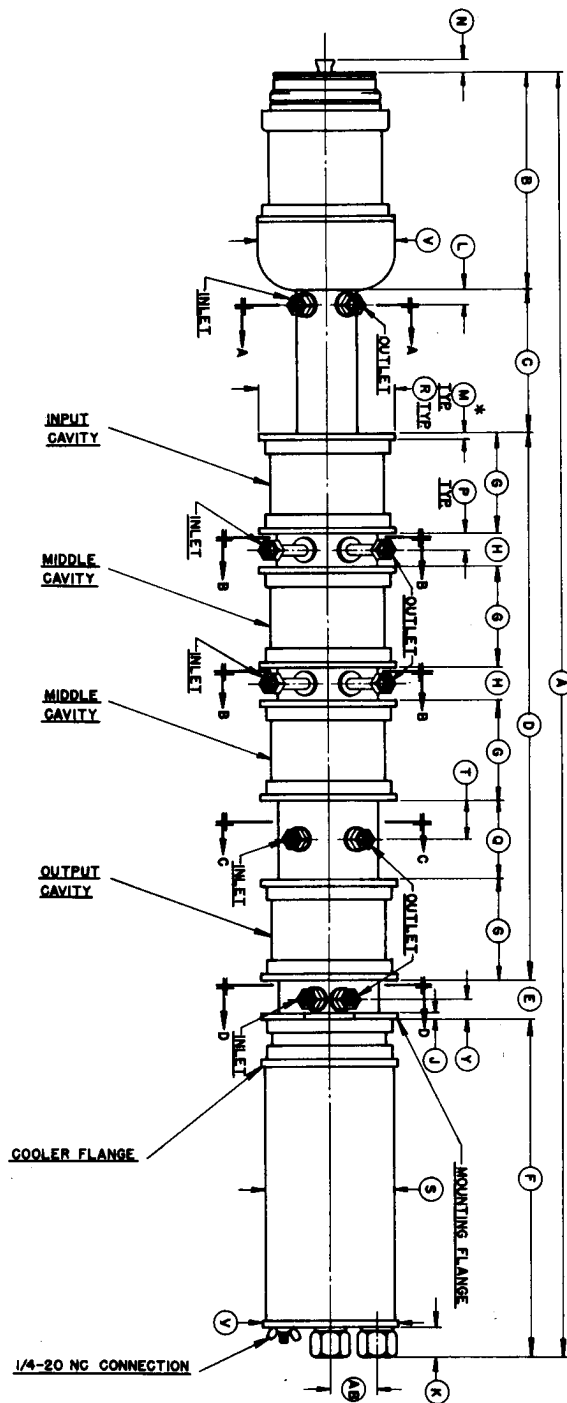
SECTION B-B



SECTION C-C

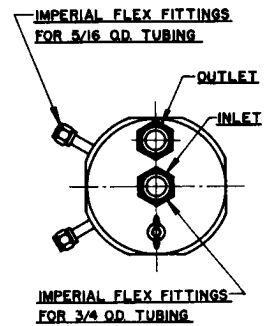


SECTION D-D



**4K50,000LQ
OUTLINE DRAWING**

DIMENSION DATA			
REF	NOM.	MIN.	MAX.
A		44.560	44.690
B		7.470	7.510
C		4.985	5.040
D		19.994	20.064
E	626		
F		12.515	12.620
G		3.495	3.530
H		1.170	1.205
J		.230	.255
K		1.030	1.100
L		.515	.645
M		.187	
N		.750	
P		.560	.650
Q		2.735	2.770
R		4.610 D	4.630 D
S		4.490 D	4.510 D
T		1.320	1.425
U		5.115 D	5.130 D
V		4.610 D	4.640 D
X		2.120	2.140
Y		.645	.705
AB		1.585	1.630
AC	60°		
AD	30°		
AE		3.485	3.510
AF	1.875		
AG	4.000		
AH	2.563		
AJ		4.615	4.635



- NOTES:**
- * MINIMUM CONTACT SURFACES FOR ALL CAVITY PLATES.
 - DIMENSIONS IN INCHES.
 - FOR ELECTRICAL CONTACT SURFACE DIMENSIONS SEE GUN NO. 2 OUTLINE, DRWG. NO. GUN NO. 2-8001.