



EITEL-McCULLOUGH, INC.
SAN CARLOS, CALIFORNIA

X-1130

REFLEX KLYSTRON

OPERATING FREQUENCY

15-18 Gc

TRIMMABLE ± 50 Mc

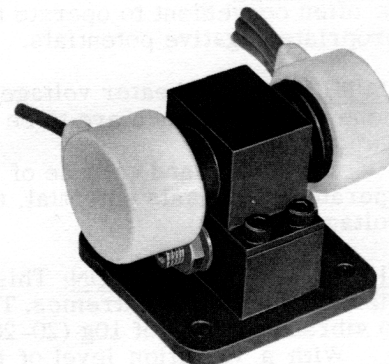
MINIMUM OUTPUT POWER

200 mW

TYPICAL PERFORMANCE

ELECTRICAL

Frequency Range	15.0 to 18 Gc (preset)
Resonator Voltage ²	.500 V
Output Power	.250 mW
Cathode Current	.52 mAdc
Repeller Voltage	-300 V
3db Bandwidth	.35 Mc
Modulation Sensitivity	.0.7 Mc/V
Temperature Coefficient	± 150 Kc/ $^{\circ}$ C
Heater Voltage (AC) ³	.6.3 V
Heater Current (AC)	1.25 A
VSWR	1.2:1 max
Mode	3-3/4



KU-BAND

MECHANICAL

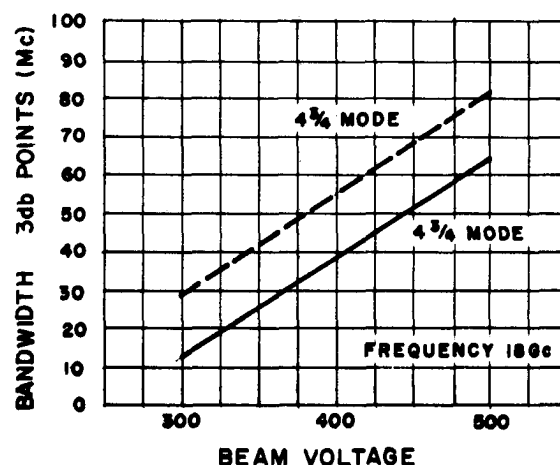
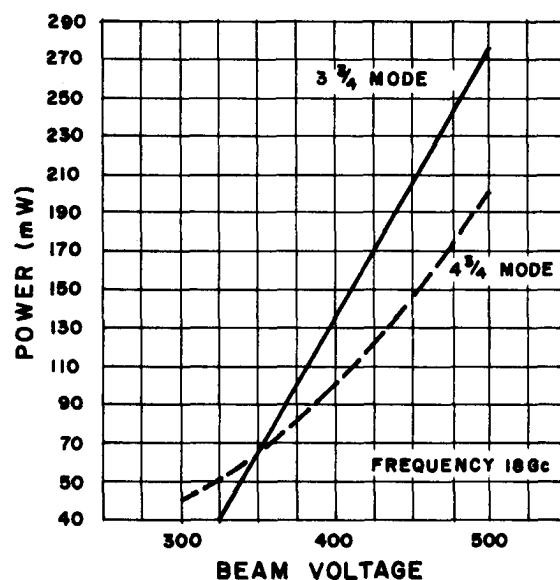
Operating Position	Any
Mounting	Waveguide Flange
RF Output Coupling	RG-91/U waveguide
Net Weight	.6 ounces
Cooling ¹	(See note 1)

ENVIRONMENTAL

Maximum Ambient Temperature	150 $^{\circ}$ C
Maximum Altitude	NO LIMIT
Maximum Shock (Hms duration) ⁴	40 g
Maximum Operating Vibration (20-2000cps) ⁴	10 g

OUTLINE DIMENSION

Height	1.40 inches
Width	1.312 inches
Length	2.100 inches



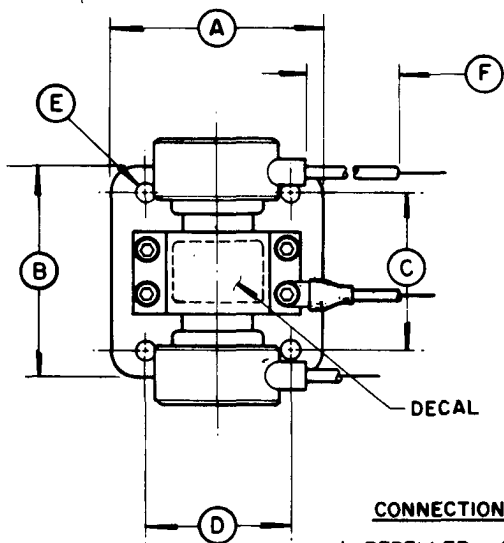
APPLICATION NOTES

1. COOLING: The X 1130 may be cooled by conduction if the connecting waveguide flange provides an adequate heat sink to maintain the tube body temperature below the maximum rating of 150° Centigrade. At high ambient temperatures, forced air cooling may be required to operate within this rating. For maximum tube life, the tube body temperature should be less than 100° Centigrade.
2. RESONATOR: The resonator of the X 1130 is integral with the body of the klystron. For this reason it is often convenient to operate the resonator at chassis potential, with the repeller and cathode at appropriate negative potentials.
3. CATHODE: The heater voltage should be maintained with $\pm 5\%$ of the rated value of 6.3 volts if variations in performance are to be minimized and best tube life obtained.

The heater and cathode of the X 1130 are internally connected. When the resonator of this tube is operated at chassis potential, the heater transformer must be insulated for the cathode-to-resonator voltage.

4. SHOCK AND VIBRATION: This klystron is specifically designed for use in applications encountering vibration and shock extremes. This tube is capable of delivering its rated power output when subjected to vibration levels of 10g (20-2000 cps) or shock of up to 40g (11 milliseconds duration).

With a vibration level of 10g in any reference plane, the peak-to-peak FM deviation will be less than 100 kilocycles.



CONNECTIONS

1. REPELLER - GREY
2. HEATER - YELLOW
3. CATHODE - GREEN
4. HEATER CATHODE - WHITE
5. GROUND - BROWN

[illegible]