



TENTATIVE SPECIFICATIONS

ELECTROSTATICALLY FOCUSED
KLYSTRON AMPLIFIER L-3975

LITTON INDUSTRIES · ELECTRON TUBE DIVISION

DEVELOPMENT RELEASE

1 Mw PEAK POWER
3080 Mc FIXED FREQUENCY

The L-3975 is an electrostatically focused, high power klystron. Since the tube employs solely electrostatic fields for focusing, no auxiliary solenoid or permanent magnet focusing structures are required. The tube was designed for high pulsed power applications where light weight and compact size are required. It offers a combination of high efficiency, relatively wide bandwidth, and high gain. The tube operates at high efficiency at lower output power down to 200 kw by simply reducing the cathode voltage. A single voltage, other than the heater voltage, is all that is required to operate the tube since the electrostatic lenses are connected to cathode potential.

Experimental Performance Specifications

RF

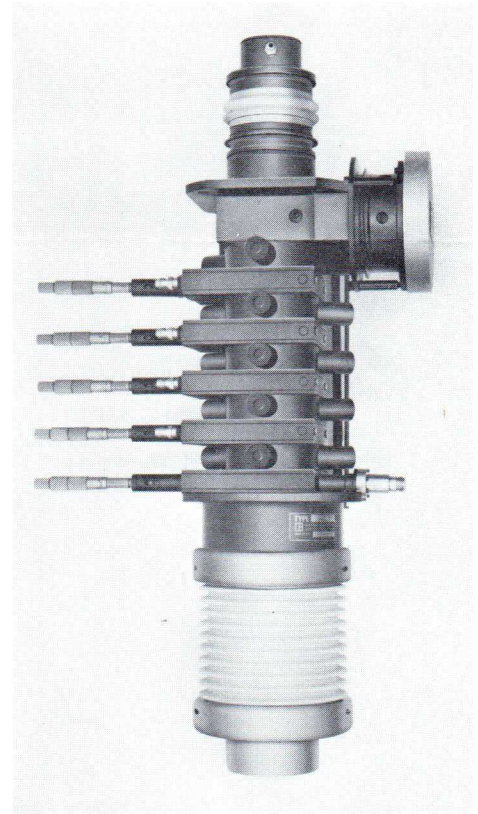
Peak power output	1 Mw peak
Average power output	1 kw
Gain	30 db
Center frequency	3080 Mc/s
Bandwidth (3 db)	90 Mc
Efficiency (beam)	42 %
Load VSWR non-failing	2:1

DC

Beam voltage	85 kv
Beam current	28 A
Heater voltage	11 V
Heater current	3.6 A
Heater power input	40 W
Heater current (surge)	5 A
Total dc power input (pulse)	2380 kw
Cathode loading	3.4 A/cm ²
Cathode warm up time	10 min.

MECHANICAL

Weight	60 pounds
Length	27 inches
Cooling	water
Flow rate	1.5 GPM
RF input connector	Type N
RF output connector	Type UG-54/G waveguide



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