

SPERRY ELECTRONIC TUBE DIVISION

GREAT NECK, NEW YORK

ELECTRON TUBE TYPE: 7592

All ratings are based on the ABSOLUTE system.

The 7592 traveling wave tube employing a helix type wave propagating structure is a power amplifier for operation in the 5400 to 5900 Mc frequency range. The power output is approximately 2500 watts with an average gain of 30 db and the tube is water cooled. It is designed for pulsed operation with a maximum duty cycle of .002. The input and output fittings are designed to mate with TNC and Type N (Resp.) connectors. A solenoid provides the magnetic field and is not integral with the tube.

ELECTRICAL DATA GENERAL

Heater Voltage (ac)	6.3 Volts
Heater Current at 6.3 Volts	3 Amps. (max.)
Cathode Pre-Heating Time (before application of beam voltages)	180 Sec.
Rated Peak Power Output	2 KW (min.)
Input VSWR	4:1 (max.)
Insertion Loss	60 db (min.)
VSWR (Maximum Load)	1.5:1

MECHANICAL DATA GENERAL

Base and Physical Dimensions - See Outline Drawing

Mounting Information - May be mounted in any of 3 positions in magnet.

Cooling Data - 1 GPM Water

RF Input and Output Impedance and type connector -  
50Ω Input - "TNC" Output - "N"

ABSOLUTE RATINGS

UNITS

Heater Surge Current	7 Amps. (max.)
Cathode Current	4.5 Amps. (max.)
Collector Voltage	17,000 max. Volts
Collector Dissipation	150 Watts (max.)
Collector Temperature	150° C (max.)
Input RF Power	15 Average Watts (max.) 50 Peak Watts (max.)
Duty Cycle	.002 (max.)

TYPICAL OPERATION (FOR PULSED OPERATION)

Focusing Field Strength	1630 Gauss
Operating Frequency Range	5400-5900 Mc
Cathode Current	2.25 Amps. peak
Helix Voltage	13,500 Volts
Collector Voltage	13,500 Volts
Gain (Small Signal)	28 db (min.)
RF Output (Saturated)	2500 Watts

NOTE: All Voltages are referenced to the cathode.

THIS IS A  
**REFERENCE PRINT**  
DO NOT USE FOR ANY OTHER PURPOSE

**SPERRY**  
SPERRY GYROSCOPE COMPANY  
DIVISION OF SPERRY RAND CORPORATION  
GREAT NECK, N. Y.

ENGINEERING SPECIFICATION PRODUCT NO 306 8320 DEPARTMENT

7592

GROUND CONNECTION  
# 6 SCREW

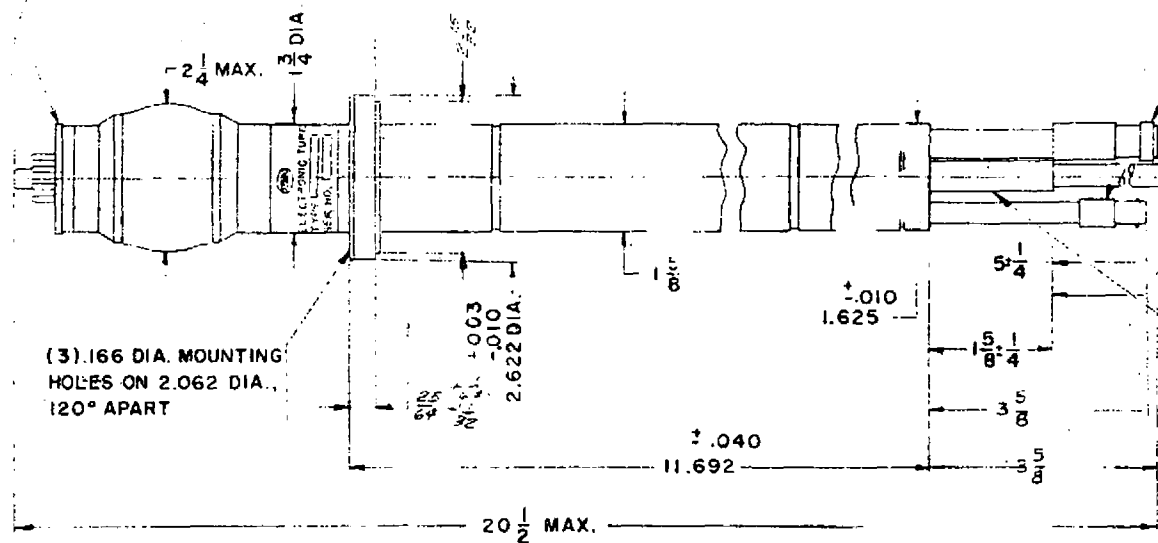
5  $\frac{27}{32}$  MAX.

LARGE WAFER  
OCTAL BASE

TNC JACK TO ACCOMMODATE  
GREMAR 6042 PLUG OR  
EQUIVALENT

N JACK TO ACCOMMODATE  
UG-1185/U PLUG

(2) SNAP-TITE BVHN-4  
VALVE NIPPLES



(3) .166 DIA. MOUNTING  
HOLES ON 2.062 DIA.,  
120° APART

LIQUID COOLED COLLECTOR

NOTE:  
THE LIQUID COOLED COLLECTOR  
INCLUDING COUPLINGS SHALL  
HAVE A MAX. DIAMETER  
OF 1.618 INCHES.

BASE CONNECTIONS

- |                                |                   |
|--------------------------------|-------------------|
| 1- I.C. (INTERNAL CONNECTIONS) | 5- I.C.           |
| 2- HEATER                      | 6- I.C.           |
| 3- I.C.                        | 7- I.C.           |
| 4- I.C.                        | 8- HEATER-CATHODE |

SUPPLEMENTS  A  B  C  D

SPECIFICATION NO. X2495071  
LATEST REVISION  
SUB-LETTER