Manufacturer's Designation: BL-320       December 18, 1956
JETEC Designation: 6597
Manufacturer: Bomac Laboratories, Inc.
               Beverly, Massachusetts

GENERAL CHARACTERISTICS

The 6597 is a combined shutter and broad-band TR tube (1B63A) for use with
RG-52/U size waveguide. The shutter mechanism, when closed, insures pro-
tection of the receiver crystal from nearby transmitters when the radar set
is not in use. When the shutter is open, the TR tube functions in a normal
manner and provides decoupling of the receiver from a common transmitting
and receiving antenna during a period of transmission. It is an integral
cavity type. It's operational band is from 8490 to 9578 megacycles per
second.

ELECTRICAL DATA - TYPICAL VALUES

TR Tube (With shutters open)
Operational Band
  VSWR 1.9 max.                             8490 to 9578 Mc/s.
  VSWR 1.4 max.                             8565 to 9487 Mc/s.
Ignitor Ignition Time (max.)                5 Sec.
Ignitor Voltage Drop. at li=100 µAdc.     200 to 375 Vdc.
Spike Leakage Energy (max.)                0.3 erg.
  F=9000 Mc; po=40 kw;
  tpi=1.0µs; tp2=0.5µs
  prr=1000 pps; li=100 µAdc.
Flat Leakage Power (max.)                  40 mW.
  (See Spike Leakage Energy for test conditions)
Insertion Loss (max.) at 9000 Mc and li=0  0.7 db
Ignitor Interaction (max.) at li=100 µAdc  0.2 db
Recovery Time at 200 kw peak, 3db down     10 µs.
Position of Short.                         0.058 to 0.072 in.
  (Short is measured from the face of the
  input flange of the tube and is further
  from the magnetron.)

Shutter Tube

Attenuation (min) (with shutter closed)     40 db.
  (From 8490 to 9578 Mc/s.)

from JETEC release #1873, March 18, 1957
Shutter Tube (cont.)

Shutter Circuit Voltage (nom) 6V (ac-dc)
Shutter Circuit Pull-In Current (min.) 0.60 Adc
Shutter Circuit Pull-In Current (min.) 0.47 Aac.
Shutter Circuit Holding Current (min.) 0.22 Aac

MECHANICAL DATE-GENERAL

Mounting Position Any
Weight, approximately

ABSOLUTE MAXIMUM RATINGS

Transmitter Peak Power (max.) (Note 1) 250 kw.
Transmitter Average Power 250 W
Igniter Current 200 uA dc

OUTLINE DRAWING

As per attached outline dated 6/15/56

Note 1 The shutters are not intended for applications involving switching of peak power greater than one kilowatt. Therefore the rating applies only when the shutters are either open or closed.
Note: Exhaust stem must not extend beyond flange more than 1/4".

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Dimension</th>
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<tbody>
<tr>
<td>A</td>
<td>#18 (.1695) Dr. 4 Holes</td>
</tr>
<tr>
<td>B**</td>
<td>1 5/8</td>
</tr>
<tr>
<td>C#</td>
<td>1.220 ±.005</td>
</tr>
<tr>
<td>D**</td>
<td>1 1/16 Rad.</td>
</tr>
<tr>
<td>E</td>
<td>1 Max.</td>
</tr>
<tr>
<td>F*</td>
<td>1.280 ±.005</td>
</tr>
<tr>
<td>G**</td>
<td>1 5/8</td>
</tr>
<tr>
<td>H**</td>
<td>3/32</td>
</tr>
<tr>
<td>J</td>
<td>1.555 ±.010</td>
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<tr>
<td>K</td>
<td>9/32 Max.</td>
</tr>
<tr>
<td>L</td>
<td>1 1/8 Max.</td>
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<tr>
<td>M**</td>
<td>0.250 Dia. Nom.</td>
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<tr>
<td>N#</td>
<td>1 3/8 Max.</td>
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<tr>
<td>P</td>
<td>#8-32 NC 4 Holes</td>
</tr>
<tr>
<td>Q*</td>
<td>1 5/8 Max.</td>
</tr>
</tbody>
</table>

SPECIFICATION SHEET

Outline

6615/BL-312, 6597/BL-320

6-15-56 clr