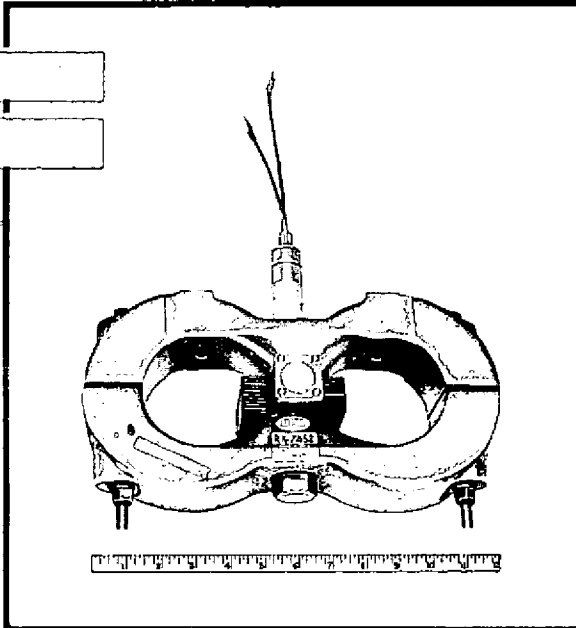


The technical information on this data sheet is of a proprietary nature and is furnished as a customer service for private use only.

**RK 7452**      **PRELIMINARY**  
**DATA SHEET**



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**RK 7452**

**GENERAL DESCRIPTION**

The RK7452 is a fixed frequency, pulsed-type oscillator operating within the frequency limits of 15,840 - 16,160 megacycles, with a minimum peak power output of 70 kilowatts. It is an integral magnet, waveguide output type tube requiring forced air cooling and is designed for coupling to standard RG 91 U waveguide (0.702 x 0.391).

Mechanical Data

Mounting Position .....	Cathode Vertical
Net Weight .....	25 Lbs.
Cooling .....	Forced Air
Output Pressurization .....	Required (25 psia Min.)

Electrical Data

Heater Voltage - Preheat/180 sec .....	4.8 Volts
Heater Current at 4.8 Volts .....	10.8 - 13.2 Amperes
Voltage Rise Time .....	.09 to .14 usec
R. F. Bandwidth .....	2.0/tpc Max.
Maximum V.S.W.R. ....	1.5

Typical Operation

Pulse Duration .....	0.25 usec
Duty Cycle .....	.00215
Average Anode Current .....	26 Milliampere
Average Power Output .....	150 Watts (Min.)
Peak Anode Voltage .....	24 KV

Reliable operation and maximum magnetron life can be achieved only if the overall radar transmitter is designed with the magnetron characteristics clearly in mind. This preliminary Data Sheet is intended as an introduction to this type magnetron and not as an absolute guide to users. Inquiries on this magnetron and its application should be directed to the Applications Engineering Department at Raytheon Company, Waltham, Massachusetts.

70 WATT POWER TUBE

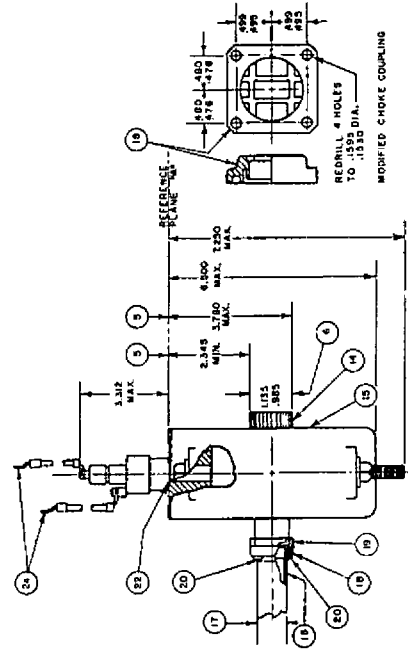
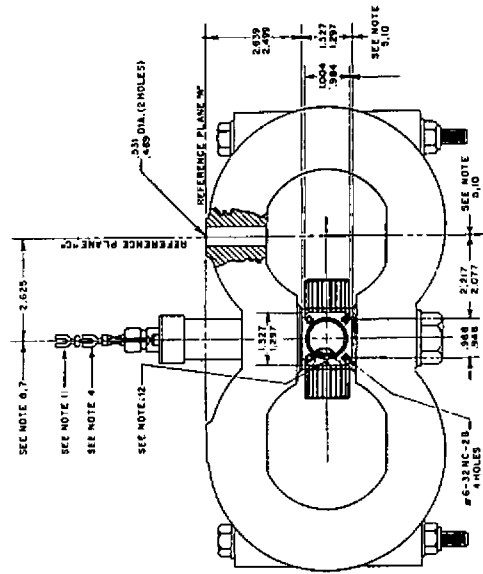
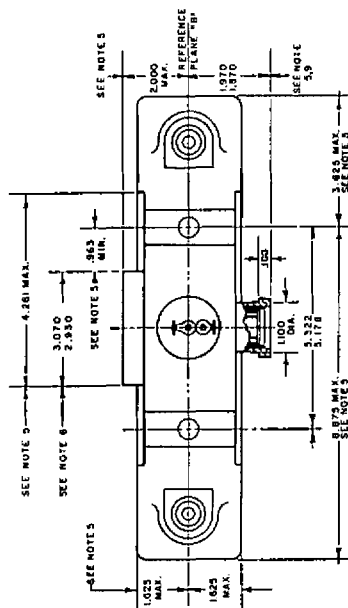
The specifications for this tube have not been finalized. The tube is being manufactured in limited quantities and is available for engineering analysis purposes only. This engineering information and/or delivery of sample tubes do not imply availability of tubes with the same electrical and/or mechanical characteristics. Changes in ratings and/or dimensions may be made at our discretion as deemed advisable by manufacturing experience or other considerations. For current information concerning this tube contact the nearest Microwave and Power Tube Regional Sales Representative.



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preliminary  
data  
sheet

# OUTLINE DRAWING ELECTRON TUBE RK 7452



FOR NUMBERS IN BALLOONS REFER TO NOTES

### NOTES

1. REFERENCE PLANE "A" IS DEFINED AS A PLANE PASSING ALONG THE CENTERLINE OF THE TUBE ENVELOPE.
2. REFERENCE PLANE "B" IS DEFINED AS A PLANE PASSING THROUGH THE CENTERS OF THE MOUNTING HOLES AND PERPENDICULAR TO REFERENCE PLANE "A".
3. REFERENCE PLANE "C" IS DEFINED AS A PLANE PASSING THROUGH THE CENTERLINE OF THE HEATER CONNECTION AND PERPENDICULAR TO REFERENCE PLANE "A" AND "B".
4. BROWN PAINT TO IDENTIFY COMMON CATHODE CONNECTION (OUTER TERMINAL).
5. TOLERANCE INCLUDES ANGULAR AS WELL AS LATERAL DEVIATION.
6. THESE DIMENSIONS APPLY TO RADIATOR SIZE ONLY.
7. PARTS ON THIS CENTERLINE MAY VARY BY 1/8".
8. THIS DIMENSION REFERS TO THE CENTERLINE OF TUBE.
9. SURFACE OF OUTPUT FLANGE TO BE PARALLEL TO REFERENCE PLANE "B" WITHIN .020".
10. TAPPED HOLES MUST BE PARALLEL TO REFERENCE PLANE WITHIN .050".
11. HEATER CONNECTION.
12. POINT AT WHICH TEMPERATURE SHALL BE MEASURED ON ANODE SURFACE AT WHICH TEMPERATURE SHALL BE MEASURED ON ANODE SURFACE.
13. MINIMUM DISTANCE FROM HIGH VOLTAGE TO GROUND SHOULD BE 1.50 INCH THROUGH AIR AT ATMOSPHERIC PRESSURE.
14. ANODE COOLING FAN INLET DUCT FOR SUPPLYING AIR TO THE TUBE COOLING SYSTEM MUST BE SUCH AS TO INSURE DELIVERY OF AIR TO THE ENTIRE CROSS-SECTION OF THE INLET WITH MINIMUM SIDE LEAKAGE.
15. SURFACE FINISH-MATERIALS MUST NOT BE PERMITTED AT ANYTIME CLOSER THAN 3 INCHES FROM THE MAGNET EXCEPT AT THE ENDS WHERE THE CLEARANCE MAY BE 3 INCHES. ENERGIZED AT ANYTIME CLOSER THAN 3 INCHES FROM THE MAGNET EXCEPT AT THE ENDS WHERE THE CLEARANCE MAY BE 3 INCHES. ENERGIZED AT ANYTIME CLOSER THAN 3 INCHES FROM THE MAGNET EXCEPT AT THE ENDS WHERE THE CLEARANCE MAY BE 3 INCHES.
16. WAVEGUIDE .422 x .311 I.D.
17. LONG AXIS OF WAVEGUIDE.
18. WAVEGUIDE CHOKER COUPLING FLANGE, MODIFIED UC-51/10. (SEE DETAIL FIG. 3.)
19. ALL JOINTS OF WAVEGUIDE OUTPUT TO BE HERMETICALLY TIGHT. GARNET WITH "O" RING AS SHOWN AT THIS SURFACE FOR TEST.
20. FOUR #6-32 SCREWS REQUIRED TO ATTACH WAVEGUIDE CHOKER TO TUBE.
21. HEATER CONNECTION (CENTER TERMINAL). HIGH VOLTAGE ELECTRODE CONNECTION (OUTER TERMINAL).
22. MOUNTING HOLES. ENTIRE SUPPORT AND FASTENING OF TUBE TO BE EFFECTIVE FROM THESE HOLES. SEE NOTE 23.
23. THE ANODE MUST BE GROUNDED EFFECTIVELY SUCH AS THROUGH THE MOUNTING BOLTS.
24. FLEXIBLE LEADS CONNECTING TERMINALS FIT #10 SCREW.