

from JETEC release #2011, Sept. 16, 1957

RADAR DISPLAY TUBE TYPE 16AKP7

The 16AKP7 is an electrostatic focus, magnetic deflection round glass radar display tube. The screen is aluminized to increase brightness and uses a P7 phosphor for improved viewing characteristics. The 16AKP7 features a straight no-ion-trap gun which produces a very narrow line which gives the tube high resolution capabilities.

ELECTRICAL:

Cathode	Coated Unipotential
Heater:	
Voltage	6.3 Volts
Current	0.60 Ampere
Direct Interelectrode Capacitances:	
Grid 1 to all other Electrodes . . .	9.0 uuf
Grid 2 to all other Electrodes . . .	7.0 uuf
Cathode to all other Electrodes . .	7.0 uuf
Screen:	
Phosphor	P7
Fluorescence	Blue
Phosphorescence	Yellow
Persistence	Long
Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angle	53%
No-Ion-Trap Gun	No Magnet Required

MECHANICAL:

Mounting Position	Any
Minimum Screen Diameter	14-1/2"
Faceplate Configuration	Spherical
Glass	Filter
Transmission	76%
Bulb Diameter	15-7/8" ± 1/8"
Overall Length	22-1/16" ± 3/8"
Neck Length	7-3/16"
Anode Terminal	J1-21
Base	B7-51

MAXIMUM RATINGS:

Design Center Values		
Anode Voltage	14000 max.	Volts
Grid 4 (Focusing Electrode) Voltage	1000 max.	Volts
Grid 2 Voltage	450 max.	Volts
Grid 1 Volts:		
Negative Bias Value	140 max.	Volts
Positive Bias Value	0 max.	Volts
Positive Peak Value	0 max.	Volts
Peak Heater-Cathode Voltage:		
Heater Negative with Respect to Cathode		
During Warm-up Period not		
to exceed 15 Seconds	410 max.	Volts
After Equipment Warm-up	180 max.	Volts
Heater Positive with Respect		
to Cathode	180 max.	Volts

LIMITING CIRCUIT VALUES ⊕

Grid 1 Circuit Resistance	1.5 max. Megohms
Grid 2 Circuit Resistance	0.1 min. Megohms
Grid 4 Circuit Resistance	0.1 min. Megohms

TYPICAL OPERATING CONDITIONS ▲

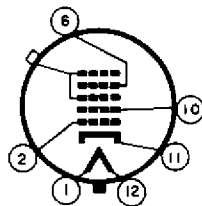
Anode Voltage	12000	Volts
Grid 4 Voltage ⊕	-300 to +250	Volts
Grid 2 Voltage	300	Volts
Grid 1 Voltage ■	-35 to -75	Volts

⊕ With the combined grid 1 bias voltage and video-signal voltage adjusted to give an anode current of 100 microamperes on a 13-1/4" by 13-1/4" raster.

■ For visual extinction of focused spot.

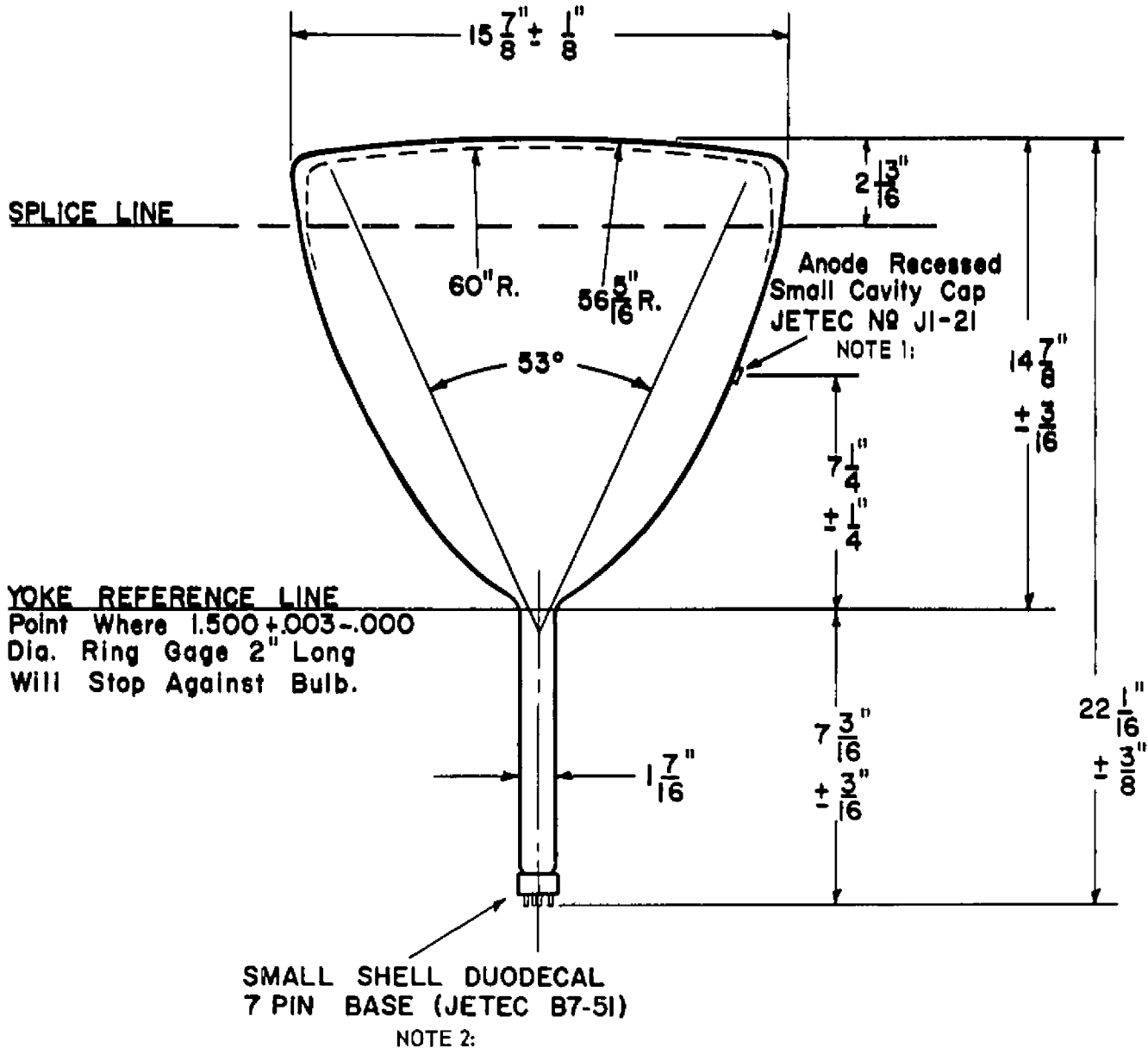
▲ A typical line width of 0.025" may be expected with an anode current of 100 microamperes.

⊕ Protective resistance in the G2 and focus electrode circuits is advisable to prevent damage to the tube.



12M

- PIN 1: HEATER
- PIN 2: GRID 1
- PIN 6: GRID 4(FOCUS)
- PIN 7: NO CONNECTION
- PIN 10: GRID 2
- PIN 11: CATHODE
- PIN 12: HEATER
- CAP : ANODE



NOTE 1: The plane through the tube axis and the base pin No. 6 may vary from the plane through the tube axis and the bulb terminal by an angular tolerance of $\pm 30^\circ$ measured about the tube axis. The bulb terminal is on the same side of the tube as pin No. 6.

NOTE 2: The socket should not be mounted rigidly but it should be allowed to move freely and it should have flexible leads. The bottom circumference of the base shell will lie within a circle concentric with the bulb axis and having a diameter of $2 \frac{3}{4}"$.