12BNP4A

Picture Tube

PAN-O-PLY TYPE — **LOW-VOLTAGE ELECTROSTATIC FOCUS**
NO ION-TRAP MAGNET REQUIRED — **110° MAGNETIC DEFLECTION**

Direct Interelectrode Capacitances		
Cathode to all other electrodes	5	pF
Grid No.1 to all other electrodes	6	pF
External conductive coating to anode[a]	550 min - 850 max	pF
Heater Current at 6.3 V	450 ± 20	mA
Heater Warm-up Time (Average)	11	s
Electron Gun	Type Requiring No Ion-Trap Magnet	

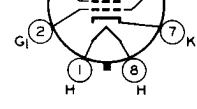
OPTICAL

Phosphor — P4—Sulfide Type, Aluminized
For curves, see front of this section
Faceplate — Filterglass
Light transmission at center (Approx.) — 49%

MECHANICAL

Weight (Approx.)	5 lb
Overall Length	9.348 ± .250 in
Neck Length	4.375 ± .125 in
Projected Area of Screen	74 sq in
External Conductive Coating	
Type (See CRT OUTLINES 1 at front of this section)	Regular-Band
Contact area for grounding	Near Reference Line
Cap	Recessed Small Cavity (JEDEC No.J1-21)
Base	Small-Button Neoeightar 7-Pin, Arrangement 1, (JEDEC No.B7-208)
Basing Designation for BOTTOM VIEW	8HR

Pin 1 - Heater
Pin 2 - Grid No.1
Pin 3 - Grid No.2
Pin 4 - Grid No.4
Pin 6 - Grid No.1
Pin 7 - Cathode
Pin 8 - Heater



Cap - Anode (Grid No.3, Grid No.5, Screen, Collector)
C - External Conductive Coating

MAXIMUM AND MINIMUM RATINGS, DESIGN-MAXIMUM VALUES

Voltages are positive with respect to cathode

Anode Voltage	9000 min - 15000 max	V
Grid-No.4 Voltage		
Positive value	1100 max	V
Negative value	550 max	V
Grid-No.2 Voltage	125 min - 550 max	V
Grid-No.1 Voltage		
Negative peak value	220 max	V
Negative bias value	155 max	V
Positive bias value	0 max	V
Positive peak value	2 max	V

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Heater Voltage	5.7 min - 6.9 max	V
Peak Heater-Cathode Voltage		
Heater negative with respect to cathode:		
During equipment warm-up period ≤ 15 sec.	450 max	V
After equipment warm-up period	300 max	V
Heater positive with respect to cathode:		
Combined AC & DC voltage	200 max	V
DC component	100 max	V

TYPICAL OPERATING CONDITIONS FOR CATHODE-DRIVE SERVICE

Voltages are positive with respect to grid No.1

Anode Voltage	13000	V
Grid-No.4 Voltage[b]	100	V
Grid-No.2 Voltage	140	V
Cathode Voltage	22 to 42	V
For visual extinction of focused raster		
Field Strength	0 to 12	G
Of required adjustable centering magnet		

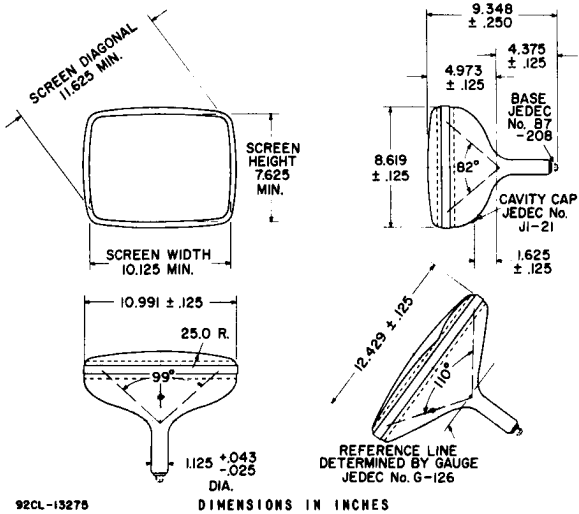
MAXIMUM CIRCUIT VALUE

Grid-No.1 Circuit Resistance	1.5 max	MΩ

[a] Includes implosion protection hardware.

[b] The grid-No.4 voltage required for optimum focus of any individual tube will have a value anywhere between -100 and +300 volts with the combined cathode voltage and video-signal voltage adjusted to give an anode current of 75 microamperes on a 6-3/4-inch by 9-inch pattern from an RCA-2F21 monoscope, or equivalent.

DIMENSIONAL OUTLINE (BULB J99C/E)



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DIMENSIONS IN INCHES

RADIO CORPORATION OF AMERICA
Electronic Components and Devices Harrison, N. J.