9QP4-A
CATHODE RAY TUBE

9 INCH RECTANGULAR, GLASS	7-11/16 BY 6-1/8 INCH PICTURE SIZE
FOCUS - ELECTROSTATIC	FACEPLATE - SPHERICAL, GRAY
DEFLECTION - MAGNETIC	ION-TRAP GUN
70 DEGREE DEFLECTION ANGLE	PERSISTENCE - SHORT

DESCRIPTION AND RATING

The 9QP4-A is a television picture tube designed to feature small size, lightweight, and a low current heater for series-string operation.

The reduction in size and weight over other tubes with comparable characteristics makes it particularly suitable for use in small, lightweight portable television receivers.

Since the tube is designed primarily for series-string operation, its use will permit the circuit simplification and power reduction possible in such service.

GENERAL

ELECTRICAL

Heater Voltage	4.7 ± 10 %	Volts
Heater Current	0.3	Amperes
Heater Warm-up Time	11	Seconds

Focusing Method - Electrostatic
Deflecting Method - Magnetic
Deflection Angle, approximate

Diagonal	70	Degrees
Horizontal	61	Degrees
Vertical	49	Degrees

Direct Interelectrode Capacitances, approximate

Cathode to All Other Electrodes	6	uuf
Grid-No. 1 to All Other Electrodes	4	uuf

OPTICAL

Phosphor Number - P4
Fluorescent Color - White
Phosphorescent Color - White
Persistence - Short

from JETEC release #2164, Sept. 29, 1958

Faceplate - Gray		
Light Transmission At Center, approximate	83	Percent

MECHANICAL

Over-all Length	12-3/4 ± 5/16	Inches
Greatest Bulb Dimensions		
Diagonal	8-5/8 + 1/8 - 1/16	Inches
Width	8-7/32 + 1/8 - 1/16	Inches
Height	6-11/16 +1/8 - 1/16	Inches
Minimum Useful Screen Dimensions		
Diagonal	8-1/4	Inches
Width	7-11/16	Inches
Height	6-1/8	Inches
Neck Length	6-1/2	Inches

Base - Small-shell Duodecal 7 Pin, JETEC No. B7-179
Basing, JETEC Designation - 12AD

Mounting Position - Any		
Net Weight, approximate	3-1/2	Pounds

MAXIMUM RATINGS *
Cathode-Drive-Service

DESIGN-CENTER VALUES †

Anode Voltage ‡	6800	Max Volts DC
Focusing-Electrode Voltage for Focus	- 100 to + 500	Max Volts DC
Grid-No.2 Voltage	300	Max Volts DC
Cathode to Grid No. 1 Voltage §		
Negative-Bias Value	0	Max Volts DC
Positive-Bias Value	100	Max Volts DC
Negative-Peak Value	2	Max Volts
Positive-Peak Value	130	Max Volts
Peak Heater-Cathode Voltage		
Heater Negative with Respect to Cathode		
During Warm-up Period not to exceed 15 seconds	200	Max Volts
After Equipment Warm-up Period	150	Max Volts
Heater Positive with Respect to Cathode	150	Max Volts

TYPICAL OPERATING CONDITIONS *
Cathode-Drive-Service

Anode Voltage //	5500	Volts DC
Focusing-Electrode Voltage for Focus	0 to 400	Volts DC
Focusing-Electrode Current	- 15 to + 25	Microamperes DC

Grid-No. 2 Voltage	200	Volts DC
Cathode to Grid-No. 1 Voltage ◆	+ 28 to + 52	Volts DC
Ion-Trap Field Intensitity △, approximate	22	Gausses
Grid-No. 1 Circuit Resistance	1.5	Max Megohms

* Voltages are positive with respect to Grid-No. 1 unless otherwise specified.

† The maximum ratings provide a ten percent safety factor in accordance with the standard design-center system of rating cathode-ray tubes. The tube will withstand the combined effects of variations in line voltage and components provided the maximum design-center values are not exceeded by more than ten percent.

‡ Anode, Grid-No.3 and Grid-No. 5 which are connected together within the tube are referred to herein as Anode.

§ Grid-No. 1 must not be positive with respect to cathode at any time during warm-up or subsequent operation.

// Brightness and focus quality decrease with decreasing anode voltage. In general, the anode voltage should not be less that 3500 volts.

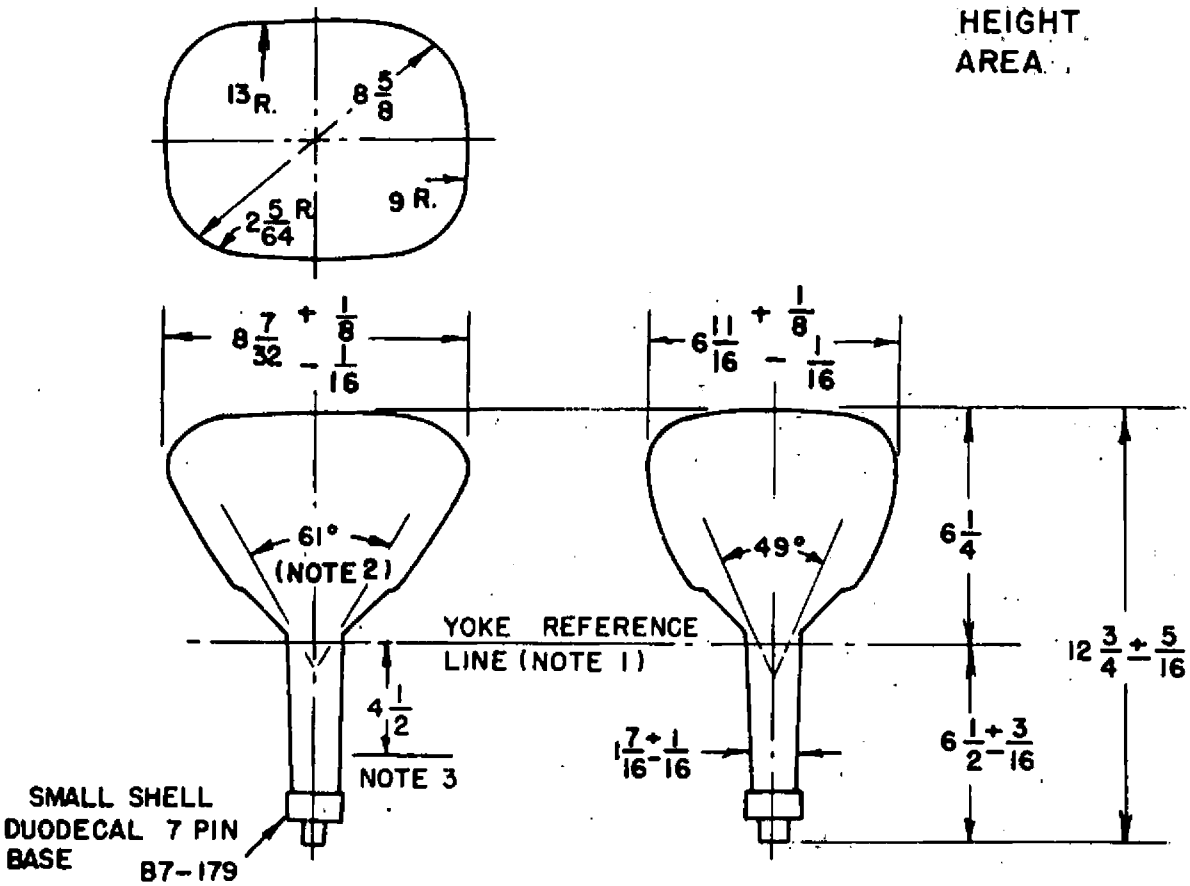
◆ For visual extinction of focused raster.

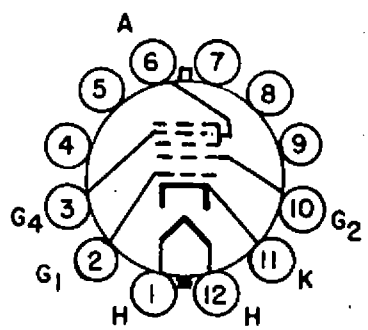
△ Single-field ion-trap magnet adjusted to optimum position, equivalent to 22 milliamperes through EIA ion-trap magnet No. 117.

GENERAL ELECTRIC COMPANY
ELECTRONICS COMPONENTS DIVISION
CATHODE RAY TUBE DEPARTMENT
SYRACUSE, N.Y.

SCREEN DIMENSIONS

DIAGONAL	8-1/4"
WIDTH	7-11/16"
HEIGHT	6-1/8"
AREA	43 SQ. IN.





BASING DIAGRAM
12AD

NOTES:

1. REFERENCE LINE IS DETERMINED BY THE PLANE OF THE UPPER EDGE OF THE SHOULDER OF THE REFERENCE-LINE GAGE (EIA NO. 110) WHEN THE GAGE IS RESTING ON THE CONE.
2. DEFLECTION ANGLE ON DIAGONAL IS 70 DEGREES.
3. APPROXIMATE POSITION OF ION-TRAP MAGNET.