Excellence in Electronics

TYPE 3ACP1A 3ACP2A 3ACP7A 3ACP11A

The 3ACP—A is a 3" electrostatic focus and deflection cathode ray tube. It has a high light output, high deflection sensitivity, and a small spot size resulting from an efficient gun and post acceleration. The gun features improved deflection accuracy and electrostatic shielding to minimize interaction.

MECHANICAL DATA

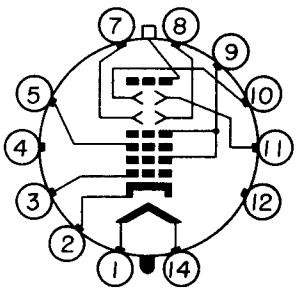
BASE: Medium Shell Diheptal 12–pin No. B12–37

CAP: Recessed Small Cavity

TERMINAL CONNECTIONS:

Pin 1 Heater	Pin 7 Deflecting Electrode D3
Pin 2 Cathode	Pin 8 Deflecting Electrode D4
Pin 3 Grid #1	Pin 9 Accelerator
Pin 4 Internal Connection	Pin 10 Deflecting Electrode D2
Pin 5 Focusing Electrode	Pin 11 Deflecting Electrode D1
	Pin 14 Heater

MOUNTING POSITION: Any



BOTTOM VIEW

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GENERAL DATA

		3ACP1	3ACP2	3ACP7	3ACP11
Phosphor					
Fluorescence		Green	Green	Blue	Blue
Phosphorescence		-----	Green	Yellow	-----
Persistence		Medium	Long	Long	Short
Focusing Method	Electrostatic				
Deflection Method	Electrostatic				

ELECTRICAL DATA

DIRECT INTERELECTRODE CAPACITANCES: ($\mu\mu$fds) (approx.)

Grid #1 to all other electrodes	5.5
Cathode to all other electrodes	4.2
D1 to D2	2.1
D3 to D4	1.5
D1 to all other electrodes	5.8
D2 to all other electrodes	5.8
D3 to all other electrodes	4.5
D4 to all other electrodes	4.5

DESIGN CENTER MAXIMUM RATINGS:

Peak Heater-Cathode Voltage Max. (Note 1)	
Heater Negative with Respect to Cathode	180 volts
Heater Positive with Respect to Cathode	180 volts
Anode #2 Voltage	6000 volts DC
Anode #1 Voltage	2000 volts DC
Focusing Electrode	1500 volts DC
Grid #1 Voltage	
Negative-Bias Value	200 volts DC
Positive-Bias Value	0
Positive-Peak Value	0
Peak Voltage Between Anode #2 and any Deflecting Electrode	550 volts DC

CHARACTERISTICS AND TYPICAL OPERATION:

Heater Voltage	6.3 volts
Anode #2 Voltage	4000 volts DC
Anode #1 Voltage	2000 volts DC
Focusing Electrode Voltage	390 to 550 volts DC
Anode #3 Current (Note 2)	500 ma.
Grid #1 (Note 3)	–45 to –75 volts DC
Deflection Factors	
D1–D2	175 to 205 volts DC/inch
D3–D4	138 to 158 volts DC/inch
Modulation (Note 4)	21
Modulation (Note 5)	45
Line Width "A" (Note 6)	0.016

Tentative Data

Printed in U.S.A.

RAYTHEON MANUFACTURING COMPANY

RECEIVING TUBE AND SEMICONDUCTOR OPERATIONS

October 15, 1957 NEWTON 58, MASS.

ELECTRICAL DATA (cont'd.)

CHARACTERISTICS AND TYPICAL OPERATION: (cont'd)

Line Width "A" (Note 5)	0.028
Spot Position (focused and undeflected) (Note 7)	3/16 inches

MAXIMUM CIRCUIT VALUES:

Grid #1 Circuit Resistance	1.5 meg.
Resistance in any deflecting electrode circuit (Note 8)	1.0 meg.

Note 1 Cathode should be returned to one side or to the midtap of the heater transformer winding.

Note 2 Ec1 = 0 Volts DC.

Note 3 Visual extinction of undeflected focused spot.

Note 4 Ib3 = 25 μA measured in accordance with MIL-E-1 specification.

Note 5 Ib3 = 200 μA measured in accordance with MIL-E-1 specification.

Note 6 Ib3 = 50 μA measured in accordance with MIL-E-1 specification.

Note 7 Centered with respect to shielded tube face. Connect free deflecting electrodes to accelerator.

Note 8 It is recommended that the deflecting-electrode-circuit resistances be approximately equal.