

Technical Information

5ADP-*

CATHODE RAY TUBE

The 5ADP- is a 5" electrostatic focus and deflection cathode ray tube designed for oscilloscope applications. The 5ADP- has very high sensitivity and low capacitance of the vertical deflecting electrodes making the tube well suited for wide band amplifiers with their characteristic low signal output and low capacitance load requirement. The gun features a small spot size of high brilliance, as well as a cutoff voltage not affected by focusing changes.

MECHANICAL DATA

BASE:..... Medium Shell Diheptal
12-pin No. B12-37
MOUNTING POSITION:..... Any
BASING..... 14J

GENERAL DATA

	<u>5ADP1</u>	<u>5ADP2</u>	<u>5ADP7</u>	<u>5ADP14</u>
Phosphor				
Fluorescence	Green	Green	Blue	Blue
Phosphorescence	----	Green	Yellow	Orange
Persistence	Medium	Long	Long	Med. Long
Focusing Method	Electrostatic			
Deflection Method	Electrostatic			
Useful screen dia.	4 1/2" min.			

* Available in all popular phosphors.

ELECTRICAL DATA

DIRECT INTERELECTRODE CAPACITANCES: ($\mu\text{mfd.s.}$) (approx.)

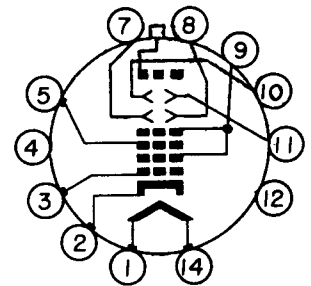
Grid #1 to all other electrodes	6
Cathode to all other electrodes	4.5
D1 to D2	2.4
D3 to D4	1.0
D1 to all other electrodes except D2	4.4
D2 to all other electrodes except D1	4.4
D3 to all other electrodes except D4	3.1
D4 to all other electrodes except D3	3.6

RATINGS—ABSOLUTE MAXIMUM VALUES:

Heater Voltage	6.3 ± 10 % volts
Peak Heater—Cathode Voltage, Max.	
Heater Negative with respect to cathode	200 volts
Heater Positive with respect to cathode	200 volts
Anode #2 Voltage	6600 volts DC
Anode #1 Voltage	2850 volts DC
Ratio of Anode #2 to Anode #1 Voltage	2.3:1 maximum
Grid #3 Voltage (Focus Electrode)	1100 volts DC
Grid #1 Voltage	
Negative—Bias Value	220 volts DC
Positive—Bias Value (Note 1)	0 volts DC
Positive—Peak Value	2 volts
Peak Voltage Between Anode #2 and Any Deflecting Electrode	550 volts DC

CHARACTERISTICS AND TYPICAL OPERATION:

Heater Voltage	6.3 volts
Heater Current	600 mA
Anode #2 Voltage	3000 volts DC



BOTTOM VIEW

TERMINAL CONNECTIONS:

Pin 1	Heater
Pin 2	Cathode
Pin 3	Grid #1
Pin 4	Do not use
Pin 5	Focus
Pin 7	D3
Pin 8	D4
Pin 9	Anode #1
Pin 10	D2
Pin 11	D1
Pin 12	No Connection
Pin 14	Heater
Cap	Anode #2



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ELECTRICAL DATA (Cont'd.)

CHARACTERISTICS AND TYPICAL OPERATION: (cont'd.)

Anode #1 Voltage	1500 volts DC
Grid #3 Voltage (Focusing Electrode)	300 to 515 volts DC
Grid #1 Voltage required for cutoff (Note 2)	-34 to -56 volts DC
Deflection Factors	
D1-D2	40 to 50 volts DC/inch
D3-D4	30.5 to 37.5 volts DC/inch
Modulation with Anode #2 Current=25 μ A _{dc}	45 volts max.
Line Width with Anode #2 Current=25 μ A _{dc}	0.03 inches max.
P1 Light Output with Anode #2 Current=25 μ A _{dc}	15 Ft. L. min.
Undelected Spot Position (Note 4)	Within 5/16 inch radius circle
Useful Scan	\pm 2 inches from tube face center

BASE ALIGNMENT:

D1-D2 trace aligns with pin #5 and tube axis \pm 10 degrees	
Positive Voltage on D1 deflects beam toward pin #5	
Positive Voltage on D3 deflects beam toward pin #2	
Angle between D3, D4 and D1, D2 traces	90 degrees approx.

MAXIMUM CIRCUIT VALUES:

Grid #1 Circuit Resistance	1.5 meg.
Resistance in any deflecting electrode current (Note 3)	5.0 meg.

NOTE 1: At or near this rating, the effective resistance of the collector supply should be adequate to limit the collector input power to 6 watts.

NOTE 2: Visual extinction of undeflected focused spot.

NOTE 3: It is recommended that the deflecting-electrode-circuit resistances be approximately equal.

NOTE 4: Centered on tube face with the tube shielded and with all deflection plates connected to Anode #2.