

# 2FP7

Specialized - Cathode Ray electronic tube

Small oscilloscope and monitor cathode-ray tube in the 2FP family. The record associates it with electrostatic focusing and deflection; no separate manufacturer artifact is attached for this persistent-screen variant.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | —                 | BASE PINS            | —             |
| NOMINAL HEATER      | 6.3 V / 600 mA    | PARALLEL HEATER      | — / —         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

|                                                                                         |
|-----------------------------------------------------------------------------------------|
| SECTION1 Cathode Ray                                                                    |
| No fixed ratings recorded.                                                              |
| CRT section; maximum anode voltage 2750 V and capacitances retained in parameter table. |

from JEDEC release #3011, Oct. 31, 1960 RAYONIC® 2FP1 CATHODE RAY TUBE OSCILLOSCOPE AND MONITOR TUBE Focusing Method ... e LIECTOSTATIC Deflecting Method ... ..Electrostatic Phosphor ... SRR o|

## SOURCE OPERATING CONDITIONS

## 1960 Waterman Products

Published test conditions and operating points. Values on this page are preserved as reported by this source.

## 1960 WATERMAN PRODUCTS

## Section 1 · Cathode Ray

| OTHER                                                                    |                 |                                                                                     |
|--------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------|
| PARAMETER                                                                | PUBLISHED VALUE | CONDITION / NOTE                                                                    |
| RAYONIC®                                                                 | 2               | RAYONIC® 2FP1 CATHODE RAY TUBE OSCILLOSCOPE AND MONITOR TUBE                        |
| Heater VOIAZE ...t<br>smsssssmsssssssssssssmsssssssmsssssmssssesmenenele | 3               | Heater VOIAZE ...t<br>smsssssmsssssssssssssmsssssssmsssssmssssesmenenele<br>3. VOIS |
| Heater Current [1]                                                       | 600 mA          | Heater Current .. 0.6 = 10% Amperes                                                 |
| Heater Current [2]                                                       | 10 A            | Heater Current .. 0.6 = 10% Amperes                                                 |
| Grid #                                                                   | 1               | Grid #1 to all other electrodes ..... S ST                                          |
| Minimum Useful Screen Dlameter                                           | 1347            | Minimum Useful Screen Dlameter 1347                                                 |
| Positive voltage on D1 deflects beam approx. toward pin #                | 3               | Positive voltage on D1 deflects beam approx. toward pin #3                          |
| Positive voltage on D3 deflects beam approx. toward pin #                | 5               | Positive voltage on D3 deflects beam approx. toward pin #5                          |
| Anode Contact is on same side as Pin #                                   | 3               | Anode Contact is on same side as Pin #3                                             |
| Anode # [1]                                                              | 1 V             | Anode #1 (Focusmg Electrode) Voltage 1200 Volts                                     |
| Anode # [2]                                                              | 1200 V          | Anode #1 (Focusmg Electrode) Voltage 1200 Volts                                     |
| Grid #                                                                   | 1               | Grid #1 (G1) Voltage                                                                |
| Peak Voltage between Anode # [1]                                         | 2 V             | Peak Voltage between Anode #2 andanydeflectmg plate.....550 Volts                   |
| Peak Voltage between Anode # [2]                                         | 550 V           | Peak Voltage between Anode #2 andanydeflectmg plate.....550 Volts                   |
| Spot Position, undeflected (note [1])                                    | 1 mm            | Spot Position, undeflected (note 1) .. sy 10 Max, mm                                |
| Spot Position, undeflected (note [2])                                    | 10 mm           | Spot Position, undeflected (note 1) .. sy 10 Max, mm                                |
| A1 Voltage [1]                                                           | 20              | A1 Voltage 20% to 35% of A2 Voltage                                                 |
| A1 Voltage [2]                                                           | 35              | A1 Voltage 20% to 35% of A2 Voltage                                                 |
| G1 Voltage                                                               | 3.5             | G1 Voltage 3.5 max % of A2 Voltage                                                  |
| Anode Voltage (A2) [1]                                                   | 1000 V          | Anode Voltage (A2) 1000 1500 2000 Volts                                             |
| Anode Voltage (A2) [2]                                                   | 1500 V          | Anode Voltage (A2) 1000 1500 2000 Volts                                             |
| Anode Voltage (A2) [3]                                                   | 2000 V          | Anode Voltage (A2) 1000 1500 2000 Volts                                             |
| Focusing Elec. Volt. (A1) [1]                                            | 200 V           | Focusing Elec. Volt. (A1) 200 to 350 300 to 525 400 to 700 Volts                    |
| Focusing Elec. Volt. (A1) [2]                                            | 350 V           | Focusing Elec. Volt. (A1) 200 to 350 300 to 525 400 to 700 Volts                    |
| Focusing Elec. Volt. (A1) [3]                                            | 300 V           | Focusing Elec. Volt. (A1) 200 to 350 300 to 525 400 to 700 Volts                    |

| PARAMETER                                                 | PUBLISHED VALUE | CONDITION / NOTE                                                         |
|-----------------------------------------------------------|-----------------|--------------------------------------------------------------------------|
| Focusing Elec. Volt. (A1) [4]                             | <b>525 V</b>    | Focusing Elec. Volt. (A1) 200 to 350 300 to 525 400 to 700 Volts         |
| Focusing Elec. Volt. (A1) [5]                             | <b>400 V</b>    | Focusing Elec. Volt. (A1) 200 to 350 300 to 525 400 to 700 Volts         |
| Focusing Elec. Volt. (A1) [6]                             | <b>700 V</b>    | Focusing Elec. Volt. (A1) 200 to 350 300 to 525 400 to 700 Volts         |
| G1 Voltage (Note [1])                                     | <b>2 V</b>      | G1 Voltage (Note 2) —20 to —35 —30 to —52 —40 to —70 Volts               |
| G1 Voltage (Note [2])                                     | <b>-20 V</b>    | G1 Voltage (Note 2) —20 to —35 —30 to —52 —40 to —70 Volts               |
| G1 Voltage (Note [3])                                     | <b>-35 V</b>    | G1 Voltage (Note 2) —20 to —35 —30 to —52 —40 to —70 Volts               |
| G1 Voltage (Note [4])                                     | <b>-30 V</b>    | G1 Voltage (Note 2) —20 to —35 —30 to —52 —40 to —70 Volts               |
| G1 Voltage (Note [5])                                     | <b>-52 V</b>    | G1 Voltage (Note 2) —20 to —35 —30 to —52 —40 to —70 Volts               |
| G1 Voltage (Note [6])                                     | <b>-40 V</b>    | G1 Voltage (Note 2) —20 to —35 —30 to —52 —40 to —70 Volts               |
| G1 Voltage (Note [7])                                     | <b>-70 V</b>    | G1 Voltage (Note 2) —20 to —35 —30 to —52 —40 to —70 Volts               |
| Deflection Factor D1-D2 [1]                               | <b>51 V</b>     | Deflection Factor D1-D2 51 to 69 76 to 103 102 to H8 Volts DC/in         |
| Deflection Factor D1-D2 [2]                               | <b>69 V</b>     | Deflection Factor D1-D2 51 to 69 76 to 103 102 to H8 Volts DC/in         |
| Deflection Factor D1-D2 [3]                               | <b>76 V</b>     | Deflection Factor D1-D2 51 to 69 76 to 103 102 to H8 Volts DC/in         |
| Deflection Factor D1-D2 [4]                               | <b>103 V</b>    | Deflection Factor D1-D2 51 to 69 76 to 103 102 to H8 Volts DC/in         |
| Deflection Factor D1-D2 [5]                               | <b>102 V</b>    | Deflection Factor D1-D2 51 to 69 76 to 103 102 to H8 Volts DC/in         |
| Deflection Factor D3-D4 [1]                               | <b>29 V</b>     | Deflection Factor D3-D4 29 o 39 44 to 59 58to0 78 Volts DC/in            |
| Deflection Factor D3-D4 [2]                               | <b>39 V</b>     | Deflection Factor D3-D4 29 o 39 44 to 59 58to0 78 Volts DC/in            |
| Deflection Factor D3-D4 [3]                               | <b>44 V</b>     | Deflection Factor D3-D4 29 o 39 44 to 59 58to0 78 Volts DC/in            |
| Deflection Factor D3-D4 [4]                               | <b>59 V</b>     | Deflection Factor D3-D4 29 o 39 44 to 59 58to0 78 Volts DC/in            |
| Deflection Factor D3-D4 [5]                               | <b>58 V</b>     | Deflection Factor D3-D4 29 o 39 44 to 59 58to0 78 Volts DC/in            |
| Deflection Factor D3-D4 [6]                               | <b>78 V</b>     | Deflection Factor D3-D4 29 o 39 44 to 59 58to0 78 Volts DC/in            |
| Grid # [1]                                                | <b>1</b>        | Grid #1 Circuit resistance ... 1.5 Megohms                               |
| Grid # [2]                                                | <b>1.5</b>      | Grid #1 Circuit resistance ... 1.5 Megohms                               |
| Resistance in any Deflecting Electrode Circuit (Note [1]) | <b>3</b>        | Resistance in any Deflecting Electrode Circuit (Note 3) 1.0 Megohms      |
| Resistance in any Deflecting Electrode Circuit (Note [2]) | <b>1</b>        | Resistance in any Deflecting Electrode Circuit (Note 3) 1.0 Megohms      |
| Published value                                           | <b>1</b>        | 1. With tube shielded and deflecting electrodes connected to Anode (A2). |

| PARAMETER       | PUBLISHED<br>VALUE | CONDITION / NOTE                                                                      |
|-----------------|--------------------|---------------------------------------------------------------------------------------|
| Published value | 2                  | 2. For visual extinction of undeflected focused spor.                                 |
| Published value | 3                  | 3. The resistance in each deflecting electrode circuit should be approximately equal, |
| Published value | 4 in               | 4 INCHES LONG ALL DIMENSIONS IN INCHES                                                |

# TUBE TINKER

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