

ELECTRONIC TUBE REFERENCE

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
CATHODERAY

11JP4

Specialized - Cathode Ray electronic tube

Eleven-inch P4 cathode-ray picture tube documented by RMA/EIA for direct-view display service. The available manufacturer record supports a conventional high-voltage picture-tube role; unsupported construction or application details are deliberately not inferred.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 450 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

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<i>No fixed ratings recorded.</i>
<i>CRT anode/ultor voltage is represented in MaxPlateVoltage; additional electrode, drive, optical, and capacitance data retained as parameters.</i>

11JP4 Electron Device

The **11JP4** is a specialized cathode-ray electron device registered with the Joint Electron Device Engineering Council (JEDEC) under Release No. 4808 on September 28, 1964. The registration was filed on the application of Sylvania Electric Products, Inc., of Ottawa, Ohio. The device is designed for display applications utilizing a focused raster.

Design and Relationship to Base Types

The 11JP4 is closely related to the **11GP4** base type, which was registered under JEDEC Release No. 4511 on December 2, 1963. The 11JP4 retains the core physical and electrical architecture of the **11GP4**

but introduces specific modifications to its heater design, screen grid (Grid No. 2) voltage ratings, and typical operating parameters under cathode drive conditions.

Another related designation registered concurrently in the same release is the **11MP4**. Like the 11JP4, the 11MP4 is similar to the [11GP4](#) and shares the same modified heater specifications, but it does not incorporate the specific Grid No. 2 voltage limits and cathode drive operating characteristics unique to the 11JP4.

Heater Characteristics

The heater of the 11JP4 is engineered for controlled thermal and electrical performance, making it suitable for integration into series-connected heater strings. The electrical characteristics of the heater are defined as follows:

Parameter	Value
Nominal Heater Voltage	6.3 V
Heater Current	300 ± 15 mA
Heater Warm-up Time	14 Seconds

The controlled 14-second warm-up time ensures that the heater's resistance rises at a coordinated rate, minimizing transient voltage stresses when operated in series with other devices sharing the same nominal current rating.

Grid No. 2 and Cathode Drive Operation

The 11JP4 features specific operating limits and typical values for Grid No. 2 (the screen grid) and the cathode. These parameters are optimized for cathode drive service, where the video signal is applied directly to the cathode.

Grid No. 2 Voltage Limits

The electrostatic design of the gun assembly restricts the operating potential of Grid No. 2 to a relatively narrow window to maintain proper beam focusing and modulation characteristics:

- **Maximum Grid No. 2 Voltage:** 70 Volts
- **Minimum Grid No. 2 Voltage:** 40 Volts

Typical Cathode Drive Service

Under typical operating conditions in cathode drive configuration, the electrode potentials are set to achieve predictable beam cutoff. The specified values are:

- **Grid No. 2 Voltage:** 50 Volts DC
- **Cathode Voltage (for visual extinction of focused raster):** 27 to 45 Volts DC

The cathode voltage range of 27 to 45 Volts DC represents the cutoff threshold required to completely extinguish the focused raster when Grid No. 2 is maintained at a nominal 50 Volts DC. This range accounts for normal manufacturing variations in the electron gun geometry.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1964 RMA EIA

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

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OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical grid No. 2 voltage	50 V	—

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater warm-up time	14 s	—

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