

May 15, 1958

#### TELEVISION PICTURE TUBE TYPE 17CDP4

110° Magnetic Deflection  
Rectangular Glass Construction  
Low-Voltage Electrostatic Focus  
Straight Gun, No Ion Trap Required  
450 Ma Controlled Warm-Up Heater

Aluminized Screen  
14-3/4" x 11-11/16" Screen Size  
Spherical Faceplate  
External Conductive Coating  
12-13/16 Max. Overall Length

The 17CDP4 is a low-voltage electrostatic focus, rectangular glass picture tube. It has an aluminized screen, spherical neutral gray glass faceplate, external conductive coating, 8.4 volt, 450 ma. controlled warm-up heater and a no-ion-trap gun.

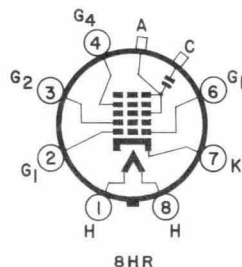
The 17CDP4 features 110° deflection-resulting in a shorter overall length than 17" 90° types. The use of a smaller neck diameter (1-1/8") permits this larger angle to be deflected with a relatively small extra amount of power over that required with a 90° tube.

#### ELECTRICAL:

|                                       |                           |
|---------------------------------------|---------------------------|
| Cathode                               | Coated Unipotential       |
| Heater:                               |                           |
| Voltage (ac or dc)                    | 8.4 Volts                 |
| Current                               | 0.45 Ampere               |
| Warm-Up Time (Approx.)                | 11 Seconds                |
| Direct Interelectrode Capacitances:   |                           |
| Grid 1 to all other Electrodes        | 6 uuf                     |
| Cathode to all other Electrodes       | 5 uuf                     |
| External Conductive Coating to Anode: |                           |
| Maximum                               | 1500 uuf                  |
| Minimum                               | 800 uuf                   |
| Screen:                               |                           |
| Fluorescence                          | White                     |
| Phosphor                              | No. 4 Sulfide Type        |
| Persistence                           | Short                     |
| Focusing Method                       | Low-Voltage Electrostatic |
| Deflection Method                     | Magnetic                  |
| Deflection Angle:                     |                           |
| Horizontal                            | 105°                      |
| Vertical                              | 87°                       |
| Diagonal                              | 110°                      |
| No-Ion-Trap Gun                       | No Magnet Required        |

#### MECHANICAL:

|                                            |                                                |
|--------------------------------------------|------------------------------------------------|
| Mounting Position                          | Any                                            |
| Screen Dimensions (min. at greatest part): |                                                |
| Width                                      | 14-3/4"                                        |
| Height                                     | 11-11/16"                                      |
| Diagonal                                   | 15-3/4"                                        |
| Area                                       | 155 Sq. Inches                                 |
| Faceplate                                  | Spherical                                      |
| Glass                                      | Neutral Gray                                   |
| Transmission (approx.)                     | 78%                                            |
| Bulb Dimensions (at greatest part):        |                                                |
| Width                                      | 15-5/8" ± 1/8"                                 |
| Height                                     | 12-3/4" ± 1/8"                                 |
| Diagonal                                   | 16-9/16" ± 1/8"                                |
| Bulb Number                                | J132½ (110°)                                   |
| Overall Length                             | 12-9/16" ± 1/4"                                |
| Anode Terminal                             | Recessed Small Cavity Cap (JETEC No. J1-21)    |
| Base                                       | Small Button, 7-Pin Style B (JETEC No. B7-183) |
| Basing                                     | 8HR                                            |
| Net Weight (approx.)                       | 10 lbs.                                        |



## GRID DRIVE OPERATION

(Video Signal Applied to Grid 1)

## MAXIMUM RATINGS:

## Design Center Values

|                                         |            |       |
|-----------------------------------------|------------|-------|
| Anode Voltage†                          | 16000 max. | Volts |
| Grid 4 Voltage:                         |            |       |
| Positive Value                          | 1000 max.  | Volts |
| Negative Value                          | 500 max.   | Volts |
| Grid 2 Voltage                          | 500 max.   | Volts |
| Grid 1 Voltage:                         |            |       |
| Negative Bias Value                     | 140 max.   | Volts |
| Negative Peak Value                     | 200 max.   | Volts |
| Positive Bias Value                     | 0 max.     | Volts |
| Positive Peak Value                     | 2 max.     | Volts |
| Peak Heater-Cathode Voltage:            |            |       |
| Heater Negative with Respect to Cathode | 180 max.   | Volts |
| Heater Positive with Respect to Cathode | 180 max.   | Volts |

## TYPICAL OPERATING CONDITIONS:

|                          |            |            |       |
|--------------------------|------------|------------|-------|
| Anode Voltage            | 14000      | 16000      | Volts |
| Grid 2 Voltage           | 300        | 400        | Volts |
| Grid 4 Voltage for Focus | 0 to +400  | 0 to +400  | Volts |
| Grid 1 Cutoff Voltage▲   | -28 to -72 | -36 to -94 | Volts |

## LIMITING CIRCUIT VALUES:

|                            |          |         |
|----------------------------|----------|---------|
| Grid 1 Circuit Resistance  | 1.5 max. | Megohms |
| Grid 2 Circuit Resistance■ | 0.1 min. | Megohms |
| Grid 4 Circuit Resistance■ | 0.1 min. | Megohms |

† Brilliance and definition decrease with decreasing anode voltage. Operation with anode voltage less than 12000 volts is not recommended.

▲ For visual extinction of focused raster.

■ Protective resistance in the grid 2 and grid 4 (focus electrode)

## CATHODE DRIVE OPERATION

(Video Signal Applied to Cathode)

## MAXIMUM RATINGS:

## Design Center Values

|                                         |            |       |
|-----------------------------------------|------------|-------|
| Anode to Grid 1 Voltage†                | 16000 max. | Volts |
| Grid 4 to Grid 1 Voltage:               |            |       |
| Positive Value                          | 1000 max.  | Volts |
| Negative Value                          | 500 max.   | Volts |
| Grid 2 to Grid 1 Voltage                | 640 max.   | Volts |
| Cathode to Grid 1 Voltage:              |            |       |
| Positive Bias Value                     | 140 max.   | Volts |
| Positive Peak Value                     | 200 max.   | Volts |
| Negative Bias Value                     | 0 max.     | Volts |
| Negative Peak Value                     | 2 max.     | Volts |
| Peak Heater-Cathode Voltage:            |            |       |
| Heater Negative with Respect to Cathode | 180 max.   | Volts |
| Heater Positive with Respect to Cathode | 180 max.   | Volts |

## TYPICAL OPERATING CONDITIONS:

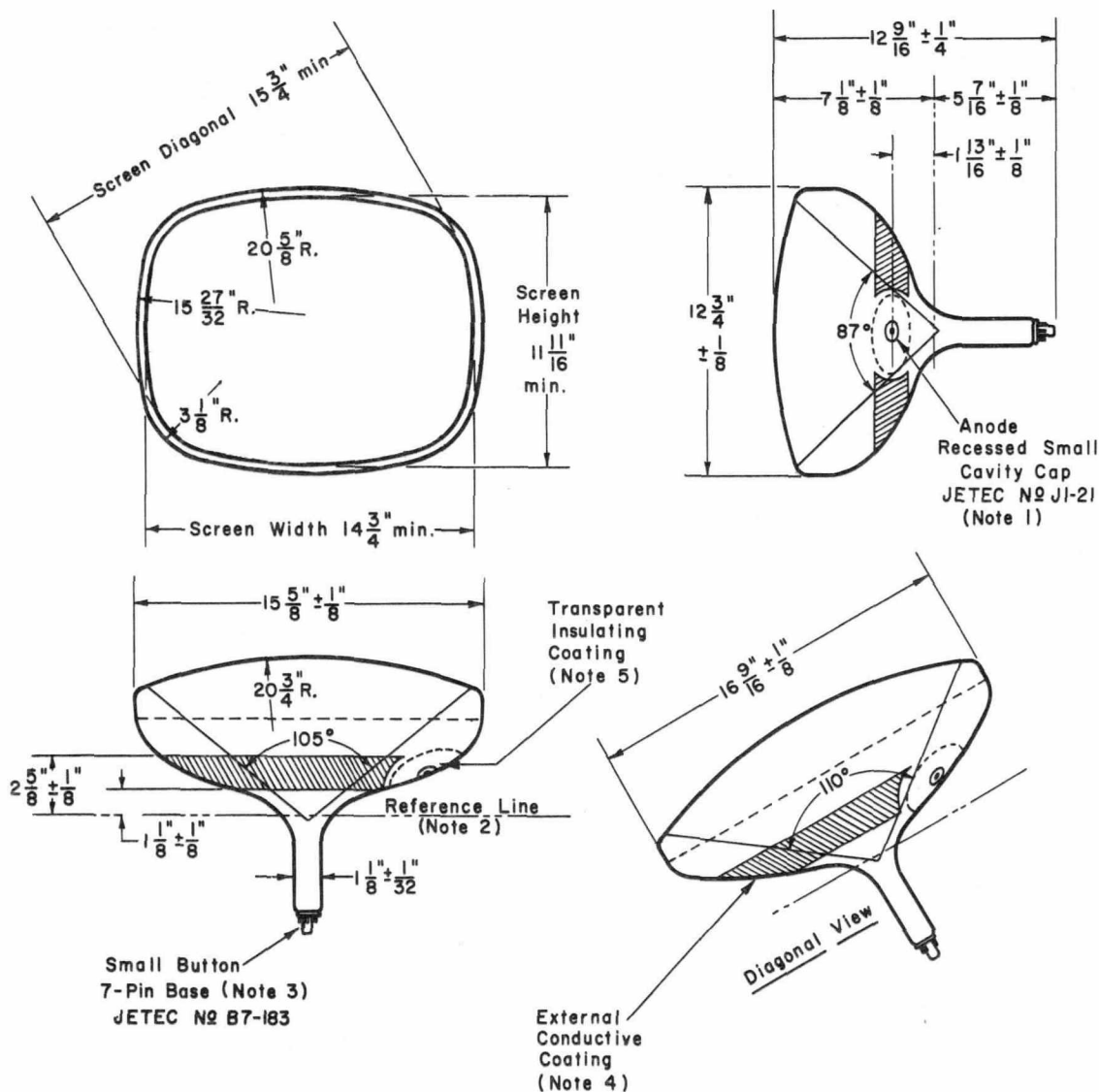
|                                    |          |          |       |
|------------------------------------|----------|----------|-------|
| Anode to Grid 1 Voltage            | 14000    | 16000    | Volts |
| Grid 2 to Grid 1 Voltage           | 300      | 400      | Volts |
| Grid 4 to Grid 1 Voltage for Focus | 0 to 400 | 0 to 400 | Volts |
| Cathode to Grid 1 Cutoff Voltage▲  | 28 to 60 | 28 to 60 | Volts |

## LIMITING CIRCUIT VALUES:

|                            |          |         |
|----------------------------|----------|---------|
| Grid 1 Circuit Resistance  | 1.5 max. | Megohms |
| Grid 2 Circuit Resistance■ | 0.1 min. | Megohms |
| Grid 4 Circuit Resistance■ | 0.1 min. | Megohms |

circuit is advisable to prevent damage.

X-RAY WARNING: Inasmuch as the tube rating permits operation at voltages as high as 17.6 kilovolts (absolute value), shielding of the tube for x-ray radiation may be needed whenever the operating conditions involve voltages in excess of 16 kilovolts.



CE-C1369

NOTE 1: The plane through the tube axis and base pin 4 may vary from the plane through the tube axis and the anode terminal by an angular tolerance of  $\pm 30^\circ$ . The anode terminal is on the same side of the tube as pin 4.

NOTE 2: With the tube neck inserted through the flared end of Reference Line Gauge JETEC No. 126 and with the tube seated in the gauge, the reference line is determined by the intersection of the plane face of the flared end of the gauge with the tube funnel.

NOTE 3: The socket should not be mounted rigidly, but should be allowed to move freely and have flexible leads. The associated wiring should not impress lateral strains on the base pins. The bottom circumference of the base wafer will lie within a circle concentric with the bulb axis and having a diameter of  $1\frac{3}{4}$ ".

NOTE 4: External conductive coating forms supplementary filter capacitor and must be grounded.

NOTE 5: To clean this area, wipe only with a soft, dry, lintless cloth. The transparent insulating coating is approx.  $6''$  in diameter.