SYLVANIA

# engineering data service

SYLVANIA

# 21AYP4

## CHARACTERISTICS

### GENERAL DATA

| | |
|---|---|
| Focusing Method | Electrostatic |
| Deflecting Method | Magnetic |
| Deflection Angle (approx.) | |
| Horizontal | 66 Degrees |
| Diagonal | 70 Degrees |
| Phosphor | P4 |
| Fluorescence | White |
| Persistence | Medium |
| Faceplate | Gray Filter Glass |
| Light Transmittance (approx.) | 72 Percent |

### ELECTRICAL DATA

| | |
|---|---|
| Heater Voltage | 6.3 Volts |
| Heater Current (approx.) | 0.6 Ampere |
| Direct Interelectrode Capacitances (approx.) | |
| Cathode to All Other Electrodes | 5 $\mu\mu$f |
| Grid No. 1 to All Other Electrodes | 6 $\mu\mu$f |
| External Conductive Coating to Anode[1] | 1500 $\mu\mu$f Max. |
| | 750 $\mu\mu$f Min. |
| Ion Trap Magnet | External, Single Field Type |

### MECHANICAL DATA

| | |
|---|---|
| Minimum Useful Screen Dimensions | 17 x 12¾ Inches |
| Minimum Useful Screen Area | 219 Sq. Inches |
| Bulb Contact (Recessed Small Cavity Cap) | J1-21 |
| Base (Small Shell Duodecal 6-Pin) | B6-63 |
| Basing | 12L |

## RATINGS

### MAXIMUM RATINGS (Design Center Values)

| | |
|---|---|
| Anode Voltage | 18,000 Volts dc |
| Grid No. 4 Voltage (Focusing Electrode) | -500 to +1000 Volts dc |
| Grid No. 2 Voltage | 500 Volts dc |
| Grid No. 1 Voltage | |
| Negative Bias Value | 125 Volts dc |
| Positive Bias Value | 0 Volts dc |
| Positive Peak Value | 2 Volts |
| Peak Heater-Cathode Voltage | |
| Heater Negative with Respect to Cathode During Warm-Up Period Not to Exceed 15 Seconds | 410 Volts |
| After Equipment Warm-Up Period | 180 Volts |
| Heater Positive with Respect to Cathode | 180 Volts |

### RECOMMENDED OPERATING CONDITIONS

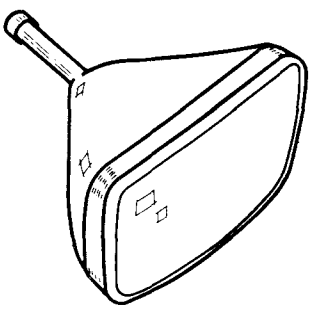
| | |
|---|---|
| Anode Voltage | 16,000 Volts dc |
| Grid No. 4 Voltage | -64 to +352 Volts dc |
| Grid No. 2 Voltage | 300 Volts dc |
| Grid No. 1 Voltage Required for Cutoff[2] | -28 to -72 Volts dc |
| Ion Trap Magnet Strength (approx.) | 35 Gausses |

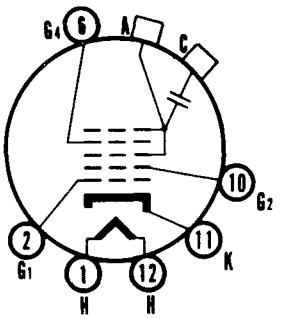
### CIRCUIT VALUES

| | |
|---|---|
| Grid No. 1 Circuit Resistance | 1.5 Megohms Max. |

## QUICK REFERENCE DATA

Television Picture Tube
21" Direct Viewed
Rectangular Glass Type
Spherical Faceplate
Gray Filter Glass
Magnetic Deflection
Electrostatic Focus
Single Field Ion Trap
External Conductive Coating



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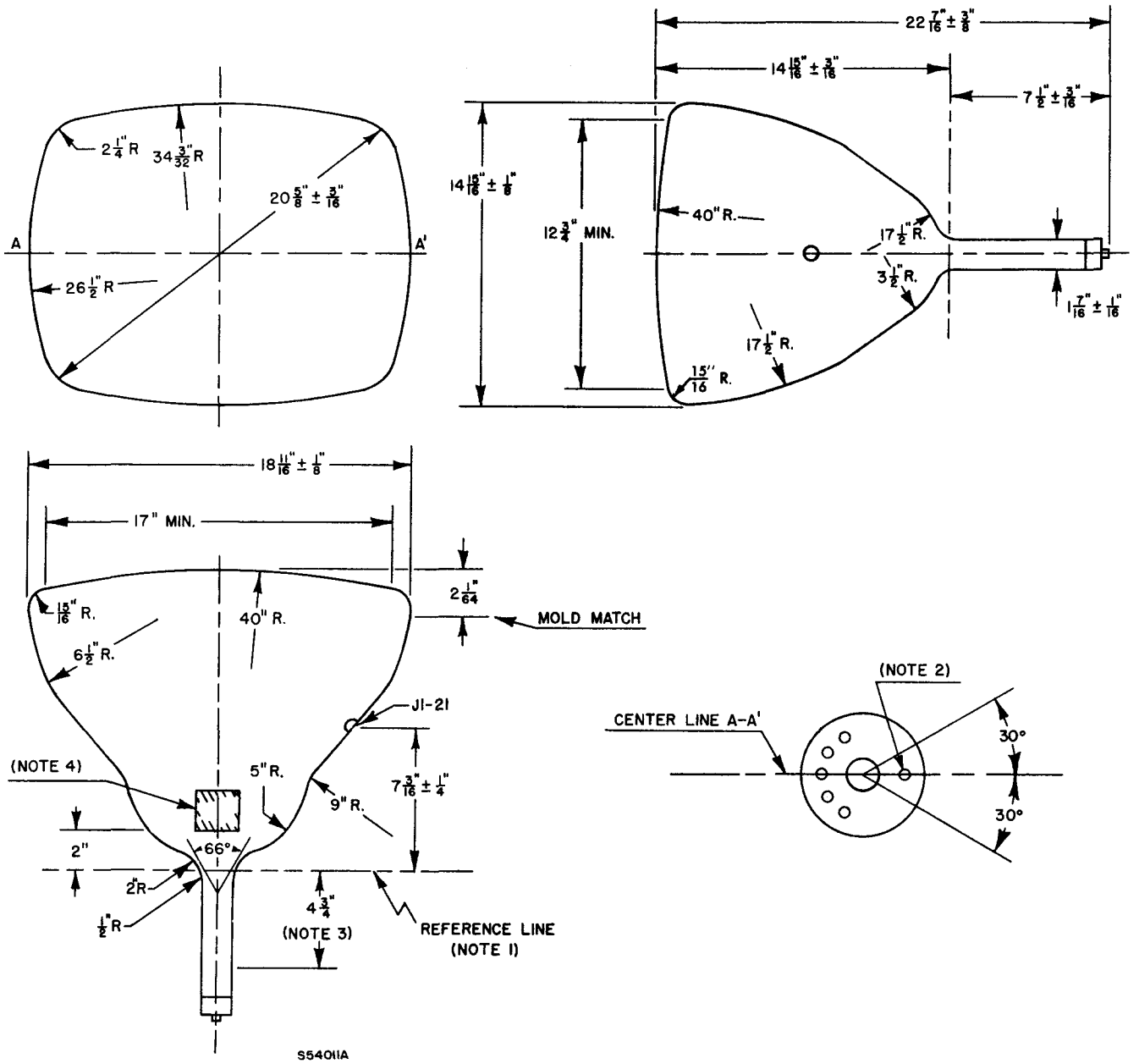
## NOTES:

1. *External Conductive Coating must be grounded.*
2. *Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts more negative.*




## DIAGRAM NOTES:

1. *Reference line is determined by the plane C-C1 of the reference line gauge (JETEC No. 110) when the gauge is resting on the glass cone. The neck diameter near the cone may exceed 1.500" but is limited by the internal contour of the yoke reference line gauge.*
2. *Anode contact aligns with Pin No. 6 ±30 degrees.*
3. *Nominal position of ion trap magnet.*
4. *Contact area for external conductive coating, 2" x 2", located 90 degrees counter clockwise from anode contact as viewed from base end of tube.*

## WARNING:

*X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range if this tube is operated at higher than the manufacturer's Maximum Rated Anode Voltage or 16,000 volts, whichever is less.*