



12YP4 Cathode-Ray Picture Tube

Rel. 1002

The T. E. I. 12 YP4 is a 12½" direct-view picture tube for use in television receivers and includes such features as:

- A 3° offset electron gun designed to be used with an external ion-trap magnet.
- An insulating band on the lower edge of the internal conductive coating assuring a sharper picture through the elimination of stray or spurious beams.
- Outside conductive coating
- Automatic electrostatic focusing.

DATA

General

Heater voltage	6.3	volts
Heater current	0.6 ± 10 %	ampere
Direct interelectrode capacitances (approx):		
Grid No. 1 to all other electrodes	6	μμf
Cathode to all other electrodes	5	μμf
Phosphor	No. 4	
Fluorescence	white	
Persistence	medium	
Focusing method	electrostatic	
Deflecting method	magnetic	
Deflection angle, (approx.)	54°	

Mechanical

Overall length	18¾" ± ¾"
Greatest diameter of bulb	12¾" + ¼" - ⅞"
Minimum useful screen diameter	11¼"

Cop	Recessed small cavity
Base	Small shell duodecal 5-Pin
Basing	JETEC Designation 12D
Mounting position	Any
Net weight (approx.)	14½ lbs.

*Corresponding socket should not be rigidly mounted but should be wired with flexible leads and allowed to move freely.

Terminal Connections

MAX. ANGLE BETWEEN LINE JOINING TUBE AXIS TO CENTER OF ANODE CONTACT AND LINE JOINING TUBE AXIS TO CENTER OF PIN POSITION NO. 3 = ± 10°



1 HEATER
2 GRID NO. 1
3 GRID NO. 2
4 CATHODE
5 HEATER
6 CAP ANODE

Maximum Ratings (Design-Center Values)

Maximum anode voltage	12000 d-c	volts
Maximum grid-No. 2 voltage	410 d-c	volts
Grid-No. 1 Voltage:		
Maximum negative bias value	125 d-c	volts
Maximum positive bias value	0 d-c	volts
Maximum positive peak value	2 d-c	volts

NOTE: Additional data will be furnished by our engineering department upon request.

Peak heater-cathode voltage: (Note 1)

Maximum heater negative with respect to cathode	125	volts
Maximum heater positive with respect to cathode	125	volts
Grid-No. 1-circuit resistance	1.5	megohms

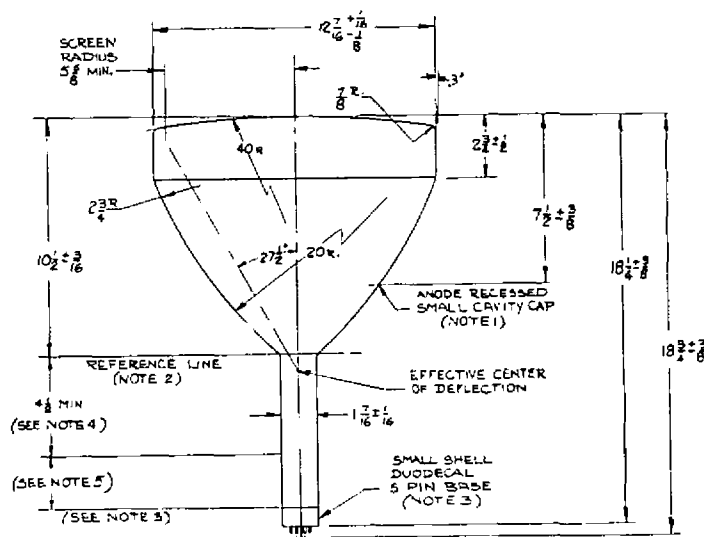
Typical Operating Conditions

Anode voltage	11000 d-c	volts
Grid-No. 2 voltage	250 d-c	volts
Grid-No. 1 voltage (Note 2)	—33 to —73 d-c	volts
External Conductive Coating	3000	μμf
Ion-trap current (Note 3) (approx.)	120 d-c	ma

NOTE 1: A value of 410 max. volts is allowed during equipment warm-up period not to exceed 15 seconds.

NOTE 2: Visual extinction of undeflected focused spot.

NOTE 3: With JETEC standard ion-trap magnet of 40 gauss minimum.



NOTE 1: The plane through the tube axis and vacant pin position No. 3 may vary from the plane through the tube axis and anode terminal by an angular tolerance (measured about the tube axis) of 10°. Anode terminal is on same side as vacant pin position No. 3.

NOTE 2: Reference line is determined by position where hinged gauge 1.500" ± .003" — .000" I.D. and 2" long will rest on bulb cone.

NOTE 3: Align ion-trap magnet with poles of coil A (large coil) adjacent L-shaped pole pieces on mount, north pole on same side as base pin No. 6, and the other poles toward the tube face.

NOTE 4: Location of deflecting yoke must be within this space.

NOTE 5: Keep this space clear for ion-trap magnet.

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