27VP4

National Video Corporation

4300 W. 47TH STREET CHICAGO 32, ILLINOIS
CLIFFSIDE 4-5600

The tube type 27VP4 is an electrostatic focus and magnetic deflection direct view picture tube. It has an all glass, rectangular bulb designed for 90° deflection. The faceplate is of gray glass and has a spherical contour. The short electron gun is designed to be used with no ion-trap. A metal backed screen is used to increase light output.

GENERAL CHARACTERISTICS

Focusing Method	Electrostatic	
Deflection Method	Magnetic	
Deflection Angle (Approx.) Horizontal	85	Degrees
Diagonal	90	Degrees
Face Plate Light Transmission (Neutral Density Filter)	72%	Approx.
Phosphor	No. 4	
Fluorescence	White	
Persistence	Medium	
Direct Interelectrode Capacitances (Approx.)		
Cathode to all other electrodes	5	uuf
Grid No. 1 to all other electrodes	6	uuf
External conductive coating to anode	2500	Max. uuf
	2000	Min. uuf

MECHANICAL DATA

Overall Length	21 1/16 ± 3/8	Inches
Greatest dimensions of bulb:		
Diagonal	26 13/16 ± 3/16	Inches
Width	25 9/32 ± 3/16	Inches
Height	20 7/32 ± 3/16	Inches
Minimum Useful Screen Dimensions (Max. Assured)		
Area	425	Sq. Inches
Width	24 1/4	Inches
Height	18 5/8	Inches
Diagonal	25 3/4	Inches
Bulb Contact	J1-21	
Base	B6-63	
Basing	12L	
Bulb Contact Alignment		
J1-21 Contact aligns with pin position 6	± 30	Degrees

from JETEC release #2023, Oct. 21, 1957

MAXIMUM RATINGS Design Center Values

Heater Voltage	6.3	Volts
Heater Current	0.6	Ampere
Anode Voltage[1]	18,000	Max. Volts D.C.
Grid No. 2 Voltage	500	Max. Volts D.C.
Grid No. 1 Voltage		
Negative Peak Value	200	Max. Volts
Negative Bias Value	140	Max. Volts D.C.
Positive Bias Value	0	Max. Volts D.C.
Positive Peak Value	2	Max. Volts
Peak Heater-Cathode Voltage		
Heater negative with respect to cathode during warm-up period not to exceed 15 seconds	410	Max. Volts D.C.
After equipment warm-up	180	Max. Volts D.C.
Heater positive with respect to cathode	180	Max. Volts D.C.

TYPICAL OPERATING CONDITIONS

Anode Voltage	16,000	Volts D.C.
Grid No. 4 Voltage[2]	-72 to +396	Volts D.C.
Grid No. 2 Voltage	300	Volts D.C.
Grid No. 1 Voltage[3]	-28 to -72	Volts D.C.

MAXIMUM CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5	Max. Megohms

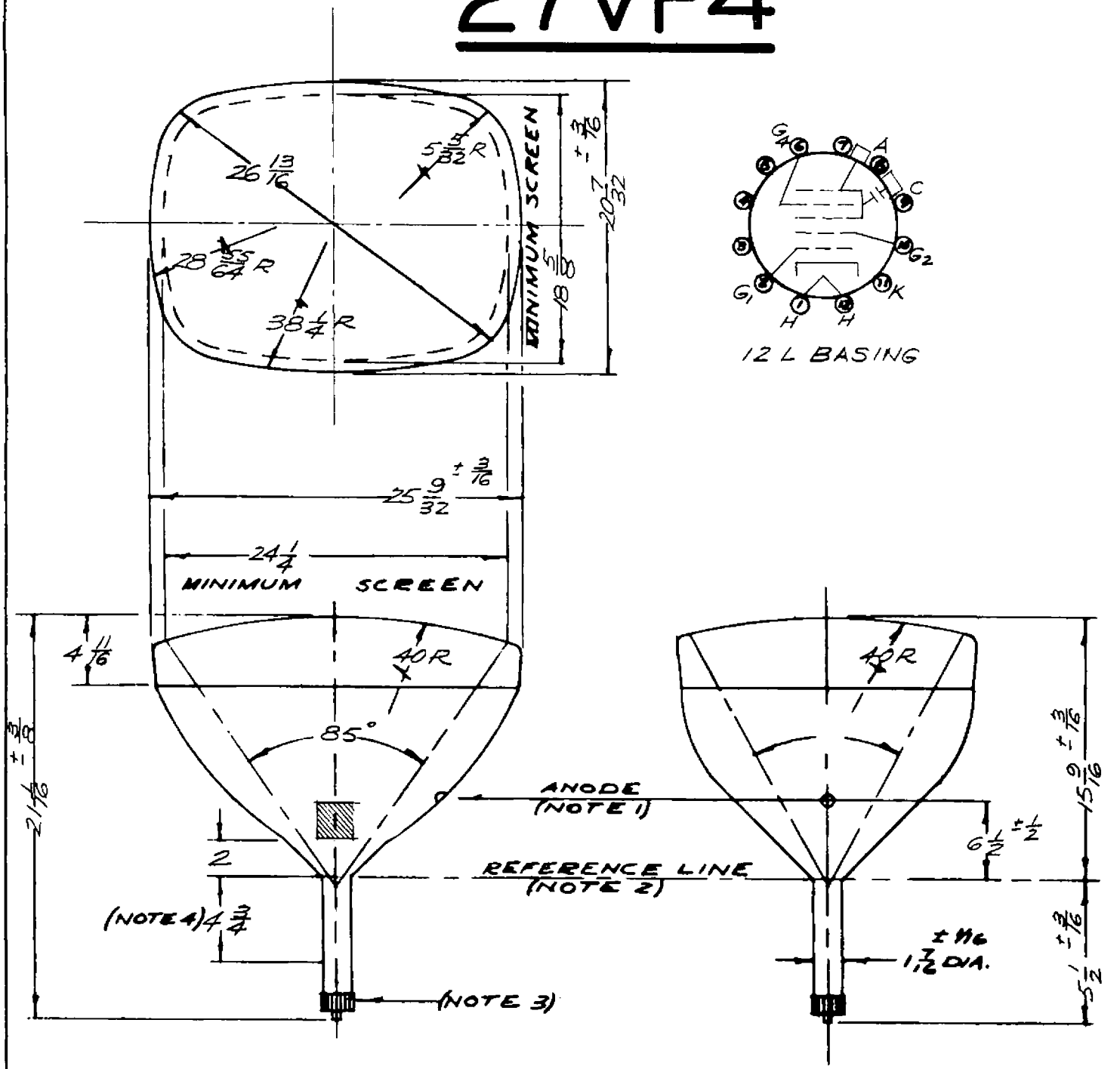
NOTES

[1]Because the rating of this tube permits anode voltages as high as 19,800 volts (absolute maximum), shielding of x-ray radiation from the tube may be necessary. This precaution should be observed when the anode is operated in excess of 16 kilovolts.

[2]With the combined grid No. 1 bias voltage and video signal voltage adjusted to produce an anode current of 100 ua on a 24 1/4 x 18 5/8 inch picture adjusted for best overall focus. For other anode voltages, the focus voltage will be from -0.4% to +2.2% of the anode voltage.

[3]Visual extinction of undeflected, focused raster.

27VP4



NATIONAL VIDEO CORP.

CHICAGO 32, ILLINOIS

DRAWN BY	SCALE	EFFECTIVE	SUPERSEDES	DISTRIBUTION
J.E. KUS	8" - 1"	8-20-57	ORIGINAL	A, B, C, D, E, F, G, H

NOTES

NOTE 1: The plane through the tube axis and vacant pin position 6 aligns with the anode contact ± 30°.

NOTE 2: Reference line is determined by the plane where the standard JETEC #116 reference line gauge will stop against the bulb.

NOTE 3: Socket for this base should not be rigidly mounted. It should have flexible leads and be free to move.

NOTE 4: Location of deflection yoke and centering device must be within this space.

NOTE 5: Configuration of outer conductive coating optional, but must contain the 2" x 2" contact area as shown on drawing.