May 23, 1958

TELEVISION PICTURE TUBE TYPE 21DVP4

90° Deflection
Rectangular Glass Construction
Magnetic Deflection

Electrostatic Focus
Low Heater Power

External Conductive Coating
Spherical Face Plate
15" x 19-1/8" Picture Size

The 21DVP4 is a low-voltage electrostatic focus, rectangular glass picture tube. It's characteristics include an aluminized screen, a spherical neutral gray faceplate and an external conductive coating.

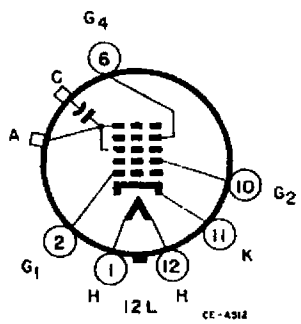
The 21DVP4 features a heater requiring 6.3 volts at only 300 milliamperes. The heater also has a controlled warm-up time for service in series-heater string television receivers.

ELECTRICAL:

Cathode	Coated Unipotential	
Heater:		
Voltage (ac or dc)	6.3	Volts
Current	0.30	Ampere
Direct Interelectrode Capacitances:		
Grid 1 to all other Electrodes	6	uuf
Cathode to all other Electrodes	5	uuf
External Conductive Coating to Anode:		
Maximum	750	uuf
Minimum	500	uuf
Screen:		
Phosphor	No. 4 Sulfide Type	
Fluorescence	White	
Persistence	Short	
Focusing Method	Low-Voltage Electrostatic	
Deflection Method	Magnetic	
Horizontal Angle, approx.	85°	
Vertical Angle, approx.	68°	
Diagonal Angle, approx.	90°	
Ion Trap Gun	External Single-Field Magnet	

MECHANICAL:

Mounting Position	Any
Screen Dimensions:	
Height	15-1/16" Min.
Width	19-1/16" Min.
Diagonal	20-1/4" Min.
Area	262 Sq. Inches
Face Plate	Spherical Outer and Inner Surfaces
Glass	Neutral Gray
Transmission	74 Per Cent
Bulb Dimensions:	
Height	16-3/8" ± 1/8"
Width	20-1/4" ± 1/8"
Diagonal	21-3/8" ± 1/8"
Overall Length	20" ± 3/8"
Anode Terminal	Recessed Small Cavity Cap (JETEC J1-21)
Base	Small Shell Duodecal 6-Pin (JETEC B6-63)
Basing	12L
Net Weight, approx.	25 Lbs.



Bottom View
C—External Conductive Coating
A—Grids 3 & 5, Collector

WESTINGHOUSE ELECTRIC CORPORATION, ELECTRONIC TUBE DIVISION, ELMIRA, NEW YORK
from JETEC release #2219, June 16, 1958

MAXIMUM RATINGS:

Design Center Values			
Anode Voltage†	20000	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	0	max.	Volts
Peak Heater-Cathode Voltage:			
Heater Positive with Respect to Cathode	180	max.	Volts
Heater Negative with Respect to Cathode	180	max.	Volts

TYPICAL USE OF DESIGN RANGES:

For Anode Voltage†	14000	18000	Volts
For Grid 2 Voltage	300	300	Volts
Grid 4 Voltage for Focus with Anode Current of 100 uampere	-50 to 300	0 to 400	Volts
Grid 1 Voltage for Visual Extinction of Focused Raster**	-28 to -72	-28 to -72	Volts
Ion-Trap Magnet:			
Rated Strength	40	46	Gausses

MAXIMUM CIRCUIT VALUE:

Grid 1 Circuit Resistance	1.5	max.	Megohms
Grid 2 Circuit Resistance■	0.10	min.	Megohms
Grid 4 Circuit Resistance■	0.10	min.	Megohms

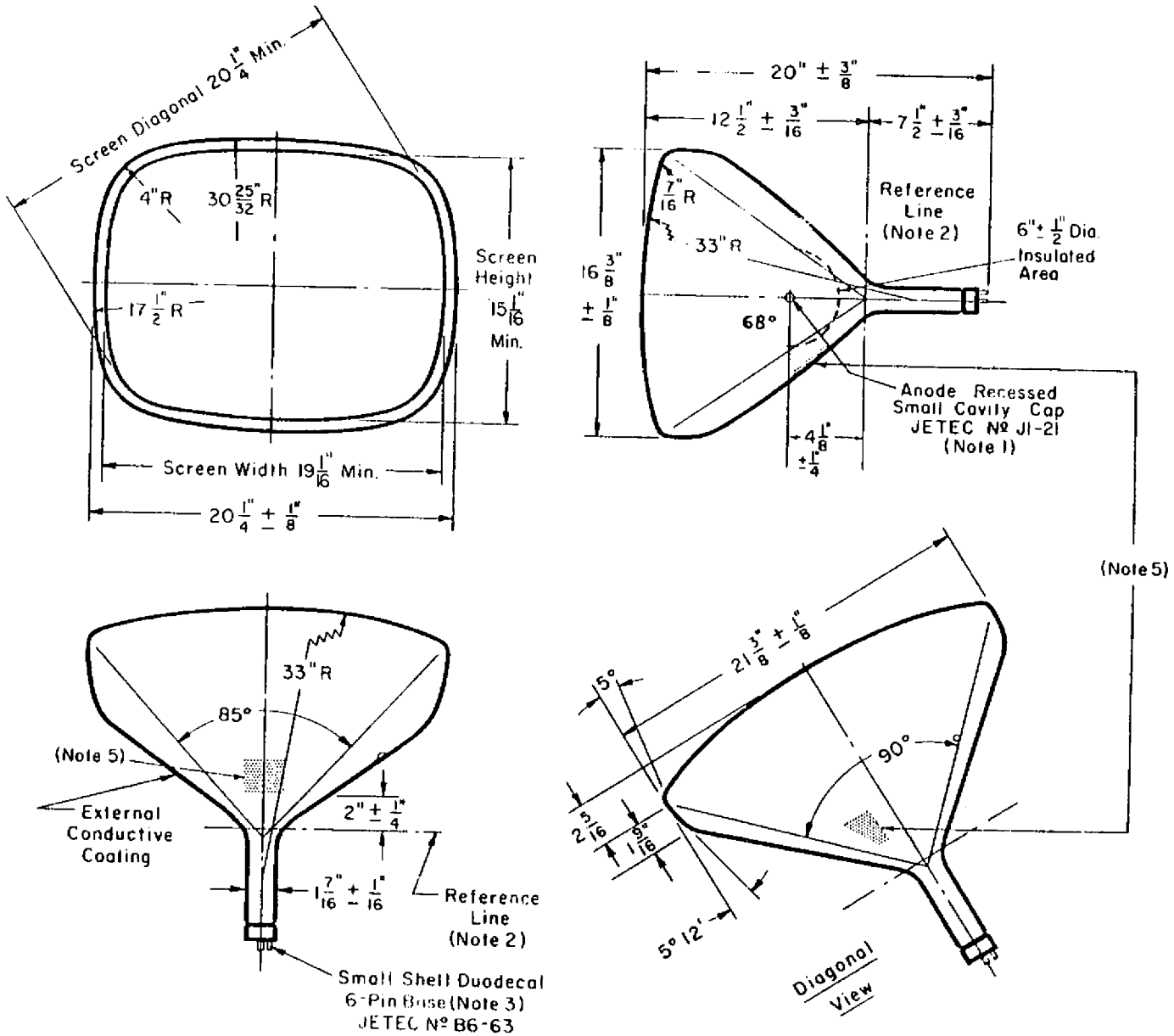
**Raster size 19-1/16 x 15-1/16

A peak value of 410 volts design center maximum may be applied for not more than 15 seconds during equipment warm-up periods.

† Brilliance and definition decrease with decreasing anode voltage. In general, anode voltage should not be less than 14000 volts.

NOTE: Inasmuch as the tube rating permits operation at voltages as high as 22 kilovolts (absolute value), shielding of the tube for x-ray radiation may be needed whenever the operating conditions

■ Protective resistance in the Grid 2 and Grid 4 circuits is advisable to prevent tube damage.



CE-C675

NOTE 1: The plane through the tube axis and the base pin No. 6 may vary from the plane through the tube axis and the bulb terminal by an angular tolerance of ±30° measured about the tube axis. The bulb terminal is on the same side of the tube as pin No. 6.

NOTE 2: With the tube neck inserted through the flared end of REFERENCE-Line Gauge (JETEC No. 116) and with the tube seated in the gauge, the reference line is determined by the intersection of the plane cc' (face of the flared end) of the gauge with the glass funnel.

NOTE 3: The socket should not be mounted rigidly but it should be allowed to move freely and it should have flexible leads. The bottom circumference of the base shell will lie within a circle concentric with the bulb axis and having a diameter of 2 3/4".

NOTE 4: External conductive coating must be grounded.

NOTE 5: Contact area of external conductive coating 2" min. x 2" min. located 2" ± 1/4" from Reference Line 90° counterclockwise from anode button as viewed from base end of tube.