

# National Video Corporation

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

The 23GP4 is a 5 1/8" neck length, electrostatic focus, magnetic deflection picture tube. The tube has a metal back screen and an implosion faceplate sealed to the tube. A straight gun which requires no ion trap and a 600 milliamperes, 6.3 volt filament are used.

## ELECTRICAL DATA

Focusing Method	Electrostatic	
Deflecting Method	Magnetic	
Deflection Angle, Approximate		
Horizontal	99	Degrees
Vertical	82	Degrees
Diagonal	110	Degrees
Direct Interelectrode Capacitances, Approximate		
Cathode to all other electrodes	5	uuf
Grid #1 to all other electrodes	6	uuf
External Conductive Coating to Anode	2500	Max. uuf
	2000	Min. uuf

## ELECTRICAL CHARACTERISTICS

Heater current at 6.3 volts	600 ± 30	ma
Grid #1 voltage (Note 1) (Grid Drive Service)		
at 300 volts G <sub>2</sub> to cathode	-28 to -72	Volts DC
Grid #4 voltage (Focusing Electrode) (Note 2)	-100 to 500	Volts DC

## OPTICAL DATA

Phosphor Number	P4
Bulb and Faceplate	
Light Transmission at Center, Approximate	37 Percent

## MECHANICAL DATA

Overall Length	15 3/16 ± 1/4	Inches
Greatest Dimensions of Panel		
Diagonal	24 45/64 ± 1/8	Inches
Width	21 5/16 ± 1/8	Inches
Height	17 5/16 ± 1/8	Inches
Minimum Useful Screen Dimensions		
Diagonal	22 5/16	Inches
Horizontal axis	19 5/16	Inches
Vertical axis	15 1/4	Inches
Area	282	Square Inches

Neck Length	5 1/8 + 1/8	Inches
Bulb No.	J-187A1	
Faceplate No.	FP-198A1	
Bulb Contact	J1-21	
Base	B7-208	
Basing	8HR	
Bulb Contact Alignment	J1-21 contact aligns with pin position #4	± 30 Degrees

RATINGS (Absolute Maximum Values)

Grid Drive Service - Unless otherwise specified voltage values are positive with respect to cathode.

Maximum Heater Voltage	7.0	Volts
Minimum Heater Voltage	5.6	Volts
Maximum Anode Voltage	20,000	Volts
Maximum Grid #4 Voltage	2,000	Volts DC
Minimum Grid #4 Voltage	-500	Volts DC
Maximum Grid #2 Voltage	550	Volts DC
Grid #1 Voltage		
Maximum Negative Value	0	Volts DC
Maximum Negative Peak Value	2	Volts DC
Maximum Positive Value	155	Volts DC
Maximum Positive Peak Value	220	Volts
Maximum 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

TYPICAL OPERATING CONDITIONS

Anode Voltage	16,000	Volts DC
Grid #4 Voltage (Focusing Electrode) (Note 2)	0 to 400	Volts DC
Grid #2 Voltage	300	Volts DC
Grid #1 Voltage (Note 1)	-28 to -72	Volts DC

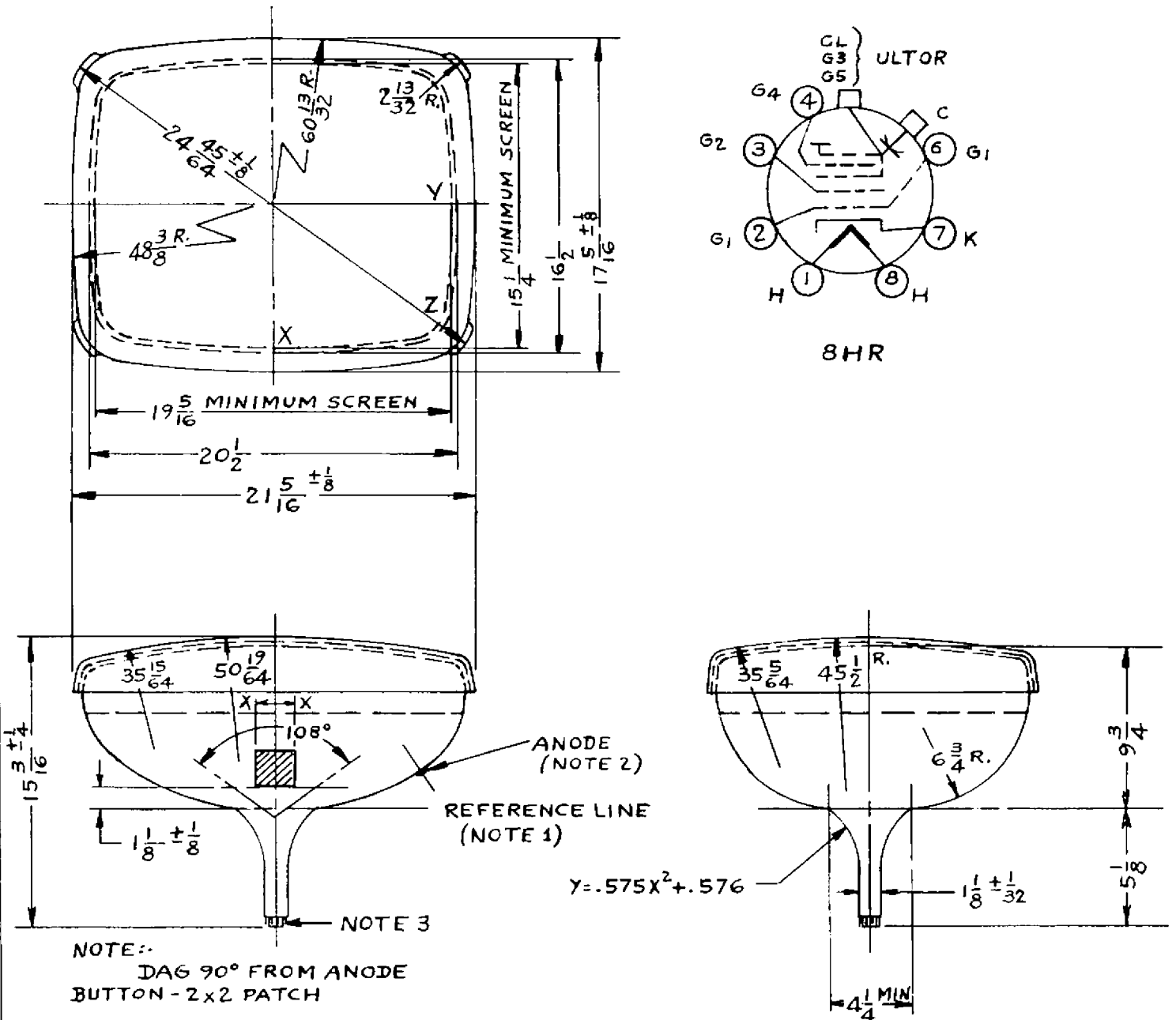
MAXIMUM CIRCUIT VALUES

Grid #1 Circuit Resistance	1.5	Max. Megohms
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CATHODE RAY TUBE CHARACTERISTICSNOTES

1. Visual extinction of focused raster.
2. With the combined grid #1 bias voltage and video-signal voltage adjusted to give an anode current of 100 microamperes on a 19 5/16 x 15 1/4 inch picture size.

# 23GP4



NOTE:-  
 DAG 90° FROM ANODE  
 BUTTON - 2x2 PATCH

NATIONAL VIDEO CORP.  
 CHICAGO 32, ILL.

SUPERSEDES		DRAWING NO.	23GP4
DRAWN BY	SCALE	EFFECTIVE	DISTRIBUTION
F.HLUBOCKY	1" = 8"	6-10-59	

MECHANICAL NOTES

1. The reference line is determined by reference line gauge JEDEC #126.
2. The area around the button is covered with an insulating coating.
3. Socket for this base should not be rigidly mounted; it should have flexible leads and be allowed to move freely.
4. Undisturbed area between the mold match line and the panel side of the seal bulge will be a minimum of  $3/4$ ".
5. From the mechanical center of the faceplate, the X, Y, Z dimensions are:

X -  $7 \frac{7}{8}$  at 00  
Y -  $9 \frac{7}{8}$  at .436  
Z -  $11 \frac{1}{2}$  at .970

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 anode voltages higher than 16,000 volts.