7262A

Vidicon

Short, Sturdy, 1-Inch Diameter Type
Magnetic Focus — Magnetic Deflection
Low Heater Power – 0.6 watt — 1000 TV Line Resolution
For Compact, Low-Power Transistorized TV Cameras

GENERAL

Heater, for Unipotential Cathode:		
Voltage (AC or DC)	6.3 ± 10%	V
Current at 6.3 volts	0.095	A
Direct Interelectrode Capacitance:[a]		
Target to all other electrodes	4.6	pF
Spectral Response	See *Typical Spectral Sensitivity Characteristic*	
Photoconductive Layer:		
Maximum useful diagonal of rectangular image (4 x 3 aspect ratio)	0.62	inch

Orientation of quality rectangle—Proper orientation is obtained when the horizontal scan is essentially parallel to the straight sides of the masked portions of the faceplate. The straight sides are parallel to the plane passing through the tube axis and short index pin. The masking is for orientation only and does not define the proper scanned area of the photoconductive layer.

Focusing Method	Magnetic
Deflection Method	Magnetic
Overall Length	5.12" ± 0.06"
Greatest Diameter	1.125" ± 0.010"
Bulb	T8
Base	Small-Button Ditetrar 8-Pin, (JEDEC No.E8-11)
Socket	Cinch[b] No.54A18088, or equivalent
Focusing Coil-Deflecting Yoke-Alignment Coil Assembly	Cleveland Electronics[cd] No. VYFA-355-1, or equivalent
Operating Position	Any
Weight (Approx.)	2 oz.

ABSOLUTE MAXIMUM RATINGS

For scanned area of 1/2" x 3/8"

Grid-No.3 & Grid-No. 4 Voltage	1000 max.	volts
Grid-No. 2 Voltage	1000 max.	volts
Grid-No. 1 Voltage:		
Negative bias value	300 max.	volts
Positive bias value	0 max.	volts

Peak Heater-Cathode Voltage:		
Heater negative with respect to cathode	125 max.	volts
Heater positive with respect to cathode	10 max.	volts
Target Voltage	100 max.	volts
Dark Current	0.25 max.	μA
Peak Target Current[f]	0.55 max.	μA
Faceplate:		
Illumination[g]	5000 max.	fc
Temperature	71 max.	°C

TYPICAL OPERATION AND PERFORMANCE DATA

For scanned area of 1/2" x 3/8" — Faceplate temperature of 30° to 35°C	*Low-Voltage Operation*	*High-Voltage Operation*	
Grid-No.4 (Decelerator) & Grid-No.3 (Beam-Focus Electrode) Voltage	250 to 300[h]	750	volts
Grid-No.2 (Accelerator) Voltage	300	300	volts
Grid-No.1 Voltage for Picture Cutoff[i]	-45 to -100	-45 to -100	volts
Average "Gamma" of Transfer Characteristic for Signal-Output Current between 0.02μA and 0.2μA	0.65	0.65	
Visual Equivalent Signal-to-Noise Ratio (Approx.)[k]	300:1	300:1	
Lag—Per Cent of Initial Value of Signal-Output Current 1/20 Second After Illumination is Removed:[m]			
Maximum value	28	28	%
Typical value	23	23	%
Minimum Peak-to-Peak Blanking Voltage:			
When applied to grid No.1	75	75	volts
When applied to cathode	20	20	volts
Limiting Resolution: At center of picture— Typical value	750	900	TV lines
Amplitude Response to a 400 TV Line Square-Wave Test Pattern at Center of Picture	30	45	%

Field Strength at Center of Focusing Coil[n]	40	60	gauss
Peak Deflecting-Coil Current:			
Horizontal	340	520	mA
Vertical	20	32	mA
Field Strength of Adjustable Alignment Coil	0 to 4	0 to 4	gauss
High-Sensitivity Operation— 0.1 Footcandle on Faceplate			
Faceplate Illumination (Highlight)	0.1		fc
Target Voltage[p,q]	30 to 60		volts
Dark Current[r]	0.10		μA
Signal-Output Current:[s]			
Typical	0.11		μA
Average-Sensitivity Operation— 1.0 Footcandle on Faceplate			
Faceplate Illumination (Highlight)	1.0		fc
Target Voltage[p,q]	20 to 40		volts
Dark Current[r]	0.02		μA
Signal-Output Current:[s]			
Typical	0.2		μA
High Light Level Operation— 10 Footcandles on Faceplate			
Faceplate Illumination (Highlight)	10		fc
Target Voltage[p,q]	10 to 22		volts
Dark Current[r]	0.005		μA
Signal-Output Current:[s]			
Typical	0.3		μA

[a]This capacitance, which effectively is the output impedance, is increased when the tube is mounted in the deflecting-yoke and focusing-coil assembly. The resistive component of the output impedance is in the order of 100 megohms.

[b]Made by Cinch Manufacturing Corporation, 1026 S. Homan Ave., Chicago 24, Illinois.

[c]Made by Cleveland Electronics, Inc., 2000 Highland Road, Twinsburg, Ohio. Components are also available from companies such as Syntronic Instruments, Inc., 100 Industrial Road, Addison, Illinois and Celco-Constantine Engineering Laboratories Co., 70 Constantine Drive, Mahwah, New Jersey.

[d]These components are chosen to provide tube operation with minimum beam-landing error.

[f] Video amplifiers must be designed properly to handle target currents of this magnitude to avoid amplifier overload or picture distortion.

[g] For conditions where "white light" is uniformly diffused over entire tube face.

[h] Definition, focus uniformity, and picture quality decrease with decreasing grid-No. 4 and grid-No. 3 voltage. In general, grid No. 4 and grid No. 3 should be operated above 250 volts.

[i] With no blanking voltage on grid No. 1.

[k] Measured with high-gain, low-noise, cascode-input-type amplifier having bandwidth of 5MHz and a peak signal-output current of 0.35 microampere. Because the noise in such a system is predominately of the high-frequency type, the visual equivalent signal-to-noise ratio is taken as the ratio of the highlight video-signal current to rms noise current, multiplied by a factor of 3.

[m] For initial signal-output current of 0.3 microampere and a dark current of 0.025 microampere.

[n] The polarity of the focusing coil should be such that a north-seeking pole is attracted to the image end of the focusing coil, with the indicator located outside of and at the image end of the focusing coil.

[p] The target voltage for each 7262A must be adjusted to that value which gives the desired operating signal current.

[q] Indicated range for each type of service serves only to illustrate the operating target-voltage range normally encountered.

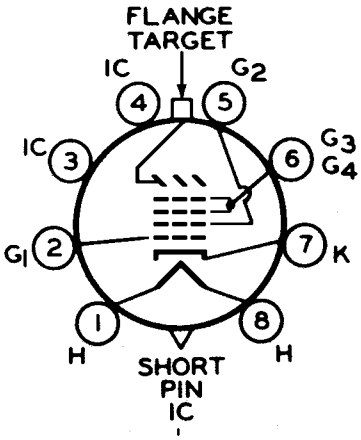
[r] The deflecting circuits must provide extremely linear scanning for good black-level reproduction. Dark-current signal is proportional to the scanning velocity. Any change in scanning velocity produces a black-level error in direct proportion to the change in scanning velocity.

[s] Defined as the component of the highlight target current after the dark-current component has been subtracted.

OPERATING CONSIDERATIONS

When operated at maximum voltage, the 7262A has a typical center resolution of 1000 TV lines and a typical corner resolution of 600 TV lines. At low operating voltage with minimum deflection and focus power employed, its center resolution will ordinarily be in excess of 650 TV lines and 350 TV lines in the corner.

BASING DIAGRAM (Bottom View)



DIRECTION OF LIGHT:
INTO FACE END OF TUBE

8HM

Pin 1: Heater
Pin 2: Grid No. 1
Pin 3: Internal Connection – Do Not Use
Pin 4: Internal Connection – Do Not Use
Pin 5: Grid No. 2
Pin 6: Grids No. 3 and No. 4
Pin 7: Cathode
Pin 8: Heater
Flange: Target
Short Index Pin: Internal Connection – Make No Connection

Spurious Signal Test

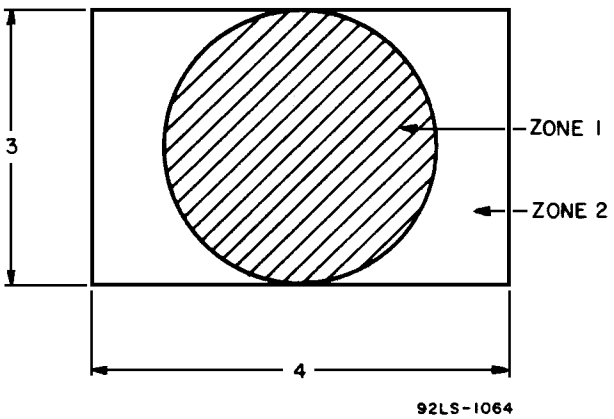


Fig.1

This test is performed using a uniformly diffused white test pattern that is separated into two zones as shown in *Fig.1*. The 7262A is operated under the conditions specified under *Typical Operation and Performance Data* with the lens adjusted to provide a target current of 0.3 microampere. The tubes are adjusted to provide maximum picture resolution. Spurious signals are evaluated by size which is represented by equivalent numbers of raster lines in a 525 TV line system. Allowable spot size for each zone is shown in Table 1. To be classified as a spot, a contrast ratio of 1.5:1 must exist for white spots and 2:1 for black spots. Smudges, streaks, or mottled and grainy background must have a contrast ratio of 1.5:1 to constitute a reject item.

Table 1

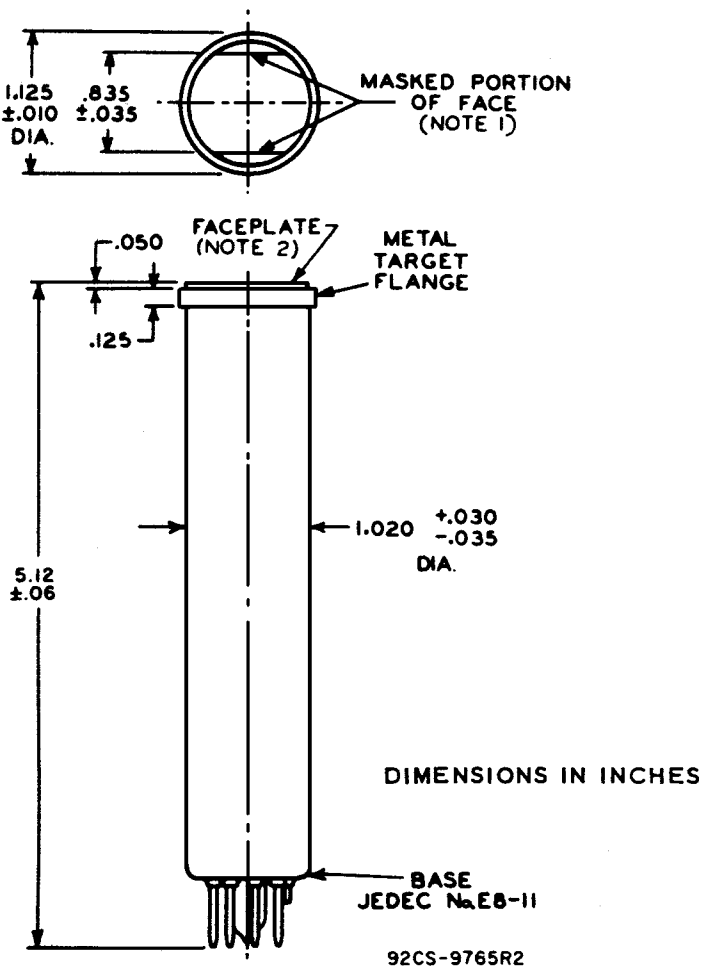
For scanned area of 1/2" x 3/8"

Equivalent Number of Raster Lines	Zone 1 Allowed Spots	Zone 2 Allowed Spots
over 4	0	0
4 but not including 3	0	1
3 but not including 1	2	3
1 or less	*	*

Minimum separation between any 2 spots greater than 1 raster line is limited to 16 raster lines.

*Spots of this size are allowed unless concentration causes a smudged appearance.

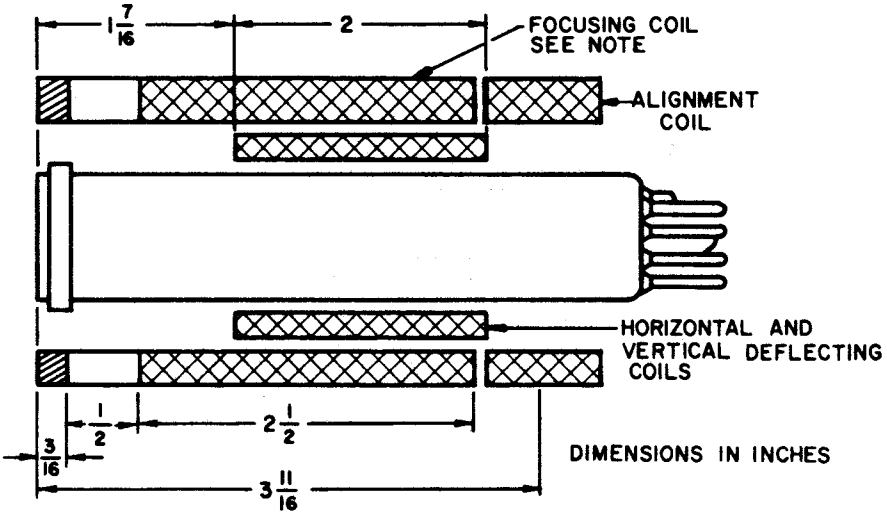
DIMENSIONAL OUTLINE



Note 1: Straight sides of masked portions are parallel to the plane passing through tube axis and short index pin.

Note 2: Faceplate glass is Corning No. 7056 having a thickness of 0.094" ± 0.012".

COMPONENT LOCATIONS



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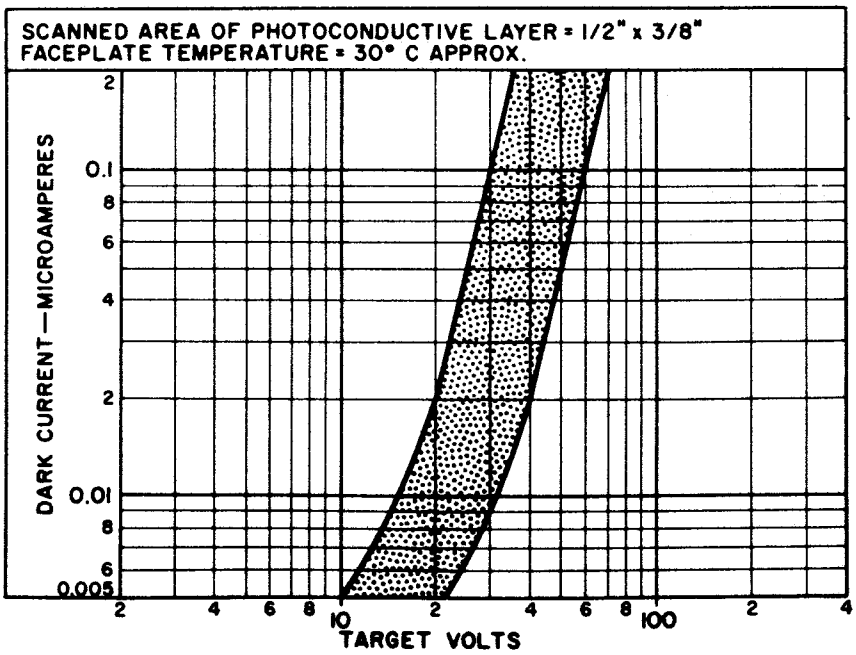
NOTE: CROSS-HATCHING INDICATES WOUND PORTION OF FOCUSING COIL.

Recommended Location and Length of Deflecting, Focusing, and Alignment Components to obtain Minimum Beam-Landing Error.

RANGE OF DARK CURRENT



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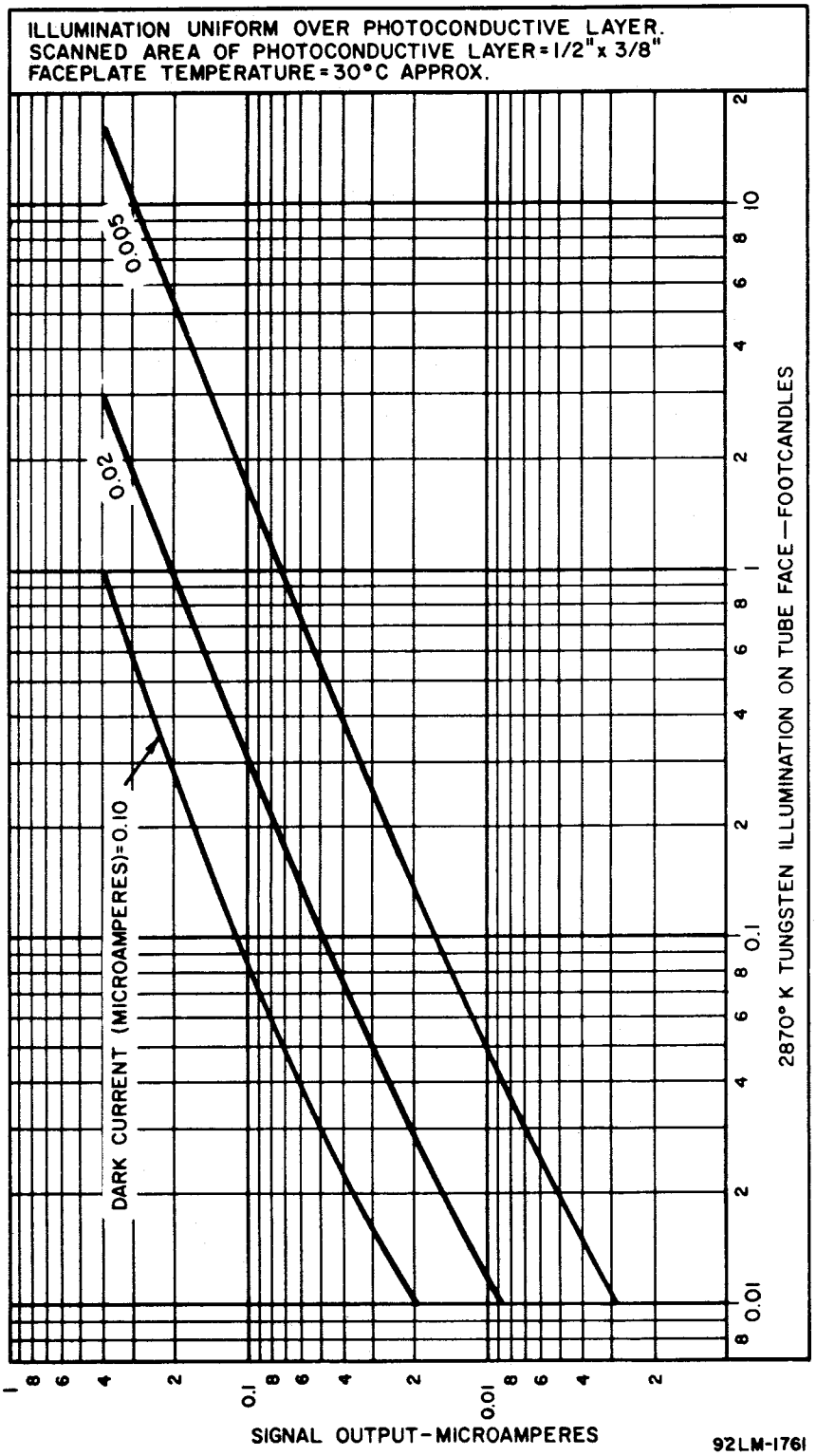
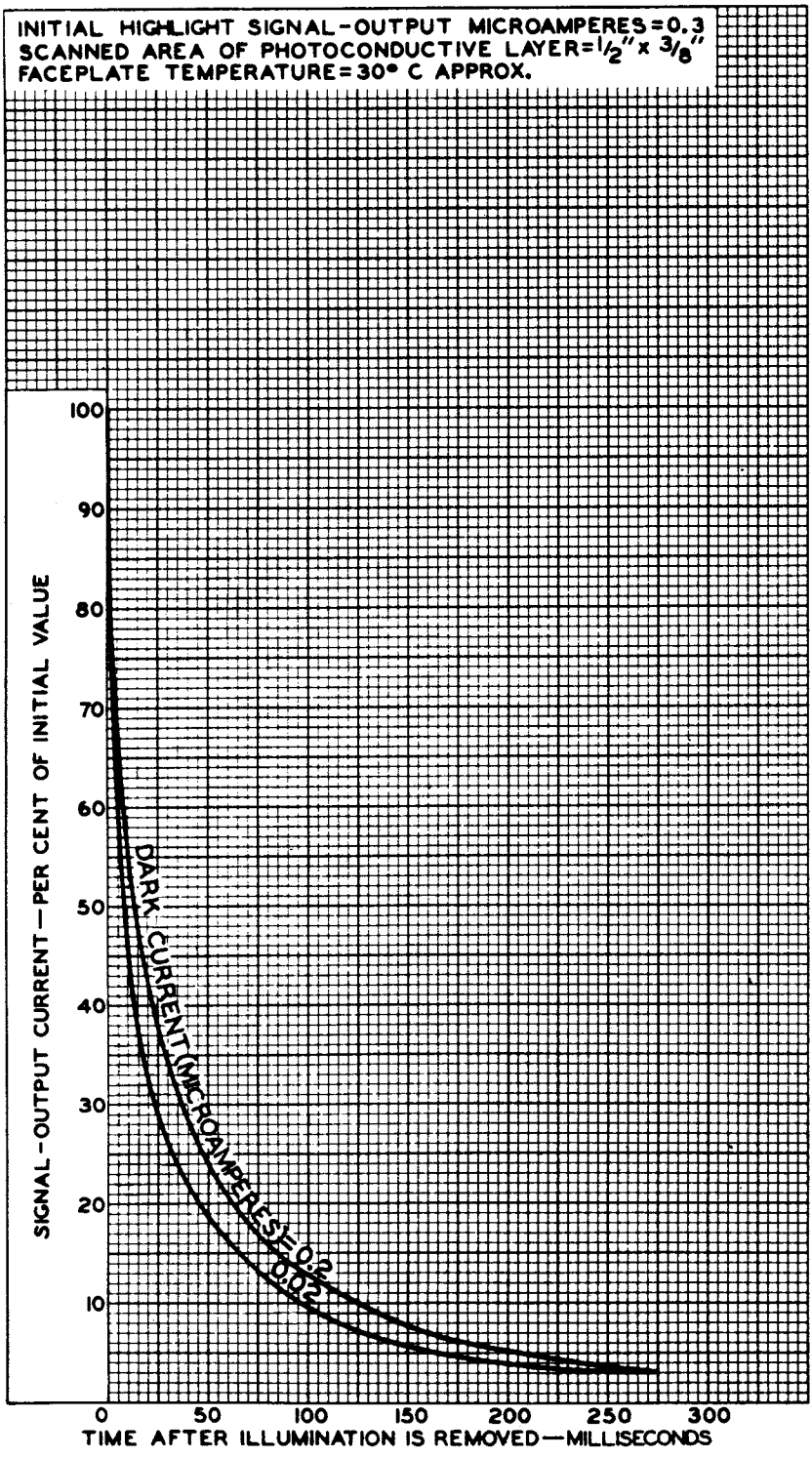
LIGHT TRANSFER CHARACTERISTICS



TYPICAL PERSISTENCE CHARACTERISTIC



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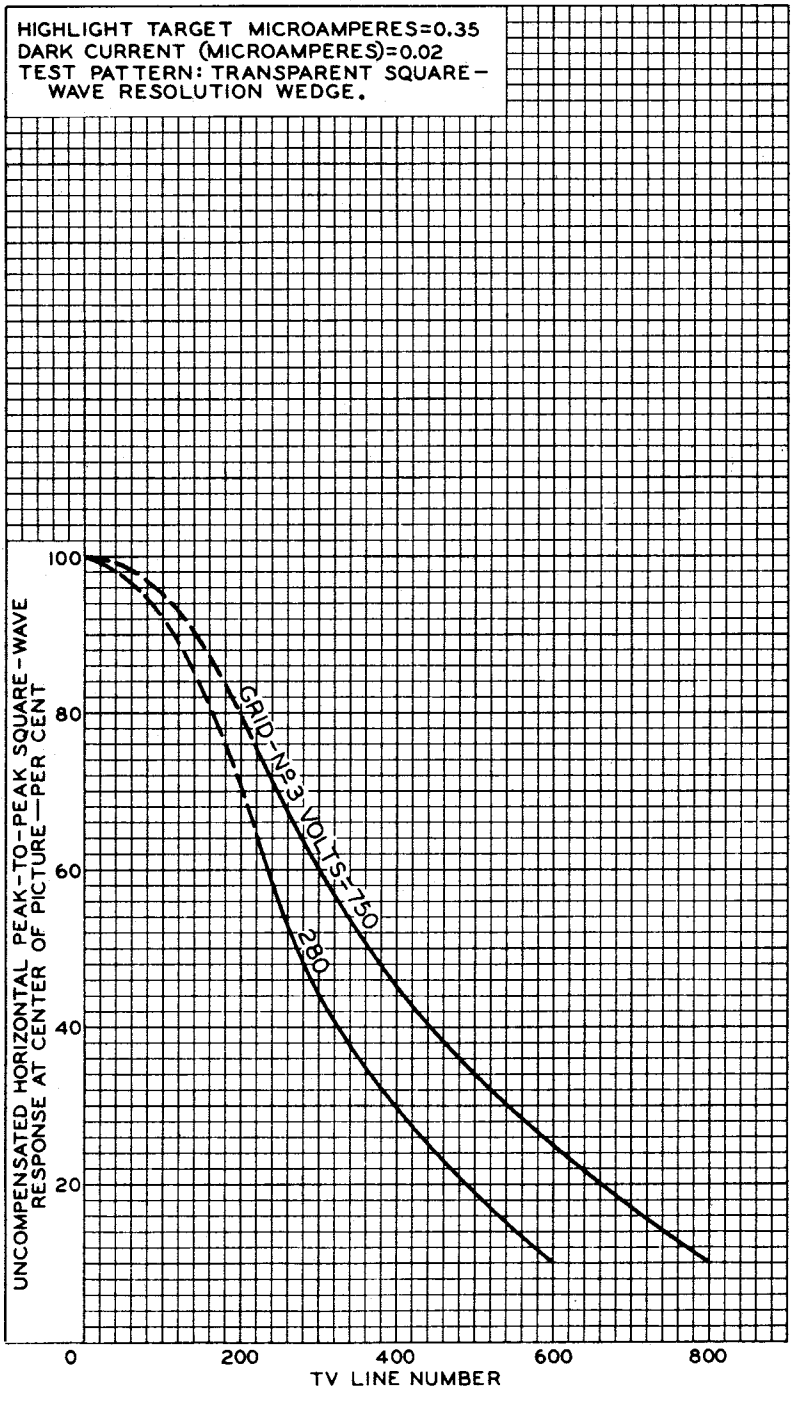
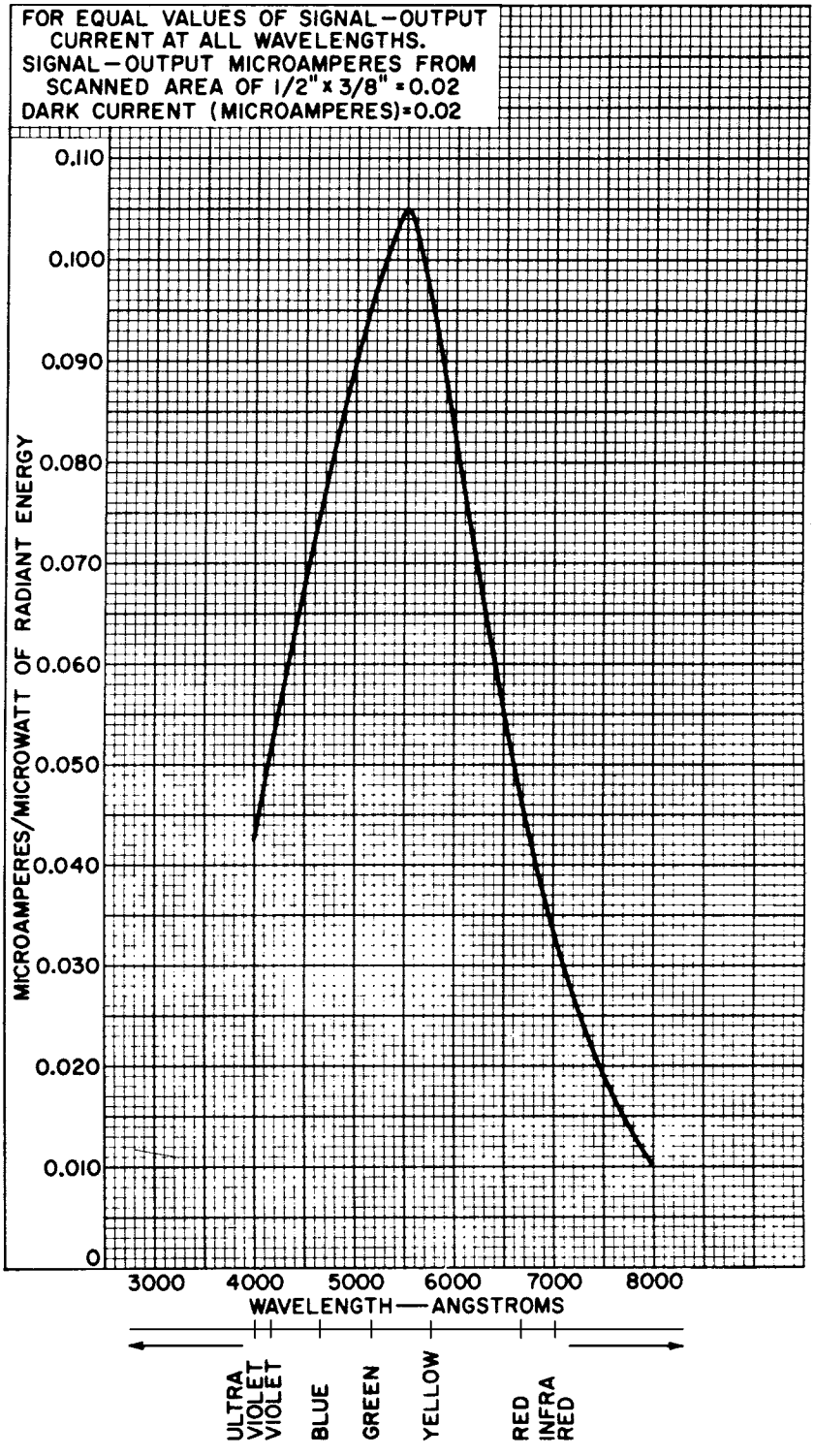
UNCOMPENSATED HORIZONTAL SQUARE-WAVE RESPONSE



TYPICAL SPECTRAL SENSITIVITY CHARACTERISTIC



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