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IMAGE ORTHICON

MAGNETIC FOCUS—MAGNETIC DEFLECTION

DATA**General:**

Heater, for Unipotential Cathode:

Voltage. $6.3 \pm 10\%$ ac or dc volts

Current. 0.6 amp

Direct Interelectrode Capacitance:

Anode to All Other Electrodes 20 μf

Photocathode Spectral Response See Curve

Image Size (4 x 3 aspect ratio). 1/6" Diagonal

Focusing Method. Magnetic

Deflection Method Magnetic

Overall Length $15\text{--}1/4" \pm 1/4"$ Greatest Diameter of Bulb. $3" \pm 1/16"$ Minimum Deflecting-Coil Inside Diameter. $2\text{--}1/8"$

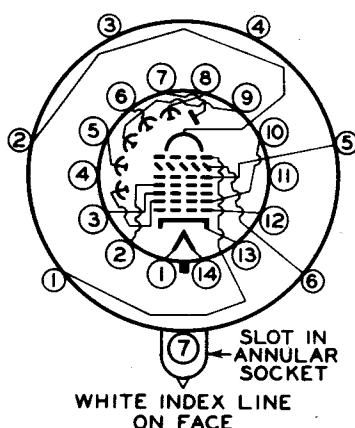
Deflecting-Coil Length 5"

Focusing-Coil Length 10"

Alignment-Coil Length. $15/16"$ Photocathode Distance Inside End of Focusing Coil. $1/2"$ Operating Position Any except with diheptal base
up and tube axis at angle of
less than 20° from the vertical

End Base Small-Shell Diheptal 14-Pin

BOTTOM VIEW

DIRECTION OF LIGHT:
PERPENDICULAR TO
LARGE END OF TUBE

- Pin 1—Heater
- Pin 2—Grid No.4
- Pin 3—Grid No.3
- Pin 4—Internal Connection—Do Not Use
- Pin 5—Dynode No.2
- Pin 6—Dynode No.4
- Pin 7—Anode
- Pin 8—Dynode No.5
- Pin 9—Dynode No.3
- Pin 10—Dynode No.1, Grid No.2
- Pin 11—Internal Connection—Do Not Use
- Pin 12—Grid No.1
- Pin 13—Cathode
- Pin 14—Heater

Shoulder Base. Keyed Jumbo Annular 7-Pin

- | | |
|--------------------------------------|--------------------------------------|
| Pin 1—Grid No.6 | Pin 5—Grid No.5 |
| Pin 2—Photocathode | Pin 6—Target |
| Pin 3—Internal Connection—Do Not Use | Pin 7—Internal Connection—Do Not Use |
| Pin 4—Internal Connection—Do Not Use | |

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Maximum Ratings, Absolute Values:

PHOTOCATHODE VOLTAGE	-550 max.	volts
PHOTOCATHODE ILLUMINATION.	50 max.	ft-c
OPERATING TEMPERATURE OF ANY PART OF BULB	65 max.	°C
OPERATING TEMPERATURE OF BULB AT LARGE END OF TUBE (Target Section) . . .	45 min.	°C
TEMPERATURE DIFFERENCE BETWEEN TARGET SECTION AND ANY PART OF BULB HOTTER THAN TARGET SECTION.	5 max.	°C
GRID-No.6 VOLTAGE.	-550 max.	volts
TARGET VOLTAGE:		
Positive value	50 max.	volts
Negative value	50 max.	volts
GRID-No.5 VOLTAGE	150 max.	volts
GRID-No.4 VOLTAGE	300 max.	volts
GRID-No.3 VOLTAGE	400 max.	volts
GRID-No.2 & DYNODE-No.1 VOLTAGE.	350 max.	volts
GRID-No.1 VOLTAGE:		
Negative bias value.	125 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
ANODE-SUPPLY VOLTAGE*	1500 max.	volts
VOLTAGE PER MULTIPLIER STAGE	350 max.	volts

Typical Operation:

Photocathode Voltage (Image Focus) . .	-300 to -500	volts
Grid-No.6 Voltage (Accelerator)— 80% of photocathode voltage.	-240 to -400	volts
Target Voltage*	0	volts
Grid-No.5 Voltage (Decelerator)** . .	0 to 100	volts
Grid-No.4 Voltage (Beam Focus)	160 to 240	volts
Grid-No.3 Voltage##	225 to 330	volts
Grid-No.2 & Dynode-No.1 Voltage. . . .	300	volts
Grid-No.1 Voltage (For Picture Cutoff)	-35 to -100	volts
Dynode-No.2 Voltage.	600	volts
Dynode-No.3 Voltage.	800	volts
Dynode-No.4 Voltage.	1000	volts
Dynode-No.5 Voltage.	1200	volts
Anode Voltage.	1250	volts
Anode Current.	100	μa
Target Temperature Range	45 to 60	°C
Ratio of Peak-to-Peak Highlight Video-Signal Current to RMS Noise Current (Approx.).		
Minimum Peak-to-Peak Blanking Voltage	10	volts
Field Strength at Center of Focusing Coil	75	gausses

* , * , * , ##: See next page.

OCTOBER 15, 1947

TUBE DEPARTMENT

TENTATIVE DATA 1

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



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Focusing-Coil Current (Approx. for coil listed below)	75	ma
Deflecting-Coil Current (Approx. for assembly listed below):		
Horizontal (Peak to Peak)	625	ma
Vertical (Peak to Peak)	290	ma
Alignment-Coil Current (Approx. for coil listed below)	0 to 30	ma

Components:

Deflecting-Coil Assembly (Includes Keyed Jumbo Annular 7-Pin Socket) . .	RCA Type No. 201D75
Focusing-Coil Assembly	RCA Type No. 202D75
Alignment-Coil Assembly	RCA Type No. 204D75
Hor. Deflection Output Transformer . .	RCA Type No. 204T1
Ver. Deflection Output Transformer . .	RCA Type No. 204T2

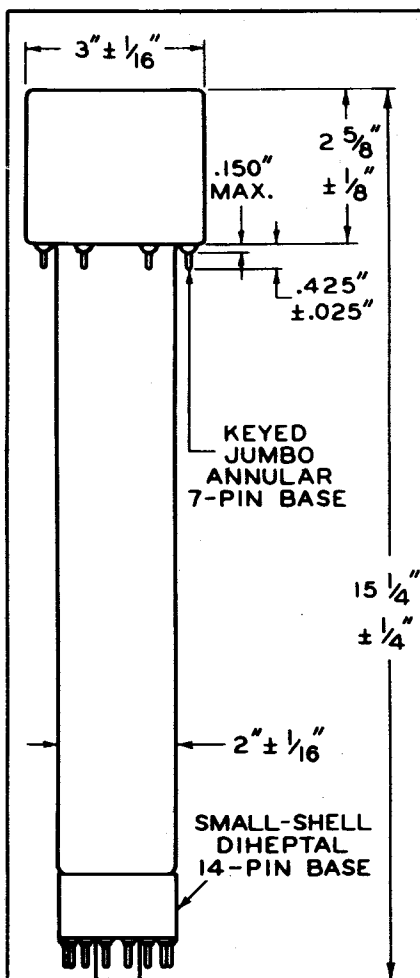
- Ⓔ Ratio of dynode voltages is shown under Typical Operation.
- Adjustable within ± 3 volts of indicated value, with blanking voltage off.
- Taps at 0, 30, 60, and 90 volts are recommended. Set at voltage giving most uniform resolution and most uniform background shading over entire picture area.
- ## Adjust to give the most uniformly shaded picture near maximum signal.

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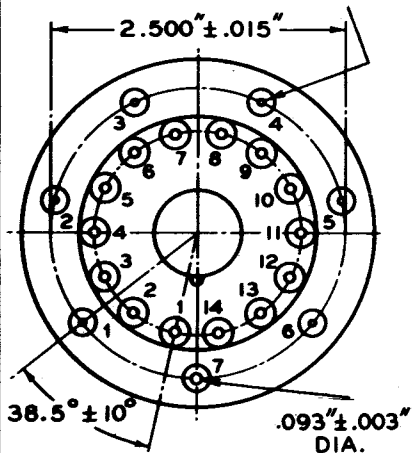
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IMAGE ORTHICON



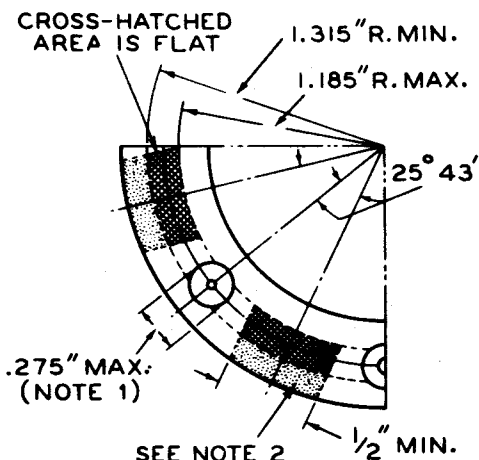
92CM-6878

6 PINS
 $.040 \pm .002$ "
 DIA.



ENLARGED BOTTOM VIEW

DETAIL OF BOTTOM VIEW OF
 KEYED JUMBO ANNULAR BASE



NOTE 1: MEASURED AT DISTANCE OF $1/32$ "
 BELOW BOTTOM OF ANNULAR BASE.

NOTE 2: DOTTED AREA IS FLAT OR EX-
 TENDS TOWARD DHEPTAL-BASE END OF
 TUBE BY 0.060" MAX.

KEYED ANNULAR BASE GAUGE

ANGULAR VARIATIONS BETWEEN PINS AS
 WELL AS ECCENTRICITY OF NECK CYLINDER
 WITH RESPECT TO PHOTOCATHODE CYLINDER
 ARE HELD TO TOLERANCES SUCH THAT PINS
 AND NECK CYLINDER WILL FIT FLAT-PLATE
 GAUGE WITH:

- SIX HOLES HAVING DIAMETER OF 0.065 ± 0.001 " AND ONE HOLE HAVING DIAMETER OF 0.150 ± 0.001 ". ALL HOLES HAVE DEPTH OF 0.265 ± 0.001 ". THE SIX 0.065 " HOLES ARE ENLARGED BY 45° TAPER TO DEPTH OF 0.047 ". ALL HOLES ARE SPACED AT ANGLES OF $51^\circ 26' \pm 5'$ ON CIRCLE DIAMETER OF 2.500 ± 0.001 ".
- SIX STOPS HAVING HEIGHT OF 0.187 ± 0.001 ", CENTERED BETWEEN PIN HOLES, TO BEAR AGAINST FLAT AREAS OF BASE.
- RIM EXTENDING OUT A MINIMUM OF $1/8$ " FROM $2-13/16$ " DIAMETER AND HAVING HEIGHT OF 0.126 ± 0.001 ".
- NECK-CYLINDER CLEARANCE HOLE HAVING DIAMETER OF 2.200 ± 0.001 ".

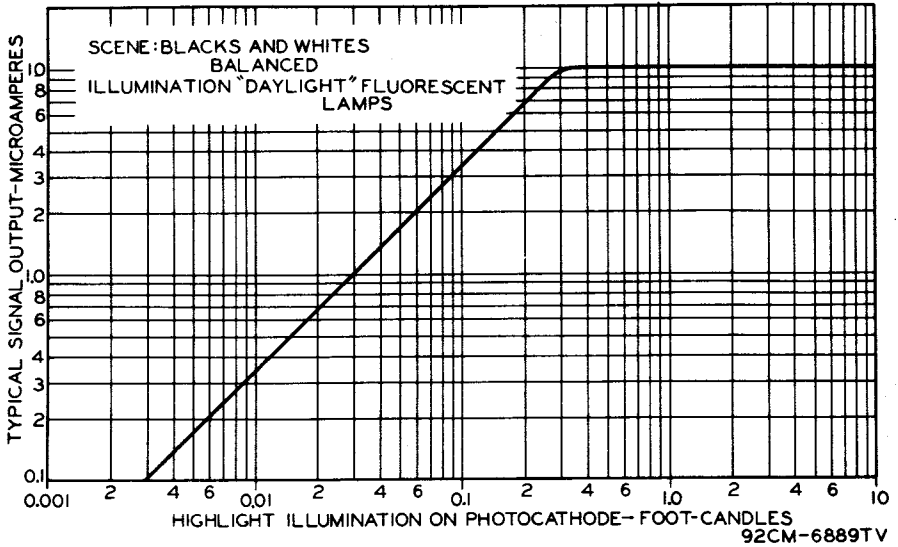


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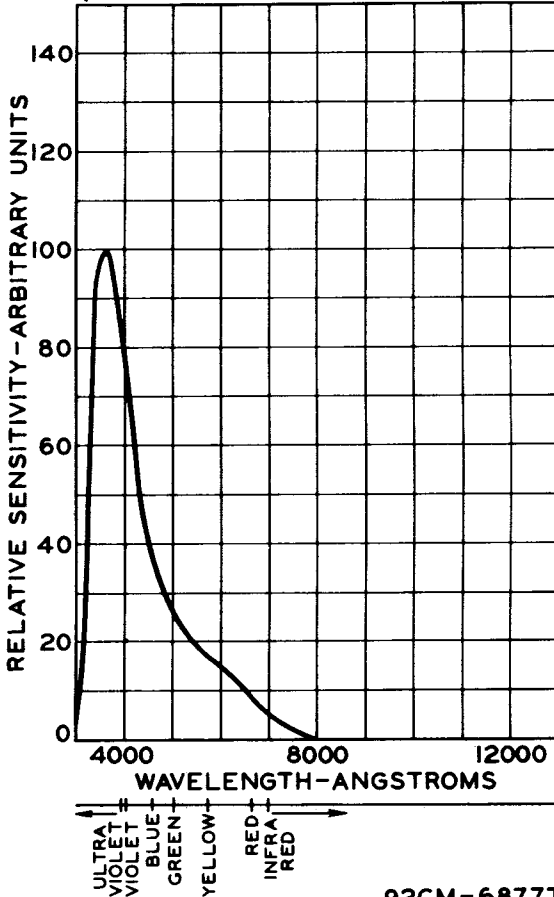
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CHARACTERISTIC CURVES

TYPICAL SIGNAL OUTPUT



SPECTRAL SENSITIVITY CHARACTERISTIC FOR EQUAL VALUES OF RADIANT FLUX AT ALL WAVELENGTHS



92CM-6877T