



10SPA

10SP4

MONITOR KINESCOPE

ALUMINIZED SCREEN

ELECTROSTATIC FOCUS

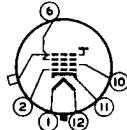
MAGNETIC DEFLECTION

DATA

General:

Heater, for Unipotential Cathode:		
Voltage.	6.3	ac or dc volts
Current.	0.6	amp
Direct Interelectrode Capacitances:		
Grid No.1 to all other electrodes.	6	μ f
Cathode to all other electrodes.	5	μ f
Faceplate, Spherical	Filterglass	
Light transmission (Approx.)	76%	
Phosphor (For curves, see front of this section). . .	P4—Sulfide Type	
	Aluminized	
Fluorescence	White	
Phosphorescence.	White	
Persistence.	Short	
Focusing Method.	Electrostatic	
Deflection Method.	Magnetic	
Deflection Angle (Approx.)	50°	
Overall Length	16-5/8" \pm 3/8"	
Greatest Diameter of Bulb.	10-1/2" \pm 1/16"	
Minimum Useful Screen Diameter	9-1/8"	
Picture Size (Within minimum useful screen area) . .	8" x 6"	
Weight (Approx.)	10 lbs	
Operating Position	Any	
Cap.	Recessed Small Cavity (JETEC No. J1-21)	
Bulb	J84	
Base	Small-Shell Duodecal 6-Pin (JETEC No. B6-63)	
Basing Designation for BOTTOM VIEW	12Q	

- Pin 1—Heater
- Pin 2—Grid No.1
- Pin 6—Grid No.3
- Pin 10—Grid No.2
- Pin 11—Cathode



- Pin 12—Heater
- Cap—Ultor
- (Grid No.4, Collector)

Maximum Ratings, Design-Center Values:

ULTOR VOLTAGE.	20000 max.	volts
GRID—No.3 VOLTAGE.	3000 max.	volts
GRID—No.2 VOLTAGE.	410 max.	volts
GRID—No.1 VOLTAGE:		
Negative bias value.	125 max.	volts
Positive bias value.	0 max.	volts
Positive peak value.	2 max.	volts
PEAK HEATER—CATHODE VOLTAGE:		
Heater negative with respect to cathode:		
During equipment warm-up period		
not exceeding 15 seconds	410 max.	volts
After equipment warm-up period	180 max.	volts
Heater positive with respect to cathode.		
	180 max.	volts

← Indicates a change.



MONITOR KINESCOPE

Equipment Design Ranges:

→ For any ultor voltage (E_{c_4}) between 10000* and 20000 volts and grid-No.2 voltage (E_{c_2}) between 150 and 410 volts

Grid-No.3 Voltage for focus with ultor current of 100 μ a.	11.7% to 15.9% of E_{c_4}	volts
Grid-No.1 Voltage for visual extinction of 8" x 6" raster	9% to 24% of E_{c_2}	volts
Maximum Grid-No.3 Current**	See Curves	
Grid-No.2 Current.	-15 to +15	μ a
Field Strength of Adjustable Centering Magnet	0 to 8	gausses

Examples of Use of Design Ranges:

For ultor voltage of	12000	14000	volts
and grid-No.2 voltage of	200	200	volts
Grid-No.3 Voltage for focus with ultor current of 100 μ a.	1400 to 1900	1640 to 2225	volts
Grid-No.1 Voltage for visual extinction of 8" x 6" raster	-18 to -48	-18 to -48	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1.5 max.	megohms
--	----------	---------

* Brilliance and definition decrease with decreasing ultor voltage. In general, the ultor voltage should not be less than 10,000 volts.

** Grid-No.3 current increases as the ultor voltage is decreased.

For X-ray shielding considerations, see sheet
X-RAY PRECAUTIONS FOR CATHODE-RAY TUBES
at front of this Section

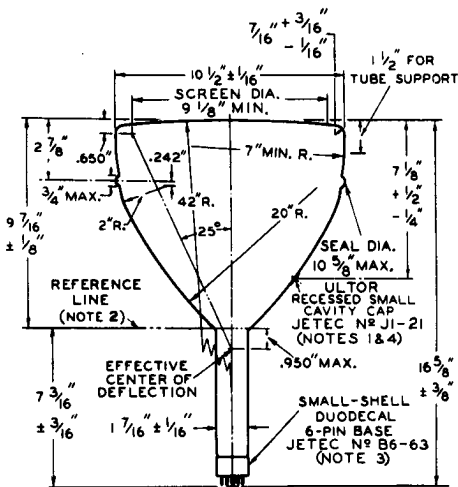
→ Indicates a change.



IOSP4

IOSP4

MONITOR KINESCOPE



92CM-7729R1

NOTE 1: THE PLANE THROUGH THE TUBE AXIS AND PIN 6 MAY VARY FROM THE PLANE THROUGH THE TUBE AXIS AND ULTROR TERMINAL BY AN ANGULAR TOLERANCE (MEASURED ABOUT THE TUBE AXIS) OF $\pm 10^\circ$. ULTROR TERMINAL IS ON SAME SIDE AS PIN 6.

NOTE 2: REFERENCE LINE IS DETERMINED BY POSITION WHERE REFERENCE-LINE GAUGE (JETEC No. 112) $1.500'' + 0.003'' - 0.000''$ I.D. AND $2''$ LONG WILL REST ON BULB CONE.

NOTE 3: SOCKET FOR THIS BASE SHOULD NOT BE RIGIDLY MOUNTED; IT SHOULD HAVE FLEXIBLE LEADS AND BE ALLOWED TO MOVE FREELY. BOTTOM CIRCUMFERENCE OF BASE SHELL WILL FALL WITHIN CIRCLE CONCENTRIC WITH BULB AXIS AND HAVING DIAMETER OF $1-7/8''$.

NOTE 4: TUBE SUPPORT MUST BE KEPT AT LEAST $2''$ AWAY FROM BULB TERMINAL.

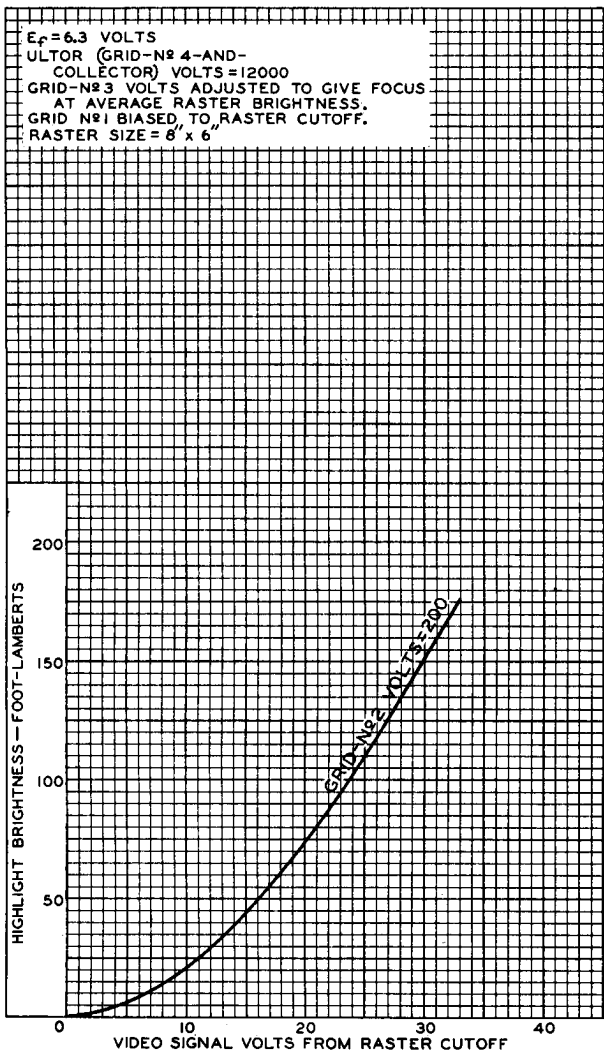
10SP4



10SP4

AVERAGE GRID-DRIVE CHARACTERISTIC

$E_f = 6.3$ VOLTS
ULTOR (GRID-N^o 4-AND-COLLECTOR) VOLTS = 12000
GRID-N^o 3 VOLTS ADJUSTED TO GIVE FOCUS AT AVERAGE RASTER BRIGHTNESS.
GRID N^o 1 BIASED TO RASTER CUTOFF.
RASTER SIZE = 8" x 6"

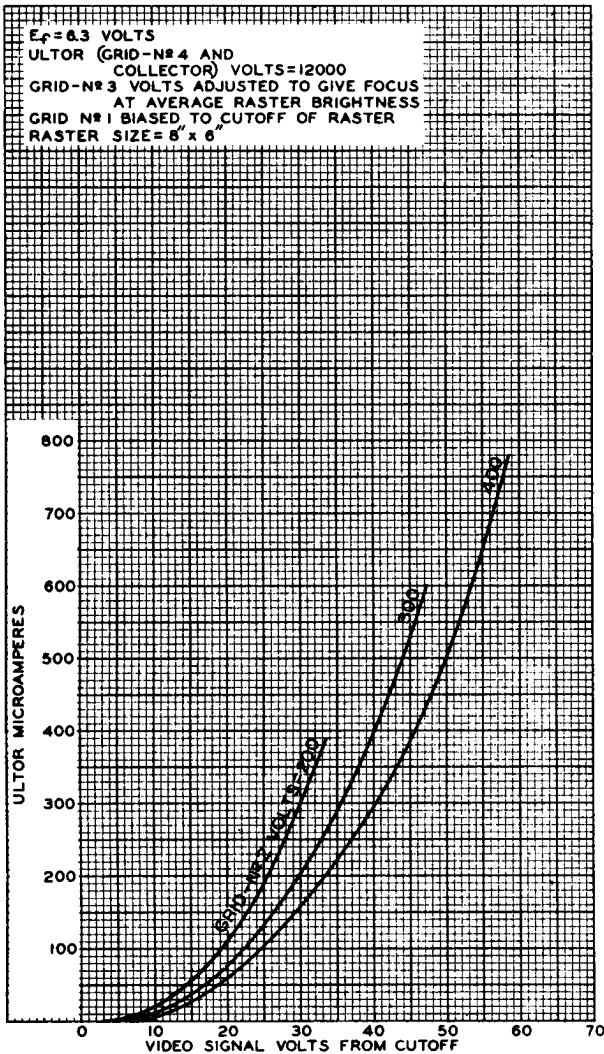




10SP4

10SPA

AVERAGE GRID-DRIVE CHARACTERISTICS



MAR. 21, 1952

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7773

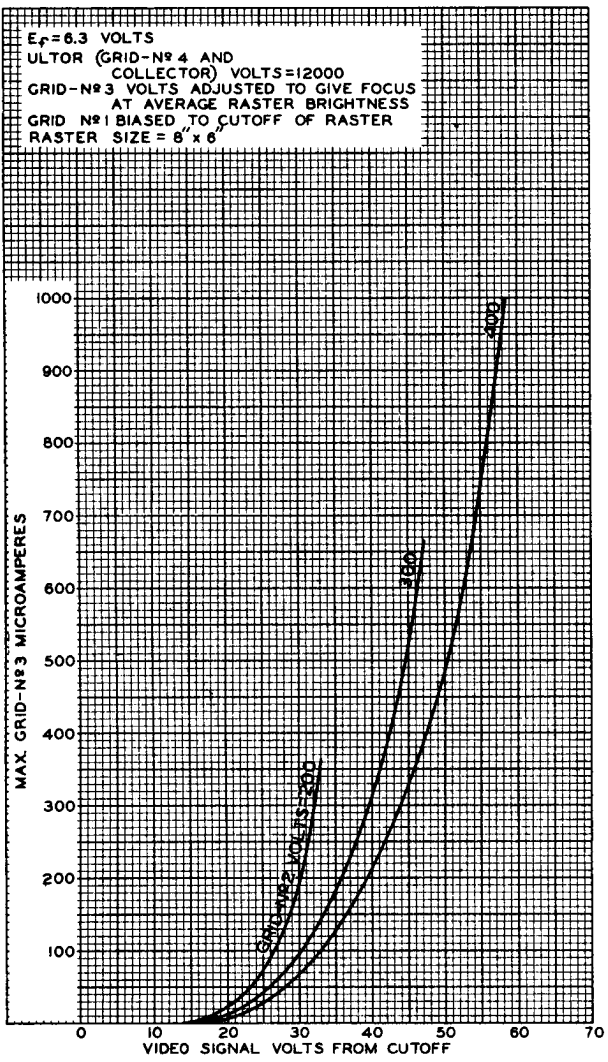
10SP4



10SP4

GRID-DRIVE CHARACTERISTICS

$E_p = 6.3$ VOLTS
ULTOR (GRID-Nº 4 AND COLLECTOR) VOLTS=12000
GRID-Nº 3 VOLTS ADJUSTED TO GIVE FOCUS AT AVERAGE RASTER BRIGHTNESS
GRID Nº 1 BIASED TO CUTOFF OF RASTER
RASTER SIZE = 6" x 6"



MAR. 21, 1952

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7775