

GOVERNMENT RESTRICTED

3277

TENTATIVE CHARACTERISTICS and RATINGS

HEATER VOLTAGE (A.C. or D.C.)	6.3	Volts
HEATER CURRENT	0.6	Ampere
FOCUSING METHOD	Electrostatic	
DEFLECTION METHOD	Electrostatic	
Electrodes DJ1 and DJ2 are nearest to screen and designated as "upper."		
DJ1 is on same side of tube as pin No. 5.		
Electrodes DJ3 and DJ4 are nearest to base and designated as "lower."		
DJ3 is on same side of tube as pin No. 2.		
PHOSPHOR	No. 7	
DIRECT INTERELECTRODE CAPACITANCES (Approx.):		
Grid to All Other Electrodes	8	μf
Cathode to All Other Electrodes	7	μf
Deflecting Electrode DJ1 to Deflecting Electrode DJ2	2	μf
Deflecting Electrode DJ3 to Deflecting Electrode DJ4	2	μf
Deflecting Electrode DJ1 to All Other Electrodes	9	μf
Deflecting Electrode DJ3 to All Other Electrodes	7	μf
Deflecting Electrode DJ1 to All Other Electrodes except Deflecting Electrode DJ2	7	μf
Deflecting Electrode DJ2 to All Other Electrodes except Deflecting Electrode DJ1	7	μf
Deflecting Electrode DJ3 to All Other Electrodes except Deflecting Electrode DJ4	5	μf
Deflecting Electrode DJ4 to All Other Electrodes except Deflecting Electrode DJ3	6	μf
OVERALL LENGTH	10" $\pm 1/4$ "	
GREATEST DIAMETER of BULB	3" $\pm 1/16$ "	
MINIMUM USEFUL SCREEN DIAMETER	2-1/2"	
BULB SIDE TERMINAL	Snap Connector	
BASE	Diheptal 12-Pin	
RMA BASING DESIGNATION	14B	

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

Maximum Ratings Are Absolute Values

ANODE No. 3 (Supplementary High-Voltage Electrode) VOLTAGE	4400 max. Volts
ANODE No. 2 (High-Voltage Electrode) VOLTAGE	2200 max. Volts
ANODE No. 1 (Focusing Electrode) VOLTAGE	1100 max. Volts
GRID (Control Electrode) VOLTAGE	Never positive
PEAK VOLTAGE BETWEEN ANODE No. 2 and ANY DEFLECTING ELECTRODE	550 max. Volts
D-C HEATER-to-CATHODE POTENTIAL*	125 max. Volts
IMPEDANCE of ANY DEFLECTING-ELECTRODE CIRCUIT at HEATER-SUPPLY FREQUENCY	1.0 max. Megohm
GRID-CIRCUIT RESISTANCE	1.5 max. Megohms
TYPICAL OPERATION:	
Anode No. 3 Voltage**	2000 3000 4000 Volts
Anode No. 2 Voltage***	2000 1500 2000 Volts
Anode No. 1 Voltage for Focus at 75% of Grid Voltage for Cut-Off#	575 430 575 Volts

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TYPICAL OPERATION: (continued)

Grid Voltage for Visual Cut-Off##	-60	-45	-60	Volts
Values subject to variation of	±50	±50	±50	Per cent
Deflection Sensitivity:				
Electrodes DJ1 and DJ2	0.115	0.115	0.086 mm/volt D.C.	
Electrodes DJ3 and DJ4	0.155	0.156	0.117 mm/volt D.C.	
Deflection Factor:				
Electrodes DJ1 and DJ2	221	221	295 volts D.C./in.	
Electrodes DJ3 and DJ4	164	163	217 volts D.C./in.	
Values subject to variation of	±20	±25	±25	Per cent
* With heater negative. The cathode should be connected to the mid-tap or to one side of the heater transformer winding.				
** For high-velocity scanning, it is recommended that the anode No. 3 voltage be not less than 3000 volts.				
*** Brilliance and definition decrease with decreasing anode voltage. In general, anode voltage should not be less than 1500 volts.				
# Individual tubes may require between ±20% and -35% of these values with grid voltage between zero and cut-off.				
## Visual extinction of stationary focused spot.				

SPOT POSITION

The undeflected focused spot will fall within a 15-mm square centered at the geometric center of the tube face and having one side parallel to the trace produced by DJ1 and DJ2.

Suitable test conditions are: anode No. 3 voltage, 4000 volts; anode No. 2 voltage, 2000 volts; anode No. 1 voltage, adjusted for focus; deflecting-electrode resistors, 1 megohm each, connected to anode No. 2; the tube shielded from all extraneous fields. To avoid damage to the tube, make the test with grid voltage near cut-off.

BASING and DEFLECTING-ELECTRODE ALIGNMENT

The angle between the trace produced by DJ1 and DJ2 and its intersection with the plane through the tube axis and pin No. 5 will not exceed 10°.

The angle between the trace produced by DJ1 and DJ2 and the trace produced by DJ3 and DJ4 will be 90° ±4°.

With DJ1 (pin 11) positive with respect to DJ2 (pin 10), the spot will be deflected toward pin 5; likewise, with DJ3 (pin 7) positive with respect to DJ4 (pin 8), the spot will be deflected toward pin 2.

The bulb side terminal for anode No. 3 is on the same side of the tube as pin 5. It is in a plane parallel with the trace produced by DJ1 and DJ2 within 10°.

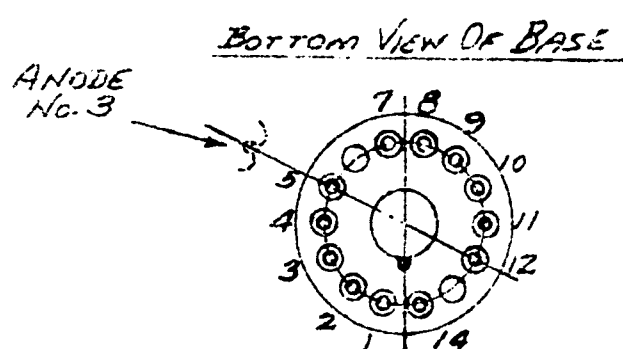
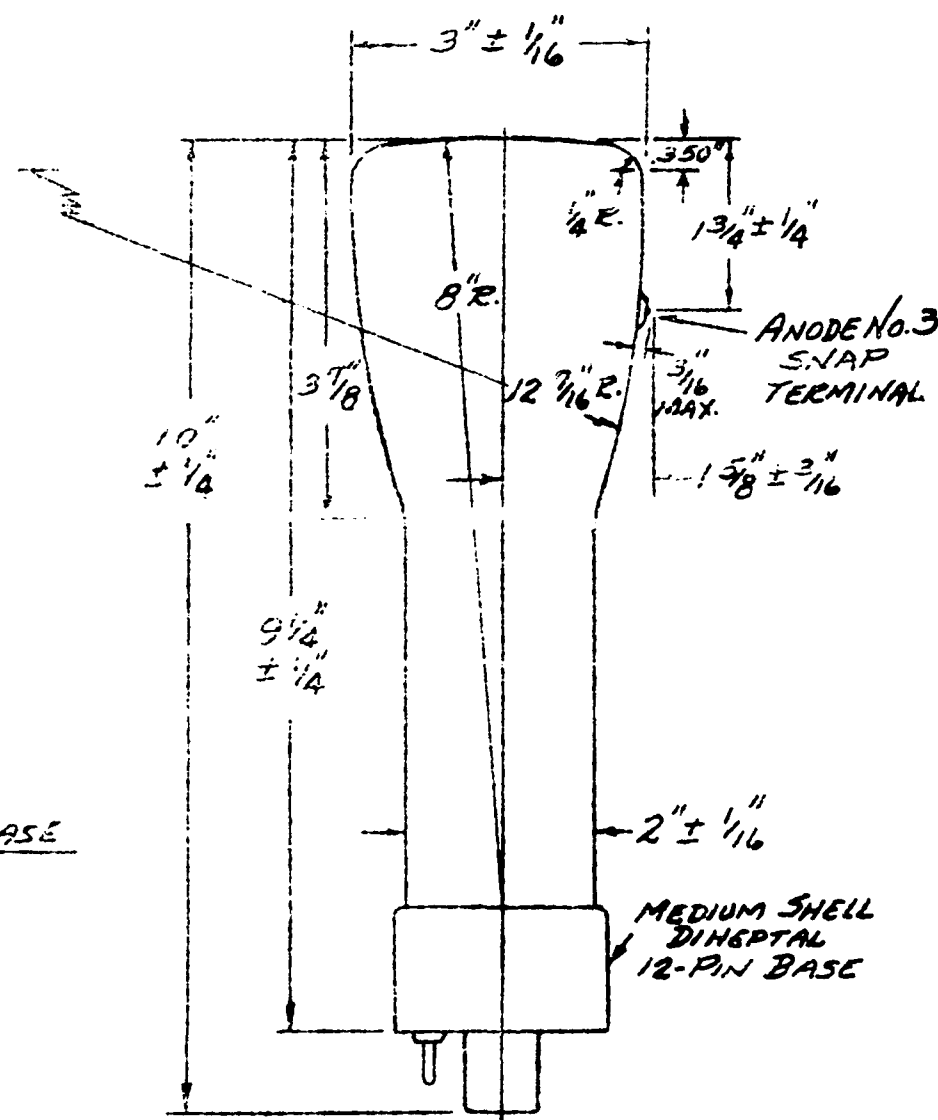
ANODE No. 3 CURRENT vs GRID VOLTAGE CHARACTERISTIC

Anode No. 3 Voltage.....4000 volts

Anode No. 2 Voltage.....2000 volts

Anode No. 1 Voltage.....adjusted for focus

Anode No. 3 Current, Microamperes	Grid Voltage
250	0
165	-10
100	-20
55	-30
23	-40
4.5	-50
0	-60



PIN No.	ELEMENTS
1	HEATER
2	CATHODE
3	GRID No. 1
4	INTERNAL CONN. DO NOT USE
5	ANODE NO. 1
7	DEFLECTING ELECTRODE DJ_3
8	DEF. ELECTRODE DJ_4
9	ANODE NO. 2 & GRID No. 2
10	DEF. ELECTRODE DJ_2
11	DEF. ELECTRODE DJ_1
12	NO CONNECTION
14	HEATER