



7MP7

7MP7

OSCILLOGRAPH TUBE

MAGNETIC FOCUS

MAGNETIC DEFLECTION

DATA

General:

Heater, for Unipotential Cathode:

Voltage.	6.3	ac or dc volts
Current.	0.6	amp

Direct Interelectrode Capacitances (Approx.):

Grid No.1 to All Other Electrodes.	6	μ f
Cathode to All Other Electrodes.	5	μ f

Phosphor (For Curves, see front of this Section) . . .	P7	
Fluorescence		Blue
Phosphorescence.		Greenish-Yellow
Persistence.		Long

Focusing Method.		Magnetic
Deflection Method.		Magnetic

Deflection Angle (Approx.) 50°

Overall Length 12-3/4" \pm 3/8"

Greatest Diameter of Bulb. 7-3/16" \pm 1/8"

Minimum Useful Screen Diameter 6"

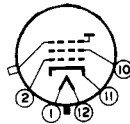
Mounting Position. Any

Cap. Recessed Small Cavity (JETEC No.J1-21)

Base Small-Shell Duodecal 5-Pin (JETEC No.B5-57)

BOTTOM VIEW

Pin 1-Heater
 Pin 2-Grid No.1
 Pin 10-Grid No.2



Pin 11-Cathode
 Pin 12-Heater
 Cap - Grid No.3,
 Collector

Maximum Ratings, Design-Center Values:

Ultor* VOLTAGE 8000 max. volts

GRID-No.2 VOLTAGE:

Positive Value (DC or Peak AC)	700 max. volts
Negative Value (DC or Peak AC)	180 max. volts

GRID-No.1 VOLTAGE:

Negative bias value.	180 max. volts
Positive bias value#	0 max. volts
Positive peak value.	2 max. volts

PEAK GRID-No.1 DRIVE FROM CUTOFF 65 max. volts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode.	125 max. volts
Heater positive with respect to cathode.	125 max. volts

* In the 7M-types, grid No.3 which has the ultor function, and collector are connected together within the tube and are conveniently referred to collectively as "ultor". The "ultor" in a cathode-ray tube is the electrode, or the electrode in combination with one or more additional electrodes connected within the tube to it, to which is applied the highest dc voltage for accelerating the electrons in the beam prior to its deflection.

At or near this rating, the effective resistance of the ultor supply should be adequate to limit the ultor input power to 6 watts.

7MP7



7MP7 OSCILLOGRAPH TUBE

Typical Operation:

Ultor Voltage*	4000	7000	volts
Grid-No.2 Voltage	250	250	volts
Grid-No.1 Voltage °	-27 to -63	-27 to -63	volts
→ Grid-No.2 Current	-15 to +15	-15 to +15	µamp
→ Focusing-Coil Current (DC Approx.)**	64 ± 15%	85 ± 15%	ma
→ Spot Position	-	**	

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 4000 volts.

° For visual extinction of undeflected, focused spot.

** For specimen focusing coil similar to JETEC Focusing Coil No.109 positioned with air gap toward faceplate and center line of air gap 2-3/4" from Reference Line (see Outline Drawing) and ultor current of 200 microamperes.

**# The center of the undeflected, unfocused spot will fall within a circle having 12-mm radius concentric with the center of the tube face.

→ Indicates a change

OCTOBER 1, 1951

TUBE DEPARTMENT

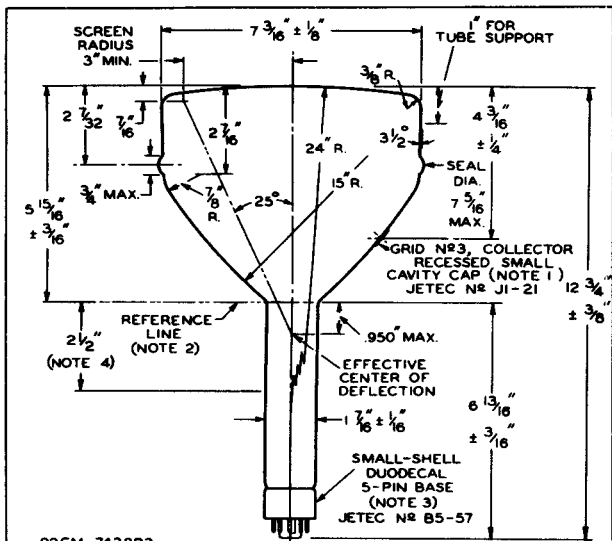
DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



7MP7

7MP7 OSCILLOGRAPH TUBE



92CM-7438R3

NOTE 1: THE PLANE THROUGH THE TUBE AXIS AND VACANT PIN POSITION No.3 MAY VARY FROM THE PLANE THROUGH THE TUBE AXIS AND BULB TERMINAL BY AN ANGULAR TOLERANCE (MEASURED ABOUT THE TUBE AXIS) OF $\pm 10^\circ$. BULB TERMINAL IS ON SAME SIDE AS VACANT PIN POSITION No.3.

NOTE 2: REFERENCE LINE IS DETERMINED BY POSITION WHERE REFERENCE-LINE GAUGE (JETEC No.112) $1.500 + .003 - .000$ " 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: LOCATION OF DEFLECTING YOKE MUST BE WITHIN THIS SPACE.

7MP7

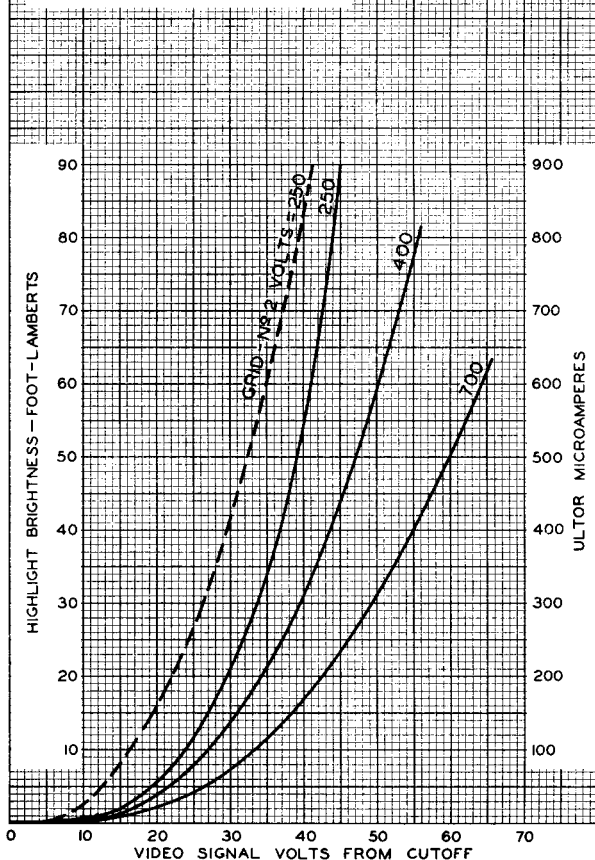


7MP7

AVERAGE GRID-DRIVE CHARACTERISTICS

$E_f = 6.3$ VOLTS
 ULTOR VOLTS = 7000
 GRID NO 1 BIASED TO CUTOFF OF
 UNDEFLECTED FOCUSED SPOT
 SCANNING AREA: 12 X 12 CM

——— ULTOR CURRENT
 - - - HIGHLIGHT BRIGHTNESS



JULY 18, 1951

TUBE DEPARTMENT

92CM-7450RI

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY