16AP4-A

KINESCOPE

METAL-CONE ENVELOPE

MAGNETIC FOCUS MAGNETIC DEFLECTION

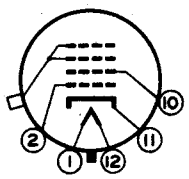
Supersedes Type 16AP4

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	μμf
Cathode to All Other Electrodes	5	μμf
Face Plate (Transmission of about 65%)		RCA "Filterglass"
Phosphor (For Curves, see front of this Section)		No.4-Sulfide Type
Fluorescence and Phosphorescence		White
Persistence of Phosphorescence		Medium
Focusing Method		Magnetic
Deflection Method		Magnetic
Deflection Angle (Approx.)		53°
Ion-Trap Gun	Requires External Double-Field Magnet	
Maximum Overall Length		22-5/16"
Greatest Diameter of Bulb		15-7/8" ±1/8"
Screen Diameter		14-5/8"
Mounting Position		Any
Anode Terminal		Metal-Cone Lip
Base	Small-Shell Duodecal 5-Pin	
Basing Designation for BOTTOM VIEW		$12D_1$

Pin 1 - Heater
Pin 2 - Grid No.1
Pin 10 - Grid No.2
Pin 11 - Cathode



Pin 12 - Heater
Metal-Cone Lip:
Anode,
Grid No.3

Maximum Ratings, *Design-Center Values*:

ANODE□VOLTAGE○	14000 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	150 max. volts
Heater positive with respect to cathode	150 max. volts

□ Anode and grid No.3, which are connected together within tube, are referred to herein as anode.

○ The product of anode voltage and average anode current should be limited to 6 watts.

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Typical Operation:

Anode Voltage*	9000	12000	volts
Grid-No.2 Voltage	300	300	volts
Grid-No.1 Voltage for Visual Extinction of Undeflected Focused Spot	-33 to -77	-33 to -77	volts
Focusing-Coil Current (DC)▲	75	90	ma
Ion-Trap Magnet Current (DC, approx.)#	155	200	ma

Maximum Circuit Values:

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

Minimum Circuit Values:

The power supply should be of the limited-energy type with inherent regulation to limit the continuous short-circuit current to 5 ma. If the supply permits the instantaneous short-circuit current to exceed 1 ampere, or is capable of storing more than 250 microcoulombs, the effective resistance in circuit between indicated electrode and the output capacitor should be as follows:

Grid-No.1-Circuit Resistance	150 min.	ohms
Grid-No.2-Circuit Resistance	470 min.	ohms
Anode-Circuit Resistance	16000 min.	ohms

The resistors used should be capable of withstanding the applied voltage.

Components:

Horizontal-Deflection-Output and High-Voltage Transformer: For use with pulse-operated high-voltage supply giving 11500-13500 volts	RCA-211T5
Horizontal Linearity Control	RCA-201R5
Width Control	RCA-201R4
Vertical-Deflection Output Transformer	RCA-204T9
Deflecting Yoke	RCA-201D12
Ion-Trap Magnet (Permanent-Magnet Type)	RCA-203D3
Focusing Coil°°	RCA-202D2

* Brilliance and definition decrease with decreasing anode voltage. In general, the anode voltage should not be less than 9000 volts.

▲ For JETEC Focusing Coil No.109, or equivalent, positioned with air gap toward kinescope screen, and center line of air gap about 3 inches from Reference Line (see Outline Drawing). The indicated currents are for the condition with the combined grid-No.1 bias voltage and video-signal voltage adjusted to produce a highlight brightness of 30 foot-lamberts on a 13-1/4" x 10" picture area.

\# For JETEC Ion-Trap Magnet No.108, or equivalent, located with main pole pieces longitudinally opposite internal pole pieces, and rotated to give maximum brightness.

°° Renewal Sales item only.

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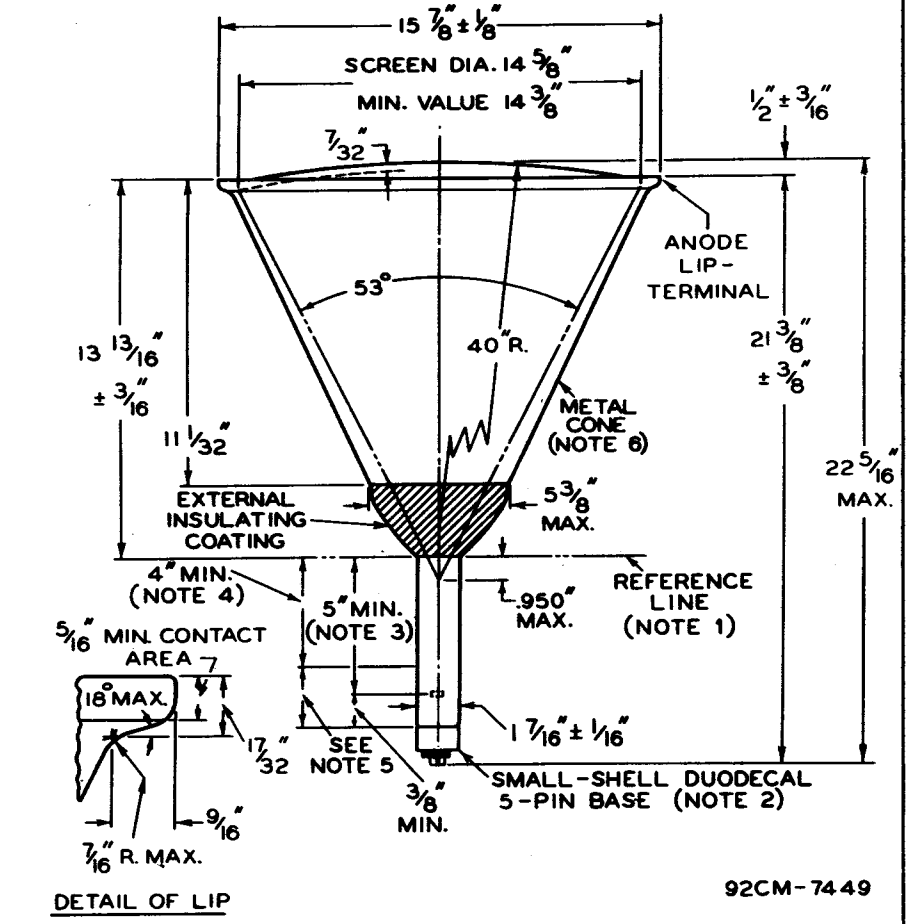

NOTE 1: REFERENCE LINE IS DETERMINED BY POSITION WHERE HINGED GAUGE 1.500" + .003" - .000" I.D. AND 2" LONG WILL REST ON CONE.

NOTE 2: 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 CONE AXIS AND HAVING DIAMETER OF 3".

NOTE 3: DISTANCE TO INTERNAL POLE PIECES. PLANE THROUGH VACANT PIN POSITION No.6 AND TUBE AXIS PASSES THROUGH LINE JOINING CENTERS OF POLE PIECES. DIRECTION OF PRINCIPAL FIELD OF ION-TRAP MAGNET SHOULD BE SUCH THAT NORTH POLE IS ADJACENT TO VACANT PIN POSITION No.6 AND SOUTH POLE TO PIN No.12.

NOTE 4: LOCATION OF DEFLECTING YOKE AND FOCUSING-COIL MUST BE WITHIN THIS SPACE.

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NOTE 5: KEEP THIS SPACE CLEAR FOR ION-TRAP MAGNET.

NOTE 6: METAL CONE AND GLASS FACE OPERATE AT HIGH VOLTAGE. ANY MATERIAL IN CONTACT WITH THE CONE OR THE FACE MUST HAVE INSULATING PROPERTIES ADEQUATE FOR 15500 VOLTS.

CURVES

The following Grid-Drive Characteristics Curves are for the condition with grid No.1 biased to give visual extinction of the undeflected, focused spot. In viewing television pictures, it will be found that the actual cutoff voltage corresponding to black in the picture is approximately 5 volts less negative than shown on the curves; similarly, the grid-No.1 drive to obtain a given anode current or light output is also about 5 volts less.

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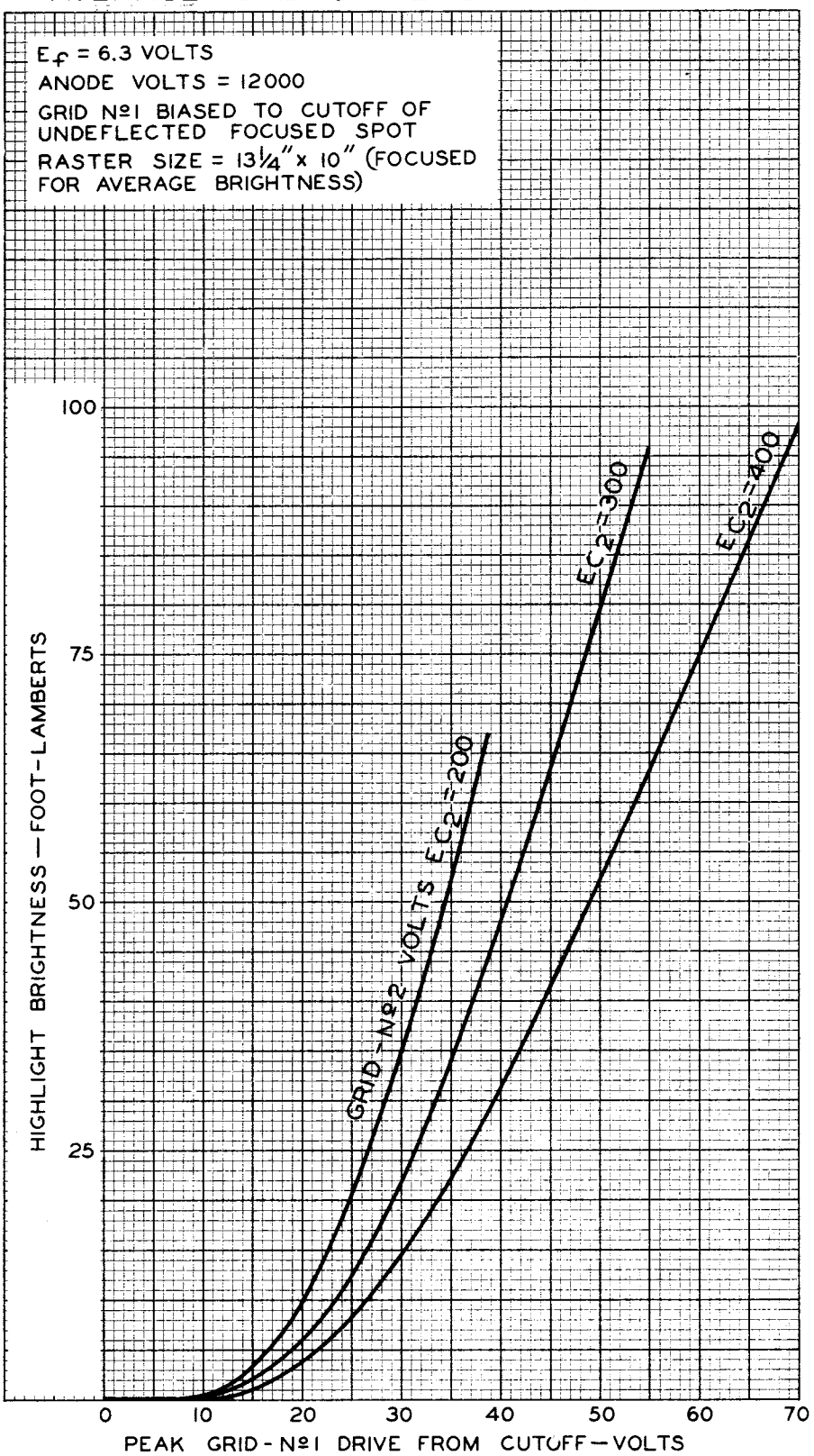
AVERAGE GRID-DRIVE CHARACTERISTICS



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