

NORTH AMERICAN PHILIPS CO., INC.  
DOBBS FERRY, N. Y.

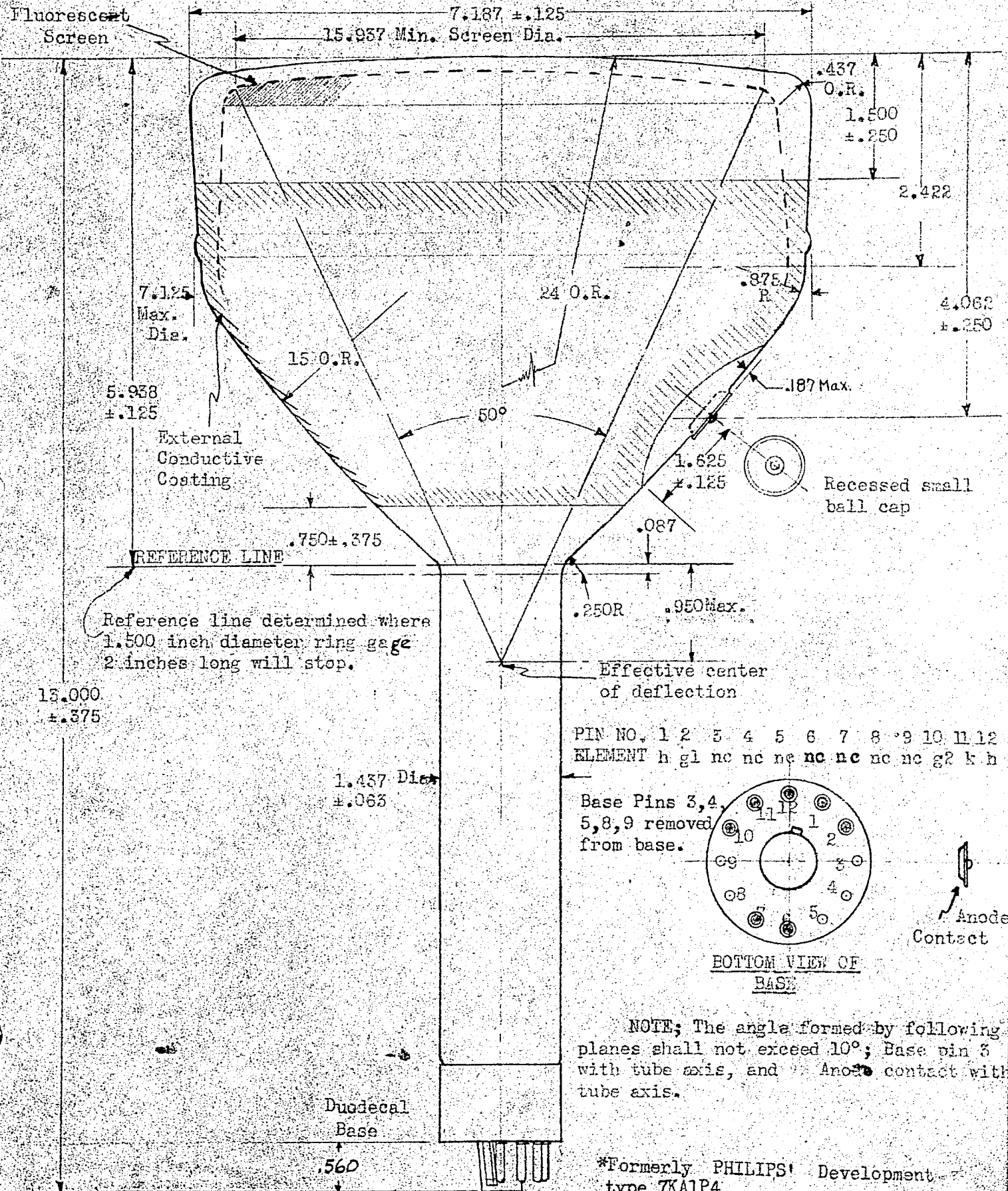
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ELECTRONIC TUBE DIV. COMPLETE TUBE OUTLINE

\*7HP4 TELEVISION TUBE

SUBJECT Electromagnetic Deflection and Focus

ISSUE 3



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SUBJECT 7HP4 TELEVISION TUBE  
 MAGNETIC DEFLECTION AND FOCUS

PROCESS NO. \_\_\_\_\_  
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### PHYSICAL DETAILS

Bulb Diameter	7.16 <sup>3</sup> ± 1/8"
Picture Size	4" x 5 1/4" Approximately
Deflection Angle	50°
Overall Length	13 ± 3/8"
Bulb Anode Terminal	Recessed Small Ball Cap
Base	Small Shell Duodecal, 7 Pin
Screen Phosphor	No. 4 (White)
Operation Features:	
Deflection Method	Magnetic
Focussing Method	Magnetic
External Coating	Conductive

#### Capacitances:

Grid #1 to all Other Electrodes	9 uuf Max., 3 uuf Min.
Cathode to all Other Electrodes	8 uuf Max., 2 uuf Min.
External Conductive Coating to Anode	500 uuf Max.

### ELECTRICAL RATINGS (Design Maximum Values)

Anode (Beam Collecting Electrode) Note 1	8,800 volts Max. (D.C.)
Grid #2 (Accelerating Electrode)	450 volts Max. (D.C.)
Grid #1 (Control Electrode)	+2 volts Max. (D.C.)
	-100 volts Max. (D.C.)
Heater Cathode Bias	±125 volts Max.
Grid #1 Circuit Resistance	1.5 Megohms Max.

### TYPICAL OPERATING CONDITIONS

Heater Voltage	6.3 ± 10% volts
Heater Current	.6 amps.
Anode Voltage	6000 volts
Grid #2 Note 2	250 volts
Grid #1 Voltage for Visual Cutoff	-55 ± 40% volts
Light Output	See Curve A
Anode Current	See Curve B
Capacitances:	
Grid #1 to all Other Electrodes	7 uuf
Cathode to all Other Electrodes	5 uuf

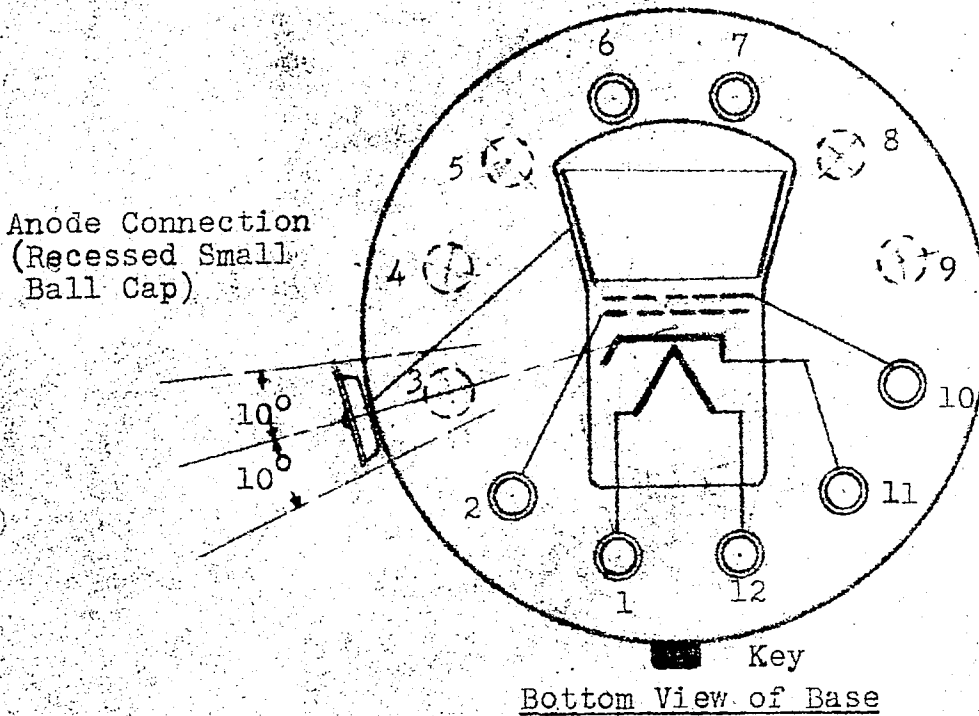
Note 1 Brilliance and definition of the picture decreases with decreasing Anode potentials and it is suggested that the value be not less than 5000 volts.

Note 2 If it is desired to operate all tubes at a fixed cutoff value of -55 volts, Eg2 should be adjusted to 250 V ± 40%.

SUBJECT 7HP4 TELEVISION TUBE TYPE  
 Magnetic Focus & Deflection

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Note Pins 3,4,5,8,9 removed from Base Shell



<u>Pin No.</u>	<u>Description</u>	<u>Max. Voltage Ratings</u>
1	Heater	6.3 Volts $\pm$ 10%
2	Grid #1	-100 to +2 Volts
6,7	Not Connected	
10	Grid #2	450 Volts Max.
11	Cathode	All element voltages with respect to cathode
Side Seal Ball Cap	High Voltage Anode	8800 Volts

TYPICAL OPERATING CONDITIONS

Anode Voltage	6000 Volts	
Grid #2 Voltage	250 Volts	
Grid #1 Voltage for Visual Cutoff	-55 Volts	$\pm$ 40%
Grid #2 Current	$\pm$ 15 ua DC	
Anode Current for highlight brightness	75 ua	

