



920

920

TWIN PHOTOTUBE**GAS TYPE**

Cathodes	Quarter-cylindrical, caesium-coated
Cathode Window Area (Each unit)	0.31 sq. in.
Direct Interelectrode Capacitances:	
Anode to Cathode (Each unit)	1.5 μ pf
Between Cathodes	1.6 μ pf
Between Anodes	0.36 μ pf
Maximum Overall Length	4"
Maximum Diameter	1-3/16"
Bulb	T-9
Base	Small 4-pin

MAXIMUM RATINGS and CHARACTERISTICS*All values are for each unit*

Anode-Supply Voltage (D.C. or Peak A.C.)	90 max. volts
Ambient Temperature	50 max. °C
Sensitivity: *	
At 100 cycles	75 μ amp./lumen
At 1000 cycles	70 μ amp./lumen
At 5000 cycles	63 μ amp./lumen
Gas Amplification Factor **	Not over 10
D-C Resistance of Load:	

With anode-supply voltage of 90 volts

For d-c currents { greater than 2.5 μ amp. 4 min. megohms
 { less than 2.5 μ amp. No minimum

* Sensitivity is measured with a light input varied sinusoidally about a mean value from zero to a maximum of twice the mean. The sensitivity values shown are the ratios of the amplitude of variation in the current output to the amplitude of variation in the light input. The method of sensitivity measurement used is based on the approximation that sensitivity at 100 cycles is equal to sensitivity at 0 cycles. The measurements were made with a 90-volt supply, a 1-megohm load, and a mean light input of 0.015 lumen. The light source was a Mazda projection lamp operated at a filament color temperature of 2870 degrees Kelvin. The effect of interelectrode capacitance was made negligible.

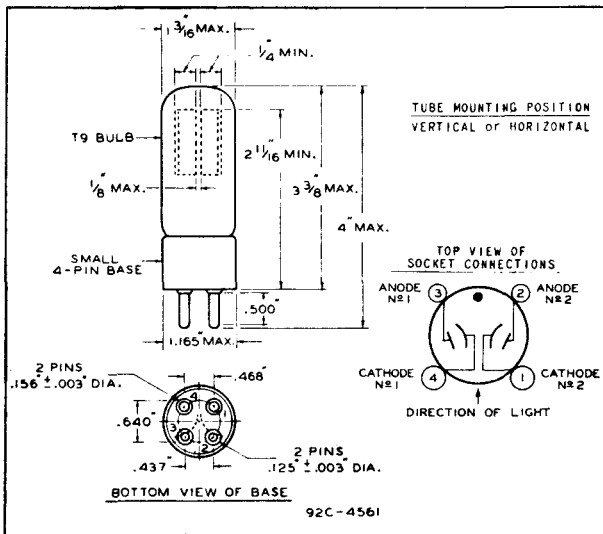
** Gas Amplification Factor is given as a ratio of sensitivity at maximum anode voltage to sensitivity at a voltage sufficiently low (approximately 25 volts) to eliminate gas ionization effects.

← Indicates a change.

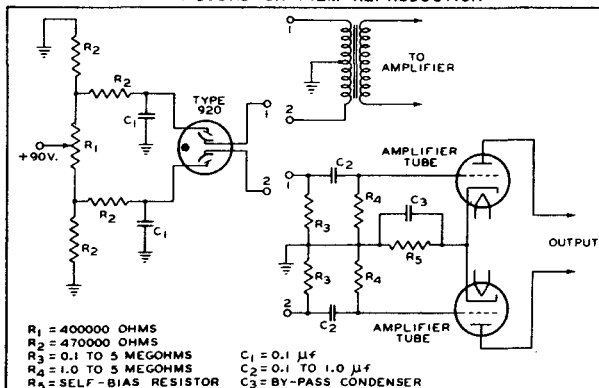


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TWIN PHOTOTUBE



TYPICAL CIRCUIT FOR THE 920
WITH EITHER TRANSFORMER OR RESISTANCE COUPLING
FOR SOUND-ON-FILM REPRODUCTION



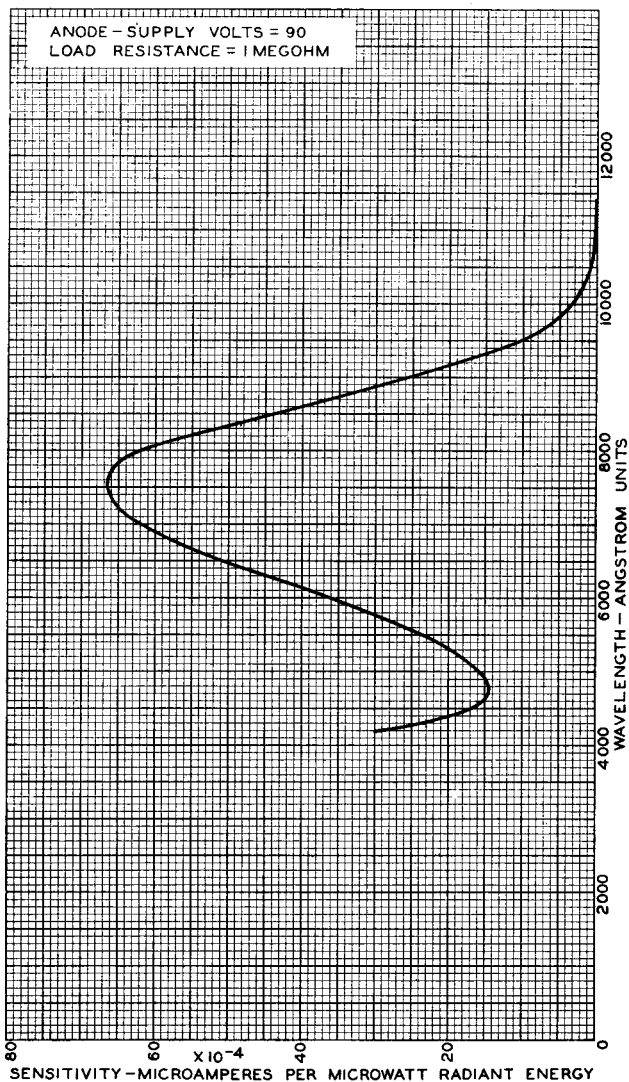
The license extended to the purchaser of tubes appears in the License Notice accompanying them. Information contained herein is furnished without assuming any obligations.



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SPECTRAL SENSITIVITY CHARACTERISTICS



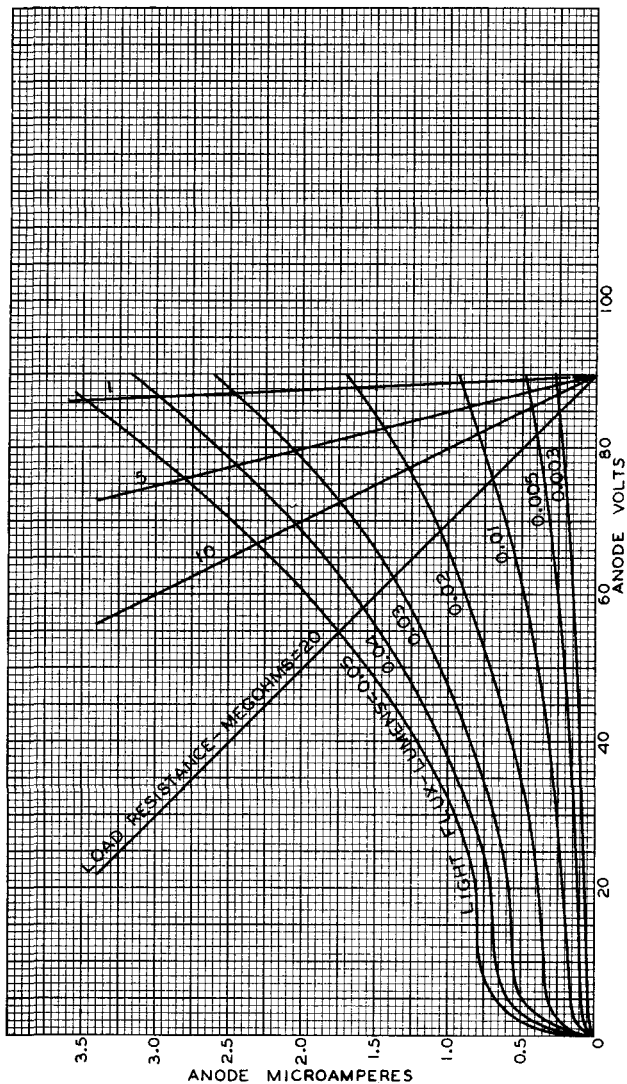
MAY 21, 1937

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

92C-4617RI



AVERAGE ANODE CHARACTERISTICS

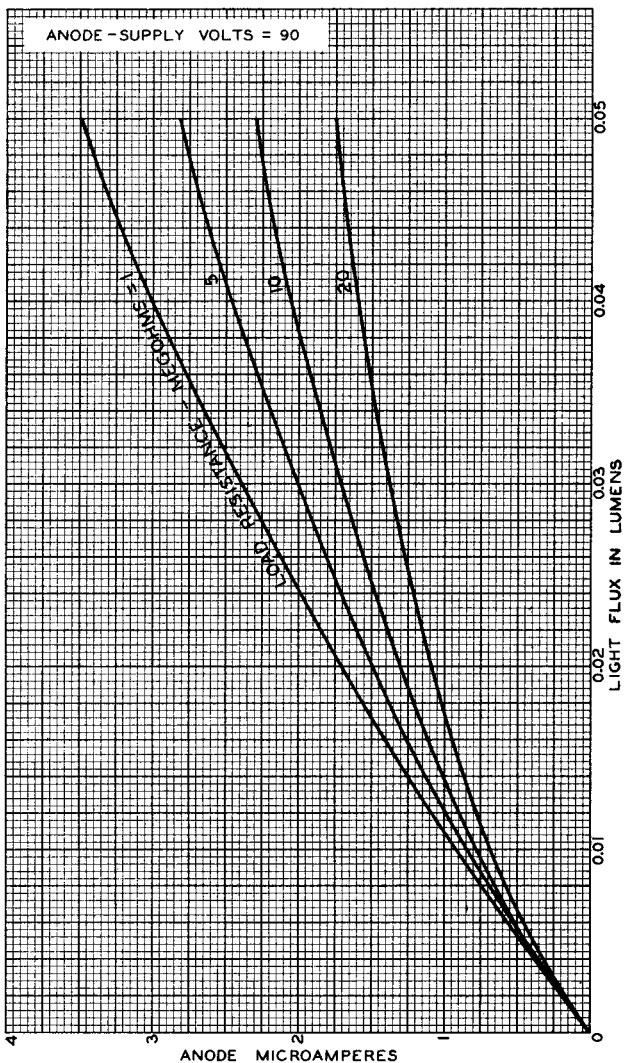




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AVERAGE CHARACTERISTICS



MAY 25, 1936

RCA RADITRON DIVISION
RCA MANUFACTURING COMPANY, INC.

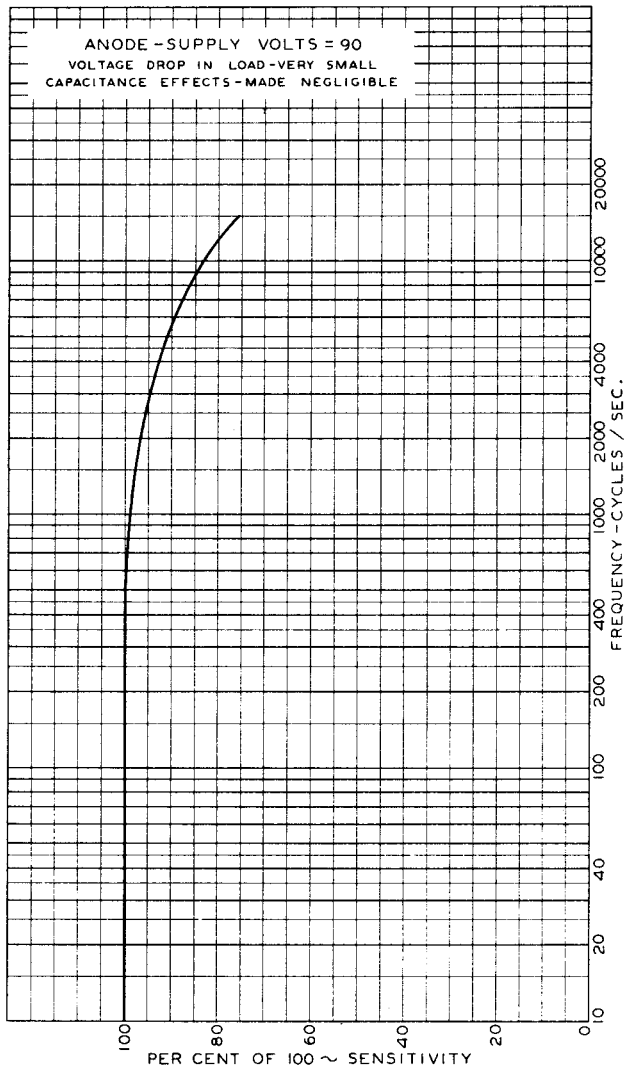
92C-4616

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AVERAGE SENSITIVITY CHARACTERISTIC



NOV. 26, 1937

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

92C-4823

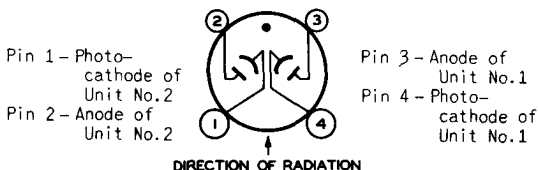
Gas Phototube

SIDE-ON, TWIN-UNIT TYPE HAVING S-1 RESPONSE

DATA

General:

Spectral Response	S-1
Wavelength of Maximum Response.	8000 $\pm$ 1000 angstroms
Cathode (Each):	
Shape	Quarter-Cylindrical
Minimum projected length ^a	1-3/16"
Minimum projected width ^a	1/4"
Direct Interelectrode Capacitances (Approx.):	
Cathode to cathode ^b	1.8 μ f
Cathode to anode ^c	1.6 μ f
Anode to anode ^d	0.4 μ f ←
Maximum Overall Length.	4"
Maximum Seated Length	3-3/8"
Seated Length to Center of Cathodes	2-1/8" $\pm$ 3/32"
Maximum Diameter.	1-3/16"
Operating Position.	Any
Weight (Approx.).	1.1 oz ←
Bulb.	T9
Socket.	Amphenol No.77-M1P-4-T, or equivalent ←
Base.	Small-Shell Small 4-Pin (JEDEC No.A4-5)
Basing Designation for BOTTOM VIEW.	4BG



Maximum Ratings, Absolute-Maximum Values:

Values are for Each Unit

Rating I Rating II

ANODE-SUPPLY VOLTAGE (DC or Peak AC)	70 max.	90 max.	volts
AVERAGE CATHODE-CURRENT			
DENSITY ^e	30 max.	15 max.	μ a/sq.in.
AVERAGE CATHODE CURRENT ^e	4 max.	2 max.	μ a
AMBIENT TEMPERATURE	100 max.	100 max.	°C

← Indicates a change.



→ Characteristics:

Values are for each unit with an
anode-supply voltage of 90 volts
unless otherwise specified

	Min.	Median	Max.	
Sensitivity:				
Radiant, at 8000 angstroms. .	—	0.0094	—	amp/watt
Luminous: ^f				
At 0 cps.	50	100	175	μ a/lumen
At 5000 cps	—	85	—	μ a/lumen
At 10000 cps.	—	74	—	μ a/lumen
Ratio of Luminous Sensitivities (Unit No.1 to Unit No.2). . .	0.5	1.15	2.0	
Gas Amplification Factor ^g . . .	—	—	9	
Anode Dark Current at 25° C. .	—	—	0.1	μ a

Minimum Circuit Values:

Values are for Each Unit

With an anode-supply voltage of	70 or less	90	volts
DC Load Resistance:			
For dc currents above 2 μ a. .	0.1 min.	—	megohm
For dc currents below 2 μ a. .	0 min.	—	megohm
For dc currents above 1 μ a. .	—	2.5 min.	megohms
For dc currents below 1 μ a. .	—	0.1 min.	megohm

^a On plane perpendicular to indicated direction of incident radiation.

^b With anodes grounded.

^c Each unit, with other unit grounded.

^d With cathodes grounded.

^e Averaged over any interval of 30 seconds maximum.

^f For conditions where the light source is a tungsten-filament lamp operated at a color temperature of 2870° K. A dc anode supply of 90 volts and a 1-megohm load resistor are used. For the 0-cycle measurement, a light input of 0.04 lumen is used. For the 5000- and 10000-cycle measurements, the light input is varied sinusoidally about a mean value of 0.015 lumen from zero to a maximum of twice the mean value.

^g The ratio of luminous sensitivity at an anode-supply voltage of 90 volts to luminous sensitivity at an anode-supply voltage of 25 volts. In each case, sensitivity is obtained under conditions where the light source is a tungsten-filament lamp operated at a color temperature of 2870° K, the light input is 0.04 lumen, and the load resistor has a value of 1 megohm.

**SPECTRAL-SENSITIVITY CHARACTERISTIC
OF PHOTSENSITIVE DEVICE HAVING S-I RESPONSE**

and

**FREQUENCY-RESPONSE CHARACTERISTICS
OF GAS PHOTOTUBES**

are shown at the front of this section

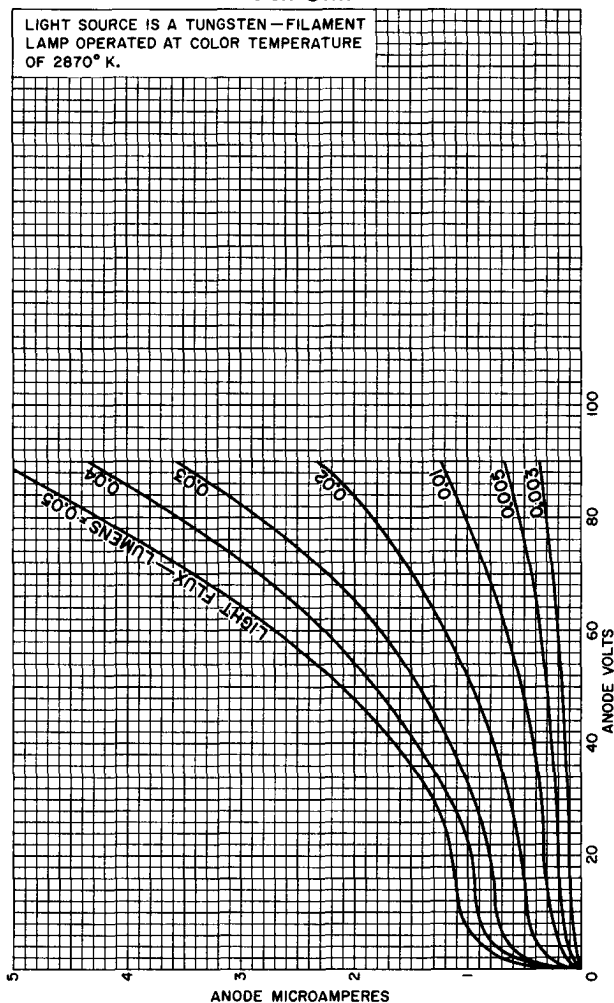
DIMENSIONAL OUTLINE
shown under Type 5584 also applies to the 920

→ Indicates a change.



AVERAGE ANODE CHARACTERISTICS Each Unit

LIGHT SOURCE IS A TUNGSTEN-FILAMENT
LAMP OPERATED AT COLOR TEMPERATURE
OF 2870° K.



92CM-4618R4



RADIO CORPORATION OF AMERICA
Electron Tube Division
Harrison, N. J.

DATA 2
3-62