



6372

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MULTIPLIER PHOTOTUBE

10-STAGE TYPE WITH

4-1/8" x 3" SEMITRANSSPARENT CATHODE AND S-11 RESPONSE

DATA**General:**

Spectral Response. S-11

Wavelength of Maximum Response 4400 $\pm$ 500 angstroms

Cathode, Semitransparent:

Shape. Semicylindrical

Window:

Minimum length 4-1/8 in.

Minimum width (Along
circumference of bulb) 3 in.

Minimum area 12-3/8 sq. in.

Index of refraction. 1.48

Direct Interelectrode Capacitances (Approx.):

Anode to dynode No.10. 5 $\mu\mu\text{f}$ Anode to all other electrodes. 6.5 $\mu\mu\text{f}$

Maximum Overall Length 7-3/4"

Maximum Seated Length. 7-1/4"

Length from Base Seat to Center

of Useful Cathode Area 3-5/8" $\pm$ 1/8"

Maximum Diameter 2-9/16"

Mounting Position. Any

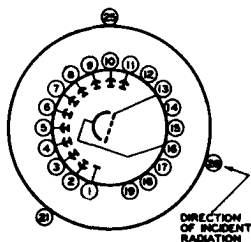
Weight (Approx.) 9 oz

Bulb T-20

Base Small-Button Twentyninar 22-Pin (JETEC No.E22-16)

BOTTOM VIEW

- Pin 1 - Anode
- Pin 2 - Dynode No.10
- Pin 3 - Dynode No.9
- Pin 4 - Dynode No.8
- Pin 5 - Dynode No.7
- Pin 6 - Dynode No.6
- Pin 7 - Dynode No.5
- Pin 8 - Dynode No.4
- Pin 9 - Dynode No.3
- Pin 10 - Dynode No.2
- Pin 11 - Dynode No.1
- Pin 12 - Internal Connection-Do Not Use
- Pin 13 - Focusing Electrode
- Pin 14 - Same as Pin 12
- Pin 15 - Same as Pin 12
- Pin 16 - Cathode
- Pin 17 - Same as Pin 12
- Pin 18 - Same as Pin 12
- Pin 19 - Same as Pin 12
- Pin 21 - Same as Pin 12
- Pin 25 - Same as Pin 12
- Pin 28 - Same as Pin 12



PINS 1-18: ON 1 1/8" DIA. PIN CIRCLE
PINS 21, 25, 28: ON 3/8" DIA. PIN CIRCLE
PIN CIRCLES ARE CONCENTRIC

← Indicates a change.

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Maximum Ratings, Absolute Values:

ANODE-SUPPLY VOLTAGE (DC or Peak AC)	1200 max.	volts
SUPPLY VOLTAGE BETWEEN DYNODE No.10 AND ANODE (DC or Peak AC)	180 max.	volts
DYNODE-No.1 SUPPLY VOLTAGE (DC or Peak AC)	300 max.	volts
FOCUSING-ELECTRODE VOLTAGE (DC or Peak AC)	300 max.	volts
AVERAGE ANODE CURRENT*	0.75 max.	ma
AMBIENT TEMPERATURE	75 max.	°C

Characteristics Range Values for Equipment Design:

Under conditions with supply voltage (E) across a voltage divider providing 1/12 of E between cathode and focusing electrode; 1/12 of E between focusing electrode and dynode No.1; 1/12 of E for each succeeding dynode stage; and 1/12 of E between dynode No.10 and anode

With E=1000 volts (except as noted)

	Min.	Median	Max.	
Sensitivity:				
→ Radiant, at 4400 angstroms. .	-	16000	-	μamp/μwatt
→ Cathode radiant, at 4400 angstroms	-	0.026	-	μamp/μwatt
Luminous:†				
At 0 cps.	5	20	-	amp/lumen
At 100 Mc	-	19	-	amp/lumen
Cathode luminous:				
With tungsten light source▲	20	33	-	μamp/lumen
With blue light source†	0.026	-	-	μamp
Current Amplification	-	600000	-	
Equivalent Anode-Dark-Current Input*	-	5×10^{-9}	1×10^{-8}	lumen
Equivalent Noise Input**	-	1×10^{-10}	-	lumen

* Averaged over any interval of 30 seconds maximum.

† For conditions when the light source is a tungsten-filament lamp operated at a color temperature of 2870°K. A light input of 10 microlumens is used. The load resistor has a value of 0.01 megohm.

▲ For conditions the same as shown under (†) except that the value of light flux is 0.01 lumen and 150 volts are applied between cathode and all other electrodes connected together as anode.

† Under the following conditions: Light incident on the cathode is transmitted through a blue filter (Corning, Glass Code No.5113 polished to 1/2 stock thickness) from a tungsten-filament lamp operated at a color temperature of 2870°K. The value of light flux on the filter is 0.01 lumen. The load resistor has a value of 0.01 megohm, and 150 volts are applied between cathode and all other electrodes connected together as anode.

♦,*,*,#: See next page.

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- ◆ For Spectral Characteristic of this source, see sheet SPECTRAL CHARACTERISTIC OF 2870°K LIGHT SOURCE AND SPECTRAL CHARACTERISTIC OF LIGHT FROM 2870°K SOURCE AFTER PASSING THROUGH INDICATED BLUE FILTER at front of this section.
- Measured at a tube temperature of 25°C and with the supply voltage (E) adjusted to give a luminous sensitivity of 20 amperes per lumen. Dark current caused by thermionic emission and ion feedback may be reduced by the use of a refrigerant.
- * Under the following conditions: Supply voltage (E) is 1000 volts, 25°C tube temperature, ac-amplifier bandwidth of 1 cycle per second, tungsten light source of 2870°K interrupted at a low audio frequency to produce incident radiation pulses alternating between zero and the value stated. The "on" period of the pulse is equal to the "off" period. The output current is measured through a filter which passes only the fundamental frequency of the pulses.
- For maximum signal-to-noise ratio, operation with a supply voltage (E) below 1000 volts is recommended.

OPERATING CONSIDERATIONS

The *operating stability* of the 6372 is dependent on the magnitude of the anode current and its duration. When the 6372 is operated at high values of anode current, a drop in sensitivity (sometimes called fatigue) may be expected. The extent of the drop below the tabulated sensitivity values depends on the severity of the operating conditions. After a period of idleness, the 6372 usually recovers a substantial percentage of such loss in sensitivity.

The use of an average anode current well below the maximum rated value of 0.75 milliampere is recommended when stability of operation is important. When maximum stability is required, the anode current should not exceed 100 microamperes.

Electrostatic and/or magnetic shielding of the 6372 may be necessary.

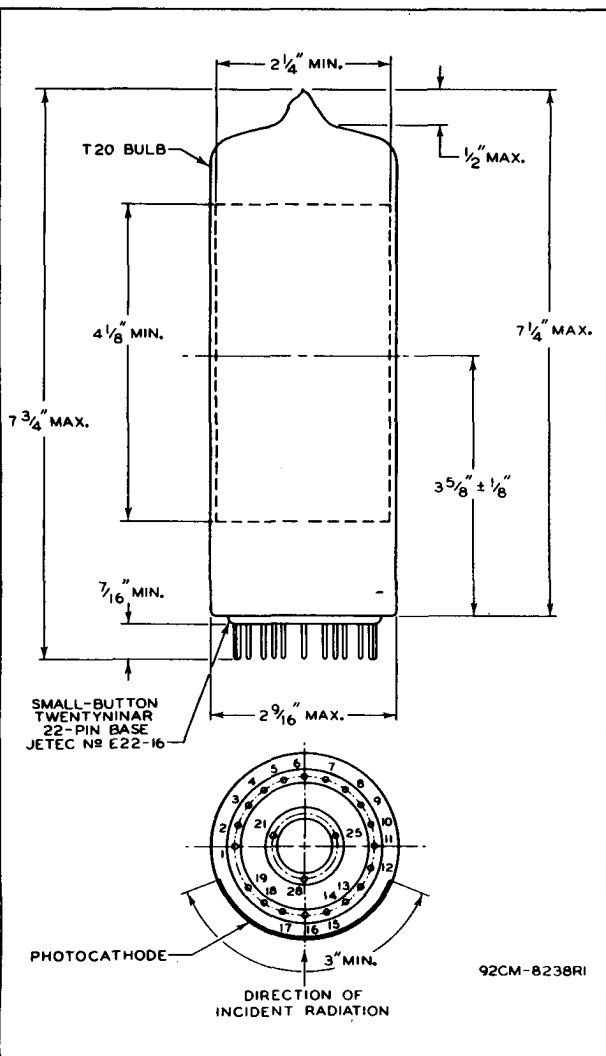
SPECTRAL-SENSITIVITY CHARACTERISTIC
of Phototube having S-11 Response
is shown at the front of this Section

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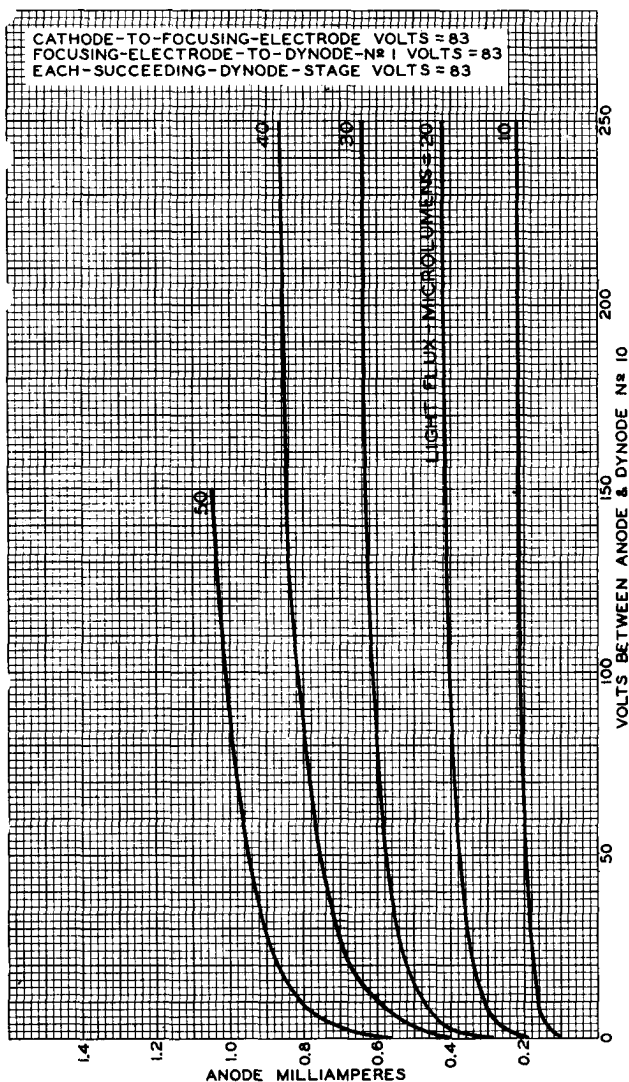




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AVERAGE ANODE CHARACTERISTICS



FEB. 26, 1954

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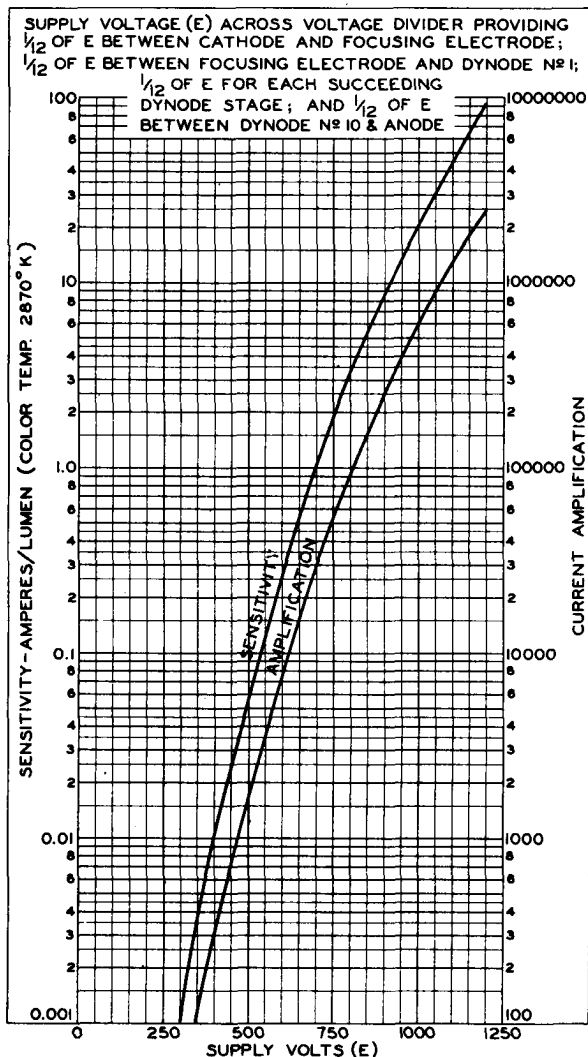
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AVERAGE CHARACTERISTICS



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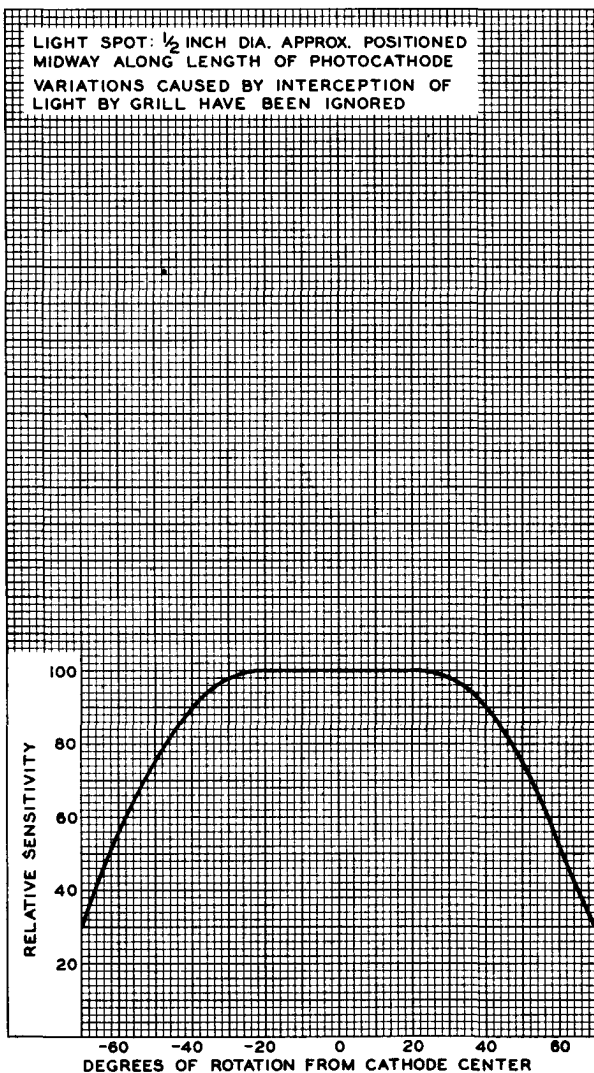


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VARIATION IN SENSITIVITY

LIGHT SPOT: $\frac{1}{2}$ INCH DIA. APPROX. POSITIONED
MIDWAY ALONG LENGTH OF PHOTOCATHODE
VARIATIONS CAUSED BY INTERCEPTION OF
LIGHT BY GRILL HAVE BEEN IGNORED



APRIL 9, 1954

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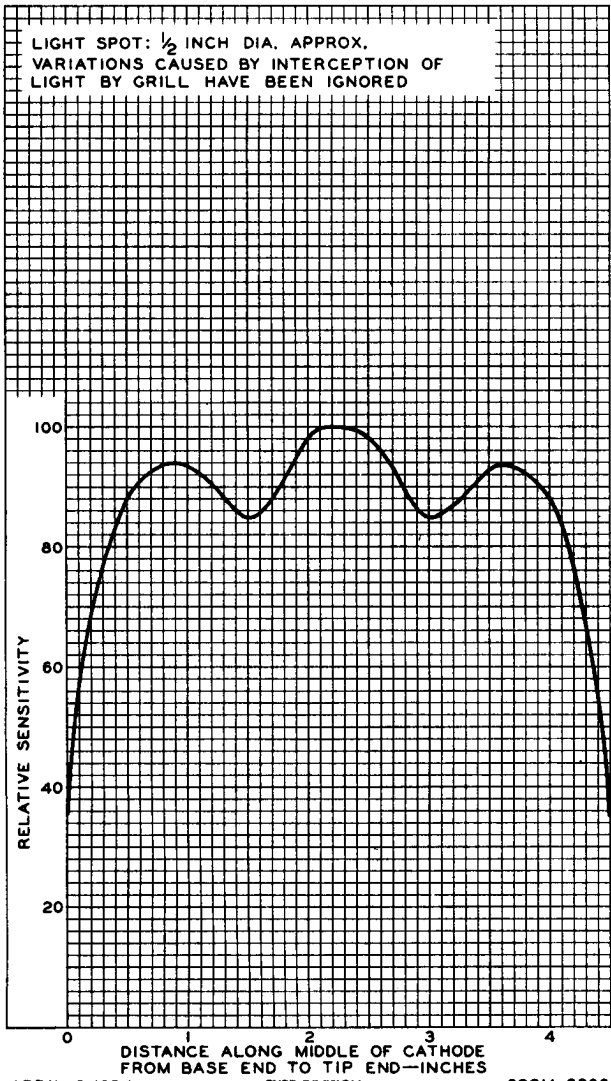
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6372 VARIATION IN SENSITIVITY

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APRIL 9, 1954

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