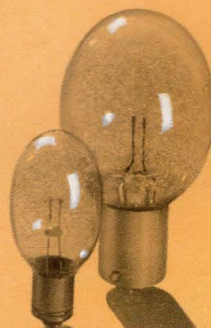
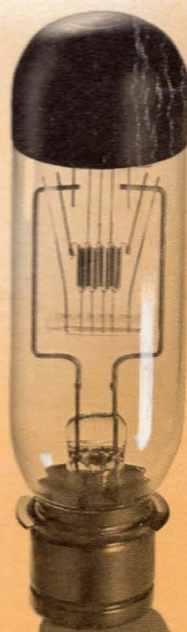




# **PHOTOGRAPHIC LAMP Catalog**



LAMP DIVISION

**GENERAL**  **ELECTRIC**



**GENERAL ELECTRIC**

**PHOTOGRAPHIC  
LAMPS**



complete line of General Electric

lamps for all photographic purposes

with illustrations, descriptions,

applications and technical data.

**LAMP DIVISION**

**GENERAL**  **ELECTRIC**





## **FOREWORD**

A substantial part of the great progress made in the art of photography has been contributed by new and improved light sources — lamps for picture taking, picture processing, picture production, reproduction, picture viewing and projection.

Each of the many lamps used in photography is designed to do one specialized job. A photoflash lamp must deliver a great quantity of light during the exact split second that a camera shutter is open; a projection lamp must pour a maximum amount of light through a very tiny opening in order to project the brightest possible image on the screen; a photoflood lamp must deliver light of exactly the right color in maximum amounts with minimum current consumption. Many different types of lamps are needed to meet different requirements and there must be a variety of sizes to accommodate a range of needs. To fill the many special needs for lamps in photography in the best possible way requires experience, skill and extensive resources. General Electric leadership in the development of better light sources for photography has continued since Edison's first lamp opened the way to today's achievements.

The lamps shown in this catalog include only those types and sizes in greatest general demand and those required for newer types of equipment or designed to replace older types of lamps. Information on lamps not listed may be obtained from any of the General Electric Lamp Division Offices listed on the back cover.



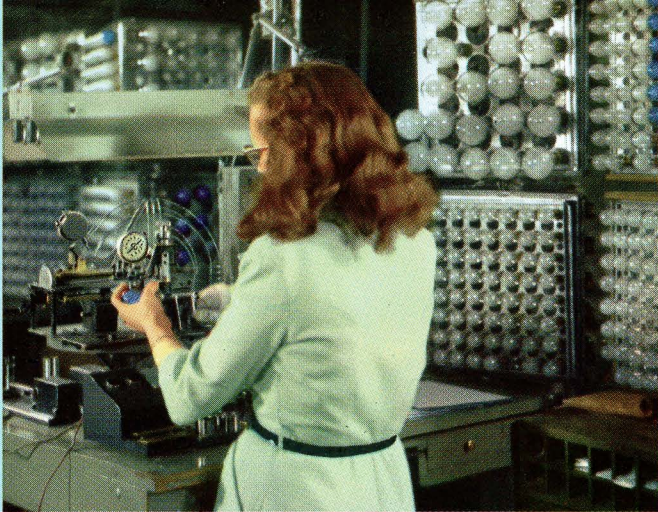
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GENERAL  ELECTRIC

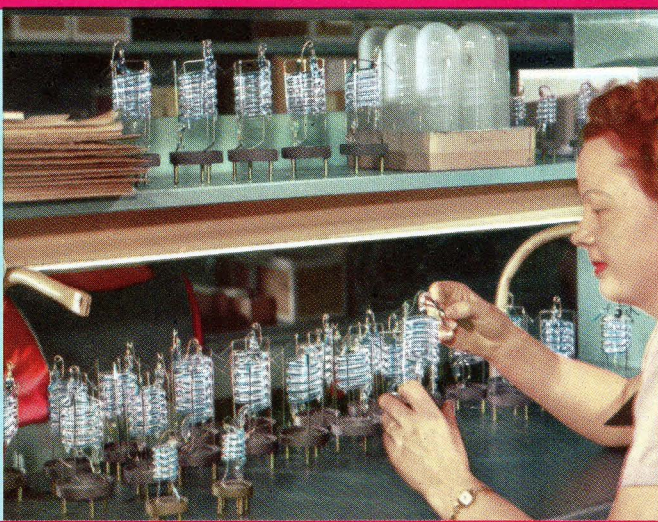


## RESEARCH, DESIGN, MANUFACTURE AND STANDARD OF PERFORMANCE FROM



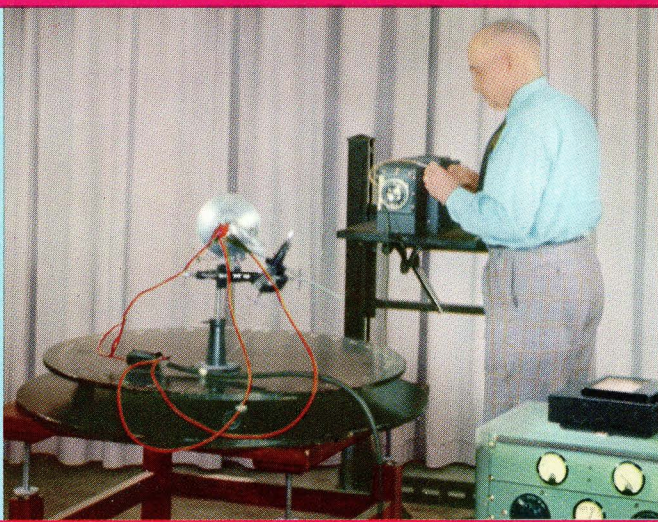
### TESTING

Step by step as G-E Lamps are built each operation is measured, tested, controlled to make sure that every lamp is up to exacting standards. Independent testing agencies assure a double check on our own testing and inspection. A definite number of finished lamps are taken from production at regular intervals daily and thoroughly tested.



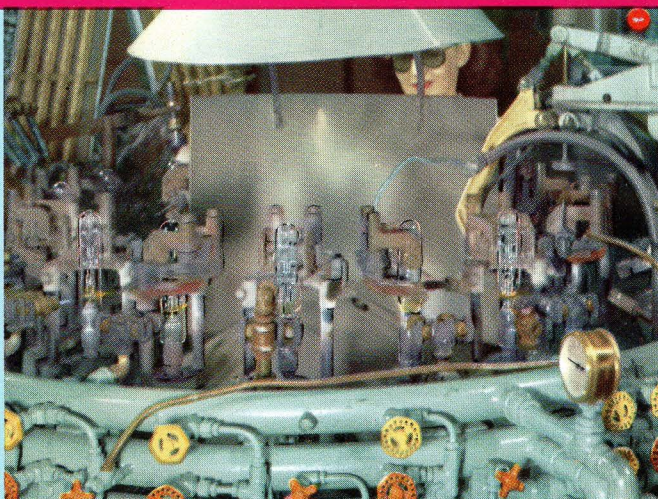
### HANDWORK

Manufacturing is a complex operation requiring painstaking handwork at many steps. The combined skill and experience of G-E trained operators is reflected in the precise uniformity with which G-E Photolamps perform in a wide variety of applications.



### FLASHTUBES

The integrating light meter shown here measures the amount of light emitted during a flashtube flash. It is the only type of equipment so far devised for accurately determining the light distribution from flashtube-reflector combinations. These data in turn provide the basis for compiling exposure tables.



### MACHINES

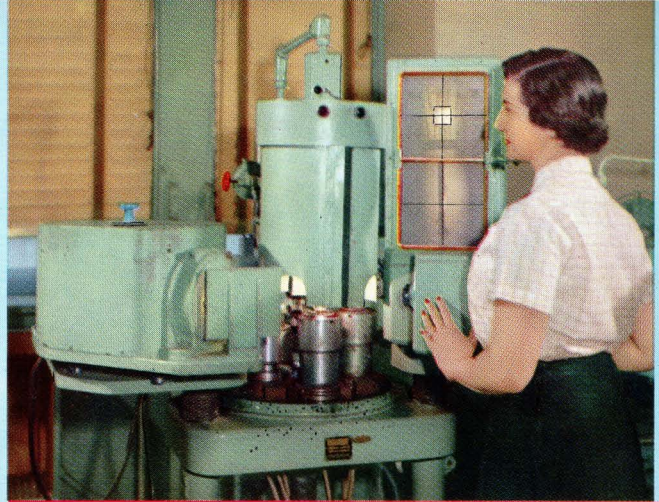
Machines for lampmaking are designed and built by General Electric. Better machines mean better lamps at lower cost. Machine development is a constant and essential part of the whole G-E lampmaking operation. In the whole history of machine development many G-E firsts are now standard for the industry.



# TESTING FACILITIES ASSURE HIGHEST GENERAL ELECTRIC PHOTOLAMPS

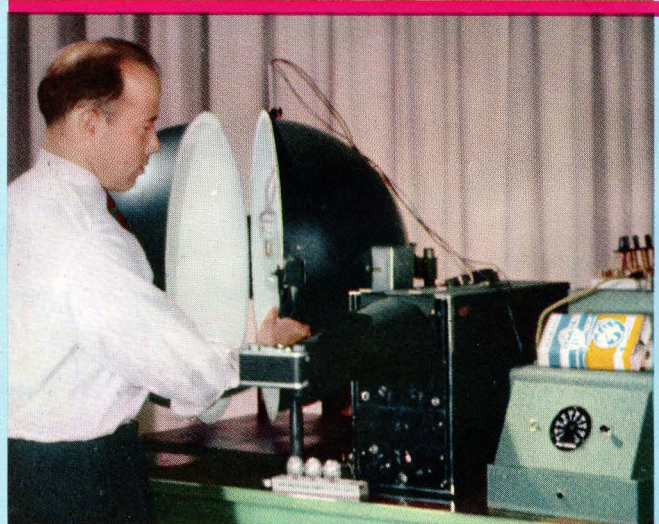
## INSPECTION

Inspection of projection lamps for source dimensions, axial alignment, and light center length. All General Electric projection lamps are carefully inspected on equipment similar to this one to make sure that the filament is properly positioned to insure the highest efficiency in optical systems.



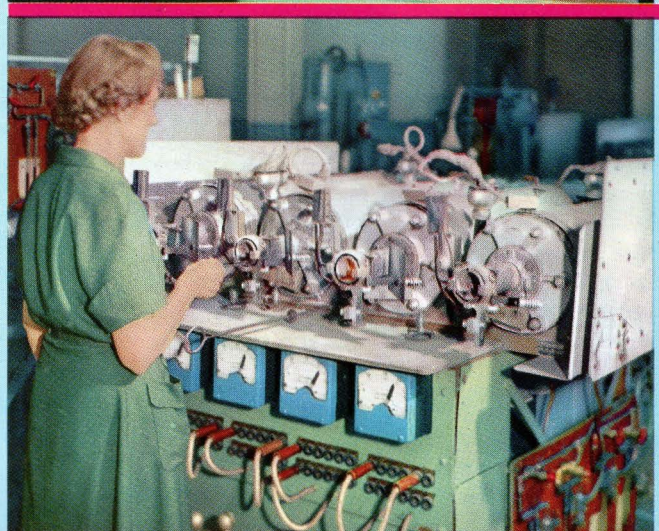
## DESIGN

This group of laboratory equipment was assembled to provide camera manufacturers with much-needed answers to many questions regarding the design of synchronizers built into camera shutters. As with virtually all such investigations, the object is to achieve photographic equipment designs which are of maximum reliability, convenience, and economy to the ultimate user.



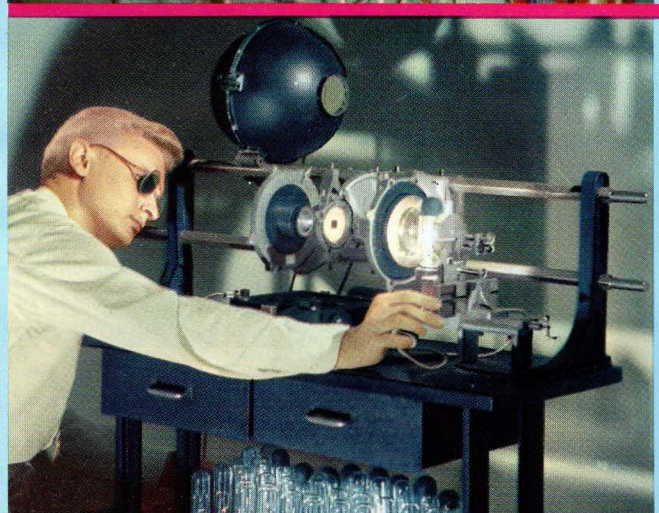
## SINTERING

High efficiency, precisely formed tungsten filaments are sintered under closely controlled conditions of temperature and time to insure good filament performance with a minimum of deformation.



## OPTICAL SYSTEM

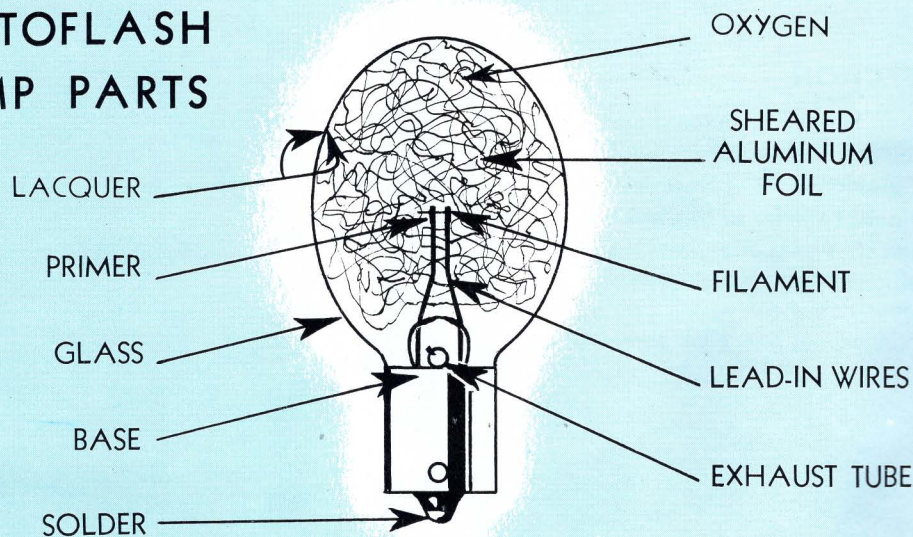
Examining a lamp and a test optical system in General Electric's Optical Bar. As a result of such cooperative studies portable movie and slide projectors today deliver the maximum amount of light to the screen.





# THE PHOTOFLASH LAMP

## PHOTOFLASH LAMP PARTS



## Why G-E Photoflash Lamps Now Are Twice as Flashable

**T**HE parts of the photoflash lamp are all essential; how those parts are made and used determine not only the characteristics of the finished lamp but also the quality. It is because of the quality built into the product through these parts that G-E Photoflash Lamps are so generally favored by professional photographers. For example:

**Sheared Aluminum Foil** — In all photoflash lamps except the SM this is the material that produces the light. Burning in an atmosphere of oxygen, it is the dimensions and number of these gossamer strands, sheared from leaf foil, that determine the flash characteristics. Precise control of the foil and the oxygen are responsible for the uniformity in time-to-peak, total output, and color quality of G-E foil-filled Lamps.

**Filament and Primer** — The filament in most types of lamps serves as the source of light but in a photoflash lamp it serves to ignite primer material and in turn, the shredded aluminum foil. To accomplish this with smaller and smaller amounts of electricity is the constant goal of G-E development engineers. It requires the use of smaller and smaller filaments and more and more sensitive primer. G-E photoflash lamps today require less than one-half the amount of electricity needed to flash lamps made only a short time ago.

In the SM lamp the primer is replaced by a special material on the ends of the lead-in wires. This material produces all the SM light (no foil is used) and the light fills the entire bulb. Precise control, not only of the chemical composition but also of the amount, are added factors in establishing the timing characteristics, output, and color of the light.

**Lacquer** — Above all, the lacquer serves as an essential safety feature in photoflash lamp design. Its presence on the bulb contributes materially to bulb strength and reduces the possibility of damage to bulbs if scratched by contact with other bulbs or objects.

Bulb lacquer is also used as a means for changing the color quality of the light. Our entire line of blue photoflash lamps has a specially-compounded blue dye in the lacquer. Precise control of composition and lacquer thickness results in daylight flash sources that are more consistent and uniform in quality at all times than daylight itself.

**Base** — The base serves to hold the lamp properly in the reflector and, most important, it provides the means of electrical connection. Improper base or socket design may decrease the flashability of photoflash lamps by impeding the flow of electricity to the filament.

So important is this detail that the design and construction of all G-E Photoflash Lamp bases involve a single piece of metal for the base shell. For example, the familiar bayonet base formerly used on all midget lamps has wire pins inserted through the walls of the base shell. This does not provide for optimum photoflash performance. A new design is now used in which the base pins are extruded from the base shell material and formed into shape by a special spinning operation. Another example is the new G-E miniature photoflash lamp, the M2, for which a new miniature pinless base is used to insure best performance.



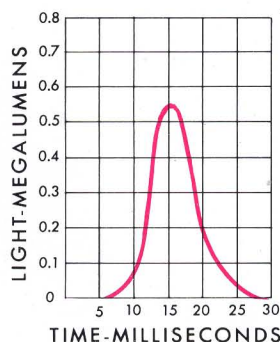
# G-E Photoflash Lamps

## FOR SHUTTERS HAVING "X" or "F" SYNCHRONIZATION

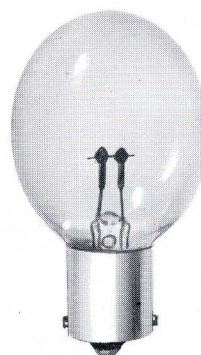
Shutters of these types are situated at or in the camera lens. Class "F" synchronizers close the switch contacts to flash the lamp up to about 5 milliseconds before the shutter is fully open. With class "X" synchronization, the switch contacts close almost immediately after the shutter is fully open. For either type of shutter synchronization the photoflash lamp should produce its light within about 25 milliseconds after the switch closes.



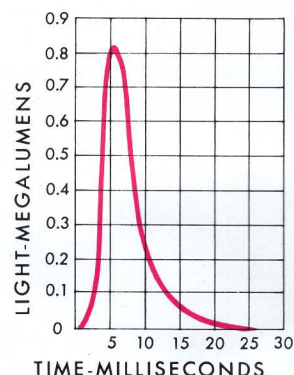
PH/M2



The newest, smallest, most economical, most convenient, and revolutionary photoflash lamp yet produced. Designed primarily for use with simple cameras, for which new, smaller, more efficient, and more convenient flash equipment is just becoming available. With a socket adapter, may also be used in present larger reflectors designed for midget lamps such as the SM for added convenience and economy.

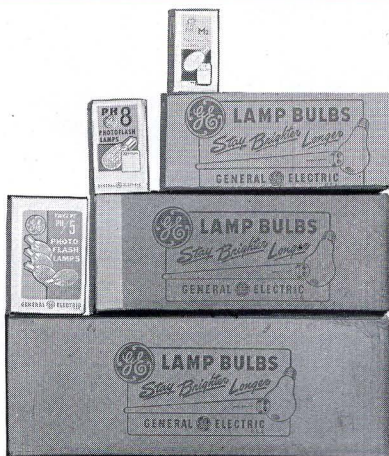


PH/SM



The original photoflash lamp for simple cameras. Has shortest flash duration of all photoflash lamps — stops action about as effectively as a 1/200th-second shutter setting. Most nearly perfect color quality for all indoor (tungsten type) color films.

Number	Bulb	Base	Volts	Bulb Dia. Inches	Max. Over-all Length, Inches	Carton Qty.	Case Qty.	Approx. Lumens Seconds	Approx. Peak Lumens	Approx. Time to Peak in Seconds	Approx. Mean Color Temp.	Recommended Type Film
								in thousands				
PH/M2	B-6	Min. Bay. without pins	3	3/4	1 13/16	12	120	4.1	560	.015	4400°K	Any
PH/SM	B-11	S. C. Bay.	3	1 3/8	2 5/8	12	120	4.8	810	.005	3300°K	Any



## NEW PACKAGES SAVE TIME AND SPACE

The popular 12-8-4 lamp-packaging technique now employed by General Electric for all midget type lamps is also used in packaging M2 lamps. The 12 lamp cartons of 3 four-lamp packs are packed 10 cartons to a case. The case of 120 M2 lamps is 9" x 7 1/2" x 3 1/2" or about the size of a shoe box. Four cases of M2 lamps occupy about the same space as one case of midget lamps.

The photo shows relative sizes of cartons and cases of M2 lamps, PH/8 lamps and PH/5 lamps.

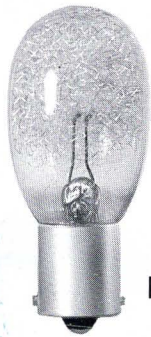


# G-E *Photoflash Lamps*

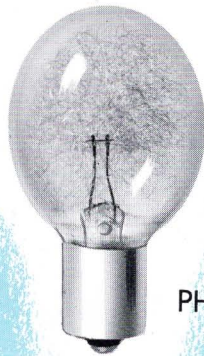
## FOR SHUTTERS HAVING "M" SYNCHRONIZATION

Shutters of this type are also situated at or in the camera lens. The Class "M" synchronizers of such shutters cause the switch contacts to close about 15 milliseconds before

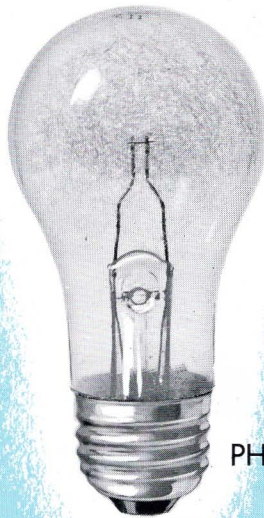
the shutter is fully open. All G-E Lamps for such equipment have the same average time to peak of flash as shown by the time-light curves and tabulated data below.



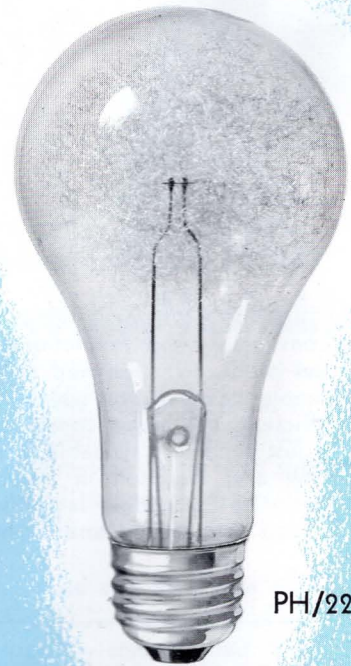
PH/8



PH/5



PH/11



PH/22

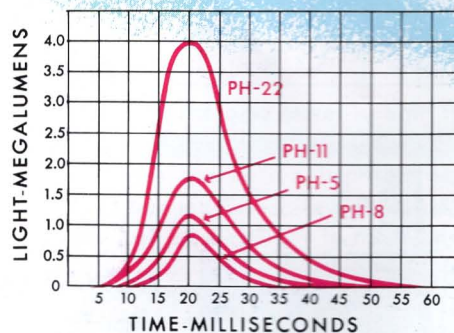
No. 8—The smallest of the G-E Lamps with this timing characteristic. Produces slightly more concentrated beam than No. 5 in many midjet reflectors. With fast film and average shutter speeds, adequate light for most picture-taking situations. Flash only from batteries or other sources of low voltage.

No. 5—This is an excellent lamp for all around picture taking. It is the most popular and most widely used of all G-E Photoflash Lamps. Has precise uniform flash, ideal for synchronized use. The preferred type for newspaper, candid and advanced amateur use. Requires a filter at the camera lens for best results with indoor color films. For low voltage flashing only.

No. 11—The smallest of the G-E Lamps for use in flash equipment having medium screw sockets. Whenever possible it is more economical and more convenient to use an appropriate medium-to-

bayonet socket adapter and to substitute the No. 5. For low voltage flashing only.

No. 22—For professional use—adequate light for most indoor color pictures or for extra coverage or high speed shots on black-and-white films.

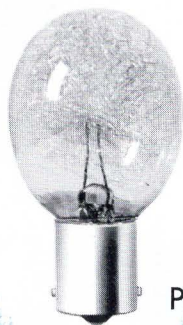


Number	Bulb	Base	Volts	Bulb Dia. Inches	Max. Over- all Length, Inches	Carton Qty.	Case Qty.	Approx. Lumens Seconds	Approx. Peak Lumens	Approx. Time to Peak in Seconds	Approx. Mean Color Temp.	Recom- mended Type Film
								in thousands				
PH/8	BT-8	S. C. Bay.	3	1	2 <sup>7</sup> / <sub>16</sub>	12	120	8	900	.021	3800°K	Any
PH/5	B-11	S. C. Bay.	3	1 <sup>3</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	12	120	16	1200	.021	3800°K	Any
PH/11	A-15	Medium	3	1 <sup>7</sup> / <sub>8</sub>	4	8	120	30	1800	.021	3800°K	Any
PH/22	A-19	Medium	3-125	2 <sup>3</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>4</sub>	6	120	63	4000	.021	3800°K	Any



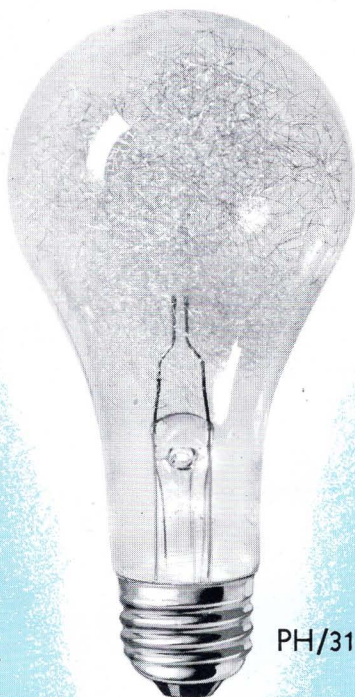
# G-E Photoflash Lamps

## FOR SHUTTERS OF THE "FP" TYPE



PH/6

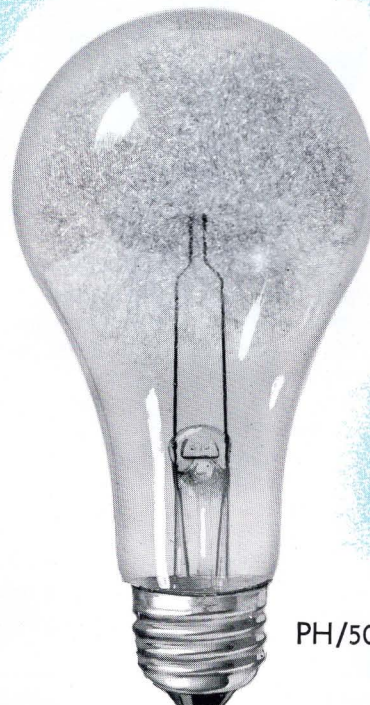
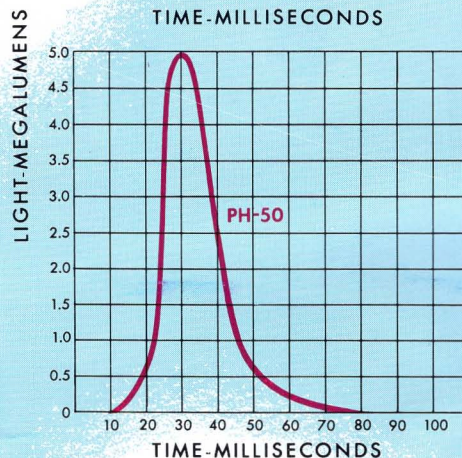
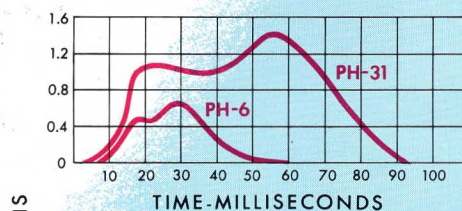
"FP" stands for "focal plane" and describes the type of shutter that is located at the film (focal) plane of certain cameras. For synchronized flash photography with such shutters it is necessary to use lamps having a special and longer flash duration of the type illustrated here. For pictures by the "open flash" method any photoflash lamp appropriate to the reflector equipment can be used.



PH/31

No. 6 — For high shutter speed synchronization with the majority of smaller focal plane shutters for most cameras up to  $2\frac{1}{4}'' \times 3\frac{1}{4}''$ .

No. 31 — For use with cameras requiring a longer flash duration than the No. 6.



PH/50

# G-E Photoflash Lamp

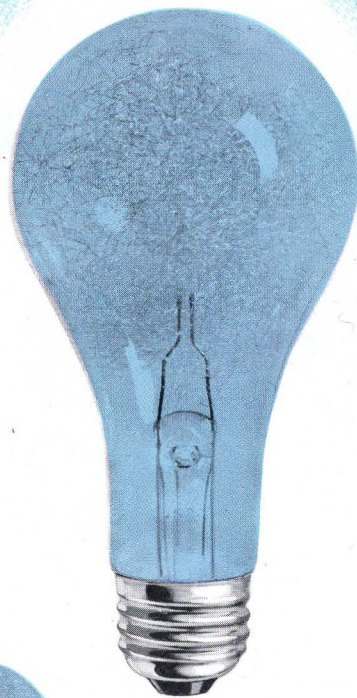
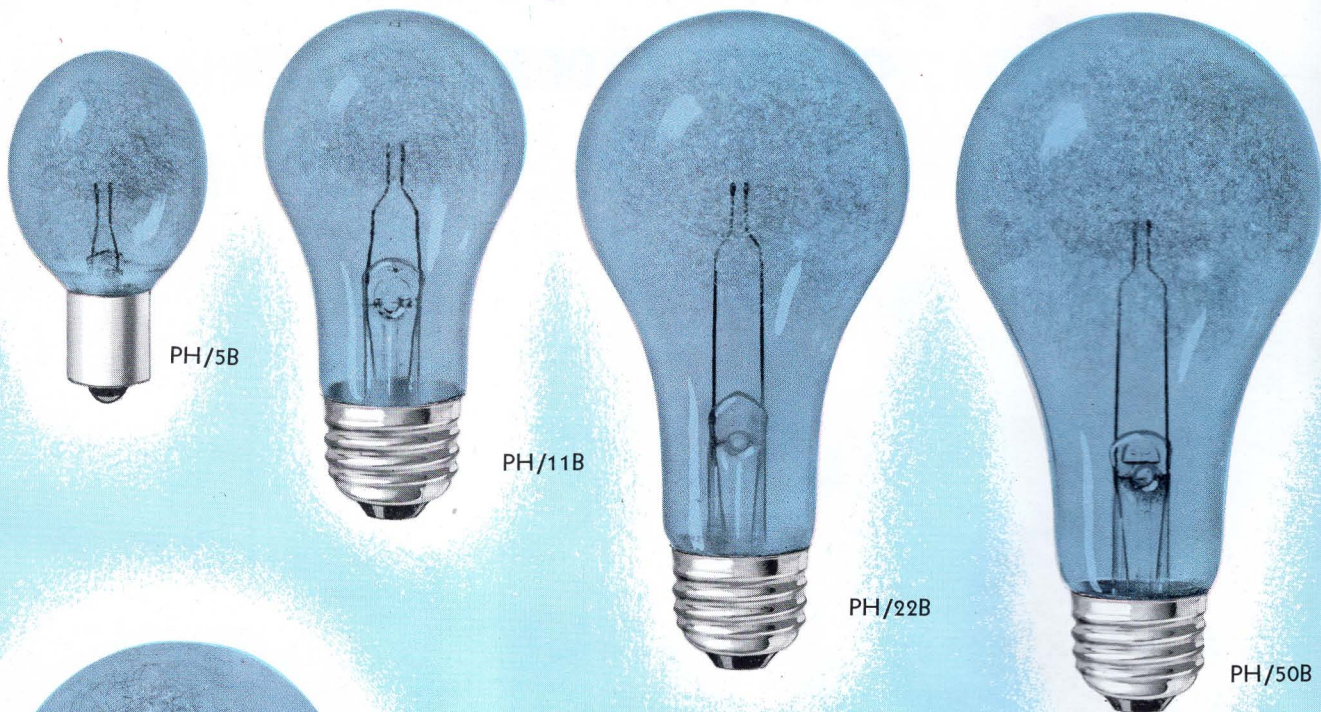
## No. 50

The No. 50 Photoflash lamp has the greatest light output of all G-E Photoflash Lamps. Preferred for studio color pictures or large area coverage, particularly at small lens apertures. Should be used on open flash — or at shutter speeds no faster than  $1/25$  second with M synchronization.

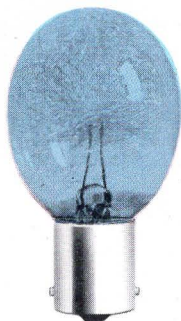
Number	Bulb	Base	Volts	Bulb Dia. Inches	Max. Over-all Length, Inches	Carton Qty.	Case Qty.	Approx. Lumens Seconds	Approx. Peak Lumens	Approx. Time to Peak in Seconds	Approx. Mean Color Temp.	Recommended Type Film
								in thousands				
PH/6	B-11	S. C. Bay.	3	1 <sup>3</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	12	120	16	620	.....	3800°K	Fast
PH/31	A-21	Medium	3	2 <sup>5</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	6	60	81	1400	.....	3800°K	Fast
PH/50	A-21	Medium	3-125	2 <sup>5</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	6	60	95	5000	.030	3800°K	Any



# G-E BLUE *Photoflash Lamps*

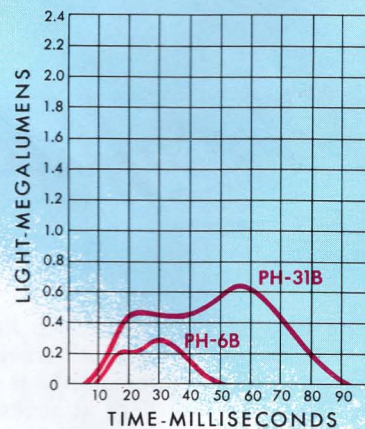
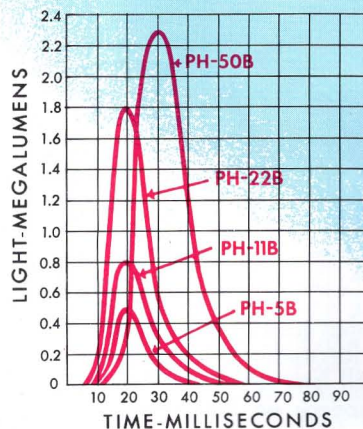


PH/31B



PH/6B

Most of the photoflash lamps described on the preceding pages are also available with a special blue filter lacquer for use with daylight-type color films. All such lamps are listed on this page. The blue filter is compounded to a high order of accuracy to produce the best possible photoflash source of artificial daylight. G.E.'s Blue Photoflash Lamps may be used to supplement daylight for outdoor color pictures or as the sole source of light for indoor color pictures on daylight types of color films. No other filters are required.

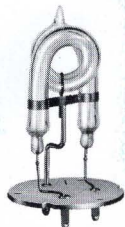


## BLUE PHOTOFLASH LAMPS

Number	Bulb	Base	Volts	Bulb Dia. Inches	Max. Over- all Length, Inches	Carton Qty.	Case Qty.	Approx. Lumens Seconds	Approx. Peak Lumens	Approx. Time to Peak in Seconds	Approx. Mean Color Temp.	Recommended Type Film
								in thousands				
PH/5B	B-11	S. C. Bay.	3	1 3/8	2 5/8	12	120	7.5	550	.021	6000°K	Daylt. Color
PH/11B	A-15	Medium	3	1 7/8	4	8	120	13.5	810	.021	6000°K	Daylt. Color
PH/22B	A-19	Medium	3-125	2 3/8	4 3/4	6	120	29	1800	.021	6000°K	Daylt. Color
PH/50B	A-21	Medium	3-125	2 5/8	5 3/8	6	60	43	2300	.030	6000°K	Daylt. Color
PH/6B	B-11	S. C. Bay.	3	1 3/8	2 5/8	12	120	7.5	290	....	6000°K	Daylt. Color
PH/31B	A-21	Medium	3	2 5/8	5 3/8	6	60	37	630	....	6000°K	Daylt. Color



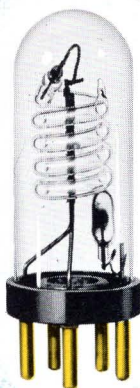
# G-E Repeating Flash Tubes



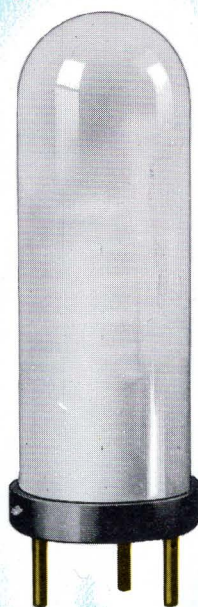
FT-118  
FT-218



FT-210



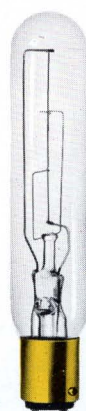
FT-214



FT-403  
FT-503



FT-220



60T6 1/2/1

Flashtubes are the newest form of photographic light source. They give a bright, short flash, 1/1000 to 1/1,000,000 seconds, of very high intensity light and may be flashed thousands of times. The color temperature of the light from Flashtubes is approximately 7000° Kelvin which makes them excellent for photography with black-and-white films and with daylight type color films. Little or no filter correction is required for color.

**The FT-118** is designed for small portable photographic equipment powered by high voltage dry batteries. Its unique design permits minimum over-all cost of the complete equipment. It has neither bulb nor base — no socket is required. It is intended to be assembled into a special plastic-covered reflector by the equipment manufacturer.

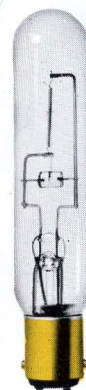
**The FT-218** is identical to the FT-118 except that it is designed for somewhat larger portable, higher voltage photographic equipments. At its maximum energy input, the resulting photographic effect equals or exceeds that of a FT-220 which was formerly used in similar equipments.

**The FT-220** is used in large portable and studio type photographic equipments. At its maximum energy input its photographic effectiveness equals or exceeds that of a PH/5 photoflash lamp at 1/100 — 1/200 second shutter speed. The source of light (helix) and reflector are an integral unit delivering a beam of approximately 45° spread. It is the most rugged flashtube for photographic work.

**FT-210 and FT-214** — These flashtubes use the same source or helix as the FT-220. They are general

purpose tubes for photographic as well as other special applications. Both have outer bulbs and bases and can be used in various sizes and shapes of reflectors. The FT-210 is smaller in diameter and the base fits into an octal radio type socket. The FT-214 has a larger diameter bulb and a base that fits the giant 5-pin socket for larger electronic tubes. The base of this flashtube also has a  $\frac{11}{16}$ " diameter hole through which air-cooling can be injected to permit repetitive flashing operation for short intervals.

**FT-403 — FT-503** — These flashtubes are designed for studio photographic use in large reflectors. They are of the same physical dimensions but the FT-503 has a special quartz helix which allows over four times the energy input of the FT-403 with corresponding increase in light output. Provision is made for mounting a filament lamp inside the helix of both flashtubes. The continuous illumination from these lamps shows exactly where and how the flashtube lighting will appear on the subject. The FT-403 with the 60-watt modeling lamp is recommended for black-and-white photography. The FT-503 with the 100-watt modeling lamp is recommended for color photography.



100T6 1/2

## MODELING LAMPS

Number	Volts	Base	Life
60T6 1/2/1	115-120-125	D. C. Bay.	100 hrs.
100T6 1/2	115-120-125	D. C. Bay.	50 hrs.

## FLASHTUBES

Flashtube Number	Outer Bulb	Base	Design Voltage	Max. Watt Seconds	Approx. Max. Lum-Sec. Thousands	Case Qty.	Approx. Helical Source Dimensions, Inches		L.C.L.	M.O.L.
							Width	Height		
FT-118	None ①	②	500	125	5	12	③	③	1 5/8	2 1/2
FT-210	T-10IF	Octal 3-Pin	2000	200	7	12	1 1/8	1 5/8	1 7/8	3 5/8
FT-214	T-12 1/2	Giant 5-Pin	2000	200	7	12	1 1/8	1 5/8	2	3 7/8
FT-218	None ①	②	1000	200	10	12	③	③	1 5/8	2 1/2
FT-220	PAR-46	3-Screw Term.	2000	200	....	12	1 1/8	1 5/8	....	3 1/2
FT-403	T-18IF	Large 3-Pin	2000	480	18	12	1 1/8	2 3/8	3	6 3/4
FT-503	T-18IF	Large 3-Pin	4000	2000	100	6	1 1/8	2 3/8	3	6 3/4

① This flashtube is intended for use only in covered reflectors or housings designed to provide complete protection to the user from contact with high voltage.

② 1 3/8" diameter insulating disc with 3 pins. ③ Light Source is "U" shaped, 3/4" wide and 3/4" high.



# G-E *Photoflood* LAMPS



Photoflood lamps are high efficiency types of incandescent lamps. For better light control as well as to permit use of smaller, more convenient reflector equipment, relatively smaller inside frosted bulb sizes are used than for the same wattage of general service lamps. Life of photoflood lamps is short compared with general

service lamps but is sufficient for many pictures. The color temperature averages close to 3400° K throughout lamp life. They give excellent results with indoor color films. Blue bulb photoflood lamps are used to supplement daylight in color photos but are not recommended as the only light source for exposing daylight-types color films.

## PHOTOFLOOD LAMPS (Inside Frosted) 115 - 120 Volts, Nominal

Number	Approx. Watts at 115 Volts	Bulb	Base	Description	Bulb Diameter Inches	Maximum Over-all Length, Inches	Rated Lumens at 115 Volts	Case Quantity	Max. Life at 115 Volts in Hours	Approx. Mean Color Temp.
PH/1	250	A-21	Med.	Daylight	2 <sup>5</sup> / <sub>8</sub>	4 <sup>15</sup> / <sub>16</sub>	8200	60	3	3400° K
PH/B1	250	A-21	Med.		2 <sup>5</sup> / <sub>8</sub>	4 <sup>15</sup> / <sub>16</sub>	5600	60	3	4800° K
PH/2	500	PS-25	Med.	Daylight	3 <sup>1</sup> / <sub>8</sub>	6 <sup>15</sup> / <sub>16</sub>	17000	60	6	3400° K
PH/B2	500	PS-25	Med.		3 <sup>1</sup> / <sub>8</sub>	6 <sup>15</sup> / <sub>16</sub>	11000	60	6	4800° K
PH/4	1000	PS-35	Mog.	Daylight	4 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	32000	24	10	3400° K
PH/B4	1000	PS-35	Mog.		4 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	21800	24	10	4800° K

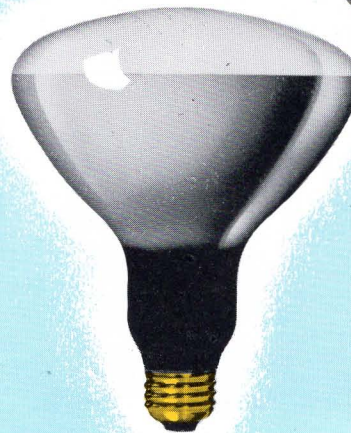


# G-E *Reflector Photoflood* LAMPS

Reflector photo lamps have their own reflector sealed in as an integral part of the lamp. The 500-watt Reflector Photoflood gives a smooth, broad (90°) controlled beam, about equal to the No. 1 photoflood lamp in a very good reflector and is recommended for general off-the-camera use.

The 500-watt Reflector Photospot lamp gives a narrow (20°) beam almost eight times the intensity of the Reflector Photoflood lamp. It is ideal for movies, for special effects such as spotlighting and backlighting, and is often used for high speed motion picture photography.

The 375-watt medium-beam reflector photolamp is tailored to approximately match the camera angle of most amateur movie cameras and is therefore particularly well suited for use in the sockets of brackets attached to the camera. Aiming the camera automatically aims the lamps. Because of its efficient beam pattern it is twice as effective as the Reflector Photoflood.



PH/RFL2  
250R/FL  
PH500/32R7



PH/RSP2  
PH375/34R4

## REFLECTOR PHOTOFLOOD LAMPS (Inside Frosted)

Number	Watts	Bulb	Base	Description	Bulb Diameter Inches	Maximum Over-all Length, Inches	Initial Mean Candle Power in 10° Cone.	Case Quantity	Approx. Hours Life	Approx. Mean Color Temp.
PH/RFL2	500	R-40	Med.	Reflector Flood	5	6 1/2	5900	24	6	3400° K
PH/RSP2	500	R-40	Med.	Reflector Spot	5	6 1/2	45000	24	6	3400° K
250R/FL	*	R-40	Med.	Refl. Flood Tel'v'n.	5	6 7/8	.....	24	3 1/4	3400° K
PH375/34R4	375	R-40	Med.	Med. Beam	5	6 1/2	15000	24	4	3400° K
PH500/32R7	500	R-40	Med.	Flood Beam	5	6 1/2	.....	24	6	3200° K

\* Approx. watts at 30 volts, 250 W.

# G-E *High Speed Motion Picture Photography* LAMPS

The high-speed photographic lamp is designed to meet the requirements established by the SMPTE's high-speed photographic committee. Two of these lamps, one on each side of the camera, makes possible the taking of color movies at 8,000 pictures per second. For the slower picture speeds the photoflood reflector spot (PH/RSP2) is recommended.



PH/RSP2



PH/750R

## HIGH SPEED MOTION PICTURE PHOTOGRAPHY LAMPS

Number	Volts	Bulb	Base	Watts	Description	Std. Pkg. Qty.	Class	Filament	Approx. Hours Life	M.O.L.
PH/750R	Std.	R-40	Med.	750	Refl. Photographic	24	C	C-11	6	6 7/8
PH/RSP2	115-120	R-40	Med.	500	Refl. Photo Spot	24	C	CC-2V	6	6 1/2



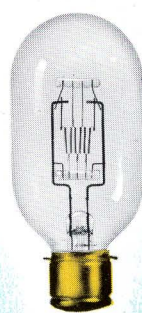
# Studio Lamps FOR MOTION PICTURE



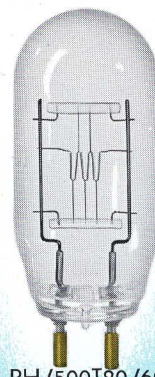
PH/250A23



PH/500PS25/5

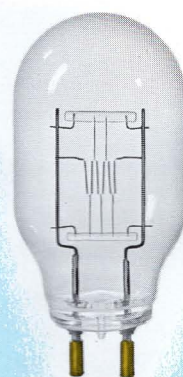


PH/500T20P



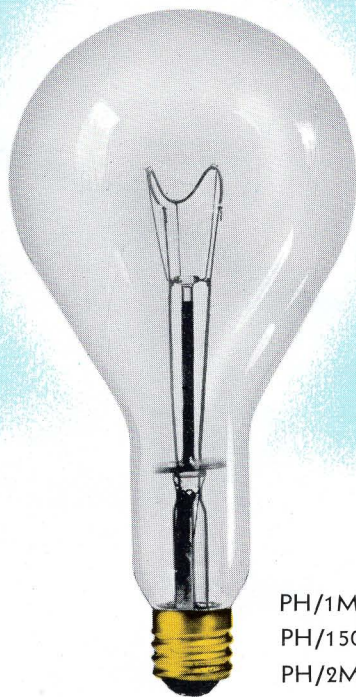
PH/500T20/60

PH/500T20/63



PH/750T24/13

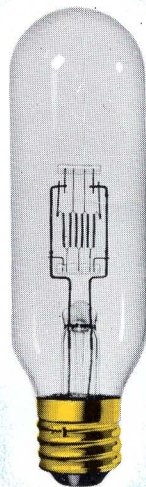
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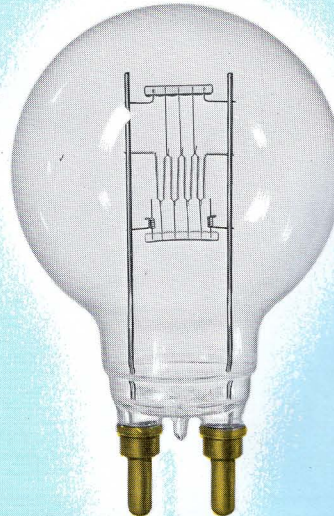
PH/1M/PS52/77

PH/1500PS52/78

PH/2M/PS52/76

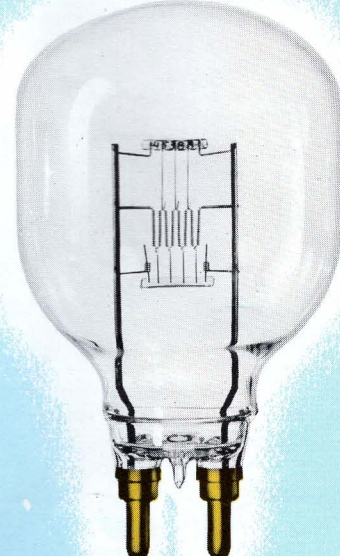


PH/1M/T20



PH/2M/G48/19

PH/2M/G48/14



PH/2M/T48/2

**G**ENERAL ELECTRIC'S studio lamps are designed in a variety of sizes and forms to satisfy the requirements of the many types of lighting equipment. They are available with two color characteristics, 3200° K and 3350° K, which are properly matched to the color response or sensitivity of the several types of color films.

Some of the 35 mm color motion picture films used in studios are balanced to 3350° K and others are balanced to 3200° K. General Electric 3350° lamps (often called CP types—for color photography), when used with proper filters, are also correct for motion picture and still color films balanced to daylight. The 3200° K lamps are balanced to the requirements of all studio type still

color films and 16 mm professional color films balanced to tungsten light.

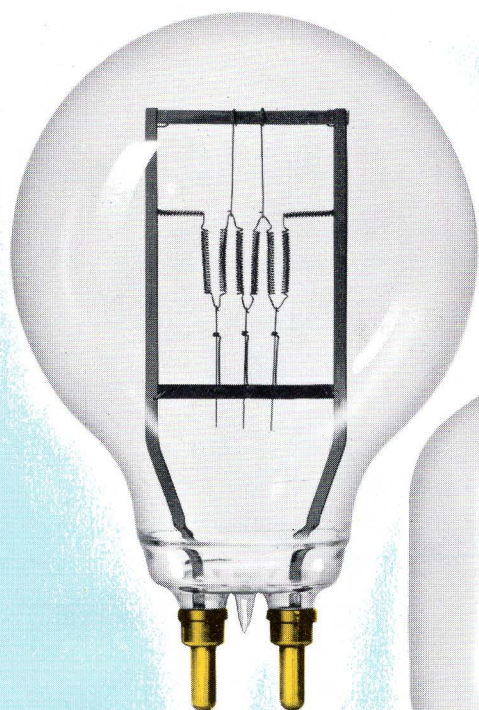
While the color temperatures of these studio lamps have been dictated by the requirements of color films, those same lamps are the preferred filament sources for black-and-white studio photography, both motion picture and still. Their high efficiencies make the desired illumination levels easily attainable.

The A-23, PS-25, and PS-52 bulb lamps used in open reflectors and the new 500-watt R40 reflector lamp provide floodlighting of the picture area.

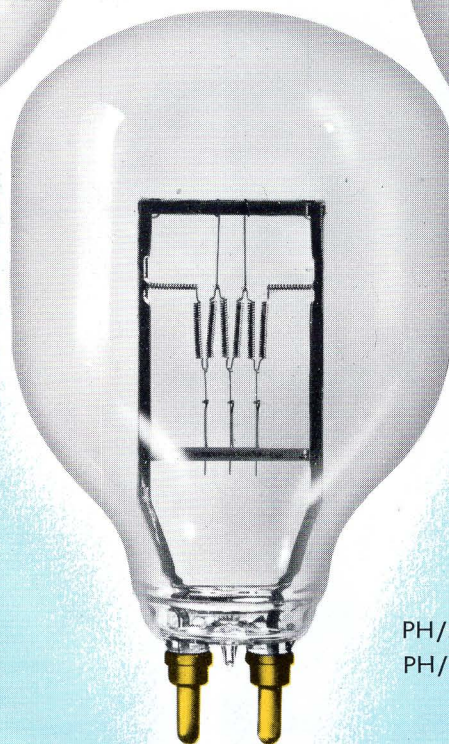
The T and G bulb lamps have the concentrated types of filament construction essential for best performance of adjustable focus spotlights. In each case either concentrated beams or beams of wide, uniform spread are possible from these designs.



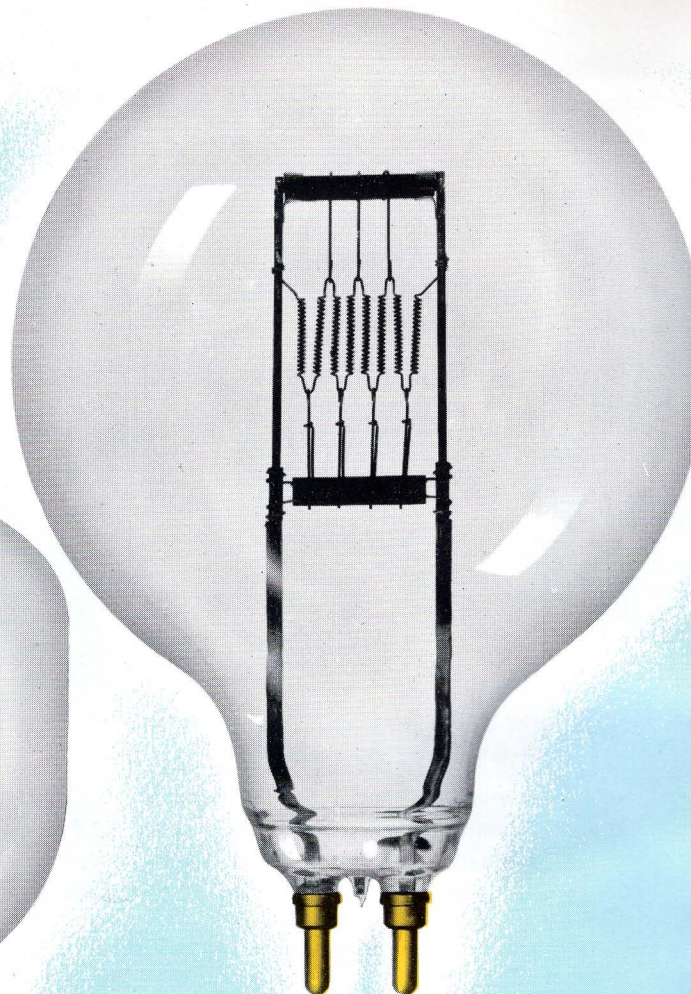
# AND STILL PHOTOGRAPHY



PH/5M/G64/3  
PH/5M/G64/7



PH/5M/T64/1  
PH/5M/T64/3



PH/10M/G96/2

## STUDIO LAMPS FOR MOTION PICTURE AND STILL PHOTOGRAPHY

Number	Volts	Bulb	Base	Watts	Std. Pkg. Qty.	Class	Filament	Approx. Hours Life	M.O.L.	L.C.L.	Lumens
<b>3200° K</b>											
PH/250A23	Std.	A-23	Med.	250	120	C	C-9	20	6 $\frac{1}{16}$	4 $\frac{3}{8}$	.....
PH/500PS25/5	Std.	PS-25	Med.	500	60	C	C-9	60	6 $\frac{1}{16}$	5 $\frac{1}{4}$	13000
PH/500T20P	Std.	T-20	Md. Pf.	500	24	C	C-13	50	5 $\frac{3}{4}$	2 $\frac{3}{16}$	13200
PH/500T20/63	Std.	T-20	Md. Bip.	500	12	C	C-13	35	6 $\frac{1}{2}$	2 $\frac{1}{2}$	13000
PH/750T24/16	Std.	T-24	Md. Bip.	750	24	C	C-13	50	6 $\frac{1}{2}$	2 $\frac{1}{2}$	20500
PH/1M/T20	Std.	T-20	Mog.	1,000	12	C	C-13	50	9 $\frac{1}{16}$	4 $\frac{3}{4}$	28000
PH/1M/PS52/77	Std.	PS-52	Mog.	1,000	6	C	C-7A	75	13 $\frac{1}{16}$	9 $\frac{1}{2}$	26000
PH/1500PS52/78	Std.	PS-52	Mog.	1,500	6	C	C-7A	100	13 $\frac{1}{16}$	9 $\frac{1}{2}$	40000
PH/2M/G48/19	Std.	G-48	Mg. Bip.	2,000	6	C	C-13	60	9 $\frac{3}{8}$	5	55000
PH/5M/G64/7	Std.	G-64	Mg. Bip.	5,000	1	C	C-13	150	11 $\frac{7}{8}$	6 $\frac{1}{2}$	.....
PH/5M/T64/3	Std.	T-64	Mg. Bip.	5,000	1	C	C-13	150	13 $\frac{3}{8}$	6 $\frac{1}{2}$	.....
<b>3350° K</b>											
PH/500T20/60	Std.	T-20	Md. Bip.	500	12	C	C-13	8	6 $\frac{1}{2}$	2 $\frac{1}{2}$	.....
PH/750T24/13	Std.	T-24	Md. Bip.	750	24	C	C-13	12	6 $\frac{1}{2}$	2 $\frac{1}{2}$	23500
PH/2M/PS52/76	*	PS-52	Mog.	2,000	6	C	C-7A	15	13 $\frac{1}{16}$	9 $\frac{1}{2}$	.....
PH/2M/G48/14	Std.	G-48	Mg. Bip.	2,000	6	C	C-13	25	9 $\frac{3}{8}$	5	.....
PH/2M/T48/2	Std.	T-48	Mg. Bip.	2,000	6	C	C-13	25	10 $\frac{1}{2}$	5	.....
PH/5M/G64/3	Std.	G-64	Mg. Bip.	5,000	1	C	C-13	75	11 $\frac{7}{8}$	6 $\frac{1}{2}$	.....
PH/5M/T64/1	Std.	T-64	Mg. Bip.	5,000	1	C	C-13	75	13 $\frac{3}{8}$	6 $\frac{1}{2}$	164000
PH/10M/G96/2	Std.	G-96	Mg. Bip.	10,000	1	C	C-13	75	17 $\frac{3}{8}$	10	.....

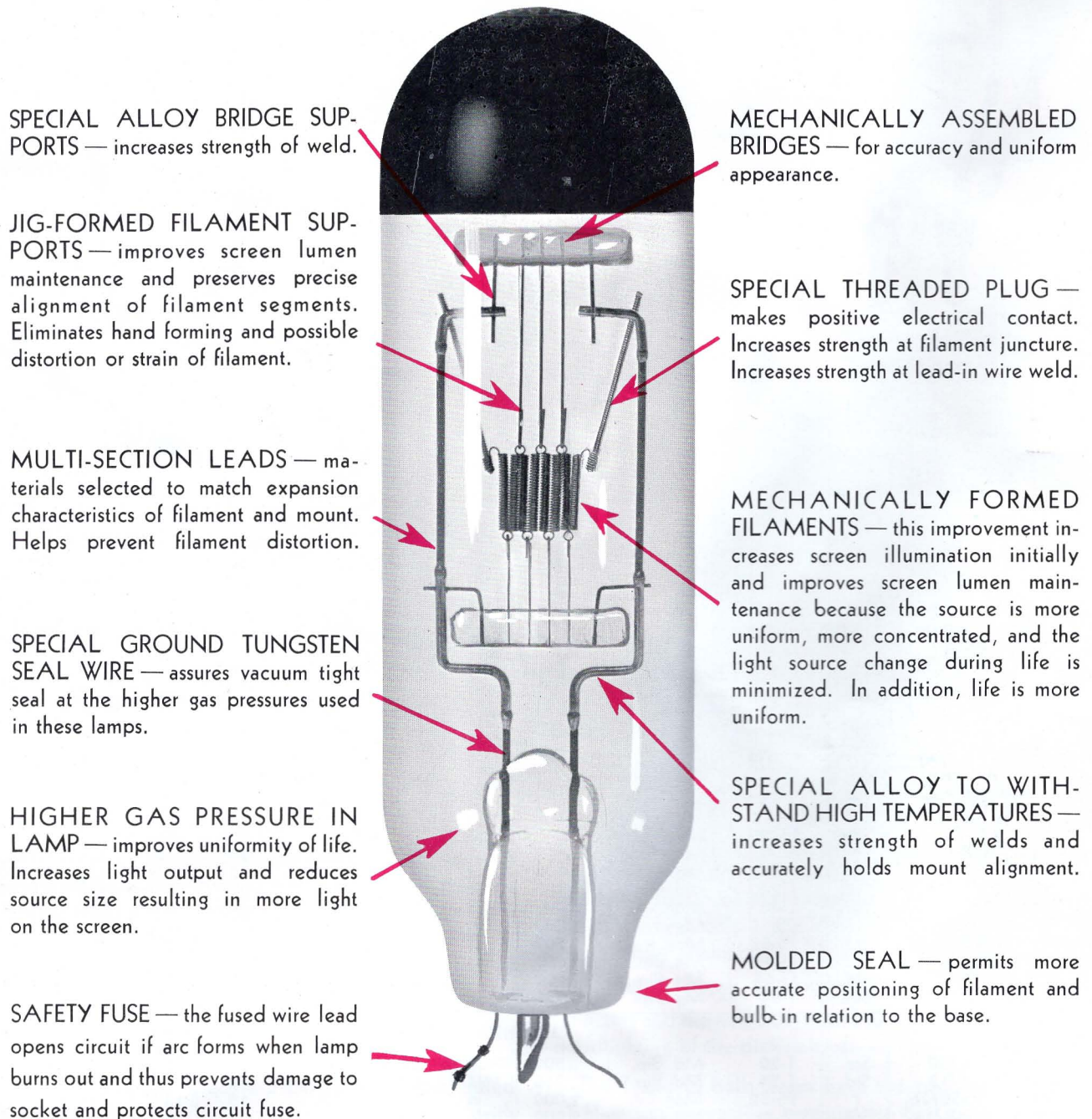
\* 115-120. Design volts 115.



## GENERAL ELECTRIC PROJECTION LAMPS ARE CONSTANTLY BEING IMPROVED

The quality of G-E Projection Lamps has resulted from a multitude of developments, extending over a long period. However, new and additional improvements, have been both rapid and startling.

Here is shown a G-E Projection Lamp with many improvements which have been introduced during the past three years.













PLUS the "know how" that comes only with years of painstaking lamp making, research and development.



# RECOMMENDED LINE OF PROJECTION LAMPS

Most modern projectors are designed around the ten types of lamps listed below. This line of lamps gives an adequate range of sizes from 75 watts to 1000 watts. The group of seven lamps with medium prefocus bases from 200 watts to 1000 watts represents 80 per cent of the demand, with approximately 10 per cent each for the lower and a higher wattage group.

Bases . . . It will be noticed that this recommended standard line exhibits only base types which will insure proper orientation of the filament with respect to the optical system. Only the early models of projectors use screw base type lamps.

BAYONET CANDELABRA			MEDIUM PREFOCUS						
									
75	150	300	200	300	500	750	1000	500	1000
WATTAGE SIZES									
PROJECTOR TYPES									
MIN. SLIDE	8-mm MOTION PICTURE MIN. SLIDE	8-mm MOTION PICTURE AND MIN. SLIDE	MIN. SLIDE	8-mm and 16-mm MOTION PICTURE MIN. SLIDE	8-mm and 16-mm MOTION PICTURE	16-mm MOTION PICTURE	8-mm and 16-mm MOTION PICTURE	STEREOPTICON	35-mm SEMI-PORT MOTION PICTURE
VENTILATION RECOMMENDED									
NATURAL	NATURAL	MODERATE FORCED	NATURAL	MODERATE FORCED	HIGH DEGREE FORCED	HIGH DEGREE FORCED	HIGH DEGREE FORCED	NATURAL	HIGH DEGREE FORCED

**T**HE General Electric Company has always been the leading manufacturer of filament lamps for picture projection. Its leadership in the development of new and improved light sources has played a major part in the advancement and development of picture projection to its present high standards of performance.

Now the General Electric Company has assumed a new form of leadership in this important field of lighting. The very developments of which it is justly proud have resulted in a multiplicity of types of projection lamps far greater than is now needed to serve the varied needs of old and new projectors. New projectors are being designed for a selected minimum number of up-to-date lamp sizes. These same lamps can often replace older types and thereby enhance the performance of older projectors. This group of lamps will simplify the dealer's stocking problem and make the lamps more readily available for replacement purposes. Increased production of projection lamps utilizing present facilities and further quality improvements are among the many objectives which are the logical result of standardization.

General Electric has, therefore, inaugurated a long-term simplification program directed towards the ultimate elimination of obsolescent types and the consolidation of demand on newer preferred types. There is nothing mandatory about this program. In no instance does General Electric propose to impose any hardship on owners of projection equipment. If there is a reason why one of the preferred lamp types should not be used, General Electric will do everything possible to continue supplying the type which is required. All General Electric Photo Lamp Dealers are familiar with this program, the broad details of which are briefly described in the following paragraphs.

**M**OST manufacturers of projection equipment agree that, in the foreseeable future, certain basic lamp wattages will be adequate to meet their requirements. These

include the 75, 150, and 300-watt sizes in the T-8 and T-8½ bulbs with bayonet bases, and the 300, 500, 750, and 1000-watt sizes in T-10 and T-12 bulbs. In those instances where the T-20 bulb is required, the preferred sizes are 1000 and 1500 watts. The choice of the combination of watts and bulb size depends upon the type of equipment and the ventilation available in the various devices.

In most instances, natural ventilation is adequate for 150 watts in the T-8 bulb and 300 watts in the T-10 bulb. Where higher wattages are desired in these bulb sizes, some type of forced ventilation is required to maintain the bulb and base temperatures within safe operating limits. The highest wattage bayonet base lamp widely used in miniature slide projectors with well-designed forced ventilation is the 300-watt, T-8½ bulb projection lamp. Similarly, when well-designed forced ventilation is provided in the more powerful slide projectors and the 8 and 16-mm motion picture projectors, the higher wattage medium prefocus base 500, 750, and 1000-watt sizes in the T-10 and T-12 bulbs are used.

Usually one of the preferred wattages can be used with advantage in existing equipments. For instance, the 75-watt projection lamp gives distinctly superior results in most devices which formerly used 50-watt lamps. The 500-watt, T-10 bulb projection lamp is favored as a replacement for the 400-watt size in many older model equipments.

Of course this does not mean that lamps can be substituted without regard for dimensional and other limitations. A few projectors, unfortunately, have space limitations or special light center length requirements which can only be satisfied with specific lamp types. To aid you in the selection of the proper lamp, consult your General Electric Photo Lamp Dealer, the projector manufacturer, or the sales representatives of the General Electric Lamp Division.



# G-E *Projection Lamps* FOR



**G-E** Lamps designed for picture projection are characterized by the most advanced and exacting techniques of lamp manufacture. In every type the dimensions and form of the light source are chosen to fit the particular requirements of some specific optical system or group of systems. For every type of projector, lamps of highest possible light output from a small source in a bulb of minimum size are required. To this end lamps are designed up to the safe limits of the materials involved. It is only by the closest attention to materials and fabrication that the superior performance at this maximum efficiency is achieved.

The superlative quality of General Electric Projection lamps is confirmed not only in laboratory tests but also by projector manufacturers' preference.

The lamps with bayonet bases are used principally in miniature slide projectors in the home and smaller classrooms with screen sizes up to four or five feet. The higher wattage lamps in this group should be used in equipment providing forced cooling to protect the slides and to maintain safe operating limits for the bulb and base.

Where higher wattages are required, medium prefocus base types are available in the T-10 and T-12 bulbs. Such lamps are used for the larger miniature slide projectors, some lantern slide projectors, and 16-mm motion picture equipment. A high degree of forced ventilation is important in this type of equipment in order to maintain temperatures at a safe operating level for the base and bulb. Additional blower or fan cooling is desirable for slides since they are exposed to high illumination levels for much longer periods than are pictures on motion picture film.

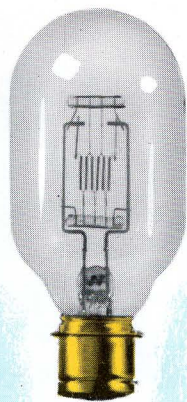
For lantern slides, the T-20 bulb lamps — 500-watts in the short bulb and 1000-watts in the long bulb — are used when only natural ventilation is available.

General Electric also has available a limited line of lamps for 35-mm motion picture projection. These special sources ranging from 1000- to 2100-watts are generally used for small theater projection and are not shown in this catalog.

The General Electric Bulletin LD-164 "Lamps for Picture Projectors," lists the proper lamp or lamps for use in all types and makes of picture projectors.



# SLIDES AND MOVIES



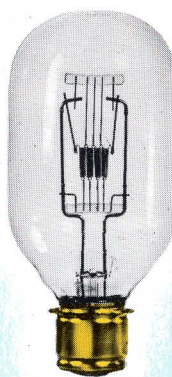
PH/500T20P



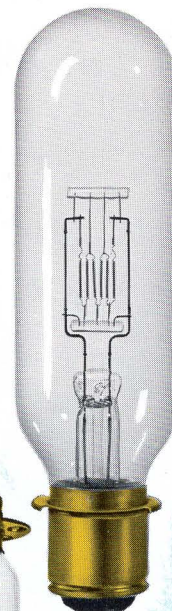
PH/300T8 1/2/1SC



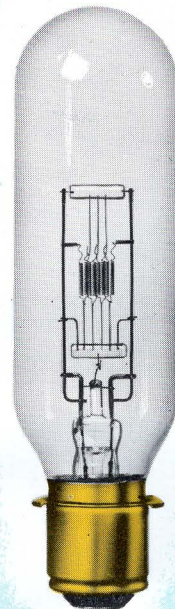
PH/300T8 1/2/10



PH/1M/T20MP



PH/1M/T20P



PH/1500T20/39

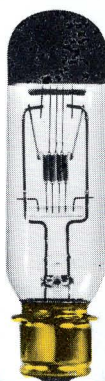
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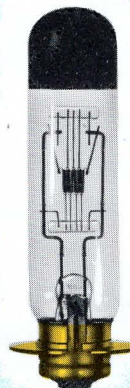
PH/750T12P



PH/750T12/3LR

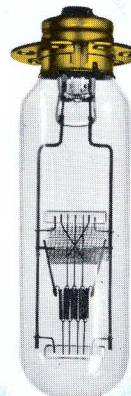


PH/1M/T12P



PH/1M/T12/3LR

PH/1M/T12/5LR



PH/1M/T12/4LR

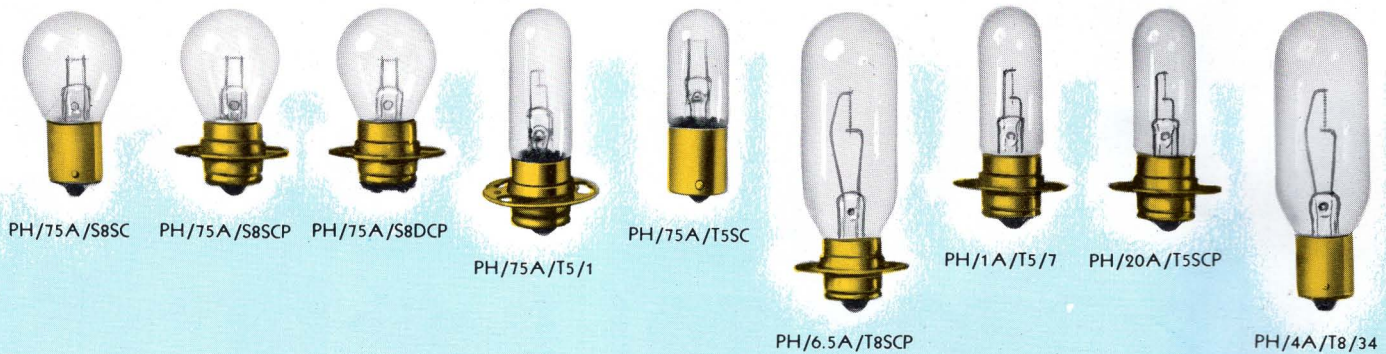
## PROJECTION SERVICE

Number	Bulb	Base	Watts	Volts	Std. Pkg. Qty.	Filament	Approx. Hours Life	Approx. Lumens	Light Center Length	Max. Overall Length	Approx. Light Source Dimensions in mm	
											Width	Height
PH/30T7SC	T-7	S. C. Bay.	30	*	24	CC-2V	25	....	1 3/8	2 5/8	4.0	4.3
PH/50S11DC	S-11	D. C. Bay.	50	*	120	CC-2V	50	825	1 3/8	2 3/8	5.0	5.0
PH/50T8/47SC	T-8	S. C. Bay.	50	Std.	24	CC-13	50	810	1 3/8	3 1/8	5.5	4.1
PH/50T8/22DC	T-8	D. C. Bay.	50	Std.	24	CC-13	50	810	1 3/8	3 1/8	5.5	4.1
PH/75T8/72	T-8	S. C. Bay.	75	Std.	24	CC-13	50	1300	1 3/8	3 1/8	6.7	6.7
PH/75T8/106	T-8	D. C. Bay.	75	Std.	24	CC-13	50	1300	1 3/8	3 1/8	6.7	6.7
PH/100S11SC	S-11	S. C. Bay.	100	*	120	CC-2V	25	2050	1 3/8	2 3/8	5.4	6.8
PH/100T8SC	T-8	S. C. Bay.	100	Std.	24	CC-13	50	1920	1 3/8	3 1/8	5.4	6.8
PH/100T8/108SC	T-8	S. C. Bay.	100	Std.	24	CC-2V	50	1950	1 3/8	3 1/8	6.2	6.5
PH/100T8/108DC	T-8	D. C. Bay.	100	Std.	24	CC-2V	50	1950	1 3/8	3 1/8	6.2	6.5
PH/120A21/49	A-21	Med.	120	*	120	C-9	25	2700	3 3/8	4 1/8	6.9	7.0
PH/140T10/69	T-10	Med.	140	*	60	C-9	25	3350	3 3/8	5 1/8	8.7	8.5
PH/150T8/70	T-8	S. C. Bay.	150	Std.	24	2CC-8	25	3350	1 3/8	3 5/8	8.7	8.5
PH/150T8/79	T-8	D. C. Bay.	150	Std.	24	2CC-8	25	3350	1 3/8	3 5/8	8.7	8.5
PH/200T8SC	T-8	S. C. Bay.	200	Std.	24	2CC-8	25	4700	1 3/8	3 5/8	10.2	10.2
PH/200T8DC	T-8	D. C. Bay.	200	Std.	24	2CC-8	25	4700	1 3/8	3 5/8	10.2	10.2
PH/200T8/49	T-8	D. C. Pf.	200	Std.	24	2CC-8	25	4700	1 4	3 5/8	10.2	10.2
PH/200T10P	T-10	Med. Pf.	200	Std.	24	CC-13	50	4250	2 3/8	5 3/4	11.3	10.7
PH/300T8 1/2/1SC	T-8 1/2	S. C. Bay.	300	Std.	24	C-13D	25	....	1 3/8	4 1/8	11.3	10.7
PH/300T8 1/2/10	T-8 1/2	S. C. Bay.	300	Std.	24	C-13	25	7750	1 3/8	4 1/8	11.3	10.7
PH/300T8 1/2/11	T-8 1/2	S. C. Bay.	300	Std.	24	C-13	25	....	1 3/8	4 1/8	11.3	10.7
PH/300T8 1/2/17	T-8 1/2	D. C. Bay.	300	Std.	24	C-13	25	....	1 3/8	4 1/8	11.3	10.7
PH/300T10P	T-10	Med. Pf.	300	Std.	24	C-13	25	....	2 3/8	5 3/4	11.3	10.7
PH/300T10/61	T-10	Med. Pf.	300	Std.	24	C-13D	25	....	2 3/8	5 3/4	11.3	10.7
PH/500T10P	T-10	Med. Pf.	500	Std.	24	C-13D	25	....	2 3/8	5 3/4	11.3	10.7
PH/500T10/3LR	T-10	Lg. Index. Ring	500	Std.	24	C-13D	25	....	2 3/8	5 1/2	11.3	10.7
PH/500T10/3SR	T-10	Sm. Index. Ring	500	Std.	24	C-13D	25	....	2 3/8	5 1/2	11.3	10.7
PH/500T20P	T-20	Med. Pf.	500	Std.	24	C-13	50	13200	2 3/8	5 3/4	11.3	10.7
PH/750T12P	T-12	Med. Pf.	750	Std.	24	C-13D	25	....	2 3/8	5 3/4	11.3	10.7
PH/750T12/3LR	T-12	Lg. Index. Ring	750	Std.	24	C-13D	25	....	2 3/8	5 1/2	11.3	10.7
PH/1M/T12P	T-12	Med. Pf.	1000	Std.	24	C-13D	10	....	2 3/8	5 3/4	11.3	10.7
PH/1M/T12/3LR	T-12	Lg. Index. Ring	1000	Std.	24	C-13D	10	....	2 3/8	5 1/2	11.3	10.7
PH/1M/T12/4LR	T-12	Vented Lg. Index. Ring	1000	Std.	24	C-13D	25	28000	3 1/2	5 7/8	11.3	10.7
PH/1M/T12/5LR	T-12	Lg. Index. Ring	1000	Std.	24	C-13D	25	....	2 3/8	5 1/2	11.3	10.7
PH/1M/T20MP	T-20	Med. Pf.	1000	Std.	24	C-13D	25	28000	2 3/8	5 3/4	11.3	10.7
PH/1M/T20	T-20	Mog.	1000	Std.	12	C-13	50	28000	4 3/4	9 1/8	14.9	14.5
PH/1M/T20P	T-20	Mog. Pf.	1000	Std.	12	C-13	50	28000	3 1/8	9 1/2	11.3	10.7
PH/1M/T20/40	T-20	Mog. Pf.	1000	Std.	12	C-13D	25	28000	3 1/8	9 1/2	11.3	10.7
PH/1500T20/39	T-20	Mog. Pf.	1500	Std.	12	C-13D	25	42500	3 1/8	9 1/2	13.9	14.0
PH/18A/T10P	T-10	Med. Pf.	18 Amps	6	24	C-8	50	2250	2 3/8	5 3/4	11.3	10.7

\* 115-125 Volts (design volts—120)



# G-E *Exciter* LAMPS FOR *Sound Reproduction*



**E**XCITER lamps are specially designed for sound reproduction systems to illuminate the sound track on motion picture films. To insure best possible sound reproduction the dimensions and shape of the filament of the exciter lamp are tailored to the requirements of the sound optical systems. In General Electric Bulletin LD164 "Lamps for Picture Projectors" lamps are therefore listed specifically for each model projector. Lamps other than those recommended may have filaments of different shapes or dimensions which could produce less satisfactory

results either because the dimensions of the scanning beam at the film are altered or because the quality or amount of illumination in the beam is changed. Of equal importance are the electrical characteristics of the lamp. The power supply in most projectors has been designed to provide only the voltage and current necessary to operate the recommended lamp. A lamp of different voltage or current may not operate at the proper level or may damage the power supply.

## EXCITER LAMPS FOR SOUND REPRODUCTION

Number	Volts	Bulb	Base	Amps.	Std. Pkg. Qty.	Class	Filament	Approx. Hours Life	Lumens	M.O.L.	L.C.L.
PH/75A/S8SC	4	S-8	S. C. Bay.	.75	100	C	C-6	50	32	2	1 1/4
PH/75A/S8SCP	4	S-8	S. C. Pf.	.75	100	C	C-6	50	32	2	1 1/8
PH/75A/S8DCP	4	S-8	D. C. Pf.	.75	100	C	C-6	50	32	2	1 1/8
PH/75A/T5/1	4	T-5	S. C. Pf.	.75	100	C	C-8	50	—	2 3/8	1 1/8
PH/75A/T5SC	4	T-5	S. C. Bay.	.75	100	C	C-6	50	—	2	1 1/4
PH/6.5A/T8SCP	5	T-8	S. C. Pf.	6.5	24	C	C-8	50	365	3 1/8	1 5/8
PH/1A/T5/7	6	T-5	S. C. Pf.	1	100	C	C-8	100	70	2 3/8	1 1/8
PH/20A/T5SCP	7	T-5	S. C. Pf.	.20	100	B	C-8	50	15	2 3/8	1 1/8
PH/4A/T8/34	8.5	T-8	S. C. Bay.	4	24	C	C-8	100	680	3 1/8	1 3/4

# G-E *Film Viewing AND Editing* LAMP

Filament lamps used in compact motion picture film viewers closely resemble projection lamps. They must have reasonably concentrated filaments and be high in light output. Low wattage is essential since film is often left exposed to light for extended periods during editing and because the equipment is small in size.

## FILM VIEWING AND EDITING LAMP

Number	Volts	Bulb	Base	Watts	Std. Pkg. Qty.	Class	Filament	Approx. Hours Life	Lumens	M.O.L.	L.C.L.
PH/30S11/93	115-125	S-11	D. C. Bay.	30	120	C	CC-2V	50	420	2 3/8	1 3/8



PH/30S11/93



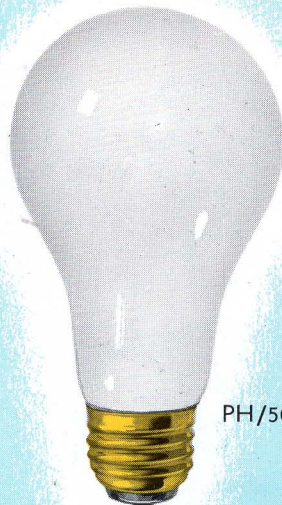
# G-E *Photographic Enlarger* LAMPS



PH/111



PH/211  
PH/212  
PH/213



PH/50/150



PH/300  
PH/302

**G-E** Photo Enlarger Lamps have white bulbs which give the excellent diffusion and even distribution of light most enlarging equipment requires. Five popular sizes of lamps available are:

No. 111 — a 75-watt lamp in an S-11 bulb with bayonet base for horizontal operation in miniature enlargers. Nos. 211 and 212 — 75 watts and 150 watts in A-21 bulbs with medium screw bases. Base-up operation is recommended for these types.

No. 213 — 250 watts, high efficiency lamp of the photoflood type for use when maximum light is needed from an A-21 bulb lamp. No. 302 — 500 watts in PS-30 bulb for base-up operation in the larger reflector-type enlargers.

Three-Lite Enlarger Lamp — 50-100-150 watts. This lamp provides the range of printing speeds of the No. 211 and No. 212 in one lamp. Requires special switch and socket.

## PHOTOGRAPHIC ENLARGER LAMPS (White) — 115-125 Volts, Nominal

Number	Bulb	Base	Light Center Length, Inches	Life at 115 Volts	Bulb Diameter, Inches	Maximum Over-all Length, Inches	Rated Lumens at 115 Volts	Class	Filament
PH/50/150	A-21	3-Contact Med.	$3\frac{3}{8}$	100	$2\frac{5}{8}$	$4\frac{15}{16}$	.....	C	2C-9
PH/111	S-11	S. C. Bay.	$1\frac{3}{8}$	25	$1\frac{3}{8}$	$2\frac{3}{8}$	1120	C	CC-2V
PH/211	A-21	Med.	$3\frac{3}{8}$	100	$2\frac{5}{8}$	$4\frac{15}{16}$	1200	C	C-9
PH/212	A-21	Med.	$3\frac{3}{8}$	100	$2\frac{5}{8}$	$4\frac{15}{16}$	2750	C	C-9
PH/213	A-21	Med.	$3\frac{3}{8}$	3	$2\frac{5}{8}$	$4\frac{15}{16}$	7000	C	C-9
PH/300	PS-30	Med.	6	100	$3\frac{3}{4}$	$8\frac{3}{16}$	.....	C	C-9
PH/302	PS-30	Med.	6	100	$3\frac{3}{4}$	$8\frac{3}{16}$	11000	C	C-9

# G-E *Photocolor* LAMPS FOR *Color Viewing*



F13T8/PC



F20T12/PC



F40T12/PC

The photocolor fluorescent lamps have been especially designed to bring out all of the colors of color transparencies and prints in their true values. They are a cool source of light for use in trans-illuminators as well as at color inspection tables.

## PHOTOCOLOR LAMPS FOR COLOR VIEWING

Number	Bulb	Base	Nominal Watts	Description	Std. Pkg. Qty.
PH/F13T8/PC*	T-8	Md. Bip.	13	F-12" Photocolor	24
PH/F20T12/PC	T-12	Md. Bip.	20	F-24" Photocolor	24
PH/F40T12/PC	T-12	Md. Bip.	40	F-48" Photocolor	24

\* Requires special ballast.



## G-E *Dark Room* LAMPS



PH/7½S/2R



PH/10S14/NDA PH/10S14/NDR



PH/25A/NDA PH/25A/NDR



PH/40A/NDA



PH/40A/NDR



PH/60A21/NDA

The 10 and 25-watt ruby bulb lamps are recommended for use with blue sensitive and orthochromatic films and plates; the 40 and 60-watt sizes are for the less sensitive photo process films. The amber bulb lamps are useful in darkrooms where both enlarging and contact printing papers are handled. All orders for these lamps should specify "for photographic service." These lamps should not be used with panchromatic films.

### DARK ROOM LAMPS

Watts	Bulb	Base	Volts	Description	Lamp Order Abbreviation	Std. Pkg. Qty.	Avg. Life	Max. Over-all Length	Class	Fila-ment
7½	S 11	Med.	Std.	Red	PH/7½S/2R	6-120	1400	2¼	B	C-7A
10	S-14	Med.	Std.	Amber	PH/10S14/NDA	6-120	1500	3½	B	C-9
10	S-14	Med.	Std.	Ruby	PH/10S14/NDR	6-120	1500	3½	B	C-9
25	A-19	Med.	Std.	Amber	PH/25A/NDA	6-120	1000	3½	B	C-9
25	A-19	Med.	Std.	Ruby	PH/25A/NDR	6-120	1000	3½	B	C-9
40	A-21	Med.	Std.	Amber	PH/40A/NDA	6-120	1000	4¾	B	C-9
40	A-21	Med.	Std.	Ruby	PH/40A/NDR	6-120	1000	4¾	B	C-9
60	A-21	Med.	Std.	Amber	PH/60A21/NDA	6-120	1000	4¾	C	C-9
60	A-21	Med.	Std.	Ruby	PH/60A21/NDR	6-120	1000	4¾	C	C-9



PH/60A21/NDR

## G-E *Copy Board Lighting* LAMPS

The 1500-watt T-24 Bulb copyboard lighting lamp is an excellent illuminant for photo engraving and lithographic copyboards. Its full range color spectrum produces fine color separation negatives. Either two, four or six lamps, in specially designed reflectors, are used on either side of the copyboard. The regular 64-inch slimline lamp (not shown here) in the red, green and blue colors are also being used in increasing numbers for the making of color separations without the use of filters at the camera, giving greatly improved results.

Many small photomechanical shops use Reflector Photoflood lamps when the hours of operation are short and it is desired to keep the equipment investment low.



PH/RFL 2



PH/1500T24/15

### COPYBOARD LIGHTING LAMPS

Number	Volts	Bulb	Base	Watts	Std. Pkg. Qty.	Approx. Hours Life	Color Temp.	M.O.L.	L.C.L.
PH/1500T24/15	Std.	T-24	Md. Bip.	1500	24	60	3200° K	9½	5½
PH/RFL2	115-120	R-40	Med.	500	24	6	3400° K	6½	....
PH/500/32R7	Std.	R-40	Med.	500	24	6	3200° K	6½	....



# DISCOUNTS, TERMS and ALLOWANCES

## DISCOUNT SCHEDULES

TO PURCHASERS (For Own Consumption) WITHOUT CONTRACT		TO PURCHASERS UNDER PFE CONTRACT		
For Immediate Delivery To One Point:		Net Value of Purchases		Discount
Any order not included below . . . . .	0%		Any Order For Immediate Delivery to One Point Including One or More Standard Packages ** or \$25 List Value of General Electric Photolamps	Any Order For Immediate Delivery to One Point <u>Not</u> Including a Standard Package ** or \$25 List Value of General Electric Photolamps
An order including one or more standard packages * of any General Electric Photolamps, or an order including \$15.00 List Value of types other than Photoflash or Flashtubes . . . . .	25%	\$ 250	32%	27%
		500	33%	28%
		1,000	34%	29%
An order including six or more standard packages * of any General Electric Photolamps . . . . .	28%	2,500	35%	30%
		5,000	36%	31%
* A standard package of General Electric Photolamps is defined as a package, as packed by the factory, of that "Standard Package Quantity" designated for each lamp in the Price Schedule, and the lamps in such a standard package may not be of different specifications.		** A standard package of General Electric Photolamps is defined as a package as packed by the factory, of that "Standard Package Quantity" designated for each lamp in the Price Schedule, and the lamps in such a standard package may not be of different specifications.		

## TERMS OF PAYMENT

Each invoice for lamps shall be paid promptly by the purchaser. For this prompt payment two per cent (2%) may be deducted from the net amount of such invoice before the addition of excise taxes.

## TRANSPORTATION ALLOWANCES

All photolamps listed in price schedules will be sold and billed to purchasers f. o. b. point of shipment, with transportation (excluding cartage) allowed on single shipments to one point in domestic territory consisting of not less than one standard package quantity or of \$10 list value — whichever is of lower value.

Domestic territory shall be considered to be the United States, Alaska and the Hawaiian Islands. The rest of the world shall be regarded as foreign territory.

Should any purchaser desire its photolamps shipped "Charges Collect," such purchaser, in deducting transportation charges from invoices covering photolamps so shipped, will not be allowed to deduct cartage.

Evident loss or damage to a shipment must be indicated by a notation made by the carrier's agent on the delivery receipt before the receipt is signed. The notation must clearly specify the extent of loss, shortage or damage. Concealed damage must be reported to the carrier within 15 days after delivery. The filing of claims with carriers for loss or damage in transportation must be executed within 9 months after date of delivery or in case of non-delivery within 9 months after a reasonable time for delivery has elapsed. Purchasers desiring the assistance of the Lamp Division in filing such claims must report them to the manufacturer within a reasonable time so as to permit compliance with the common carrier's requirement.



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Sales District	Street Address	Telephone No.	Manager
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<b>ATLANTA 3, GA.</b>	187 Spring St., N. W.	CYpress 1526	L. J. Campbell
<b>BALTIMORE 2, MD.</b>	Court Square Bldg.	MUlberry 5-7733	P. M. Wood
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<b>CHARLOTTE 2, N. C.</b>	514 Johnston Bldg.	4-8614	G. E. Park
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<b>TAMPA 2, FLA.</b>	505 Twiggs St.	2-2269	D. B. Clark

In addition to the Sales District Headquarters cities listed above, G-E Lamp salesmen are resident in 79 other cities. Consult your telephone directory under General Electric Company Lamp Division.

\* District Office handling miniature, photo and Christmas lamps.

General Offices: Nela Park, Cleveland 12, Ohio

LAMP DIVISION

GENERAL  ELECTRIC