

GRAPHIC GRAFLEX PHOTOGRAPHY

For Prize Winning Pictures

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and 16 Contributors**

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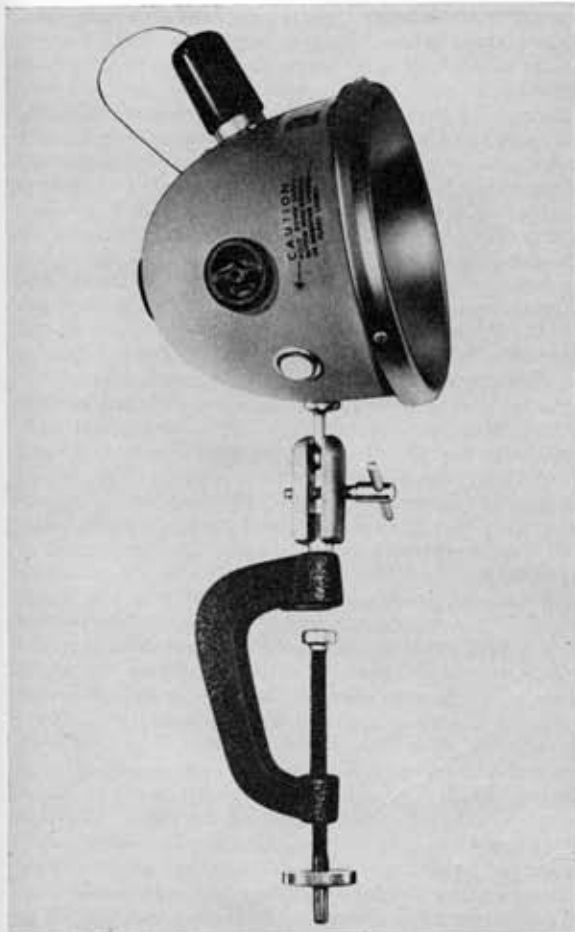
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62. Teleflash. Self-powered slave unit for flashlamps. Photocell in the unit is activated by the light of another flashlamp and fires its own flashlamp in synchronization. Teleflash units have convenient clamp and swivel head.

can also be used on some of the brackets designed to be attached to the base of the Graflite Jr. Another model is designed around the 3-inch reflector and socket for the M2 bulbs, although the reflectors of the other models prove to be unusually efficient when the small bulbs are used with socket adapters.

Two other Graflash B-C units, with lightweight plastic housings, are also made. One has a wired foot for the Graphic 35 and other cameras with a wired accessory clip. For other cameras, the other model has a "dead" foot and a short attached shutter cord with a combination shutter fitting. One tip fits the DIN fitting of the Compur, Seikosha, and Prontor shutters, and the other screw-on tip allows attachment to the standard ASA bayonet fitting.

Teleflash Slave Unit For Flashlamps

The Teleflash is a battery-capacitor flash unit with phototube triggering. It may be used in a number of ways

for multiple-flash photography, both by itself and in combination with other units. It automatically synchronizes any bayonet-base lamp with a flash fired from another source, such as the camera flash unit; in addition, other flash units may be connected directly to the Teleflash, and will be fired by it in synchronization.

The Teleflash is ruggedly built for long, rough service. It can be used as a photoelectric flash without connecting cords, or it can be plugged directly to the camera flash contacts and do double duty as a regular flashgun. Its phototube circuit can also activate a solenoid. A single Teleflash can be connected by wire to as many as five sidelight units and will fire them all when its own lamp is fired.

The phototube projects from the side of the reflector housing and may be angled to receive the light from any direction. A metal cap is used to cover the phototube when photoelectric tripping is not desired, as, for example, when other photographers are also firing flashlamps which might activate it.

The unit turns itself on whenever a new flashlamp is inserted in the socket. It ceases to operate as soon as the lamp is fired, and does not need to be switched off. In addition, its phototube circuit is sensitive only to a *marked change* in light intensity; it will work, therefore, regardless of room illumination. It should be noted that bright sunshine or the presence of fluorescent lamps about three or four feet away will temporarily "fatigue" the photocell, reducing its sensitivity to a point where it may not trigger the circuit of the Teleflash. If the Teleflash must be used under these adverse conditions, the only solution is to shield the phototube as much as possible from direct rays. If necessary, a cap with a hole in it can be used over the tube, with the sensitive or concave side



63. Strobflash II electronic flash shown on Pacemaker Graphic 45 with Graflite Battery Case. Smaller (I) and larger (IV) Strobflash models also available. All use the same lamp-head and accessories.

of the cell and the hole in the tube pointing directly towards the source of light to be used in triggering the Teleflash. Any number of Teleflash units may be placed around a room, and, provided all their photocells are facing the camera flash, or suitable nearby reflecting surface, all will fire when the camera flash is fired. Each unit has a C-clamp and an adjustable swivel, and can be used on regular portable lamp stands or any support which happens to be handy.

Stroboflash

Stroboflash, one of the pioneer electronic flash units made for dependable proven performance, is made in three models, and almost any photographer will find one that will serve his needs. All are adaptable to any camera with built-in "X" synchronization.

Stroboflash is a complete family of equipment, differing only in the power packs; all its members accept the same group of useful accessories. Three different units are supplied for various light outputs and are identified respectively Stroboflash I, II and IV. This last replaces the Stroboflash III and has a 4-way power switch to produce 1/4, 1/2, 3/4 or full power as needed. The switch allows the discharge of only the energy needed, and consequently conserves battery energy. Details and ratings of the three units are given in the table below.

All Stroboflash units utilize the same lampheads, and all have the flexible Koiled Kord connection from the lamphead to the power pack. These parts are carried in flexible but tough Boltaron cases that are resistant to temperature, moisture and shock, thus enabling the units to stand rugged use and hard knocks.

Stroboflash incorporates electronic (trigger-tube) tripping, which means that "slave" operation is obtained by merely plugging an inexpensive phototube assembly into any of the lampheads, whether it is connected directly to a power pack or indirectly through an extension cord. Equally important, Stroboflash can be connected to any type of camera shutter without danger of burning the contacts. In addition, there is no possibility of forgetting to turn the unit off after use; the power packs become

inoperative as soon as the lampheads are disconnected. Current drain when idling is negligible; total leakage current in an hour is no more than that consumed in a single flash.

Because of these features, battery life is considerably prolonged, and cost per flash is correspondingly low. A further economy can be achieved by the use of the AC line-operated Battery Booster, available as an accessory. This device is *not* a battery charger. Its action can best be described as the "depolarization" of the batteries. It is useful only when used as recommended, starting when the batteries are fresh, and it is of little value if the batteries have become almost completely discharged before the Booster is used. Used as recommended, it will about double the number of flashes obtainable from a set of batteries, during the normal useful life of the batteries. This is technically considered to be six months for the 240v batteries of the Stroboflash I, and nine months for the 225v batteries of the Stroboflash II and IV. Actually, most batteries have a longer useful life; this can be assured by keeping the batteries in a cool place when not in use, and also by plugging the lamp-head in at least once a week to keep the capacitors from deforming.

An optional power source in the bottom of the power packs of the Stroboflash II and IV is a converter containing a nickel-cadmium battery. While not equalling the performance of the portable dry-cell batteries for taking many hundreds of consecutive flashes over a short period of time, it has many applications in industrial and studio photography, since it permits Stroboflash to be used with standard 110v household current as the source of electrical energy. It is complete with a rechargeable 4v nickel cadmium battery for limited portable operation. This battery is unique in that it can be left stored in a charged or discharged condition without deterioration, and it can be recharged many hundreds of times. Under normal operating conditions a full charge of this battery will provide at least 40-50 flashes with the Stroboflash IV at full power, and correspondingly more at lower power settings and with the Stroboflash II, which is a 100-watt-second unit.

STROBOLASH MODELS

TABLE OF SPECIFICATIONS

Stroboflash Model	I		II		IV	
Selector Setting	none	none	1/4	1/2	3/4	Full
Energy Storage (watt-sec)	50	100	50	100	150	200
*ECPS Rating	1200	2300	1100	2200	3300	4400
Flash Duration (seconds)	1/1400 sec	1/1000	1/1200	1/800	1/600	1/400
Recycling Time (with fresh batteries)	3 sec	3 sec	2 sec	3 sec	5 sec	6 sec
Power Pack Weight	3 lb 2 oz	7 lb 8 oz			9 lb 8 oz	
Power Pack Size	5 1/2" x 8 3/4" x 1 3/8"	6 1/2" x 7" x 4 1/2"			6 1/2" x 8 7/8" x 4 1/2"	
Batteries	2-240 volt	2-225 volt			2-225 volt	
Extensions accepted	1	1 to 3			1 to 6	

All models are equipped with L-bracket, rubber adapter and lamphead to mount on Grafite or similar flash unit battery cases.

The converter contains a vibrator, and its switch must be turned off when not actually in use so as to conserve battery energy. This limitation refers only to low-voltage batteries, and has no bearing on the connection of the lamphead to the power pack.

Other accessories include a variety of brackets, adapters, clamps and a phototube to convert any Strobflash into a "slave" unit. There is also a battery analyzer, extra lampheads and extension cords.

Multiple Lamp Operation With One Power Pack

Strobflash 20-foot extension cords may be used to connect the power pack to several lamps. Firing any one of them will fire them all. The duration of each flash is also proportionately reduced. When one extension is used to connect two lampheads, there is no appreciable loss of total light—light is divided between the lampheads, 60 percent to the lamphead on the camera and 40 percent to the extension lamphead.

When two extensions are used (total of three lampheads), a slight loss of light equal to approximately 1/3 stop of the total light output occurs. The light is divided as follows: 50 percent to normal head (nearest power pack), 30 percent to nearest extension, and 20 percent to farthest extension. CAUTION—To avoid arcing and pitting of contact posts and connecting plugs:

When attaching the extension cord

- First, attach the extension cord to the power cord.
- Last, attach the lampheads to the extension cord.

When detaching the extension cord

- First, disconnect the lampheads from the extension cord.
- Last, disconnect the extension cord from the power cord.

The guide numbers provided in the table below are offered as starting points. For full information about guide numbers, see the chapter on flash and synchronization. These guide numbers are based on the use of the standard formula given, and the nominal film speed values published by the film manufacturers. It should be noted that increased development is not required for most films used for personal or general news and commercial photography exposed with the Strobflash units. Of course it is advisable for every photographer to make a number of experiments to determine that guide number which will provide him with the type of finished picture he prefers.

Strobomite

In response to the need for a lightweight, relatively inexpensive electronic flash unit, Graflex developed the Strobomite. It is ideally suited for use with 35mm and similar cameras for general personal use, but its compact size and lightness, as well as its efficiency, has led to its use by some working photographers needing only a small unit. It is a two-piece unit featuring a feather-light lamphead with a gray plastic housing including a ready light, open flash button, adjustable beam focusing reflector, tripod socket and lock-on type foot for fitting into camera accessory shoes. The head also accepts standard Grafite and similar shutter trip cords. The expansion type power cord is permanently attached to the lamphead.

EXPOSURE DATA

SUGGESTED GUIDE NUMBERS WITH STROBFLASH

Daylight Exposure Index	I	II	IV			III-IV
	50 Watt Seconds 1200 E.C.P.S.	100 Watt Seconds 2300 E.C.P.S.	1/4 Power Setting 50 Watt Seconds 1100 E.C.P.S.	1/2 Power Setting 100 Watt Seconds 2200 E.C.P.S.	3/4 Power Setting 150 Watt Seconds 3300 E.C.P.S.	Full Power 200 Watt Seconds 4400 E.C.P.S.
10	27	38	27	37	45	53
25	43	60	41	59	72	83
32	49	68	45	66	81	94
40	55	76	53	74	91	105
50	61	85	59	83	102	118
60	67	95	65	91	110	130
80	77	105	74	105	130	150
100	87	120	83	120	140	165
150	105	145	100	140	180	200
200	120	170	115	165	200	235
300	150	210	140	200	250	290

E.C.P.S. is proposed Effective Candle Power Seconds method of rating electronic flash units. Guide numbers based on square root of .063 x E.C.P.S. x Film Speed. Watt seconds rating is nominal. Start with these numbers to determine the guide number that will give you the type of transparency or negative you prefer.

NOTE: Exposures calculated by a proposed Beam Candle Power Seconds (B.C.P.S.) method of rating electronic flash units will not differ appreciably from those above because of the unusually even distribution of light from the Strobflash lamphead reflector.



64. Stroboflash 1. This lightweight compact electronic flash unit is easily carried under the arm and suitable for all general close-up and small-group photography.

In the interest of size and cost, the Strobomite uses a coil-type triggering circuit, but especially balanced to permit easy firing without possible damage to shutter contacts.

SPECIFICATIONS AND SUGGESTED GUIDE NUMBERS FOR STROBOMITE

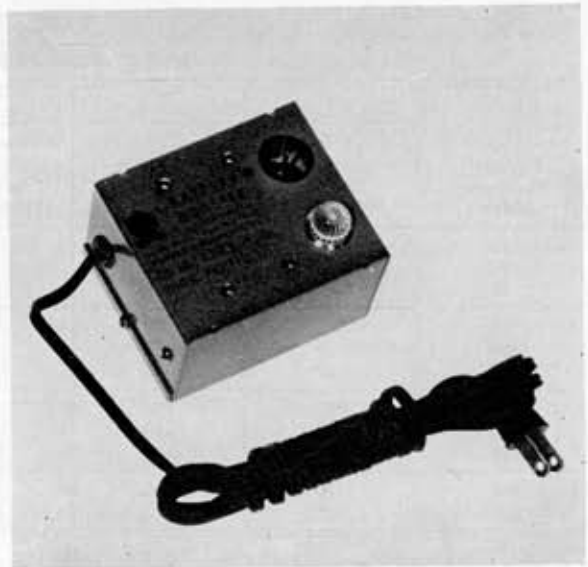
Energy Storage.....50 watt-sec. nominal
Flash Duration.....1/1100 sec.
Recycling Time.....6 sec. AC
10 sec. Battery

DAYLIGHT COLOR FILM		BLACK & WHITE FILM	
EXPOSURE INDEX	SUGGESTED GUIDE NUMBER	EXPOSURE INDEX	SUGGESTED GUIDE NUMBER
10	30	25	48
32	56	40	68
100	100	50	74
		60	78
		80	90
		100	100
		150	120
		200	150
		300	180

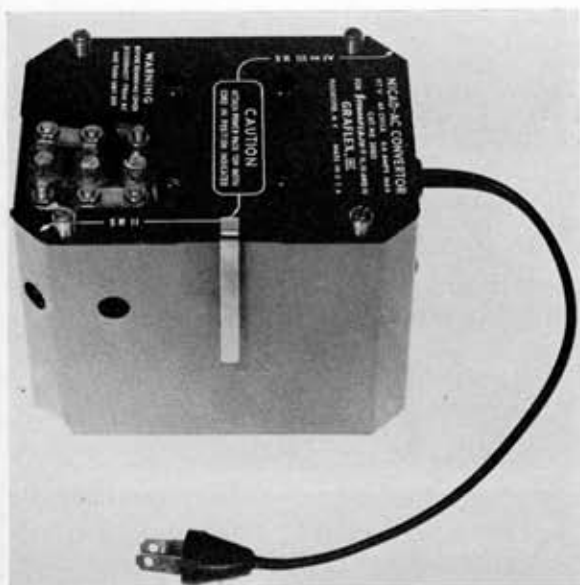
These guide numbers will satisfy the requirements of the average photographer; however, you may increase or decrease the number to meet your personal preference.



65. Strobomite electronic flash outfit. Shown with Wired Shoe Adapter for cameras with wired shoe contacts. Lightweight power source is tapered for convenient carrying.



66. Stroboflash Battery Booster. When correctly used, this unit enables you to double the number of flashes you would ordinarily get from each set of high voltage batteries.



67. Stroboflash Converter Pack with nickel-cadmium battery and provision for use from AC household outlet. Replaces high-voltage dry batteries in bottom pack of the Stroboflash II, III and IV units.

VARIABLE REFLECTOR: If there is less than six feet between the light and the subject, set the reflector in the "wide" position and use a diaphragm opening $\frac{1}{2}$ f-stop greater (halfway to the next smaller f-number.) When the subject is more than ten feet away, set the reflector in the "narrow" position but use the "normal" guide number and diaphragm opening.

The power pack is of unusual design and made of sheet metal with gray covering. Its adjustable shoulder strap includes a non-slip shoulder pad. The power pack itself accepts four standard size D photoflash batteries which will produce about 100 flashes more or less, depending on the freshness of the batteries, etc. With or without batteries in place, the pack can be connected to a standard 110v. household AC outlet using the 12-foot supply cord included with the outfit.

As with all low-voltage units, some precautions should be observed. If the switch is left on unduly between exposures, the vibrator will deplete the batteries, reducing the number of flashes they can produce. Of greater importance is the advisability of plugging the unit into a 110v. outlet and connecting the lamphead for 10-30 minutes before using if the Strobomite has not been in operation within the preceding two to four weeks. During this period of inactivity the capacitor can "deform," and the "reforming" operation can take considerable electrical energy. It is better to take current from an AC outlet than the low-voltage batteries, since it could drain them seriously.

Q-C Clamp

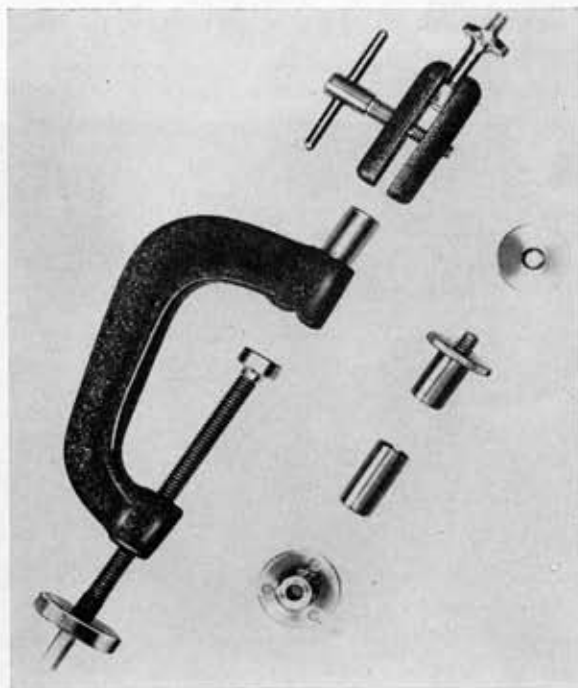
One of the most versatile accessories for any photographer is the SR Quick Change Clamp. There are two

major and several small parts, all designed to go together and to hold Stroboflash lampheads, as well as other small lighting accessories or similar attachments on stands, doors, pipes or any other convenient support.

The C-clamp has a 3-inch throat, with knurling on the shaft for quick adjustment and large knurled ring for firm locking. The other major part is the adjustable swivel which fits over a $\frac{1}{2}$ -inch diameter post (as on the end of the C-clamp) and has a $\frac{1}{4}$ -20 threaded post attached to a ball in the socket of the assembly. Both parts are tightened by a single T-shaped key screw.

Other parts of the assembly include: the stand adapter which fits over the $\frac{3}{8}$ -inch diameter tip of the Pic stands and converts them to $\frac{1}{2}$ -inch diameter; the tripod socket adapter which fits into standard tripod sockets and has a short $\frac{1}{2}$ -inch diameter post to accept the swivel; the lock flange, which may be used as a lock nut with the tripod socket adapter or swivel; the camera adapter, with the usual $\frac{1}{2}$ -inch diameter post attached to a $1\frac{1}{8}$ -inch diameter base flange having three small holes to permit it to be screwed onto a camera body or other similar surface. It is also drilled and tapped to accept a $\frac{1}{4}$ -20 threaded post.

All parts are designed to be used together so that the adjustable swivel can be attached to the C-clamp or, by means of the other parts, to cameras, light stands or any suitable support. For instance, the camera adapter with the swivel can be screwed onto the top of the rubber battery case adapter to permit bounce-light use of the Stroboflash lamphead right on the camera. The tripod socket adapter can also be screwed into the socket in the side of



68. Q-C Clamp Assembly with C-Clamp, swivel and other parts to permit fastening swivel and lamp or side-lighting unit to camera, lamp stand or almost any convenient spot.

the Strobflash II and IV power packs. The SR lamphead with swivel attached can then be fastened right to the power pack, either for carrying or for slave use when the phototube assembly is fitted into the trip socket of the lamphead. The whole outfit can then be placed on a shelf or on top of furniture, completely out of the way yet ready for instant use. These are but a few of the many uses of these parts.

Special Accessories

A number of special accessories is offered by Graflex to make photography easier. These include the Q-C Clamp, some of the well-made durable PIC stands, the special Graflex All-Purpose stand, and the Faurot Foto Focuser; in addition, there are the Proximeters and Polari-Vue Screens already mentioned with the 35mm cameras, although they can be used with all cameras.

Pic Stands

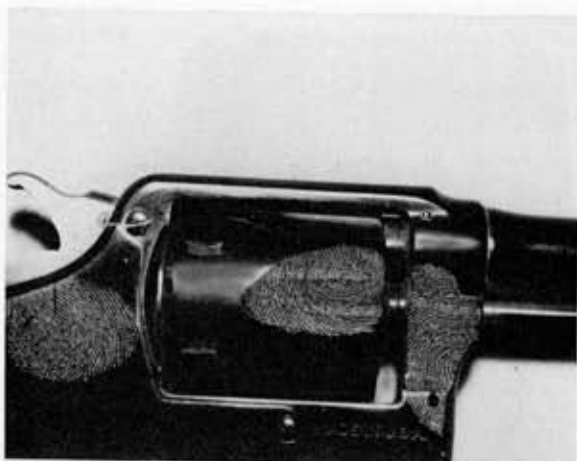
The Pic stands are made of duraluminum with anodized finish and have important design features, including non-separable sliding sections and special shake-proof tightening nuts to insure easy and positive adjustment at all times.

The All-Purpose stand has these same features, plus provision to remove the top two sections, which may be placed horizontally for boom light or background use. When it is used in this way, one of the folding legs can be moved in to maintain the center of balance, since the upright section is tilted slightly away from the vertical.

The three standard Pic Featherlite Stands had extended lengths, respectively, of 7, 9, and 11 feet; the All-Purpose Stand, originally offered in a 10-foot height, in its current models now extends to 12 feet.



69. Faurot Foto-Focuser. Convenient accessory for copying, close-ups, fingerprints, etc. The focusing frame is fitted directly to the camera lens with standard lens adapter.



70. Fingerprint records made with Faurot Foto-Focuser. Prints at top have been dusted with white fingerprint powder; and prints on lamp bulb with black fingerprint powder.

Faurot Foto-Focuser

The Faurot Foto-Focuser, while originally designed to convert a 4x5 Graphic into a fingerprint camera, can also be used equally well for photographing small objects. Equipped with a Graphic Polaroid Back, the camera can produce a picture in a minute. This accessory is designed to accept spacer and adapter rings for the 135mm Optar and 127mm Ektar lenses; and with the camera bellows opened, fingerprints on flat, recessed or curved surfaces are easily copied. The light from the standard flashgun left right on the camera is correctly directed by the shape of the cut-away pyramid. To be sure of accurate 1:1 copying, a special target with ground glass template is supplied. Suitable reference marks can be placed on the track and bed of the camera to permit the camera to be converted quickly from normal to fingerprint use.



STROBOFLASH® I

... compact and lightweight, this completely portable electronic flash unit is popular with newspaper photographers and amateurs. It provides 50 watt-seconds (1200 E.C.P.S.) energy storage with an action-stopping flash duration of 1/1400 second. All STROBOFLASH units are designed for dependable operation even under hard use, with a 3-wire safety circuit and a "trigger" tube to protect your shutter contacts.



STROBOFLASH® II

... the workhorse of the press, police and commercial photographer. It has 100 watt-seconds (2300 E.C.P.S.) energy storage for indoor, outdoor and night scenes. As many as three lamp-heads can be operated from one power pack. Flash duration is 1/1000 second with one lamp-head and is even faster when two or three are used. Stroboflash units provide even light for any subject, and when bounced off ceiling or wall it closely simulates natural light, soft and with good contrast.



STROBOFLASH® IV

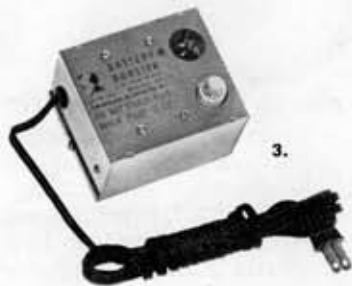
... designed for maximum versatility. A "4-way" power selector switch permits $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and full power operation with up to 200 watt-seconds energy storage. This ability to select your light for each photo assures good results even with close-ups on fast B&W film and action on color film. When using a multiple light setup you can balance it more effectively. Flash duration can be varied from 1/500 second at full power to 1/1200 second at $\frac{1}{4}$ power.



1.



2.



3.

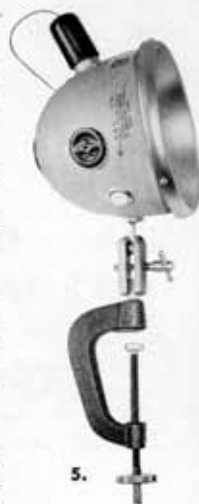
1. CIRCULAR LIGHT ... an accessory that can be used with STROBOFLASH I, II and IV power packs. The lamp is circular in design and fits over your camera's lens mount to provide shadowless lighting for all types of close-ups; medical, dental, nature studies, copying, product photos, etc. Model also available for use with Strobomite power pack.

2. STROBOFLASH PHOTOTUBE ... an inexpensive accessory that plugs into the lamp-head of any STROBOFLASH I, II or IV, converts the unit for slave operation so that it may be triggered by any other flash in perfect synchronization for multiple light pictures.

3. STROBOFLASH BATTERY BOOSTER ... when used with fresh dry cell batteries their useful output can be extended up to 2 times. Uses regular 110 volt AC current to condition the batteries after each picture-taking session.

4. GRAFLEX ALL-PURPOSE STAND ... sets up quickly as a vertical or right angle light stand. One tripod leg is adjustable so that stand can be angled to balance extra weight on the boom.

5. UNIVERSAL QUICK CHANGE CLAMP ... includes camera mounting flange, stand adapter, "C" clamp, permanent camera mount, tripod socket adapter and adjustable swivel. Use for mounting cameras, lights, reflector, etc., in almost any position in any place.



5.



4.