

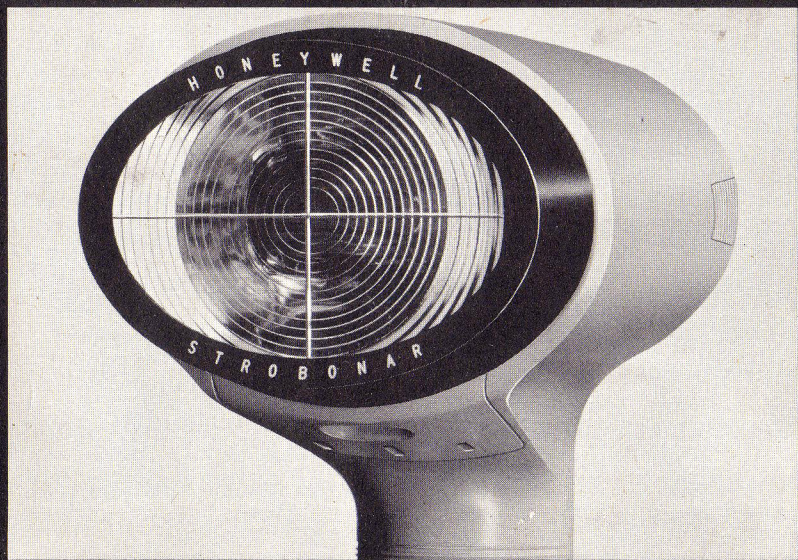
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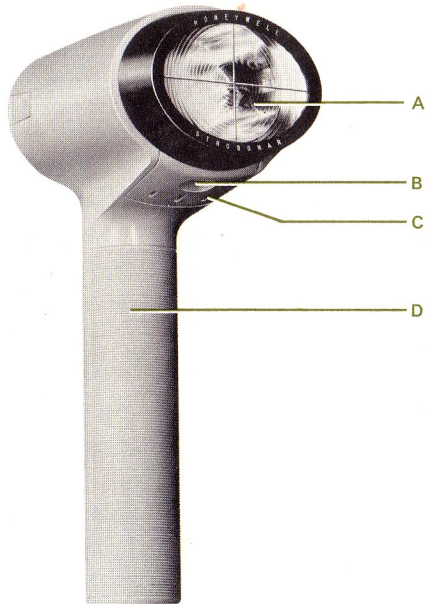
# How to use your Honeywell Strobonar 600



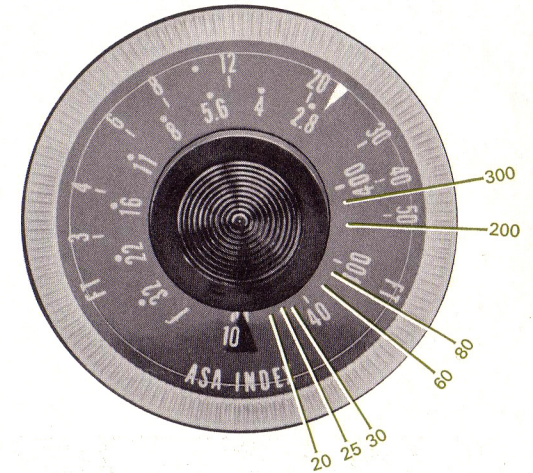
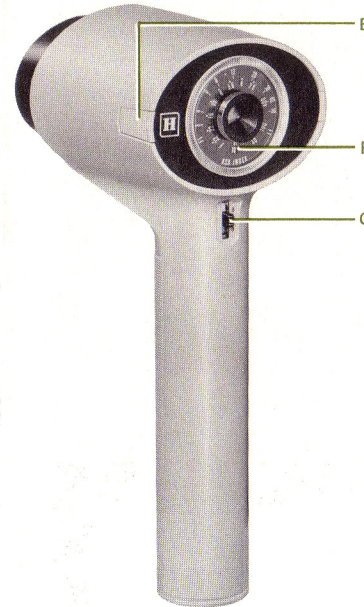
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# Nomenclature of your Strobonar 600



- A** Reflector
- B** AC cord receptacle
- C** Shutter cord outlet—cord plugs in right or left
- D** Ribbed handle provides sure grip for off-camera flash
- E** Battery tray release
- F** Ready light
- G** Power switch



ASA values of intermediate calibrations

## Strobonar 600 specifications

Height . . . . .	9 $\frac{5}{8}$ in.
Head Width . . . . .	3 $\frac{3}{4}$ in.
Head Depth . . . . .	4 $\frac{1}{4}$ in.
Handle Diameter . . . . .	1 $\frac{1}{2}$ in.
Weight . . . . .	27 oz., complete with batteries

### Power Source:

Batt-Operation . . . . . 4 sub-C nickel cadmium rechargeable batteries, self-contained in battery tray

AC Operation . . . . .	105-129 volts AC 50-60 cps
<b>Guide Number</b> . . . . .	Kodachrome II (ASA 25)-80
Light Distribution . . . . .	50° horizontal and vertical
<b>Flash Duration</b> . . . . .	1/1000 sec.
<b>Color Temperature</b> . . . . .	Approximately noon daylight, ideal for daylight color films

Leave this page folded out for easy reference while reading your Strobonar 600 instruction manual.

# Introduction

Congratulations on your purchase of a Honeywell Strobonar 600! You are the owner of a highly advanced electronic flash unit, and to obtain the optimum results with your Strobonar 600, we recommend that you spend a few minutes reading the following instructions carefully.

If you're a newcomer to electronic flash, you'll soon learn why more and more serious photographers are switching to this most efficient form of portable lighting. First, there's the obvious advantage of doing away with the expense, uncertainty, and sheer bulk of flashbulbs. Your Strobonar 600 is compact, dependable, completely consistent, and will light your flash pictures more economically than any other form of portable artificial light.

You'll find that the extremely short flash duration of your Strobonar 600 will freeze action and eliminate blurred pictures due to camera movement. And, the short flash duration is kind to eyes, especially those of young children and pets.

The balanced light from your Strobonar 600 is perfectly matched to daylight color film—there's no need to switch films when you move indoors. You'll soon see that the temperature of the light results in warm, natural-looking pictures; it's especially flattering to skin tones.

The more you use your new Strobonar 600, the more you'll appreciate its versatility. And, given the care you'd give to all quality photo equipment, the 600 will last through many years of dependable service. It's precision built from the finest available components by Honeywell, the pioneer and leader in electronic flash. Each unit is thoroughly tested before it leaves the factory, and the Honeywell Warranty which appears on the inside back cover of this manual is your assurance of prompt, courteous service and complete satisfaction.

# Operating steps checklists

## Battery operation

Make certain capacitor is rejuvenated (Page 12).

Mount unit on camera (Page 7).

Connect shutter cord to unit and camera. Set ASA film speed on exposure calculator to line up with exposure index mark (Page 14). Read flash-to-subject distance on dial (Page 14).

Determine exposure (Page 14).

Set aperture and shutter speed on camera. Push power switch up to "B" position. Watch neon indicator. With fully charged battery, it should glow within 8 to 15 seconds (Page 9).

When neon glows, shoot picture. Wait for neon to glow before shooting next picture. When delaying more than 2 minutes between pictures, or when through shooting, push switch to "A" or "C" position.

## AC operation

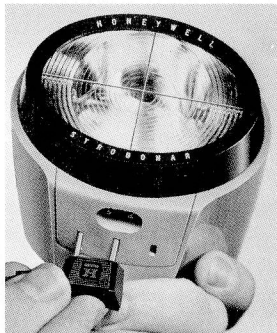
There may be times, when taking pictures indoors, when you would prefer to use AC. The unit will operate on a wide voltage range from 105 to 129 volts. To use the 600 on AC, plug the female end of the AC cord into the AC receptacle on the unit and the male end into any convenient outlet. Set the Power Switch to the center position "A."

While on AC, the ready light may not glow within 25 seconds, or even longer. If your unit is flashing normally, don't be too concerned about the ready light. Just wait 25 seconds between flashes, then shoot whether the ready light lights or not. Often, when the Strobonar 600 is used on AC operation at normal AC voltages, the ready light will not glow even though the 600 is operating normally. See page 9 for additional information on the ready light.

# Matching the 600 to your camera



The Strobolar 600 should be mounted to your camera with one of the many brackets available as optional accessories (see page 22). Also required is a shutter cord to connect the 600 to the proper flash contacts of your camera. Your Honeywell dealer will be happy to assist you in selecting the proper combination of bracket and cord for your camera.



Insert the shutter cord plug into the socket of the 600, using the large center slot and *either* of the two smaller outer slots—whichever dresses the cord most conveniently for your camera/flash mounting combination. Connect the camera end of the cord to the X-contact socket of your camera, making sure that the flash synchronization lever is set to "X". (Check your camera operating manual, since the arrangement varies from camera to camera.)

# Battery operation – general

For utmost convenience and freedom of movement, it is recommended that the Strobonar 600 be operated on battery power.

The 600 is furnished with a set of rechargeable nickel-cadmium batteries in a removable tray. With normal use, 80 or more flashes will be obtained from fully charged batteries. Only nickel-cadmium batteries of the type supplied (sub-C size) can be used. If you intend to take a large number of pictures at one time, it is recommended that you obtain from your dealer one or more additional battery trays complete with batteries. By fully charging these batteries ahead of time, you will then have a spare set or two to use during extended photographic sessions.

The nickel-cadmium battery is a popular power source in portable devices today and has no equal in convenience and economy. To get the best out of your batteries, observe the recommendations given in this manual. In particular, avoid leaving the unit switched on battery power for long periods when not in actual use. The batteries not only have to bring the unit to the "Ready" condition, but they must also maintain this state until you take a picture. Thus if you are taking pictures every half minute, and switching to "A" or "C" (off) in between sequences, you are likely to get many more than 80 flashes per charge. On the other hand, if you are taking one picture every five minutes and leaving the unit on between pictures, you may very well get fewer than 80 flashes on one charge.



# Ready light

All electronic flash units require a certain amount of time between flashes before the unit is ready for the next picture. In the Strobonar 600, there is a Ready Light located behind the triangular window  $\triangle$  below the center of the calculator.

## Battery operation

On battery operation, after you flash your 600, wait for the Ready Light to glow before taking another picture. It will normally come on in 8 to 15 seconds, indicating that you are all set for the next picture. Unlike most other electronic flash equipment, all the latest Honeywell Strobonars, including your 600, are designed to produce a Ready Light glow at *100% light output*. In practically all other units, the Ready Light comes on at 75% to 85% of full light output, which means that if you take a picture when the Ready Light glows, you will be underexposing by one-half an f/stop or more. With the 600, however, you are assured of full light output each time you flash.

## AC operation

There are variations in AC current from 110 volts to 130 volts. Your Strobonar 600 will operate between 105 and 129 volts AC. However, due to differing AC voltage levels, the Ready Light usually will not light on AC. The Ready Light is geared for battery operation which supplies a constant, high voltage to the capacitor and Ready Light. Therefore, when using your Strobonar 600 on AC, always wait 25 seconds between flashes whether the Ready Light glows or not.

# Recharging the batteries

The nickel-cadmium batteries of your Strobonar 600 can be recharged at any time. Charging the batteries after each use helps to assure that they will have a good charge the next time you wish to take pictures. Charged batteries will retain most of their charge for a long period of time. They will lose about 15 to 25% of their charge within ten days, but it will take from three to six months for the charge to decrease to 50% of maximum.

Always recharge the batteries when the neon ready light takes 30 seconds or more to glow on battery operation (does not apply to AC, see box on page 13.) Also, if the ready light does not glow after 30 seconds on battery operation, move the switch from "B" to "C". This prevents battery damage.

To recharge the batteries, plug the AC cord into a 105-129V standard household AC outlet and move the power switch to "C." The recommended charging time is 20 hours for a full charge. Charging time can exceed 20 hours with no damage because the 600 charging rate is low.

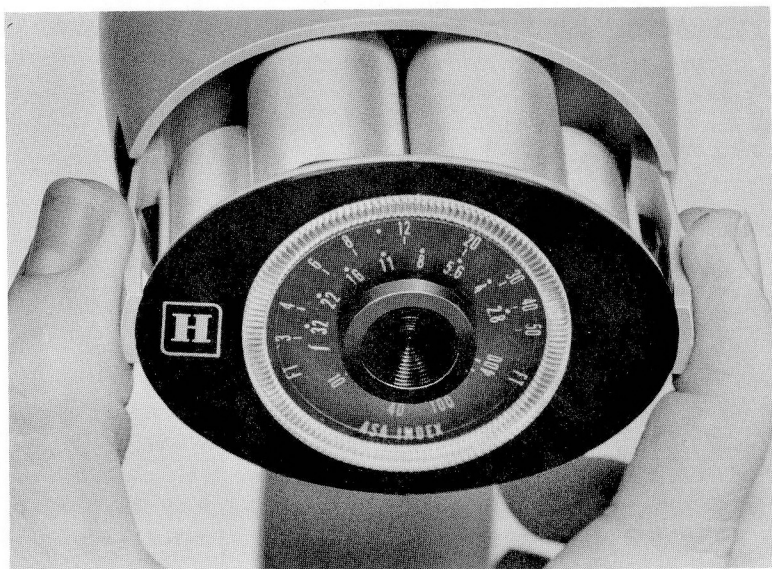
If the batteries are continuously recharged for 2 hours or more and the 600 is used within 24 hours, it is not necessary to rejuvenate the capacitor. See page 12 for more details on capacitor rejuvenation.

Specific recharging times when fewer than the maximum of 80-120 flashes have been made cannot be suggested for there are many factors which influence this. For example, there is some discharge whenever the switch is in the "B" position even if the unit is not flashed. Also, batteries accept a charge faster when they are almost fully discharged and slower as a full charge is approached. As you get to know your Strobonar, through use, you will readily be able to estimate the time required for a full charge according to the particular way you use your equipment.

# Removal and replacement of battery tray

If it is necessary to remove or replace the battery tray, press firmly on the *inner* end of each tray catch. An audible click will indicate that the catch has released. The tray can then be pulled out of the unit.

To replace, simply insert the tray and press home until both catches click into place.



# Rejuvenating the capacitor

Every electronic flash unit contains a storage capacitor – a component which stores electrical energy. When an electronic flash unit has not been in use for several days, the capacitor requires rejuvenation to allow it to perform at maximum efficiency, while also eliminating excessive drain on the unit's battery. If the capacitor is not rejuvenated there will be fewer flashes per charge and slower recycling time. Whenever your Strobolar 600 has been out of use for one or two days, plug the unit into an AC outlet with the power switch set at "A" before using it. Wait five minutes. Then flash the unit four or five times, using the Honeywell manual tripping cord 53-1 or the camera flash contacts. The capacitor will then be rejuvenated.

If the unit has not been used for three days or more, plug it into an AC outlet with the power switch set at "A" before using it again. Wait about an hour. Then flash the unit four or five times, using the Honeywell manual tripping cord 53-1 or the camera flash contacts. This will rejuvenate the capacitor.

**NOTE:** If you recharge the Strobolar 600 batteries for two continuous hours or more, it is not necessary to rejuvenate the capacitor or flash the unit on AC. The Strobolar 600 circuitry will automatically rejuvenate the capacitor.

If you recharge your Strobolar 600 for less than two hours, set the switch on "A" at the end of the charging cycle and flash the unit four or five times, 25 seconds apart. The capacitor will then be rejuvenated.

# Important!

Although your new Strobonar 600 is as foolproof as possible, it can be damaged through misuse. To avoid damage to your unit, please bear the following points in mind:

**Avoid** switching the 600 to "B" and leaving it on for extended periods of time. Doing so will drain the batteries and could damage the unit. When storing your Strobonar, make certain the Power Switch is set on "C".

**Avoid** extended charging times.

**Avoid** flashing your Strobonar on battery operation when the Ready Light is not on. Even if the unit does flash, it will not have achieved full output, and the result will be a poor exposure.

## AC operation

Make certain capacitor is rejuvenated (Page 12).

Plug AC cord into 105-129 volt outlet.

Mount unit on camera (Page 7).

Connect shutter cord to unit and camera. Attach AC cord to unit. Set ASA film speed on exposure calculator to line up with exposure index mark (Page 14).

Read flash-to-subject distance on dial (Page 14).

Determine exposure (Page 14).

Set aperture and shutter speed on camera. Push power switch to "A" position.

*The Ready Light operation is dependent upon voltage; if it does not light, you can be certain of full output if you allow 25 secs. from the time you switch to AC until you shoot your picture. (See page 9.)*

Allow 25 seconds between each picture.

When finished shooting, unplug the AC cord. Or, if you wish to recharge the unit's battery, leave the cord plugged in and move the power switch to "C".

# Exposure

To use your Strobonar 600 on AC and on battery, the proper exposure must be calculated for each different flash-to-subject distance. First, turn the exposure dial on the back of the 600 until the ASA value of the film you are using is centered in the middle of the triangular window  $\triangle$  of the Ready Light. Leave the exposure dial in this position as long as you are using that type of film.

Next, check the distance to the subject, using the camera rangefinder or some other convenient method. Remember that it is *flash-to-subject* distance that counts – not camera-to-subject distance – in the event that you are using the 600 off camera.

Finally, read the correct f/stop by referring to the distance scale on the upper portion of the exposure dial and using the aperture setting which most nearly corresponds to the distance setting.

As an example, suppose you are using Kodachrome II, which has an ASA rating of 25, and your flash-to-subject distance is 10 feet. Set the dot for ASA 25 in the middle of the Ready Light window. Now look at the upper portion of the dial and see what aperture setting lines up with 10 feet. You'll see that this is f/8. Set your camera accordingly, and the result will be a properly exposed picture.

# Shutter speed

The proper shutter speed to use with your 600 will depend on your camera. It is primarily a matter of synchronization and not exposure speed determination, since the flash duration of the 600 is much faster than any normal camera shutter. In other words, even if your camera works with electronic flash at 1/500 sec., the exposure with the 600 would be at least 1/1000 sec.

To determine at what shutter speeds your camera is properly synchronized for use with electronic flash, check your camera instruction manual or, if in doubt, check with your dealer. Generally speaking, if it is possible for you to use the higher shutter speeds, it is best to do so, particularly when the existing indoor light or daylight is at a high level.

# Multiple flash photography

For more control in flash photography, you will want one or more additional lighting units. The ideal secondary light is a slave unit – one or more of the Honeywell 51A or 52A Modeling Slave Strobonars with built-in modeling lights, or the Strobonar 60-S for battery operation. These slave units are completely self-contained and are triggered by the flash of the master unit at the camera, without the use of any connecting cords.

You may also use a Honeywell Model 55 Fotoeye to adapt another Strobonar (any model) for use as a slave unit. The examples of multiple-lighting arrangements reproduced on page 17 show the results you can expect, using the Strobonar 600 with one or more auxiliary units.

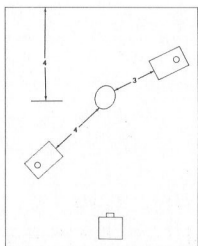


Model 52-A Slave Strobonars in use



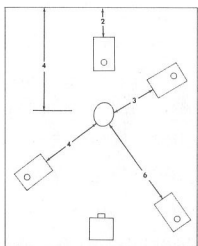
Model 52-A Slave Strobonar  
with modeling light





Two Slave Strobosonar Model 52A's were used for this portrait. The main light was placed high and to the left. Back lighting was furnished by one unit placed high behind the model.

Exposure: f/16 at 1/50 sec., using Panatomic-X film.



Two additional Model 52A's were added for the picture – and to the right rear for fill-light and for background light.

Exposure: f/16 at 1/50 sec., using Panatomic-X film.

# Outdoor use as fill-in light

The Strobonar 600 may be used quite simply as a "fill" light when sunlight causes heavy side or front shadows. Just enough light should be used to make the shadows "transparent," so that some detail can be seen in the shadow areas. Of course, too much "fill" will overpower the sun and completely cancel the shadows.

With your film's exposure index set on the exposure dial, read the f/stop for your lamp-to-subject distance. Now, stop down one additional f/stop for color film and two f/stops for black-and-white. This keeps the flash fill secondary to the sunlight. Since the flash duration of the 600 is too short to be affected by shutter speeds (except in the case of focal plane shutters, described later), you may now adjust the shutter speeds for the outside light condition. Use the exposure meter on the sunlit or highlight side to determine the proper shutter speed for the f/stop already determined.

**EXAMPLE 1:** Using Anscochrome (Exposure Index 50), subject 10 feet away. Set exposure index 50 on the exposure dial and read the f/stop opposite 10 feet on distance scale. Note that indicated f/stop is shown as f/11. Stop down one f/stop, setting the camera at f/16 to give a flash-fill ratio of 2:1 for color film. Now, with an exposure meter or guide, determine the shutter speed for f/16 from the brightest area of the daylight-lighted subject.

**EXAMPLE 2:** Using Kodak Panatomic-X (ASA Exposure Index 64), subject 16 feet away. Set the exposure index 64 on the exposure dial and read the f/stop opposite 16 feet. Note that recommended aperture is f/8. Then stop down two f/stops, setting the camera at f/16 for a flash-fill ratio of 4:1 for black-and-white film. Now, with a meter or exposure guide, determine the shutter speed for f/16 from the brightest area of the daylight-lighted subject.

**Focal Plane Shutters:** If your camera has a focal plane shutter, first determine the fastest usable shutter speed, and the appropriate f/stop for sunlight exposure. Then determine the flash-to-subject distance with the exposure calculator on your Strobolar 600. To reduce the amount of flash reaching the subject, and thus not overpower the sun, the flash should be backed away from the subject; for color, 50% further than that shown by the calculator (giving a 2 to 1 lighting ratio), or twice as far for black-and-white (for a 4 to 1 ratio).

When the shadows are not excessive, the Strobolar 600 may be used to put just the right amount of catchlight in the subject's eyes. Stop down by two additional f/stops and use a correspondingly slower shutter speed.



**OUTDOOR USE as fill-in light**

**LEFT**—Strobolar fill-in softens shadows and gives crisp detail. Meter reading was taken on sunlit side of model.

**RIGHT**—Subject in bright sunlight without fill-in light.

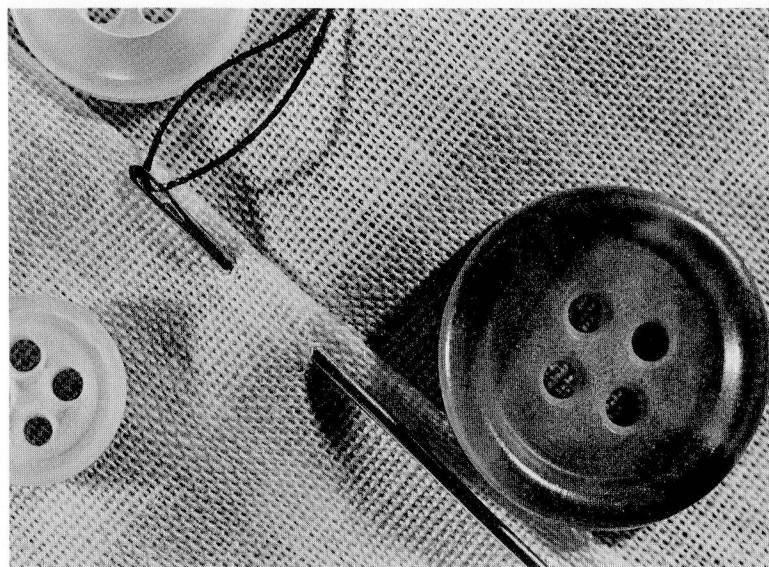
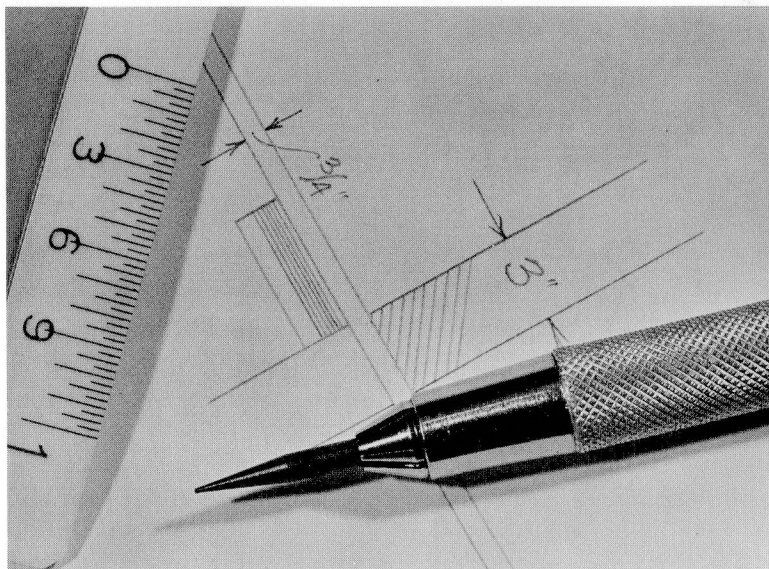
# Close-up photography

The Strobunar 600 is designed primarily for use at distances of three feet or more. However, with the camera accessories now available for close-up photography and the widespread interest in this area, you may want to use your unit at close range.

To determine exposures for the 600 at less than three feet, first read the f/stop for your film for a known distance such as four feet. Then, as you reduce the distance by  $\frac{1}{4}$ , stop down one f/stop;  $\frac{1}{4}$  of the *remaining* distance, another f/stop.

**EXAMPLE:** Suppose the exposure dial indicates an aperture of f/16 at 4 feet. Then at 3 feet use f/22; at 2 feet 3 inches use f/32, etc., reducing the aperture or available light by one f/stop for each  $\frac{1}{4}$  reduction of the remaining distance.

**NOTE:** In close-up photography, the above exposure determinations are for the flash unit only. When using extension tubes or bellows with your camera for close-up work, the lens extension factor must also be considered. You will find that the factor introduced by the extended lens can be offset by using the Strobunar 600 at the close distances.



# Accessories

**Strobonar 600  
with Honeywell  
Pentax and  
Quick-Release  
Clamp**



**Strobonar 600  
mounted on  
Rolleiflex**



Honeywell manufactures the finest line of mounting brackets, clamps and other flash accessories available. Illustrated are a few of the ways of mounting the Strobonar 600 on various cameras. For snap-on mounting, which permits instant release of the unit for off-camera flash, use the Honeywell Quick-Release Clamp, Catalog No. 308, with one of these brackets:

Bracket	Catalog No.	Camera
Standard Camera Bracket	300	For most miniature and roll film cameras
R-7	301	Most twin-lens reflex cameras
135-VX	304	Exakta VX
Retina III C	305	Retina IIIC
Polaroid (use with "E" Clamp)	302	Most earlier Polaroids
Pentax-Leica	306	Honeywell Pentax and all Leicas
"44"	307	Rolleiflex & Yashica 4 x 4 cameras
Polaroid	355	Polaroid 100, 101, 250 cameras
Polaroid	356	Polaroid 180

# Accessories

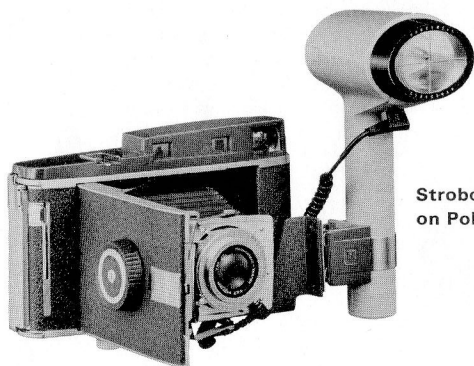
Extra Battery Tray, Cat. No. 376, is complete with 4 sub-C rechargeable batteries. Provides spare power supply for extended shooting sessions.



Strobolar 600 with  
Folding Bracket

The special Universal Folding Bracket, Catalog No. 358, provides another convenient mounting arrangement. To attach this bracket to your Strobolar, first snap the camera arm of the bracket out to a horizontal position.

Then insert the 600's handle into the clamp ring from the top until the handle extends at least  $\frac{1}{4}$  inch below the clamp block. Tighten the Phillips head mounting screw (located in the recess of the clamp block just above the spring) just enough to prevent slipping. Be sure that the camera arm is parallel to the lens of the Strobolar. To fold the bracket, pull the camera arm straight out from the clamp to clear the horizontal slots. Fold the arm upward and release the spring tension. The arm will then move freely to its folded position. When using this bracket, do not attempt to unfold the arm beyond the horizontal stop provided.



Strobonar 600 mounted  
on Polaroid

Select the proper Honeywell shutter cord for connecting the 600 to your camera. Some cords produced by other manufacturers have a high carbon content in the jacket which may cause the unit to fail to fire, or to self-fire intermittently, and should not be used. You may choose a 12-inch cord for on-camera use, or you may desire the versatility of a coiled cord for both on- and off-camera flash. Your Honeywell photo dealer will be happy to assist you in selecting the proper mounting combination and connecting cord for your camera.

### **Filters**

Most of the filters, such as the wide-angle and close-up (neutral density) filters available for other Strobonar models also will work on your Strobonar 600.



# Warranty

## WARRANTY POLICY

All Honeywell Strobcon electronic flash units sold in the United States and its possessions are unconditionally guaranteed against defects in material or workmanship for a period of ninety days after date of delivery to the original retail purchaser. Service will be rendered and defective parts will be replaced without cost to you within the ninety-day time period, provided the electronic flash unit has not been abused, altered, or operated contrary to instructions. Honeywell shall not be liable for any repairs except those made at authorized Honeywell repair centers or alterations except those made with its written consent and shall not be liable for damages from delay or loss of use or for other indirect or consequential damages of any kind, whether caused by defective material or workmanship or otherwise; and it is expressly agreed that Honeywell's liability under all guarantees or warranties, whether expressed or implied, is strictly limited to the correction of defects in material or workmanship as hereinbefore provided. To enable us to properly serve you, the purchase registration card should be filled in **COMPLETELY** and mailed to Honeywell within five days of purchase. Any electronic flash unit which proves defective during the ninety-day warranty period should be returned to your Honeywell Photographic Dealer with particulars regarding malfunction and date and place of purchase (including evidence of date and place of purchase if requested by Honeywell). The dealer will forward the electronic flash unit with particulars to Honeywell.

**PLEASE DO NOT SEND YOUR UNIT DIRECTLY TO HONEYWELL,** as your Honeywell Photographic Dealer will select the authorized Honeywell repair center which will give you the fastest service.

UNITS SOLD IN CANADA through Honeywell Controls, Ltd., Toronto, Canada, are protected by the same warranty policy outlined above. Electronic flash units requiring service in Canada should be returned to your Canadian Honeywell Photographic Dealer.

For information regarding units sold in other countries, write:  
**INTERNATIONAL DIVISION  
HONEYWELL, INC.**  
4800 E. Dry Creek Road  
Denver, Colorado 80217

All models, prices and specifications are subject to change without notice.

# **Honeywell**

## **PHOTOGRAPHIC**