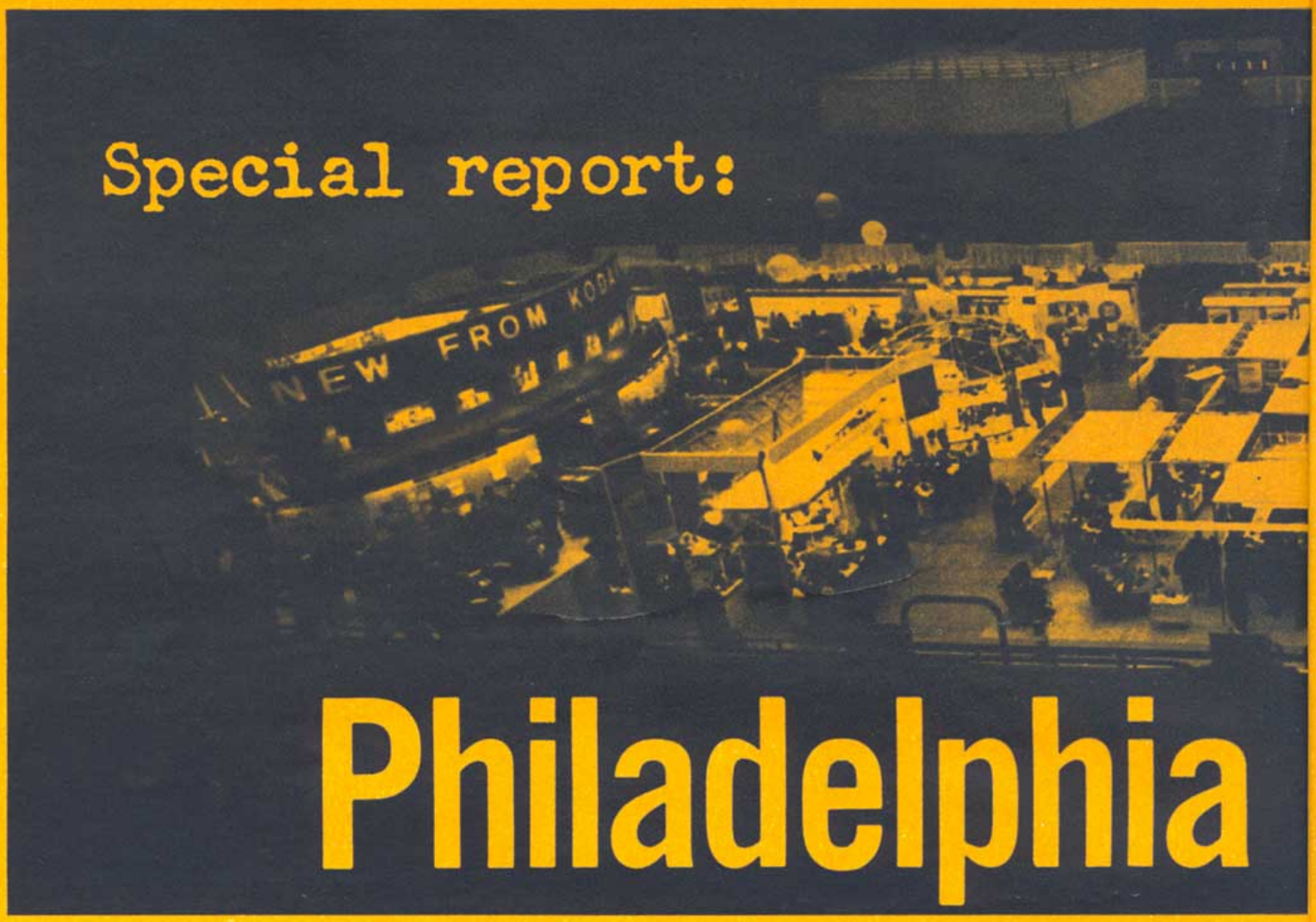


Philadelphia—In photography, product news keeps getting bigger, more complex, faster-breaking. This year's 35th Annual Master Photo Dealers and Finishers Association convention and trade show was no exception with more than 150 brand-new items introduced and some important trends established—improvement in single-lens reflex design, automatic-exposure still cameras, miniaturized flash, and zoom lenses, to name the most important. In last month's POP PHOTO we gave you a quick view of Photo Show highlights; in this issue you'll find a detailed roundup starting with Bob Schwalberg's report below. Many of the items displayed at the show were received in advance by our product department and have already been tested and reported in *What's New*. Other important new items will be covered in forthcoming issues.

STILL CAMERAS AND ACCESSORIES

One-eyed wonders capture show; three feature instant-reopen diaphragm

By BOB SCHWALBERG

Perhaps the most significant and interesting aspect of this year's MPFDA conclave in a city otherwise noted for brotherly love was not the predominance of 35's (which have wagged the dog in every MPFDA show this reporter has ever covered) but the further development and refinement of the single-lens reflex system. Models shown covered a great deal of ground, in price as well as design, and the intricacies involved are well conceived to keep camera fans supplied with the type of conversational gambitry upon which they thrive for a very long time to come.

In three cameras, the 35-mm **Nikon Automatic Reflex** and Canon's **Canonflex,** and the 2¼x2¼ **Zenza Bronica,** the focal-plane shutter fully-interchangeable-lens SLR has taken a step beyond the instant-return mirror by adding the instant-reopening diaphragm. The big advantage of the instant-return mirror by itself is that it eliminates image black-out; when this is coupled with the instantly reopening aperture we avoid image dim-out. Three extremely interesting designs, they offer a

Photo Show

Over-all view of main floor, Convention Hall, Philadelphia. Arthur Goldsmith used new Brooks-Plaubel Veriwide 100, Isopan Record film.

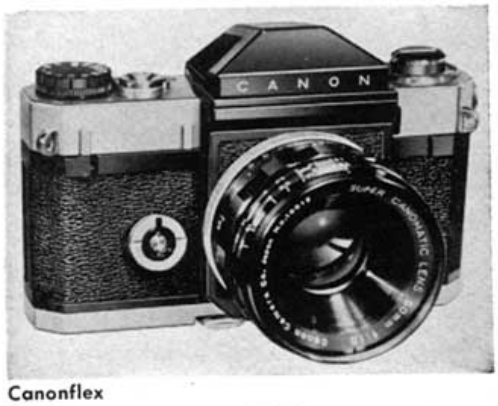
combination of features not heretofore available in equipment of this, and in some instances, *any* sort. Let's start with the Canonflex.

Aside from its instant-return mirror and instant-reopen diaphragm, which put it in the forefront of current SLR equipment, the 35-mm Canonflex has a cloth focal-plane shutter speeded to 1/1000 sec on a nonspinning speed dial, and a bottom-mounted rapid film-advance and shutter-rest lever which does its job in a throw that looks like approximately 140 degrees to this reporter. In operation Canon representatives advised holding the camera with the right hand, placing the forefinger of this hand on the release button. The thumb and forefinger of the left hand should be used for focusing the lens, with the second finger of this hand permanently in contact with the actuating arm of the advance lever. In this manner all camera operations can be conducted simultaneously and with a little practice a speed of more than two frames per second may be achieved, they said. The lenses are supplied in beautifully smooth black-anodized parallel focusing mounts and lock onto the camera with a large quarter-turn locking ring. An extra diaphragm ring provides manual aperture setting for depth-of-field preview control. Fully automatic Canonflex lenses are a **Super Canomatic 50-mm f/1.8,** a **35-mm Canomatic f/2,** and a **100-mm Super Canomatic f/2.** A **135-mm Canon R f/3.5** is supplied in manually preset mount. In addition to lens interchangeability, the Canonflex offers interchangeable focusing units, although only an eye-level pentaprism is currently being shown. Film load and other general features are similar to those of the well-known Canon line, and an accessory clip-on meter which integrates with the shutter speed selector dial is also provided for front mounting. With its standard 50-mm f/2 lens the new Canonflex will list at $299.95.

The Nikon Automatic Reflex provides fully automatic instantaneous diaphragm opening and closing with four focal lengths. Called **Auto Nikkors** these are a 35-mm f/2.8 wide-angle, a 50-mm f/2 standard, and a 105-mm f/2.5 and 135-mm f/3.5 long-focus. The camera provides interchangeable reflex viewing units (although only the eye-level pentaprism was exhibited) and a depth-of-field preview control button is an integral part of the body, at the right-hand side. Another nearby-located button locks the Nikon Reflex's instant-return mirror in the up position so that the new 21-mm f/4 super-wide-angle Nikkor lens may be used with this camera, relying on its distance-scale and depth-of-field for focusing. The rest of the camera is almost identical to the Nikon SP, with single-stroke top-mounted film-advance lever, nonspinning speed selector dial, and so forth. The body is, however, almost a half inch longer than that of the rangefinder Nikons and the electric motor-drive unit provided will not fit these cameras, or vice versa. An improved design, the electric-drive unit for the Nikon Automatic Reflex provides cycling rates of 2, 2½, 3, or 4 frames per second (when the mirror is locked in the up position) and permits positive release of single frames (unlike the SP motor which relies upon a gentle touch to accomplish individual exposures). A 12-volt power-pack is used, and the drive unit with case and cords will list for $219.50. The Nikon Automatic Reflex with its standard 50-mm f/2 Auto Nikkor will sell for $329.50. A shutter-dial-coupled accessory clip-on exposure meter was also exhibited.

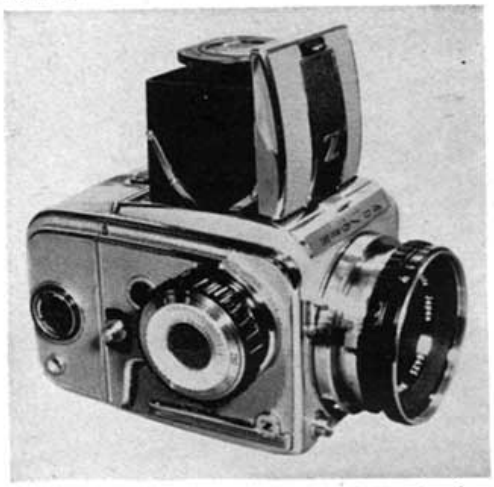
Since Nikon and Canon are now supplying both rangefinder and reflex cameras, both announced that a number of their long focal lengths will be available in dual mounting so that they can be used interchangeably on either camera, in some cases with the reflex housings provided for the CRF cameras. Lenses offering this universality announced by **Canon** include a 200-mm f/3.5, a 400-mm f/4.5, a 600-mm f/5.6, an 800-mm f/8 and a 1000-mm

Nikon Automatic Reflex



Canonflex

Petri Penta



Zenza Bronica

Miranda C

f/11. **Nikon** announced that their future long-lens lineup for dual reflex or rangefinder camera application would include focal lengths of 180, 250, 350, 500, and 1000 mm. Whether these optics will offer the instantly reopening diaphragm mechanism was a subject of much speculation among professionals at the convention.

Despite its very strong external resemblance to the Swedish Hasselblad, the Zenza Bronica is one of the most highly original camera designs ever to grace the SLR contingent. A 2¼x2¼-square 120 roll-film camera with interchangeable film magazines, the Bronica's focusing mirror is perhaps its most unique feature for, instead of going up to permit exposure, the Bronica mirror flips *down*. This it does with a peculiar humping motion contrived to minimize the amount of space required, and by flipping down it permits the use of very much more deeply seated lenses than is possible with conventional flip-up mirrors. The mirror is, incidentally, instantly returning, and the Bronica is the third of the three current SLR's to offer the instant-reopen diaphragm. This down-flip mirror thus offers a significant optical advantage *(which was instantly utilized by Nippon Kogaku who released a deep-seated 50-mm super-wide-angle lens for the Bronica)* but requires two additional mechanical camera functions: a cloth light trap which zips under the groundglass focusing screen to prevent light fog from this quarter, and two hinged metal flaps which cover the mirror surface to prevent internal reflections from its highly reflective surface. These mechanical operations precede each exposure and company representatives estimated the time consumed to be approximately 1/40 or 1/50 sec.

At the right-hand side of the Bronica housing which, incidentally, is made of stainless steel and titanium metal, is a large knob which serves a multiplicity of purposes, adjusting shutter speed, advancing the film and resetting the focal-plane shutter, and operating the rack-and-pinion focusing tube. After exposure the knob is pulled out about an eighth of an inch and turned forward to engage the shutter and film advance mechanisms. Once it comes to a hard stop, a slight backward rotation re-engages the focusing mechanism. Shutter speeds provided run from 1 to 1/1250 sec, and calibrated time exposures down to 10 full seconds are possible by setting this dial at B and setting the delayed-action timer to the desired interval. Set at any other speed, this dial (which is on the opposite side of the camera) provides delayed-action timing with calibrated durations from 1 to 10 seconds. At the front lower corners of the square camera front are two buttons, the one at the right being the release button, the left one a diaphragm control for depth-of-field preview control. Auto Nikkor lenses which bayonet into the Bronica's straight in-and-out rack-and-pinion focusing tube are a 75-mm *f*/2.8 normal focus lens, a 50-mm *f*/3.5 wide-angle which covers a field of 78 degrees and is the widest lens currently available in the 2¼ reflex field, and a 135-mm *f*/3.5 telephoto. Equipped with the 75-mm Auto Nikkor lens the Bronica will sell for $489.50.

Commenting on the current rangefinder vs. reflex focusing controversy at an opening-day press conference, a Kodak spokesman announced that much could be said for both systems, "so we thought it would be nice to have both." Thus saying he revealed two new models, the **Retina III S,** a nonfolding CRF previously introduced at *Photokina* '58, and the never-before-unveiled **Retina Reflex S** which employs the same interchangeable whole-lenses as the III S. At the same time it was announced that the original Retina Reflex which employed the Schneider Xenon-C interchangeable front-component lens system has been discontinued. The Reflex S makes use of the new Compur Reflex shutter to provide whole-lens interchangeability with shutter and diaphragm interlocked with a follow-pointer exposure meter setup. Aperture and shutter speed may be varied independently in this system and the follow-pointer is aligned by rotating a knurled knob at the base of the camera. Six **Schneider-Kreuznach** interchangeable lenses are supplied for the new Retinas in parallel focusing (nonrotating) mounts. Starting with the shortest focal length they are: the 28-mm Retina Curtagon *f*/4, an ultra-wide-angle six-element lens which covers a field angle of 74 degrees that lists for $86; the 35-mm Retina Curtagon *f*/2.8, a seven-element lens which sells for $74.50; an 85-mm Retina Tele Arton *f*/4 five-element lens which lists at $78.50; a 135-mm Retina Tele-Xenar *f*/4 five-element lens listing at $87.50; and a choice of two 50-mm lenses. With the **50-mm Retina Xenar f/2.8** the Reflex S lists for $199.50; with the 50-mm Retina-Xenon *f*/1.9 it's $235.

The highest degree of exposure automation yet achieved in a focal-plane-shutter camera, SLR or otherwise, is boasted by the **Zeiss Ikon Contarex,** introduced last fall at *Photokina* but just now making its first U.S. appearance via MPDFA. In the Contarex, current from the photocell is fed to a meter whose needle is visible just to the right of the pentaprism viewfinder field. To operate the user first sets his film's ASA index and the shutter speed he intends to use on two dials that are concentric with the camera's release button, at the hub of the single-stroke lever wind. Looking through the prism finder he then adjusts his diaphragm until meter needle and index marker are aligned to obtain correct exposure. Until the moment of exposure, however, the diaphragm remains at full focusing aperture, the diaphragm ring serving to control the amount of closing

NIKON

is pleased to announce a new schedule of reduced prices for the **NIKON SP** and the **NIKON S3**

the world's finest rangefinder-coupled 35mm cameras

NIKON SP
World's only '35' with built-in Universal Viewfinder System

with 50mm Nikkor f/1.4 lens,
$375.00
with 50mm Nikkor f/2 lens,
$329.50

NIKON S3
with built-in trifocal finder for 35, 50 and 105 mm lenses

with 50mm Nikkor f/1.4 lens,
$315.00
with 50mm Nikkor f/2 lens,
$269.50

These reduced prices are effective immediately

Visit your Nikon dealer or write direct for illustrated literature

Nikon Inc., 111 Fifth Avenue, New York 3, N. Y.

See Nikon ad on opposite page

down accomplished instantaneously with pressure on the release button. Six interchangeable **Zeiss** lenses are available for the Contarex, with focal lengths from 21 to 250 mm. The use of the 21-mm Biogon *f*/4.5 lens is made possible by a locking device to keep the mirror folded in the up position. Standard Contarex lens is the 50-mm Planar *f*/2 with which the camera sells for $450. The other lenses are a 35-mm Distagon *f*/4, an 85-mm Sonnar *f*/2, a 135-mm Sonnar *f*/4, and a 250-mm Sonnar *f*/5.6. Unlike Contax cameras which use a metal focal-plane shutter traveling the short way, the Contarex used a conventional cloth curtain that goes the long way across, as do nearly all other FP shutters. The shutter is speeded from 1 to 1/1000 sec, and a self-timer is provided. An accessory clip on top of the prism housing is provided for use with the required 21-mm viewfinder. A wide range of Contarex accessories was announced for future delivery.

Two of the five SLR cameras previewed by Agfa at *Photokina* '58 *(and described in our January '59 issue)* were unveiled at Philadelphia. These are the **Colorflex I and II** models which feature a 50-mm Color Apotar *f*/2.8 lens with Prontor shutter speeded from 1 to 1/300 sec and built-in follow-pointer exposure control. The model I, which lists for $99.95, has a four-sided waist-level focusing hood with flip-up magnifier, the II, which sells for $129.95 is equipped with an eye-level pentaprism. Both of these focusing aids are interchangeable and model I users can obtain the pentaprism at a cost of $37.50 while Model II users can have the waist-level hood for $7.50. The Colorflex is a fully automatic camera of the central-shutter stamp in which the lens remains at full focusing aperture until the instant of exposure, then snaps down to a preselected picture-taking stop. Operation of a single-stroke lever which juts from the camera back about a half inch under the top deck (because of the meter position) restores all camera functions for the next exposure.

Two old familiar faces, the 35-mm Swiss **Alpa** and the 2¼x2¼ Swedish **Hasselblad** were exhibited with significant modification. Alpa models whose numerical designation is followed by a lower-case "b" now are equipped with an instant-return mirror. This new Alpa line-up includes the models 4b, 5b, 6b, and 8b, the model 7 being discontinued. Alpa cameras are equipped with front-mounted release buttons so that auto-diaphragming lenses of the pre-positioning types, coupled with the new instant-return mirror, offer a high degree of operational automation. The Hasselblad improvement involves lenses for the model 500 C which now incorporate a small lever to release the auto-diaphragming mechanism for depth-of-field preview control. When this lever is pressed it permits closing of the lens to any aperture by rotation of the diaphragm ring, and once the lens is returned to full aperture it reverts to automatic operation. This feature is now a part of the mount design for the 60-, 80-, 150-, and 250-mm 500 C lenses, each of which, of course, contain individual Synchro Compur shutters. A new Hasselblad accessory prism sportsfinder uses a highly magnified central image to achieve critical focusing with a Lucite, gunsight-type frame finder with fields for the 80-, 150- and 250-mm lenses for composing. Two dark polarizing filters are placed in the middle of the two frame-finder plates to compel straight-on viewing. With the eye properly aligned the center spot is transparent; if not it's solid black. The frame finder and prism-magnifier eyepieces are close by so the eye can rapidly move from one to the other, and a calibrated parallax scale is also provided. Also shown was a new folding crank which can be used interchangeably with the two knobs currently supplied for the 500 C. A novel right-angle flash bracket and camera handle that attaches to the tripod bushing to offer a very convenient left-hand grip was also exhibited. The improved depth-of-field preview lenses will be supplied at no increase in price.

The new **Miranda C** is the first of its lineage to be equipped with an instant-return mirror, and is in all other respects the same as the Miranda A. Features include a single-stroke advance lever, folding rapid-rewind crank, fully speeded 1 to 1/1000 second shutter, interchangeable viewfinder components, and bayonet lens mount that's threaded on the inside to accept adaptors that'll handle practically any SLR-mounted optics in existence. With a 50-mm *f*/1.9 Soligor lens having a spring-loaded pre-position-type auto-diaphragm mechanism the Miranda C is slated to sell for $279.95.

Two new budget-priced SLR's with focal-plane shutters and full lens interchangeability were shown by Miranda and Petri. The **Miranda Model S** is a $99.50 unit of conventional pre-automation design with a four-sided focusing hood, knob-type winding and shutter speeds from 1/30 to 1/500 sec. A great variety of optics is available for the Miranda S (including those supplied for the other Miranda models) and the price quoted includes a 50-mm *f*/2.8 lens with a manually preset diaphragm. The Miranda S focusing hood is removable, and the camera can at any time be up-graded to eye-level-reflexmanship by the addition of a pentaprism which lists for $34.95. The camera will also accept all past, present, and future Miranda camera accessories, according to a company spokesman.

The **Petri Penta** is a handsome eye-level-prism-plus-instant-return-mirror job that lists for $150 with a manually preset 50-mm *f*/2 lens. Other features include a single-stroke rapid-advance lever, shutter

speeds from 1 to 1/500 sec, a rapid-rewinding crank and a self-starting frame counter. Six accessory lenses for the Petri Penta with focal lengths ranging from 35- to 300-mm were announced.

Also exhibited for the first time were a number of new SLR cameras that have recently been reported on in these pages including such notable items as the **Voigtlander Bessamatic** (which was shown along with the new Voigtlander Zoomar lens), the **Minolta SR-2,** and the **Praktisix.** For details on these items see the April '59 issue of POPULAR PHOTOGRAPHY.

New high-speed (E.I. 160) Kodak Ektachrome color film

A last-minute release which aroused considerable interest was Kodak's new **High-Speed Ektachrome** available in a daylight-balanced emulsion with an effective E.I. of 160 and as a Type B emulsion balanced at 3200 K for professional studio lamps with an E.I. 125 rating. The materials are designated for Process E-2, Improved Type, which is also recommended for superior quality with existing (E.I. 32) Ektachrome films. Initial release of the material is scheduled for early June in 20-exposure 35-mm cassettes priced at $2.50 each. Slides exhibited looked very good, and a report on this new high-speed reversal material will be included in a forthcoming issue.

Electric-eye still cameras make news

Unveiled here for the first time were the **Kodak Starmatic,** a $34.50 electric-eye box camera, and the **Kodak Automatic 35,** a simplified nonrangefinder miniature with the same point-and-shoot exposure automation that's priced at $84.50. A full field test report on both of these cameras was contained in our May issue. Both cameras employ a unique meter-to-camera coupling arrangement in which the needle is used as a variable stop mechanism to regulate the lens aperture just before the shutter trips. Power for this coupling method is provided by the photographer's finger during the first part of the release-button travel, and except for the instant of exposure there is actually no mechanical connection between camera and meter. The Starmatic uses a 44-mm *f*/8 three-element plastic lens, the Automatic 35 a 44-mm *f*/2.8 with rare-earth lens elements. Shutter speeds are 1/40 sec for the Starmatic, 1/40 and 1/80 sec for the 35, and both provide a wide range of ASA indexes, to 125 in the case of the former, 160 in the latter. Flash shooting is facilitated by LVS-calibrated controls which override the automatic mechanism when desired.

Also shown for the first time at a convention was Revere's **Eye-Matic EE 127** electric-eye camera for 127 roll film. Equipped with a 58-mm Wollensak Raptar *f*/2.8 lens, the $139.50 unit is housed in an all-white die-cast body and features a coupled rangefinder and single-stroke thumb-operated advance mechanism. Actual lens apertures are visible through the viewfinder on a special dial, and an ingenious innovation couples the rangefinder to the diaphragm for automatic flash-exposure determination. A companion repeating flashgun for the EE 127 was also shown. See *What's New* elsewhere in this issue for a full report on the Eye-Matic.

A new version of Bell and Howell's Electric Eye 127 camera, the **Infallible,** was shown with all of the difference being on the outside, a salt-and-pepper vinyl covering being added. List price for the Infallible announced in Philadelphia is $39.50.

Yashica showed a prototype of an electric-eye still camera which is scheduled for future production. Not much information is available, but the camera will probably handle 127 roll film.

Leitz releases M-1 camera and three new Leica lenses

Shown for the first time anywhere were a new **Leica M-1** and three brand-new lenses. In addition, the **Visoflex II** compact reflex housing and four *Photokina* lenses were shown for the first time in the U.S. The M-1 is a nonrangefinder version of the M-2 which is identical in all other respects. Intended primarily as a low-cost M-camera for use with either the Visoflex I or II, or for permanent microscope mounting, the M-1 does nevertheless have a parallax corrected viewfinder with permanently installed frames for both the 35- and 50-mm focal lengths. The M-1 can at any time be factory-converted into an M-2. Bearing the same relationship to the M-Leica series as the models If and Ig do to the Leica III series, the new M-1 camera body will sell for $144 less lens.

The new, never-before-revealed Leica lenses are a **50-mm Summilux *f*/1.4,** a **65-mm Elmar *f*/3.5,** and a **90-mm Elmarit *f*/2.8.** The 50-mm Summilux is

a seven-element speed lens of double-Gauss construction incorporating some completely new rare-earth glasses developed jointly by Leitz and Schott. Initially, the Summilux will be available only in bayonet mounts for the M-Leicas, with a list price of $198. The 65-mm Elmar *f*/3.5 is a special lens designed for use with the Visoflex II reflex housing introduced at *Photokina* and exhibited here for the first time in the U.S. A four-element construction of the Elmar-triplet type, the new lens has been designed for use at distances from infinity to 13 inches and is equipped with a linear diaphragm providing click stops at each aperture and half aperture, and has a built-on collapsible lens hood. The lens itself sells for $84, and the universal focusing mount for $36. This mount bayonets into the Visoflex II housing *(it can not be used with the Visoflex I)* and accepts the 65-mm Elmar as well as the lens heads of the 90-mm Elmar and Elmarit and 135-mm Hektor *(with adapter tube)*. In this universal mount the 65-mm Elmar *f*/3.5 focuses down to 13 inches giving a reproduction ratio of 1:2.5 and covering a subject field of 2¼by3¼ inches. A newly computed Elmar type objective, the 90-mm Elmarit *f*/2.8 is a five-element lens consisting of a single element followed by two cemented pairs. It is available in either screw or bayonet mounts at the same $165 price and has a linear diaphragm scale. All of these lenses are supplied in parallel focusing (nonrotating) focusing mounts.

Four *Photokina* lenses shown in Philadelphia were the lightweight version of the **90-mm Summicron *f*/2** with built-on collapsible lens hood which sells for $199.50 in bayonet or screw-type rangefinder coupled mounts, or for $192 in short Visoflex II mount. An accessory presetting aperture ring is available for the short-mounted lens. The **21-mm Super Angulon *f*/4** has a list price of $240 in either bayonet or screw-type rangefinder mounts, and its accessory viewfinder is $28. The **35-mm Summicron *f*/2.8** will sell for $105 in either bayonet or screw mount, the RF attachment version for use with all M-type cameras will be $138. In either bayonet or screw mounting the **35-mm Summicron *f*/2** will list at $174; the bayonet version with RF attachment for $207. There are now three *f*/2 Summicrons, the 35-, 50-, and 90-mm focal lengths.

A last-minute surprise exhibited at the Leitz stand was the new three-lens turret for M-cameras. The unit, despite being for M-Leicas exclusively, accepts only standard screw-thread Leica lenses. In operation the user turns a key at the back of the turret clockwise. This causes the lenses to turn within their mounts to unlock from the camera, then to jump forward about a quarter of an inch or so away from the lens flange. At this point the turret begins to rotate, clicking into position as the next lens is aligned with the flange. Turning the key counter-clockwise causes the lenses to recede into the camera body (making contact with the rangefinder feeler) and locking in position. Less lenses, the turret will sell for $78.

Canon introduces new rangefinder camera and high-speed wide-angle lens

In addition to the Canonflex SLR previously described Canon also introduced a new rangefinder camera, the **Canon P,** offering most of the features of the more

expensive Canon models at less cost. The model P incorporates a parallax-corrected combined range-viewfinder for the 35-, 50-, and 100-mm focal lengths, a stainless-steel focal-plane shutter speeded from 1 to 1/1000 sec with automatic flash synchronization, a single-stroke rapid advance lever, and a self-starting frame counter. A clip-on exposure meter couples with the model P's speed dial and costs $20 when ordered with the camera, $29.95 for procrastinators. Model P pricing is as follows: with 50-mm *f*/2.8, $199.95; with 50-mm *f*/1.8, $249.50; with 50-mm *f*/1.2, $349.50.

The new **Canon 35-mm *f*/1.5** is an eight-element high-speed wide-angle coupling to all Canon rangefinder cameras. Priced at $199.50, it's the fastest thing in its class. Other new Canon optics include the **100-mm *f*/2,** a six-element tele that sells for $149.95. The lens head of this unit can be used on the Canonflex SLR with a special focusing adapter "R-A." Five long-focus Canon lenses adaptable either to the Canonflex or to the rangefinder Canon (with reflex housing and/or focusing bellows) are a **200-mm *f*/3.5** seven-element lens listing for $199.50, a **400-mm *f*/4.5** five-element lens listing for $471, a **600-mm *f*/5.6** two-element lens listing for $550, an **800-mm *f*/8** two-element lens listing for $650, and a **1000-mm *f*/11** two-element lens listing for $750. The 200-, 400-, and 800-mm lenses supersede lenses of these focal lengths previously available and are said to be further refined optically and to be set in new lightweight magnesium mounts.

continued on page 30

THE SUPER-SENSITIVE

GOLDEN CROWN

EXPOSURE METER

EXACT LENS SETTING IN JUST 5 SECONDS FOR ANY CAMERA...ANY FILM...ANY LIGHT!

Here's all you do for perfectly exposed pictures every time: Simply set exposure index and shutter speed . . . aim . . . and press the push-button pointer-lock. There's your lens setting. And the exact reading stays until the button is pushed again. No squinting or misreading . . . nothing to remember . . . no calculations to make! Special white-dot markings for accurate low-level light readings. Gold-embossed leather case included with every meter. G-E Lifetime Warranty.

Ask your dealer to demonstrate the Golden Crown or write for detailed descriptive folder: General Electric Company, Section 583.149, Instrument Department, 40 Federal Street, West Lynn, Massachusetts.

SENSITIVITY RANGE	6 to 25,600 footcandles (from 0.08 with Dynacell)
FILM EXPOSURE INDEX RANGE	.1 to 20,000 ASA
SHUTTER SPEED RANGE	120 to 1/32,000 seconds
MOVIE SETTINGS	8 to 128 frames per second
f/STOP RANGE	f/1 to f/45
EXPOSURE VALUE SETTINGS	1 to 20 (Polaroid Land 1 to 9)

Progress Is Our Most Important Product

GENERAL ELECTRIC

port, a 1/25 to 1/300 sec shutter, and a 60-mm f/3.5 lens. The new model **D** is an improved version of the model C with a semi-automatic film transport, knurled wheel f/stop, and shutter-speed controls and a 1 to 1/500 sec shutter. Priced at $49.95, the D is available in three colors.

11 new rangefinder 35's

The new **Konica III M** is a dual-format 35 which, when used conventionally, operates with a double-stroke of the front-mounted advance-trigger to produce standard double-frame 24x36-mm negatives. Placing an 18x24-mm mask into the film gate activates a mechanism that switches the camera's advance mechanism over to single-stroke operation to produce vertical half frames with the camera held in the horizontal shooting position. A diaphragm and/or shutter coupled built-in meter marks the other way in which this model differs from the Konica III C. The photocell is a hinged rectangular plate which covers the range-viewfinder windows when not in use. The meter movement, mounted on the front-right of the camera facade has a fixed black index against which the white meter needle must be aligned. The internal construction depends upon electrical resistances instead of mechanical couplings. In other respects the III M closely parallels the III C with its 50-mm Hexanon f/1.8 lens, and parallax-corrected bright-line frames which expand and contract to compensate for actual field coverages. The III M will list for $129.95.

Another Konica, the **III A,** is exactly the same as the model III C except that a $30 economy has been effected by supplying a 50-mm f/2 lens. List price for the III A is $99.95, and an uncoupled clip-on exposure meter that reads in light value numbers is available at $10.95.

The **Graflex Century 35N** has a six-element 50-mm Prominar f/2 lens, a Copal

EVC shutter speeded from 1 to 1/500 sec, and a single-stroke rapid-advance lever which is held in a ready-position attitude of approximately 20-degrees in relation to the back-panel. Other noteworthy features of this $99.50 unit are a recessed rewind crank that releases the advance sprockets when erected, a self-starting frame counter, hinged back-panel, and a film-movement indicator that keeps tabs on film movement during transport.

The new **Argus C33** is an interchange-

able-lens camera using the familiar Argus behind-lens shutter system and incorporating a rapid-advance lever and rapid-rewind crank. An accessory meter couples to the camera to provide exposure control using the Argus "Color-Matic" system. Shutter speeds run from 1 to 1/300 sec. With a 50-mm f/3.5 lens the C33 lists at

$89.95. Accessory interchangeable optics include a 35-mm f/4.5 and a 100-mm f/3.5 at $49.95 each. An accessory zoom type optical viewfinder is $15.95 and the coupled exposure meter $19.95.

The **Fujica SE Electramatic** is basically similar to the Fujica ML, with the addition of a built-in exposure meter with follow-pointer exposure control by means of either the diaphragm or shutter-speed controls. Meter-to-camera coupling has been accomplished electrically, by means of resistances, and no gears, cams, or other mechanical linkages are employed. Characteristic Fujica features carried into the SE include the back-mounted knurled focusing wheel and side-mounted rapid-rewind crank. The shutter is fully speeded from 1 to 1/500 sec, and the viewfinder frame moves diagonally for automatic parallax correction. With a five-element 45-mm Fujinon f/2.8 lens the Fujica SE Electramatic lists for $99.95; a six-element f/1.9 brings the price to $119.95.

Two new Olympus models offer either exposure automation or interchangeable optics. The **Olympus Electro Set Auto** is a built-in meter model with combined range-viewfinder, single-stroke advance lever, Seikosha SLV shutter with full range of speeds, and a seven-element f/1.8 Zuiko 42-mm lens. An extremely clean design, the exterior has few protuberances. List price is $129.50. The **Olympus Ace** is an interchangeable-lens camera using a behind-the-lens central shutter. The combined range-viewfinder system incorporates permanently present frames for the 35-mm Zuiko f/2.8, the 45-mm Zuiko f/2.8, and the 80-mm Zuiko f/5.6 lenses, with automatic parallax correction. The Olympus Ace with its normal 45-mm f/2.8 lens lists at $79.95.

New **Yashica** 35's are the models **YF, YL,** and **YK.** The Yashica YF is a coupled-rangefinder camera with interchangeable lenses and a focal-plane shutter. The range-viewfinder gives parallax-corrected bright-line frames for the 50- and 105-mm focal lengths. Shutter speeds from 1/30 to 1/1000 second are provided on a top-mounted Leica-style speed dial with a front-located wheel for the 1 to 1/30 sec range, and a standard Leica screw-thread lens mount is provided. For loading, the bottom plate is removed and the hinged back-panel flipped open. Another feature is a remarkable short-throw single-stroke thumb lever. No pricing information was available on the model YF. The Yashica YL is a noninterchangeable interlens shutter 35 with single-window coupled range-viewfinder incorporating parallax correction, a fully speeded 1 to 1/500 sec shutter, and a single-stroke rapid-advance lever. With a 45-mm Yashinon f/2.8 lens the YL lists for $59.95. An even less expensive Yashica, the model YK has a fixed 45-mm f/2.8 lens, a simple shutter speeded from 1/25 to 1/300 second, and a rapid-advance lever round out this $39.95 design.

Subminiature items at MPDFA '59

Subminiature entries at MPDFA included two new cameras, the **Mamiya 16 Automatic** and the **Yashica Clip-Load Y-16,** plus a host of miscellaneous accessories. Principal new features of the Mamiya Automatic are its built-in diaphragm-coupled exposure meter and flip-up single-element optical viewfinder. Other features of this $69.95 subminiature which produces 10x14-mm negatives on 16-mm film stock are its 25-mm f/2.8 lens with stops to f/11, shutter speeds from ½ to 1/200 sec, and built-in yellow filter. The Yashica Y-16 (previewed at *Photokina* but shown in the U.S. here for the first time) is a $39.95 unit with a 25-mm f/3.5 lens, 1/25 to 1/200 second shutter, and built-in optical viewfinder. The camera offers convenient clip loading, uses the 10x14-mm format to make 24 exposures on a magazine load of 16-mm film stock and is available in four two-tone color combinations: black-and-gray; gold-and-gray; maroon-and-gray; and green-and-gray.

The new **Yashica 16** slide projector is a $29.95 offering with a 35-mm f/3 helically mounted lens, 100-watt bulb, and a convection-cooling system. The Yashica bulk-loader automatically stops when 24 frames worth of film have been loaded in the magazine and is a $29.50 item. A $4.95 Yashica slide viewer is a battery-operated unit with carrier for six frames.

The **Minolta Mini-16** is a new subminiature projector designed to accept 16-mm and Minox slides, and produce an image equal in size to that thrown by standard 35-mm projectors with 35-mm slides at the same distance. The Mini-16 has a 40-mm Rokkor f/2.5 lens, and sells for $37.50.

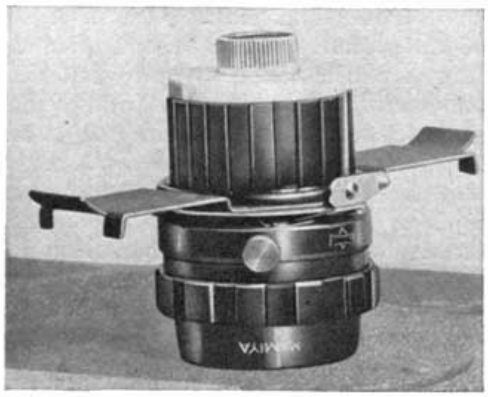
A new **Gami** accessory panoramic tripod head is operated by means of a cable release which causes the unit to swing the

continued on page 99

PHOTO SHOW *continued from page 34*

Gami camera through an angle of 33 degrees with each pressure. When the camera is used with the 4X tele-lens an adjustment brings this down to 5-degrees per push. A beautifully made device, the panoram head moves with great precision and smoothness. Also exhibited for the first time was a plastic bag-type underwater housing for the Gami which permits full underseas functioning of the camera save that the winding lever must not be used to tension more than one frame at a time, and an accessory wire-frame finder has to be used in place of the camera's built-in range-viewfinder. Prices were not announced on either of these new Gami items.

A very unusual subminiature accessory is the **Mamiya Enlahead** which provides a complete optical system for the enlarge-



ment of 16-mm negatives up to 10x14-mm when attached to standard enlargers. The unit comprises an optical condenser unit to concentrate the light from the enlarger lamphouse, an 25-mm *f*/3.5 enlarging lens with stops to *f*/11. The unit lists for $19.50 and is supplied with a standard Leica thread. According to the distributor, enlargements up to 20X are possible with this device.

In addition to the 90-mm standard and the 135-mm long-focus lenses for the **CamBinox,** combination 7x35 binocular and 16-mm subminiature camera, a 35-mm *f*/3.5 wide-angle was shown. The new lens requires an additional optical frame finder because the 35-mm field greatly exceeds that of the binocular. With the standard 90-mm *f*/3.5 lens the CamBinox lists for $450. The *f*/3.5 35-mm and 135-mm lenses list respectively for $99.50 and $178.

Miscellaneous items of more than passing interest

Newest Nikkor lens is a 21-mm *f*/4 in mounts for the model SP (with RF coupling) as well as the new Automatic Reflex (with mirror locked in up position). In the heavy-artillery department Nikon introduced a 350-mm *f*/4.5 and a 1000-mm *f*/6.3. A newly revamped 50-mm *f*/1.1 now has an outer-bayonet mount permitting the incorporation of individual rangefinder coupling helixes to obtain greater focusing precision. . . . Ansco announced the availability of **Super Anscochrome,** Daylight Type E.I. 100 reversal film in the resurgent 127 roll-film format. The film will be priced at $1.75 per roll. An improved version of the **Ansco Easy-Loader** for bulk-handling of 35-mm Anscochrome was exhibited. The new device is made of metal and plastic. Charged with enough film for eight 20-exposure Anscochrome cartridges the Easy-Loader lists at $10.75 and represents a saving of about 30 percent over factory-loaded cassettes. . . . The Goerz American Optical Company announced the availability of two **Dagor** enlarging lenses, a 40-mm and 60-mm, both *f*/6.8. List prices are $153 and $165 respectively. . . . Simmon Brothers exhibited a new **Omega Automatic Dodger** with an electrically motorized moving platen supporting individually preshaped masks for burning-in. Holding-back operations are accomplished by crayoning the rotating masks to create smoothly blended dodging effects. The new device lists for $175. . . . **Konicolor,** a Japanese negative color material rated at E.I. 16 was announced by the Konica camera company. Twelve-exposure 35-mm cassettes will list for 98 cents with processing and printing extra. A processing lab has been set up in Philadelphia. . . . Ilford, Inc. showed a new set of five printing filters for use with **Multigrade** variable-contrast paper. The set will be supplied in cardboard mounts and the price is $2.25. . . . Plymouth Products announced the availability of its **Ethol UFG** developer for the first time in liquid form. Other characteristics remain as before, and the dry single-mix powder will continue to be manufactured. A new developer designed primarily for pushing, **Ethol Type T,** will be available only in liquid-concentrate form. Look for a story on Type T in an upcoming issue.

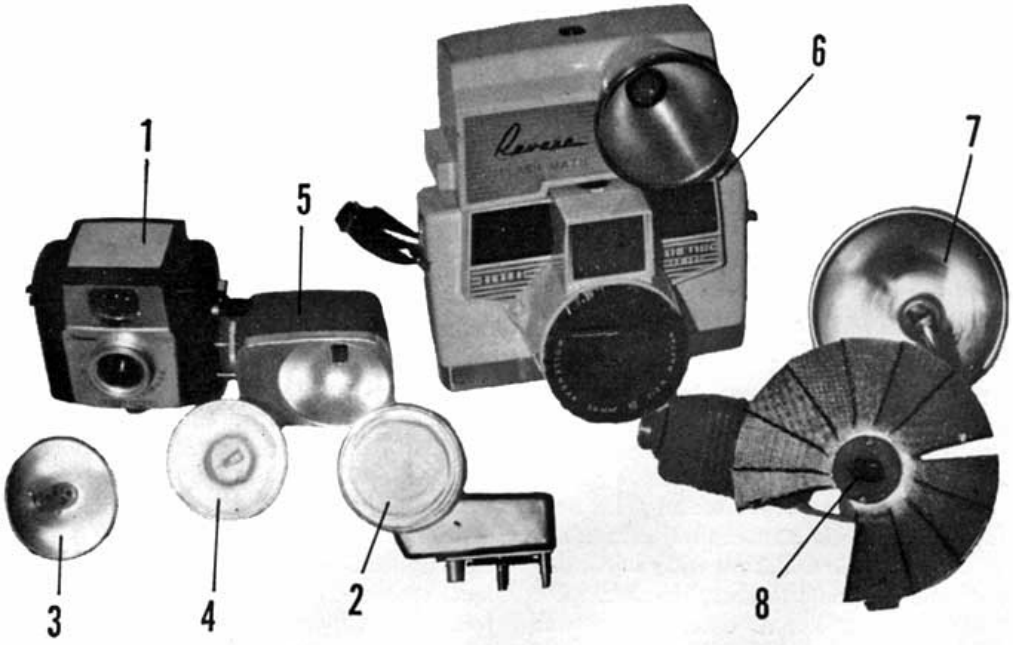
FLASH

By GEORGE D. MARGOLIN

The small flash that caused the biggest splash in the MPDFA show was the **All Glass AG-1** first announced on December 16, 1958 by General Electric and now also being produced by Sylvania with Westinghouse tooling up for early production. These jelly-bean size flashbulbs gave the flashgun manufacturers a chance to design Liliputian guns, and eight firms took advantage of this opportunity to show prototypes at MPDFA. Self-lubricating polyethylene plastic clips and other types of lamp holders make possible the design of repeating flashguns.

G-E itself showed a number of handmade prototypes of remarkable compactness. One gun, mounted on a Mamiya 16-mm subminiature camera was actually smaller than the tiny AG-1 parabolic reflector, which, incidentally, has a diameter of 2 inches and is just under 1 inch deep. Another G-E AG-1 prototype exhibited held a clip load of six lamps stacked like the bullets in an automatic pistol, permitting

SMALLEST FLASHGUNS YET



Photograph by Larry Muehling

Exhibited for the first time were miniature flashguns for AG-1 jelly-bean-sized bulbs. Prototypes were shown by Kodak (1 & 2), Walz (3, 4, & 5), Accura (7) and Harwood (8). Revere gun (6) mounts on Eye-Matic EE 127 camera, loads with six-shot clip, is operated by single-stroke lever, retains expended lamps within housing. Kodak Starmite camera (1) with built-in AG-1 gun is an experimental preliminary design.

rapid fire flashing. An attached plastic sleeve caught the hot expended lamps.

A considerable stir was created on the second day of the show when **Revere** exhibited an automatic magazine loading AG-1 flashgun designed to fit their new electric-eye still camera. (See *What's New*, page 128.) The Revere unit is operated by a thumb lever permitting the firing of flash lamps as fast as the film can be advanced. Expended lamps are stored within the unit for later disposal.

Eastman Kodak displayed prototypes for simple cameras, one of which was equipped with standard Kodalite fittings. **Accura** showed a BC gun for AG-1 lamps utilizing a folding fan reflector that swiveled to allow bouncing from any direction. A handmade **Walz** sample shown at the convention also had a Kodalite fitting, and another was an adapter to convert any standard M2 flashgun to the new bulb size. A small AG-1 conversion head and reflector was exhibited by **Harwood Industries** of Chicago, and a number of firms admitted that similar designs were in the works.

A new line of sweeter-smelling flashbulbs was introduced by **Sylvania.** According to a statement issued by George C. Connor, vice president in charge of Sylvania's Photolamp Division, a scented substance has been added to the heat-resistant lacquer coatings applied to all twenty-two of Sylvania's "blue-dot" flashbulbs. The continuing miniaturization of these lamps has increased the relative amount of heat that must be dissipated by the bulb envelope and has increased the odor of burning lacquer that many users find objectionable. The substance added to the new bulbs gives off a mild floral scent that is "noticeable in the vicinity of the flashgun when a Sylvania lamp is flashed," according to Mr. Connor.

New speedlight units

New units and minor model changes increase the number of available electronic flash units. Heiland, a division of Minneapolis Honeywell introduced their **Strobonar 72A,** a beefed-up version of the popular Futuramic. This unit consists of the Futuramic head with the battery-holding handle replaced by a cylindrical capacitor to bring the electrical power input from 45 to 90 watt seconds. The Strobonar 72A is powered by a 510V dry battery contained in the leather sheath "Pro-Pak." This high-voltage source permits rapid recycling and provides a tremendous number of consecutive flashes. The unit has an unusual ac circuit designed for reforming the capacitor, but not intended for unit operation. A new flash tube mounted in the standard Heiland Pressmaster reflector is said to give extremely even light coverage over a 70-degree beam spread. The Strobonar 72A has a list price of $99.50.

An electronic flash slave unit called the **Fotoeye** was also shown by Heiland. It is less than half the size—and price—of previous models, and attaches to the handle of the Strobonar. Its weight is 8 oz, and price $19.95.

Three attractively styled portable speedlights were introduced by **Dormitzer.** In order of increasing power rating these are the 30-watt-second **Starfire** model, the 60-watt-second aptly named **Model 60,** and a 125-watt-second **Synctron Candid 208 C.** All three units are transistorized to reduce battery drain, and can be operated from a number of power sources. The big model 208C operates either from a Dynaseal Nickle Cadmium rechargeable battery or on ac, while the two smaller units can also use various types of D cells. An interesting innovation of the Model 60 is a fast recycle switch which, according to the manufacturers, cuts the charging time to about half its normal period.

The American Speedlight Corporation has brought out a four-light system designed for the professional photographer of volume color portraits. Called the **Ascor 4A24,** the new unit has a recycling time of 8 seconds and delivers 6000 BCPS at a coverage angle of 50 degrees. Its price is $345.

In addition to the portrait lighting system, Ascor joined with the General Radio Company of Cambridge, Mass., to introduce the new **GR 1501-B** Integrating Light Meter for electronic flash. This three-battery-operated (45 volt, 22½ volt, 1½ volt) circuit is designed to supersede their older, larger model. The new meter is much smaller and more compact, comes equipped with a groundglass probe (which converts to allow incident-light readings at the subject) and has a dial that reads directly in ASA equivalent film speed numbers from 10 to 400. Its price is $280.

A completely redesigned **Hershey Sun-Lite Mark I** has a flash head that can be used either in a camera accessory shoe or on its own power pack. A transistorized 30-watt-second unit, the Mark I offers as many as 120 flashes per set of dry batteries, and can be operated also with nickle-cadmium rechargeable batteries or on ac. This compact unit sells for $59.95. A larger unit, the **Sun-Lite Mark II,** has a power input of 50-watt-seconds and a somewhat larger power pack. Other features and options are the same as in the Mark I. This unit lists for $69.95. The most unusual Hershey unit exhibited was the 150-watt-second **Hi-Pro** AC slave, a small unit designed for photocell synchronization at remote distances, with triggering from a single at-the-camera flash. The Hi-Pro with integral photocell for slave operation is priced at $89.95.

A new entry in the small speedlight field is the 35-watt-second **Walz** which operates from a high voltage dry battery and has provision for doubling its power with the addition of a spare capacitor. It is distributed by U.S. Photo Supply, and sells for $29.50 without battery.

Another new name is the **Minicam,** an electronic flash introduced in two transistorized models by Caprod Ltd. One is a 50-watt-second, and the other a 100-watt-second unit; they are priced at $49.95 and $79.95 respectively.