

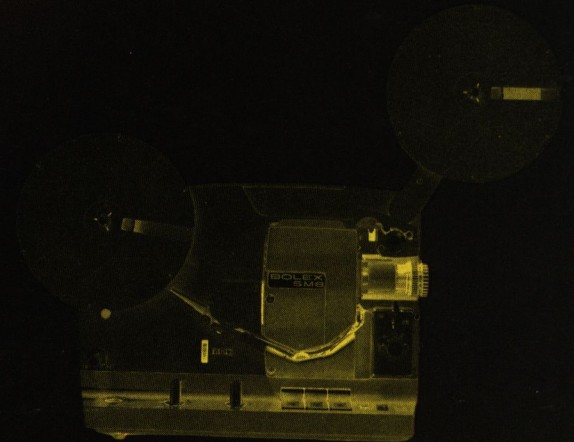
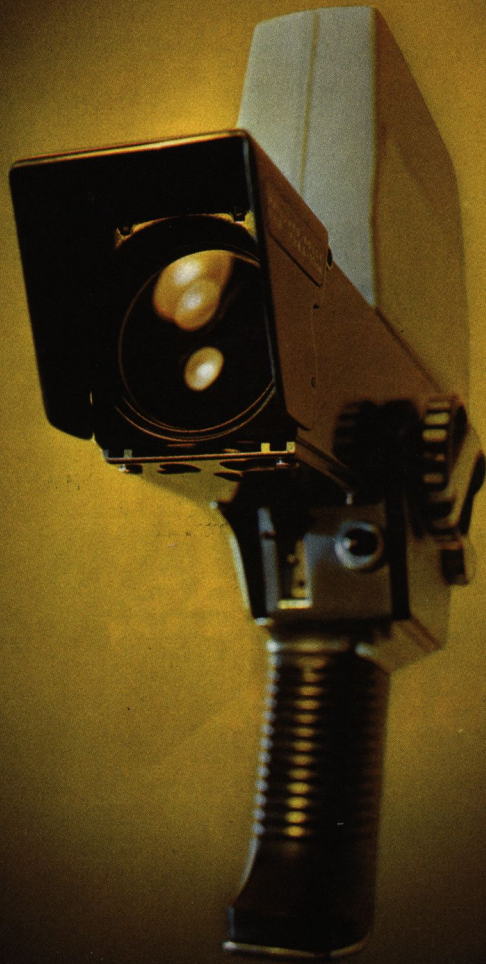
AMERICA'S LEADING MOVIE MAGAZINE

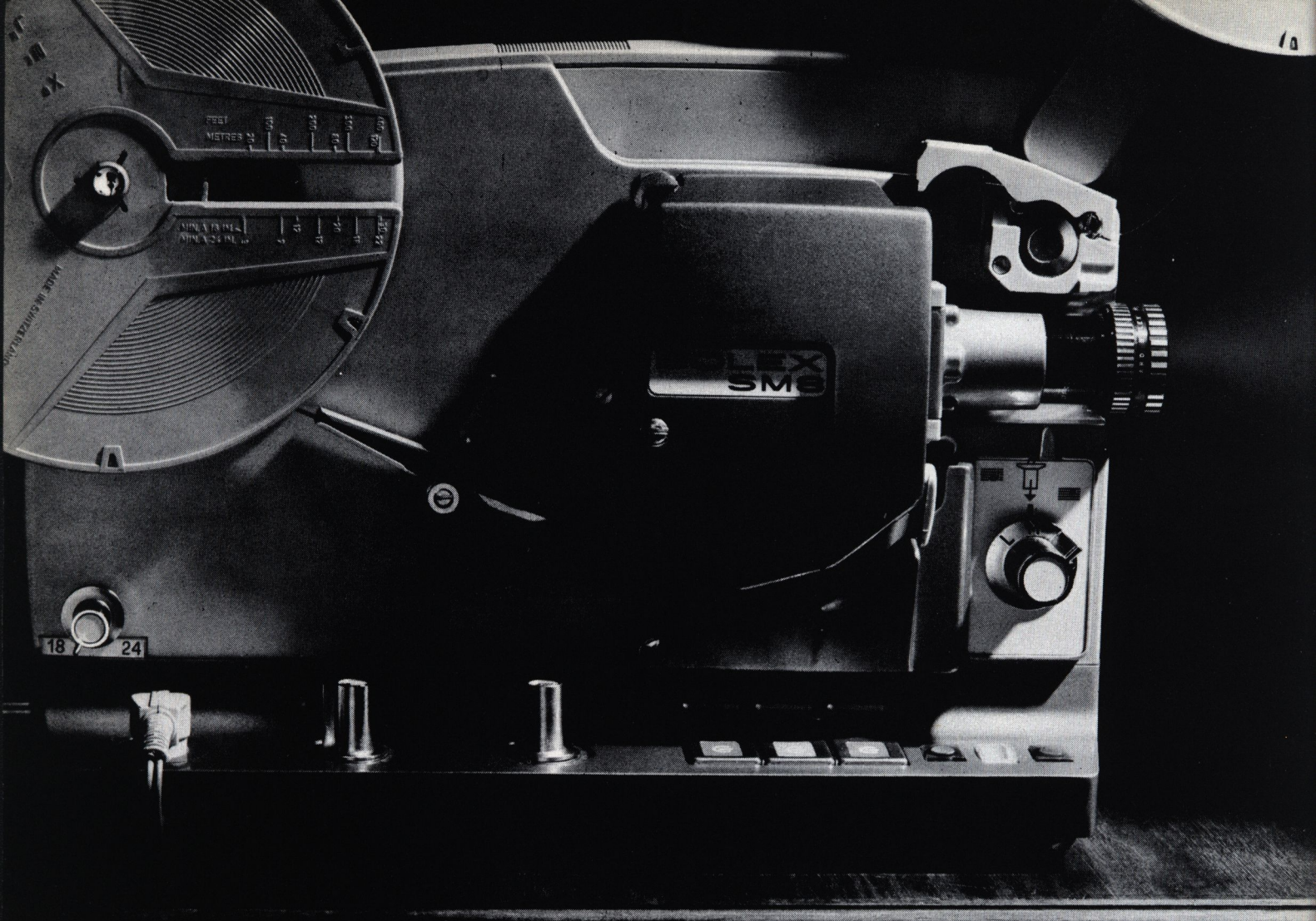
BOLEX

REPORTER

1967-1968

35 CENTS





Home talkies, Bolex style.

If you've been toying with the idea of making your Super 8 home movies into home talkies, here is Bolex's idea of what your sound projector should be like.

First, you should be able to learn how to operate it in no more than 10 minutes.

Second, third and fourth, you should be able to record music, voice and sound effects, one track overplaying the other. By pressing a button on the microphone, it should automatically bring the background music level down 60% so that it plays "under," or completely erases if you choose.

Fifth, sixth and seventh, it should have a frame counter to key sound to film at any time. The amplifier should be fully transistorized with printed circuit. And it should be compact and lightweight.

And lastly, it should have all of these projection features: Automatic threading onto the take-up reel, quartz iodine lamp, completely separate motor for ventilation alone, removal of the film at any stage during projection and recording, and a choice of lenses (15, 20 or 25mm f/1.3 or 14 to 25mm zoom.)

You can get all of these features (and more) on the new Bolex SM-8 sound projector. So why settle for anything less than Bolex Style. Especially since the SM-8 sells for the un-Bolex price of only \$360.

Paillard Incorporated, 1900 Lower Road, Linden, New Jersey.

BOLEX REPORTER

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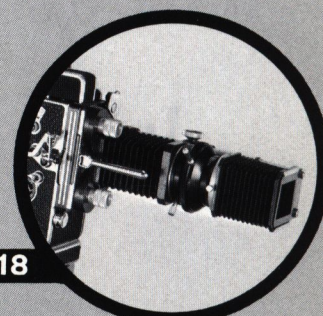
The BOLEX REPORTER is published twice a year by PAILLARD Incorporated, 1900 Lower Road, Linden, New Jersey; price: 35 cents. In the United States the magazine is distributed through Franchised Bolex Dealers. Subscriptions available from publisher at \$2.00 per four issues. The editor will be pleased to consider original articles and photographs on movie-making. All manuscripts and photographs submitted become the property of PAILLARD Incorporated or its designees upon publication and payment at rates current. Copyright 1967, Paillard Incorporated.



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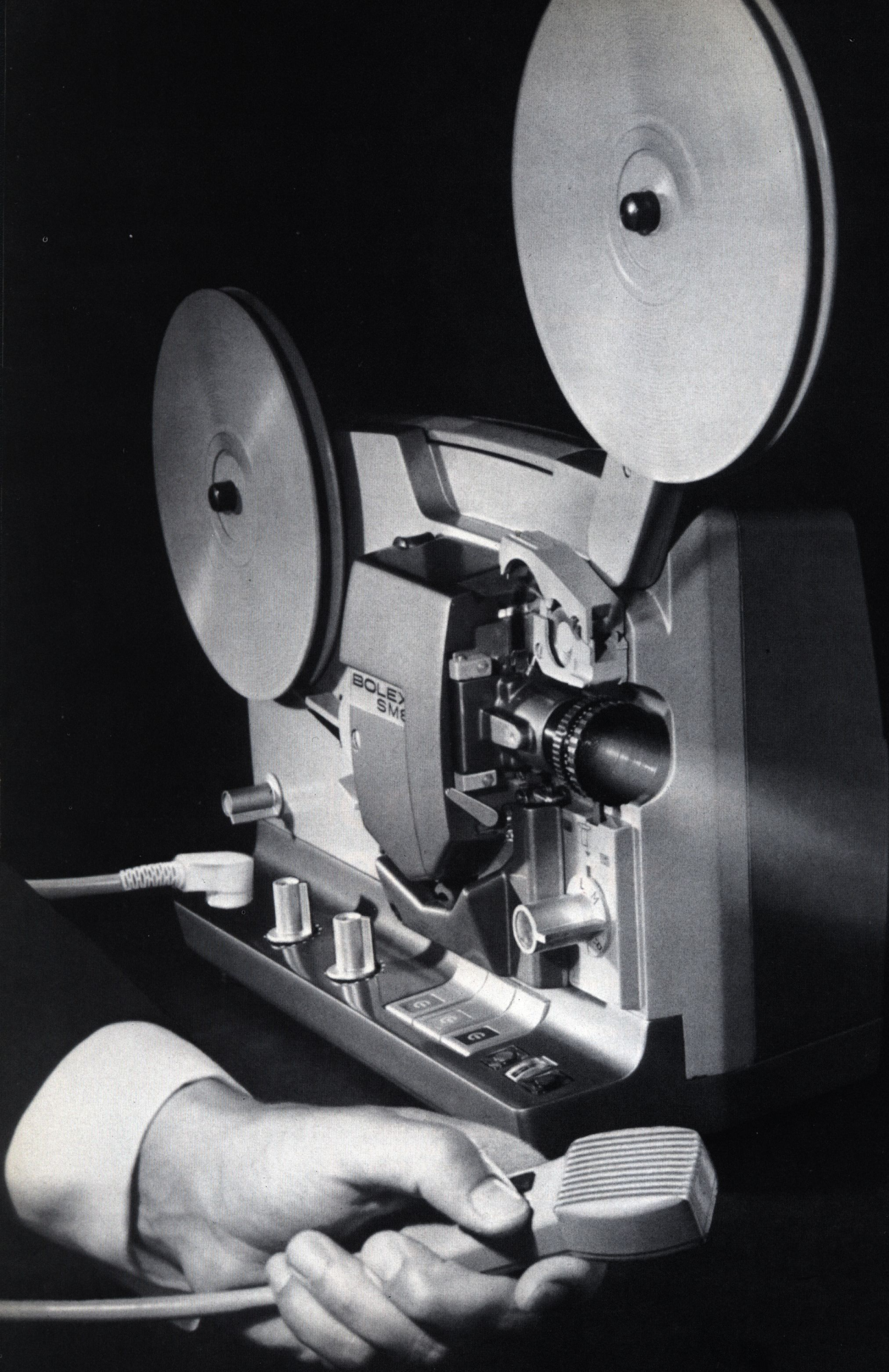
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The Bolex SM8 Magnetic Sound Projector

When you really want to put fun in your films, add sound simply with the Bolex SM8 sound projector. You'll make your home movies come alive without the complicated operation that usually goes with putting sound on films. Recording, re-recording, superimposing, erasing and playback are all push-button operations. A little extra—longer life for the lamp because you can project while recording with it dimmed to 40% of its power.

The Bolex SM8 not only instantly records but plays back instantaneously too. The projector's running speeds conform to commercial standards so you can project Super 8 films with perfect synchronization. The recording level is set with the playback volume control. Playback tone control is separate. Sound fidelity and projection quality are, of course, in the best Bolex tradition.

Not only will everyone enjoy the added sound when viewing film, they'll also enjoy longer viewing with less interruptions. Up to 800 feet of film (almost an hour's projection) can be shown without stopping. Film threading is automatic and on Bolex reels (up to 400 ft. capacity) the take-up is also automatic.

During the projection, you can manually unload the film, run the film in reverse (at either 18 or 24 f.p.s.) or turn the sound off and project silently again. It's all a matter of turning a knob or pressing a button—all clearly marked. No complications, just simple operation.

Lightweight for easy handling, the Bolex SM8 sound projector looks sleek and trim in a two-tone gray finish housing that has both height and leveling control. Looking and performing the way it does belies its low price.

For even more versatility, the sound projector is available for a little extra with a Paillard zoom 14-25mm f/1.3 lens. With this lens, any room—large or small, short or long—becomes a projection room. The lens will fill the screen regardless of room size.

More sophisticated filmmakers will appreciate knowing that the Bolex SM8 has a separate induction motor for cooling. Also, there are accessories available. A large accessory speaker, for instance. Another is the mixing console capable of all sorts of tricks like turning the sound system into a public address system; with its three inputs, each with its own sound level control, music, speech and sound effects, for instance, can be recorded at once. And then it's possible to superimpose over the three that have been recorded at once... ok now... this is where your imagination takes over.

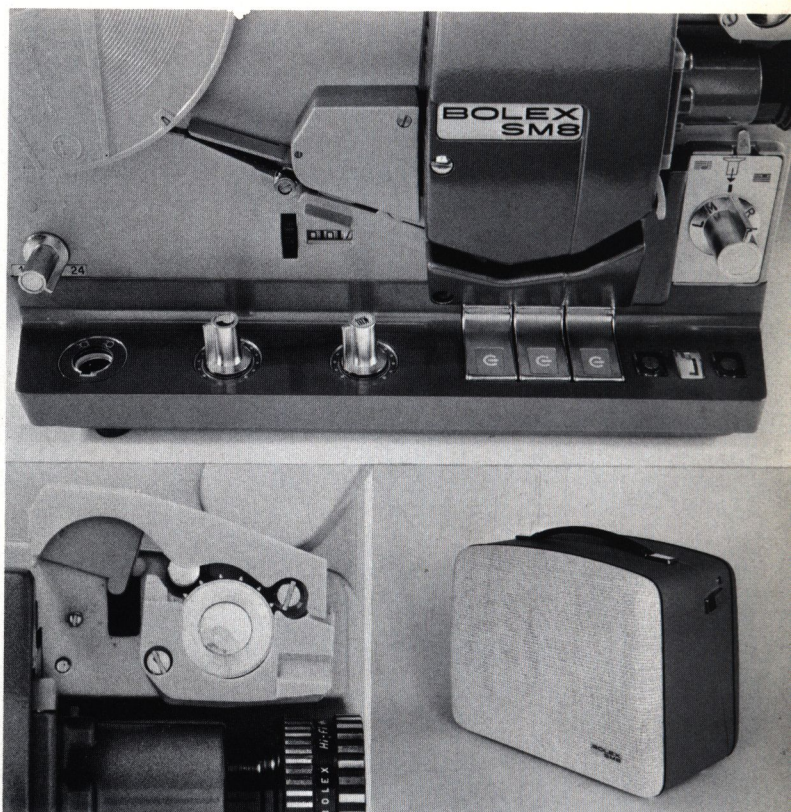
A few hints for making your sound track sound more professional... Using 24 frames per second speed when recording will produce somewhat better sound quality, especially when recording music [just as the 7½ inch speed gives better quality than 3¼ inch speed on a tape recorder], but the quality at 18 f.p.s. is perfectly acceptable. The SM8 has two speeds, 18 and 24 f.p.s., giving a choice of filming speeds. Narration and sound effects do equally well at either speed... Mixing your music will add to the effects of your sound track, so take appropriate bits from any larger piece of music... Be sure to write down your ideas for the sound you'd like to add as you project your film silently—in your enthusiasm you won't be able to remember all the ideas that will come to you—and, especially, make notes of narration thoughts to be sure to include all the information you want to when you speak into the mike. Run your film silently again before recording and try out your material... Turn the page for how-to instruction and amaze everyone with your professionalism.

The Bolex SM8 fully transistorized magnetic sound projector is the easiest operated unit on the market today that includes all necessary features from the mechanical, optical, sound recording and playback points of view.

The SM8 in the Field of Education

Opportunities for audio-visual presentations are becoming more and more frequent and being able to create them a valuable asset. The simplification of motion picture cameras in the larger Super 8 format, like the Bolex 150, has been a major step toward greater audio-visual usage. And right along in step is the Bolex SM8 Super 8 sound projector with its simplified operation for projecting and, more important, adding sound. Once a film has been edited and sent out to be magnetically striped, anyone can apply a sound track with the SM8.

Simple or elaborate sound tracks depend only on the amount of time you want to devote, operating the machine for either is equally simple. If your material is elaborate, repeated checks of recorded portions played back instantly will give you the chance of making it better through re-recording changes. There is no danger of damaging the sound track when re-winding because the magnetic recording heads are disengaged. The Bolex SM8 has all the features you need to make an effective sound film and they are spelled out in the following pages. They will show you how



if you are an educator for instance, you could film a demonstration of a complicated procedure and narrate it step by step for your students. Your own interesting film about a particular place could be enlivened with background music plus your own narration over it. It's done simply by recording the music first and then speaking into the microphone. By doing so, the music is automatically subdued by 50%.

With the SM8 it's possible to make a sound film as a class project... the students will find it just as easy to operate as anyone else and it is well-known that there is no better way to learning than involvement in a subject: And what more painless way to become involved? When you use the SM8 you can cover a subject as completely as you like. Project up to an hour without interruption with the large [800 ft.] film holding capacity. Separate motors keep the projector running cool during long running periods and prevent any overheating likely to cause film damage.

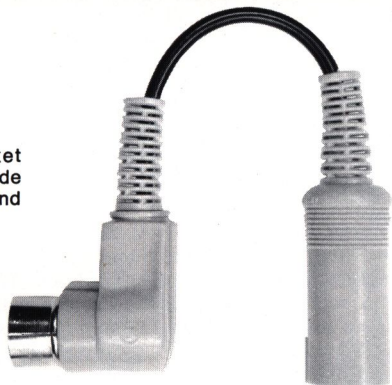
Using all the SM8's features, there is no reason why audio-visual films can't be made quickly, by the best informed person and be made effective enough to hold attention and get their messages across to viewers.

MUSICAL BACKGROUND

A background of music for your movies will add tremendously to their effectiveness. Choose your music to complement your visual material. In your travel films, for instance, local folksongs would be an excellent choice. A good jazz record will go great with your New Orleans scenes. You travelled to Europe last summer? Easy enough to select some Italian tunes to underline those unforgettable days in Rome, Florence, Capri, or Venice. And some oom-pah-pah music for the footage you took in Munich or other parts of Germany. It's really easy to select the right kind of music to fit your films or to give them a serious or humorous note.

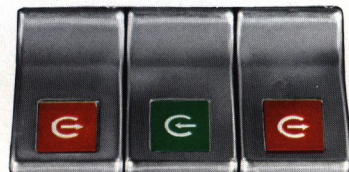


This is the input socket found on the left-hand side of the control panel. One end of a . . .

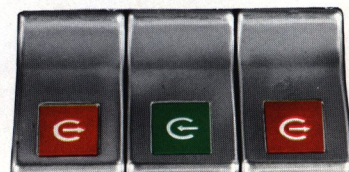


6" cable packed in with each SM8 fits into the input socket. The plug on the other end of the cable is for your tape recorder or phonograph. When they are connected, the background music you have chosen will be relayed to the magnetically striped film. But remember—you can't make music unless you're properly connected!

The two red buttons, located on the right side of the control panel, are pressed down simultaneously in order to record. There are two buttons so that if you accidentally hit one button you won't erase any sound.

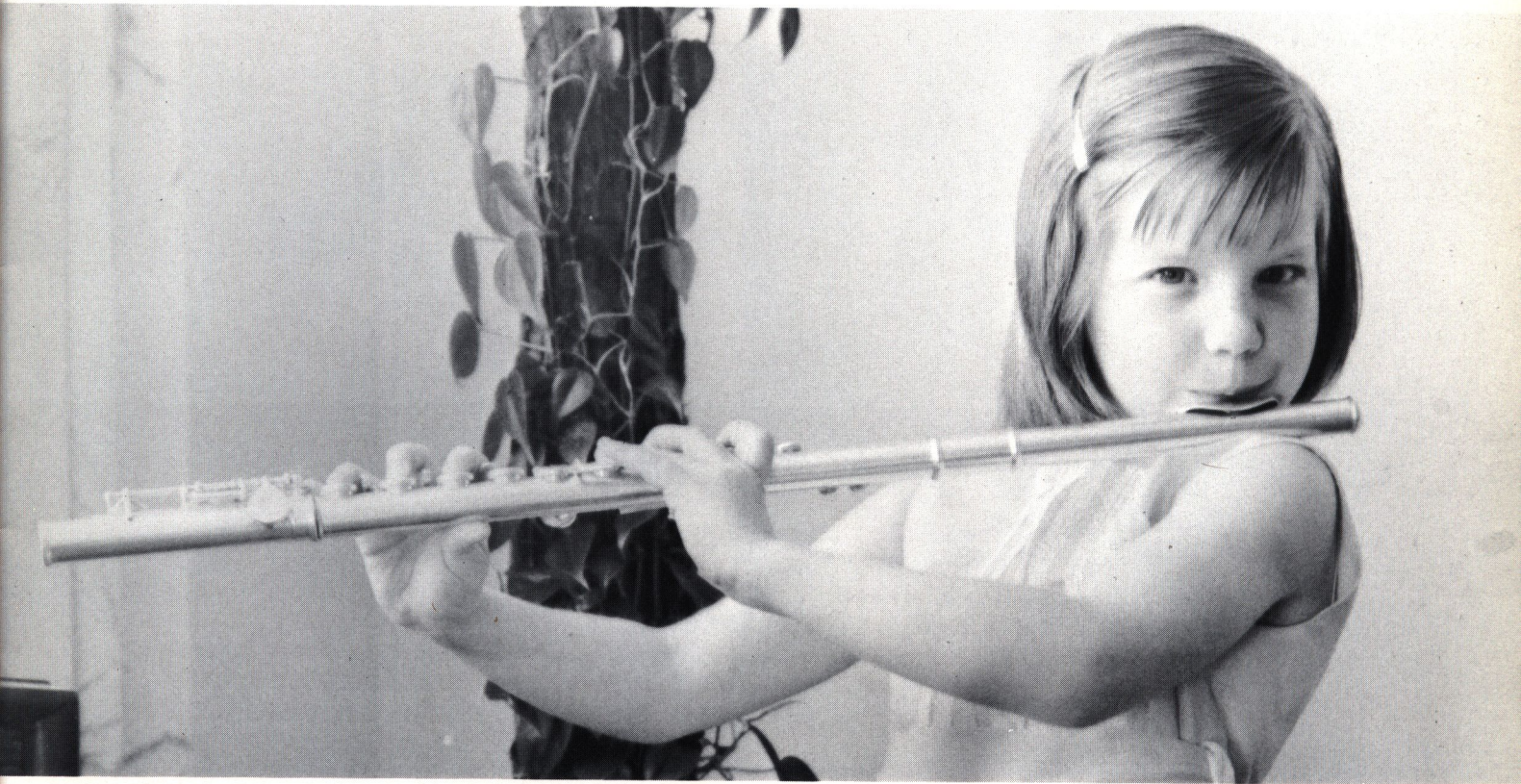


A green button, which you'll find between the two red ones, is pushed down for instant playback and should be used whenever you're through recording.

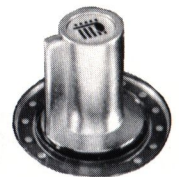
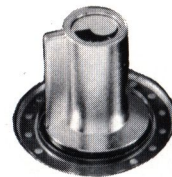
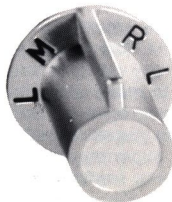


Home movies are still predominantly devoted to family, friends and children. Let's take the scenes below as examples. What Dad or Mother has not taken movies of the children at the circus, on a merry-go-round, while reading a storybook or making their efforts heard on their chosen musical instrument. Any record store sells virtually hundreds of records with music that would fit our movie scenes perfectly. The music will help set the mood and will enhance your films. Add a score from a concerto for oboe and flute to the movie with the little girl performing and you will have a most charming sound film. A word to the wise—always shoot enough footage so that you can add a sufficient length of musical score to it. It is simpler to film longer sequences anyway but to avoid boring the viewer make sure to change the angle of your subject during the filming. Take footage from right and left angles. Use a variety of shots. Frequent close-ups of the fingers operating the instrument and of the mouth and the cheeks filling with air will add a great deal of interest.

For the girl reading her story book? Well, naturally you can record the little girl's voice while she is reading a fairy tale, but you can also record a musical score of, say, "Peter and the Wolf" or a song from "The Wizard of Oz." And we don't have to tell you about the score that would fit a ride on the merry-go-round!



Plan to begin running your film a little before you press the recording buttons. Start the projector with the control knob just above the recording and playback [red and green] buttons. Forward motion is started by turning the control knob to the right. Set the knob at "M" and you will be able to project your film while adding sound and see exactly where to begin recording.



Next to the red and green recording and playback buttons are signal lights—a red one that stays on when you are recording and a green one that lights during playback. You can't make an error because you always know at a glance if you are recording or not.

These are the volume and tone controls handily grouped at the center of the control panel... be sure to adjust them to please your ear when projecting self-recorded film just as you would when showing pre-recorded sound films.

SOUND EFFECTS

The addition of sound effects, either alone or along with a musical background, will lend an added touch of realism to your movies. Whether the effect is the roar of a plane taking off from the airport, the traffic noise in a busy city, a motorcycle, car, or boat starting up, a cat meowing, children laughing, the sound of rain, a waterfall, the surf, a fountain, or even someone stirring sugar in a teacup, they all can be added with the greatest of ease. The possibilities for sound effects are endless—you have only to free your imagination. Try it once and you will never show a silent film again.

Special Sound effect records can be bought at any music store. These records contain a variety of excellently recorded sound effects. As a matter of fact, you may find it fun to shoot a few feet of film to match an interesting sound effect you have on your record. Then splice the footage in to your next movie.



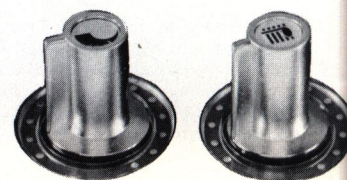
If you are going to take your sound effects off a record or tape recorder and fit them in here and there along with your background music, connect the cable as we instructed on the previous page...

or you can plug the microphone into the input socket and take the sound directly off your source. There is one red and one black button on the handle of the microphone for recording control. Press both buttons to record [erasing previously recorded sound at the same time]. To superimpose the sound effects over the background music, press only the red button while you are recording [music is automatically subdued by 50%].



To put your sound effects exactly where you want on the film, jot down the numbers of the exact frames to begin and end. You'll find the numbers on the frame counter above the tone control (check photograph of control panel on page 5 to see exact location). Start the film running a few frames ahead of time and press the red recording buttons at the exact frame you want to begin putting the sound on. Knowing the frame number to end on will give you enough warning to cut off the sound on the exact spot you want it to end. Between the frame counter and being able to project the film while recording, you shouldn't make any errors in placing the sound right where you want it on your film.

Remember to adjust the volume and tone controls whenever you playback. The instant playback feature on the SM8 will let you check any parts of your recording you like. If there is a correction to make after you have superimposed sound effects using the microphone, remember that all the sound will be erased when you re-record. You have to record the background music and superimpose the sound effect again. If you're not superimposing sound you can re-record any part in an instant by repeating the sound recording procedure you used the first time.



NARRATION

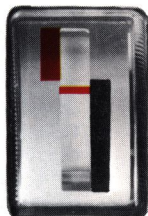
Take away the audio portion of your TV set during the news, a travelòg or any other show you might be viewing and no more need be said as to the effect sound has on film. Your own films will take on an entirely new and authoritative dimension when you add narration. Take a travel movie, for instance. Say in a few words [seriously or jokingly, you create the mood] where you went, what you did and explain items of special interest in your scenes needing explanation. Add that historic information which you would probably tell your audience anyway. Using narration, seemingly unrelated shots or short scenes can be connected to become meaningful to the viewer.

Have you taken an indoor party movie where your friends have gathered for a good time? Why not add your own comments to that party movie? You might even want to imitate some of your friends voices and make some funny comments.

Along with having fun with it, adding narration to a film can be a great help to an educator doing his own film for a class. Any information is much easier to digest when you can see it and get further explanation simultaneously. And when it's a relatively simple procedure, even the students can get involved and learn more by researching and adding the narration themselves. It will probably be the most interesting and easiest project they ever do.

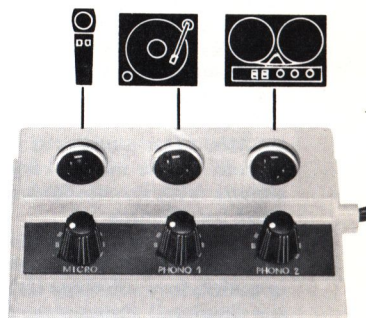


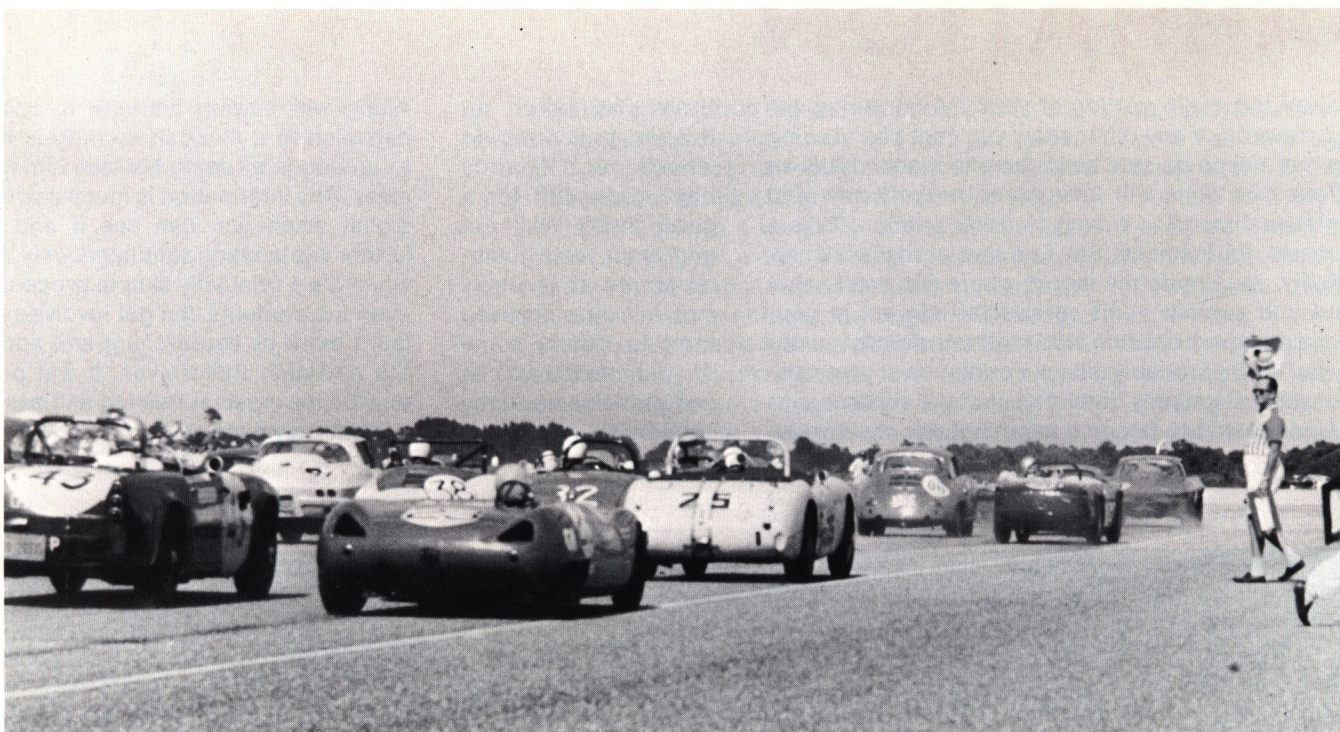
Once you connect the microphone into the input socket on the projector, you have a choice of superimposing your narration on a background or recording the narration alone. Using the microphone as far from the projector as you can, press the red button to superimpose your narration. Push down both the red and the black buttons for recording the voice and erasing any other sounds.



Sound can be a screech or barely a whisper and a pitch control, called the V.U. meter, is right between the green and red signal lights for you to control the recording volume of any sound. Before you record, push the record button without running the film and a needle in the V.U. meter will be activated. Try out your sound and watch the needle. Sound will be recorded fine as long as the needle does not go above the black area; if it does, turn the volume down until the needle stays only in the black section. If necessary, the volume can be changed during recording but with an eye on the needle.

With the mixing console, an available accessory for the SM8, you could record background music, special effects, and narration all at once if you wanted. Plug in the cable on the mixing console into the projector's input socket [where you connected the microphone, etc., before] and you have three input sockets to use. One is for the microphone, the others for phonographs or tape recorders. Each input socket has its own control so that to adjust the volume, the control on the projector is turned all the way up and then the individual controls on the mixing console are adjusted. The V.U. meter will show you if the volume is all right. Press the two red buttons on the projector [don't use mike buttons] to record and go ahead with all our other instructions for adding sound.





Bolex Stars in a Day at the Races

by E. Abraben

Throughout the United States and many parts of Europe, car enthusiasts assemble periodically for national and local racing events. The ensuing action is fertile ground for both the amateur and professional cinematographer. The sleek machines, brightly colored and numbered, tooling around the race courses, attract thousands of spectators, sports writers, photographers and cinematographers.

I was first introduced to sports car photography by the Florida Regional Executive of the Sports Car Club of America at a hill climb at Big Pine Key in southernmost Florida. The hill climb is a non-circuit type of race where the driver is competing with the clock rather than with other automobiles. Armed with a pre-war 35mm still camera, I recorded the event for the Sports Car Club Magazine, "Torque of the Town;" and was appointed official photographer for the Florida Division of the S.C.C.A.

After photographing two races in stills, I realized that there were serious limitations, and decided upon motion pictures for future races. I requested that the Club establish a budget for motion picture photography to give them a permanent record of each of their sporting events and they were eager to cooperate.

Next came the problem of the equipment required to do the job. After months of research, it was clear that the Bolex system would meet every requirement. I chose a Bolex H camera with a zoom lens, in addition to a full complement of fixed focal lenses.

Filming a sports car event comes under the heading of Documentary Photography and a prior study of the subject is mandatory. A close liaison with the Race Chairman and the Regional Executive will keep the cinematographer advised of where the turns, pits, and spectators will be located. Even when an event is repeated, the course is slightly changed to keep driver interest.

Every make of automobile has individual handling characteristics. A briefing with a sports car driver will enlighten one as to what to look for in the individual racing machines.

For example, an Alfa Romeo going around a turn will heel over very sharply. A low angle shot will reveal the entire undercarriage of that automobile. A Porsche, having a rear engine, has a tendency to swing out on the turns and requires great driver dexterity in holding it in. The camera, strategically placed, can record its drift ("wipe"). A "Formulation V" type will take a turn "flat out" much like a ball at the end of a string. A head-on shot is very effective here.

Riverside, California, Palm Beach, Florida, Watkins Glen, New York, have tracks with weekly or bi-monthly sports car events. The annual twelve hour at Sebring, Florida, the twenty-four hour at Le Mans, France, and any number of major British, French, Italian, American, German and Mexican road races are run.

Sports car clubs attempt to record the various events for club records and posterity, but usually are at the mercy of an amateur with inadequate equipment. The H-16 with their large film capacity, variable speeds, variable shutters, rewind motors, etc., give flexibility for professional results.

Selecting the proper film emulsion for the job is of cardinal importance. The brilliantly painted sports cars are excellent color subjects, but have a tendency to detract from the actual event when screened. As Humphrey Bogart put it when filming "Beat the Devil," "I want them flat and black." I use black and white, which seems to hold audience interest and dramatizes the realism.

Of course, the advent of the zoom lens has greatly facilitated sports photography. However, do not discount the trilens turret on the Bolex. A "cut" is still the most effective way of getting scene transition. Other transition techniques which I have employed are the swish, lap and lap dissolve, which are easily accomplished with the Bolex.

Exposures are extremely critical, particularly in the tropical sun where most of our races are held. Due to the fact that the track undulates into many azimuths of the sun, the cameraman must be aware of changing shooting angles. Most of the tracks provide a diagrammatic plan showing all of the turns, pit straights, and escape routes. By orienting this map to the sun, and knowing the hours of the day he is going to be filming, the cameraman can easily schedule his locations. In Florida, with either black and white at ASA 25 or color at ASA 25 (Kodachrome II), I have found that at 24 feet per minute (some of the films have magnetic striping and are projected on sound projectors) exposures between f.8 and f.11 have proven most satisfactory. Black and white, having a greater latitude even in poor light conditions, allows me to film without checking the meter as frequently.

There is plenty to photograph even before the first race is run. Driver registration, the technical check to certify the safety of the cars, and the feverish activity in the pits. For this reason, I keep my Bolex with me at all times. The subjects also tend to lose self-consciousness by the time actual filming begins. As a matter of fact, they attempt extra nuances and bravado when they spot me on the course.

From start to finish, that is, from registration day to the moment the trophies are awarded, a race weekend is fun and games for the filmmaker. I have even coaxed track officials into allowing me to take a ride during practice sessions and do filming from the moving car, sometimes at speeds in excess of 120 m.p.h.

Once familiar with the nature of racing, the cameraman can anticipate trouble spots and be primed for them. For safety, you had better know where you may and may not stand.

Various techniques can be applied to the filming of race sequences. I have strapped my Bolex directly to my arm, set it on the "M" position (marche), and hung it over the side of the car. The visual effect created by having the camera within a foot and a half of the ground approximates viewing at the bumper line of most sports cars is breathtaking. During such filming, I use 8 ft. per minute, thereby exaggerating the speed of the automobile and lengthening the useable time of the camera motor. A shot from a moving car past the pit area which runs for about a mile, simulates what the driver himself sees. There is always a good bit of signaling, waving, and chalk-board instruction from the pit crew: When to come in for gas stops, tire repairs, or general pit check.

At major races such as Sebring, permits, passes, and insurance must be arranged months in advance. For pertinent information, local Sports Car Club of America executives should be contacted.

My arrangement with the Florida Region SCCA is that they pay for all film and processing and I pay my own expenses for living and food. I consider the fun and excitement of being close to the machines far exceeds the small cost for a weekend with meals out.

The program of various events is a script to work by since the clubs will normally give the point rating of the drivers on both a Divisional and National basis; and you begin to anticipate from which cars the most performance can be expected. Having the program at the editing table assists also in identifying the automobiles.

For the added drama of sound, the film is magnetically striped and a stock racing car record is imposed. I use a recording made at track site by my sons, Keith and Reeve. I have also recorded from the announcer's loud speaker, which gives a great deal of depth to the overall scenes. The crowd noises are generally not what they are at other sport-

ing events, but a microphone could be moved around into various turns to capture the comments of the spectators.

Filming a race weekend involves a great deal of "belly" work. The individual events require a great deal of sustained action sequences; however, the insertion of one to three second clips of close-up action will also sustain viewer interest.

During the month of October the State Championships were held at the Palm Beach International Raceway at Palm Beach, Florida. Loaded for bear with 2,000 feet of B&W film (A.S.A. 25) my Bolex H camera with zoom lens with a polarizing filter, we arrived during the practice sessions and time trials for positions on the grid.

I stationed my sons at the start-finish line while I toured the pits for background and introduction footage.

Visiting the officials' stand, I was briefed on the events, the problem turns and the condition of the track. A study of the map of the track showed that the low numbered turns could be shot during the morning and most of the high numbered turns in the afternoon.

With my official's tag prominently displayed, I found the track (course) Marshall and worked out a program with him for pickup and drops between the events. One complete tour of the track and an introduction to the corner officials and flag men meant that at any time during the afternoon I would be recognized and not mistaken for a wandering spectator.

Preliminary shots from the officials' tower which affords a view of the entire track, gave promise for later filming while the races were in progress.

When referring to "belly" work I meant getting down on your stomach at wheel height, pre-focusing on a turn and waiting for the action to pass you by. Staying on the inside of the turns is relatively safe since a spin will normally occur on the outside . . . however, you must be on a constant alert to move quickly. On many occasions I have had to do some pretty fancy footwork to avoid becoming a hood ornament. If you have the stomach and understand the characteristics of the automobiles, normally they will recover and you have footage that would turn colleagues green with envy while turning your hair white. That's the name of the game. The drivers are in a risk business and if your lens can capture this element, you have the essence of racing on film.

Road racing is only one activity of sports car clubs. There are driver schools, rallies, and gymkhanas. In order to receive their licenses for competitive racing, a novice must attend Drivers School to be certified by SCCA officials. What a fertile field for real action photography! They spin out, turn over, and hit railings, not to mention each other.

Rallies are cross-country events on public thoroughfares over a prescribed course where the driver and his navigator are competing against the clock from checkpoint to checkpoint. The Pan American and Monte Carlo rallies which are days long, are two famous ones.

The Gymkhana is to Sports Cars what gymnastics are to athletes. A rigid course is set with obstacles and barriers and the trick is to complete the run with a minimum of incidents in the shortest period of time. Local clubs normally hold these functions in the parking lots of large shopping centers. Low and high shots are the most practical. C.U. lows again for interest and screen filling and the highs for sustained action. The roofs and sign towers of shopping centers are excellent stage platforms.

With its excellent reproduction quality, Bolex H-16 is perfect for producing documentary programs that could be sold to television stations or enlarged from 16 mm to 35 mm for theater viewing. Local distributors are always in the market for this type of short.

A close-up of a spinning tire throwing dirt, a head-on shot of a straight, a bird's eye view of the overall action, an engine being pulled, the colorful drivers suits and helmets, a pair of tight slacks on an attractive spectator, the queue-up at the lunch wagon, the drivers at the meeting, the cocktail parties, the entire spectacle invites your attention.

The actors, the stage and the scenario are free. No amateur could afford the cost of synthesizing the drama and excitement of a sanctioned automobile race, be it stock car, sports, or drag.



The Bolex 150 Super Camera

Whether you are a beginner or a more dedicated devotee of cinematography, you'll find the Bolex engineers had your needs uppermost in mind when they designed the 150 Super 8 camera. The result is an outstandingly different design that combines an unprecedented ease of operation with versatility and with every innovation in the design having a definite purpose...

The exciting shape of the 150 evolved as a logical placement of components [film chamber, lens and motor] producing a lightweight [all aluminum], rugged, almost perfectly balanced camera with all the controls at fingertip reach to be operable during filming.

Pistol Grip With Motor

The 150's pistol-handled grip [which holds its electric motor] makes it that much more comfortable to hold the camera firmly and easily during filming without excessive movement to tire the filmmaker since most of the weight is at the base of the camera. The perfected electric motor drive assures constant speed filming—through as many as 20 cartridges with a set of four standard flashlight batteries.

Convenient Carrying

The 150 is carried in the perfect position for quick-draw shooting—hanging around the neck on an adjustable leather strap that puts it at hand height the way most still cameras are carried.

Look at all the advantages this gives you: When something interesting happens suddenly there's no extricating the camera from the case, losing unretrievable shooting time and taking the chance of missing the best shots, and no possibility of dropping the camera or accidentally changing settings while trying to get it in and out of the case. It is in a natural balanced position so you won't tire as easily as you would with all-on-one shoulder carrying and, most important, your hands are always free to load and operate the camera.

For extra steadiness, shorten the neck strap enough to brace the camera against the back of your neck.

Foolproof Loading

The film chamber on the new Bolex is notched for Super 8 cartridge—meaning it's impossible to put the film in wrong. Its wedge-shape feeler for the speed notch automatically sets the film speed from 25 to 200 ASA. And it's so simple it can be done with one hand even while the camera's around your neck.

Versatile Viewfinder

For convenience and accuracy, the 150 has a generous sized reflex viewfinder. A clear white rectangular shooting field is set within a gray transparent field of view so the filmmaker can see the recorded area as well as the surrounding area—particularly useful when filming fast moving subjects. A clear, sharp, undistorted view of the subject is given the filmmaker at all times—even when the lens is closed down.

Not only is the subject seen through the viewfinder, important information is given the filmmaker as well. For instance, by means of a mobile needle seen at the bottom of the frame, indication is given when there is; insufficient light (needle moves into the red zone), too much light (needle moves into the yellow zone), what condition the batteries are in (by needle's response to a lever movement), and, by a broad black line appearing in the corner of the viewfinder, when the film is finished.

Looking through the viewfinder is never a hardship—image sharpness can be adjusted to individual eyesight and the comfortable rubber eyecup can be swivelled and folded

back enabling the filmmaker to view with either eye and to accommodate people who wear glasses.

Zoom Lens

With the Paillard-Bolex f/1.9 zoom lens' focal length range of 8.5mm to 30mm, and the sure balanced grip the design allows, tripod steadiness is practically assured. The minimum field size—at a distance of 32" from the filmplane mark and with a 30mm focal length—is approximately 4" x 5½". Made up of 17 coated lens elements, the zoom lens assures perfectly sharp, colorful and well-contrasted pictures. Maximum aperture of f/1.9 allows filming in poor light and minimum aperture of f/16 avoids overexposing in very bright light.

The zoom control is a large round knob on the left side of the camera with a fold-out handle that allows for convenient and fast, smooth zooming.

Focusing

Next to and below the zoom control is a small knob for distance setting. Focusing—from 32" to infinity—can be set with pressure from the thumb without breaking the filming hold. The distance scale on the right side of the camera is geared down for more accurate settings and is engraved in meters and feet. Accurate focusing down to 26" from the lens is convenient for titling (a single-frame release accessory is available).

Automatic Exposure Control

A sensitive cadmium sulphide photo resistor measures the light through the zoom lens in the exact area being filmed and diaphragm adjustment is entirely automatic. But keeping the serious filmmaker in mind, the new Bolex 150 has a unique diaphragm lock for versatile exposure control. By pressing the small button next to the release (same finger that operates release can do it), the diaphragm locks in its present position; locking can be done before pressing the release, at the same time or any time while filming—release pressure on the button and the diaphragm returns to its normal function.

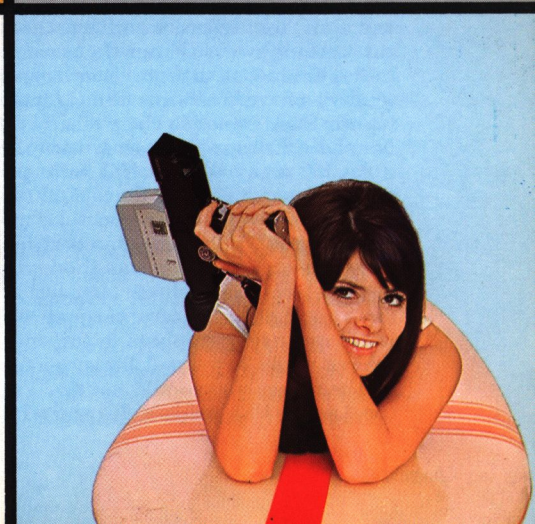
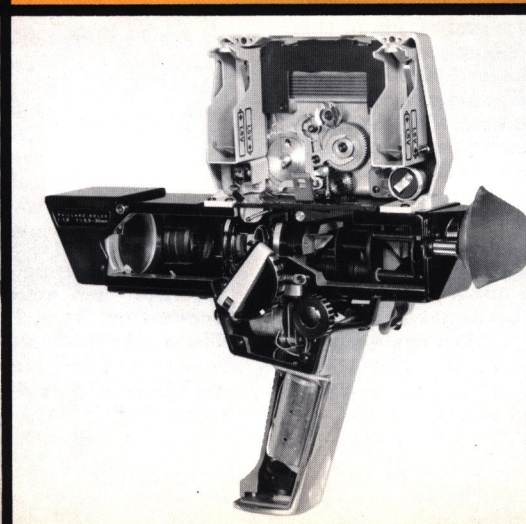
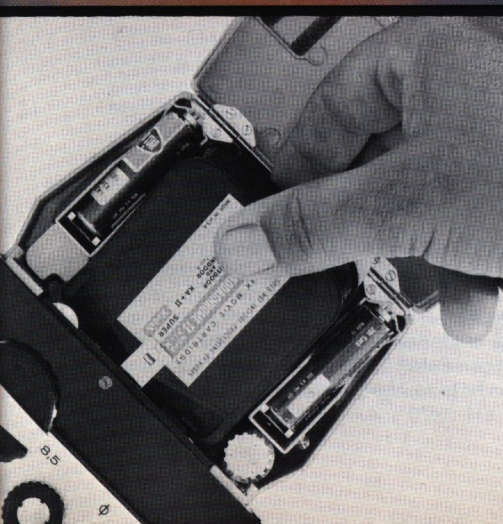
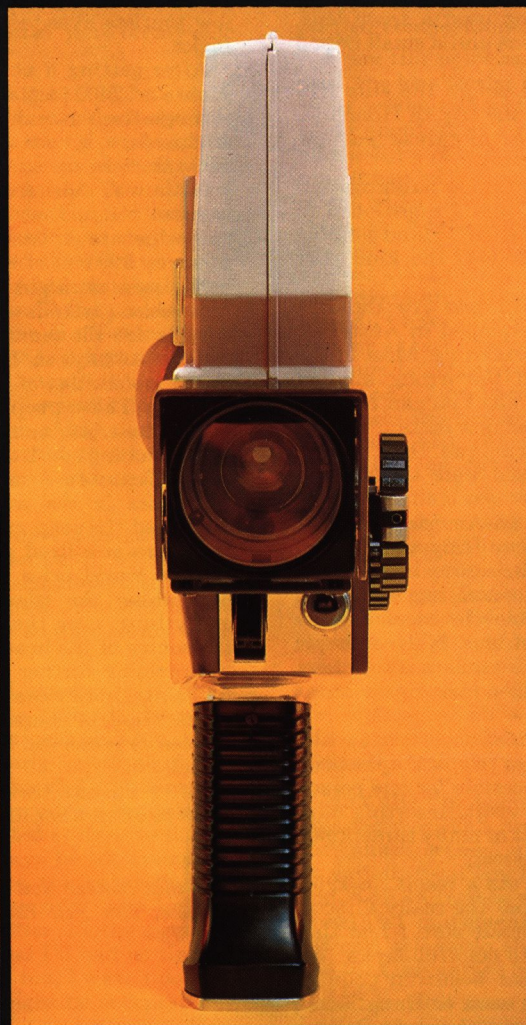
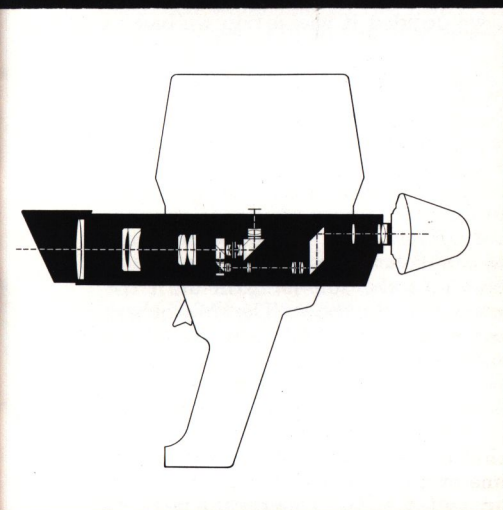
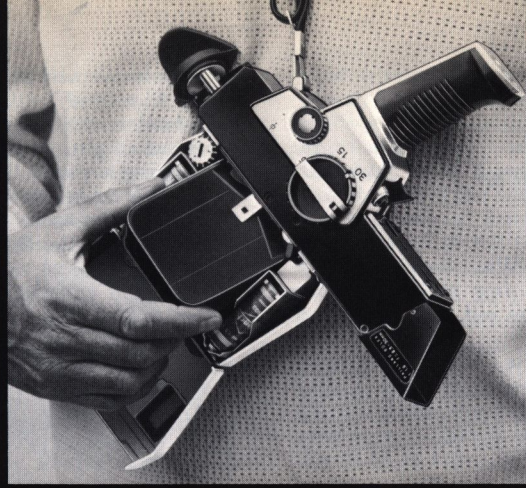
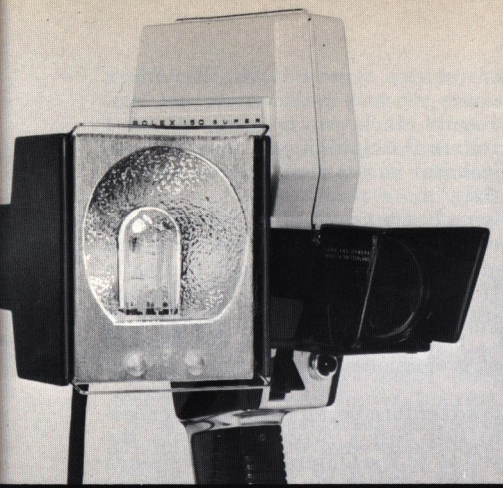
This feature alone provides unlimited possibilities in filming under various lighting situations. A particular area within a scene can be measured by setting the lens to telephoto position, and the diaphragm is then locked in a set position for shooting the entire scene with the lens set to a short focal length. This method of filming assures accurate exposures with dark subjects in front of light background, or in any scene with great brightness contrast. While panning, the diaphragm can be locked in any position to prevent it from opening up or closing down excessively in very bright or very dark areas. Locking the diaphragm also allows manual setting. The switch from automatic to manual control can be made any time while filming without having to stop the camera and without jerking it.

Built-in Filter

A very important feature found on the 150 is a built-in conversion filter for use with Type A color film outdoors that can be manually controlled. The filter is automatically in position but it can be removed by the switch on the Bolex movie light (an available accessory) giving the added advantage of being able to carry the movie light on the camera when filming in daylight. The filter can also be removed manually by moving the selector switch inside the film chamber which is clearly marked in blue with a sun image for daylight and in red with a lightbulb image for tungsten. With this manual control, shoot in any type of artificial light without inserting an accessory too easily lost.

A Sunshade Plus

The triple-purpose sunshade is another example of foresight designing. It's hinged to the camera body to protect the lens, of course. But it can also be used as a fading device to add the touch of wipes at the beginning or end of a scene just by slowly opening and closing it with one hand! Any amateur can add a professional touch to his films with this feature. Naturally, the sunshade also functions as an important deterrent to direct light hitting the lens top. A functional little device always ready to use, and impossible to lose.



An Idea is Born

by Carlton Schammel

In 1957 I asked my wife, Virginia, "What would you like for Christmas?" Her answer was: "A trip on a slow boat to China." Well, China had just gone red, so she settled for a trip on the P&O liner, Orsova.

Thinking I knew all there was to know about photography with a 35mm still camera, I felt I wanted to make a very complete story of our trip. I discussed my desire to try another media of photography with a friend in a camera store. As a result, I took along my first Bolex H-16 movie camera. No 8mm for me; mine was to be the greatest travel documentary ever made! Never having used a zoom lens, I decided to play it safe and use a 2" lens and a small tripod instead.

Everybody came to see us off, and before the ship had sailed, I had shot two rolls of film. On the trip to Honolulu, I took all kinds of shipboard scenes just like those possible with a still camera.

In Honolulu, the camera was so busy taking buildings and sugar cane fields as the bus rolled by that I questioned in amazement, "A movie camera can do this?" Hand-holding the camera, I really got lots of movement, the kind that jolts up and down.

Finally, after the rush through Fiji and Auckland, I proudly had my "wonderful" films developed in Australia. Unfortunately, I experienced a rude awakening. Most of the footage was poorly lighted, or full of the wrong kind of movement, or there was no picture at all. You can imagine how I felt belatedly discovering that using a motion picture camera requires a very different technique than a still camera. Tripods and lighting, I realized were the keys to filming.

Instead of returning directly home to America the way most people do, we decided to sail west to Italy and Central Europe and then home.

In forgetting the buildings and concentrating on action, such as dancing girls, costume events, bicycle riders, I really wished I had brought along that zoom lens. Native people become very self-conscious when a movie camera is too close, and with the zoom lens I could have taken close-ups without the subject being aware of the camera.

This trip produced a very good collection of action film clips. Many of my friends wanted prints to spark up movies they had already made. Since it is impossible for one person to get all the action of each area he visits, inserting clips gives their movies the professional effect of many cameramen covering the event as well as added interest.

Now we really had the travel urge. As a result, in 1961, we decided to do another trip. We chose the really difficult areas in the Orient. And this time I made sure I had that zoom lens in the bag. Away we went to colorful Japan. We toured Kyoto, Tokyo, Nara, and other beautiful country spots in this land of festivals. We then went to Hong Kong, Singapore, up the Malay Peninsula by railway to Penang and Bangkok, where we filmed the color and action of this outstanding world. From there we continued our travels to India, from Calcutta to Bombay, capturing this puzzling country of contrasts on film. Next, we jumped from India via the Suez Canal to the French Riviera and then on up to Northern Europe through Norway, Sweden, and Denmark.

Again, many of my clips were printed and made a part of other people's travel films. And again the question mostly asked was, "Why don't you take more buildings and other static scenes?" The reason is that by panning a 35mm slide, using the pan and zoom method, (if done carefully and the scene selected is without motion,) the quick clips required for a good documentary are just as interesting. This allows me to arrange these shots to suit me and at my convenience. I have made two small films, using slides only. One shows all the things you should not do. The other short film shows the Anghor Vat, using slides and a bit of movie film.

A Bolex is well suited for this type of work. The Bolex saves film, and I have not yet had a viewer express dissatisfaction with the results. It is unimportant to have someone of your party climb the Sphinx just to prove you are taking a movie. A colorful native shot is more original and much more interesting.

For many reasons, I am always grateful for the man who recommended the Bolex to me. In traveling through thirty countries, I have never been questioned about having a professional camera. (In some countries, you have to pay a tax to bring in a camera that the customs classifies as professional.) Yet, and I must emphasize this, the finished film product is the most professional you can get with any camera.

Another photographic adventure began with an advertisement seeking people to help sail a private yacht to the Galapagos Islands, as well as to the Outer Islands of French Polynesia. This area being a part of the world where very few tourists ever visit, we decided it was a trip we had to make.

After getting a new Bolex H-16 Rex with a reflex finder zoom and 2400 feet of Kodachrome II, away we went, down through the Panama Canal to the islands of the Galapagos Archipelago, where the wildlife is so tame the animals let us walk right up to them. Still, much of the filming of the wildlife was done from open boats because beach landings were so rough that landing crafts turn turtle. (Volcanoes can wipe out a beach overnight.) All of the scenes were taken on 800 feet of beautiful color.

We went straight west into the sunset again until the Marquesas Islands came over the bow. The Marquesas Islands are the manufacturing area for all beautiful things the tourist buys in Tahiti. The monthly supply boats bring in the necessities of life and take out the handcraft of the families. These people live today much as they have since before the white man, even retaining their old idol worship.

Continuing south and west, we landed in the Coral Islands of the Tuamotu Archipelago where a good percentage of all the copra in the world comes from. Detergents have so depressed the soap market, the French government buys all the copra at a fixed price and sells it on the open market at the low world price to support these people. Shells are the only thing the islanders have plenty of. They decorate everything, even their graves, with shells. These islands are the source of the beautiful shells sold in Tahiti.

Traveling further west, we find ourselves in the Islands of Tahiti, Bora Bora, and Moorea, where the restless tourist visits. Here, of course, we filmed the beauties at their native dances as preserved by the happy bachelors at their Bali Hi Hotel.

After all our traveling, we have collected a variety of films to offer other filmmakers for scenes they missed.

For that footage you missed on your trip write Film Finder Service, 250 Fell Street, San Francisco, California, 94102.

The Lens That Does the Impossible

by William A. Keith

Anyone who has ever produced a true documentary or travel film, or other type of production requiring "newsreel type coverage" and extremely flexible, light-weight equipment, knows that these features in a camera can be invaluable. These attributes, along with dependability and the excellent resolving power and true-color rendition of Switar lenses, has led me and many others to choose the Bolex H16 for this type of work.

Until recently, however, one important feature was missing from my camera case—a zoom, or variable focal length lens. I didn't want just any zoom lens, but one which could be used from wide-angle to telephoto without compromise, that didn't go "soft" when you approached the wide-angle, or distort in telephoto, that would give me color to match the other fine Switar lenses, and footage that wouldn't be noticed as "different" when spliced into a sequence.

This seemed like a pretty tall order, considering that I tried many zoom lenses, and I began to think that it was just asking too much. When I went to purchase the Vario Switar, there was a choice of taking either the lens with or without the electric eye meter offering fully automatic exposure control, and here lies the real subject of attention.

If anyone had asked my opinion two years ago on the use of a fully automatic lens, especially a zoom—and on a movie camera—I would have expressed violent objections and hastened to outline all the many pitfalls which lay in the way of its use. And at the time most "pros" were on my side all the way.

Actually, it all began when I couldn't get an 86 for testing and tried an 86EE instead—after all, it was the same lens and if I liked it I could always order the 86 without the meter. With time at a premium, I took the lens and shot two 100-foot rolls. The results sold me! As to the EE model—well, my test was not very comprehensive. The EE had performed better than I had expected but I still had my doubts. I just couldn't see the automation, especially since we work with Ektachrome Commercial at ASA 16 daylight, and while this is a very fine film, it contains all the problems of limited latitude inherent in all slow fine-grain color films. But in the long run I decided that the price difference of the lens was not that great, and that maybe, maybe it just might come in handy sometime—even though I secretly doubted it all the while! Telling a fellow filmmaker of my purchase, I could feel my face getting red and I began to wonder if I wouldn't be jeopardizing my professional standing by using the lens in public!

Well, it wasn't long before I had a chance to make a fool of myself, or so I thought. It was the summer of '65, and my wife Venny and I were on our way to Luxembourg to do our second travel film for Icelandic Airlines. The 86EE was aboard in a newly cutout foam case, but so were all my other Switars, so I felt secure!

Georges Hausemer, Director of the Luxembourg National Tourist Office, met us the evening we arrived. Since the following day, June 23rd, was their National Holiday, I discovered that we'd be at it bright and early—with no chance to even reconnoiter the locations beforehand. Did I dare take the EE? It was going to be a situation requiring flexibility—no opportunity for retakes—and I wanted stills as well. So I thought, why not—the lens could always be set manually; I'd use my Gossen Lunasix and have the other Switars handy. But I wasn't brave enough to consider hand-holding—the tripod was a must, especially after all the personal experience I'd had with other zooms, and I'd had no time to try the EE this way while testing. Then too, I wasn't doing a newsreel film where some movement might be acceptable—the results had to be rock-steady.

The day started calmly enough since there is always the waiting before a public event and especially if there's to be much ceremony. But when things do begin, they happen fast! While waiting, I checked all the areas of light and shadow with my Lunasix and against the 86EE. I had intended to use the hand-held meter during the actual filming, but, before I knew it, I'd forgotten and was using it at a different ASA for the stills. It was a situation where I could have done without the tripod, but I didn't dare then. Even so, when it was all over, I had all the stills I needed, impossible under any other circumstances without an assistant!

But what about the results? Now I began to worry. I thought back to one point where a Luxembourg Television man shook his head sadly when he saw me filming the Grand Duke in the darkened interior of a cathedral doorway with my 86EE and ASA 16 color film! He must have thought me

mad when, with the limited depth of field at f:2.5 (wide-open), I panned from the doorway to follow dignitaries to waiting cars, zooming from telephoto to wide-angle as they approached me at an oblique angle, and follow-focusing at the same time! I really had my doubts as to how all this would project but consoled myself with the thought that I'd taken plenty of footage and maybe by careful editing I'd have enough. Until I received the rushes, you can be sure I switched to the prime lenses for anything really important!

But I was in for a big surprise—over 90% of everything taken was completely usable! I do not know what happened to the laws of depth of field, but they might as well not have existed. Could I have been that accurate in following? It seemed impossible because I was also zooming and panning while focusing! But there it was—sharp, clear, and steady—well within the limits of acceptable exposure latitude, even the doorway scenes. I had far more footage that I could possibly use, and all the stills were fine too with no signs of hurried composition or technical error—I was amazed!

From this point on, I no longer had any trepidations and used the lens freely, panning from light to shadow and vice-versa without thought. Then, suddenly, I started worrying again about what I was doing without thinking—exceeding all the rules of contrast ratio for color film, and maybe panning too quickly for the electric eye to keep up! It all dawned on me when panning up the General George S. Patton monument in Echtermach on Remembrance Day from deep shadow at the base to the eagle atop the pedestal silhouetted against a bright sky. After that, I used the lens more carefully again until this footage was available for viewing. But I needn't have been concerned the 86EE kept its diaphragm moving as fast as I had panned. Of course, you could see the exposure being compensated for in these pans, but there was no lag as I have seen in some films shot with other electric eye lenses where you go from a dark doorway to a brightly lit plaza which comes in overexposed for 10 or 20 frames before the eye-operated mechanism catches up.

But the final test was yet to come—I hadn't yet dared to shoot in Luxembourg with the 86EE off the tripod. However, in between our filmmaking, we took a vacation in Switzerland. I had promised Venny to make it just that, but the Swiss scenery, and an urge to play with a new toy was just too much, and I found myself with the Bolex in tow, but, wishing to "play it down," took along only the camera, the grip for it, and the EE lens. Now, as we strolled about, I could experiment with hand-held shooting, and possibly use the footage which we needed of Switzerland for our film, "Discover Luxembourg," since the theme was that, by flying Icelandic Airlines, you could also "Discover Europe."

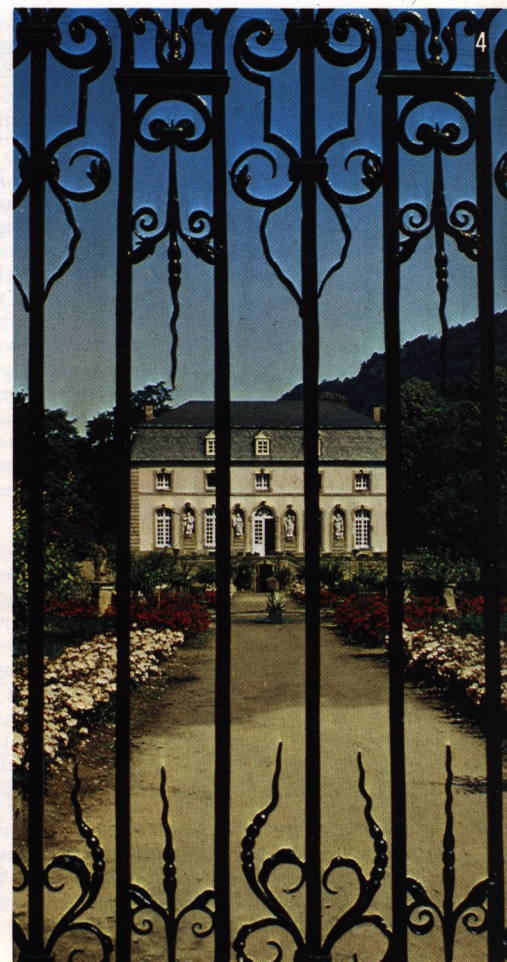
Now the "moment of truth" was at hand. My first impression was that, despite the weight and size of the 86EE, the camera seemed unusually well balanced. At first, I shot at various focal lengths without attempting to zoom, at 32 and even 48 frames when the subject permitted it, without unnatural movement becoming apparent. I also avoided extreme telephoto shots unless following action or braced, and took advantage of any nearby support that offered itself.

As I became more experienced in hand-holding the 86EE, I attempted zooming while shooting, or even while panning, and at 24 frames, normal speed for sound films. Of course, reflex viewing with the Bolex always provides a clear, uninterrupted image through the taking lens, even while filming, and everything looked quite steady in the viewfinder—or was I fooling myself? This is often the case until you get the footage back from processing and project it! Well, again, I was amazed with what I had taken when I saw it back in Luxembourg. With a few exceptions, it was as steady as I'd viewed it!

After this final, crucial test, I wasn't afraid to use the lens in any situation, just as I'd use my prime lenses; and from that point on in our Luxembourg film, whenever hand-held shooting was called for, the 86EE generally went on the camera. On a stop-over, we used the 86EE to add to our growing library of footage on Iceland. With experience, care, and practice, I even succeeded in employing the same focusing-while-zooming-and-following technique that worked



Scenes of Luxemburg and Iceland from documentaries filmed by William A. Keith: 1) An Icelandic poppy. From Luxemburg: 2) Sidewalk cafe scene along the Place d'Armes, 3) Esch-sur-Sure, 4) Orangerie Gardens' Museum, 5) Grand Duke Jean, Grand Duchess Josephine-Charlotte, and heir to the throne, Prince Henry. 6) Surtsey, an island off the southern coast of Iceland created by the still active volcano called Surtur. 7) Detail from a tapestry hanging in the Luxemburg National Museum. 8) After the parade, part of a religious celebration in Luxemburg.





High resolution of close-up 1) demonstrates excellent results from the automatic exposure control of the Vario-Switar 86EE zoom lens. Exposure automation enables candid shooting as seen in 2) reproduced directly from original 16mm frame. Both extreme wide-angle scenes 3) and 4) show sharp details and depth of field. Whether long telephoto 5) or wide-angle view 6) accurate exposure is always assured. Advantage of instant exposure adjustment is shown in pan from brightly colored close-up 7) to costumed boy 8) whose natural expression was caught because no time was lost adjusting the diaphragm: And with automatic diaphragm control, subjects remain unaware of being filmed.



with tripod shots, but this does take real practice!

Naturally, we cannot all become as adept as others in handling a camera—some filmmakers had best always leave their cameras on the tripod since their hand-held work is just not acceptable. But for those who can hand-hold and want to try it with the 86EE, perhaps a few tips are in order, at least, I find they work for me and maybe they will work for you too:

1. Use the camera grip for best balance, preferably with the right hand, along with camera cable No. 417 which connects directly to the 86EE, and thus the lens will operate as it should, allowing focusing wide-open with slight pressure on the trigger before full pressure lets it close down again automatically for shooting. It may be, of course, that lady filmmakers with weaker arms may have to resort to additional means of support, from the shoulder possibly.

2. Grasp the barrel of the lens with the left hand, zoom lever operating stub between thumb and forefinger. Don't use the zoom lever extension—it's unnecessary and awkward in this case. The left hand can, in this manner, operate the zoom and help to steady and support the camera as well. Some might find that the fore and middle finger can best operate the zoom. The reason that I stress the *left* hand on the *left* side of the camera is to keep away from the electric eye!

3. If you want to live dangerously by zooming and focusing simultaneously, you can, with practice, operate the focusing ring with the fingers and the zoom with your thumb, but it will take you a while to learn which way the focusing ring turns so as to follow motion and a great deal more practice not to mix it up with the rotation of the zoom lever.

4. When the camera is tripod mounted, you can employ the same basic method, but, to have everything going for you without needing three hands, you will have to pass a 40" release from the 86EE through your pan-head arm so that panning and release can be accomplished with one hand and zoom-focusing with the other. If your pan-head arm is on the left and can't be switched, then you must use the right hand at the lens—but watch that electric eye and particularly while focusing! Use the tripod whenever you can, for, despite the hand-held successes I have had, it's still best and safest. For steady, stationary shots in telephoto positions, sometimes it's best to operate the button-release directly.

To sum up, the new Vario Switar 86EE is, in my opinion, a remarkable achievement—one which meets all the requirements of the professional filmmaker or serious amateur. It can be an invaluable tool in the production of any film, with the close-up attachments for the lens, you can work with art and graphic material, zooming down to an area as small as $1\frac{1}{8}" \times 1\frac{1}{8}"$ and enjoy effects which stay in focus, do not require expensive, complicated animation equipment or moving of the subject from its place, which is often impossible when it's a permanent one. At present, we are beginning work on a film of this type, making pen and ink drawings of Icelandic artist Ragnar Larusson "come alive" for a story about Leifur Eiriksson. The 86EE has allowed us to copy down to his original art, including zooms, without requiring expensive blow-ups. Then, if we switch to any of the other Switars, there's no color problem.

In the field, the 86EE allows you to do things heretofore impossible—to grab those never-to-be-had-again shots, which time would otherwise not permit—and at the same time, it frees you to accomplish associated tasks along with your filming. It also frees your mind from exposure calculation, so that you might concentrate more on the subject, composition, and approach. The lens will pay for itself many times over in new opportunities created, and you'll find that waste caused by trying to do too many things at once is greatly reduced.

The 86EE is not, however, a magic-brain which will perform by itself. As with any piece of fine equipment, it can only be as good as the user's abilities and should never be regarded as a "lazy man's answer to filmmaking." It has, though, become the most useful lens in my bag, and with it my Bolex has become doubly flexible. Our next trip will find us again in Iceland, this time to do a documentary for the Iceland Tourist Bureau, and you can be sure that we won't be without the 86EE—the lens that does the impossible, and can put new life and action into your film!

The Bolex Bellows Extension Unit

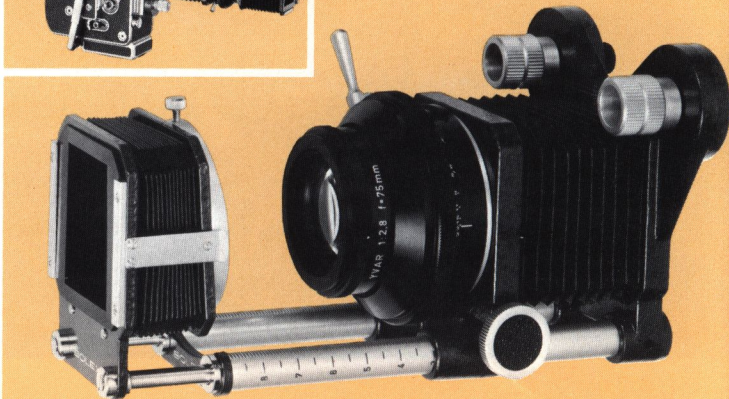
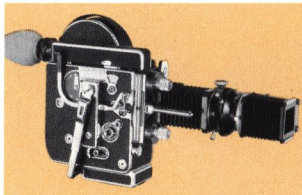
A bellows extension unit is normally considered an accessory designed exclusively for extreme close-up photography. The Bolex bellows extension unit, however, is different and is not limited to this application. Filming the mountain range in the distance, as well as an insect right in front of the lens is all possible—and without changing a lens, using a close-up accessory, or rotating a turret. There is continuous focusing from $4\frac{1}{2}"$ (measured from the front of the lens) to infinity by simply turning the focusing control, which moves the front of the bellows extension with the lens, back and forth on the two guiding rails.

We must add here that this continuous focusing is only possible with the special Yvar 75mm f/2.8 lens made for and supplied with the bellows extension unit. Even though it is a telephoto lens, this Yvar can be used for filming many general subjects in the distance, and it certainly is an ideal lens for close-up filming. The long focal length permits small area coverage without having to go extremely close to the subject. An area only 1" wide, for instance, can be covered from a relatively long distance of almost one foot between the front of the lens and the subject. This long working distance is usually desirable in close-up photography because it allows sufficient space to place lights, gives working room for hands in industrial or medical close-ups, lets the filmmaker stay away from dangerous moving parts of a machine, and eliminates the possibility of the lens or camera shading the subject.

While the same close-up shots can be obtained with extension tubes, the Bolex bellows extension simplifies the work considerably.

The correct shooting distance for covering a certain area is quickly found by pointing the camera at the subject while turning the knurled focusing knob. If the area covered is too large, simply move the camera closer while lengthening the bellows by turning the knurled knob. If the lens does not cover all of the desired area, move further away while re-focusing. When the correct distance is found, the subject can be filmed handheld or with the camera mounted on a tripod. With extension tubes, it's usually necessary to consult a chart first in order to find out what extension tube provides the proper magnification. If a smaller or larger magnification is desired, the lens must be unscrewed and the extension tube replaced with a longer or shorter one, which of course is a time consuming and annoying process.

With moving subjects, the advantages of a bellows extension are even more obvious. Small insects (caterpillars, for instance) are continuously on the move, and re-focusing



before and while filming becomes an absolute necessity. With a bellows extension, the subjects can be kept in sharp focus, regardless how close, or how far away they might move, because the focusing is continuous and practically unlimited. If a 1" long caterpillar were to be filmed with a standard 25mm lens combined with the necessary extension tube, the caterpillar cannot move more than 1" forward or backward. Otherwise, it is beyond the focusing range of the lens and its depth of field, and the camera must be stopped and set up at a different distance.

In addition to this continuous focusing, the Bolex bellows extension unit has other advantages in filming close-up or long shots. The diaphragm openings and the index are engraved on a large ring in such a way that they are visible from the rear of the camera. The cameraman can, at any time, see the setting of the lens from his normal position behind the camera.

A second lever on the diaphragm ring permits pre-setting the diaphragm at any aperture from $f/2.8$ to $f/22$. This arrangement permits the filmmaker to fully open the diaphragm for focusing and close it down to the proper opening without having to remove the eye from the reflex finder. Focusing is easy and accurate on the groundglass of the Bolex H-16 cameras with reflex viewing—the cameras for which this accessory is designed.

With the bellows extension unit, the need for using charts is eliminated as the lower guide rail is engraved with increase in f stops necessary in close-up photography. The upper guide rail shows the length of the bellows extension, which is helpful in determining or setting the bellows for a certain magnification. For instance, by setting the extension at 75, 1:1 magnification is assured (extension equal to focal length of lens).

The unit is completed by a most efficient sunshade—efficient because it is also in the form of a bellows which can be extended from about 1" to 4½". This is important and desirable in close-up photography because the angle of view decreases as the magnification increases and the length of the shade can be adjusted to provide full protection for every shot.

With the special Yvar 75mm $f/2.8$, a maximum magnification of 1.13 (more than lifesize) can be obtained. That means that areas as small as 5/16" will fill the 16mm frame, and this is probably more than most filmmakers will ever need. For instance, a 16mm frame can be copied as well as, naturally, the larger 35mm or 2¼" slides.

In order to make the Bolex bellows extension even more versatile, the special Yvar lens is removable and can be substituted by one of two adapter rings, also supplied with the unit. One of the adapters has a thread for mounting other lenses with a C thread, thereby extending the focusing range of long focal length lenses and permitting their use in close-up photography. The Macro Yvar 100mm, for instance, can then be used as close as 16" from the filmplane (5" from front of lens) and the Macro Yvar 150mm as close as 24" from the film, or 10" from the front of the lens.

The second ring is for mounting the Switar 25mm for extreme magnifications from about 2.5X to 6X, opening the possibility of taking really fantastic close-up shots, normally only possible through a low-power microscope. Since the subject distance at those high magnifications is shorter than the image distance, the Switar 25mm lens is mounted in reverse in this ring, thereby maintaining maximum sharpness.

The long and continuous focusing range of the Bolex bellows extension opens some new possibilities for creative filming usually not associated with such an accessory. One of these possibilities is an effective out-of-focus transition at the end of a scene. After filming the scene, but before stopping the camera, start turning the knurled focusing knob, and the image blurs out. The next scene is started out of focus and the image brought into focus by changing the length of the bellows.

A bellows extension is better suited for this purpose than the focusing ring of a lens because there is practically no limit to the extent of the focusing range.

An even more impressive scene transition is possible by focusing from a close subject to a distant view or vice versa

while filming. You could, for instance, start a scene with a close-up of one blade of swamp grass and, while filming, re-focus to the ocean waves in the background. While such transitions can be made also with the normal focusing ring of a lens, it is most effective only when extreme close-ups are combined with long shots. In such shots the second scene is completely out of focus and seems to develop gradually out of nothing.

With the Bolex bellows extension, Bolex H-16 cameras have become even more versatile for amateur and professional filmmaking are undoubtedly the best suited 16mm cameras for close-up filming available today.

Alaskan Adventure

by Wolfgang Bayer

Dark clouds are moving over Mt. McKinley, patches of fog hang persistently over Ruth Glacier, and a howling icy wind is blowing around my tiny cabin up here in this world of ice and snow.

This is a most unusual place for writing an article on filmmaking, but then, the situation I am in is very unusual. You might call it a vacation because of all the free time I have here. But what it really is, is a lonely prison and my story is why I'm here.

I was on an assignment in Alaska when I ran into Don Sheldon, famous glacier pilot of Mt. McKinley. It didn't take him long to talk me into a flight over the king of the mountains and a landing on a remote glacier. Needless to say, the flight itself was one of the most spectacular events in my already very exciting life. Don eased his plane through narrow canyons, (he didn't seem to try very hard to gain extra altitude) as we were buzzing just a few hundred feet above the ground over sheer endless streams of glacial ice and along fantastic icewalls. I was never so busy shooting! My Bolex H-16 Rex cameras were working in all directions. I was glad I used the unimotor on one camera. To wind the camera in situations like this would surely mean loss of excellent footage and perhaps the best shots.

Up on Ruth Glacier, 6000 ft. high, Don has a private airport, a snowfield a few miles long on which we landed. It was a beautiful day with specks of clouds and fog along the mountaintops—a cameraman's delight. Within the next few hours I think I saw most of this magnificent scenery through the bright reflex viewfinder of my Bolex cameras and it seemed I was constantly running out of film. This was one place where the new Bolex 400 foot magazine would have come in handy. With one Bolex, equipped with a 10mm Switar lens and the Unimotor, I did a long pan of the surrounding giant glaciers. The scenery was just great and I could have panned all around 360 degrees, but I didn't, not wanting to overdo a good thing. On the other Bolex H-16 Rex I worked with a Pan Cinor 85 and picked out some close-ups of unusual ice formations, rugged peaks and, last but not least, a close-up of the mighty one himself, the 20,300 foot giant Mt. McKinley. I was so involved in my work that I almost forgot that Don, my pilot, said he was going to leave me up here by myself and fly back to bring another party up to this icy wilderness today. It came to mind when the motor of his ski equipped Cessna 180 roared, echoing back from the surrounding icewalls as he took off down the snowfield—and that was the last time I saw and heard from him.

Now, eight lonely and uncomfortable cold days and nights later, I am still sitting up here in my tiny shelter on the glacier. Shortly after his takeoff, the fog rolled into my glacier valley so fast, he didn't have a chance to get me out in time. A cosy fire kept me warm for a while but the small supply of firewood was gone in a few days. The food supply consisting mainly of pork and beans, and, I couldn't believe





it, some cans of cat food—which tasted not too bad—was shrinking to a frightening small amount. Now I am trying to keep warm and alive in two sleeping bags, not knowing just how much longer this miserable and unexpected “vacation” will last. Besides sleeping, there was hardly anything else to do and I found out that too much sleep can be a bore. I managed to shoot a few rolls of film of my struggle for existence. With the Bolex and the Bolex Selftimer inside a plastic bag I ventured out in the blizzard and got some scenes of myself shoveling snow, digging for buried firewood and just plain sitting in the snow looking unhappy. In any case, I was trying to make the best of it. After all, a little rest should do me good.

On the run for the last few weeks before Don flew me here, I covered most of northwest Alaska making a half-hour film on the Eskimo activity in and around Nome and the Bering Sea. Their life and customs are a great subject for any camera and their dances are a delight for tape recorders. Up there I had a chance to use my new Bolex Perfectone motor to record some lip sync sound of these colorful people. Then by private plane, we left for the Bering Strait, a very special place where two continents, two oceans, two people and two days meet. I even managed to get some footage from the plane of the Siberian mainland closeby. The air was smooth enough to shoot out the window at 24 frames per second, but when we were over Russian-owned Big Diomed Island and a small fishing village came up, I was grinding away with 64 frames per second to get as much as possible in that short time, after all, we were moving along at close to 200 miles per hour. Besides that, we didn’t want to spend more than a few moments over this not-so-friendly land—our small plane would have been much too easy a target for those MIG 21’s. Only after returning to the U.S. mainland and passing those giant white radar domes of the DEW line did I really feel safe again.

A short flight from there over the Arctic Circle to Kotzebue and I was in the “Land of the Midnight Sun,” a real adventure and a challenge for photographers. I filmed a time-lapse sequence of the sun moving along the horizon using the 10mm Switar on my Bolex and exposing one frame every 30 seconds over a period of 3 hours and wound up with a scene about 15 seconds long. With the lens’ extreme wide angle of view of 60 degrees, the sun actually never leaves the picture. In those three hours the sun travelled 45 degrees which left me enough margin for the sides in the picture. I wanted to try a different lens the next night, the 25mm Switar with a 26 degree angle of view, this would bring that fireball much closer, but would naturally keep it in the frame a much shorter time. But by the next night I was too tired—this 24 hour daylight condition was getting a bit too much for me.

A very rewarding place in our 49th state is Mt. McKinley National Park with all its rare wildlife. This is the place to bring along “heavy artillery.” The Macro Yvar 150mm lens on the H-16 came in very handy for those hard to get shots of caribu, moose, wolves and bighorn sheep. It is also a very handy lens to shoot the giant grizzly bear from a safe distance.

At close range you can get excellent results by filming wildflowers. I always take the chain off my Bolex tripod and move down for a low angle shot. I also used backlighting successfully for some flowers and on occasions have sprinkled a few drops of water on the blossoms, sort of a phony dew glittering in the sun. But if you really want to get “ah’s” and “oh’s” from your audience, use some or the whole set of extension tubes with any one of the telephoto lenses. Even better, try the new Bolex 75mm Yvar lens with the built-in bellow—a brand new accessory I won’t be without. A lonely single dandelion seed left on the stem, a tiny bell-shaped blossom of a beautiful yellow glacier lily or an extreme close-up of a butterfly resting on a colorful Indian paintbrush, can all be captured for dramatic effects with that one accessory. Remember to account for increase in exposure due to abnormal extension of the lens. On the Bolex Bellows attachment,

*Zeroing in on remote glacier airstrip.
Mt. McKinley looms in left background.*



the Novaflex, you've got it made—it has very convenient markings for the exposure increase for each setting. It also has a very practical lever to present your lens diaphragm. You can focus with the lens wide open and then turn the lever to its stop without taking the eye off the reflex viewfinder. Focusing is very critical at those extreme short distances with just a fraction of an inch depth of field.

While writing these lines with my thoughts completely involved in the events of the past few weeks, all of a sudden a faint sunray danced over my writing pad. What a beautiful sight. Now the sky seems to have opened up and it has stopped snowing. The sun is trying hard to burn through the now very thin layer of clouds. It looks like my prison term is coming to an end up here in the unfriendly icy wilderness.

The sky did clear that day and within hours I was aboard Don's Cessna, hungry, unshaven, but safe and sound. Looking back on the majestic vastness of Mt. McKinley I almost felt sad leaving, even after all that hardship—or perhaps because of that. I knew I was in love with that mountain and someday I will return there.

I finished up my assignment "North to Alaska" with some aeriels by mounting my Bolex H-16M with the 10mm Switar on the struts of the wing and driving it with the Unimotor, turning it on and off electrically with the long extension cord from inside the plane.

By using a camera speed of 32 frames per second I get very smooth footage—even if the air is a little bumpy. I also get a very unusual camera angle. Here again the Bolex H-16 cameras proved to be extremely dependable when flying at altitudes above 15,000 feet with outside air temperatures in the below zero range and with air speeds approaching 170 miles an hour. Certainly an extreme combination for any camera. The filmstock on my entire trip was Commercial Ektachrome. With an ASA rating of only 16, it is used as a low contrast original. The print from it is of superb quality. The amount of film I shot for this one hour show, which is actually only 45 minutes television time, (the remaining time is for commercials) was roughly 7000 feet, a ratio of better than 4-1. The rest is a combination of very useful stock footage and, of course, some scrap—nobody's perfect.

When I return to Hollywood, there will already be another batch of fresh film waiting for me along with an airline ticket. Where to? Who knows? But wherever I go, my Bolex equipment comes along. No matter if it's been deep down into the strange and silent world of the oceans or high up into the sky, in the wild and wet adventure of a Colorado river run, in a blazing sand storm in Monument Valley or mounted on my skis schussing down a winter mountain slope in Austria, Bolex cameras and accessories haven't let me down yet—and with proper care I know they never will.

A Trip to the South Pole

by John P. Elden

A trip to the South Pole is a once-in-a-life-time proposition, so when I was invited by the Navy to participate in Deep Freeze, 67, I jumped at the chance.

In getting together my equipment, everyone gave me different advice, so I decided to listen to them all, take an assortment, and be ready for anything. I considered testing the equipment in one of the laboratories where they chill your equipment as cold as you like, but they can't dehumidify the air at the same time. This means that ice will form during your test, but it doesn't mean that the camera will fail in the field, because in the field the air is naturally dehumidified as it gets colder. I had to rely on advice.

Someone told me that in the cold, at the South Pole, your fingers freeze if you leave them outside your gloves for more than a minute and a half. He gave me what he thought was the answer to this problem, and I sought advice on equipment and the winterizing of it from the various manufacturing and distributing firms. Bolex service recommended degreasing and my H-16 Rex camera turned out to be the only reliable camera of the group.

My trip began in Punta Arenas, Chile, where I boarded the Coast Guard icebreaker, *Westwind*. As soon as we left the Straits of Magellan and turned south past Cape Horn, the weather freshened and provided some good opportunities to photograph a storm at sea. When a ship is rolling and pitching, you can get some really funny sequences below decks. (If you can keep your dinner down long enough to shoot it.) I was setting up lights in the Captain's cabin when disaster struck. I had asked one of the scientists to hang on to the camera, but he was so intrigued with what I was doing that he just forgot. One good roll later, the Bolex bounced off the deck before anyone could catch it. It didn't appear to be damaged, but you never can tell, so I was thankful I had three other cameras. Two days later, we entered the pack ice which dampened out the sea and made it quite calm. Then we arrived at Palmer Station, where eight Americans had spent the last year completely isolated from the world except for their radios. We had eight huge sacks of mail for them but found that this mail was 98% philatelic so it just meant many hours of work to cancel the empty envelopes and send them back to the stamp collectors.

Some of the best photographing I did was from the *Westwind's* helicopter. There is a "gunners belt" that you can fasten around your middle and if you don't freeze to death, you can lean way out of the open door in safety. The helicopter cruised at about 90 mph so it is a real problem to hold the camera steady in the wind, and I found myself using a shoulder brace and staying inside the cabin to give the camera some protection from the wind. By running the camera at double speed (48 frames) I was able to smooth out the turbulence and even more important, in the film, we seem to be floating over these magnificent crevasses and icebergs and the viewer has time to really see them. Naturally, aerial photography is best the closer you are to your subject so you can use a wider angle lens. Because we were so low, the floating sensation is particularly good.

Most of the Antarctic continent is covered by one gigantic ice cube that never melts. Palmer Station is one of the few places where you can see patches of bare granite, peeking out from under the glacier. With white snow and ice underfoot and a light overcast sky, exposure was tricky, at best. I found that the difference between incident and reflected light was sometimes two stops. In every case when I relied on the incident reading it came out just right. The built-in light meter in one of the cameras was unreliable because the battery which operates the photo meter was out in the cold so long that it didn't put out the proper amount of electricity. Another battery operated meter, of the same type,

worked perfectly well because I could keep it warm in my pocket. The weather here was only a few degrees below freezing and already I was having trouble with another camera. I became petrified just thinking of what could happen to me at the Pole where the *average* temperature is 56 below zero, in the sun.

The darndest things came drifting by each day. Once it was a couple of icebergs that became wedged in the mouth of the harbor. One of them went aground but happily the second one floated away the next week or the wintering-over party would have included the 250 sailors on the icebreaker and this photographer!

In the harbor there were three huge penguin rookeries, characterized by an overwhelming odor, completely unique to penguin rookeries. One of our passengers, a bacteriologist, had come all the way from his laboratory, in Hamburg. Dr. Swartz is 73 years of age, and for three months he will be spending every day gathering samples in the midst of these rookeries. A truly dedicated man! The other scientists had come to study the movement of glaciers, the marine life, and the measurement of gravity in different locations.

Antarctica has always been a man's world, exclusively, even a better protected sanctuary than the locker room at the club.

Well all that changed this year when a tourist agency, in New York, operated by Lars Linblad, discovered that there was an Argentine ship available for charter to Antarctica. The penguins are now personally acquainted with 50 American tourists.

After a month, the Navy ship *Wyandot* came through Palmer on it's way to McMurdo Sound and I hopped aboard. McMurdo is on the other side of the continent on the Ross ice shelf which is 600 to 1000 ft. thick. It is well inside the Antarctic circle, so the sun never sets between spring and fall. McMurdo is full of surprises. It has a population of about one hundred all winter, but just like other summer resorts, the population increases tenfold in the summer. Its power is supplied by a nuclear power station, which the sailors refer to as "Nuky Poo" (short for Nuclear Power Unit). There must be at least thirty huge walk-in refrigerators, and even though they are covered with snow, I was told that during the summer months, the motors kick-on once in awhile to provide extra protection for the frozen foods inside. The Navy supply people have been so thorough in their planning that there is an abundance of absolutely everything (except girls). In one case though, the computers in Washington, really messed up. When I visited the ship's store warehouse, I saw them loading case after case on a truck to be sent to the ship for transport back to civilization. The people in Washington apparently didn't realize that at the local rate of consumption, they had sent 80 years supply of razor blades, shaving lotion, shaving cream, and My Sin perfume. The bearded sailors who had to load it out hoped that there wouldn't be any more arriving on the next ship.

The Navy maintains several stations which are supplied by air from McMurdo Station. Easily the most exciting trip is the one to the South Pole, about eight hundred miles away. This station was named after Roald Amundsen and Robert Scott, who led the only two parties who ever reached the Pole on foot fifty-five years ago. The mountains along the way, and the glaciers between them, are beautiful beyond description. It seemed to me that in deference to the heroic





struggle of those who spent three months, in the bitter cold, walking to the Pole, that the Navy should . . . well, it just didn't seem right that I should fly there in a nice warm airplane, in three hours.

The bottom of the world is located on a vast, flat, plateau at about 11,000 ft. altitude. I use the word altitude instead of elevation, because the ice underfoot is two miles thick. This station is underground or should I say underice, and because of the extreme cold the airplanes leave their motors running while the cargo is being unloaded. This usually takes 15 to 20 minutes and since most visitors must return on the same plane, someone has thoughtfully erected a candy striped pole with a huge silver ball on top, in front of which the visitors barely have time to have their picture taken. I was given permission to wait for the next plane which was due in about six hours. After the plane left, the scientific leader revealed the fact that the real South Pole is about a quarter of a mile away. Since there isn't time to take the visitors to it while the plane is unloading, very few people who think they have walked around the world at the South Pole really have. He also told me that it was warmer than usual, 42 degrees. At the Pole, they never add the words "below zero" because it always is. As he was talking, I saw the frost collecting around his mustache and beard and I knew that my "moment of truth" for the equipment had arrived. I slipped the magazine into a camera, without even removing my gloves. It ran beautifully for 27 feet. The next one I tried was even worse, it didn't even run long enough to freeze up. Something inside just snapped. It was too cold to cry, so I went down into the station for agonizing reappraisal of the whole situation. Here I was at the South

Pole, with less than six hours to make my once-in-a-lifetime sequence and I had to guess which camera had the best chance of doing it for me. I ruled out the one that ran only 27 feet because I reasoned that even if I heated the camera from time to time the film running through the magazine would probably become stiff enough to scratch the emulsion. Then too, I didn't have the time to heat the camera every 25 feet. The third camera I tried froze after 50 ft. then thawed out fast, but I was afraid that the shutter speed was changing as it and the battery got colder. If this were happening, I'd never know it until I saw the processed film.

I examined the Bolex as carefully as I could. I could hear the seconds clicking by, so I knew it was running at the right speed. By focusing through the lens I could be reasonably sure that even if the turret or lens mounting had been damaged, the image would still be in focus. I decided to go with the Bolex and found that it would run a whole roll of film without freezing or slowing, provided I rewound the spring to full tension after each shot. When I took it inside to reload, so much frost collected all over the camera, I had to wrap it in a plastic bag outside, then bring it in. This kept the condensation on the outside of the bag, not on the camera. I changed reels in the tunnel outside the heated areas for the same reason.

After seeing the processed film, I'm glad I used the Bolex. It may not be the latest model, or the lightest weight, or even the fastest shutter speed, at 1/80th, but when I was on my once-in-a-lifetime trip, the Bolex was the only one of the four I took that functioned consistently with good sharp pictures, and it did it after being dropped so hard it bounced about a foot off the deck.

Nature Walkabout

by Vincent Serventy

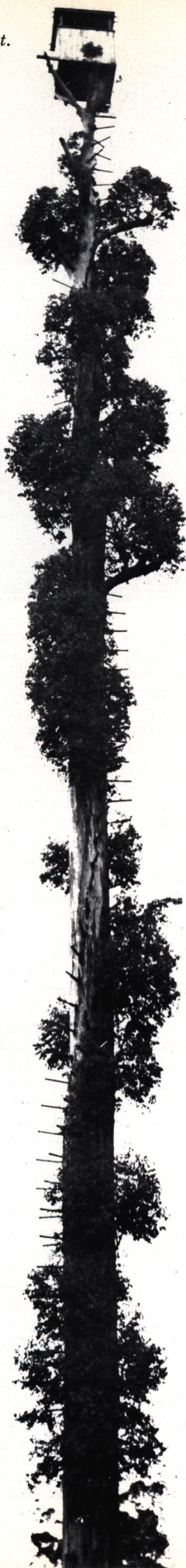
As a naturalist I enjoyed watching and writing about animals, relying on friends to provide pictures. I soon found other photographers were too busy with their own problems to worry about mine, so I bought my first still camera and became a photographer against my will.

Then one day at a desert waterhole I was taking pictures of Budgerigars coming in to drink. Suddenly a falcon plucked up one of the drinking birds. Time after time the falcons struck. Time after time I missed out on the vital photography. It was then I decided that only a movie camera could capture those exciting natural history moments. I am still waiting to get another chance at that particular sequence but I have been compensated by many others.

In 1965 I was commissioned to produce 26 half-hour television programs to be shown on the Australian network. It was to be the story of our family travelling across the continent from west to east. Among the Australian Aborigines the term for such a wandering is to go "walk-about." For us the series became a "nature walkabout" and that is its title.

The journey took us over fifteen thousand miles of northern Australia and six months of travel. In that time we shot over sixty thousand feet of film. We had two Bolex cameras, one equipped with a Zoom lens and the other with standard lenses to be used for both close-up and telephoto shots.

Much of our material was filmed from hides built near waterholes or nests, but sometimes photography was easier. At a national park in Queensland the animals had become so tame they came out of the forest with no fear of man. Some birds perched on our cameras. Kangaroos would stand and stare from a distance of about twenty yards. It was a kind of Garden of Eden.



On another occasion I was resting a poisoned foot when my daughter came running up with exciting news. An eight foot python and a four foot water goanna were locked in a death grip in the river nearby. I hurried to the spot and while a friend of mine dived in to capture the animals, I captured the whole incident on film. First he grabbed the snake by the tail and it promptly let go of the lizard. He then grabbed the goanna with his other hand. The snake turned to bite so he let go and then he gripped it by the neck. By this time the goanna was also trying to bite him. Finally he waded ashore triumphantly bringing in his still struggling trophies. We solved the problem of bringing them back alive by dropping each reptile into one leg of the trousers he had removed before diving in and tying the ends securely.

Another time I was filming finches at a waterhole and the hawks were busy taking toll. I had planned exactly how the hawks would strike. They would come out of the sun so the victims could not see them. I had selected a particular branch where the finches congregated as the most likely place. I got a few shots of hawks missing their strike, then came to the end of a film roll. While I feverishly reloaded, a falcon plucked a finch away from the twig on which I had been focussed. That was the last strike for the morning and I had to leave without the vital picture.

The success of our films will hinge on the story of our family to give continuity. Making twenty six half hours films at the rate of one a week means you cannot get the natural continuity which needs 6 months to years of patient filming. My children range from eighteen months to nine years so their reaction to new discoveries varies considerably.

In addition since I came to this field primarily as a naturalist, rather than a filmmaker I can see the possibilities of an environment which may seem barren to the layman.

Apart from the television side of filming, we are also planning to compile from the 26 episodes, several hour long color films for use on a projected lecture tour of the United States and Great Britain.

To be able to make money out of what is one's hobby is most satisfying and we are now planning our second nature walkabout. This time we will travel from east to west around southern Australia and so complete the circuit of our Australian continent.

A New Amphibian for Maryland

by Daniel J. Lyons

Weather conditions were perfect: The heavy morning rain had tapered off to a steady drizzle. Even on a 2800 foot mountain the temperature and humidity were high enough to make my associate and me uncomfortable. Anyone seeing us crawling over the moss covered boulders and peering into the crevices with flashlights would have doubted our sanity. But the effort would, without a doubt, be worth it. We were about to discover a salamander new to the State of Maryland.

This adventure had its beginning in the Members' Room of the Natural History Society of Maryland, in Baltimore. Herb Harris and I had been discussing a recent conversation between a prominent naturalist, Dr. Charles J. Stine, and myself. Dr. Stine had told me the location of a colony of green salamanders in Cooper's Rock State Park, in West Virginia. I had also been told that these salamanders were quite rare and very difficult to collect. Under normal circumstances, they could be seen deep within the rock crevices with the aid of a flashlight. If luck prevailed, they could be worked out from between the rocks with a thin wire. Further investigation revealed that this amphibian had been collected at Wymp Gap in Southwest Pennsylvania.

Herb and I were now in hearty agreement that "greenie" should be found in the wilds of Western Maryland between

these two places. We were given a great deal of moral support from our colleagues, but cautioned not to be disappointed should a search for this salamander end in failure. After all, the last addition to the long list of Maryland herpetofauna was the Carpenter Frog. This discovery had been made by Roger Conant, a professional zoologist, more than twenty years ago. For Herb and I to duplicate such a feat was, to say the least, highly unlikely. But "fools rush in . . ." and we decided to play a 2-day trip, the sole purpose of which was to catch and bring back a new salamander scarcely 4" in length. A good trick, if we could do it. We packed the necessary equipment and, of course, my Bolex went along. We both knew that Bolex has had many "firsts," so why couldn't it have another in filming the first new animal which this State has known in over twenty years.

It was a thought-provoking 200-mile ride. The longer we drove the more conscious we became of the phenomenal odds against our achieving success. Also, the fact that the weather was starting to close in gave us the feeling of two people who had just purchased a unicorn and had its horn fall off. We spent the night in an aging but comfortable hotel. We both "knew" that tomorrow the sun would shine and we would achieve success.

Morning came with a clap of thunder and heavy rain. Under the circumstances we decided to skip breakfast and spend as much time in the field as possible. We decided to go to West Virginia to study the environment of the green salamander and hopefully to collect several specimens. The rain continued and so did we. The mountain roads now resembled twisting ribbons of glass, and visibility was poor. We crossed the swollen Cheat River and, as if by magic, the rain stopped but heavy black clouds still hung low over the meandering mountain road.

Our arrival at Cooper's Rock State Park was announced by a downpour. When we located the green salamander's habitat the discouraging rain suddenly became a welcomed friend. It had filled their deep hide-a-ways with water and caused them to seek the dryer areas of their natural environment. There were literally hundreds of them in plain view. It was quite a thrill this disproving a theory and replacing it with fact. But we were still in West Virginia. Both of us were now soaked to the skin and had to change into dry clothing. During this time, I told Herb of a camp site in Maryland that resembled the environment we had just visited. He strongly suggested that we visit the Maryland site. With a definite improved outlook we started back over the rain-soaked road.

It was mid-afternoon before we reached the Maryland site. Sure enough, it was an exact duplicate of the environment we had just left. With flashlight and wire we began a systematic check of the crevices in the rocks. After two hours of diligent searching that had revealed nothing, we decided to leave for Baltimore and return at some future date. At that moment, Herb spotted a small fissure that ran diagonally along the face of a large boulder. It was 8' off of the ground. I supported Herb while he peered into the knife-like opening.



His scream of "I see one!" was probably heard in Baltimore. He worked his wire behind the salamander and flicked it out of its lair and onto the ground below. We had just collected the first animal new to the State in over twenty years!

The first specimen of the Green Salamander was gratefully received by the Smithsonian Institution in Washington, D. C. Future catches have already been requested by other museums on the East Coast.

Dr. Charles J. Stine returned with us to the Maryland site. Our discovery was verified by his collecting two specimens and observing many more deep within the confines of their natural environment.

The footage exposed on these trips was excellent. It is to serve as the nucleus for a forthcoming film on salamanders. Bolex has been on hand for many past discoveries because it is an exceptionally dependable piece of precision equipment. It will undoubtedly be on hand when future discoveries are made — I know MINE will.

The Sahara is a Woman

by Bill Hill

If you've been there and seen the endless rolling waste, the moon so monstrous and near, the unbelievable enormity and lonely wonder of it all, you will understand a saying in the Sahara, "Algeria is a man, Morocco is a lion and the Sahara is a woman." To the nomad a woman is cruel yet as tempting and unforgettable as a dream.

My trip into the Sahara was to film sequences for two motion pictures. One was titled, appropriately, "The Sahara Is a Woman." The second was titled "The Lady of Gharian". Both scripts contained fascinating material calling for intimate shots of Sahara Arabs.

If one has never photographed the Arab, he cannot possibly imagine the problems encountered. We (my crew and I) learned the hard way.

The camera to the nomad transplants his spirit from the body to paper or celuloid in the case of movie film. It is an enemy.

Armed with two Bolex cameras, both equipped with Pan Cinor zoom lens, and two still cameras for promotional shots, we attempted to explain the functions of a camera to every nomad filmed. Not always successful, we often filmed the legendary black tent tribes deep in the desert from cover without their knowledge.

The narrow alleyways of Tripoli's old quarter are choked with bicycles and children. Charcoal fires glow brightly within the shops of the metalworkers as they sit, cross-legged, incessantly hammering. In a shadow-filled arcade in the souk, the marketplace of the ancient walled city, an American bargains with a tradesman clad in a blanket-like barracan over the price of a brass tray. At last the Libyan says, "Name your best price." "Two pounds," says the American. The Libyan shakes his head, shrugs his shoulders. "Ten-four," he says, and turns away.

This was the beginning of our one film. The incongruous and the unexpected, these are the basic ingredients of the Sahara—a potpourri of the new and the old, a study in contrasts. And this is what our film is all about.

Scene 2: The American is confused. What, he asks another tradesman, is "ten-four?" The question draws laughter. "You should know," the second Arab says in broken English. "It means I get your message. It comes from the police car radios on Dragnet." The Arab sees the Television show through the facilities of the Armed Forces TV outlet at nearby Wheelus Field.

We began our trip from Tripoli and traveled 150 miles into the heart of the Sahara where we found our first band of nomads encamped. Before us were the majestically beauti-



Roman ruins at Sabratha.

ful white sands of the Sahara which provided us panoramic views of the great wasteland rarely captured on motion picture films.

Despite the sweltering heat, which one day rose to 136 degrees, our Bolex cameras performed like champions—much moreso than the people manning them. At night when temperatures dropped to near the freezing point, they were just as dependable.

Our task was to expose 6,500 feet of color film, which may be something of a record—it was all exposed through one camera! The reserve unit was never called upon. And we accomplished this rate of exposure in four weeks. Something in itself because of the number of movements necessitated by the wandering nomads.

The film we were shooting was destined for use in two separate 30 minute documentaries for use on television and on speaking tours. It has to be good for the cost of the trip was such that no retakes would be possible—we had to be right on every shot. Although I follow the rule of exposing three feet for every foot used, our ratio of usable film was something like 2.8 feet out of every three feet exposed. Maybe we were just lucky—or Mohammed was smiling on us.

Our trip was a memorable one in which we encountered problems one only expects when isolated from all civilization for 30 days. We had to depend exclusively on mechanical operations—no motor drives and no sound equipment except for a tape recorder. All our sound effects would be transferred to a sync tape and edited to suit the scenes.

But the bigger problems—for those uninitiated to desert living—were the wadi (desert flash flood), the ghibli (sandstorm) or the hordes of enormous-sized locust which descend on a desert oasis and leave it bared of any greenery.

The latter was the least of our problems, equipment wise, and Edward R. Murrow, the late CBS news commentator, TV personality and director of the U. S. Information Agency described our locust films as “probably the greatest display of this desert phenomena ever recorded on color film.” Clips from this film were used in a Murrow program.

From an equipment standpoint we shuddered at the thoughts of what the drenching rains of the wadi might do, for this is a “gully washer” rain whose moisture seems to penetrate a brick wall. After each rain our equipment was soaked, drenched or any other term that might mean it “was completely wet,” But it functioned and nothing else seemed important.

For those never exposed to the effects of a ghibli, it's unlike a sandstorm in the California deserts. This is a relentless, seeping type of storm which sends its grains into the very intra-workings of mechanical equipment and the man handling it. It is beyond description. Imagine, if you can, a camera closed and in a case containing a quarter inch of sand following a ghibli? How does it work afterwards? We encountered no problems, but, again, Mohammed, must have been pleased with what we had set out to accomplish. The Bolex didn't mutter. Lightproof it is, ghibli sandproof it isn't, but it worked and that's what counts.

A Science Documentary at Sea

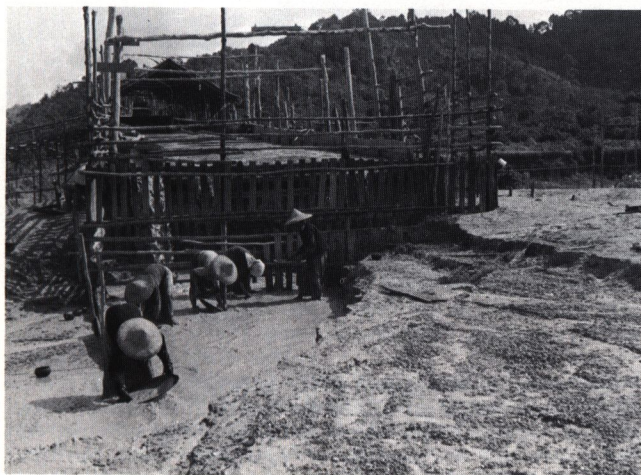
by Willard Bascom

Ocean Science and Engineering, Inc. is in the business of designing and operating unusual ocean-going equipment; buoys, ships, drilling machinery, navigation devices, etc. We are deep-water sailors, proud that our equipment works well in rough, remote seas. One of our ships drilled thousands of holes in the gravels off southwest Africa, searching for diamonds—and found them. On another project, we designed and built a very complicated instrumented buoy system and installed five versions of it where the water is over a mile deep.

Our performance was great, but it is hard to describe in words the roughness of the sea or the difficulties of deep-sea operations. How could we best demonstrate our competence to prospective clients? How does a company show that it has skilled men, proper equipment, and special techniques that can solve oceanic problems? Since we couldn't take our clients to sea with us off Africa or into the Pacific, we decided to make movies of our operations which bring the feeling of the sea to their screening rooms. Not amateur movies, but carefully thought out stories with scripts developed to accentuate how well Ocean Science and Engineering can do the things that others find impossible.

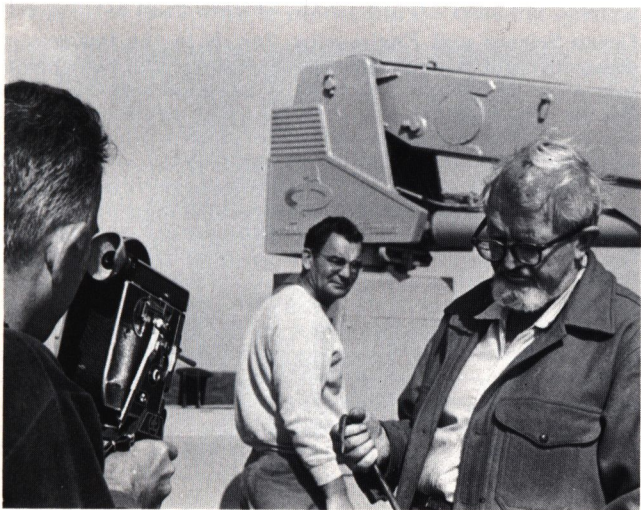
We began the first picture nearly four years ago. At that time when people would ask me what the company was working on, I would respond, "We're prospecting for diamonds on the ocean floor off Africa." Invariably, they would raise their eyebrows and look at me as though I were a bit dotty. Even professionals in oceanography had a hard time visualizing that strange rough coast where sand dunes rise 600 feet from the sea and where the nearest harbor was hundreds of miles from the undersea diamond fields. But the movie solved that; it showed more than a man could see in an actual visit to the operations—at far less cost and inconvenience. It foreshortened months of various kinds of work into half an hour of entertainment.

"Diamonds Under The Sea" was a very successful picture. It won a "best-in-class" award from Industrial Photography magazine and is now released through Coronet Films. We decided to try again.



A scene from the documentary "Undersea Tin Prospecting."

The "First Deep Ocean Drilling" was made from footage I shot at sea in 1961 and combined with some 1965 studio work. It, too, won a best-in-class award, plus a "best low budget film" award. We were encouraged and decided to continue. Now we are finishing "A New Harbor for Cape-town" which is decidedly better than the previous two. It tells the story of how the harbor developed, what kinds of problems it has (fishing fleet overcrowded and surging that constantly moves the boats), and how our company made surveys of a new harbor site. Admittedly, it is heavily spiced with time-lapse inserts, animals of various kinds, underwater exploration and a treasure hunt, but these are sufficiently related to the story that they do not distract attention from the main theme.



Professor John Isaacs, holding fishhooks and our author, left, during the production of the "Great Monster Hunt."

Our next picture project, which is just getting underway, will be about prospecting for tin, underwater, off Tasmania, Thailand, and Malaysia.

When we started this picture work, I had had a lot of related experience—a dozen years photographing sea-action scenes, a couple of books on oceanography and over a year as science consultant in the production of CBS's "Conquest" (a television series on science in action, 1958-59), but had never produced a complete picture. "Conquest" was a good training course; I battled producers, writers and cutters



Diamond prospecting trenches on the Southwest African coast.

through about forty stories, trying to keep the science from being submerged in a sea of hokum. Gradually, the ground rules of science documentaries became clear to me.

1. The picture must be entertaining; it must hold the viewers' interest all the way.
2. The story comes first. One must not deviate just to fit in a pretty picture or a trick shot that came out well. The object is to tell what was accomplished, and how, and why it was valuable.
3. Never attempt "shotgun" pieces that tell a little bit about a lot of things. Pick one cleanly bounded subject and do it in depth.
4. Don't sell the science content short. If the piece is well written and fast-moving, the audience will happily absorb a generous dose of science.
5. It's not necessary to "humanize" the scientist. However, it is necessary to capture his enthusiasm for his work or at least show him working in a natural, unposed way.
6. Don't explain too much. An occasional throw-away word that some viewers may not understand is acceptable and better than talking to the entire audience like they're ten-year-olds.
7. Allow the subjects to behave as normally as possible (our pictures are shot on a not-to-interfere basis). Get the action as it really is with mistakes, laughs, curses. Don't clean up the sets except to get rid of confusing backgrounds or attention-attracting objects that are not essential to the scene. Actually, we interfere slightly, changing the ship's heading for a better sun or sea angle, asking that some operations be repeated for close-ups (or speeded up or slowed down a bit). Usually, the men are glad to oblige because they want to see themselves in pictures.

In addition to those factors which apply especially to science documentaries, one must always keep in mind the usual fundamentals of film making. I use a Bolex Rex H-16, shooting at 22 frames per second. For film, we invariably use Kodachrome II (with daylight filter), and since we usually have a seablue background, we like to have some red in each scene—possibly worn by a leading character.

Never forget the subject must move and the camera must hold still. Only very rarely can a pan or zoom be used effectively. Although action shots at sea require that the camera be hand held, it must be held as steady as possible.

Finally, rewrite, recut, think it over. If you are satisfied with less than ten sets of revisions, you are too easy to please.

Educational TV — Enter Photography

by Rev. Brother Charles Felix, FSC

"Ten A. M. sharp, boys, this Saturday at Prospect Park. We shoot 16mm, silent, black and white for a TV Art Lesson. Bob, you're on meter readings; Bill, you take the power-pack. Let's check out the equipment now."

This is how club members at Bishop Loughlin High School in Brooklyn, New York may be called upon to take stills or movies for the Brooklyn Diocesan Educational Television Studio. Though the club exists for the purpose of students interested in the field of photography, and their work and knowledge is put to good advantage for the school paper, yearbook and publicity, it goes a giant's step beyond that.

The photo club is one of many extra curricular activities in a school having an enrollment of 1600 students. It has ten "permanent" members who must be above average scholastically. In addition there are "apprentices" who take basic instructions from a moderator, but whose experience and practice is guided by the ten permanent members. A "pro" must always take a novice with him on any assigned job or task. In this way jobs are being fulfilled and knowledge and experience are passed on. This leaves the moderator greater time and attention for the assembly line which must satisfy numerous requests. No personal or monetary gains are sought after by club members other than encouragement to enter photo contests. In brief this is our club.

But behind this simplicity of organization and the opening command words at the beginning of this article lie the hidden preliminaries a cameraman undertakes. His students do not participate in but are aware of these preliminaries because, while it is relatively easy to "shoot" movies for a given educational television lesson, under it all lies the basic and elemental quality needed in a cameraman—that he be a photographer-teacher-educator!

With the advent of educational television, the demand placed upon school photo clubs, to say nothing of industrial and professional movie studios, continues to grow rapidly. Time is a big factor in the production of television lessons, and where photography will be needed in a given lesson cannot always be foreseen. Therefore, the capability and readiness of a club must always be at the disposal of the TV educators.

Today in education we use television and movies that can bring live instruction from outside the school into the classroom; that bring on-the-spot demonstrations to the student instead of taking the student to the demonstration or to far away magic lands. Films, slides and other visual aids can be brought into classrooms over a single piece of equipment.

"We know that there is something very effective psychologically about television that is difficult to understand or express. There is a closeness, an intimacy, a personal something about television experience that is not just seeing or hearing." (From "Schools for Tomorrow" by Alexander Stoddard.)

We need only to remind the reader of his own reactions to a first glimpse of a television screen; how it draws attention the moment it lights up to understand the child's reaction to television in the classroom. Television focuses on the smallest detail, eliminating distracting surroundings, and is easily the victor in the constant fight for students' attention when pitted against the ever-visible blackboard with its chalked-on information.

And look at television in light of one of the most crucial educational problems existing: How the educators of tomorrow will meet the demand for more classrooms to provide for some 2,000,000 additional children, cumulative each year; find enough qualified teachers and attempt to upgrade the quality of instruction in order to prepare the student of

today for the complex world he will enter tomorrow. It is estimated that half of all college graduates would have to be trained as teachers to fill the current "teacher gap," and this is just not happening.

"It now seems clear . . . that television offers the greatest opportunity for the advancement of education since the introduction of printing by moveable type," says Dr. Thomas Clark Pollock, New York University in "Television in Education, A Progress Report on Classroom Television," Bell Telephone System. At the moment, then, television seems to be the most feasible means of coping with the "information" and population explosion of our generation.

As a photographer, you are capable of entering the classroom and giving each student a chance to see another world. You can push back the walls of the classroom and take each child to a farm, a science laboratory or historical place, and yet, not take the child away from the desk he is resting his elbows upon, with your most powerful media, the film.

If you are going to make films for educational television you should know that it does strange things both to and for you. It will make you revise your photographic concepts and to plan and think as an educator, not as an artist composing pictorial beauty. Your present ideas and information will be weeded out, but utilized.

You will begin to investigate, do research, compare, read more literature, and keep up with modern educational thought and methods as an aid to making your film. A good photographer-educator not only imparts information, but through his skill he must help the teacher stimulate the pupils. As the teacher makes mental concepts and transforms them into a wordy script, the lensman re-transforms these concepts back into impressions of moving images with his camera. The end result of this process of double translation should create intense interest and learning.

The teacher's aim is to hold the student's attention, and this depends on what is projected on the screen. A lesson may be more attention-getting or less attention-getting than in a conventional class. But this sought after attention is not a function of the television box, though it has this inherent quality. It is a function of what the instructor does with his planned lesson, and what your visual rendition has to offer.

Photographer and teacher therefore meet together to discuss how to render the idea into a film of visualization. It may be that the teacher, in his enthusiasm for movies, has chosen the wrong medium. If this is true, the photographer, in spite of his own immediate interest, should make this known: The photographer knows that film producing, no matter how technical a process it is, goes beyond this and that a single mistake anywhere from beginning to end may destroy the work that took days of patient effort by a team of educators.

He will then, of course, read the script very carefully in order to safeguard his own professional investment in the production. The pitfall is that he will try to read it with an imaginative eye. The more originality he places into his filming, the more unconvincing and unclear the script will appear. It is difficult to equate written words with visual images. This is the reason most educational films of today usually result in expostulations, editorializing and irrelevance.

Rather, the objective should aim at clarity and preciseness to result in maximum of education with a minimum of aesthetics. The rate of knowledge presentation must be slowed down to allow for ample time for absorption. This, the filmmaker can do much easier in the studio than the teacher and is why film is used at times as a classroom aid.

The concentration brought about by the medium of film has such a remarkable effect that it may cause a filmmaker to cram and stuff a maximum amount of aims into a film. This tendency, despite its good intent, will be soundly criticized as has frequently and vigorously been done by many teachers using educational films. The tendency, therefore, should be not to try to squeeze maximum information into a limited time-viewing audience.

A good TV photographer will, through his skills and talents, attempt to couple his film with a given lesson by stimulating the pupils to develop their intellectual behavior, prodding them to absorb, digest, retain, correlate and interpret. He knows, as well as the student does, that the film will

come before their eyes once and must be absorbed then and there. This short visual contact with students will mean the difference between acceptance or rejection of the lesson.

Students as a rule have difficulty in trying to achieve high grades, and failing in their aims, place the blame on the instructor or, perhaps, the textbook. With the advent of television, what then? If the cameraman fails in presenting the material, he has the attention of his class anyway: A consequence that is probably more deadly in TV instruction than in a regular classroom. A TV lesson has a captive audience, therefore, the presentation can fail with the same intensity as it can succeed.

A photographer, whether in the professional field or not, who enters into this expanding world of education via film,



Students mix chemicals for film processing, man cameras and work in all other phases of television filmmaking.

must add new concepts to his present capability. His objective will not be just getting people to admire his photographic ability, as though this were in itself an end. Rather, it will have to aim toward a goal of supplementary teaching devices, which are used by a teacher to improve instruction.

Novelty effects that cameramen and filmmakers are able to achieve give favorable attitudes, initially, but will ultimately be looked upon unfavorably, as large doses of viewing breeds contempt, and the effectiveness of televised instruction diminishes. This is why I plead for putting the emphasis on education and not on the medium. Movies need desperately to be incorporated into the total program in education so that they serve the needs of education rather than for education to revamp its program to make room for movies. We need to find the place and scope for the role of movies; what it can and cannot do, and then capitalize on these. It should be a power tool in the teacher's hand; not a competitor.

What attitudes and qualities is the cameraman to bring to transform himself into a photographer-educator? What will be his goals, tasks, purposes and place?

First, he will know and recognize his limitations:

1. That aestheticism, unlike Hollywood productions, is at a minimum. That it is used only as bait for education.
2. That he cannot aim toward impressionism or beauty for beauty sake.
3. His results are a one-way communication:
 - (a) For there will be the inability to assess the audience reaction.
 - (b) The inability to judge feed-back qualities.
 - (c) How to judge if his viewers were ready for his experience?
 - (d) Did mere standardization prevail?

To offset these, he will focus his lens on the subject in order to focus the attention of the class directly on the subject. He will help the teacher to direct the students' attention to what they are to see and hear. He is cognizant now that the equipment he is using:

1. Is a time-saving device, with which ideas can be communicated quickly, yet effectively.
2. Will bridge the gap between teacher and pupil.
3. Will improve the quality of the instruction by putting graphic concepts into a practicality.
4. Will stimulate and motivate the teaching of the teacher and the learning of the pupil.

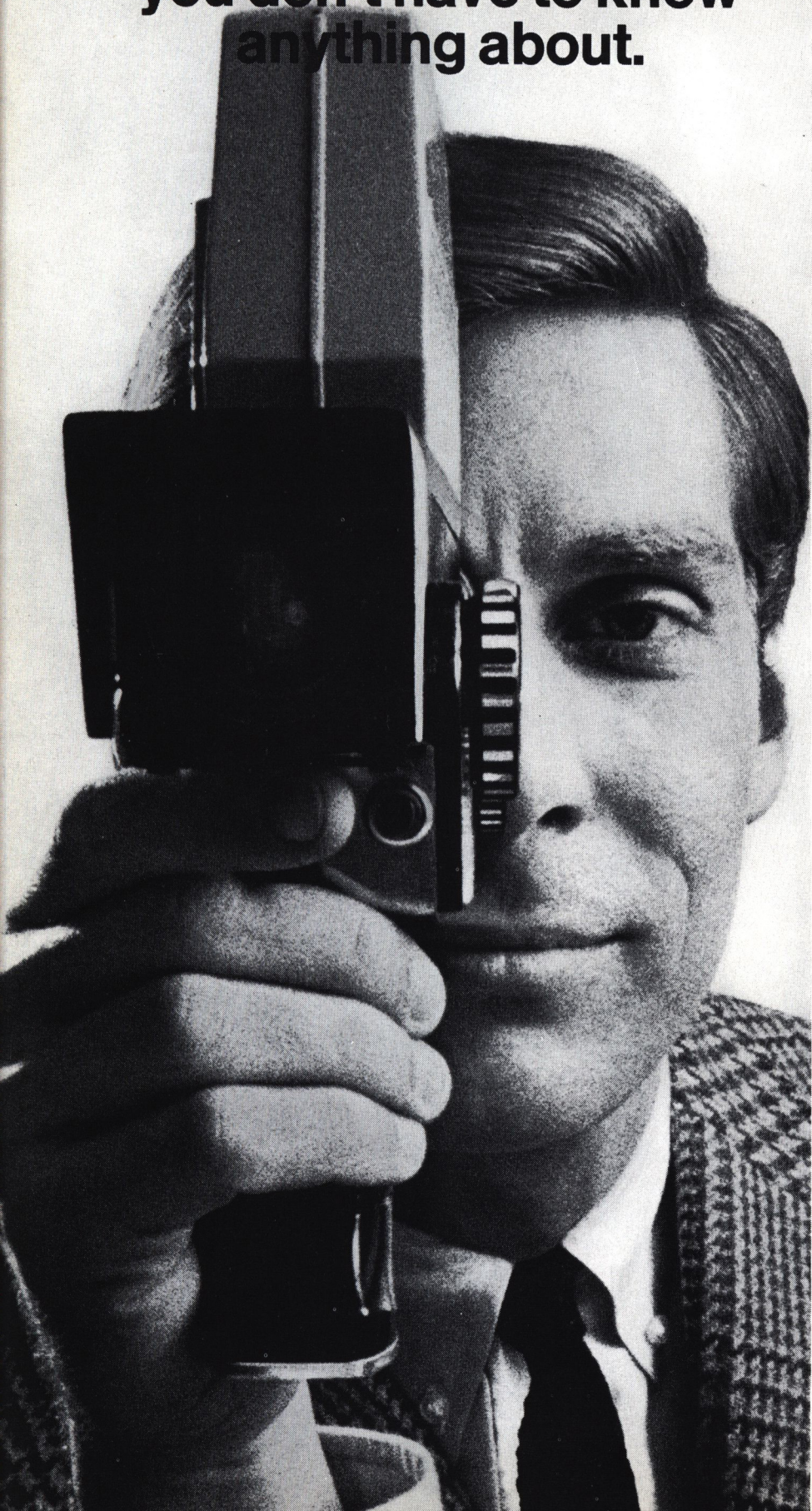
Film is a medium the photographer is to use to strike into the minds of an audience through the senses of sight and sound. Yet many a potentially good film has been ruined long before it came from the editing room, because of unsuitable narration, and an unrelated series of conceptions. They do nothing more than address themselves to an audience of dummies seated in a darkened room.

Looking back on my television experience, I cannot help but recall the uncertainty that crept into my work. I was told that teachers would rebel against that "thing" replacing them and that students would resent being educated by a collection of squiggly lines. I was told that it was not a good teaching instrument because the student couldn't question that "one-eyed monster," and that it is better to invest money into more good teachers instead of antennae. I was told, I listened, but went ahead with a project.

And when at last an assignment was ready to be included into the program and I had to sit down with teacher, sponsor, producer, technician, and director, I felt the tension of uncertainty. Would it justify the high hopes which each of us were bent upon achieving? Would it stir the imagination of the audience? Hold their attention? Make them think and respond? We had been with this presentation a long time; dry-runs; filming; living with it too long, for us to judge. It had to go out into the light of air and into the market place of classrooms; to be seen by the children and discussed by the teachers. Theirs would be the final judgment.

The advantages were apparent immediately: It is easier to show a movie once on television than to have to repeat the same movie for each individual class; positive gains in student learning with TV teaching; a better view of many visual aids than is possible for either teacher or student to obtain in class. It is not a panacea—it is a way. And the way offers myriads of quantity equated with quality.

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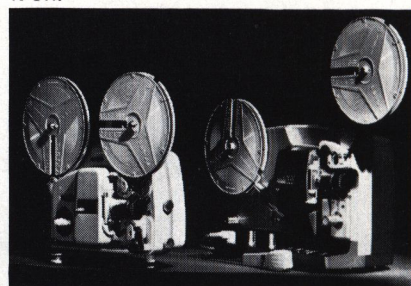
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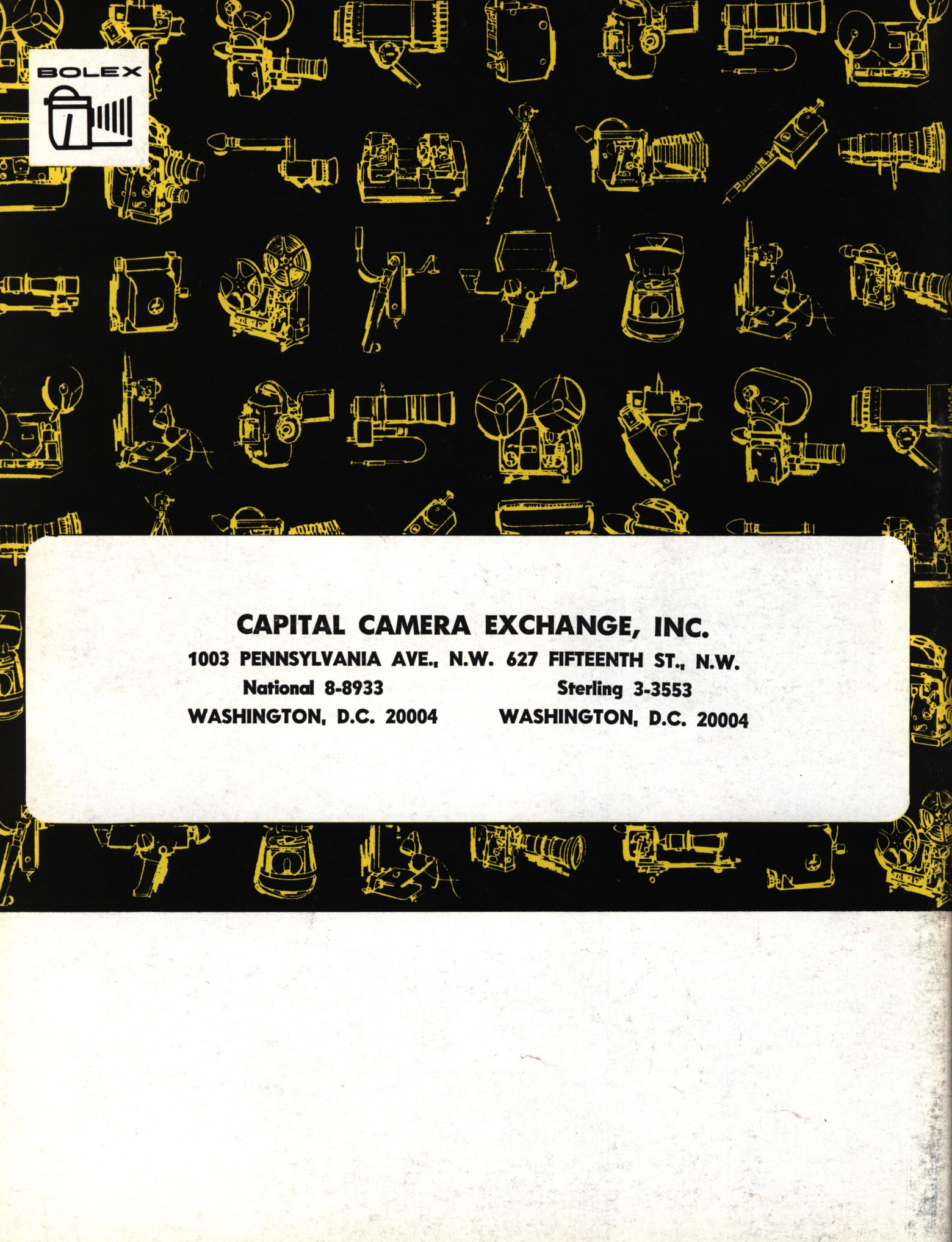
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