

JUNE 1970

75 cents

# AMERICAN Cinematographer

International Journal of Motion Picture Photography and Production Techniques



SAFETY FILM

8 1 2 3 4 5 6 7 8 9 10 11 12



# SUPER-16



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PRICES ON REQUEST		
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We don't want anyone asking us "what the hell's wrong now?"

**GENERAL CAMERA CORPORATION**  
321 West 44th Street  
New York, N.Y. 10032





# AMERICAN Cinematographer

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#### • FEATURE ARTICLES

##### 520 Super-16 As A Feature Format

From Sweden comes news of the professional application of a heretofore hypothetical extended-frame 16mm format which may prove valuable for certain types of feature filming

##### 521 Shooting The First Feature in Super-16

The Director of Photography on a new Swedish comedy-documentary feature tells about the modifications of equipment and technique which were required in order to photograph it in Super-16

##### 524 BLOW-UP: 16mm to 35mm—And More About Super-16

Liquid-gate printing and a new, greatly improved 16mm color original filming stock combine to make 16mm-to-35mm enlargement better than ever, but care is still required in the shooting.

##### 530 New Auricon Cine-Voice Conversion For Super-16

A recent light-weight adaptation of this famed workhorse television newsreel single-system camera which features, among other modifications, a capability for filming in Super-16

##### 536 The "Pro's" and "Con's" of Super-16

The Director-Scripter-Cinematographer of "MEDIUM COOL" gives a no-nonsense appraisal of extended-frame 16mm photography as a possible new format for feature filming

##### 542 Eastman Ektachrome Commercial 7252

A complete technical rundown on the new 16mm camera-original reversal color film stock possessing the higher-resolution, increased latitude and forced-processing speed of ASA 50 that could make it an ideal film for shooting Super-16

##### 544 Film in The Far East . . . And "Down Under"

AMERICAN CINEMATOGRAPHER Editor, *en route* to and from EXPO '70, reports on motion picture production methods in Tokyo, Hong Kong, Perth (Western Australia) and Sydney

##### 560 The "Lighting Wizard" of Japan

How a brilliant engineer developed from the ashes of war a new industry to bring light back onto the sound stages of Japan and Southeast Asia

#### • DEPARTMENTS

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##### 594 Book Review

ON THE COVER: A design collage based upon extended-frame 16mm and blow-up 35mm test strips made during experimentation in development of the "Super-16" format by Swedish technicians. Cover Design by Don Record.

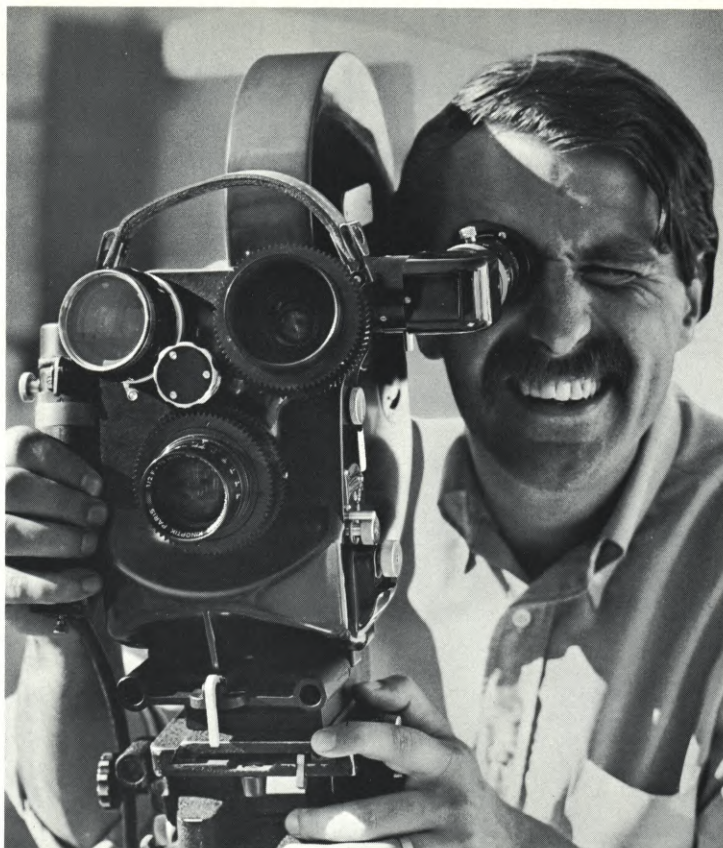
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A 400 ft. magazine and three lenses are mounted on the CM3 in this photograph.

## PRIZEWINNER

**The Eclair CM3  
has been used  
in a great many  
films that won  
Hollywood  
Academy Awards.  
What's more,**



**the CM3 has itself won an Academy Award.**

"A Man And A Woman;" "In The Heat Of The Night;" "Who's Afraid of Virginia Woolf." What do these films have in common? They all won Academy Awards. And they were all shot entirely or in part with the Eclair CM3.

In 1949, the CM3 (then known as the Camerette) won an Academy Award for its design. It was the first reflex camera to win one. Only two other cameras in current use have been similarly honored. We must be doing something right.

For example: you can change the CM3's magazine in five seconds. No threading; no loop to form. That's all done when you load the magazine, before shooting starts. On the set, you don't lose the mood when you run out of film. It's just another take; immediately. With un-rehearsed action, you can shoot right on and cover the lost five seconds with a cutaway later. 100 and 400 ft. magazines, standard equipment. 1,000 foot on special order.

Another example of doing something right: the CM3 is both a 35mm and a 16mm camera. Conversion takes about ten seconds and costs nothing (except that you need different magazines for the two film sizes). Just slide a 16mm aperture into the regular 35mm gate, and it's done. Or you can slide in a Techniscope matte — or one for any other 35mm aspect ratio you choose. Shooting Techniscope, your 400 foot load becomes the equivalent of 800 feet, since the film is advanced two sprocket holes instead of four. Changing the claw stroke to two perfs and the magazine to feed 45 feet per minute also takes seconds and costs nothing. Similar conversions on other cameras take several days and cost around \$1,400.00 each way.

The viewfinder's groundglass adapts in seconds to match whatever format you're using, also without tools and at no cost. And the finder and eyepiece both rotate

through 360 degrees, independently. Any angle — either eye. The continuous reflex viewing has no baffles, which makes it clearer than the competition's; and it's absolutely accurate. You can clearly see exactly what you're getting.

The rear-mounted magazine helps you balance the CM3 on your shoulder; and you can put the camera's flat base on a tripod or on a table top. The divergent three-lens turret accepts still-camera lenses or any others that you choose. What else? Matte box; variable shutter; 12V DC motor with sync-pulse generator. Lightweight aluminum blimp. And more. For information, contact Eclair at 7262 Melrose Avenue, Los Angeles, Calif. 90046.

# eclair

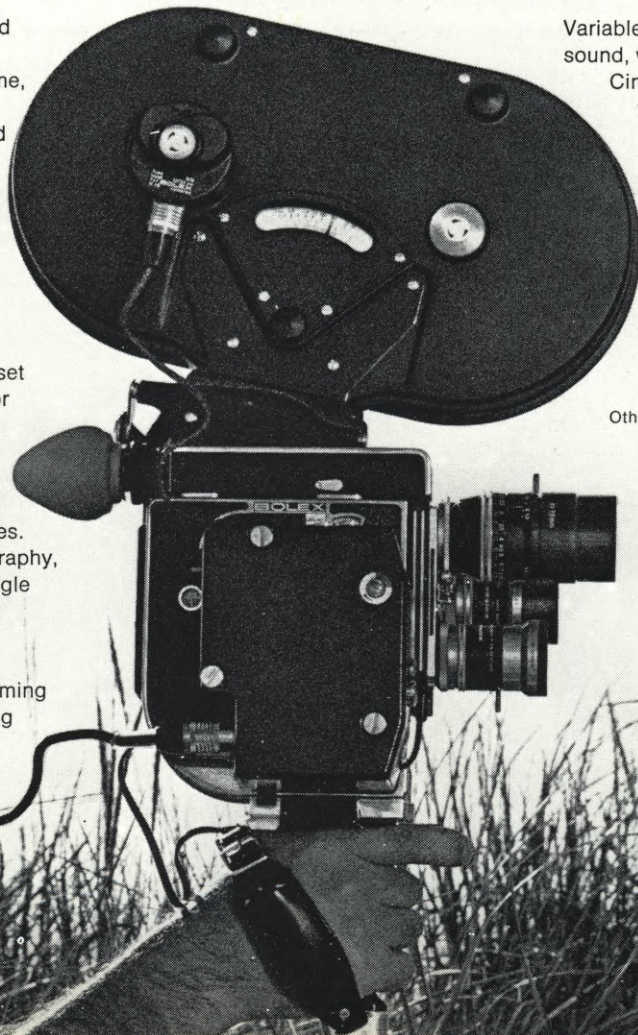




## When you're the whole show, you need the one-man camera: Bolex

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Other products: Hasselblad cameras and equipment.  
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\*Kern Switar lenses were selected to film the moon landing.



# ARRIFLEX® 35 'does its thing' for improvised Atlanta Festival award-winner, "RECESS"

Suddenly spontaneity is the thing—in the life style of youth, in the films they make, demand to see. Filling the demand comes "Recess". Looks like it worked. Not altogether complementary to its subject—American values and living patterns—its thematic and technical candor helped it take the Golden Phoenix, top award in the 1969 Atlanta International Film Festival.

Minimal sets and costumes, improvised action, free wheeling camera techniques, symbolism, metaphors both visual and literary—"Recess" might once have been pigeonholed as 'Underground'. But its thematic outlook has emerged into the mainstream, in this case backed by a crew of impeccable professionalism. Producer, William E. Barnes spent seven years as story editor for Otto Preminger; DP George Silano has such TV features as "Hunger in America" and "N.Y.P.D." behind him; and Director, Rule Royce Johnson zeroes in on his film's techniques during years of directing for the stage, including the original production of "Recess" at the esteemed Off-Broadway theatre, Cafe La Mama.

The difficulty with the improvisational shooting technique used in "Recess" is the relative chaos it requires—when spontaneity is the spicing you want, overpreparation will likely dull the flavor. "The actors would get deeply into their parts", said Mr. Silano, "improvising some of the most intense performances I'd ever seen. So you look at the footage counter and—you're running out of film. Spend more than a few seconds reloading and the actor looks like a deflated automobile tire. You've got to be shooting again almost instantly, while that pressure's still in him. If he takes it from the top again, he'll improvise a whole new movie. And that, more than anything else, is how the Arri 'made' this film. No other 35 would have let me work fast enough. It was the magazines, the viewfinder, its hand-holdability—the whole thing's just geared for speed, for the unexpected."

"Recess" represents the latest approach to filmic expression, but the groundwork that led to its style laid by the Arriflex. Cinema Verite and similar styles were first practiced with the Arriflex—the only 35 small enough, fast enough to be used for the high-pitched, intense, deeply-involved camerawork now part of the grammar of contemporary films. But film is the most dynamic art, and yet newer styles will surely evolve. If the past is a valid teacher, it is certain that the Arriflex, now entering its fourth decade as the most versatile filming tool, will continue as the malleable, obedient instrument used by the next generation of innovators.

**ARRIFLEX**  
CORPORATION OF AMERICA

P.O. Box 1050  
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Camera Operator Michael Livesey

Director of Photography George Silano

Director Rule Royce Johnson



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Permits the visual interpretation of shadow and high-lighted details corresponding to the films emulsion. Color and b/w types available; interchangeable filters. With neck chain; pocket case.

Color Viewing Filter ND 2.0  
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## NEUTRAL DENSITY FILTERS

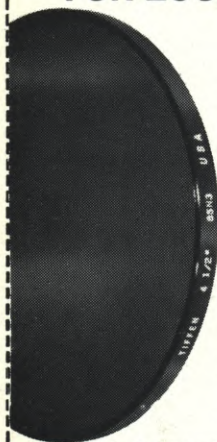
Filters enable the photographer to control the new high-speed films by reducing the intensity of light transmitted, without changing the color quality of the light. Neutral Density filters are packaged in clear plastic case with instructions for use. Available in screw-in mounts and Series sizes.



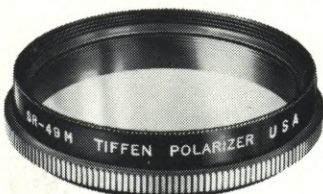
## SPLIT FIELD FILTERS

Breathtaking close-ups . . . with sharp distant detail . . . with Tiffen split field lenses that fit like a filter. Available in  $+1/2$ , 1, 2, 3 diopters in series sizes 5-9 and  $4 1/2$ " diameter too!

## $4 1/2$ " DIAMETER FILTERS FOR ZOOM LENSES

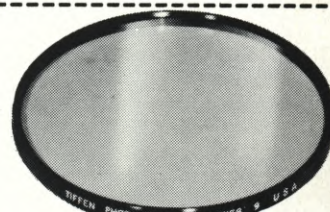


Tiffen  $4 1/2$ " filters are designed to meet the demand for filters on large diameter T.V. and professional lenses. The  $4 1/2$ " filters will fit several lenses with the use of Tiffen adapterring, eliminating the need for several special size filters. Available in all colors and  $+1/2$ , +1, +2, and +3 diopters.



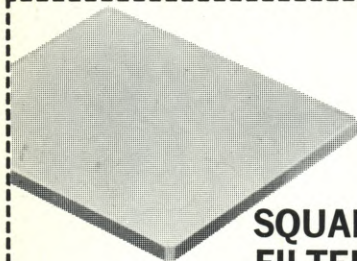
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## SQUARE FILTERS

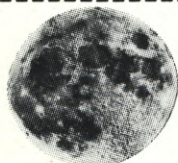
Tiffen Photar® Filters in all colors are available for Tiffen and other square filter holders in sizes from 2x2-inches up to 6x6-inches.



## Tiffen Offers Its Optical and Filter System Brochure to You by Return Mail

All the sizes, the colors, the threads, the holders, adapters and accessories . . . all of the details you need to complete your camera system are incorporated in this just-off-the-press brochure: **TIFFEN PROFESSIONAL LENS ACCESSORIES.**

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# HOLLYWOOD WANTS TO KNOW

## “Will good prints lead to footprints?”

That question was asked by the girl that Navy Bowman once called, “truly one of Hollywood’s most outstanding new starlets,” one gala premiere evening as she emerged from a limousine on the arm of Theophilus P. Mogul.

“Don’t worry, my dear,” said Mogul. “One day your...er...footprints will be enshrined in cement like the

other film immortals.”

“Groovy,” said the starlet, popping her gum.

“Our release prints are always on *Eastman Color Print Film*,” said the doorman, who was a Mogul assistant.

“Yes,” said Mogul. “We don’t want to gamble on losing all the quality, all the mood, all the flesh tones we had on location by using any other

kind of film anywhere.”

“Swinging,” said the starlet.

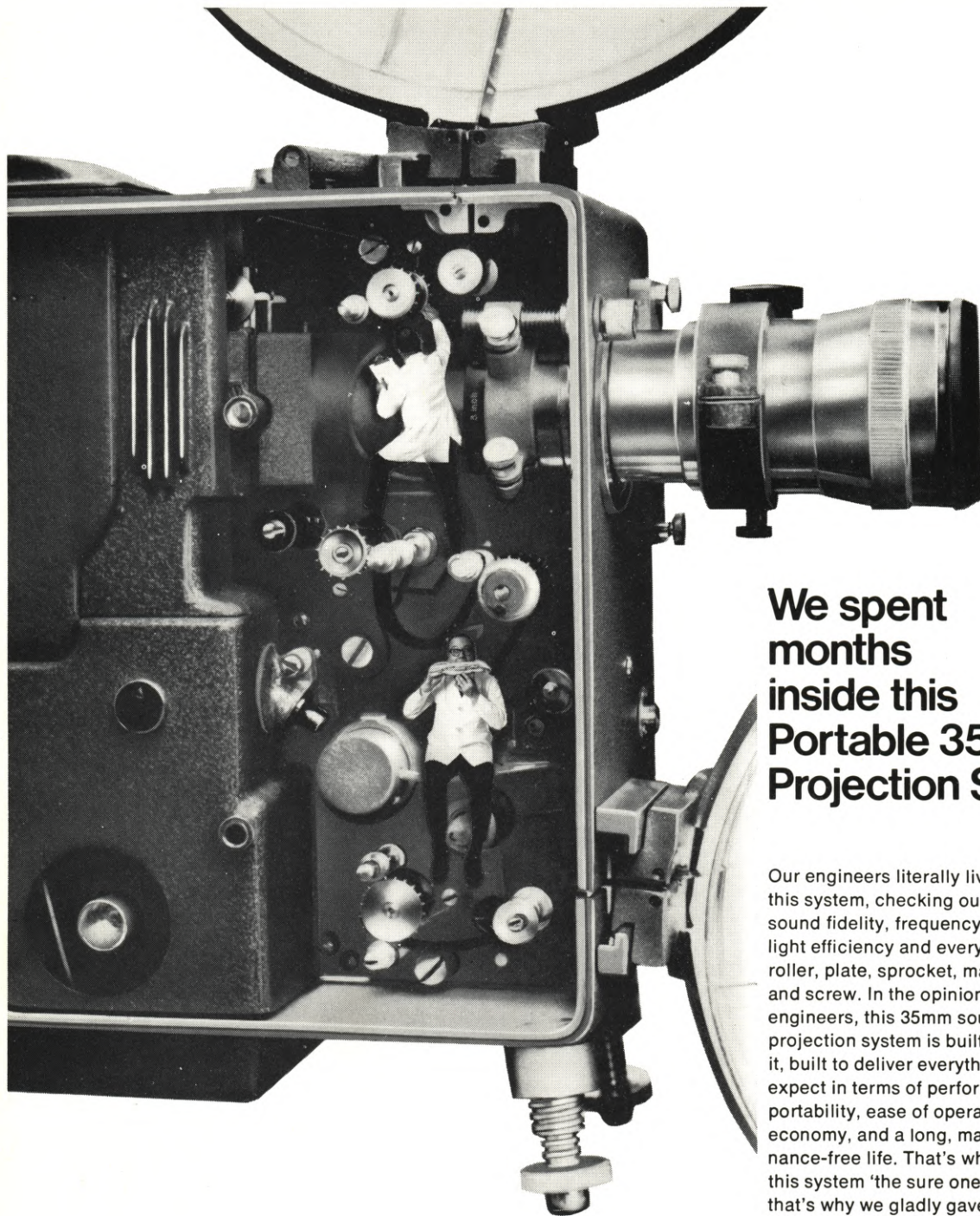
“It was T.P.’s idea,” said the assistant, hurriedly jotting down her phone number.

### **EASTMAN KODAK COMPANY**

Atlanta: 404/351-6510 Chicago: 312/654-0200 Dallas: 214/351-3221 Hollywood: 213/464-6131 New York: 212/262-7100 San Francisco: 415/776-6055



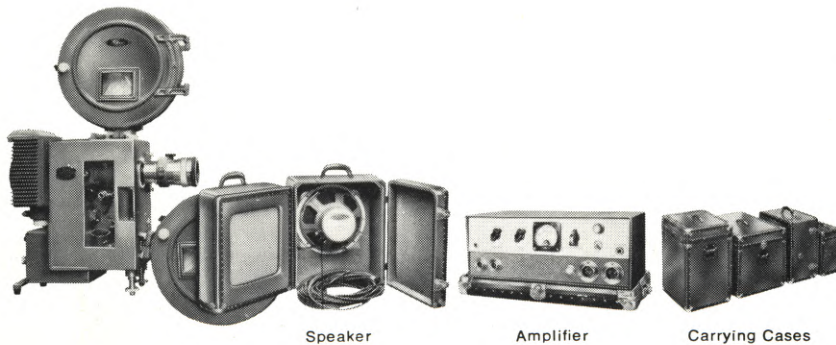




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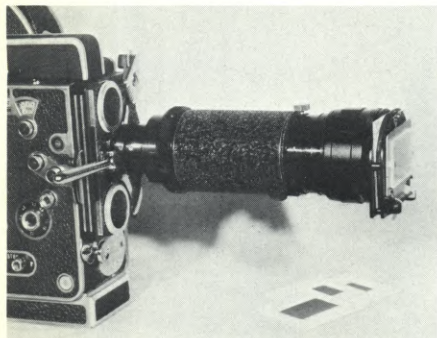
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# WHAT'S NEW

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## CENTURY ANNOUNCES THE DUPLIKIN III 16MM SCENES FROM 35MM COLOR SLIDES

Availability of the CENTURY DUPLIKIN III, a new accessory outfit which enables filming 16mm scenes from 35mm color slides, is announced by Century Precision Cine/Optics of North Hollywood, California.

Films taken with this precision instrument appear sharper than the original because of the 10-times reduction factor. Fits 16mm camera like any standard lens. Designed to give razor sharp and brilliantly saturated color results. Filtering and exposure variation are easily done. Enables missing "tie-in" shots to complement a filmed sequence. Also useful for establishing shots, instructional films, location identification and dissolves.

Available for all 16mm "C" or Bolex H-16 RX mount cameras; 159.50; special model for Arriflex 16, 189.50. For full particulars write Century Precision Cine/Optics, 10661 Burbank Blvd., North Hollywood, California 91601.

## TWO NEW PROFESSIONAL ORIGINAL MOTION PICTURE FILMS FROM AGFA-GEVAERT NOW AVAILABLE

Agfa-Gevaert, Inc., announces Gevachrome Type 6.00, a reversal color film with ASA 50 tungsten rating, and Gevachrome Type 6.05, with ASA 125 tungsten rating. Both films are multi-layer, low contrast reversal-type color films designed for both exterior and interior filming. Because of their low contrast, both films are especially valuable in shooting for color television transmission. Both feature extremely fine grain, and assure superior image sharpness. Both films can be forced processed one stop.

Duplication is easily obtained by printing onto reversal color print films such as Gevachrome Print Film Type 9.02.

Both films are balanced for 3200°K illumination, and may also be shot in daylight, or with carbon arcs or photo-floods, with appropriate filters.

Resolving power of Type 6.00 is 120 lines/mm, and 100 lines/mm for Type 6.05. Both films are available in lengths from 100 to 1200 feet, in a variety of formats. For complete information on Gevachrome Type 6.00 film and 6.05 film, write to: Agfa-Gevaert, Inc., 275 North Street, Teterboro, New Jersey 07608.

## AWARD-WINNING PYRAMID FILMS TO BE CONVERTED TO EVR FORMAT

A number of award-winning educational and entertainment films, produced by Pyramid Films, Santa Monica, Calif., will be available in the EVR cartridge format, so they can be played on a television set the way records are played on a hi-fi, Motorola Systems Inc., Chicago, has announced.

The agreement between Motorola and Pyramid Films, a major educational and entertainment film producer and distributor, was made to implement Motorola's marketing strategy of combining the Motorola-manufactured Teleplayer with "packages" of EVR cartridges for sale to specific markets, said Lloyd Singer, Motorola vice president and director of Education and Training Products.

EVR was developed by CBS, which licensed Motorola as the exclusive manufacturer of the player in the United States and Canada through 1971. CBS will do the actual conversion of film and videotape programs to the EVR cartridge format.

The Pyramid films will be part of Motorola's "hospital package" being developed for education, training, and diversional therapy of both patients and medical personnel. Others will be used by schools, child day care centers, businesses, and government agencies.

Among the films to be converted to EVR are "Breath of Life", narrated by Art Linkletter and winner of five major awards, including the Best Film Award

of the National Safety Council; "Pulse of Life", narrated by Raymond Massey and winner of the American Film Festival's Best Film for Safety & First Aid and five other awards; "Sky Capers", a film on sky-diving that was awarded the 1969 "Prix du President de la Republique" at the Third International Festival of Sports Films in Grenoble, France; and "Moods of Surfing", produced in cooperation with Greg MacGillivray and Jim Freeman, winner of the Best Film Award of the Photographers Society of America and the New York International Festival's Gold Medal.

"There are many exciting and rewarding films available for this type of EVR distribution that the majority of our population never see," said Singer.

"EVR will bring films for education, training, and entertainment to large segments of the public effectively and economically," he said.

With the EVR system, a special low-cost film packaged in a seven-inch cartridge is played through the Teleplayer which is connected directly to the antenna terminals of a television set. The cartridge is placed in the player—like a record on a phonograph—and the film images are picked up and converted to video and audio signals by an electronic scanner.



## NEW MICROPHONE GIVES OPTIONAL CONTROL OF ENVIRONMENTAL SOUNDS

INGENUICS, INC. of Gaithersburg, Maryland announces development of a new concept in microphone design which provides the option of either accepting or rejecting environmental sounds, at the flick of a switch.

The new INGENUICS microphone features two alternate modes of dealing

Continued on Page 582



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The problems facing director Lou DiGiusto and director of photography, Robbie Wilcox involved the improvisational acting of the "teacher", and the spontaneous reactions of 25 seven-year old students. For, even though shot in the studio, this was a real classroom situation—the second graders were actually doing assignments. Since the interaction between teacher and pupils is a major part of the teaching process, it had to be presented authentically in demonstrating bad teaching techniques.

All this meant that the classroom "blunders" could never be duplicated—the camera would have to make take-one a "print"; and since children's attention span is short, set-ups needed completion in record time. With its reliability and quick-handling established on other jobs for Calvin, a pair of Arriflex 16BL's was put to work. Comments Mr. DiGiusto, "Its portability on the set fits right in step with the minimum set-up time allowed. And its one-take capability never failed us in capturing unique bits of action on the part of the children." Mr. DiGiusto concludes: "Calvin-Louisville, a wholly owned subsidiary of Calvin Communications Industries, has found time and time again that the reliability, portability and efficiency of Arriflex camera systems fit in line with their rigid production demands". If yours are equally demanding, meet them head on with Arriflex flexibility.

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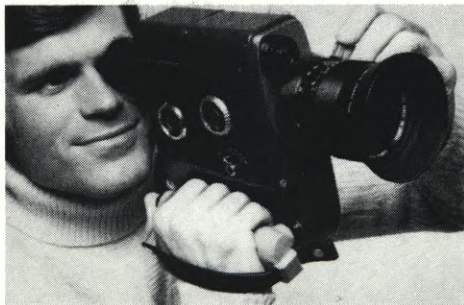
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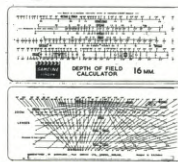
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- 2 Purchase** only the finest alloys, just as we do.
- 3 Purchase sophisticated machinery** such as we use here in the States and institute a training program, just as we do, so that your laborers can learn how to use the equipment. (Once they do, they'll probably request more than 20¢ an hour).
- 4 For the tripod legs**, be sure to use well-seasoned hardwood to assure ruggedness and long-life. Cameramen become attached to their tripods and like to keep them for long periods of time. (At least they keep the real Pro-Jrs. a long time. We know of some that have been in use for 30 years.)

As we said, these suggestions are only a beginning, but even as starters they can help our Chinese imitators raise a few things: their standards of quality, their chances of success, and, not incidentally, their operating costs.

Good Luck!

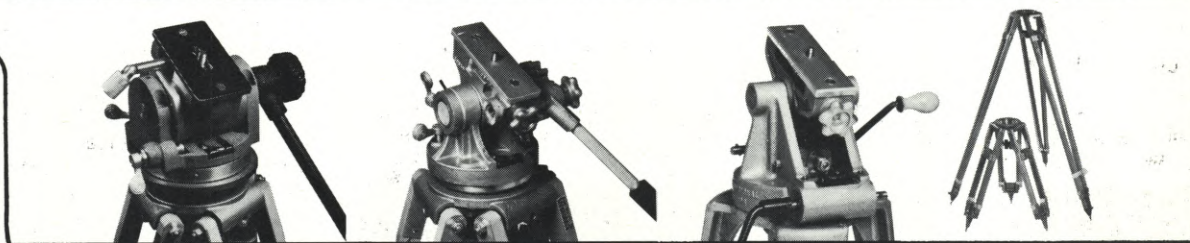
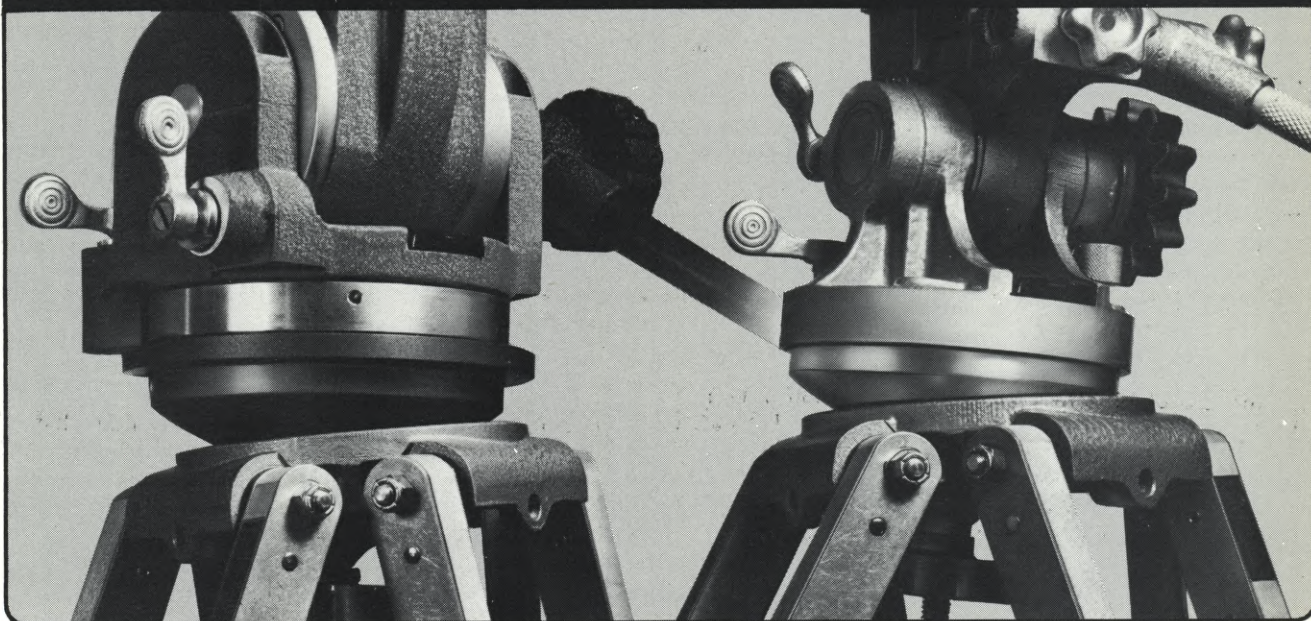
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# SUPER-16

## AS A FEATURE FORMAT

From Sweden comes a report on the first feature film photographed in the extended-frame 16mm format for blow-up to 35mm—a development which may prove to be valuable for certain types of feature production

By LARS SWANBERG  
*Department of Technical Research  
The Swedish Film Institute*

Blowing up a 16mm image to 35mm is nothing new. The possibilities of the 16mm hand-held sync camera, small crews and extreme mobility has attracted many producers, directors and cameramen during the last decade. However, the greatest hindrance to a wider use of 16mm in feature film production has been the loss of picture quality in the blow-up process. Very few improvements have been made in this area within the last few years. One step forward was the introduction of Eastman Kodak's new film, Reversal Intermediate Film type 5249. It brought us one generation closer to the original negative.

However, the best way of improving picture quality in this context would be

Swedish Director Vilgot Sjöman discusses photographic approach to production of the first feature film to be shot in Super-16 with his Director of Photography, Rune Ericson, F.S.F. Ericson holds the Eclair NPR camera which he and technician Carl Hellstrand modified for filming in the extended-frame 16mm format. The feature, recently completed, was produced by Sandrews Film & Teater AB, Stockholm.

to enlarge the picture area of the original negative frame in a manner similar to that which resulted in the Super 8-system. Experiments with Super-16 have been made during the last three years by a Swedish cinematographer, Rune Ericson, the founder of the Swedish Society of Cinematographers (F.S.F.) and Director of Photography on "DEAR JOHN" and 35 other feature films. The experiments have been financed by the Department of Technical Research at the Swedish Film Institute in Stockholm. I will not go into detail about the failures and disappointments on the way, but will concentrate on what Rune Ericson finally came up with.

His Super-16 system is a 16mm

"wide screen" system. The aperture plate has an aspect ratio of 1:1.66 (which is the European wide-screen standard). However, the system can also be used for 1:1.85. It is exclusively intended for blow-ups to 35mm, since the enlarged picture area has been achieved by utilizing the sound track area on single-perf 16mm film.

This, of course, means that the camera has to be converted. The first experiments were made with The Arriflex BL but the construction of the mirror shutter and the size of the ground glass made the conversion difficult and expensive. The Eclair NPR camera turned out to be better for this purpose. The ground-glass allowed for an enlarged frame and it was rather easy to enlarge this camera's aperture plate. The final Eclair NPR Super-16 camera has been converted in 14 different places (because the magazines had to be changed in order to avoid scratches). The enlargement of the picture area means that standard 16mm lenses can not be used. The optical axis has to be moved 1 millimeter to the side and Vidicon-lenses used on the camera in order to avoid vignetting.

The tests made at the Swedish Film Institute show that a Super-16 blow-up is far superior to a blow-up made from standard 16mm. The picture quality is similar to the quality of Techniscope, but, of course, not as good as standard 35mm. Super-16 is now being put to use in feature production for the first time by Vilgot Sjöman, director of "I AM CURIOUS (Yellow)" for his new film, which is being photographed by Rune Ericson. In testing, Ericson has been using a NPR camera converted to Super-16 by Hellfo Mekaniska in Stockholm, with Cameflex and C-mount and a set of Canon Vidicon-lenses (13.5mm F/1.5, 25mm F/1.4, 50mm F/1.4, 9mm F/1.4 and zoom 16-95mm F/2). The cost of converting the camera was approximately \$1,000. He used Eastman Color Negative 7254 (because he needed the extra speed). The final result would





probably have been of even higher quality if the new fine-grain Ektachrome film had been used.

The work print was contact printed using a printer with enlarged aperture plate and the sound was transferred to 16mm perf. The dailies were screened on a Siemens 2000 double-band projector with enlarged aperture plate (modified by means of a rather simple operation) and the work print was edited on a Steenbeck 17mm table converted to the wide-screen aspect ratio. The blow-up was finally made at Film-Teknik AB in Stockholm on an Acme printer (wet-gate) with an aperture plate especially made for this purpose in Hollywood. The original negative was blown up directly to a 35mm negative on Eastman Color Reversal Intermediate Film type 5249.

The main advantage of the system is the gain in picture quality, which is accomplished through an enlarged picture area on the original negative (24% larger than standard 16mm) and a decreased degree of enlargement in the blow-up. The loss of picture area in the blow-up process caused by the difference in format between the standard 16mm and the 35mm wide screen format is completely eliminated when using Super-16.

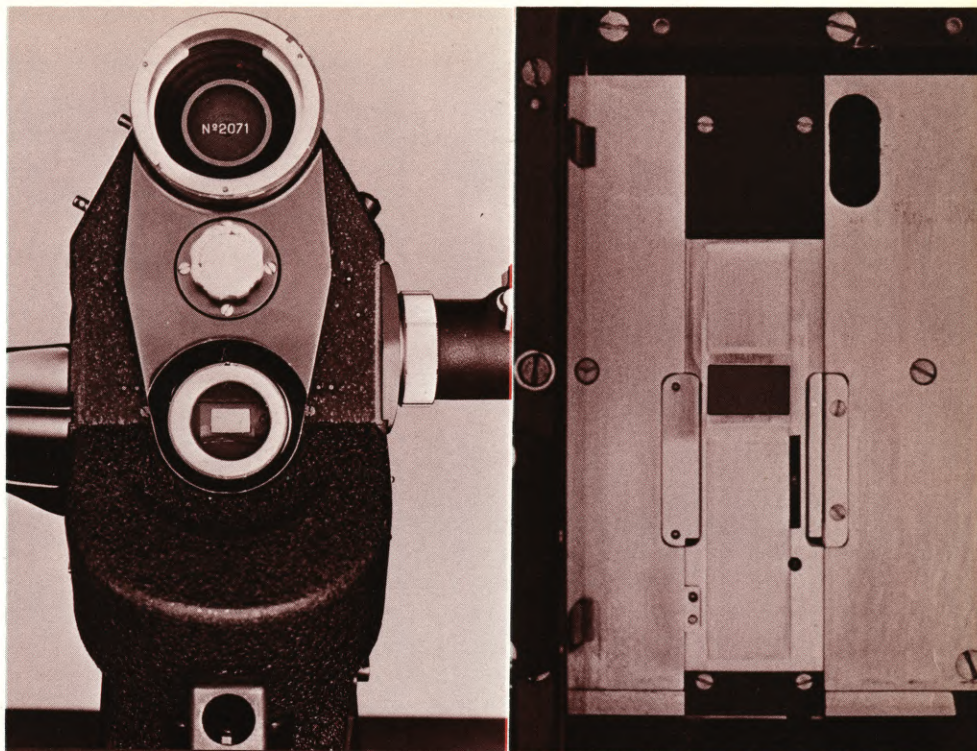
Super-16 might not mean to 16mm what Super-8 meant to the emancipation of 8mm film, but the people who have worked with it and have seen it on the screen are convinced that it will change the attitude towards 16mm of many feature film producers who are looking for ways of saving money, but consider standard 16mm a blurry compromise, only good enough for educational and underground films. ■

## SHOOTING THE FIRST FEATURE IN "SUPER-16"

By RUNE ERICSON  
*Director of Photography*

Let us consider the Super-16 system—which my colleagues call "Runescape", after my first name.

I first became interested in its possibilities four years ago, when I was planning to make a film together with Mai Zetterling. The project involved traveling around the world for six months with a very small crew—in all, about five or six people—and using very



(LEFT) With lens removed from the Eclair NPR, extended 16mm frame aperture plate adaptation can be clearly seen. Also obvious is lens mount modification made to shift optical axis of the lens one-millimeter to the side, so that lens will cover enlarged frame without vignetting. (RIGHT) A view inside the camera showing Super-16 frame modification of the aperture plate and its position in relation to the film channel.

light-weight equipment. So, of course, we thought that shooting in 16mm might be one way of doing it.

I did a lot of testing to find out what would be involved if we shot in 16mm for blow-up to 1.66 wide-screen in 35mm. The fact was that you had to reduce the area of the 16mm frame in order to get a 1.66 picture—and that was a bad fact.

The film project was later cancelled, but the idea remained. The first thing I did was make some blow-up tests from 16mm Ektachrome Commercial. One test involved blowing up the image 4.5 times; the other, 3.2 times. The result was, of course, much better with the 3.2 blow-up.

Then I sat down and figured out that if I opened up the aperture of the 16mm frame an extra two millimeters on the sound-track side, I should have an exact ratio of 1/1.66 that could be blown up directly to 35mm without any loss in frame area.

At this point, I should say that throughout my career as a cameraman I had never shot an important film in 16mm. Most cameramen who shoot in 16mm use that format exclusively and seldom work in 35mm. In my case it was the other way around. My background was 25 years of shooting with 35mm Debie, Arriflex and Mitchell cameras. Of course, I occasionally handled a 35mm Arriflex—but, generally, I

worked with heavy cameras mounted on tripods, dollies and cranes.

So now, in considering Super-16, I had to find out if there were existing 16mm cameras that could be readily adapted to that format. There were two noiseless 16mm cameras which I investigated with that in mind: the Arriflex BL and the Eclair NPR.

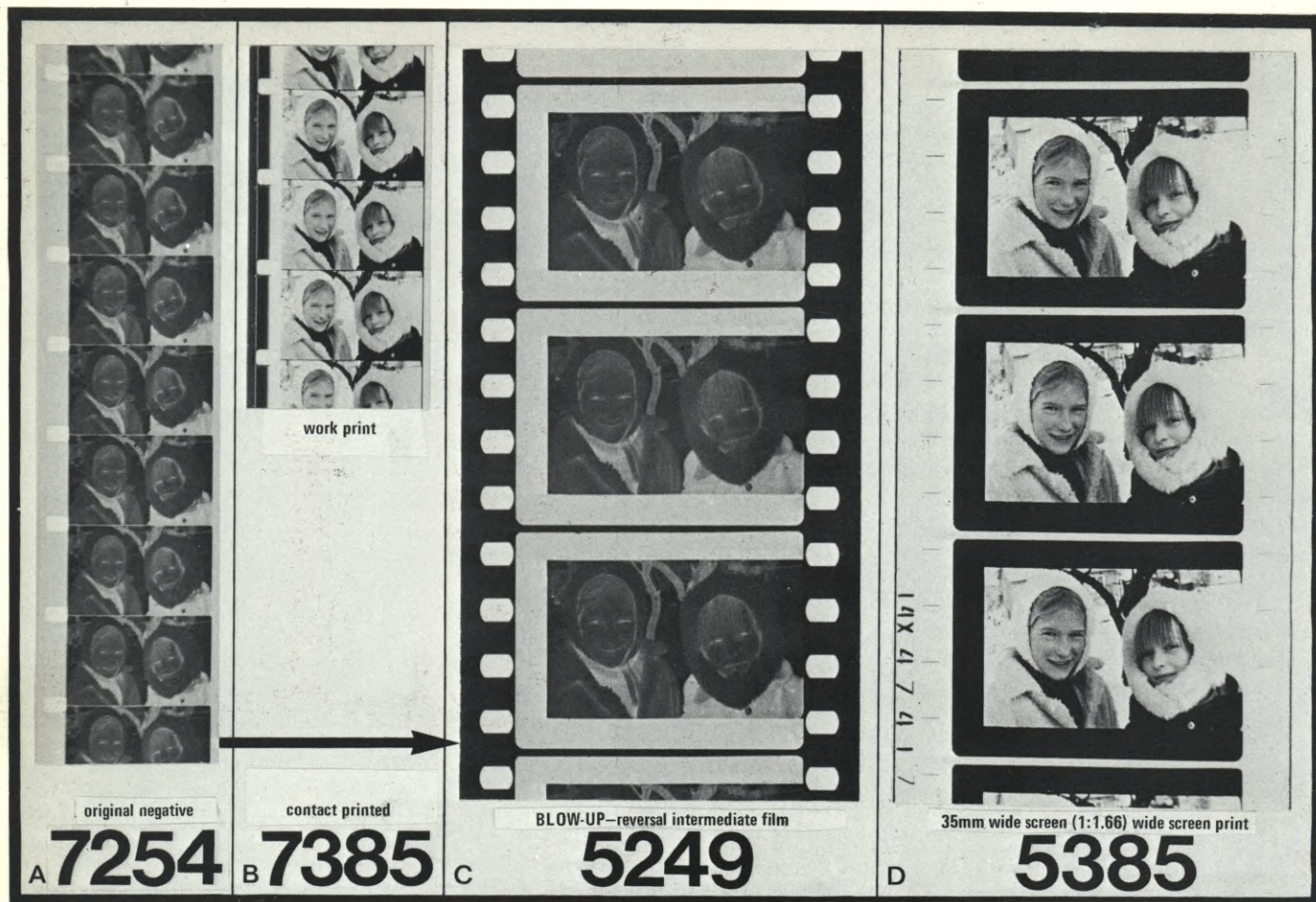
I started with the Arriflex BL and enlarged the aperture, but I found that, from the mechanical point of view, there were two drawbacks which made it almost impossible to adapt this camera to Super-16. First, the shutter would not cover the enlarged aperture. Making the opening larger would be most difficult because of the shutter's angle toward the aperture.

The second problem was that the optical axis would have to be moved a distance of one millimeter sideways to center it on the enlarged frame. The front-end construction of the Arriflex made this almost impossible. I found out, also, that the viewing system would not cover the larger frame, either.

After an examination of the Eclair NPR, we came to the conclusion that a Super-16 adaptation *could* be made with this camera. By *we*, I mean Carl Hellstrand and myself. I consider him to be the best camera technician in Scandinavia and without him none of this could have been done.

Continued on following Page





Flow chart showing photographic and blow-up procedures used in Sweden for producing the first Super-16 feature. The picture was photographed on Eastman 16mm 7254 color negative. Work-print for cutting was contact printed onto 7385 print stock. Matched Super-16 negative was then blown up directly onto Eastman 5249 Reversal Negative stock and 35mm printing was done using 5385 print stock. Results were good, but might have been even better had the new high-resolution Eastman Ektachrome Commercial 7252 stock been available as a camera original when shooting began.

In adapting the Eclair NPR, there were no problems in moving the optical axis, getting the shutter to cover the enlarged aperture or modifying the ground glass of the viewing system.

In addition, Hellstrand partially removed surfaces from wheels and other places in the magazine and camera body where the sound-track side of single-perf 16mm film would ordinarily ride. These were milled down to the point where there was only one millimeter of surface left.

Of course, we had a certain amount of trouble with scratches at first (I used up ten 400-foot rolls of film just for scratch research), but we worked on this problem and managed to correct it.

Most of the scratches originated in the aperture itself. The tracking of the film did not go so well after almost all of the one side was removed, so we had to reconstruct and modify the aperture plate. We also made new pressure plates for the magazines. During the filming of our feature picture we shot 50,000 feet of 16mm film, and we had to retake only three scenes because of scratches. I think that is not so bad, considering

that I had not had any experience with 16mm before.

Then there was the matter of the lenses. Most standard 16mm lenses will not cover the enlarged field of the Super-16 frame, so I used Canon lenses made for television cameras (13.5mm, 25mm, 50mm and a 16.5mm-95mm zoom lens), as well as a Kinoptik 9mm and Schneider 18mm.

Now, some facts about the feature we recently completed—the first to be filmed in Super-16. The picture has no English title, as yet. In Swedish it is called "LYCKLIGA SKITAR". "Lyckliga" means *happy*. "Skitar" is a nickname for *people*—but with a double meaning.

The film is a semi-documentary comedy and about half of the story takes place aboard an old boat 50 to 60 feet long. About 20 days were spent shooting below decks in narrow, cramped areas. Many of the dialogue scenes take place in the cab of a big lorry, while it is driving along. Other semi-documentary scenes take place in town—in restaurants, a cafe, a hospital—and almost all of them with sync-sound.

The Director, Vilgot Sjoman, had written 13 sequences of the story without any dialogue. Before filming each one, he talked about it and discussed it with the actors. He told them that such and such would happen and what he would like them to say. They were actually improvising every sequence and, in that way, were building up some very good scenes.

I, as the cameraman, had to follow the scene and try to catch the best parts of it. I think that many film people dream of working in such a way, instead of strictly following a script born on a desk, with words written by one man and put into the mouths of others—words which are often strange to them.

This method of working took more time, but it didn't matter so much, because there were very few people on the crew. We had the Director, the script girl, the set designer, the focus-puller, myself, the assistant cameraman, the gaffer, the soundman, the assistant soundman, the production manager and a production assistant. Altogether, there were only about ten people, but all of them were helping each other.



The film was shot between February and April, 1970—a "dark" period in Sweden—so I had to use a fast film. Eastman Color Negative 7254 was really my only choice, because the EF is not so good for blow-up. I am happy that the new reversal negative was introduced in time to help the 7254 produce good results.

For lighting, below decks of the boat, I had three 500-watt photofloods and five 800-watt tungsten-halogen lamps, most of them used indirectly. In the lorry I used one Sun-Gun with dichroic filter. In the restaurant and other large locations I used ColorTran PAR-64 units and two Soft-lites. Generally, I used very little light, shooting at a stop of about F/2.8.

Making this picture in Super-16 has changed some of my attitudes about film-making. Always, in the past, I worked with an Operator actually running the camera—and I fought for the use of the Operator in the Swedish film industry. I found it very practical, because it was easier to control the lighting, and so forth, when working in the studio. But one should never be too old to change his mind. After working in this way and operating the camera myself, it will now be impossible for me to simply stand *beside* the camera. It is only when you are looking through the lens that you see exactly the picture you are getting. You can control every movement. You can stay on the actors much better—especially when you are shooting the film under realistic, documentary conditions. From that standpoint, shooting Super-16 with the NPR has been a great step forward for me as a cameraman.

You *do* have to realize that 16mm is not 35mm, however. There is still a very great difference in technical quality. But what do you get by way of compensation? Pictures that you would never be able to catch when using heavier equipment!

I would like to say a few words about zoom lenses. When shooting in 35mm I considered the zoom to be helpful because it made the camera a little bit "lighter" so that it could be moved around more easily.

When I started shooting 16mm I had the same idea—feeling that I could photograph the whole film with the zoom. It took me two days to realize that I was wrong. It was ridiculous to work hand-held with that long lens sticking out in front of the camera. I didn't want the point of balance to be four to six inches out from the camera body. I wanted to have that point in the

*(ABOUT THE AUTHOR: RUNE ERICSON is 45 years old and has worked for Sandrews Films in Sweden since 1946. During that time he has functioned as Director of Photography on about 40 features, among them the award-winning film, "DEAR JOHN". He has photographed almost all of Mai Zetterling's pictures, including "NIGHTGAMES", "THE GIRLS", etc. He served as cinematographer on the French feature, "LE VIOL" ("THE RAPE") and has photographed television material for CBS and for NBC in Africa.*

*When we became aware that Mr. Ericson was photographing the first feature to be shot in Super-16, we wrote to him requesting additional technical information regarding his work with the new format. In due time, we received, in hand-written form, the article which appears here, accompanied by the following interesting letter:*

*Dear Mr. Lightman:*

*Your letter came to me via transceiver aboard my sailboat, out in our archipelago. I am having a one-week vacation between two films, and I am sailing alone. It is still spring and the temperature is 8 to 10 degrees above zero, with the wind blowing 4 to 5 meters per second. I am alone. There are no other boats as far as I can see—and no other people, either. It is necessary for me, after finishing a film, to slow down the body and relax. Otherwise, it is impossible to be a good cameraman. You must be a "happy trigger" if you are to continue in this business. I have been writing this article during the whole night and the sun is now just coming up. I hope this is the kind of material you expected, and I am happy that you are going to publish a story about Super-16. I have been reading "AMERICAN CINEMATOGRAPHER" ever since I started in this business 25 years ago. It has really become my main source of information about filming techniques and equipment.*

*Best regards,  
RUNE ERICSON  
Mjolvagen 31  
16171 Bromma  
SWEDEN)*

camera on my shoulder. Even though I am shooting hand-held, I still want a steady picture. (I think that many cameramen are shaking the camera a little bit extra these days, because they feel they have to show the critics that they are working in a "modern" way.)

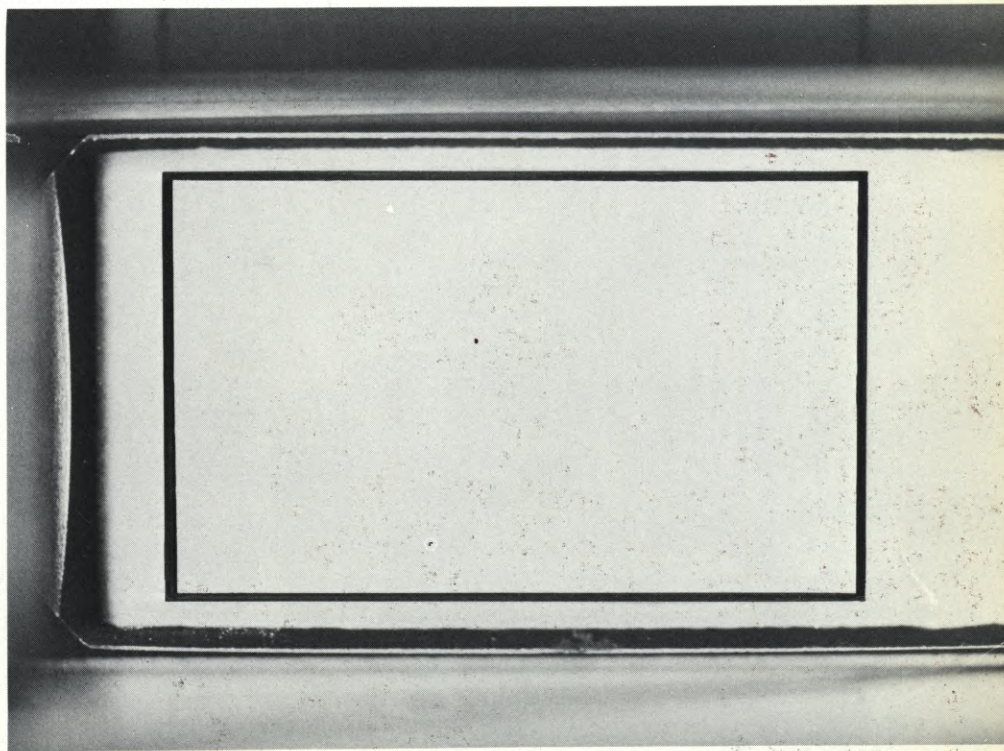
Anyway, I soon switched over to standard lenses. Most of the "zoom" movement you have to do can be done much better on your feet or knees,

using a standard lens. Of course, there are times when I use the zoom, but mostly I prefer to work with standard lenses when shooting 16mm hand-held. I've found the Canon 25mm and 50mm lenses to be brilliant and sharp, even wide open at F/1.4.

The 12mm-to-120mm zoom lens is very good for special purposes, but almost every cameraman these days is

Continued on Page 590

Ground glass objective of the Eclair NPR camera viewfinder system shown as re-scribed to match the enlarged frame area of the Super-16 camera conversion. The Eclair presented no difficulties in this respect, nor in the changes made to enlarge the aperture or re-locate the optical axis of the lens. Surfaces within the camera body and magazines were also milled down to accommodate the revised format, with no special problems.





# BLOW-UP: 16mm to 35mm AND MORE ABOUT SUPER-16

Liquid-gate optical printing, plus the new ECO 7252 film, promise 35mm blow-ups from 16mm that should be better than ever—but a great deal of care is still necessary in shooting

By RICHARD PATTERSON

In the past few years more and more producers have discovered the feasibility of using high quality enlargements from 16mm originals in a film to be released as a 35mm theatrical or television presentation. Cineservice, Inc. in Hollywood, under the direction of Adrian Mosser, is one of several companies capable of producing such enlargements and provides an interesting starting point for the investigation of the possibilities which this technique has to offer.

There are several reasons why a producer would want to have 16mm footage blown up to 35mm. Originally the bulk of the work done at Cineservice consisted of enlarging 16mm stock footage so that it could be used in pictures intended for theatrical release. The development of a method for producing high quality 35mm negatives from 16mm stock footage considerably expanded the horizons of the producer of theatrical films. It made possible, for example, the production of compilation documentaries drawing on 16mm newsreels, stock footage, and even home movies. Cineservice has provided blow-ups for compilation documentaries such as David Wolper's "THE RACE FOR SPACE" and "THREE DAYS IN NOVEMBER". The latter film, a record of the Kennedy assassination in Dallas, even included one section of 8mm film, enlarged first to 16mm and then to 35mm.

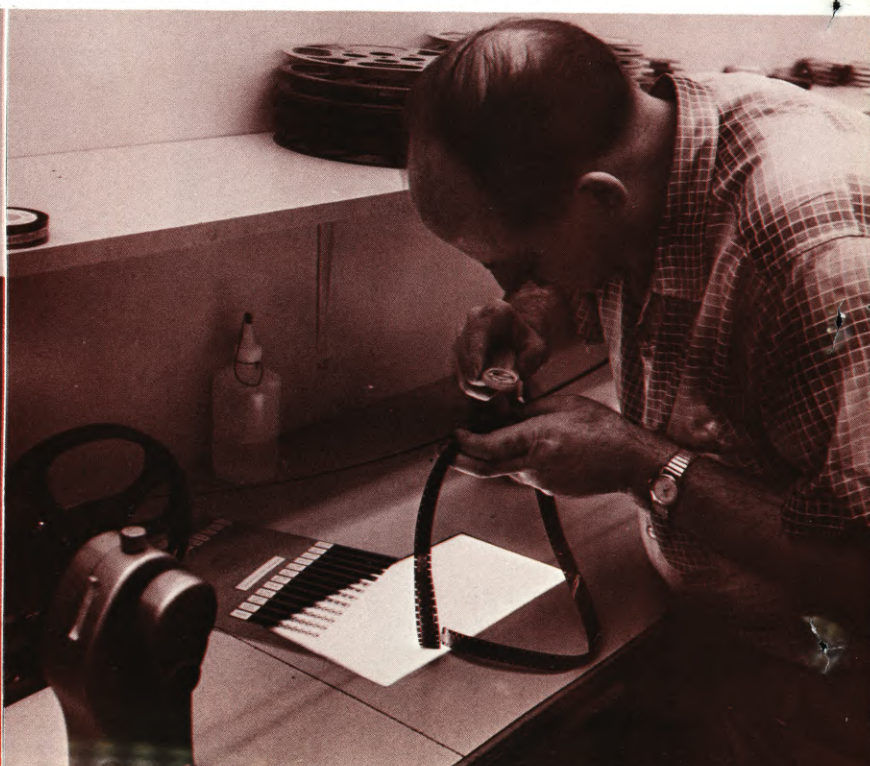
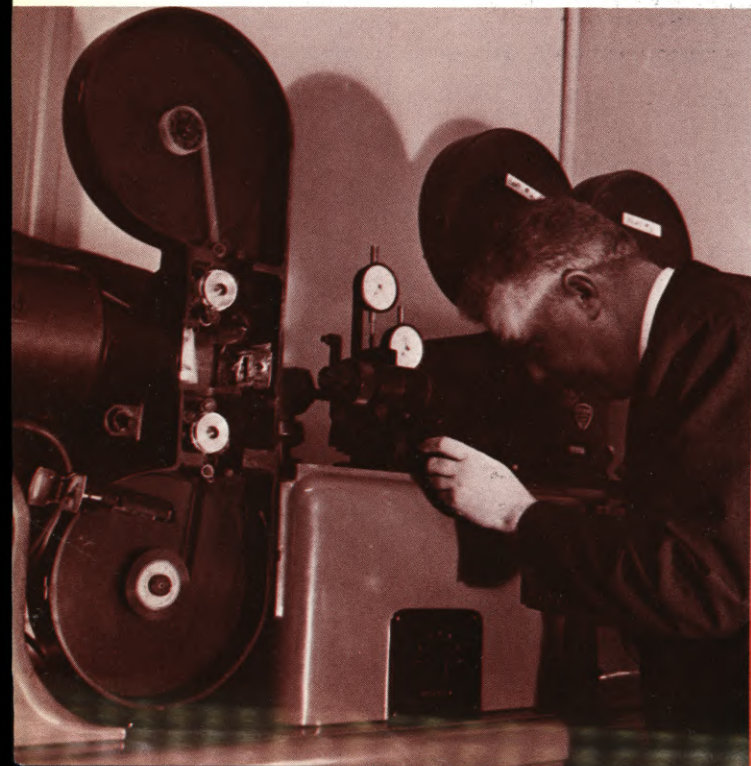
In the case of compilation documentaries an audience may be inclined to accept a noticeable difference in the image quality of a blow-up because of the historical content

of the footage. The real test comes when 16mm stock footage is blown up to be intercut with 35mm production footage in a theatrical feature, and Cineservice has been doing this for several years. War movies often draw heavily on stock footage from military archives and most of the color footage in these archives is in 16mm. Cineservice provided blow-ups of this sort for "BEACH RED" and even blew up four or five shots to match a Panavision negative for use in "HELL IN THE PACIFIC".

In his article in the November 1969 issue of *American Cinematographer* Michael Ritchie mentions the fact that a considerable amount of 16mm footage was shot for "DOWN-HILL RACER". Cineservice enlarged 20 or 30 minutes of this footage for use in the film, and the way in which a director can simply mention this in passing indicates the extent to which blowing up from 16mm to 35mm has become an accepted technique in feature film production. In this case the director did not simply draw on existing 16mm stock footage but actually had his second unit shoot some of their footage in 16mm, presumably in order to take advantage of the greater flexibility and portability of 16mm camera equipment. Even as lavish a production as "DOCTOR ZHIVAGO" commissioned a blow-up from 16mm to 70mm of one shot taken through a microscope.

"EASY RIDER" and "MEDIUM COOL" each contain a section shot in 16mm. The cocktail party sequence described

(LEFT) Adrian Mosser, who heads Cineservice of Hollywood, Inc. and is one of the top experts in the art of enlarging 16mm to 35mm is shown adjusting Acme optical printer for blow-up work. He has done much testing in Super-16 during the past few years, but cautions that, quality-wise, it cannot replace the standard 35mm system. (RIGHT) Vernon Frith, President of the Hollywood Valley Film Laboratory, checks color quality of a blow-up.





by Haskell Wexler in the January 1970 issue of *American Cinematographer* is probably one of the best examples of Cineservice 16mm-to-35mm enlargement.

In addition to blowing up shots or sequences to be cut in with 35mm original, Cineservice also blows up entire films. Some of these films are short subjects or documentaries originally intended for non-theatrical distribution which are enlarged to 35mm for theatrical or network television presentation as a result of their reception at non-theatrical screenings. They may be films which are being submitted for an Academy Award since the Academy rules require that the print submitted be in 35mm. Cineservice has blown up several documentaries and short subjects seen in the Oscar competitions including "THE REDWOODS" in 1967, "ROBERT KENNEDY REMEMBERED" in 1968 and "THE MAGIC MACHINES" in 1969.

There are other films, however, which are intended for theatrical distribution and which are shot entirely in 16mm for two basic reasons. The first is economic. Shooting in 16mm can result in considerable savings; and, if a film is either intended for such a limited audience that a large budget is not justified, or if it is of such an experimental nature that it is considered too risky a commercial venture to warrant a large budget, it may be necessary to shoot it in 16mm.

To get an idea of the kind of savings possible when shooting in 16mm, we can compare the relative film and lab expenses for a 90-minute color film. Assume a shooting ratio of about 7 or 8 to 1 so that we can figure in terms of exposing 24,000 feet of 16mm or 60,000 feet of 35mm film. Assume also, for the purpose of simplicity, that half of the exposed footage is printed. The costs would be as follows:

**COST COMPARISON BETWEEN 16mm-35mm BLOW-UP AND STANDARD 35mm**

	16mm	35mm
Raw Stock:	24,000' @ .06 ... 1440.00	60,000' @ .14 ... 8400.00
Developing:	24,000' @ .053 ... 1272.00	60,000' @ .0798 ... 4788.00
One-light color workprint:	12,000' @ .1058 ... 1269.60	30,000' @ .1134 ... 3402.00
	SUB-TOTAL A	3981.60
Timed, color-corrected blow-up from A&B rolls:	8,100' @ .66 ... 5346.00	Timed, color-corrected Answer Print from A&B rolls:
* First Answer composite:	8,100' @ .3833 ... 3104.73	8,100' @ .7672 ... 6214.32
TOTAL COST TO ANSWER PRINT	\$12,432.33	\$22,804.32

\*Where little or no further correction is required at this point.

Sub-total A represents the amount of money required to get to the editing stage, and this is significant because often the producer of a low-budget film may not have complete financing when he begins shooting. He may need to show the edited work print to potential backers or distributors; and the less money he has invested up to that point, the less he stands to lose if he cannot find completion money or a distributor.

This difference in film and lab costs may seem negligible to the producer accustomed to working with budgets of several hundred thousand dollars, not to mention those who regard a low budget film as one that costs less than two million dollars; but it is a very significant saving to the producer who is trying to make a feature for less than \$50,000.

Being able to shoot in 16mm with the knowledge that it will be possible to make good 35mm release prints may make all the difference in the world. It may mean that it is possible to do an experimental script in a free-wheeling style, shooting what would otherwise be an exorbitant amount of footage. It may mean, simply, that the amount of front



For his "Hollywood and the Stars" TV series several years ago, producer David L. Wolper (above) had a great deal of 16mm footage blown up to 35mm and even utilized standard 8mm clips at times, enlarging the scenes first to 16mm and then blowing the resultant 16mm footage up to 35mm. Here he compares the original 8mm scene against the 35mm enlargement ultimately made from it.

money required is small enough to enable a new director actually to make a film.

Adrian Mosser does not pretend that shooting in 16mm can ever equal the kind of quality that is possible with 35mm. He does know, however, that it can yield an acceptable and commercially viable 35mm release print, and he is primarily concerned with helping the film-makers who exist in what he calls "the limbo between the underground and the industry." Underground film-makers whose films are intended for non-theatrical audiences have no need for 35mm prints. Producers working with large budgets do not need to think in terms of shooting an entire film in 16mm. Film-makers who want to make films for theatrical distribution and who do not have an established reputation *do*, though. Film-makers who are interested in experimenting with new forms or whose film would be a risky business proposition because they are unknown in the entertainment industry are the ones who have the greatest need for high-quality blow-ups from 16mm, and it is these film-makers Mosser is most interested in serving.

Cineservice Inc. has helped to make possible films ranging



in style from "A BOY A GIRL" to "FACES" to "YOU ARE WHAT YOU EAT". Mosser has made the blow-up of Norman Mailer's latest film, and he is currently working on two films: "BACH TRAIN" and "DO NOT THROW CUSHIONS IN THE RING".

There is another reason for shooting a film entirely in 16mm, even though it is intended for theatrical release and regardless of the size of the budget. The availability of highly portable, self-blipped 16mm cameras has made possible a style of film-making which is very difficult to achieve with 35mm equipment. *Cinema verité* documentaries such as "SALESMAN" could not have been made in 35mm, and there seems to be a growing audience for such films in theaters. Both "SALESMAN" and "MONTEREY POP" made their way onto theater screens via Cineservice Inc.

Cineservice Inc. is able to achieve the quality it does primarily by means of individual attention and handcrafted workmanship. It has also concentrated on liquid gate printing and the Super-16 format.

Liquid gate printing is a process whereby the film being duplicated is coated with a liquid immediately prior to passing through the printer gate. The liquid is one which has the same index of refraction as the film, and by filling in scratches or abrasions on the surface of the film it eliminates the diffraction which they cause. As a result the scratches do not show up in the print, and the overall optical contrast is improved.

Liquid gate printing was first used experimentally in the 1920's by Eastman Kodak and for printing sound tracks during the thirties. The concept had been discussed in journals; and many organizations including Walt Disney, Technicolor, and Eastman Kodak were all working on the idea concurrently during a period in the fifties. Eastman had published a list of liquids having the proper index of refraction with warnings that some were toxic, others harmful to film, etc. Mosser developed his own formula which he still uses and modified his optical printer so that it applied the liquid. His first successful feature-length liquid gate blow-up was Russ Meyer's "THE IMMORAL MR. TEAS" in 1959. Since then it has become virtually a standard procedure in optical printing.

Since 1963 Mosser has been developing a second idea which can greatly improve the image quality attainable in blowing up from 16mm to 35mm. The main problem in blowing up is the loss of sharpness which inevitably results when a theater screen is filled with an image originally recorded on an area of film about one fourth that of the normal 35mm frame. This problem is further complicated by the fact that the standard format for 35mm projection is 1.85/1 while the standard format for 16mm is 1.33/1. This means that only a portion of the 16mm frame can be used if it is blown up to a 1.85/1 format on the 35mm negative. (see FIGURE 1)

In order to increase the area which could be used in blowing up, Mosser came up with the idea of enlarging the camera aperture to include the sound track area of the film, using single perforated stock so that a frame could be exposed with an aspect ratio of about 1.65 or 1.70 to 1. (see FIGURE 2) Since the actual format projected in theaters ranges from 1.55/1 to 1.85/1, the entire 16mm frame can be used to produce a 35mm frame which will adequately fill a theater screen.

Three relatively simple steps are necessary to convert a camera to Super-16. First of all, the aperture plate must be opened up to include the sound track area in the frame. While this is obviously something which should be done with great care, it is, nonetheless, a relatively simple modification.

Mosser first experimented with the Super-16 format on his Bolex but most of the film-makers shooting in Super-16 are using Eclairs. Replacing the modified aperture plate with a normal one is a simple matter, but is really unnecessary since the modified camera can still be used to shoot in the normal 16mm format with double perforated film.

The second step necessary to convert a camera to Super-16 is, of course, the modification of the viewfinder matte. With an Eclair this is again a relatively simple modification since the viewfinder includes an area outside

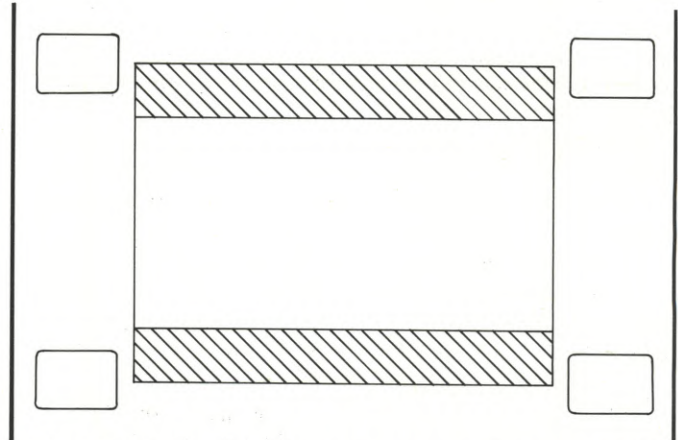


FIGURE 1—Shaded area, indicates how approximately one-third of the information of the standard 1.33/1 16mm frame area is sacrificed when blow-up is made to 35mm for 1.85/1 projection. Remaining area is strained to the limits of sharpness by huge enlargement inherent in theatrical "wide-screen" projection.

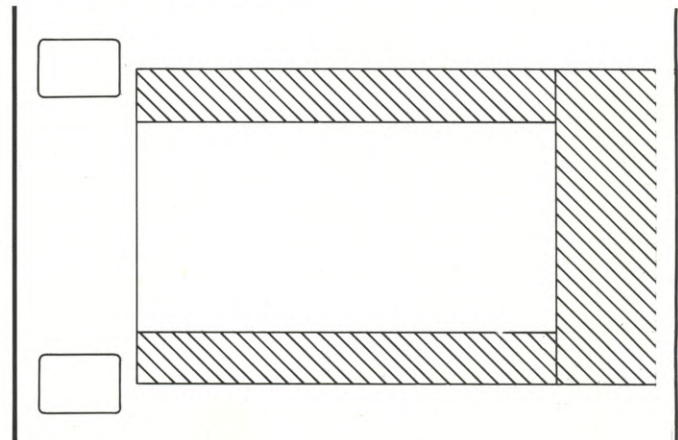


FIGURE 2—Shaded area in this diagram indicates additional information available for blow-up to 1.85/1 35mm format afforded by the extended frame parameters of Super-16. Though opinions differ as to precise percentage of additional information made available, as compared to standard 16mm, comparison of FIGURE 1 to FIGURE 2 indicates that, even allowing for slight extra cut-off required for 1.85/1 aspect ratio, amount of information is increased by approximately 40%.

the frame line. All that is required is changing the markings on the groundglass to indicate the wider format. With cameras whose finders indicate only what is contained within the normal frame, this modification may be more difficult.

The third modification required to convert a camera to Super-16 can be achieved two ways. Ideally the lens turret of the camera should be converted so as to re-center the lens in relation to the modified aperture. There is, however, another alternative which serves the same purpose and which is considerably less expensive. This is to use lenses with a larger coverage, i.e. lenses which form an image big enough to fill the larger frame without any vignetting on the extended edge of the frame. (Note this does not refer to the field of view of



the lens but to the size of the image formed at the focal plane.) Some 16mm lenses have a sufficiently wide coverage to be used with a Super-16 format. Obviously, all 35mm lenses would, as well.

In considering the use of Super-16 it might be worth investigating the use of good 35mm still camera lenses such as Nikon, Leica, or Canon lenses. (cf Wexler comments on the use of still camera lenses for cinematography in the January 1970 issue of *American Cinematographer*.)

The Super-16 format poses no problem for editing since most labs can print a 16mm work print on single perforated stock with the sound aperture open, and the conversion of a moviola to include the extra frame area is again a relatively simple matter. Once the film is edited, Cineservice is equipped to blow up the original to a 35mm negative with a 1.65/1 aspect ratio.

The result of the Super-16 format is a substantial increase in the image sharpness in the 35mm blow-up because of the increase in the size of the original 16mm image which is enlarged.

Two or three films are currently shooting in Super-16. Don Pennebacker has a film in the post-production stage which was photographed in Super-16. Swedish director Vilgot Sjöman is also currently at work on a feature picture which is being filmed in Super-16.

When someone responds enthusiastically to the idea of Super-16, Mosser is quick to point out that it is a format designed for very specialized needs and not without its drawbacks. He sees it as a boon to the experimental film-maker occupying a position comparable to that of the producer of an off-Broadway play, and not as something which could ever replace the standard 35mm system. Super-16 is designed purely for someone making a film for theatrical distribution who cannot, for one reason or another, work in 35mm.

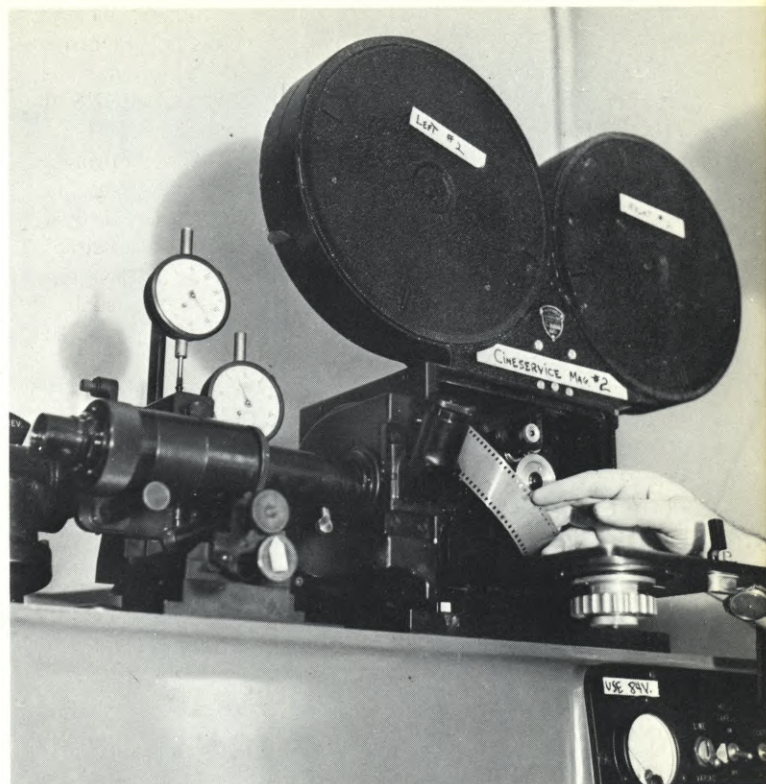
If the film-maker is also interested in television or 16mm distribution of his film he is forced to compromise. He must decide which is more important: the sharpness of the image when projected in 35mm or the composition in the format of the television or 16mm screens. Usually someone shooting in Super-16 with a view to the television and 16mm market as well as theatrical distribution will opt for compositions in which the part of the frame in the sound track area is filled with "neutral" subject matter.

When approached by a film-maker planning to shoot in 16mm and blow up to 35mm, Mosser first of all advises him to make sure this is the best way to achieve the goals he has in mind with the means at his disposal. If it is, Mosser recommends shooting in ECO color reversal original.

Perhaps the greatest problem in shooting interiors for theatrical release with ECO is the film's low speed of ASA 25. The introduction this summer of Eastman's new improved ECO to be rated at ASA 25 and with a sufficient latitude to permit forcing it to an ASA rating of 50 will obviously be a great help.

It is also possible to use EF 7242 which is rated at ASA 125; and, even though the film was not designed exclusively as an original from which prints were to be made as was ECO, Mosser still recommends using it rather than color negative if the greater film speed is essential. Every foot of "YOU ARE WHAT YOU EAT" and a good bit of "MONTEREY POP" were shot on EF.

Cineservice's experiences with EK 7254 color negative, when used for blow-up purposes, has turned up two difficulties. Compared to ECO, it is less sharp, an important consideration in blow-up work, and being a negative material, it shows any specks or blemishes as "white dirt" instead of



35mm negative film is threaded into "camera side" of Acme optical printer by Adrian Mosser, who was one of the first to blow-up an entire 16mm feature to 35mm, using the liquid-gate method of printing. He developed his own formula for a liquid with the proper degree of refraction and adapted his printer to utilize it.

the less noticeable black specks encountered in reversal systems. Blow-ups from negative materials cost more and take longer to accomplish than reversal materials. At this time, Cineservice recommends using reversal original rather than negatives as camera original for blow-up purposes.

In preparing to shoot in 16mm for blow-up to 35mm Mosser recommends several precautions. First of all, everything possible should be done to insure accurate exposure. He recommends using two light meters which are constantly checked against each other and against a third standard, and insuring that the F-stop (or T-stop) calibrations on the lenses are accurate.

Mosser says to expose for the manufacturer's recommended film speed and forget about "over-exposing for blow-up" or "under-exposing for saturation". Normal production variables and errors will yield a variation in exposure anyway, so that consistent over- or under-exposure would do more damage than good.

Great care should be taken in the selection and handling of the lenses. These should be matched lenses, i.e. they should all have the same anti-reflection coating. Otherwise the differences in the coatings will cause changes in the color rendition which will unnecessarily complicate the process of blowing up to 35mm. The lenses should be new, i.e. lenses made during the last 3 years using high refractive index glasses, so as to insure the best possible image to work from. Using good lenses always makes a difference and blowing up to 35mm makes the difference much more noticeable. The seating of the lenses in the turret and the lens calibrations should be carefully checked so as to eliminate any error in focus. A discrepancy which might have been tolerable for 16mm work will be magnified along with everything else when the film is blown up.

Continued on Page 565



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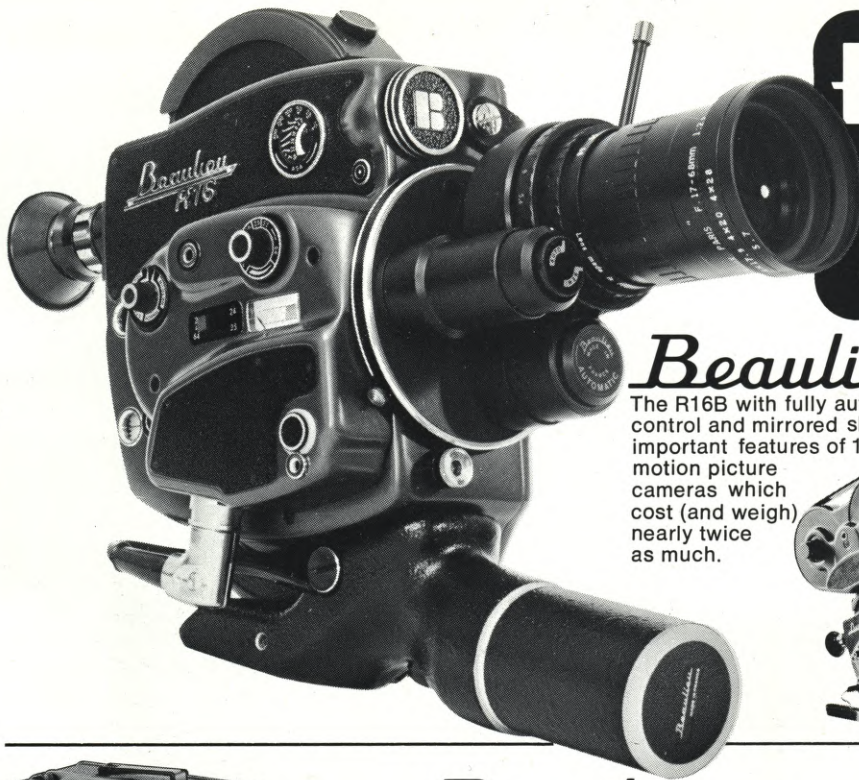
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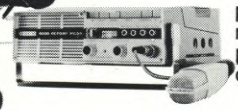
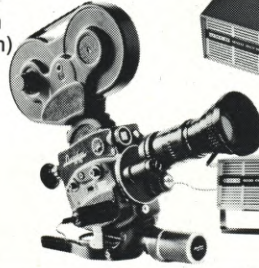
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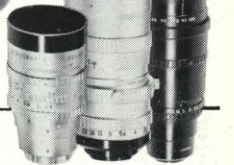
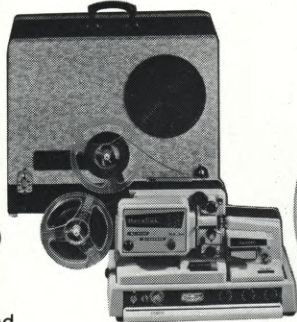


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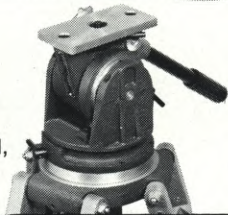
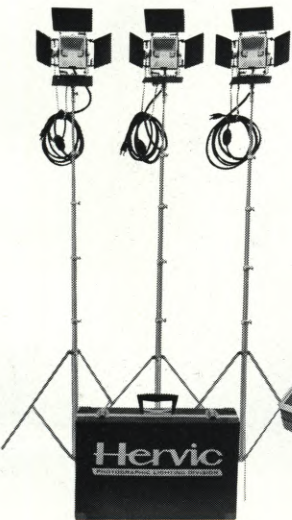


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# AN AURICON CINE-VOICE CAMERA ADAPTED FOR SHOOTING SUPER-16

Conversion of this old stand-by newsreel camera results in a well-balanced, light-weight unit that includes several important innovations—plus the bonus of a Super-16 capability

Successful conversion of an Auricon Cine Voice camera to the Super-16 format has been announced by the Camera Development Company. The camera, which includes several other modifications, as well, was custom-adapted to the requirements of cinematographer Jerry Cotts (Director of Photography on "PUTNEY SWOPE", among other films), who plans to use it for shooting a featurette that will be blown up to 35mm in the 1.85 aspect ratio.

The Camera Development Company's new Auricon Cine Voice Conversion, developed and manufactured by Herb Sawasky, embodies a number of highly innovative features. The body, a new design, cast in magnesium for weight reduction, features a slant-back magazine plate for lower camera profile and improved balance and a hinged door for simplified loading.

Designed principally as a hand camera to be used with the longer-range zoom lenses, most popularly the Angenieux 9.5-95mm lens, the camera, with this lens and a 400-foot magazine load, balances approximately on the motor axis. This is facilitated by mounting the

camera's power supply, usually the two-piece Frezzolini 1000-DX inverter and battery, in a two-compartment magnesium holder attached to the rear of the camera. The inverter and battery holder is mounted by a conventional dovetail fitting, so that the power supply may be carried conventionally slung over the shoulder, for a five-pound weight reduction. However, the loaded camera, with inverter, battery and the heavier 9.5-95mm zoom lens, compares favorably in weight with a similarly outfitted Eclair, NPR or Arriflex BL, less the battery and inverter. Thus, the integration of power supply and camera effects a great increase in balance and eliminates the cable from the camera to belt or shoulder batteries.

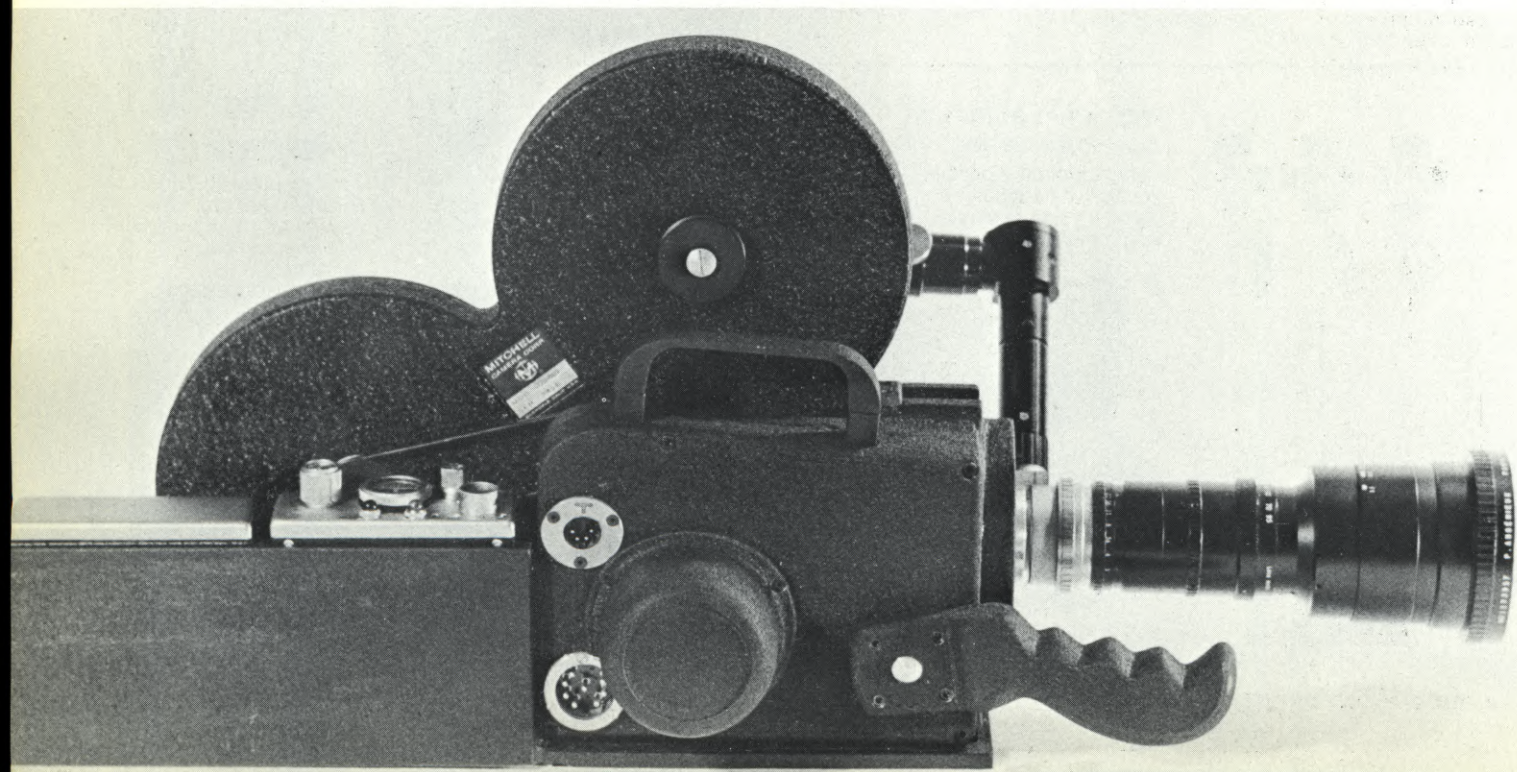
Other features include: a footage counter built into the camera door, magazine lock-down mechanism driven by a knob mounted on the outside of the camera and a front-mounted grip incorporating various controls for starting and stopping the camera and electrical or mechanical drives for zoom and focus functions. Other features include a radically shortened finder for the periscope type zoom lenses and the

installation of a full ground glass to supplant the bulls-eye focusing spot normally found in these lenses.

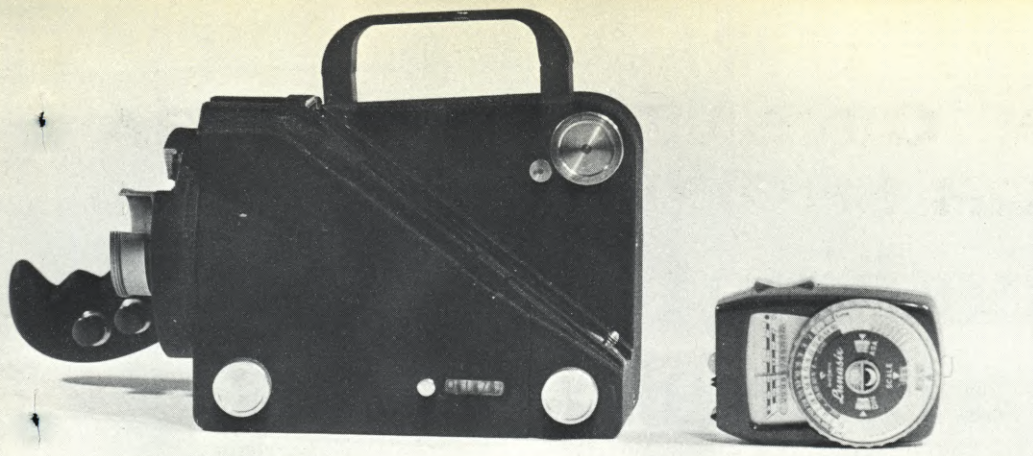
The modification for "Super-16", the 16mm format which utilizes the sound track area of single-perforation film (to within a few hundredths of an inch of the film edge) for picture information, results in an image format of approximately 1.70:1, an almost ideal ratio for blow-up to standard 1.85:1 35mm internegative. This modification makes use of the new finer-grain, improved-resolution Commercial Ektachrome Type 7252 and the long desired capabilities for shooting theatrical feature films with lighter, documentary-style equipment and working methods, without significant reductions in quality. A few simple calculations illustrate the potential for blowing up a very fine grain film with improved latitude and a (approximately) 20% greater image area to a wide-screen format 35mm internegative.

In addition to enlarging the aperture plate, a second lens mounting plate is made to be easily interchangeable with the regular one, and is machined with an offset threaded hole to accomplish the

Camera Development Company's new Auricon Cine-Voice conversion, developed and manufactured by Herb Sawasky, shown with its power supply—in this case, the two-piece Frezzolini 1000 DX inverter and battery in a two-compartment magnesium holder—attached to the rear of the camera. Integration of power-supply and camera effects a great increase in balance and eliminates the cable from the camera to belt or shoulder batteries, though power-supply can be easily demounted and carried conventionally slung over the shoulder, if desired.







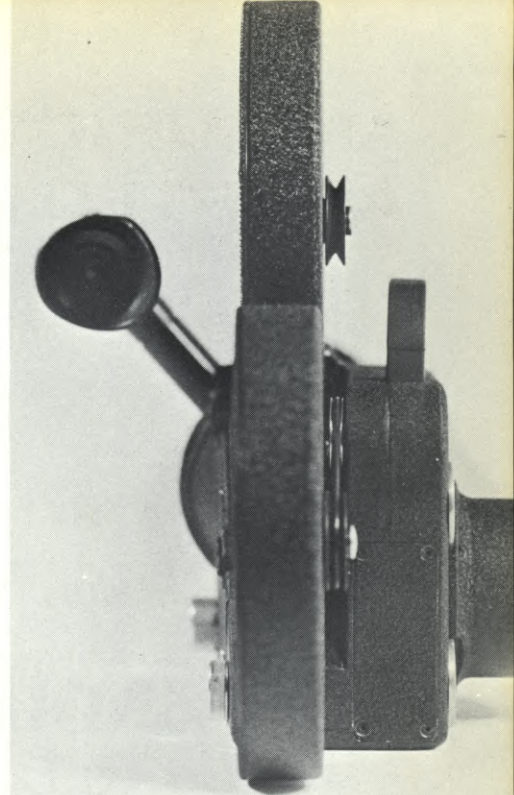
For size comparison, the basic converted Cine-Voice, minus lens, magazine and power-supply, is shown alongside a standard Lunasix exposure meter. This is one of the most compact and light-weight conversions of this dependable workhorse camera to date.

recentering required by shifting the film counter toward the unperforated side. Thus, maximum use is made of the 16mm zoom lens' relatively limited area of coverage. Since the wider zoom lenses still vignette at their shorter focal lengths, Sawasky has commissioned Angenieux to manufacture several of their 12-120mm zoom lenses designed for vidicon cameras to the more stringent optical requirements of film. The vidicon image area is somewhat larger than the 16mm film image and the lens angles of acceptance for the vidicon 12-120mm should be approximately the same as those for the regular 16mm 9.5-95mm lens.

In addition to the aforementioned modifications made to adapt the Auricon Cine Voice for Super-16 filming, Sawasky enlarged the shutter and

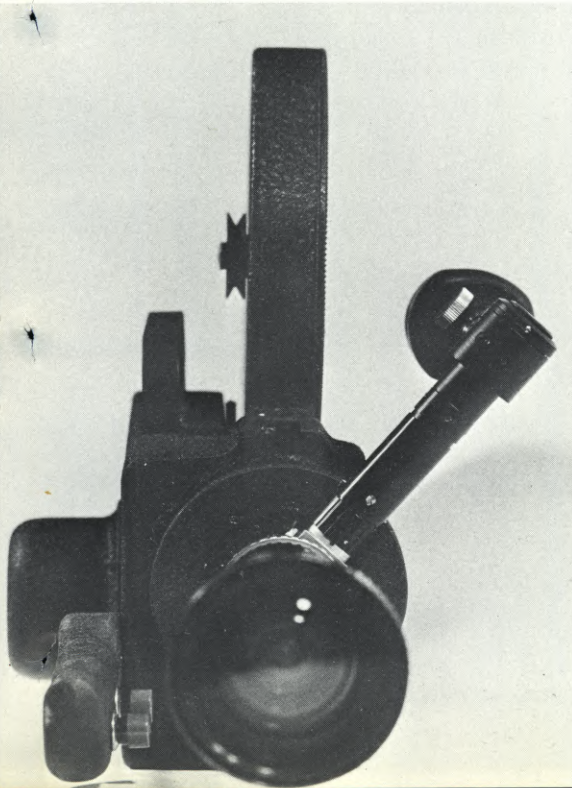
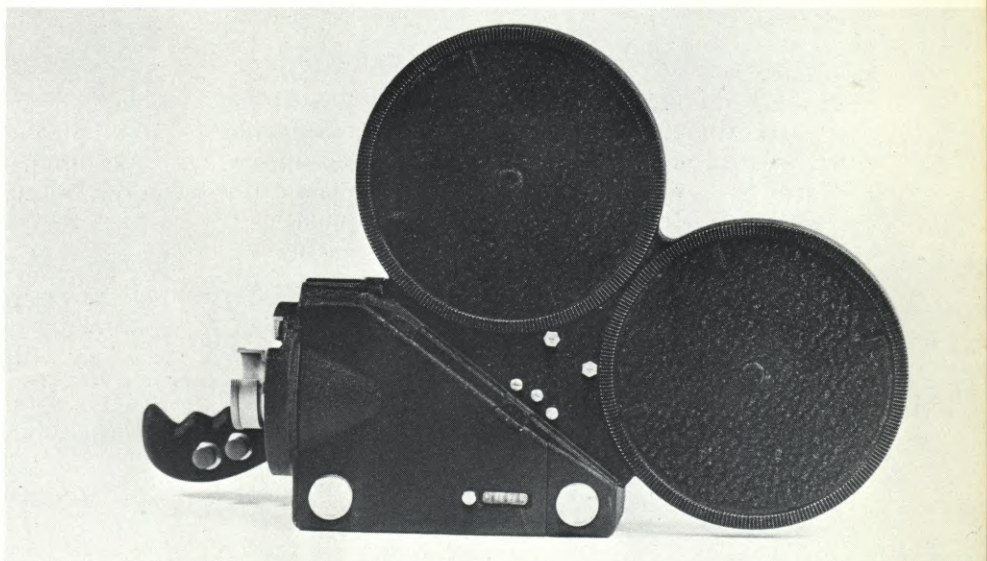
smoothed out the gate mechanism, substituting a Mitchell pressure plate with the two nylon rollers undercut to the edge for minimal contact to eliminate danger of scratches. On future units he plans to use Arriflex-16 aperture plates and spring-tension pressure plates.

For further information regarding this Super-16 conversion, contact: Camera Development Company, 31 Brewster Road West, Massapequa, New York 11758, (516) 799-5307. ■

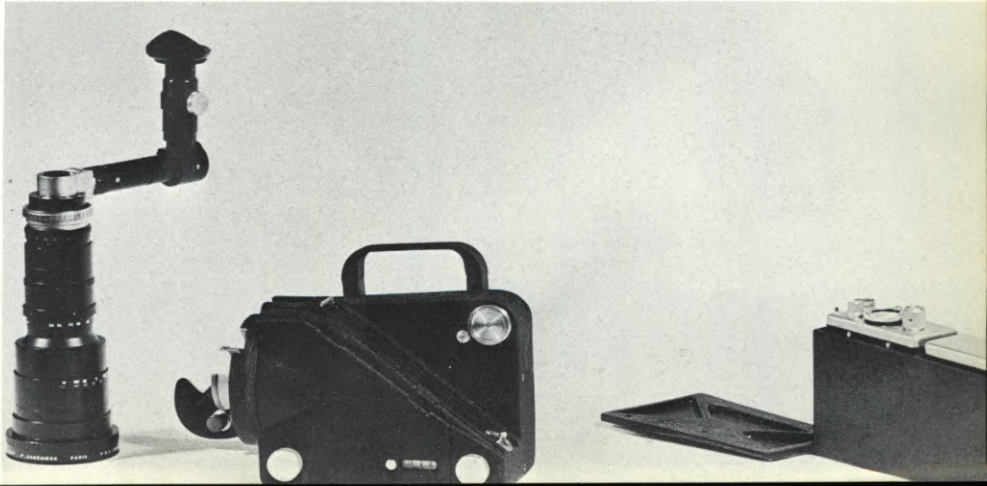


Rear view of the converted camera, with magazine in place but minus power supply, indicates streamlined configuration. Addition of power supply at the rear improves balance.

(RIGHT) Slanted configuration of the camera body reduced silhouette and improves balance of magazine. (BELOW) Front view of conversion. Not shown is accessory bracket that mounts above the lens, allowing for attachment of matte-box.



(LEFT TO RIGHT) Angenieux 9.5mm-95mm zoom lens, with radically shortened periscope viewfinder; the basic camera conversion with front hand-grip incorporating various controls; Frezzolini 1000 DX inverter and battery, enclosed in two-compartment magnesium holder. Other standard power-supplies can also be used with this conversion.





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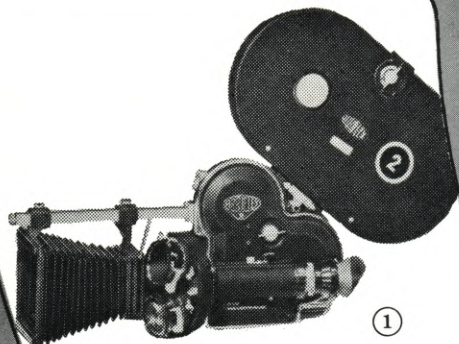
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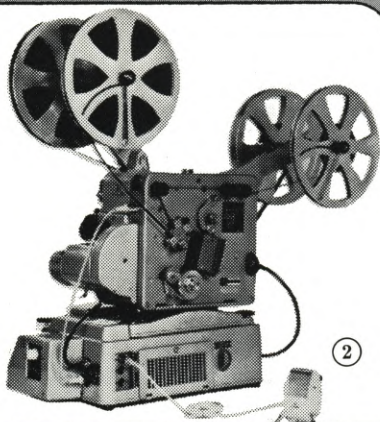
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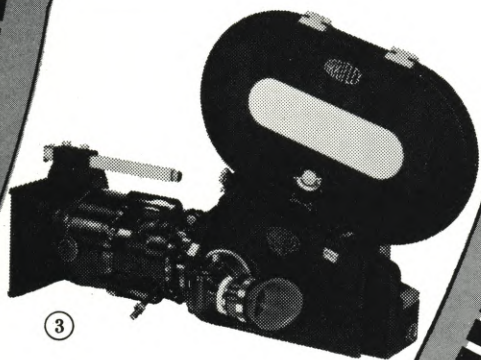
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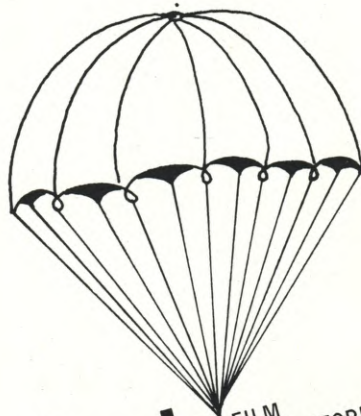
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# THE "PRO'S AND CON'S" OF SUPER-16

The director-scripter-cinematographer of "MEDIUM COOL" reports on his testing of the extended-frame 16mm format and its possibilities for feature production

(EDITOR'S NOTE: One of the several cameramen now experimenting seriously with Super-16 is Haskell Wexler, ASC, winner of the 1966 Academy Award in black-and-white cinematography for "WHO'S AFRAID OF VIRGINIA WOOLF?", who included a 16mm blow-up sequence in his recently released production, "MEDIUM COOL". In the following interview, Wexler gives his opinions of Super-16, based on recent tests which he has made.)

**QUESTION:** To what extent have you tested the extended 16mm frame format—which is being referred to as "Super-16"—during the course of your recent experiments?

**WEXLER:** Well, it's not actually Super-16—what's been done so far. True Super-16 would be Super-8 film that is unsplit—that is, single-perf film 16mm wide, but with sprocket holes the size of Super-8 to allow for maximum information in the frame area. That's really the way for it to go. What we've done is simply to adapt existing 16mm cameras.

**QUESTION:** How extensive have these adaptations been?

**WEXLER:** They've been pretty simple, so far. All you do is open up the 16mm frame out to the right, by cutting the aperture plate. Then you re-center your lenses to conform with the new center of the frame, making sure that the pressure plate is at least touching on the edges (so that the film doesn't "belly"), and you use lenses that cover the extended format. These are the only things we've done in our tests to date.

During the filming of "MEDIUM COOL", Haskell Wexler, ASC, wearing his "cameraman's cap" moves among guests at an actual party to shoot lip-sync dialogue with an Eclair NPR camera. These scenes, beautifully matched in 35mm blow-up by Adrian Mosser, would have tied in even better had they been shot in Super-16 on new ECO 7252.



**QUESTION:** What kind of lenses do you use?

**WEXLER:** I use 35mm lenses mainly. I've also used vidicon lenses—the kind that are made for television—because they cover more than motion picture lenses.

**QUESTION:** Has the result been satisfactorily sharp in the blow-up?

**WEXLER:** I couldn't see anything bad about it. Of course, I didn't give it a really critical test—with a chart and all that. I just shot some scenes of a girl standing outside. Rather unscientific, but it looked quite good. I'm going to make more precise tests, using the chart, and then I'll be able to tell better.

**QUESTION:** For the tests you've been making in Super-16, what camera did you use?

**WEXLER:** I had one of my own Eclairs converted. I'm told that for some technical reason—the way the gate mechanism is engineered, I believe—the Arriflex does not readily lend itself to Super-16 conversion. The Eclair seems to be the camera that can be most easily modified for this format.

**QUESTION:** Who did your conversion for you, and what did it cost?

**WEXLER:** The Eclair people did the conversion, and I believe it will cost in the neighborhood of \$600. I haven't received all of the bills yet.

**QUESTION:** Mr. Lars Swanberg of the Swedish Film Institute says that their conversion of the Eclair to Super-16 cost about \$1,000. What do you suppose accounts for the difference?

**WEXLER:** I believe it's because they also modified their magazines—which I haven't done yet. I want to see if my magazines will work satisfactorily without changes.

**QUESTION:** In what way would the magazines be modified?

**WEXLER:** Well, the new Eclair magazines which came out recently have ball bearings in them, and they won't have to be modified. But I'm told that if you use the old style magazines, there is a danger of not getting the proper amount of pressure on the edges of the film—I mean at the point where the pressure plate presses the film against the aperture. The ball bearings in the new magazines alleviate this difficulty—but I shot my tests with the old magazines and just ignored this factor.

**QUESTION:** And did the results look satisfactory to you?



WEXLER: Yes, they did—so it may just be a theoretical problem.

**QUESTION:** What do you feel are the limitations of Super-16 as far as lenses are concerned?

WEXLER: Well, one of the advantages of working with standard 16mm is the availability of the 12mm-to-120mm zoom lens. But with Super-16, because of the vignetting problem, you can't use the widest-angle focal-lengths of that lens. There is a cut-off when you go wider than about 20mm.

**QUESTION:** In adapting your camera to 35mm lenses have you been able to solve that problem?

WEXLER: The 35mm lenses are really not wide enough, if you're speaking of zoom lenses. The big "hole", so to speak, is when you want to go wider than 20mm. In that area you have to use fixed focal-length lenses. You can't just screw in a standard C-mount 9.8mm lens, because it won't cover. You have to use a 9.8mm made for a 35mm camera.

**QUESTION:** In general, what do you think of Super-16 (so-called) as a format.

WEXLER: Well, if you're shooting for blow-up to 35mm in the 1.85 aspect ratio, it's marvelous. Otherwise—when you blow up standard 16mm for 1.85 projection—you lose a lot of the information in the frame. That's what's been happening in all of the blow-ups we see now. You're not really blowing up 16mm to 35mm; you're only blowing up part of the 16mm frame.

**QUESTION:** Which means that this Super-16 format would have been helpful to you in shooting the party sequence which you blew up for "MEDIUM COOL"; isn't that so?

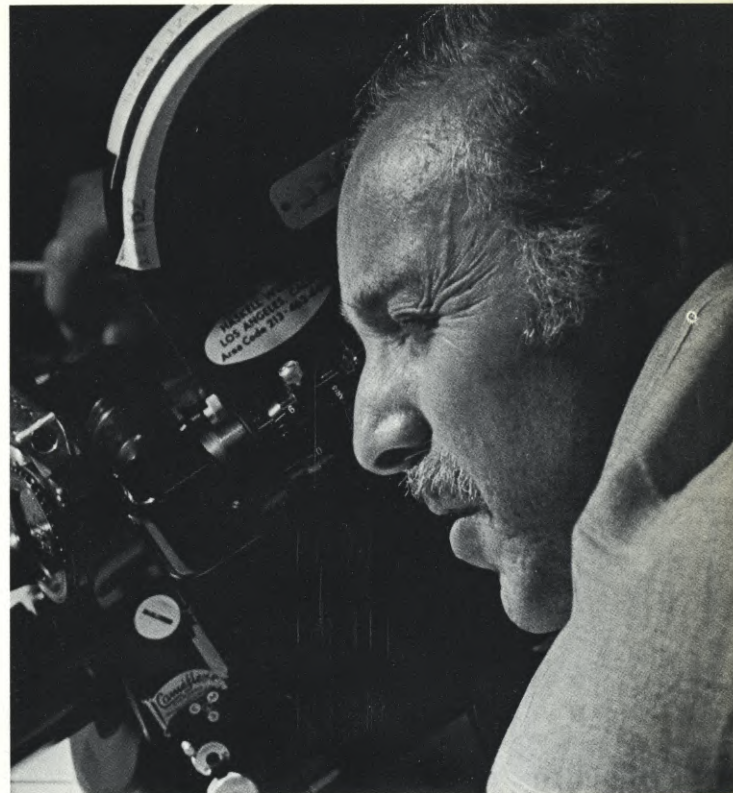
WEXLER: Yes. Actually, there are a number of films besides "MEDIUM COOL" in release now which have 16mm blow-up sequences that people may not realize are 16mm—pictures like "MIDNIGHT COWBOY" and "DOWN-HILL RACER". This extended format would have helped them, too—because it actually gives you 40% to 50% more information to work with in the 1.85 format. I haven't precisely computed the percentage, but there's quite a bit more.

**QUESTION:** What do you consider to be the most important single advantage of the Super-16 format?

WEXLER: The biggest advantage for feature production—or any film for 35mm showing, in which you have to shoot lip-sync dialogue sequences under difficult conditions—is being able to hand-hold a relatively small 16mm camera that runs silently. The monetary advantage, except in very low-budget production, is apt to be highly over-rated. You end up with added lab and optical problems, and the blow-up itself is fairly costly. Because the film stock is slower, you have to use more light, so it's not really that much cheaper.

**QUESTION:** Eastman's new ECO 7252 emulsion should further improve the quality of Super-16 blow-ups; isn't that so?

WEXLER: Yes. It's sharper and it can be pushed to ASA 50, I understand. I shot tests with it and it's very good. However, I found that the new film seems to have a greater degree of



Wexler, one of the foremost innovators and experimentalists in the Hollywood film industry, feels that Super-16 could have a big future in feature production, at least "until they develop a really silent hand-held 35mm camera." Like others who have tested the new format, however, he warns against considering it to be an interchangeable substitute, quality-wise, for standard 35mm.

color saturation. For this reason, I would suggest that in shooting for blow-up it might be a good idea to use a slight fog filter—like a #1—to hold the color saturation down in the blow-up, especially if you're going to inter-cut these scenes with regular 35mm. It seems to me that the color quality would be more compatible.

**QUESTION:** But wouldn't there be a loss in sharpness that would somewhat defeat the purpose?

WEXLER: Theoretically there would be—so your question is legitimate, but the loss in sharpness is not all that great and I feel that the advantages in terms of color rendition would outweigh that slight loss.

**QUESTION:** What do you think might be the future of Super-16, as far as application to feature production is concerned?

WEXLER: Until they develop a really silent hand-held 35mm camera, Super-16 should have a big application to feature production, especially for the sort of free-swinging sequences where there is a lot of dialogue and where a blimped 35mm camera on a dolly simply wouldn't have the flexibility. I would certainly use it for sequences of this type, where you have five or six people and you want to let them sort of improvise and overlap dialogue, but for an exterior sequence out in the desert where camera mobility is less important, I wouldn't use it if 35mm were available. The thing is that everybody is looking for "the secret instrument", which is why we tend to jump on technical fads. Super-16 can certainly solve a lot of problems, especially in low-budget production, but it won't answer all the questions. ■



# EASTMAN EKTACHROME COMMERCIAL 7252

**The new 16mm color original filming stock boasts sharper resolution, increased latitude and a "pushed" speed of ASA 50—making it ideal for Super-16 blow-ups**

*(EDITOR'S NOTE: Although the new Ektachrome Commercial 7252 emulsion has now been on the market for several months and has substantially replaced the former 7255 as the standard 16mm filming original stock, we are still receiving queries as to its technical characteristics and the ways in which it differs from 7255 in terms of photographic handling during shooting and resultant quality. For this reason, we are publishing the following technical data made available by Eastman, including material released when the new film stock was first announced some time ago and before it became generally available. We feel that the publication of such data is especially timely in this issue devoted mainly to Super-16, since the improved sharpness and latitude characteristics of 7252 optimize significantly the possibilities of achieving high-quality results in blowing up Super-16 to 35mm for projection in the 1.85/1 aspect ratio.)*

In response to the always-increasing need for printing originals of higher quality, the Eastman Kodak Company has designed a New EKTACHROME Commercial Film. This new product is designated 7252 and will replace the current 7255; it will be available in the same widths and lengths as the current film.

EASTMAN EKTACHROME Commercial Film is a 16mm reversal original film with an Exposure Index of ASA 25 balanced for 3200 K illuminant; it produces an original of low contrast for use as a printing original in the following systems: Reversal Prints on 7387 when only a small number of prints is needed and Eastman Color Prints from an internegative 7271 when a large number of prints is required.

This new film was made possible by a unique advance in emulsion technology which allows us to produce a film having substantially better sharpness, an improvement in exposure latitude, and comparable granularity. The new film is also accompanied by a simplification of the processing system.

The combination of more efficient dye-forming couplers, a more efficient color developing solution, and a more sophisticated film structure incorporating interlayer absorbing dyes is responsible for a significant improvement in sharpness.

Since the spectral sensitivities and spectral densities of the old and new versions of EKTACHROME Commercial Film are very similar, the new product will be handled essentially like the current one both in exposing the original footage in a camera, and in the later printing operation. The new film therefore can be intercut with the current product for the purpose of producing prints.

The interimage characteristics of this film are adjusted to give adequate compensation for unwanted absorption of the individual dyes producing high quality colors at all levels of saturation.

A revised prehardened Ektachrome process has been developed for EASTMAN EKTACHROME Commercial Film 7252. This process, designated ECO-3, has been designed to take the maximum advantage of the Emulsion technology advances featured in the new film.

Laboratory efficiency will improve with ECO-3. This process is now similar to the ME-4 process. Essentially,

ECO-3 is the ME-4 process with a different first developer and with provisions for rem jet removal. The present ECO-2 process requires a separate prehardener, first developer and color developer. The new process will require only a separate first developer, thus reducing the size of the processing system required for Ektachrome Motion Picture films.

An improved method for removing rem jet backing has been incorporated in the ECO-3 process. In the ECO-2 process, the rem jet is removed during the first development step. In the ECO-3 process, the backing is removed prior to first development, thus the first development step is uninterrupted and the risk of having dirt problems from loose rem jet in the first developer solution is reduced.

In this method, the film leaves the neutralizer and enters a carbonate dip for ½ to 1 second. It then follows a path that allows 4 to 6 seconds of reaction time for the carbonate solution to soften the rem jet backing. The film then enters a removal unit where the backing is removed and the film is spray-washed, squeegeed, and returned to enter the first developer.

A similar rem jet backing removal system is now being used for the CRI-1 process.

The conversion of machines designed for removing rem jet backing by the method described in the ECO-2 process specifications will require the installation of a dip tank and a thread/path revision to allow for 4 to 6 seconds dwell-time after the carbonate dip. In most cases it should be possible to utilize the basic buffing and washing equipment being used in existing ECO-2 processing machines.

The ECO-3 process mechanical and chemical specifications are similar to those of the ECO-2 process and they will be compatible with existing ECO-2 processing and mixing equipment. Complete details on ECO-3 process specifications are available from the Motion Picture and Education Markets Division of the Eastman Kodak Company. The ECO-2 process will not produce satisfactory results with EASTMAN EKTACHROME Commercial Film 7252 nor will the ECO-3 process produce satisfactory results with EASTMAN EKTACHROME Commercial Film 7255. However, during the crossover period between 7255 and 7252, it will be possible for processors with combination ME-4/ECO-2 machines to run all three processes with only two first developers, providing that the carbonate rem jet removal system is used. The ECO-3 first developer can be used in the ECO-2 process with satisfactory results. This combination, however, will cause current 7255 emulsions to shift in color balance by approximately a 10 filter red which can be compensated for in printing.

We recognize that there are some situations where the light level is considered below minimum for proper exposure. Some improvement in image quality can result from forced development. The new film's improved exposure latitude, when compared to 7255, will yield a better quality image in this situation. EASTMAN EKTACHROME Commercial Film 7252 can be forced processed to an effective exposure index



of 50 without significant loss in quality. This can be accomplished by changing the time and/or temperature of the first developer. It should be recognized, however, that the increase in film speed is made at the expense of exposure latitude.

The question of underexposing the original and printing out the increased density vs. forced processing the underexposed original can be answered on the basis of grain. A comparison of granularity curves of 7252 processed to exposure index 25 and 50, respectively, clearly indicates that the picture information in the upper scale of the exposure index 25 curve will be grainier than the same information on the exposure index 50 curve. Therefore, it is preferable to force process by one stop, rather than underexposing by one stop and printing out the increased density.

Forced processing to higher exposure indexes will be accompanied by an increasing amount of quality degradation. It has been established, for example, that forced processing to an EI of 100 will substantially degrade the curve shape. The limit of forced processing that will still produce acceptable prints is dependent to some extent on scene content; thus, the decision to force process the low contrast film or use a faster but higher contrast film is left to the judgment of the producer.

## EASTMAN EKTACHROME Commercial Film 7252 (16mm)

### GENERAL PROPERTIES

EASTMAN EKTACHROME Commercial Film 7252 is a color reversal camera film designed to provide low-contrast originals from which color release prints of good projection contrast can be made.

### COLOR BALANCE

EASTMAN EKTACHROME Commercial Film is balanced for exposure under tungsten illumination at 3200 K. When other light sources are used, correction filters will be required as noted in the table below:

Light Source	Light Source Filter	Camera Filter
3200 K Tungsten Lamps	None	None
Photoflood Lamps	None	Kodak Wratten No. 81
3350 K Tungsten Lamps	None	Kodak Wratten No. 81
Carbon Arcs		
● M-R Type 170 150 Amp H.I. Arc	Straw-colored gelatin filter such as Brigham Y-1	Kodak Wratten No. 85
● M-R Type 40 40 Amp Duarc	Florentine glass	Kodak Wratten No. 85
● M-R Type 450 "Brute" 225 Amp Molarc —white-flame carbons —yellow-flame carbons	Brigham Y-1 Mole-Richardson YF-101	Kodak Wratten No. 85 None
Daylight (sunlight plus some skylight)	None	Kodak Wratten No. 85

### EXPOSURE INDEX

Tungsten—25, Daylight—16\*

\*With KODAK WRATTEN Filter No. 85.

These settings are recommended for use with exposure meters calibrated in "ASA" speeds or exposure indexes. They apply (1) if the meter reading is taken from the camera position and the subject has average reflectance or (2) if the reading is made on a gray card of about 18 percent reflectance held close to and in front of the subject. (The KODAK Neutral Test Card is recommended for this purpose.) For unusually light- or dark-colored subjects, the



exposure should be decreased or increased accordingly from that indicated by the meter. Each user should make complete exposure tests to establish his exposure level for this film before using it in production work.

ILLUMINATION (INCIDENT LIGHT) FOR 3200 K TUNGSTEN LIGHT

(24 frames per second, 170° shutter opening)

Lens Aperture f/1.4 f/2.0 f/2.8 f/4.0 f/5.6 f/8

Footcandles

Required 100 200 400 800 1600 3200

### LIGHTING CONTRAST

The ratio of key-light-plus-fill-light to fill-light should be 2:1 or 3:1 and should seldom exceed 4:1, except where a special effect is desired.

BASE—Safety base with rem jet backing.

### SAFELIGHT

Handle this film in total darkness until after the stop bath following first development. The remaining operations can be carried out in a normally lighted room. A safelight with a KODAK Safelight Filter No.3 (dark green) can be used to illuminate dials, meters, etc, during first development, but the light must not be allowed to shine directly on the film.

### PROCESSING

Use KODAK Process ECO-3 only. (This film can be forced processed to an effective Exposure Index of 50 without significant loss in quality by changing the time and/or temperature of the first developer.)

### PRINTING

This film can be printed directly onto EASTMAN Reversal Color Print Film 7387 or it can be printed onto EASTMAN Color Internegative Film 5271/7271, which in turn can be printed onto EASTMAN Color Print Films 5385/7385 or 7381.

### STORAGE CONDITIONS

Raw stock should be stored at 55 F or lower. Exposed stock should be processed as soon after exposure as possible. Processed stock should be stored at about 70 F and 40 to 50 percent relative humidity.



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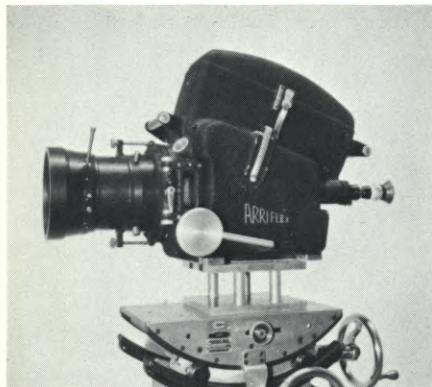
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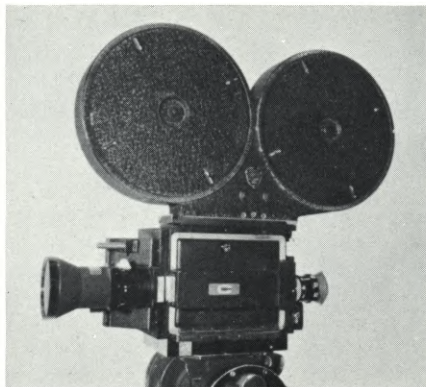
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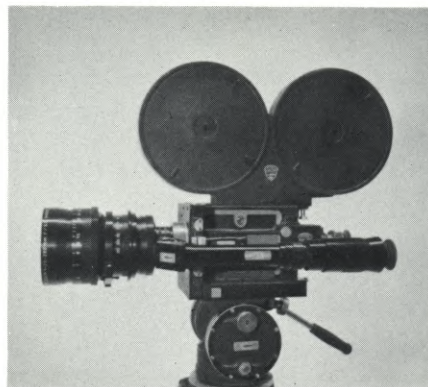
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Aerial view of the famed Toho Studios in Tokyo, Japan's most prestigious motion picture production center.

# FILM IN THE FAR EAST ...AND "DOWN UNDER"

AMERICAN CINEMATOGRAPHER Editor, en route to and from EXPO '70, reports on motion picture activity in Japan, Hong Kong and Australia

By HERB A. LIGHTMAN

## TOKYO

The giant 747 touches down smoothly at Haneda Airport, after having been inexplicably detained for an extra four hours on the ground in Honolulu.

Waiting to meet me, with his usual cheery smile and no trace at all of impatience, is Mr. Keiichiro Ryu, President of Ryu-Den-Sha & Co., Ltd., my very gracious host in Japan while I am attending EXPO '70 (NOTE: *The July issue of American Cinematographer will be a colorful "Special"—devoted exclusively to: "FILM AT EXPO '70"*).

I have met Mr. Ryu previously in Hollywood where there developed an instant rapport based upon two primary facts: (A) Like myself, he has, for a long time, been a passionately dedicated skier—and (B) My discovery that he designed "from the ground up" the lighting for Japan's first color feature, the magnificent "GATE OF HELL".

Ryu-san is a fabulous personality who, without deliberately trying, has achieved a virtual monopoly over motion picture and television lighting in

Japan and Southeast Asia, because his various competitors, recognizing a superior force, simply gave up and yielded the field. (See Page 552: "THE 'LIGHTNING WIZARD' OF JAPAN").

During my next couple of days in Tokyo, prior to EXPO, he is to set a hectic schedule of studio visits, besides extending a degree of hospitality that is overwhelming, even for a gracious country like Japan.

A visit to Toho Studios has a special meaning for me, since I have long been a fan of the spectacular Samurai films produced by this company—especially those starring Toshiro Mifune and directed by Akira Kurosawa.

I am welcomed to the studio by Mr. Kazuo Nishino, Executive Studio Manager, and Mr. Masao Takizawa, Studio Manager for Feature Film. They ask me many questions about the Hollywood film industry and seem especially interested in the revolutionary changes currently taking place within our major studio structure. I voice my sincere opinion that, while these changes are fundamental and far-reaching, once the transitional chaos has settled down our

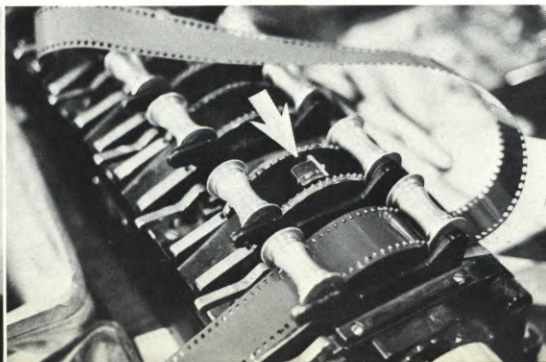
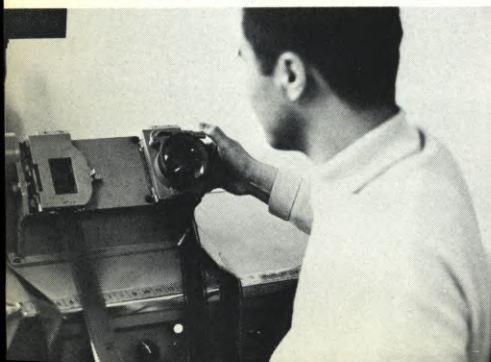
industry will be healthier than ever. I can tell that they want to believe me, but still have their doubts.

The Toho lot has an atmosphere similar to that of the Hollywood major studios. The company turns out between 25 and 30 ambitious features a year and is committed to supply product to 200 theatres directly affiliated with its organization, plus 800 additional independent theatres.

The Toho features would appear to fall into three major basic categories. There are, first of all, the historical or period pictures, which include my beloved Samurai sagas. Then there are the contemporary stories, mostly youth-oriented and rather frantically westernized in style and content. Third, there are the "monster" epics, so dear to the hearts of Japanese moviegoers.

I am assured that these monster flicks continue to draw large and faithful audiences, despite the inroads of television with its own special horrors. Later, in a tour of the studio facilities, I enter a warehouse wherein is stored a fantastic array of these hair-raising creatures. Hanging from wires are all the old

(LEFT) Toho film editor works with a locally-designed editing machine that is similar, in some respects, to the familiar Moviola common to American cutting rooms. (CENTER) White arrow points to magnetic sound head which has been installed in one of the channels of a four-gang 35mm synchronizer by Toho technicians to simplify syncing of track with picture. (RIGHT) Sound mixers at a Toho dubbing console watch projected picture during rehearsals for a re-recording session.







(LEFT) Mr. Keiichiro Ryu, President of Ryu-Den-Sha Co., Ltd., and the author's gracious host in Japan, spreads cheer among dejected monsters dangling from wires in Toho Studios warehouse. Godzilla (center) has that hang-dog look, though he is as big a box-office "star" as most of the live players. (RIGHT) Mr. Ryu examines cavity into which is placed the intricate electronic package that makes the monster move by remote control, when in front of the cameras.

favorites, including Godzilla and a particularly ferocious beastie that reminds me vaguely of a lady I used to date. They seem strangely docile, temporarily gutted of the ingenious electronic black-boxes that enable them to rampage so realistically across the screen by remote control. Toho's Special Effects experts have a particular genius for this sort of thing, and it continues to pay off.

A high-point of my all-too-brief stay in Tokyo is a tour of the magnificent NHK Broadcasting Center, a gigantic ultra-modern complex which beams 855 radio and television programs a week.

Contained within a huge eight-storied structure are 20 television studios (seven of which are used exclusively for color) and 23 audio studios, as well as about 50 dubbing studios, echo rooms, rehearsal halls and filming stages.

The letters NHK stand for Nippon Hoso Kyokai (Japan Broadcasting Corporation). Besides being probably the largest and most technically advanced broadcast facility in the world, it is unique in that it is financed entirely through subscription fees paid by those of the general public who are radio listeners and television viewers. It receives no financial aid from the government or outside capital sources.

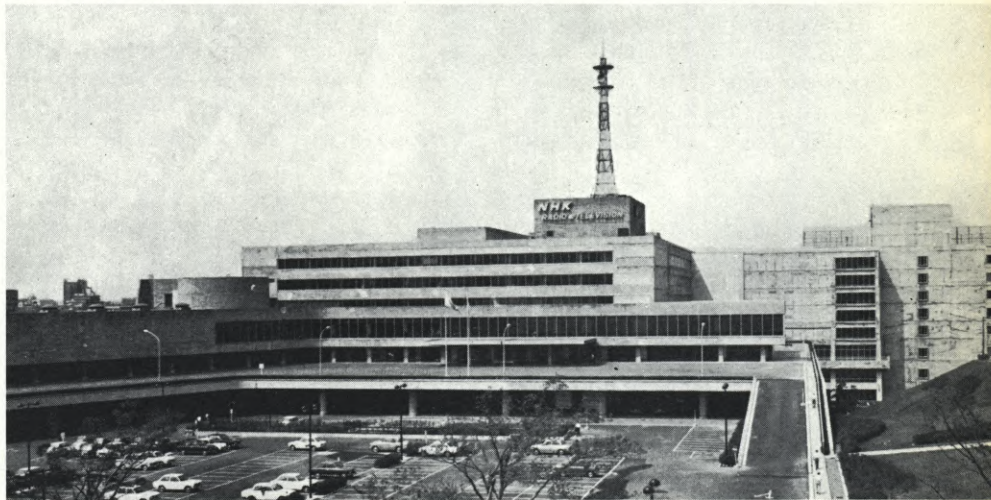
My gracious host, Mr. Ryu, can hardly conceal his pride as he shows me about this spectacular facility, for not only did his company conceive and execute the entire electrical installation for the complex, but he designed and manufactured the thousands of separate lighting units which illuminate the television stages.

The entire ceiling of each stage is hung with highly-sophisticated, totally

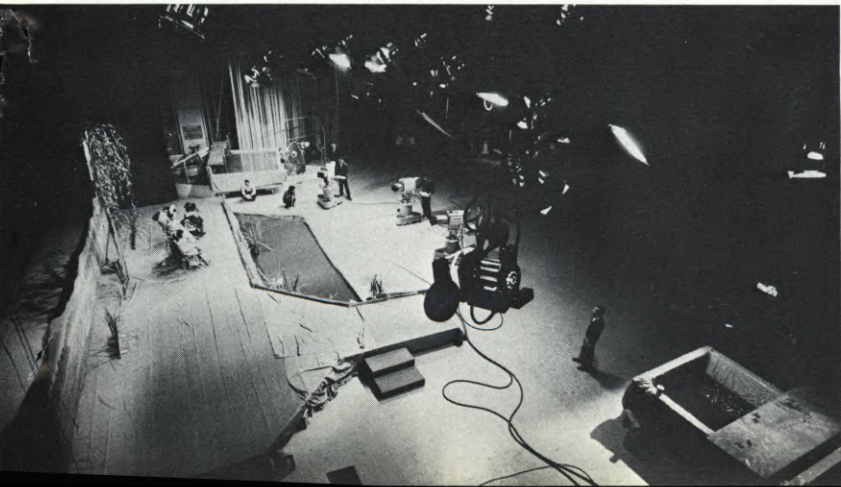
automated luminaires operated by push-button control. Dual consoles (located on the stage and in the control room) enable lighting technicians to make a wide variety of precise adjustments in lighting without ever actually touching a lamp.

Each separate lighting unit can be raised or lowered, beamed or spotted, panned or tilted—all by remote control. Equally automatic are filter changes

Exterior view of the magnificent NHK Broadcasting Center which beams 855 radio and television programs per week to a general audience which supports the operation through payment of subscription fees.



(LEFT) An elaborately costumed and staged musical spectacular unfolds before the television cameras on one of the huge stages of the NHK Broadcasting Center. (RIGHT) In a smaller studio at NHK a Japanese period drama is enacted during a color taping session. All of the lighting and electrical equipment for this huge complex was designed, manufactured and installed by the Ryu-Den-Sha Co., Ltd.





made possible by tiny motors mounted on each lamp. Ryu-san has devised a unique system of "mixing" the primary colors of light in varying ratios, so that any hue of the spectrum can be instantly produced on the stage.

Strip-lights for illuminating cycloramas are recessed in floor and ceiling troughs extending around the stages. When not needed, banks of lights are hoisted to the top of the stage by means of electrical winches to be "stored" out of the way.

I have a chance to watch all of this in action as I view the production of an intricate television spectacular staged with lavish sets and costumes. During the changes of scene, the separate lights move smoothly and silently to pre-set positions—all in response to push-button control.

Many of these lights are adaptable to motion picture production and have already been installed by Mr. Ryu in several film studios of Southeast Asia. ■

## HONG KONG

Like the late Ian Fleming, I have, since my first visit to this fabled port, considered Hong Kong to be one of the world's most fascinating cities—a place where East meets West in a montage of truly exotic sights and sounds.

Returning now, after an absence of five years, I find the magnificent harbor as colorful as ever, although the sampans and red-sailed junks seem to be giving way more and more to powered craft. The Peak, dominating the Island, is more densely draped with luxurious villas and high-rise apartment structures. The shapely young Chinese girls undulate down the street in mini-skirts instead of the slit-sided, Suzie Wong-type *cheongsams* which, in their understated way, were even sexier. My favorite street-corner money-changer, who

looked exactly like Fu Manchu of the comic strips, has been replaced by a magazine stand. So goes the march of progress in Hong Kong.

My mission this time is to evaluate the Hong Kong film industry, said to be third largest in the world. In this pursuit I am greatly aided by Mr. John Luff, Film Correspondent for the South China Morning Post. A charming and witty British gentleman, Luff is an acknowledged authority on film production in the Far East, and he very kindly fills me in on the history of the Hong Kong film industry.

"Strangely enough, it all started in Shanghai—right after World War I," he tells me. "Actually, there were some people in the industry much earlier than that. The first exhibitor in Shanghai was a Spaniard, Senor A. Ramos who, in the year 1903, began showing films on the ground floor of the Ching Lin Kot House, with five coppers cash as the entrance fee. He showed the best kind of films that he could get hold of.

"Then there was an American, a Mr. Brosky, who founded the Asian Motion Picture Company in Shanghai. He is remembered for two productions: 'THE EMPRESS DOWAGER' and 'THE UNFORTUNATE CHILD', both of which flopped at the box office. This was around the year 1909.

"There was another American who tried to develop a film industry in Shanghai, but it wasn't until the local people decided that there was money in it that the industry actually got going and began to turn out some really fine films. At the height of production there were 44 studios in Shanghai and they were doing extremely well. Most of the studios were not much, but The Star Motion Picture Company, founded in 1922, produced some very successful pictures starring a famous actress, Butterfly Wu, who still lives in Hong Kong. As a matter of fact, she made a

film for Shaw Brothers Studio that won the top award at the 1960 Asian Film Festival, held in Tokyo.

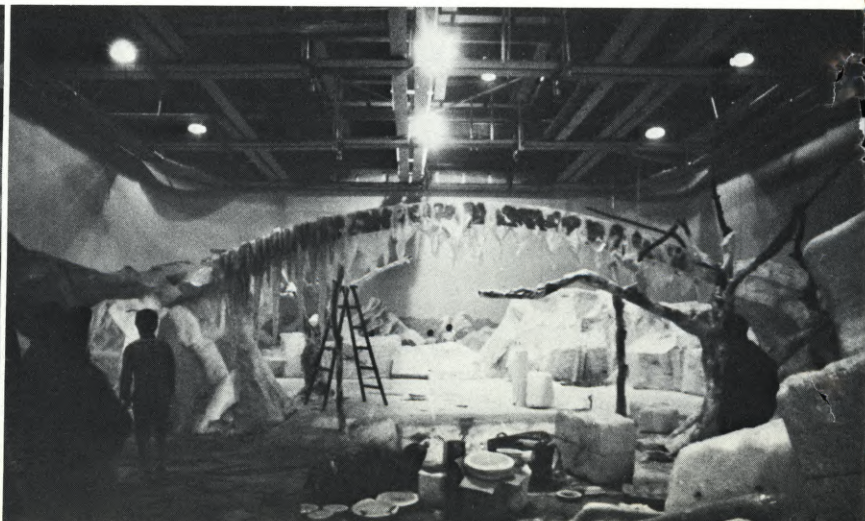
"In 1937, as everyone knows, the Japanese invaded China. There was fighting around Shanghai and it put the movie industry out of business. A small studio was set up in Hong Kong and carried on through 1938-39, turning out patriotic Chinese films of very poor quality. After the war, Shanghai tried to pick up again, but couldn't. They made a color film, but the electric current kept running off. I saw this being made and the picture just slowed down. Technically it was terrible, but it was the first color film made in China.

"In Hong Kong, meanwhile, there were five main circuits that showed European films, but the poorer class of people didn't understand these films. The owners of the small cinemas needed Chinese language pictures to fill their 'flea pits'—which is the best way of describing them. Five or six of them would pool their receipts from a week's run to make a film. The most they could raise was about 20,000 Hong Kong dollars (running approximately six to the U.S. dollar), but they would take an old camera out and shoot on location. I often watched them doing it.

"The film studio—if you could call it that—was just a wooden building on Diamond Hill, and there was a lot of noise outside which they could never shut out. The pictures were very crude and were made mainly with Shanghai artists who came down to Hong Kong, trying to stay alive. The technicians, at first, also came from Shanghai. They'd had considerable experience there and were pretty good. But the big breakthrough came when the Shaw Brothers began to bring in cameramen and other technicians from Japan.

"Incidentally, during the '50's Hong Kong became a very popular place for Hollywood and the British studios to

(LEFT) A permanent standing set of a medieval Chinese village, complete with waterways and graceful bridges, is one of several on the backlot of the Shaw Brothers Film Studios in Hong Kong. (RIGHT) Inside one of the 12 sound stages at Shaw Brothers Studio a construction crew prepares a set representing an arctic wasteland, complete with icebergs and Northern Lights.







(LEFT) An ancient Chinese fortress, with elaborate pagoda-like structure graces the backlot to serve as a set for one of the many "swordsman" dramas filmed by the studio to attract a loyal audience. (RIGHT) Miniature structures stand beside life-size statues of ancient noblemen in prop area of the Shaw Brothers lot.

make films. Some of the local technicians worked with these foreign film crews and they certainly learned a lot from them.

"The picture which, in a manner of speaking, put the Hong Kong film industry on the map was Run Run Shaw's production called 'THE BEAUTY AND THE KINGDOM', which won the Premiere Award at the Asian Film Festival held in April and May of 1959. It starred a beauty named Lin Dai, who could certainly act. This film had a story line based on traditional Chinese folklore, but it had movement and depth and the color work was outstanding. I was on the jury for the Festival that year and I remember that this film inspired a tremendous burst of applause. When it was brought back to run at one of Hong Kong's leading cinemas it absolutely packed the house. It got a certain amount of international mention, and that was the big breakthrough for Shaw Brothers.

"Cathay was the great rival studio. Its entry for this same 1959 Festival was a simple black-and-white film which, nevertheless, also represented a remarkable step forward. It starred a charming young actress, Yu Ming (who has since dropped out of the movies), and she won the award as top actress of the year. She played the role of a young schoolgirl searching for her aged father. The picture was very sentimental, and I'm afraid we might call it 'corny,' but it went down very well in Hong Kong and Malaysia, and made a lot of money."

Luff explains to me that formerly there were quite a few pictures made in the Cantonese dialect but that now the great majority are filmed in Mandarin. One of the reasons for this is the fact that the best actors and actresses seem to be of Northern Chinese origin. The aforementioned Butterfly Wu was a great Mandarin star and she more or less set the language standard, since she was

considered to be "the First Lady of the Asian screen." But there are other reasons why Mandarin predominates.

"Cantonese is, after all, a local dialect," Luff points out. "It is not understood in Taiwan, Singapore or Malaysia, generally speaking—and these are all important release areas. Mandarin is universally understood and is considered to be more 'high class'—if I can put it that way—whereas, I have heard many Chinese speak of Cantonese as, well, merely a dialect—and not a likable one, at that."

I have noticed that there are quite a few English and American films playing in Hong Kong, most of them with Chinese sub-titles. At the large first-run Princess Theatre opposite my hotel, "MY FAIR LADY" seems to be packing them in, despite Luff's description of Hong Kong as "the graveyard of the Western musical."

"This is a form that is alien to the people here and they just don't care for it," he comments. "I feel sorry for our local distributors because the boys in New York and Hollywood give them a hard time demanding to know why a picture like 'GIGI' should be a flop. On the other hand, a few musicals have done extremely well. 'THE SOUND OF MUSIC', for example, has gone over well because they have heard the score on the radio and are acquainted with the music. The kids here love Charles Dickens and especially the story of Oliver Twist, so 'OLIVER' has done well. 'MY FAIR LADY' is based on Shaw's 'PYGMALION', a play that they study in school, and they love the idea of a girl rising up from the gutter to become a duchess. The 'Cinderella' or 'rags-to-riches' theme is very much in the Chinese tradition."

What kind of films do the Chinese like best? The ones that are currently winning the most acclaim—and box-office dollars—are of a *genre* that might

be called "Swordsman" films. These are period pictures akin, in some ways, to the Japanese Samurai sagas, which feature a great deal of highly stylized swordplay and similar athletic derring-do.

"These go down very well with the Chinese because, in their swordplay and fighting, there is carried over a tradition from the old Chinese stage theatre," Luff explains. "To the occidental viewer this would look like a set of gymnastics or slashing near-misses, but it's all part of a very ancient tradition that has been carried over into the movies. It's a technique that is understood by the people, and they certainly love it."

On billboards around town I have seen advertisements for youth-oriented features based on the dilemmas so dear to the hearts of Western audiences: sex, drugs, juvenile delinquency, the generation gap, etc. I ask about these films with contemporary, westernized themes, which seem to be poles apart from the "Swordsman" epics that are so popular. John Luff explains the seeming paradox.

"There is no doubt that East and  
Continued on Page 548

Though western-style musicals usually draw poorly in Hong Kong, "MY FAIR LADY", with Chinese titles, seems to be doing well.





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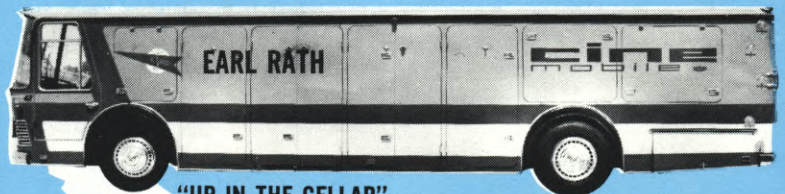
"SUMMERTREE"  
COLUMBIA

NEW MEXICO

HONG KONG



"THE YING AND THE YANG"  
ROSS FILMS



"UP IN THE CELLAR"  
A.I.P.

SAN FRANCISCO



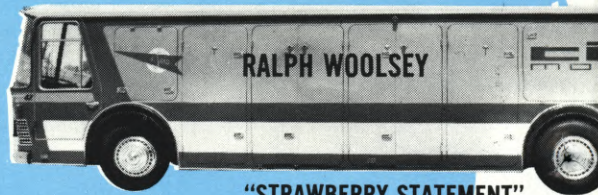
"THUMB TRIPPING"  
AVCO EMBASSY

CANADA



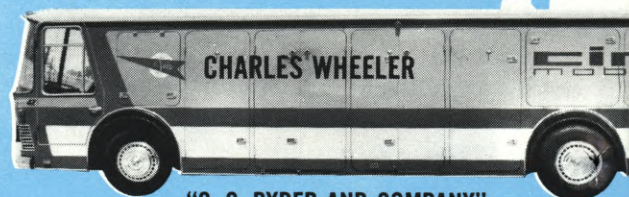
"LITTLE BIG MAN"  
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**SPAIN**



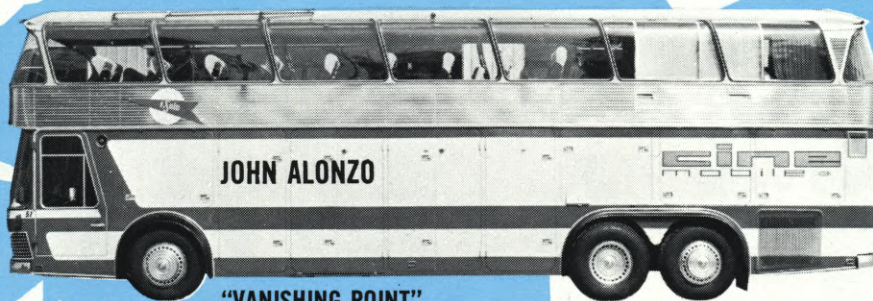
"THE HORSEMEN"  
COLUMBIA / FRANKENHEIMER

**NEW YORK CITY**



"THEY MIGHT BE GIANTS"  
UNIVERSAL

**DENVER**



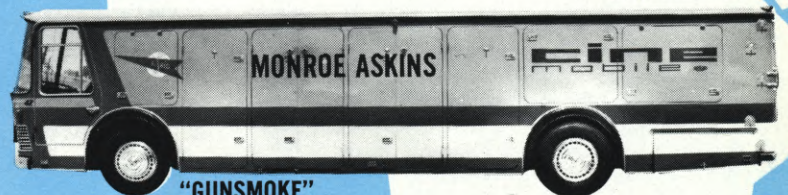
"VANISHING POINT"  
FOX

**HAWAII**



"WAVE"  
ANTAHKARANA PROD.

**SO. DAKOTA**



"GUNSMOKE"  
CBS

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## FILM IN THE FAR EAST

Continued from Page 549

West have merged—if not actually *fused*," he points out. "The young Chinese girls here, with their minis and high boots, are certainly 'with it'. So they are interested in the themes of our movies and what we do. Suppose there is a contemporary Hollywood film that scores heavily at the box-office. That picture will then be re-made here, using the same plot but with the action staged in a Hong Kong background. Let's take juvenile delinquency, for example. I have seen a film made here which is a copy of a Hollywood production, where a young girl gets into bad company with the hippies, and all the rest of it. You see her in the house at night opening her father's safe. But instead of taking out a bundle of dollars, she'll take a few gold bars. There are little differences like that, but the plot is basically the same."

Scenes from "THE GOLDEN KNIGHT". Shaw Brothers costume dramas are usually photographed in an anamorphic wide-screen format known as "Shawscope" and boast a high degree of production value and technical quality.



I have noticed, during the earlier part of our conversation, that Luff has referred to certain great stars of the local screen (the ever-popular Butterfly Wu, Lin Dai, Yu Ming, *et al*), and I ask him whether the "star system" still prevails.

"We have lots of 'starlets,' but few real stars of the old school," he answers. "During the great days of the Asian Film Festival—1959, '60 and '61—the stars would be absolutely mobbed upon arrival at the Kuala Lumpur airport, and later their hotels would be invaded by mobs of kids. The kids still have their favorites, but they are not of long standing. They don't endure. A young actress might be a rising star one week, a shooting star the next week, a fading star the next week and a fallen star a month later. The whole thing has become debased and absolutely meaningless."

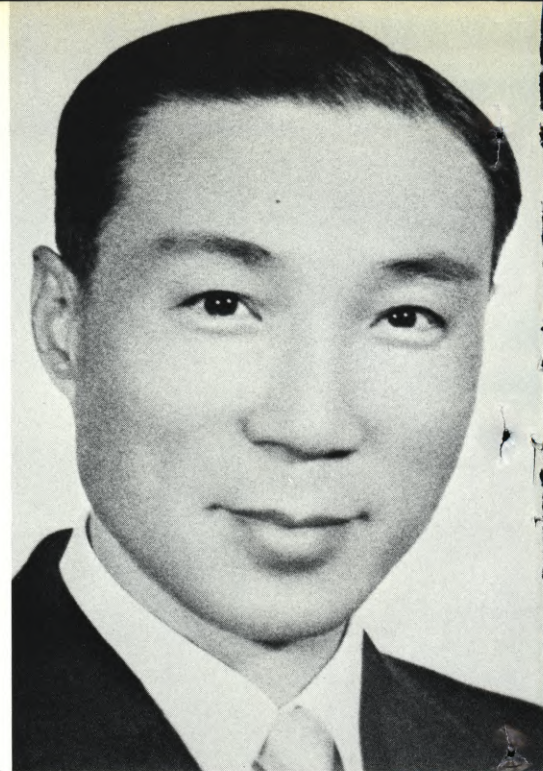
While there are many producing organizations in Hong Kong (some of them very small and turning out only one or two features a year), the colossus of the local industry is the Shaw Brothers Studio. I talk with the President of the company, Mr. Run Run Shaw, and he kindly invites me to tour his studio facilities, assigning to me a very able and courteous young public relations officer named Rawdon Tsui. By way of orientation, Mr. Tsui provides me with the following information sheet which has been compiled by the studio:

### SHAW STUDIO: THE ORIENT'S HOLLYWOOD

A major tourist attraction of the Far East, Hong Kong is also one of the three top film producing centres in the world, a fact not generally known to the thousands of visitors who swarm here annually in search of the delights glamorized in "THE WORLD OF SUZIE WONG".

A total of 120 film companies churn out some 300 movies every year to an estimated audience of 20 million. Moreover, Hong Kong continues to be a favorite setting for picture companies from abroad. Unchallenged by television, a big-budget film in these parts can gross some US\$200,000 at the box-office.

Chiefly responsible for this cinematic renaissance (there was a slump in the late fifties) is Shaw Brothers Studio, the premier film making organization in the Orient. A little over 40 years ago, the Shaw Brothers, Runme and Run Run, invested their entire savings to bring silent "moving" pictures to China and became the first distributors of all early silent films in the country. A few years later they decided to produce their own



Run Run Shaw, President of Shaw Brothers Studio, was one of the pioneer film-makers of the Orient and is still the top executive of the Far Eastern motion picture industry.

Chinese pictures and in 1924 Runme went to Singapore to lay the foundation for what was to become the largest cinema circuit in Southeast Asia and an entertainment empire comprising 130 theatres and 9 amusement centres.

In 1961 Run Run Shaw flew in from Singapore to reorganize his family's Hong Kong studios. He looked around and decided to stake a large chunk of capital on making a quality movie. Ignoring protests, he located a good script from a classical Chinese story and allotted HK\$500,000 for its budget. "Here's the money," he told the director. "Now I want to see a good movie."

The rest is history. "THE KINGDOM AND THE BEAUTY" starring late Asian film queen Lin Dai broke attendance records everywhere, returning the original investment many times. Having proved his point, Run Run Shaw raised his budgets. "THE MAGNIFICENT CONCUBINE", which won special mention at the Cannes Film Festival for color photography, was made at a cost of HK\$3 million and "LAST WOMAN OF SHANG" at HK\$4 million. Among other big-budget productions are "THE ONE-ARMED SWORDSMAN", "THE ASSASSIN", and "GOLDEN SWALLOW". Run Run Shaw now devotes his studio's time to making films in East-mancolor/Shawscope with both Chinese and English subtitles, the Chinese for non-Mandarin-speaking audiences. Several films have also been dubbed into English version for the international market.



Shaw pictures and stars have won many awards at Asian film festivals; "THE GRAND SUBSTITUTION" and Li Ching were voted Best Film and Best Actress respectively at the 1965 Asian Film Festival and "SUSANNA" in 1967.

A total of 44 films was produced by Shaw Studio in 1967. This represented a 10% increase over 1966 and a huge 70% increase over 1965's 26 pictures. Shaw's has had joint ventures with film producers from Britain, Japan, South Korea, Thailand and the Philippines. A number of Shaw stars also lent their services to foreign film producers, even doing location shooting abroad.

Twelve sound stages equipped with modern facilities can be used to shoot 12 different pictures simultaneously. A color film processing laboratory capable of developing color film at the rate of 1,000 feet per hour and printing color film at the rate of 5,000 feet per hour, completed at a cost of HK\$3 million, is now in full operation.

The Shaw Organisation is still improving its various departments. Screenplay writers and editors have been increased and the number of actors and actresses on the roster has grown to 133. Shaw's has more than 20 directors among its 6,000 workers in Hong Kong and Singapore; it also operates the Southern Drama Group, a unit devoted to the training of budding stars.

Though dominating the Southeast Asian market for Chinese films, Shaw's is not content to rest on its laurels. The Shaws undertake periodic trips abroad to discuss expansion of their organization's markets. For Shaw's the motto remains: "More and better pictures ahead."

The Shaw Brothers Studio is a very sizable complex set like a gem in lush open countryside about 10 miles from the city in that part of the Kowloon Peninsula known as the New Territories. Located on a rise, it includes, in addition to the sound stages and service buildings, four high-rise structures which, I am told, constitute on-the-spot residences for artists and technicians.

My efficient guide, Mr. Tsui, informs me that at the moment there are 1200 people employed at the studio. While there is currently only one company shooting on a sound stage, there are several out on location and the construction of sets is proceeding on the other stages. It is interesting to note that most of the really heavy labor is being performed by women and I think to myself what a grand place this would be to deposit some of our more rabid "female liberation" types. They'd get to do all of that rugged, masculine work and they could truly be equal.

The sets which I see in various stages of construction on the stages run a fascinating gamut. There are interiors and exteriors of Chinese palaces representing several dynasties—all very lush and authentic—which will serve as backgrounds for the "swordman" dramas. There is one stage on which an arctic landscape of huge ice floes is being fabricated and another which houses a winding cave flooded with water.

The backlot is a wonderland of castles and pagodas, of carefully horticultured jungles and papier maché mountaintops. There is a sprawling village exterior set through which runs a stream crossed by diminutive foot-bridges. The buildings are very solid and permanent in construction, since they are used over and over again as locales for the costume dramas.

Walking down the studio street I notice a group of fierce-looking Genghis Khan types in period dress lounging outside the one working stage. When we pass that way again after an hour or more of backlot-prowling, they are still lounging. I ask Mr. Tsui to kindly find out when they will resume shooting, as I am anxious to observe their production procedures. He makes inquiry and returns to tell me that, alas, shooting has been suspended because one of the actors has been wounded during the filming of a swordplay scene. I do not know the extent of his injuries, but my hyper-active imagination conjures a scene of this worthy forgetting to duck and getting his head lopped off, where-



Scenes from a current Shaw hit, "BROTHERS FIVE". Action of these swordplay sagas, though highly stylized, is violent enough to delight loyal audiences who flock to see each new release.

upon the director (aptly enough) yells "CUT!"

Despite the drama of this image, I am relieved to learn that it isn't all that bad—that he has simply gotten slightly shish-kabobbed in the fray (an occupational hazard) and will be as good as new once his guts have been stuffed back in and he's been stitched up. Everyone seems very philosophical about it, since this kind of mayhem is all in the day's work.

Meanwhile, by means of an intricate English-to-Chinese-to-Japanese translation, I talk with the Director of Photography, who is from Japan and whose name escapes me in the *melange* of language that flies by. He is shooting with a blimped Arriflex, toward which he seems a bit disdainful. The Arri does the job perfectly well, he assures me—it's just that, on his native turf, he is

Continued on Page 554

(LEFT) A typical sound stage on the Shaw Brothers lot, located in the New Territories area of the Kowloon Peninsula. (CENTER) A trio of "bad guys" takes a break outside the sound stage, while one of the "good guys" who got sliced up in simulated sword fight is being patched together for further filming. (RIGHT) A modern street exterior set on the Shaw Brothers backlot.







Six weeks into New Guinea's unmapped rain forest, Cameraman-Director Gerry Feil and his crew found what they were looking for: a village whose inhabitants had never seen a white man and whose style of living was unaltered since the Stone Age. Nobody knew how the villagers would react; but it was obvious that, whatever they did, they would do it only once. No retakes. No waiting for camera jams or for threading film.

The footage was for a 60 minute NBC TV Special called "Patrol Into The Unknown," produced by Capital Cities Broadcasting; and this unrepeatabe moment was to be the climax of the film. Amazingly, the villagers appeared

neither terrified nor hostile as the film crew walked toward them, shooting sync sound as they approached. Later, it became apparent that the villagers were reassured by the presence of a woman — Mrs. Feil.

They weren't afraid; but they certainly were curious. Never having seen a camera before, they were quite unselfconscious about being filmed by the silent-running NPR. But later in the day, when Mr. Feil tried to get some candid non-sync footage with his backup camera, its whirring motor instantly caused everyone to freeze and stare at the lens.

Since it was impractical to carry more than one filmstock, Mr. Feil decided to use high-



**To shoot this man and his family for NBC, Gerry Feil walked for six weeks through the jungles of New Guinea. Annual rainfall 200 ins. Temperatures up to 110. EF film.**

**Humidity made the EF emulsion so sticky that Cinelab had to unwind the film rolls by hand. But Mr. Feil shot 50,000 feet with no problems. His camera: an Eclair NPR.**

speed EF film throughout, relying on the NPR's variable shutter to cut down exposure where the light was bright. EF emulsion is relatively thick, and it tends to swell and soften in hot weather; but Mr. Feil had used it for the ABC TV Special on Africa with no problems, despite the equatorial heat encountered there.

Mr. Feil reports that the NPR's unobtrusiveness, together with its five-second magazine change, made it the only camera usable at the village, for both sync sound and wild footage. "If the NPR had not survived its battering en route, or if the fantastic heat and humidity had made the EF emulsion jam the NPR, it would have been a disaster," says Mr. Feil. But

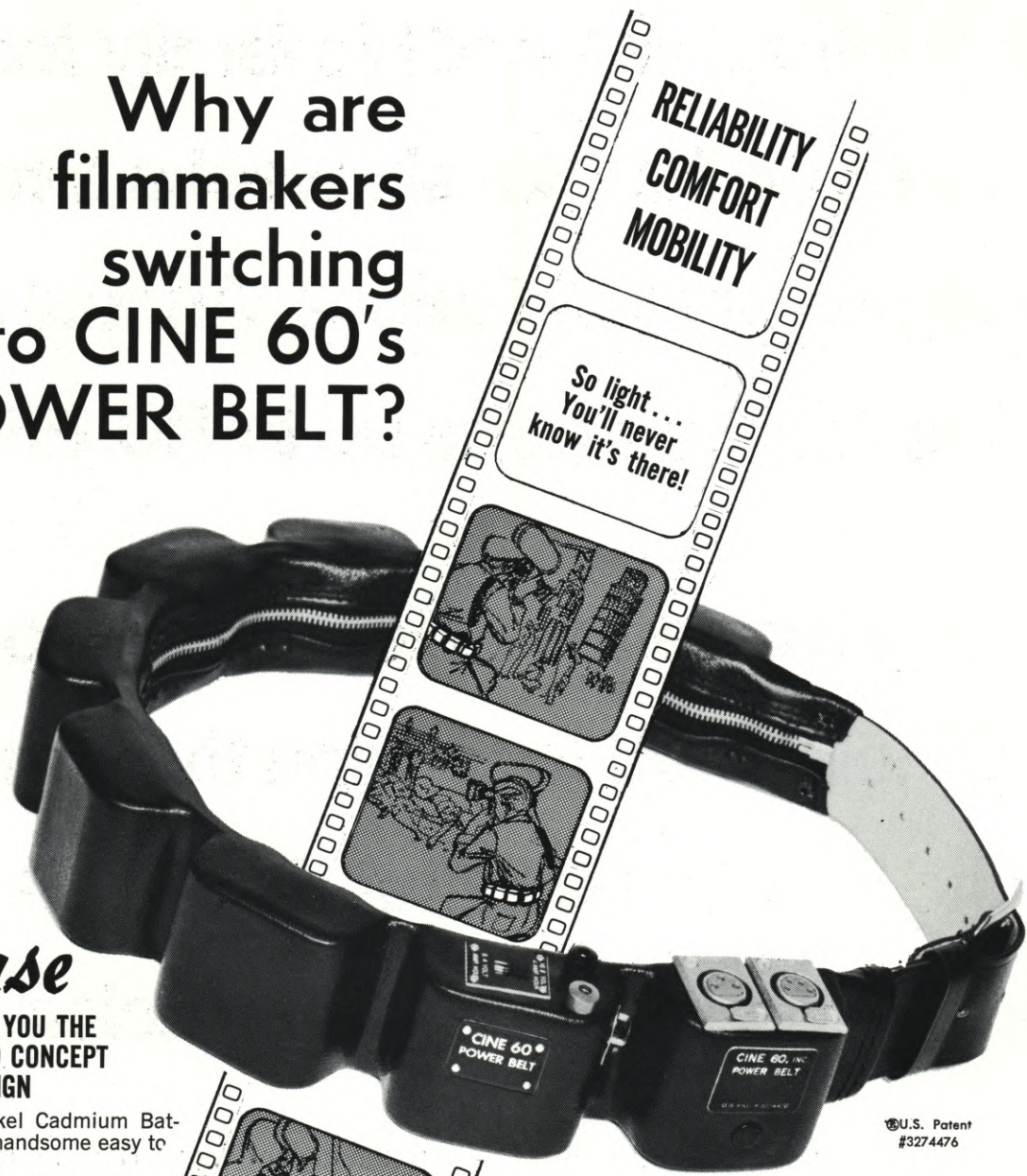
nothing went wrong. Back in New York, Cinelab had to load the exposed film by hand into the processing machines. But not a single frame was lost. The footage was perfectly OK—and fascinating; and historic.

For an NPR brochure, write to Eclair Corporation at 7262 Melrose Avenue, Los Angeles, Calif. 90046. Phone: (213) 933-7182. Eclair's New York Service Center is at 73 S. Central Avenue, Valley Stream, N.Y. 11580. Phone: (516) 561-6405. Headquarters address is: Eclair International, 12 Rue Gaillon, Paris 2e, France.

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## FILM IN THE FAR EAST

Continued from Page 549

accustomed to using a Mitchell, which, I gather, he regards as a kind of status symbol.

It is explained to me that there are customarily three shooting "shifts" at this studio, with an afternoon crew overlapping the activities of a morning crew and an evening crew. This system keeps the studio humming 16 hours a day, with maximum usage of the facilities. The production schedule is about evenly divided between the very popular swordplay dramas and films based on contemporary themes.

I pay a short visit to the Publicity Department where, once I am introduced, back issues of *American Cinematographer* miraculously appear. Then tea and sandwiches are served in a reception room lined with cases containing an awesome array of awards won by Shaw Brothers films in various festivals and competitions. Autographed photographs of American and European film stars who have visited here beam benignly from the walls.

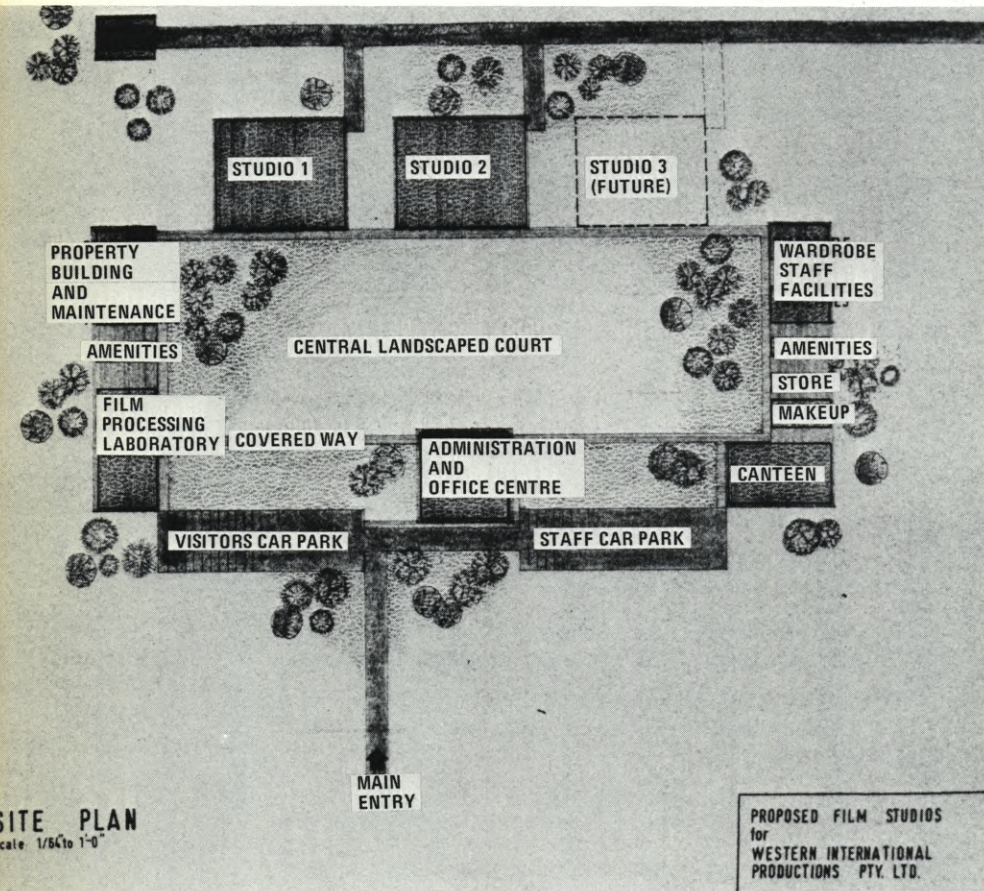
Word comes that the Shaw Brothers chauffeur is awaiting me at the main gate, so I bid farewell to the affable Mr. Tsui, thank him for his courtesy, and head back toward the environs of beautiful downtown Hong Kong. ■

## PERTH

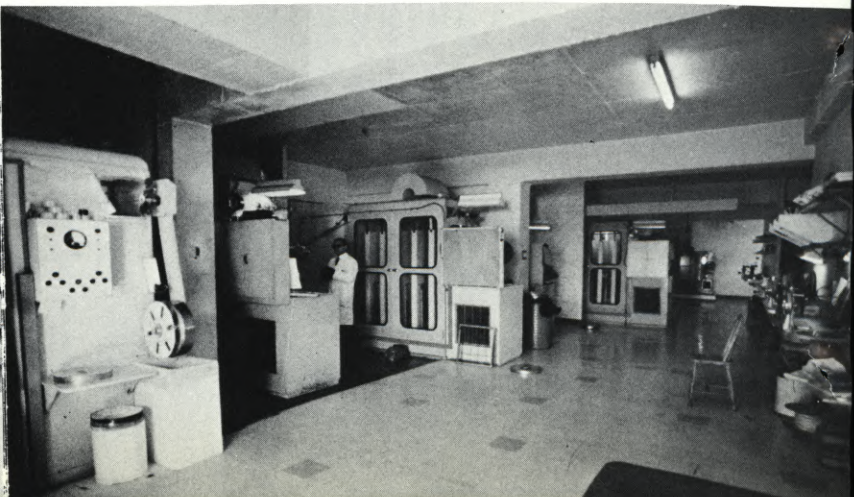
Winging south on Cathay Pacific's inaugural flight from Hong Kong to Perth, at the westernmost tip of Australia, we touch down at Jakarta (Indonesia) and Kuala Lumpur (Malaysia), two exotic spots where I should like to linger a little longer, as they say in the song.

But time is short and I am due in Perth, Western Australia's century-old city of 700,000 people which is current-

(ABOVE) Artist's rendering of the proposed film studios to be built outside of Perth, Western Australia, by Western International Productions, Pty., Ltd. (BELOW:) Architect's site plan of the studios, indicating an efficient flow of activity between the structures grouped around a central landscaped court. A parklike area surrounding the studio complex will include modern homes built to accommodate studio staff and technicians.



(LEFT) John Barry, busy Managing Director of Birns & Sawyer (Australia) Pty., Ltd., shown in a rare moment of inactivity outside the company's Sydney headquarters. Mr. Barry was very helpful to the author as his genial and efficient host in the city. (RIGHT) A section of the Supreme Films Pty., Ltd. processing laboratories, one of the busiest facilities in New South Wales.







*American Cinematographer Editor Herb Lightman, while in Western Australia, makes friends with a couple of the natives—in this case, a pair of adolescent kangaroos.*

ly enjoying an unprecedented boom as the result of new-found mineral wealth. I have been invited here to explore and advise upon the possible development of a feature film industry for Western Australia.

Met at the airport by my long-time friend and host in Perth, young Australian novelist Anthony Corbett Sullivan, I am taken to the tidy modern studios of S.T.W. (Channel 9) TV, where I am to view a previously telecast documentary in which various film technicians and dignitaries express their sentiments regarding the feasibility of establishing a local feature production industry.

I learn that, to date, film-making in Perth has extended only so far as the production of shorts, documentaries and TV commercials—but the smog-free climate is ideal (290 days of "guaranteed" sunshine a year), the area boasts a wide range of photogenic natural locales

and there is a nucleus of eager young film technicians champing at the bit to extend their expertise to the making of features. All of these pluses are conceded by the personalities shown in the documentary, but the pros and cons arise over such items as financing, distribution and the encouragement of foreign "stars" and key technicians to augment the native talent. There is also a certain amount of spirited debate over whether the government should or should not be expected to subsidize all or part of such a venture.

No sooner have I made my way out of the projection room when I am grabbed by one of the station's news commentators and slapped in front of an Auricon to be interviewed about my opinions on the subject. I have scarcely been in Perth long enough to have formulated any opinions, but I make what sincere comments I can, hoping they won't sound presumptuous.

Though there has been no pre-warning of my visit to the studio, the word travels fast and I am soon surrounded by a group of young film directors and cameramen who shoot the station's newsreels. One of the cameramen materializes a copy of the 50th Anniversary issue of *American Cinematographer*, and asks me to sign it. Slightly embarrassed in this miscast role of celebrity, I scrawl something which I hope is encouraging on the "Through The Editor's Viewfinder" page.

I am much impressed by the spirit of these dedicated young technicians, as well as by their highly professional work which I have seen in the documentary just screened.

Steve Matthews, 20-year-old director of several sequences in the film, typifies the attitude which I am to hear expressed again and again by this new, visually-oriented generation of Australian film-makers. Combining an extraordinary degree of calm assurance with a scarcely concealed eagerness to extend

his knowledge of the craft, he tells me: "It's just about the most exciting profession I can think of—and a very important one, because it's such an active means of communication. I can't really imagine myself doing anything else, now that I've been working in it—but I've got a great deal to learn, and I want to know everything there is to know about it."

Later I meet, and spend considerable time with, the top executives of Western International Pictures, a new company formed expressly for the purpose of creating a very active feature production industry in Western Australia. I am much impressed by the fact that these gentlemen, rather than being simply businessmen, are highly experienced working film-technicians who speak the language of the industry in a practical, down-to-earth way. They have tempered their dream with a very realistic view of the rapidly-changing world film market.

Ronald Tutt, Organizing Director of the company, is a professional cinematographer who has worked extensively in England and Canada, as well as in Australia. He is highly articulate about the reasons why he and his colleagues have spent the past three years of total time and effort aimed toward the goal of bringing feature production to Western Australia.

"Our aim is to produce films here at an entertainment level directed, primarily, at overseas markets," he tells me, "and we feel that Western Australia possesses the basic combination of resources that can make this possible.

"The current feature production rate in Australia is the lowest in the world—a mere 2½ percent—and this is partially due to the fact that we have failed to recognize material that is on our very doorstep and have not concentrated on scripts that are suited to our type of production. On the other hand, many of the features made here have been slant-

*Continued on Page 570*

(LEFT) Administration Building of Australia's Commonwealth Film Unit, located in a beautiful countrylike suburb of Sydney. (RIGHT) Commonwealth Film Unit sound stage is large and well-equipped, although much of the filming is done on location. The Unit's latest triumph is a stunning 10-screen documentary which is the highlight of the Australia Pavilion at EXPO '70.







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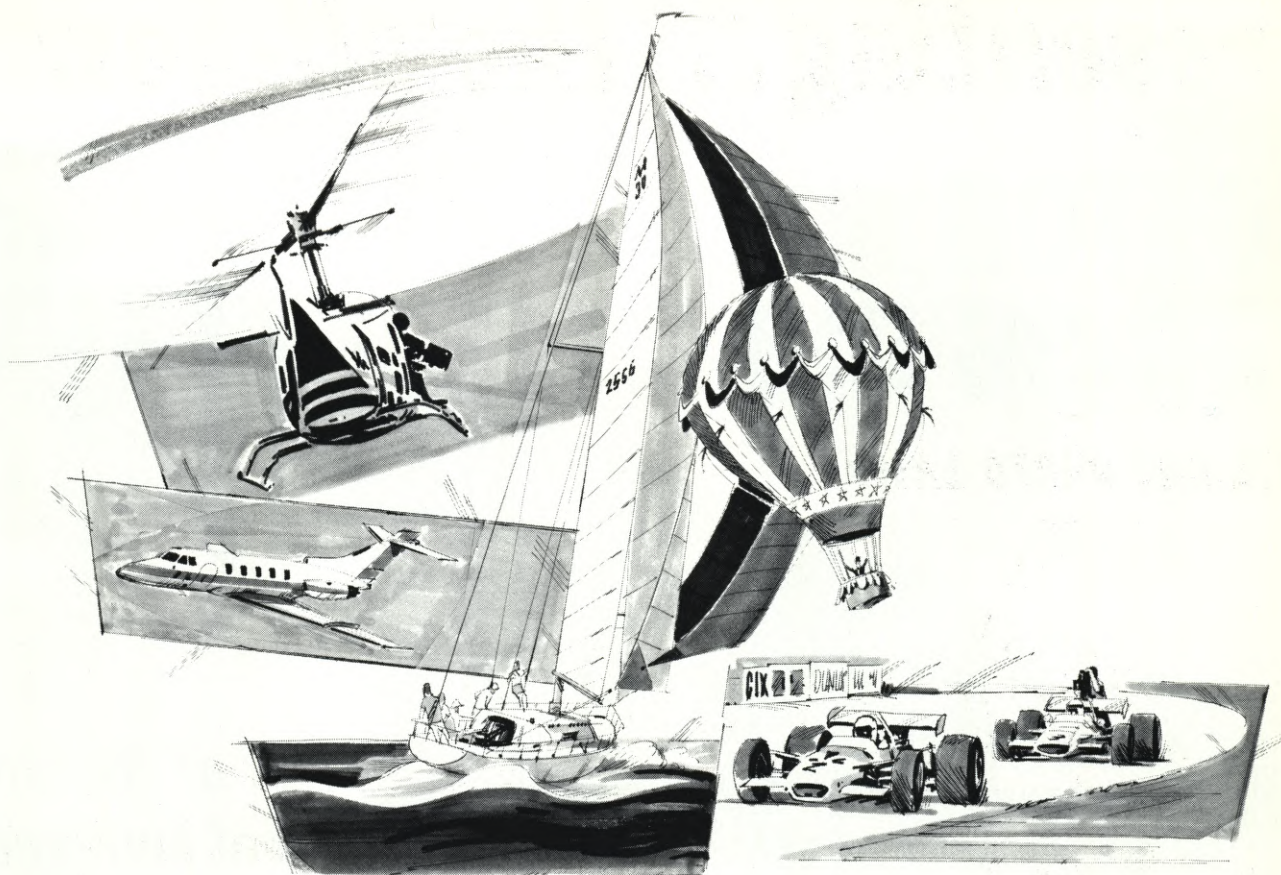
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# THE "LIGHTING WIZARD" OF JAPAN

In 1946 a young Japanese engineer named Keiichiro Ryu was working for his government's Ministry of Communications in Tokyo. All of the manufacturing facilities for lighting equipment and light bulbs had been destroyed during the final phases of World War II, and the major motion picture producers of Japan were fearful that this crisis might deal a death blow to their film industry. Meeting in emergency session, they decided that the creation of a lighting equipment production company was urgently required in order to save the industry.

Mr. Nagata, Chairman of the Association of Motion Picture Producers, and also President of the Daiei Motion Picture Company, had great confidence in the abilities of young Mr. Ryu and asked him to set up the new company. Thus, at the age of 26, he established Ryu-Den-Sha & Co., Ltd. and took, as he puts it, "the first forward step into a glorious future."

It didn't seem especially glorious at the time, since it had only five people on the staff—but today, with its various subsidiaries and branches, the company includes almost 1,000 employees and dealers, constituting a virtual monopoly in the manufacture of motion picture and television lighting equipment for Japan and Southeast Asia. In the meantime, Mr. Ryu has earned the appellation of "the 'lighting wizard' of Japan" in certain quarters, and "Superman" in others—the latter being an affectionate reference to his enormous energy and

ability to achieve the seemingly impossible.

In actuality, he is a fascinating paradox, a man for all seasons having one foot firmly planted in each of two vastly different worlds. On the one hand, he is an urbane sophisticate with a wild sense of humor and a thoroughly westernized approach to "systems" technology. As such, he operates at the break-neck pace and on the precise schedule usually associated with the compulsively-driven American businessman. He wears western-style clothes cut in the latest fashion, speaks fluent American-English and drives American cars. He is an avid skier who, each winter, closes up shop and takes his entire staff of young designers with him for a ski holiday.

On the other hand, he is a charming Japanese gentleman of the old school, characterized by elaborate courtesy, formal manners, an impeccable sense of integrity and the ability to "switch off" commerce completely, in favor of gracious living, after business hours. In the privacy of his own home, he wears traditional Japanese-style clothes.

It is this man, representing the best of the "old" and the "new" Japan who, in March of 1947, started from scratch to bring light back into the Japanese film industry. It was no small task. All of the materials necessary to the manufacture of electric lamps were lacking in the immediate post-war days. Undaunted, Ryu took 3000- and 5000-watt bulbs used by the Japanese navy for

searchlights and adapted them for motion picture lighting. When the bulbs burned out he gathered them up and, salvaging the basic materials, re-manufactured them into new bulbs.

At the time, no fresnel-lens spotlights existed in the Japanese film studios. The only types of spots available were those

Mr. Keiichiro Ryu, President of RYU-DEN-SHA, who, at the age of 26, was commissioned to build an industry for lighting the sound stages of Japan.





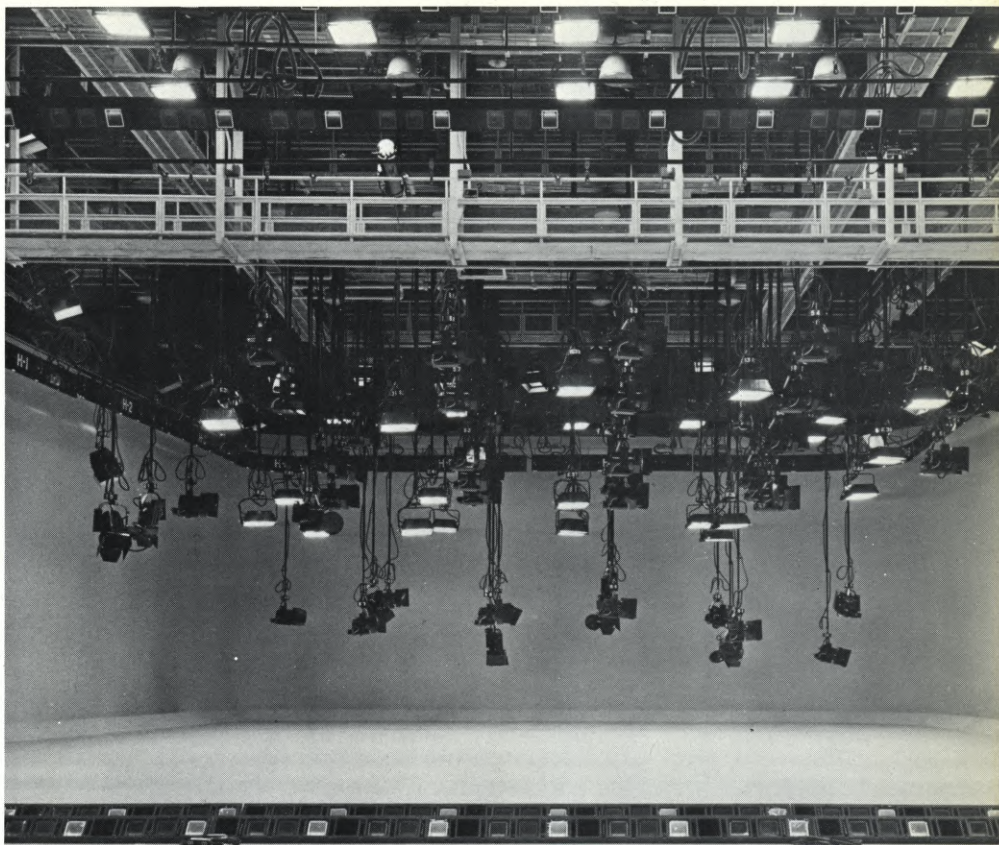
having long focal-length plano-convex lenses, and the so-called Sun-Spot lights with their glass reflectors. These units, because of their large size and heavy-weight, moulded-steel construction, were very cumbersome to handle on the set.

Ryu decided to try to improve these lights. Making tests, he discovered that if duraluminum plates were tempered after spinning or pressing, they could be made almost as hard and strong as steel. Using this material, he designed 3000-watt and 5000-watt Sun-Spot lights that were heavy-duty and light-weight, in addition to being well-ventilated and well-designed for optical efficiency. Weighing only one-third of what the conventional lights had weighed and being much superior in other respects, the new lights were so enthusiastically accepted by cameramen and lighting engineers that other manufacturers, who had already started to make more of the old-style lights, found that their product was obsolete and subsequently stopped production.

"RASHOMON", produced by the Daiei Motion Picture Company and photographed with the new lights, won the Grand Prix Award at the 1951 Venice Film Festival. "GENJI-MONOGATARI" (1952) and "UGETSU" (1953) also utilized the new equipment and were honored with awards.

"This success gave me confidence and, at the same time, broadened my scope," comments Ryu. "I now realized that a well-organized and highly-skilled 'systems' approach to engineering could greatly improve motion picture production, including the design of bulb and lighting equipment. I still entertain this idea and it has been proved correct by the success we have had in designing and installing complete engineering systems in many motion picture and television studios, theatre stages and auditoriums in various Southeast Asian countries, as well as in Japan."

It had become evident, with the introduction of Eastman Color Negative, that color feature production in Japan was now feasible and that the filming technology would have to be adapted to meet its special requirements. With the support of the Japanese government, the Japan Motion Picture Production Council was organized under the Ministry of International Trade and Industry. The Society for the Scientific Research of Color Motion Pictures was established as a subordinate organization and Keiichiro Ryu was appointed to the committee in charge of research and development of lighting equipment



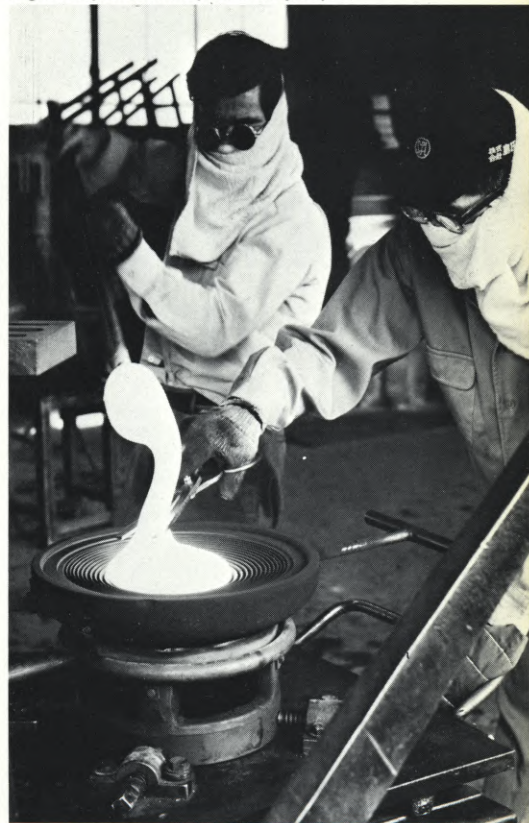
Totally automated lighting units (shown suspended at various heights), designed, manufactured and installed by Ryu-Den-Sha to light one of the many color television stages of the ultra-modern NHK Broadcasting Center in Tokyo.

for color cinematography. The subsequent study and development of required equipment took three years.

During that time, Ryu studied the various methods of measuring light intensity, color temperature and reflectance. He analyzed the changes that occur in reproducing an image on color film, as well as the various filters needed for color shooting. He studied every available eastern and western document and article having to do with lighting engineering in relation to color, referring constantly to his own collection of SMPTE Journal issues dating back to 1921.

"Through studying these documents, I concluded that 500-watt, 1000-watt, 2000-watt, 5000-watt and 10,000-watt fresnel spotlights would surely be needed for key and back-lighting in color—but that they would have to be made as small as possible," he explains. "A combination of light-weight and high-quality was called for. Furthermore, I felt that these spotlights must be designed to have the highest degree of efficiency at the medium and wide flood positions—in view of the fact that they would be used mainly in studios and at a comparatively short distance from the subject. Since we could get no

Technicians of the Shimada Glass Co., Ltd., a wholly-owned Ryu-Den-Sha subsidiary, shown pouring fresnel lenses for motion picture lighting units produced by the company.





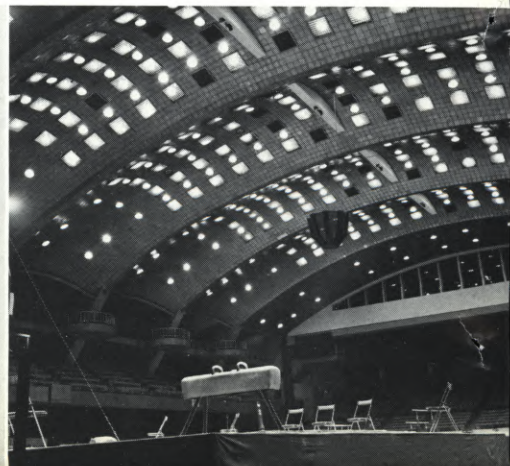
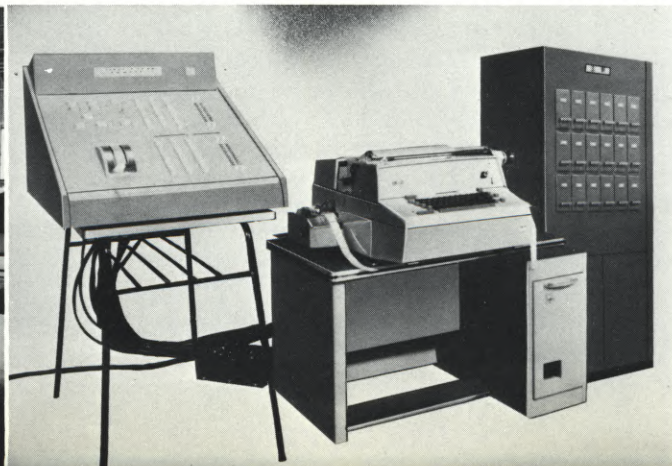


Each color television stage of the NHK complex has its own huge control console for handling the totally automated lighting on the stage. Controls include raising and lowering of individual units, spotting or flooding the beam, panning and tilting and automatic changing of color filters.



A section of the master control console showing push-button switches for establishing an almost infinite number of pre-sets. Pyrex red, blue and green filters on the cyclorama lights can, by percentage mixing, create all of the colors capable of reproduction by the television system.

(LEFT) Workers at the Ryu-Den-Sha main factory assemble one model of the many lighting units designed and manufactured by the company. (CENTER) Highly sophisticated units which comprise the "nerve center" of the Infinite Pre-set Lighting System. (RIGHT) For the Tokyo Olympic Games of 1964, Ryu-Den-Sha designed and installed lighting systems in all of the sports stadiums and arenas so that an overall soft-light level of 300 foot-candles would be available for television and motion picture photography, without discomfort to the athletes.



bi-post type bulbs nor fresnel lenses at the time, it became obvious that we would have to design and manufacture these bulbs and lenses ourselves. After many tests and evaluations, light-weight, compact spotlight housings were produced."

Ryu next tackled the problems relating to cyclorama lighting. Up until then, the local film industry had been using theatre border lights or banks of spotlights for this purpose—which made it very difficult to get an even, wide-coverage type of lighting onto a large flat surface. The result of his research was a new "horizon" light that made even, high-intensity cyclorama illumination a quick and easy operation.

In order to provide increased efficiency for the lighting of daylight scenes, a 4000-watt Sky-light was developed, which also served as a handy source of shadowless base illumination in the studio for interior sets. In addition, a new eye-spot was designed to create catch lights, plus a wide range of lighting equipment accessories.

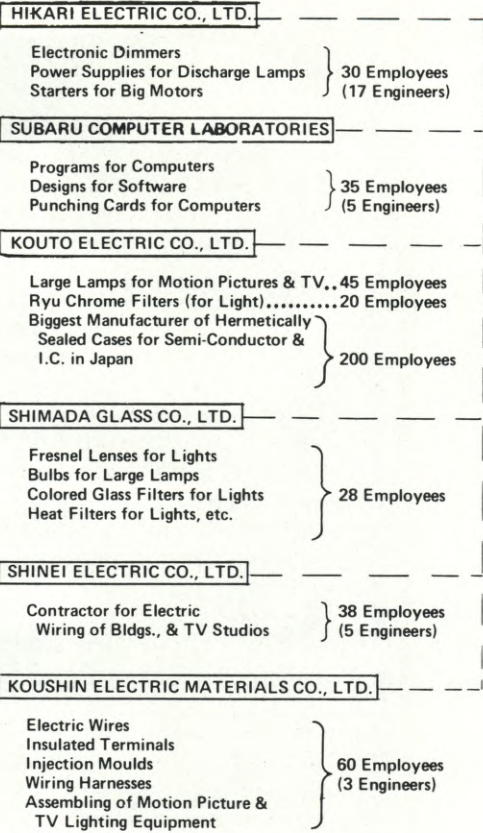
When these developments were completed, with the aid of a subsidy provided by the Committee, Ryu, accompanied by Mr. Kinugasa, Film Director, and Mr. Sugiyama, Cameraman, both of the Daiei Motion Picture Company, visited Hollywood. This inspection of the Hollywood motion picture studios, in March of 1953, verified the fact that the lighting equipment Ryu had designed was absolutely correct for color cinematography.

The trio of representatives returned to Japan and, on the basis of their report, filming was started on the first Japanese color feature, the extraordinary "GATE OF HELL", utilizing the newly-designed lighting units and Eastman Color Negative film.

"During the shooting period—about two months—I stayed at the Daiei Motion Picture Studio in Kyoto and administered its lighting and other techniques," Ryu recalls. "This film received

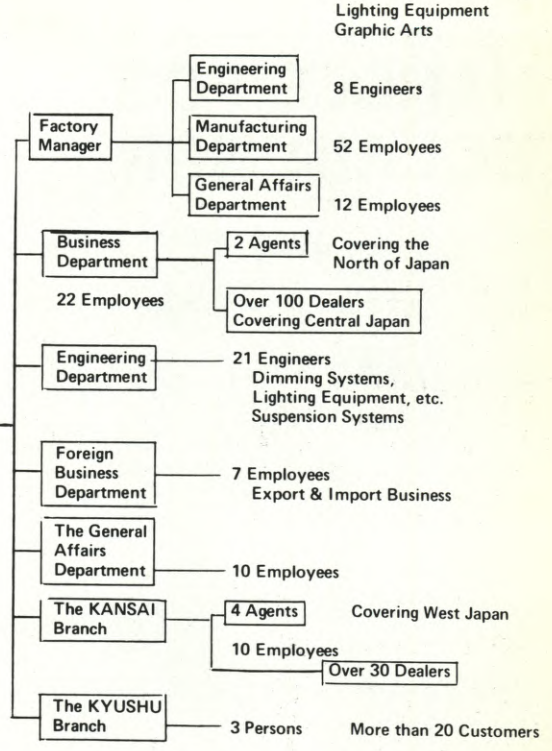


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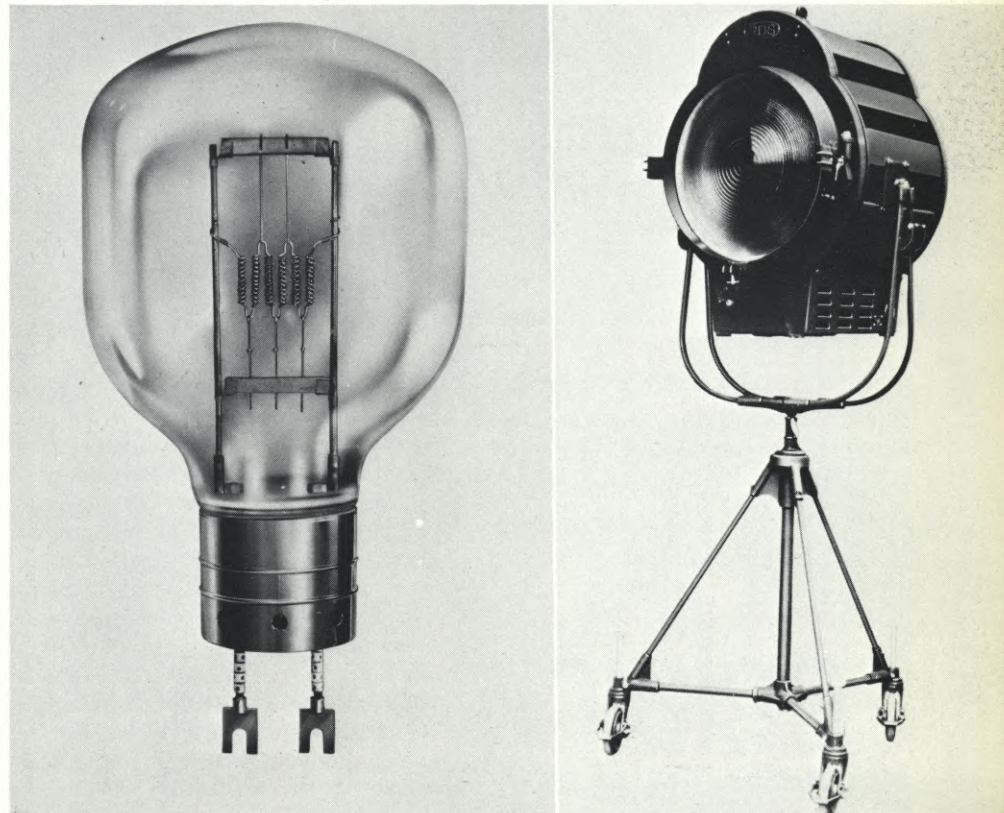
the Grand Prix at the 1954 Cannes International Film Festival. Furthermore, it was my privilege to be awarded an academy prize from the Motion Picture and Television Engineering Society of Japan, Inc., for the achievement of our newly-developed lighting equipment."

Not content to rest on these laurels, Keiichiro Ryu next began to study and develop new types of lighting filters. As a first step, he collected samples of the various types of lighting filters used throughout the world, analyzed the basic materials and measured the spectro-transmission characteristics of each sample.

He found that these filters were being produced mainly to meet the demands of theatrical lighting, that almost all were gelatin types that were not durable for use with high-wattage lamps, that they would change color after a few minutes' use and that there was little uniformity of color standards.

He searched carefully among all of the existing plastic materials and finally selected one that he felt was suitable for the purpose. It featured strong heat-resistance characteristics, durability that allowed it to bend without cracking, great tensile strength and the facility for

The advent of anamorphic wide-screen cinematography in the Japanese motion picture industry created a need for powerful incandescent units to light wide areas and inspire Ryu-Den-Sha to design (LEFT) the world's first 20,000-watt incandescent lamp and (RIGHT) a light-weight housing for the new lamp, with a 25-inch fresnel lens.

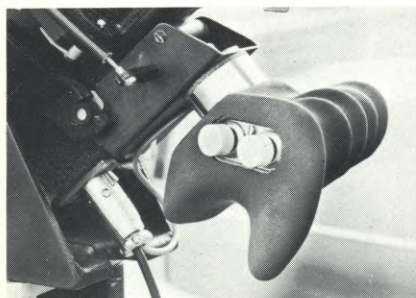




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manufacture in sheet form. He established three basic categories for these filters: Color Effect Filters, Color Temperature Conversion Filters and Diffusion Filters.

The Color Effect Filters were separated into 12 basic hues: Blue, Green Blue, Green, Yellow Green, Yellow, Orange Yellow, Amber, Orange, Fire Red, Pink, Rose Purple and Purple. Each color was classified into five grades: 1, 4, 8, 16 and 24. Thus, for example, BL-4 has a density four times that of BL-1, and BL-8 has a density twice that of BL-4—which means, theoretically, that there is a range of 60 colors from which to choose.

The Color Temperature Conversion Filters were classified into two groups: The "A" Series (decreasing color temperature) and "B" Series (increasing color temperature). Each of these filters was further subdivided into nine grades (#1 through #9), at approximately 20-mired intervals.

The Diffusion Filters were classified into five grades, ranging from a 50% to a 90% transparency factor.

In order to select specific dyes that would dissolve evenly in the chosen plastic base material, while offering the maximum heat-resistance and most stable spectro-characteristics, Ryu tested and classified 5,000 separate dyes of all types. The test data on these dyes added up to a stack of paperwork three feet high, but his meticulous research paid off in 1955 with a second "academy award" from the Motion Picture and Television Engineering Society of Japan, Inc., for his work in creating the line of 83 RYU-Chrome Filters.

In response to the trend toward color filming in the various wide-screen formats, there developed a demand for higher-wattage light sources. To fill this demand, Ryu designed the world's first 20,000-watt bulb (15 inches in diameter) and a spotlight with a 25-inch fresnel lens. These units soon became standard equipment for wide-screen cinematography in the studios of Japan and Southeast Asia and earned for their designer, in 1957, a third award from the Motion Picture and Television Engineering Society of Japan, Inc.

Concurrent with all of this progress in the development of lighting equipment for the motion picture industry, Ryu kept a watchful eye on the needs of the emerging television medium. During his visit to the United States in 1953, when the American television industry was in its early adolescence, he noted that most studios utilized the manual batten-suspension system of

Continued on Page 567

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## BLOW-UP: 16mm-to-35mm

Continued from Page 527

While, for the most part, fixed focal-length lenses are sharper than zoom lenses, Mosser suggests that the newest compact zoom lenses containing fewer elements may offer a good compromise for the film-maker having to shoot in 16mm.

Mosser describes himself as "a great believer in the matte box" as opposed to a sunshade attached to the lens. He says that many people would be surprised at the difference the use of a long matte box lined with velveteen can make in the quality of the image. By reducing the amount of scatter light a matte box can improve the optical contrast of the image, and Mosser feels the improved quality is well worth the nuisance of using a matte box rather than a sunshade. He is currently designing a matte box for use with a zoom lens which can be connected to the zoom handle in such a way that the length of the matte box will vary according to the focal length at which the lens is set.

Mosser offers an additional suggestion for shooting exterior long shots. He says that he has found that better results can be obtained by cheating towards longer focal lengths, e.g. by using a 35mm lens as a normal lens rather than a 25mm lens. Because of the narrower field of view and hence the greater amount of negative area devoted to any given object in the background, a longer lens will yield a sharper overall image on a shot where the depth of field extends to infinity. This is not to say that the shooting style of the film should be based on the use of longer lenses. It is merely a suggestion to be kept in mind when a longer lens could yield virtually the same composition and effect without too much inconvenience.

With respect to lighting Mosser recommends that the cameraman be a bit more orthodox than he might otherwise be and attempt to keep the brightness ratios within the manufacturer's recommendations. The improvements in film stocks have reduced the contrast build-up in duplicating to the point where there is no appreciable increase in contrast, but it is still wise to lean towards flatter lighting in shooting for blow-up, especially if shooting with EF.

Many people seem to feel that an increase in apparent graininess is an inevitable drawback to blowing up from 16mm to 35mm. Mosser insists that

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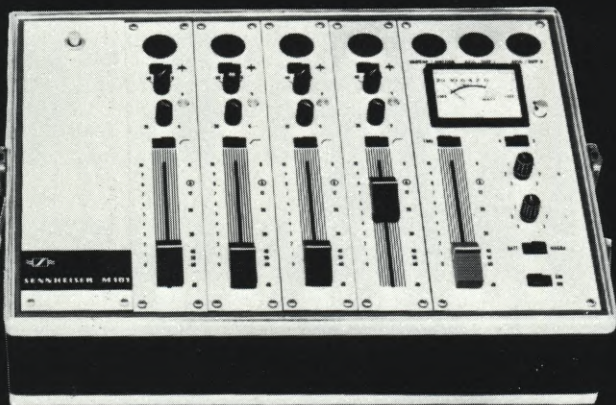
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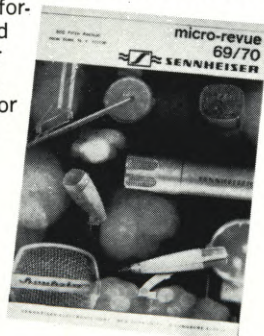
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graininess is not a major problem given the new film stocks, and suggests that the times when grain is so noticeable are probably instances where the original film was forced developed.

It is virtually imperative to have color dailies rather than black and white, if the cameraman hopes to maintain the kind of quality control necessary to provide a good original for a blow-up. Someone forced to work with a low budget might be tempted to save money by editing a black and white work print, but in doing so he would risk defeating his whole purpose since he is making a film for commercial distribution and really must know during the shooting whether the footage is good enough to blow up to 35mm. Needless to say, the workprint need not be color corrected, nor should it be timed since a one-light print is much more useful to a cameraman trying to evaluate his work.

The editor of a film to be blown up must cut according to 35mm standards. This means the film should be divided into reels of 385 feet of 16mm to be printed on the 1000-foot reels of 35mm. Cineservice blows up from A&B rolls with effects of 16, 32, 48, 64, 96, or 128-frame lengths. It can do zero cut printing rather than standard checkerboard printing, but it does charge extra for zero cut printing.

When a film is delivered to Cineservice it is timed and color corrected (quite often by Mosser himself). Cue sheets are prepared for the printing indicating the timing and color correction for each scene as well as the effects. Each roll is then hand wet cleaned 7 or 8 times and stored in a cellophane bag. The printing is done with a modified producers Service optical printer applying one of Mosser's several different liquids depending on the kind of film being printed. The resulting timed, color-corrected 35mm negative is sent out to be processed and printed.

Adrian Mosser obviously takes great pride in his work, and it is extremely refreshing to meet a man who is genuinely interested in developing a motion picture technique designed to aid the experimental or struggling young filmmaker. For someone who is interested in the kind of work he does, Mosser suggests viewing "HIGH, WILD, AND FREE", the cocktail party sequence in "MEDIUM COOL", the experimental feature "YOU ARE WHAT YOU EAT" or two soon to be released features: "BACH TRAIN" and "DO NOT THROW CUSHIONS IN THE RING", both shot entirely in 16mm. ■



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## "LIGHTING WIZARD"

Continued from Page 564

lighting—and that for controlling the light outputs, the most advanced systems made use of the Auto-transformer Dimmer, Magnetic Amplifier Dimmer and Thyatron Dimmer.

Ellipsoidal spotlights (such as the Leco light), scoop lights, and 2000-watt and 5000-watt spotlights constituted the standard lighting equipment in most studios. In other words, bits and pieces of theatre and motion picture lighting equipment had been thrown together to "make do" in those early, unsophisticated days of American TV, with the emphasis on theatre-type stage lighting equipment.

In Japan, NHK (The Japan Broadcasting Corporation) was planning to convert its Radio Hall into a television studio and, upon his return, Ryu strongly urged the development of a unique and specific type of lighting for television which would be different from the equipment used for theatre lighting, but more akin to that used for motion picture production. His recommendations were accepted and, as an interim measure, his RDS lighting equipment developed for the motion picture industry was used to light the first Japanese telecasts.

Concurrently, he set about developing a range of lights especially suited to television production. Considering that, at the time, all television lighting units were more or less permanently affixed to overhead lighting battens, a range of lights incorporating greater functional efficiency had to be designed. This group included 500-watt, 1000-watt, 2000-watt and 5000-watt fresnel spotlights. They differed from the motion picture units in that they were lighter in weight and achieved a more highly efficient lighting quality through the use of larger fresnel lenses.

Recounting in detail the further innovative accomplishments of Mr. Kei-ichiro Ryu and Ryu-Den-Sha during the recent past would require a separate volume, but a few of the highlights are as follows:

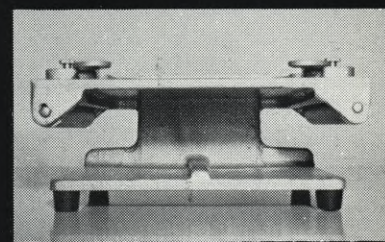
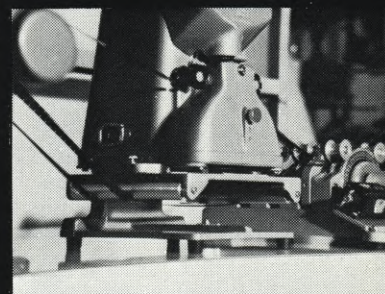
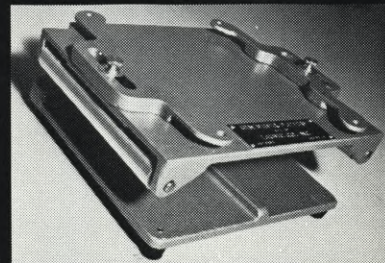
In 1958, development of the Automatic Motorized Lighting Suspension Batten System.

In 1960, in contractual agreement with ColorTran Industries, of the United States, development of the Follow Spot, Effect Spot and Ripple Light, utilizing PAR-64 sealed-beam lamps.

Following General Electric's introduction of quartz-iodine lamps, the

Continued on Page 570

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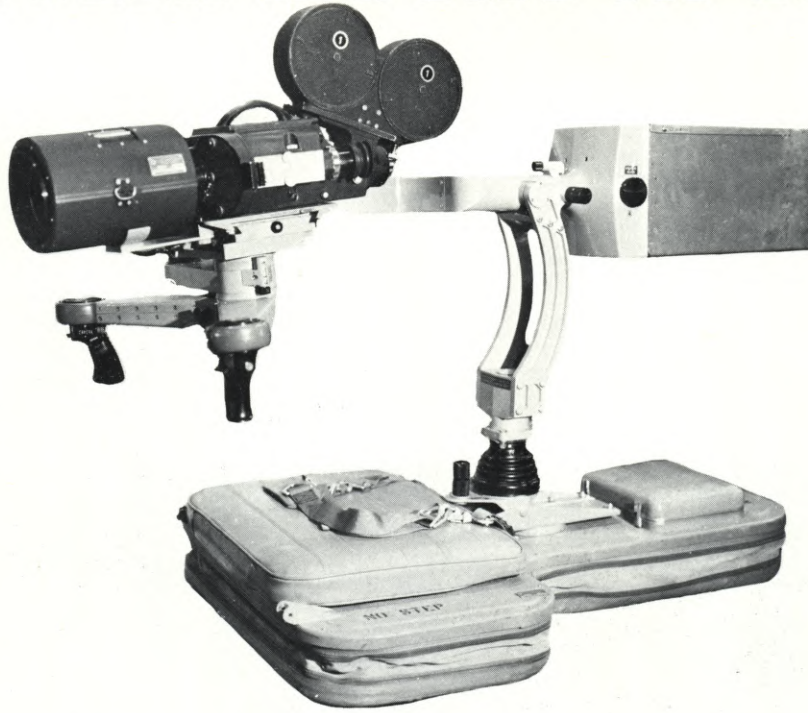




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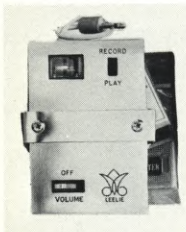
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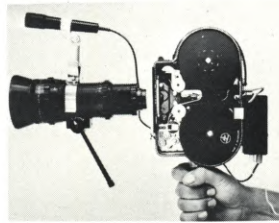


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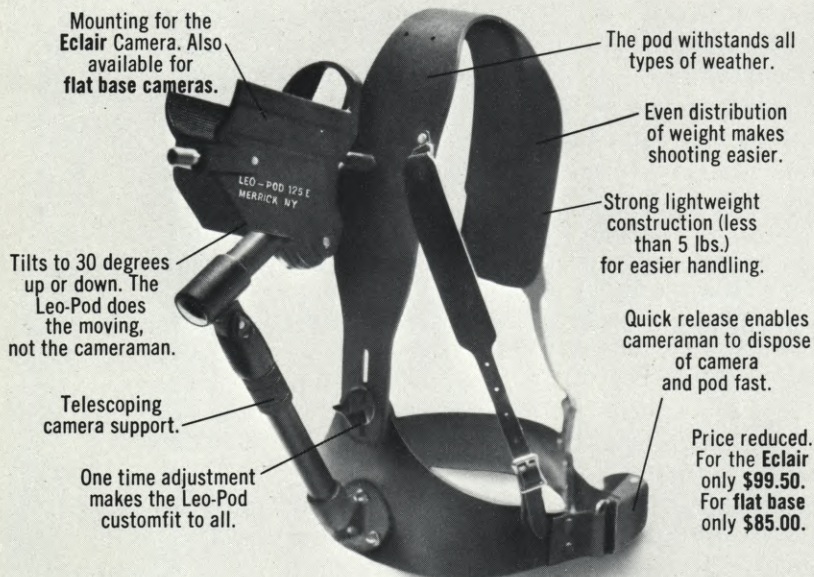
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## "LIGHTING WIZARD"

Continued from Page 567

manufacture, in cooperation with Color-Tran Industries, of many luminaires to utilize these lamps, including the world's first Focusing Quartz Light and Cyclorama Light. In 1965, as a result of this collaboration, ColorTran received an Academy Technical/Scientific Award for the development of quartz lighting.

In 1964, installation of the Lighting System for NHK-Kyoto Television, the first studio in the world to be totally equipped with quartz lighting units.

Design, manufacture and installation of lighting systems in all of the sports stadiums and arenas for the 1964 Tokyo Olympic Games. Units afforded an overall light level of 300 foot-candles for photographic and television purposes, without creating discomfort for the athletes.

In 1967, Ryu-Den-Sha was commissioned by NHK to design a completely motorized, remote-control system to light 12,600-square-foot studios for color telecasting. Installation was completed in August 1969 and an award from the President of NHK was bestowed in March, 1970.

In May, 1969, Ryu-Den-Sha succeeded in the trial production of its Infinite Preset Dimmer System, controlled by computer.

In 1969, development of the Lumiscope Screen for transparency rear-projection in color telecasts. Composed of a plastic lenticular sheet with a matte stretched over it, the screen is of such high-gain that a 500-watt Carousel projector will produce a rear-projected image bright enough to balance with a 300 foot-candle light level on the stage.

Design, manufacture and installation of complete lighting systems for the following EXPO '70 pavilions: Japanese Government Pavilion, Japanese Monopoly Cigarette Corporation Pavilion, Telecommunications Pavilion, Mitsubishi Group Pavilion and Ricor Pavilion.

At the Opening Ceremony of EXPO '70, Mr. Ryu was given an award by the Ministry of International Trade and Industry for the use of the Lumiscope Screen in wall displays of the Japanese Government Pavilion. He also received an award for development of a special lighting control system for flash signs installed in the Japanese Monopoly Pavilion.

An illustrious record, to be sure—but the past leads directly to the future, and Mr. Keiichiro Ryu, "The 'Lighting Wizard' of Japan", is already at work on new marvels of technology for the motion picture and television industries.

HERB A. LIGHTMAN



## FILM IN THE FAR EAST

Continued from Page 555

ed directly toward Australian audiences (a very small percentage of the total market) and have lacked the general appeal necessary to make them successful in the world-wide market. We feel that we can make features written by Australian writers which make full use of Australiana, but which will not be so specifically 'Australian' in flavor as to be unacceptable to overseas markets."

He goes on to tell me that Western International Pictures has already purchased or optioned a total of 37 properties, including a couple of best-selling novels.

"We feel that in the beginning we should avoid stories based on highly sophisticated human relationships—the more off-beat romantic themes and such—simply because pictures of this nature can be done much better by other countries," he explains. "We will concentrate, at first, on the types of features that we know we can do especially well because of our local terrain and the acting talent which we have available locally—namely, features with high-adventure and science-fiction themes. Later, we will expand our scope."

The gentlemen offer to fly me to see some of the nearby areas earmarked for science-fiction feature locations and which, they assure me, "are not like anything else on this planet"—but, regretfully, my tight schedule forces me to decline their kind invitation.

Mr. Tutt's closest associate in Western International Pictures is Kenneth Moore, who has also devoted the better part of the past three years toward the planning of the new production company. Mr. Moore categorizes himself, quite modestly, as a motion picture cameraman and Art Director, but during the course of our conversation it becomes quite obvious to me that he is very knowledgeable and experienced in special effects, sound recording and several of the other more technical skills of film production.

Also present is Ken Courteney, who has a certain background in the production aspects of the industry, but whose prime function in working with Western International has to do with the logistics, planning and land acquisition relative to the construction of a proposed studio complex just outside of Perth.

The architect who designed the complex shows me plans and renderings of it, as well as of the modern homes

Continued on Page 592

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# INDUSTRY

## NATIONAL GEOGRAPHIC FILM WINS GOLDEN EAGLE AWARD

A prize-winning documentary, "Echoes, A Voyage To The Moon", has been chosen to help represent the United States in competition at international film and television festivals this year.

The National Geographic film, produced, directed and written by John Lavery, was chosen by the Council on International Nontheatrical Events after reviewing 642 entries in annual judging. It is one of 160 films selected for the competition, each also voted CINE's Golden Eagle award.

"Echoes, A Voyage To The Moon" is a unique 20-minute color filmograph production, dramatically creating the sensation of motion from still photos.

"It's the story of a mission from Earth to the moon and beyond," says Mr. Lavery, "an attempt to present the daydreams of an astronaut in space. We're trying to show that no matter how far out they go, the astronauts will never lose the influence of our world; they will never escape the echoes of Earth."

During the historic flight of Apollo 11, the National Aeronautics and Space Administration showed the film to audiences totaling more than 20,000 at the Goddard Space Flight Center at Greenbelt, Maryland. Copies of the film have since been sent to NASA tracking stations around the world for presentation to visitors.

"Echoes, A Voyage To The Moon" won a special gold medal for outstanding direction and editing from the International Film and TV Federation of New York last October.

## MEXICO ENTERS "OLYMPIADA" IN HEMISFILM

Mexico's official entry in Hemisfilm '70, international film festival scheduled June 18-21 in San Antonio, will be a color spectacular on the entire 1968 Olympic Games staged in Mexico City.

The entry, "Olympiada en Mexico," is a Techniscope production running 171 minutes in length.

The Rev. Louis Reile, S.M., director of Hemisfilm and director of the Cin-



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# ACTIVITIES

ema-Arts Seminar at St. Mary's University, said the showing will be Friday, June 19, in the Aztec Theater. Fr. Reile said several special guests will be present for the event.

Hemisfilm is sponsored by the International Fine Arts Center of the Southwest and co-sponsored by St. Mary's and Cinema Arts Theaters.

The production of "Olympiada" required 81 cinematographers, 15 sound specialists and 20 production assistants. Alberto Isaac was director.

The 35-millimeter entry is the story of more than 6,000 athletes from 119 participating countries vying for the gold, silver and bronze medals awarded Olympic winners. It covers 250,000 feet of film.

In 1969, Hemisfilm drew more than 50 qualifying films from Germany, Russia, Yugoslavia, Canada, Mexico, France, India and the United States.

Inquiries regarding entries this year have been received from a number of countries.

Israel and France already have submitted official entries.

During an awards night ceremony June 21, Hemi trophies will be given in nine categories—best director, actor, actress, photographer, feature film, commercial, short film up to 30 minutes, featurette running 31 to 59 minutes and industrial.

## CENTER FOR ADVANCED FILM STUDIES OFFERS FELLOWSHIPS

Fifteen filmmaking Fellowships and five research Fellowships are available at The American Film Institute Center for Advanced Film Studies in Beverly Hills this Fall. The Center's program is open to professional filmmakers and scholars in the early stages of their careers and to university graduates of special promise. Nineteen Fellows are at the Center this year.

The Center provides an environment in which filmmakers can make films and work closely with the finest practicing film artists and craftsmen. Fellows may emphasize an individually designed program in filmmaking, cinematography, historical or critical research, or a combination of these.

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The costs of study and film production are borne by The American Film Institute, with the aid of a major grant from the Ford Foundation in support of the Center's program. A number of special Fellowships are offered which, in addition to defraying tuition and production costs, also provide a living stipend.

Applicants may apply by letter to: Admissions, The American Film Institute, Center for Advanced Film Studies, 501 Doheny Road, Beverly Hills, California 90210. They are asked to outline a project they wish to undertake in the areas of filmmaking, writing, cinematography, research, criticism or history, and to indicate what resources—human, technical and financial—would be required to carry it out. The letter should contain full background information and address, telephone number, age and marital status.

Further details are given in the enclosed Program Announcement.

### HAL ROACH FILMS ADDED TO AMERICAN FILM INSTITUTE COLLECTION AT THE LIBRARY OF CONGRESS

Original negatives and master prints of over 500 short comedies and 30 feature films produced by Hal Roach between 1915 and 1942 will be added to The American Film Institute Collection at the Library of Congress. Sixty-six titles, including films acquired by Roach as well as those produced by him, have already been deposited in the archive program which the Institute operates collaboratively with the Library.

The Hal Roach Collection will provide invaluable documentation of the history of silent and sound comedy. His short films were the training ground of such stars as Harold Lloyd, Charley Chase, Laurel and Hardy, and Will Rogers. Directors such as Leo McCarey and George Stevens were among the great talents who learned their craft at the Roach studios, and helped fashion such contributions to classic Americana as the "Our Gang" series.

Snub Pollard, Bebe Daniels, ZaSu Pitts, Jean Harlow, Fay Wray, Paulette

Continued on Page 576

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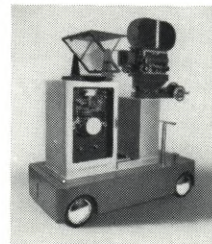
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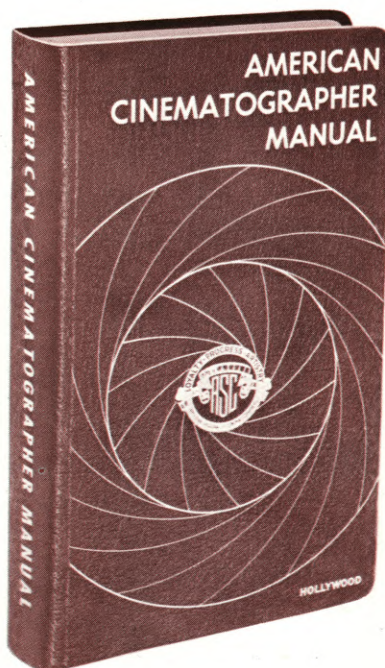
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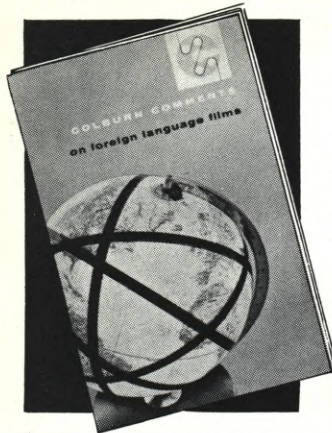
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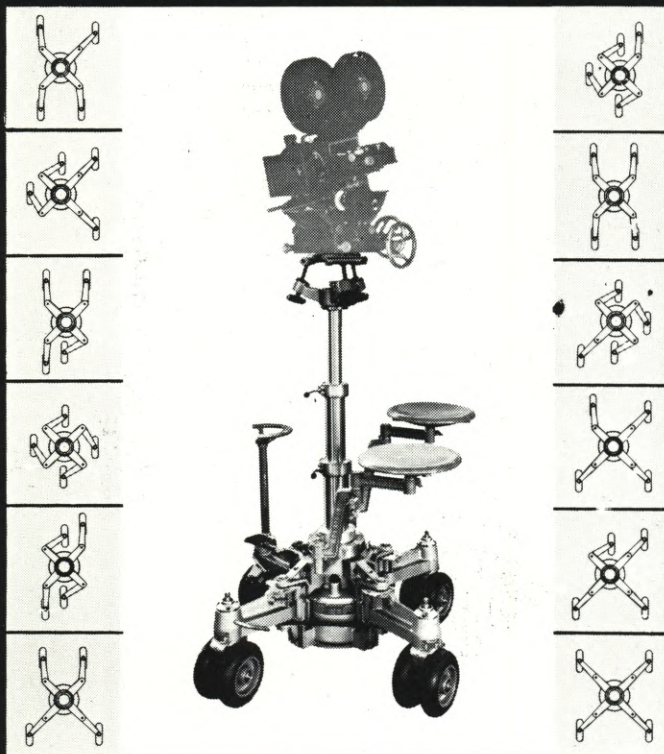
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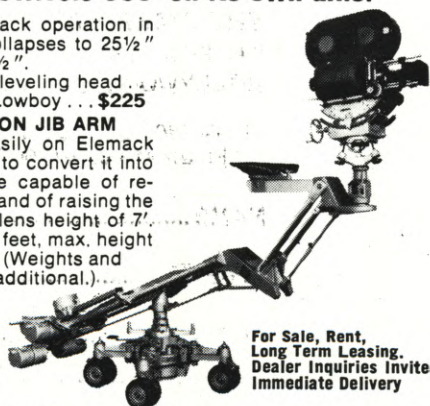
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## INDUSTRY ACTIVITIES

Continued from Page 574

Goddard—the list of the Roach stock company graduates is an impressive array of film talent. But it was perhaps for the association with those giants of comedy, Laurel and Hardy, that Hal Roach is best known. Under his guidance they developed their distinctive style that has delighted audiences for forty years. His direct influence in the formative years of that comic genius, Harold Lloyd, is not so well known, however. When they formed their partnership to produce comedies in 1915, the "Lonesome Luke" series, Roach personally directed Lloyd, and it was Roach's idea to fit Lloyd with the owl-rim glasses that became his trademark in order to avoid any imitation of the reigning comedy king, Charlie Chaplin.

Roach features starred many of the movie greats—Harry Langdon, Irvin S. Cobb, Thelma Todd, Patsy Kelly, Victor Mature, Joan Bennett, Fredric March, and Adolphe Menjou. *Babes in Toyland*, *Fra Diavolo*, *The Bohemian Girl* with Laurel and Hardy, *One Million, B.C.* (1940), *Road Show* (1941), and *Turnabout* (1940) are among the feature films for which Roach is best known. Ironically, however, of the 30 features that Roach directed or produced, the most famous is not a comedy. *Of Mice and Men* (1939), directed by Lewis Milestone, is a moving and faithful, but strikingly visual adaptation of the Steinbeck novel, starring Burgess Meredith and Lon Chaney, Jr., as the ill-fated drifters at odds with life.

## CINE ANNOUNCES 1970 GOLDEN EAGLE FILMS FOR INTERNATIONAL COMPETITION

CINE has announced the list of 176 nontheatrical, television documentary and short subject films chosen to represent the United States in international competition abroad during the coming year.

The winners were selected from 642 entries, with the Board of Directors of CINE sitting as a final jury. CINE, The Council on International Nontheatrical Events, is starting its thirteenth year as the organization which selects official United States entries for international film and television events abroad.

In recognition of the fact they have been chosen to represent the United States in international festivals, and of their intrinsic cinematic excellence, the



winning films will each receive a special CINE award. Films of professional standard are awarded the CINE Golden Eagle, while amateur films receive the CINE Eagle. Sixteen CINE Eagles and 160 Golden Eagles were voted this year.

Current American public concerns are reflected in the subject-matter of the winning films. While the range is as wide as ever, from space technology to abstract art, marked upsurges are noted in the number of films treating social problems and in those dealing with efforts to preserve man's environment and the balance of nature. Nine of the winning films fell into each of these two categories.

Golden Eagle and CINE Eagle films are chosen through an exhaustive series of screenings by regional juries, semi-final juries and then the final screenings in Washington. More than 300 expert jurors participated this year, including specialists in a dozen subject-matter fields and nationally known film executives and critics.

The Golden Eagle and CINE Eagle award certificates will be presented to producers and sponsors of the winning films at CINE's annual Awards Ceremony and Exhibition of Films of Merit to be held on November 12-13 in Washington. On that occasion, international trophies won by the films will also be presented by ambassadors and other diplomats of the countries where the festivals are held.

**GENE AUTRY'S LOT TO BE FULLY UTILIZED WITH FORMATION OF NEW GOLDEN WEST PRODUCTION CENTER**

The formation of The Golden West Production Center has been announced by KTLA Vice-President and General Manager, Doug Finley.

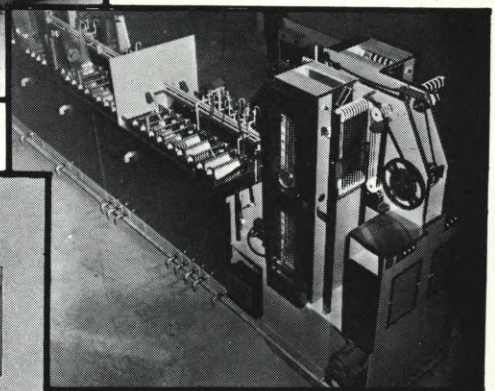
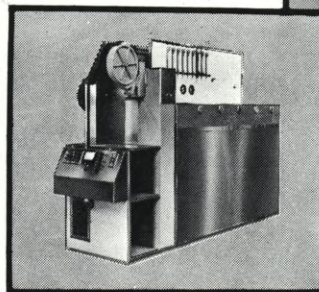
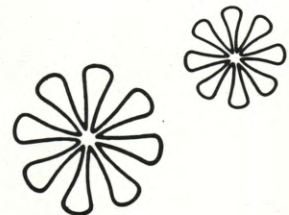
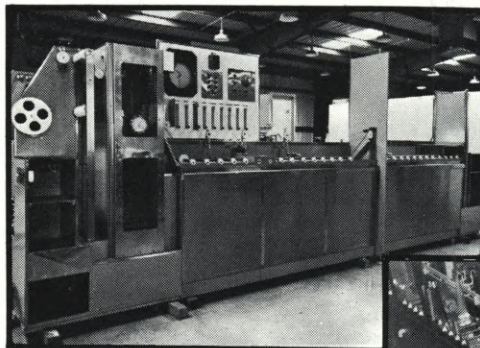
This new film production facility, utilizing the studios and space located on Gene Autry's Golden West Broadcasters 10.2-acre lot in the heart of Hollywood, will be headed by former independent motion picture producer, Bill Watkins.

According to Finley and Watkins, the center is operational now and they are actively soliciting the business of film producers who wish to use GWPC as a headquarters for producing commercials, industrial films, TV series, specials, and features.

"Preliminary research indicates the whole industry is hungry for a medium-size production facility that can offer various size stages for both sound and

Continued on Page 579

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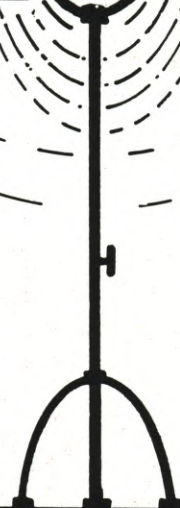
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## INDUSTRY ACTIVITIES

Continued from Page 577

silent shooting, editorial services, mill and scenic facilities, projection rooms, and office space. At Golden West Production Center, we will be able to gear for the filming of everything, from a simple insert shot to a full-scale feature film," said Watkins.

"Our concept is to not only offer rental space," explained Watkins, "but to make available all the necessary equipment and technical personnel needed for the type of job the producer wants to do. We will tailor a package to fit the producer's needs. We believe New York film producers will be particularly interested in this kind of arrangement, inasmuch as they will be able to avail themselves of a temporary base of operations, as well as obtain the services of our West Coast-oriented production managers who know the area, the local crews, and the prevailing local production rates," Watkins added.

The formation of The Golden West Production Center is another step in the overall expansion of Autry's Golden West Broadcasters. The formation of a Video-Tape Division at KTLA was announced last summer.

A remodeling program of the studios has made the facility one of the most modernly equipped operations in the country. Its Stage 6, which has a history dating back to production of silent films and Al Jolson's "The Jazz Singer", is now the largest and best equipped video-tape stage on the West Coast.

A total of nine stages are located on the block-sized property, and all of them can be used interchangeably for video-tape or film. KTLA's extensive remote equipment, including the station's Telemobile and new jet Telemobile, is also available for production jobs.

With the formation of The Golden West Production Center, and the recent move of Golden West Broadcasters headquarters and its AM outlet—KMPC—into the colonial building at 5858 Sunset, the entire 10.2-acre lot will be at full utilization for the first time since GWB purchased the property from Paramount Pictures in 1967.

In addition to use of the lot for production of the "Doris Day Show" last season, these stages, which were part of Warner Bros. original Hollywood home, have been used for production for such shows as "Gunsmoke" and "Get Smart".

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Continued on Page 581

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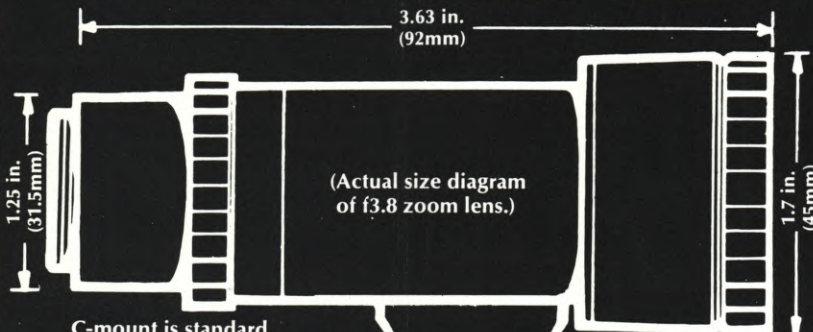
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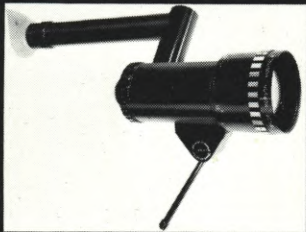
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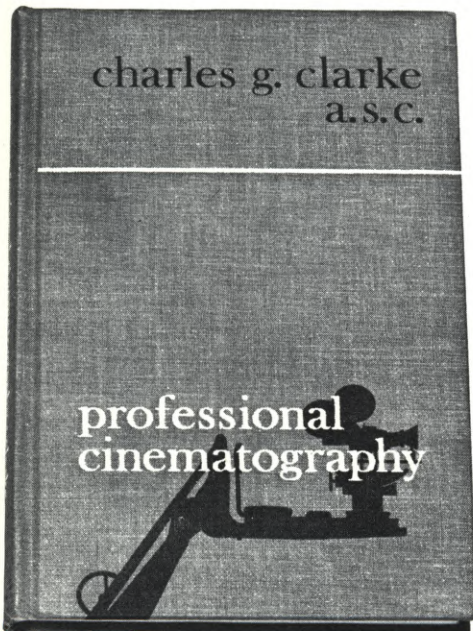
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### PROFESSIONAL CINEMATOGRAPHY

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ABOUT THE AUTHOR: Charles G. Clarke, ASC, a top Director of Photography at 20th Century-Fox for many years, and an ASC member, taught Advanced Cinematography at the University of California at Los Angeles, where he recognized a need for practical professional guidance for students striving to be the industry's future Directors of Photography. It is this need which has given rise to his publication of a book on the subject and subsequently the latest revised edition of Professional Cinematography. The first edition of this valuable book has become required reading at many universities and schools offering courses in cinematography.

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## INDUSTRY ACTIVITIES

Continued from Page 579

will be the key words for The Golden West Production Center and the entire communication-production complex," Watkins emphasized. "We will be able to offer a client the choice of using either film or tape, or both if he so desires, without him having to move his operation to the other side of town."

Assisting Watkins at the Production Center are Production Manager John Thiele, a former commercial, industrial, and feature film director and producer, and Producer Wayne Chestnut, who was previously involved in free-lance commercial production and direction. Watkins and his staff are presently headquartered on the lot at 5800 Sunset Boulevard. Allied service personnel are currently moving in on a contract basis. Technical personnel and crews will be added according to production requirements.

### USIA'S BRUCE HERSCHENSOHN WINNER OF A FLEMMING AWARD

Bruce Herschensohn, Director of the U. S. Information Agency's Motion Picture and Television Service, has been named a winner of the Twenty-Second Annual Arthur S. Flemming Awards.

The program each year honors the ten outstanding young men in the Federal Government.

In nominating him, USIA Director Frank Shakespeare said: "Herschensohn has made a vital contribution to the Agency by his creative spirit, imagination and vigor. He is truly an outstanding talent who, in my judgment, has benefited this country greatly by his work."

In 1969, 13 USIA films won 19 international awards or citations, of which 11 were major awards. Hundreds of millions abroad annually attend showings of USIA films, and the Agency's television programs have been telecast by some 2,600 TV stations in more than 100 countries.

Herschensohn is the eighth U.S. Information Agency officer to be selected for the Arthur S. Flemming Awards, sponsored by the downtown Jaycees of Washington, D.C. John Chancellor, then head of the Voice of America, was the previous USIA recipient, in 1967.

In 1968, Herschensohn was chairman of the American delegation to the Karl-ovy-Vary (Czechoslovakia) Film Festival and last year was a member of the American delegation to the Moscow Film Festival.

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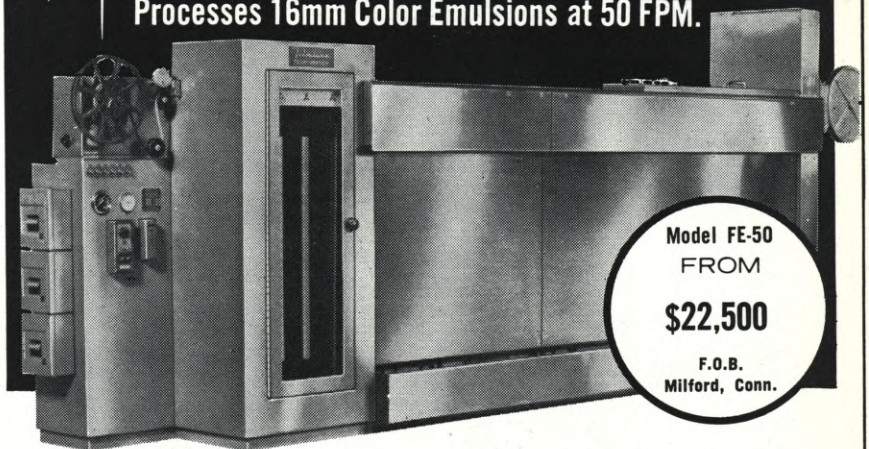


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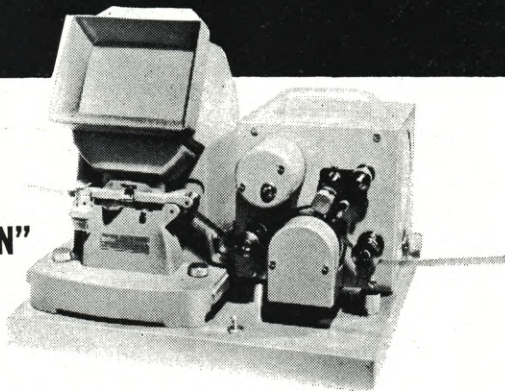
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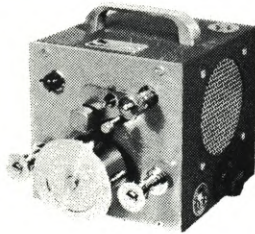
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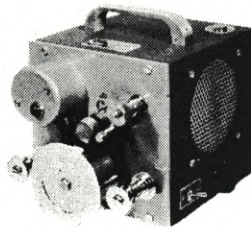
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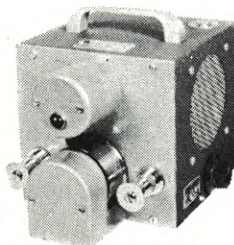
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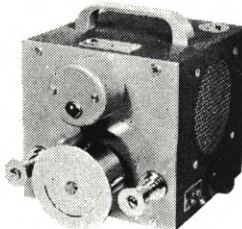


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## WHAT'S NEW

Continued from Page 510

with background noises such as airplanes, trucks, machinery, crowds and other disturbing environmental sounds originating at a distance.

By means of a novel distance discriminating network, integral with the microphone, the user can switch from a Super-Omni mode to a Noise Cancel mode. In Super-Omni mode, all sounds both near and far are picked up uniformly over extremely wide acceptance angles. In the Noise Cancel mode the microphone responds to near sources of sound while greatly suppressing sounds, over a broad frequency spectrum, which originate at a distance.

According to Dwin R. Craig, President of INGENUICS, "the new microphone should become a significant factor in the war against 'audio pollution' in recording and broadcasting. Besides the obvious advantages of being able to reject unwanted sounds, at will, the microphone will also suppress auditorium reverberations, feedback from P. A. loudspeakers and will give improved separation in stereo systems."

The microphone, not yet named or priced, will be publicly demonstrated in Washington, D. C. at the A.F.C.E.A. Show in June and the NAVA Convention in July.

## ROSCO COLOR MEDIA DRAWER

The question of where and how to store sheets of color lighting media has apparently been solved successfully with the introduction of the Rosco Color Media Drawer. Designed by Rosco Laboratories, the leading manufacturer of color media, the convenient stackable unit is constructed of heavy-gauge, treated, corrugated board. The easy pullout drawer nests within its protective, fully enclosed sleeve and accepts full size 20"x24" sheets of lighting media. Sheets stay flat, fresh, clean and ready to use.

According to Rosco President, Stan Miller, "most users of lighting media don't have expensive metal storage drawer cabinets, so the material is kept in envelopes. Or, worse still, uncovered on a dusty shelf. We developed the Color Media Drawer as a low cost, convenient way to store this material safely and properly until it is used."

The Rosco Color Media Drawer is available now through Rosco dealers at \$3.25. If you're not sure of the name of



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#### VIDEO VIEWERS PROMISED RELIEF FROM RAPID COLOR SWITCHING

Color television watchers can look forward to relief soon from commercial-to-commercial color balance changes during local station breaks, according to E. P. Genock, Eastman Kodak Company executive and chairman of the television committee of the Association of National Advertisers.

With agreement by the three TV-commercial networks, advertisers and film producers, it is expected that starting June 15, all 16mm prints for television will be color balanced at a projection color temperature of 5400 degrees Kelvin, he said.

Genock, Director of Broadcast Advertising for Kodak, pointed out that most 16mm projectors now used for judging color prints for television have incandescent light sources of 3200 degrees Kelvin. Industry experts believe that projectors having light sources of 5400 degrees Kelvin, closer to the color temperature of home receivers, will permit more accurate color balancing. Presently, 16mm prints for television are being timed at laboratories at *two* standards—3200 degrees Kelvin and 5400 degrees Kelvin, he told a Society of Motion Picture and Television Engineers' (SMPTE) conference.

"Thus, resulting color balance at the home set can switch rapidly, when a series of 10, 20, or 30-second local station color commercials follow each other in quick succession," he said.

While most viewers' eyes can adapt with little discomfort to color balance changes over a half hour program, Genock reported that a quick succession of variously color-balanced short announcements can result in frustrating and unpleasant color results for particular and meticulous home viewers.

The ultimate objective, according to Genock, would be a total standardization of color transmission. But this can be realized only as each variable in a long chain is recognized, identified and more tightly controlled.

Among variables which require control are negative exposure of the scene or product, intermediate negative and optical transfers, corrective color timing in the laboratory for the projection print, reduction of originals to a 16mm version, projection from telecine at the network or local station, adequate elec-

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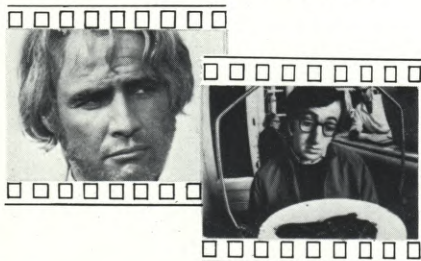
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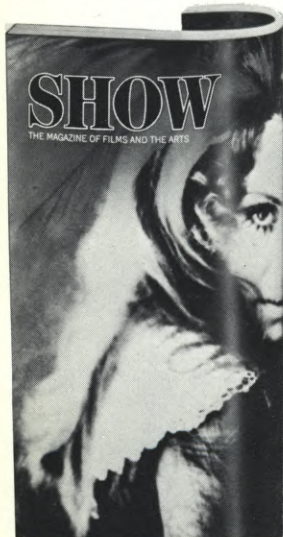
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Critical, witty, nostalgic (what's going to happen when John Wayne wanes?), SHOW is a front-row center insight into all the things you want to know about. Not just in films, but in dance, the visual arts, music and the legitimate theatre. And the people who contribute to SHOW are not outsiders, but men and women who are the real movers and shakers in the arts they write about.

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## COMING IN SHOW

- Two new Tchaikovsky films: homosexuality vs. homage to greatness.
- Pro and con on the triple-screen film of the Woodstock Festival.
- How the "high-budget" movies retard social progress.
- Why "plot" movies may soon be dead.
- Alan Arkin's satiric journal: the filming of *Catch 22*.
- Are movies like *Z* a new weapon in the arsenal of the revolution?
- Milos Forman's hilarious new script on marijuana.
- Black movies of the '30's.
- Novelist Anthony Burgess' screenplay on the sex life of William Shakespeare.
- The star system of underground films: don't be beautiful, be bizarre.

**Plus articles by and about:**

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tronic control during transmission, and "an analytic eye and corrective action at the control knob of the home set."

The current trend to 5400 degrees Kelvin viewing conditions for professional screening and evaluation of color commercials makes this a good time to standardize, Genock said. "This color temperature approaches more closely the balance or appearance of delivered signals on the home TV set."

To make the most of color film potentials, John Stott, also of Kodak's Broadcast Advertising group, suggested using a standard preview room, where a neutral gray surround prevents the eye from compensating for badly-balanced color.

Or films should be previewed against SMPTE sets of standard slides, he urged, particularly for skin tones. Stott demonstrated this with his slide talk "Seeing is Believing."

Cost figures showing how middle market television producers will usually find it less expensive to cover a small event on film were presented by Ernie Crisp, Kodak Motion Picture and Education Markets Division, in another talk. The cost of documentaries or industrial type motion pictures is still much less on film than by any other medium, he said.

## AMATEUR MOVIE EQUIPMENT HOLDS PROMISE FOR COST- PLAGUED TV NEWS DEPARTMENT

Low-cost motion picture equipment designed for amateurs can rescue the newsfilm operations of hundreds of independent TV stations currently plagued by mounting production costs.

This view was expressed in a paper delivered at the recent semiannual technical conference of the Society of Motion Picture and Television Engineers by Richard Neville, Executive Producer-Film, of Chicago's WGN-TV, the country's largest independent TV station and one of the first to use newsfilm for local news coverage.

Neville said the recent development of a Super-8mm sound-on-film system by the Synchronex Corporation represents a significant step towards the solution of the newsfilm industry's cost problem.

Neville told the SMPTE group that the news departments of many smaller and medium-size TV stations are severely hampered by rising production costs, particularly in film which may account for as much as two thirds of operating expenses. Many stations, he said, are

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curtailing film coverage of local news. One major independent in the Chicago area has suspended newsfilm operations, he said.

The WGN producer showed the group a 90-second film of Earth Day (April 22) activities in Chicago filmed complete with sound by the WGN news department using Synchronex equipment. The equipment, said Neville, weighs only six pounds and since the cameraman carried the microphone in his coat pocket he was able to film and record without assistance.

TV newsmen are already interested in the Super-8 format, according to Neville. He disclosed the results of a survey of 480 independent stations' news directors. Over 80 percent of the 330 who responded to the WGN survey indicated they were interested in the use of Super-8 equipment. Reasons given most often were the lower cost of Super-8 equipment and film plus the greater mobility of the smaller and lighter cameras.

Neville said TV news departments which now spend upwards of \$50,000 a year on film stock alone could reduce their film costs to about \$25,000 with Super-8 for the same amount of footage. He noted also that Super-8 can be processed in about half the time required for an equal amount of 16mm. This, he said, is an important factor in getting coverage of fast-breaking stories on the air as soon as possible.

Cable TV stations may be well advised to investigate Super-8, Neville said. This is because they will be required to carry originally produced programming by order of the F.C.C. "Starting from scratch, it will cost them less to go Super-8."

In reply to broadcasters who may be sceptical about Super-8 because of its smaller size, Neville reminded his audience that the same criticism was made of 16mm when it first challenged 35mm for leadership in the newsfilm industry. He noted also that newspaper still photographers long resisted switching from the old 4X5-inch camera to the smaller 2½X2¼-inch and 35mm formats. "When was the last time you saw a news photographer with a 4X5 Speed Graphic?", he asked.

Neville concluded his presentation by calling on the industry to develop more contemporary cameras, processing and broadcast projection systems.

He said the industry had dropped behind. "We have retreated through lack of action. The amateur home movie makers are ahead. The electronics (vid-eotape) industry is stepping out in front while we film makers continue to make

**new**

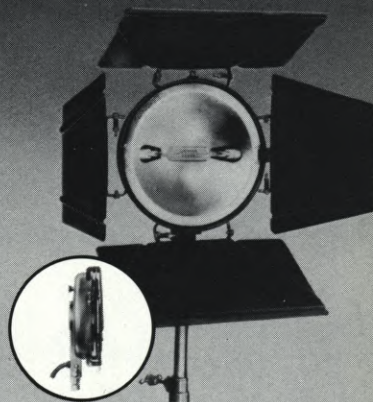
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small improvements in existing equipment and systems. We need to develop a whole new system. We need camera gear that is less complicated to operate, weighs less and produces a product of high quality with less time in the editing and processing stages."

Super-8, in Neville's view, can be the answer.

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Frank C. Strunk, President of FCS Communications said "The impressive performance of the InVision System has prompted us to enter the equipment marketing field, especially with respect to equipment so closely related to the services we provide." Dwin R. Craig, President of INGENUICS, remarked "This agreement could be the forerunner of others with FCS Communications to provide marketing outlets for related INGENUICS products."

**JOINT UFA-OHIO STATE U. ANIMATION WORKSHOP**

Plans are in process for the University Film Association, in conjunction with the Ohio State University, to conduct an Animation Workshop. This Workshop will follow the annual University Film Association Conference. The UFA Conference will be held the week

Continued on Page 591

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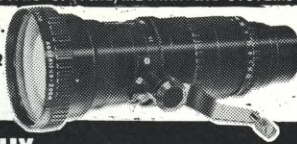
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## BOOK REVIEW

MARY PICKFORD, COMEDIENNE By  
Kemp R. Niver. Edited by Bebe Berg-  
sten. Los Angeles: Locare Research  
Group. 1969. Profusely Illustrated. 159  
pages.

This book covers the early career of  
one of the all-time greats of motion  
pictures, Mary Pickford. It concentrates  
on the early talent she displayed as a  
comedienne.

A.S.C. Associate Member Kemp R.  
Niver has put together an engrossing  
selection of stills and an informative  
commentary on some of Miss Pickford's  
Biograph pictures made between 1909  
and 1912. The stills have been taken  
directly from the 35mm paper prints  
deposited with the Library of Congress  
and restored over a ten-year period by  
Mr. Niver.

Actually, Mary Pickford was much  
more than a highly successful motion  
picture star. She was a talented and  
skillful actress. She was also a producer  
of note and was a founder of the United  
Artists Corporation. Over the years she  
made many noteworthy artistic contri-  
butions to motion picture technology so  
it is fitting that the early career of this  
outstanding figure in the motion picture  
industry be examined.

Miss Pickford entered motion pic-  
tures in April 1909 at the New York  
Biograph Studio under the auspices of  
director D.W. Griffith. She appeared as  
part of a group scene in a comedy called  
HER FIRST BISCUITS. Although it  
was her first appearance before a mov-  
ing picture camera, the author notes "it  
was approximately the 110th motion  
picture directed by David Wark Grif-  
fith." The cinematographer was the  
great G.W. "Billy" Bitzer.

Mary Pickford remained with Bio-  
graph for nearly three years, averaging at  
least one film a week. Although most of  
her roles were dramatic, Griffith recog-  
nized her ability as a comedienne and  
whenever possible cast her in comedy  
roles. As Mr. Niver states, "Much has  
been said of Mary's subsequent world-  
renown as a dramatic motion picture  
star, but rarely has her talent as a  
comedienne been given the attention it  
warrants." This book concentrates on  
those films in which Miss Pickford  
appeared as a comedienne, either as a  
principal actress, or in a supporting role.

Whenever possible, the author lists  
the complete cast, credits and the site of  
filming for each picture. All of them  
were directed by Griffith and either

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photographed by Billy Bitzer, Arthur Marvin, or both. The earliest pictures were initially made in the New York City studio with locations in and around Fort Lee, New Jersey, but during Miss Pickford's eleventh month at Biograph the company moved to Los Angeles, California for extended filming.

She appeared in the first Biograph California production, *THE THREADS OF DESTINY*, written and directed by Griffith. Some of the California locations used were the Santa Monica Pier, Brentwood, Glendale, Verdugo, Edendale and Los Angeles. After the company returned to New York, location work was resumed at Fort Lee and then in and around Cuddebackville, a small hamlet in the Orange Mountains about 75 miles from New York City.

Some of the titles of these early comedies indicate their content: "THE NEWLYWEDS", "SWEET AND TWENTY", "GETTING EVEN", "EXAMINATION DAY AT SCHOOL", "ALL ON ACCOUNT OF THE MILK" and "HER FIRST BISCUITS". Each picture is fully described via a reproduction of an original Biograph handbill. The frame blow-ups are remarkably well done. A nostalgic note has been added on the fore and backpiece by reproducing voucher receipts from some of the early Biograph players: Dell Henderson, Edward Dillon, Clare McDowell, Charles H. Mailles, Alfred Paget, George Nicholls and W. Chrystie Miller.

Although this book focuses on a little known aspect of Miss Pickford's great career, it also documents graphically an important early period of motion picture history.

GEORGE J. MITCHELL

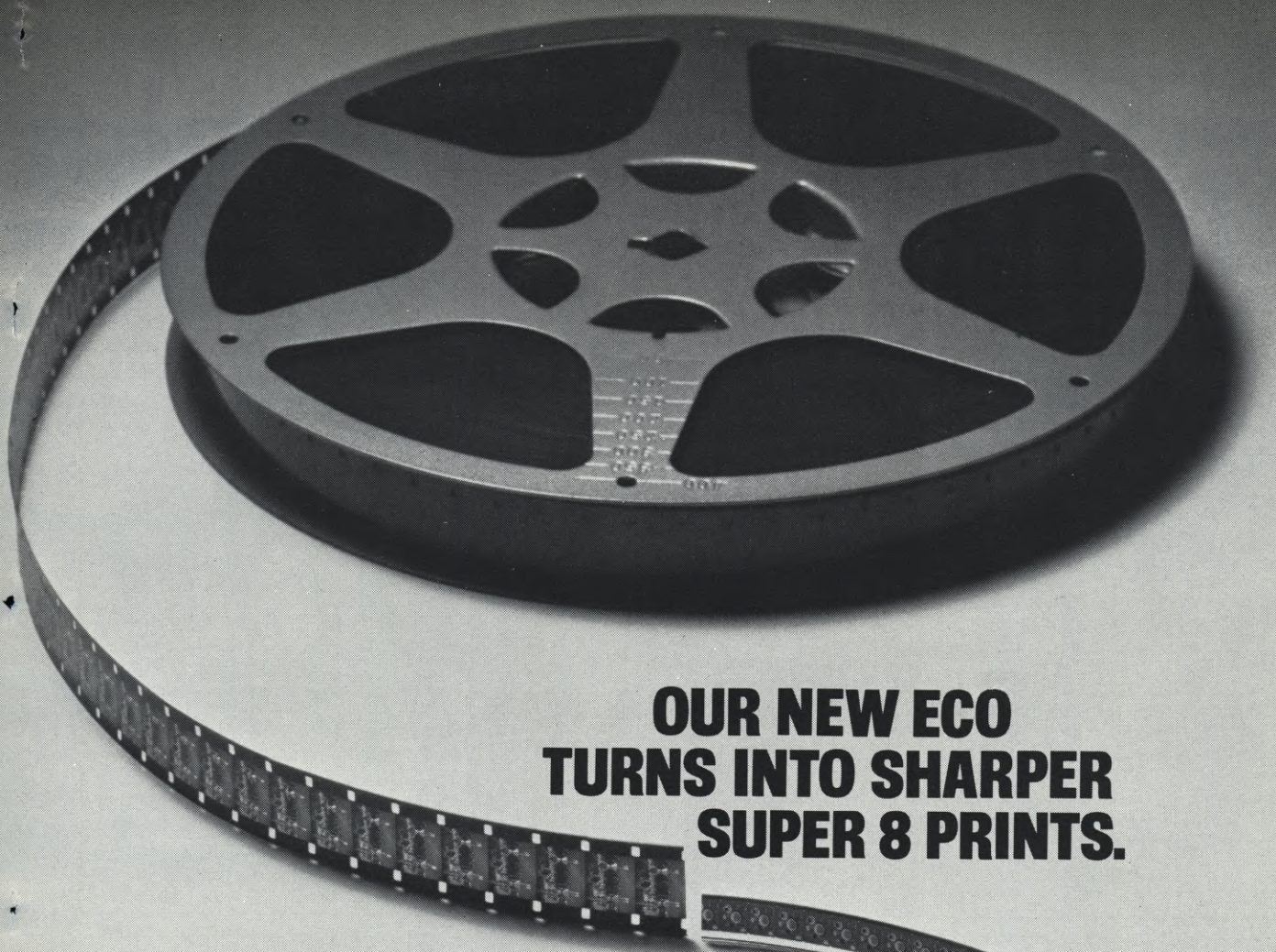
### LIGHTWEIGHT CAMERA BATTERY PACK FROM DYNASCIENCES OFFERS LONGER LIFE

The Scientific Systems Division, Dynasciences Corporation, has announced a new lightweight battery pack that powers electrically-driven movie cameras longer than battery packs now on the market.

The portable pack, which weighs only 3½ pounds, will drive up to six 400-foot 16mm film magazines before the battery needs recharging.

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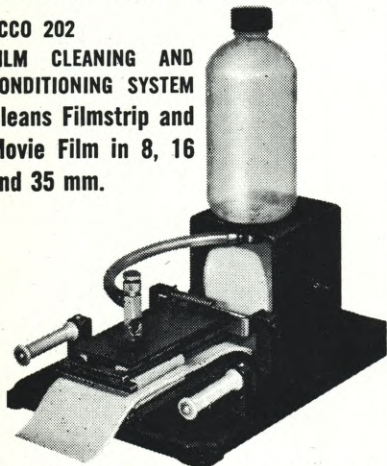
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## SUPER 16—A POSSIBLE NEW FEATURE FORMAT

Continued from Page 523

working with it as a standard lens. I think this is a little bit wrong. As a complement to the fixed focal-length lenses, I should like to have a zoom lens not any longer than three inches maximum, having a range of about 10mm-to-75mm—and, of course, being capable of covering the diagonal of the Super-16 frame at every focal-length. In shooting our Super-16 feature, about 10% of the scenes were photographed with the zoom lens. About 60% of the scenes were photographed hand-held. The rest were shot from a tripod.

For this special, semi-documentary type of feature I believe in Super-16, but there is much more that can be done with it. Eastman Color Negative 7254 is not the only material that can or should be used. What about Plus-X or Tri-X Reversal—or the new Ektachrome Commercial 7252? Perhaps Ektachrome EF ("flashed" in the way that I read about in *American Cinematographer*) can also be used. Maybe Eastman will introduce an even more improved high-speed color film in the future. It is also possible to achieve high quality by blowing up directly to Technicolor.

I believe that there is a future for Super-16, because even if the promised new 35mm self-blipped hand-held cameras are good, you won't be able to shoot very much with the 10 minutes of film in the magazine that is on the camera. You will still have to carry five or six extra magazines and plenty of heavy cans of film.

It should be remembered that Super-16 is a *system*. By that I mean that it is not enough simply to adapt a camera to the new format. You have to have a laboratory available that can process the negative without scratches and can print the rushes with the larger aperture—a lab that can make blow-ups by means of the liquid-gate method, using a larger aperture on the projector side of the optical printer. And there must be facilities for synchronizing the sound track without scratching.

Many people have asked if we will rebuild cameras to the Super-16 format for other cameramen and, of course, we can do this. The capacity is perhaps three per month. The cost is approximately \$1,000. to \$1,500., depending upon how old the camera is. However, I believe it would be cheaper to buy a new camera rebuilt to Super-16 directly, from me, rather than buying a camera and then sending it to Sweden to be rebuilt. ■

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## WHAT'S NEW

Continued from Page 586

of August 16, 1970, on the campus of Ohio State University at Columbus, Ohio. The Animation Workshop will start August 24, 1970 and conclude September 4, 1970.

The Workshop will be conducted by Dr. Roy Madsen, Executive Director Film, San Diego State University, who will be assisted by a professional Cinematographer, Mr. Francis Lee, and a professional Animator. The Workshop will cover the areas of storyboards, sound tracks, shooting scripts, art and cinematography for Animation.

Further information concerning the Workshop can be had by writing to:

Animation Workshop, Department of Photography and Cinema, Ohio State University, Haskett Hall, 156 West 19th Avenue, Columbus, Ohio 43210.

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## FILM IN THE FAR EAST

Continued from Page 571

which are to be built in the parklike area surrounding the studio. These homes will be available to studio technicians and staff personnel who prefer to live in a countrylike suburban atmosphere within walking-distance of the studio, rather than commuting. A certain number of the homes will also be reserved for visiting artists and technicians as temporary residences while they are working on a picture.

I am taken to visit the proposed site. It is located about eight miles out from the center of Perth on high ground commanding a spectacular view of the surrounding countryside. At the moment the land has the untouched character of what the natives call "bush" country, complete with kangaroo tracks (you can tell how big the kangaroo is, I'm told, by measuring the distance between his paw prints and his tail print)—but the highway that runs out to the area is scheduled to become a freeway soon, which will put the studio within minutes of the center of rapidly-expanding downtown Perth.

I am also shown the completely-equipped sound-recording studio, just two years old, which Western International is now in negotiations to purchase. A laboratory for processing 35mm negative and print stocks is also very much in the plans, so that the studio will be completely self-sufficient and free from the delays occasioned by having to depend upon outside vendors for basic services.

As far as production personnel is concerned, basic staff will be recruited from the ranks of experienced local technicians, with certain key technical positions being filled, it is hoped, by top experts in these fields from America and other countries.

Available locally is a contingent of well-trained and experienced actors who will constitute the basic pool of talent. However, established name actors from other countries will, when required, be contracted to play starring roles in some of the productions.

I am quite positively impressed by what I have seen and by the men who are heading up Western International Pictures. I respect their obvious know-how in certain technical areas of the industry, as well as their complete honesty in admitting the areas in which they may not be quite so knowledgeable.

I certainly wish them well in the realization of their dream, that of bringing a viable, creative and successful

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feature film industry to Western Australia.

On my last day in Perth, Mr. Alex McPhee, Chief Cameraman of Visual Education Productions and President of the local chapter of the Australian Cinematographers Society, asks me if I will address a meeting of his members.

Although this meeting is unscheduled and the membership has been hastily notified of it, there is a surprisingly large turnout. Most of those who attend are quite young, but very heavily involved in local production. After I give them an in-depth technical rundown on the Hollywood approach to film-making, they ask a thousand questions, and the quiz continues even after the meeting has been adjourned and we have all repaired to a nearby pub for a pint or two of that good Australian beer.

As I board the QANTAS jet a few hours later for the long haul between Perth and Sydney, I am still in the afterglow of contact with this group of eager young technicians who are so turned on by the sheer excitement of working in our very exciting industry. ■

## SYDNEY

All the way *en route* across the Australian continent I keep thinking how regrettable it is that urgencies back in Hollywood make it impossible for me to remain in Sydney more than a couple of days on the current trip. Once having arrived in this cosmopolitan city of 3,000,000 people, with its magnificent harbor and spectacular shell-sculptured Opera House abuilding, I am even more unhappy about having to cut the visit short.

However, due to the kind offices of Mr. John Barry, who takes time off from his own very busy schedule to show me about, I am able to cover a lot of ground within the restricted time, and get a fairly comprehensive over-view of the local film industry.

Mr. Barry is Managing Director of Birns & Sawyer (Australia) Pty. Ltd. and also General Manager of the company's operations throughout Southeast Asia. I had gotten to know him quite well in the course of his frequent trips to Hollywood through the years, but on his home turf he is the absolutely perfect host.

Knowing that my interest lies in visiting the local studios and laboratories where I can talk to the technicians and compare production methods, he takes me first to the studios of Eric Potter Productions, Australia's leading producer of television commercials, among other types of filming. It is a

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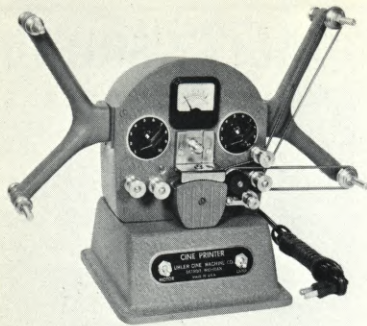
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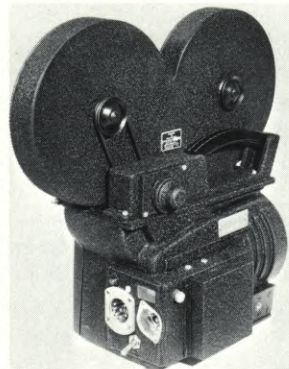
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bustling modern facility, throbbing with activity and bursting out of its seams to spill over into neighboring structures.

Mr. Potter, a genial and natty English country squire type of gentleman, admits that the company growth situation is a bit out of control at the moment, but he doesn't seem a bit downhearted about it.

We are joined for lunch at the Royal Motors Yacht Club by Mr. Merv Murphy, President of Supreme Films, Pty., Ltd. He is a very friendly man who has visited Hollywood many times and we talk mainly about mutual acquaintances, rather than talking shop, but afterward we do pay a visit to Supreme.

While the company is a total film-making facility, complete with shooting stage, Art Department, etc., its main forte is the processing of film, and it boasts one of the finest laboratories I have seen anywhere. The lab processes just about every type of 16mm and 35mm film stock in current use. It is equipped mainly with Arri developing machines, but there are several custom-built units which have been designed by the company's own technicians. The degree of photometric control and the care in handling film exercised by the lab technicians is most impressive.

Ajax Films Pty., Ltd. is, I'm told, Australia's foremost film production complex and the studio wherein is filmed a majority of the features produced in the country. The average is five to six a year, most of which are co-productions with foreign producing organizations.

Among the more recent features filmed totally or partially at the studio are "RETURN OF THE BOOMER-ANG" (since re-titled "ADAM'S WOMAN"), The James Mason starring vehicle, "AGE OF CONSENT", "SQUEEZE A FLOWER", "THAT LADY FROM PEKING" and "NED KELLY". The latter feature starred Rolling Stone Mick Jagger in the role of a true-life Australian character—a bit of casting greeted with less than total approval by some of the local people.

In the cutting room at the moment is "WAKE IN FRIGHT", a Group W (Westinghouse) Production, like several others made recently there. The technicians who worked on it are very high on the picture.

"I would say it's the strongest film to come out of this country," observed one of them, "and I'm very optimistic about it."

Feature production here, sporadic up until about three years ago, has moved steadily along since then, with a new

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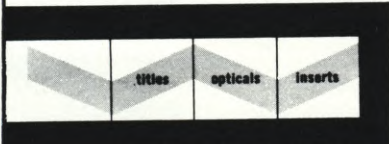
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picture starting just as the other is finishing.

This schedule is due largely to the co-productions, for which a few of the key personnel (the Director, Cinematographer and 1st Assistant Director, for example) will come from overseas to work with a totally Australian crew.

"Our people do welcome the chance of working with overseas technicians," one of the studio executives tells me. "It's very important, I think. When American cinematographers and other key technicians come here, we find that we can learn a lot from them. Even some of the overseas producers who come here to do pictures have given our chaps a great kick along, because they bring with them a good deal of knowledge about all of the various departments of production."

As far as physical facilities are concerned, Ajax is well-equipped. Lighting-wise, the studio owns three Brute arcs, but if more are needed they can usually be gotten from other sources. All in all, there are, I am told, about ten Brutes in the Sydney area.

Lately the ColorTran Mini-Brutes have become quite popular here and are being used more and more. The studio has also begun to favor the use of battery carts over generators for certain types of location shooting, especially on television series.

"We've found them far superior to carting small generators around," comments one of the electrical personnel. "Using them with the Mini-Brutes makes us feel very independent of weather conditions, particularly for close work—and the batteries, mounted on their little light trailers, are very easy to move in close on location. It's a very quick and neat set-up. We have three of these battery outfits now, and one of them is installed on a boat. We've been doing quite a lot of marine work for a television series based on a boat, so we have a work boat equipped with a set of batteries. We've found that, if they're used correctly—that is, only for the actual shooting—a battery charge will usually take us through a whole day's shooting. When we go back to our quarters at the end of the day, we simply plug the unit in to the line current and let it re-charge overnight. Very convenient."

Our last visit is to the Australian Commonwealth Film Unit, which operates from a large modern facility in a beautiful parklike suburb of Sydney. There is instant rapport between these technicians and myself, which is usually the case, since my own earliest film

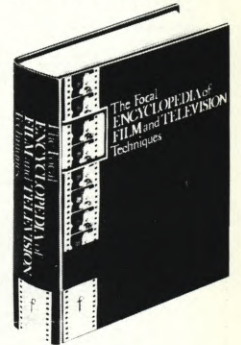
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production roots lie in the documentary genre. "It takes one to know one"—as the saying goes—and these men seem to sense that a Kindred Spirit is among them.

Not since my visit to the headquarters of the National Film Board of Canada in Montreal have I encountered a group of film people so thoroughly dedicated to their craft and so absolutely turned on about what they are doing. Their spirit, excitement and the joy they take in their work is beautiful to behold.

They are especially proud just now (and with very good reason) of the spectacular 10-screen documentary production, "HORIZON", which they created as a featured presentation for the Australian Pavilion at EXPO '70. They take me out to the backlot to show me where they had set up the prototype of the huge circular screen configuration while they were perfecting the projection system. More about this in the July ("FILM AT EXPO '70") issue of *American Cinematographer*.

I am impressed by the fact that the Australian Commonwealth Film Unit is the only facility in the country which has a definite set-up for training young film technicians. All I can say is that these novices couldn't possibly ask for a better group of "teachers".

As my time before leaving grows short, we repair to the "729 Club" where John Barry has somehow managed to arrange for a large group of the local film people to turn out at a reception. The "729 Club" is a rather posh private facility, the membership of which is composed mainly of people working in local television. The "729" is a combination of the numerals of the three original television channels in Sydney.

Present are a great many of the members of the local chapter of the Australian Cinematographers Society and it is wonderful to be able to meet and talk with them all in one fell swoop, as it were.

There is sadness for me in leaving Sydney, with all of its friendly, hospitable people and the lively pulse that makes it such a vital city but, in the words of one of our generals, "I shall return!"

It has been a whirlwind trip, but I am indebted to my various "hosts" along the way who have extended themselves far beyond the call of duty to make my visit a pleasant and fruitful one.

To Mr. Keiichiro Ryu (Japan), Mr. Rowland Tsui (Hong Kong), Mr. Anthony Corbett Sullivan (Perth) and Mr. John Barry (Sydney)—my heartfelt thanks.



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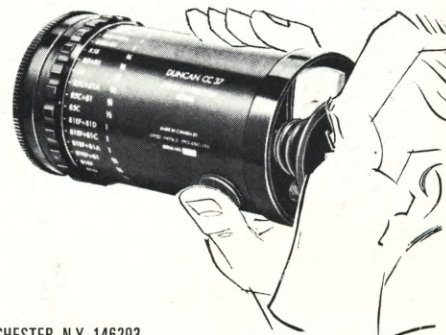
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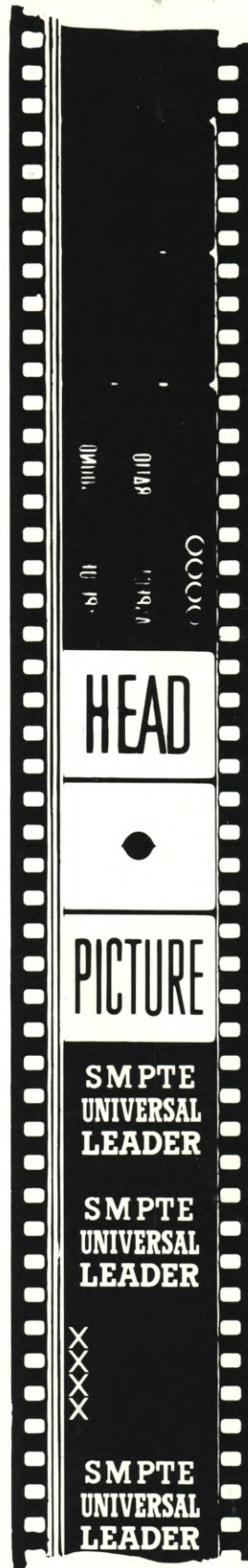
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