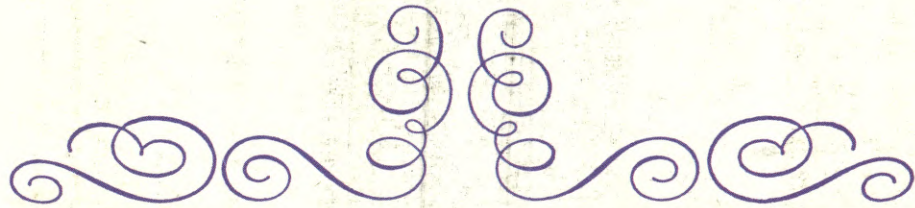


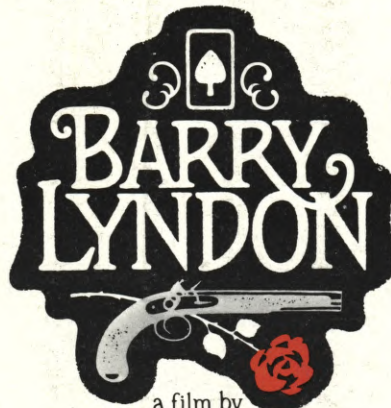
# American Cinematographer

International Journal of Motion Picture Photography and Production Techniques

MARCH 1976/ONE DOLLAR



PHOTOGRAPHING



a film by  
STANLEY KUBRICK





# Three came back



## LEN HOLLANDER CAME BACK FROM CINEMOBILE.

We've put Len in charge of nationwide rentals and moved him to California. Len's reason for coming back, after three years as Cinemobile's eastern operations manager:

"For the twenty years I've been serving the professional film maker, I have found no easy way. I've got to supply equipment that works every time. I've got to be at your service 24 hours every day. I must have enough equipment to back up anything you're using, and my company has to be the best in the industry. F&B/CECO is the only company that fits that description. So I came back."

## BOB KAPLAN CAME BACK FROM HERVIC—NATIONAL CINE AND CANON.

Now he's heading up our California operation after three years as eastern sales manager for these three good companies. Bob's reason for rejoining our team:

"Our competitors may offer either the lowest prices, or the most solid guarantees, or the fastest service, or the expertise of sales persons who know how to advise and recommend the best equipment for you. But F&B/CECO is the only company which provides all these—plus the world's largest sales inventory. F&B/CECO always makes good on all its promises. So I came back."

## BERT CARLSON CAME BACK FROM GORDON ENTERPRISES.

We put Bert in charge of projection, laboratory and editing equipment sales, service and repairs. The reason for Bert's return:

"I've been working with production equipment for 30 years. I know that it takes a team effort to do a good job. I need men around me who are the best in the business; a company completely equipped with tools, machines and a huge spare parts inventory so that I can get the job done fast and right. F&B/CECO backs me up 100 percent. So I came back."

In this business, survival depends on the integrity of your suppliers. That's why more pros come to F&B/CECO for sales, service, rentals and repairs than any other supplier.

Have you too strayed from us lately? If you're not completely happy, you should come back too.

And if you've never tried us before, now's a good time to begin.

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# TO IMPROVE NEW YORK FILMMAKING, YOU'VE GOT TO HAVE 'VISION.

**Panavision.** Once you've said it, you've said it all in 35mm. Cameras. Lenses. Systems. The works.

Starting with the new ultra-versatile, self blimped Panaflex.<sup>®</sup>A camera so advanced, it's a generation ahead of its time. A camera so light and natural to use, you'll have trouble remembering it's a "35," and it's studio silent!

Or PSR: the world's most wanted studio camera that has set a new standard in professional filmmaking for silence, reliability and versatility.

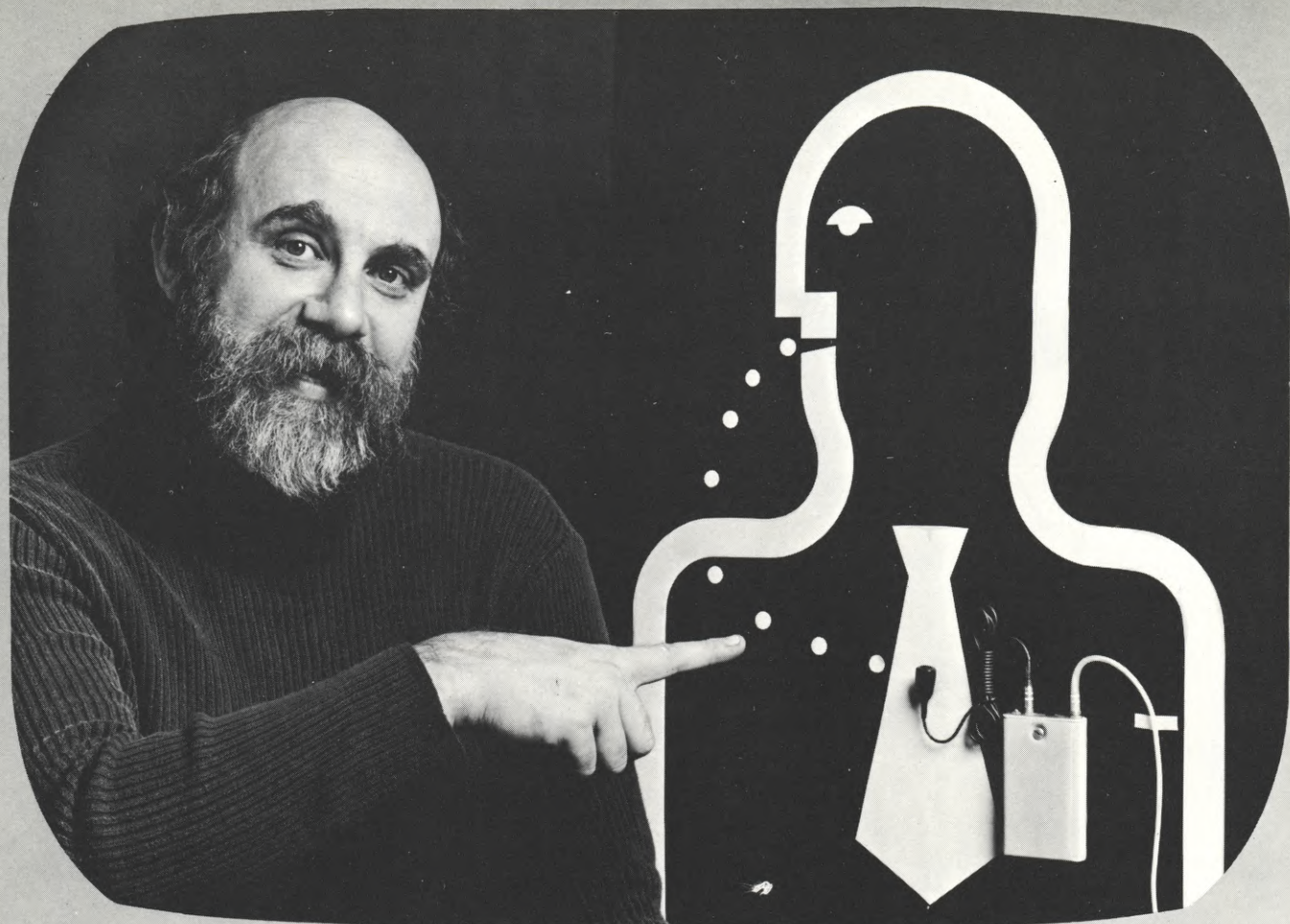
Like Panavision<sup>®</sup> cameras, Panavision lenses have rapidly become the industry's standard, their quality and versatility is world famous with exotic new additions appearing regularly.

Let us show you more about Panavision. As the exclusive East Coast Panavision distributor, we invite you to visit our camera department and see why so many motion picture credits say: "filmed in Panavision."



**gc general camera corporation**  
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## Swintek wireless microphone systems clear up your headache without upsetting your stomach.

Bad sound is a pain in the ears.

And since talkies seem to be here to stay, smart movie makers are turning to Swintek when the job calls for a wireless system.

The technical aspects of Swintek's superiority could fill a brochure (there's one available), but there are some things you should know right now.

All Swinteks are available with an exclusive crystal front end. It limits interference from adjacent channels or from high power transmitters in close proximity. And it limits many forms of electrical interference. The crystal front end also

allows you to use two or more units within 50 KC of each other and touching.

All of the Swintek wireless microphone systems offer incredibly pure sound, beautiful workmanship and guaranteed 24-hour emergency factory service.

So come on in and see the Swinteks. From the Mark VI-50XL Hitchhiker (smallest and lightest—draws current from your camera or tape recorder) to the Mark III-50XL (popular and portable) to the Mark VII-50 (450 band, UHF, broadcast licensable).

They're all built better to make you feel better.



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1430 Cahuenga Blvd., Hollywood, Calif. 90028/(213) 466-3561



# American Cinematographer

International Journal of Motion Picture Photography and Production Techniques

*The American Society of Cinematographers is not a labor union or a guild, but is an educational, cultural and professional organization. Membership is by invitation to those who are actively engaged as Directors of Photography and have demonstrated outstanding ability. Not all cinematographers can place the initials A.S.C. after their names. A.S.C. membership has become one of the highest honors that can be bestowed upon a professional cinematographer, a mark of prestige and distinction.*

**MARCH, 1976**

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ON THE COVER: A collage of scenes from Stanley Kubrick's new epic/romantic production for Warner Bros. release, "BARRY LYNDON", photographed by John Alcott, BSC. Graphics courtesy of Warner Bros., A Warner Communications Company.

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# New lenses— not still-camera conversions. All genuine T1.4s.

Floating and aspheric elements, multiple coatings—these are the most *advanced* lenses you can buy.



**E**very photographic lens ever made was designed originally for one purpose, one lens-to-film distance, one film format. If you adapt it for a *different* use, it'll work—but not as well.

## Adaptation compromises

Some high-speed lenses now available for motion picture use are adapted still-camera designs—but not ours. The others are good lenses—but, used in this different way, they're compromised.

## Remounting problems

For example: The typical 35mm SLR still camera has a back focal distance about  $\frac{3}{4}$

inch shorter than one major studio camera. So to adapt it, you have to put the SLR lens into a new mount, or even a completely new barrel. *Or even move the glass elements!*

## Critical back focus

And back focus is critical, of course. With a 50mm lens at f/2.8, the depth of focus behind the lens is plus or minus two thousandths of an inch. With a 25mm lens at f/1.4, *it's a quarter of that.*

## Wasted trade-offs

Moreover, the SLR lens was designed to cover the Leica frame. To get even coverage over the bigger format, *with high speed*, the designer had to make certain trade-offs. On the SLR, they may have been worth it. For the motion-picture frame, they're wasted.

## Doing it the hard way

To design a high-speed lens exclusively for motion picture use takes more time and costs more money, naturally.

But, given a good designer, you get a better lens.

## \$350,000 investment

So we invested just over \$350,000—and Zeiss designed a brand-new, no-compromise set of lenses. Specifically for Arriflex cameras.

## New design parameter: "Make the best lenses."

The Zeiss designers had the unique advantage of starting from the beginning. We said: "Don't just make the best high-speed lenses. Make the best *motion-picture* lenses in the world." So they did.



Made for the 35BL and 352C

## Most modern technology

Zeiss used aspherical elements, a floating element, and multi-layer coatings on every





The fastest set of lenses on the market — all with the standard Arri bayonet mount. The 25mm focusses down to 10 inches, the 35mm to 15 inches, the 50mm to 27.5 inches and the 85mm to 40 inches.

# Designed by Zeiss for Arriflex.

glass-to-air surface. Up to six separate layers.

## **New spontaneity possible**

These lenses are made for the new style of shooting encouraged by the 35BL.

## **Night-for-night: almost no flare. Distant detail**

We've seen night-for-night footage. Wide open, on New York City streets — car

headlights, neon signs. Incredible. Almost no flare at all, and astonishing penetration. You can see details on this block and for several blocks beyond — lit just by those signs and the street lamps!

## **With good lighting, too: best lenses you can buy**

Naturally, these lenses perform just as well in daylight and on the soundstage. They're

made by Zeiss, after all — using the latest design techniques, and sparing no expense. *We hope you'll run some comparison tests. We're confident of the results.*

# ARRI

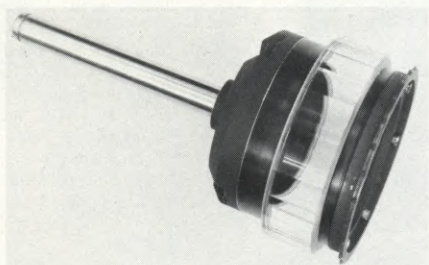
ARRIFLEX COMPANY OF AMERICA

PHONES: (212) 932-3403 AND (213) 845-7687  
P.O. BOX 1050, WOODSIDE, N.Y. 11377; AND  
1011 CHESTNUT ST., BURBANK, CALIF. 91502



# WHAT'S NEW

IN PRODUCTS, SERVICES AND LITERATURE



## REVOLUTIONARY FILM EDITING DEVICE PURCHASED BY MAGNASYNC/MOVIOLA

Copenhagen, Denmark — L.S. Wayman, president of Magnasync/Moviola, and Bent Djerberg, chairman of the board of Micro-Optics A/S, headquartered here, have announced the purchase by Magnasync/Moviola of all rights, titles and interest in the Hologscope Prism System developed by Micro-Optics.

Simultaneously, Moviola granted a license to Micro-Optics to manufacture the hollow prism for world-wide distribution.

Because it produces a "rock-steady" flickerless picture, the primary use for the hollow prism is in flatbed editors, Wayman stated. "There are other exciting applications such as various types of projectors, telecine chains, previewing machines, library readers and inexpensive transfers from film to tape."

Moviola engineers were successful in designing the hollow prism into a package that makes it practical to produce on a mass scale at a considerable reduction in cost, Wayman added.

Wayman further said that the Moviola production facilities in North Hollywood have been completely tooled for the new hollow prism system with delivery of the first units in late January.

## DELUXE INTRODUCES P.E.P. TO CHICAGO

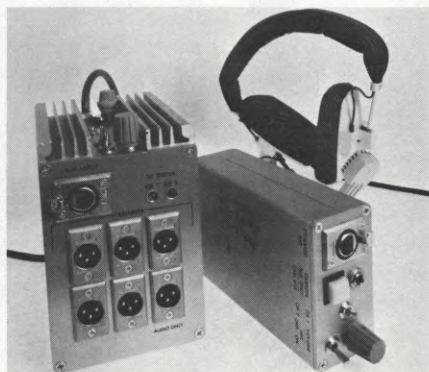
Deluxe Laboratories has initiated P.E.P. (Pickup Express Processing) Service — direct Chicago-to-Hollywood film processing with free pickup and delivery and 48-hour turnaround.

In announcing the new P.E.P. Service, Stanley Judell, Vice President and General Manager of Deluxe, said, "Chicago customers now have direct access to our Hollywood processing facility at a cost that is competitive with

Chicago-based labs."

The complete range of services associated with the famed Color by Deluxe trademark will be offered to Chicago producers in the theatrical, industrial, TV commercial, education and religious audio-visual markets. These services include 70mm, 35mm, 16mm, Super 8888™, filmstrips, System III tape to film transfer, optical printing and sound services.

To use P.E.P. directly in Chicago, customers call Media Air Cargo (649-9337). Deluxe's Customer Service Office in the Chicago area is located at 2433 Delta Lane, Elk Grove Village (569-2250).



## RTS SYSTEMS INTRODUCES NEW "TW" INTERCOM SYSTEM

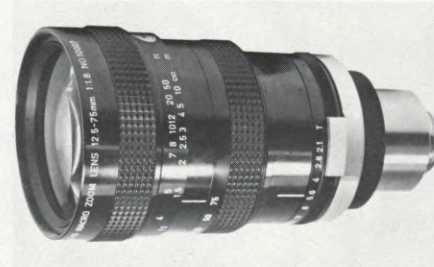
RTS Systems of North Hollywood, California has announced the introduction of the "TW" Intercom System. A two-wire, closed circuit headset system, the RTS "TW" can be used in the field for all phases of T.V., film, music concert, theatre and A/V production. In its standard configuration, up to 50 "belt-pack" user stations can be connected on line to two independent channels. Each rugged user station features noise-free, high-fidelity performance with these new additional features: built-in mic limiter, carbon or dynamic mic input, flashing call-light with variable-frequency adjustment for selective paging, two-watt headphone power amp with low distortion and extended response (150Hz to 10 kHz) and individual aux audio input, as well as common on line at power supply.

With #22 gauge cable, the RTS "TW" will operate on 2,000 feet of line. Two individual power supplies (Models PS-10 and PS-50) are available, which will operate up to 10 or up to 50 user stations. The supplies and the user

stations are all available in rack-mounting packages for permanent installation. The rack mount models feature standard three-channel operation.

The RTS "TW" incorporates the latest developments in solid-state circuit design: Phase Locked Loop, CMOS and FET devices are utilized to achieve the highest quality performance in an ergonomically designed, rugged and attractive intercommunication system.

MODELS	PRICE
(Rack or Portable Configurations)	
Beltpack	\$ 150.00
PS-10	350.00
PS-50	500.00



## CANON ANNOUNCES INTERCHANGEABLE 12.5-75mm MACRO ZOOM LENS FOR 16mm MOTION-PICTURE CAMERAS

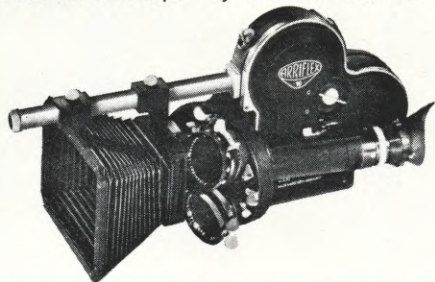
Canon U.S.A., Inc., has announced the availability of an interchangeable T/2.1 12.5-75mm macro zoom lens for use with all 16mm cameras. Available in "C", Arriflex, new Arriflex, Eclair and CP-mounts, this compact, lightweight 6x lens focuses as close as 3-1/8" from its front element. The same macro-focusing feature that makes this possible provides the filmmaker with a number of unique capabilities including "optical dollying" and continuous rack focusing from extremely close to distant subjects.

With "optical dollying," the lens changes its focal point, while maintaining constant field size. By simply setting the macro ring and using the zoom lever to "follow focus," a subject can be tracked while moving forward or backward, without changing apparent size. In other applications, use of the macro ring provides smooth, continuous rack focus from extremely close to distant subjects.

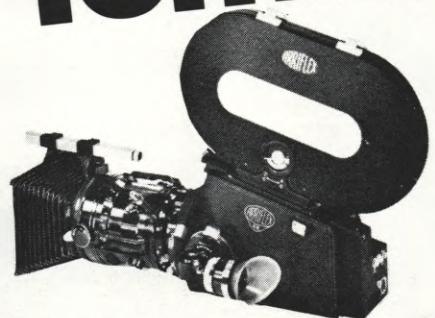
Utilizing the same basic lens design proven in the popular Canon Scoopic "M", the C6x12 Macro Zoom provides an excellent combination of compactness (just 4-7/8" long), ruggedness and economical price. For more information, contact Professional Motion Picture Products Division, Canon  
Continued on Page 290



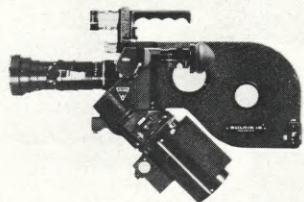
**Arriflex 16SB Camera Package** consisting of camera body, constant speed motor, Zeiss Vario Sonnar 10-100mm zoom lens Arri "B" mount, two Mini Duro Pack 8 volt batteries, charger: charges up to 4 batteries simultaneously, mini charger: charges single mini-duro pack, adapter to mount mini duro pack, dot line case. New Price, \$8068.75.  
Demo camera. Super buy. **Sale Price . . . \$6454.00**



**Arriflex 16S Camera Package** consisting of camera body, Pan Cinor 17-85mm zoom lens, three Schneider lenses: 16mm, 25mm, 50mm, variable speed motor, torque motor, one 400 ft. magazine, matte box, power cable. New Price, \$9,789.50. Recently Re-Built by AGE Inc. Excellent condition. **Sale Price . . . \$3395.00**



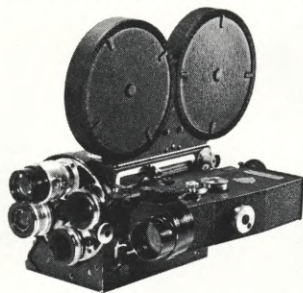
**Arriflex 16BL Camera Package** consisting of camera body, with 12-120mm zoom lens, three 400 ft. magazines, matte box, one Cine 60 #6303 battery belt, one Arri Duro Pak battery, power cable, optical flat, 85 filter, Haliburton case. New Price, \$15,817.00.  
Good condition. **Sale Price . . . \$6995.00**



**Eclair 16 NPR Camera Package** consisting of NPR camera body, Ciblo motor, two 400 ft. magazines, power cable, case. New Price, \$18,970.00. Good condition. **Sale Price . . . \$4250.00**

**Mitchell 16mm DSR-16 Reflex Camera Package** consisting of camera body, two 400 ft. magazines, two motors, AC power supply, case. New Price, \$14,000.00. Good condition.

**Sale Price . . . \$6,950.00**



**Mitchell Standard 16mm Camera Package** consisting of camera body, two 400 ft. magazines, four Baltar lenses: 17.5mm, 25mm, 35mm, 50mm, viewfinder matte box, 115V sync motor, Mitchell 16 blimp with matching cams for lenses, blimp matte box, power cables, three cases. New Price, \$10,000.00 Excellent condition. Like New. **Sale Price . . . \$6250.00**

**General SSIII News Camera Package** consisting of camera body, Angenieux 12-120mm AZO zoom lens, Frezolini 1000DX power pack, power cable. New Price, \$12,155.00.

Good condition. **Sale Price . . . \$3450.00**

**Auricon Yoder Conversion News Camera Package** consisting of camera body, Angenieux 9.5-95mm AZO zoom lens. New Price, \$6631.00.  
Good condition. **Sale Price . . . \$3995.00**

**Auricon CM77 Cine Voice Camera Body** consisting of Auricon Model PS21AL, power supply, viewfinder door, 50mm Baltar lens, sound on film amplifier, E6 microphone, case. New Price, \$1895.00. Like new condition.

**Sale Price . . . \$995.00**

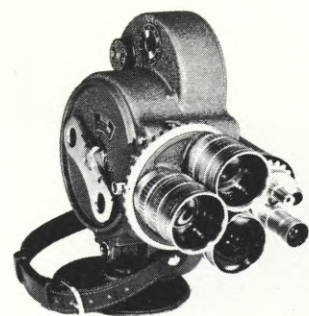
**Auricon CM75 Pro 600 Camera Package** consisting of camera body, two 1200 ft. magazines. New Price, \$2600.00.

Good condition. **Sale Price . . . \$1995.00**

**Auricon CM75-FM Pro 600 Camera Magnetic**, w/o mag head, or amplifier with EIF200 auto parallax view rangefinder, Auricon to Mitchell magazine adapter, power cable, matte box. New Price, \$2455.00.  
Like New condition. **Sale Price . . . \$1895.00**

**Bell & Howell 70HR Filmo Spider Turret.** New Price, \$985.00.

Good condition. **Sale Price . . . \$350.00**



**Bell & Howell 70DR Filmo Camera Body.** New Price, \$595.00.

Good condition. **Sale Price . . . \$275.00**

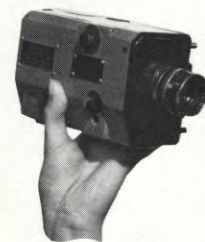
**Bell & Howell 70DR w/1" viewfinder and Canon 25mm lens.** New Price, \$750.00.

Like New condition. **Sale Price . . . \$625.00**

**Bell & Howell 70DR Filmo Camera Body.** New Price, \$595.00.

Good condition. **Sale Price . . . \$325.00**

# 16mm camera sale



**Mini-Cam 16 GSAP Camera w/C-mount front plate.** New Price, \$298.50.

Good condition. **Sale Price . . . \$185.00**

**Mini-Cam 16 GSAP Camera w/Arri-mount front plate.** New Price, \$354.00.

Good condition. **Sale Price . . . \$215.00**

**Bolex H16 Camera Body.** New Price, \$570.00.

Good condition. **Sale Price . . . \$295.00**

**Revere 16mm Camera Body, 50 ft. magazine.**

**Sale Price . . . \$14.95**

**Bell & Howell Camera 200EE, 50 ft. magazine.**

**Sale Price . . . \$29.95**

All Cameras are used and in condition stated and are subject to prior sale. Cable and telephone orders acceptable. Must be followed by a 20% deposit.

We also have a complete supply of new and used lenses, tripods, fluid heads, tri-angles and other production equipment. Please write or phone your specific requirements.

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Not for virgins.



Beaulieu Super 8 motion picture cameras are not for the first time user. These cameras are designed to the same high standards usually associated with professional 16mm motion picture equipment. The first time user probably will not be able to appreciate the professional quality, and because these are the *most expensive* Super 8 motion picture cameras ever made, he'll be paying too much for the little he can get out of them.

We know from our own owners that once you're hooked on Super 8 you'll never be completely satisfied until you own a Beaulieu. Simply because the Beaulieu is the best. Period. And if you're a professional or turning professional you may have discovered what the industry knows: Almost overnight the two Beaulieu

Super 8 cameras have opened new markets for professional filmmakers.

Now the question is: which Beaulieu is best for your needs.

The new 5008S, according to a leading expert in the field, "is the standard against which all other Super 8 cameras, silent or sound, are measured." It has both single and double system sound capability.

It is shown here with the incredible Angenieux 6 to 80mm zoom lens.

(A 13-to-1 zoom ratio!) Many owners have told us they have bought

the 5008S for the lens alone. The single system records high fidelity sound directly on the film.

(Frequency response: 50-12,000 Hz  $\pm$  1.5 dB at 24 fps; distortion: less than 0.75%; signal to noise ratio: 57 dB; wow and flutter,

attenuated peak: less than 0.4%.) If you prefer double system sound, you can plug in a sound recorder. The 4008ZMII has a double system and if you don't need a single system sound capability, you can save some money. They both have C mounts and you can most likely use the 35mm lenses you now have. In fact, a Nikkor 135mm lens on the Beaulieu will give you the equivalent image of a 475mm lens on a 35mm SLR camera.

Super 8 has grown up and turned pro. Ask for a leisurely demon-

stration at a franchised Beaulieu dealer. Or write to Department AC,

Hervic Corporation, 14225 Ventura Boulevard, Sherman Oaks, CA 91423 for information and complete specifications.

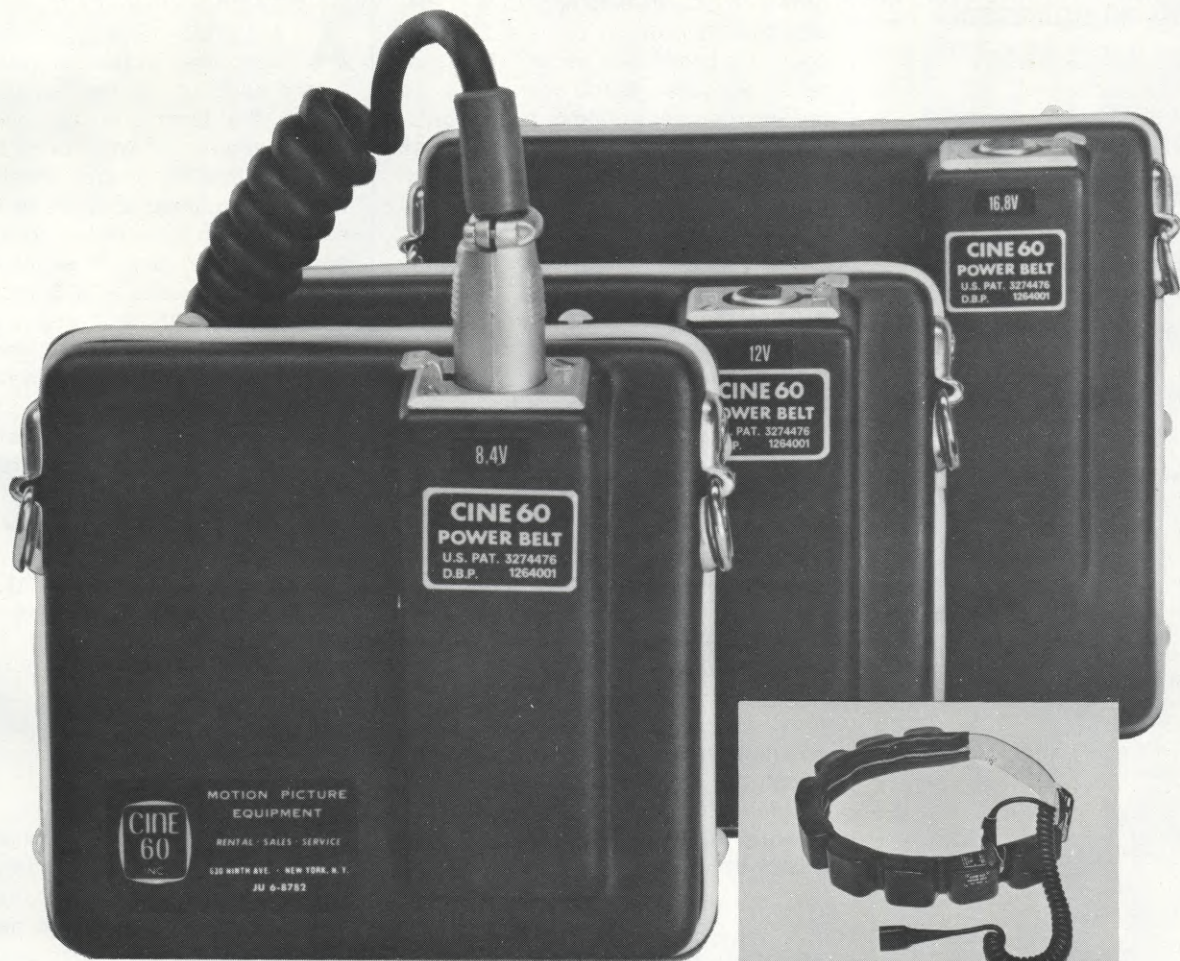


Beaulieu *incontestably the finest*



# ALL POWERFUL

In response to many requests, Cine 60 introduces a new line of compact, rugged Power Packs, to meet your power requirements in a wide variety of film, video and lighting applications. Available in versions from 6 to 30 volts, with capacities up to 7 ampere-hours, our Power Packs feature the same premium nickel-cadmium batteries, exclusive circuitry and high reliability that made Cine 60 Power Belts the industry standard. Used on a belt, shoulder strap, or tucked into a pocket, Cine 60 Power Packs are available in models to match any camera or portable tape system...or with our new focusing sun-gun. For specifications and prices, please call or write.



Cine 60 Power Packs feature the same, reliable design as our "industry-standard" Power Belts.

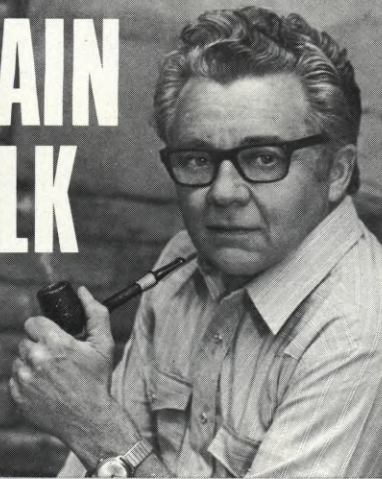
**CINE 60**  
INCORPORATED

630 Ninth Avenue, New York 10036 (212) 586-8782

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# PLAIN TALK



by *J. Carl Treise*

## "The one thing no processor manufacturer talks about"

I've read a lot of film processor ads and haven't found any manufacturer who's willing to say how long it takes to install his unit and get it working.

It's not hard to guess why.

The usual installation often takes up to 3 or 4 weeks and can cost a bundle.

So a man would have to be a fool to bring the subject up, right? — Wrong.

I'm more than happy to talk about it.

Any processor that's any damn good should be adaptable enough to be installed in a hurry. In fact, we'll position a unit, connect systems, and have it working in 2-5 days, depending on its size.

If you think our customers don't love us for it, guess again.

There's no foot-dragging. We're in and out before they know it, and they're back in operation, making money again!

These are important things to consider (— which a lot of folks don't do). And they're every bit as much a cost factor as the price of the processor itself.

When you buy a film processor, look at the whole "picture." It makes a helluva lot of sense to buy a quality unit that costs a bit more but can be installed in a fraction of the normal time. The money you save is your own, and that ain't hay!

**TREISE**  
**ENGINEERING, INC.**

1941 FIRST ST. • SAN FERNANDO, CALIF. 91340  
PHONE: (213) 365-3124

# QUESTIONS & ANSWERS

Conducted by CHARLES G. CLARKE, ASC.  
and WINTON HOCH, ASC.

(Inquiries are invited relating to cinematographic problems. Address:  
Q. & A., AMERICAN CINEMATOGRAPHER, P.O. Box 2230, Holly-  
wood, Calif. 90028.)



**Q** If a person has \$40,000 with which to make a low-budget feature should he go with Super-16, regular 16 (ECN-II, 7242 or 7252) or shoot on videotape (3/4" tape transferred to 2" quad and then transferred to 35mm film)? What would the cost then be to blow-up a 90-minute 16mm film to 35mm?

**A** Super-16 was a necessity in certain countries in Europe where, until a couple of years ago, ECN (7254) was the only 16mm camera film that could be processed locally. This material, of course, is too coarse-grained for enlargement to 35mm from regular 16mm. Understandably then, Super-16 has never been favored or used significantly in this country where 7252 and 7242 have been readily available.

The cost and quality-loss involved in transferring 3/4" tape to 2" quad and then to 35mm film would both militate against this route.

Blow-ups from regular 16mm on ECN II, 7252 or 7242 have had a long history of success, and this is the way to go when circumstances or budgets dictate.

The cost of the blow-up, including negative, sound transfer and first 35mm print, runs in the neighborhood of \$100.00 per minute. But, an independent producer need not necessarily make this investment. A finished picture can be shown to distributors or previewed in 16mm form since there are now many theatres equipped for 16mm projection. If the film proves to merit theatrical release, the cost of the blow-up may be advanced by a distributor or by interested investors.

— Sidney P. Solow

**Q** I would like to use an animation motor for Bolex camera made by Stevens Engineering Company, which is designed for 50 cycles as that is the electrical power supplied in our country. What problems are presented?

**A** The motor speed will be reduced about 20% and, therefore, the exposure increased approximately 20%. The motor may heat up more if used for a long continuous time period. If your available voltage is correct you should

have no problem. I believe your motor is designed for 100-120V AC. In many European countries the voltage supplied is 220-240 AC. In that event, you must obtain and use a stepdown transformer.

**Q** Are the major studios doing away with A&B rolling? I am seeing more and more films where all of the splice marks are visible.

**A** A & B rolls have practically never been used in feature motion picture production. In the few instances where this technique has been employed, the reason was not for the purpose of making splices invisible but rather for making a series of lap-dissolves without introducing another generation of dupes. TV series have, in former years, used A & B rolls when dissolves were more in vogue and the cost of making dupes was less favorable. Moreover, TV required only two 35mm prints.

Negative splices never are visible in the print if the screen display is 1.85 to 1.00 which is the "wide screen" aspect ratio in which the majority of pictures is shown. However, in the case of anamorphic systems (CinemaScope, Panavision, etc.) it is possible that the laboratory may be making negative splices too wide, exceeding the prescribed standard of .030 inches. It is also possible that a particular theatre may have an aperture for "scope" films that is higher than the specified .700 inches.

To protect the presentation from either or both of these possibilities, some laboratories may resort to making CRIs (the duplicate negatives from which practically all release prints are made these days), using an optical printer in which the original is slightly cropped while the image on the CRI is slightly enlarged to fill the frame. ■

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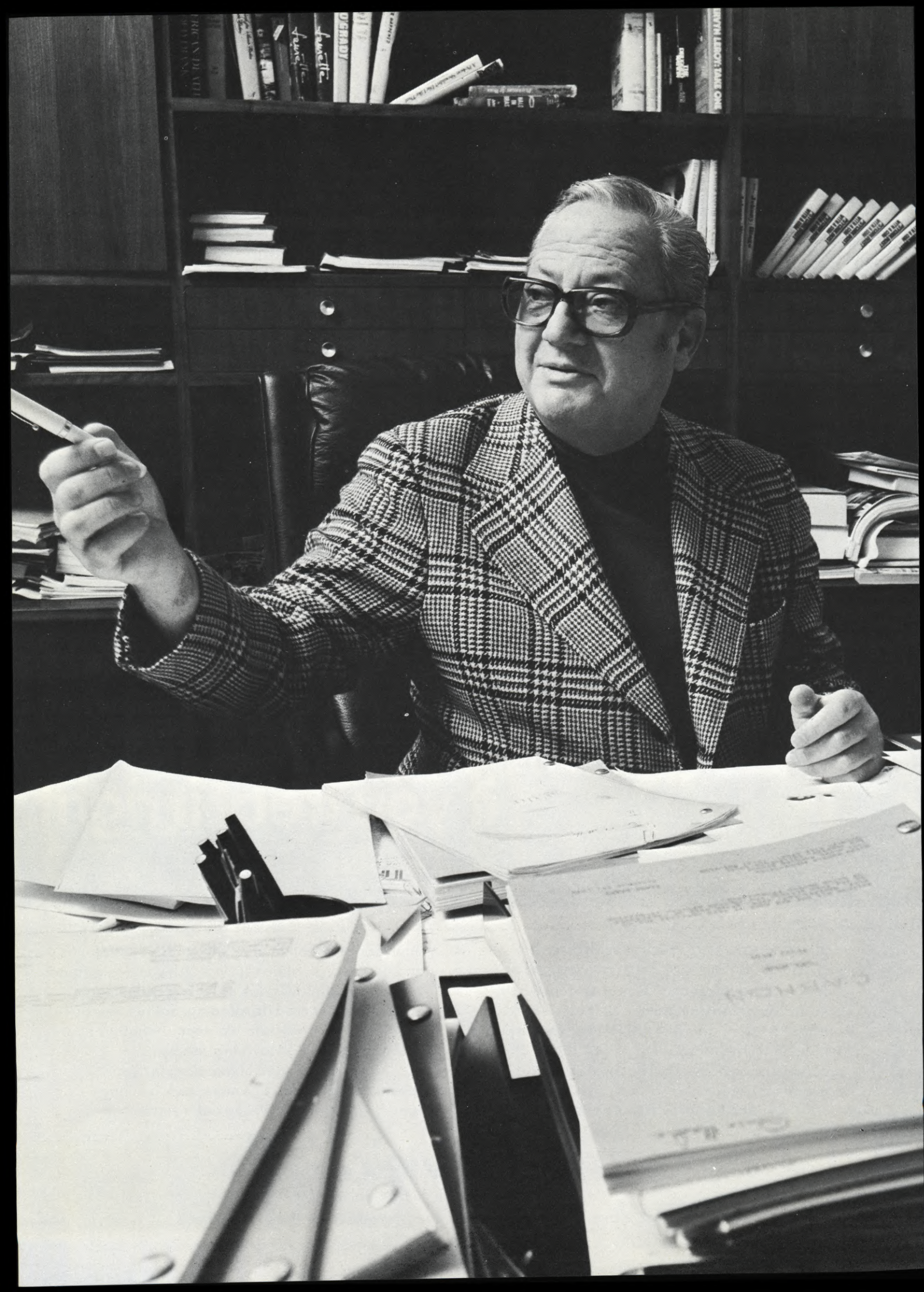
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# QUINN MARTIN



*How do you produce a TV show that gets a seventy-three share? What's the secret of producing one series after another, running season after season, while others have trouble surviving thirteen episodes?*

*For the answers to these and other questions, we've gone to the same source as the networks—to Quinn Martin.*

*Quinn, how did you get started in the film business?*

I started out as a film editor, became a writer, then a producer.

*What was your first major success?*

The first critical success I had was a film for television called "Bernadette," but the show that probably played the most important part in my career was "The Untouchables."

When I formed my own company in 1960, one of our first shows was "The Fugitive." It became the number one show, won an Emmy for "Best Dramatic Show," and was critically acclaimed. So I would say, for me, even though "The Untouchables" was the show that gave me a big start, "The Fugitive" is the one I'll always have in my heart because it cemented the company's name as a producer of quality products.

*I remember the original two-hour "Untouchables." Part Two, which played a week later, got one of the highest ratings ever, as did the last episode of "The Fugitive."*

*What changes have you noticed in production methods from those shows and the ones you have on the air now?*

If I made any mark in this business, it was to force television off the sound stages and back lots. People were horrified at my wanting to shoot on real locations. Now it's a common practice for us to shoot five out of seven days on locations. We average about forty setups a day.

This has been made possible by the improvements in camera equipment and film.

One of the reasons I accepted doing this interview is I have no problem doing it. I don't normally do these kinds of things, but I like Eastman Kodak Company. They're always there. You know you're dealing with a company that is constantly working, upgrading the product, researching new ones.

When their new, fine-grain Eastman color negative II film 5247 came out, "Streets of San Francisco" was one of the first series to use it. We thought it would be perfect for the dramatic documentary look we wanted. Frankly, I wasn't too happy with it then because we had problems with backgrounds changing colors. We called in a Kodak consultant, got together at the lab, and after doing a lot of tests, we ironed out the problems. Kodak kept improving it and now I think it's probably the finest stock I've ever seen.

*Have you ever used videotape?*

No, I've never worked with tape. It may become a reality some day for action adventure shows, but I feel the equipment has to improve some more. Also, I like the subtle way with which lighting can be handled on film. I still like to paint through my cinematographer.

*I notice your desk is covered with scripts. What are some basic things you look for?*

Scripts that deal with human emotions, that don't write down to people. I believe you have to give people credit for their level of understanding. If they don't understand it intellectually, they'll understand it emotionally. Whatever success we've had comes from the attitude that people deserve better.

One of our TV movies, "Attack On Terror," was about the three civil rights workers killed in the South in 1965.

It wasn't a popular subject, but we felt it should be done. As it turned out, it was one of the highest rated shows of the year.

*You have three series running—"Cannon," "Streets of San Francisco," and "Barnaby Jones"—as well as four pilots, some "Movies of the Week," and other projects in the works. How do you manage to supervise it all?*

In essence, I run a benevolent dictatorship. Everybody has a say in the company. But in the final analysis, I have the responsibility to the network, so I have to make the final decisions.

But we get good ideas from everybody. I surround myself with good people—that's another secret. You should always try to get the best people. You can't learn anything from someone who is dumber than you are. Then you set a climate that they can work well in.

I have a positive viewpoint. I think anybody that has talent and is willing to work hard can make a mark in this business. The Horatio Alger myth still exists in America.

*Like Quinn Martin, Eastman Kodak Company surrounds itself with good people—specialists who can give you the facts about products like Eastman color negative II film 5247. They'll be glad to demonstrate what it can do for you. So give your local Kodak rep a call.*

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# CINEMA WORKSHOP



By ANTON WILSON

## TECHNISCOPE

The basic drawback of flat wide-screen systems is the inherent waste of film stock. Almost 40% of the negative area remains unused in the 1.85:1 format. The anamorphic system reclaims this waste, utilizing 100% of the available negative area, and produces a significantly superior projected image. Higher budget productions which are usually released into large theatres with long throws benefit greatly from the large image area of the anamorphic format. However, there is another, more economical alternative to the wasteful 1.85:1 wide-screen format: Techniscope.

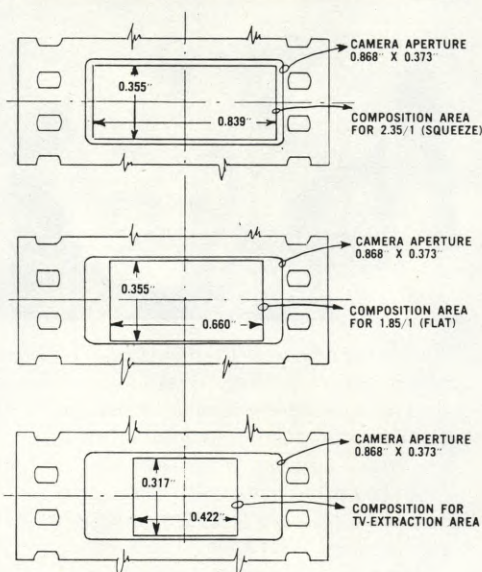
A quick look back at the anamorphic process will help explain the Techniscope principle. The C'scope aperture utilizes the full available image area, which is a height of .746", representing a pulldown of four perforations, and a width of .868", which is the maximum distance between perforations on the one side and the soundtrack on the other. These dimensions yield an aspect ratio of 1.18:1. The C'scope process, in essence, doubles the effective width of the frame with the 2:1 squeeze and, thus, also doubles the aspect ratio to 2.35:1. This same aspect ratio can also be achieved by halving the height as opposed to doubling the width. This is precisely what the Techniscope format does. By employing a two-perforation pull-down in lieu of the standard four, the frame height is cut in half, resulting in a

dimension of .373" height by the full .868" width and yielding the standard C'scope aspect ratio of 2.35:1.

The Techniscope process offers some attractive features along with the obvious limitations. For openers, the system uses standard lenses. Any 35mm lens can be used with the Techniscope format. As a rule, shorter focal-length lenses will be employed with the 2-perf pull-down to achieve the same general vertical composition as Academy or standard flat wide-screen formats. This fact will yield a relatively greater depth of field. Because the pulldown is only 2 perfs in lieu of 4, film moves through the camera at only 45 feet/min instead of the standard 90 feet/min (at 24 fps). Obviously, a roll of film will go twice as far. Raw stock and processing costs are literally cut in half. Only half as much film need be carried around on location. Camera magazines will run twice as long, yielding an effective capacity double that of standard 35mm; 200' mags can be considered 400', 400' as 800', and 1000' gets you 2000'. Production can move along quicker with magazine changes occurring with half the normal frequency, or smaller magazines can be employed with usual running times.

The camera original can be printed in a multitude of formats. Work prints are printed as standard C'scope anamorphic (FIGURE 1), and require no special editing equipment. Some manufacturers make equipment that directly accepts the 2-perf format. Release prints are normally in the standard C'scope process, according to FIGURE 1. The aspect ratios match perfectly, as can be seen in FIGURE 2A. The Techniscope original can also be released in several other formats. With very little cropping, the 2-perf frame can be printed up to flat 70mm. Referring to FIGURES 2B and 2C, the 2-perf frame can be cropped and printed for 1.85:1 flat wide-screen and standard 1.33:1 Academy for television release. Sixteen millimeter release is also possible in both C'scope (FIGURE 2A) and standard 1.33:1 (FIGURE 2C) formats.

The Techniscope process appears very attractive. Standard lenses, 50% savings in raw stock and processing,



(FROM TOP) FIGURES 2A, 2B and 2C, showing composition areas for various release formats generated from original 2-perforation Techniscope.

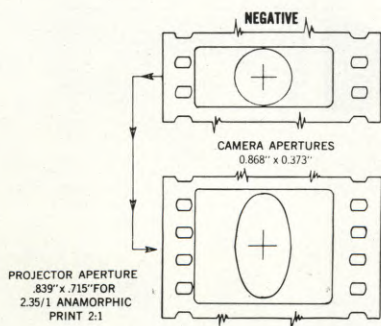
twice the capacity of magazines, standard C'scope editing and a wide choice of release methods. There are obviously some major trade-offs. Techniscope uses exactly half the negative area of anamorphic 35mm. A film shot in 35 C'scope uses 100% more image area and need be magnified only half as much as a Techniscope original to fill the same size screen. The anamorphic original will obviously produce a far superior image.

When cropped to a 1.33:1 format, as for television, Techniscope offers no advantage over 16mm. The cropped dimensions of the 2-perf are .373" x .497", about the same as 16mm (.295 x .402), yet the Techniscope uses 170% more raw stock which is mostly waste. FIGURE 3 lists some relevant statistics. Another shortcoming is the scarcity of Techniscope cameras. The newer self-blinded cameras such as the Arri 35B1 are not available in the 2-perf pulldown. Special printing techniques are necessary for both work-prints and release prints, which could cause hassles.

Despite these drawbacks, the 2-perf system is attractive to the low-budget producer who wants a 2.35:1 format

Continued on Page 343

FIGURE 1 — Standard printing procedure of original half-frame Techniscope to anamorphic 4-perforation 35mm release print.





# INTRODUCING THE CANON ULTRA-FAST ASPHERIC PRIME LENSES FOR 35MM CINEMATOGRAPHY

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But it is the *aspheric* property of these lenses that makes them so extraordinary — because aspheric lens design is inherently superior to conventional lens design since it permits the best possible use of all available light.

**And, unlike any other series of high speed lenses currently available for motion picture use, every lens in the Canon series is aspheric.**

## The technological breakthrough

While the theory for the design of aspheric lenses has been known for quite some time<sup>†</sup>, it was not until the advent of modern computer technology and the development of computer-controlled automated machinery that it became possible to design and grind aspheric lenses in such a way as to permit *consistent high quality manufacture at a reasonable cost.*

Which is what prompted Canon and Cinema Products to launch a development program for a series of ultra-high-speed aspheric prime lenses, all supplied with BNCR-type mounts, and covering the range of focal lengths most used in professional cinematography: 24mm, 35mm, 55mm and 85mm.

A great deal of money, time and effort went into this program. The final results are more than well worth it.

## Aspherics — ideal for filming at all light levels

By causing the marginal rays to be in sharp focus, and, at the same time, rejecting random or spurious rays, the Canon aspheric lenses improve definition and sharpness at the edges and reduce flare when the lens is *wide open.*

Shooting night-for-night with available light — the aspheric lens wide open — at 25 footcandles and even



24mm (T1.6)



35mm (T1.4)



55mm (T1.4)



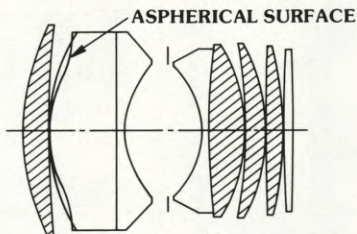
85mm (T1.4)

lower, with nothing but neon signs and street lamps for illumination, there's virtually no halation. The Canon aspherics just take the light in: penetrating the scene, holding all the detail.

The Canon aspheric lenses minimize uncontrollable flare (with its concomitant loss in contrast and resolution) and improve the definition and contrast of the scene *regardless of variation of light levels within the scene.* Even at the highest levels of illumination.

The result on film is photography that is remarkably clear and sharp, well defined and well balanced, with good color rendition and saturation, especially with regard to flesh tones.

Which makes the Canon aspheric lenses ideal for filming under any and all light conditions. Night-for-night with available light, as well as in broad daylight, or on a well lit sound stage.



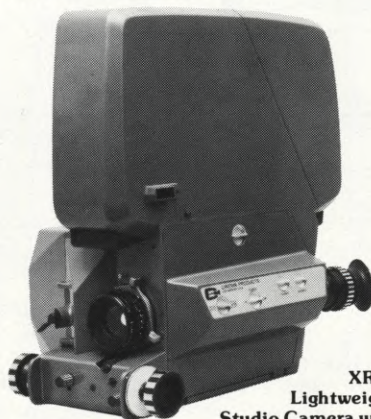
Arrow points to aspherical surface. The deviation from the normal spherical curve is exaggerated for illustrative purposes.

## Let your eyes convince you

Ask your dealer (or call Cinema Products) to arrange for a screening of our dramatic 35mm test reel comparing the Canon aspherics with other high speed lenses for motion picture use.

Before you start on your next film project, shoot some test film of your own.

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<sup>†</sup>Descartes, the French philosopher and mathematician, had already suggested that the use of non-spherical surfaces might reduce optical aberration. That was way back in 1638.

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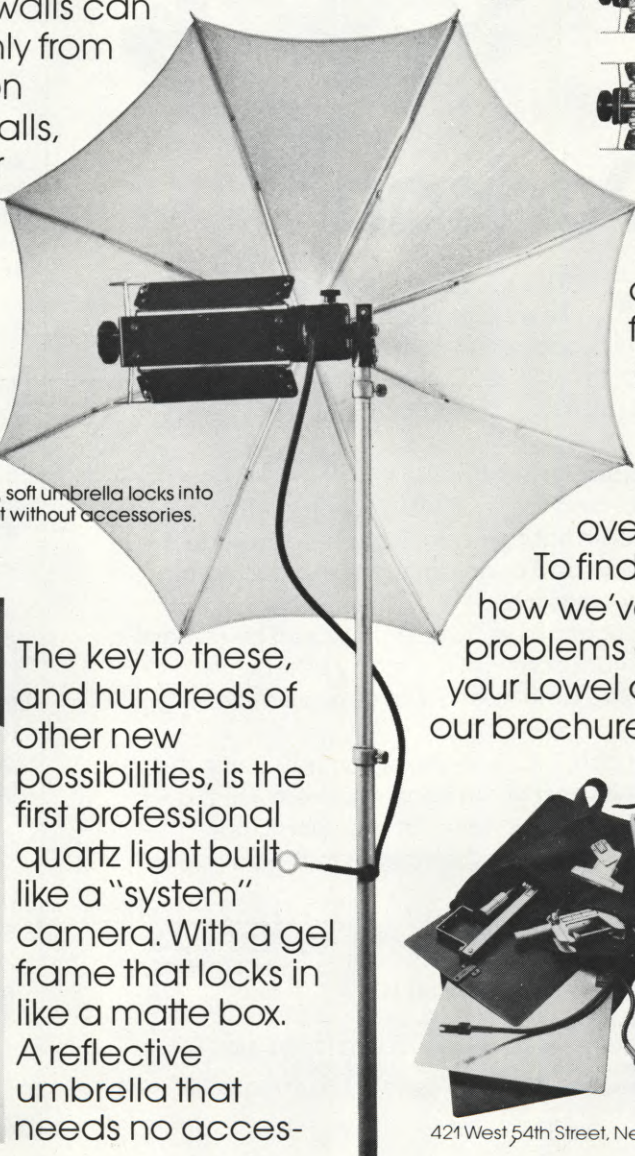


Snap-together flags and reflectors snap onto flexible arms.



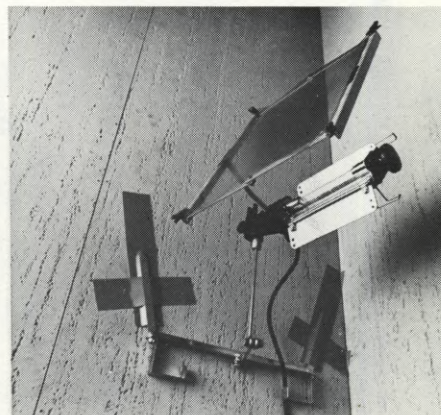
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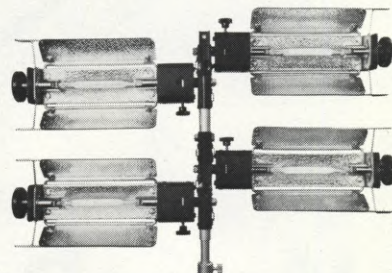


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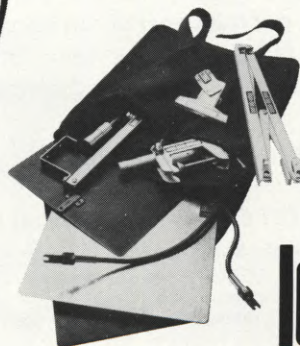


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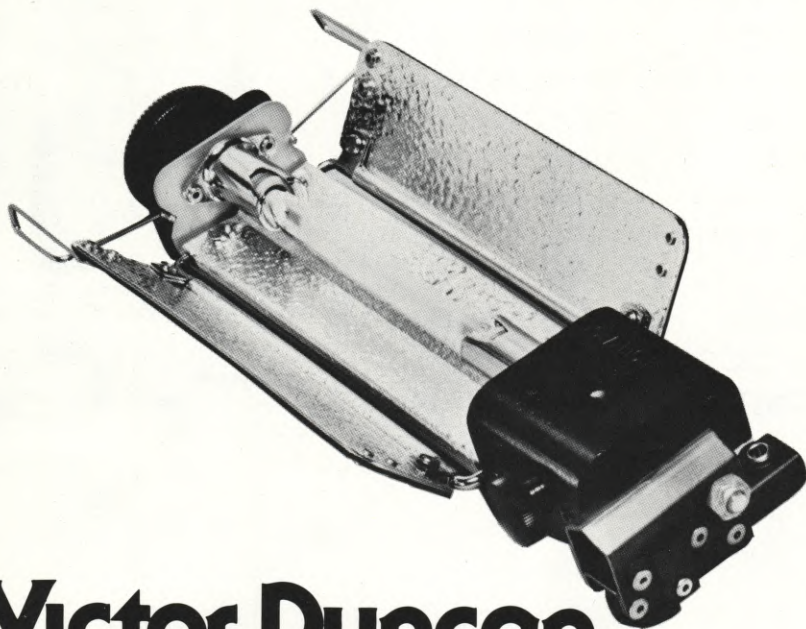


  
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## THE BOOKSHELF

By GEORGE L. GEORGE

### FAMILIAR NAMES AND FACES

The impact of Carol Easton's biography, *THE SEARCH FOR SAM GOLDWYN*, derives from an astute and entertaining mixture of known elements and fact-gathering interviews with Goldwyn's associates. It's a lively portrait of a complex personality dominated by his compulsion to achieve "class." (Morrow \$8.95)

A richly detailed story of the making of *Gone with the Wind* is told by Roland Flamini in *SCARLETT, RHETT, AND A CAST OF THOUSANDS*. From MGM's reluctant purchase in 1936 of Margaret Mitchell's epic to its Atlanta premiere in 1939, Flamini makes a familiar story sound exciting and new. (Macmillan \$13.95)

In *THE MILOS FORMAN STORIES*, Antonin J. Liehm discusses the director of *Loves of a Blonde* and *One Flew over the Cuckoo's Nest*. His conversations with Forman reveal the director's sensitive approach to his material, his compassionate feeling for human problems as well as his wry, satirical wit. Unfortunately, bitter emigré Liehm's politics mar this perceptive study. (International Arts & Sciences Press \$15.)

Leonard Nimoy, the inscrutable pointy-eared Vulcan aboard the Star Trek spaceship Enterprise, affirms his human identity in *I AM NOT SPOCK*, while acknowledging the effect the galactic character has on his private and professional life. (Celestial Arts, 311 Adrian Rd., Millbrae, CA 94030, \$2.95)

\* \* \*

IN *HOLLYWOOD PLAYERS: THE FORTIES*, James Robert Parish and Lennard DeCarl review the leading performers of the period, when the nation's concern with WW2 meant a greater demand for both escapist film fare and realistic war movies. (Arlington \$25.)

A handy reference work, *GREAT MOVIE HEROES* by James Robert Parish aptly summarizes the careers of 24 heroes — and anti-heroes — of the screen from Bogart to Wayne. (Harper & Row \$1.95)

Frank Brody's unauthorized biography, *HEFNER*, covers indiscreetly the career of the Playboy publisher, Holly-



wood personality and producer of Polanski's *Macbeth*, among other films. (Ballantine \$1.75)

\* \* \*

#### TECHNICAL DATA

From Hastings House, two new "Media Manuals" combining a precise text with detailed two-color illustrations. John Burden's 16mm FILM CUTTING is a practical guide by an experienced professional that stresses the creative side of the work. THE SMALL TV STUDIO by Alan Bermingham expertly describes planning for facilities and equipment of TV stages meant for use outside the entertainment industry. (\$7.95 ea.)

Television as a tool for broadening education and democracy is examined by Raymond Williams in TELEVISION: TECHNOLOGY AND CULTURAL FORM, an eye-opening critique of the effects of current commercial practices on the evolution of society. (Schocken Brooks \$3.45)

From Sterling Publications, two excellent how-to books replete with essential data and explicit illustrations: FILM ANIMATION AS A HOBBY by Andrew and Mark Hobson (\$5.95) effectively surveys equipment and techniques, and ANIMATING FILMS WITHOUT A CAMERA by Jacques Bourgeois (\$3.75) teaches youngsters the fun of drawing directly on blank developed stock, a method pioneered by Norman McLaren.

\* \* \*

#### FOR SCHOLARS AND/OR BUFFS

Boasting over 800 carefully selected entries, the BIOGRAPHICAL DICTIONARY OF THE FILM reflects David Thomson's sure taste and broad scholarship. Perceptive critical essays about directors, performers, producers and a few cameramen — rather than mere listing of credits — afford an understanding and appreciation of their cinematic work. (Morrow \$16.95)

A comprehensive compilation of data about feature films in current release, CINEMA SOURCEBOOK issues monthly 20 to 50 pre-punched sheets for insertion into a ring binder. Each sheet carries the film's full cast-&-credits, a synopsis, published critical comments and relevant production notes. A constantly updated guide like this is highly valuable to industry professionals, scholars and buffs alike. (211 Thompson St., NYC 10012)

Published yearly by the International Federation of Film Archives (FIAF), the 1974 edition of INTERNATIONAL INDEX TO FILM PERIODI-

CALS digests the contents of the world's 80 most influential film journals including *American Cinematographer*, *Action*, *Cineaste* and *Film Comment* among 14 U.S. publications. (St. Martin's Press \$27.50)

Stephen Dwoskin's FILM IS assesses the lasting effect of "independent" (i.e., avant-garde) cinema on the artistic growth of the medium and its audience in search of new approaches to cinematic arts. This extensive and knowledgeable survey deals with over 700 landmark movies and their creators, providing an informed evaluation of their thematic originality and visual inventiveness. (Overlook \$15.)

That yearly cornucopia of information on the state of the motion picture throughout the world, INTERNATIONAL FILM GUIDE, offers in its 1976 edition its survey of production in 49 countries, reviews of movies from 50 lands, profiles and filmographies of 5 directors (Cacoyannis, Cassavetes, Coppola, Fassbinder and Zanussi), plus the standard sections on services and facilities of the world film/tv industries. (Barnes \$4.95)

In THE GOLDEN AGE OF THE MOVIE PALACE, the new edition of Ben M. Hall's out-of-print "The Best Remaining Seats," the historic grandeur of cinema emporiums of the year between Prohibition and Depression is evoked in an attractive paperback, rich in facts, anecdotes and illustrations. (Crown \$4.95)

\* \* \*

#### THE UNHOLY TRUTH

Today's gossip columnists don't wield the awesome and misused power that a Lolly Parsons did in her heyday. But you can't blame a gal for trying, as Radie Harris makes clear in RADIE'S WORLD, a breezy memoir unspooling the story of her life among the stellar personalities she has covered professionally for 30 years. (Putnam \$8.95)

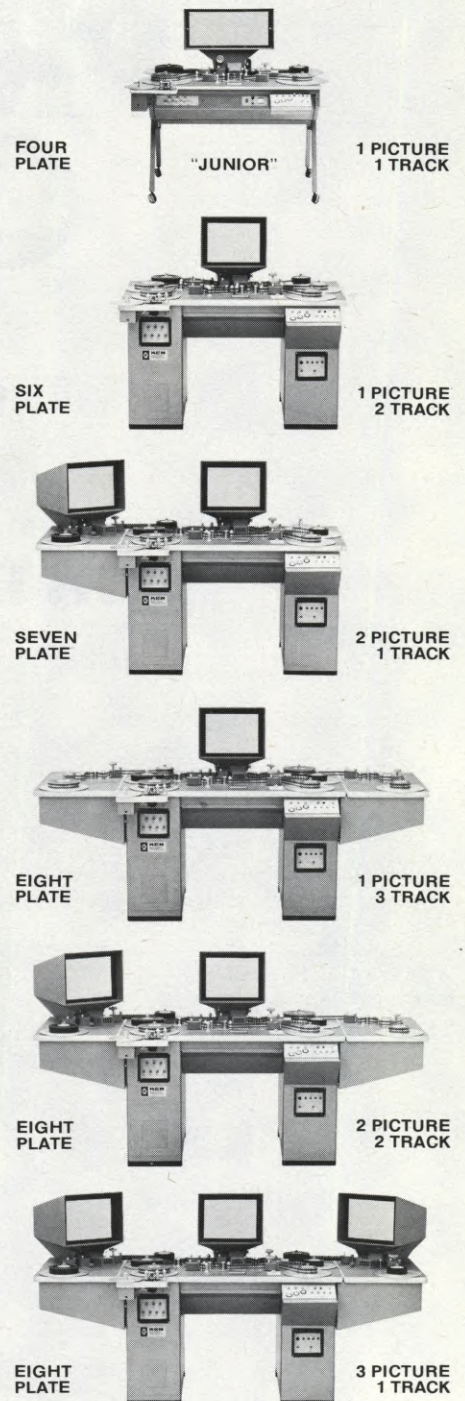
Sidney Skolsky's motto is, expectedly, also the title of his book of reminiscences, DON'T GET ME WRONG — I LOVE HOLLYWOOD. Going back some 40 years, it is fun to read even when Skolsky is tooting his own horn. (Putnam \$8.95)

The trouble with the late Walter Winchell is that he took himself seriously, a failing that mars his collected columns, WINCHELL EXCLUSIVE, an account in his own peculiar staccato style of "things that happened to me and me to them." (Prentice-Hall \$8.95) ■

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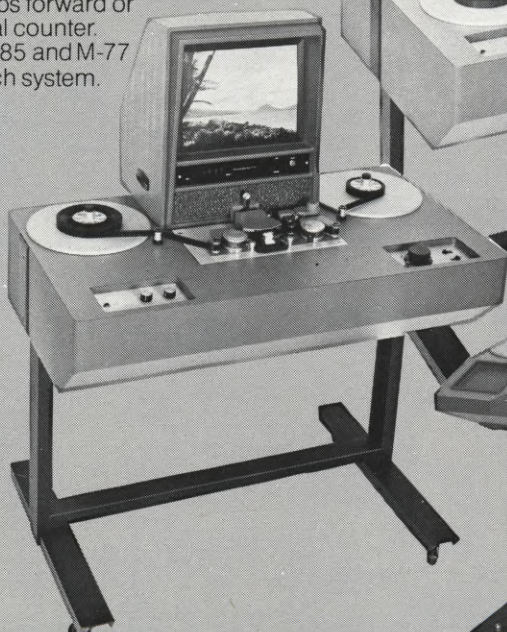


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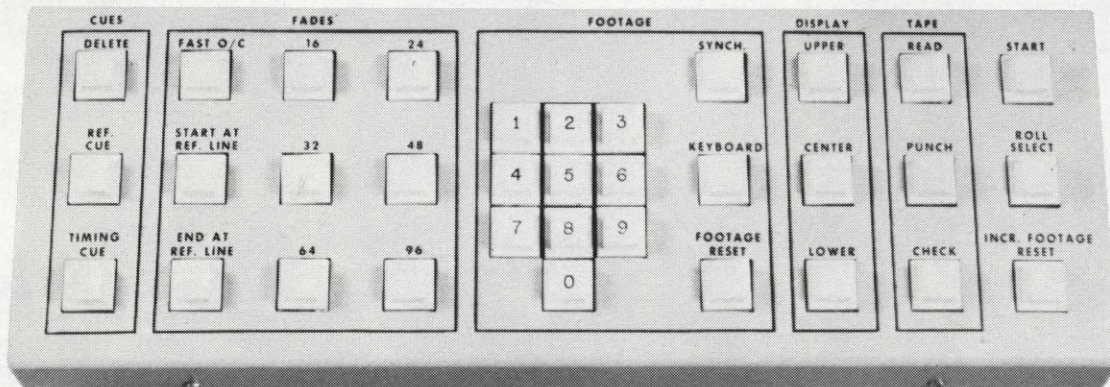
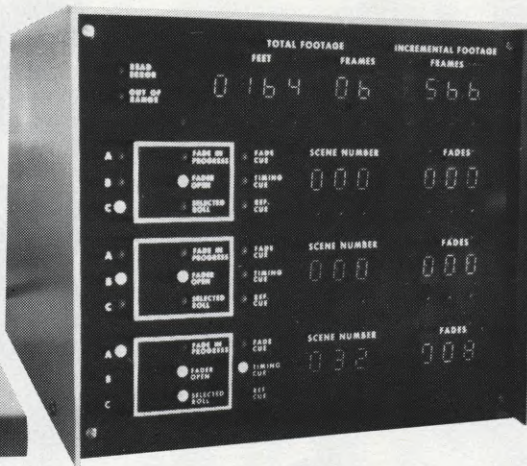
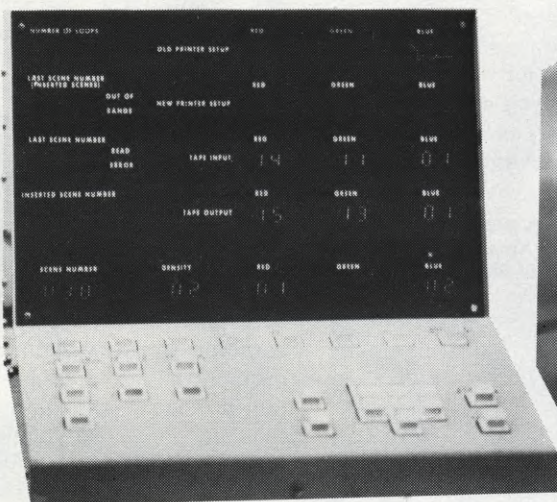
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# INDUSTRY ACTIVITIES

## ASC TO HOLD 2d ANNUAL COLLEGE FILM AWARDS ON MAY 24

Hollywood — The American Society of Cinematographers will hold its second annual College Film Awards on Monday, May 24, it was announced by event chairman Stanley Cortez.

Awards will be presented to the best student-photographed film of calendar 1975 and to its student cinematographer, Cortez said.

Invitations to more than 150 American universities and colleges, to submit entries for the awards event, were mailed the first week of January. Deadline for submission of these entries is March 31.

"We will hold a series of screenings at the ASC, to select the eventual five nominees," noted Cortez. The entire ASC active membership will vote to choose the winning film.

Last year's highly-successful awards event was won by San Diego State University, for the film, "Negative Image", and by student Denis Mayer, its cinematographer.

The ASC was founded in Hollywood in 1919, and now has a distinguished membership extending to five continents. ASC members have won 80 Academy Awards.

**The first practical zoom lens to be utilized in the feature film industry is presented by Bern Levy, Motion Picture Optics Manager for the Angenieux Corporation of America, to Charles Clarke, ASC, Curator, for the extensive historical/technical collection of the American Society of Cinematographers' Museum in Hollywood.**



## TELEVISION CRAFTSMEN INVITED TO SUBMIT WORKS FOR "EMMY" AWARD CONSIDERATION

The National Academy of Television Arts and Sciences is extending an invitation to every active creative craftsman in television to enter his own achievement for Emmy Award consideration. All craftsmen are eligible, whether or not they are Academy members. The requirements for entering are as follows:

1. There are two sets of eligibility dates:
  - a) For Prime-time, Daytime and Children's Entertainment, the eligibility period is March 11, 1975 through March 15, 1976.
  - b) For Religious and Children's Instructional/Informational, the eligibility period is July 1, 1974 through March 15, 1976.
2. Achievement must have been broadcast nationally so that it was available for viewing by 50% of the total potential United States television audience, or approximately 25 million households.
3. Only the individual who would receive the Emmy for his category is eligible to submit his achievement.
4. Deadline for entry cards to be in the hands of the National Awards

Office is 10 AM, March 15, 1976.

To obtain a list of categories and an Entry Card, please contact:

The Awards Department; The National Academy of Television Arts and Sciences; 291 South La Cienega Boulevard, Suite 200; Beverly Hills, California 90211 or Phone: (213) 659-0990; Att: Miss Laya Gelff, Manager, National Awards.

## ASC ACQUIRES ANGENIEUX OPTICS FOR ITS MUSEUM

The museum at the American Society of Cinematographers headquarters in Hollywood, California, acquired a historical Angenieux zoom lens during a recent gathering held by the Society for prominent executives of the motion picture industry. Angenieux, the major supplier of zoom optics to the professional motion picture industry, presented a 10x25T20, 25-250mm, f/3.2, the first practical zoom lens for the feature film industry, to the American Society of Cinematographers.

The Angenieux 10x25T20 zoom lens is prominently displayed at the ASC Museum along with other feature film production equipment which represent milestones in the industry. It was this lens which was introduced to Hollywood in 1963 that was immediately recognized as a great asset to the production of feature films. With its unlimited choice of focal lengths between 25 to 250 millimeters, it permitted the cameraman to make various shots requiring different angles of view without physically changing lenses. This resulted in a substantial saving of production time. In addition, the zoom was utilized throughout the feature film industry for its special effect. It was for these proficiencies that an "Oscar" award from the Academy of Motion Picture Arts and Sciences was presented to Pierre Angenieux for: "his discovery and commercialization of the 10x zoom lens."

Continuing his efforts, in 1970, Angenieux brought forth a new type of zoom lens, the 6x20L2, 20-120mm, f/2.6. For the first time in the history of the professional motion picture industry, a zoom lens was available that rendered images of the highest quality, comparable to the finest fixed-focal-length lenses throughout its entire zoom range. Over the past six years, motion picture production stages

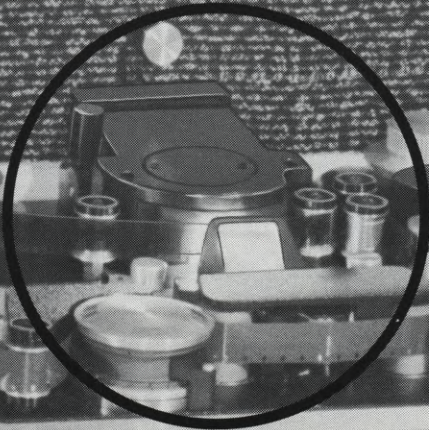
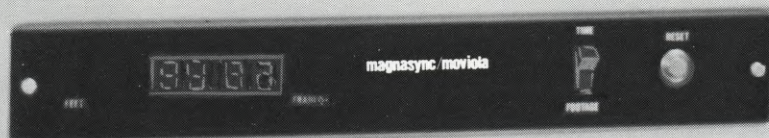
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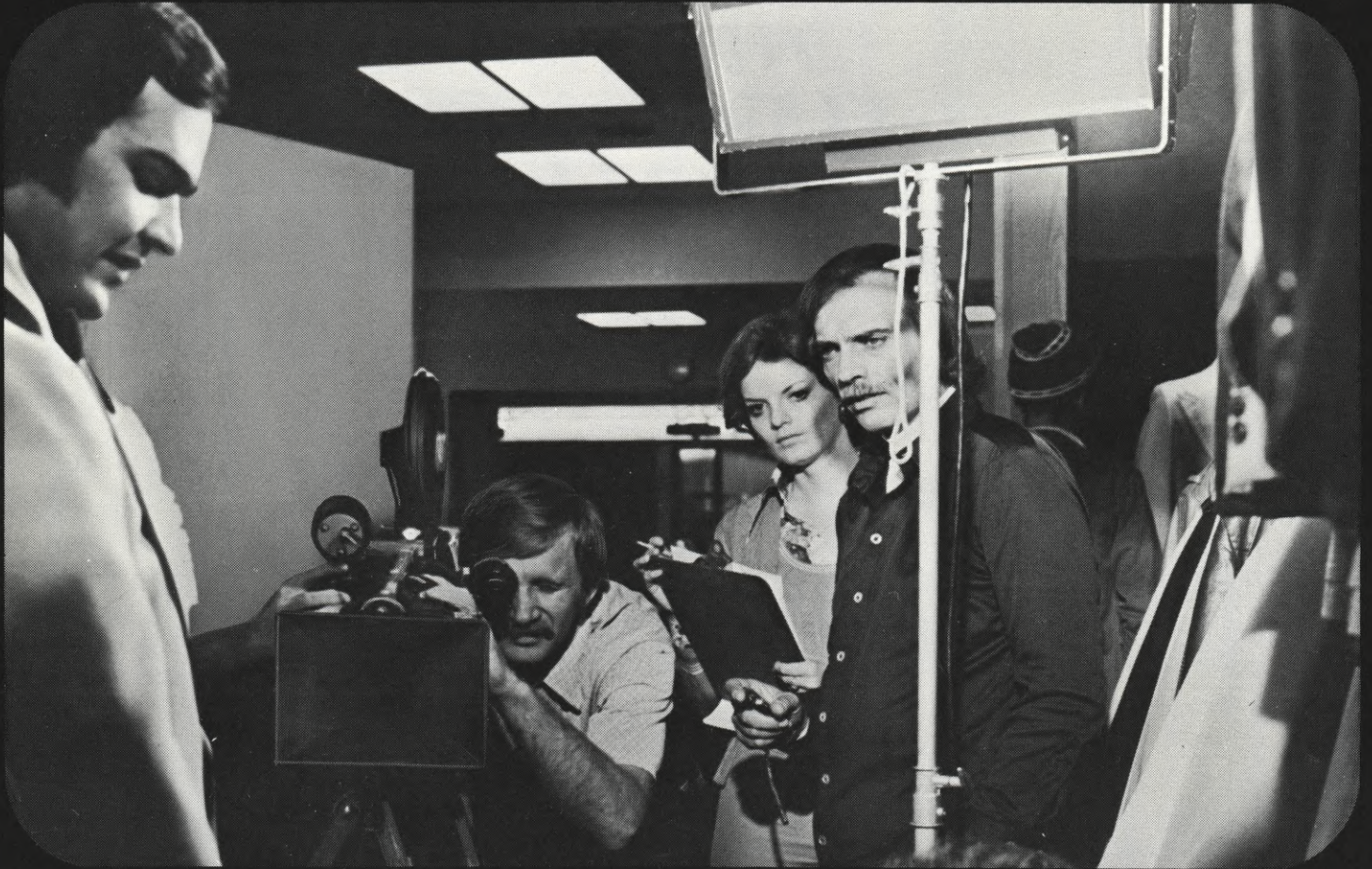
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*Herbert Prechtel, director of photography,  
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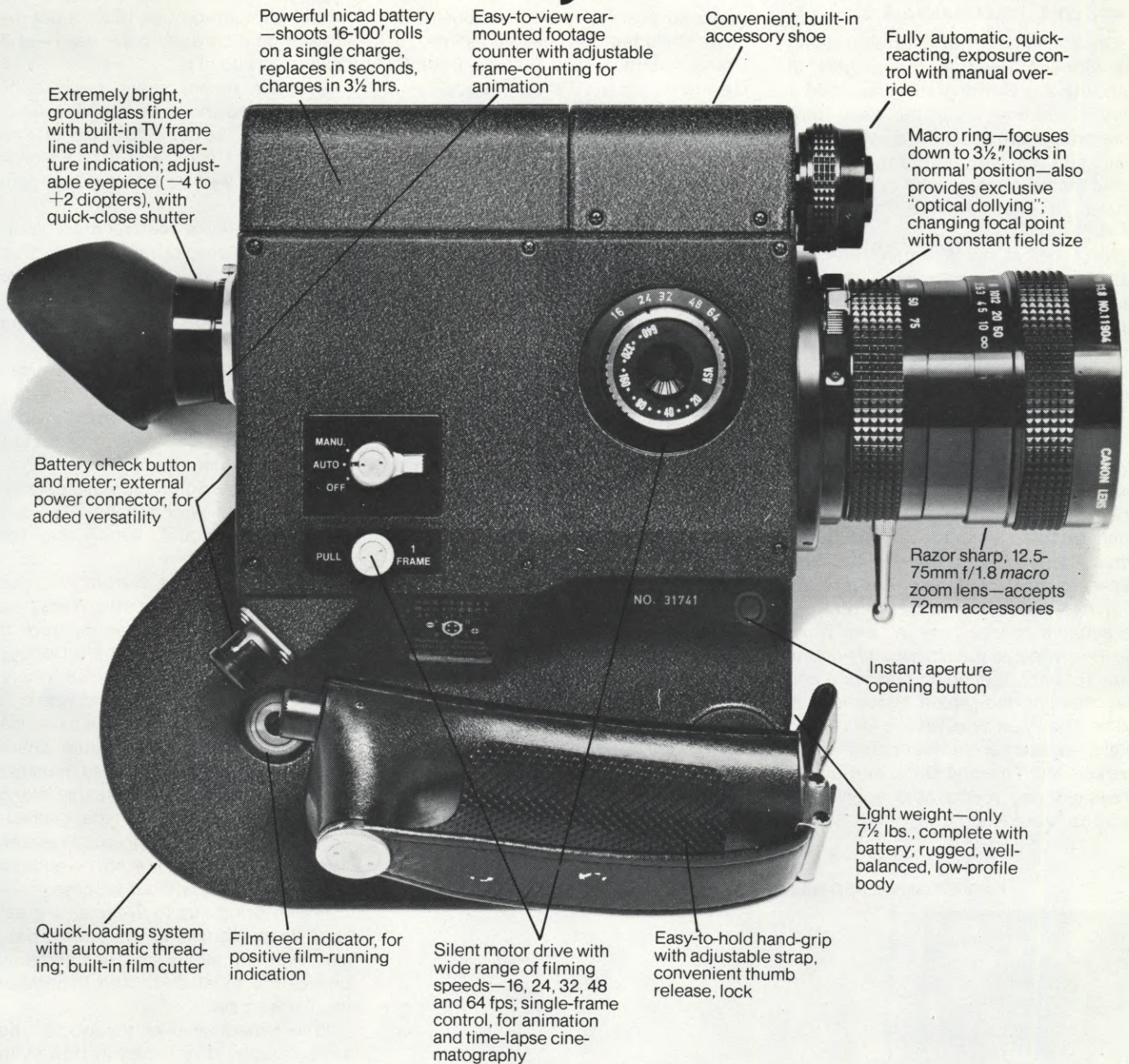
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# PROFILE: A.S.C.

By JOHN ORMOND

## HAROLD E. WELLMAN, A.S.C.

On a steaming hot afternoon along the Orinoco River in the jungles of Venezuela, a German pilot flew in to a movie location to bring word that cinematographer Harold Wellman, ASC, had just won an Emmy in Hollywood for his photography of the Frank Capra TV show, "Hemo The Magnificent".

Not only that, but Wellman's wife had just given birth to a baby girl. Mrs. Wellman promptly named her (what else?) Emmy.

"I guess you'd have to say that day in 1957 was just about the biggest of my lifetime," grins Wellman, recalling the happy double event.

Wellman, tall, lean and still athletic, is one of a small but elite group of Hollywood craftsmen whose expertise is special effects. This group includes such notable names as Linwood Dunn, Irmin Roberts, Clifford Stine and Don Weed, all masters of their unusual craft.

It was Wellman who filmed that unforgettable chariot race in "Ben Hur". He also directed the action units on the train robbery, the Indian massacre and the shooting-the-rapids sequences in "How The West Was Won". And it was Wellman, earlier in his career, who worked with Linwood Dunn and others staging those memorable special effects for "King Kong".

His 45 years in the movie business have included filmmaking stints in China, Australia, New Zealand, France, Germany, Italy, Tahiti, Yugoslavia, Venezuela, Peru, Spain and Sweden.

A native of Colorado Springs, Colo., Wellman began that notable career as a prop man in 1930. Soon, he got a job as assistant cameraman on "She Goes To War", a silent movie in the new era of sound. "I was never a camera operator," notes Wellman.

At Paramount, Harold worked as assistant on three Richard Dix films — also "The Virginian", one of Gary Cooper's best.

"We had 50 assistant cameramen at Paramount then," he says. "And they were working all year long. Course, camera crews were large, and they'd have as many as five cameras shooting on one show."

One assignment he recalls with enthusiasm was a film co-starring Lupe Velez and Bill Boyd, photographed at Goldwyn Studios.

"It was supposed to be a night club sequence in Paris," says Wellman. "And in the movie, each time she liked a man, his face would dissolve into Boyd's face. We did the whole thing in the camera by rewinding and dissolving."

Wellman eventually won his first cameraman's card in 1947, and since

then he's been active as a director of photography in both motion pictures and television, in addition to his unique vocation as special effects expert.

He also was admitted to membership in the American Society of Cinematographers, word-famed organization of the industry's top directors of photography, in 1950. "I got my 25-year gold card the other day — and I'm darn proud of it!"

In more recent years, his credits have included shows on such TV series as "Medical Center", "Streets of San Francisco", "F.B.I.", and "My Favorite Martian", as well as a half dozen pilot programs.

Still primarily a feature man, Wellman's movie credits range from "Ben Hur" and "Mutiny On The Bounty" to such as "Hawaii", "Butch Cassidy and the Sundance Kid", "Funny Girl" and "Lost Horizon".

And recently, he handled the process photography on "Day of the Locust" and the action unit on "Won Ton Ton", a modern-day version of yesteryear's canine star, Rin Tin Tin.

His latest assignment was for producer Howard W. Koch on "The Big Bus", at Paramount, supervising the process photography.

In his personal life, Harold Wellman has attained much. He and Trudy, his wife of more than 30 years, have a beautiful modern home in the Doheny Estates section of Los Angeles, where they've lived for the past seven years.

Trudy goes with her husband on every picture location, no matter where it might be. "She paints while I'm on the set," he adds. Trudy even came along with them when they were filming in shark-infested Pacific waters off Peru. Wellman admits to having gone shark-hunting on that occasion, without success.

Which brings us to Wellman's great love: deep sea fishing. It's been a passion with him all his life. He's certainly one of the most dedicated fishermen you'll ever meet.

"I've fished all over the world," he says proudly. "I've fished in Hawaii, in Australia and Tasmania and in Peru, and in all the waters around North America. We even caught a 620-pound marlin once off Kona, back in 1948. Boy, that was some kind of a thrill!"

For years, Wellman fished the oceans with an old friend who owned a 37-foot cabin cruiser. Now, his fishing crony is a retired building contractor, who owns a 51-foot fishing boat.

Needless to say, his home is filled with the trophies — and the memories — of the seas. Not to mention many significant memorabilia of Hollywood's

Harold Wellman, ASC with Mr. and Mrs. Norman Rockwell.

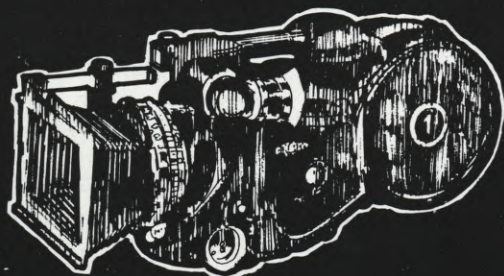


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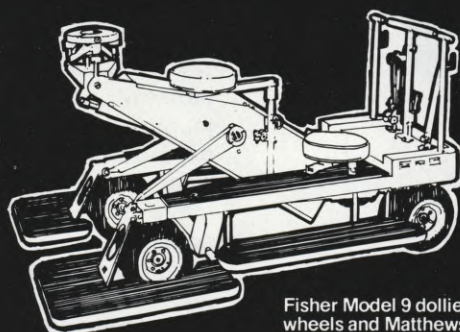
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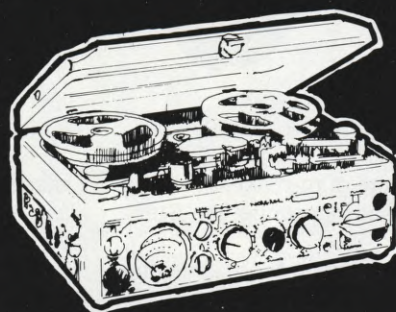
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# PHOTOGRAPHING STANLEY KUBRICK'S



Among all the film-makers of the world, there is no one quite like Stanley Kubrick.

To be more accurate, there is no one even *remotely* like him.

An early dropout from formal education, largely self-taught, but pos-

sessed of a razor-sharp intelligence and a voracious curiosity, he has, since the late 1950s steadily risen toward the very pinnacle among the rarefied ranks of world-famed film producer-directors.

Behind him there are ten feature

**Director of Photography John Alcott, BSC, and Director Stanley Kubrick scouting locations in Ireland for the Warner Bros. presentation of "BARRY LYNDON". The result of their combined expertise is a wonderfully muted, pastel, pictorial *tour de force*. The entire three-hour-plus picture was shot in actual locations — exterior and interior — with not a single studio set used.**



**A master film-maker creates an epic of such spectacular visual beauty that one critic calls it: "the most ravishing set of images ever printed on a single strip of celluloid"**

motion pictures, each one totally different from the others in both content and style. He has never twice made the same type of film.

What sort of man stands behind this astounding body of work? Nobody seems to know — for he is such an intensely private person, living and working, since 1961, encapsulated with his family in a manor house outside of London, that he has become — reluctantly, one suspects — a kind of legend, a disembodied enigma, making public his *persona* solely in terms of what he puts up there on the screen.

He cares nothing for personal publicity and is all but inaccessible to journalists — which is understandable, considering how many so-called "journalists" hanging onto the fringes of the film world are such unprincipled swine.

Yet, to those few whom he respects and trusts, he comes across as completely free of pretensions, totally honest and forthright.

When, in 1968, after "2001: A SPACE ODYSSEY" had burst like a rocket across the screens of the world, Editor Herb Lightman personally asked Kubrick to share the "secrets" of the film's stunning technical expertise with *American Cinematographer* readers, he graciously and generously did so, explaining each unique and dazzling effect in the most precise detail, holding back nothing (see *American Cinematographer*, June 1968).

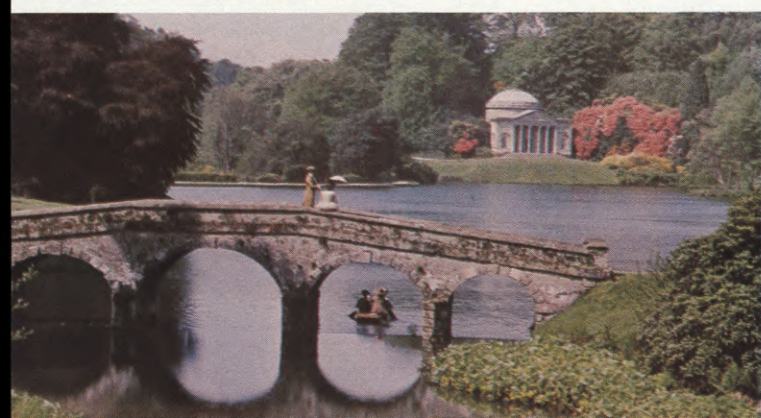
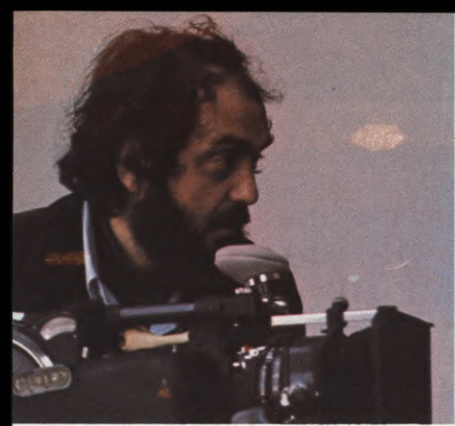
To say that Kubrick is "dedicated" is to sell him short, considering that in Hollywood a dedicated producer is all too often one who foregoes his weekly poker game in order to count the pre-view cards of his latest movie.

The term "complete commitment" comes closer to describing Kubrick's symbiotic relationship with film — but "total immersion" is even more apt. Taking as long as four years to make a single film ("2001", for example), he eats, sleeps and breathes the project, once into it. An almost fanatical perfectionist.

**Continued overleaf**

(OPPOSITE PAGE) Some scenes from "BARRY LYNDON" — each a masterpiece of lighting and composition. All color production stills in these pages are actual frame blow-ups from the original film negative of "BARRY LYNDON".









(ABOVE) John Alcott says that Kubrick "gave him his break" on "2001: A SPACE ODYSSEY", by asking him to "carry on" as Cinematographer when Director of Photography Geoffrey Unsworth had to leave the production after the first six months in order to fulfill another commitment. The two men also worked together on Kubrick's "A CLOCKWORK ORANGE". (BELOW) The Director checks out a composition through viewfinder of Arriflex 35BL camera, which was used to film almost the entire production.



tionist, he drives his co-workers seemingly beyond the limits of their endurance toward heights of achievement they never imagined, let alone hoped to attain.

Stanley Kubrick does not simply create films — he creates entire *worlds* on film. In "DOCTOR STRANGE-LOVE" he creates a world at once hysterically funny and nightmarish, a quite plausible preview of the beginning of the end of life on this planet. In "2001" he creates a world of the not-so-distant future — cold and computerized, with robot-like astronauts reaching almost mindlessly out toward the cosmic unknown. In "A CLOCKWORK ORANGE" he creates a 1984-ish world of senseless violence that is only a silly millimeter away from the chronic craziness and terrorism that prevail globally at this very moment.

And now comes "BARRY LYNDON".

In this latest epic effort, currently caressing selected screens, he translates into cinematic terms the first novel of William Makepeace Thackeray to create a pastel, pictorial 18th-century world of lush country estates, doll-like women and dueling men.

The film's central character is a slightly thick, hungrily ambitious young Irishman who longs to pull himself up by his low-born bootstraps into the airy-fairy world of the nobility — and almost succeeds in doing it.

The lavishly mounted production, released by Warner Bros., runs 3 hours and 4 minutes, and cost \$11 million — every dollar of which is visible on the screen.

In its bare bones the rise-and-fall saga of an 18th-century Sammy Glick, "BARRY LYNDON" is also practically a documentary of how people lived in the Ireland and England of that period — their manners and morals, their values and *amours*, their personal duels and large-scale battles.

It is a film on a grand scale which abounds in meticulous technical craftsmanship and — even more important — the tender loving care of Stanley Kubrick and his loyal co-craftsmen.

In his cover story for the December 15, 1975 issue of *Time* magazine, noted film critic-historian Richard Schickel wrote: "In it, he [Kubrick] demonstrates the qualities that eluded Thackeray: singularity of vision, mature mastery of his medium, near-reckless courage in asserting through his work a claim not just to the distinction critics have already granted him but to greatness that time alone can — and probably will — confirm."

Underlying this statement is the realization that Kubrick has taken a



basically talky novel and magically transformed it into an intensely visual film.

Schickel went on to write: "The structure of the work is truly novel. In addition, Kubrick has assembled perhaps the most ravishing sets of images ever printed on a single strip of celluloid. These virtues are related: the structure would not work without Kubrick's sustaining mastery of the camera, lighting and composition; the images would not be so powerful if the director had not devised a narrative structure spacious enough for them to pile up with overwhelming impressiveness."

The operative phrase out of that assertion is: "the most ravishing set of images ever printed on a single strip of celluloid." — which is quite possibly true, because "BARRY LYNDON" is a delicious feast for the eye. Each composition is like a painting by one of the Old Masters, and they link one onto the other like the tiles of a wondrous mosaic.

Pictorially, the elegant result emerges from a close collaboration between Kubrick (no mean photographer himself) and Director of Photography John Alcott, BSC.

Aside from the sheer beauty of the images, the problems of getting some of them onto the screen were considerable and unique. In the following interview, conducted by the *American Cinematographer* Editor, John Alcott discusses those problems, as well as the techniques utilized to make "BARRY LYNDON" the pictorially beautiful film that it is:

**QUESTION: You've worked with Stanley Kubrick on three pictures: "2001: A**



**Having started his career as a LOOK photographer at the age of 17, Stanley Kubrick is a supremely knowledgeable film technician, as well as talented screenwriter and inspired director. He has innovated the use of many advanced techniques — such as front projection in "2001", and is constantly on the lookout for the most progressive methods and equipment to enable the film artist to realize his cinematic visions more effectively. He exercises full creative control over his productions, including the extremely rare "final cut".**

(LEFT) Although there are many day exteriors in "BARRY LYNDON", there are not, oddly enough, any night exteriors. The closest to a night shot is this twilight scene, which was actually filmed during the "magic hour" at sunset. (RIGHT) The magnificently authentic candlelight scenes in the picture were filmed solely by actual candlelight, evoking a genuine 18th-Century atmosphere and lending the scenes a luminous glow difficult, if not impossible, to achieve with artificial lighting.







**SPACE ODYSSEY", "A CLOCKWORK ORANGE" and now "BARRY LYNDON". Can you tell me a bit about that working relationship?**

*ALCOTT: We have a very close working relationship, which began on "2001". I had been assisting Geoffrey Unsworth on that picture and then, when Geoff had to leave after the first six months, I was asked to carry on — so it was Stanley Kubrick who gave me my break. Our working relationship is close because we think exactly alike photographically. We really do see eye-to-eye photography.*







**QUESTION: What about the pre-planning phase of "BARRY LYNDON"?**

*ALCOTT: There was a great deal of testing of possible photographic approaches and effects — the candle-light thing, for example. Actually, we had talked about shooting solely by candlelight as far back as "2001", when Stanley was planning to film "NAPOLEON", but the requisite fast lenses were not available at the time. In preparation for "BARRY LYNDON" we studied the lighting effects achieved in the paintings of the Dutch masters, but*





they seemed a bit flat — so we decided to light more from the side.

**QUESTION:** You photographed both "A CLOCKWORK ORANGE" and "BARRY LYNDON" for Stanley Kubrick and, obviously, the photographic styles of these two pictures were quite different from each other. Comparing the two, purely as a point of interest, how would you describe those stylistic differences?

**ALCOTT:** Well, "A CLOCKWORK ORANGE" employed a darker, more obviously dramatic type of photography. It was a modern story taking place in an advanced period of the 1980's — although the period was never actually pinpointed in the picture. That period called for a really cold, stark style of photography; whereas, "BARRY LYNDON" is more pictorial, with a softer, more subtle rendition of light and shadow overall than "A CLOCKWORK ORANGE". As I saw it, the story of "BARRY LYNDON" took place during a romantic type of period — although it didn't necessarily have to be a romantic film. I say "a romantic period" because of the quality of the clothes, the dressing of the sets, and the architecture of that period. These all had a kind of soft feeling. I think you probably could have lighted "BARRY LYNDON" in the same way as "A CLOCKWORK ORANGE", but it just wouldn't have looked right. It wouldn't have had that soft feeling.

**QUESTION:** How did you translate "that soft feeling" into cinematic terms, and what technical means did you use to achieve it?

**ALCOTT:** In most instances we were

trying to create the feeling of natural light within the houses, mostly stately homes, that we used as shooting locations. That was virtually their only source of light during the period of the film, and those houses still exist, with their paintings and tapestries hanging. I would tend to re-create that type of light, all natural light actually coming through the windows. I've always been a natural light source type of cameraman — if one can put it that way. I think it's exciting, actually, to see what illumination is provided by daylight and then try to create the effect. Sometimes it's impossible when the light outside falls below a certain level. We shot some of those sequences in the wintertime, when there was natural light from perhaps 9 o'clock in the morning until 3 o'clock in the afternoon. The requirement was to bring the light up to a level so that we could shoot from 8 o'clock in the morning until something like 7 o'clock in the evening — while maintaining the consistent effect. At the same time, we tried to duplicate the situations established by research and reference to the drawings and paintings of that day — how rooms were illuminated, and so on. The actual compositions of our setups were very authentic to the drawings of the period.

**QUESTION:** In other words, then, you would take your cue from the way the natural light actually fell and then you would build that up or simulate it with your lighting units in an attempt to get the same effect, but at an exposurable level?

**ALCOTT:** Yes. In some instances, what we created looked much better than the real thing. For example, there's a sequence that takes place in Barry's

dining room, when his little boy asks if his father has bought him a horse. That particular room had five windows, with a very large window in the center that was much greater in height than the others. I found that it suited the sequence better to have the light coming from one source only, rather than from all around. So we controlled the light in such a way that it fell upon the center of the table at which they were having their meal, with the rest of the room falling off into nice subdued, subtle color.

**QUESTION:** In creating that particular effect, did you use any of the light actually coming through the windows?

**ALCOTT:** No, it was simulated by means of Mini-Brutes. I used Mini-Brutes all the time, with tracing paper on the windows — plastic material, actually. I find it to be a little bit better than the tracing paper.

**QUESTION:** Was most of the picture shot in actual locations, or did you have to build some sets?

**ALCOTT:** Oh, no — every shot is an actual location. We didn't build any sets whatsoever. All of the rooms exist inside actual houses in Ireland and the southwest of England.

**QUESTION:** What about the physical problems of shooting inside those actual stately homes?

**ALCOTT:** Well, we did have problems, although they didn't affect me too much. For instance, many of those stately homes are open to the public. We couldn't restrict the public from going through — so we had to cater to them. We would use certain rooms with







visitors virtually walking past in the corridor. They would simply close off that one room and have the public bypass it. However, at times our shooting schedule would be limited to the point where we had to work when they weren't touring. They would go around in groups and we would virtually shoot when they were changing over from one group to another. In many of the locations, though, we had complete freedom of the house. We didn't really have too many problems, except for having to build very large rostrums for the lighting in certain rooms. I also had rostrums built around the exterior windows. They could be wheeled out of the way for reverse angles when we were shooting towards the windows and wanted to show the view outside, as well. Such was the case in the sequence that takes place in Countess Lyndon's bedroom.

**QUESTION: Did you have to gel the windows, or were you using a daylight balance?**

*ALCOTT: In the actual interiors, most of the time, we did gel the windows, although there were a very few instances when we didn't do it. We had neutral density filters made, as well — ND3, ND6 and ND9 — so that we had a complete range to accommodate whatever light situation prevailed outside the windows. Also, on all the exterior shooting, I never used an 85 filter.*

**QUESTION: What was your reason for not using the 85?**

*ALCOTT: One reason was to get an overall consistent balance throughout*

*the entire picture. In that sense, I tend to use it as I use forced development — that is, in every scene (including those that don't actually need it), in order to maintain a consistency of visual character throughout. The second reason was simply that the exterior light was sometimes so low that I needed the extra two-thirds of a stop. Although we mostly used the zoom lens outdoors, there were many instances in which we ended up shooting wide open with the Canon T/1.2 lens.*

**QUESTION: In other words, the light was sometimes so dull, so overcast that you had to open up that lens all the**

**way. Is that right?**

*ALCOTT: Oh, yes — all the way. That was especially true in the holdup ambush sequence. We started off with a good day and there was plenty of light in the beginning, but the last part of that sequence was shot with the T/1.2 lens wide open. In order to match the brilliance of the normal daylight one had to be very fully exposed. I needed that fast lens.*

**QUESTION: Can you tell me to what extent you used diffusion in shooting "BARRY LYNDON"?**

*Continued on Page 320*





# TWO SPECIAL LENSES FOR "BARRY LYNDON"

By **ED DiGIULIO**

*President, Cinema Products Corporation*

My first contact with Stanley Kubrick was when he was referred to me by our mutual friend, Haskell Wexler, ASC, during Kubrick's preparation for "A CLOCKWORK ORANGE". Haskell indicated to him that I and my company were very responsive to the demanding needs of professional filmmakers, especially when it came to coming up

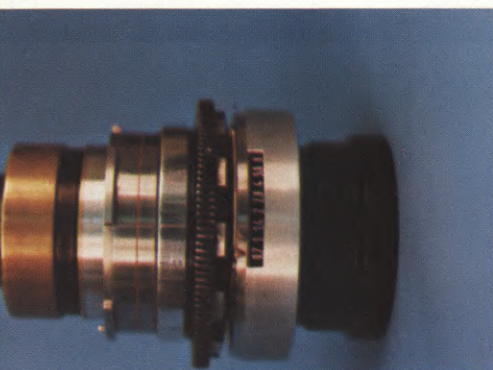
with unique solutions to difficult problems.

For "CLOCKWORK" we purchased a standard Mitchell BNC for Kubrick and overhauled it, but did not reflex it or modify it in any special way. Kubrick's attitude has always been that he would rather work with a non-reflexed BNC and thereby gain tremendous flexi-

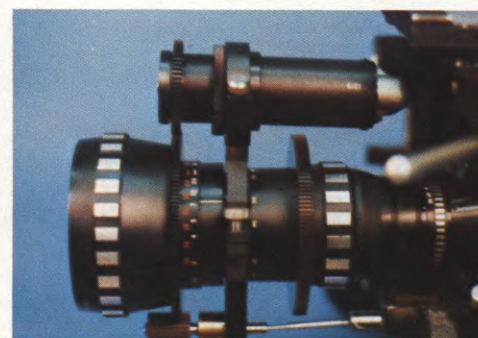
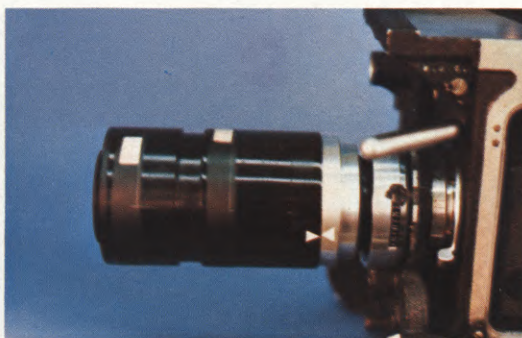
bility and latitude in the adaptation of special lenses to the camera — as was subsequently the case on "BARRY LYNDON". For "CLOCKWORK" we also supplied the major accessory items for which we are well known, such as the "Joy Stick" zoom control, the BNC crystal motor and the Arri crystal motor.



Two of the stunning candlelight scenes from "BARRY LYNDON", photographed with modified Zeiss 50mm and 36.5mm f/0.7 lenses.



(ABOVE LEFT) The Zeiss 50mm, f/0.7 lens, shown in special focusing-mount (and with adjustable shutter blade removed). (CENTER) In front, the specially modified Zeiss 50mm, f/0.7 lens. Behind it, the lens before modification. (RIGHT) Zeiss 50mm f/0.7 lens with Kollmorgen adaptor, creating an effective focal length of 36.5mm (BELOW LEFT) Zeiss f/0.7 lens in special focusing mount. (CENTER) Lens with Kollmorgen adaptor — 36.5mm focal length. (RIGHT) The Cine-Pro T/9 24-480mm zoom lens, shown with J-4 zoom control.



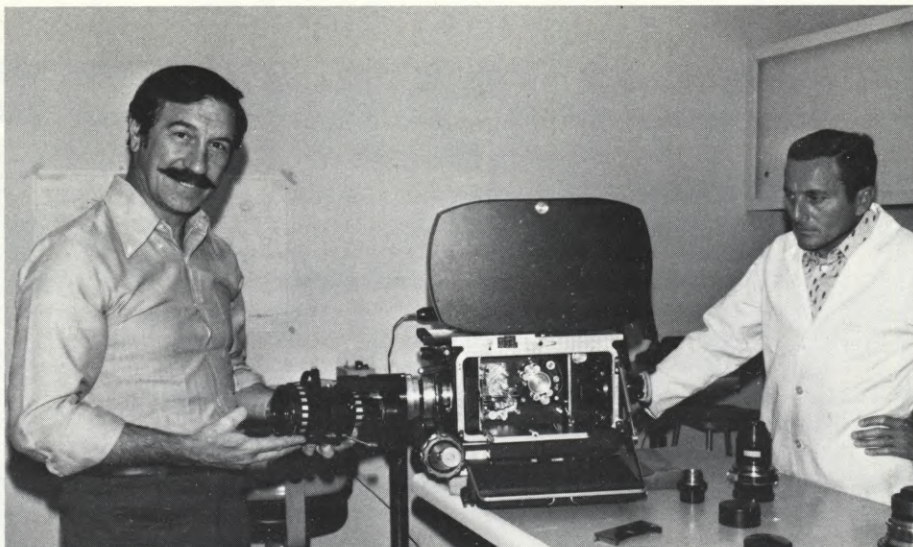


At the very early stages of his preparation for "BARRY LYNDON", Kubrick scoured the world looking for exotic, ultra-fast lenses, because he knew he would be shooting extremely low light level scenes. It was his objective, incredible as it seemed at the time, to photograph candle-lit scenes in old English castles by only the light of the candles themselves! A former still photographer for *Look* magazine, Kubrick has become extremely knowledgeable with regard to lenses and, in fact, has taught himself every phase of the technical application of his filming equipment. He called one day to ask me if I thought I could fit a Zeiss lens he had procured, which had a focal length of 50mm and a maximum aperture of f/0.7. He sent me the dimensional specifications, and I reported that it was impossible to fit the lens to his BNC because of its large diameter and also because the rear element came within 4mm of the film plane. Stanley, being the meticulous craftsman that he is, would not take "No" for an answer and persisted until I reluctantly agreed to take a hard look at the problem.

When the lens arrived, we could see it was designed as a still camera lens, with a Compur shutter built into the lens. The diameter of the lens was so large that it would just barely fit into the BNC lens port, leaving no room for an additional focusing shell. As a consequence, we had to design a focusing arrangement so that the entire lens barrel rotates freely in the lens port. To avoid possible binds that might result from this unconventional mode of operation, we added a second locating pin to the standard BNC lens flange, so that the two pins securely held the lens barrel concentric with the lens port during operation.

The problem of the close proximity of the rear element to the film plane was a much more difficult matter to resolve. To begin with, we removed the adjustable shutter blade, leaving the camera with only a fixed maximum opening. We then had to machine the body housing and the aperture plate a considerable distance inward so that the fixed shutter blade could be pulled back as far as possible toward the film plane.

Naturally, the Compur shutter had to be dismantled and the iris leaves altered so that they could be manually operated in the normal manner. Calibrating the focus scale on the lens presented quite a problem, too. A lens as fast as this has an extremely shallow depth of field when shooting wide open, so Kubrick understandably wanted to have as broad a band spread on the scale as possible. To do this we



Ed DiGiulio, President of Cinema Products Corporation, shown holding the new Cine-Pro 20-to-1 (24mm-480mm) lens, which was originally designed at the request of Stanley Kubrick specially for filming "BARRY LYNDON". The Zeiss 50mm, f/0.7 lens, with the Kollmorgen adaptor, is mounted on the non-reflexed Mitchell BNC camera utilized to shoot the film's candlelight sequences.

used an extremely fine thread for the focusing barrel and this resulted in a scale which required two complete revolutions to go from infinity down to approximately 5 feet. We had to stop at 5 feet or it would have taken several more revolutions to bring it to the near focus point. Kubrick agreed that this was as close a focus as he would require, and that stopping at two revolutions would make the scale less ambiguous.

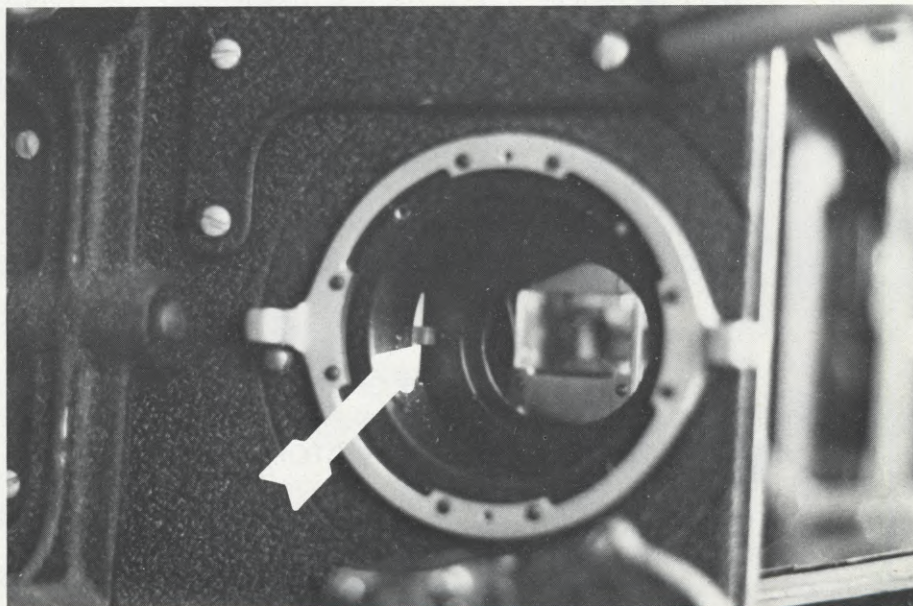
Remembering that this lens was to be used on a non-reflexed BNC and, further, that the rear element of the lens came within 4mm of the film plane, an additional problem was that the camera could not be racked over to the viewing

position if the lens were in its normal filming position. Accordingly, we designed a safety interlock switch so that the lens had to be rotated a full nine revolutions out before the micro switch would trip, permitting the camera to be racked over. In this manner we protected the rear element of the lens from being inadvertently smashed if the operator attempted to rack over before the lens was moved forward sufficiently.

The lens and camera were sent to Kubrick who film-tested it and reported that the results were fantastic. He found, however, that he did have to recalibrate our scale, apparently be-

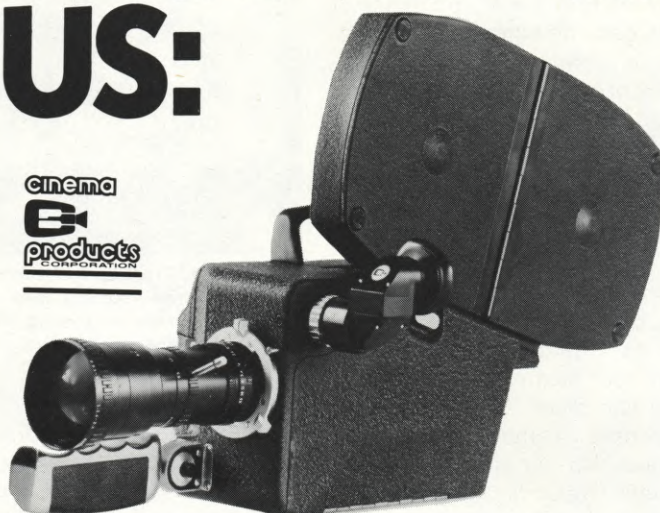
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**To protect the rear element of the Zeiss 50mm, f/0.7 lens (which was within 4mm of the film plane), a special safety interlock switch was designed so that the lens had to be rotated a full nine revolutions out before the micro-switch would trip, permitting the camera to be racked over.**





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The Horsley Studio and Bostock Animal Farm at Washington and 18th Streets in Los Angeles, 1915.

## HISTORIC HOLLYWOOD MOVIE STUDIOS - PART I

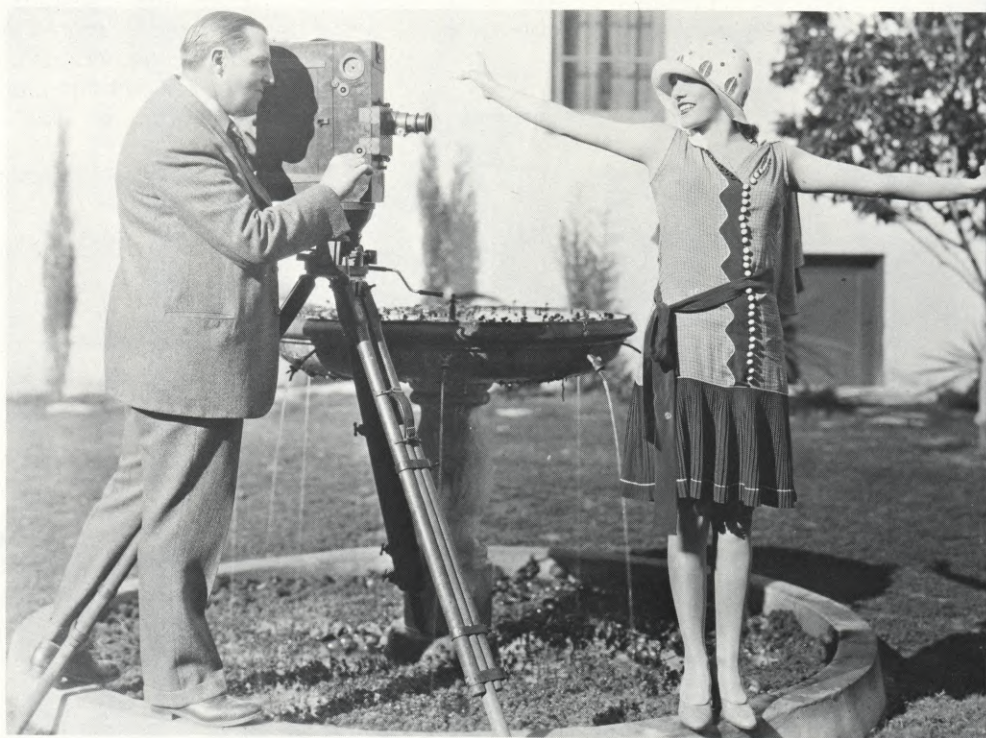
The first installment of a three-part pictorial backward glance at Movietown, U.S.A., in the days when it was growing up and and cameramen were hand-cranking monarchs of all they surveyed

By MARC WANAMAKER

The cameraman, the movie studios and Los Angeles, all had several things in common during the beginnings of the film industry in the United States. Los Angeles, in the early 1900's was an agricultural center with small communities located in different parts of the basin. The populated areas now known as Pasadena, Glendale, Boyle Heights and Hollywood, more or less surrounded the original downtown business district, where the film processing laboratories and distributing exchanges were located.

These areas were a cameraman's paradise, with a choice of hills and valleys, and somewhat farther away lay the ocean, with its sparsely settled communities. The California weather was a major factor in bringing motion picture producers to the west coast, since cameras could grind away out-of-doors almost all year long.

A columnist of the day wrote: "Clear air and sunshine are available three hundred days out of the year, perfect



(ABOVE RIGHT) The legendary G.W. "Billy" Bitzer, famed as Director D.W. Griffith's cameraman and right-hand man, cranks a shot of "Mexican Spitfire" Lupe Velez in the 1920's. (BELOW) A busy day at the Selig Studio Camera Department in 1911. Col. William Selig first sent a unit of his Selig Polyscope Company to do some filming on the West Coast in 1907. They constructed the first set ever built in Los Angeles, on a rooftop open stage at 8th and Olive Streets in the downtown area.





conditions for picture making. The scenic advantages are unique. From the heights of Edendale, one can see the Pacific Ocean and the broad panorama of southern California with its fruit and stock ranches, its snowcapped mountains and its tropical vegetation to the east, north and south. Within a short distance of Edendale may be found every known variety of national scenery, seemingly arranged by a master producer expressly for the motion picture camera. In this enchanted land are produced those startling and spectacular westerns that so enchant the movie audiences."

Back in 1904, Roy Knabenshue made his film "OLD DIRIGIBLE" at the Washington Gardens (an amusement park later known as Chutes Park) at Main and Washington Sts. In 1915, David Horsley would build Horsley Park — Bostock Zoo, nearby.

In 1907, Col. William Selig, a Chicago film producer, hired a well-known stage director, Francis Boggs, to take a unit of his Selig Polyscope Company to the west coast. They made films at first using the natural scenery of Colorado and continued on to California, where the first set ever built in Los Angeles was set up on an open stage on a roof top at 8th and Olive Sts. downtown. There they made a one-reel version of the opera "Carmen" and shot scenes from "THE COUNT OF MONTE CRISTO", also complete in one reel. The thrilling ocean scenes from the latter were made on the beach at Laguna and farther west at Venice.

The following year, Col. Selig sent a newly outfitted Francis Boggs to New Orleans with a company of actors and cameraman James Crosby. Again they ended up in Los Angeles. In 1909, "permanent facilities" were set up in rented space in the rear lot of the Sing Loo Chinese Laundry on Olive St.



**Selig Zoo-Studio entrance at 3800 Mission Road, Eastlake Park, in 1913. Selig built this facility as a permanent location for filming jungle-adventure-animal pictures. Covering thirty-two acres of ground and housing one of the largest animal collections in the United States, it was considered one of the showplaces of Los Angeles.**

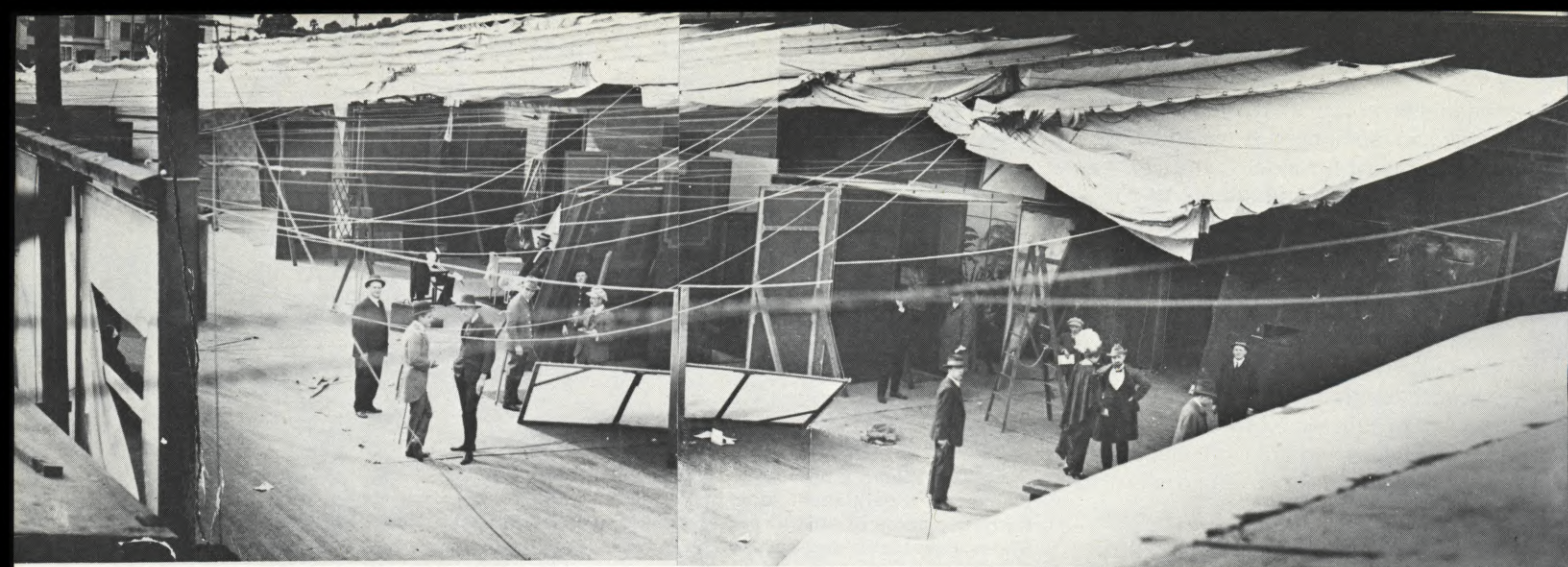
**The N.Y.M.P.C. (New York Motion Picture Company) Studio, located on the beach at Santa Monica, as it looked in 1913. It offered a convenient variety of seashore canyon, and mountain backgrounds for filming. It was later known as Bisonville, Inceville, Hartville and Robertson-Cole "ville". Buildings in the foreground are storage sheds.**



**(LEFT) Thomas H. Ince directing "CIVILIZATION" at the Santa Monica Studio-ranch in December of 1915. (RIGHT) Main entrance of the Selig Edendale Studio, located at 1845 Allessandro Street (now Glendale Boulevard), circa 1910. It was one of the first of several studios ultimately to be located in the Edendale area.**





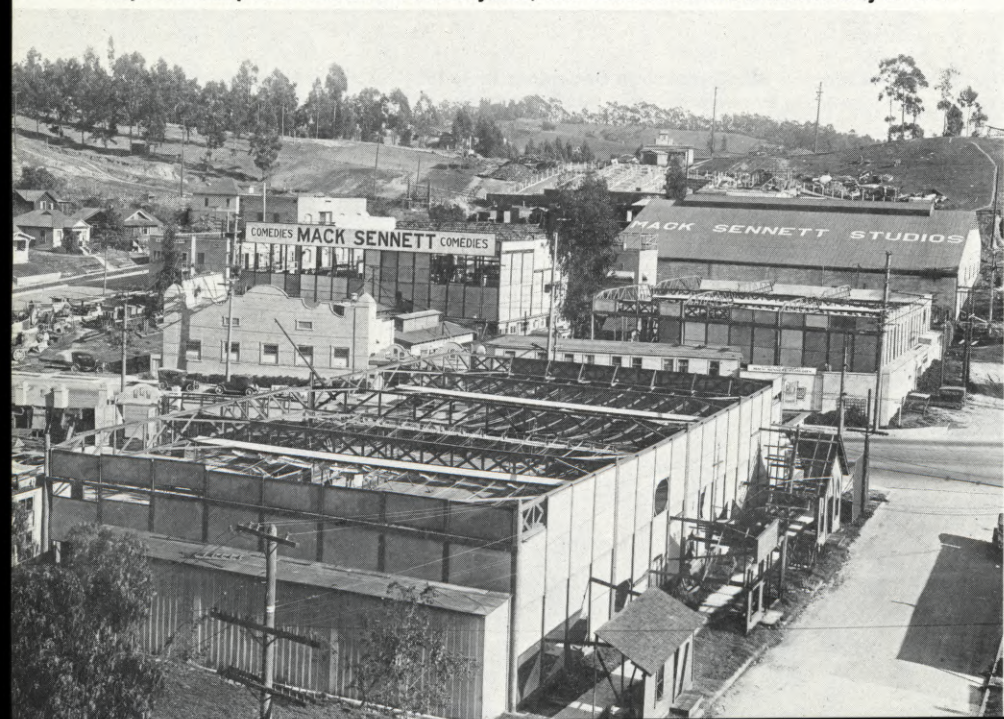


In the beginning there was no artificial light available to the infant motion picture industry, so all filming was done on open sets, a fact that was largely responsible for the filming action to move from the East Coast to California. However, since the West Coast sunshine was a bit harsh, light diffusers draped over the open stages were rigged to provide a simple but effective way to control the sunlight source.



The Triangle/Fine Arts Studio at the junction of Sunset Boulevard and Hollywood Boulevard. It had formerly been the Majestic-Reliance Studio. Director D.W. Griffith filmed "INTOLERANCE" across the street from where this photograph was taken, building one of the largest sets ever constructed for a motion picture.

The Mack Sennett Studio at 1712 Allesandro Street in Edendale, about 1916. This studio, which was headquarters for the New York Motion Picture Company and Mack Sennett, was a major motion picture center for fifteen years, until Sennett moved to Studio City in 1927.



between 7th and 8th Sts. They made "THE HEART OF A RACE TRACK TOUT" there, the first complete movie ever made in California, also using the old Santa Anita Race Track, which was about to be closed down.

In 1910, Col. Selig opened one of the first studios in the Edendale area at 1845 Allesandro Ave. (now Glendale Blvd.). Later, in 1911, he bought land in what is now the Lincoln Park area to build a studio-zoo to film jungle-adventure-animal pictures. From an article in 'Moving Picture World' in 1917, G. P. Von Harleman, a staff reporter, wrote about his visit to the motion picture studios of California and specifically about Edendale and other film producing areas: "The Selig Zoo at Eastlake Park is one of the show places of Los Angeles. It covers thirty-two acres of ground and is situated at 3800 Mission Road. Col. Selig has assembled here one of the largest animal collections in the United States. At the entrance to the zoo is an animal sculpture of great beauty. The studio-zoo is of Mission Style with a large patio and well-kept lawn. There are many different animal compounds and an amusement pavilion in the center. The studio part of the zoo is at the rear end of the park. Near the stages are concrete dressing rooms, shops and a camera department."

Fred Balshofer, one of the early California film pioneers and a founder of the New York Motion Picture Company, once described the Los Angeles area as he found it when he brought the Bison Company west in 1909 and set up a makeshift studio near Selig at 1719 Allesandro Ave. He remembered that they photographed scenes around the Echo Park and Hollywood areas, riding "their horses from the studio in Edendale to the hills of Hollywood over



winding roads". There were "some adobe buildings on several ranches and farms just west of La Brea and Prospect Ave." (later Hollywood Blvd.) where the Bison Company photographed horse chases, gun battles, stagecoach holdups and other similar scenes, before Balshofer discovered Griffith Park. He described the park as "a beautiful place with tree-covered hills, ideal for western pictures. It was only a few miles from our studio and many times we would set up an Indian village and leave it there for a few days at a time, in the section now known as the Griffith Park Golf Course." The cameramen who worked for Balshofer and their New York director Thomas Ince, were young and inexperienced, since most of the professionals were on the east coast. Maxwell Smith came west with the Bison Company as a cameraman until Balshofer discovered he was planted by the Patents Company to report back on their picture-making activities. Robert Newhard then took over the camera cranking under Balshofer's tutelage, learning the craft by trial and error.

By 1912, the Bison Company, with Thomas H. Ince as manager in charge of production, moved from Edendale to the Santa Ynez Canyon. There, where today Sunset Blvd. meets the Pacific Coast, was the NYMPC Studio ranch. Known as Inceville, then Bisonville and Hartville, the studio ranch was their most important producing center. Ince made "War on the Plains", "Custer's Last Fight" and "Civilization" at this location.

1910 saw several major film companies arriving in Edendale and other areas in the Los Angeles basin, complete with eastern cameramen and equipment. The well-known Biograph Company (a Patents member) sent their director, D. W. Griffith, and their star, Mary Pickford, to the west coast, where they set up three studios during a two-year period. Between trips back east, they set up a temporary studio at 312 California Ave. in Santa Monica, later moving to Grand and Washington Sts. and in 1911 to 906 Girard St. (now Pico and Georgia) in downtown Los Angeles. Billy Bitzer, Griffith's cameraman, not only cranked his camera, but was Griffith's right-hand man at these studios, developing together their new techniques of camera usage and lighting. At the Biograph Studio, as well as at the other studios, the early cameramen used muslin scrims as light diffusers, installed on overhead trolley systems while they shot on an open stage.

After leaving the Biograph Com-  
**Continued on Page 286**

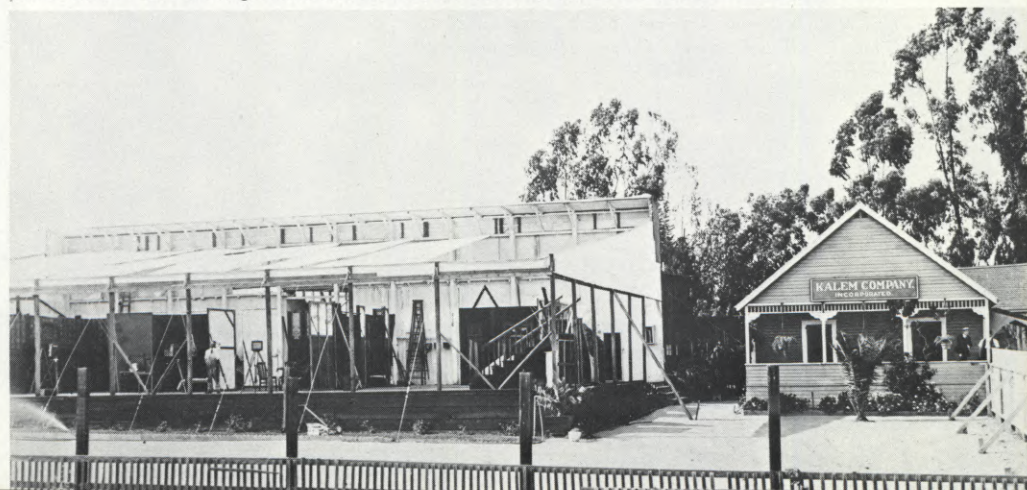


**Mack Sennett directing an "exotic temptress" in a Triangle/Keystone film at the Keystone Studio in 1915. His later formula of combining slapstick comedy with "bathing beauties" led to his becoming one of the most highly successful of the early motion picture producers.**



**The Nestor Studio at 6101 Sunset Boulevard in 1913. This facility also housed the Christie Film Company, a production facility which became famous for the comedies which it produced. The comic form, developed on film in Hollywood, became a highly individual and popular entertainment, appreciated by audiences all over the world.**

**This modest facility housed the Kalem Hollywood Studio and was located on the site of what is now the KCET-TV Studios, where programs are produced for the Public Broadcasting network. Known as Fleming Street in 1912-13, the thoroughfare is now called Sunset Avenue.**





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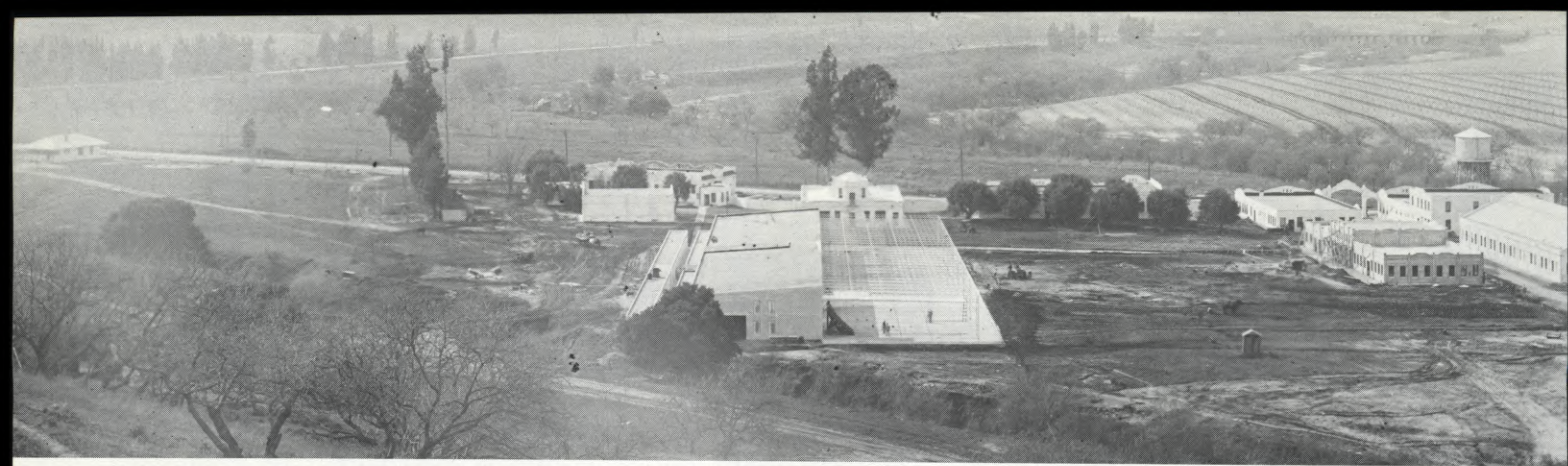
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... the check and  
double check people





The beginning of Universal City, 1913-14 (looking west). If the terrain looks suspiciously like farmland, it is because Los Angeles, in the early 1900's was, indeed, an agricultural center, with small communities located in different areas of the basin. The populated areas, now known as Pasadena, Glendale, Boyle Heights and Hollywood, more or less surrounded the original downtown business district, where the film processing laboratories and distributing exchanges were located.



David Horsley, Mrs. Horsley, Al Christie and Mrs. Christie, shown at a reunion in 1930, for the purpose of dedicating a plaque at Gower Street and Sunset Boulevard, commemorating the establishment of the first motion picture studio to be built in Hollywood, in 1911.

Studio personnel of the L-KO (LEHRMAN-KNOCK OUT) Motion Picture Company proudly line up to have their group picture taken on April 22, 1916. This company operated on the old Universal lot, which was then located at Gower Street and Sunset Boulevard ("Gower Gulch").



## HOLLYWOOD MOVIE STUDIOS Continued from Page 283

pany, Griffith joined other companies which gave him a freer hand in making the films of his choice. The Majestic-Reliance Company at 4500 Sunset Blvd. moved in 1914 and left their plant for Griffith, to make films for the newly formed Triangle Film Company. Under his management, the studio was called the "Fine Arts Studio" where he and Billy Bitzer made "BIRTH OF A NATION" and "INTOLERANCE".

At the beginning of 1912, Richard V. Spencer, a reporter for Moving Picture World, reported on his visit to Edendale and the studios there. "Los Angeles and vicinity have acquired their reputation in the production of western and Indian pictures. The Selig Company chose Edendale for their headquarters and have erected a \$75,000 plant. Within a block of them, is the Pathé West Coast Studio at 1807 Allesandro Ave. and a block below Pathé is the Bison Studio at 1719. More eastern producers are making preparations to come this year, making Los Angeles the new center of filming in the world".

By 1913, the New York Motion Picture Company set up their Keystone Comedy Company at 1712 Allesandro Ave. with Mack Sennett as Managing Director. This studio, which was headquarters for the NYMPC and Mack Sennett, was a major motion picture center for fifteen years, until Sennett moved to Studio City in 1927.

Many of the independent companies were fleeing the Edison Patent agents in the east, who confiscated any cameras not controlled by them. They were known as "blanket companies", because the assistant cameraman would throw a blanket over the camera if an agent showed up in the vicinity.

The Essanay and the Kalem Film Companies, two large producers in the east, came to Los Angeles and set up



crude studios in Glendale, Hollywood, Santa Monica and downtown Los Angeles.

When David and William Horsley opened their west coast studio in an old tavern at the corner of Gower and Sunset Blvd., Hollywood was a small farming community. Their company produced Nestor Comedies with Al Christie as director and their studio was the first in the Hollywood area in 1911.

In 1912, across the street from the Nestor Company, on the south side of Sunset Blvd. at Gower, was the first temporary home of the newly organized Universal Film Manufacturing Company. They were there until the North Hollywood site was ready by August of 1914. Universal City was opened officially in March of 1915. Carl Laemmle, President of Universal, eventually moved all of their production to the new North Hollywood studio, using sixteen producing companies, making one- to five-reel films there. By 1917, Universal City, in addition to its regular departments, maintained a hospital, a police department, a fire department, a restaurant, garages and a zoo. John M. Nickolaus was the superintendent of photography and Edward Ullman was chief cameraman.

When Universal moved from Sunset Blvd., Henry Lehrman, L-KO (the legal name of his company), a Sennett comedian and the Century Film Company, both part of Universal, shared the lot.

By 1916, Sunset and Gower was a major movie studio center with many directors, cameramen and western players employed by many small companies.

Jesse Lasky, a film producer from New York, came to Los Angeles in 1913 with his partners, Samuel Goldfish (Goldwyn), Arthur Friend and their director, Cecil B. De Mille, and opened

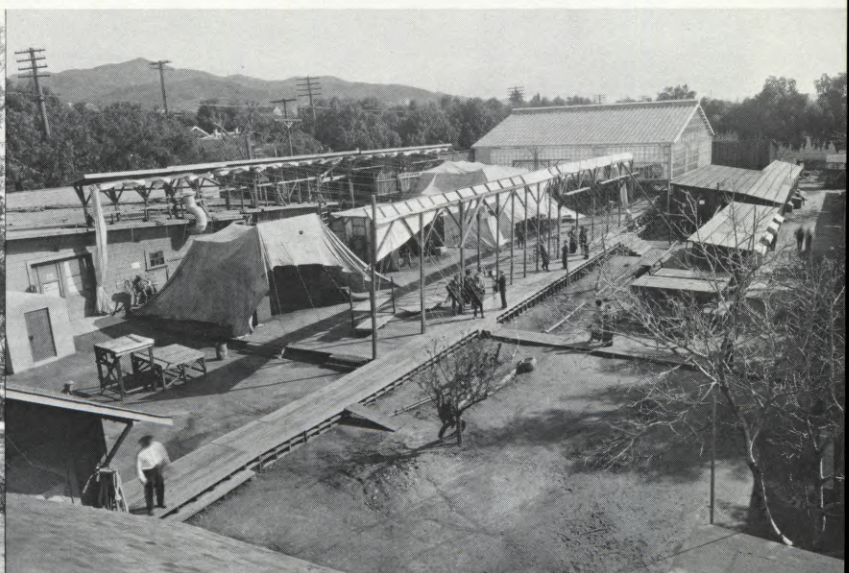


**The Century Studio at 6102 Sunset Boulevard in 1916. In the early days of filming fever in Hollywood, studios, large and small, sprang up like mushrooms, and many disappeared just as suddenly. Several of those that survived eventually evolved into the major studios of today.**



**The Clune Studio in 1915. Sharing the studio was the Famous Players Company from New York. (Left to right) Albert A. Kaufman (Famous Players West Coast Manager), Lottie Pickford, Mary Pickford, Donald Crisp (Director, Clune) and Allan Dwan (Director, Famous Players). Starting as a director, Crisp later attained fame as a character actor.**

**(LEFT) The Clune Studio, located at 5300 Melrose, shown in 1915. Today the Producers Studio occupies the once-famous lots of Tech Art, Prudential and California Studios. (RIGHT) The Lasky Studio at Selma and Vine Streets in 1916. C.B. DeMille's "THE SQUAW MAN" was filmed here in 1913.**







**(ABOVE)** The William Fox Studio, 1918, formerly the Thomas Dixon Studio, located at Western Avenue and Sunset Boulevard. It later became an auxiliary facility of 20th Century-Fox Studios. **(BELOW)** Previously (1917) the William Fox Studio had temporarily been housed at 1845 Allessandro St., the old Selig Studio in Edendale.



The washing and drying room at Famous Players Lasky (later Paramount Pictures) in 1920. Early motion picture developing methods were very primitive, with 100-foot rolls of film wound onto tracks like this and lowered into tanks for development. A later innovation, pre-dating development machines, had the film wound onto circular, drum-like racks.



a studio in a barn at Selma and Vine Sts. Their star was Dustin Farnum and their film was "THE SQUAW MAN". The cameramen for the new Lasky Company were Alvin Wyckoff, Al Gandolfi, Fred Kleu and managing cameraman and director, Oscar Apfel. Eventually, this company, later known as Famous Players Lasky, would expand into one of the largest film companies in the world, Paramount Pictures Corporation.

William H. Clune, the successful Los Angeles theatre owner, set up his own studio in 1915, at 5300 Melrose Ave. Donald Crisp was the Managing Director and made one of the first "Ramona" pictures on the Clune lot. The Famous Players Company of Adolph Zukor shared the lot with Clune in 1915. Mary Pickford and Company used the Clune studio as their temporary home before returning to New York.

William Fox began to make his films in Los Angeles at the old Selig studio in 1917, but moved a year later to the old Dixon studio at Sunset and Western. Theda Bara made her most famous pictures at this lot, as did Tom Mix.

Eastern money began to invest in movie studios by 1917, after the Patents Company was finally defeated in the courts. Permanent facilities stretched from the Sonoma Photoplay Studio in northern California to the Balboa Studio, south of Los Angeles. Many of them grew to be giant film factories, and as they grew, so did their various departments. With new developments in film and cameras came new developments in the technique of filming. By 1920, cameramen were becoming skilled and experienced technicians. The old-fashioned methods of developing by hand were still used, however, even by the largest companies.

The studios covered in this article are a cross section of some major and minor studios which motion picture cameramen knew so well in those days in Los Angeles. There are few cameramen living today who remember the studios on Allessandro, Melrose or Sunset. It is most important that more information be saved for the future. It was these studios and the men who worked in them which made the film industry's history in Los Angeles an important milestone in the development of film-making as an art and of Los Angeles as the film center of the world.

In the early years of picture making, starting a company seemed very easy. All one had to do to launch a motion picture company, was to buy a camera, employ actors, turn the crank and make money! It was very often,

**Continued on Page 297**





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## WHAT'S NEW

Continued from Page 246

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### CANON ANNOUNCES CRYSTAL CONTROL UNIT FOR 16mm SCOOPIC 16M

Canon U.S.A., Inc. has announced the availability of the Canon Crystal Control Unit for its Scoopic 16M 16mm camera, which gives the professional filmmaker the ability to shoot sync sound with the Canon Scoopic 16M. Slightly larger than a pack of cigarettes (0.9 x 3 x 4.8"), the compact solid-state module mounts on the camera's accessory shoe (or fits into the cameraman's pocket), connecting to the camera via a 6-foot coil-cord. All power is derived directly from the camera.

Modification of the 16M, which can be readily accomplished at any Canon Factory Service Center, is required for use with the Crystal Control Unit.

For more information, write or call Professional Motion Picture Products Division, Canon U.S.A., Inc., 10 Nevada Drive, Lake Success, New York 11040. (516) 488-6700. 123 East Paularino Avenue, Costa Mesa, California 92626. (714) 979-6000. 3245 American Drive, Mississauga, Ontario (416) 678-2730

### NEW CHANGING BAG INTRODUCED BY MATTHEWS STUDIO EQUIPMENT

A unique film changing "bag within a bag" has been introduced by Matthews Studio Equipment, Inc.

Developed by motion picture cameraman Jim Myrah and dubbed the "MY-BAG", it features a self-contained aluminum carrying case within which is an inner double layer of rubberized cotton and an outer layer of polished cotton. According to Roy Isaia, president of Matthews, this design substantially diminishes heat build-up found in standard changing bags. Elastic arm bands and a light-tight door prevent light from entering bag when changing film.

The bag's design eliminates three major problems found in standard changing bags: there are no zippers; and the metal framework keeps the material away from the hands to prevent clinging and allows magazines to be closed without catching the bag material.

Among other features of the MY-

BAG are a folding metal floor and optional accessory doors which can be used for an assistant's kit and to hold film magazines.

The MY-BAG will accept all existing magazines, including the Mitchell 16mm 1200'. It can also be used to unjam cameras or as a still-photo film loading and changing bag.

Open, MY-BAG's access area is 18" (w) x 13" (h) x 28" (l); closed, the case measures 18" x 13" x 4". Weight is approximately six pounds.

Complete specifications and prices are available from Matthews Studio Equipment, Inc., 2405 Empire Avenue, Burbank, CA 91504; phone (213) 843-6715; telex 691-599.

### NEW HIGH-INTENSITY "COOL" LUMINAIRE

Art Bodkins Optics announces the availability of its new SUN-SCOUT 650 luminaire designed for high-intensity lighting, with an 80% reduction of heat in the projected light beam. This unit does not require use of the conventional seal beam lamps.

The features of the SUN-SCOUT 650 are as follows:

1. Employs DVY 650 watt min-pin lamps rated for 25 hours 20,000 lumens. Also, 600 watt lamps rated for 75 hours 17,500 lumens can be employed.

2. A reduction of 80% radiant energy (heat) in the transmitted light beam at the utilization distance of ten feet.

3. Employs correct color temperature cold mirror reflectors for either tungsten or daylight-type color films (3200° or 5600°K). The special color correction reflectors are interchangeable and a dichroic daylight correction filter is not required; therefore, the lumen output is increased by this new system.

4. A wide variety of beam spread lenses are available which includes very narrow; narrow; medium; wide and extra-wide beam spread. The unit come equipped with detachable barn-doors; double-pole toggle switches; all-aluminum heavy-duty construction. The unit will sell for \$485.00 which includes 9 DVY lamps either 650 watts or 600 watts, and all other accessories.

For further information, contact: ART BODKINS OPTICS, 77 Summer Street, Boston, Mass. 02110. (617) 542-1944.

### MINOLTA OFFERS COLLEGE STUDENTS FREE 44-PAGE BOOKLET ON TRAVELING WITH A CAMERA

Minolta Corporation has announced that it is offering free to college stu-

dents a new 44-page, full-color booklet prepared specifically to help them get more out of traveling with a camera. The booklet, *Picture America — A Student's Guide To Traveling With A Camera*, was designed to sell for \$2.00. It has been written with the particular travel interests of students in mind, and includes a list of camera usage policies for major museums throughout the United States, plus an unusual fold-out map pinpointing more than 100 places of photographic interest and indicating the major interstate highways that reach them.

#### *Packed with Tips for Better Travel Pictures*

The *Picture America* booklet is crammed with valuable information to increase a student's knowledge and enjoyment of taking pictures while traveling. It's a particularly appropriate guide to recording the sights of America's Bicentennial celebration. Topics covered include:

- Choosing the right equipment and film.
- Packing and care of equipment while on the road.
- Techniques for photographing a variety of subjects ranging from people to architecture to works of art.
- Composition and perspective.
- Handling special weather and light conditions.
- How to shoot moving subjects.
- How to tell a story with a single picture.
- How to put together an effective photo essay.

#### *Photojournalism Instructors May Obtain Up To 25 Free Copies For Distribution to Students*

College instructors of photojournalism may order copies of *Picture America* at no charge for distribution to photography students. Photojournalism instructors who wish to receive *Picture America* for class use should send their request, specifying the quantity desired, to: Picture America, Minolta Corporation, Advertising Department, 101 Williams Drive, Ramsey, New Jersey 07446.

#### *Single Copies of Picture America Available Directly to Students*

College students who would like to have a complimentary copy of the *Picture America* booklet may obtain one by writing to: Picture America Minolta Corporation, P.O. Box 715, Garden City, New York 11530. This offer is limited to one copy per student request.

Continued on Page 312

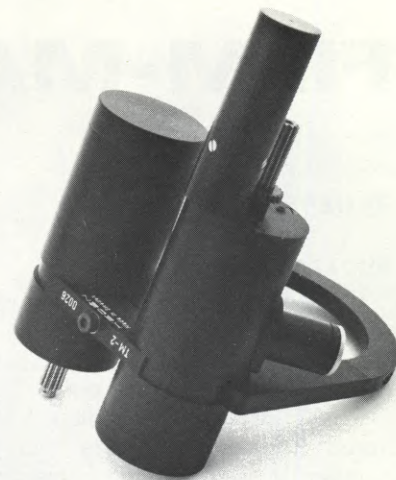


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The HEDÉN VARIO ZF-2000 electronic remote control for zoom lenses

is not just another zoom control. It's an entirely new design concept for remote zoom and focus control for 16 and 35 mm zoom lenses, giving the camera operator a creative freedom previously unknown in the field of zoom operation.

The VARIO ZF-2000 can be easily fitted to modern zoom lenses like Angenieux, Zeiss, Cooke or Canon or fitted into 35 mm camera blimps like Arri, Cine 60 or Mitchell, and consists of two independently operating electric motors with friction drive (high efficiency torque amplifiers free from noise and backlash) and a new servo handle with independent thumb controls for focus and zoom.



The handle can be mounted in various ways. For instance like this for hand-held operation, or mounted on a standard 14 mm panbar for tripod use (16 or 35 mm).

The zoom speed is smoothly varied by a small movement of the thumb and ranges from 2 seconds to 3 minutes covering the full zoom range of an Angenieux 25-250 zoom. A pushbutton on the handle provides instant maximum focal length for fast focus adjustment before shooting.

For critical follow-focus shots the focus can be remotely controlled by the focus puller by the means of a separate box with individual distance indications. Since the focus

Left: The remote control box used by focus puller. Right: Vario ZF-2000 mounted on Angenieux 12-240 mm zoom and Eclair ACL.

puller does not have to touch the lens itself, smooth follow-focus shots can be achieved also in hand-held operation. The handle itself has pre-settable focus points for accurate switching between two predetermined focus levels in the shot (for instance switching between two people in an interview), which gives the unassisted camera man the possibility to perform feature film style follow-focus shots with ease, speed and accuracy. This is a small revolution in itself . . .

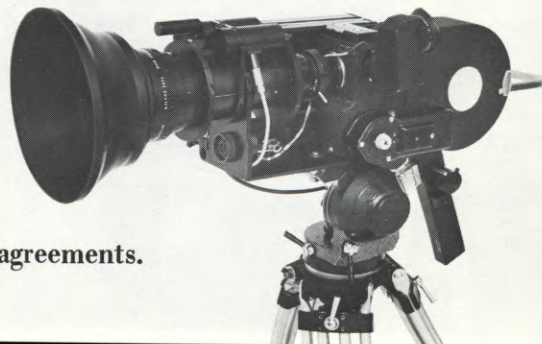
An entirely new motor design now makes it possible to perform zoom (or remote focus) operations while shooting sync dialogue close to the camera. It would be an overstatement to say that the motors are dead quiet, but their noise level is well below the noise level of all self-blimped cameras (and, of course, below other brands of electronic zoom controls), which is the important point when it comes to sync shooting.

The VARIO ZF-2000 has been field-tested on feature films and sponsored films for more than a year, and has been altered and redesigned in accordance with the wishes and specifications of top camera men. As a result we can offer a unique product for the 16 or 35 mm professional, not just another electronic »gadget« but a whole new and exciting way of making better moving pictures.

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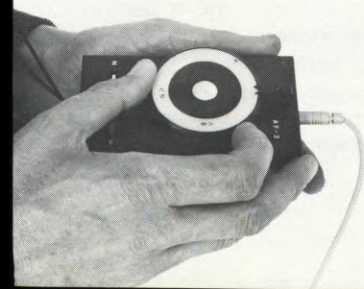
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# FILM-MAKING IN HUNGARY

Roving American Cinematographer Editor journeys to "Magyarland" to find out why Hungarians are such superior cinematographers, and discovers a warm "one big family" feeling in a thriving film industry

By HERB A. LIGHTMAN

## BUDAPEST, Hungary

I have often wondered why Hungarians are such ace cameramen — which, incidentally, is one of the things I'm here in Hungary to find out.

It isn't just my imagination. I have noted through the years that the number of highly skilled cameramen from Hungary is far out of proportion to their national population. For example, among the Director of Photography members of our own American Society of Cinematographers are four outstanding artists of the camera who are native Hungarians (by now quite thoroughly Americanized), and there may be other "closet Hungarians" in the ranks that I don't even know about. The four I am speaking of include: Ernest Laszlo, ASC, Andrew Laszlo, ASC (no relation), Laszlo Kovacs, ASC and Vilmos Zsigmond, ASC.

Among the several others I have encountered in my journeys throughout the world, two who come readily to mind are Laszlo Pal, of Seattle, and Gabor Pogany, who lives and works in Rome.

And why are so many of them named "Laszlo"? Maybe I can find that out, too, while I'm here.

Actually, the real reason I am here is in response to a long-standing invitation from officials of the Hungarian film industry to come and see how movies are made in Magyarland.

From the terrace of my suite in the ultra-modern Duna Intercontinental

Hotel I can look out on the Beautiful Not-so-blue Danube, which flows between what used to be the separate towns of Buda and Pest. They have long since been linked by Danube bridges to blend as the picturesque city of Budapest.

At night the bridges are bedecked with necklaces of diamond-bright lights, while high above on the hilltops ancient fortresses glow in soft illumination. The total effect is a travel agent's dream.

I have been met at the airport by Tibor Vagyoczky, one of Hungary's busiest and most skilled cinematographers. Affectionately called "Tibi" by his old friends and former film-school-mates, Laszlo Kovacs and Vilmos Zsigmond, he extends a warm welcome and very kindly volunteers to serve as my principal host in Hungary. I am most appreciative.

The Publicity Department of HUNGAROFILM, world-wide distributor of Hungarian films, has very thoughtfully provided me with my own interpreter — a blessing, since my knowledge of the tongue-twisting Hungarian language is limited to the word "goulash". The interpreter, Andras Szanto by name, is young, bright and speaks excellent English, though he has never been to an English-speaking country.

At the headquarters of Hungarofilm, located in beautiful downtown Budapest, I have the opportunity to renew

acquaintances with the organization's Director, Mr. István Dósa, who extends a cordial welcome. Mr. Dósa, a very genial and spirited gentleman, I have met before at various film festivals throughout the world. His organization is concerned with the exporting of Hungarian films to other countries, as well as the booking of foreign films in Hungary.

I ask him what sorts of films are shown in Hungary, besides the native product.

"There are quite a few from Eastern Europe, of course," he tells me. "There are some American films, but not many — a matter of budget, you know. The most popular foreign films shown here are French, German and Italian. We are also happy that the Chaplin films have finally been made available to us."

I tell him that almost never are Hungarian films shown in America, except at the major film festivals, and he asks me why that is.

"I don't know," I reply, "but perhaps I'll be able to tell you better after I've seen some of your films."

That has already been arranged. I am to see two to four feature films (plus shorts) each day while I am in Budapest. They will be screened for me in the Hungarofilm viewing theatre, with the ever-faithful Andras in attendance, in case the sub-titles should bog down.

Knowing that I am interested in meeting and talking to some of the foremost Hungarian cinematographers, Tibi introduces me to three who are kept very busy and whose work is highly respected. These are János Zsombolyai, Elemér Ragályi and Sándor Sára — three very diverse personalities, but obviously very close friends and colleagues. Zsombolyai is boyish and outgoing in manner. Ragályi is very quiet, understated, but fairly radiating sensitivity. Sára is a marvelous looking fellow. Built like a bull and with a dramatic, bearded face, he looks like he should be in front of the camera, instead of behind it. I am to discover that he is one of Hungary's most inspired and respected film artists — both as cinematographer and director.

But there is still one more person whom I'm most anxious to meet. Back in Hollywood, both Vilmos Zsigmond and Laszlo Kovacs had talked incessantly about a gentleman named George Illés. He was, they told me, not

On location during the filming of "PLUSZ-MINUSZ EGY NAP" ("ONE DAY MORE OR LESS"), Directed by Zoltán Fábri, with George Illés as Director of Photography. While Budapest has two "major" studio complexes, many of the present-day features are shot wholly or partially on location, as is the trend in other countries.





only the dean of Hungarian cinematographers, but a tireless teacher at the Film Academy — the man who had taught them most of what they know about cinematography — which, obviously, is considerable.

Now, I am told, I shall have the opportunity to meet this legendary gentleman. He is spending the weekend with his wife and grandchildren at a place which translates as "The Creative House", a country estate outside of Budapest where film-makers go to hole up while working on a script or preparing a film or recuperating from the last film. It features overnight accommodations and unlimited peace and quiet. Driving out there through the suburbs of Budapest, we pass the ruins of a magnificent Roman amphitheater and the almost-intact stone walls of a vast former Roman military camp that has been excavated.

By now, Mr. Illés has become a legend and, with that in mind, I must confess that I am expecting to meet some sort of graybeard elder statesman of the cinema. He is anything but that. A grandfather — yes, but any vestige of chronology ends right there. George Illés, both in appearance and manner, is one of those eternally youthful men. His eyes sparkle along with his wit, and he radiates dynamic energy, tempered with the serenity that comes from having lived long enough to be able to discern how few things there are that are really worth getting upset over.

Still one of Hungary's busiest and most-in-demand cinematographers, he has kept *au courant* with all of the latest equipment and techniques, but one gets the impression that, given nothing more than an Eyemo and a flashlight, he could make a wonderful-looking film. As we talk, I decide that Vilmos and Laszlo were right: George Illés is, indeed, a very special person.

I am taken on a visit to Magyar Film-laboratorium (Hungarian Film Laboratories), where I am welcomed by the lab's Director, Mr. Géza Dobrányi, and Chief Engineer, Mr. Thomas Hoffman. The latter gentleman very kindly conducts me on a tour of the facilities. Located in a picturesque wooded suburb of Budapest, the lab is ultra-modern and spotlessly clean. It is equipped to process black and white negative (both 35mm and 16mm), 35mm Eastmancolor negative, 35mm Orwocolor negative, and color and black and white prints in both 35mm and 16mm. There are also individual departments devoted to titling and optical special effects. It is a beautifully equipped and maintained laboratory complex — and a credit to the Hun-



The "dean of Hungarian cinematographers", George Illés, though a grandfather, is an eternally youthful man with great energy and a dynamic spirit. Though a classic cinematographer, he keeps current with the latest techniques and equipment. Still at the top as a working cinematographer, he devotes much time to teaching student cameramen.

garian film industry.

Tibor Vagyoczky introduces me to a special friend of his, George Karpati, a director with whom he works very frequently. In fact, I get the impression that they form a kind of cinematic "team". Karpati is a big, genial man who speaks excellent English and seems to have a lighthearted view of life. One thing I find fascinating about him is the fact that he is a graduate of the Hungarian University of Medicine who practiced for several years as a dental surgeon. Then, suddenly, he gave it all up to attend the Academy of Dramatic and Cinematographic Arts, and is now a very busy film director. I've always admired people who, having discovered themselves bogged down in the wrong rut, have the courage to change things drastically for the better.

Meanwhile, I've been getting heavy doses of film-watching at Hungarofilm. When there isn't a special visit or interview scheduled, we usually sit through four features a day — two in the morning and two after lunch. Speaking of lunch, András seems to be one of those people who doesn't need any food. If he had his way, he'd run all four features straight through without a break. I have all I can do to persuade him to pop out

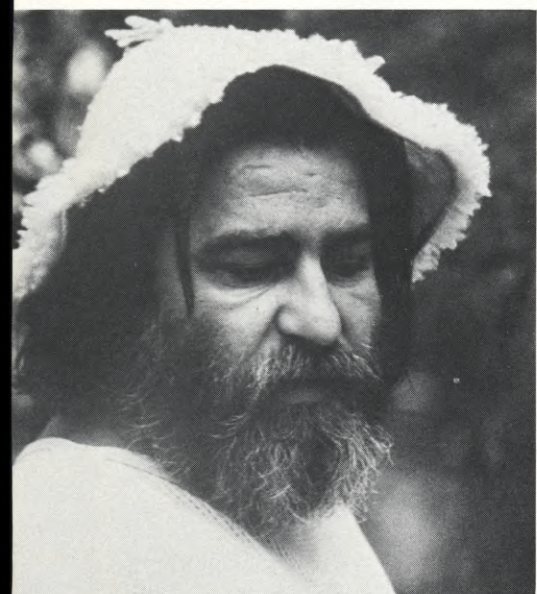
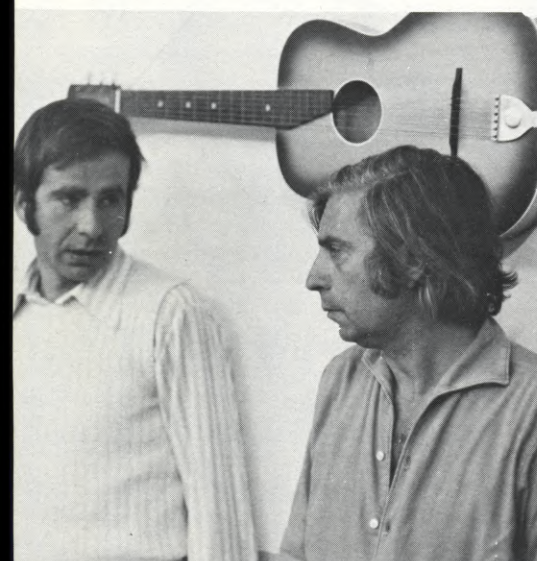
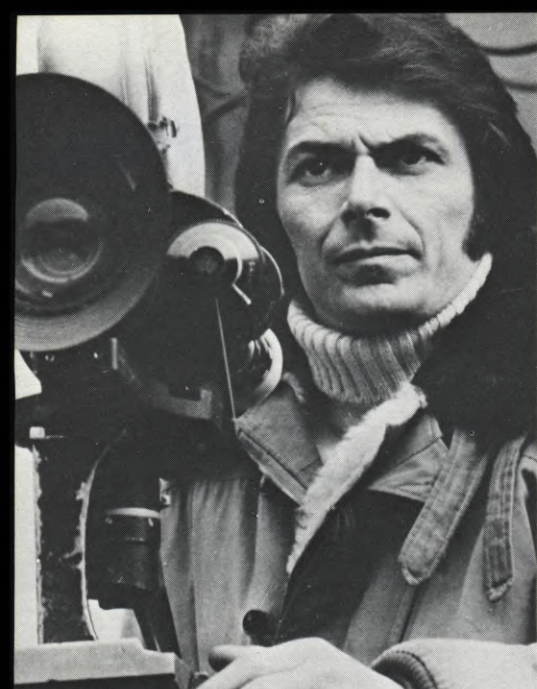
for a quick goulash between screenings.

Among the innumerable films which I watch is one real stunner called "DEAD LANDSCAPE", directed by István Gaal and photographed by János Zsombolyai. It is a simple story of a young couple living in a deserted village, with the young wife ultimately developing a fatal neurosis as a result of the deadly loneliness which pervades the place. It is an exquisitely made film.

Later, the director of the picture, Mr. Gaal, is kind enough to pay me a visit at my hotel. A quiet, extremely intense, very likable man, he is obviously thoroughly dedicated to the art of the cinema. He tells me that he hunts and chooses very carefully in his quest for films to direct and doesn't make one until he is inspired by a subject. "I care nothing for money," he tells me. "What is important is to express what is inside me and also some worthwhile ideas on the screen."

We pay a visit to the Mafilm (former Hunnia) Studios, one of the two large feature-producing complexes (the other being the Budapest Studios) and here I meet an old friend, Tamas Barna, Vice President of Mafilm. We have met through the years at countless *Photo-*





Three of Hungary's leading cinematographers of "the new breed". (FROM TOP) Elemér Ragályi, János Zombolyai (Left), and Sándor Sára, who is also a talented Director.

kinas, SMPTE Conferences and Film Whatevers in London, and it was he who extended the original invitation for me to visit Hungary. He is a very pleasant, kindly man, and it's nice to see him again.

Laszlo Fuzsfas, the studio Head, shows me around. Mafilm is a large complex of production facilities, much like major studios all over the world. Most of the stages are old — as they are in the Hollywood major studios, as well — but there is a splendid new modern building for sound recording and dubbing. The studio itself is very well equipped and capable of handling almost any size feature. The irony is that, as in America, most of the features these days are not being shot in the studios, but on location.

Speaking of location, we journey one evening to Margit-Sziget (Margaret Island) in the middle of the Danube, where Sandor Sára is shooting a night scene for a feature he is directing. The "set" is a woodland glade with tents pitched off in the woods surrounding a huge campfire. It's supposed to represent a "summer holiday camp" for grownups. There's quite a group of grownups, extras dressed in what I imagine is worn at such establishments. But it's a cold night and some of them wearing skimpy swim suits appear to be freezing their almost-bare bottoms off.

Sára is in fine form, directing the action from atop a high parallel. The place is lit up like high noon, but I'm sure the scene will appear quite moody on film. The night is spent shooting scenes of the "campers" dancing and singing around the fire — showing that old camp spirit.

My days are filled with watching films at Hungarofilm — all of them technically excellent. My only criticism — if it can be called that — is that they are all, without exception, very heavy in content — either politically or in terms of stark drama. I long for just one with a light touch, like the delightful Hungarian satire, "FOOTBALL OF THE GOOD OLD DAYS", which I had seen at a film festival, but there isn't any.

I ask why Hungarian film-makers don't make comedies, and I'm told: "Film in Hungary is regarded as an art form — to be used as a means of expressing serious ideas. People who make comedies are regarded as second class film-makers."

But what about second class film-watchers like me who like comedies?

However, I do have my light moments in Budapest — like the delightful evening as guest of Tibi and his gracious wife ("Ibi") at a wonderfully atmospheric cellar restaurant called

Matyas Pince, where gypsy violins cry over some of the best food I've ever tasted.

I register a small request. I ask if it would be possible to get together a group of directors and cinematographers for an informal rap session to discuss methods and techniques of film-making in Hungary. My request speeds through channels and the meeting is arranged at a place in town, the name of which translates from the Hungarian as "The Nest". It is a kind of clubhouse with lounges and conference rooms where artists of all disciplines can get together to relax and exchange ideas. Most of the directors and cinematographers I've already met are there, plus some new ones, and they all join in the general discussion.

I won't attempt to identify by name who said what, but following are some highlights of our discussion:

**QUESTION: Can you tell me a bit about the director-cinematographer relationship in the Hungarian film industry?**

*ANSWER: In Hungary the Director of Photography plays a more important role in film-making than he does in other parts of the world. In most cases, he works together with the director from the first minute, from the birth of the idea or script. Therefore, by the time they begin shooting he knows everything about the film. Each knows what the other one wants to express. The biggest difference between Hungary and other film-producing countries is that here the director doesn't look upon the cinematographer as merely a member of the technical staff. He is an actual partner in the creation of the film. Therefore, the director doesn't give him any definite technical instruction, because he already knows what to do and how to do it. There is no problem in that regard here.*

**QUESTION: What is the usual shooting schedule for a feature here?**

*ANSWER: The standard schedule here is 30 days, and the main reason for that is that there is a certain amount of money allotted and it is divided into 30 days for budget reasons. However, the 30 days applies only to shooting. There is no time limit for editing. For example, I can think of one feature that was shot in 30 days, but the director has been working on the editing for three years.*

**QUESTION: Do you mean to say that the feature was shot in 30 days, but took three years to edit? Why is that?**



**ANSWER:** It was an extremely difficult film to make, because it had a special theme language and involved about 400 cuts. It required quite a lot of time to put all those cuts together. But that is an exception — not the general practice. On the other hand, for example, there is one director who shoots a whole reel of film for each scene. Using this method, he was able to shoot an entire feature in seven days and put it together in two days. That's not typical either.

**QUESTION:** Hitchcock did that in one of his films, "ROPE", but it strikes me as a very dangerous way to work — unless you happen to be Hitchcock — because, suppose the pace is a bit off here or there during such a long scene — there's no way you can correct it, because there's nothing to cut to.

**ANSWER:** You are absolutely right, but the director I speak of was willing to take such a risk.

**QUESTION:** Many directors in the United States and other countries shoot what is called a "master shot" — in other words, a rather loose angle of the action of an entire sequence, from start to finish. Then they break it down into separate cuts — closeups, medium shots, over-the-shoulders, etc. Is that method used here?

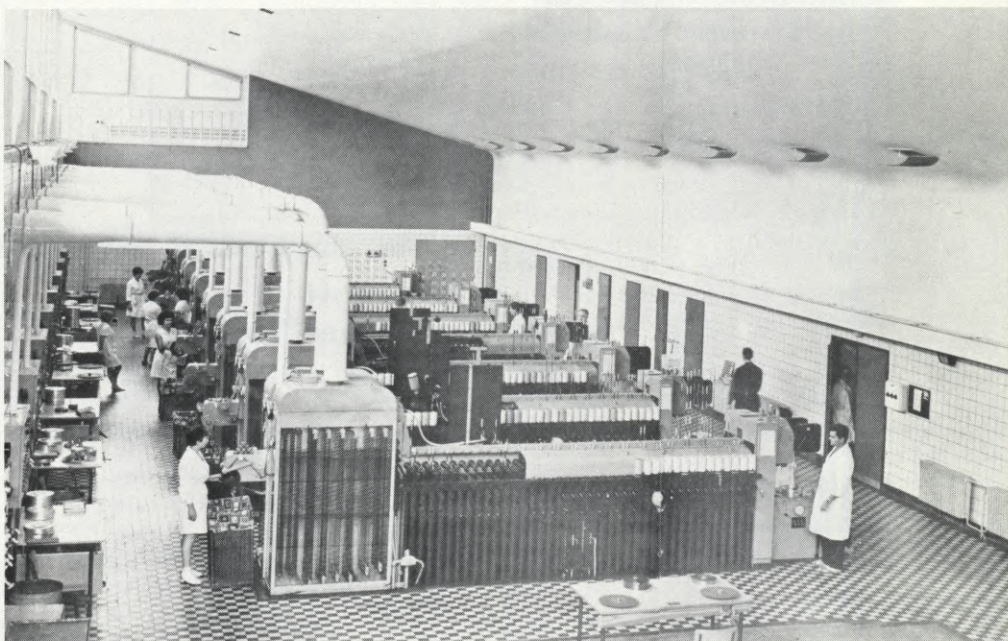
**ANSWER:** You are confirming what one of our cinematographers said after shooting a picture in the States. He said that every morning the director came over to him and said: "We need a master shot." It took him a week to get accustomed to shooting that way. That system of filming is unknown here in Hungary. Therefore, we don't work that way.

**QUESTION:** I'd like to ask how a film comes to be made here. Does it start with an idea that one of you might have, or that a writer has? How does it start; how does it develop?

**ANSWER:** In Hungary the directors are the central figures of film-making — at least, they are fighting to become that — so, in most cases, it is the director who initiates the whole process of making a film. He usually wants to express his own ideas. There are two major film studios here and the director's task is to make a film on the amount of money that he receives from the State. The director visits one of these studios and submits his script to the studio heads. They discuss the script and if they refuse it, of course, the film is not made. If it is accepted, he



(ABOVE) The main facade of Magyar Filmlaboratorium (Hungarian Film Laboratories), which is an ultra-modern, spotlessly clean processing complex located in a picturesque wooded suburb of Budapest. (BELOW) The main development room of the Hungarian Film Laboratories. Just after this photograph was taken, installation of new processing equipment was completed for the 5247 Eastmancolor negative stock.



can make the film. However, there are cases when the answer is: "Yes, but . . ." In other words, he can make the film if he will change certain things in the script. There is not a country in the world where this same conflict does not exist. The difference between Hollywood and here is that we do not have a group of writers who create a script and then present the finished product to the director. Here the one who creates the script is the director, sometimes working with his own writers. He is the one who begins the whole process. After the script is approved, he starts to assemble the facilities to make the picture.

**QUESTION:** For what kinds of rea-

sons might a script be refused?

**ANSWER:** There may be persons in the studios who are against his ideas, and sometimes he has to fight quite a lot. Nowadays, when film-makers have to keep to the political line, there may be conflicts of this sort between the director and those who are the heads of film-making.

**QUESTION:** In other words, it isn't enough for a director to be a skilled technician; he has to be something of a salesman, as well?

**ANSWER:** Yes. Here in Hungary the whole structure of film-making is different. Continued on Page 311



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## HOLLYWOOD MOVIE STUDIOS

Continued from Page 288

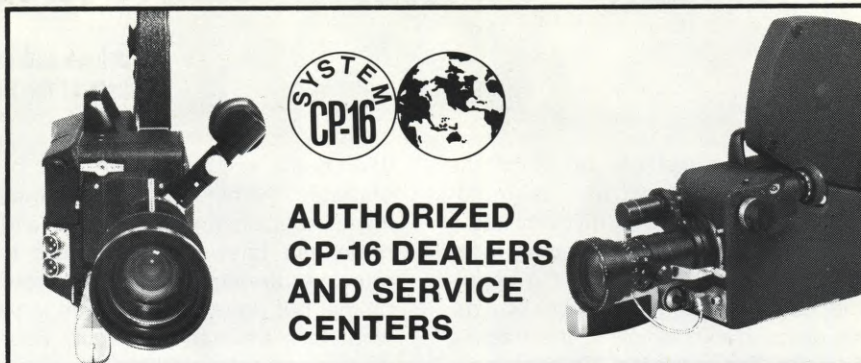
however, a poor risk for the would-be producer. At the same time, it was a golden opportunity for young, inexperienced cameramen and actors. At a recent American Film Institute seminar with Ernest Laszlo, ASC, as excerpted in the January 1976 issue of *American Cinematographer*, a question was asked of him, regarding whether he had ever worked as an assistant to the cameraman. His answer was: "Oh, did I. At \$20 a week. I sure did. Unlimited hours. I had to carry the camera; I had to load and unload the film; I had to load the still plates, unload them, shoot the stills; and unlimited hours. Saturdays, nights, sometimes Sundays. \$20 a week." He was an assistant cameraman for Christie Comedies and was typical of that breed of cameraman that one would find at the studios in those days.

In the next installment about the studios, the decade of the 20's is to be covered. The 20's is representative of the companies which made it big, such as Goldwyn, Metro and Fox. But the 20's were also representative of those which lasted only a short time — those who made it and those who didn't. ■

### A.S.C. CINEMATOGRAPHERS AVAILABLE FOR SEMINARS, LECTURES, INFORMAL DISCUSSIONS AND QUESTIONS & ANSWERS SESSIONS

The following members of the American Society of Cinematographers have indicated their availability to appear for seminars, lectures, informal discussions and questions and answers pertaining to motion picture and television photography, lighting, special photographic effects and production in general: Ted Voigtlander, Alan Stensvold, Vilmos Zsigmond, Ernest Laszlo, L.B. Abbott, Lloyd Ahern, Chuck Austin, Victor Duncan, Ray Fernstrom, Lee Garmes, Burnett Guffey, Gerald Hirschfeld, Michel Hugo, Victor J. Kemper, Andrew Laszlo, Frank L. Stanley, Richard Shore, Earl Rath, Sol Negrin, Richard Moore, Fred Mandl, Harry Wolf, Ralph Woolsey, Taylor Byars, Richard A. Kelley, David S. Horsley, James Wong Howe, Clifford Poland, Vilis Lapenieks, Linwood Dunn, and Harry Walsh.

Arrangements as to availability and other details are to be made directly with the individual A.S.C. Member. For further information, contact: American Society of Cinematographers, P.O. Box 2230, Hollywood, California 90028. Telephone: (213) 876-5080.



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# HOW FILM-MAKERS ARE TRAINED IN HUNGARY

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The training institute of which the Hungarian Academy of Cinematographic Art is a major division has a long tradition. It was founded more than 110 years ago and, in the beginning, as the Academy of Dramatic Arts, was devoted exclusively to the training of actors. During the last 30 years, however, it has been training film directors and cinematographers, and is now also offering instruction to film editors and production managers.

Selection of students to attend the Academy is done on an open compe-

tion basis, and when there is to be an entrance examination, it is announced in newspapers and magazines and on radio and television. The basic minimum requirement is a high school diploma, but preference is given to those who have finished University courses (not necessarily confined to cinema or television-oriented subjects) and also those who have already been working as assistants in the film and television studios.

The entrance examination is quite exhaustive and consists of three

phases. The first phase is concerned with the prospective cinema student's general knowledge — and on a practical level. For example, the applicants are requested to submit photographs which they have taken — not to ascertain their photographic skills, but rather to discern their way of thinking and feeling about the world around them. In this way, it often becomes obvious as to which applicants are potentially "true film artists".

Those who are specifically aiming to become film directors are encouraged to submit something they have written — a short story or short novel, which may be based on a personal experience.

Those who aspire to becoming cinematographers are asked to write a short critique of a film that is not well-known in Hungary, with emphasis on the work of the Director of Photography.

Also, as part of Phase Two of the entrance examination, the applicants are given a camera and film and asked to shoot a photo-journalistic essay of a particular situation in a given location. The photographs are developed and printed at the Academy and the prospect arranges them in the order which he feels best tells the story. A selection committee meets to study these photo essays and individual prospective students appear personally to explain their choices of photographs and the order in which they have been arranged.

Beyond this point, those still remaining in the competition move on to Phase Three of the entrance exami-



(ABOVE LEFT) The Academy of Dramatic and Cinematographic Arts in central Budapest, a 110-year-old institution, which, for the past 30 years, has been training top film technicians. (RIGHT) Through these portals, as students, have passed some of the best cinematographers in the world, including such top Hollywood Directors of Photography as Vilmos Zsigmond, ASC and Laszlo Kovacs, ASC. (BELOW) Students learn all of the standard studio lighting techniques, though much shooting is now done on location.

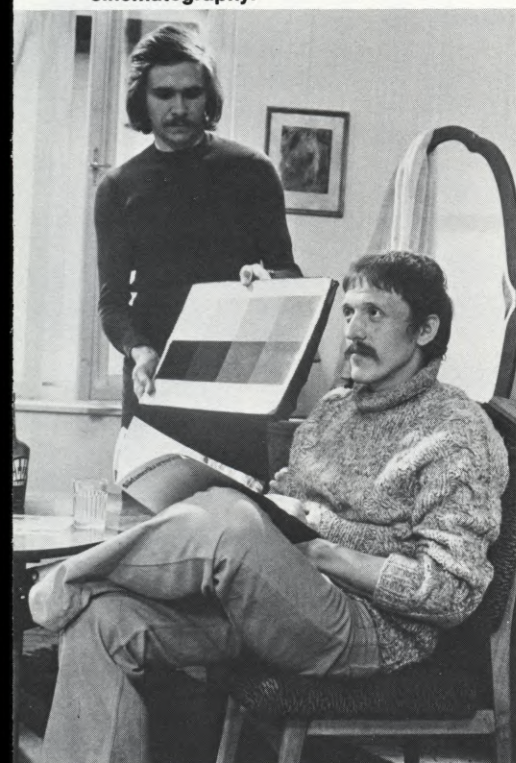






(LEFT) The shooting stage in the current Academy edifice is small, but nearing completion is a new modern complex with spacious facilities for the teaching of the film and television arts. Many of the Academy graduates find jobs in television nowadays. (RIGHT) A student crew shooting on location. As in other countries, more and more shooting of features, as well as documentaries, is being done on location.

A gray-scale test is shot on the Academy stage. Much attention is paid to the more technical, as well as artistic, aspects of cinematography.



so that the critical director/cinematographer relationship may work more smoothly during their future professional employment. Directing students have to know how to handle cameras and aspiring cinematographers have to know how to work with actors.

Training at the Academy is parallel, in terms of film and television techniques, on the theory that students finishing their work at the Academy will be fully trained to function in both media. By the end of the first year, each student must indicate in practical terms how he has progressed by shooting a 15-minute film and a 15-minute television program.

During the second year, the aspiring film-makers concentrate on documentary techniques and prove their progress through the making of a fairly ambitious documentary. Also, during this second year, they are given extensive training in the directing of actors.

During the third year, with the potential directors and cinematog-

raphers now more or less specializing in their respective disciplines, each student concentrates on shooting a short feature film or television play, the running time being not less than 20 minutes, nor more than 30 minutes.

The fourth year at the Academy is devoted to diploma work, and the faculty helps each student decide whether he should put his professional emphasis on working in the film industry or in the television industry. Depending upon that decision, each student makes a short feature production in his chosen medium, using student actors of the Academy.

The teachers at the Academy, no matter what the subject, are drawn from the very best among those who are actually working in their respective fields. This is in contrast to the practice in other Eastern countries, where the instructors are usually retired or about-to-be-retired technicians. There is, of course, a certain amount of **Continued on Page 350**

**Mr. Vadasz, Director of the Academy, talks with a former student, Janos Zsombolyai, who is among Hungary's most talented and busy younger cinematographers. Only after having received a strict classical training in cinema techniques are Academy students encouraged to break the rules.**

nation, which is the actual making of a short film. The completed films are viewed by the staff of the Academy and by the selection committee and, on the basis of their voting, students are accepted for the next term. Those who are not accepted may try again later.

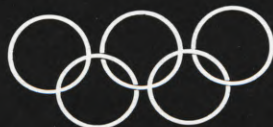
During the first two years of their instruction at the Academy, the directing students and cinematography students train together in a common curriculum, the reason being to get them to understand each other's problems,





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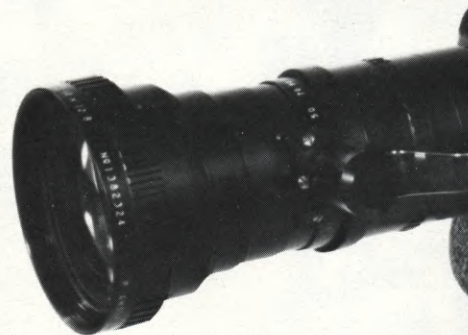


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### **Eclair ACL**

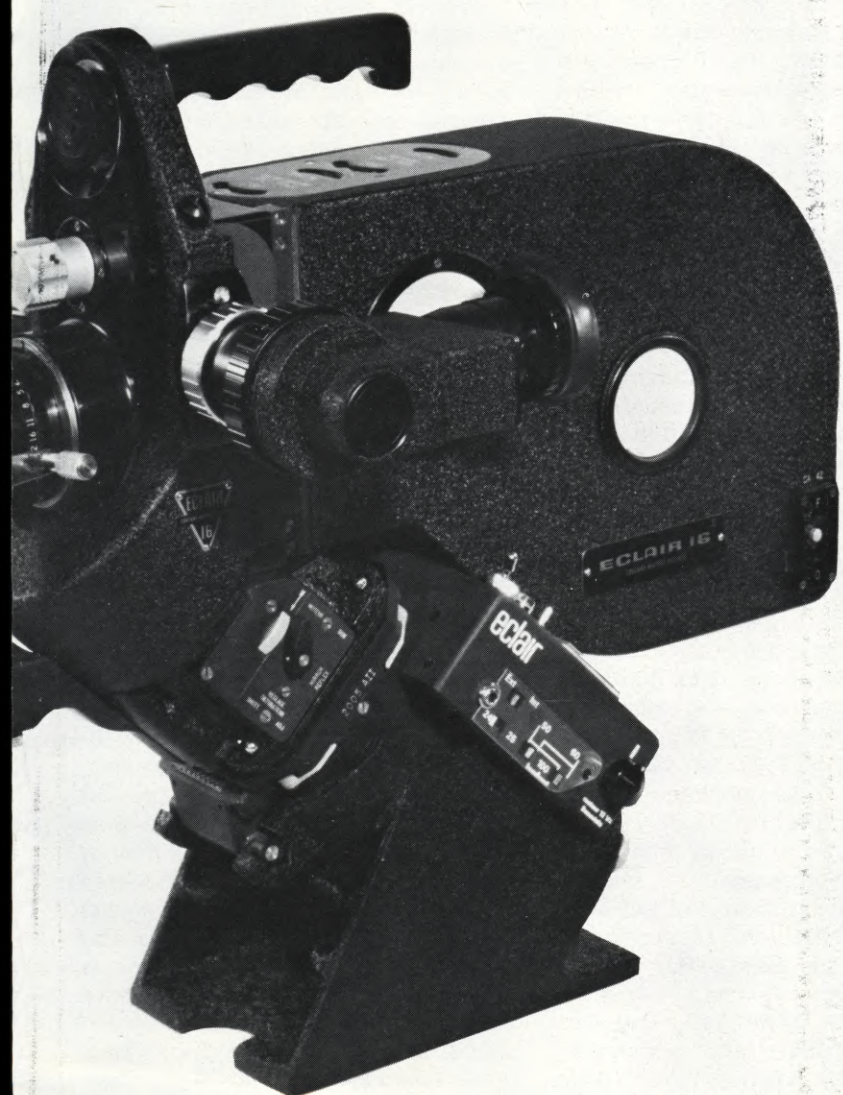
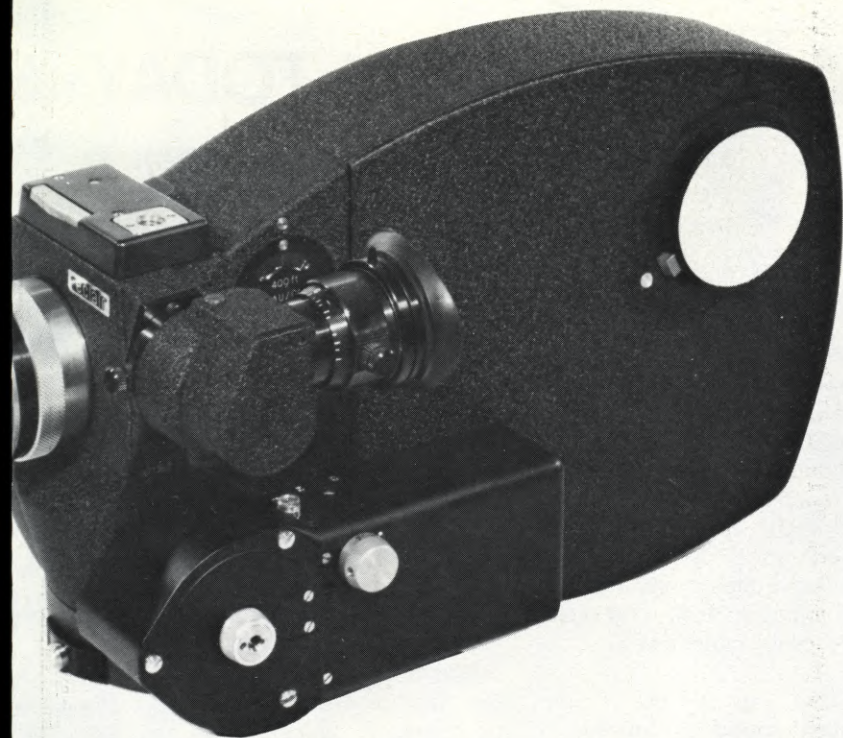
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Part of this is the result of its low, unobtrusive profile that can be attributed to the snap-on, co-axial magazine that can be changed in less than five seconds without touching the film.

And to the NPR's famous twin-lens turret that allows you to switch from one lens to another in a matter of seconds.

Part of the NPR's versatility comes from the rugged BEALA motor that's really three motors in one. It's a crystal control motor at 24 or 25 fps. It's a constant speed motor with a built-in sync-pulse generator. And it's a variable-speed motor with rheostat control for continual variance from 4 to 40 fps. This motor was also the first one designed so it would always stop with the mirror shutter in the viewing position.

The NPR also features a precisely accurate registration pin and pull-down claw mechanism to assure maximum steadiness. Also standard with the NPR is the Angenieux "dove prism" orientable viewfinder that maintains an erect image, while rotating a full 360°. This viewfinder not only delivers a brilliant, sharp image, but it also provides a clearly-marked extra viewing area beyond the standard 1:1.33 16mm aperture and TV safe cutoff.

The NPR was truly an advance in the state of the art of camera design when it was introduced. And by constant refinement, it has maintained its position as the finest 16mm camera of its kind.

Eclair International also makes the French Eclair ACL. It was designed to incorporate many of the most successful features of the NPR. Features such as the instant-snap-on co-axial magazine, which is available in both a 200 ft. and a 400 ft. version.

But the ACL was designed to be even lighter and more compact. In fact, it is the smallest, lightest self-blimped camera made.

It features its own patented interchangeable lens mount system that allows you to use lenses with any of the well-known professional mounts. And there is the added versatility of a "C" mount.

The ACL has a heavy-duty variable speed, crystal control motor that lets you choose speeds of 8, 12, 24/25, 50 or 75 fps.

And the ACL's viewfinder rotates 360°, so it can swing up vertically for low angle shooting and even backwards for candid shots.

In addition, the French Eclair ACL features an exclusive new through-the-lens light exposure monitoring device called LED 7. The LED 7 system incorporates seven light emitting diodes in the viewfinder which light up to alert you instantly to any deviation in exposure level from a given setting. So you can adjust the aperture setting to compensate for changes without your eyes ever leaving the viewfinder.

Like the NPR, the ACL is a precision, hand-crafted professional camera built to be rugged and dependable as well as silent and portable.

**If there's anything about these cameras we haven't told you, contact us or your nearest Eclair dealer and we'll be happy to answer your questions. But please don't ask us which camera is better, because we just don't have an answer to that.**

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# CINEMATOGRAPHY IN HUNGARY TODAY

An interview with one of Hungary's foremost contemporary director/cinematographers deals with the artistic attitudes, techniques and filming equipment that currently prevail

An outstanding talent of the Hungarian cinema, Sandor Sara was born in Tura, Hungary in 1933. He graduated as a cameraman from the Academy of Dramatic and Cinematographic Arts in 1957. Since then he has made about 35 short films and a number of features, while in the meantime producing several independent shorts. He made his first feature ("THE UP-THROWN STONE"), in which he was simultaneously the scriptwriter, cinematographer and director, in 1968. Since then he has alternated between photographing and directing features.

His diploma work, made during his last year as a student at the Academy in 1957, was a short film, "SURFACE-MAN", directed by Istvan Gaal. It won the World Youth Festival Prize.

In 1963 he directed and photographed an extraordinary documentary entitled "GYPSIES". It won the Grand Prix of the Short Film Festival in Budapest, and also the Prize of the Central Council of Hungarian Trade Unions.

His most memorable works as Director of Photography include: "JUDGMENT" (directed by Ferenc Kosa); "SINDBAD" (Joseph von Sternberg Prize), directed by Zoltan Huszarik; and

**Director/cinematographer Sandor Sara, turned down by the Academy on his first application, is now in the top rank of Hungarian film artists.**

"25, FIREMAN'S STREET", directed by Istvan Szabo.

Sandor Sara was one of the founders of the Bela Balazs Studio of Young Filmmakers, and he is considered to be one of the most versatile and original individuals among Hungarian artists.

In manner modest and unassuming, despite his dramatic appearance, Mr. Sara was persuaded by *American Cinematographer* Editor Herb Lightman to talk about himself and his career in the following interview:

**QUESTION: Can you tell me a bit about your background in the Hungarian film industry?**

*SARA: For more than ten years I have been working as a member of a "trio" with a young film writer, Sandor Csoóri and a film director, Ferenc Kósa. We have made five features together and several shorts. I have recently finished my third feature on which I was the director, as well as cinematographer. The first feature which I directed was written by the "trio", but the one which followed was written by another writer, with Sandor Csoóri serving as consultant.*

**QUESTION: American Cinematographer readers, some of whom are film students, would be interested to know, starting with the Academy, what steps you took in the Hungarian film industry in order to reach the point in your career where you are now.**

*SARA: I completed my studies at the Academy in the late fifties and, at that time, it was the practice for those aspiring to be Directors of Photography to work for a long time as assistants to established Directors of Photography. But I was very lucky, because after working as an assistant for only two years, I had my first opportunity to shoot on my own, and since then I have made about 35 documentaries, science films, educational films and features. Also, from 1959 on, I have been working with the Béla Balázs Studio, which I think you might find quite interesting. It is a studio for young film artists — directors and cinematographers — who have completed their studies at the Academy, but who have not yet had the opportunity to work professionally as directors and cinema-*

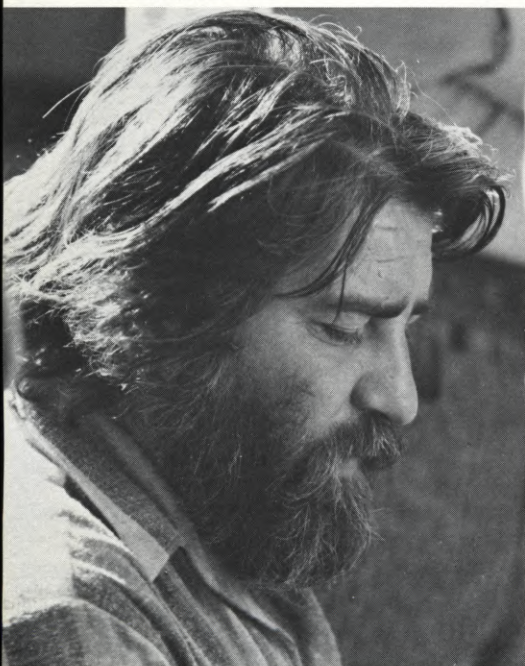
*tographers. In this studio they are given grants by the State, and with this money they are able to make short films and sometimes features together which serve as "showcases" to prove their talents, so that they can get jobs as directors or cinematographers in the professional studios.*

**QUESTION: That's most interesting. Can you tell me a bit more about how the Béla Balázs Studio functions?**

*SARA: All of the scripts to be filmed in the Studio are submitted to the members for acceptance and approved by them. This is how I got the opportunity to make my very first well-known documentary short film, "GYPSIES". I wouldn't have been able to make this film in a professional documentary studio, because of certain elements in the script which wouldn't have been accepted, but the script was accepted by the members and I made it within the scope of the Studio. All of the other members of the Studio are making films dealing with very important social and political questions that relate to Hungary as it is today. And certainly, the existence of the Studio helped our industry in the early sixties, because that is when Hungarian cinematography become more and more well-known in the world. Many of our film artists who are now well established were given their first opportunities in the Studio — directors like Istvan Szabo and Istvan Gaal, for example.*

**QUESTION: And Sandor Sara?**

*SARA: Yes, my work in the Béla Balázs Studio was very helpful to me in making the transition to professional filmmaking. To clear up any possible misunderstanding, I want to point out that those who are working in the Béla Balázs Studio are not independent of commercial filmmaking, because even while they are finishing their studies at the Academy some of them are also working in the professional studios as assistants. But in the Studio they have the chance to work on their own initiative and make really good films. People who see those films give them work earlier than it is given to those who do not work within the scope of the Studio. Also, the working relationships*





we form there often carry over into the professional world and, whenever it is possible, we try to go on working together. We like working together because we have gotten to know each other so well in the Academy and in the Studio — and we are like a big family. In working together, we often switch professional roles. For example, Istvan Gaal, who directed the second feature which I photographed professionally, "CURRENT", had worked as Director of Photography on the film I directed called "GYPSIES" — and which I mentioned before. Also, Janos Rozsa, who has directed several feature films, edited a feature which I recently completed.

**QUESTION: Is it an established policy of the Academy to produce all-around filmmakers who can shift from one function to another, or is it just that they enjoy doing this?**

*SARA: It has recently become the general practice to teach all of the major skills of filmmaking, but when I was attending the Academy, the students were trained only in the skill that was their major interest. But even so, they were always asking their instructors to acquaint them with the other skills, such as directing and editing — and later this became the general practice. Now, whether they want to become directors or cinematographers, they study the same subjects together for the first two years. It is only after that that they separate and specialize.*

**QUESTION: How long, on the average, do people go on working in the Béla Balázs Studio?**

*SARA: After three or four years, the entire membership of the Studio changes, because the members get too old to remain as members of the young creative community — even though they get homesick for it at times. It is interesting to see how their ideas about filmmaking change.*

**QUESTION: How do they change?**

*SARA: There is a basic change in their whole way of thinking — not only about filmmaking, but the entire world around them. You can see the results in the changing styles of their films. What makes the Studio very lively is the changes, not only in the membership, but in the leadership, as well. The leadership also changes every three or four years and this gives the studio quite a new atmosphere. The leaders of the Studio, by the way, are not ap-*



On location, Sara is a commanding figure. Though he is functioning solely as Director on this feature, and has a skilled Director of Photography, he admits that he frequently 'takes the camera out of his hands' and operates it himself, "because I can't imagine the composition without being behind the camera . . . Sometimes — in that last moment just before the image goes onto the film — I get a new idea . . ."

*pointed; they are elected by the members.*

**QUESTION: How do members of the Studio go about getting their film projects actually into production?**

*SARA: On a very democratic basis, those in the Studio consider every script that the members submit to be filmed. The membership holds an open debate about the script and, after they have arrived at their conclusion, the script is passed on to the leadership — consisting of four or five members —*

*and they have the last word.*

**QUESTION: Can you tell me what you had to go through in order to be accepted as a student in the Academy?**

*SARA: I was turned down the first time.*

**QUESTION: Really?**

*SARA: Yes, I was refused — so I went to work for a year. Then I applied to the*  
Continued on Page 310



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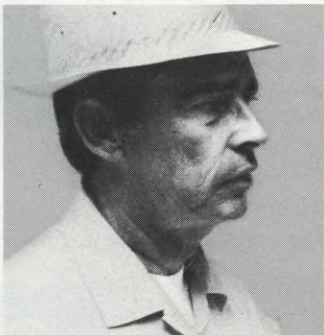
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# Film speed enhancement at CFI

Comments by cameramen on CFI's AL200 and AL400 system with EK 5247 negative:

**“W**e wanted to create a documentary look for *Streets of San Francisco*,” says Director of Photography Jacques Marquette A.S.C., in the August *American Cinematographer*.



Jacques Marquette A.S.C.

## 200 or 400 ASA

“Our tests with CFI showed that 5247 could be rated at 200 or 400 ASA, using their AL200 and AL400 process. So we went with that for some location interiors and night scenes.”

## 5 foot candles!

“On some problem locations, we were able to light as low as five foot candles,” says Mr. Marquette. “In general, minimal lighting gave us the realistic look, and it let us make faster setups.”



Jack Swain A.S.C.

Jack Swain A.S.C. says: “Using AL200 saves time and energy. Shooting *Cannon*, I use it all the time for ‘live’ interiors. It looks as good as footage shot at ASA 100.”



Robert Hauser A.S.C.

“On one feature that I shot, I had some 5247 forced at another lab — and there was grain running all over the place,” says Robert Hauser A.S.C.

## Choose the lab

“The producers had a deal with that lab. But after I protested, they told me to send the footage for forcing wherever I chose.”

## Night at 3 PM

“On another show,” says Mr. Hauser, “We suddenly got a hailstorm at 3 PM. The sky had to be in the background — and it was literally like *night*.”

## Off the meter

“I had *one* light, pulled way back to balance the actor’s face against this black sky. I decided to go to AL400 — and even then... the reading was f/1.2.”

## ASA 400 day ext

“So once again, I told the producers: If you want this shot, it has to go to CFI. It looked fine.”

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# FROM HUNGARY, A NEW STEREOPHONIC OPTICAL RECORDING AND REPRODUCTION SYSTEM FOR STANDARD 35mm MOTION PICTURES

By GABOR ERDELYI, M. E.I. Eng.

A significant technical development is this lowcost stereophonic/optical recording system, used without changing any basic monophonic standards

The subject of this article is an optical recording and reproduction system which can be used for standard 35mm motion pictures and will record and reproduce two-channel stereo sound.

With this process we can record on one optical track such a compatible modulation combination which contains stereo information. This can be done without changing any basic standard for monophonic optical sound recordings.

This article will introduce the basic requirements for transferring stereo recordings to the optical track, and its reproduction, the underlying theory, associated techniques and the up-to-date experience.

Audio-recording techniques have reached a point today where stereo records and broadcasts are everyday matters. In the past few years disc manufacturers have been making exclusively stereo recordings.

What is the situation like in our field, of the motion picture business?

With the development of the wide-screen technique, multiple-channel systems came into being. In the case of the 35mm film, regardless of its format, the only feasible method re-

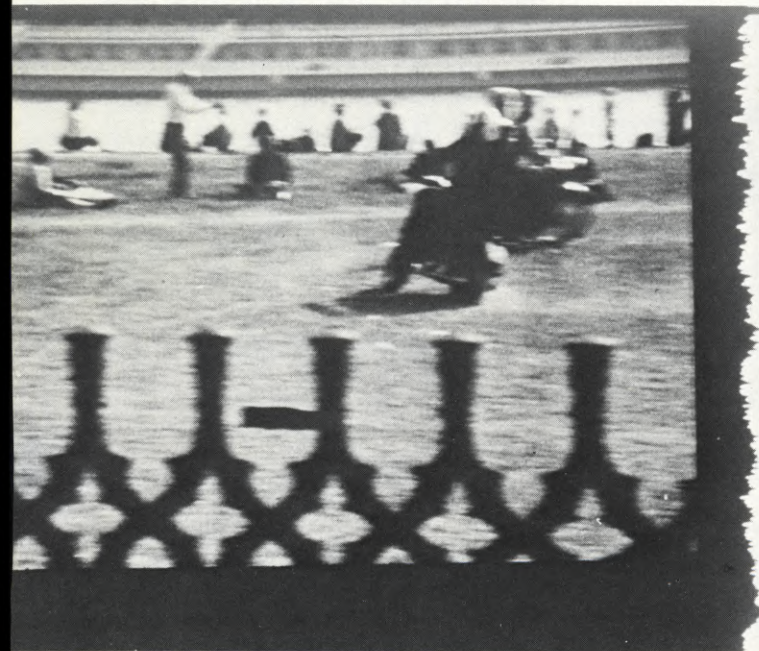
mained the monophonic optical recording and reproduction.

History shows that the use of magnetic soundtrack became workable only with 70mm films and with 35mm films the mono optical soundtrack remained in use. In Hungary, motion picture theaters equipped with four-channel magnetic systems are only partly utilized.

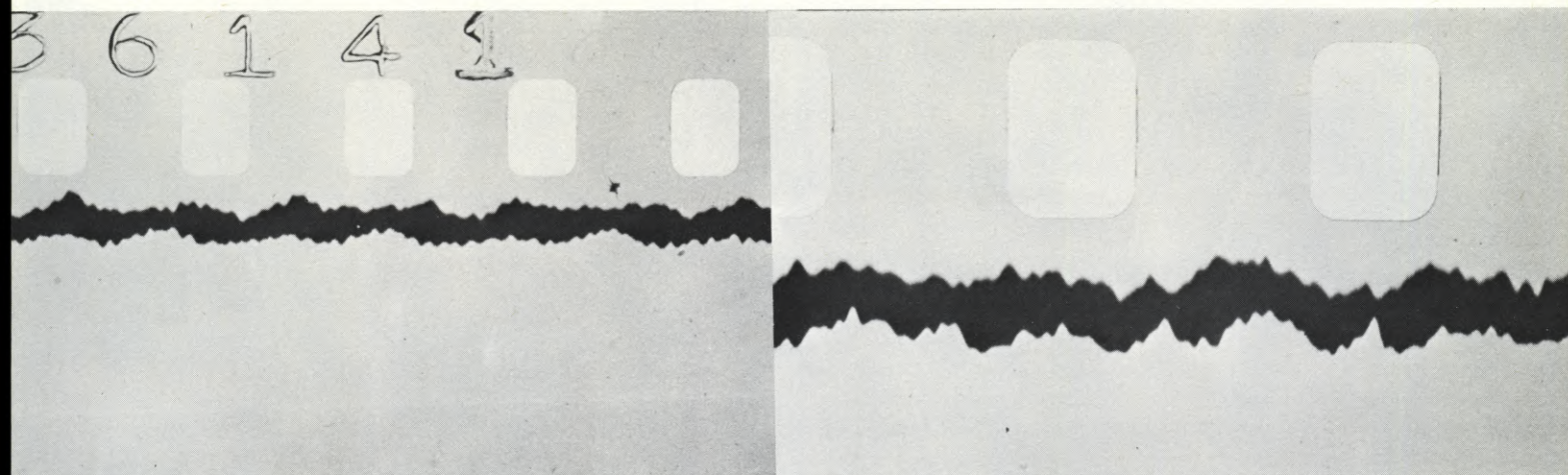
Where money is not available for the production of 70mm films, production companies are forced to use the less expensive 35mm ones, the Cinema-Scope method, and — despite the prevailing artistic requirements — naturally use the single channel monophonic optical sound system. In the meantime, the demand for high-quality stereo sound would be just as great for



(ABOVE RIGHT) A frame from a Hungarian film, with track indicating the double transverse sound wave. (BELOW) A frame from Hungarian film musical, where the longitudinal modulation of the sound track is distinctly discernible. (RIGHT) A frame from a Hungarian anamorphic film, for which the original recording has been made using a four-channel recording system.







Closeups of stereophonic recordings, where the two methods of modulation were combined. With this process, one can record on one optical track a compatible modulation combination which contains stereo information. This can be done without changing any basic standards for monophonic optical sound recordings.

these 35mm productions.

In the Sound Department of MAFILM/Hungarian Company for Motion Picture Production, we have worked out a stereo optical recording system, as well as a reproducing system, which are based on combined modulation and are compatible with the traditional optical systems.

Let us take a look at this optical stereo system.

1. The optical track in its size and place on the film is identical with the one on its "mono sister". It will not require any special perforation or change in present standards of the optical track.

2. The light valve of the optical recording camera is so designed that if a simple monophonic signal is fed into it, mono information will be exposed/recorded, but if we feed in a combined stereo signal, the exposed signal will hold stereo information.

3. Copies of the film can be made the usual way, as in case of films with the normal optical track.

4. This stereo optical track can be reproduced on any projector and will give normal monophonic sound in this case. In motion picture theaters equipped with projectors using the optical stereo heads recommended by us and multiple channel loudspeaker systems, a full stereo sound will be reproduced.

5. The sound quality of the system is better than that of any optical recording system known to us to date. We have several results to prove this statement regarding the dynamics and frequency range of the recording.

6. An additional but rather important advantage of our stereo system is that in motion picture theaters equipped with the recommended light-adaptor the conventional optical tracks

will be reproduced with better quality than through the traditional system.

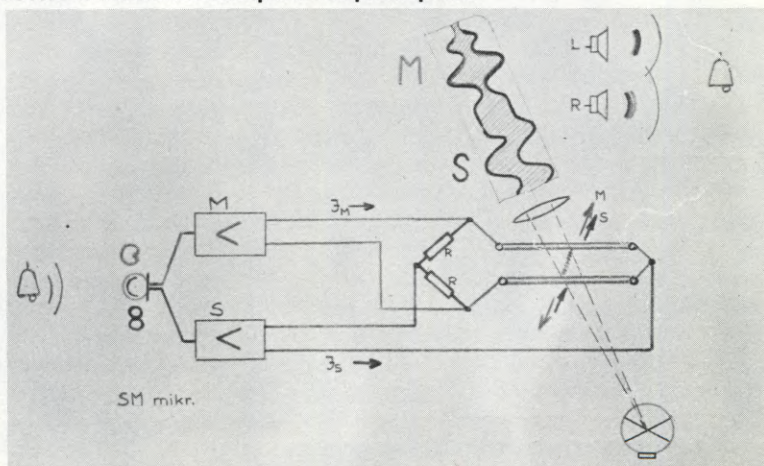
How does this stereo optical system work?

The system is based on the Sum-and-Difference recording method which is well-known in the disc recording business. In this recording system the *sum* channel is produced as the sum of the right and left signal and is the actual carrier of the sound. The signal of the *difference* channel is obtained by subtracting the signals of the right and left channels from each other; this carries the information regarding the direction of the sound. If the *difference* channel is switched out, a full-range monophonic recording is retained.

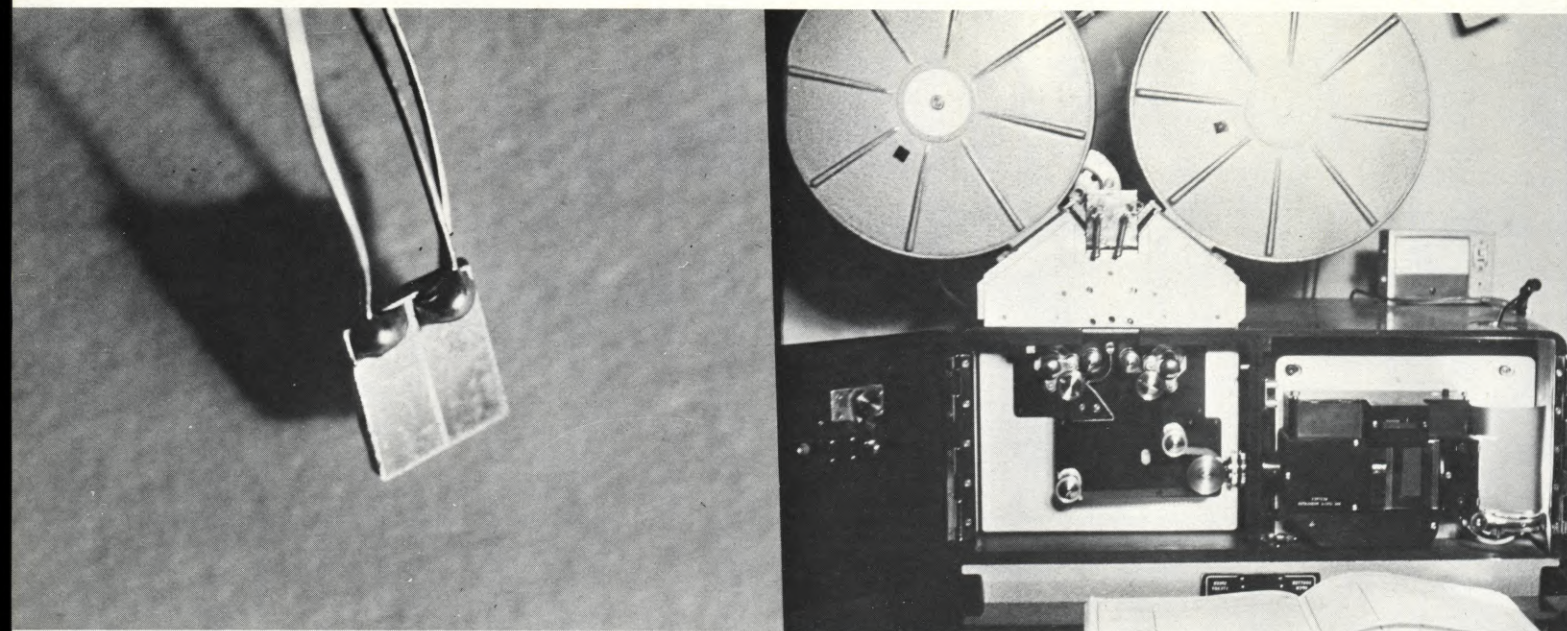
The best quality optical track can be made with the use of the double transverse technique, and this is probably the reason for it being used the world over. It is a well-known fact that with a

longitudinal sound wave, where the width of the optical track is constant and the whole track is moving from one side to the other, the track, reproduced on a projector equipped with an optical head sensitive to the intensity of light, will not give any sound. The combination of the two methods, the double transverse used as *sum* channel and the longitudinal as *difference* channel, will result in the new stereo optical track. Very much like the grooves on a stereo disc, we have produced a type of sound wave that contains full stereo information on a single optical track. Projectors equipped with optical heads that are sensitive to the intensity of light, will react to the *sum* channel information only and thus ensure normal mono reproduction. An adapter that is not only sensitive to the light but also to position, will detect the longitudinal movement of the recorded waves, thus

Switching diagram of the recording bridge circuit. The part of the stereo microphone with "kidney" characteristics is facing the sound source and is connected to the *sum* channel preamplifier. The other part, with the "figure eight" characteristics is perpendicular to the sound source and is to be connected to the *difference* input of the preamplifier.







(LEFT) The light-sensitive element of the stereo sound reader used in Hungary's new stereophonic optical recording and reproduction system for standard 35mm motion pictures. (RIGHT) The Westrex optical recorder, shown as modified to function with the new system.

the *difference* signal, and will contribute to the reproduction of a full stereo sound.

When a scene and a film requires mono sound only, the *difference* channel will carry no information and thus the optical recorder will record a normal double transverse wave. When stereo sound arrives this wave will be modulated by the longitudinal signal and so the double transverse wave will move in tune with the longitudinal/difference/information.

How can such a sound wave be optically recorded?

For our purpose an optical recorder

is best suited that has two ribbons moving in front of an aperture in magnetic field. The movements of the ribbons are projected onto the negative. The ribbons are connected to a bridge circuit. To the corner of this bridge the amplified signals of the *sum* and *difference* channels are connected respectively, so that the current of the *sum* channel will flow in series, that of the *difference* channel parallel through the ribbons.

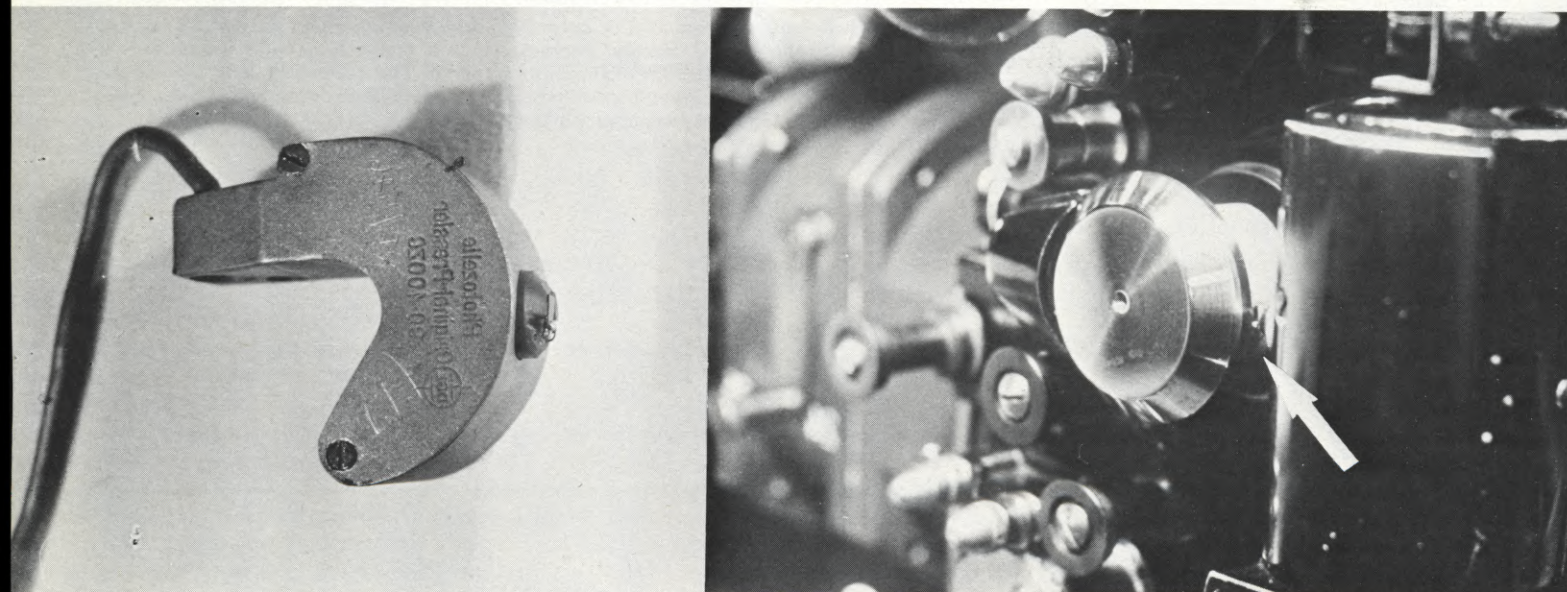
The noiseless feature of such a recording is also retained. It is the *sum* channel that drives the full width of the track. The distance of the peaks of the

double transverse wave will determine the distance of the peaks of the recorded audio wave. The noise reduction circuitry has to be driven by the *sum* channel, as the *difference* channel signal will only move the ribbons parallel to each other.

How can such an optical track be reproduced in a motion picture theatre?

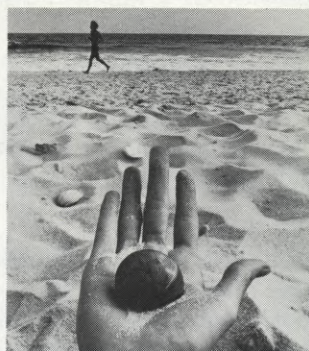
Present projectors would reproduce this track in mono, very much like the way a stereo recording is reproduced on a mono record player. To reproduce the sound track in stereo the  
**Continued on Page 342**

(LEFT) The stereophonic sound reader assembly. (RIGHT) Arrow points to the sound reader, shown built into an Ernemann projector. In cinemas already equipped with multiple-channel speaker systems, the additional costs of this new process are extremely low. The stereo adaptors, together with the necessary preamplifiers, will cost "the price of a few dozen tickets."





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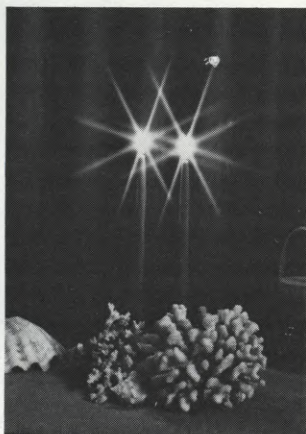


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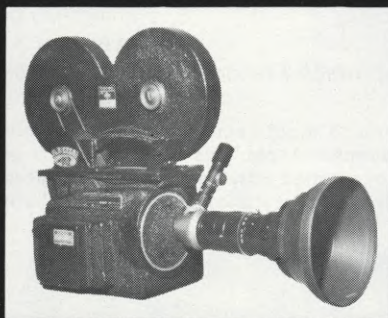
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## HUNGARIAN CINEMATOGRAPHY

Continued from Page 303

Academy again and was accepted. My first feature, "THE UPTHROWN STONE", has some of these autobiographical elements. In it, the hero is also refused and goes to work for a year.

**QUESTION:** During the course of study at the Academy, I should imagine that the students view and study various films, in order to analyze such elements as composition, lighting and camera movement. What sorts of films do they study? Are they commercial features and, if so, from what countries?

**SARA:** They study not only commercial features — old pictures which have been made by various artists all over the world — but they study their own films, made during the course of their studies. They analyze the camera movement, the lighting, and so on. Also, the practice at the Academy is to give the students a great deal of freedom, so that they can go to see films in the theaters. There is not as strict a timetable for students, as there is in other schools.

**QUESTION:** What kinds of cameras did you use in the Academy, and what kinds are used in professional production here?

**SARA:** In the Academy they work with Arriflex cameras. However, my first film was made with a Debric camera, which, at that time, I had never touched before. Now I am back to working with the Arriflex.

**QUESTION:** How many people do you have on a professional camera crew here, and what are their specific functions?

**SARA:** The camera crew in Hungary



A scene from "SINDBAD", directed by Ferenc Kosa and magnificently photographed in luminous color by Sandor Sara. A period piece with mystical undertones, "SINDBAD" benefits tremendously from the soft, dreamlike photography which Sara has achieved. He does not often use true softlight luminaires, but achieves his effects by shining "hard" light through, and bouncing it off, various materials.

consists of the Director of Photography, the Cameraman and the Assistant. However, the "Cameraman" is not really a cameraman. He is more like an assistant to the Director of Photography, but they call him "Camera-man".

**QUESTION:** Who actually operates the camera?

**SARA:** About 96% of the time, the Director of Photography also operates the camera.

**QUESTION:** Now that you are directing more and more, do you still operate the camera?

**SARA:** On the feature which I recently

finished directing, I had a Director of Photography, but I would frequently take the camera out of his hands and operate it myself. This is not to downgrade him — it is simply because there may be a scene which cannot be repeated and I don't want to miss the opportunity of getting it onto film exactly as I visualize it. Although I am aware that in the United States and France the Director of Photography never operates the camera, for me it is impossible to just sit beside the camera. The reason is that when I am setting up a scene, I can't imagine the composition without being behind the camera. Also, it happens that even when the composition has been clearly established and everyone knows what he has to do,

Continued on Page 356

(LEFT) Functioning solely as Director on this feature, Sara (right) prepares to shoot a scene. Although as a cinematographer he deals mainly with technical elements, he adapts easily to working with actors in his directorial role. This is partially because of his Academy training, and equally because in his work as a cinematographer, he has always been concerned with the scripting and direction, as well. (RIGHT) The film Sara is shown directing on location on Margaret Island has to do with activities at a "summer holiday camp". Here, in a scene from the film, the "campers" are doing their thing around the fire.





## HUNGARIAN FILM-MAKING

Continued from Page 295

ent from yours in America. But the director doesn't have to worry about his ideas being commercial.

**QUESTION:** What happens if a director doesn't come up with his own idea for a film. Will somebody come to him and say: "I want you to direct this picture." — or will they simply wait for him to present his own project?

**ANSWER:** It depends upon the director, but that seldom happens. Most directors have ideas that they want to make into films.

**QUESTION:** Do directors here feel competitive toward each other — in the sense of getting the opportunity to do their particular projects?

**ANSWER:** It is quite natural that there should be a certain amount of healthy competition between the artists, because all of them want to make the best possible films. However, all directors are happy when they see that some of their colleagues have had the opportunity to make a very good picture, because this makes things better for film-making in general. Years ago, before the present two studios were established, there were four studios which were creative communities of film directors, and within these communities they helped each other much more than they do nowadays. When these small communities existed, they would meet regularly every two weeks to discuss problems and exchange opinions, in order to help each other. Now they don't get the opportunity to meet with each other so frequently. That is the reason why in the '60's Hungarian film-making became much stronger. Now there is the Béla Bálász Studio that is similar, but it's really a different way of cooperating. We feel that nowadays the structure of the film industry here is much weaker than it was during the time of the four communities, and we hope that there will soon be another change back toward that structure. The feeling was much better then than it is now.

**QUESTION:** Why did the nature of things change so much in going from four studios to just two?

**ANSWER:** Equating it with politics — the former system was more socialistic. That is, the communities were organized on the basis of a group of people thinking in the same way. Since then these same people have become



George Illés, a legendary teacher at the Academy of Dramatic and Cinematographic Art, shown with one of his former "star pupils", Tibor Vagyoczky, one of Hungary's busiest and most highly skilled cinematographers, who now instructs student cameramen at the Academy himself.

more isolated. Again, using the political analogy — the present two studios are trying to employ a capitalistic management system. It is very strange that they can't utilize the advantages of the earlier format within the scope of the new system.

**QUESTION:** In Hollywood we have a saying: "You're only as good as your last picture." This means, bluntly speaking, that you are rated in terms of how well your picture did financially. It doesn't take into consideration that a picture may be very good artistically, but still not draw audiences. In contrast, I'm told that here directors make pictures primarily to express themselves and that, since their pictures are subsidized by the State, they don't have to worry about the commercial aspect. But even so, suppose they make a series of pictures in which they express themselves very well, but the audiences don't come. Will they, as directors, be thought less of because the audiences didn't come — or is there no stigma attached to this?

**ANSWER:** That kind of evaluation does exist in Hungary. Even though they are not primarily interested in how many people go to see their picture, it means much more of course, if a lot of people see the film. So, in that respect, they are interested in drawing more and more people into the movie theatres. As we say, "The seats in the movie theatre are for people to sit on."

**QUESTION:** What about a possible conflict between the so-called "art" films and "commercial" films?

**ANSWER:** Each type of film has its own basic audience. Therefore, you can't compare the audience of one with the audience of the other. That doesn't

mean that there is a war between the makers of art films and the makers of commercial films. The purpose of all film directors in Hungary is to draw people to both kinds of films. We would like our films to be seen by more and more people, but that is not the most important purpose of making them. The reason that so much money is put into film-making is that it serves as part of the political aims.

**QUESTION:** In American film-making we have a creature known as a "producer", and sometimes there are people who both produce and direct their films. In any case, the producer's function is to assemble the elements of production, including personnel, and also to keep an eye on the budget. Is there any similar personality involved in film-making here?

**ANSWER:** Well, he's called the Production Manager, but his role is not exactly the same. It's a pity. It should be, but it isn't. He is mainly concerned with economizing on the money which has been granted to the director. He should do that, but he should organize things more. As it is now, he is just dealing with the money. Organizing the technical facilities and creating all the circumstances necessary for film-making is still the task of the director.

**QUESTION:** The director has all of that responsibility, but he also has complete artistic freedom; isn't that so?

**ANSWER:** That's right. He has absolute freedom when he is shooting. No one will look at the footage he has already shot and say anything against it. The problems may come when the film has

Continued on Page 348



## WHAT'S NEW

Continued from Page 290

### AIR SHIELD PROTECTS DELICATE PHOTOGRAPHIC ARTICLES

Every photographer will agree that the two features most sought after in a lens case are protection and storage qualities. Sima Products, Corp., manufacturer of FilmShield, has just introduced AIR SHIELD, a lens pouch that combines the protective features of a hard case with the flexibility of a soft pouch . . . and they do it with air, protecting its contents just like air bags cushion people in automobile collisions.

The protective walls of the AIR SHIELD pouch inflate instantly with just a few puffs, and the case resembles a mini-air mattress, providing an air cushion buffer for lenses. It comes in three sizes: small, medium, and large, accommodating the entire range of lenses from wide angle to zoom. Best of all, any small lens fits snugly into large pouches without rattling, thus eliminating the need of a wide inventory of lens cases. Sima also designed a rectangular utility case that holds light meters, camera bodies, strobes or other delicate equipment. When not in use, AIR SHIELD may be deflated and folded up, fitting into a pocket.

Constructed of durable grained vinyl, AIR SHIELD retails at \$4.95 for the small and medium sizes and \$5.95 for the large size, and is available in photo stores nationwide.

For further information, write to Sima Products Corp., 7380 Lincoln Ave., Lincolnwood, Illinois 60646.



### THE UNIVERSAL HAND TOOL

Modernized version of the old familiar Boy Scout knife is now available from IDI as a do-anything backup tool for technicians (and even non-technicians) in just about any field of industry.

The tool, which sells for \$35.00, contains the following 24 items: large

and small knife blades; corkscrew; can opener; large, small, and fine standard screwdrivers; cap lifter; wire stripper; reamer; scissors; phillips screwdriver; magnifier; wood and metal saws; fish scaler; hook disgorging; ruler; nail file; nail cleaner; metal file; key ring; tweezers; and toothpick.

Image Devices Incorporated, 1825 NE 149 Street, Miami, FL 33181; 305/945-1111; Telex 51-9348; TWX 810/845-4242.

### NEW SUPER-8 BEAULIEU CAMERA FROM HERVIC

John R. Berthold, President of Hervic Corporation, has announced the availability of a "limited edition" Beaulieu 4008ZM2 camera equipped with the Angenieux 6-80mm, f1.2 "XL" zoom lens. Only 100 units will be available for distribution in the United States.

"Since the introduction of the Beaulieu 5008S sound cameras with this lens . . . we have received an incredible amount of requests for Angenieux 6-80mm lenses on Beaulieu 4008ZM2 bodies," stated Mr. Berthold.

"This particular zoom lens is, as yet, 'unequaled' in Super-8 (sound or silent) movie equipment currently available. We are, therefore, extremely pleased that Beaulieu and Angenieux have been able to collaborate in order to permit the availability of this 'limited edition' Beaulieu 4008ZM2 camera with Angenieux 6-80mm zoom lens".

Features of the Angenieux 6-80mm 4008ZM2 camera include:

- (1) "XL" (existing light) filming capability
- (2) Increased filming speeds: 2 to 80 f.p.s.
- (3) Macrocinematography from within 2 feet of the front element of the lens (thus allowing full use of available light without the intrusion of camera lens shadows).

Mr. Berthold went on to further explain that marketing plans for the "limited edition" Beaulieu Super-8 camera system include full page ads in Super-8 Filmmaker and *American Cinematographer* magazines. Furthermore, direct-mail campaigns will be launched to select lists including all present Beaulieu Super-8 camera owners.

Price of the "limited edition" 4008ZM2 with Angenieux 6-80mm lens is \$1,695.00. A four-page brochure and separate price list are available from Hervic upon request.

For further information, contact Hervic Corporation, 14225 Ventura Blvd., Sherman Oaks, California 91423.



### EXPANDED VERSION OF POM CRYSTAL SPEED METER NOW AVAILABLE

Courtney Hafela, of HafleXX Corporation, announces the immediate delivery of an expanded version of the highly successful POM Crystal Speed Meter for motion picture cameras, and now sync sound recorders. It is now possible to easily compare the pilotone frequency of a tape recorder with a crystal-controlled camera, instantly, without opening the camera.

This improved POM, by HafleXX, can also be used for checking camera synchronization with the new HMI lighting as described at the SMPTE Technical Conference in Los Angeles.

Simply plug the supplied cable into the crystal output of the recorder (Nagra, Stellavox, etc.) and look at the meter through the reflex finder of the camera. If the circle of bright red dots hold still, the two crystals are at the same frequency and sync accuracy is assured. If either camera or recorder crystal are off frequency, the rotation of the red dots, in the meter, will accurately indicate the direction and amount of error so decision can be made as to the advisability of filming. This self-contained meter is so bright it can be read across a sound stage and therefore used for checking multi-camera setups in major production for TV.

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Continued on Page 344

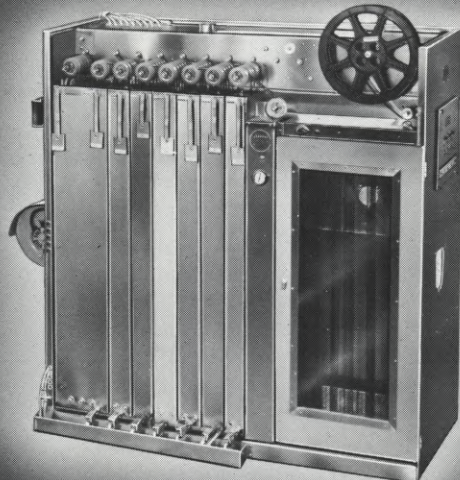


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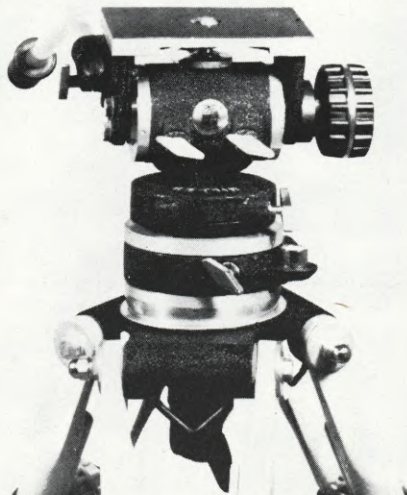
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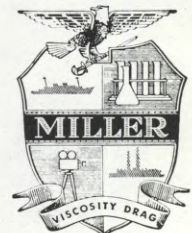
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# A PREVIEW OF FILMEX

In celebration of the United States Bicentennial, and to pay tribute to America's only original art form, the Los Angeles International Film Exposition for 1976 plans extended and widely varied programs

The 1976 Los Angeles International Film Exposition (Filmex), now the world's largest public film event, opens on March 21 with the world premiere of Alfred Hitchcock's 53rd film "FAMILY PLOT", and a tribute to the renowned director.

The film will be shown at Plitt's Century Plaza Theatre in the ABC Entertainment Center, Century City. The black-tie pre-release world premiere will be followed by a special "Filmex Society Salute to Alfred Hitchcock" at the Century Plaza Hotel. All proceeds from the dual-event benefit will go to Filmex.

"FAMILY PLOT" was selected as the unanimous choice of the Premiere Committee. Wendy Goldberg, President of the Filmex Society and Chairman of the Committee, noted that the Hitchcock Salute marks the first time that Filmex will combine its traditionally festive opening premiere with a banquet tribute to a filmmaker. Details of the "Salute" are being kept secret because of the "highly unusual activities being planned."

"FAMILY PLOT" begins its national theatrical engagement in selected

theatres on April 9, three weeks after the Filmex premiere.

"In the spirit of our nation's Bicentennial it is most appropriate that Filmex 76 honor Mr. Hitchcock on the occasion of his 76th year," said Essert. "The world has had a long cinematic love affair with Mr. Hitchcock, one of the few 'marquee-name' filmmakers identifiable by moviegoers everywhere, and Filmex is proud to honor him."

"FAMILY PLOT", a Universal Picture release, stars Karen Black, Bruce Dern, Barbara Harris, and William Devane, with co-stars Ed Lauter, Cathleen Nesbitt, and Katherine Helmond. Set against the background of a large American city, it is in the finest Hitchcock tradition. The film springs from our times, and it reflects two phenomena which have become widely familiar via the media: kidnapping and psychic practice. Hitchcock spent over a year preparing this latest project with Ernest Lehman, whose screenplay is based on Victor Canning's novel, *"The Rainbird Pattern."*

Tickets for the film and Hitchcock "Salute" are \$125 each (tax-deductible) and are available for reservation now.

Tickets for the film only will be available beginning March 7 by mail order, and March 14 at the Filmex box office in the ABC Entertainment Center. For additional information contact Filmex headquarters at (213) 846-5530 or P.O. Box 1739, Hollywood, USA 90028.

In honor of the Bicentennial year, Filmex 76 will focus three of its free retrospective programs on themes of the American cinema.

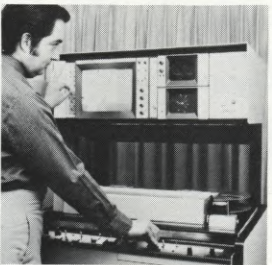
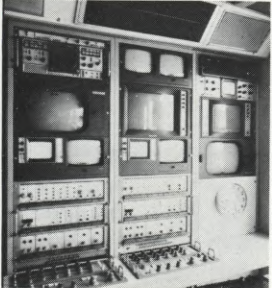
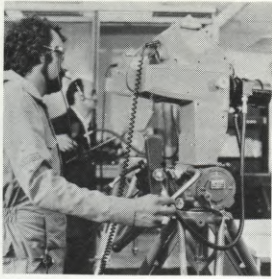
*"The Americans: A National Portrait"* will be a series of 14 films which depict aspects of American history through individual character studies. Films such as *"THE LAST OF THE MOHICANS"*, *"SERGEANT YORK"*, *"I AM A FUGITIVE FROM A CHAIN GANG"*, *"NOTHING BUT A MAN"* and *"ALICE'S RESTAURANT"* will cover the span of the American saga from Colonial times to the present.

*"The Great Comics: A Tribute to the American Film Comedy"* will feature films depicting the work of American movie comics who have made distinctive and distinguished contributions to film comedy. Included will be the films of Buster Keaton, Marion  
**Continued on Page 352**

Complete with the obligatory searchlights scanning the night skies, Plitt's Century Plaza Theatres I and II in the ABC Entertainment Center, Century City took on a magic aura for FILM '75. This year the ultra-modern complex will again serve as the site of the Los Angeles International Film Exposition with a greatly augmented program schedule and many gala events planned.







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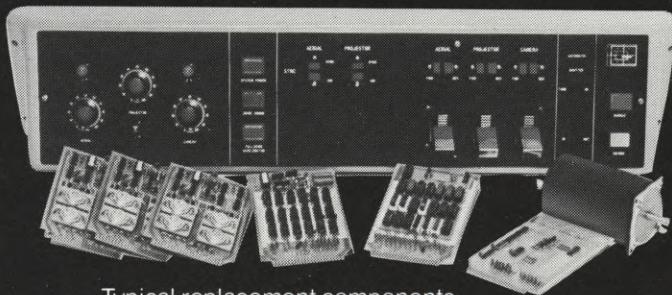
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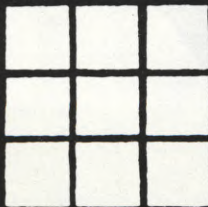
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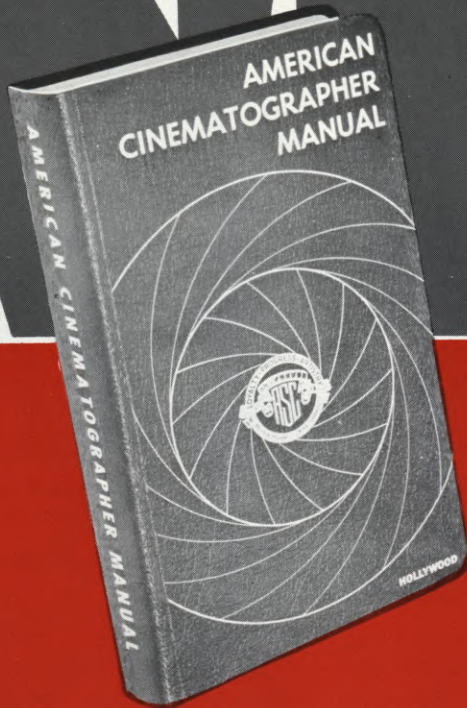


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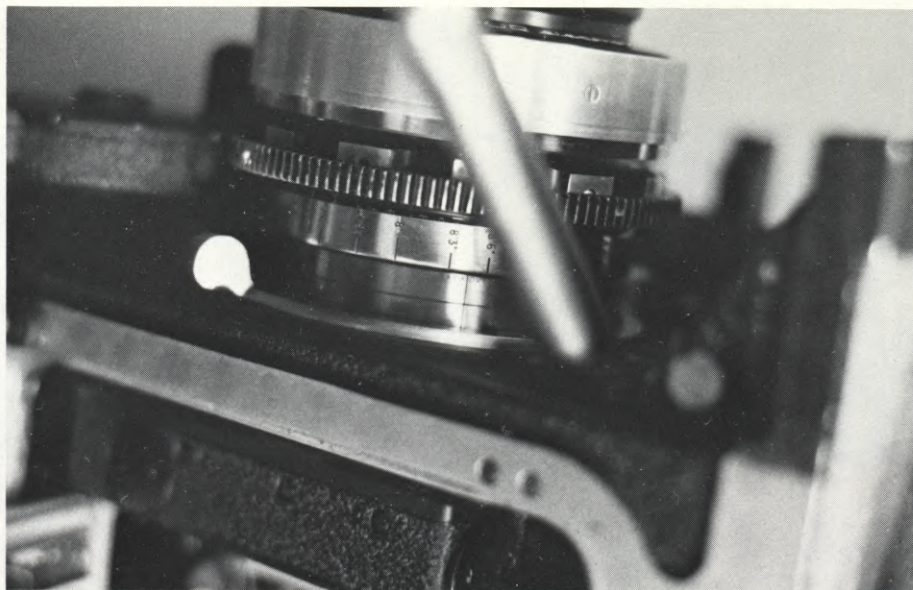
## TWO SPECIAL LENSES

Continued from Page 277

cause of some slight shift in camera position during shipment. We subsequently determined that it was necessary for us to tighten up the dovetail gibs upon which the camera racks back and forth to the point where racking over became fairly stiff, since the flange focal depth of the lens was so extremely critical.

At this point Kubrick complained that the single 50mm focal length was too limiting and that what he required was a wider-angle lens of the same speed. He began thinking in terms of various anamorphosing schemes or other optical tricks to widen the angle of the lens we had. I told him that before doing anything as mind-boggling as this I would check with some of the optical experts I knew to see if there were a simpler way. As luck would have it, Dr. Richard Vetter of Todd-A-O, a man whose optical expertise I've always held in high esteem, suggested to me that the result I was trying to achieve could probably be accomplished by using a projection lens adapter, designed by the Kollmorgen Corporation, which was originally intended to modify the focal length of 70mm projection lenses in theatres so that the image format could exactly match the size of the screen.

We purchased one of these adapters, mounted it to the front of the lens, and after some optical and mechanical manipulation we were pleased to see that the effective focal length of our composite lens system was 36.5mm. The aperture of the new 36.5mm lens remained at  $f/0.7$  and its effective aperture was reduced only slightly by the minor light absorption in



The Zeiss 50mm and 36.5mm,  $f/0.7$  lenses used to film candlelight sequences for "BARRY LYNDON" without the addition of artificial light were originally still-camera lenses developed for use by NASA in the Apollo Moon-landing program, and modified by Cinema Products Corp. The 50mm lens, shown here in focusing mount, had to have the adjustable shutter blade, necessary for still photography, removed for filming.

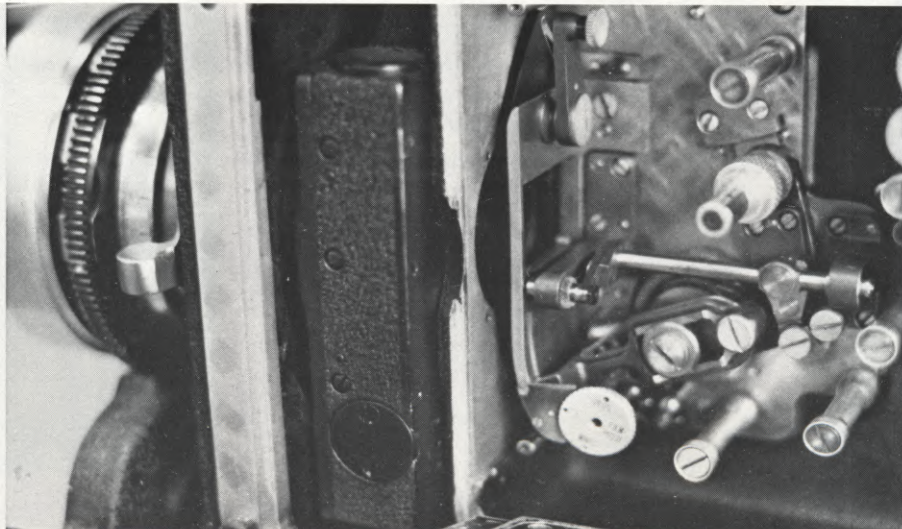
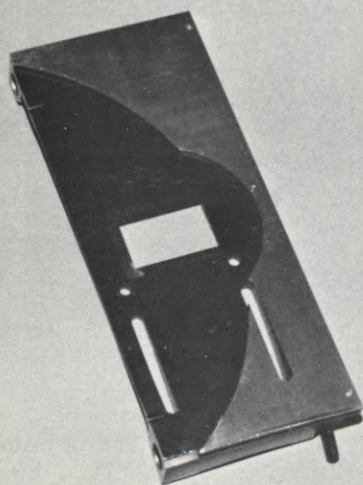
the two front elements. We sent this lens on to Kubrick and, again, he was ecstatic with the results. However, being the demanding technical genius that he is, Stanley Kubrick urged us to go further and see if we could come up with a still wider angle lens. Again I turned to Dr. Vetter, and this time he provided me with a "Dimension 150" lens adapter which, when mounted to the front of still another Zeiss 50mm prime lens, gave us an effective focal length of 24mm. However, at this point our improvisational engineering techniques began to catch up with us and Kubrick determined that the lens gave a bit too much distortion, so that he would not wish to intercut photography from this lens with photography

from the other two.

As a technician and not a creative artist, I asked Kubrick the obvious question: Why were we going to all this trouble when the scene could be easily photographed with the high-quality super-speed lenses available today (such as those manufactured by Canon and Zeiss) with the addition of some fill light. He replied that he was not doing this just as a gimmick, but because he wanted to preserve the natural patina and feeling of these old castles at night as they actually were. The addition of any fill light would have added an artificiality to the scene that he did not want. To achieve the amount of light he actually needed in the candlelight

Continued on Page 336

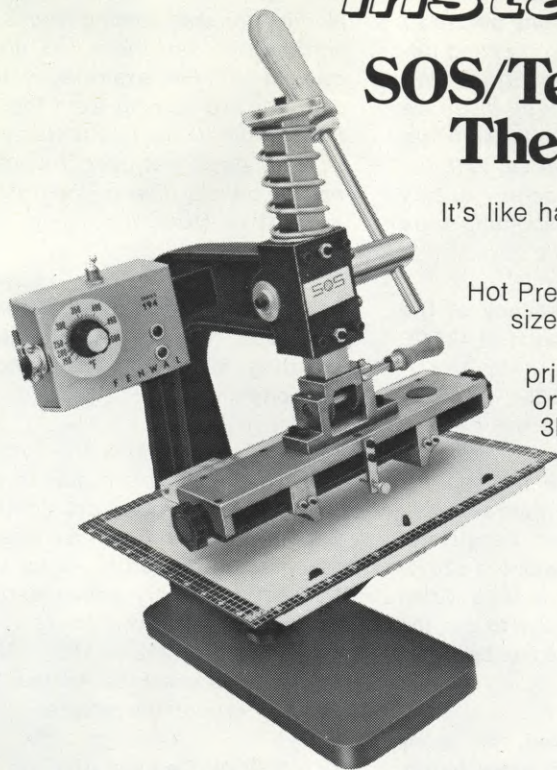
(LEFT) Specially machined aperture plate to accommodate the Zeiss 50mm,  $f/0.7$  lens. (RIGHT) The specially machined aperture plate in position in the specially machined camera body housing, both designed to accommodate the modified super-fast lens. Kubrick refused to settle for a standard high-speed lens and the addition of artificial light because he wanted to re-create the natural patina and mood of stately houses illuminated solely by candlelight, as they were during the period of the film's story.





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## PHOTOGRAPHING "BARRY LYNDON"

Continued from Page 275

**ALCOTT:** When I went around looking at locations with Stanley we discussed diffusion among other things. The period of the story seemed to call for diffusion, but on the other hand, an awful lot of diffusion was being used in cinematography at the time. So we tended not to diffuse. We didn't use gauzes, for example. Instead I used a No.3 Low Contrast filter all the way through — except for the wedding sequence, where I wanted to control the highlights on the faces a bit more. In that case, the No.3 Low Contrast filter was combined with a brown net, which gave it a slightly different quality. We opted for the Low Contrast filter, rather than actual diffusion because the clarity and definition in Ireland creates a shooting situation that is very like a photographer's paradise. The air is so refined, I think, because Ireland is in the Gulf Stream. The atmosphere is actually perfect and we thought it would be a pity to destroy that with diffusion, especially for the landscape photography.

**QUESTION:** That's rather refreshing. There seems to be a tendency these days, despite the nice sharp lenses that are available, to just fuzz everything out as a matter of course.

**ALCOTT:** Yes, it's done a lot. I've even done it myself in shooting commercials. We did discuss the possibility for "BARRY LYNDON", but then we thought: "Well, it's been done before so many times; let's try for something different. Let's go into low contrast." We tested many filters and of all those we tested the Tiffen Low Contrast filters came out the best qualitywise. With the Tiffen filters we didn't lose any quality whatsoever, even when shooting wide open, in fact. They were the best.

**QUESTION:** Did you use any of the 5247 color negative, or was it all 5254?

**ALCOTT:** We used the 5254, because the 5247 wasn't available even at the time when we finished shooting. It came out something like two months after we had finished the main shooting of the film. Now I find that, because of the fineness of the grain with the 5247, I would have had to use a No.5 Tiffen Low Contrast filter in order to get the same effect I got using the No.3 with the old stock.

**QUESTION:** Do you find, as many other cinematographers have found, that the 5247 negative has an inherently higher contrast than the 5254?

**ALCOTT:** Well, they say it's higher contrast, but I really think it's not so much the contrast as the fact that the grain is so much finer. If the grain is finer, this will increase the apparent contrast. In other words, you've got to dress and color your sets to accommodate the film stock. Even the tiniest ornaments which are red will kick out on the new stock, whereas on the old stock they wouldn't. This is because of the finer grain. It's the color, in fact, which is building up the contrast. However, I can't understand why anybody wouldn't go for the finer grain, because that's what it's all about. The thing is to try to make it work by knocking down the contrast in some other way. We must either modify the lighting or design the set in a way to tone it down. For instance, in some of the interiors used for shooting "BARRY LYNDON" there were lots of white areas — fireplaces and such. If you put a light through a window these would stick out like a sore thumb, as they say. So, most of the time, I covered them with a black net — the white marble of the fireplaces, the very large white three-foot-wide panels on the walls, and the door frames that were white. I covered them with a black net having about a half-inch mesh. You could never see it photographically, unless you were really close to it — but in the long shots

it wasn't visible at all. It did wonders in toning down the white. I also used graduated neutral density filters on certain light parts of the set when the illumination was coming from a natural light source and there was no way to gobo it off. For example, if the light source were coming from the left and hitting something that it was not possible to put a net over, I would put a neutral density filter on the right side — an ND3 or ND6, depending upon the brightness.

**QUESTION:** You would actually use graduated neutral density filters for shooting interiors? That's not done very often, is it?

**ALCOTT:** I don't think so — no. I know that when I use them now in different types of work that I do, some of the people on the set wonder what I'm up to, using graduated filters for interiors. But they work very well indeed. In fact, we had a matte box made to accept the three filters on the Arriflex 35BL. Incidentally, we used the Arriflex 35BL all the way through the picture.

**QUESTION:** Can you give me some of your impressions of that camera?

**ALCOTT:** I think it's a fantastic camera. To me, it's a cameraman's camera — mainly because the optical system is so good. Some optical systems give you a much more exaggerated tunneling effect than others, and I even came across someone the other day who prefers that long tunneling effect because it makes him feel like he's in a cinema. Personally, I prefer it when my eye is filled with the actual picture image. You find that this only really occurs with the Arriflex 35BL. Another feature I like about the camera is that you've got the aperture control literally at your fingertips. It's got a much larger scale and, therefore, a finer adjustment than most cameras. This feature is especially important when you're working with Stanley Kubrick, because he likes to continue shooting whether the sun is going in or out. In "BARRY LYNDON", during the sequence when Barry is buying the horse for his young son, the sun was going in and out all through the sequence. You've got to cater to this. That old bit that says you cut because the sun's gone in doesn't go anymore.

**QUESTION:** Instead, you try to ride it out by varying the aperture opening during the shooting of the scene?

**ALCOTT:** Yes, that's why the Arriflex 35BL offers such an advantage. It's got





a finer aperture adjustment — more so than most other cameras — which allows you to cater to light variations while you're actually shooting. On most lenses there's not a great distance between one aperture stop and the next. There isn't actually on the Arriflex 35BL lenses either, but it's the gearing mechanism on the outside that offers the larger scale and, therefore, the possibility of more precise adjustment. It's like converting a 1/4-inch move into a 1-inch move.

**QUESTION: What about the use of the zoom lens in this film?**

**ALCOTT:** Oh, yes — we used it a great deal. The Angenieux 10-to-1 zoom was used on the Arriflex 35BL, in conjunction with Ed DiGiulio's Cinema Products "Joy Stick" zoom control, which is an excellent one. It starts and stops without a sudden jar, which is very important, and you can manipulate it so slowly that it almost feels like nothing is happening. This is very difficult to do with some of the motorized zoom controls. I find that this one really works.

**QUESTION: What types of lighting equipment did you use?**

**ALCOTT:** We used Mini-Brutes and we used a lot of Lowel-Lights — all the time. I used the Lowel-Lights in umbrellas for overall fill. I always use the umbrellas — ever since "A CLOCKWORK ORANGE". I find that the Lowel-Light has a far greater range of illumination from flood to spot than any other light I know of. In fact, it's the only light of its type that gives you a fantastic spot, if you need it, and an absolute overall flood. Also, when you put a flag in front of most quartz lights you get a double shadow — but not with the Lowel-Lights. But then, of course, they were designed by a cameraman.

**QUESTION: What about the use of the moving camera in "BARRY LYNDON"?**

**ALCOTT:** We used it in certain sequences, but not too many. We had one very long tracking shot in the battle sequence, with the cameras on an 800-foot track. There were three cameras on the track, moving with the troops. We used an Elemack dolly, with bogie wheels, on ordinary metal platforms, and a five-foot and sometimes six-foot wheel span, because we found that this worked quite well in trying to get rid of the vibrations when working on the end of the zoom. It seemed to take the vibration out better than going directly onto the Elemack.



**QUESTION: Do I understand that you were racked out to the end of the zoom on that tracking shot?**

**ALCOTT:** Yes, virtually all closeups made from the track during that battle sequence were on the 250mm end of the zoom.

**QUESTION: That really is living dangerously.**

**ALCOTT:** I made a test beforehand with the camera traveling on an ordinary track and one with this base, and the difference was quite amazing. That's what got us round to building these

platforms and using the Elemack with the bogie wheels on the four corners. They are really quite handy for doing all kinds of shots.

**QUESTION: What would you say was your most difficult sequence to shoot in this film?**

**ALCOTT:** I think the most difficult bit was the scene in the club when Barry comes over to confront the nobleman sitting at the other table, is given the cold shoulder and then goes back to his own table. That involved a 180-degree pan and what made it difficult was the fluctuations in the weather out-  
Continued on Page 338



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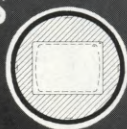
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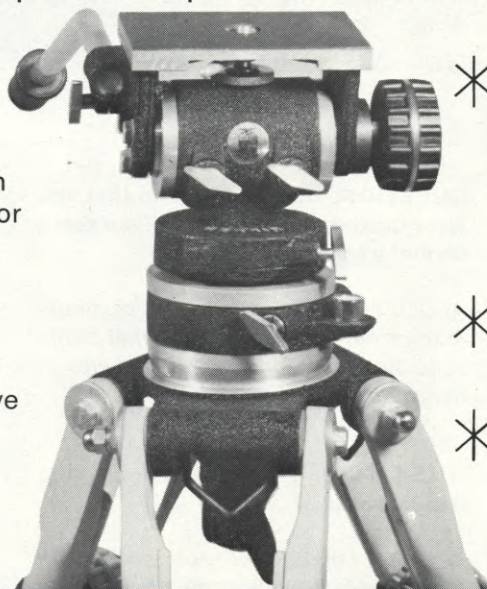
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**INDUSTRY ACTIVITIES**  
Continued from Page 262

throughout the world have adopted this lens as their standard, using the Angenieux 20-120mm as the sole lens for their entire production. Continuing in their research and development program, Angenieux has recently introduced the new 6x20L2 HEC with multi-layer coatings. This lens provides a further enhancement of images by effectively reducing flare and increasing transmission.

**BIJOU FILM SOCIETY ANNOUNCES ANNUAL CONVENTION — MOVIE/EXPO '76**

Universal Studios and the Sheraton-Universal Hotel will be the locations for the annual convention of The Bijou Society on May 14, 15 and 16, 1976. Called MOVIE/EXPO '76, the Hollywood event will bring together film hobbyists, collectors and historians from across the country.

A national association for people concerned with the history and lore of the motion picture industry, the Society has members in all 50 states and in nine foreign countries. And the organization is extending an invitation to MOVIE/EXPO '76 to anyone who shares this important concern.

"The entire convention facilities of the Sheraton-Universal will be used to house a wide array of attractions for movie buffs," explained Randy Neil, Executive Secretary. "Included will be a large dealers' sales and display room where films and movie memorabilia will be available . . . plus special private screenings of many major films from the past. Other activities will include a variety of seminars on Hollywood history, and special parties for convention-goers."

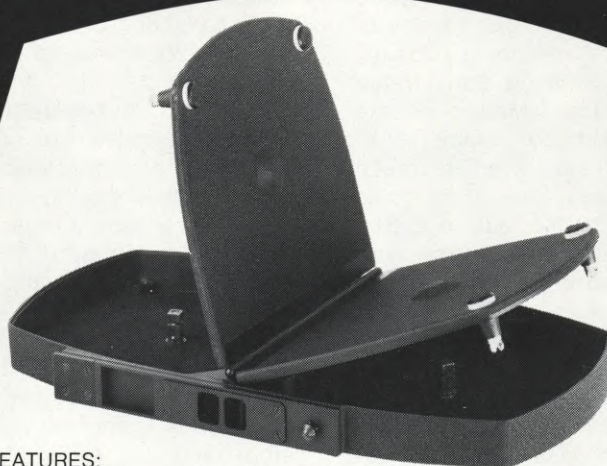
The major highlight of MOVIE/EXPO '76 will be the Society's annual Artistry in Cinema Awards Banquet to be held on Saturday evening, May 15, at the ballroom of the Universal Studios Commissary. Some very special film personalities who played roles in molding Hollywood's golden era will appear to accept honors from the society membership.

Honors at the banquet will include: the ARTISTRY IN CINEMA Award for significant contributions to motion picture development; the MOTION PICTURE HISTORIC LANDMARK RECOGNITION which pays homage to one or more locations where film history was made; and the BIJOU SOCIETY BOOK AWARD given to the

Continued on Page 347

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PLC-4 Magazine shown mounted on a CP-16R Reflex camera.



PLC-4 Magazine shown mounted on an Auricon CineVoice Camera (400 ft. Conversion model).

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# MAKING IT LOOK EASY ISN'T SO EASY

By **BILL LINSMAN**

General Manager, Swartwout Productions,  
Scottsdale, Arizona

Remember when you were a kid and your Dad took you to the circus, or to a ball game or to the Ice Follies? Invariably there was an expert in his field there who could mystify everyone in the audience with the ease with which he could "do his thing". Johnny Weissmuller in swimming, Sonja Henie on the ice, or Joe DiMaggio on the baseball diamond are examples of what I mean. I, like many others, made "making it look easy" one of my goals when I got into the film business. But, as the production of the television commercial described in this article points out, making it look easy . . . isn't always that easy.

" . . . and the third commercial should appear to be a simple tabletop photography job with the ID card." Such was the initial description of one of three 30-second spots my company, Swartwout Productions, was to bid on for Arizona Blue Cross and Blue Shield, a regional advertiser, under the creative guidance of Owens & Associates Advertising Agency in Phoenix, Arizona. Jim Kellahin, Creative Director for the agency, had an idea floating around in his brain, but so far that idea was rather nebulous. At this point he was simply

exploring the creative talents of his potential film supplier.

The scene was a luncheon involving Kellahin; Jerry Hartleben, Director of Photography for Swartwout Productions; and myself in the role of salesman. We discussed the other two spots in the package, and how they were to be shot, but by the time the dessert cart rolled around everyone was talked out — more interested in the topping on their double-decker super-duper ice cream sundaes than in "tabletop photography". Somewhere between the chocolate and strawberry scoops Kellahin asked for a bid.

I knew why we were so lucky to be asked. We really had established a good rapport with our client. We had done many commercials for Jim before, and had never had a major problem, or worse, a failure. But better than that, during our last shoot with Jim we had reached an important decision. As a company we had decided that it was vitally important for everything behind the camera to look as good as it did in front of the camera. The expression, in the vernacular, is "cleaning up our act", and believe me, our last shoot really did look good. Despite the fact

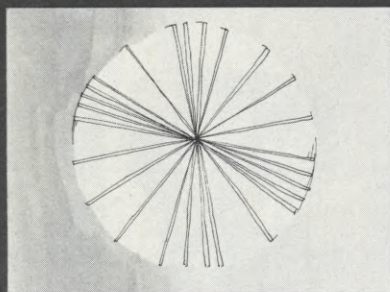
that the budget and distribution could very much be labeled "local", our crew and our footage looked national by every standard. Jim is a pro in his field, and recognized this.

I then threw out a figure for the Blue Cross/Blue Shield spots that was obviously attractive to him. He smiled, didn't commit himself, and picked up the tab for lunch.

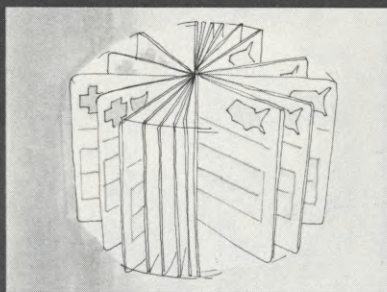
A week passed and we had had no word from Jim. I called him and he seemed rather surprised. "I thought you knew me better than that, Bill. You've got the job! We'll start shooting Monday." I hastily explained that my bid was off the top of my head, and that it hadn't even been confirmed on the back of a napkin. Unfortunately, Jim had already discussed the figure with his account man and was now committed to it. Some quick conferences determined that, at worst, we might have to do one of the three spots in 16mm to keep the budget down. Jim was agreeable to this . . . and Monday we were shooting.

While actual shooting began on the other two commercials in the package, Jim firmed up what he wanted to see in the ID card spot and handed us a

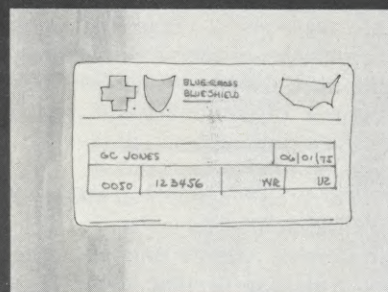
**Storyboards can be dangerous, in that they tend to make a complex filming process look simple on paper. The one shown here for the 30-second commercial spot for Arizona Blue Cross and Blue Shield, discussed in the accompanying article, looked like "simple tabletop photography of the ID card" — until the film-makers had to figure out how to shoot it.**



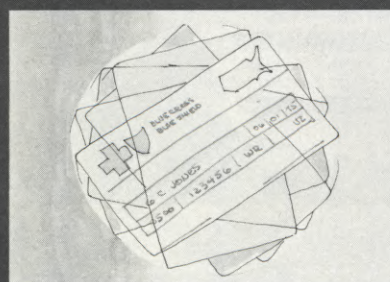
Day in and day out . . . at home or in the office . . .



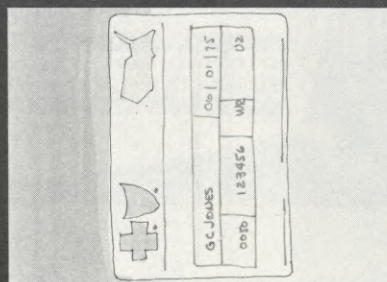
when you travel . . . in Arizona or around the world,



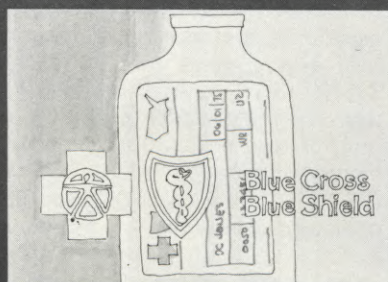
one simple little card is all you'll ever need to take the paperwork out of health care . . . and the red tape out of an emergency. The Blue Cross & Blue Shield identification card.



When the average family can expect

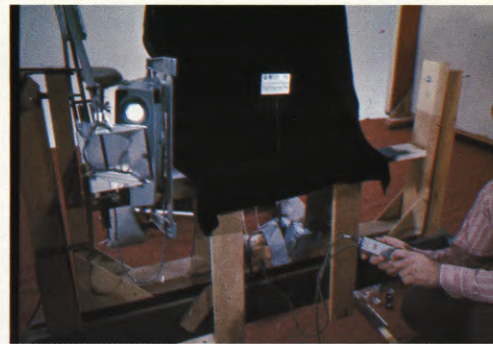


someone in the hospital every other year,



It's nice to know you're carrying a real painkiller . . . from Blue Cross & Blue Shield of Arizona.





**(LEFT)** Director of Photography Jerry Hartleben sets up shoot, while the boom arm is activated through pulley mechanism. **(CENTER)** A closer look at the shooting setup. Note the vertical position of the frame movement in relation to the camera. **(RIGHT)** The zoom motor control is activated in order to produce the revolving movement of the card.



**(LEFT)** A certain amount of experimentation with the zoom motor control was necessary in order to produce the correct revolving movements of the card. **(CENTER)** The backside of the "framus", showing the mounting of the motor and shaft behind the black cloth. Cinematographer Hartleben and designer Ken Swartwout line up the shot. **(RIGHT)** The half bottle prop designed for the last shot of the commercial is placed for shooting.

**(LEFT)** The half-bottle in place, with the card "inside" it. **(CENTER)** The card, which will appear on-screen in a big closeup insert, is precisely located inside the half-bottle. **(RIGHT)** The half-bottle is carefully moved about to get the best angle and avoid unwanted reflections, while clearly establishing the contour of the bottle — something which is not easy to do when shooting clear glass against a black background.



**(LEFT)** The Kodak Ektographic slide projector is mounted as the movable, controllable light source to illuminate the card. **(CENTER)** An adjustable mirror is attached to facilitate complete control of the light beamed onto the card. **(RIGHT)** Designer Ken Swartwout makes final adjustments of the device's mirror control. Extreme care was taken to keep the card in sharp focus and properly framed.





script. The video side read like this:

*(following is all in synchronous, continuous motion)*

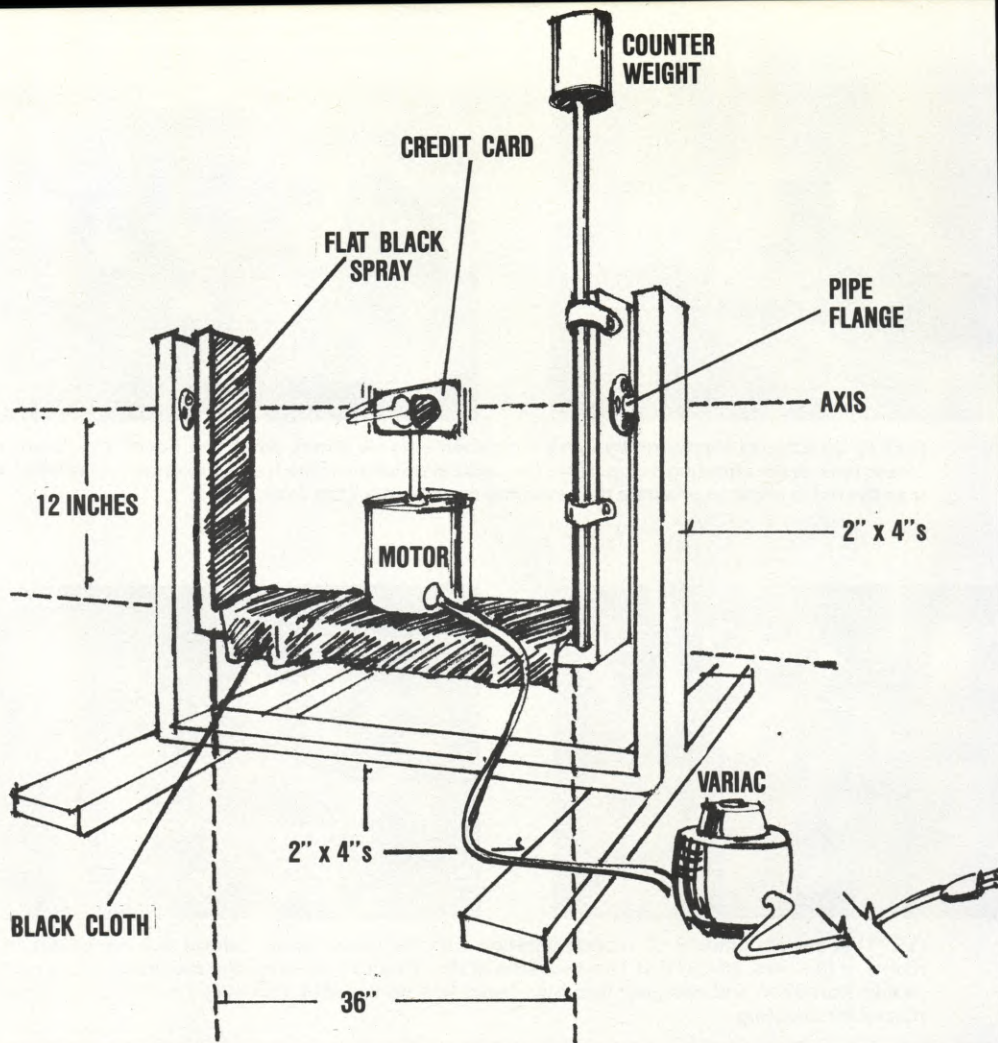
*Fade up on:*

*Spinning object (soon to be revealed as Blue Cross/Blue Shield ID card) seen on end in blue limbo background. Card strobes. Camera rotates 90 degrees as light travels slowly left to right, revealing the card revolving on axis. The card slows down and stops so that it reads properly (horizontally) to camera. Card then begins to spin on new axis (still broadside to camera) and comes to stop in vertical position. Medicine bottle supers over card. CAM pulls back leaving space for logo ID. Fade out.*

Sounds simple enough . . . if you're using animation, that is; but our budgetary restrictions said no to film animation. Our immediate problem was to decide just how we were going to pull off this "simple" job of tabletop photography and still retain high quality. A gimbal-mounted camera could be one solution; videotape computer animation another. But our slim budget and the unappealing aesthetic results we might expect from these methods dictated the need for a more original solution to the problem.

Wade Bray, our sound engineer, studied the requirements of moving the ID card (a plastic embossed card similar to a standard credit card) and a few minutes later he conceived an idea for a machine which would accomplish

**The half-bottle prop designed for the last shot of the commercial, about to be placed for filming. The idea was to end up with a screen-filling closeup of the card inside a medicine bottle (how's that for creative thinking?).** **Thayne Free, a veteran of weird film problems, split a cough medicine bottle, using a special diamond saw, and mounted the half-bottle on a black wooden support bar.**



**A rough sketch of the all-new "75 FRAMUS" (crayons not included). This drawing represents the initial design of the machine created to make the complex movements of the Blue Cross/Blue Shield ID card. The black slitted cloth which conceals the mechanical works had not yet been added in this drawing.**

most of the movements required. Jerry's smile broadened when he saw the drawing because it looked like Wade's strange contraption just might work. I took the drawing home and my four-year-old daughter asked if she could "color it in". I thought for a moment that perhaps this was a better idea than to actually try creating the device. The next day I assigned the job of constructing the machine to one of our people.

Jerry continued to study the problem photographically. He decided to shoot the beginning of the spot first so that we could easily determine the end (start) position of the card. Soon the machine was completed, and we were ready to shoot. Then Jim Kellahin showed up again, this time with a storyboard. Suddenly, new problems presented themselves. We had misunderstood Jim's description of the movement depicted in frames 5 & 6, and had underestimated from the beginning Jim's insistence on the "continuous motion". We had to get the card spinning in a new direction and have a perfect match dissolve between two pieces of film. He also wanted to show



the card inside of a medicine bottle and we hadn't even begun to consider how we could accomplish that! Worst of all, the shaft supporting the plastic ID card was very shaky. If we made it any stronger it would be thicker and therefore more visible, no matter how much flat black paint we used. We were getting somewhat discouraged. Although the device looked like a pretty impressive piece of equipment on paper, when actually put into operation it more closely resembled a sight gag from a Mel Brooks movie.

To provide smooth movement in the vertical axis, Wade suggested we connect part of the frame, through a pulley rig, to the crane arm of a hydraulic dolly. The whole thing looked like a giant mistake. Guests touring the studio for the first time were told it was a prototype "framus" with automatic pop-up toaster. Nonfilm people nodded, but those in the know kind of chuckled to themselves. "What's with these guys?", they wondered.

To help us at this point we hired someone who has worked with us before, a very interesting man named Thayne Free. Thayne is a veteran of weird film problems. He had created exploding cars, split cars in half, and had just completed construction of a

giant moneybag for another series of commercials we shot. Certainly if Thayne knew how to split a car in half, a bottle would be no problem at all. As it turned out, Thayne actually solved three problems. He designed a new mount on the back of another credit card so that the card would spin the new direction. He designed a shaft strong enough not to wiggle, but such that it hopefully would not be seen by the camera. He then split a cough medicine bottle (using a special diamond saw) and mounted the half bottle on a black wooden support bar.

We thought we had it made . . . until we looked at the dailies from our test footage. The shaft was very much visible and destroyed the illusion of the card floating in space. At this point we began to regret that we didn't have the budget to animate the whole thing. Fortunately, Ken Swartwout, a founding partner of our company, was also an engineer, and he had a solution for us. The shaft had shown because we couldn't properly flag the light illuminating the card. This was due to the movement of the card in relation to the light. Jim said that the movement of the light in relation to the card wasn't so important to him. This opened the door to another attachment for our infernal

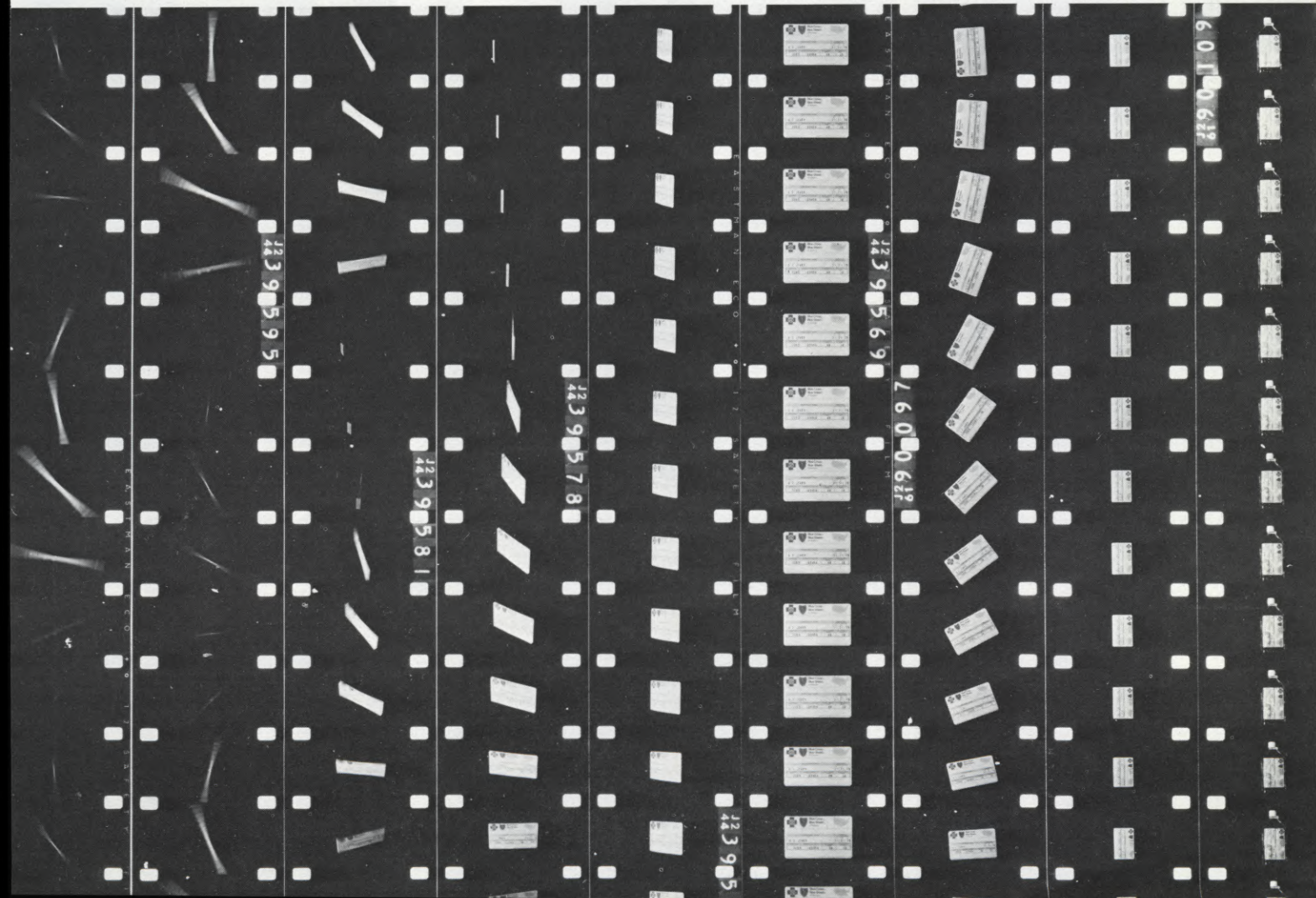
machine. An extremely controllable light source could be attached to the frame which would move with the card, keeping an even relationship with it. Ken jury-rigged the thing together and found that it worked. Then, using a slide projector as a light source and as a mirror to control that light, we slid into home plate. Now our framus looked stranger than ever; but more importantly, it worked!

With this monument to Rube Goldberg prepared, it was at last time to shoot. A crew of four was required to handle the various motions: Someone to turn the valve that lowered the boom that pulled the rope that tilted the platform that held the zoom motor that turned the card that rode in the machine that Wade built; someone to run the camera (namely our Director of Photography, Jerry Hartleben); someone to assist Jerry; and a fourth person to control the zoom motor.

The card was supposed to stop dead in center frame, before our first match dissolve; so we started from the stop position and shot in reverse. The whole spot, in fact, was shot in reverse, making the end positions of the card in the four shots that much easier to handle.

Continued on Page 337

Clips from scenes of the completed 30-second spot give some idea of the action involved.





# ADVANTAGES OF SHOOTING 7247 ON "HOW DOES A RAINBOW FEEL?"

By FREDERIC GOODICH

Cinematographer finds that the new 16mm color negative meets the challenge of a tricky film that really cried out to be shot in 35mm

How do you shoot a film that is designed to be an amalgam of *cinema verite*, trick photography and dramatic story sequences, a film containing controlled and spontaneous situations, a film whose visual style *must* impress its audience?

How do you shoot such a film in 16mm because your budget doesn't allow for the use of 35mm?

Part of the answer: Shoot the film on Eastman Color Negative II film stock, 7247.

David Holden, the director on "HOW DOES A RAINBOW FEEL?", and

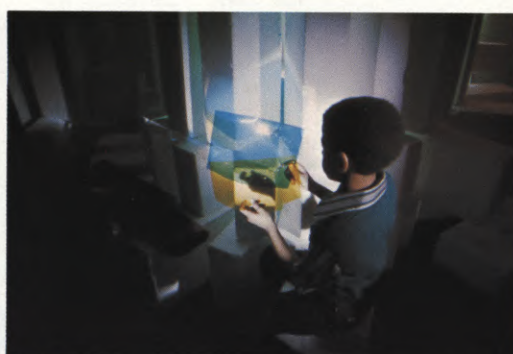
myself, had little doubt that we were going to shoot the film on 7247 (rather than 7252, Reversal), and when an approval of our second treatment arrived from the sponsor, CEMREL, Inc., in St. Louis, I began immediately to test the '47 stock, using cassette rolled 5247 and a Nikon SLR.

Color charts, street scenes, faces, daylight available lighting and tungsten lighting, daylight without an 85 in front of the lens, daylight with a variety of color gels (obtained quite easily by using Rosco and Olesen Companies' Light Control gelswatches) held

up to the testing lens, diffusion, fog and low-contrast filters, even devices for creating rainbow and rainbow-flare effects, all were subjects used in these first tests.

I prefer an available light look in my photography, so I was very interested in how the '47 would work for daylight-lit, window-source interiors.

I neither force-developed, flashed, nor under-developed my rolls. I wanted, as it were, an Eastman Kodak type relationship with my '47. Later, when I developed some sophistica-



(LEFT) Director of Photography Frederic Goodich makes a suggestion for a hand-held action shot. (CENTER) A child fascinated by the colors produced by transmitting light through colored gels. (RIGHT) David Holden, the director, explains to the camera crew his requirements for a low-angle dolly shot. Unusual angles added to the fantasy aspects of the film.



(ABOVE LEFT) A bus ride through Venice, California, wherein the Rainbow King, a fantasy character created by some children in the film, eludes his pursuers. (CENTER) A discussion of camera angles, which are necessarily limited inside a bus. (RIGHT) Photographing the pursuit of the Rainbow King. (BELOW LEFT AND CENTER) A magical environment, the SPACE PLACE, was constructed by the children from blocks of Styrofoam and colored lights. (RIGHT) An old jukebox was found, whose rainbow-design housing seemed perfect for the film's concept. 40-watt bulbs replacing the original 15-watt bulbs gave sufficient exposure with the 7247 stock.







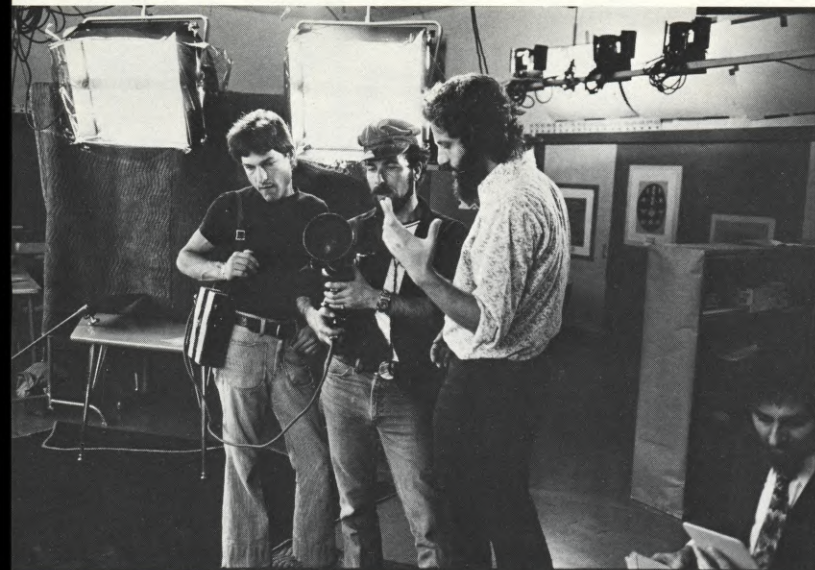
(LEFT) The Rainbow King attempts to steal the Lizardman's violin case before the bomb inside explodes. (CENTER) The Rainbow Man hears the ticking of the bomb. (RIGHT) During the chase he ducks into a barbershop to elude his pursuers. (BELOW LEFT) To enhance the "dream quality" of the fantasy sequence, hot kicks from reflector boards and a #2 diffusing filter over the lens were employed. (CENTER) Mark Grossman adjusts a filter. (RIGHT) Sometimes, when shooting in actual locations, a cameraman must assume a precarious perch to get correct camera angles. (Photographs by CHARLES FUCHS.)



Frame blow-ups from "HOW DOES A RAINBOW FEEL?". (ABOVE LEFT) An infant stares fascinated at the rainbow which shines through the netting of his playpen. (RIGHT) An orange seen for the "first time" by this baby turns out to be not only palpable, but palatable. (BELOW LEFT) An "acid test" demonstration of 7247's latitude, using only one light — a 1,000-watt Baby — from behind the sorting tray. A range of tones from black to white is reproduced, plus a considerable range of exposure. (RIGHT) An early experiment before shooting, in which a rainbow was created by painting with vari-colored paints on glass positioned out of focus in front of the lens.







(LEFT) Shooting without the 85 filter. Much of the classroom material was shot by available window-light raised to an exposurable level with the aid of daylight-balanced Lowel Softlights and single FAYs bounced off showcards. The lab was instructed to correct for the missing 85 filter. (RIGHT) Director of Photography Goodich asks for an adjustment of a light which is throwing some unwanted hot spill onto the wall behind the subject.

tion, I thought I might try some emulsion-bending. The most extreme approach I took on these tests was to overexpose and print down.

I was much looking forward to the shooting combination of lightweight 16mm equipment and negative film stock. Most of "RAINBOW" was shot with an NPR and a 9.5-95mm Angenieux Zoom Lens.

**Cinematographer Goodich, Director Holden and assistant cameraman Steve Krafft prepare to shoot sequence in which children are piecing together "body puzzles" to create various emotions.**



In 16mm, among the relative benefits of 7247 are its fine grain (as compared to the older 7254), its sensitivity (as compared to reversal), and its exposure latitude. But one real disadvantage is that '47 picks up emulsion scratches quite easily — and in 16mm these defects are magnified to a distracting degree. Bearing in mind this problem, I planned the following strategy: For each sequence we intended to shoot, and because I intended to expose variously for different effects, I established printing lights prior to shooting which I could instruct the lab to use for each batch of dailies. Thus, all-too-human CFI contact with anything more than the head end of every roll was avoided.

The strategy worked. Our first trial print from the A&B original was absolutely free of emulsion scratches — one of the real payoffs from the testing we did prior to shooting. Of course, our more-than-human, bionic negative cutter, David Dobson, was our real weapon when it came time to conform the original to the workprint. We were most happy with our first trial print.

But I'm getting ahead.

The "RAINBOW" film is both an instructional and promotional film. The sponsor sells educational materials which are used by kids to enhance their understanding of aesthetic values in the visual, aural, environmental and dramatic arts. The film also presents an attitude, a philosophy, a way of looking at the world. The audience for the film is teachers, educators and parents. David and I, and Donald Wrye, our Executive Producer (for W/H Productions), knew that we had to create a sense in the film of beauty, wonder, de-

light and fun — attitudes often associated with aesthetic experiences. We had to be daring in approach — break a few rules — if anything so elusive as *beauty* or *delight* were indeed going to be achieved. Both David and Donald agreed with this attitude and were very supportive of my efforts. They made room in the budget for extras, such as tests, filters, gels, experimental shots, and scheduled shooting time so that we could work with care and precision to achieve the desired results.

Having educated myself to my materials and my color palette, as it were, through tests, I felt ready to begin the actual filming.

My general approach to lighting is to look for a justifiable source. Either this source is something seen in the shot or the presence of the source is made evident by a judicious use of key-to-fill or key-to-shadow-density ratios. The desire for realism and credibility is behind this style of lighting — also, a certain tactileness may be achieved. I used this approach in RAINBOW for the most part, but diverged when graphic clarity and/or special effects required a multiple-source look.

#### (1) Shooting without the 85

Much of the classroom material was shot by available window light raised to a usable exposure with the aid of daylight-balanced Lowel Softlights and single FAYs bouncing off show cards and hung from 2x4's that were stretched across the ceiling. (The rooms, of course, were rigged before the kids arrived.) I still felt that I needed an extra 1/3 to 1/2 stop for shooting, so instead of force-developing, I removed

**Continued on Page 354**



# 7247 - A PRODUCER/DIRECTOR'S POINT OF VIEW

By DAVID HOLDEN

At first glance 7247 offers distinct advantages to the 16mm film producer. These include the "look" of the film (which Frederic Goodich describes in more technical terms in the accompanying article) — which for the first time brings the feel of a 35mm negative stock to 16mm production — and the stock's increase in ASA rating and exposure latitude — which adds to the range of possible shooting situations and the quality of image in low-light situations.

These advantages have to be balanced against very significant disadvantages in cost and time. But first let's discuss the plus side of 7247.

1) The main appeal of 7247 is the richness of image it produces — even through the successive generations of a color reversal internegative (CRI) and release printing. The image is palpably more exciting, more vibrant in its colors, with a much greater latitude in capturing and recreating shadings within the frame.

In a film like "HOW DOES A RAINBOW FEEL?", where the picture is supposed to stimulate and delight the senses, a stock like 7247 isn't just an option — it's a must. Often when a film draws praise for its photography it's a back-handed compliment: a sign of static, attention-getting pictorialism. But "RAINBOW", which in its 15 minutes moves with the pace of a commercial, gets well-deserved high marks for its photography — it has a rich look, achieved through a combination of Fred's visual expressiveness and a camera stock that would respond to, and faithfully reproduce, that expression.

2) Exposure rating and latitude — another plus for 7247. Not that less lighting must be done; this stock, like all stocks, responds to what it "sees." (I've sat through a *verité* documentary shot on '47 which looked undistinguished because no one took pains to respect the stock and light for it). But because of 7247's increased sensitivity to light (ASA 100 compared to 7252 color reversal's ASA of 25), fewer lights need be used to illuminate a set, and a more comfortable level of illumination for the performers can be maintained — no small concern for the director.

Increased ASA rating can pay off, too, in the speed with which a set can be rigged. On "RAINBOW" we were able to "grab" a shot which included a multi-color jukebox without having to specially rig the jukebox — its normal level of illumination was adequate for exposure.

Balanced against these primary advantages of 7247 are some important drawbacks.

1) Cost. Although prices are constantly changing, the following is a rough comparison, on a per-foot basis, of 7247 and its reversal "competitors."

## (COMPARATIVE COSTS ON A PER-FOOT BASIS)

	7247 (negative, ASA 100)	7252 (reversal, ASA 25)	7242 (reversal, ASA 80)
Raw stock	.0968	.0875	.0835
Developing	.1236	.0721	.0865
1-light dailies	.1396	.1336	.1336
<b>TOTAL COST TO WORKPRINT</b>	<b>\$ .3600</b>	<b>\$ .2932</b>	<b>\$ .3036</b>
First trial from A&B rolls	.8751 (1)	.2169	.2169
CRI	.8948 (1)	—	—
Internegative	—	.3696	.3696
First trial from CRI or interneg.	.1874	.1874	.1874
First release print	.1301	.1301	.1301
<b>TOTAL FINISHING COST</b>	<b>\$ 2.0874</b>	<b>\$ .9040</b>	<b>\$ .9040</b>

**There are trade-offs in consideration of this new negative stock, including higher cost, but the advantages would seem to prevail**

As you can plainly see, on a cost basis 7247 is a "luxury" stock — at roughly 130% greater finishing costs, it's simply not competitive with reversal stocks. (This doesn't even take into account the increased need for optical work in making titles in 7247. Since it is a negative stock — you can't "burn in" a superimposed title from a C-roll like you can in using reversal original).

2) 7247 is still a relatively new camera original stock. Eastman Kodak is trying to perfect the emulsion's physical characteristics, and has already made certain changes in 7247 since it first was made commercially available in the fall of 1974. For their part, the labs are still learning how to work with the stock on two levels: in handling (to avoid scratching the soft emulsion which in 16mm produces objectionably large white scratch marks on the screen), and in the generation of successful first trial prints and CRIs (which are done wet-gate to deal with the scratching phenomenon referred to above, but pose problems of streaking when the wet-gate solution dries).

3) These problems at the lab level mean increased time in post-production. Somebody — usually the producer — has to sit through the many first trial prints and possibly NG prints from unsuccessful CRIs till the job is satisfactorily completed. (On "RAINBOW" I was fortunate that in Ed Sogg, one of CFI's veteran timers, I had a man who was considerate enough of my time that he evaluated prints beforehand and only called me when we had something to work with. Still it was a long hard road — lasting over two months — to an acceptable release print).

Not that the results weren't worth it, but time is money — and if a client is waiting for the completed film, or if you have a specific play- or air-date, it can be particularly enervating and frustrating. A side note — even this final "technical" phase of filmmaking has its room for creativity. When Fred and I looked at an early trial print of "RAINBOW", we discovered that the first shot of the children's story sequence had a distinct, if inadvertent, magenta tint to it. Struck by the look of this shot (which along with the rest of the sequence Fred had intentionally photographed to emphasize its feeling of otherworldliness and fantasy), we decided to print the entire sequence with this dominant magenta cast to separate it from the look of the rest of the film.

On balance, from my producer/director's viewpoint, I still have to recommend 7247. If there's money and time in the budget, the results are worth the effort. Just be sure to get a cameraman like Frederic Goodich who makes the effort to know and understand the stock and its potentials — and be prepared to hang in there till you get a final print you like. Then if people like the photography — well, take it as a compliment. ■





# THE NEW KENWORTHY SNORKEL-B CAMERA SYSTEM

Sometimes called the "Butterfly Camera", this versatile rig floats in and out of seemingly inaccessible places like a miniature helicopter, or better yet, a winged lens

By PAUL KENWORTHY

For those unfamiliar with this Camera System, the Snorkel Camera — or "Butterfly Camera" as it is often called — is a system that adds an optical lens tube, Servo motor controls, and closed-circuit video (for filming), to remote the optical, control and viewing functions of the normal film or elec-

tronic camera. The image is picked up on a remotely-tiltable mirror and relayed up a periscope-like tube to a film or TV camera overhead. When suspended from a camera crane with end-of-arm modifications, the taking end of the Snorkel tube can move anywhere on a stage that a butterfly can fly, hence

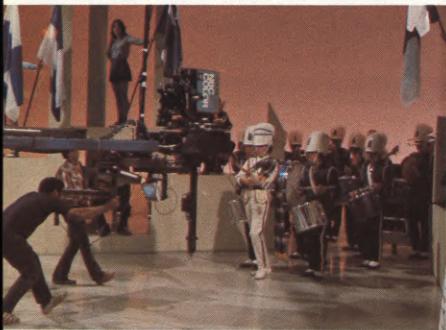
the name "Butterfly Camera". It is indeed a miniature helicopter, or better yet, a winged lens.

After four years of design and engineering, a radically redesigned Snorkel Camera System has finally been completed and placed into service. While heretofore the prime application of



(LEFT) The Snorkel-B shooting inside a four-walled set at Universal Studios on a sequence for the NBC-TV World Premiere Movie, "THE UFO INCIDENT". (CENTER) The Snorkel-B suspended from Chapman Nike crane in the UFO set. (RIGHT) The Snorkel-B floats and probes, as Estelle Parsons is led into UFO spacecraft by creatures from another planet.

(LEFT) The Snorkel-B shooting an unusual angle of a marching band on Mac Davis TV Special. (CENTER) The Snorkel-B, with RCA TK-44 camera mounted, shoots a dance number for the same show. (RIGHT) Console in operation at Universal City Studios, with Paul Kenworthy on the joystick, during filming of "THE UFO INCIDENT". Director of Photography Rex Metz observes the operation.



(LEFT) The Snorkel-B, with RCA TK-44, shooting on videotape at KCET. Here the lens-tube extension was used to get the camera high and out of the way of the steeply angled lights positioned on top of set walls. (CENTER) Shooting with Compact Video's Philips PCP-70 on Columbia Pictures TV Special, "COLUMBIA PICTURES 50th ANNIVERSARY". Camera traveled down one side of long table, across the end and up the other side to show name cards — all in a single take. (RIGHT) Shooting miniature domed city for "LOGAN'S RUN" at MGM Studios. Lighting by special effects expert L.B. "Bill" Abbott, ASC. Snorkel-B suspended more than 30 feet from Titan crane.





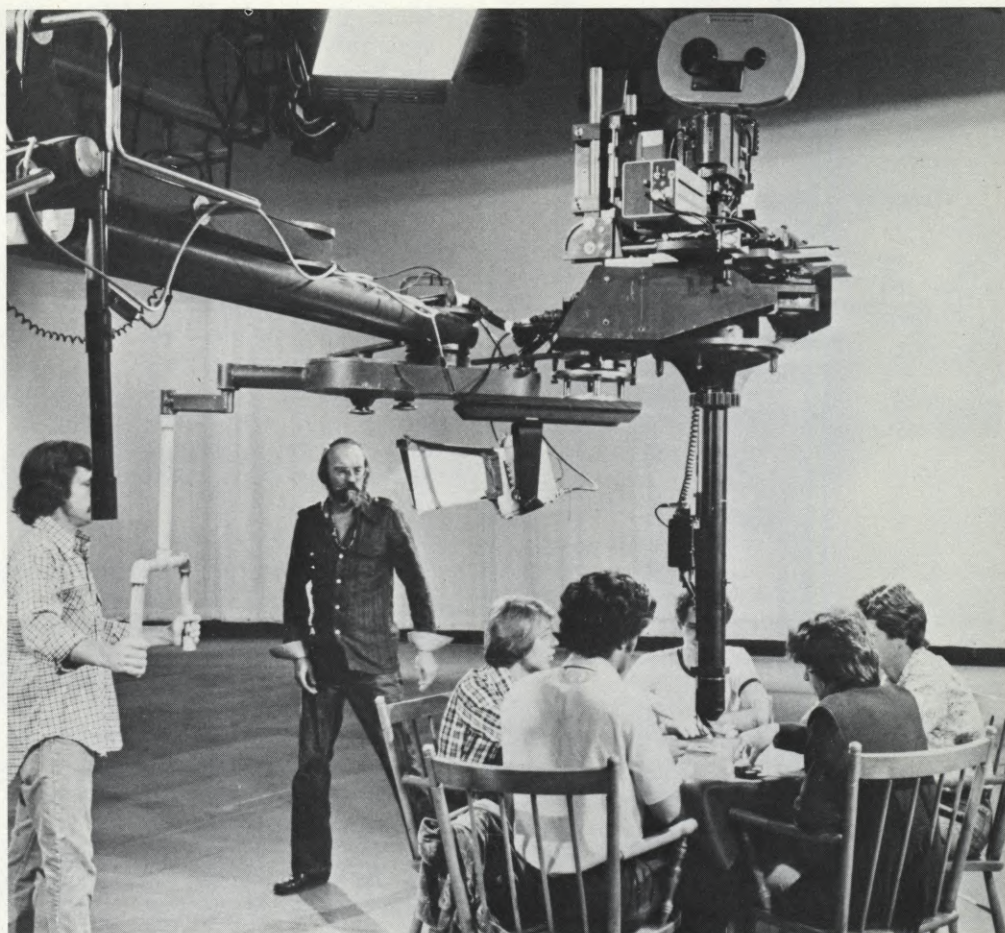
Snorkel shooting with the Snorkel-A System has been primarily directed towards close-up, tabletop shooting for TV commercials, there is now a new system, the Snorkel-B, that advances the technique to permit feature film and television production with actors and performers.

Several major design innovations were required; a new optical lens tube was designed and built by Leitz of Canada, with an f/5.6, T/8 diaphragm for 35mm motion pictures. A supplementary lens was also built to converge the image to the smaller format of 30mm Plumbicon tube faces for broadcast electronic cameras. The reduction of 1.27 in diagonal from Academy to Plumbicon format increases the diaphragm from f/5.6 to f/4.4 with an effective stop of T/6.3. With these new apertures, an average set can be lit at 400-450 foot-candles for film at ASA 200; for videotape, depending on the light transmission of the internal beam-splitting prisms, the illumination level requirement ranges from 300-450 foot-candles to provide adequate signal-to-noise ratio. These lower levels allow practical lighting intensities for large sets without unreasonable heat or numbers of lighting units.

Another important improvement was the silencing of all motor drives to permit recording dialogue on-camera. Focus, pan and tilt motors are quiet at normal operating speeds.

The Snorkel-B Camera mounting arrangement permits use of all major studio 35mm sound cameras, as well as the Arriflex II C and Mitchell Mark II. It will also accommodate the Phillips PC-70, PCP-70, RCA TK-44, TK-45, and Marconi Mark VII electronic cameras, with 30mm Plumbicon tubes. Cameras are mounted vertically to position their center of gravity as close as possible to the axis of rotation.

Sound motion picture cameras usually have their film gate, turret, and



The Snorkel-B shown with Panavision's phenomenal Panaflex camera mounted. The Snorkel Camera is a system that adds an optical lens tube, Servo motor controls, and closed circuit video (for filming) to remote the optical, control and viewing functions of the normal film or electronic camera. The image is picked up on a remotely-tiltable mirror and relayed up a periscope-like tube to a film or TV camera overhead.

film transport system floating on some sort of support, such as Lourd mounts, inside an outer sound-absorbing shell or blimp. It is necessary to stabilize the position of the film plane when the camera is vertical. Each type of camera now has an adapter tube that seats like a lens in its turret and which is used to bear down upon the upper lens-tube surface with sufficient pressure to locate the floating film plane accurately with respect to the image from the Snorkel tube. Means are provided to

The Snorkel-B operating from a Chapman Nike crane with extension. The console is in the foreground. The Snorkel-B system is a radically redesigned adaptation of the Snorkel-A, which was directed toward closeup tabletop photography. The new system advances the technique to permit feature film and television production with actors and performers.



#### SNORKEL-B SYSTEM

This unit is based in Los Angeles. It is designed to shoot motion picture and T.V. productions on film or tape with extended capabilities suitable for working with actors and performers.

**Optical:** f/5.6, T/8 with film: f/4.3, T/6 with videotape, for all lens combinations. Requires 400-450 foot candles with E. K. Type 5254 and 5247 (at A.S.A. 200), and 300 foot candles for videotape.

**Lenses:** 28mm and 50mm for 35mm film (no 16mm capability); 22mm and 39mm for 1 1/4" Plumbicon electronic cameras. Two tube lengths: 4' and 5 1/2' clear of camera. Tube diameter: 3".

**Additional Equipment:** Servo motors with remote electronic controls for panning, tilting, focus and lens diaphragm. Console with monitors, joy-stick controls. Spares for instant replacement. Extra monitor for crane operator. Mirrors, filter holders, other special items. 5-piece intercom system. Remote lens diaphragm control. For film: closed-circuit b & w TV viewfinder accurately reflexed via pellicle in snorkel lens tube. Interchangeable ground glasses with variable granularity and optional formats. For videotape: supplementary optics for 1 1/4" Plumbicon format.

**Cameras:** Any silent or sound 35mm motion picture camera. Phillips PC-70 or PCP-70; Marconi Mark VII; RCA TK-44 - videotape.

**Suspension:** Operates only from Chapman series of camera cranes. Shoots in studio or on location.

**Other Options:** 1" VTR for instant dailies when shooting film.

Underwater housing with window, variable length.

**Crew:** Operator/technician  
Assistant cameraman plus 1 or 2 grips required, depending on job.

**Shipping Weight:** Approximately 3000 pounds

U.S. Rental Rates - 1975

Total Above: \$1000/day.

Not included in rate.

Crane to be supplied by client.

\$50.00/day

\$250.00/day

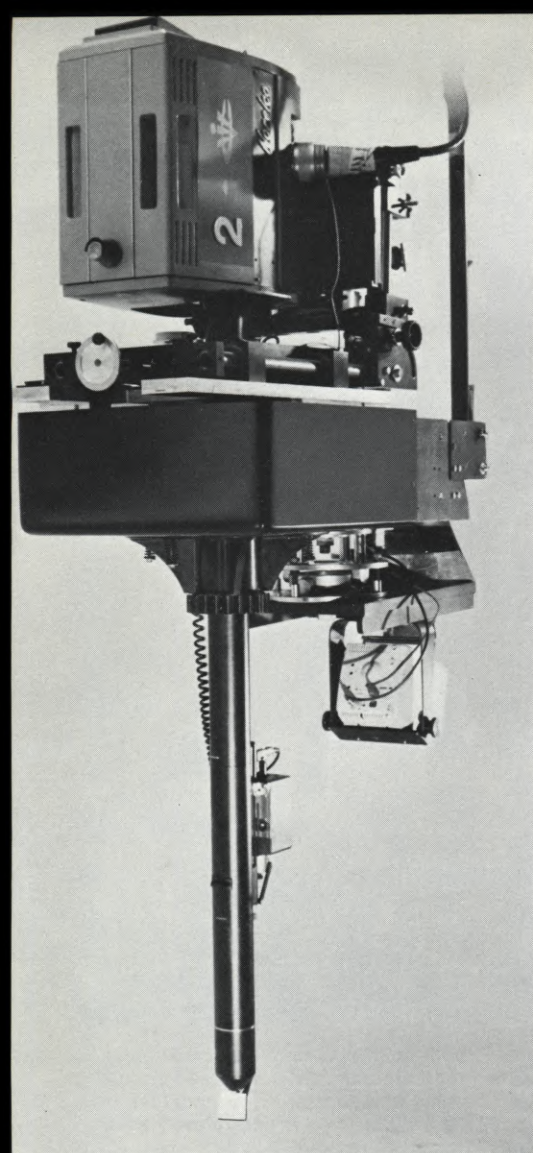
May be supplied by client.

#### KENWORTHY SNORKEL CAMERA SYSTEMS INC.

WEST COAST OFFICE Kenworthy Snorkel Camera Systems, Inc. P. O. Box 49581 Los Angeles, Ca. 90049 (213) 476-4100	EAST COAST OFFICE c/o Allscope, Inc. 33 Witherspoon Street Princeton, New Jersey 08540 (212) 925-4005; (609) 924-1575
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Continuously engineered by Continental Camera Systems, Inc.





The Snorkel-B in use with vertically mounted Philips PC-70 camera.

adjust the position of any camera accurately over the lens-tube to allow the image to center properly and to keep the film plane perpendicular to the optics. In a similar way, electronic cameras are properly positioned.

When shooting film, the operator and first assistant view the image at the console, each with their own black and white closed-circuit TV. Part of the light is directed from the lens-tube via a pellicle to a ground glass which is viewed by the TV camera. This CCTV is self-contained. Its video signal is passed through a slip ring as are all other circuits, to permit an indefinite number of 360-degree pans without twisting control cables.

Ground glasses are easily interchangeable and have reticules etched on their surfaces for various formats. The reticules appear on the TV monitor with enough picture margin on all sides to give the operator assistance in framing action.

When using electronic cameras, the pellicle, ground glass, CCTV and its optical system are all removed because they are unnecessary. The cable bundle feeding the camera is then supported over it so that it can rotate two complete 360 degrees without causing undue strain.

The lens-tube is designed to accommodate front objectives for 28mm and 50mm focal length systems. The tube length is usually 48 inches from mirror to camera platform, but may be extended to 68 inches. These lengths are considerably longer than the Snorkel-A System. The extra length permits the

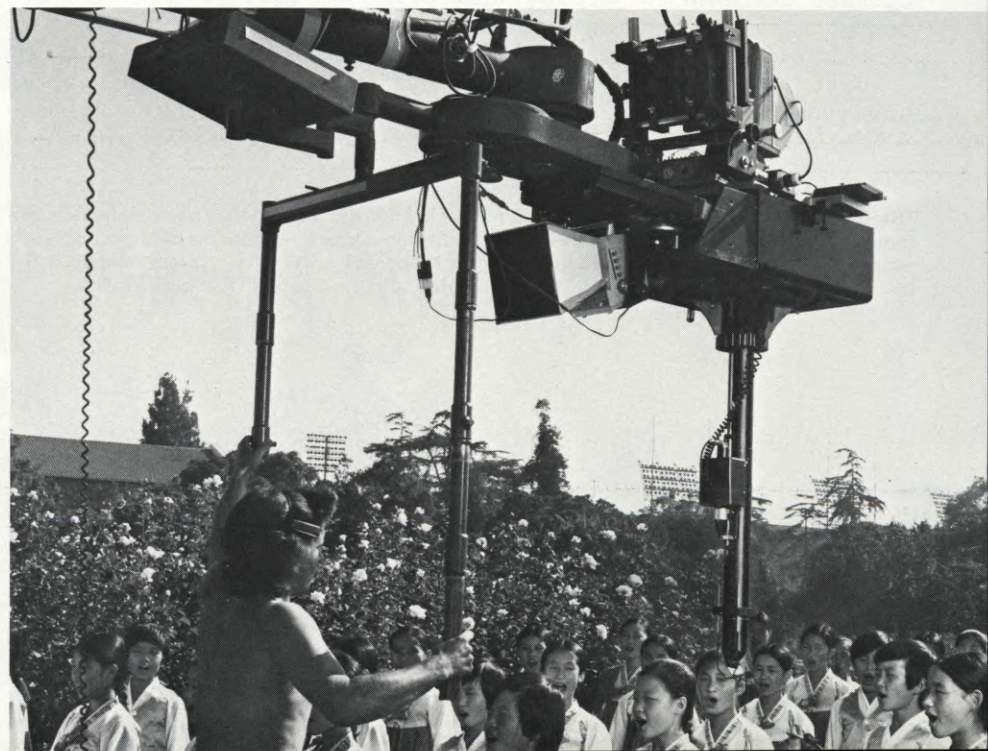
image taking point (the mirror) to circulate in a scene at waist level or even lower — still keeping the camera bulk high enough over the actors to clear their heads. With the longer lens tube there is no change in the effective f/stop.

If the longer tube is used it is possible to operate the system entirely from outside a four-walled set. The grip at the end of the crane arm operates from a walkway along the top of the set walls. The operator and focus men, of course, can perform their functions from the console at any convenient distance from the set. Such an arrangement was employed for director Dick Colla during filming of a sequence within a 6' by 10' UFO interior set with Estelle Parsons and James Earl Jones for Universal TV's "THE UFO INCIDENT" (NBC World Premiere Movie). The advantages of this type of shooting lie in permitting complete freedom of camera travel in a confined area without the encumbrances of a bulky camera, operator, and possibly a dolly. With a small four-walled set and camera movement, the sense of a confined area is more readily communicated to the audience.

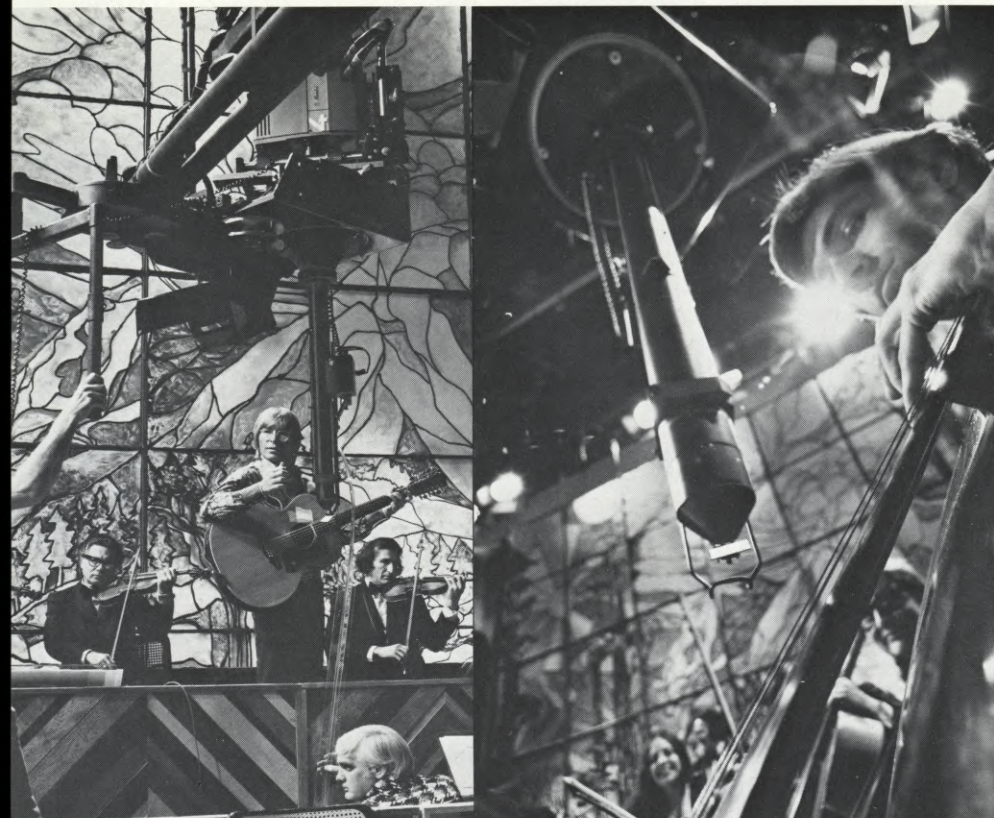
The joy-stick control for panning and tilting is similar to those used with the "A" Systems, except that there are now master speed range settings adjustable by the operator at the console, in addition to the speed ranges available through movement of the joy-stick. He also has options of tilt and panning directions relative to joy-stick movement. Some operators with flying

Grip "steers" Snorkel-B mounted on crane, during shooting of the Korean Children's Choir for Julie Andrews Special, "ONE TO ONE — World Vision". The Philips PC-70 camera is in use. Director was Bill Davis. When electronic cameras are used, the pellicle, ground glass, CCTV and its optical system are removed because they are unnecessary.

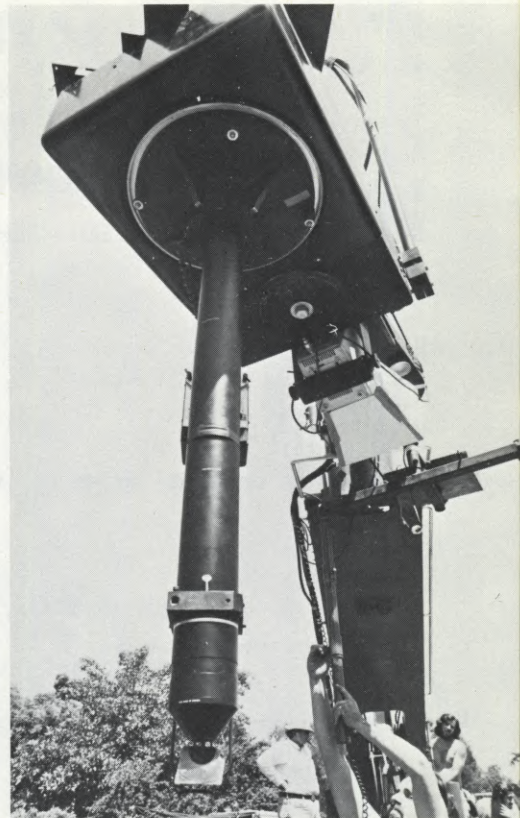
Shooting opening title for MGM's "BRONK", with Jack Palance. Bruce Geller was producer. In this case, miniature Molette light is shown attached to Snorkel lens tube.







(LEFT) John Denver performing in Emmy Award-winning ABC-TV Special. Philips PC-70 camera in use. Bill Davis was director. (CENTER) The Snorkel-B floats in for closeup instrument shot during shooting of John Denver Special. (RIGHT) The 4-foot optical lens tube of the Snorkel suspended from a Chapman Apollo crane. The image from the lens tube covers a full 35mm aperture.



experience prefer joy-stick tilt movements similar to airplane controls. Operators of electronic cameras, familiar with free head sticks, prefer both pan and tilt joy-stick movement to be opposite to actual camera head movement. Most film cameramen, after a little experimentation, prefer that joy-stick movement be in the same direction as camera head movement.

The focus control is now a closed-loop Servo with a control knob and a dial which is calibrated in feet and inches. This focus control is adjacent to the assistant cameraman's monitor. As the knob is turned to specific distances, the focus lens system within the Snorkel lens tube travels accordingly. In practice, most of the focus is performed by visual examination of the monitor image rather than following the distance marks.

The diaphragm or aperture (called the *iris* in TV parlance) is remotely adjustable from the console. A separate extension with a control box can be used several hundred feet from the console for electronic shooting as the video control technicians usually select iris settings at the control truck, some distance from the camera.

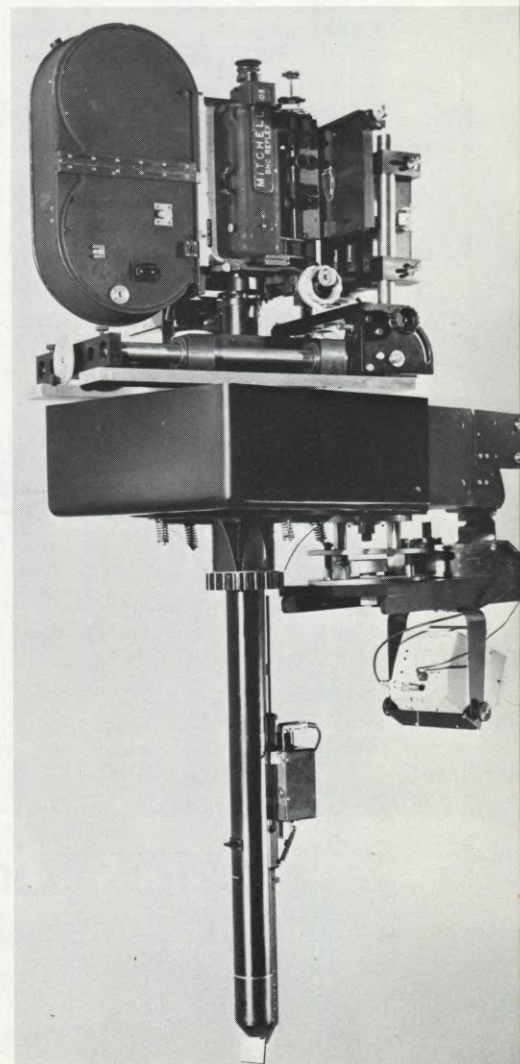
The Snorkel-B System is designed for use on a camera crane, and cannot

optionally be suspended from overhead rails-and-carriages, as is the Snorkel-A. Because of the heavier camera and related supporting structure, the weight approximates 400-500 pounds, depending on the type of camera employed. This necessitates using a sturdy camera crane and, in practice, those from Chapman Studio Equipment have proven most satisfactory. With the adaptation of their equipment to provide a scissors-like movement at the end of the camera crane arm (see *American Cinematographer*, Aug. 1973, p. 1002-1005, 1044-1052), the experienced grip can easily and precisely position the lens tube over a wide area, without having to move the crane chassis. Of course, on big moves, the chassis can also travel. A third monitor provides an image of the scene for the grip at the end of the crane arm.

The image from the lens tube covers a full 35mm aperture. An anamorphosing rear element may be placed in the film camera turret to anamorphose the spherical image coming up the tube. The net horizontal angle is identical to that achieved from the selected spherical lens combination. The vertical angle is reduced as the

**Continued on Page 341**

The Snorkel-B in use with vertically mounted Mitchell BNCR camera.





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### TWO SPECIAL LENSES FOR "BARRY LYNDON" Continued from Page 318

scenes, and in order to make the whole movie balance out properly, Kubrick went ahead and push-developed the entire film one stop — outdoor and indoor scenes alike. I am sure that everyone who has seen the results on the screen must agree that Kubrick has succeeded in achieving some of the most unique and beautiful imagery in the cinematic art.

On "A CLOCKWORK ORANGE", Kubrick had made effective use of a 20-to-1 zoom lens that he had rented from Samuelson Film Service in London. The closing scene of the movie, with a long slow pull-back from the hero of the story as he walks along the river, is a prime example of its application.

Kubrick likes to own all of his own equipment even to the extent of building his own very modest location vehicle. This may be partly an ego trip, but I think it is mainly due to the fact that he is meticulous about the care and maintenance of his equipment and is, therefore, very uncomfortable with equipment that someone else has used. In any event, for whatever reason, Kubrick insisted that I build him a 20-to-1 zoom lens for "BARRY LYNDON". What followed was a series of phone calls, telexes, and letters between Kubrick and myself and between me and the Angenieux Corporation, who were, in fact, the suppliers of the basic zoom components for all of these 20-to-1 zoom lenses. Through it all, Kubrick displayed the kind of technical knowledge and skill, rare in modern filmmakers, that enabled him to define the problem precisely and specify what had to be done to achieve the lens he wanted.

We went ahead with his program and were just able to put together a working prototype, still not properly finished or calibrated, so, that Kubrick would have it in time for the filming. Again he was delighted with the results, as seen in a number of exterior sequences in the film. We subsequently completed the design of this lens — the Cine-Pro T9 24-480mm zoom lens — and have built and sold several of these lenses. (And now that Kubrick has finished shooting the picture, we have finally completed the construction of his prototype lens.)

My relationship with Stanley Kubrick has been one of the most unusual, yet intellectually stimulating, that I have ever known. We have spent countless hours in telephone conversations, and written literally hundreds



of letters and telexes back and forth. Yet I have never met the man! I felt sure I would while in London attending the Film '73 exhibition with my wife, Lou. We were escorted to his combination home-and-office by his executive producer, Jan Harlan. But when we arrived, Kubrick was out scouting locations for "BARRY LYNDON" and expressed his regrets at not having been there to meet us. We were, however, very graciously entertained by his lovely wife Christina, who is an accomplished and recognized artist in her own right.

This minor frustration aside, it has been an exciting and stimulating experience working with a man of Kubrick's consummate skills and talents on his recent film projects. He currently has me investigating another camera/optical scheme he has in mind which I think I should keep confidential until he has had a chance to use it. Undoubtedly, it will be used on his next film project (a project which I look forward to with a mixture of trepidation and excitement).

Our company motto is: "Technology in the Service of Creativity." I cannot think of a more fitting example of our motto at work than the modest role my company and I played in the making of "BARRY LYNDON". ■

**MAKING IT LOOK EASY . . .**  
Continued from Page 327

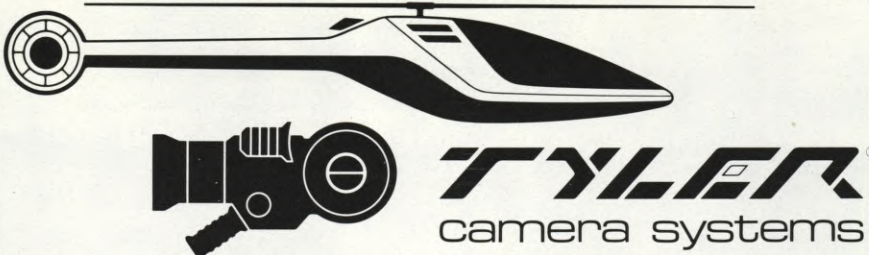
At one point the spinning card, when at 90 degrees to the camera, reflected the bright light from the slide projector directly into the lens. Dulling spray and shooting slightly off axis to the reflection helped solve this minor problem.

Popping the card into the medicine bottle at the end of the commercial was not too difficult either. Still shooting in reverse, the half bottle was placed in front of the still card and camera moves were made to allow for the logo placement. The camera was locked down after each take, the bottle removed, and the camera rolled again while the card motor was activated. A simple dissolve in the AB rolls made the bottle fade on over the card.

Lastly, we shot thirty seconds of blue unseamed paper to use as a background for the whole commercial.

To think this all could have been done in computer animation technique if we had had the budget to work with!

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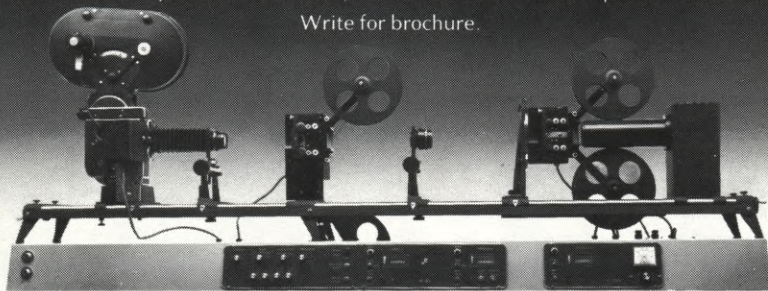


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## PHOTOGRAPHING "BARRY LYNDON"

Continued from Page 321

*side. There were many windows and I had lights hidden behind the brick-work and beaming through the windows. The outside light was going up and down so much that we had to keep changing things to make sure the windows wouldn't blow out excessively. This was most difficult to do, because any time I changed the gels on the windows, I also had to change the lights outside in order to avoid getting too much light inside and not enough outside. I would say that was the most difficult shot in the whole picture, in terms of lighting. What complicated it further was the fact that this was one of those stately houses that had the public coming through and visiting at the same time we were shooting.*

**QUESTION: Did you use much colored light during the filming?**

*ALCOTT: Yes, many times. An example that comes to mind is the scene in Barry's room after he has had his leg amputated. I used a light coming through the window with an extra 1/2 sepia over it in order to give a warm effect to the backlight and sidelight. In other words, a 50% overcorrection. A similar effect was used on Barry in the sequence when his boy is dying. In some instances I let the natural blue daylight come through in the background without correcting it. The result looked pleasing and it created a more "daylight" sort of effect.*

**QUESTION: I can't recall any night-for-night shots in the picture. Were there any, perhaps, that didn't appear in the final cut?**

*ALCOTT: There weren't really any night shots. There's that one twilight scene of Barry by the fire meditating after he's joined up, but that was shot at the "magic hour" and wasn't a true night shot.*

**QUESTION: Now we come to the scenes which have caused more comment than anything else in this overall beautiful film — namely the candle-light scenes. Can you tell me about these and how they were executed?**

*ALCOTT: The objective was to shoot these scenes exclusively by candle-light — that is, without a boost from any artificial light whatsoever. As I mentioned earlier, Stanley Kubrick and I had been discussing this possibility for years, but had not been able to find sufficiently fast lenses to do it. Stanley*



finally discovered three 50mm f/0.7 Zeiss still-camera lenses which were left over from a batch made for use by NASA in their Apollo moon-landing program. We had a non-reflexed Mitchell BNC which was sent over to Ed DiGiulio to be reconstructed to accept this ultra-fast lens. He had to mill out the existing lens mounts, because the rear element of this f/0.7 lens was virtually something like 4mm from the film plane. It took quite a while, and when we got the camera back we made quite extensive tests on it.

This Zeiss lens was like no other lens in a way, because when you look through any normal type of lens, like the Panavision T/1.1 or the Angenieux f/0.95, you are looking through the optical system and by just altering the focus you can tell whether it's in or out of focus. But when you looked through this lens it appeared to have a fantastic range of focus, quite unbelievable. However, when you did a photographic test you discovered that it had no depth of field at all — which one expected anyway. So we literally had to scale this lens by doing hand tests from about 200 feet down to about 4 feet, marking every distance that would lead up to the 10-foot range. We had to literally get it down to inches on the actual scaling.

**QUESTION: You say that the focal length was 50mm?**

*ALCOTT: It was 50mm, but then we acquired a projection lens of the reduction type, which Ed DiGiulio fitted over another 50mm lens to give us a 36.5mm lens for wider-angle coverage. The original 50mm lens was used for virtually all the medium shots and close shots.*

**QUESTION: And those scenes were illuminated entirely by candlelight?**

*ALCOTT: Entirely by the candles. In the sequence where Lord Ludd and Barry are in the gaming room and he loses a large amount of money, the set was lit entirely by the candles, but I had metal reflectors made to mount above the two chandeliers, the main purpose being to keep the heat of the candles from damaging the ceiling. However, it also acted as a light reflector to provide an overall illumination of toplight.*

**QUESTION: How many foot-candles (no pun intended) would you say you were using in that case?**

*ALCOTT: Roughly, three foot-candles was the key. We were forcing the whole*

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picture one stop in development. Incidentally, I found a great advantage in using the Gossen Panalux electronic meter for these sequences, because it goes down to half foot-candle measurements. It's a very good meter for those extreme low-light situations. We were using 70-candle chandeliers, and most of the time I could also use either five-candle or three-candle table candelabra, as well. We actually went for a burnt-out effect, a very high key on the faces themselves.

**QUESTION: What were some of the other problems attendant to using this ultra-fast lens to shoot entirely by candlelight?**

ALCOTT: There was, first of all, the problem of finding a side viewfinder that would transmit enough light to show us where we were framed. The conventional viewfinder would not do at all, because it involves prisms which cause such a high degree of light loss that very little image is visible at such low light levels. Instead, we had to adapt to the BNC a viewfinder from one of the old Technicolor three-strip cameras. It works on a principle of mirrors and simply reflects what it "sees", resulting in a much brighter image. There is very little parallax with that viewfinder, since it mounts so close to the lens.

**QUESTION: What about the depth of field problem?**

ALCOTT: As I suggested before, that was indeed a problem. The point of focus was so critical and there was hardly any depth of field with that f/0.7 lens. My focus operator, Doug Milson, used a closed-circuit video camera as the only way to keep track of the distances with any degree of accuracy. The video camera was placed at a 90-degree angle to the film camera position and was monitored by means of a TV screen mounted above the camera lens scale. A grid was placed over the TV screen and by taping the various artists' positions, the distances could be transferred to the TV grid to allow the artists a certain flexibility of movement, while keeping them in focus.

It was a very tricky operation, but according to all reports, it worked out quite satisfactorily. ■

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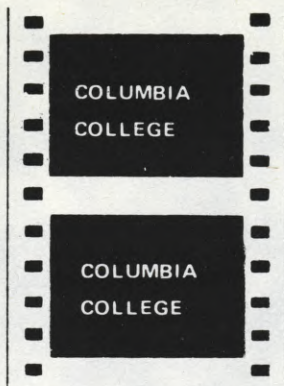
**KENWORTHY SNORKEL-B**  
Continued from Page 335

image is expanded vertically. In anamorphic parlance, the available focal lengths with the Snorkel are 56mm and 100mm. The effective aperture is reduced by one stop. Recently the system was successfully used anamorphically to shoot extensive miniatures for M.G.M.'s "LOGAN'S RUN".

Some of the concepts for use of this new system with actors and performers seem to be more difficult to grasp than is its earlier use for TV commercials. For example, as of December and the end of the first year of operation, it has been easier to get TV directors to see its advantages for variety shows with musicians, than for film directors to similarly recognize it for actors with dialogue. The real advantages in this latter area are more subtle, yet may, in the final analysis, provide a much more artistic basis for use.

Let us assume that a major criterion of the art of using a film or tape camera to tell a story is in the way a scene or story element is revealed progressively in time. For example, if the whole action of a scene is presented immediately, baldly, the resulting image is often visually and emotionally bland, but if the director can artfully select the elements to be revealed progressively in an interesting, significant way, the film is better served.

It seems logical that when the camera is effectively no larger than the end of a lens tube, when it is literally as maneuverable as a butterfly, then it can be more artfully used to reveal scenes, adding one component to another with greater freedom. It can incorporate close-up elements with longer shots on the move; circulate among actors without pulling them apart; work in a physically restricted location. Because it pans on the axis of the lens tube, it can pivot on people or things without taking up the space consumed by a panning studio sound camera, plus the additional space needed by an operator (with or without a dolly). It should be possible to block actors' movements and relate one scene element to another in a more visually interesting manner. Granted that such application is more subtle and, therefore, less easy to sell than is a more spectacular shot usage, in the long run it may be the greater contribution to the art of filming and taping. Once an imaginative director or cameraman uses it properly in this area, the possibilities will be more apparent for others to understand. We invite them to start working. ■



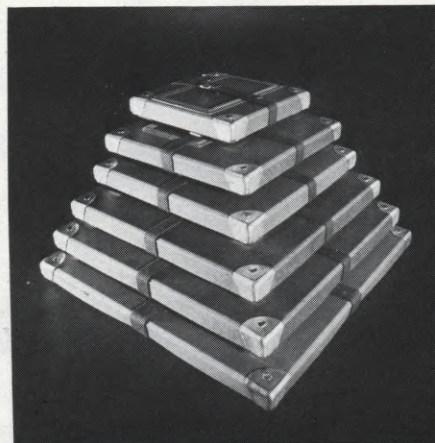
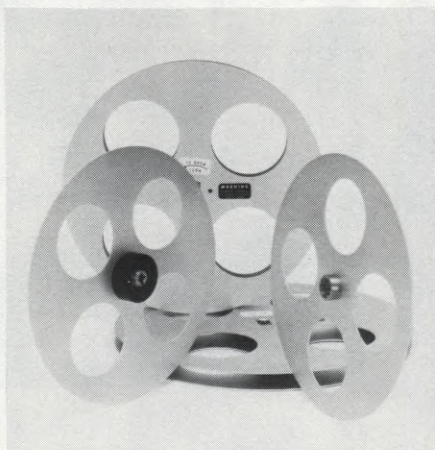
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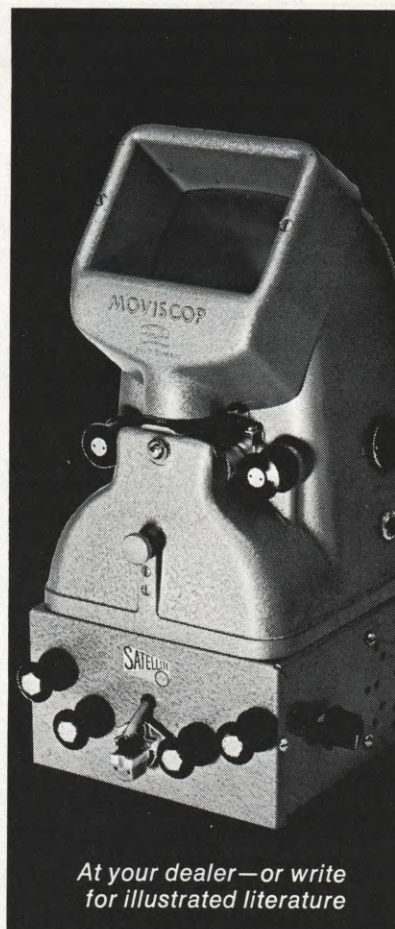


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**STEREO OPTICAL RECORDING**  
Continued from Page 308

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The detection of the longitudinal signal is also possible by using other types of optical detectors. Research is under way to develop detectors that are not sensitive to variations in light intensity and would not require exact tracking.

What is the quality of this stereo optical system like?

This question is especially critical with respect to the dynamics, since previous attempts to achieve stereo sound on 35mm film have probably failed because of the high level of background noise involved with them. Our experience shows that background noise develops in the areas where the black and white surfaces of the sound track meet. The lower the number of black and white boundaries on an optical track, the less static background noise is present.

Another important factor connected with quality is the sharpness. The sharper the recorded signal, the less is the background noise and the higher the frequency range can reach. In our system we paid special attention to both requirements. There are only two crossover zones, and very good sharpness has been achieved. Control measurements gave 52 dB dynamic value and a frequency range of 30 . . . 12 000 c/s. The quality of the sound produced has also been tested on the public performances of the three full-length films produced using our stereo optical sound system. In one of the leading cinemas in Budapest test projections have been held to determine the quality through the subjective opinion of the viewers. To a specially selected audience of professionals and laymen the same sequences were



shown in different formats and with mono and stereo sound. The results were evaluated with respect to the seat locations. For CinemaScope and wide-screen formats the preference has been unanimous for the stereo sound.

What costs are involved with the introduction of the system and its installation in motion picture theaters?

In cinemas already equipped with multiple channel speaker systems the additional costs are extremely low. The stereo adapters together with the necessary preamplifiers will cost the price of a few dozen tickets.

The optical track can be produced with conventional recorders of ribbon type, when some minor adjustments are completed. For our purposes the conversion of a Westrex sound camera has been executed.

There are patent applications on the system introduced above in 19 countries, including Great Britain and the United States.

For further information, direct inquiries to: Andras Geszti M.E., LICENCIA, P.O. Box 207, 1368 Budapest, HUNGARY. ■

#### CINEMA WORKSHOP

Continued from Page 254

with the tremendous economic advantage of the 2-perf frame. From FIGURE 3, the 1.85:1 flat wide-screen system provides only 27% more image area than Techniscope, yet consumes 100% more raw stock. For some producers, two perfs may be better than four.

The full benefit of Techniscope is obviously realized when the full 2.35:1 aspect ratio is employed. Flat wide-screen 1.85:1 uses an image only 27% larger than Techniscope, yet consumes 100% more raw stock. The 1.85:1 wastes 36% of its area, the 2-perf format wastes none.

Image Area Techniscope - .319 sq. in.  
Image Area 1.85:1 - .407 sq. in.

When cropped for 1.85:1, the Techniscope format wastes about 20% of its area. Standard 4-perf 1.85:1, then, encompasses 58% more image area than the 1.85:1 cropped Techniscope, but still consumes 100% more film stock.

Image Area Techniscope Cropped 1.85:1 - .257

Image Area Standard 4 perf 1.85:1 - .407

When cropped for 1.33:1, the Techniscope format uses only about 50% of its total area, the other half going to waste. The area being used is only 55% greater than standard 16mm, yet the 2-perf 35mm consumes 170% more film stock.

Image Area Techniscope Cropped 1.33:1 - .185

Image Area Standard 16mm 1.33:1 - .119 ■

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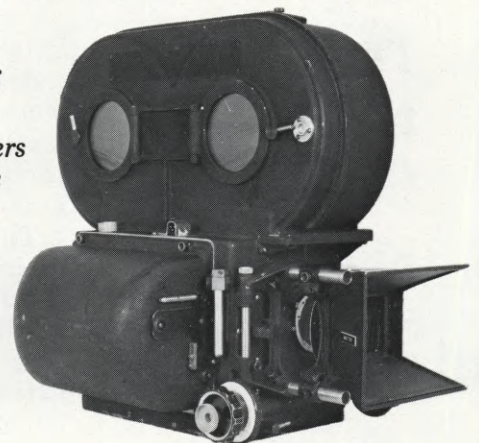
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The school is situated in Covent Garden, in the center of the West End, at the heart of London's cultural activities.

All tuition is given by practising film-makers who are faculty members.

Courses start on April 26 and September 27th 1976. Write to the Student Councillor Dept., London International Film School, 24 Shelton Street, London WC2H 9HP, England.

## WHAT'S NEW Continued from Page 312

### ANGENIEUX 20-120mm T2.9 HEC ZOOM LENS FOR 35mm CINEMATOGRAPHY EXCLUSIVELY AVAILABLE FROM CINEMA PRODUCTS

Cinema Products Corporation announces the availability of Angenieux's 20-120mm T2.9 HEC zoom lens for professional 35mm cinematography.

Exclusively available from Cinema Products, the Angenieux 20-120mm HEC zoom lens features a minimum focusing distance of 3 ft. (1m), and a wide focal-length range, covering an angle of 68.5° at the 20mm position to 13° at the 120mm position. The 20-120mm HEC zoom lens is an ideal replacement for most fixed-focal-length prime lenses normally used in feature production.

The Angenieux 20-120mm HEC zoom lens also features a *high efficiency* multi-layer coating, newly developed by Angenieux, which provides improved light transmission and a substantial reduction of flare, resulting in images of the highest quality.

The Angenieux 20-120mm T2.9 HEC zoom lens is supplied by Cinema Products in the XR35 mount (which fits any BNCR camera), complete with follow-focus gear, zoom bracketry compatible with the J-4 zoom control motor, and carrying case.

The lens is priced at \$14,250.

For further information, please write to Cinema Products Corporation, 2037 Granville Ave., Los Angeles, Calif. 90025. Tel: (213) 478-0711.

### HERVIC LANDS TOPCON LINE

Sherman Oaks, California — "Hervic Corporation has officially obtained exclusive distribution of the TOPCON line of 35mm SLR photo equipment," jointly announced John R. Berthold, President, and William Herskovic, Chairman.

"Effective with this contract signing," Mr. Berthold further stated, "we have already begun to take all necessary sales, administrative and operational steps to integrate TOPCON into our present Hervic product line. Such

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steps include establishing a full *TOPCON service department and complete warehousing* at our Sherman Oaks headquarters."

Mr. Berthold added that at the present time it is anticipated that Hervic will begin filling dealer orders for TOPCON equipment by February 1st. Full repair services should begin by mid-February.

A mailing providing complete data concerning TOPCON will be sent to dealers shortly. Pricing as well as product marketing plans and policies will be covered in that mailing.

For further information, dealers are invited to contact Mr. Sol Spiegler at Hervic Corporation, 14225 Ventura Boulevard, Sherman Oaks, California 91423.

Hervic Corporation is the exclusive distributor of Beaulieu motion picture cameras, Stellavox tape recorders, Hervic/Minette tape splicers and viewer editors, as well as Hervic projection screens.

#### NEW STUDIO COLOR MONITOR SMT-12

Unimedia Corp. of Grass Valley, California — Unimedia — announces a feature-loaded studio color monitor.

The new SMT-12 includes Full-View Tally Identification, A-B Electronic Video Selection, Internal-External Sync Selector Switch, Keyed Back Porch Clamp with Full DC Restoration and Variable Aperture Control. A new set-up switch allows the user to set color threshold and grey-scale tracking.

The SMT-12 now features front panel doors for concealing secondary controls which include RGB background adjustments and variable aperture control on the right side. The left panel conceals horizontal, vertical adjustments and the new set-up switch. Options such as pulse cross and underscan are accessible from behind the left side.

The SMT-12 has a new look about it with satin pewter anodized front panels and new extrusions mounted on the sides of the cabinet. Now available as an option with the new SMT-12 are Rack slides for ease in removing the unit from the rack.

The total unit is available at the same price as its predecessor.

Other models in the SMT series include 19-inch, 17-inch, 15-inch, and 12-inch yoke mount and cabinet versions as well as a 9-inch portable.

Units are shipped within 30 days from Grass Valley. Unimedia SMT-12 12" Color Monitor: \$945.00

For more information contact Morey McFarren: (916)272-1971 or 878-1250.

## FILM APPRENTICES

The Pageant Theatre, a fully operating Movie Theatre in Chico, California, has initiated a film-making program. Our efforts are centered on newsreels, documentaries, and scene developing. All equipment, film, processing, and production costs will be paid for by the theatre.

Applicants who are accepted will be charged a flat \$900 and are expected to be available on a full time basis for a minimum of four to six months.

Address inquiries to Albert Mitchell, Director, The Pageant Theatre, 351 East 6th Street, Chico, Calif. 95926.

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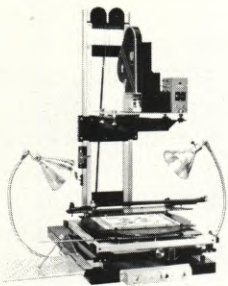
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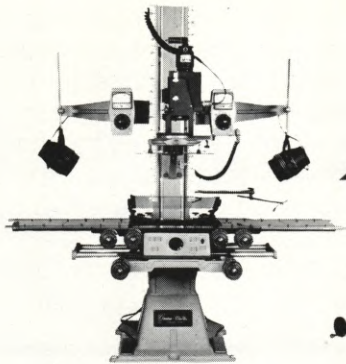
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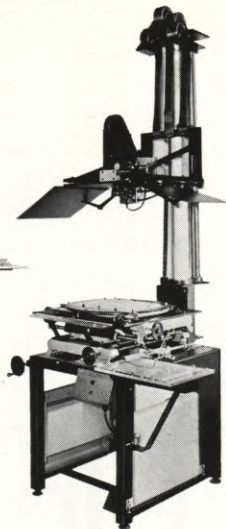
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## MILLER-UNIVERSAL MODEL 2030 FLUID HEAD TRIPOD AVAILABLE FROM CINEMA PRODUCTS

Cinema Products Corporation announces the availability of the Miller-Universal Model 2030 fluid tripod head, designed by Robert E. Miller, world originator of fluid tripod heads, and manufactured by Miller-Universal, Australia.

### Features of the Miller-Universal Model 2030 Fluid Head Tripod:

Quickly convertible to carry 20 lbs. through 30 lbs. camera weights. Safely lockable at 90° tilt. Totally leakproof and dustproof sealing. Fully operative in temperature range from -20°C to +75°C. "Autoslip" automatic self-operating and adjusting free pan. Concentric tilt lock/tension device, hydrostatic or mechanical self-equalizing. Supplied with lightweight segmented ball, fully compatible with 2" radius standard ball tripod cups. Head only weighs less than 8 lbs.

The Miller-Universal Model 2030 fluid head with wooden tripod legs (Order Code #6C330) is priced at \$825. The head only (Order Code #6C333) is priced at \$625.

For further information, please write to Cinema Products Corporation, 2037 Granville Ave., Los Angeles, Calif. 90025. Tel: (213) 478-0711. ■



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**INDUSTRY ACTIVITIES**  
Continued from Page 323

author of the best film-related book published within the past calendar year.

"There can be no better location in America for a film buffs' convention," said Neil. "The Sheraton-Universal Hotel adjoins the gigantic Universal Studios complex where conventioners may actually see where much of Hollywood history began. MOVIE/EXPO '76 patrons will have special tours of the studios (as well as NBC-TV studios in nearby Burbank) and will find that the convention is only minutes away from downtown Hollywood. The hotel has been used constantly for location filming by Universal.

"Persons attending MOVIE/EXPO '76 will receive excellent special room rates at the Sheraton-Universal: \$24.00 per night for a single room; \$28.00 for double occupancy. The hotel is a beautiful resort facility with a large garden lanai swimming pool area plus many shops and restaurants. It is located just off the Hollywood freeway and within minutes from the Disney, Warners, and Columbia Studios."

The three-day event offers any film buff an excellent opportunity to see a variety of old films, meet important industry personalities, purchase films and memorabilia, and share special interests with hundreds of other film hobbyists and historians.

MOVIE/EXPO '76 is open to any film buff who purchases a "SPECIAL CONVENTION PARTICIPANT'S MEMBERSHIP" either before the convention or at the door. Persons who wish to register before MOVIE/EXPO '76 will receive special reduced rates which include the lower hotel charges. A Participant's Membership is available for any day of the event or for all three days.

Tables are also available for film and memorabilia dealers on a first-come, first-served basis.

For complete information, write: Mr. Randy L. Neil, Executive Secretary, The Bijou Society, 7800 Conser Place, Shawnee-Mission, Kansas 66204. People in the Los Angeles area may contact Mr. John Cawley, Jr., 34 Redwood Tree Lane, Irvine, California 92715. ■

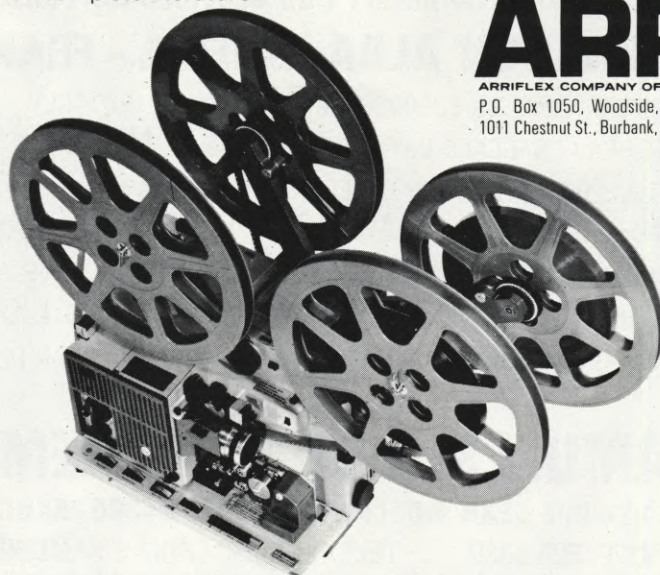
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### HUNGARIAN FILM-MAKING Continued from Page 311

*been completed — but then he has the advantage of a completed film.*

**QUESTION:** Does the director select the writer for the script, assuming a writer works on it with him, and also the actors and the cinematographer? In other words, is this totally his responsibility?

*ANSWER:* Yes, this is the director's responsibility.

**QUESTION:** What about the editing? Is it the practice here for the director physically to do the editing, or does he stand over the editor constantly while he's editing, or does he simply finish shooting the picture and give it to the editor with instructions and let him do it?

*ANSWER:* The answer is your second option. The general practice here is for the director to sit beside the film editor. The director gives instructions while they are sitting here together, but he doesn't operate the machine. It sometimes happens that a director edits a film made by another director. Editing here is not looked upon as a creative art, as it is in the United States, because he does not have freedom to actually edit the film. He must follow the instructions of the director. Each director has the capability of actually editing his own film, but the reason he works with an editor is to have a fresh eye on the picture and discuss possible variations in cutting.

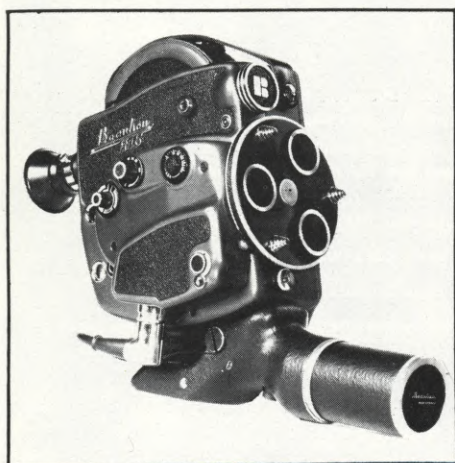
**QUESTION:** What form do scripts here take? Are they very precisely written and then very precisely followed in the shooting, or are some films made from a sort of sketchy outline of the action and then more or less improvised on the set?

*ANSWER:* That depends upon the director. For example, there is one Hungarian director, Mr. Zoltán Fábri, who works from an extremely precise script. But on the other hand, there are directors who work only from sketchy outlines. For example, one director submitted only a five-page outline and he was given the money to make his picture. That was not easy to do, but he did it.

**QUESTION:** What about the second part of my question, as to whether directors here follow the script precisely in shooting, or improvise on the set?



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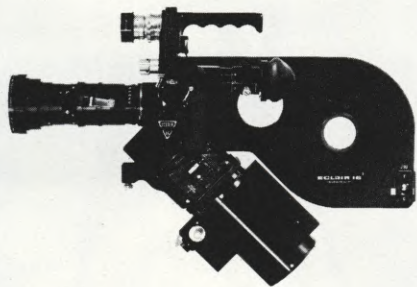
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*ANSWER: The general practice in Hungarian film-making is somewhere between the two. We have some cinema types who insist on shooting the script word-for-word, and others who use it only as a starting point.*

**QUESTION:** I would like to ask about the working relationship between the director and cinematographer here. For example, who decides where the camera should be placed for a certain shot? Is it the director? Is it the director in consultation with the cinematographer? Or does the director simply leave it up to the cinematographer?

*ANSWER: The strength of Hungarian film-making is in our general practice of creating a community of artists — including the director, the cinematographer, the scriptwriter, the editor and the sound engineer — so that they will be able to work closely together. The film is a collective work. Of course, the right of final decision is that of the director. However, the best thing is when they have a common opinion and they decide together. That gives strength to this creative community. In a case where they simply can't reach an agreement, they sometimes shoot a scene both ways and then decide which is best. Sometimes, in such cases, the director is right and sometimes it is the cinematographer. But it's not a matter of egos being involved; it's more what is best for the film. The most important interest of everyone working on the project is to make a good film.*

My visit to Hungary, reluctantly, is drawing to a close. I've seen a couple of dozen excellent films and met a fine group of highly skilled and very friendly film-makers. And I've found answers to my question about why Hungarians are such good cinematographers.

On my final night in Budapest, I am invited to be the guest at a "California style" barbecue, held in the garden of a smart apartment on the outskirts of Budapest where many of the cinematographers and their families live. Present are Sándor Sára, Elemér Ragályi, Tibor Vagyoczky, János Zsombolyai and their respective ladies.

The barbecue is "California style", but with a Magyar accent — which is what makes it exotic to a Californian like me. What is especially nice is the warm feeling of camaraderie and friendship that so very obviously prevails between these people who share the common interest of film.

As Sándor Sára told me, they are like "a big family" — and that's a lovely thing. ■

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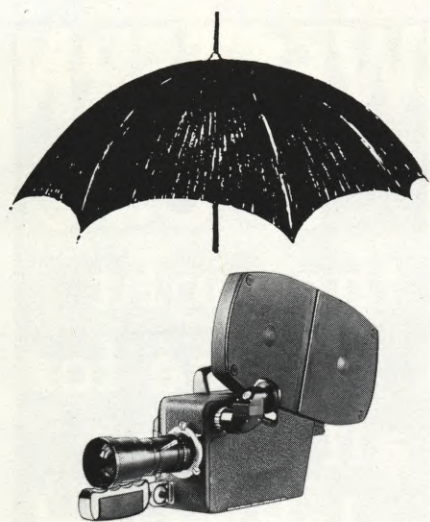
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### TRAINING FILM-MAKERS Continued from Page 299

inevitable conflict between shooting schedules and teaching schedules, but each instructor is backed up by an assistant who can fill in if the instructor is busy shooting a film or TV show.

As to the relative percentages of students working in film or in television following the completion of their studies at the Academy, it has developed during the last several years that 70% to 80% go to work in television. The reason for this is that the television industry, being relatively new in Hungary, needs and can absorb more new people, whereas the film studios already have satisfactory staffs of seasoned technicians.

When the students leave the Academy they are all given jobs in either the film or TV studios, but they almost always begin as assistants to directors or assistants to cameramen. However, so that each can "keep his hand in", as far as practical experience is concerned during this phase, he is given the opportunity to make experimental shorts or, occasionally, an experimental long feature.

To insure that there will not be a glut on the market of film and TV technicians emerging from the Academy, a new course is begun only when it can be foreseen that there will be a shortage of technicians sometime within the reasonable future. If the studios are full up with personnel, the start of a new course is postponed. Sometimes two or three years may elapse between the completion of one course of study and the beginning of another.

In the past, most of the students selected to attend the Academy expressed a strong preference for working in film, rather than TV, but in the last few years there has been something of a change of attitude in this respect — and not simply because of the availability of jobs, although, admittedly, the demand for television programming keeps growing and growing. What draws the Academy alumni toward video is the fact that the speed and economy of the electronic medium affords them more opportunity to do experimental projects and express themselves.

There is, of course, some overlap between the two media. There are joint projects in which personnel from both meld their talents. Then, too, some of the students who graduated from the Academy as film specialists during the past 20 years, occasionally work as "guest technicians" on TV presentations. As in other countries, some of the film fare that goes out over the air has

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its origin on film, while other programs originate on video tape.

Getting back to the instruction at the Academy, as has been mentioned before, the principal instructors are drawn from among the leading artists of Hungarian cinematography. There are two main areas of instruction. One of these, calculated to develop the student's awareness of culture and life itself, concentrates on the Humanities — such subjects as art, literature, philosophy, music, drawing, and the study of two foreign languages.

The more practical phase of instruction concerns itself with the functional "tools of the trade" — such items as: camera operation, lens systems, laboratory methods, lighting techniques and sound techniques. In the case of student cinematographers, the most important single element in the curriculum is lighting.

The studio in the present Academy facility is small and does not allow for much scope in lighting instruction on any large scale. But the students start here with the lighting basics and the illumination of small sets, built on the Academy stage. Later, however, they move out on location where they are afforded the challenge of lighting actual interiors. As is the case in most other countries these days, many filmmakers prefer to shoot in actual locations, rather than in the studios — so this phase of instruction has a very direct application for the aspiring cinematographers.

Since the aim of the Academy is to train all-around cinematographers, however, it is also essential that they learn how to light large studio sets. They gain this knowledge by observing on the sets of "big" pictures being shot in the professional studios, and some of the students are given the opportunity to work on those pictures as assistants in order to augment their knowledge of large-scale studio set lighting.

It is general practice for a working cinematographer who is also an instructor at the Academy to arrange for his students a screening of his latest film as it is completed, after which a critique is held.

During the first two years of their education, student cinematographers work exclusively in black and white, and it is not until the beginning of the third year that they shoot in color. The reason for this is partly financial, because, even though the Academy is a facility funded by the State, the available budget for film stock is necessarily limited. Obviously, that budget will go farther in black and white than it will in color, so it affords them the oppor-



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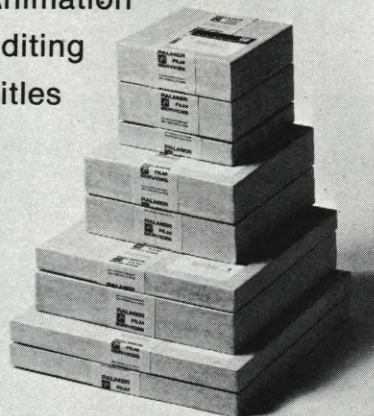
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tunity to shoot more.

It is also felt that because the first two years are devoted to the teaching of basic camera and lighting techniques, black and white will serve just as well — in fact, even better, since it is generally acknowledged that lighting for black and white is more demanding than lighting for color.

It costs approximately \$100,000 to educate each student at the Academy during the four-year course. The students pay none of this, but are, instead, given scholarships by the State. There are several kinds of scholarships. One of these is called a "social scholarship" and depends upon the social circumstances of the individual student. Other scholarships depend upon the results that students achieve during the course of their studies.

The venerable building in which the Academy has been housed up until now is definitely limited in space and facilities, but there is currently nearing completion a spacious modern building exclusively for the training of cinematographers. It will house a very up-to-date TV studio, with sound cameras, as well as a well-equipped film sound stage, some editing rooms, and all of the other facilities needed for working in film.

Students under instruction at the Academy are housed in dormitory accommodations belonging to the school.

## A PREVIEW OF FILMEX Continued from Page 314

Davies, Fatty Arbuckle, Laurel and Hardy, as well as Dean Martin and Jerry Lewis and Woody Allen among others. Both of these programs are being sponsored by the City of Los Angeles and Atlantic Richfield Co.

A special free midnight series will examine great American Westerns and is appropriately called "The Midnight Cowboys."

Another all-American invention, the movie musical, will be featured during the 48-hour movie marathon. Twenty feature-length musicals and clips from 50 more will be shown, including such classics as "SINGIN' IN THE RAIN", "STORMY WEATHER", "WEST SIDE STORY", "FOOTLIGHT PARADE", and "KID FROM SPAIN".

A survey of 60 "experimental" films by 16 American filmmakers will be yet another highlight of the Exposition. Included will be 30 films and a personal appearance by Stan Brakhage, the most prolific and prodigious talent among the American independents. Works by Kenneth Anger, Bruce Baillie, Jonas Mekas, Ron Rice, and Joyce Wieland among others will also be

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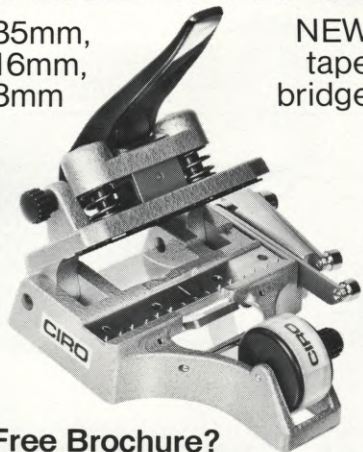


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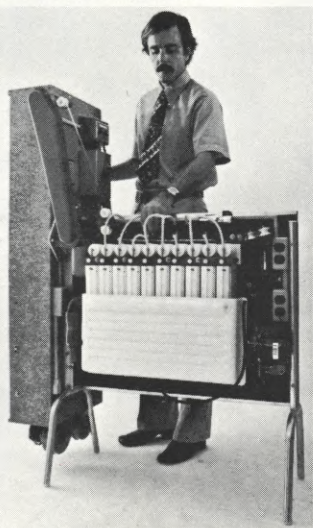
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shown. Eric Sherman is coordinating the series.

Foreign entries at this date include from Algeria, "CHRONICLES OF THE YEARS OF FIRE", which won the Grand Prize at the Cannes Film Festival, Jean-Luc Godard's, "BREATHLESS II", two films from Iran, "PRINCE EHREJAB" and "THE STRANGER AND THE FOG", and from Japan, Shuji Terayama's "PASTORAL HIDE AND SEEK".

Four Soviet films will be presented: "ANNA KARENINA," "ALPHONIA, DERSU UZALA," and "MIRRORS". German entries include, Werner Herzog's "EVERY MAN FOR HIMSELF AND GOD AGAINST ALL, (The Enigma of Kasper Hauser)", and Hans-Juergen Syberberg's "KARL MAY".

"GOOD AND EVIL", directed by Joergen Leth and The Red Sister's "TAKE IT LIKE A MAN, MADAM", are entries from Denmark. Dutch director Paul Verhoeven's new film "KEETCHE TIPPEL" will be presented and also Polish filmmaker Andrezej Wajda's, "THE PROMISED LAND".

Other presentations include, "THE NAKED MAN AND THE PLAYING FIELD", by East German filmmaker Konrad Wolf; "REVOLT IN PATAGONIA", an Argentine film by Hector Olivera; Andre Luiz's "THE LEGEND OF UBIRAJARA", and "TOUCH OF ZEN" from Hong Kong. In all, Filmex 76 will be presenting 40 new foreign films from 20 countries throughout the world.

A three-day Producers Conference on April 2,3, & 4 will examine the many facets of the producer's role in filmmaking. Coordinated by Peter Stamelman, producers Norman Lear, Tony Bill, Roger Corman, Lillian Gallo, M.J. Frankovich, Walter Mirisch, Robert Radnitz, and Leonard Goldberg have agreed to participate on the various panels at the conference so far.

In addition the Exposition will also present special programs of student films, a tribute to American animators, silent films and a sneak preview of a Hollywood film.

This year Filmex will pay special tribute to John Wayne, possibly the most "All American" of movie heros, his day of tribute will consist of a presentation of a full-length John Wayne feature, 2 hours of clips from Wayne films and an in-person appearance by Mr. Wayne. Star Tribute Day has traditionally been one of the most exciting events of the entire festival. In addition to the vast audience of fans, Wayne colleagues from his films throughout the years will be in attendance. ■



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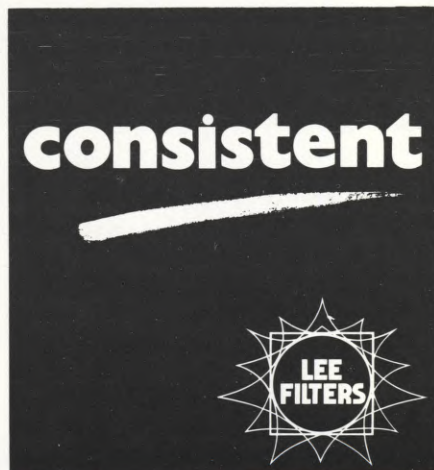
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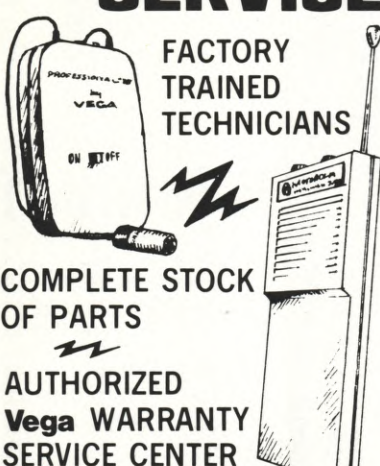
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**"HOW DOES A RAINBOW?"**

Continued from Page 330

the 85 filter from the zoom lens and shot as if color temperature balancing for the tungsten stock was not a problem. This technique also gave me a 360-degree working area in the classroom without my having to worry about blue window-light mixing with 3200-degree Kelvin. I simply instructed the lab at which timing lights to print the dailies to correct for the missing 85.

(2) *Grain*

To demonstrate the "artistic vision" in two sequences, David desired a style of photography that would challenge the audience's faculties of perception of everyday objects. We agreed to attempt to photograph things "as if we were seeing them for the first time." We did close-up photography, showing "parts" rather than "wholes", and let the shot reveal the subject. Here is where 7247 really demonstrated its fine-grain structure. By rendering subjects in very fine detail, it increased their sharpness, tactileness and presence — making them "larger than life".

Shaving cream became an aerial view of snow-covered mountains; a rainbow in a lawn spray in sunlight became an abstract pattern of dancing colors, and a simple orange held by a baby became pure *orangeness*.

(3) *Latitude*

One shot in "RAINBOW" could amply demonstrate the latitude of '47. The shot is a side-angle view of two boys in a dark room looking at an array of color slides set on a milk-white slide-sorting tray. One light, a baby 1K, aimed through the rear of the tray, illuminates: a) the tray — to full white; b) the slides — a wide range of colors; and, c) the boys' faces — the black boy's face is as adequately exposed as the white boy's.

(4) *A "soft look"*

One of the packages in CEMREL's media kits is something called "Dramatic Plot" — where the students pick plot cards from a face-down deck and invent stories together as the cards get read. David's intention was to dramatize one of these story fantasies as the kids make up the story.

This fantasy called for a soft, pastely, dream-like look in order to distinguish it clearly from more realistic sequences in the film — particularly from the one preceding it, in which the kids begin the telling of the story.

My 35mm experience had taught me that this look was more natural and perhaps easier to achieve on 5254 than

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5247 — that '47, normally exposed, has a very fine-grained, clean, bright-color look (almost like comic book graphics), is less subtle in the shadow areas than '54 and, thus, perhaps more contrasty. The question was: how to achieve the "soft look" with '47?

I intended to use glass in front of the lens — fog, diffusion and/or low-contrast. My still-camera tests seemed to indicate that for smooth inter-cutting a #3 Harrison Diffusion on a *backlit* subject (with hot kicks) matched very nicely the look of a #2 Low Contrast filter on a *frontlit* subject. To enhance the "dream" quality I added hot kicks with reflector boards to the actors' faces and to objects in the shots. These diffusion-filtered shots were, in this manner, spiced with random splotches of hot light, while the low-contrast filtered shots displayed a non-realistic, multiple source look.

Additionally in this sequence, I overexposed the camera negative by 1/2 to 2 stops — that is, I exposed for the shadows, not the key, and was able to get a soft look — more, I felt, like '54 than '47.

This exposure technique helped in more than a few of our exterior locations when I was required to PAN or TRACK from bright sun into shadow and into bright sun again. The film stock held a range of 4 to 6 stops, when I set my f-stop between the extremes — without auxiliary lighting. And because I was overexposing and then printing down, the negative held the entire range of exposure nicely.

#### (5) Composition through exposure

A simple example of how to control composition through exposure: During the shooting of the fantasy sequence we were to do a shot in which the actors run 50 yards toward the camera. However, the buildings behind the actors did not fit into the style of the sequence. I asked the grip crew, led by Mark Grossman, to erect a 12x12 butterfly on high roller stands in order to cut the direct sun from the running actors. The grips pushed the butterfly 50 yards — running with the actors, but out of the shot, of course — so that we were able to maintain an even light level. I exposed for the actors — that is, I overexposed them by two stops (knowing I'd print down later), and effectively overexposed the sunlit buildings eight stops — to a point where the buildings washed out (even after the shot was printed down).

In summary, I feel that in 16mm the 7247 stock offers a cameraman potentially wide choices for rich and subtle colors and fine detail in his photography.

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## HUNGARIAN CINEMATOGRAPHY

Continued from Page 310

*sometimes when I am looking through the camera — in that last moment before the image goes onto the film — a new idea comes to me. I get new ideas which wouldn't come to me if I were just sitting beside the camera. What you see through the camera's viewfinder is a composition that is quite different from what you see otherwise — so it happens that I cannot compose the picture correctly without seeing it through the camera.*

**QUESTION: So that's why Vilmos Zsigmond is always itching to grab the camera?**

*SARA: He came out of the same school.*

**QUESTION: Can you tell me something about the types of lighting equipment that are used in Hungarian film production?**

*SARA: The lighting equipment is not the most up-to-date. We are still working mainly with the older Mole-Richardson lights and old-fashioned arc lights. But sometimes we use the newer tungsten-halogen lights, too. In the beginning of my work as a Director of Photography, it sometimes bothered me that the general practice in Hungarian filmmaking was to work only with hard light. This was strange to me, because I wanted to work with softer light. I experimented with various materials to soften the light. Some of my colleagues called my lighting style "the stocking method", because I sometimes used a stocking. They laughed, but they later adopted the same method. I rigged various makeshift softlights and they gave me a special stockroom in the film studio in which to store them.*

**QUESTION: What kinds of innovation (besides the stockings) did you use in order to get soft light?**

*SARA: I shined the lights through various textiles and papers and sometimes bounced the light off of reflecting materials.*

**QUESTION: In America and other countries, as you know, there are specially manufactured softlight luminaires. These are units specifically designed to provide soft light. Do you have such units here?**

*SARA: They are used occasionally, but it's not the general practice. We don't have enough of those lamps to work*

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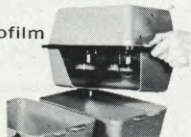
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**QUESTION: No, but we have some types in America who think that way, too. I noticed a very extensive and creative use of soft light in your film, "SINDBAD". Is this one of the first films on which you used soft light to any extent?**

*SARA: No, I had used it earlier, but this was the first color film on which I used it extensively.*

**QUESTION: I've noticed that many of the films made in Hungary have been in black and white, although there is more of a trend toward color in the last few years. What adaptations have you personally had to make in switching from black and white to color?**

*SARA: Certain elements — composition, for example — remain almost the same. I find that the most important difference between black and white and color is in the lighting. Color has a certain amount of contrast and separation built into it, simply because of the different colors, but in black and white you have to create contrast and separation mostly through the use of light, and because of this I have much more difficulty with lighting when shooting in black and white. Also, I see the world around me basically in black and white. I even dream in black and white when I'm asleep — never in color.*

**QUESTION: I would like to ask about your shift in careers from cinematographer to director. How did this come about and what sort of revisions have you had to make in your thinking?**

*SARA: I haven't had to revise my thinking very much. In the last 12 years I've worked on 11 or 12 long features — which means only one feature a year. This means that I work only on those projects that I like. I read a lot of scripts, but I accept work as Director of Photography only on those scripts where there is absolute agreement on the approaches to filming. Otherwise, I refuse — and I've refused a lot of*

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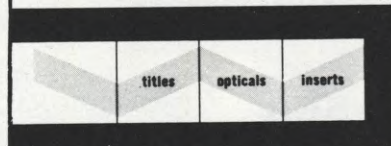
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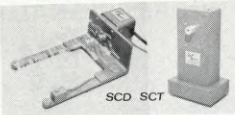
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scripts. However, in spite of these many refusals, I've been very lucky to work only with directors whose ideas of artistic approach are the same as mine. I work not only as Director of Photography, but more often as co-script-writer and co-director, as well. I think always in terms of the feature as a whole unit. When I am working as Director of Photography, my responsibility is always less than that of the Director, and if there is a difference of opinion, I have to accept his opinion. When I am directing the film myself, the responsibility is greater and I have only my own opinion to rely on. That's the main difference.

**QUESTION: The training of the cinematographer mainly has to do with things — machines, cameras, film — whereas, the director is dealing with people and human emotions. Have you found any difficulty in switching your attention from things to people in becoming a director?**

SARA: A good camera operator knows that the knowledge of technical things is as important as knowing how to eat, drink or breathe. He is not allowed to have problems or difficulties with the technical elements. I am fortunate in not having any difficulties working with actors because, as I've said, I've always worked as a kind of partner with the director and scriptwriter. Also, I've had three wives who are actresses — which has given me a certain experience with the actor's mind. Working well with actors and actresses means that you have to have a feeling for psychology. You have to find ways of communicating with them, because all actors and actresses are different. It is the same problem as in everyday life — that of establishing communication with several kinds of people. If you can manage that in life, there's no problem in finding a way to do it when you're making a film. ■

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BLACK leader, 16mm, fresh stock processed to 4.0+, guaranteed. \$0.24/ft. min. order 2000 ft. complete lab services and supplies, 16mm & Super-8. LEO DINER FILMS INC., 350 Golden Gate Ave., San Francisco 94102 (415) 775-3664.

## WANTED

KODAK K-100; single lens models; good operating condition. Call (904) 237-2129.

O'Connor 100B head. Write or call WENDELL, Athletic Dept., 208 BFAB, U of M, Mpls. 55455 (612) 373-4217.

RAW STOCK FILM NEEDED. Highest cash paid for 16 or 35mm color negative or reversal film, including any EF (7242) mag. stripe. B&W reversal also wanted. FILMEX, (Filmbrokers) (416) 964-7415 collect.

PROFESSIONAL motion picture equipment, 16mm and 35mm, cameras, lenses, lights, sound, editing, projection, lab, for outright purchase or consignment. Supply complete technical description and price for immediate reply. Ted Lane, ALAN GORDON ENTERPRISES, INC., 1430 Cahuenga, Hollywood, CA 90028, (213) 466-3561.

ANGENIEUX 10 x 24 reflex zoom lens for Mitchell BNC required. Need not be complete or mounted. Please state condition and price. R. LEWIN, 72 Queens Head St., London, N.1. U.K.

### IF YOU WANT TO SELL YOUR EQUIPMENT — THIS SHOULD MAKE SENSE

Place it on consignment with F&B/Ceco — where hundreds of shoppers visit our New York and Hollywood showrooms every day. Our used equipment price lists are mailed to over 30,000 potential buyers. We'll get your price for it — and even arrange a cash advance if you require it. Remember our sales total over \$6 million yearly — we sell more used equipment than any other dealer. In the East call HY ROTH in New York, (212) 586-1420. In the West, call BOB KAPLAN at (213) 466-9361. F&B/Ceco, 315 W. 43 St., New York, NY 10028 and 7051 Santa Monica, Hollywood, CA 90038.

FILM STOCK, 16/35mm. Will consider all types. Sealed, opened & ends. RAFIQUE, 814 Broadway, New York, NY 10003. (212) 228-2757.

## RENTAL

CINEMONTA & STEENBECK rentals delivered to your premises. KLM ASSOC., INC., West Coast (213) 931-6151, East Coast (301) 299-7259.

PRODUCTION Equipment at sensible prices . . . for example \$15 per day for Nagra III recorder or 12-120 Angenieux zoom lens. The rest of our prices are just as low. For more information on rentals, sales or service write: CINELEASE, INC., 209B Old Durham Road, Killingworth, Ct. 06417 or call (203) 663-2222.

NAGRAS for rent. Nagra IV-L, QSLI, crystal, \$85 a week, \$225 a month. Nagra III, with crystal, \$50 a week, \$150 a month — call (212) 548-1439.

KEM rentals in Hollywood. HORIZONTAL EDITING STUDIOS (213) 461-4643.

## SERVICES AVAILABLE

LOCATION recording throughout the world. Either stereo or sync. JACK CLINK (703) 521-8282. Cable address: CLINK SOUND

RON HAYES, Wildlife Photographer. Photographer of "Alaskan Safari" and "North Country". Accepting any film assignments in Alaska. Wildlife stock footage available. 16mm. RON HAYES, Box 1711. Anchorage, AK 99510 Phone: (907) 272-0051.

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LOCATION sound-Sync-to-16 track, WARREN ROSSIN (215) 978-5577.

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## SITUATIONS AVAILABLE

VICTOR DUNCAN, INC. has opening for camera rental technician. Must have a practical working knowledge of modern cameras, recorders, film-making equipment. Call Frank Marasco. (312) 321-9406.

EDITORS, A new, nationally-syndicated, children's television series is looking for staff editors. April 1st, May 1st start, willing to relocate. Familiarity with console editing preferred but not necessary. Send inquiries, resumes, and salary requirements to AMERICAN CINEMATOGRAPHER, #1799.

VICTOR DUNCAN, INC has opening for camera repair technician. Must have practical background in mechanics, electronics, optics. Call ROBERT BURRILL (313) 371-4920.

## SITUATIONS WANTED

FILMMAKER, technically competent and creative, desires position. Experienced in cinematography, sound and editing, 16mm & 35mm. DAVID PARRISH, 2607 West Chestnut, Yakima, Washington 98902.

## MISCELLANEOUS

STOCK FOOTAGE of San Francisco for sale. From 16mm ECO original. \$3.00 per foot, minimum billing 25 feet. B&W preview. MARVIN PRODUCTIONS c/o Sheldon Marder, 1235 N. Laurel #9, West Hollywood, CA 90046.

CINE-SHOPPER classified ads reach 10,000 serious Filmmakers. To sell, trade, buy equipment or services send 20¢ per word (\$5 min.) with ad to: COMQUIP, INC., 366 S. Maple Ave., Glen Rock, NJ 07452.

## PROFILE: ASC

Continued from Page 266

golden years.

One item he's especially proud of is an original script of "Gone With The Wind".

"It was willed to me by the wife of a man who worked on the picture," he comments. Wellman now plans to give it to the ASC Museum, which is supervised by Charles Clarke, society governor and treasurer. (Wellman himself now is serving a second one-year term as an ASC alternate governor.)

His home, too, is filled with mementoes of such movies as "King Kong" and "Citizen Kane" and "Mutiny on the Bounty."

"I'm not really a collector, but during the kind of lifetime I've had, you pick up an awful lot of interesting things, that you just never want to part with."

They also include a telegram from director Frank Capra, which he received on that Venezuelan location, congratulating him on his Emmy and a selection of Christmas cards from Orson Welles. ("He sends me one every year, no matter where he is in the world".)

And then, finally, there's Emmy. The statuette, not the daughter! That symbol of television excellence is parked right in the front hallway of Wellman's home.

"I'm not proud," says Harold Wellman. "I want everybody to get acquainted with her!"

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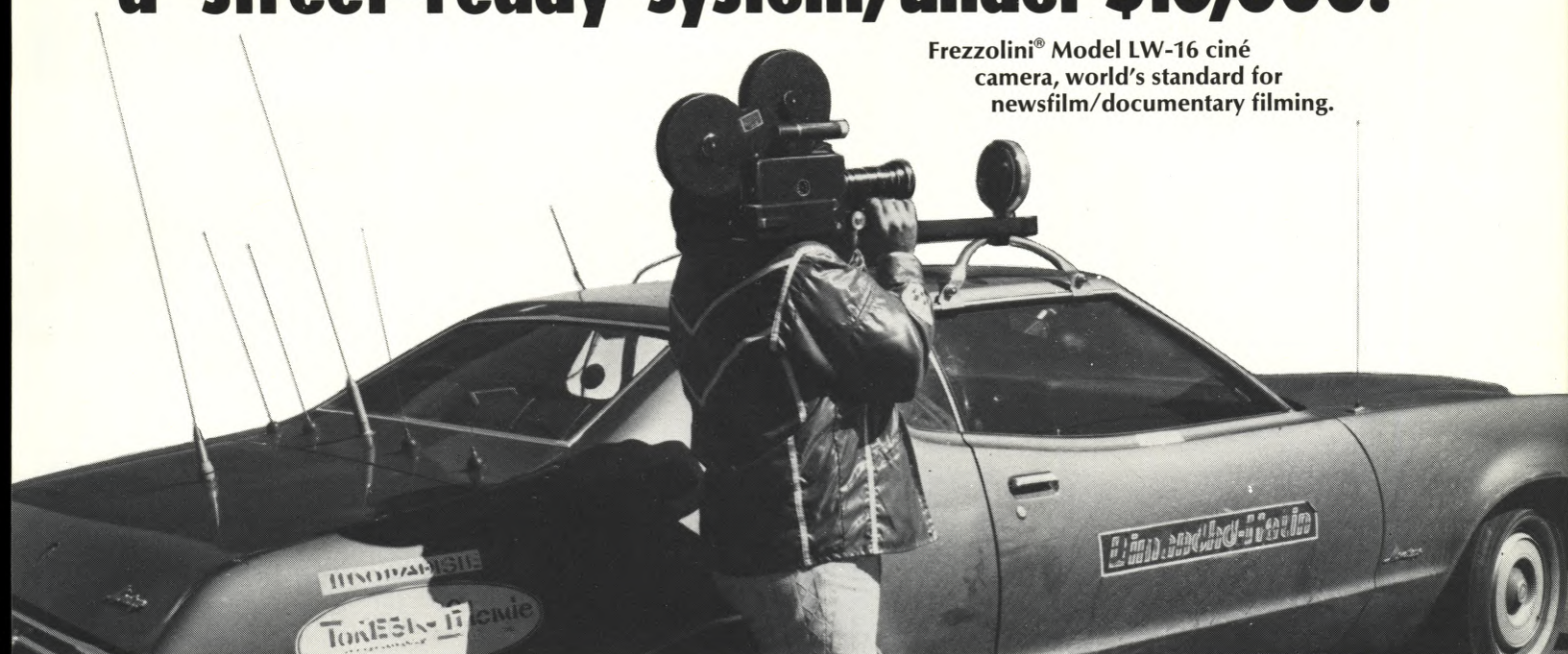
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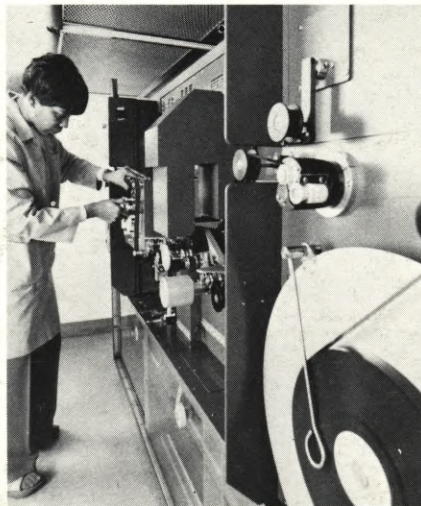
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