



American
Cinematographer

International Journal of Motion Picture Photography and Production Techniques

MARCH 1979/\$1.50

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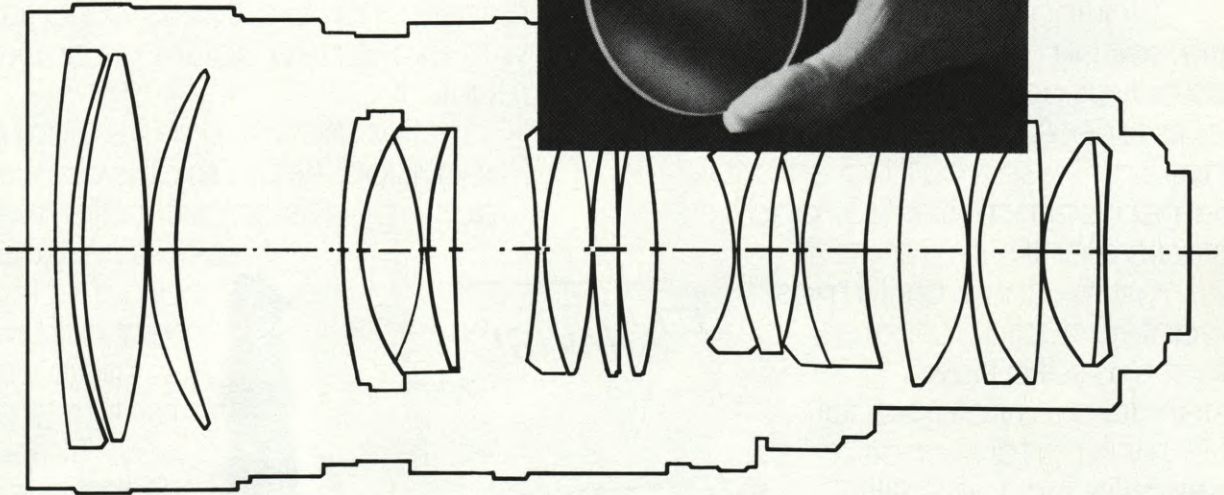
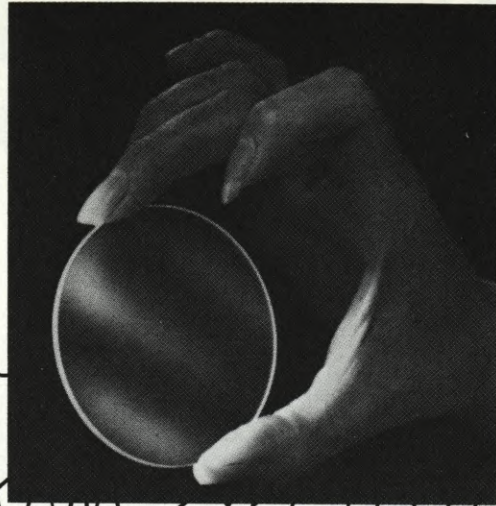
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American Cinematographer

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.

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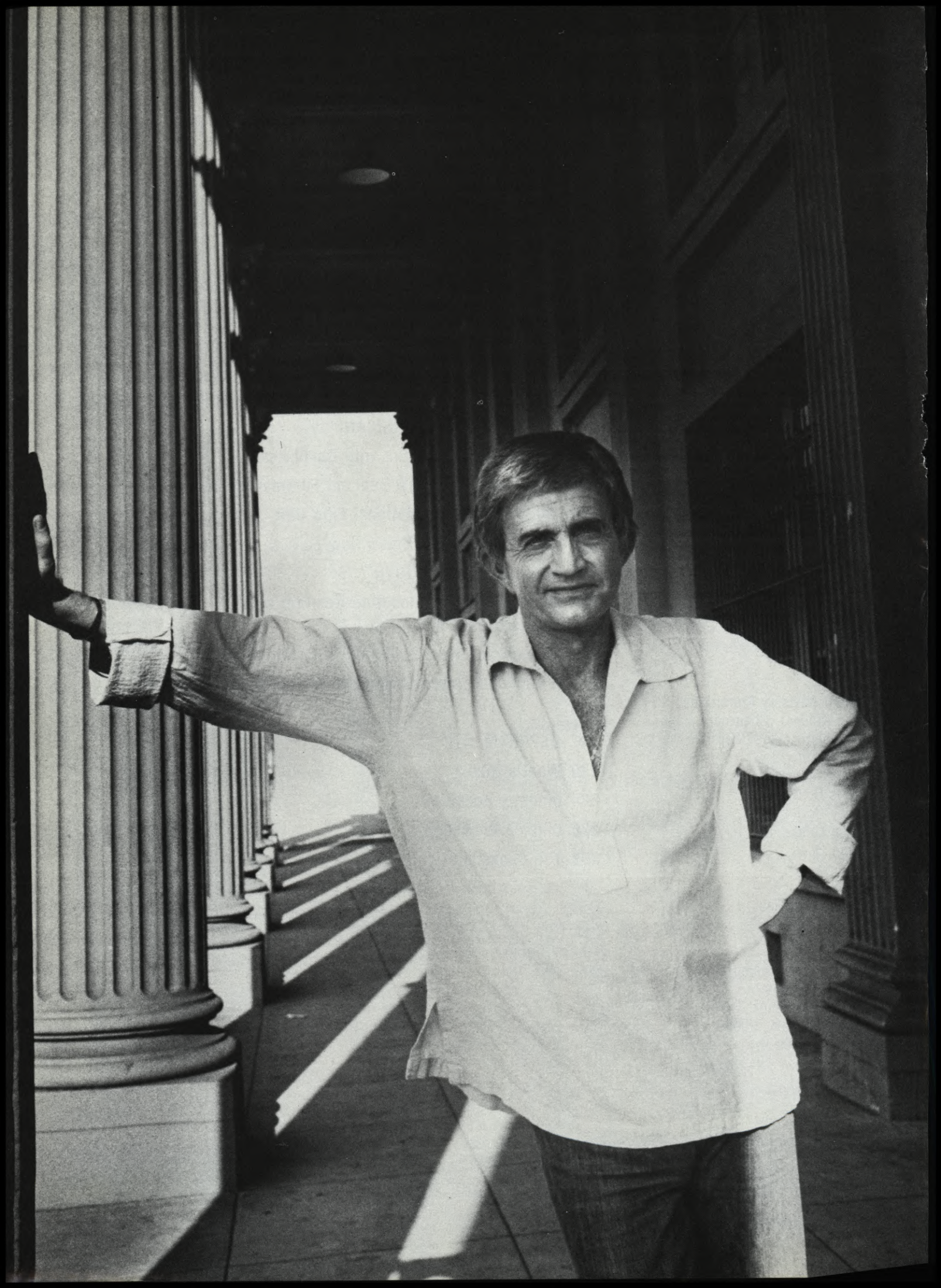
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ON THE COVER: The furious climactic storm scene from the Dino De Laurentiis production of "HURRICANE", in which the star-crossed lovers, played by Mia Farrow and Dayton Ka'Ne, lash themselves to an ancient banyan tree in hopes of escaping destruction. "HURRICANE" was directed by Jan Troell and photographed by Sven Nykvist, ASC.

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EDWARDS



"The more real the picture, the more believable the action."

Blake Edwards, writer-director-producer and father of the irrepressible Pink Panther, talks about comedy, directing, film, and making it in the business he loves so well.

"I think great comedy is based on human frailty—avarice, greed. In Clouseau's case, it deals with a very human characteristic that the late Gene Fowler called the 11th Commandment: 'Thou shalt not give up.'

"After the first Panther, we began to investigate Clouseau more. We talked on many occasions about who his tailor is—that terrible man who sells him those awful clothes. And why does he have a manservant who puts up with the things that man puts up with? These things will never be known by the audience, but they are sort of the underpinning of the character.

"Movies have become a director's medium. Maybe a better word than director would be 'filmmaker.' But by whatever name, he has the final say—on the script, the acting, the

edit, the performances—everything. And if the movie is a failure, it's his failure. So he takes a lot on himself.

"An interesting thing happens to me on the set—I really cannot remember lines I have written. A producer once said about me that as a director I could say, 'Who the heck wrote that?' and then turn around later as the writer and say, 'Who the heck directed that scene of mine?'

"I've always used Kodak film. They keep coming up with the kind of film that makes my job that much easier. For example, I used to hate to shoot day for night. Somehow you always see a brute or a light shining and you just can't buy it. Soon I'll be shooting in Mexico near a lot of structures that are gleaming white, white, white. With a full moon we'll be able to shoot that for real. We'll be able to say: 'That looks *real*—there's the reflection off the sea, so there's depth. Terrific!' Because then it becomes more real. For me, the more real the picture, the more believable the action.

"Making it as a newcomer takes determination. Humility is not one of

the prerequisites. The very nature of what you are doing is show-offish. You are God-like. You are on the set directing and you are *it*. It's very egocentric.

"I would say to young filmmakers, let's see that fire burning under there. Be a little opinionated and a little I-know-more-than-anybody-else. And then I'd say, with all those qualities—cool it. Because in today's terms it is better to be cool about your attitudes in front of people. Remember, nothing is new—no matter how good we are, it has all been done before."

If you would like to receive our publication for filmmakers, Kodak Professional Forum, write: Eastman Kodak Company, Dept. 640, 343 State Street, Rochester, N.Y. 14650.



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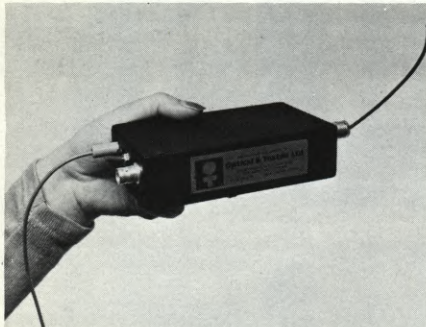
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Kodak... Official motion picture consultant to the 1980 Olympic Winter Games.

WHAT'S NEW

IN PRODUCTS, SERVICES AND LITERATURE



THE COLCINE SUB-MINIATURE VIDEO TRANSMITTER

This sub-miniature video transmitter is designed as a high-resolution, short-range video link to be used in conjunction with standard domestic receivers or receiver/monitors on the UHF band. Applications include surveillance, security and the motion picture industry.

A specific application in the motion picture industry is in conjunction with the "Steadicam" camera stabiliser. The transmitter will allow a picture to be transmitted back to the video recorder via a receiver/monitor without the encumbrance of trailing coaxial cables which may affect the stability of the unit or restrain the cameraman. Several transmitters have already been successfully used in this application.

Small size and weight and low power consumption is a feature of the transmitter. Bandwidth is adequate for high quality colour signals and, with the addition of an external sound modulator, a sound channel to normal U.S.A. or European standards. The modulator circuitry incorporates D.C. restoration to the camera signal and has a peak white clipper to prevent carrier overmodulation and to facilitate the insertion of a sound carrier without sound on vision or vision on sound.

Licensing must be provided by the operator.

Technical Specification

Frequency Range	430-500 MHz. Normally supplied at 437.4 or 473.4 MHz. Other frequencies to customer's order.
Power Output	20 mW approx.
Input	Standard 1 Volt peak video signal into 75 ohms. Input signal to be positive modulation, carrier output is negative modulation. 75 ohm BNC input socket.
Input D.C. Restoration and White Clipping	D.C. restoration (Black Level Clamp) is applied to camera signal. Peak white clipping is also applied to prevent over-modulation of the carrier.
Bandwidth	Double sideband transmission.

Aerial (Antenna)	Supplied with flexible monopole serial. Output socket is 50 ohm BNC.
Range	150m minimum, line of sight using Sinclair Microvision receiver with built-in aerial.
Power Requirements	12V D.C. at 40 mA max. Operation on higher voltages to order.
Size	5" x 3" x 1-5/16" (127x76x33 mm)
Weight	8 oz. (227g) including aerial.
Housing	Matte black rigid polystyrene case.
Accessories	External sound modulator to NTSC or CCIR UK or European standards will be available.

For further information, please contact: OPTICAL & TEXTILE LTD., Barnet Trading Estate, Park Road, High Barnet, Herts. EN5 55A, England. Tel: 01-441 2199.



NEW CINEMATICS 6-PLATE FLATBED EDITOR

The new Cinematics 6-plate is a money-saving professional flatbed editor. It features single-lever control of film motion at sound speed and high speed in forward and reverse, with instant stop from any speed. The trouble-free belt takeup system is extremely gentle to film and requires no attention from the operator. Interlock is via electromagnetic clutches and timing belt, with the control switches located conveniently adjacent to the motion control lever. Film strands can be inched by hand, individually or interlocked. Each of the three strands has its own footage/frames counter.

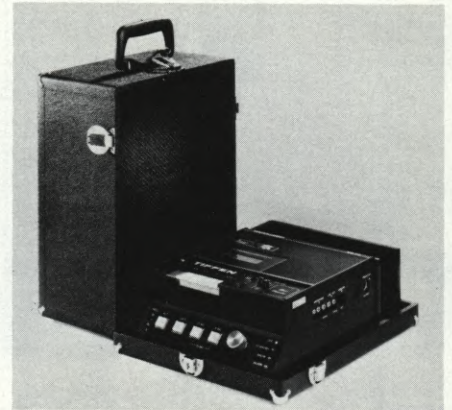
Picture and sound heads are completely modular; a 6-plate mainframe will accept one picture head and two soundheads, or three soundheads. Both picture and soundheads are available in 16mm and Super-8, and can be intermixed in any combination. Picture heads feature a bright 5 1/2" rear projected pic-

ture, or a 24" picture by front projection on a high-gain wall screen.

The Cinematics 6-plate is simple to operate, and consists almost entirely of the same proven components which have made the 4-plate so reliable.

Cinematics 6-plates are about \$4600 in Super-8 and \$5300 in 16mm, depending on options. 4-plates are still available for about \$1000 less. For a complete price list and detailed illustrated brochure, please write or phone:

Cinematics, Inc.; Box 16045; Baltimore, MD 21218; (301) 889-7900.



TIFFEN ANNOUNCES NEW STEREO VERSION OF SD-70 SYNC DISSOLVE PROGRAMMER

Tiffen unveiled its new Model SD-70S—a stereo version of the company's extremely successful SD-70 Sync Dissolve Programmer at the recent NAVA Show.

The new unit is a "technological breakthrough" because it is designed to give you stereo sound with less hardware so that you get the maximum effect of visual and audio performances from your AV shows.

Tiffen's new SD-70S Sync Dissolve Programmer combines dissolve and recorder functions in one compact unit—plus the exciting sound of stereo.

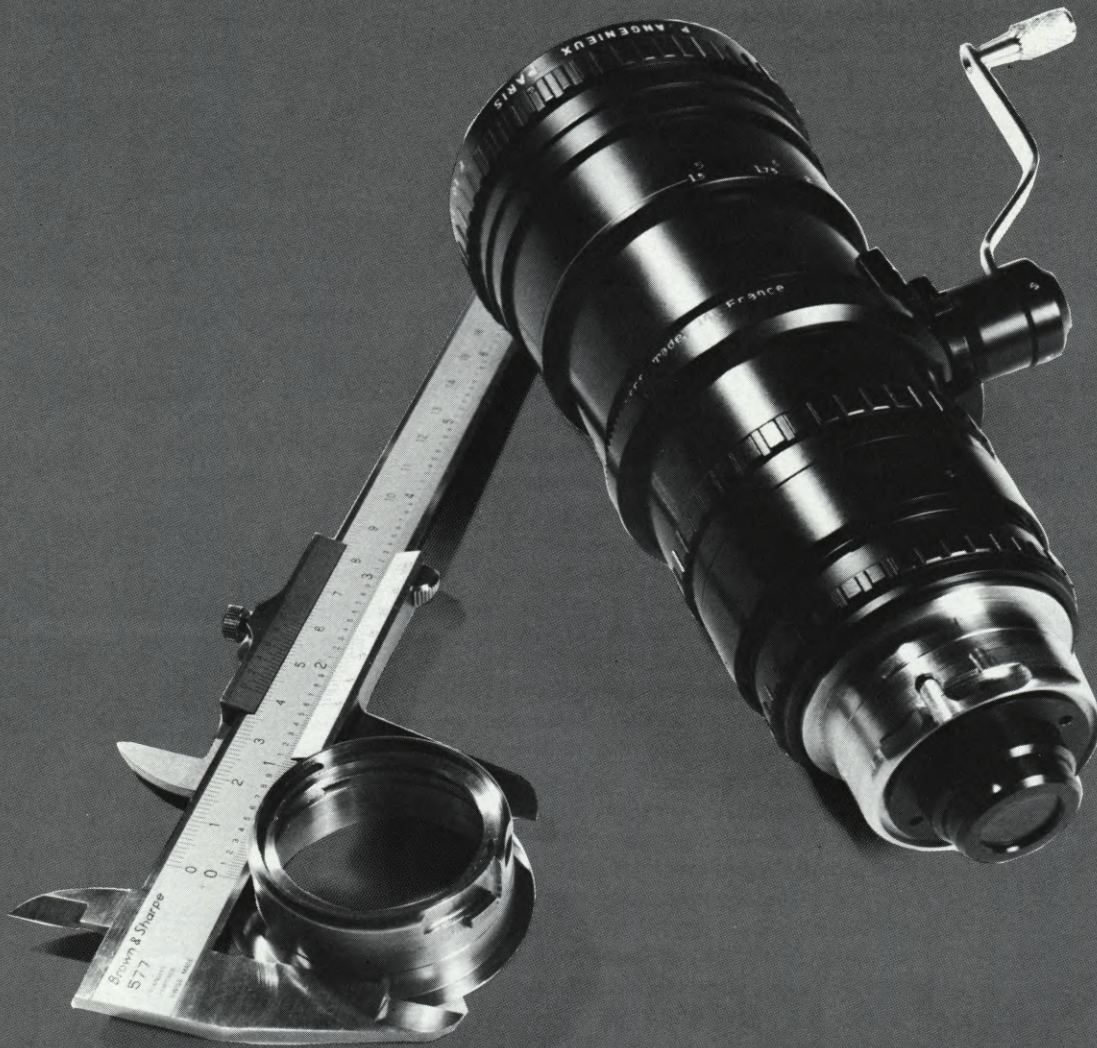
The easy up-front pushbutton dissolve controls offers 4 dissolve functions or any one of the four alternate functions. The pushbutton feature makes the SD-70S fool-proof and anyone can learn to operate it in minutes.

The SD-70S records and plays back the sound track while permitting you to program the dissolve functions on a separate track. The built-in cassette recorder records, plays back and is compatible with pre-recorded stereo cassettes and has an 8 watt RMS amplifier per channel.

Also available is a portable accessory case that has detachable built-in extension speakers so that picture and sound

Continued on Page 259

PRECISION LENSES DESERVE PRECISION LENS MOUNTS

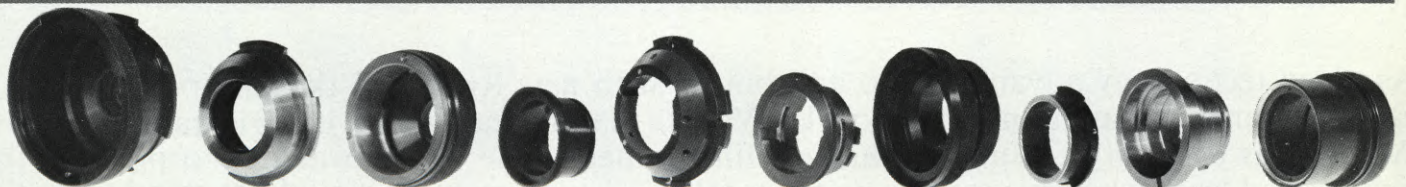


Optex Lens Mounts and Adapters, available exclusively from Alan Gordon Enterprises Inc., are precision manufactured to highest factory tolerances. They are designed to give results that will meet the most exacting professional standards. There are more than 50 Optex Lens Mounts and Adapters available, and all have tolerances to ± 5 microns. It makes good sense to use the best lens mounts and adapters for your professional motion picture lens. For detailed information on the most comprehensive range of lens mounts and adapters in the world, write or call:

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The Aäton 7 16 mm camera has come of age : well over 380 cameras delivered, mostly in Western Europe, with a good number to such discerning organizations as the BBC and the Swedish Broadcasting Corporation, as well as various others; a strong agent network in many countries around the world. Aäton Cameras Inc. was incorporated in the state of New York at the end of 1978.

Here is a brief glance over the last few years.

1972 : First appearance of the Aäton 7 at Photokina : news and documentary camera ; comfortable hand holding, 31 dB, single system magazine, brush-type motor, groundglass viewing screen, and of course **built-in video** and battery. 16 mm cameras were at that time mainly for news reporting with large TV stations, though the switch towards video for this type of use was on the way.



The place is Copenhagen. The lady with the camera is Barbara Adler; the other lady, « Standing Woman » by Gerhard Henning. The photograph is by Manuel Sellner, and the camera by Aäton.

1974 : Taking into account observations on the prototypes, Aäton presented an improved version of the '72 camera, more oriented on **production quality** as opposed to news : plug-in electronic circuits, brushless motor, high definition **fibre optic viewing screen**, 28 dB, easy dismantling of modular housing.

At Photokina '74, the incorporated video camera was of course still an integral part of the Aäton 7. But it also took on an identity of its own : the Aäton 30 hand video camera, a small tube held in the hand like a microphone.

1976. By 1976 in series production, the Aäton 7 began to make a place for itself as a camera for feature productions, quality documentaries, etc. Easy handholding, low noise level, and excellent image quality made it the choice of the more exacting TV stations and independent producers in Europe. An **EBU time code system** was shown at Photokina, and clear numbers were announced.

As video technology advanced leap and bound with new RCA and Ikegami portable color cameras, and the announcement of 1" VTRs. Aäton reaffirmed its orientation for the Aäton 7 as a quality feature production film camera. The object was not to produce the lightest and least expensive camera on the market — such a camera would not stand up to the competition of a good video camera — but more than ever to work barring no compromise towards the ultimate perfection of the 16 mm medium.

1978. To take film to its full potential, Aäton (with more than 300 cameras sold in Europe) concentrated its efforts for 1978 on **sound level, viewing, image definition, reliability, and freedom from constraint.**

If the choice is for 16 mm film, then it is essential to extract from this medium everything it has to offer; otherwise video is sufficient.

If film is to remain viable (in terms of shooting, leaving aside editing), film cameras have progress to make compared to video cameras : the noise level has to go down; image definition must be incomparably superior to video; the camera must be totally reliable; and the cameraman's freedom of movement must in no way be hindered.

Sound Level. Though a guaranteed 28 dB is in itself an achievement, sometimes even that is too noisy. The basic structure of the Aäton is such that it is possible (with more time and care) to obtain noise levels in the order of 24 dB. The absolute record for an Aäton is 19 dB. For those who feel that the price difference over a feature production budget is negligible, Aäton now supplies a guaranteed 23 dB, run in in the factory.

Image Definition. With the latest lenses and emulsions, image definition can be greatly improved; the camera must also do its share for better definition. Aäton has contributed towards this by assuring that the film is in a very stable position over the aperture plate — excellent vertical, lateral, and depth steadiness. This steadiness provides a definition 'reserve' for 16 mm film, be it for 35 mm blow-up, reframing, or electronic image processing.

Viewing. In the Aäton viewfinder, the cameraman has a very sharp and immediate image; the discrete exposuremeter display gives an accurate linear reading of ± 2 stops in thirds, even with fast lenses.

Reliability. The modular structure of the Aäton makes it easy to take apart and put together without disaligning the vital mechanical and optical parts. The film channel is totally visible, and accessible for cleaning. With the red spares, electronics problems are solved by simple interchange.

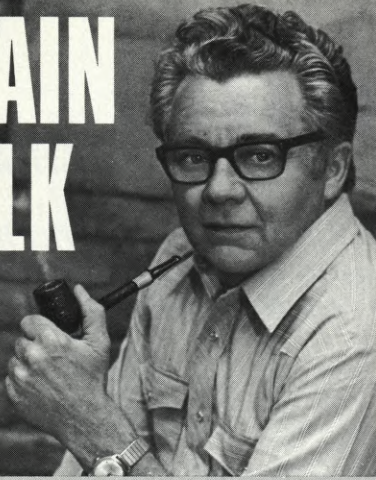
Freedom from Constraint.

The cameraman's freedom of movement depends upon two factors : comfort of holding, and freedom from cables (the nightmare of video). The ergonomic structure of the Aäton is now a known fact. And the necessary step to eliminate the last cables tying the cameraman down is clear time marking simultaneously on film and video monitor with UHF transmission. Aäton has done advanced study into all forms of time marking.



Per Källberg and Stefan Jarl talking over a shot; the tool is part of the man. Sweden.

PLAIN TALK



by *J. Carl Treise*

We find it amazing that some firms will be suckers for a low price tag — not once, but several times!

We've seen it happen again and again.

A firm will order a film processor, wait for it weeks (and sometimes months) beyond the promised delivery date, discover it doesn't perform to specifications . . . and still reorder from the same guy the next time around!

Why? Is it the few bucks saved on a meaningless quote? Is it a locked-in habit pattern? Or just further proof of P. T. Barnum's famous statement?

Before you order a film processor from any manufacturer (— it doesn't matter who it is), find out who some of his customers are and ask them a few questions.

Does he have a reputation for prompt delivery? Will he build exactly what you want? Will the processor do everything it's supposed to do? If something goes wrong, will he come back and make it work?

In other words, does he really care, or just pretend he does?

If we sound tough on this subject, we mean to be. We're upset by any manufacturer who promises first-rate gear and delivers marginal equipment. But we're bothered even more by any buyer who doesn't take the trouble to look for the difference!

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INDUSTRY ACTIVITIES

HOCH HEADS ASC IN SIXTIETH YEAR

The American Society of Cinematographers has elected Winton Hoch to head that organization during its 60th year.

Other officers for 1979 are Ernest Laszlo, 1st vp; Stanley Cortez, 2nd vp; Ted Voigtlander, 3rd vp; Charles Clark, treasurer; George Folsey, secretary, and Daniel Fapp, sergeant-at-arms.

Other members serving on the board are L.B. Abbott, Joseph Biroc, Linwood Dunn, William Fraker, Burnett Guffey, Philip Lathrop, Lester Shorr and Harry Wolf. Alternates for the year will be Leonard South, Milton Krasner, Ray Rennahan, Lloyd Ahern, Sam Leavitt, Harold Wellman, Richard Kelley, Henry Freulich, Vilmos Zsigmond and Thomas Tutwiler.

FILMEX POSTER AND "HAIR" HIGHLIGHT TRUSTEES RECEPTION

FILMEX, the International Film Exposition annually held in Los Angeles, was launched recently at a reception in honor of new Trustees, with prominent film community personalities present at the Playboy Mansion West for the unveiling of the FILMEX 79 poster, the announcement of the Opening Night film, and highlights of other major events to be included in this year's Exposition which will take place from March 14 through 29 at Plitt's Century Plaza Theatres in the ABC Entertainment Center.

Selected to open FILMEX 79 is Milos Forman's film version of the contemporary musical classic HAIR, a Lester Persky and Michael Butler Production released by United Artists. Based on Gerome Ragni, James Rado and Galt MacDermot's internationally successful work, with a screenplay by Michael Weller, HAIR was choreographed by Twyla Tharp.

The Filmex Poster, which has become an annual collector's item, was this year again created by Mike Salisbury who also designed the award-winning 1974 placard. Mr. Salisbury is Vice President, Senior Art Director at Wells, Rich, Greene/West, advertising agency for FILMEX. Illustrated by Joe Heiner, the newest poster, entitled "Hollywood Freeway," depicts a "celluloid" highway with a large green direction sign reading "FILMEX". In the background, nestled neatly in the hills, is the famed "Hollywood" sign and above that, emanating

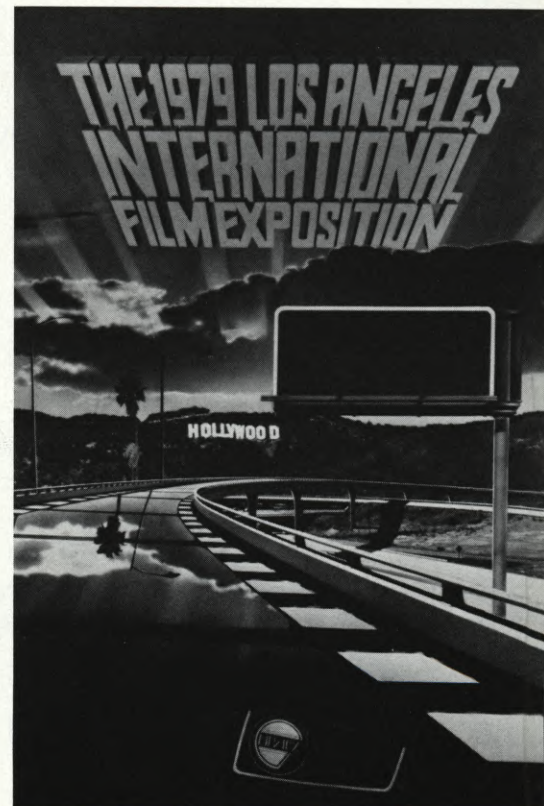
from the sky the words, Los Angeles International Film Exposition.

The first Board of Trustees meeting was convened in May, 1971 with a total of nine participants, the same number that was announced currently to expand the Board to a total of 39. In introducing the new members, Chairman Thomas P. Pollock stated, "Each year has been a growth year for us, not only because of the constant broadening of industry support internationally, but also because of the ever-increasing number and mosaic of the audiences at our events."

The nine new Trustees are: Gary Abrams, Executive Assistant to the President, Marble Arch Productions, (and former Associate Director of FILMEX); Frederick Brisson, producer; Rob Cohen, producer; David M. Field, Sr. Vice President, United Artists; Kathleen Brown Rice, Member, Los Angeles Board of Education; Danton Rissner, producer; Richard S. Rosenzweig, Executive Vice President, Playboy Enterprises, Inc., Robert W. Shapiro, Head of Production, Warner Brothers; and Richard A. Shepherd, Sr. Vice President and Worldwide Head of Production for MGM.

Continued on Page 313

This year's official FILMEX poster, designed by Mike Salisbury and illustrated by Joe Heiner, is entitled "Hollywood Freeway".



The MINI-RACK

A Modular System

Here's how it all stacks up...
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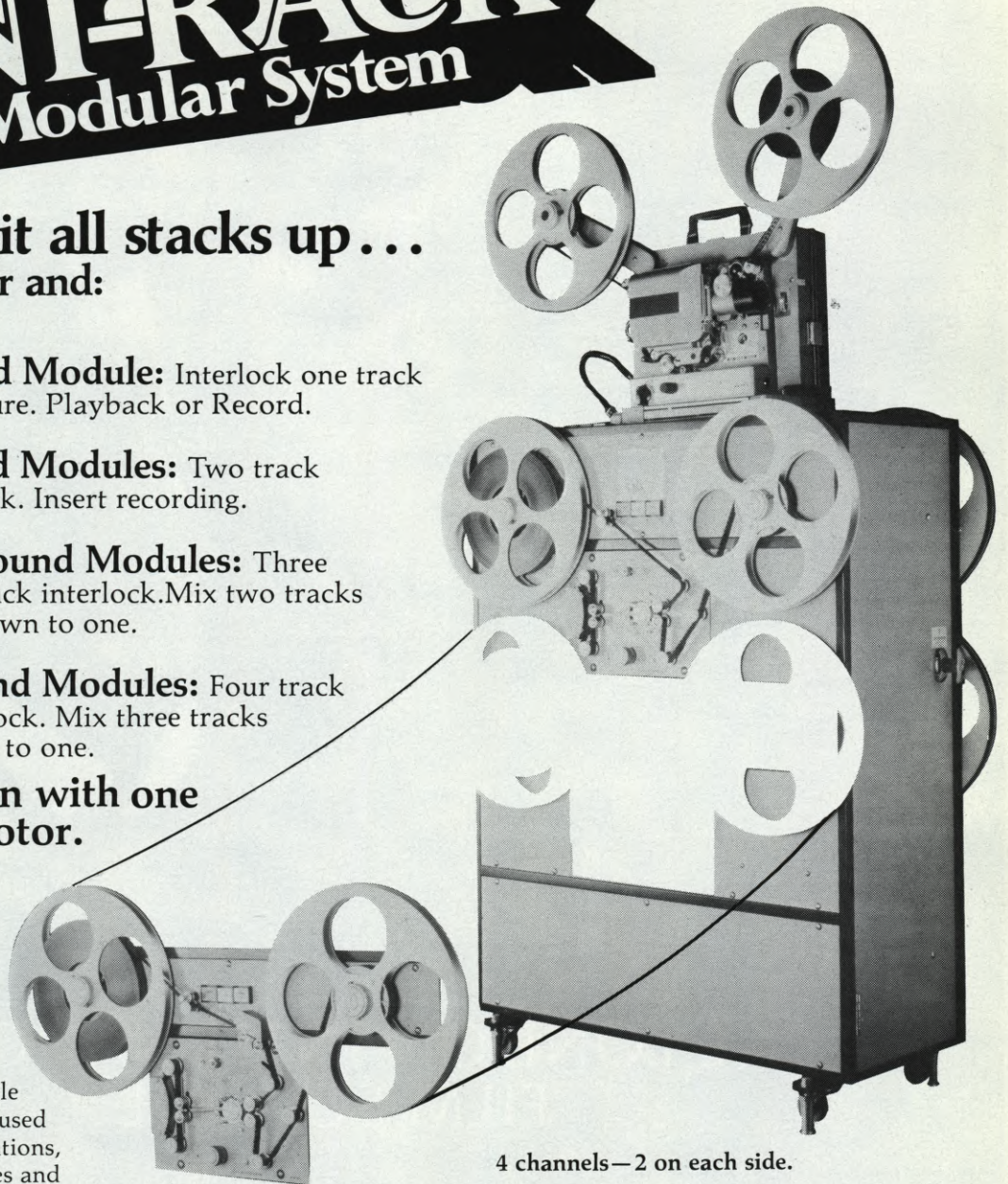
One Sound Module: Interlock one track to picture. Playback or Record.

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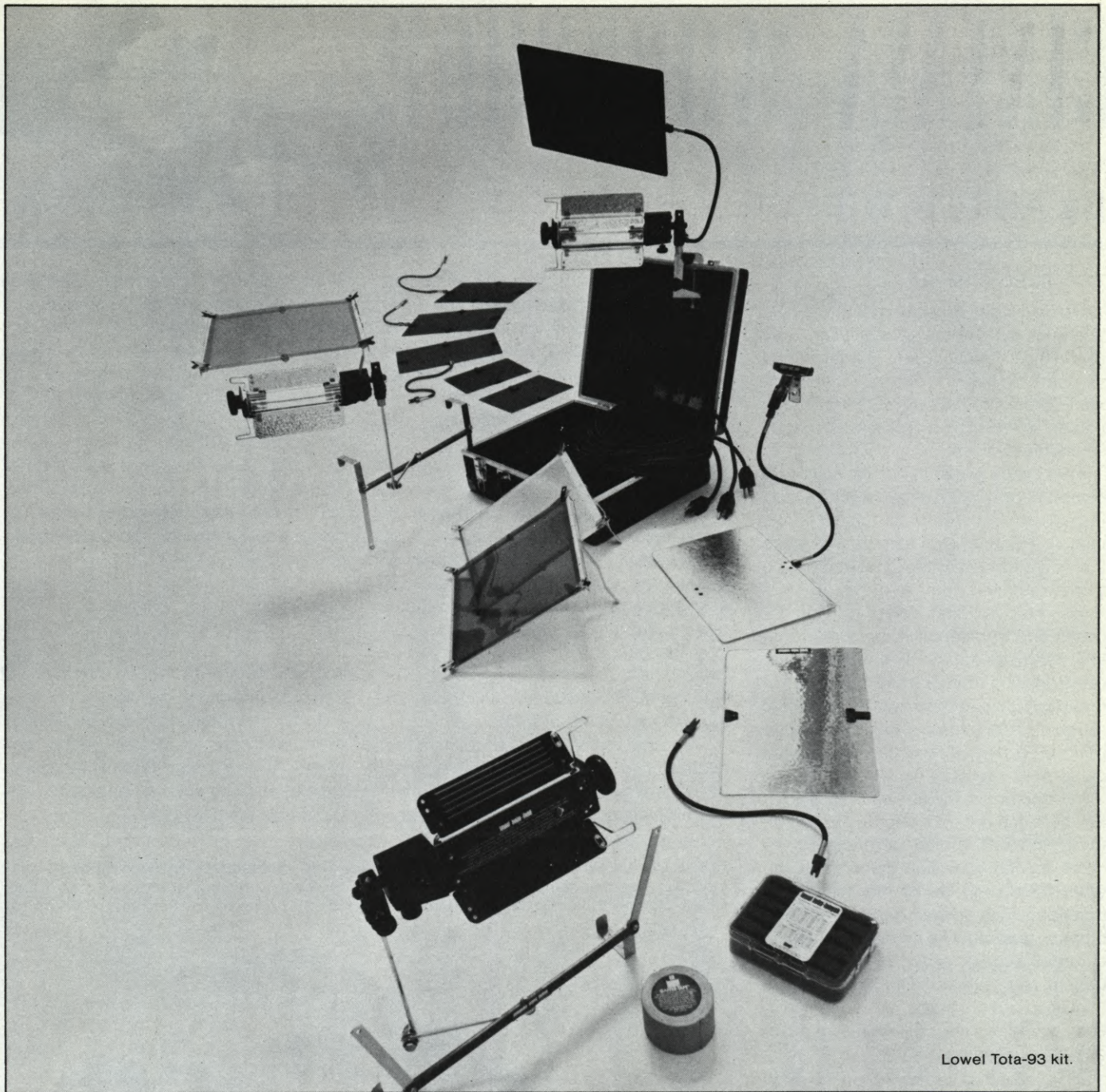
The intensive two year Diploma Course covers 16mm, 35mm, black and white, colour, feature production in the studio and documentary location production, together with specialist courses in Animation and Music for Film and Television.

Students are thoroughly grounded in all the technical aspects of Film Making, benefiting from the experience of staff who have spent a total of over 200 years in the industry. The 178 students from 42 different countries come privately or are sponsored by Governments, TV stations and Educational Institutions.



For further information write to:

The Administrator, The London International Film School,
24 Shelton Street, London WC2H 9HP.



Lowel Tota-93 kit.

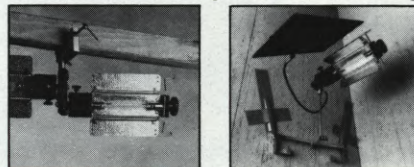
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CINEMA WORKSHOP



By ANTON WILSON

THE VIDEO CAMERA—II

Optically the film camera and the field television camera are quite similar. They use almost identical lens systems and respond similarly to filters. They both focus their information onto an "image plane". However, it is at this point that all similarities vanish.

The "image plane" in the film camera is obviously the raw stock, where the image is actually recorded as optical information. The television camera first splits the image formed by the lens. Each of the three resulting image paths passes through a color filter before it finally focuses on the respective red, green and blue television tubes. The image is not recorded by the tubes, but instantaneously transformed into an electronic signal. This is the most basic difference between a film camera and a television camera.

In video terms, the film camera is actually both camera and recorder, as it both forms the image and permanently records it. The television camera, on the other hand, only forms the image and transforms it to an electronic signal. This output signal must be connected to some external recorder or fed to a monitor or transmission system. The image from a television camera that is not connected to some external system is like the sound of one hand clapping.

This point may seem very basic. However, it is important for the cinematographer to conceptualize the two-stage process of recording the video image. The camera converts the image to a complex electrical signal and then the VTR records this signal. Image quality is a function of both elements: camera and recorder. Even the simple concept of format size must consider this duality.

The cinematographer uses film in 16mm, 35mm and 65mm formats. This film format number really defines two properties: the size of the formed image at the image plane, and the size of the recorded image (or the area of raw stock consumed to record each frame). In film these two parameters are obviously one and the same, but in video they are quite distinct and different. The size of the video tubes employed in the camera would correspond to the first aspect of

format size, i.e. the size of the formed image at the image plane. The VTR would correspond to the second aspect of format size. The term "size of recorded image" is not applicable because it is not an "image" that is actually being recorded, but rather an electronic signal representing the image. However, the concept of "area of raw stock consumed to record each frame" does have a reasonable correlation with the quality of video recording. The size of the tape track, as well as the method of recording, defines the video tape format and the level of quality to be expected. The point here is that film format is dependent on only the gauge of the film, whereas in video both the camera design and VTR type must be considered to obtain an equivalent concept of format.

There are many factors that affect the quality of a video image. The camera tubes, where the image is transformed into an electronic signal, is probably the

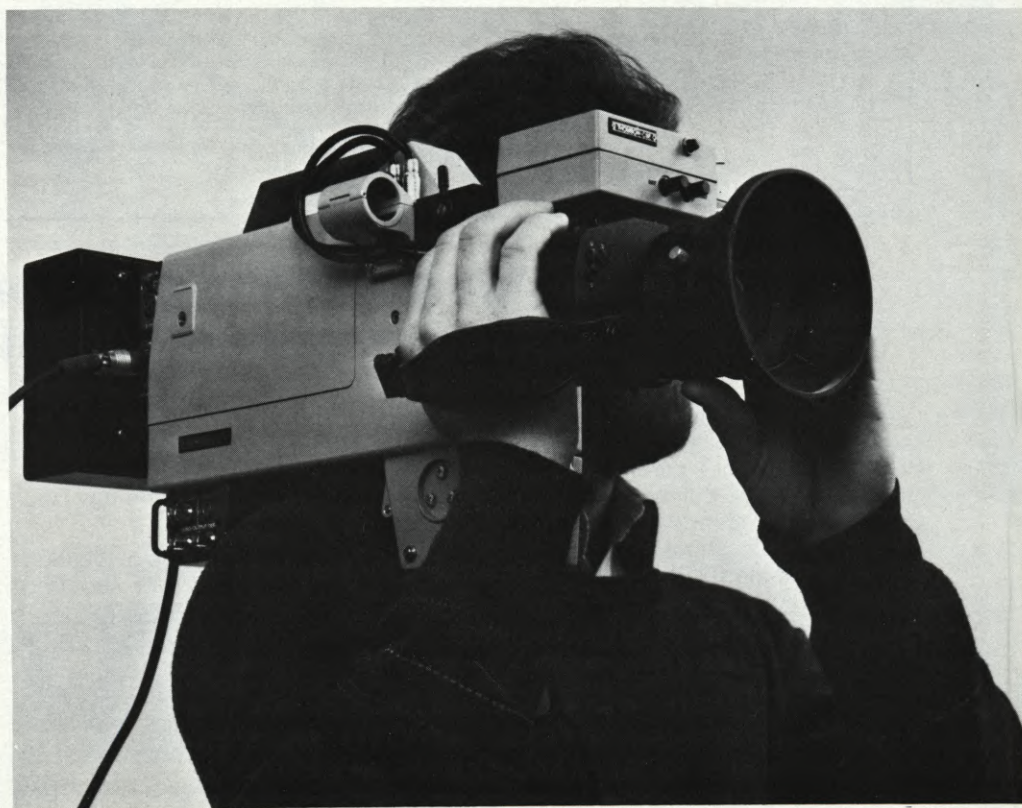
single most important element. Almost all modern broadcast quality cameras employ three Plumbicon® type tubes, one each for red, green and blue. These tubes come in three basic sizes for broadcast quality applications; 2/3", 1" and 1 1/4". As might be expected, the ultra compact ENG/EFP cameras employ the 2/3" tubes, while the larger, more sophisticated studio cameras make use of the 1 1/4" tubes. An intermediate class of camera designed as a "portable studio" camera makes use of the 1" tube.

The current rage of "film style" video production usually involves the ENG/EFP compact 2/3" cameras. The cinematographer drawn into the video service will most likely find his head next to one of these sophisticated devices.

It may be tempting to draw an analogy with film, comparing 2/3" video with 16mm; 1" video with 35mm, etc. However, attempting such an analogy at this

Continued on Page 298

FIGURE 1—Latest style ENG/EFP Video camera. This Thomson MICROCAM weighs only 12 pounds, yet delivers a picture that rivals that of the best studio cameras. The Anton/Bauer Quick-change Silver Battery snaps onto the back and runs the camera for seven hours.





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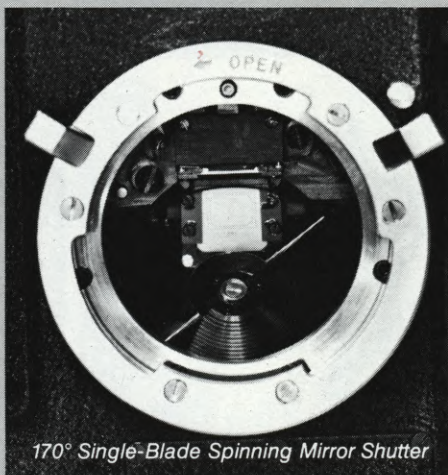
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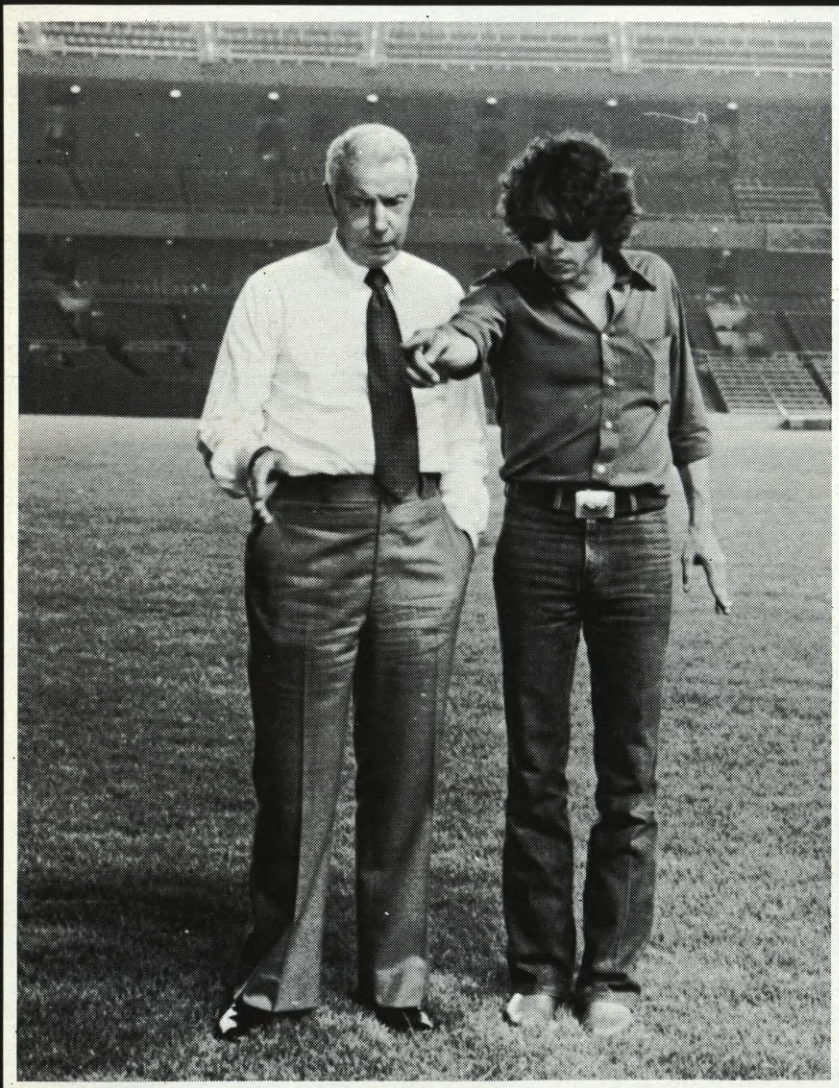
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By GEORGE L. GEORGE

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The 1979 edition of Peter Cowie's INTERNATIONAL FILM GUIDE provides primarily an authoritative and thorough perspective on theatrical production in 55 countries. Additional sections cover non-theatrical and sponsored films, animation, video (by Diane Jacobs) and other relevant surveys (Barnes \$6.95).

Films released last year in Great Britain—many not shown here—are discussed by F. Maurice Speed in his attractive annual FILM REVIEW 1978-79. Well illustrated, the book also carries essays on sundry film subjects (Hawthorn \$5.95). Earlier volumes are available from Transatlantic Arts, No. Village Green, Levittown, NY 11756.

Two volumes have been added to THE NEW YORK TIMES FILM REVIEWS, covering movies released in 1973-74 and 1975-76, updating this comprehensive and indispensable source of information on the progress of cinema as assessed by N. Y. Times critics (Arno Press \$60 ea.).

In HOLLYWOOD ALBUM are reproduced detailed obits of film personalities, as originally printed in the N. Y. Times. Over 200 names appear, a panoramic view of the film industry's history (Arno Press \$18/5.95).

The new edition of Ray Harryhausen's FILM FANTASY SCRAPBOOK carries a color portfolio of special effects from *The Golden Voyage of Sinbad*, Gordon Hessler's 1974 film. The book discusses Harryhausen's inexhaustible bag of tricks and visual illusions, used with telling results in such films as *Mighty Joe Young* and *The Beast From 20,000 Fathoms* (Barnes \$17.50/7.95).

Digesting the mass of published material about movies, William R. Meyer, in THE FILM BUFF'S CATALOG, has judi-

ciously compiled an extensive selection of sources dealing with film books and magazines, film appreciation of various genres and national origins, famous directors, and many other relevant data (Arlington \$18.95).

The successful animated film *Water-ship Down* that Martin Rosen produced, wrote and directed from Richard Adams' delightful tale, has been turned into THE *WATERSHIP DOWN* FILM PICTURE BOOK, where some 250 color stills recapture the warmth and spirit of the original work (Macmillan \$16.95/8.95).

How 18 talented Hollywood screenwriters feel about their craft and its technical/creative aspects, with examples from actual productions, is clearly stated in *BLUEPRINT ON BABYLON* in the course of probing interviews conducted by J. D. Marshall (Phoenix House, Box 345, Tempe, AZ 85281; \$7.55).

A comprehensive guide to career development, *SUCCESSFUL ARTIST MANAGEMENT* by Xavier M. Frascogna, Jr. and H. Lee Hetherington aptly describes the steps that individuals active in the entertainment industry should follow to achieve a solid managerial basis for artistic success (Watson-Guptill \$17.50).

A selection of films used for broad instructional purposes and housed in the 50-member Consortium of University Film Centers is listed and described in *EDUCATIONAL FILM LOCATOR*. It contains some 37,000 titles, all with relevant data and thumbnail synopses. An elaborate cross-index facilitates the search for area, subject and audience level, making this compilation an indispensable encyclopedic reference tool (Bowker \$45).

The movies as a source of inspiration for literature is the theme of Claude-Edmonde Magny's *THE AGE OF THE AMERICAN NOVEL*. This fruitful process of cross-fertilization altered the classical descriptive technique of fiction into the movies' visually elliptic format (Ungar \$8.50).

Jerry McGuire, a Colorado filmmaker, stresses the writer's contribution in *HOW TO WRITE, DIRECT & PRODUCE EFFECTIVE BUSINESS FILMS & DOCUMENTARIES*. While the book covers the subject adequately, it reflects a small town approach, where unions are all but overlooked, directors downplayed, and the use of a bathroom to show a man brushing his teeth is considered extravagant (TAB Books \$14.95).

Robert Villastrigo offers good practical advice on *HOW TO REPAIR MOVIE & SLIDE PROJECTORS*, a do-it-yourself handbook for owners of 8 and 16mm projectors, 35mm slide projectors, silent and sound filmstrip viewers, silent filmstrip projectors, and overhead and opaque projectors (TAB Books \$12.95/7.95).

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Hector Arce's sensitive and honest book, *GROUCHO*, written with the comedian's cooperation, comes nearer to a definitive biography than any previous volume. Arce, a longtime friend of Groucho, unveils candidly and without sensationalism many of his failings as husband and father, as well as his hidden romanticism and ferocious wit (Putnam \$14.95).

In *MASTERS OF MENACE*, Ted Sennett gives a perceptive and well-informed account of the life and career of Sidney Greenstreet and Peter Lorre, whose sinister malevolence dominated some 100 films (Dutton \$8.95).

Now in paperback, Peter Cowie's *THE CINEMA OF ORSON WELLES* is a brilliant analysis of the work of the director, whose main accomplishment was the ability to assimilate and fuse the experience of three decades of film (Barnes \$6.95).

Selecting screen stars of legendary pulchritude, James Robert Parish has devoted a large format, richly illustrated book, *THE HOLLYWOOD BEAUTIES*, to well-researched biographies of Elizabeth Taylor, Grace Kelly, Kay Francis, Ava Gardner, Jean Harlow, Dolores Del Rio and Lana Turner (Arlington \$25).

Close to 500 head shots of stars, mostly of the silent era, adorn the pages of *CLOSE-UPS*, a fascinating portrait gallery of historic interest, accompanied by brief biographies by John R. Finch and Paul A. Elby (Barnes \$25).

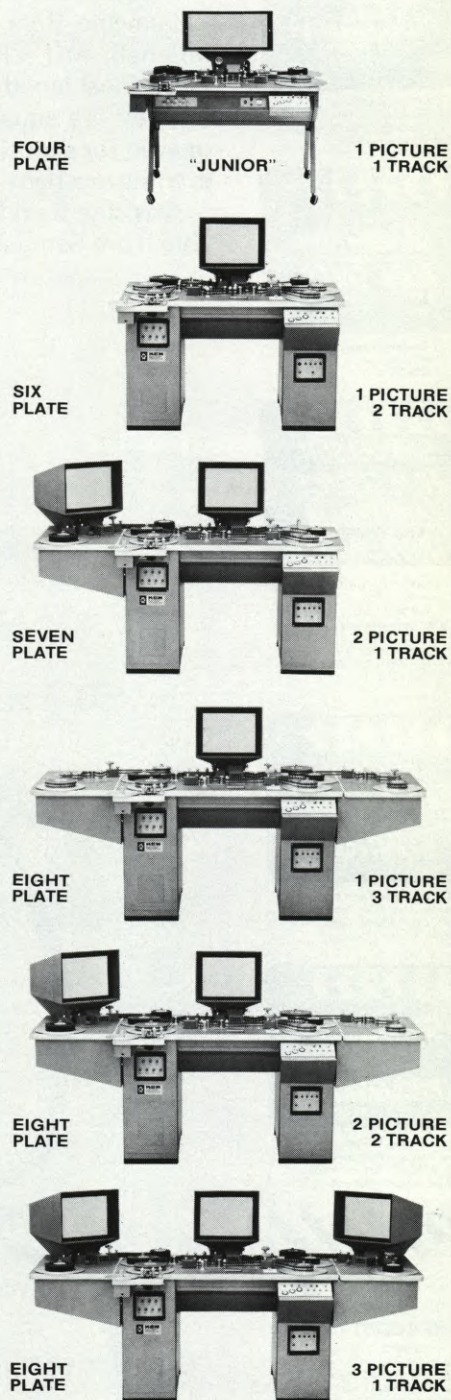
The Presley cult is more alive than ever. *INSIDE ELVIS* by Ed Parker, his friend, confidant and bodyguard, offers many fresh insights into his private and public life (Rampart House \$8.75). Sheila Jazmann's *ELVIS, COME BACK!* is a far-out fantasy about the possible medical resuscitation of the late performer (Chameleon Press \$8.75).

In *THE FREDDIE PRINZE STORY*, the life of the gifted performer is compassionately told by his mother, Maria Pruetzel, and John A. Barbour (Master's Press \$2.25). ■

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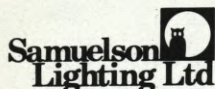
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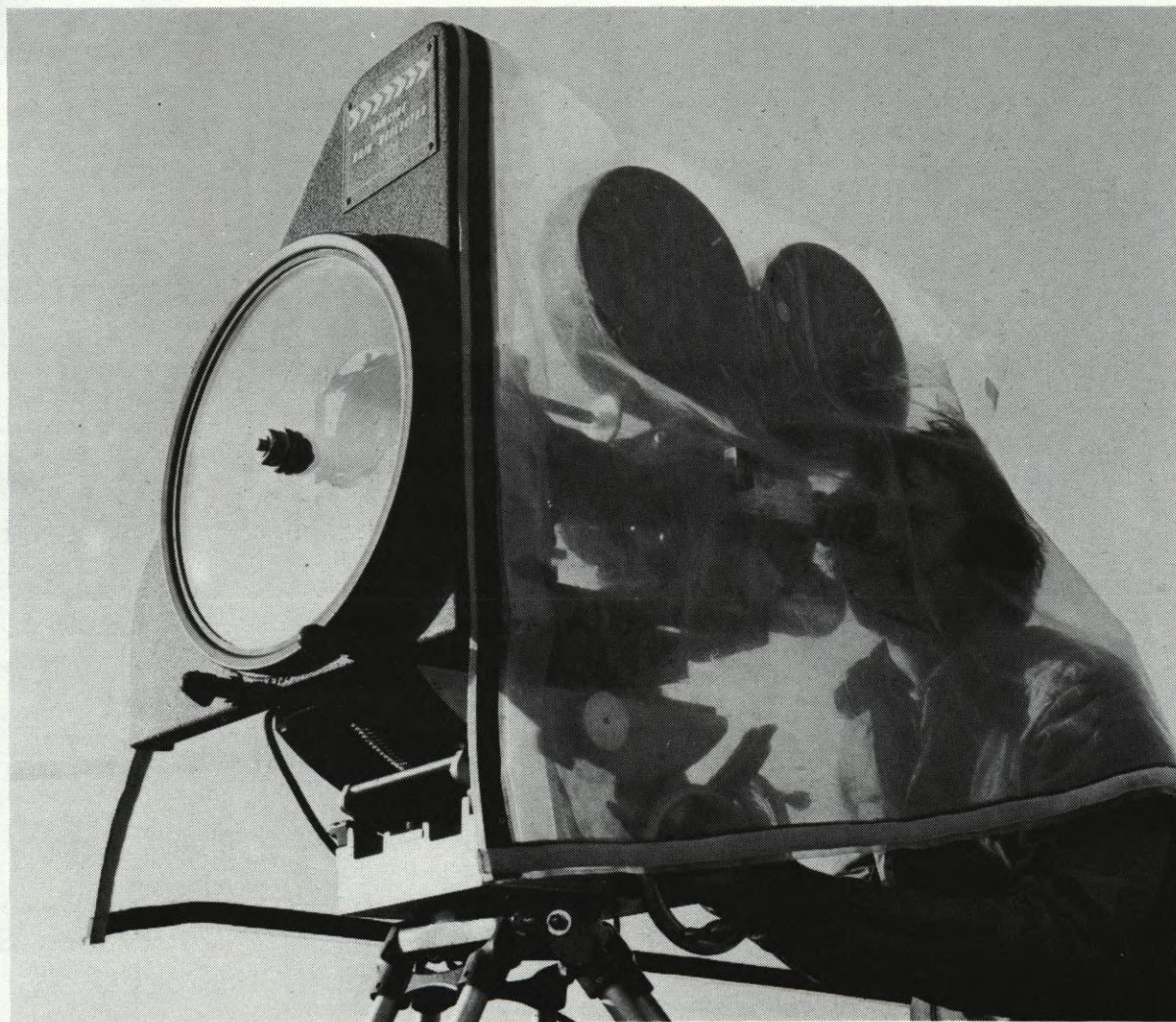
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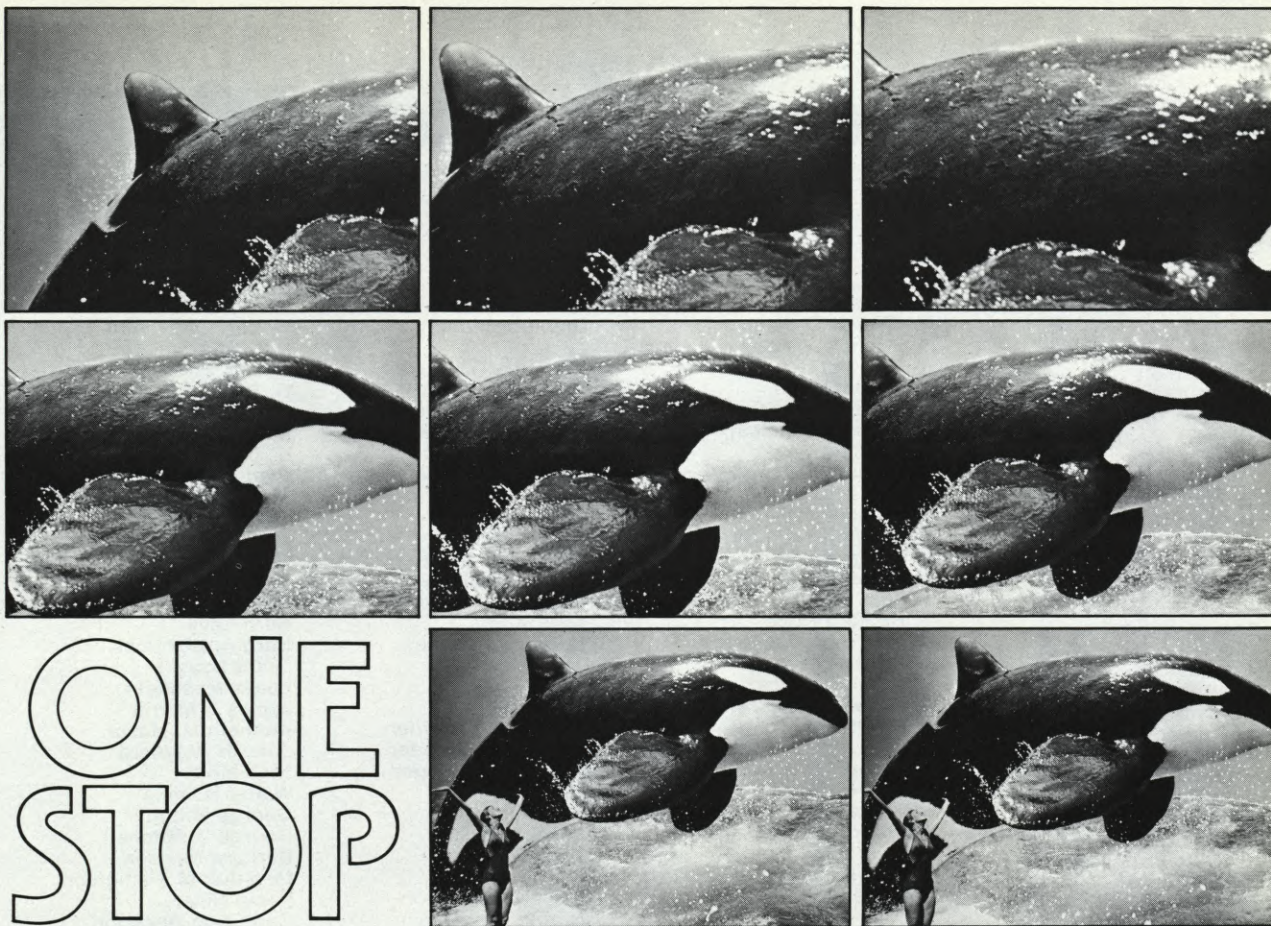
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BEHIND THE SCENES OF "HURRICANE"

Filming this classic love story that culminates in a cataclysmic tropical storm turned out to be a triumph of impossible logistics and spectacular special effects

When Dino De Laurentiis decided to personally produce HURRICANE, he decided that the only place in the world that would do the scope and magnitude of the romantic adventure story justice was the remote South Pacific island of Bora Bora.

Production began Monday, May 15,

1978 with Jan Troell directing Jason Robards, Mia Farrow, Max Von Sydow, Trevor Howard, Timothy Bottoms and newcomer Dayton Ka'Ne in a spectacular scene with more than 500 extras on a \$2 million set representing Pago Pago in the 1920's.

It was a significant day for De Lauren-

tiis, because HURRICANE was a project he had dreamed about producing for three years and at last it was a reality, but not without its share of difficulties.

Actually, a crew of 100 had arrived in October, 1977 to build the sets, begin making the costumes and supervise the shipment of equipment from all over the world to the small island of Bora Bora. Construction was started on the \$4.2 million Hotel Marara that would house the cast and crew of more than 150 from 15 countries who would begin to arrive in April.

All was proceeding on schedule until February, 1978 when a genuine hurricane hit the island and knocked down some of the sets and a few bungalows at the hotel. De Laurentiis himself flew to Bora Bora and personally supervised the re-construction of everything that was destroyed. Production began as scheduled on May 15.

THE CREW

Dino De Laurentiis put together one of the most diverse and talented crews in motion picture history for HURRICANE. They read like a "Who's Who" from international filmmaking. Director of Photography, Sven Nykvist, ASC, who won a special award at Cannes last year for PRETTY BABY, two-time Academy Award winner Danilo Donati who was production designer, first assistant Pepe Lopez, the best make-up men and women from Italy, a script girl and sound crew from England, a camera crew from Sweden, mechanics from Germany, American Glen Robinson, who worked on the original HURRICANE in 1937 to handle special effects with Joe Day, and numerous others from 15 countries.

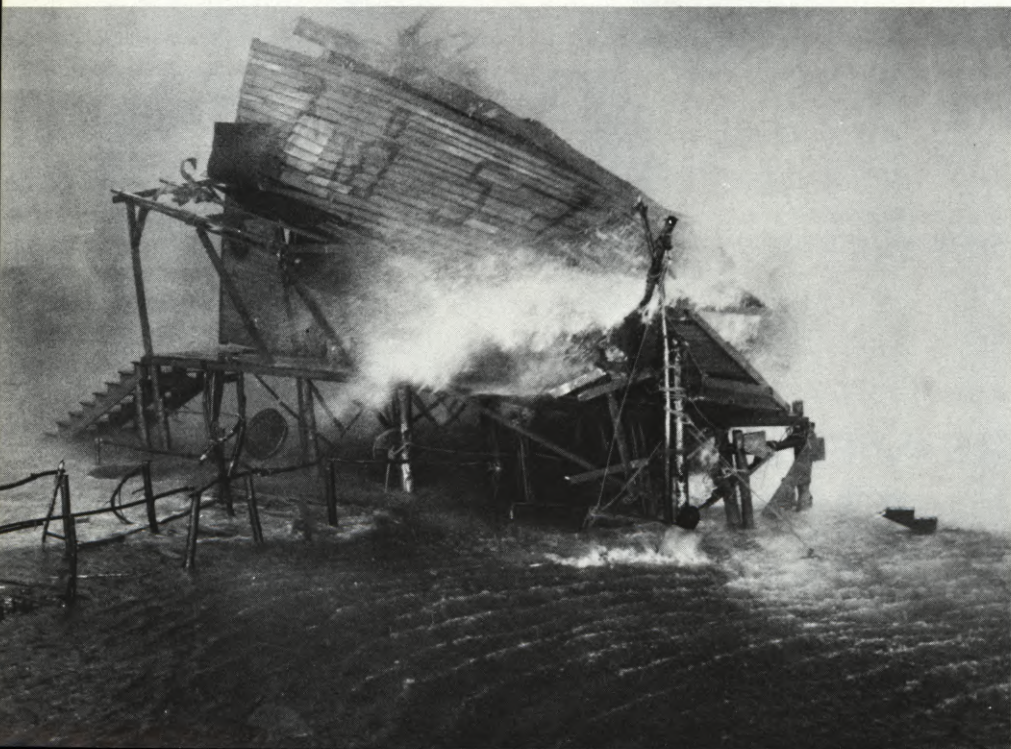
THE SETS

Five spectacular sets were built at a cost of more than \$7.5 million for HURRICANE, which is set in American Samoa in the 1920's. They include the town of Pago Pago, built on 40 acres, a governor's mansion, a unique French chateau that collapsed on cue, a Samoan village constructed on a 21-acre *motu* (a sand-covered coral reef), a cathedral with a moat around it so water could rise on cue and a 160-foot-square special effects tank used for most of the hurricane sequences in which the actors were involved.

Most of the sets had actual interiors for



Scenes from the Dino De Laurentiis production of HURRICANE. (ABOVE) Polynesian natives celebrate the crowning of a new young chief. (BELOW) The full fury of the hurricane strikes, smashing the island's general store to pieces. The story takes place on Pago Pago, American Samoa during the 1920s. The film was actually made in its entirety on Bora Bora, French Polynesia, including the enormously complex storm sequences.





The scenic splendor of Bora Bora and the colorful rituals of the natives combine to create scenes of extraordinary beauty on the screen.

filming because many of the buildings doubled for dressing rooms and storage of equipment.

THE COSTUMES

All of the more than 5,000 costumes were manufactured on Bora Bora with the exception of the military uniforms worn by the male actors. The material was purchased in Hong Kong, shipped to Bora Bora where it was dyed, then bleached with designs and made into *pueros*—a piece of wrap-around cloth that men and women wear in Samoa. All of Mia Farrow's costumes were made by 20 seamstresses on Bora Bora. In many cases because of numerous takes, she had as many as eight copies of one dress because of rain sequences which called for her to be dry at the beginning of the scene. The most spectacular costumes were those used in a coronation sequence which utilized 500 extras in varied colored costumes designed by Academy Award-winning production designer Danilo Donati. And all of the hats were hand-made by local women.

Continued on Page 282



The banyon tree which was built full-size in tank constructed for the storm sequence on Bora Bora. Mia Farrow is the lady up a tree.



(LEFT) The natives huddle prayerfully in the church as giant waves threaten to inundate the island. (RIGHT) A boat, driven by wind and water, crashes through the wall of the church, sending the natives into a panic. (BELOW) The hurricane approaches its peak fury, toppling structures on the island and pounding them to rubble. Although filmed on distant Bora Bora, the giant man-made storm was superbly controlled by an army of expert technicians.



THE FILMING OF "HURRICANE"

By **MILTON FORMAN**
Technical Consultant

Staging and photographing the horrendous storm from which this film takes its name required the devising and implementation of a most intricate technology transported to a remote Pacific island

The decision to make a major, large-budget feature on Bora Bora, a small island in the South Pacific, required imagination, courage and determination. And this is what Dino De Laurentiis had.

HURRICANE was to be a remake of the very successful John Ford film made in the 1930s starring Dorothy Lamour and Jon Hall. The story was revised and updated in the screenplay by Lorenzo Semple.

The Island of Bora Bora provided an excellent location for the story which is set in this type of locale. Bora Bora is reachable from Los Angeles by an eight-hour flight by Jumbo Jet to Papeete, French Polynesia, plus a one-

hour flight in a very small plane and a twenty-minute ride by small boat.

Imagine the problems which had to be solved to prepare and execute all of the requirements necessary to produce a film of this scope. This is an area which, in addition to offering lovely locations, also presented the following problems: The island had a long and intense rainy season which left the ground covered with six to twelve inches of mud. During the dry seasons, almost every day started with short but strong rains and storms and the humidity bordered on 100 percent around the clock. When there were no storms and rain, the sun was brilliantly strong. The roads, being dirt,

were covered by a layer of slippery mud. The nearest small city was Papeete on the island of Tahiti, and it could only be reached by small boat and then a small plane with a total travel time of one-and-a-half to two hours. The labor supply in Bora Bora was very meager and the local people had no industrial experience. The living quarters were totally inadequate to house the cast and crew.

It was in this Polynesian Paradise that Dino De Laurentiis filmed HURRICANE.

A charming Polynesian-type hotel was built utilizing an Italian set designer and Art Director and, under the supervision of an Italian crew, superb sets were built of the town of Pago Pago.

With the help of a skilled engineer, Michel Trebel, from Papeete, a 140-foot by 140-foot tank was built with a backing 40 feet high by 160 feet wide. The problems of lighting this tank will be discussed later.

Lighting, camera, grip and special effects equipment had to be specified, purchased, designed, built and transported to this out-of-the-way paradise, and all with a defined start date for principal photography. A cargo ship was purchased to transport all of the equipment, including all of the special effects equipment manufactured in Los Angeles.

Despite all of the problems, once the date for principal photography was set, we started on schedule and the principal photography was completed on schedule.

This was due to a superb crew and an extremely patient and forbearing group of actors and actresses. But, most of all, the schedule was met because of the simplicity and thoughtfulness of the director, Jan Troell, and the talented Director of Photography, Sven Nykvist, ASC, who made every difficult shot simple and meaningful. Special mention must also be made of the excellent First Assistant Director, "Pepi" Lopez. All, of course, under the pressing supervision of Producer Dino De Laurentiis who participated in all decisions, no matter how minor.

LIGHTING PROBLEMS

The most difficult lighting problem we had was the shooting of the day sequences in the tank, particularly the storm and hurricane sequences. During the planning of the film, this problem was discussed in detail and two approaches

Oscar-winning Director of Photography Sven Nykvist, ASC, and Director Jan Troell plan a HURRICANE sequence for filming on the island of Bora Bora in French Polynesia. Their basic equipment, as shown here, included the Arriflex 35BL camera, the Todd-AO zoom lens and the Fisher dolly. All of the major filming equipment was purchased and was specially selected to meet the demands of this filming assignment.



were decided upon.

The first stage was suggested by Dino De Laurentiis when he was studying the STAGE AND STUDIO SURVEY published by the Motion Picture and Television Research Center of the AMPTP. The book described a portable "balloon" stage, first used in Germany, which had a plastic diffusion material as the roof or ceiling. This would permit shooting during the day, despite the strong sun which would normally create problems. We ran some tests and confirmed that it was possible to adequately diffuse the sun so that the storm and rain sequences would be "shadowless".

The problem was how to support a plastic "roof" which had to be strong enough to withstand the 50-to-100-mile gales to be created by the special effects crew. The Italian construction supervisor assured us that the telephone poles which would be installed around the outer edges of the tank would be strong enough. We designed a plastic "ceiling" made of long strips of plastic, five feet wide and supported by a grid of 1/4-inch cable strung from the telephone poles. The plastic strips overlapped each other by 4 inches so that the strong sun would not cast shafts of light between the strips.

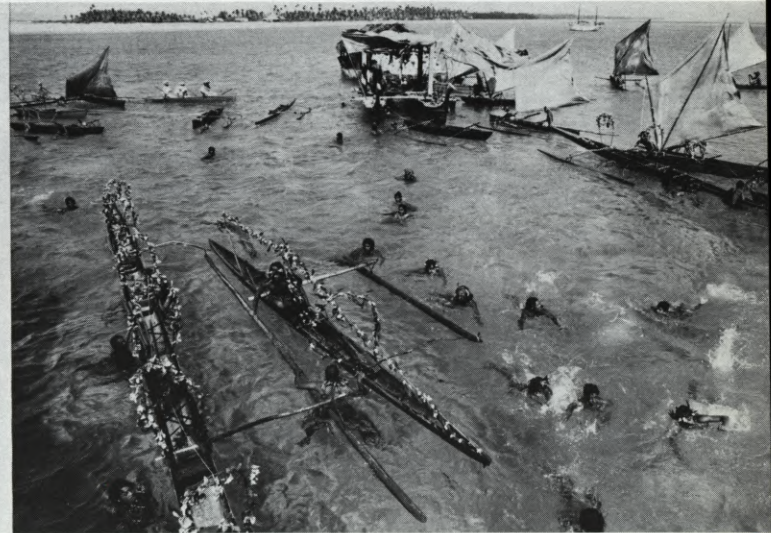


Going slightly native, Nykvist wears a Polynesian wreath on his head—quite a switch for a Swedish Viking type. His assignments completed just prior to shooting HURRICANE included PRETTY BABY, KING OF THE GYPSIES (also for Dino De Laurentiis) and Ingmar Bergman's AUTUMN SONATA.

The light effect was perfect. The only problem was that the stresses on the telephone poles were so great that they began to bend. Fortunately, the test was discontinued before any failures took place. This type of lighting would have ended in disaster if it had been used.

BOUNCE LIGHTING SYSTEM

Fortunately, we had simultaneously prepared an alternative system. In our original discussions, Sven Nykvist said that he would like to shoot the day storm sequences at night. He asked whether
Continued on Page 284



(ABOVE) Bora Bora, which James Michener called "the most beautiful island in the world" (and which is said to have served as the model for Bali Hai in his *Tales of the South Pacific*) provided an idyllic setting for the production of HURRICANE, but getting there required an 8-hour flight to Tahiti from Los Angeles, a one-hour flight in a small plane and a 20-minute boat ride. (BELOW) The man-made hurricane created for the cameras looks almost as ferocious as the real storm that struck prematurely and wiped out some sets.



A CINEMATIC ADVENTURE WITH DAVID LEAN

By **GEORGE ANDREWS**

Producer, South Pacific Television


This crew of documentary purists, at first appalled by the Master Filmmaker's use of "studio" techniques, ultimately discovers that working with him is like attending the world's greatest film school

I suppose it's typical of the way the film industry in a small country works that we should end up shooting a picture with David Lean because on a private visit to New Zealand three years ago he dropped his camera—an Eclair ACL.

The one firm specialising in cine-camera service in Auckland is also an adjunct to one of our best-known production houses. When word got round that a distinguished-looking Englishman by the name of David Lean had come to get his camera fixed, Manager Harry Reynolds and director Wayne Tourell were quick to introduce themselves.

The three soon became friends. The next weekend, Harry Reynolds took David on a drive through the fabulous scenery near Auckland and a year later, when Wayne Tourell was visiting California on a filmmaker's study grant, he visited David in Los Angeles.

Contact was renewed last January when David wrote to Wayne from Tahiti asking if he could arrange for a 16mm documentary film crew to cover the salvage of an anchor he had found off the coast of Tahiti. The anchor was believed to be one lost by the great Captain Cook,



Tahiti, the lush French Polynesian island paradise, was the locale of **LOST AND FOUND**, which started out to be a simple documentary about the discovery of Captain Cook's lost anchors, but ended up a full-scale production, directed and narrated by David Lean and written by Robert Bolt.



(LEFT) Discussion in the island shelter specially set up as headquarters for the salvage/shooting operation. (CENTER) David Lean in discussion with divers. (RIGHT) Co-producer George Andrews stands in for Eddie Fowlie on Fowlie's apartment balcony. (BELOW LEFT) Lean giving instructions to cameraman Ken Dorman and Fowlie. (CENTER) Dorman, Lean and Andrews during set-up of a shot. (RIGHT) David Lean shows scriptwriter Robert Bolt how and where to sit for a sequence in the film.





Filming Captain Cook's lost anchor where it was found on the ocean floor more than 100 feet beneath the surface. At that depth, the threat of sometimes-fatal "bends" prevented crew from working more than eight minutes at a time. The anchor was finally moved to 60 feet of water, which greatly diminished the danger and made longer shooting sessions possible.

(LEFT) The anchor on display at the "after-anchor-raising" party. (CENTER) David Lean greeting guests at the party. Since the anchor had remained lost for 200 years, its discovery caused great excitement in the world of those concerned with such things. (RIGHT) The final scene of the film, shot at Papeete airport, involved Robert Bolt, David Lean and Eddie Fowlie.

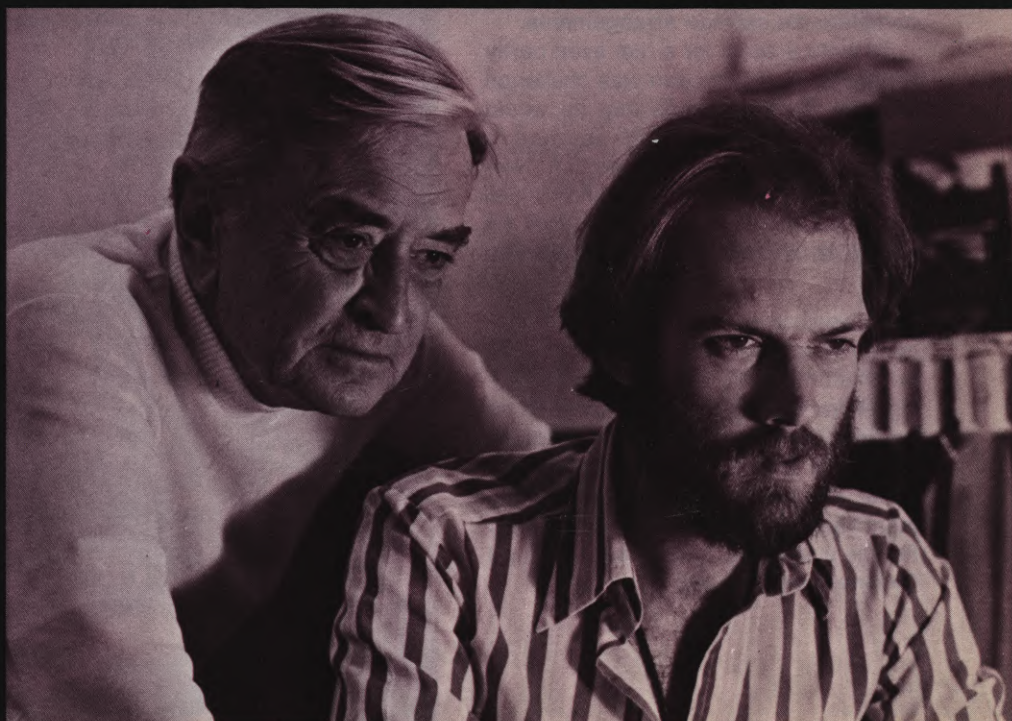


more than two hundred years ago. David Lean had discovered its whereabouts during the course of his research for two epic films he is planning on the saga of MUTINY ON THE BOUNTY.

By then, Wayne was working with me on South Pacific Television's documentary team. Certainly we could provide a documentary crew for David Lean, but why not, Wayne suggested, build the filming up to something more than four or five minutes of salvage footage? There were the fabulous Tahitian locations, the stories of the earlier "Bounty" films, the historic appeal of Captain Cook, and the magic of David Lean's own name. We could do a co-production that would provide us with a documentary for our New Zealand network and David Lean with a movie to promote his big features.

David liked the idea. Ten days later Wayne and I were in Tahiti with the New

David Lean, shown here with film editor David Reed in one of South Pacific Television's Auckland cutting rooms, where he spent three weeks cutting LOST AND FOUND. An enormously talented film editor who began his film career in that capacity, Lean worked on a flatbed editing console for the first time during the course of this project.



Zealand diver and marine historian Kelly Tarlton, who had been invited up to check on the authenticity of the anchor. One dive down to the anchor, buried in coral a hundred feet below the surface convinced Kelly that David had made a major discovery—this was almost certainly one of three anchors lost by Cook during his escape from near-shipwreck on a reef off the coast of Tahiti in 1773. What's more, there was every possibility that there were two more anchors to be found nearby. Kelly would be delighted to lead the search and salvage operation in person.

Wayne and I were now convinced we had a first-rate documentary story on our hands. After re-constructing the events leading up to the loss and discovery of the anchors we could then take up the search for the two anchors still unaccounted for, and the eventual salvage of whatever was found.

David Lean was most encouraging when I met him to outline our ideas. He would happily help finance the documentary, but was too tied up with his features to become involved himself. However, he would like to mention two things. The first was that the moment when the anchor stirred from the ocean floor for the first time in two hundred years was "tremendously exciting" and that we should make sure we filmed it properly. The second was who did we think would narrate the film? This, too, would be very important.

By then, I had known him just long enough to make the suggestion I think he was after. "Why not do it yourself?" I offered. He has a rich voice, full of emphasis and character. "I'd be delighted," was his reply.

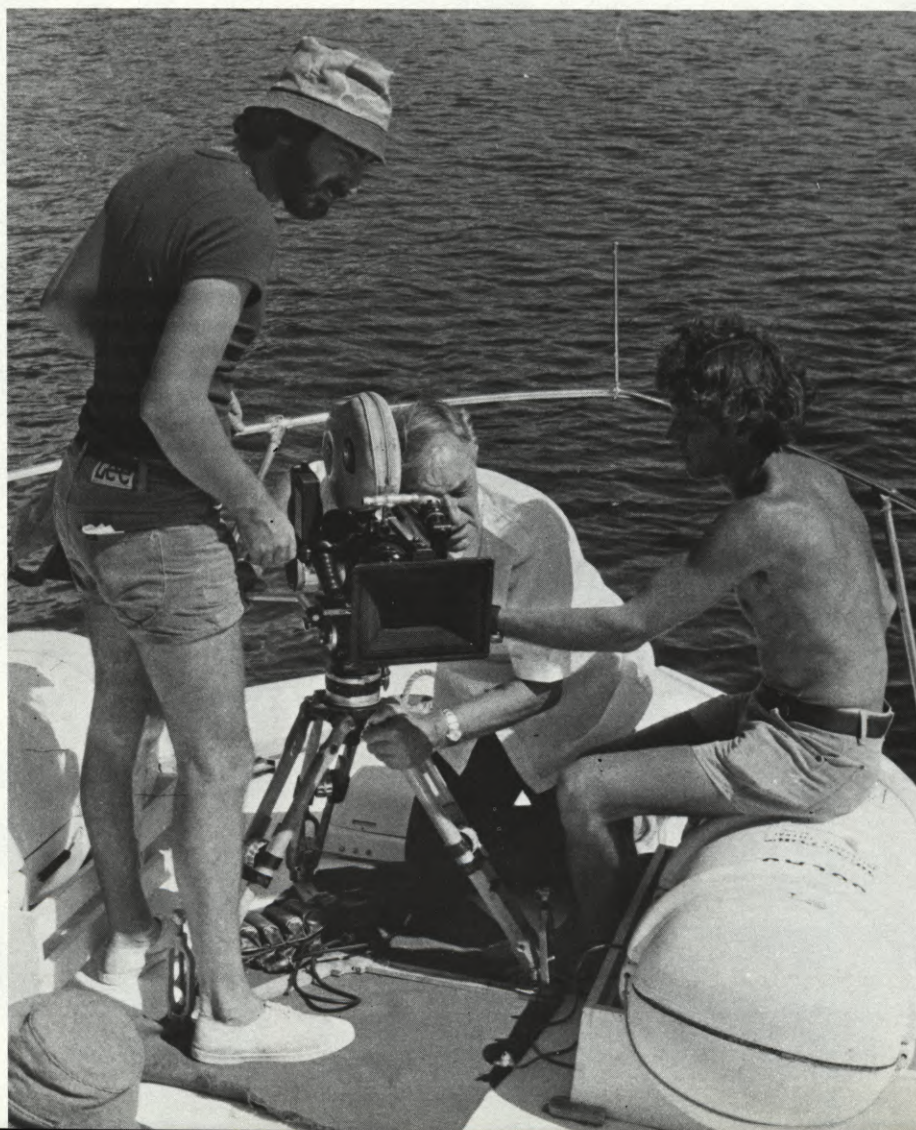
And that was it. I was to go back to New Zealand to write a script, and filming would start as soon as Kelly Tarlton could complete his salvage arrangements.

To write a script for a film even partly produced by David Lean was challenge enough. To write words that he would actually deliver himself seemed a scarcely conceivable presumption. Nervously I sent my completed effort off to Tahiti with the earnest request that he should let us know at once if he didn't like it.

No word came. By then, our arrangements were complete. Our team would number only seven. David Lean was paying all transport and accommodation so we kept it as small as possible. Wayne Tourell as Director and myself as Producer, Ken Dorman as our sole cameraman, Hugh Cleverly as sound recordist. For the underwater sequences which we
Continued on Page 303



In the middle of the jungle (harking back to "mad dogs and Englishmen") David Lean sets up a shot. (BELOW) Lean checks out the composition for a shot of himself with Ken Dorman. Lynton Diggle, borrowed from the New Zealand National Film Unit to serve as underwater cameraman, doubles here as topside focus-puller.



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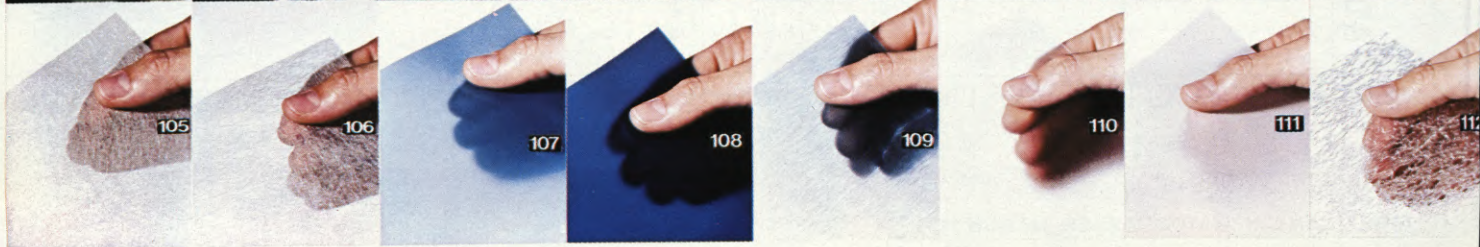
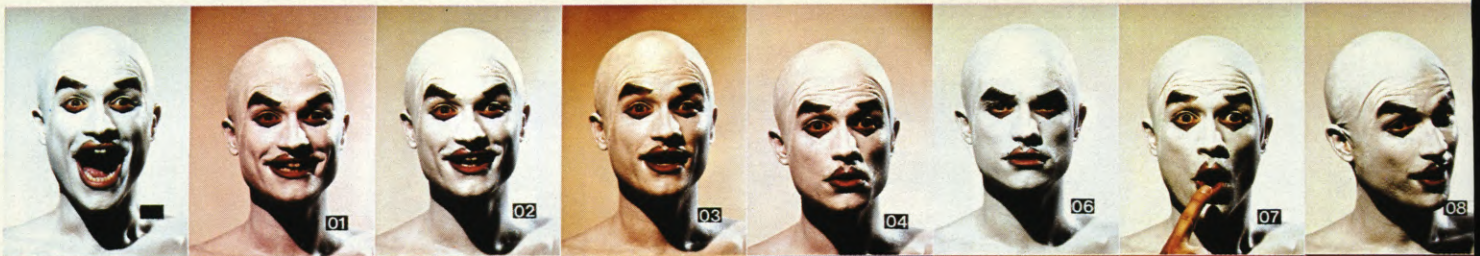
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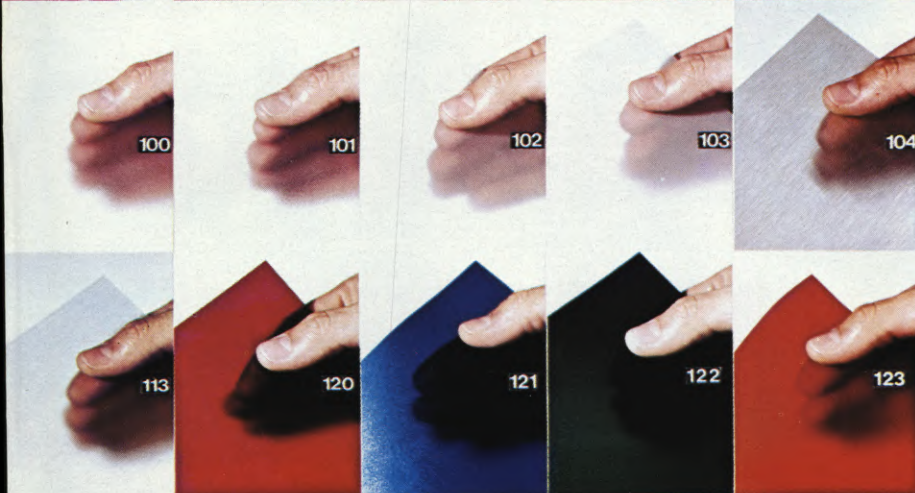
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All 103 Roscolux filters are represented here in the same order as they appear in the swatch book.

The mime was used to illustrate the color variations the Roscolux system gives you. His face and background were lit with the color filter indicated. A white light was used throughout at the right rear (except the top left frame which is entirely clear white light). Roscolux Diffusion filters are shown in the last 18 frames.

*Mime: John Sanderford, Make-up: Bob Kelly
Photos: Bernie Gold*

REPORT FROM THE NEW ZEALAND FILMMAKING SCENE

Revisiting New Zealand, American Cinematographer Editor tells of a magnificent new filming complex, a new Motion Picture Academy and a revitalized feature film industry

By HERB A. LIGHTMAN

WELLINGTON, New Zealand

The nation of New Zealand, composed of two large islands, has a population of 3,130,000 . . . Throughout the country there are 12 theatres equipped for 70mm projection, and all of these also screen in 35mm. A number of other theatres, basically equipped as 35mm houses, also screen in 16mm. The total number of commercial theatres is 182, with a seating capacity in all theatres of 119,000 . . . The number of spectators per year is 15,035,000 . . . No features for cinema release were produced locally during 1973-76. In 1977-78 four were produced, and one of these was a New Zealand/Australia co-production . . .

I review the above items on the fact sheet before me as the aircraft begins its descent into the lush green of the countryside surrounding Wellington airport. These items are pertinent to the reason why I have flown here non-stop all the way from Los Angeles, but that reason had its genesis a couple of years ago in Iran (during happier days for that beleaguered nation). On the shuttle bus, while riding back to the Intercontinental Hotel from a late-night screening of the Tehran International Film Festival, I had found myself seated next to an affable gentleman who introduced himself as David H. Fowler, Manager of the New Zealand National Film Unit. In the course of our chat I remarked that I had been to Auckland a couple of years before and had gotten the impression (during my very short stay) that there was no feature production in New Zealand—only commercials and documentary films.

"That's basically true as of now," he said, "but the situation appears to be shaping up to a change. When it happens, I'll let you know."

And so he had—in the form of a letter telling me that, since we last met, a New Zealand Film Commission had been formed, the New Zealand Academy of Motion Pictures had come into being, four feature films (one of them an Australian co-production) had been made in New Zealand during the past year, and now the National Film Unit's new Fairway Drive Studio Centre was about to have its official opening ceremony. Would I come to Wellington to be present for the grand occasion and also to see for myself how far the New Zealand film industry had

progressed of late? I would.

And so it is that I find myself touching down on the runway of Wellington Airport on a sun-drenched day right out of the travel brochures. David Fowler is there to meet me and with him is Tom Williamson, Chief Producer of NFU. Their welcome is warm and cordial.

Off With The Old . . .

David Fowler suggests that on the way

into town we stop off at Miramar, where NFU's current base of operations is located.

"I think it will be valuable for you to see where we're coming from before we take you to see our new complex," he says. "It will help you to appreciate what a step up these new facilities represent to us."

Miramar, located about six miles from Wellington's commercial center, consists of a basic sprawling red brick build-



Then and now. (ABOVE) Movie-making with hand-cranked cameras in 1930. A camera crew from Filmcraft Ltd., the company that preceded today's National Film Unit, is shown on location at Rotorua making a tourist promotion "movielogue". (BELOW) During frosty August weather, in the Central Otago area of Bendigo, New Zealand, a National Film Unit crew prepares to shoot scenes for the screen adaptation of James K. Baxter's *JACK WINTER'S DREAM*.



ing which has had numerous sheds and extensions tacked onto it during the half-century that it has served as the base for the production of NFU films. Moreover, several private residences on either side have long since been commandeered to house the overflow of personnel and equipment. One of these buildings even has a flatbed editing console ensconced in its bathroom, I'm told.

Miramar's main building, on the inside, is an intriguing rabbit warren of passages and stairways leading to improbable cubbyholes and drafty sheds that have served for decades as non-soundproof shooting stages. Much of the equipment has already been dismantled and shipped to the new headquarters, so that the whole place has the rather forlorn air of a much beloved old house on moving day. Yet it is easy to tell from the attitudes of the remaining personnel that they harbor great affection for this dowdy old girl. They have sweated and shivered within her less-than-comfortable confines for many years and turned out some monumental film epics in the process. "I don't know how we did it here," several of them remark to me.

"It will be about a month before we're fully moved to our new complex," Fowler tells me. "In the meantime we're sort of running back and forth between the two locations in order to get things done."

On into "beautiful downtown Wellington", a truly attractive harbor area that reminds me somewhat of several other places—a little bit of Hong Kong, a little bit of Sydney, just a touch of Southern California. The latter impression, reinforced by the currently balmy weather, leads me to change into California casual slacks and a colorful Hawaiian shirt, once I have registered at the James Cook Hotel. When I walk into the hotel dining room for lunch, I am the only man in the place who is not wearing a jacket and necktie. I had forgotten how formal New Zealanders are, as compared to hang-loose Californians.

That evening I manage to get myself together in halfway subdued (though unaccustomed) gear to have dinner with David Fowler, Tom Williamson, Michael Roberts (General Manager, Tourist and Publicity Department) and Bill Sheat (Chairman, New Zealand Film Commission).

It strikes me as a bit odd that the National Film Unit should function as a division of New Zealand's Tourist and Publicity Department, but Mr. Roberts points out that such has been the case since 1907, when the government, perceiving motion pictures as a technical novelty that would confirm New Zealand's up-to-

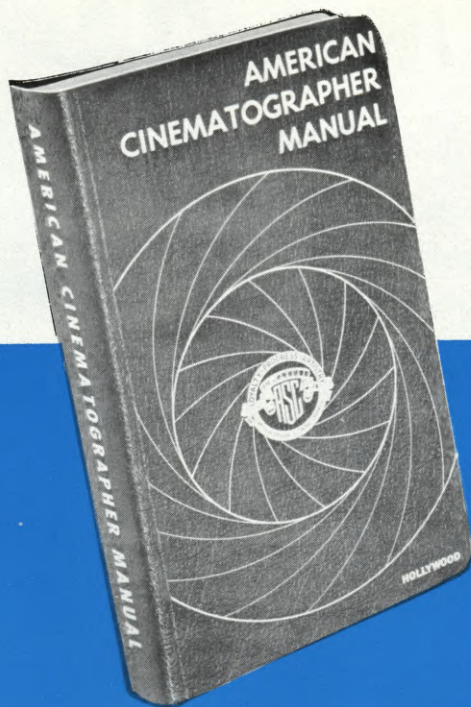
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Camera crew films New Zealand's Prime Minister, Robert Muldoon, as he arrives at the National Film Unit's new \$10.5 million Fairway Drive Studios to take part in the opening ceremonies.

At official opening of the Fairway Drive Studios, Head of the National Film Unit, Manager David Fowler (left) talks with Mayor of the City of Lower Hutt, John Kennedy-Good (2nd left) and New Zealand's Prime Minister, Robert Muldoon (center) on set of the telemovie JACK WINTER'S DREAM. Prime Minister Muldoon opened the production/laboratory complex, and American Cinematographer editor Herb Lightman (2nd right) was among the guests.





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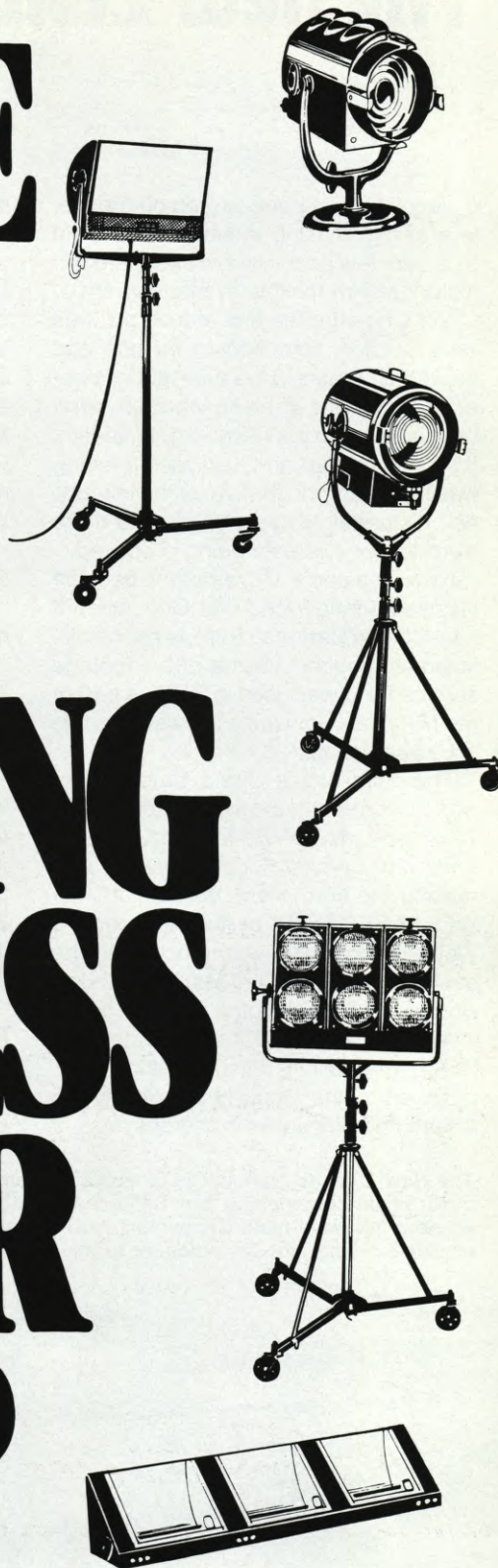
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THE NEW ZEALAND NATIONAL FILM UNIT

Metamorphosing through several incarnations during the past half-century, this government production group has used film to record New Zealand's history and tell its story abroad

Very little has been written on the history of film making in New Zealand. In fact, very few people know that there is a history of film making in that country.

Not long after the first motion pictures were publicly screened in Europe and the United States in the mid-1890s, cameramen in New Zealand were cranking their handles to put news events on film. It's believed that an Otaki race meeting was filmed around the turn of the century, and it's certainly true that by 1910 there were local newsreels being produced.

New Zealand's Government became involved during World War One, when it sent Charlie Barton to Europe as "official cinematographer". Some of his footage survived and was used in 1973 as part of the National Film Unit's television series "The Years Back".

The Film Unit's direct predecessor was Filmcraft Ltd, a company founded in Wellington by A.A.P. McKenzie in the early '20s. While Rudall Hayward was making the first, silent, version of "REWI'S LAST STAND" in Auckland and the Waikato, McKenzie was processing the movie film shot by Cyril Morton and Bert Bridgeman in Wellington.

Morton had joined the Government's fledgling "publicity office" in 1923. Then attached to the Department of Internal Affairs, the office was in the business of

making short films for local and overseas consumption. McKenzie's company provided the laboratory backup needed for such an enterprise.

After a fire in his Lambton Quay premises, McKenzie was advised to move "out of town", and he built a studio and processing plant in the eastern suburb of Miramar. His laboratory, display and advertising facilities were used by government and private interest alike—much as the Film Unit's facilities are used today.

The Depression saw a downturn in Filmcraft's fortunes. Morton stayed on as "Government film representative", but many of McKenzie's staff were laid off.

Filmcraft's principal client was the Tourist Department. For them, the company made travelogues, under Morton's guidance.

But by 1936, the pressure of meeting a weekly wage bill became too much for the company, and it was sold outright to its only major customer—the New Zealand Government. As the Government Film and Advertising Studios, under the Tourist Department, it took on a new lease of life.

For a couple of years the studios flourished, and then came World War Two.

A major film "ONE HUNDRED CROWDED YEARS", produced to mark

New Zealand's Centennial, was underway in late 1939. It was decided this would be completed, but there were no further plans to continue Government film production. It was possible that after "ONE HUNDRED CROWDED YEARS" the Miramar studios would close for good.

Stanhope Andrews, schoolteacher and writer, came forward to remind the Labour administration that it had in its hands a report on documentary film making by John Grierson, founder of the documentary school in Britain. If implemented, said Andrews, the report's findings on the value of state film production in wartime would be of inestimable value to the country's morale. To prove the point, Stanhope Andrews—with Cyril Morton's assistance—compiled and wrote a ten-minute film called "COUNTRY LADS".

A montage of newsreel shots of troop departures, "COUNTRY LADS" was distinguished by its low-key commentary (spoken by Andrews himself), its effective complementary use of narration and music, and its obvious sincerity. The very first film to be released with the presentation title "New Zealand National Film Unit", "COUNTRY LADS" so impressed members of the War Cabinet that Andrews was given the green light to proceed with his plans for revitalising the Government Film Studios, and making them an integral part of the war effort.

Andrews was appointed producer of the National Film Unit, with Cyril Morton as his assistant. Newly-recruited staff included Geoffrey Scott who, after Andrews' departure in 1950, was to become the Unit's Manager and Executive Producer for 23 years.

Under Stanhope Andrews' guidance, the Unit began production of "Weekly Review". No other series of films ever made in New Zealand has received such wide cinema exposure: from 1941 until 1950, the "Review" played in virtually all the country's movie theatres. Its subject matter ranged from items shot at the front by Unit cameraman attached to the armed forces to coverage of the New Zealand Cup shot at Riccarton.

At war's end, the Unit began looking at a wider range of subjects. Released from the pressure of supporting one major national effort, it turned its attention to a variety of them. Housing, rehabilitation, health services, hydro development:

The New Zealand National Film Unit's "Miramar" studios in Wellington. The center of government film-making for half-a-century, the studios were built in 1928 and finally vacated 50 years later. Expansion during that time led to the Unit's spilling over into one-time private houses adjacent to the main building.





Debric Multiplex black and white machines were the National Film Unit's mainstay processors at its old Miramar studios for 20 years. Despite its cramped quarters, less-than-soundproof stages and often less than adequate equipment, the studios served as a functional production complex that turned out a steady stream of films, some of which were extremely ambitious.

these were the topics of the day with which the Unit concerned itself.

But by the late '40s, the Unit's role was being seriously questioned. The opposition National Party claimed it was not so much part of the Government's information service as part of the Labour Party's propaganda machine. In the midst of the Unit's preparation for making a feature film length documentary on the 1950 Empire Games, came the 1949 General Election. National moved to the Treasury benches, and the Unit's operations were very quickly subject to close scrutiny.

In 1950, the Games film was released with considerable success—but *"Weekly Review"* whose marching men behind the titles had tramped across the nation's screens for nine years, ceased production.

The staple product, then, was gone. So too was Stanhope Andrews, who had resigned early in the year. His successor as head of the studios, Geoffrey Scott, was charged with having the Unit adopt a

more commercial policy, and putting it in the black.

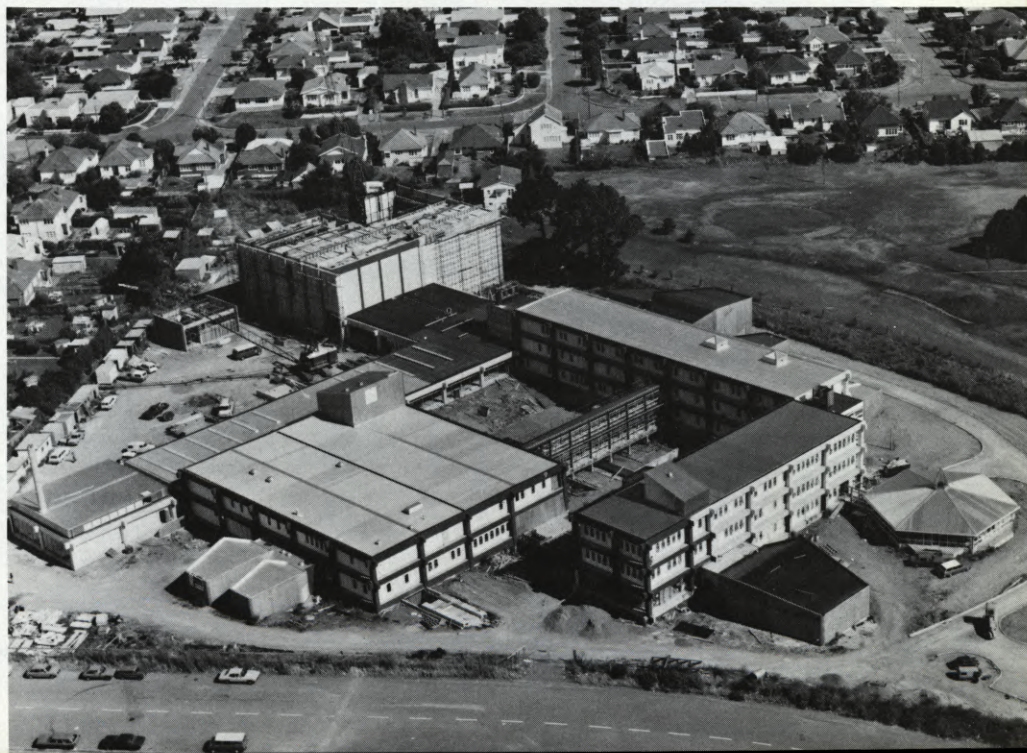
Two new series helped towards this—*"New Zealand Now"* and *"New Zealand Mirror"*. Both were successfully marketed in the United Kingdom, and some return on outlay was received. Tourist promotion films for overseas use were put into production, as a more outward-looking attitude emerged. Foreign use of the Unit's pictures increased.

Mainly for home consumption was the monthly magazine series *"Pictorial Parade"*, first issued in 1952. While covering a great range of activities in which the state was involved, it also included items of general and news interest. (Over the years its format changed, until by the time of its formal demise in 1972 the magazine approach had long gone: each 10-minute issue—in colour by then—was devoted to a single subject, and many were selling well overseas, together with the longer productions.)

The television-free days of the '50s saw cinema attendances rising in New Zealand, and even in the United Kingdom the small screen was not keeping too many people at home. Short films were still very much in demand.

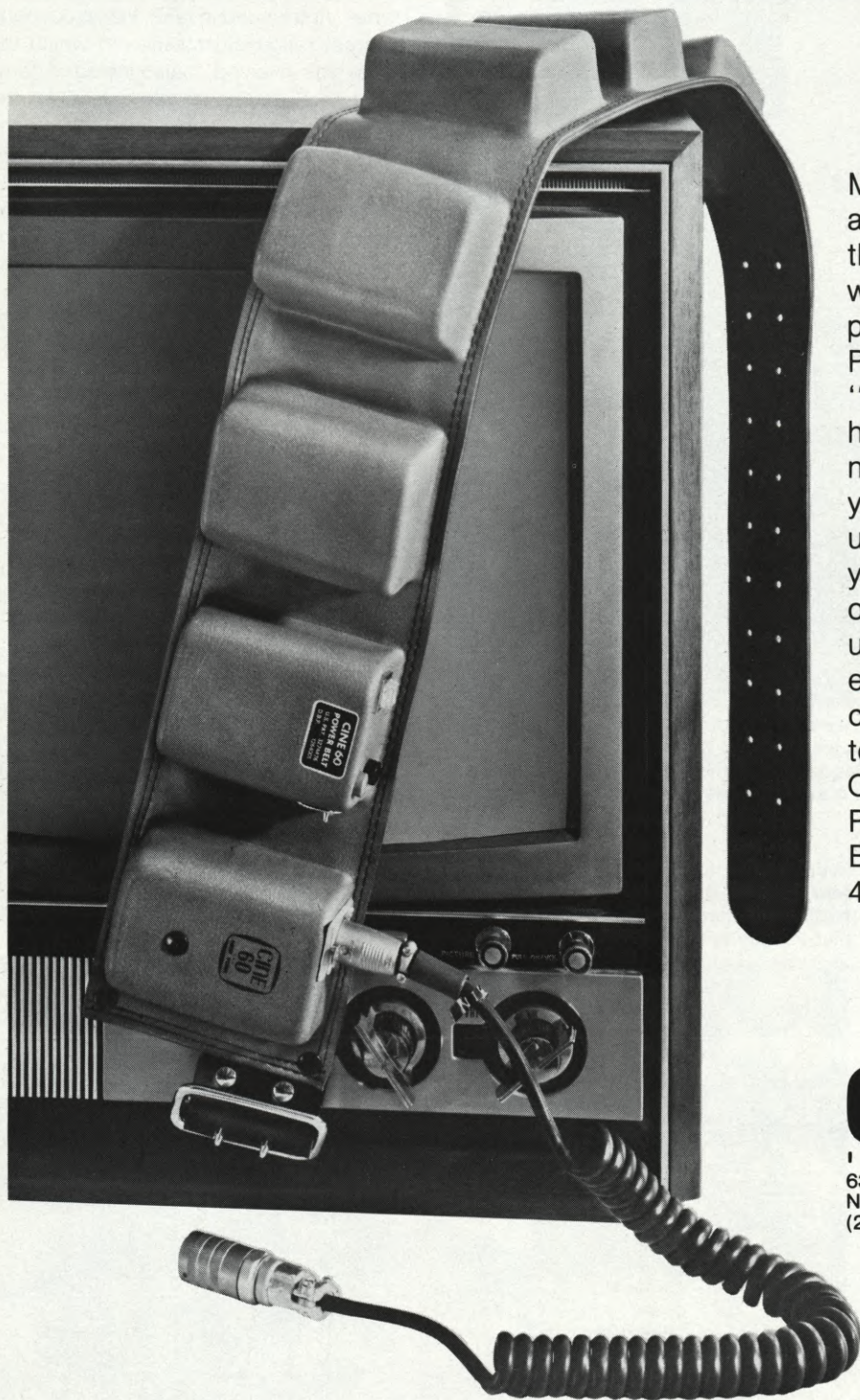
Some of the Unit's best began to be seen at international film festivals, and began to win awards. From the period, such productions as *"SNOWS OF AORANGI"*, *"THE SNOWLINE IS THEIR BOUNDARY"*, *"PUMICELANDS"*, *"JETOBATICS"*, and in a specialised field, *"THE TREATMENT OF CEREBRAL PALSY IN NEW ZEALAND"*, still stand as movies which extended the range and styles of New Zealand doc-
Continued on Page 299

In June, 1978, as shown in this aerial photograph, construction of the National Film Unit's new Fairway Drive studio complex in Lower Hutt, 14 miles north of the capital city of Wellington, had been underway for four years. It was completed four months after this picture was taken.



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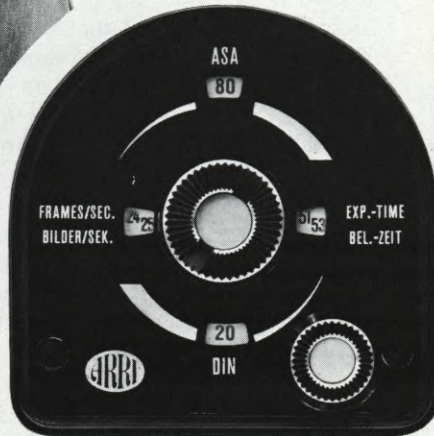
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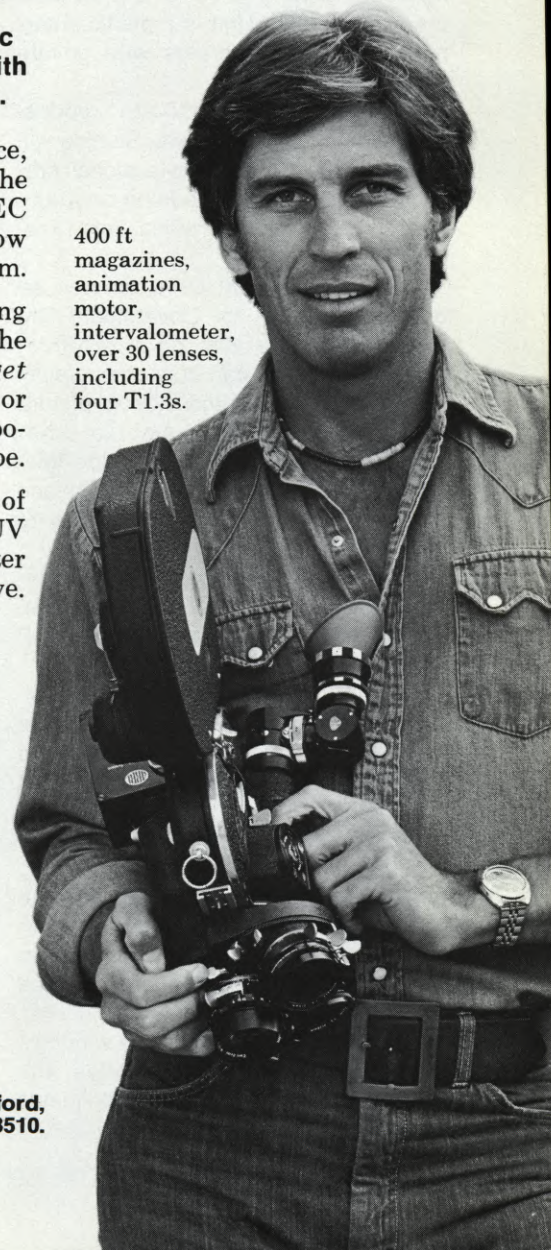
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THE NATIONAL FILM UNIT'S NEW FAIRWAY DRIVE STUDIOS

Actually a small city complete within itself, this splendid new complex, offering every facility and service necessary to create motion pictures, is set like a gem in the midst of lush countryside

The new National Film Unit complex, total area, 191,000 square feet, erected on a 6-acre site at Fairway Drive, Lower Hutt, constitutes one of the more advanced and comprehensive film production facilities in the world.

Film-making in New Zealand is a growing industry, and the Fairway Drive Studios with their sophisticated plant represent a considerable government investment.

The estimated total cost of this highly specialised complex of 17 building units is \$10,345,000 and at a rate of \$54 per square foot compares favourably with the cost of other public buildings at present under construction, such as the Beehive and Defence buildings in Wellington. The new Film Unit is considered to be an outstanding investment for the future.

Financed through the Tourist & Publicity Department, of which it is a division, the National Film Unit is a public enterprise. But it co-operates with private film-makers.

When not required by the NFU, production facilities at the Fairway Studios will be available to other professional producers. These include editing and dubbing suites, production offices and viewing theatres.

The National Film Unit, as well as being responsible for Government film productions, operates on a revenue-making basis and can now offer greatly increased facilities for motion picture production and processing to other agencies. These agencies include television, New Zealand film companies and overseas film companies wishing to undertake productions in the country.

One of the viewing theatres is a miniature cinema, with raked seating for 165 people. It is suitable for trade and VIP screenings.

The NFU's laboratory services are already used by other film-makers. More than half of the film processed by its laboratories is for commercial companies and the TV services.

Demand for these services is increasing. Consequently film processing arrangements at the Fairway Studios are designed to cope with increases in workload. Likewise, sound-recording and film and sound-editing facilities are designed to cater for growth in production.

Their purpose suggested by windows shaped like film sprocket holes, the studios comprise a complex of buildings

which includes a three-storey and basement Administration and Production Block (30,059 sq. ft.) including conference rooms and reception foyer; a 3-storey Sound Section and Production Editing Block (31,020 sq. ft.) including graphic design and titling facilities; a 2-storey and basement Laboratory Block (49,380 sq. ft.) including film vaults, film processing and testing facilities; eight individual theatres (13,882 sq. ft.) including theatres for sound mixing, music scoring, sound effects, production editing, laboratory test viewing and a main theatre seating 165 with access from the reception foyer for audience viewing of finished productions; a single-storey and basement Workshop Block (33,121 sq. ft.) including facilities for storage, camera repairs, electronic, electrical and laboratory plant maintenance, vehicle parking and actors' changing accommodation; a 40-foot-high Sound Stage (26,945 sq. ft.) including property workshops, property storage and facilities to stage large-scale productions; a Vehicle Maintenance Garage (946 sq. ft.); a Staff Canteen (2,659 sq. ft.) and a Power House (2,988 sq. ft.) with gas-fired total energy plant which generates electricity and uses waste heat from the gas engines to heat the buildings and the 40,000 gallons of stored water required for film processing. A 374-foot-long tunnel at basement level carries the main building services. Parking is provided for 90 vehicles.

The complex was designed and supervised by the Architectural Division of the Ministry of Works and Development.

The layout allows easy access between the different functions. A two-storey walkway links the laboratories with the sound and film editing block.

In the latter are the picture and sound editing suites, together with the sound recording theatres.

If modest by Hollywood standards, the Fairway Studios are the largest in New Zealand. Unparalleled in the country, the sound stage—it really *is* a stage—is 17.6 x 26.1 x 6.7 metres (58 x 86 x 22 feet) to the lighting grid. The music theatre serves as a second stage.

Unwanted sound is excluded or suppressed by various noise control measures. Throughout the complex a foam underlay reduces wayward sound level to a minimum.

Its enlarged and improved facilities are designed to meet the NFU's changing needs. At present the unit produces about thirty-two films a year.

Most of the NFU's films are documentaries. Many of these have won awards at international film festivals. They sell on several continents. Audiences range from 80 to 100 million.

Proposals for new studios were being made back in 1948, but it wasn't until 1968 that the brief for the Fairway Drive complex was begun.

Purpose-built studios allowed facilities to be designed to give maximum efficiency. Through the NFU's director of technical services, Mr M.J. (Mac) Ashley, the planners had the advice of practical film-makers.

Costs have been reduced by grouping together those areas which need air-conditioning, mechanical ventilation, the circulation of chemicals and so on. Multi-purpose ducts distribute cables, pipes and other services.

Natural gas enables the studios to generate their own electricity. A "total energy system"—the first in New Zealand—is based upon three 500-amp generators. Waste heat from the generators is used for heating the buildings and providing hot water for film processing. This unique total energy system is calculated to pay for itself in a dozen years.

Some of the "new" equipment for the Fairway Studios has been acquired during the five years the studios took to build. During that time a factor in the NFU's choice of any equipment was its suitability for the Fairway Studios, and spreading the NFU's re-equipment programme over several years allowed realistic budgeting.

Planning the best laboratory layout and work systems at the Fairway Studios took eighteen months. Mr David Appleby, the NFU's director of laboratory services, and his staff have 4,560 square metres (50,000 square feet) of floor space.

A full year's supply of chemicals may be stored upon the top floor of the laboratory block. Ten mixing-tanks each hold 1,000 litres.

Film is processed, printed and handled exclusively upon one floor. Ten 35mm and 16mm processors cater for the unit's and clients' needs.

Dump tanks and recycling plant are housed in the basement of the laboratory

block. Nearly 225,000 litres (50,000 gallons) of hot water for film processing are provided by a natural-gas exchanger. A boiler ensures an emergency supply.

Giving a full service, from processing "rushes" to post-production and release printing, the laboratories are planned for continuous operation. The block has two viewing theatres.

Vacuum and compressed-air systems rid the film-processing laboratories and the film-editing rooms of dust. Their air is

fully conditioned, and it's temperature controlled.

Although designed to create (in the words of the original brief) "a proper environment for creative work", the complex is strictly functional.

Despite containing some 250 rooms of various sizes, the 17 buildings comprising the studios form a compact complex. Yet each of the functional areas is self-contained.

As an earner of foreign currency, the

film industry is important to New Zealand. These new studios give that industry access to facilities that will keep New Zealand upon the world's screens.

Hard work and imaginative planning have given New Zealand's film industry a centre around which to expand. "The prospect before us is exciting," says the National Film Unit's manager David Fowler. "We want to see the Fairway Studios used effectively—both by the NFU and by other film-makers." ■

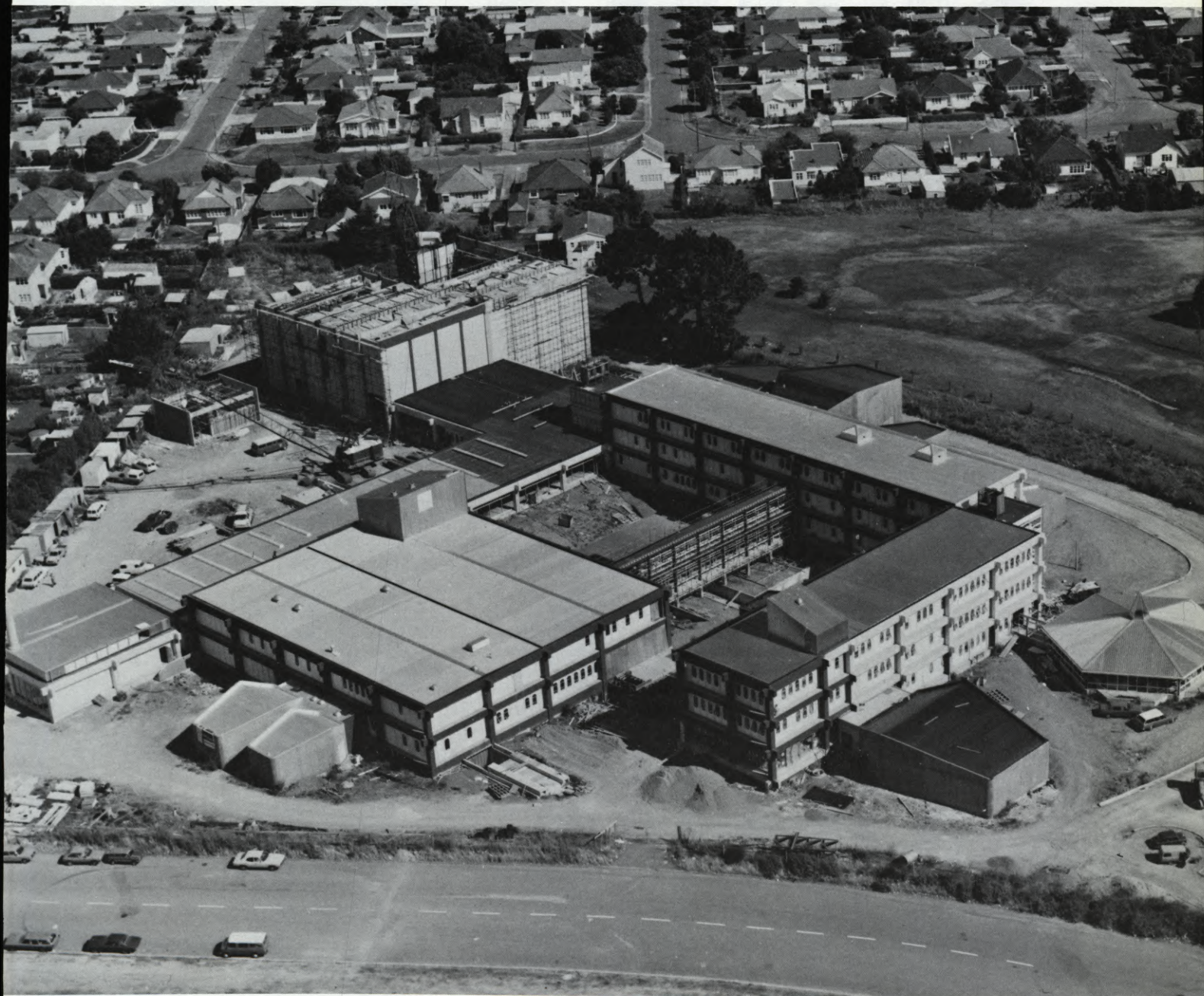
In June 1978, building of the N.F.U.'s new studios in Lower Hutt, 14 miles north of the capital city of Wellington, had been underway for four years, and was completed three months after this picture was taken.

Upper left is the Sound Stage, which came into use early this year. To the right of the stage is the camera, sound, editing, and art department wing, showing three dubbing theatres behind.

Right foreground are the Studios' main theatre, and the cafeteria. The laboratory block (with its own theatres) is centre foreground, and linked to the sound and editing wing by a two-storey walkway.

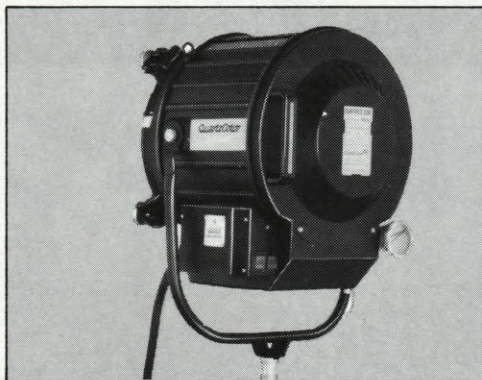
The natural-gas fed powerhouse—a total energy plant—is at the extreme lower left, and running up from the right of it are workshops and technical service areas.

The interior courtyard is landscaped, and the whole low-rise design is environmentally suited to the largely residential area in which the complex is situated.



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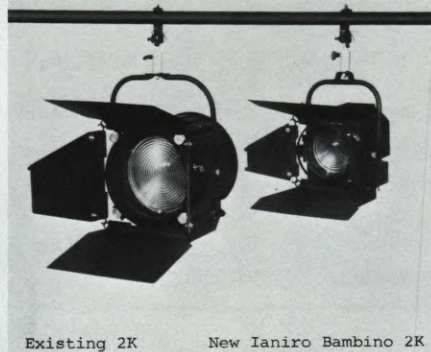
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WHAT'S NEW

Continued from Page 220

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NEW "BAMBINO" LINE OF FRESNEL LENS SPOTLIGHTS

A new line of fresnel lens fixtures is much smaller and lighter than any previous fixtures of this type.

The new units, manufactured by Ianiro in Italy, are called "Bambinos" because of their small size. They are available in 2000-watt, 5000-watt and 10,000-watt configurations.

The 2000-watt Bambino has a 6" fresnel lens and offers a light output approximately equal to 2K spotlights with 10" lenses. The 2000-watt fixture, model 3302, weighs only 14 pounds. (Previous 2000-watt fresnels weighed 21 pounds.)

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Two new models of electronic follow focus have been introduced to the Elicon line. Both models are designed to fit most

existing optical printers (aerial image lens or camera lens). The systems will hold the image in focus over the entire length of lens travel with amazing accuracy.

Model VE 1, employs the latest sophisticated electronic circuitry which assures repeatable, drift-free focus. Lenses from 9 mm to 300 mm can be accommodated by this unit. Due to its unique design, the follow focus system may be turned on and off at will without requiring re-initialization. In addition, a control has been added to correct focus for bi-packs and some liquid gates. The capability to do out-of-focus dissolves has also been added.

The second model, *Superfocus*, has all the features of the model VE 1 with the added flexibility of a precision lens positioning subsection. This subsection is divided into two parts; a variable speed drive which will move the lens at a predetermined speed, and an incremental drive which will move the lens a predetermined distance each frame taken, automatically. The incremental drive is controlled by a thumbwheel switch calibrated in hundredths of a millimeter. Each time the camera takes a frame, the lens will move the distance shown on the thumbwheels. This distance can be changed frame to frame or allowed to run for many frames at a time. Any distance from .01mm to 99.99 mm can be programmed into the system. A special linear transducer accurate to .002 mm is utilized to assure *repeatable* positioning so important in Matte Generation.

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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: L. B. "Bud" Abbott, Lloyd Ahern, Taylor Byars, Stanley Cortez, Victor Duncan, Linwood Dunn, Daniel Fapp, George Folsey, Richard Glouner, Burnett Guffey, John L. Hermann, Gerald Hirschfeld, Winton Hoch, Michel Hugo, Richard Kelley, Milton Krasner, Vilis Lapeniaks, Andrew Laszlo, Ernst Laszlo, Jacques Marquette, Richard Moore, Sol Negrin, Frank Phillips, Owen Roizman, Joseph Ruttenberg, Howard Schwartz, Richard Shore, Frank Stanley, Alan Stensvold, Mario Tosi, Ted Voigtlander, Harry Wolf, and Vilmos Zsigmond.

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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LIGHTING "GOIN' SOUTH"

By HAL TRUSELL

Gaffer

This talented cinematographer breaks many of the rules to achieve what he considers to be a completely natural style of lighting

In GOIN' SOUTH, his first American film since DAYS OF HEAVEN, Director of Photography Nestor Almendros brings his unique natural lighting style to that distinctly American form, the Western.

Preferring the shade without any supplemental lights as perfect in itself, and using the slightest, if any, supplemental lighting in twilight and sunlit scenes, he achieves a result of photography that makes him one of today's most sought-after cinematographers.

What makes Almendros and his films so particularly unique is his approach to cinematography based on his knowledge of the world's great painters, and his studies of their original works.

He sees light as a marvelous condition of nature to be appreciated and utilized whenever possible for its incomparable beauty. For interiors, if natural light is not available or sufficient, he designs the light to appear completely natural. This is done by utilizing the "natural" source, such as a table lamp at night, or window light during the day.

Once the source is established, the surrounding ambience, or fill, is then raised with very soft light, until the film reproduces for an audience what your eye would have seen naturally.

Nestor does not use back-light or top-light, unless it is from a bona fide source. To do so, he contends, is old-fashioned sophisticated studio lighting, and not the way light appears in reality.

It will come as a surprise to most, and a

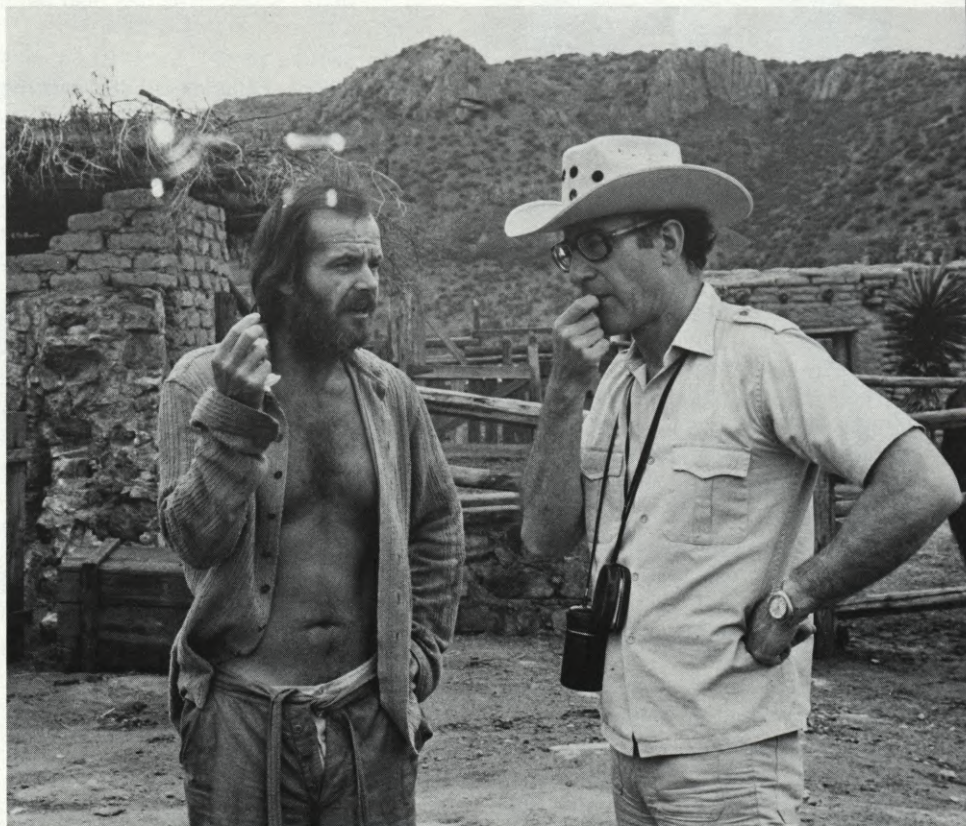
shock to many professionals, that Almendros very, very rarely uses a fresnel light, and then only for a special effect, (usually with a snoot).

Instead he lights with softlights, and the softer the better. This he says is the way light is found in nature—ambient—not controlled or limited. As for back-

lights, rim-lights, or kickers, he laughs and says, "Mother nature is the greatest gaffer, and she does not use kickers."

In fact the only term he uses of the Hollywood jargon is "fill". The rest, "key, rim, etc.", do not exist because of the unique way he sees light.

Nestor does all his lighting by eye. He



(ABOVE RIGHT) Jack Nicholson, director and star of GOIN' SOUTH, discusses a set-up with Director of Photography Nestor Almendros on location. (BELOW LEFT) Nine-lights and a giant scrim are brought into play to photograph porch scene on Durango, Mexico location. (RIGHT) Like a giant Chinese dragon, crew members and extras all pitch in to lift the 150-foot dolly run into position.



reads the meter only at the last moment to set the lens stop, taking the reading from the palm of his hand with a Weston Master V reflective meter.

Normally he rates 5247 at ASA 80 with a straight 85 filter. Tungsten is rated at ASA 125, and push one at ASA 200. He does not push two stops, but on GOIN' SOUTH he often pushed day interiors one stop and rated them at ASA 200 also (although he tells me he is less inclined to push interiors on his latest film, KRAMER VS. KRAMER, preferring instead to raise the intensity of the lights).

Characteristic of his approach to cinematography is his preference not to anticipate. He often prefers to watch the rehearsal and then discuss the dramatic presentation of the shot with the director before deciding on the lighting.

This moment-to-moment approach, I think, enables him to distinctly interpret visually the mood and design of the story that the director and actors are creating. And though there is not a scene-to-scene anticipation, there is a general conceptual approach determined beforehand that functions as the design of the film.

Nestor considers this conceptual design one of the most important contributions of the cinematographer, for it sets the tone of lighting and visual presentation for the entire film.

The design for GOIN' SOUTH was to appear completely natural—exactly what the eye would have seen in Texas, in 1868, prior to the introduction of electricity.

At night in a farmhouse, the light actually appears to be coming from the kerosene lanterns. During the day, the only light comes from the windows; either diffused and soft, or, at other times, hard and piercing. Deep in the tunnel of a gold mine, when the lantern goes out, there is simply no light—pitch black.

Except for a week of some gold mine interiors on a sound stage at Paramount, the film was photographed entirely on location in Durango, Mexico.

Filming under a brilliant Mexican sun, one would expect hard dense shadows that would have to be filled with reflectors, arcs, or some sort of light. But Almendros does not fight the natural light, he accepts it, marvels at its beauty, and uses it to enhance the visual interpretation.

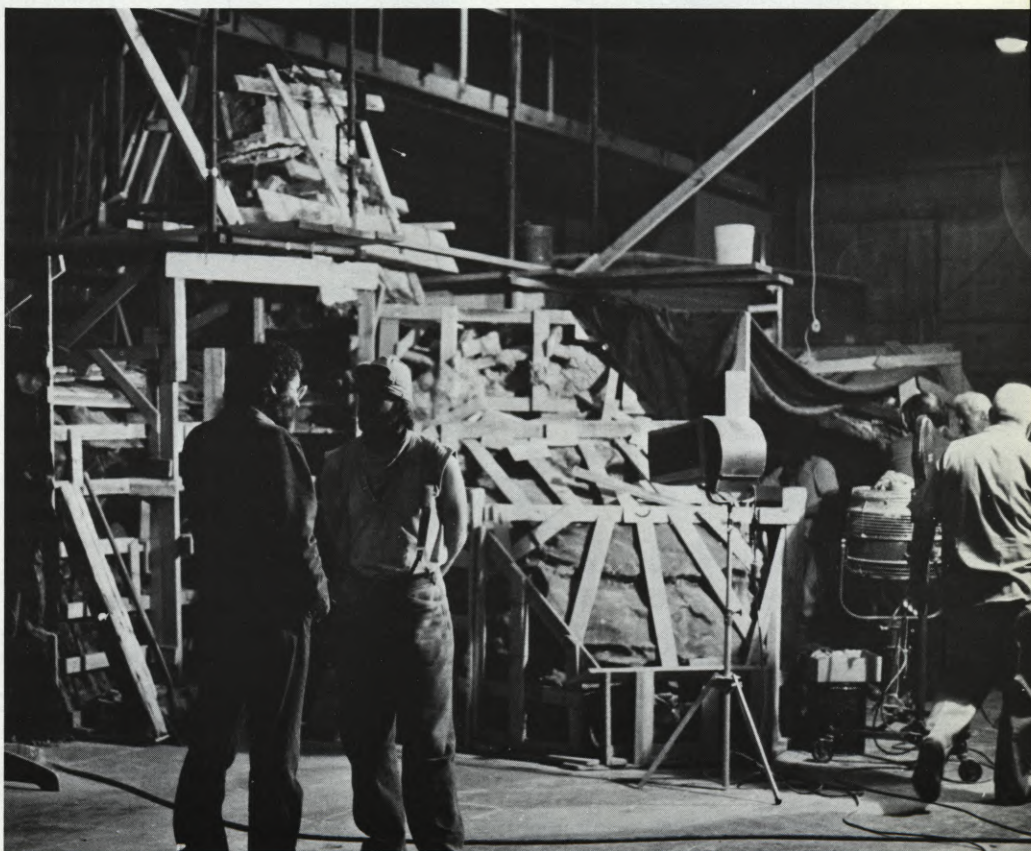
Those times when shadows were too dense or when we had to carry both sun and shadow in one shot, we usually used nine-light dichroics with one or two layers of Tough Spun and 1/2 Booster Blue as an overall slight fill. On closer shots we sometimes used white Styrofoam panels.

Continued on Page 276



Almendros reads the light from the palm of his hand, using a Weston Master V meter. He uses the meter to set the aperture only. He balances light by eye and never compares fill and key ratios. If it looks right or interesting, he shoots.

Producer Harold Schneider and Jack Nicholson next to the gold mine set on Paramount stage. Note 750-watt softlight with snoot made of showcard. Midway through the snoot was a double layer of Tough Spun and a 1/2 MT2 gel. The middle positioning of this diffusion allowed the "directioning" of the light more than an ambient glow which no snoot would have done. The lamp was always used with a dimmer and produced a directed, soft ambience, usually set at about one footcandle.



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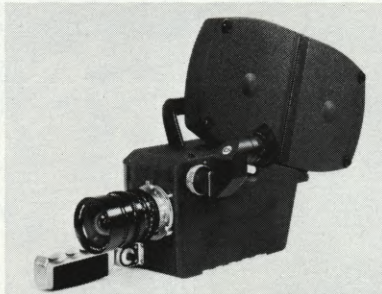
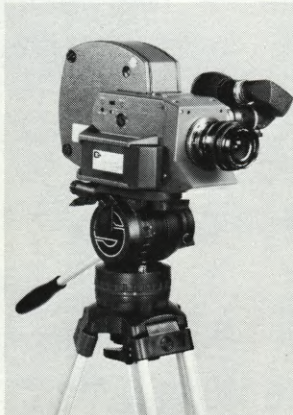
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Ultra T 9mm (T1.35) prime lens shown with "new generation" CP-16R/A 16mm single/double system sound camera.

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AN AMERICAN FILM INSTITUTE SEMINAR WITH JAMES CRABE, ASC

PART I

As perhaps the most important aspect of education for the Fellows in training as film-makers, historians and critics at its Center for Advanced Film Studies, located in Beverly Hills, California, the American Film Institute sponsors conferences and seminars with top technicians and talent of the Hollywood film industry. These men and women, outstanding professionals in their respective arts and crafts of the Cinema, donate generously of their time and expertise in order to pass on to the potential cinema professionals of tomorrow the benefits of their vast and valuable experience.

In keeping with this tradition, Cameraman's Local 659 (IATSE) sponsors a continuing series of seminars with ace cinematographers. These men—both contemporary working Directors of Photography and some of the now-retired "greats" of the past—meet informally with the Fellows at Greystone, the magnificent estate which is the headquarters of the A.F.I. (West), to present valuable information on cinematographic techniques and answer questions posed to them. Very efficiently introducing and moderating each of the individual seminars is "Emmy" Award-winning Director of Photography Howard Schwartz, ASC.

The dialogue which follows has been excerpted from the A.F.I. seminar featuring cinematographer James Crabe, ASC, whose theatrical feature credits include: ZIG ZAG, SWEET SWEET RACHEL, SAVE THE TIGER, RHINOCEROS, W.W. AND THE DIXIE DANCEKINGS, ROCKY, SEXTETTE, DEATH IN CANAAN, THE CHINA SYNDROME, PLAYERS and STRANGERS. Television "movie-of-the-week" features on which he served as Director of Photography include: THE AUTOBIOGRAPHY OF MISS JANE PITTMAN, F. SCOTT FITZGERALD IN HOLLYWOOD, THE ENTERTAINER, SISTER AIMEE and ELEANOR AND FRANKLIN: THE WHITE HOUSE YEARS.

Prior to the discussion which follows, A.F.I. Fellows attended a screening of SAVE THE TIGER.

HOWARD SCHWARTZ: I remember when I first met you. You were with Signal Productions and we were making commercials in 16mm.

JAMES CRABE: That's right. Nearly 20 years ago. I was shooting for a show called YOU ASKED FOR IT, and I also

worked part time for a company as a kind of production manager and gofer. It was a small commercial company, and at that time Howard shot one of our first jobs—a TV pilot for Tommy Tomlinson. In those days I was a magician. I really got started in show business somehow when I was very young—when I was 13 or 14 I was very interested in magic—and before too many years went by I was doing shows and appearing on television. I first worked on the YOU ASKED FOR IT show as an act, with the magic. They were starting to do film in those days but most of the show was live. I was also into film myself. I was an amateur filmmaker. I had a new 16mm Bolex and was processing my own film on drums and editing them. I said, "Gee, you're doing film; I'd like to go out and watch you guys shoot someday," thinking that it would be a big production with Mitchells and dollies and stuff, and I was going to go down and photograph the filmmakers at work. So I took my new Thalhammer tripod and my Bolex and some film down to Ocean Park beach where they were going to burn a guy up in a coffin—it was

a typical YOU ASKED FOR IT thing. As it turned out, I had the best outfit there. The old Filmo camera that they used was practically falling apart, so I was instantly recruited—free of charge—to shoot another angle for them. My shots came out O.K., so I said, "Well, maybe I can work with you again sometime." It was a very fortunate break for me. There was no union involvement at that time with the show. So I would go out with the cameraman, whose name was Murray Deatley, a very versatile guy who's still shooting and cutting film in town. He helped me get started. Shortly after that the show went from 16mm to 35mm, and so I got to learn about new equipment. If it had been a very sophisticated, organized show I never would have gotten the chance, but since they were starting with film, I got to go out and shoot. Also, I cut the negative for a very short while. At first, when they were shooting in 35mm they would reduce the film to 16mm for the workprint and edit in 16mm. I would first scribe the 35mm negative and the 16mm workprint for matching. Soon we started doing lip sync sound, double-

Cinematographer James Crabe, ASC, first broke into show business as a performer on the other side of the camera. As a very young teenager he appeared as "AUBREY THE MAGICIAN". His father (far right) assisted him in his act. Although he hasn't performed in years, he still retains his interest in magic.



system sound. The show bought an early Arriflex with a blimp, and that's how it started. Before three or four years went by I was doing more and more film and less and less of the magic.

QUESTION: When was that? In the mid-50s?

CRABE: Yes. Actually, I started working with YOU ASKED FOR IT, doing some film work, in 1952 or 1953, and then in about 1954—there was a union called NABET—they started a film local and I joined it. I was in NABET from the time that YOU ASKED FOR IT was a signator until I dropped out and joined IATSE. I worked with the YOU ASKED FOR IT show from 1953 until probably 1958 when they sort of conked out. I drifted around town a little bit. I had made contacts with people like Bill Burrud who does the travel shows; and I did documentary work with Wolper. Then a kind of a lean period followed in the late 50s. But I soon found myself doing TV commercials, mostly as a camera operator. Since there weren't many people who knew the gear head in that non-union and NABET area, I stayed pretty busy. Next, I got mixed up with a company called FilmFair. I've been with them since 1963, shooting commercials. It's a nice arrangement, and over the last eight years I've taken off from time to time and shot 18 feature movies for theaters and television. Commercials, I find, are a wonderful mainstay. It allows me to be a little selective about outside projects.

QUESTION: Could you talk a little bit about your working relationship with John Avildsen?

CRABE: Sure. I met John through the writer and producer of SAVE THE TIGER, Steve Shagan, with whom I had done two TV movies. When SAVE THE TIGER came up, John came to Hollywood. Steve introduced us and with their help I got the job.

SCHWARTZ: John Avildsen did JOE in New York.

CRABE: Yes, he shot it himself. When John came here from the East Coast he said, "Is it O.K. if I operate the camera?" And people would say, "I don't know about that, John. We'll have to check with the union." When I met John I said, "I think it'll be difficult to do, John, but we'll see," realizing that it probably wasn't in the cards but not wanting to present myself as an adversary to our relations in working. In addition, I couldn't be as enthused about John's operating as he

Continued on Page 278



Crabe got his start as a cameraman after appearing on the "YOU ASKED FOR IT" TV show and they asked him to run a second camera. After that he worked steadily on the show as a daredevil cameraman, willing to do anything to get a spectacular shot. (BELOW) He felt like a professional when he operated the Mitchell BNC with gear head for the first time on "UNCOMMON VALOR" (1952).



A quick look at the Arriflex 16SR production camera system:



With your eye at the 16SR's eyepiece, you can frame, focus *and* set the f/stop. Fast.

Accurate readings

Through-the-lens readings tell you precisely how much light is getting to the film. ± 2 stops, visible in the finder. Range is 24/25–80 fps, 16–500 ASA.

Fiber optic focussing screen

Its better light transmission makes viewing easier at

low levels and small apertures. Less light scatter and no grain result in a sharper finder image with even edge-to-edge brightness.

Automatic iris

With an auto-iris lens mounted, the 16SR stops the lens down to your pre-set f/stop when you switch on, and opens wide again when you switch off.



Four T1.3 Zeiss lenses, and 22 others

In addition to the four super-speeds, there's a choice of fifteen fixed lenses, including an Angenieux 5.9mm. And there are seven zoom lenses in the Arri steel bayonet mount.

Electronics & Crystal

At left are the 16SR's magazine and body. Inside the flat base are electronic integrated circuits for crystal sync, start-mark, off-speed light and slave operation.

Motor & speeds

The 12V DC motor is built into the body, just below the lens mount. No bulges. Off sync speed, a red light shows in the finder. There's a variable-speed accessory—5 to 75 fps.

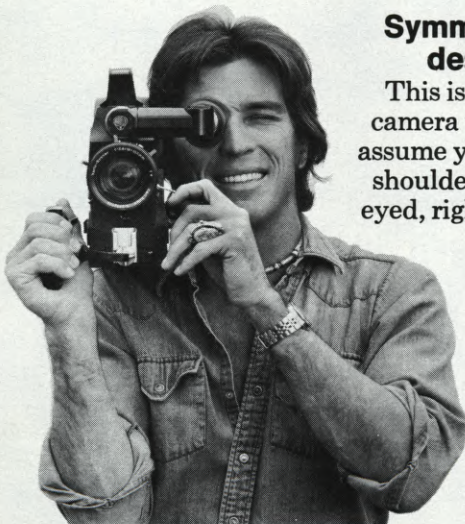
Magazine changes without touching film

It takes about ten seconds. Snap off the old magazine, check the aperture, snap on the the new one. No threading, no loop to form.

That's all done when you *load* the magazine—which is also fast and easy. All you do

Symmetrical design

This is the first camera that *doesn't* assume you're right shouldered, right eyed, right-handed.

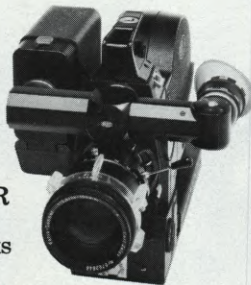


With 10-100mm Zeiss lens and 400 foot magazine as seen here, the 16SR is 15½ ins. long and weighs 14½ lbs. 3 feet from the film plane, sound level measures only 29 dB/A.



Video Monitor

Video adapter (visible on right side of camera) fits onto the 16SR easily, runs on 12VDC and works with most remote TV monitors.



in the dark: put the roll on the core spindle, slide the film end out, close the feed side lid. The entire loop is visible as you form it, in daylight.

Magazine locks

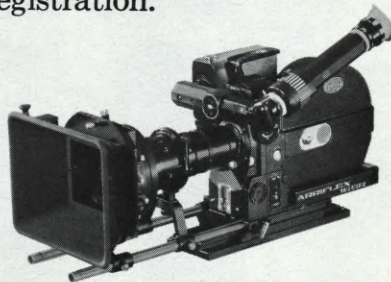
When you snap it on, the magazine is locked into place automatically, at *three* points. And its bottom rests against the camera's base.

Film channel bars

On each side of the aperture is a hardened steel guide-rail bar. They fit against the magazine's face plate, forming a fixed film channel. Only at the aperture does the film make contact with the pressure plate.

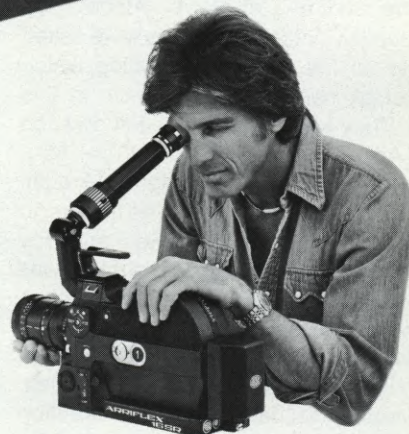
Register-pin movement

The 16SR uses a completely new compensating link film transport design with an independent registration-pin. Positive action control at *every stage* of film pull-down and registration.



Bridge Plate & Matte Box

Seen above, the 16SR is mounted on the Arri Bridge Plate, which is adjustable for balance. The Bridge Plate's rods are supporting both a long zoom lens and the 16SR Production Matte Box, which has two rotating 4 x 4 inch filter stages. Note also the 7 inch Finder Extension.



Versatile viewfinder and on-board battery

That's the battery, on the back of the camera. It drives about 2,000 feet. No cables. The finder rotates to left and right *and* it rotates 360° parallel to the camera's side. And the eyepiece swivels 25° *out* from the side.

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MOTORCYCLE EFFECT SHOTS FOR "THE 5th SEASON"

Designing a mount for an Arriflex 35mm camera that would fit onto a motorcycle speeding at 200 kpm turned out to be a tricky assignment

By R.A. MINSTER, M.B.K.S.

When Emil Nofal went into pre-production for THE 5TH SEASON, a film to be made by Satbel Films (Pty) Ltd, a call went out for special motorcycle mounts, to look forward, backward and alongside the motorcycle.

Cinequip, a rental company renowned for special motion picture mounts, set about the task of making mounts to support an Arriflex 2C camera at standard and high speeds, with lenses up to 50mm at speeds in excess of 200 kilometers/hour.

Our first concern at Cinequip was to design a mount which would not obstruct the driver of the motorcycle and would also carry a 2C camera without vibration at these high speeds. Also, we had to find a test area where we could attain these speeds prior to being allowed onto the racing circuit. THE 5TH SEASON, a love drama involving motorcycle racing, needed riders to stand in for the leading actors and two of South Africa's top production motorcycle racers were asked to do all the high speed riding which would be necessary for realism in this film. They were Howard Mellett and Joe van Altena. It was decided that Tink Minster of Cinequip, also a motorcycle racer, would ride the camera bike. As he was, in collaboration with Neville Reid and Roy Walker, the designer of the mounts, it was felt he would be best qualified to cope with the peculiarities of these mounts.

Being on a personal friendship level with Joe van Altena and Howard Mellett, we could discuss freely the direction given by the well-known director, Gordon Voster, and obtain as much feeling and realism as possible under his direction.

We put the forward mount on top of the petrol tank with struts going down to the down tubes of the motorcycle frame and the cross tubes which support the petrol tank and saddle assembly. This was a good position, because the rider could actually get his arms around these mounts. With lens angles in excess of 32mm the instruments would not be seen, while angles of 32mm and less would allow sight of the rev counter and speedometer of the motorcycle. With the instruments so close, the necessity for extreme steadiness was obvious. The mounts were made of ordinary flat bar with specially fashioned U-clamps around the down tubes of the motorcycle to support the mounting plate which was above the petrol tank—I might add high

enough so as to allow replenishment of the fuel supply in the machine. We chose a Kawasaki 650 as the camera bike because of its flexibility, handling qualities, and overall smoothness.

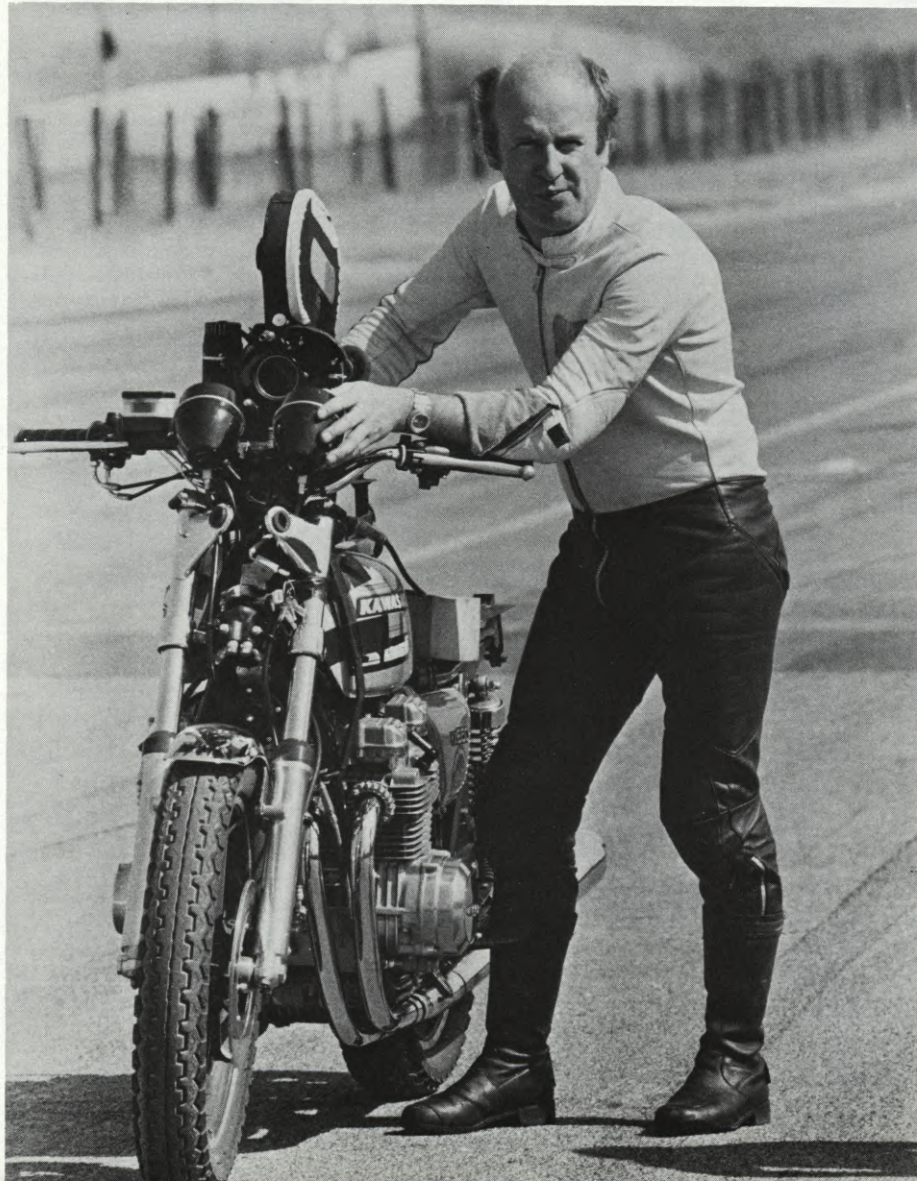
On a few occasions this proved to be a bad choice, as the two machines featured in the film were 1000cc Kawasaki's and it was a little tricky staying with them at all times.

We decided on a cushion effect for the adaptation of the camera itself to the steel mounting plates—one over the petrol tank, one behind the rider, and the third alongside the motorcycle in line with the crank case. Between two pieces of 5mm-thick perspex we sandwiched closed-cell Ethofoam. This was bonded to the two sheets of perspex, and attached to the upper half of the perspex

was a Cine 60 geared base. The bottom piece of perspex had a 3/8 stud at each corner. This whole perspex and Ethofoam anti-vibration mechanism was then placed on the mounting platforms at various angles. This was done by drilling a series of holes so that the geared base with the camera attached could be rotated through 360° at approximately 5° intervals. For this particular job we decided that maximum steadiness would be achieved by bolting camera to geared base, geared base to sandwich plate and sandwich plate to mounting platform.

Extensive tests proved that the side mount and mount overlooking the instruments were exceptionally steady at speeds in excess of 200 km/hour. During final adjustments we had Irene Film Laboratories standing by and we would shoot

Tink Minster, Rental Manager of Cinequip, checks his motorcycle for balance before shooting a sequence for "THE 5th SEASON". The main concern at Cinequip was to design a mount that would not interfere with the driver and would also carry an Arriflex 2C camera without vibration at high speeds.



a test strip and then rush the Eastman Colour Negative to Irene and wait for them to pull it off their processing machine and view the negative immediately. To view negative of this nature is a handicap, but we had no time to wait for prints, as it might have meant cancelling the number of special arrangements made prior to their decision to have us manufacture these mounts.

We were very successful with the "over the front" and the "side" mounts, but the rear mount was shaky at anything over 100 km/hour. After studying our rear mounting point, we realised that obviously it was acting at the end of a whip, so we removed the dual saddle and brought the mount forward and down against the tow tubes directly above the rear suspension units. This cured the problem and this mount was very stable at speeds of up to 220 km/hour.

The side mount was very interesting. It looked like half an aerofoil sticking out of the fins of the motor on the right hand side. This mount was tremendous, because with a lens 32mm or wider, one could see the front wheel rotating and the disc caliper functioning under braking. It also gave one an incredible feeling, a seesaw effect as the bike was leaned to the left and right through the sweeping turns of Kyalami, a race track in the Transvaal where all high-speed sequences were filmed.

Tink Minster actually ran this particular bike on what is known as the "warm up lap" before a national race which we had at Kyalami. This produced a fantastic effect because of the crowds which were picked up in the background and also the number of motorcycles circulating behind him.

The difficulty he had with this motorcycle at speed through the turns was that he could not lean the bike over to the right as much as he would have liked to do because of the fact that the protrusion of the camera mounting bracket might have touched the tar and caused an accident.

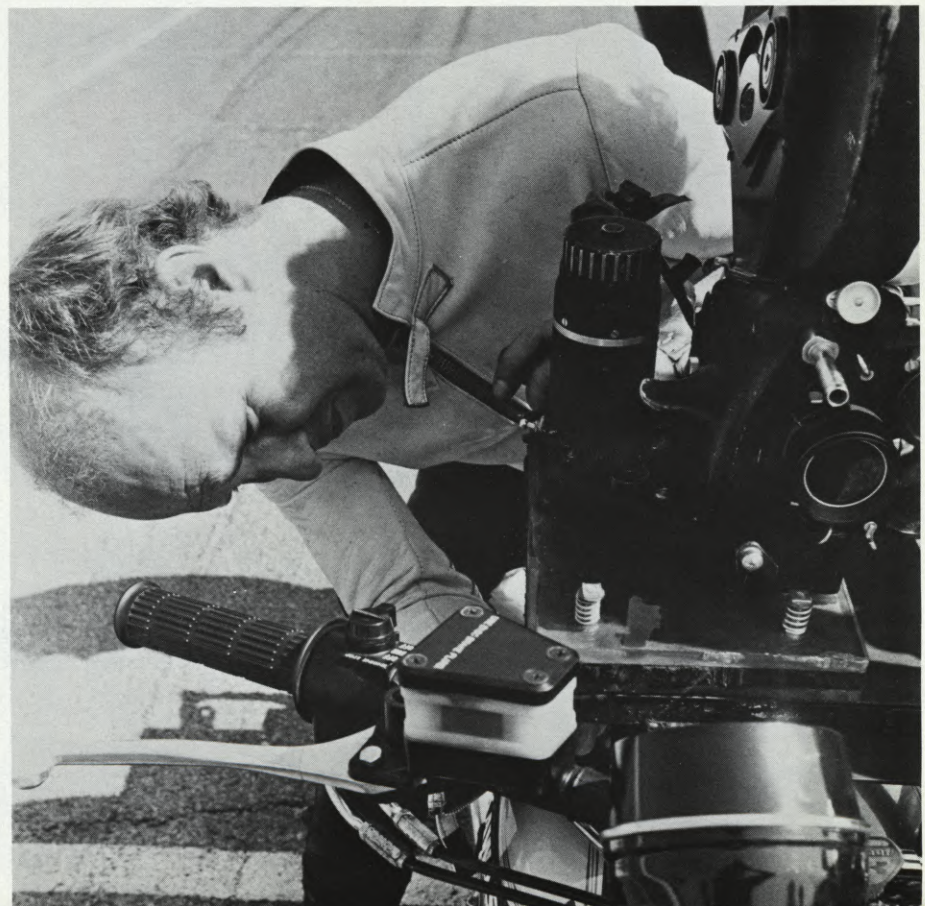
One of the more exciting shots obtained with this mount was with the camera in the side bracket at right angles looking away from the camera bike. The script called for the one motorcycle to attempt to force the camera bike off the road. To achieve this an 18mm Cooke Speed Panchro lens was put into the camera turret and the two bikes set off at speeds up to 200 km/hour down the straight. The "baddie" motorcycle was then driven to appear to give a glancing blow to the camera bike.

The close proximity of the lens to the motorcycle fairing resulted in a very dramatic visual effect.

Continued on Page 316



Tink Minster, Director of Photography Robert Lewis and Second Unit Cameraman Mike Inglesby check camera position before shooting a high-speed chase sequence. The forward mount was placed on top of the petrol tank, with struts going down to the down tubes of the motorcycle frame and the cross tubes which support the petrol tank and saddle assembly. (BELOW) Minster makes a last-minute check of the equipment.



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Albert and David Maysles with their CP-16 camera used on their feature film *Grey Gardens* and commercials for Citibank, TWA and IBM.

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A LOW-COST, MAKE-IT-YOURSELF SUCTION CAMERA MOUNT

For filmmakers scraping the bottom of the budget barrel, a simple, self-leveling camera mount that uses any available tripod head

By EDWARD R. DUPRAS

Ever wanted to do a traveling shot of people in a car but couldn't afford a \$400 "super grip" to mount the camera because of the budget? Or they didn't exist in your neck of the woods? Or you might have one but the sheet metal of the car won't take the weight of the mount, tripod head, and camera.

A car mount for this type of shot can be put together for \$70 to \$90. It is basically a triangle of plywood; it is self leveling on its three bolts and uses any available tripod head to mount the camera.

The triangle can be any size desired, 18 x 18 x 24 inches, or whatever, made of 3/4- or 5/8-inch plywood. A marine grade of plywood is stiffer with more laminations per thickness than regular grades. A 3/4-inch hole is drilled in each corner for the bolts. Several holes drilled in the center will allow different positions for the tripod head.

The triangle mount is held onto any non-porous surface with three Pana-vice brand suction bases. These grip with a lever action and hold on well. They have a swivelling ball that can rotate 360° horizontally and 180° vertically. The Pana-vice base normally holds small vises used in electronics bench work that are mounted on a 5/8-inch shaft that is inserted into the base.

For our use, an 8-inch length, 5/8-inch threaded rod or "Redi-bolt" is inserted into the hole on each suction base. Washer and nuts on each side of the plywood allow the triangle mount to be leveled after the Pana-vice bases are on the vehicle. One advantage of the triangle mount is that it spreads the weight of the mount and camera over a large area. Most hoods and doors tend to buckle and warp under the combined weight of a single grip and camera rig, making shots just a little less smooth.

The Pana-vice vacuum bases also are useful for providing footing for a tripod when using an unprotected car roof for a shooting platform. Singly, with a 5/8-inch shaft turned down to a 1/2-inch spud, they will support small lights on non-porous surfaces like glass, car hoods, or whatever. So the investment in a set of three bases isn't just for the camera mount.

For use on a door, only one suction grip is used with an 18- to 24-inch length of bolt stock. Two 2-inch 'L' bracelets padded with tape, fitted into the car's window channel anchor the base side of the triangle mount. For safety, you might

want to add a safety strap or two, such as those used by backpackers or campers, passed through some strap eyes screwed to the triangle and secured to the top of the door frame.

Our film company used the mount on a car door without the straps while driving over some dirt roads up in Colorado's front range and fortunately the rig supported the camera without any problems, but I would prefer the safety straps. The hood rig works just as well in the boon-docks as on the highway and city streets.

The camera should be pre-aimed and focused, and the polarizing filter adjusted. Most cameras can be started and stopped by just plugging in the power

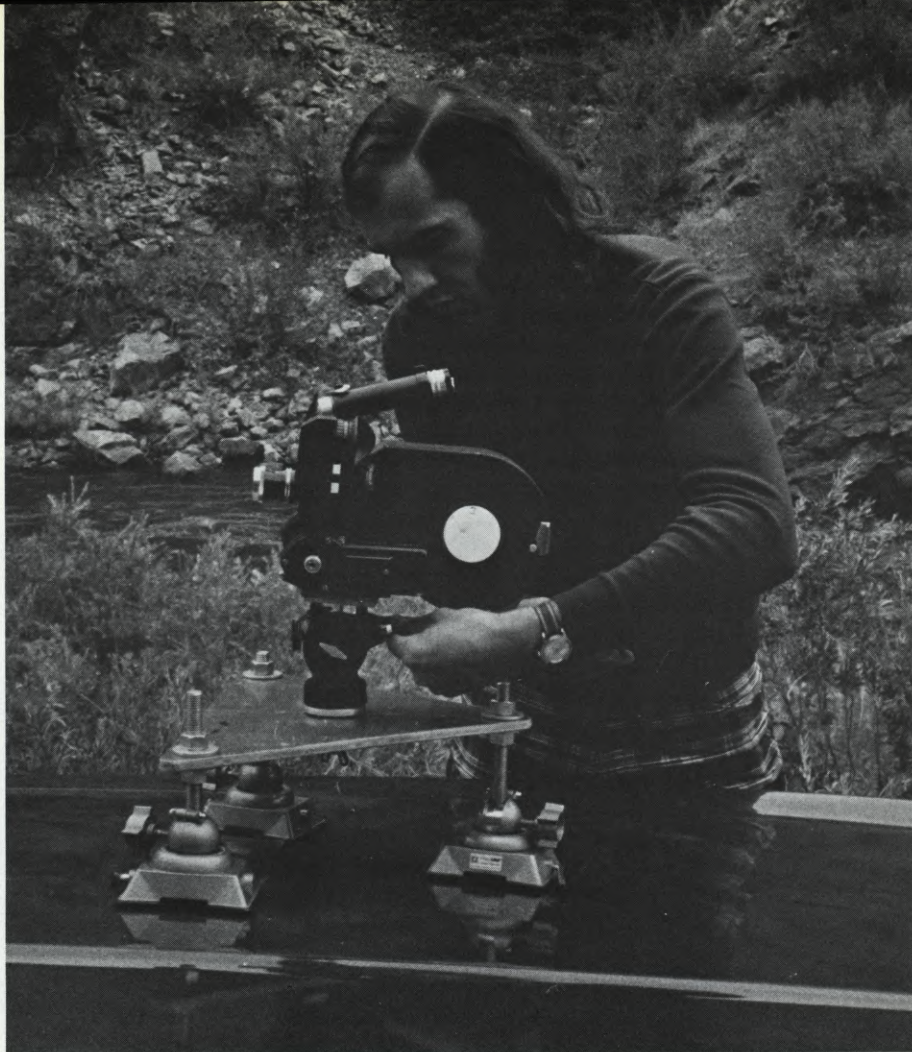
supply, so the cameraman can ride inside the vehicle. In our case, the Eclair ACL was run from the rear seat and the soundman received his sync and start slates via cord without any difficulty. A bottle of soapy water to wet the grips and some towels will round out the kit for this triangle mount, also a polarizing filter and some window cleaner. No sense looking at dirty glass.

Shots of people driving can add visual impact to any film and continuity to scattered locations, or will jazz up a locally made auto spot.

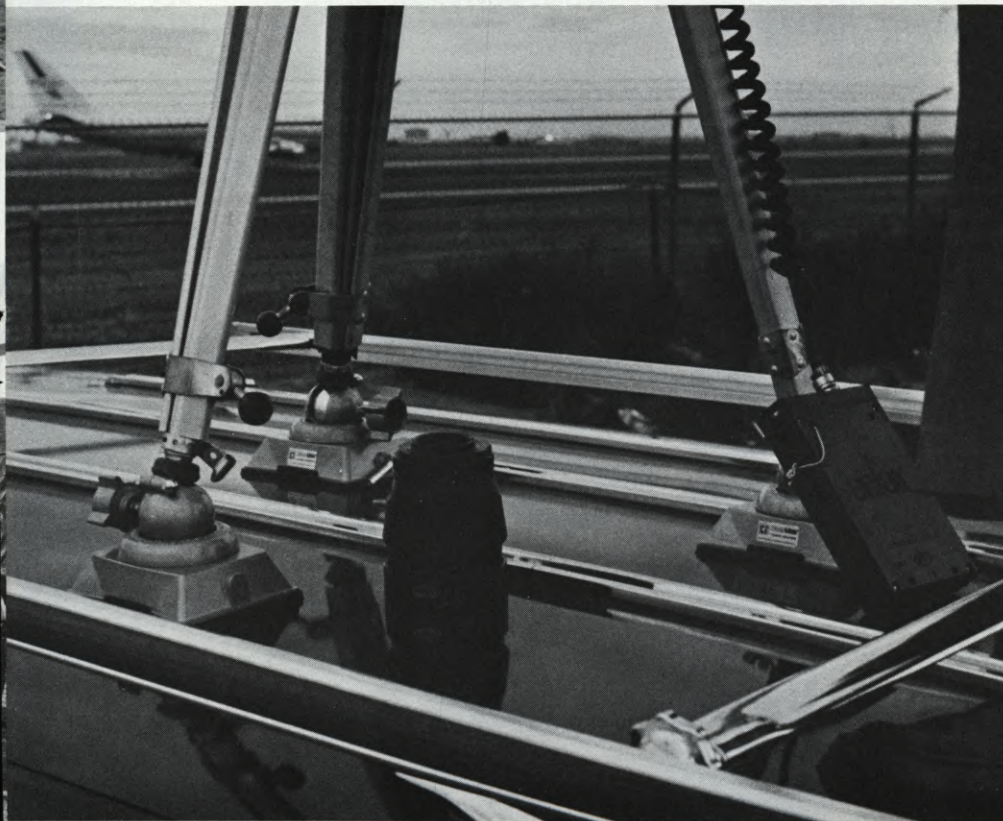
The camera mount, to get such professional results, doesn't have to be made in Hollywood or cost a minor fortune. ■

Using a pair of "L" brackets and one Pana-vice suction grip, the mount hangs on the automobile door. This rig held tight for several takes while being driven over dirt roads in Colorado's Front Range outside of Denver. The scowl on the driver's face is due to the fact that he's about to get an Eclair instead of a burger and fries.

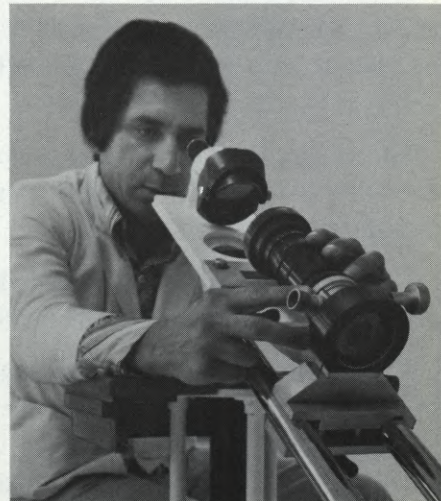




(ABOVE) A camera mount with an Eclair ACL on a lightweight head being set up on a clean hood for a head-on shot of the driver. (BELOW) Three Pana-vise grips provide secure footing for a dusk shot at Denver's airport. Rent-a-car agencies appreciate filmmakers who don't leave tripod scars on the roofs of their cars.



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OUR 25TH YEAR AND STILL MOVING AHEAD.

Do you know that if you were to take one penny, and double it each day for thirty days, you would have more than five million dollars? No, perhaps you didn't, but the thought is pleasant. You may even start figuring to see if this is true.

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This is my first year as company president. My 25th year with the company. During this time, I have been privileged to share in a whole new era in the motion picture industry. An era that has ushered in not only lighter, more utilitarian equipment, but new cultural and value concepts as well.

I have always felt that B & S was for people who needed people. I look back over the last generation with much warmth to the friendships, to the hundreds of cameramen, directors, and producers who over the years have looked to us to fulfill equipment needs.

I now look forward to the next generation—a dedication to the pursuit of new knowledge, new experience, new growth, and the richness of old as well as new and enduring relationships.

So, if you're preparing a new film tomorrow, we're ready today.

Marvin Stern

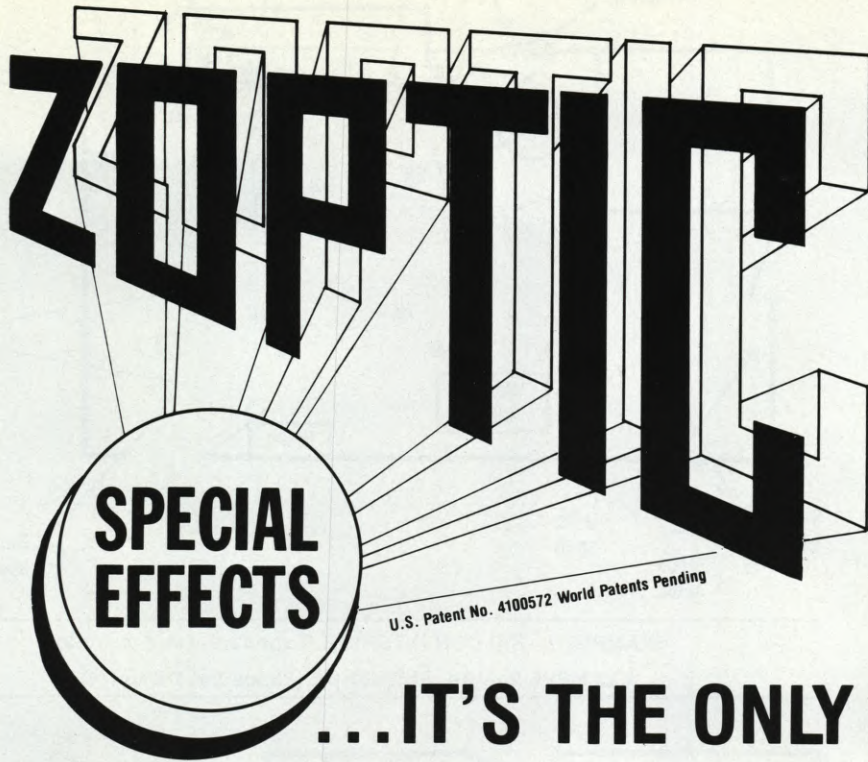


As of January 1, 1979, Marvin Stern, above, purchased all remaining outstanding stock of Birns & Sawyer Inc. and succeeded to the presidency of the company.

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LIGHTING "GOIN' SOUTH"
Continued from Page 261

This filling was always done by eye, and not by comparing key-to-fill ratios.

In these instances we were careful not to upset the contrast balance normally encountered under a hot sun. Maintaining a natural contrast balance is one of the keys to Nestor's lighting.

Not all exteriors were blazing sun. Durango in August and September is the rainy season, and parts of each day were rainy and overcast. Sometimes we found ourselves doing coverage on a scene that mixed sun and clouds from angle to angle. (A principle example is the "gal-lows" sequence.)

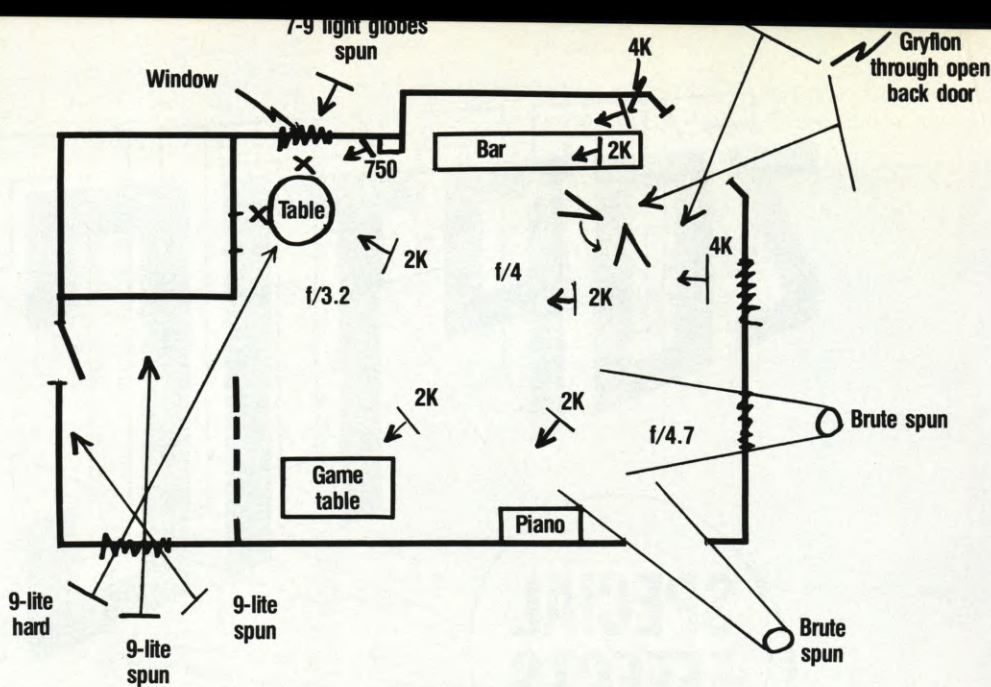
In the wide angles, arcs solved the matching problem. In close-ups, a subtle nine-light worked best. Conventional reflectors were never used, even on backgrounds, because Nestor feels they are spotty and harsh.

Several times on very wide exteriors that needed fill, the key grip, Dick Deats, had a useful alternative to conventional reflectors. It was a white reflective nylon base fabric called Gryflon, used in the farm industry to cover stacks of hay while still in the field. Fitted to a 12-by frame, it was quite effective for bouncing a soft ambience from a broad source over a wide area.

Where other cinematographers might use lens diffusion (low contrast filters, etc.) to lessen the contrast, Almendros prefers to soften the light source itself, retaining a razor-sharp image on the film for visual clarity.

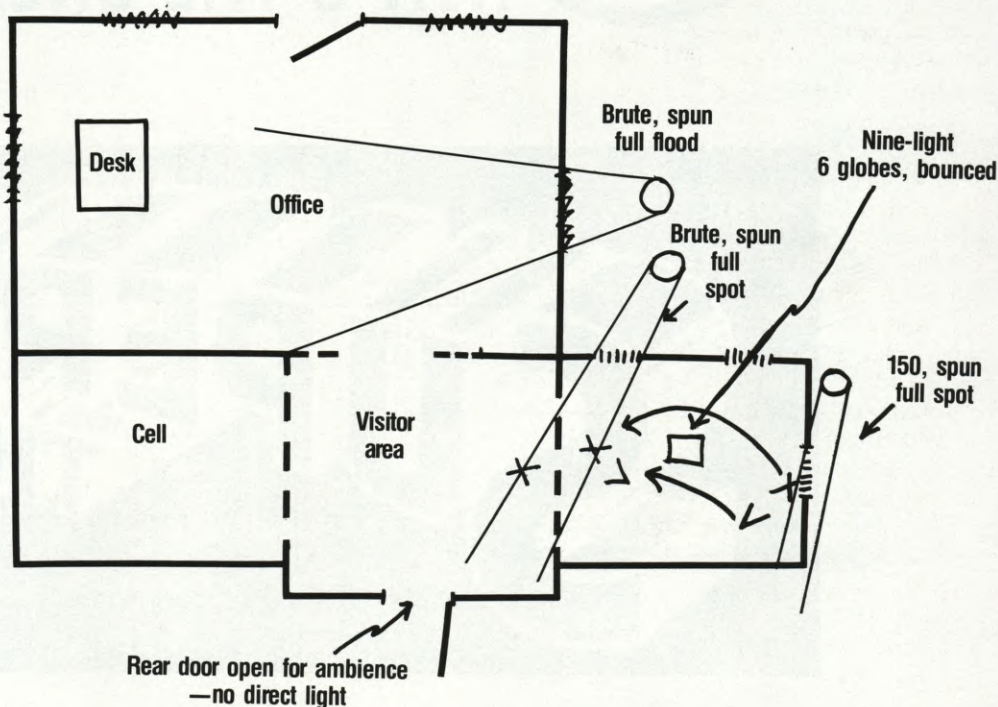
In our low-light sequences, this crispness gives the image a quality that is the unmistakable stamp of an Almendros product.

Night interiors were pushed one stop to ASA 200. Rarely did we shoot a night interior at more than f/3.5. Most were in the f/2 to f/2.8 area, (25 to 50 foot-candles at push 1.) Night exteriors were

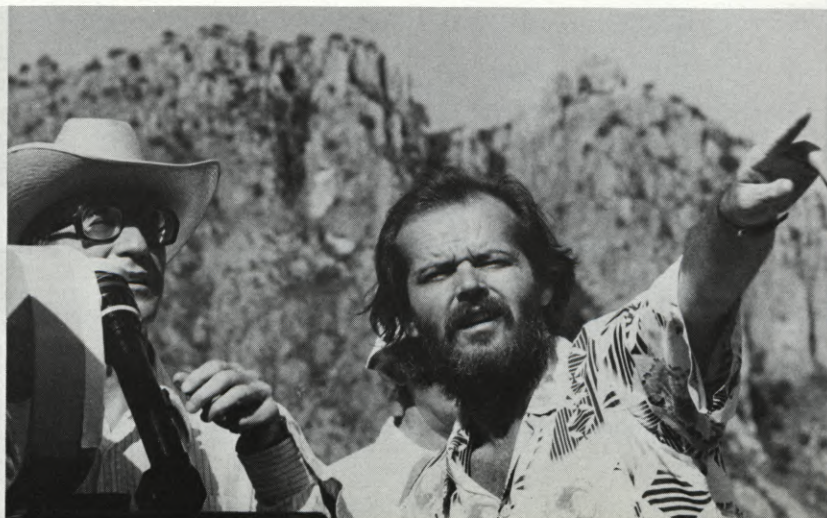


EXAMPLE 1—SALOON INTERIOR (Exposure: f/4.7 to f/3.2)

EXAMPLE 2—JAIL SEQUENCE (Exposure: f/8 to f/4)



(LEFT) Actor/Director Jack Nicholson rehearses a scene, while Almendros (in sunglasses) watches from behind the camera. He often prefers to observe the rehearsal and then discuss the dramatic presentation of the shot with the director before deciding on the lighting. (RIGHT) Nicholson and Almendros discuss the photographic approach to a scene. Almendros likes the simple soft light found in nature. He says, "Mother Nature is the greatest gaffer and she does not use kickers."



rarely more than f/2, at push 1, and many scenes were shot at f/1.1, (8 footcandles at push 1).

Before each film, Nestor peruses the work of certain painters and gets a feeling for the way they saw light. In this case, Russell and Remington were the obvious choices along with Maynard Dixon, with production designer Toby Rafelson providing many additional examples of Old West and contemporary western painters, (such as Maxwell Parish).

The color concept for the film was based on natural conditions and on impressions from these works. Our primary tones were along the brown and muted scale (enhanced by art direction and costumes), with lighting emphasis on yellows, oranges, and various blues.

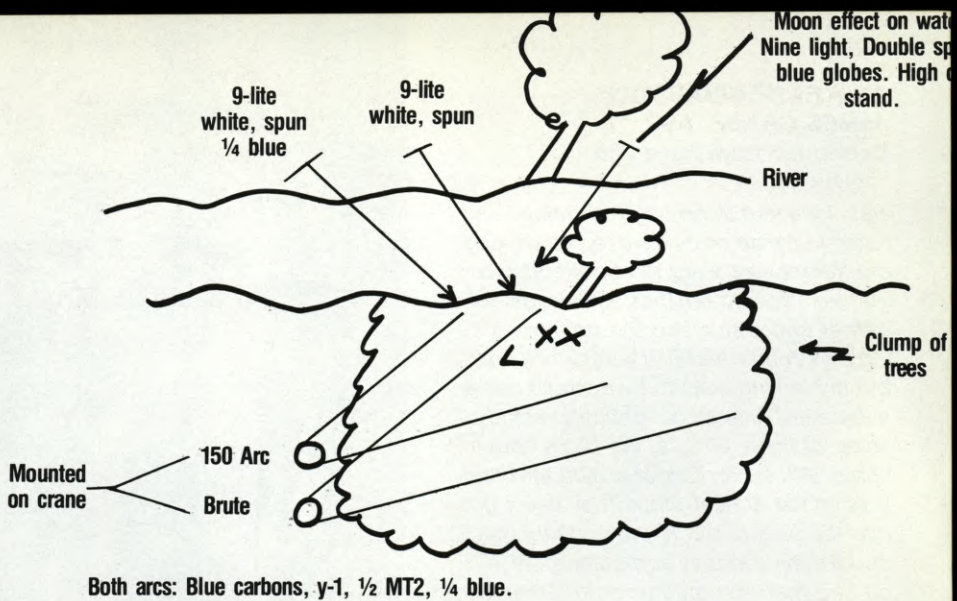
Kerosene lanterns are low on the Kelvin scale, so lights on dimmers with MT2 gelatine were appropriate for the color design, giving us a lovely golden glow. Moonlight was usually interpreted as blue, but there was an edge of expressionism consistent in Jack Nicholson's direction which influenced us, and a couple of times we actually used MT2 on arcs for moonlight.

Lighting units for night interiors were always softlights, softened further with Tough Spun and colored with 1/2 MT2. The particular units included 750 softlights and DXC photofloods on dimmers, both with either one or two layers of spun and a 1/2 MT2 gel.

Our close-up key light was the Lowel 1500-watt collapsible softlight. Almost always we used this on a dimmer with two 1000-watt FCMs.

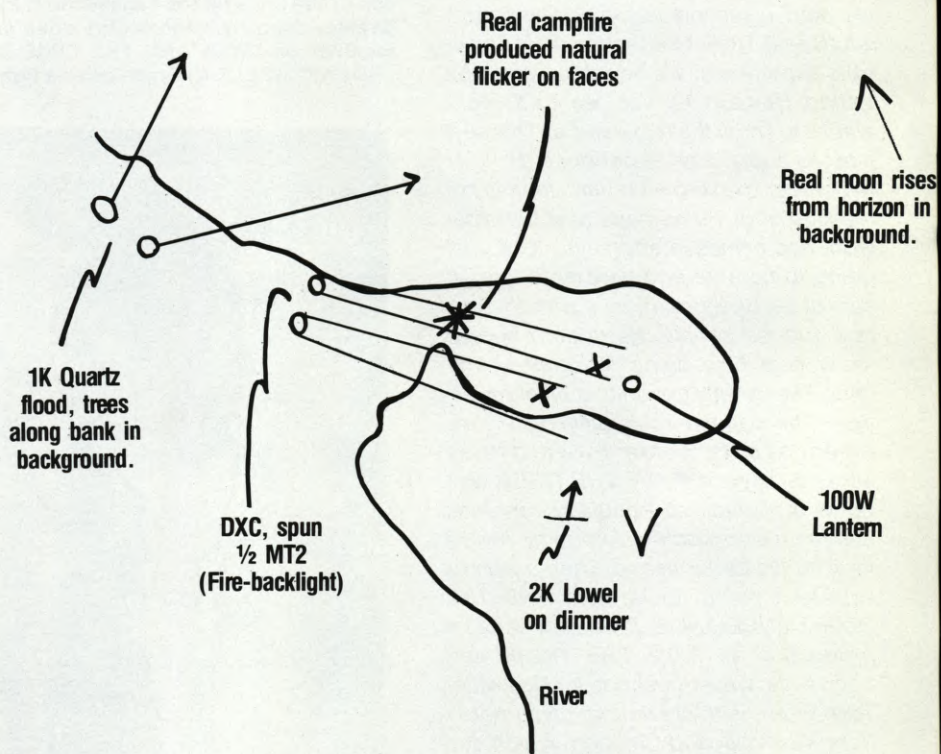
Our other basic lights were the Mole-Richardson 4K super-softlight, the 2K zip-light, and the ColorTran 4k and 2k softlights. On night interiors these always had a layer of spun and 1/2 MT2. We usually used only one switch on these large units with the additional flexibility of a dimmer. The purpose here was to cre-

Continued on Page 292



EXAMPLE 3—"HERMINE IN WOODS" (Exposure: f/1.4, push 1)

EXAMPLE 4—"SHARE GOLD" Scene (Exposure: f/2, push 1)



(LEFT) Cast members and Nicholson watch with rapt attention as a scene is played back on video monitor on location. This rig helped Almendros judge lighting contrast. (RIGHT) Viewers display their "best side" as they scrunch under tarpaulin that screens the "mobile video replay" from the glare of the sun. On location, the video playback got to be the biggest attraction around—better even than watching haircuts.

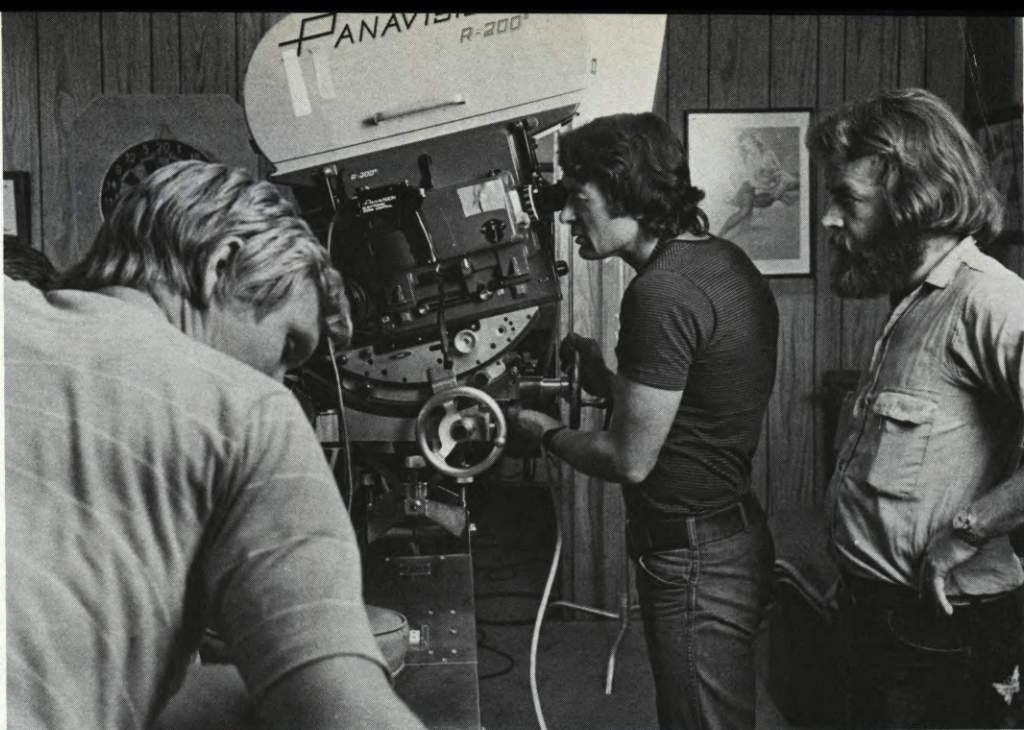


**AN A.F.I. SEMINAR WITH
JAMES CRABE, ASC**
Continued from Page 265

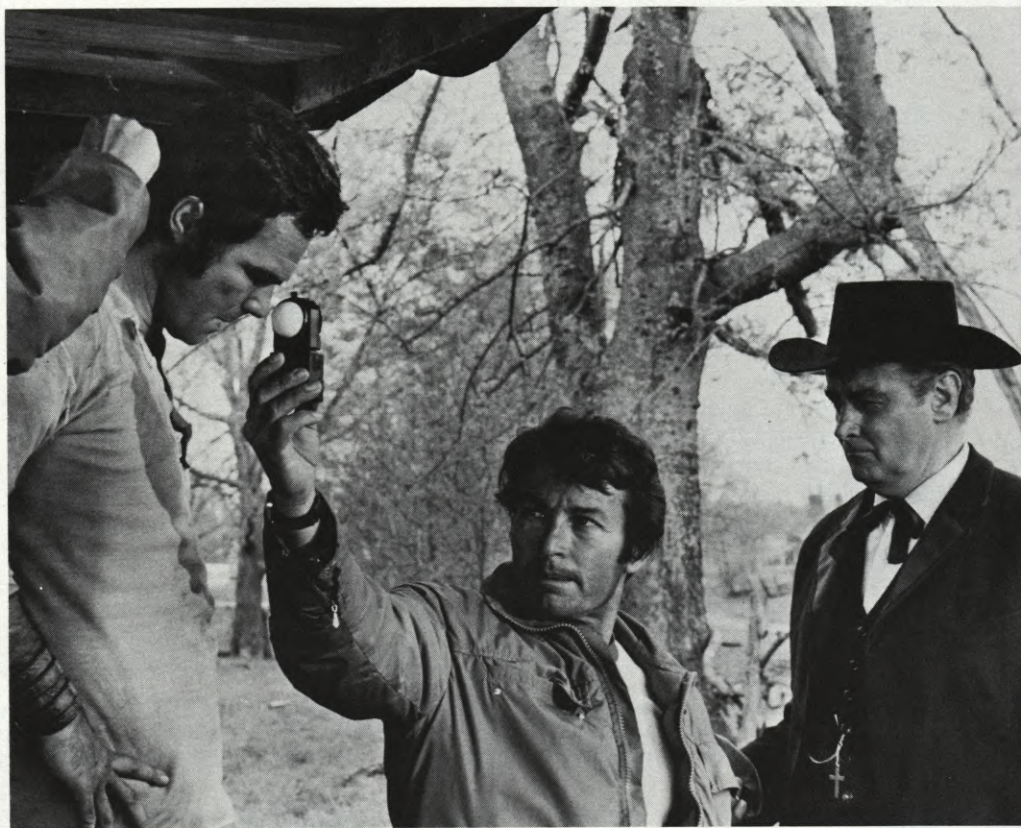
was! I wanted to be as sympathetic as I could to a man who was used to working a different way. Prior to our shooting together officially on the film we got together and discussed the natural lighting look John wanted. It was to look unlit, but my feeling was that we would use a substantial amount of lighting to achieve some of these effects. We did a couple shots with an Arriflex of a billboard that was on the Sunset Strip. They never got into the picture but it showed him that I could schlep lenses and put a zoom lens on and that we could work together. He would operate on one shot and I'd do another; the east and the west got together. Of course, John was not allowed to operate, and by that time he was mellowed out and had met the operator that we used, a gent named Jack Willoughby. *SAVE THE TIGER* became a most enjoyable experience. We had time—as I was telling Howard earlier, we had eight weeks to shoot the film—and as I recall it was as buoyant an experience as I can remember working on a film. John is not the kind of guy who does a lot of homework and comes in and says, "O.K., it's going to be here and here and here." It sort of evolves organically with the actors and the people. He doesn't always know how he's going to shoot something. We usually get quite a bit of coverage. The camera is usually quite low; when people come forward they ascend. Anyway, *SAVE THE TIGER* was quite a triumph—particularly for Jack Lemmon, who won the Academy Award for it for his performance. Then a year or so later I heard about *W.W. AND THE DIXIE DANCEKINGS*. It was not as big a production as *SAVE THE TIGER* had been. We were to shoot in Nashville, Tennessee, with crews that came partly from Nashville, and Chicago, which has jurisdiction over that area. You know, the country is divided into three basic groups, and when you work in some locations you're required to use some of the crew from that area. The same gaffer who worked on *W.W.*, Ross Maehl, also worked on *SAVE THE TIGER* and *ROCKY*.

SCHWARTZ: His father was a gaffer as well.

CRABE: Yes, his father and his brother, the younger Cal, Jr., who was Ross's best boy, is now gaffing. I don't know if you saw *W.W. AND THE DIXIE DANCEKINGS*, but it was done under a lot of heaviness, I thought; a little more so than *SAVE THE TIGER*. There is ever the con-



Jim Crabe lines up the Panavision R-200 camera for a scene in "*SAVE THE TIGER*", while director John Avildsen (right) looks on. Later the director and cinematographer worked together on "*W.W. AND THE DIXIE DANCEKINGS*" and the phenomenally successful "*ROCKY*". (BELOW) Crabe takes a light reading on Burt Reynolds while shooting "*W.W.*".



frontation between the guy with the bucks and the Gucci shoes and the people making the movie. Though there was some of that on *SAVE THE TIGER*, *W.W. AND THE DIXIE DANCEKINGS* continuously had guys from Hollywood flying to Nashville ominously standing in the corner timing each setup. Also, Burt Reynolds and John, though they had mutual respect for each other, weren't

quite as close as Jack Lemmon and John had been on *TIGER*. It was an eight-week schedule. Cold, cold nights, lots of night work, and as usual on distant locations, 14-hour days, six days a week. I think ultimately, though it never did terribly well in the big cities, it was a good investment for Fox and they made a lot of bucks out of it. It was imperfect; the script had a lot of problems, but I liked it

anyway. I got another film through John. He was going to direct *THE ENTER-TAINER*, the one that Jack Lemmon did, which was ultimately directed by Donald Wrye. Evidently John had some misunderstandings with the producers. Then *ROCKY* came up. There was this Italian kid who had written a script about a boxer. We all went down to the Olympic Auditorium one night and watched the boxing matches with him. I looked at my calendar this morning just to check the schedule of *ROCKY*. It was 25 shooting days, not including the eight or so days of the Philadelphia footage, some of which was very beautiful, the running in the streets, etc. I was not involved in the Philadelphia unit.

SCHWARTZ: Who did it? Garrett Brown?

CRABE: Garrett Brown and probably John. Knowing John, I'm sure he shot as much as he could himself.

SCHWARTZ: But all the film with the principals, excepting the running shots and all that, you did, and that was done here.

CRABE: Yes, it was all shot here. Well, there were a couple of scenes they shot in the East—the pet shop sequence with the girl and the long Steadicam shot when Rocky walks the young girl home. Nobody had any idea at the time what proportions the film would take and what a great hit it would be. Sylvester accepted less money to be in it than if he had sold the script outright because nobody wanted him particularly. All of the picture was shot on locations in Los Angeles. There were no sets.

SCHWARTZ: It's really a Cinderella story, isn't it?

CRABE: Yes, absolutely.

QUESTION: The block of row houses in *ROCKY* where he lived, was that shot in Los Angeles?

CRABE: No, that was done in Philadelphia. Actually, now that I think of it, the sequences, too, where he gets out of the limousine and the guy that he's doing the collection business with, that was done there, too. They shot quite a bit very rapidly. I know very little about it. I was informed about it after it happened because I think they realized there would be some problems with the union. I presumed originally that I would be doing that, and then John came to me one day and said, "Listen, I've got something to tell you."

SCHWARTZ: It was probably a question of money, too.

CRABE: I'm sure it was, because at that time it was pretty much nickels and dimes.

QUESTION: Did you get the feeling from your work on that picture that it was going to do what it did, or was it that you were just working on another picture?

CRABE: Well, if I can swing it in any

possible way, I always try to work on something that I think will be a good picture, rather than whatever its photographic possibilities might be, although naturally that's a consideration. You come out looking and feeling a lot better if you work on something that you feel is special. *ROCKY* was special. But I remember thinking that it would make Sylvester a star. In seeing dailies he really did have screen presence. At first I said, "Is this guy kidding with the holes in the gloves and that kind of goony talk?" I was really depressed about it, thinking



Filming on safari in Kenya (1964) for an "AMERICAN SPORTSMAN" TV Special. (BELOW) Crabe faced a creature even more formidable than the lion when he photographed Bette Davis for the first time in the Wolper production, "HOLLYWOOD AND THE STARS". Since then they have worked together several more times. She inevitably complains about the way he photographs her, but keeps coming back for more.



that the possibility of success would be negated by this outrageous performance. But he is, in fact, a Rocky himself in some ways, and once we started seeing scenes on the screen it became evident to a lot of us that it was certainly going to be a memorable kind of little picture, if not a big commercial success. John's films had already established a certain cult following.

QUESTION: In *SAVE THE TIGER* there were a lot of long dolly shots. I'm curious if that was something that is particularly your style or John's or a combination of the two?

CRABE: Well, it's certainly a combination of the two, and therein of course is the really critical thing in terms of the director-cameraman relationship. But that particular shot, the biggest dolly shot, was the one where Lemmon comes into the factory and we go with him and it's all one piece.

SCHWARTZ: That one long piece in the Biltmore Hotel.

CRABE: Yes, and the shot in the garment factory.

SCHWARTZ: It was beautiful.

CRABE: But I think the one thing a cameraman must provide for a director, particularly a nice man who's come from New York and isn't a Hathaway or a heavy-handed guy, is to try to help as much as possible rather than to hinder and say, "No, we can't do that," or, "It will be easier if we make a cut," and stuff like that. I thought about that sequence several times, and I can't remember exactly what happened except I think that John was setting up for a shot where Lemmon would come in and that we would then cut to another shot when he met Al, the foreman, and they talked about the fashion show at the window and then we would do it in cuts. I can't say for sure, but I think it was my suggestion or assurance that we could do it as far as he wanted to go. And then I think what happened was that John said, "Oh, really? Well, then why don't we stay with it?" And before long we both had developed the thing into one shot.

QUESTION: Can you remember how you went about lighting that? There was an enormous expanse in that factory there at the beginning when the shot started to come across. Did you actually light that at all or did you work off that ambient light and try to bring other things up?



During the filming of "*SAVE THE TIGER*", Crabe takes a light reading on Jack Lemmon, for whom he has great respect and affection, both as a person and as an actor. Since "*TIGER*", for which Lemmon won the "Best Actor" Academy Award, they have worked together on several other films.

CRABE: That's about it, yes. The way we were working, which was a kind of swinging, fast way of operating, was with a lot of bounce light and more of the natural light look, perhaps, than *ROCKY* had. And in that factory it was pretty evident that your main source of light, unless you were really going to do a major number and hang tarps outside or something, would be the natural light coming in and would pretty much establish the key for the rest of it. It was more or less shot with existing light, but there are *FAY* light units stashed behind those pillars and all over the place, providing additional *Booster Blue* light. We didn't mess around with half-densities. You know, you put one here, put one there and shoot it before lunch. Because when you set up a shot like that, since your day is divided by a lunch break, you pretty much have to figure that you've got to get it finished before a big crew break or the exterior lighting changes and you have to re-light; it's 4:00 in the afternoon and you haven't shot anything. So speed is somewhat of the essence.

SCHWARTZ: Of course, when you've made the shot you've got about four pages in one shot.

CRABE: That's true, and if you have people like Lemmon, who is a great technical actor and a very humble, sweet man—I'm really quite a fan of Jack's, and he's wonderful to work with, and we've worked together a couple of times since then—but when you've got someone like that and good performers, then you can do it. Otherwise, if the guy who's got the last line is trembling all the time the shot is going on because he knows he's going to blow it, and he

does, and you've got to go back to the beginning again, then after a while you're defeating whatever effect one continuous shot might have. I think there are instances where they do extended scenes just to see how long we can do it and get away with it. You know, "Did you hear about the shot that ran 1200 feet?" But I thought in that instance it worked pretty well. What we did was slide the camera around and crab through the area where the models were working, and in that instance we were still working with blue light. We had blue gels on most of our lights, although there were a lot of existing, natural bulbs that just gave a little yellow effect here and there, but it's only light, and that doesn't look bad. I mean, you can mix sources every once in a while. Then we had the chassis of the dolly behind us and we followed Jack Lemmon around from that model area—he comes down and almost runs into a gal who pushes a bin in front of him; that was so we could get the chassis of the dolly around the other way to continue back in the other direction, so when the gal came in and did that we stopped for a minute, and then we continued, now that we were behind him, down to where the old cutter was working, which was basically another blue light situation that was mostly ambient light through translucent windows, daylight, and I think we changed stops a little bit in the making of that shot. It might have been an *f/11* stop out there with all that light coming in those windows, and it might have been more like an *f/5.6* or *f/4.5* by the time we finished. But it worked out nicely I thought. We also had one that was a little maybe artsy-craftsy. It might have

Continued on Page 315

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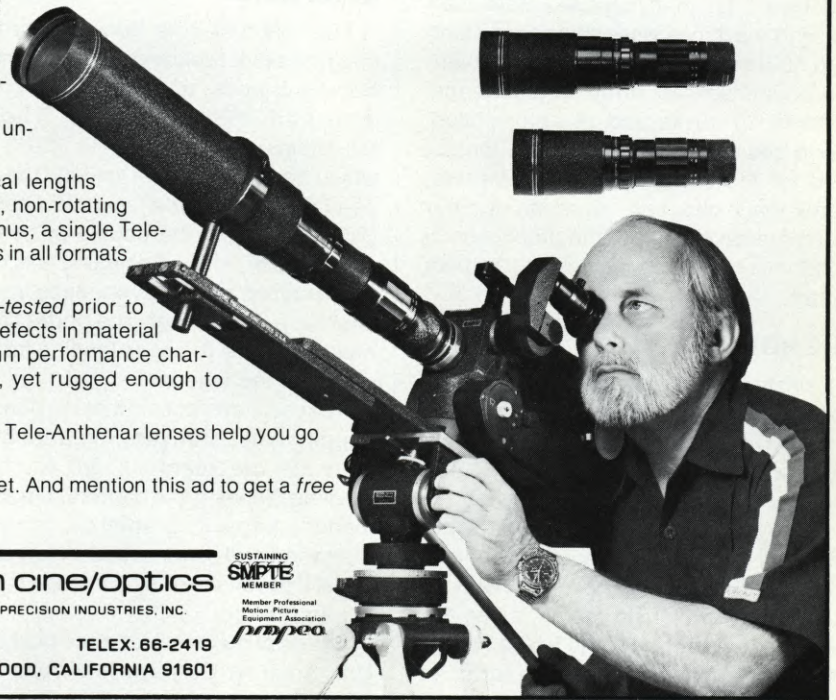
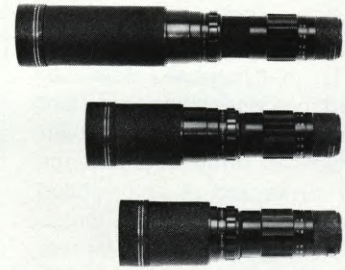
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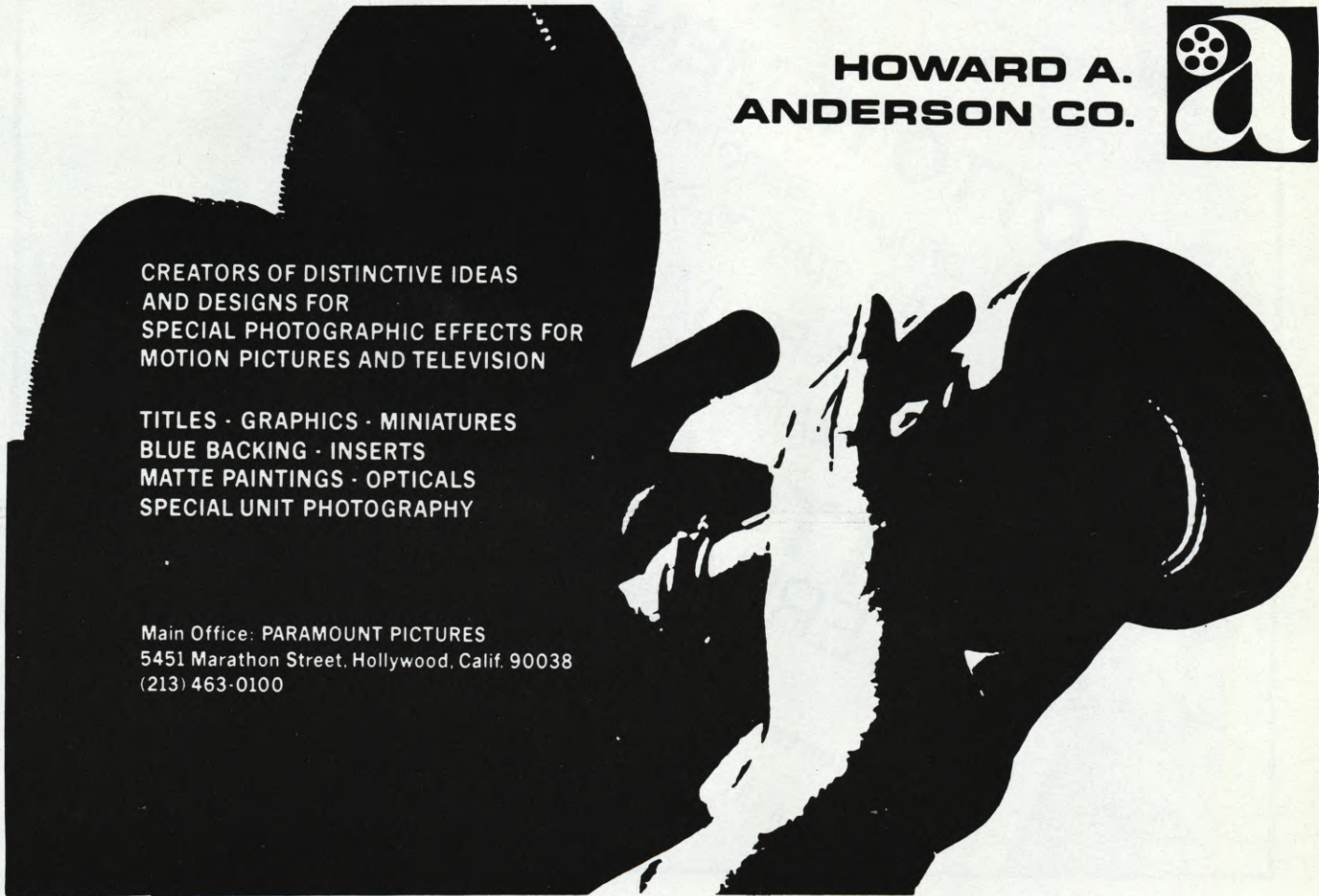
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**BEHIND THE SCENES
OF "HURRICANE"**
Continued from Page 239

THE EQUIPMENT

Dino De Laurentiis purchased equipment from all over the world and had it shipped to Bora Bora on a freighter he purchased for that purpose. More than 25 wind machines were shipped in along with 50 rain machines, lighting and camera equipment, 20 Army surplus jeeps, 12 vans, 10 trucks and 14 automobiles. Wood and steel for construction, tons of food for the Hotel Marara, typewriters, Xerox machines, and hundreds of other materials necessary for the production of a \$20 million motion picture on a remote island.

THE HOTEL

Construction of Hotel Marara, built at a cost of \$4.2 million to house the cast and crew of 150 from 15 different countries, was supervised by Raffaella De Laurentiis, second youngest daughter of Dino. It was she alone who undertook the chore at her father's suggestion and completed in four months a hotel with 66 bungalows, two dining rooms, a bar, the most modern kitchen in the South Pacific and numerous other necessary facilities such as a laundry room and installation of

a desalinization unit. Everyone said it could not be done, but on April 24 the hotel opened officially when the first crew members arrived on Bora Bora. Built for use by the cast and crew during filming, the hotel was opened to the public in December, 1978.

BORA BORA

The island of Bora Bora is a part of a chain of extinct volcanoes which form the Society Islands, and is about six miles long and 2½ miles wide. The two mountains which dominate the island, which James Michener called "the most beautiful in the world", are Mt. Otemanu (2,379 feet) and the double-peaked Mt. Pahia (2,165 feet). Encircling the island at a distance of one to two miles from the shore is a barrier reef. The perfect reef is broken only by the pass leading from the ocean to the lagoon.

Near sea level coconut palm, panadus, kapok, lime, banyan, oleander, and hibiscus are plentiful. On the intermediate slopes grow banana, breadfruit, mango, papaya, grapefruit, ironwood, rosewood and some coffee. A few slopes are still devoted to the cultivation of vanilla and manioc.

A road of coral rock surface built by the U.S. Army Air Corps in 1943 runs for 20 miles around the island. There are

approximately 2,196 permanent residents on Bora Bora which has one of the finest tropical climates year-round.

Tourism has been an integral part of Bora Bora with many of the locals working for the two tourist hotels, while others cling to their ancient way of life, the tropical life, provided by the natural bounty of the island. Around their homes roam pigs and chickens. Fish, breadfruit and coconut are still basic to the islander's food.

Fishing is still significant in the daily life and is practiced in a variety of ways from early childhood to old age. Soccer is the favorite team sport and religion, mainly Protestant, thrives on the island.

Actually, prior to the arrival of the international cast and crew of 150 to work on HURRICANE, there was a previous invasion of Bora Bora. As soon as America entered World War II, they established a reserve center, supply base and airport on the island to protect their means of communication with Australia and New Zealand, the two strongholds of their defense in the South Pacific.

By 1943 more than 6,000 servicemen were stationed on Bora Bora. They had built the road which now circles the island and a submarine base. Bora Bora was primarily a fuel supply base although it was also used for the assembly of fighter planes. ■

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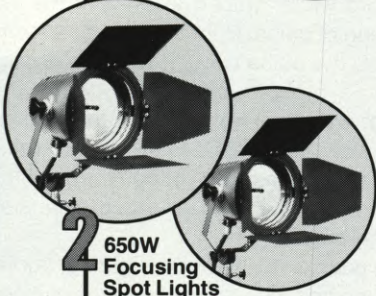
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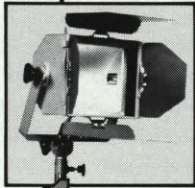
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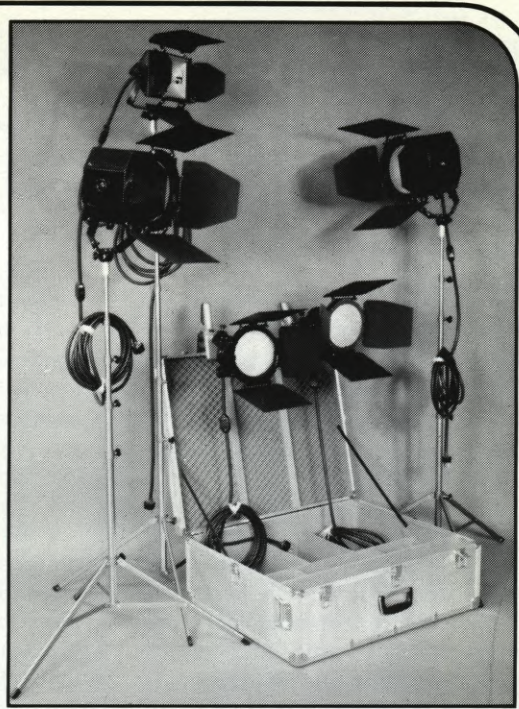
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**THE FILMING OF
"HURRICANE"**
Continued from Page 241

we could install a grid of photofloods over the entire tank and then diffuse the light with silks or other diffusion material so that he could be provided with a shadowless light which would duplicate a cloudy atmosphere.

The use of photofloods was not practical, since the water used for the hurricane would explode the bulbs. The silks or other diffusion material would also be destroyed by the fierce winds. However, the germ of the solution was inherent in Sven Nykvist's suggestion.

The secret was in finding lamps or bulbs which would provide high efficiency with relatively low wattage and low cost. Most important, the bulb would have to be one which would not explode when hit directly by water. The only bulb which fit the pattern was the 150-watt Par 38 lamp. It has a normal color temperature of 2900 Kelvin, but it can be boosted to 3400 Kelvin by increasing the voltage to 180 volts. This also increases the light output by four times.

In the 1950s and the early 1960s, ColorTran made a line of power supplies or auto-transformers which were called ColorTran converters. They were widely

used for location shooting. The reason I was so familiar with them was that I was President of ColorTran during that period.

This equipment is almost obsolete and the problem was to locate the equipment if it still existed. Fortunately, F&B/Ceco had some of the equipment buried in a warehouse. They sold it to us for a low price. They also reconditioned and tested it prior to delivery.

We then designed a simple, low cost, lightweight system to provide Sven Nykvist with adequate, shadowless light covering the entire tank. Because we were mixing this light with daylight-type light provided by our basic HMI lights, the color temperature also had to match.

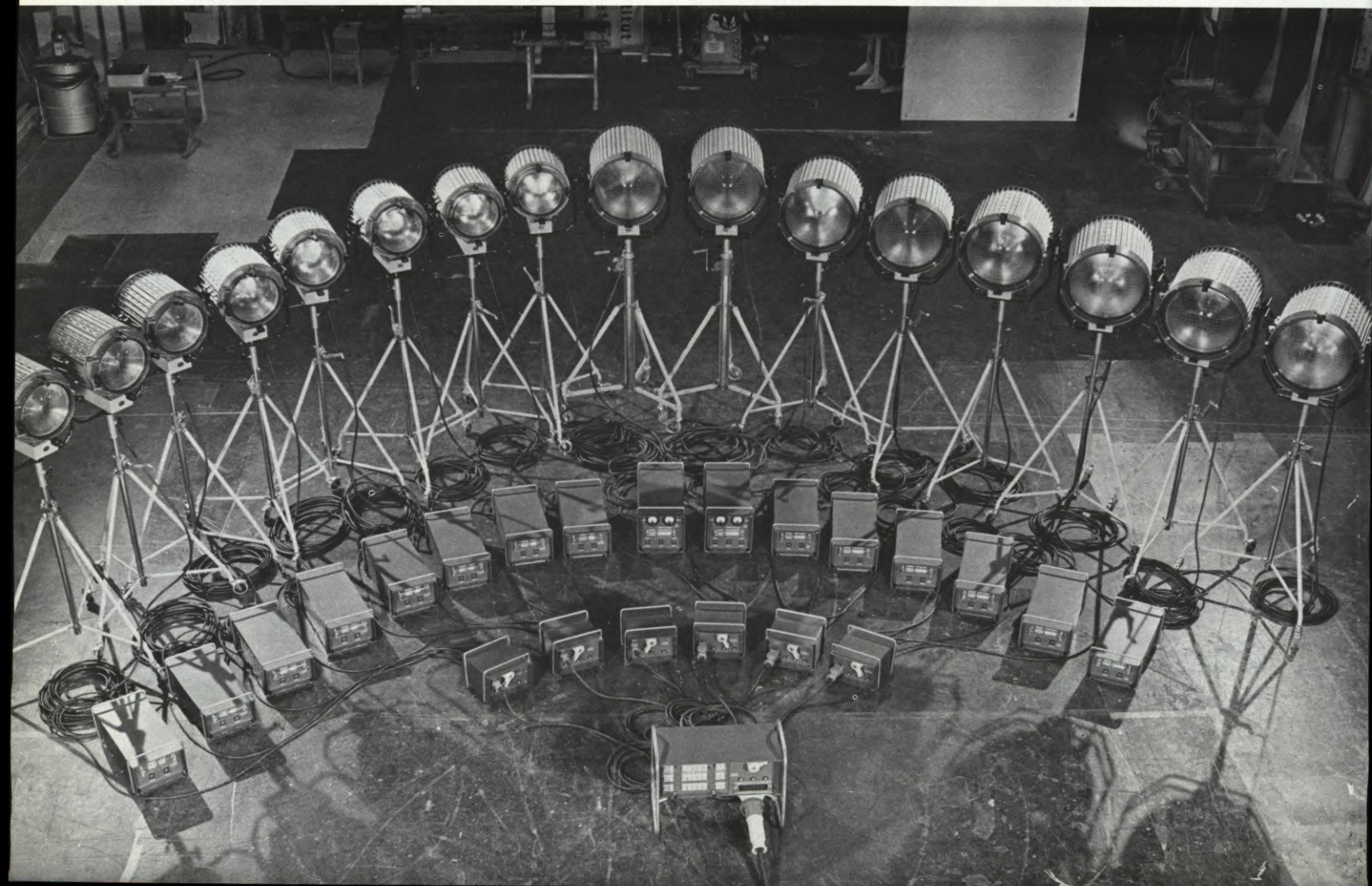
The lighting had to be bounce light in order to be "shadowless". A four-foot by eight-foot by 3/8-inch standard plywood panel was used as the basic module. Twelve outdoor-type fixtures for Par 38 bulbs were mounted so that each bulb face was 18 inches from the panel and faced the panel. The panel surface was painted with a high-reflectance, high-temperature paint. In between the bulb and the plywood panel was placed a frame which held a Rosco Blue daylight conversion filter. The assembly was very light and sturdy and withstood the severity of the wind and water.

Forty assemblies of this nature were hung from the grid of 1/4-inch cable which hung from the telephone poles. They covered the entire shooting area evenly and, although they swung vigorously during the creation of the hurricane, they survived with no mishaps. However, because of the amount of water poured over the bulbs and the sockets and the connectors, all plug-in connectors had to be replaced by soldered connections to prevent shorting.

The ColorTran converters also had a feature which helped to prevent the explosion of bulbs. Prior to the actual storm effect, the bulbs were lit with a stand-by voltage of 120 volts. Then, while the water was pouring on them, the voltage was slowly increased to 170-to-180 volts. This slow increase in voltage reduced the thermal shock and prevented explosion of the bulbs.

In addition to the above lighting, frontal lighting from behind the camera positions was also used. This was bounce light, too. Sven Nykvist asked that some large 12 by 12 panels be placed behind the cameras and two-to-four Arriflex four-kilowatt or eight-kilowatt fresnel lights were bounced against them. The combination of both types of lighting provided him with the texture of lighting he desired.

The full complement of HMI lighting equipment supplied by Arriflex of Germany included two 8KW, six 4KW and eight 2.5KW luminaires, plus power supplies for each light and a dual distribution system which was remote-controlled and impervious to salt water, humidity and moisture. The factory replaced potentially corrosion-prone parts with stainless steel and performed tests to meet all of the anticipated conditions. There was not a single failure during the five months of operation under the most severe conditions.



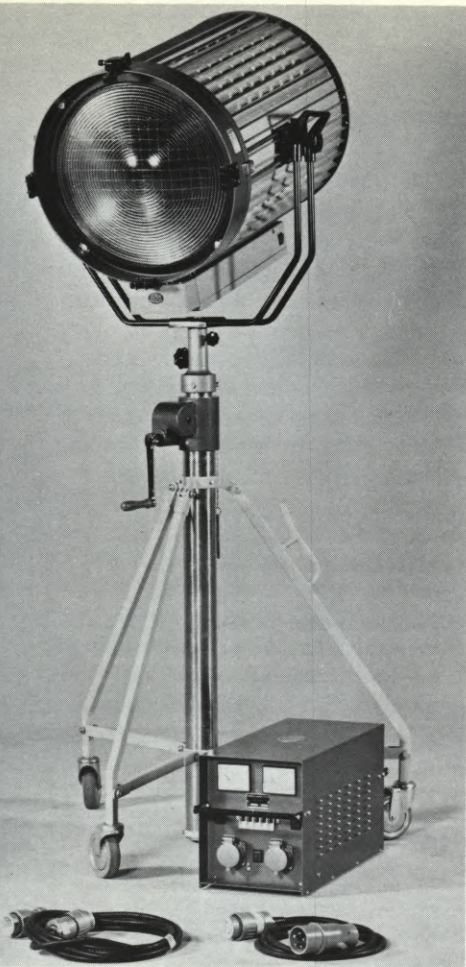
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The Arri 8KW HMI lamp utilizes two 4KW HMI bulbs and produces about 50% more light than a 4KW light, providing a very powerful single source of light as required.

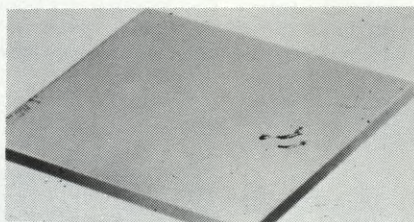
What is most important is that this lighting system permitted shooting all night with security that the "look" of the scenes could predictably be duplicated or changed. Thus, the shooting proceeded quickly and with confidence.

HMI LIGHTS

I previously mentioned the use of HMI lights. Sven Nykvist, while shooting in New York on KING OF THE GYPSIES, used a certain amount of HMI. His experience was excellent and, although he encountered a small amount of flickering at the beginning of shooting in New York, the problem was quickly brought under control. He recommended the use of HMI for the main lighting of HURRICANE.

Knowing the problems we faced in Bora Bora, I made a careful investigation of all the available makes of HMI. The equipment we needed had to perform under the most rigorous conditions of rain, humidity, salt water and corrosion.

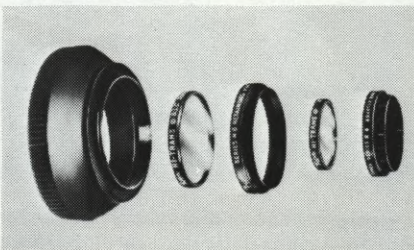
From the point of view of light output and coverage, all of the types of equipment made by various manufacturers were similar. However, from the point of view of fulfilling our rigorous require-



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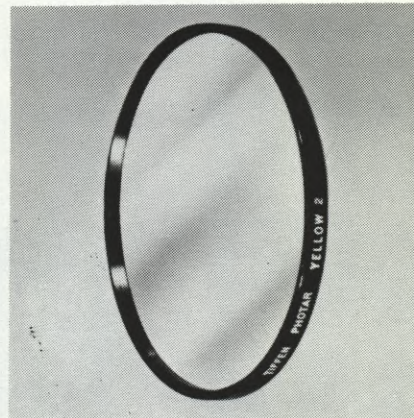


Adapter Rings

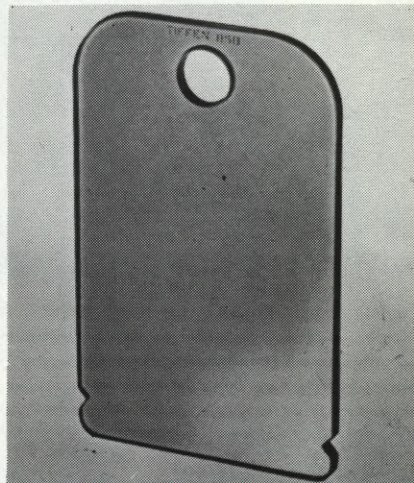
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(ABOVE) Lighting system designed to permit shooting of daylight hurricane sequences at night mixed HMI light with soft, shadowless overhead lighting. The modular 4 x 8-foot white-painted plywood panels each supported 12 150-watt PAR 38 bulbs, which were boosted to 3400°K and changed to "daylight" color temperature with Rosco Blue filters.



(ABOVE LEFT) Water chutes and dump tanks, designed and manufactured under the supervision of Glen Robinson, who headed the Special Effects crew. (LEFT) Sven Nykvist (behind the Arriflex 35BL) and Jan Troell (behind the Arriflex 2C, with rain deflector supplied by Cinema Products). (RIGHT) The "key" or frontal lighting for this night-for-night sequence was provided by strong HMI lights bouncing against large white reflectors.



ments, the Arriflex HMI lights surpassed the others. In addition, the factory was able to replace potential corrosion-prone parts with stainless steel and they performed tests to meet our conditions, so that we had security that the equipment would continue fully operational for the entire shoot of five months. In addition, Arriflex was the only company which could provide us with a full and safe distribution system from the generator to the lamp head. We must remember that with HMI there is high voltage plus alternating current. Any leaks in a wet and salty environment would be very dangerous for the crew. The following is a copy of the report on what special pains were taken:

HMI Lighting Units.

The whole project was based on environmental conditions of 50° C (122° F) air temperature and 90% relative humidity. On this basis, the lighting units were tested by TÜV (German Safety Authority) in one of their climatic test chambers. *This test showed that the catalogue lighting units were capable of operating under these extreme conditions and the only change requirement was in the area of the electrical switches, which were replaced by waterproof versions.* The completely silicon-sealed starter bay and the use of corrosion-resistant materials in the standard lamp head proved their worth in this application.

Power Distribution System.

The distribution system comprises the main distributor with 60KW capacity and two subdistributor types for the decentralized connection of 8KW, 4KW and 2.5KW lights. All cables were, depending on the power han-

Continued on Page 296



(LEFT) Overall view of the south end of the 160 x 160-foot tank built on Bora Bora for filming the hurricane sequence. The telephone poles seen around the periphery of the tank supported a grid of ¼-inch stainless steel cables which held the bounce light assemblies 30 feet above the tank and created a shadowless daylight effect. All of the daylight sequences were shot at night. (RIGHT) Producer Dino De Laurentiis and Technical Consultant Milton Forman discuss the construction of the lighting grid over the huge tank. De Laurentiis was personally and closely involved in every technical aspect of the filming.



(LEFT) The 160 x 160-foot tank during construction. There was a real hurricane during this period which made the pouring of concrete impossible. Although the tank was delayed in construction, the final shooting schedule was completed on time, because shooting day scenes at night eliminated delays ordinarily caused by changing light conditions. (RIGHT) Installing lights over the tank. (BELOW) The man-made hurricane rages at full force.



**THE NEW ZEALAND
FILMMAKING SCENE**
Continued from Page 249

the-moment image, commissioned newsreels that would publicize New Zealand abroad. That is still a part of NFU's function, I gather—but only a part.

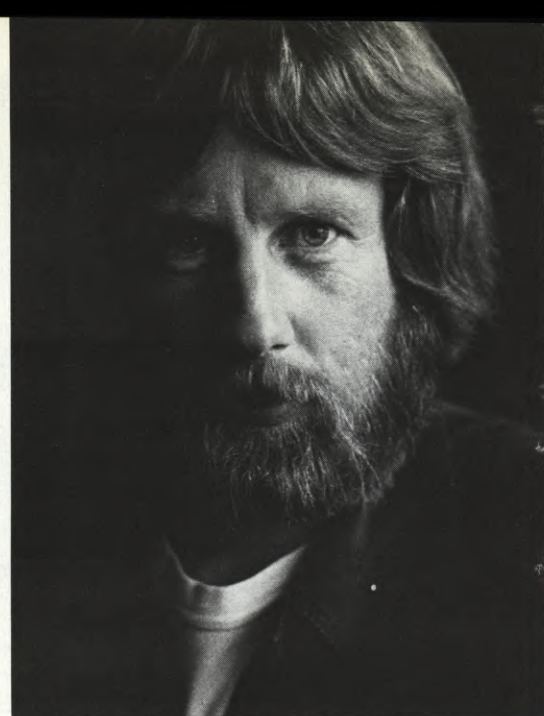
Bill Sheat explains to me the function of the New Zealand Film Commission. Like its counterpart in Australia, it has been set up to encourage local film production, including features. And while it does not wholly finance such projects, it helps out with grants and loans to augment whatever funds are acquired elsewhere. I gather that the Commission has been helpful in funding several of the feature films that have been made here during the past year, but the point is made that in a country of 3,000,000 inhabitants

a viable feature industry can exist only with government help and a world market for at least some of the product.

On With The New . . .

The next morning I am picked up from my hotel by Don Oakley, Chief Camera-man of the NFU. He is a warm and amiable veteran of many years behind the camera, a highly skilled technician who has had to make do over the years with less than the latest and best equipment, but whose final product on the screen never betrays that fact. He is obviously excited at the prospect of moving into the new film complex.

"At last we'll have the facilities and some of the equipment we've needed for years—although not all of it," he tells me. "We'll have to add the rest bit by bit as



Geoff Steven, director of SKIN DEEP, is one of several young filmmakers finding opportunities in New Zealand's revitalized feature film industry.

budget allows, but we're taking a giant step forward."

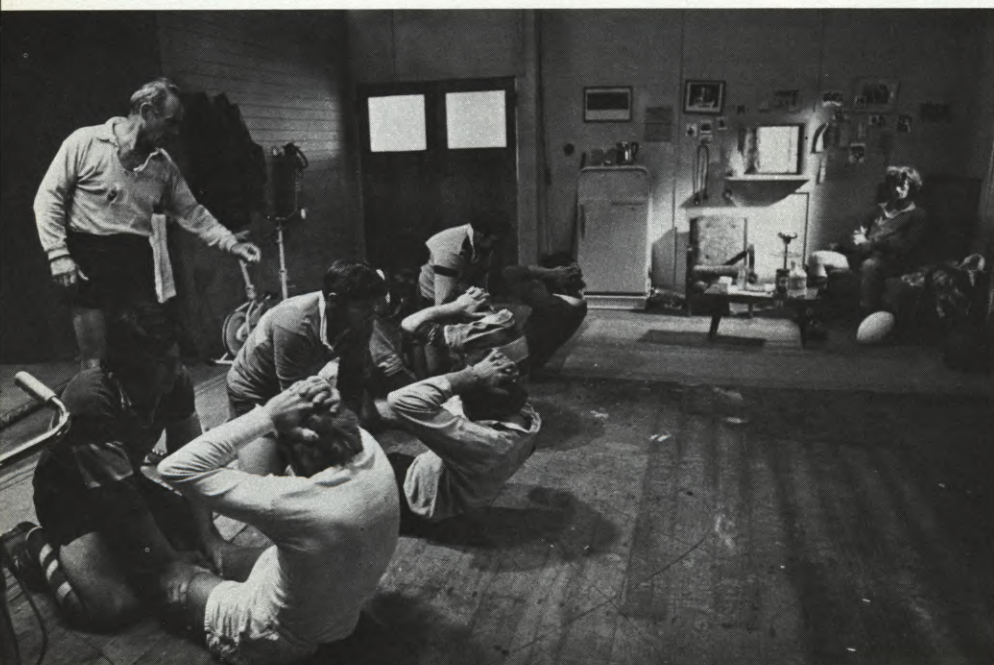
The "giant step" turns out to be a magnificent complex of spanking new, ultra-modern buildings nestled between a golf course and rolling green hills in an area called Lower Hutt (I keep wanting to ask if there is an Upper Hutt) located about 15 miles from central Wellington.

Once inside the foyer of the impressive three-story (plus basement) Administration and Production Block, I am immediately aware of the careful thought and tender loving care that has gone into the realization of what I see before me. Ten years of planning and five years of construction have paid off handsomely in the form of a superb film-making facility.

Inherent in the architectural and interior design of the complex are two elements that predominate: space and color. Someone (probably quite a group of people) had a keen awareness of how important positive surroundings are to creative people. The decor is color-coordinated in impeccable taste throughout the complex. It is cheerful and stimulating without going overboard. The sense of space is both very real and accentuated in illusion by the design. In certain areas there would appear to be a bit more space than is currently necessary, but the designers have wisely planned ahead for the expansion which seems absolutely inevitable for such a marvelous facility. When one bears in mind the fact that this complex is to serve not only the needs of the National Film Unit, but the New Zealand film industry in general (plus, hopefully, some foreign



Director of Photography Leon Narbey explains a shot to Camera Operator Paul Leach (behind camera) and Focus Puller Sean Leslie on the set of SKIN DEEP, one of four features filmed locally in New Zealand during the past year. (BELOW) Vic Shaw (Alan Jervis) trains local rugby team in a scene from SKIN DEEP.



production companies) then it becomes evident that there really isn't much space to spare. I especially feel this way about the 58 x 86 x 22-foot sound stage. It's a fair size—but there's only *one* of it. I'm convinced that if this complex catches on with the industry at large (which I'm certain it will), at least one more stage of similar or larger size will have to be constructed.

At the moment, because the large stage still lacks its finishing touches, the music theatre has been pressed into service as a shooting stage for a documentary feature called *JACK WINTER'S DREAM*. It contains a wonderful set representing the interior of a miner's cabin. No fake "movie" materials have been used. It is constructed of real slate and mortar. They'll probably have to blast in order to strike the set.

Living up to its basic concept as an "everything in one place" complete motion picture production center, the complex has its own laboratory—and a most impressive one. There is no need for filmmakers shooting on the stage to waste time transporting their footage to a lab distant from where it was shot. Actually, the laboratory of the National Film Unit has, over the years, become a quite profitable entity and 60% of its work is done for the industry at large. I have a feeling that given these new and expanded facilities, that percentage will increase.

If I sound impressed by the NFU's new Fairway Drive Studio Complex it's because I am. They would appear to have done everything right and the smiles on the faces of the personnel working here attest to their happiness in being here.

Someone tells me (in awed tones) that this complex cost almost \$10,500,000, and while that is undeniably a great deal of money in a nation of only 3,000,000 people, it strikes me as the greatest bargain of all time. I'm sure such a facility could not be duplicated in the United States for less than four times that amount.

Official Opening Ceremonies

In the afternoon, the long-awaited moment arrives—that in which the complex is officially opened to the nation and the filming community. It is an auspicious occasion, to say the least, and the spacious foyer is filled with very important looking people, plus a contingent of free-wheeling spirits from the world of motion picture production. I'm with the latter group, trying to behave like a member of the former group—no boisterous capers or outrageous dialogue.

Many seats have been set up in neat rows in the spacious central courtyard

between the buildings of the complex. Hard by is a huge pool of water that looks suspiciously like a swimming pool. I'm told it is there for strictly decorative and fire-fighting purposes. "However," David Fowler says innocently, "one couldn't possibly police it constantly to make sure that nobody swims in it."

My invitation states that I am to sit in the M.P. Section. When I was in the army, "M.P." meant Military Police, but here it means Member of Parliament. Surrounded on all sides by these governmental dignitaries, I have my moment of glory.

David Fowler keeps his opening remarks very brief indeed and Prime Minister Robert Muldoon does likewise in presenting his official opening ceremonies speech. After that, in groups, the

visitors from far and near are given a conducted tour of the facilities. There is also a formal reception, at which I manage to be on my best behavior for what is just about my limit, but the real party is going on in the *JACK WINTER'S DREAM* set down on the music theatre stage. Here the just plain film folk—my kind of people—are hoisting a brew or two in celebration, and it's a good thing the set is made of real slate and mortar.

A Glimpse of Film Fare

In the morning I am collected at my hotel by NFU Producer Derek Wright, who drives me to the old Miramar studios where I am to be treated to a smorgasbord of short films made by the National Film Board.

Continued overleaf



A street riot scene from *SLEEPING DOGS*, the most ambitious film ever made in New Zealand. A stunning social comment, it is also potent screen entertainment and should do well in the world market. It benefits from a cohesive script, taut direction, mood-filled photography and well-staged ensemble acting. (BELOW) Roger Donaldson, 33-year-old Producer/Director of *SLEEPING DOGS*, immigrated to New Zealand from Australia.





The New Zealand National Film Unit's old "Miramar" studios in Wellington. The center of government film-making for half-a-century, they were built in 1928, and finally vacated 50 years later. (BELOW RIGHT) In sharp contrast to the old Wellington studios, National Film Unit's new complex in Lower Hutt, 14 miles from the capital city, contains room for expansion. The 190,000 square foot studios are self-contained, housing sound stage, all post-production facilities, and laboratory, under one roof. Low rise design is environmentally suited to largely residential area in which the complex is situated.

It turns out to be a delectable feast. *RACING RIVERS* is a pulse-pounding documentation of a mad power-boating steeplechase held on the country's natural waterways and it's a real stunner. It also gives the viewer a varied kaleidoscopic view of New Zealand's spectacular scenery.

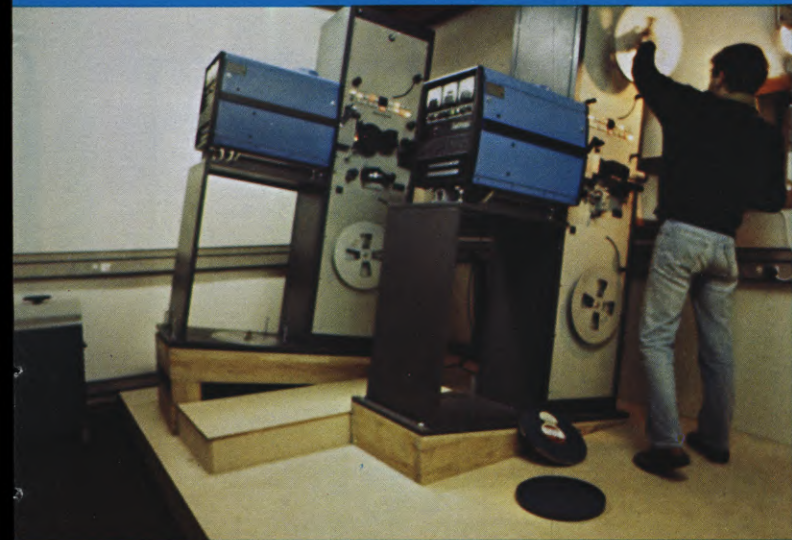
THREE WOMEN is a three-part insight into the lively careers of a trio of extraordinarily talented ladies.

FESTIVAL is a semi-surrealistic cinematic *pot pourri* detailing the let-it-all-hang-out shenanigans that highlight a local carnival. It's great fun to watch the
Continued on Page 309



(LEFT) The laboratory's main processing floor, which will house ten machines. Most of the processing plant is Australian-made by FilmLab Engineering Ltd. The spacious, easily-maintained processing area is in sharp contrast to the cramped and wooden-floored rooms in the Unit's old studios. (RIGHT) Shown here under construction in late 1978, the NFU's 58' x 86' x 40' Sound Stage comes into use in May 1979. Unique in New Zealand, it will be available to independent producers as well as the Unit.





(LEFT) High-speed Magna-Tech projectors are a feature of the Dubbing Theatre's projection booth. (RIGHT) NFU Sound Director, Ron Skelley, at the 12-track Neve Mixing Console in Dubbing Theatre No. 1. A second Dubbing Theatre and a Music Stage have yet to be commissioned. Music Stage can double as a shooting area, and is already in use for this purpose.

(LEFT) NFU Manager, David Fowler (extreme left) sits in on rehearsal on the set of JACK WINTER'S DREAM, a telemovie based on James K. Baxter's radio play. Set, built in the Unit's music stage, recreates an 1880 tavern on the New Zealand goldfields. (RIGHT) JACK WINTER Director of Photography Kell Fowler takes a reading before shooting scene with actor Martyn Sanderson. Fowler, director-cinematographer of the Unit's 1964 Academy Award-nominated 140 DAYS UNDER THE WORLD, also handled principal photography on the Unit's noted three-screen documentary THIS IS NEW ZEALAND.



The National Film Unit installed New Zealand's first 35mm color processing plant in 1971. Now, in its new studios, color grading and analysis can be carried out for the first time in work areas designed for the purpose. Providing a full service, from processing "rushes" to post-production and release printing, the laboratories are planned for continuous operation. The block has two viewing theatres. Vacuum and compressed-air systems rid the processing labs and editing rooms of dust.



LIGHTING "GOIN' SOUTH"
Continued from Page 277

ate a subtle ambience from a broad source.

Whenever we used the softlights on day sequences, we used Tough Blue 50 without spun. We found that the quality of the light was softened by the blue gelatin itself, and further diffusion was usually not necessary.

An example of our day interior lighting that stands out for its beauty and uniqueness is the saloon interior. (EXAMPLE 1.) The scene begins with a 180° pan, followed by a return pan that brings Jack and the Deputy into the room. We watched the blocking once, then set to work on the lighting.

Conceptually Nestor felt the scene should appear as a primitive saloon whose only illumination was soft diffused light coming from the windows. Because of the nature of the shot, most interior lights had to be rigged high. All lights were daylight-balanced with FAY globes and Tough 50 on softlights.

The simpler the lighting can be made, the more Nestor prefers it for its beauty. Thus, as we moved from master to close-ups, fewer and fewer lights were used, to the point where some close-ups were done with only one small softlight.

Another striking day interior was the jail sequence which follows the main titles at the beginning of the film. (EXAMPLE 2.)

This scene began with a dolly move and a 270° pan inside a tiny jail cell crammed with an Elemack dolly, a grip, a focus man, an operator, and Jack Nicholson. There was virtually nowhere to put any lights.

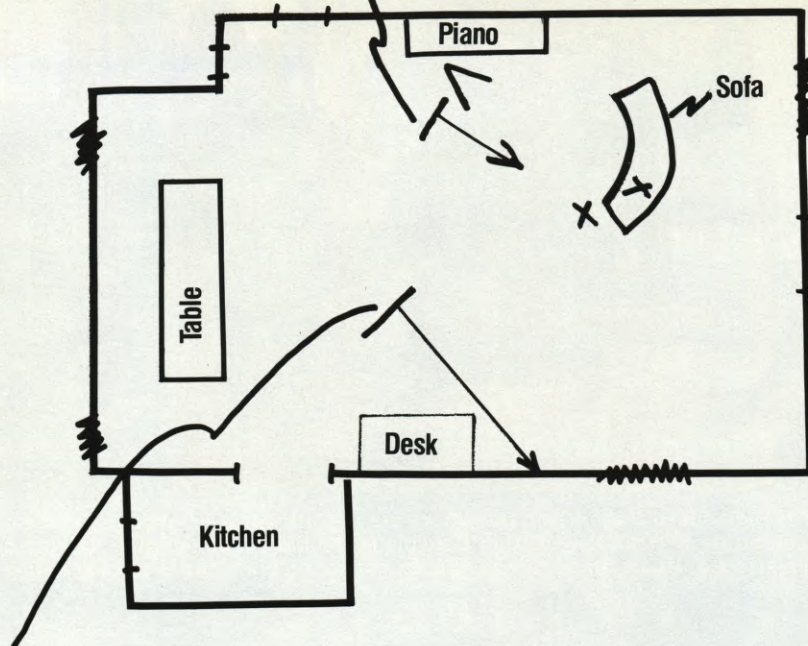
The answer, as always, was Nestor's concept for the film. Before the jail was even built, he had said to me he saw the jail as a dark building illuminated only by the hard rays of the sun beaming through the tiny windows. Thus what developed was a dark, foreboding interior, contrasted with golden rays slashing through the darkness.

The shot opens with Jack's head wiping across the lens to reveal his over-the-shoulder POV out the window. Then the camera counters with him as he moves across the room to the cell-door for dialogue with the deputy.

Nestor liked the exterior slightly overexposed for the feeling of a dry hot Texas sun. (Later in the film this exterior overexposure would be used to an extreme for the natural phenomenon of looking out a very bright window and not being able to see much until your eyes adjust to the light.)

The jail opening shot begins with Jack

2K Lowel, high on stand, spun, 1/2 MT2
—both globes.



2K Lowel, one globe, spun, 1/2 MT2
—bounced off wall.

EXAMPLE 5—"ARGUMENT" (Exposure: f/2.5, push 1)

underexposed about four stops and the exterior overexposed one stop. As we begin to counter, the camera iris opens about a stop as the interior of the cell is revealed. By the end of the move, the iris has been opened two stops, to an f/4, and we are looking across Jack's back as the deputy steps into a slashing ray of sunlight.

For this slashing light we spotted an arc from a side window to rake across the cell door. It gave us what we wanted, but we needed a little more ambience in the cell area for Jack's cross and for later coverage.

To solve the problem, we removed the doors from a nine-light, stapled a white card to the ceiling, taped Booster Blue to

The author, Gaffer Hal Trusell, and Jack Nicholson swap yarns between set-ups on location. Of Almendros, whom he greatly admires, Trusell says: "He sees light as a marvelous condition of nature, to be appreciated and utilized whenever possible for its incomparable beauty. For interiors, if natural light is not available or sufficient, he designs the light to appear completely natural."



the card, and rigged the nine-light horizontal about six inches from the card. We bounced six globes and just cleared the 1:66 aspect ratio area (kept safe for world-wide distribution).

The photographic results of this scene were so striking that the sequence was edited using the light to full advantage.

Lighting with Almendros is never boring. You are always looking beyond convention for that combination of reality and art that takes you a step beyond your expectations.

No matter what the scene, the eye was always searching for that perfect combination. On night exteriors, vividness of color and surreal expression of illumination were characteristics constantly challenging the imagination.

Two such night exteriors were the "Hermine in woods" scene (EXAMPLE 3), and the "share gold" scene (EXAMPLE 4). Both are totally different in design, yet masterful in conceptual expression.

"Hermine" was photographed next to a river under a clump of trees. Looking up through the trees to the real moon, Nestor was reminded of a "B" picture he had once seen, *REVENGE OF THE CAT PEOPLE*, or some such title.

What he remembered was the way the light produced millions of shadows of leaves and branches on the people's faces as they ran through the forest. It was a design he had always wanted to use, and now he had the opportunity.

To create the same effect, we mounted two arcs to our Titan crane and raised them above the trees, aimed downward. The shadow patterns, the river reflecting a streak of blue moonlight, and the combination of colors and gels produce an eerie tension that forebodes the scene's ominous climax. Exposure was $f/1.4$ at push 1. (The moonlight reflecting on the water was a touch Nestor remembered from *SUNRISE* by F.W. Murnau, 1927.)

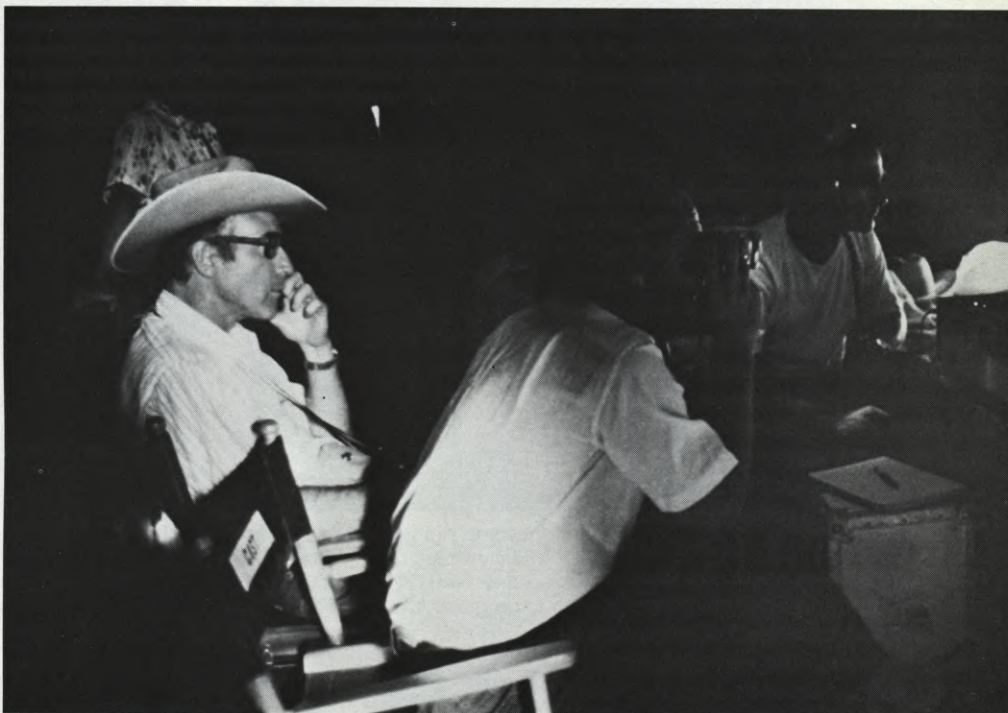
The "share gold" scene is romantic—exactly the opposite in mood. Therefore, the lighting design necessitated a different approach. What developed was a concept of softness and tenderness.

On a rocky outcropping by the river, Jack and Mary Steenburgen talk about spending their gold. A lantern sits on a rock next to several pouches of gold, a small campfire burns nearby, and the real moon rises behind them. The light is very simple, frontal and soft, with a soft back-highlight from the campfire. All else is the inky darkness of night. Exposure was $f/2$, at push 1. (Even at this exposure, the moon on the horizon registered very well on the film.)

An example of Nestor's simplicity in lighting a night interior is a scene of Mary



Video technician Louis Mahler adjusts the video image, as the camera and dolly are silhouetted against the actors who are performing the actual take. (BELOW) Almendros was able to attune his eyes to the contrast reproduction of the black and white image with astonishing quickness, so that he was able to look at the TV image and see if lighting adjustments were necessary.



and Jack arguing after she has caught him with Hermine. (EXAMPLE 5.)

The key light here is the Lowel softlight next to the camera. Because Mary was seated and delivered her lines looking up at Jack who was standing, we found it desirable to raise the light high, giving her jaw-line a pleasing shadow. The direction of this source was based on a kerosene lamp we had established in the master.

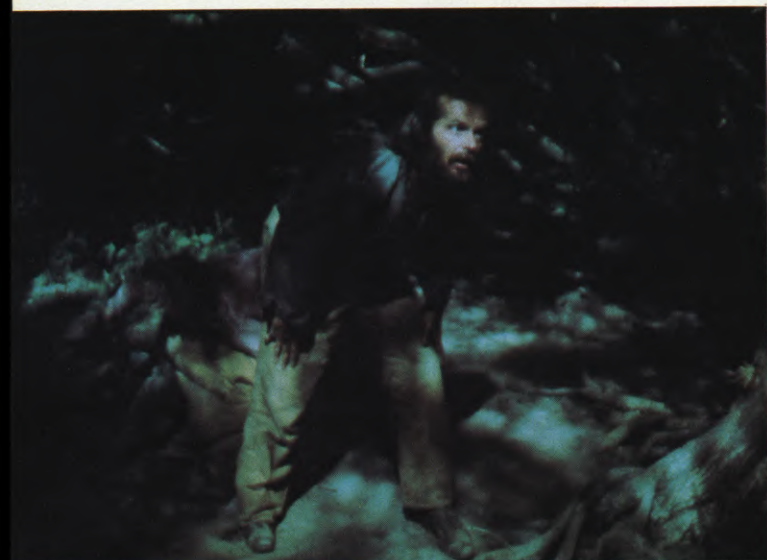
Another 2K Lowel-Light with only one globe bounced off the far wall, which added a slight overall ambience and rounded out the background. The meter

reading was for the highlight, in this case frontal, and was $f/2.5$. The lens was a Panavision 35mm set accordingly at $T/2.5$.

There was not a zoom lens used anywhere in the film, Jack and Nestor preferring prime lenses for their classic form and optimum clarity and resolution.

Three kinds of kerosene lights were used in the film: table lamps, table lanterns, and portable lanterns. All were powered electrically to get enough light from them as a key source.

Table lamps and lanterns were lit with conventional 100-watt bulbs. Table lamps



(LEFT) "Hermine in the Woods" (EXAMPLE 3). Two arcs on a crane with blue carbons, Y-1, 1/2 MT2 and 1/4 Blue produce this eerie effect of color. Exposure on highlights was f/1.4 at push 1. (RIGHT) Jeff Morris as "Big Abe" stands in expressionist moonlight. (BELOW LEFT) Mary and Jack kissing in the gold mine are illuminated by two lanterns. Augmentation here was made with inks with snoots (one for each face), diffused with MT2 and Double Tough Spun. (RIGHT) "All day long" gold mine sequence. (EXAMPLE 6).



(LEFT) Jack Nicholson at the table counting his gold. Warm light comes from fireplace (creating a certain natural backlight), as well as off-camera kerosene lamps. (RIGHT) Mary Steenburger reads by the light of a 100-watt kerosene lantern. Camera side of chimney is opaqued with dulling spray, bulb is sprayed with yellow paint and off-camera side of chimney is left clear to provide "key" light. A Lowel softlight on a dimmer, diffused with spun glass and 1/2 MT2 provides the overall ambience. The softlight was placed directly beside the camera lens.



had a "sleeve" of 85 gel around the bulb for color; table lanterns had bulbs painted yellow.

We took a knife and scraped vertical lines (or rays) along the face of the painted bulbs. This gave us a striated light effect such as a flame might give. The transparent chimneys were sprayed heavily with dulling spray on the camera side and left clear on the opposite side. That way we could rotate the open side of the chimney just out of camera to give us optimum source effect on someone's face, while keeping the "dull" side to the camera to prevent the lantern from "burning out" on film.

All lamps and lanterns were powered by AC and each had a household AC dimmer attached to vary the intensity as needed. (Sometimes for added realism we would drop smoldering bits of incense into the chimneys to give us the subtle effect of smoke from the wick.)

Initially we used a very fine copper wire to power the portable lanterns. Restrictions caused by the danger of the wire showing forced us to try eight 1.5-volt flashlight batteries linked in series. These were fitted into the bottom of the lantern and activated by a small toggle switch.

A tiny Phillips #12336 bulb was wired in place of the lantern's wick, and one side of the chimney glass was sprayed with dulling spray.

At this point in the film, portable lantern scenes were infrequent and this system worked fine as long as only a few takes were required. However, once we began our major lantern sequence in the gold mine, the short life of these batteries became a problem.

One of my electricians suggested that Yamaha made a small 12-volt battery. We bought one and it fit perfectly into the bottom of the lantern, giving us a brilliant and constant light source. In the context of the lighting design for this sequence, the power and effect of this lantern was to play a major role.

Nestor's design for the gold mine was simple and realistic: lanterns would be the only apparent illumination.

At the beginning, when the tunnel was shallow, there would be only one or two lanterns carried by the actors, and the tunnel would be very dark.

As the mining progressed and the tunnel went deeper and deeper into the mountain, lanterns would be hanging on cross-beams and there would be more ambiance. Finally, the sequence where gold is discovered would be the brightest of all, with golden light sparkling off the golden vein.

Mine sequences were shot at between $f/1.2$ and $f/1.8$, at push one. We would



A perfect example of Almendros' willingness to step beyond convention. Propmaster Marty Wunderlick made a candle with three wicks braided together and a slight (one footcandle) fill was added with a heavily diffused inkie. The key was three footcandles (obviously), amplified to about five footcandles by mirror we are actually looking into here. Lens setting was T/1.4 at push 1.

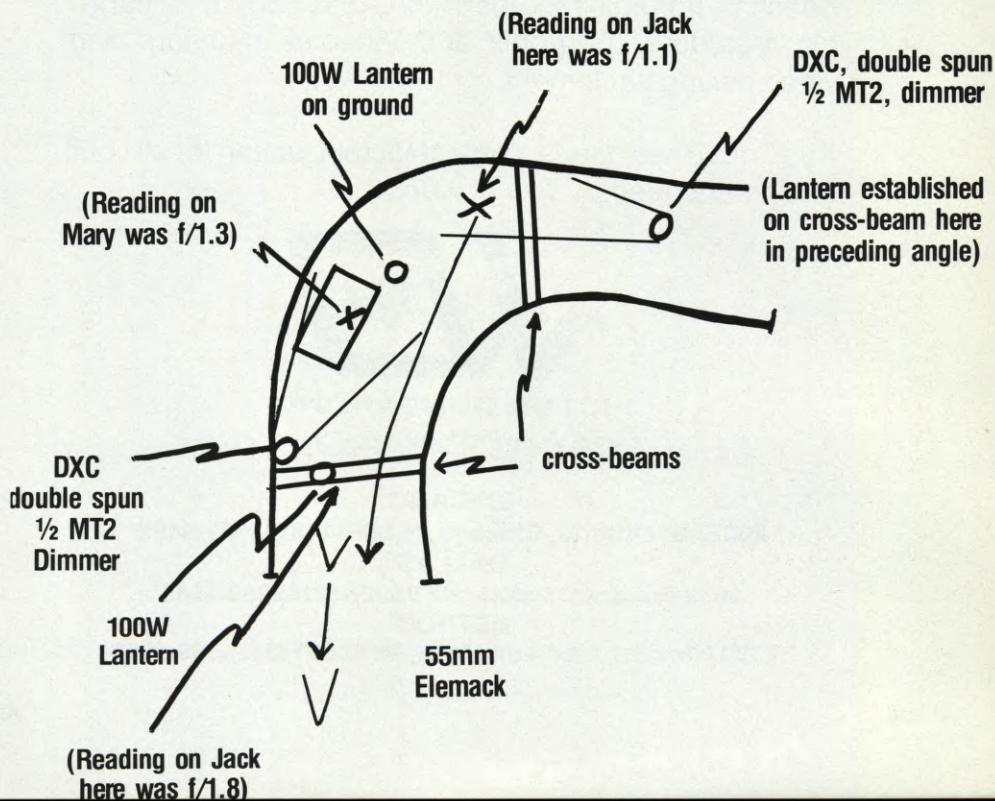
read the light on our hand one foot from the lantern and have the actor hold the lantern up into frame, near his face. Our key was therefore about twelve footcandles, but this was optimum. Because of the distance the faces would be from the lanterns, we were depending on the reach of the film for our exposure.

Nestor told me before we began the sequence that his experience on DAYS

OF HEAVEN had shown him "it is amazing what the film can see." He was right. Until you've done it, it is unbelievable. (At one point in the film as Jack searches for the gold vein, he is underexposed five stops below $f/1.4$ —and yet you can still see him.)

For added realism while Jack and Mary are digging the mine, Jack wanted
Continued on Page 302

EXAMPLE 6—"ALL DAY LONG" Sequence (Exposure: $f/1.4$, push 1)



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FILMING "HURRICANE"
Continued from Page 286

dling capacity, color-coded and equipped with non-reversible, splash-protected plugs. The subdistributors are stackable. The entire system features a continuous safety ground routing system.

We had absolutely no trouble with flicker when using the HMI lights. The reason is that we had generators which permitted the frequency to be set from 45 to 60 cycles and that frequency was stabilized to within 1 percent. We specified that all the power would be supplied at 48 cycles and all the shooting would be done at 24 frames per second. The gaffer was supplied with a frequency meter for the luminaires. No problems ever developed. Of course, we did no high-speed work with the HMI lights.

In addition to the above, we used a small number of incandescent fresnel lights from Bardwell & McAlister and some soft lights from ColorTran. Because all of our power was AC, the normal three-wire connectors were not adequate. The moisture and salty atmosphere caused shorting in the sockets.

CAMERAS AND LENSES

It was Dino De Laurentiis' decision that all possible equipment was to be purchased. So that eliminated Panavision as a possible source of lenses and cameras. The film was to be shot anamorphic with an aspect ratio of 2.35-1. The Todd-AO lenses supplied by Cinema Products Corp. were tested and found to be completely satisfactory. So two basic sets were purchased. However, Cinema Products was unable to supply a full set of fast anamorphic lenses so we had to rent two fast lenses, the equivalent of 35mm and 85mm, from Crosciski. These turned out to be quite compatible with the Todd-AO lenses.

It is necessary to mention that Cinema Products has not yet developed for the Todd-AO anamorphic lenses a single, uniform system of filters, shrouds and other accessories. It took considerable manipulation and special work to fulfill all our needs and they extended themselves to do this.

The camera equipment itself included; two Arriflex BLs, one Cinema Products XR-35, one Arriflex 35-2C, one Mitchell High Speed Camera, and one Steadicam. Rain reflectors and rain covers had to be made up specially for the cameras.

CAMERA MAINTENANCE ON LOCATION

We were fortunate in being able to em-

ploy Gerhard Hentschell from Los Angeles as Camera Mechanic. This decision, and his meticulous care of the cameras and other equipment, prevented us from losing valuable production time, despite the most severe environmental conditions of rain, salt water, humidity and resulting corrosion.

The following comments may be of use to other productions if they encounter high humidity and salty operating conditions:

1. Electrical connections and plugs used in almost all battery-operated equipment are inadequate. Electrolysis developed with resulting bad connections.
2. Shock hazard is very real when using AC current. Grounded systems are mandatory and soldered connections are advisable.
3. Of all the fluid heads, the Ronford head performed best because of the sealed construction. The small Miller head performed well. The O'Connor head, because of its open construction "froze" from corrosion. The Ronford and Miller heads would only have to be hosed down to keep them operating properly.
4. The Birns and Sawyer tripods gave the least trouble. The wood was probably properly treated, since there was no swelling, even after service in the water. Most of the other tripods' wood swelled and cracked the aluminum castings.
5. The rain deflectors designed and manufactured by Cinema Products worked extremely well. On location we had to adapt them for the Arri 35BL and the Mitchell High Speed Camera. They were originally designed only for the Arri 352C. The bearings which were supplied had to be replaced by sealed bearings.
6. The flat base for the Arri 2C supplied by Cinema Products did not hold up because the electronics were not adequately waterproofed.
7. The Arri 35BL Cameras, the Cinema Products XR-35, and the High Speed Mitchell performed excellently with proper maintenance and cleaning.
8. The Pentax Spot Meter was our most reliable spot meter. The Minolta was not preferred because it does not provide a direct reading.

CONCLUSION

All in all, considering the far-flung distance, the climatic conditions and the requirements for special effects on a gigantic scale, Dino De Laurentiis' decision to film in Bora Bora was fulfilled and the technical objectives of the film were fully realized. ■

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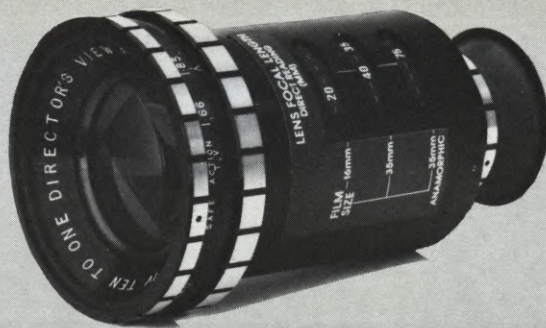
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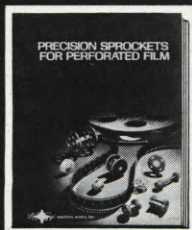
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CINEMA WORKSHOP Continued from Page 228

point would be hasty and ultimately erroneous. There are other factors that enter into the picture.

For a given film format, say 16mm, there are many different raw stocks available with respectively different qualities. A specific fine-grain, high-resolution stock may be available in the small format and yet not be available in the larger. This was exactly the case with Kodak ECO Ektachrome Commercial. Kodak developed this fine-grain, high-resolution ECO reversal stock specifically for their 16mm format, realizing the greater demands required of the smaller image area. This same technology was *not* applied to the larger gauge raw stocks, due to the greater image area available. As a result, the difference in quality between 16mm and 35mm was not as great as the difference in their respective image areas might suggest. There is a similar technological situation in video. The 2/3" tube, being the smallest of broadcast quality devices, has received a lot of technological attention. In addition, the 2/3" tube is used in virtually all broadcast-quality ENG cameras and most EFP cameras. This adds up to a lot of tubes. As a matter of fact, the 2/3" tube accounts for the great majority of all broadcast tubes being manufactured and sold for new cameras. This represents quite a lucrative market which has understandably resulted in a very competitive atmosphere among tube manufacturers. As any student of the free enterprise system will tell you, competition yields a better product for the consumer. Broadcast tubes are no exception and it is not surprising that the 2/3" tube has been the recipient of the highest state-of-the-video-art technology. The implication is clearly that the difference in quality between the 2/3" tube and its larger brethren may not be as great as the difference in size suggests.

Although the actual conversion of the optical image into an electronic signal occurs in the Plumbicon or Saticon® type tube, there is an unbelievable and staggering quantity of sophisticated electronics associated with the formation of the final composite video signal. It is obvious that the quality and sophistication of these electronic circuits will also have a great effect on the final video product. Lastly, it should be understood that video has a finite maximum performance level, unlike film projected on a screen. There are 525 horizontal lines, no more. Vertical resolution (band width) is usually limited by the monitor/receiver, VTR, or

transmission, whichever is worse. In most cases the camera exceeds the performance parameters of the other elements in the system. The bottom line is that the current state-of-the-art 2/3" ENG/EFP cameras can deliver performance very close to the theoretical limits defined by the overall system.

It should, of course, be realized that the latest generation of 1/4" studio cameras have also reached new heights in image quality as well as picture control and the use of computer technology to optimize electronic parameters. The signal from one of these cameras will obviously be superior to that from even the best 2/3" camera. However, once the two signals are retrieved from even the best VTR's and displayed on a monitor, only a well-trained eye would be able to distinguish a difference.

In many cases it is the VTR that is the limiting factor in an EFP production. This will be our next topic. ■

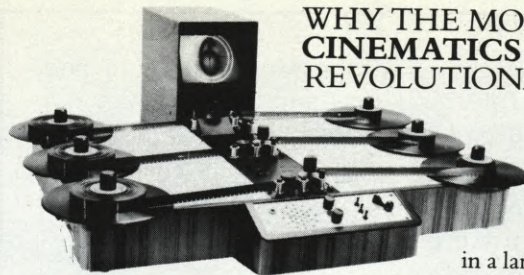
THE NEW ZEALAND NATIONAL FILM UNIT Continued from Page 253

umentary film making.

The cinema industry underwent a recession in the early 1960's, as more and more television sets went into New Zealand homes. While not substantially reducing its output of theatrical films, the Unit had to admit the existence of the new medium, and in addition to supplying programme material for it, began to service its operations. For several years, the Unit's cameramen filmed a great number of the news items seen on the NZBC's Wellington station WNTV-1.

In parallel with the expansion of television was an expansion in private production. Well-established firms such as Pacific Films, Peach-Wemyss and Robert Steel Productions went into the business of making television commercials, and were soon joined by others. Their work was processed by the National Film Unit's laboratory, and the laboratory's function assumed an importance it still has today, as the Unit's biggest single revenue-earning operation.

Continuing to support the promotion of New Zealand's image overseas, the Unit provided escort teams for visiting film makers, most of them in New Zealand to shoot television material for release in the United States, Europe, and Japan. Its own productions showed increasing sophistication. "ONE HUNDRED AND FORTY DAYS UNDER THE WORLD", covering a summer season in the Antarctic, became one of only two New Zealand films to date to be nominated for an Academy Award; "AMAZING NEW ZEA-



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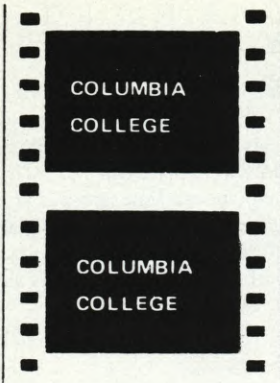
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LAND", a tourist promotion film distinguished by its wry and witty commentary, won more film festival prizes than any Unit production before or since; in 1969 the triple-screen presentation "THIS IS NEW ZEALAND" was completed, for release at EXPO '70, and ushered in the new decade with a flourish.

After its six-months run at Osaka, "THIS IS NEW ZEALAND" came back to its country of origin. In spite of the considerable logistic and technical problems of showing the film in conventional theatres, it was opened at the Embassy Theatre, Wellington, in 1971, with enormous success. Seasons in Dunedin, Christchurch, and Auckland saw the film running until early 1972.

The success of "THIS IS NEW ZEALAND" was due in large part to Geoffrey Scott's drive and enthusiasm—and his sense of showmanship. It was appropriate that just a few months before his retirement in 1973, the production was re-released in Wellington for a further six-week cinema season.

Reduced to 16mm—though still requiring three projectors to present it—"THIS IS NEW ZEALAND" was the principal attraction in Tourist and Publicity Department promotional tours of Europe, Australia, Japan, and North America, and was honourably retired after its last swing through the United States, in 1976.

Just three years after "THIS IS NEW ZEALAND" 's initial release in Wellington, the Unit's ill-fated "GAMES 74" official film of the Xth Commonwealth Games, opened in Christchurch. It found no favour with the public at large, and for a time the Unit's reputation suffered. What the poor performance at the box-office of "GAMES 74" illustrated was the basically speculative nature of film making: the acceptability or otherwise of any motion picture can't be guaranteed until it's publicly screened.

1975 and 1976 saw a revival of short-film production from the Unit, culminating in the critics' and public's appreciation of "FRESHWATER DIVE", "THE KINGSTON FLYER", "THREE WOMEN", "TAHERE-TIKITIKI", "RACING RIVERS", "FESTIVAL", and "SOMEBODY ELSE'S HORIZON". At the same time, the Unit moved closer to other producers, becoming a foundation member of the New Zealand Motion Picture Marketing Association, formed to promote the export of all New Zealand-made film and television programmes.

It participated in the popular "WINNERS AND LOSERS" television series, invested services in the Williams/Hanney feature "SOLO" and in 1977 was co-production partner with Television One in the \$1.4 million series "THE GOVERNOR".

The Unit's current success in developing television outlets in Europe, the United Kingdom, Canada, and Asia is due to both the production values of its recent films, and a more aggressive marketing policy.

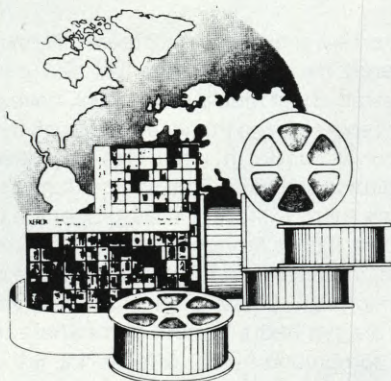
Its present production programme includes both drama and documentary subjects, ranging from an adaptation of James K. Baxter's "JACK WINTER'S DREAM" to a film on the sport of surf-sailing.

The establishment of the New Zealand Film Commission will provide a new impetus to the country's independent producers, and it's expected that there will be many areas of common interest which the Commission and the Unit will develop.

Now, in 1979, the Unit has made the biggest physical change since its inception—the move to its new complex in Fairway Drive, Lower Hutt. The new facility has been planned to cope not only with the Unit's future expansion, but also the expansion of the film production industry at large.

There have been many changes in the half century since A.A.P. McKenzie built his Miramar premises: change is the very nature of film making, and in its new home the National Film Unit will continue to adapt to it. ■

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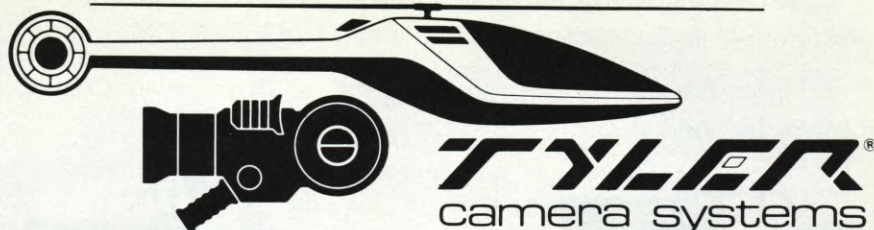
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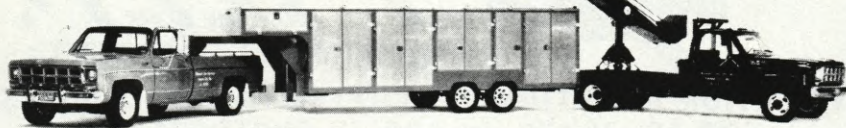
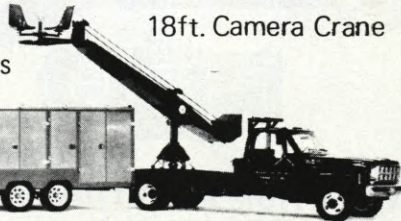
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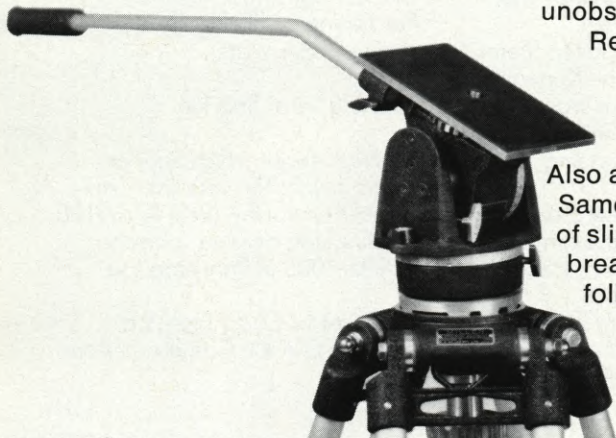
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LIGHTING "GOIN' SOUTH" Continued from Page 295

the tunnel filled with dust on every take. I was concerned that we would have to increase the amount of light for exposure, but Nestor's response was, "On the contrary, it is like a fog or a mist, if we did anything it would be to stop the lens down."

Again he was right. The dust diffused and spread the light like a billion tiny softlights. All meter readings were taken before the tunnel was filled with dust, and no exposure adjustments were made.

For close-ups, we sometimes augmented the lantern light with an inkie with a snoot dimmed way down on a dimmer, and diffused with two to six layers of spun and full or double MT2, depending on desired color.

For wider shots we hid a bare 200-watt inkie bulb behind a hanging lantern to "naturally" illuminate the tunnel and the action. We painted it yellow, powered it through an AC dimmer, and let the paint burn to a crusty color.

We would set this to the eye with a stand-in near the lantern, then read the light twelve inches from the lantern. Invariably this reading was f/1.4 to f/1.6 at push 1. Thus, the actor passing the lantern would not be up to key—usually one to three stops under on the highlights—but the reach of the film and the resulting realism make it appear to the audience as it would in nature. Such an effect is visually and dramatically uncompromising.

As we worked with the lanterns, Nestor offered me another truth he had discovered about film lighting: If you have a light source in the frame, even though the actor is underlit, the fact that the audience can see a light source (lantern) leads them to accept it as properly exposed. It is as though there is an optical illusion which makes it seem as if there is enough light on the person. In the mine we always had a lantern somewhere in the foreground frame. (EXAMPLE 6.)

A major aspect of lighting is the use of color and exposure to dramatically enhance the storytelling process. One particular sequence in the gold mine offered an opportunity to do this in a startling and unique way.

After the cave-in, Jack searches for a way out of the mine. Deep in the tunnel, he finds a ray of light coming from the ceiling. For this thin-beam effect we used a baby foco-spot with a ½ blue gel. Contrasted with the yellow of the lantern, this color effect is undeniably daylight.

Tracing the ray, he climbs into a hollow

area of the ceiling and breaks through the roof to freedom. As he drops back into the mine to rescue Mary, we flooded the chamber with 1/2 blue from the enlarged opening.

The meter reading and lens setting were based on the lantern light before the burst of daylight. The significantly brighter daylight effect was judged by eye. A meter reading showed the overexposure obviously beyond the limits of convention, but to the eye it seemed appropriate. We left it as it was, and the result, for me is one of the most visually satisfying moments of the film.

This moment seems to say visually what Nestor Almendros might say himself: "It is better to chance than to be safe. Convention is boring. By taking chances we learn, and often the unknown is the most beautiful of all." ■

**A CINEMATIC ADVENTURE
WITH DAVID LEAN**
Continued from Page 244

knew would be so important, we borrowed Lynton Diggle from our colleagues in the New Zealand National Film Unit. Lynton is one of New Zealand's most experienced cameramen, above or below the surface, and a long-time diving companion of Kelly Tarlton. Englishman Peter Ostleton, who was Kelly's salvage assistant, completed the party.

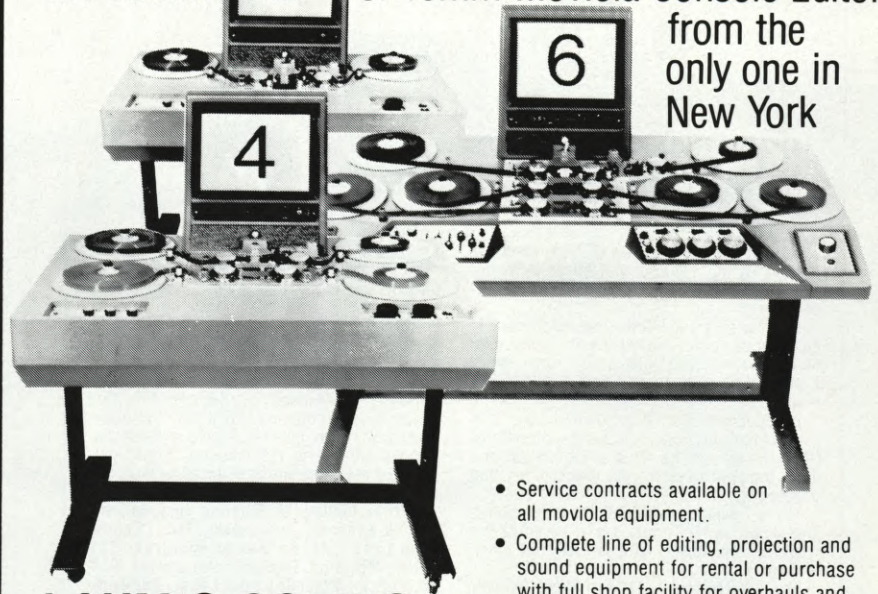
Ken Dorman took an Arriflex BL with an Angenieux 10-100 zoom and an Angenieux 12-240 zoom; Lynton used an Eclair ACL with a custom-made underwater housing. We would shoot on 7247 stock, and have our film processed at David Lean's favourite lab, MGM.

Our first three days' work in Tahiti went well. The weather was perfect and we busied ourselves with the inevitable testing and checking of equipment in the tropical conditions. Wayne was following the detail of the salvage operation as it actually occurred: checking the underwater communications system that Kell and Peter would use when diving; conducting trials on the five thousand dollar magnetometer David Lean had flown out from England to assist in the search for the two missing anchors; observing the inevitable tedium and delay caused when working at depths over a hundred feet.

What I certainly hadn't realised was the real danger faced by underwater cameraman and divers that far down. No dive to the anchor could safely last more than eight minutes, and there would have to be a wait of at least eight hours before their next descent. Otherwise, they risked attacks of the bends, and quite literally, death. Kelly told us he had lost three friends this way.

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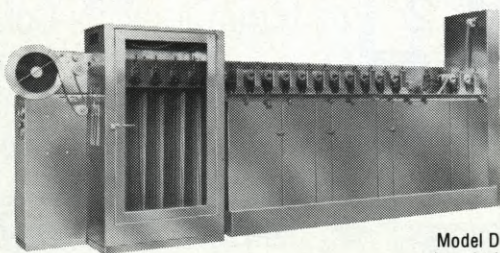
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The high point of the first week was to be a Saturday lunch on the tiny atoll where we were filming, with David Lean himself in attendance. He would like to meet the crew as well as check on progress. As this would be the first chance Kelly Tarlton would have to discuss his ideas on the whereabouts of the missing anchors with David, we thought it would be a good idea to film their first encounter, as it happened. Ken Dorman rigged up lights in the thatched eating shelter and as soon as David's launch arrived, Wayne stepped forward to tell him what we were wanting to do.

The idea clearly unsettled David, but he was far too much of a gentleman not to agree. In fact, the sequence worked splendidly. David and Kelly sparked off each other well, and Ken Dorman covered their conversation hand-held, with the steady assurance that has made him one of our top documentary craftsmen.

Then, after lunch, the bombshell. David told us that he had been thinking about some shots for the opening of the film and would it be all right if he took Ken away the next day to do some shooting? Wayne and I were dumbfounded. What scenes for what opening? How would they fit in with the opening we had already written in the script, which we had sent David weeks earlier? And what about the filming we had in mind for Ken the next day, and the schedule we were trying so hard to keep to? Who was the director on this picture anyway—our own Wayne Tourell who had come here especially to do the job, or David Lean, whose last word had been that he wanted as little as possible to do with it?

To say the least, it was a delicate situation. We resolved it for the moment by sending our Ken with David to get the shots he was after, while Lynton our underwater cameraman came topside for the day to cover the material that Ken would have shot had he remained with us.

Wayne and I went with Ken—partly to demonstrate some solidarity in what looked very much like a take-over bid, but mainly I must confess because we were both extraordinarily curious to see what David Lean wanted to do.

We should have realised at once what was happening. To David, who hadn't, after all, made a picture since RYAN'S DAUGHTER in 1970, the temptation to get involved once again in filming was proving irresistible, despite his best intentions. He simply loved filming too much to stay away. The other consideration was, of course, the script, and his own role in it. If he was going to appear in the film, and speak in it, of course he would want a big say in the way it was



going to look.

David's first filming day was a great success. He had Ken frame him some marvelous shots of the Tahiti coastline and although we couldn't understand how they would be used, Wayne and I had to admire the way he worked. He composed his shots superbly, with an energy and vigour that shamed those of us some thirty years his junior. But how was it all going to integrate with the script that Wayne was already shooting?

We got our answer that night. David and Robert Bolt, we were told, were now working on a new script for our film which they were sure we would like. In the meantime, we could keep on filming the search for the two smaller anchors and would we please set aside another two days the following weekend for some more filming with David.

It was of course an impossible situation—hardest of all on our director, Wayne. How could he be expected to continue shooting to a script which he knew was going to be replaced? If they didn't like our script, why hadn't they said so before? But on the other hand, it now looked as if we were going to have a documentary script from the typewriters of David Lean and Robert Bolt themselves—it would have been churlish to refuse.

David and Robert Bolt read me their script after lunch at a fancy restaurant outside Papeete. It would be hard to imagine a more clear-cut collision between the opposing poles of film-making philosophy.

Our script had been in the style of the films we were used to making: following live action as faithfully as possible, using lightweight portable equipment to cover events unobtrusively, hoping always to catch the spontaneous reaction or actual event in a way which illuminated and advanced our story.

David and Robert's story-telling style came from the cinema where it is not only a virtue, but a necessity, to leave nothing to chance; to control every scene, rehearse all the dialogue, plan every cut. In their world, film-makers control what happens; in ours, we allow the events themselves to shape the film, wherever possible.

In their own way, each approach is equally valid. But whatever our views it was quite clear that if we wanted to involve David Lean in the film there was only one way it was going to be done: his way.

Once we accepted that decision, life changed enormously. We soon reached the stage where we were not only shooting to a David Lean script, we had David Lean as director, as well. For cameraman

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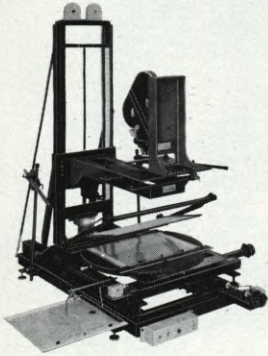
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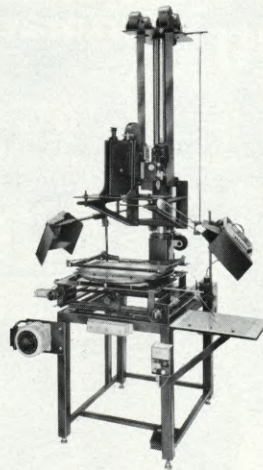
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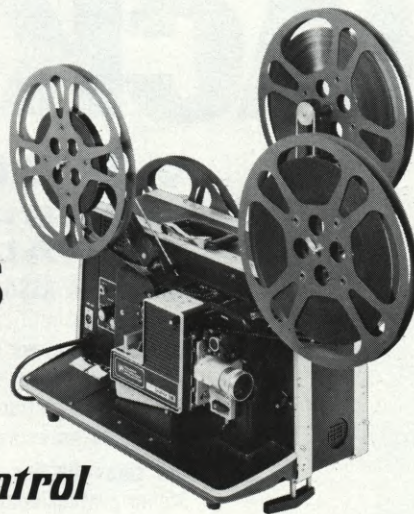
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Ken Dorman it was a daunting transformation. He had come up to Tahiti without an assistant and with a minimum of equipment to shoot what was primarily a television action documentary. He now found himself working as sole cameraman to one of the world's most acclaimed cinema directors, accustomed to all the support the best studios could offer, with an awesome reputation for accepting only the highest standards of cinematography.

Wayne now found himself acting as Assistant Director, setting up the sequences once David had decided on them.

The style of the film we now began shooting was entirely new. Every scene was rehearsed, all dialogue scripted, with nearly every shot on a tripod. David allowed Ken to shoot only after he had himself checked the framing. As he worked, we could begin to imagine how unusual our style of filming must have been for him. To begin with he was totally unaccustomed to the zoom lens. Even after a fortnight's shooting, he still couldn't get the hang of the zoom handle. He wanted to know the size of the lens and then translated it back to 35mm. Rather than asking Ken to frame wider to include more material in a scene, he kept wanting to move the camera back, as if we were on prime lenses.

But these would be differences felt by any big feature director who was settling down to the smaller format. What Ken Dorman was more aware of was the way David used what he had.

"Despite the limited equipment and crew, he made the best of what he had available. He knew what he wanted and whatever the problem, he made sure he got it, like an artist who no matter what kind of paper he had, can still somehow get that thing that's inside of him onto this piece of paper.

"He had incredible stamina. Sometimes you notice with other directors that they don't persevere to the very end to get the one shot they really want. If there are too many hassles they compromise.

"With David, you feel as though you're a bulldozer and he's ploughing you through these incredible problems, pushing everything to the limit to get what he wants. No matter what—boats breaking down or being stuck on an island from morning till night—he'll keep on going to get what he wants."

But perhaps the clearest example of David's different approach was the underwater filming. Cook's anchor was lying, remember, a hundred feet below. As David saw it, there were two overwhelming objections to our idea of trying to re-create the discovery of the anchor

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


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down there where it actually occurred. For one thing, the danger to the divers and the cameraman at that depth meant you could only film for minutes at a time. The other was that short of going underwater himself, there was no way he could control the shooting.

As we saw it, these were problems we had to live with if we wanted to make an honest film. Indeed, properly handled, they could even add to the excitement. But it was David's emphatic belief that the truth would be better served by exerting a stronger control over the filming.

His solution was characteristically simple. He asked Kelly Tarlton to haul up the anchor from its resting place and re-bury it in shallower water where the problems of the bends would not arise. Kelly found a spot sixty feet deep where he could stay for up to one and-a-half hours a day.

David then asked carpenters to build a full-scale mock-up of the anchor on dry land. Here he rehearsed exactly both the underwater movements the divers were to perform and the shots and angles that underwater cameraman Lynton Diggle was to take.

For what seemed hours at a time, Kelly and Peter would go through their weird underwater paces around the wooden anchor on the beach, with David at Lynton's shoulder, deciding exactly where he should position his camera underwater, and when he would shoot.

David still wasn't satisfied. He asked Robert Bolt to write the underwater commentary Kelly was to give in voice-over as he investigated Cook's anchor for the first time. Kelly then recorded this on land and sound recordist Raymond Moore, who had been flown up to replace an indisposed Hugh Cleverly, fed it back down through the underwater communications system when Kelly went down to do the scene. While Lynton filmed to David's precise instructions, Kelly mimed to his own commentary, matching every movement to his words.

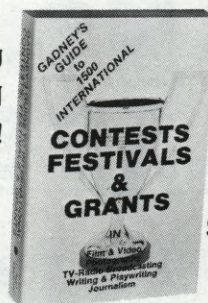
As a lesson in how to control an awkward filming set-up, it could hardly be bettered. As an example of the difference between the approaches of an old pro of the cinema and a young television documentary team, it was equally unforgettable.

David made great demands on all of us—and, to be frank, at times we cursed him for it. However, there's no question that the chance we had to work so intimately with him was an extraordinary privilege. Wayne was to say later that he learned more from those six weeks with David than he had in ten years of directing his own films.

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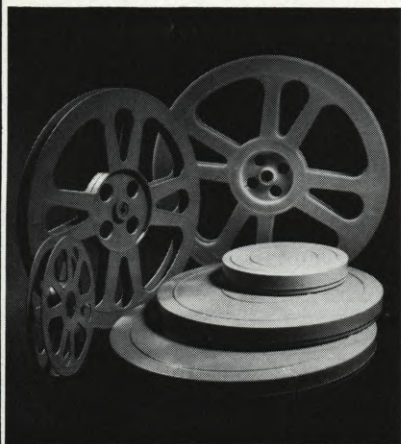
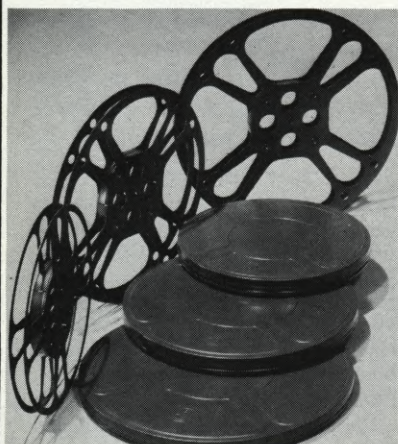
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David Lean the master technician, which he most assuredly is—but of David Lean the film enthusiast, the man who above everything loves his craft.

It came through most clearly when he came down to Auckland to spend three weeks editing the film with editor David Reed and myself. His enthusiasm was unbounded. "You know I get just as excited about this film as I do on any of my big ones," he would say, "Every morning I wake up at five o'clock thinking of a cut!" "I think it's marvellous making movies, wonderful. It's magic really, isn't it!"

And then, for a film-maker of his immense achievement, there was his breath-taking humility. While we worked cutting *LOST AND FOUND* my colleague Tom Parkinson was in the cutting room opposite completing the rough-cut of our children's drama *GATHER YOUR DREAMS*. Their door was usually open and often we couldn't help overhearing the music tracks as they played them back and forth.

During a spare moment, David got up and wandered over to the doorway to watch their sequence for a moment or two. Pensive, he strolled back to our room and sat down once again at our Steenbeck.

"What do you think of other people's films, George?" He mused, "I always think they're rather better than my own." ■

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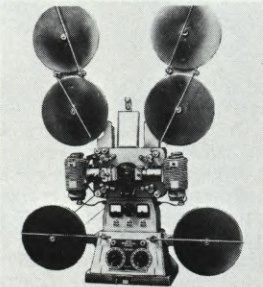
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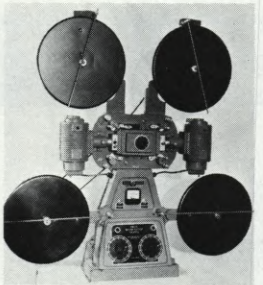
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THE NEW ZEALAND FILMMAKING SCENE Continued from Page 290

ordinarily quite proper New Zealanders, many in costume, cut loose with an abandon that would do credit to their less inhibited "cousins", the Australians.

FLARE is a spectacular skiing movie that accurately captures the heady sensations characteristic of no other sport. Being a fanatically dedicated skier myself, I thoroughly enjoy it, especially the sequence which shows a madcap group hurtling down the slopes of an active volcano.

I am delighted to have seen this cross-section of NFU short films and I am vastly impressed by the fact that not only are they technically superb (as one might expect from so professional a group of film technicians), but they reflect a freshness, originality of approach and flair which one does not often find in films sponsored by governmental agencies.

In the afternoon Co-producer/Director Tony Williams screens his feature film, SOLO, for me. This is a co-production with Australia, but filmed entirely in New Zealand. Unabashedly a low-budget production, it is very well made, and I am enormously impressed with the quality of the blow-up from 16mm to 35mm. It is the best I've ever seen and looks for all the world like original 35mm.

From the standpoint of content (thinking in terms of its possible world marketability), I have certain reservations. The film deals mainly with a young woman who has dropped out "to try to find herself"—and she never (at least during the running time of the film) manages to do so. Such themes have been done to death in the recent cycle that held sway for several years, but that cycle seems to have burned itself out by now. World-wide audiences would appear to be more interested, on a mass scale, in such escapist fare as STAR WARS and SUPERMAN.

In the evening, John King, Executive Member of the New Zealand Academy of Motion Pictures, takes me to Miramar for an informal discussion with members of the Wellington branch of the Academy. I am expecting a much older group than the predominantly young technicians who make up the Academy. That they are so much younger suits me fine and we quickly establish a free and easy shoes-off rapport.

I lead off with a rundown of the latest state-of-the-art motion picture technology as I have perceived it during recent travels around the world and then throw the meeting open to questions. Most of the questions have to do with precisely what I have just been

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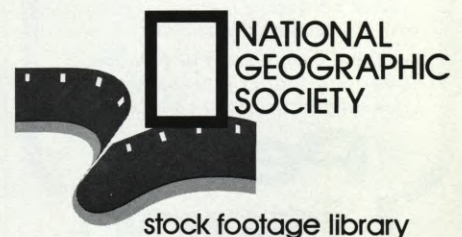
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discussing—whatever is new in the way of techniques and tools to help them make better films. They are a bright and eager group and the next few hours fly by very fast indeed.

A Tilt With TV

The next morning David Fowler and Mac Ashley collect me at the hotel and drive me to the Broadcasting Corporation of New Zealand's Television Centre, Avon. It is an imposing, rather new complex within cannon shot of the new National Film Board Fairway Drive studios.

There I meet Ken White, Head of Film Services, Television One. He tells me that a very healthy amount of film work of various types is done at this facility and that the electronic medium has not encroached to any great degree. When I ask Mr. White where he finds film technicians to join his staff, he surprises me by saying that, for the most part, he prefers to hire young people with some technical background and then train them right in the department itself. He feels that this method has worked out quite successfully.

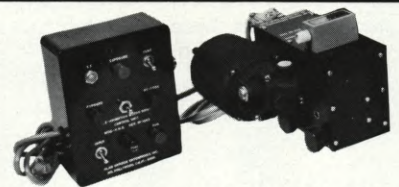
After lunch Mr. White gives me a personally conducted tour of the facility, which I find beautifully equipped and most impressive. Then it's time for my closeup, Mr. De Mille. I have been asked to appear on Television One's "GOOD DAY" talk show.

The lady in the makeup department surveys my craggy features with obvious dismay, but I put her at ease when I say, "Only plastic surgery will help." I have obviously read her mind. Be that as it may, the lenses of the television cameras don't snap, crackle and pop when I get in front of them. Taking the curse off the whole thing is producer Euan Lloyd, who is sharing the program with me. He is here to plug his latest film, THE WILD GEESE. Although he is originally from England, he has lived and worked in Hollywood for many years, so we have considerable in common.

After my smashing appearance on TV, we repair to the Fairway Drive studios where there is an informal discussion with the NFU Production and Laboratory staff. I am surprised to see quite a group of the same people who were at the Academy meeting the night before. The fact that they have come back a second time means that it couldn't have been all that bad.

This time the questions take a different tack. These people seem very interested in finding ways to make New Zealand films, both features and documentaries, more acceptable in the world market—yet they (understandably) don't want to take the easy way out by concentrating

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on foreign co-productions. The aim is to make pictures that unmistakably have the New Zealand stamp, but also have a sufficiently universal appeal to make them interesting to audiences outside the country. That is, of course, always the problem with film industries of the smaller countries. One of the men present makes the interesting comment that New Zealand has copped out by relying too heavily on its spectacular scenery to awaken film interest. There seems to be general agreement that the weakness of the industry is due to a lack of first-rate scripts (and screenwriters). In that, New Zealand is certainly not alone.

Land of Enchantment

It is Saturday, and I check out of the hotel to join David Fowler and Kell Fowler (no relation) on a motor trip to Auckland. Kell is Senior Cameraman of the National Film Unit and a jolly good fellow. David explains that, since my visit has been all business up until now, the trip will give me an opportunity to relax and see more of the magnificent scenic sights of New Zealand.

And they are truly magnificent. The whole effect is that of a master landscape designer run amok and gone a bit overboard—with breath-taking results. The variety of terrain is spellbinding and never before have I seen foliage so outrageously green—not even in Ireland. Everywhere there are sheep grazing on green velvet hillsides. "There are 20 of them to every one of us," says David Fowler. "I certainly hope they don't decide to organize."

We finally arrive at the colorful resort town of Rotorua, where we are to spend the night. A stronghold of the Maori culture, it is also a famed thermal area. Everywhere there are roaring geysers, bubbling hot pools and clouds of endless steam. I haven't seen such a sight since Yellowstone Park.

David explains that since it is impossible to get the full effect of Rotorua from the ground, he has chartered a plane for us to view it from the air. We spend a blissful hour flying over this incredible landscape, taking pictures.

On to Auckland

The next morning we drive on to Auckland, which is the only part of New Zealand I saw during my last trip to that country. Finding myself with a very small amount of spare time, I call Kelvin Peach, a dynamic young film-maker I met the last time around, and he picks me up at the hotel.

Kelvin, whose company, Peach-Weymss Productions, is one of the outstanding creators of filmed commercials

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in New Zealand, takes me to see his company's posh new facility, recently acquired and equipped with everything necessary to turn out a high-grade product. Kelvin is a real "go-getter", as we would say in the States, and it's a pleasure to tip a beer with him again.

It is my last day in New Zealand and I am to view two more locally made features before leaving these shores. The first is SKIN DEEP, which is screened for me by its Director, Geoff Steven, and Producer, John Maynard.

SKIN DEEP is a film about the people of a very small town who have hopes of boosting their hamlet to metropolis status. As part of their general public relations thrust toward big city affluence, they invite a hard-bitten masseuse to come to town and do her thing at the local gymnasium (which they now call a "spa"). Battered by life and only interested in finding a quiet haven in which to lick her wounds, the masseuse is dismayed to find that some of the local businessmen have in mind more exotic forms of massage than she bargained for.

Although such a premise would seem to lend itself to comedy, the film is actually a very serious and highly dramatic study of the effect that an "outside element" can have on small town life. It is an exceptionally well-made picture, although its rather insular subject matter might work against its being accepted in the world market.

I discuss these items with Geoff Steven and John Maynard over a tasty picnic lunch which they have brought along and which we eat in the park. Like many others I have met here, they are very keen to have New Zealand-made films accepted world-wide. I have a feeling that their own pictures will make it.

That afternoon I view a film which I feel is ready to make it right now. It is called SLEEPING DOGS and it is a stunning piece of film fare. Present are Roger Donaldson, who produced and directed the film, and Ian Mune, who co-scripted and acted in it.

SLEEPING DOGS adopts the daring premise of hypothesizing New Zealand (at some not-too-distant date) as being under the domination of a ruthless totalitarian regime. The story line has to do with the good guys trying to triumph over evil—and not making it. They do, however, give it a helluva go.

The film is tautly scripted, directed with a very sure hand and strikingly photographed by young New Zealand Director of Photography Michael Seresin, whose other credits include BUGSY MALONE and MIDNIGHT EXPRESS. It is the type of film which I feel could certainly do well in the world market, given proper promo-

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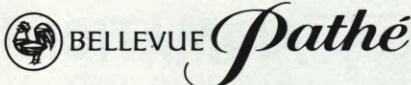
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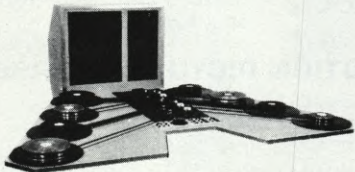
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tion and distribution.

Roger Donaldson, Ian Mune and David Fowler accompany me to the airport where I am to catch my plane out. We talk about film and the hopes which we all have that New Zealand features will push beyond local boundaries to become an important element in the world entertainment industry.

With people like these, and the spirit they have, I don't see how they can miss.

INDUSTRY ACTIVITIES
Continued from Page 224

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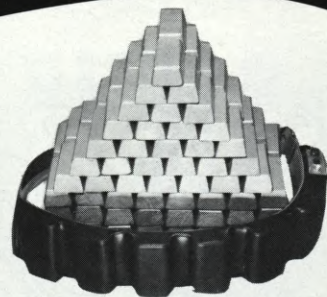
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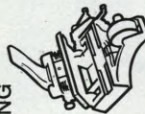
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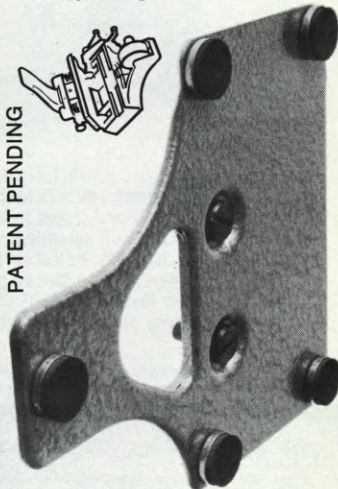
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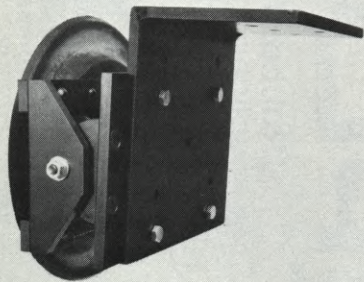
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The Academy's Reminder List includes pictures produced in Japan, Hong Kong, Sweden, Russia, England, France, Senegal, Mexico, Italy, Brazil, Greece, Spain, West Germany and the United States.

Of the 204 eligible films, three are from Allied Artists, 12 from American International Pictures, nine from Avco Embassy Pictures, three from Buena Vista Distribution Co., three from Cinema 5, Ltd., 13 from Columbia, three from Crown International Pictures, three from First Artists, five from Metro-Goldwyn-Mayer, three from New World Pictures, 15 from Paramount, 25 from Shaw Brothers, Ltd., seven from Twentieth Century-Fox, 15 from United Artists, 22 from Universal, 16 from Warner Bros., and 47 from miscellaneous firms (independent producers/distributors, etc.).

Separate consideration is given to films competing for the Best Foreign Language Film Award. This award is given for the best feature-length motion picture produced with a basically non-English sound track, first released in the country of origin between Nov. 1, 1977 and Oct. 31, 1978, and shown in a commercial theater for the profit of the producer and exhibitor. The picture need not have been released in the United States. Its dialogue track must be in the original language and the film must have English subtitles.

Similarly, films competing for Documentary and Short Films Awards are not included in the Reminder List as these are viewed and nominated by Academy committees.

This year's Awards Presentation will be held Monday, April 9, at the Dorothy Chandler Pavilion of the Los Angeles Music Center and will be broadcast live and in color by the ABC Television Network.

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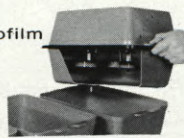
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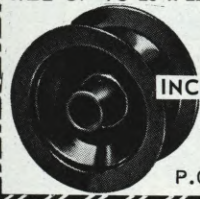
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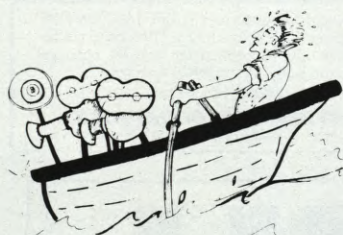
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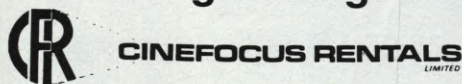
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**AN A.F.I. SEMINAR WITH
JAMES CRABE, ASC
Continued from Page 280**

*looked like we were trying to prove some-
thing, but it was harder to do. The fash-
ion show was going on and a man at the
back of the hall picks up a drink from a
table and is watching the show as he
walks toward the stage and we're dolly-
ing in front of him and we finally end up
backstage.*

QUESTION: Was that done on a stage?

*CRABE: No, it was all done in the Bilt-
more ballroom, that particular shot. The
big one in the loft was done at the build-
ing we used for the garment factory,
which was, in fact, a working garment
building downtown, and most of those
gals at the machines were really piece-
work garment workers.*

**SCHWARTZ: I wanted to ask you
about the shot that you opened up on
in that fashion show where you came
off the guys up there with the arcs.**

*CRABE: The guy up there with the arc
was Steve Shagan, the producer and the
writer.*

**SCHWARTZ: You had the feeling that
you had a small crane in there.**

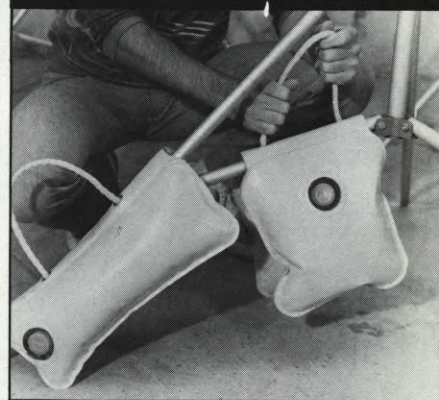
CRABE: We did.

**SCHWARTZ: How the hell did you get
that in there?**

*CRABE: It happened to be the biggest
room, I guess, on the main floor, and it
had a solid enough floor, because if you
don't know what you're doing you can
wheel a crane into a building and have it
go right through the floor because they
weigh tons. So they had to consult with
the hotel engineer, I'm sure, and make
certain that the floor was solid enough.
And the crane we used was about the
smallest Chapman crane that we could
get. As I recall, the lens at the beginning
with the spotlight probably never was
higher than eight or ten feet, so it wasn't
like taking a Titan crane in. It was a small
crane, and we panned around. Of
course, in that shot we also see 180 de-
grees of the room, which isn't too
uncommon now in filmmaking where a
director wants to see a lot of the room in
one shot. It makes it tougher to light. We
used a big crane when the taxi drives up
to the Chinese restaurant and as the taxi
stops we crane down. We also had a
crane for one other scene, but it wasn't
used.*

TO BE CONTINUED:

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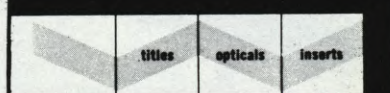
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MOTORCYCLE EFFECTS

Continued from Page 269

We ran the start, stop, for the camera off the dim/bright switch of the motorcycle. We also powered the camera through the motorcycle battery and we had a remote light on the handle bars so that we knew when the camera was running. This was all done by Mr Neville Reid, our electronic wizard at Cinequip.

To follow the two star riders was often quite difficult and it took a couple of days to get used to staying at an exact distance from the subject.

As mentioned earlier, the 1000cc bikes had superior acceleration and top speed and Tink had his work cut out keeping pace with them, but each time we saw the rushes and the director was pleased that we had achieved what he had set out to do, the effort became worthwhile.

The Executive Producer was Mr Emil Nofal of Emil Nofal Films, the Director was Mr Gordon Voster, and the Director of Photography was Mr Robert Lewis. Film Editing was directed by Mr Harry Hughs. The stock used was Eastman Colour Negative—5247 and the film was photographed in both English and Afrikaans. In English it will be THE 5TH SEASON and in Afrikaans DIE 5DE SEISON.

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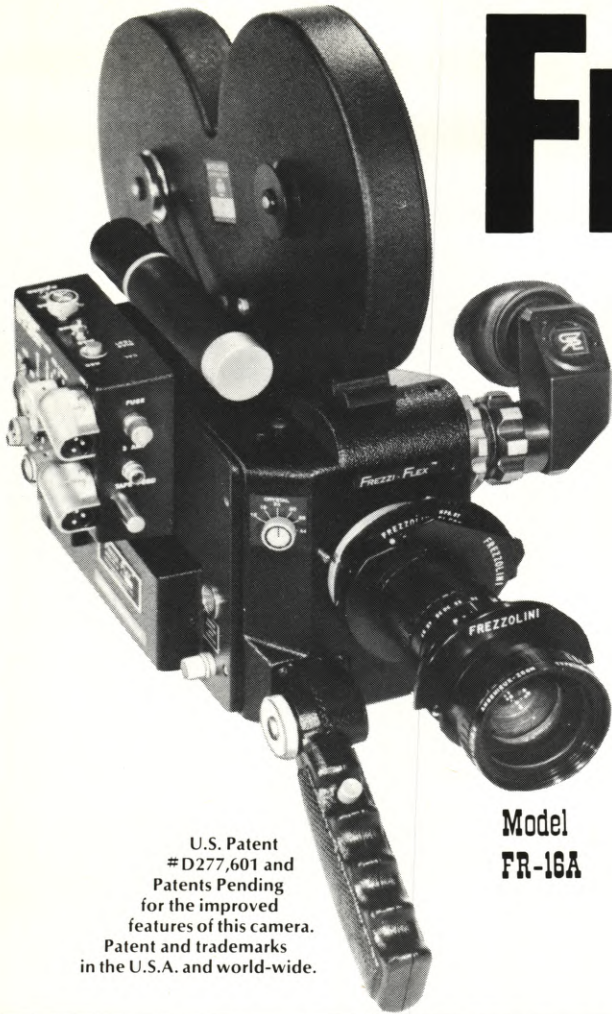
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