

American Cinematographer

International Journal of Motion Picture Photography and Production Techniques

DECEMBER 1977/\$1.50



FILMING OF "THE TURNING POINT"



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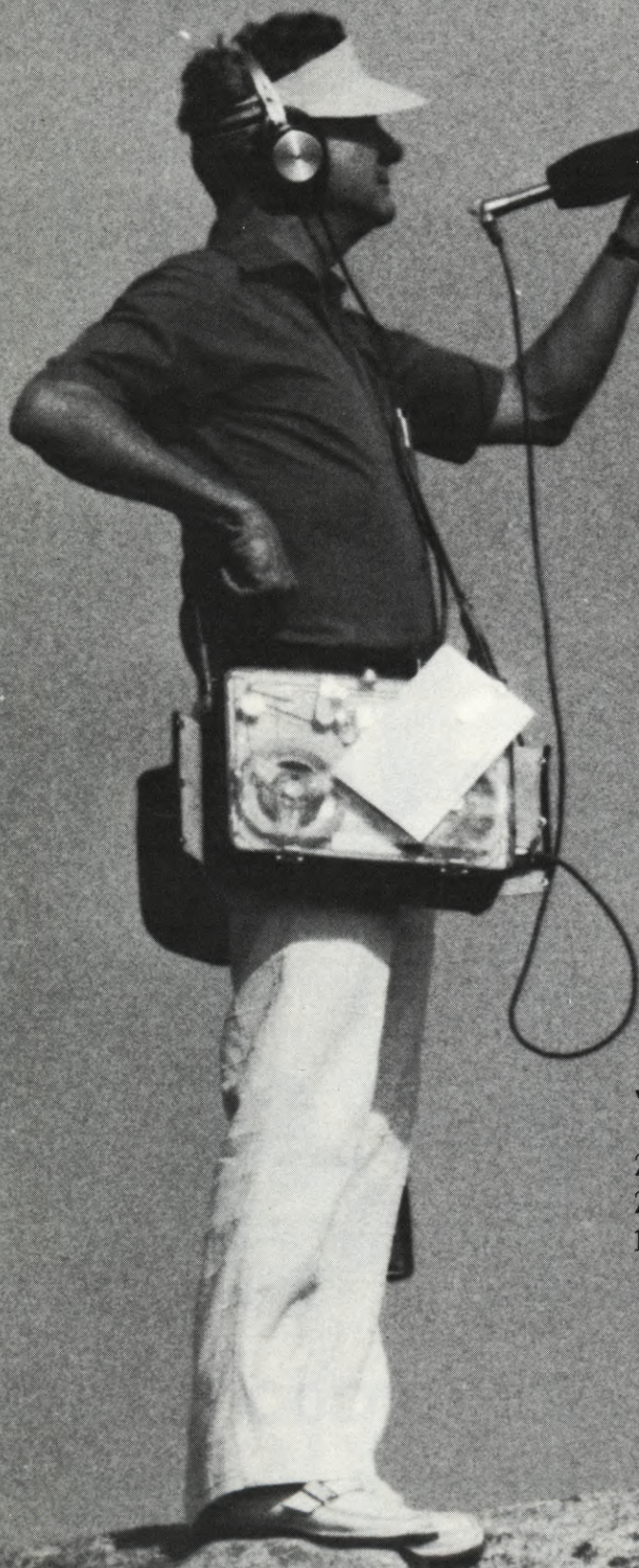
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*Bruce Shearin, sound
Evangelical Communications Research Foundation Film
Davis Mountains*

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.

DECEMBER, 1977

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ON THE COVER: Famed Russian ballet star Mikhail Baryshnikov and teenage American ballerina Leslie Browne perform a pas de deux from the ballet "Carmen" for motion picture cameras during the filming of the 20th Century-Fox production, "THE TURNING POINT", directed by Herbert Ross and photographed by Robert Surtees, ASC.

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Presenting the 1977 A

35MM CAMERAS

	Sale Price
Acme No. 5 Animation Camera, 50mm Projection Eltar, 50mm Cooke. As is	\$1995.00
Arriflex 3511CB(T) Camera, matte box, 28mm and 40mm Kinoptik, constant speed motor, two 400' magazines.	\$6500.00
Arriflex 3511CT Camera, 400' magazine, VS motor, power cable	\$4995.00
Arriflex 3511A Camera Body, with 400' magazine, VS motor. As is	\$1295.00
Bell & Howell 2709 Camera Body (rebuilt)	\$3295.00
Bell & Howell Eyemo KF-2 Camera (good working order)	\$ 450.00
Mitchell BNC Camera Package, 4 Baltar lenses 25mm T2.5, 35mm T2.5, 50mm T2.5, 75mm T2.5, 4 1000' mags, viewfinder w/reducing and enlarging finder, 220 volt 3 phase motor, motor case, accessory case, mag case, lens case	\$17,500.00
Mitchell Mark 11 R-35 Camera, VS motor, 2 1000' mags, 20mm, 75mm, 100mm Kowa lens, Halliburton camera case	\$7500.00
Mitchell NC Camera Body. Excellent condition	\$4250.00
Mitchell NC Camera Body with heater	\$4250.00
Mitchell High Speed Camera Body. Clean, good condition	\$1995.00
Triad Photo-Aid 35mm Sequence Camera, 12-18-24-48 fps, 75mm Cinemat lens	\$1250.00

16MM CAMERAS

	Sale Price
Arriflex S Camera, 2 400' mags, torque motor, mag case, camera case, power cable	\$2995.00
Arriflex S w/VS motor, 3 400' mags, to torque motors, matte box, power cables, camera and mag case	\$4995.00
Arriflex M w/CS and VS motors, 3 400' mags, 16 and 25 Zeiss, 50mm Schneider lenses, cable and Halliburton case	\$5450.00
Arri BL w/12-120 Angenieux, 3 400' mags, cable, aluminum case	\$8995.00
Auricon Cine Voice Camera w/amplifier, power supply, 25mm soligor	\$ 895.00
Auricon CM-74G Pro 1200 Camera, 12-120 Angenieux, 2 mags, case, w/MA 11 amplifier	\$3750.00
Bolex EBM Camera, compact vario switar 17-85mm, 400' mag, electric grip, grip battery, battery charger	\$3000.00
Beaulieu R-16 Camera Body, electric grip, batteries, synchro pilote, charger.	\$ 695.00
Bell & Howell Filmo 70-C Spider Turret	\$ 299.50
Canon Scoop 16M w/case, battery and charger.	\$1250.00
Eclair ACL Camera, 400' mag, 200' mag, crystal motor, battery and charger. 12-120 Angenieux, case. Excellent condition	\$7995.00
Eclair NPR Camera (body rebuilt) Beala crystal motor, 2 400' mags, motor cradle, 12-120 Angenieux.	\$7995.00
Fairchild High Speed HS101 Camera, 3000 to 8000 fps/9 to 60 VDC, 3" Elgeet, motor, power supply, control box, case	\$1995.00
General SS111 Auricon Conversion Camera, Frezzi 1000DX inverter less batteries, 2 Mitchell 400' mags, power cable	\$2150.00
Kodak Reflex Special Camera, 115 VAC sync motor, 17.5-70mm Ekton zoom, 150mm Ekton, case	\$2450.00
Kodak K-100 Turret Camera (as is)	\$ 175.00
Kodak Cine Special I Black Body, 152mm Cine-Kodak, 25mm, 15mm, 63mm, case, 2 100' mags.	\$ 599.00
Maurer Model J Camera, B-M viewfinder (clean), 24fps motor. As is	\$2195.00
Maurer B-M Silent Pro Camera, 24fps motor, 400' mag	\$2150.00
Milliken DBM4A Camera, 128 or 400 fps high speed, 200' capacity, 115 volt 60 cycle. New \$3500.00. Excellent condition	\$2200.00
Mitchell 16 complete with 17.5, 25, 50, 75 lenses, motor, viewfinder, matte box, 2 400' mags, cases, blimp. Excellent condition	\$5495.00

LENSES

"C" MOUNT

	Sale Price
15mm f1.4 Nominar	\$ 149.50
17.5mm f2.3 Baltar	\$ 165.00
18mm f2 Xenon	\$ 149.50
25mm f1.4 Schneider	\$ 49.50
25mm f1.9 Soligor	\$ 49.50
25mm f1.4 Ektar	\$ 125.00
25mm f0.95 "C" Mount. Like new.	\$ 395.00

	Sale Price
25mm f1.4 Canon, New, List Price \$179.95	\$ 152.50
25mm f1.4 Xenon	\$ 99.50
25mm f1.5 Pizar	\$ 99.50
25mm f1.9 T.T.H. Cooke	\$ 129.50
29mm f1.0 Bausch & Lomb	\$ 195.00
35mm f2.3 Bausch & Lomb	\$ 155.00
35mm f2.3 Baltar	\$ 155.00
40mm f1.6 Ektar	\$ 129.50
50mm f1.9 Soligor	\$ 49.50
50mm f2.3 Baltar	\$ 150.00
50mm f2.0 Baltar	\$ 165.00
50mm f2.0 Xenon	\$ 185.00
75mm f2.0 Baltar	\$ 150.00
75mm f2.3 Baltar	\$ 150.00
75mm f2.3 Angenieux	\$ 345.00
100mm f4.0 Cooke Telekinic	\$ 150.00
100mm f2.5 Angenieux	\$ 310.00
150mm f3.3 Macro Yvar.	\$ 375.00
385mm f4.5 Century	\$ 145.00
500mm f5.6 Century	\$ 150.00

ZOOM LENSES

	Sale Price
17-85 Motorized Pan-Cinor Arri Mnt.	\$ 350.00
12.5-75 Angenieux in Arri BL Housing	\$1695.00
28-280 f3.5 Zolomatic w/viewfinder, value, \$7800.00	\$3200.00
12-120 Canon xx "C" Mnt.	\$1500.00
17-70 Pan Cinor, "C" Mnt., as is	\$ 75.00
12-120 Angenieux "C" Mnt.	\$1000.00
17-70 Pan Cinor "C" Mnt.	\$ 150.00
9.5-57 Angenieux AV 30, "C" Mnt., NEW	\$2955.00
12-240 Angenieux w/10" finder, "C" Mnt.	\$3995.00
25-250mm f3.2 Angenieux zoom lens, Arri mount. Used, ex. condition.	\$4600.00
28-280mm f3.5 Zolomatic zoom lens, Arri mount. Used, ex. condition.	\$3000.00
9.5-95mm f2.2 Angenieux "C" mount zoom lens. Used, ex. condition.	\$2795.00
12-120mm f2.2 Angenieux zoom lens, Arri mount. Used, ex. condition.	\$1657.50
12-120mm f2.2 Angenieux zoom lens, "C" mount. Used, good condition.	\$1275.00
12-120mm f2.2 Angenieux zoom lens, AZO 12" finder. Used, good condition.	\$2200.00
10-100mm f2.8 Ziess Vario-Sonnor zoom lens, Arri "B" mount. Demo; like new, ex. condition.	\$1795.00
12.5-75mm f2.2 Angenieux zoom lens, Arri "B" mount with 16 BL lens housing. Used, ex. condition.	\$1625.00

ARRI MOUNT

16mm f2 Schneider Cinegon	\$ 225.00
25mm f1.4 Schneider Xenon	\$ 210.00
50mm f2 Schneider Xenon	\$ 225.00
75mm f2 Schneider Xenon	\$ 235.00
15" f5.6 Century Precision	\$ 145.00
24" f6.3 Century Precision	\$ 165.00
500mm f5.6 Century Precision	\$ 150.00

CAMERA ACCESSORIES

16MM MAGAZINES

	Sale Price
Mitchell type 400', New	\$ 125.00
Mitchell Magnesium 400', New	\$ 185.00
B&H Type 400', New	\$ 135.00
Maurer 05 400'	\$ 155.00
Mitchell 1200' mags, new	\$ 700.00

35MM MAGAZINES

Arriflex 400'	\$ 150.00
B&H 400' fiber	\$ 19.50
B&H 400' metal	\$ 55.00
B&H 400' bipack	\$ 145.00
B&H 1000'	\$ 95.00
Mitchell 400' std.	\$ 95.00
Mitchell 1000' std.	\$ 155.00

MOTORS

Eclair CM-3 220V 60-cycle, 3-phase synchronous motor	\$ 425.00
Bell & Howell Filmo 12 and 24DC	\$ 95.00
Mitchell 16 24V variable speed	\$3375.00
Mitchell 16 24V highspeed (96 fps)	\$ 375.00
Mitchell 16 110V highspeed (48-128 fps)	\$ 420.00
Mitchell 35 BNC, phase synchronous	\$ 595.00
Mitchell 35 NC 110V sync	\$ 395.00
Mitchell 35 NC 110V variable speed	\$ 495.00
Mitchell 35 NC 24V variable speed	\$ 495.00
Arriflex 16 110V/42V AC synchronous complete with power supply	\$ 285.00
Arriflex 35 110V synchronous, mounted on gear base, with footage counter	\$ 495.00
Maurer v/s motor 115V	\$ 595.00

BLIMPS

	Sale Price
Cine Special Blimp, case	\$ 295.00
Maurer 0-5 Blimp	\$ 985.00
Raby Blimp for Mitchell Std. N.C., Wall B&H 2709, etc.	\$ 450.00

Other blimps available. Please state your needs.

SOUND RECORDING EQUIPMENT

	Sale Price
Concord Model 850 AC/DC wireless PA system, Demo mdl. Excellent.	\$ 175.00
Martin Varispeed III Control 35mm RCA dubber	\$ 375.00
Nagra BTM Mixer for Nagra III	\$ 150.00
Uher 4000 Report-L Recorder, case, batt. Good condition As Is.	\$ 245.00
Western Electric Galvo V.D.	\$ 795.00
Westrex 35mm Portable Recorder and Acc. Western Electric console optical recorder w/magnetic record and playback heads installed, 1000' mag, feed and takeup assembly, 2 dubbers, 1 is mag/opt. Power supply; voltage control, regulator cables. All for	\$8995.00
35mm RCA Dubber	\$ 475.00
Ampex 601 Recorder and Playback. As is.	\$ 395.00

SOUND RECORDING ACCESSORIES

	Sale Price
Sennheiser EM-1008 wireless receiver, New	\$ 300.00
Sennheiser T-203 wireless pocket receiver, New	\$ 250.00
Sennheiser R-1010 wireless receiver, New	\$ 225.00
Sennheiser SK-1005 wireless transmitter, New	\$ 200.00
Sennheiser SK-1008 wireless transmitter, New	\$ 225.00
Sennheiser T-201 receiver	\$ 140.00
Sennheiser SK-1006 transmitter	\$ 100.00
Sennheiser wireless kits, including EM-1008 receiver, SK-1007 transmitter, MK-12 microphone, case	\$ 575.00
Mole Richardson mike boom, custom Perambulator. Value, \$4500.00. As is	\$2600.00
Mike Booms on stand. As is.	\$ 95.00

SWINTEK WIRELESS

Swintek Mark 4—50 Wireless Microphone System. Freq: 170.275 S/N 2018. Receiver and transmitter. New \$1395.00. Used.	\$ 697.50
Swintek Mark 4—16 Wireless Microphone System. Freq: 161.7 S/N 2010. Receiver and transmitter. New \$1315.00. Used.	\$ 657.50

LIGHTING AND GRIP EQUIPMENT

DOLLIES AND CRANES

	Sale Price
20th Century-Fox Stage Crane, powered by self-contained rechargeable batteries, offers a variety of camera positions from 92" off ground to floor level. Unit is 8'10" long, boom arm 160" long, has 45" swing. Weight 1750 lbs. Less weights, batteries and chargers.	\$4995.00
Doorway Dolly (no name)	\$ 75.00
3 Wheel Bicycle Dolly	\$ 175.00
McAllister Crab dolly	\$2750.00
Houston Fearles Panorama Dolly, 4-wheel, steerable, compl. w/boom arm	\$ 795.00
Raby 4-wheel stage dolly with boom arm. Fair condition	\$ 300.00
Paramount Studio Crane Mdl. 11, electronically operated, Maximum boom 15'; overall length 33'	\$ 800.00
Paramount Studio Crant, Mdl. 111 Similar to Mdl. 11. Overall length 31'. Some parts missing	\$ 700.00

TRIPODS

NCE Master Fluid head with tripod 2065.00	\$1550.00
Sachter & Wolf gyro head, as is	\$ 375.00
Pro Jr. Type less, New	\$ 160.00
Akeley gyro-tripod, as is	\$ 425.00
Large heavy duty spring loaded friction heads	\$ 275.00
Foba Tripod. Demo. List for \$375.00.	\$ 275.00
Mitchell 35 Tripod Standard. Poor condition.	\$ 50.00
35 Mitchell Hi-Hats. New, regular price 59.95.	\$ 45.00



Complete inventory of New Ronford Fluid Tripod Heads and Legs. Inquiries invited.

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LIGHTS

	Sale Price
Mole Richardson Tener Solar Spot w/crank up stand	\$ 575.00
Mole Richardson 750W	\$ 60.00
Mole Richardson 2KW	Each \$ 67.50
or three for \$150.00	
Colortran 10" ring focus Fresnel	\$ 285.00
Colortran 500 1000W LQK5	\$ 29.95
Colortran Scoop 1000W LQK15	\$ 37.50
Vari-Beam 1000W	\$ 40.00
4-light "FEY" fixture, uses DWE or FBE lamps, indiv. switches. New value \$179.00	\$ 78.95
Mole Richardson 2000W Junior spot	\$ 69.50
Colortran 2K Soft Light	\$ 175.00
Colortran Quartz King 500	\$ 29.95
Colortran Minilite 6, 650W	\$ 39.95
Colortran Multibroad 1000	\$ 64.50
Colortran Tubroad 1000	\$ 64.50
Colortran MiniPan 20	\$ 69.50
Colortran 2K Broad	\$ 125.00
Mole Richardson 5K w/stand	\$ 250.00
Mole Richardson Cinelite scoops	\$ 25.00
Mole 10KS w/crank-up stand.	\$ 575.00
Mole 2KS, no stands.	\$ 69.50
Mole 5KS.	3 for \$ 150.00
Baby 750W Keg w/stand.	\$ 65.00
2K w/stand.	\$ 90.00

STANDS

Bent leg stand 35"-100", New	\$ 69.00
Compact stand 20"-89", New	\$ 49.00
Master Stand 40"-135", New	\$ 75.00
Master Stand Castered 44"-139", New	\$ 89.00
Cine Stand Castered 46"-94", New	\$ 145.00
Alu-Stand 45"-124", New	\$ 145.00
Mini-Light Boom 29"-81", New	\$ 95.00
2X2 Hand Reflectors w/stand mounting yoke, Hard and Soft side, New	\$ 39.95
Century Gobo Stands, partially complete. As is	\$ 25.00

16mm PROJECTORS

	Sale Price
Bell & Howell 302 Mag/Optical 16mm Projector.	\$ 495.00
Bell & Howell 302 mag/optical 16mm projector.	\$ 595.00
RCA 1600 Pair optical 16mm projectors with Change overs, speakers	\$ 895.00
RCA 1600 16mm projector	\$ 325.00
RCA 416 optical 16mm projector	\$ 265.00
Bell & Howell 185 optical 16mm projector.	\$ 295.00
Victor Kalart optical 16mm projector. As is.	\$ 75.00
Specto 16 Analyst Projector. Value \$1175.00. As is	\$ 169.95
Elmo 16AR mag/optical auto load, 16mm projector. New. New price \$1895.00	\$1600.00
Palmer 16 interlock 16mm Projector. New. New price, \$3139.00	\$2995.00
Bell & Howell 185 Optical 16mm Sound Projector. Used, ex. condition	\$ 295.00
Bell & Howell 185 Optical 16mm Sound Projector. Used, fair condition.	\$ 250.00
Bell & Howell 185 Silent 16mm without Amplifier. Used, good condition	\$ 225.00
Bell & Howell 302 Mag/Optical 16mm Sound Projector. Used, ex. condition.	\$ 595.00
Bell & Howell 302 Mag/Optical 16mm Sound Projector. Used, good condition	\$ 495.00
Bell & Howell Jan Mag/Optical 16mm Sound Projector. Used, good condition	\$ 750.00
Bell & Howell Jan Mag/Optical 16mm Sound Projector with pedestal, remote start/stop. Used, like new, excellent condition	\$1695.00
RCA 1600 Optical 16mm Sound Projector. Used, good condition.	\$ 375.00
Pair RCA 1600 Optical 16mm Sound Projectors. Auto change over, cases, Used, good condition.	\$ 795.00
Elmo X300 Optical 16mm Sound Projector. Xenon light source, rectifier and external speaker. Demo, new price \$4500.00	\$2950.00
Victor/Kalart Optical 16mm Sound Projector. Used, good condition.	\$ 275.00

SPECIAL

30% discount on Sylvania Lamps when ordering 6 lamps or more. Offer expires 1/31/78.

35MM PROJECTOR

	Sale Price
Century MSR Prevue 35mm Projector Mag/Optical. 1000 watt Mazda light source, forward reverse, 3 point pedestal, Op-Amp lab sound system. Less than 100 hours total operation. Used, ex. condition.	\$5500.00

LABORATORY EQUIPMENT

PROCESSORS

	Sale Price
Trieste Hi Speed Color Processor. For 16/35 ME4 and C-22 processing at 50 fpm. Replacement value \$140,000. Excellent condition.	\$65,000.00
Mini-Color Processor Model MC16 ME4. Fully automatic and ideal where smaller volumes of film must be processed on a minimum budget. Sold new for \$7500.00. Rebuilt, excellent.	\$5400.00
"Little Max" 16mm Color Processor Model LTM ME4. A proven performer, processes 16mm film at 11 fpm, 28 minutes dry to dry. Fully automatic for top quality. Another ideal processor for smaller volumes of film which must be processed economically. List price \$8750. Used, excellent	\$5500.00
Houston-Fearless Model A-11. For 16mm or combination 16/35 B&W negative/positive and reversal. Speeds to 20 fpm. Rebuilt	\$3995.00
Houston-Fearless Model S120 PN B&W 16/35 Hi-Speed Spray Processor, 18-150 fpm. Excellent condition	\$5500.00
Houston-Fearless Model 22B B&W 16mm Negative/Positive. Speeds: Negative, 18-35 fpm; positive, 25-45 fpm. Used	\$3495.00
Houston-Fearless Model L 16/35 NP Labmaster B&W Processor. Speeds to 40 fpm. Simple modular sections. Easy to operate, daylight load operation, easy accessibility for cleaning. Open face construction. Sold new for \$6500.00. Used	\$3650.00
balance. Includes three manually-operated light good	\$1695.00
Fulton Tube Machine, 16mm B&W, used, good.	\$ 795.00

PRINTERS

	Sale Price
B&H Model 6100 CT Additive Color Printer. Manual operation provides basic color and density balance. Includes three manually-operated light waves with 52 steps of trim. Model 6160A 1200W rectifier. Printer speed is 180/60 fpm. Film capacity, 2400 feet. One side edge light. Like new condition, less than 40 hours of operation. Current price, new \$22,490. Like new	\$17,000.00
B&H Model D 35mm Cine Printer, rebuilt	\$4995.00
Same as above, used, as is	\$2595.00
B&H Model J 16mm Cine Printer, rebuilt	\$5650.00
Same as above, used, as is	\$4250.00
B&H Model J Printer w/fader, power supply, very good condition	\$5995.00
B&H Model JC Printer w/edge numbering light, very good condition	\$5250.00
Depue Optical Reduction Printer Model K3532, daylight operating, rebuilt, good condition.	\$5500.00
B&H 35-32 Contact Printer, needs work, as is	\$2950.00
Depue 35-32 Reduction Printer, as is	\$1700.00
Arriflex 35mm Step Printer w/punch tape control, used, as is	\$ 995.00
Herrnfeld Model 35mm Printer w/shotgun color filter changer, used, as is	\$ 795.00
Kodak 35-16mm Optical Sound Track Reduction Printer, rebuilt	\$5200.00
B&H 35-32 Contact Printer, needs work, as is	\$2950.00
B & H Model 6200 MB. Features include single light valve, standard speed reader, rectifier and sound printing head. Sold new for \$28,000.00	\$18,950.00

PRINTER ACCESSORIES

Deluxe additive type lamphouse, used, as is	\$1850.00
Depue 35-32 Fish-Schurman additive lamphouse w/DC power supply, as is	\$2500.00
Depue light control board for use w/Depue optical reduction printers. Provides 22 light changes, 75 or 150 scene changes, used	\$ 450.00
DC Power Supply	\$ 495.00
35mm Neauvator, Film Cleaner. Rebuilt.	\$ 600.00

SPLICERS

Neumade 16mm R-2 Splicer. Used, good condition.	\$ 15.00
Unicorn A 2835, 35mm, list price \$2200.00, used, good condition.	\$1100.00

FILM DRYER

EL 13A, 16/35/70mm, sold new for \$4950.00, our price, rebuilt	\$3400.00
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EDITING AND CUTTING ROOM SUPPLIES

	Sale Price
B&H 16/35 pedestal splicer. Reconditioned	\$1195.00
Harward Splice-O-Film 16mm hot splicer. Like New	\$ 139.00
Acmade 16mm precision hot splicer similar to B&H hot splicer	\$ 99.50
Moviola 16mm Model K20 Table Model Viewer with reel spindle and counter. Used, excellent condition	\$ 395.00
Moviola 16mm Model K20 Table Model Viewer with reel spindle and counter. With 4x5 picture. New price \$1095.00	\$ 595.00
Moviola, Editing Machine, 35mm complete with bullseye head optical sound head, amp, speaker and base	\$ 495.00
Morgan Fairest Robot II, fully automatic splicing machine, pos-neg pins. 35mm	\$ 299.50
N.C.E. 65mm 3-gang sync w/counter ASA II	\$ 300.00
Richards Hot Splicer 70mm	\$ 295.00
Moviola 16mm Mdl. UL20S console w/picture head and separate sound head, footage counter, lightwell tray. Used, excellent	\$2595.00
R2, Grisuld 35mm splicer	\$ 49.00
Moviola 4 gang, 35mm synchronizer	\$ 120.00
Ceco 16mm viewer	\$ 150.00
Grisuld 35mm R-3 splicer	\$ 19.95
Moviola RHD-BR rewinder	\$ 150.00

SPECIAL

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WHAT'S NEW

IN PRODUCTS, SERVICES AND LITERATURE

VIDTRONICS DEVELOPS REVOLUTIONARY, LOW-COST VIDEOTAPE EDITING SYSTEM

Harold Goldman, chairman of the board of Vidtronics, Hollywood-based videotape production and post-production facility, has announced the development of a revolutionary new, low-cost, off-line tape editing system. The system, named "Videola," was designed by Vidtronics' research department under the direction of Jack Calaway, director of engineering.

The prime advantage of Videola, which has been under development for more than a year, is that it allows the producer or director of a program to easily and conveniently prepare the rough cut or the video work print of a program. At the same time he automatically generates the edit decision list needed to complete the final edit on two-inch tape. The system can easily be used by film personnel, who have been accustomed to edit using Moviola editing techniques. Film editors, production or creative personnel, or even novices in editing can learn to operate the hardware with a minimal amount of instruction.

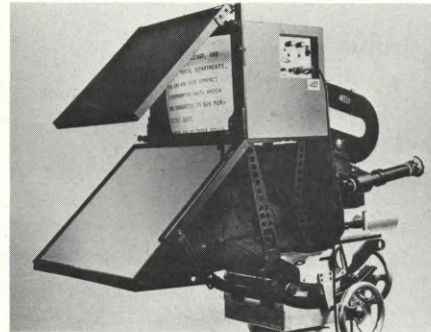
The editing system is portable (250 pounds) to allow its use in almost any location. It can be taken out on a "remote", used in a producer/director's home or office, or it can be located in a normal editing facility.

In operation, the producer/director or editor uses two simple joy-stick controllers, which enable him to select the proper in and out points for the edits, and then allows for immediate preview and execution of the edit. The Videola logger uses a microprocessor to store the edit information on a small, "floppy" magnetic disc, which is capable of storing up to 1600 edits. A special Vidtronics computer system is then used to recover from the disc all the information needed to prepare a CMX compatible edit decision list.

According to Mr. Goldman, "Videola is an added tool for the producer or creator of a program. It may be the transitional element which will enable film editing houses to convert and become familiar with videotape, off-line editing techniques. In addition, use of the Videola will result in a lower overall cost than can be expected using more conventional editing procedures."

Videola is a registered trademark of the Vidtronics Company. The system is

now available for use by Vidtronics' customers, and plans are being formulated for marketing or licensing of the system.



NEW VIDEO PROMPTING SYSTEM FOR MOTION PICTURE CAMERAS

The new Q-TV Video Prompting System for motion picture cameras is available through the Victor Duncan, Inc. offices in Chicago, Dallas and Detroit.

The adaptation of through-the-lens video prompting for film cameras was accomplished with the design of exclusive bracketry by the Victor Duncan Engineering Department. This bracketry adapts video prompting techniques to most all popular motion picture cameras, both 16mm and 35mm.

Video prompting affords the professional cinematographer many advantages over the conventional perforated roller-type prompters previously in use. Video prompters provide a totally silent message.

Copy can be prepared by anyone on an ordinary typewriter on standard typewriter paper. There are no special paper requirements, and no special typewriter is needed.

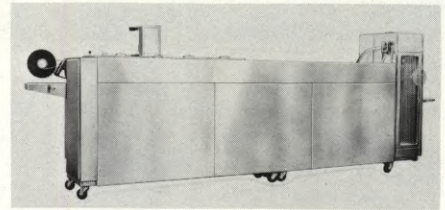
Direct lens-view units may be used with separate prompters in any combination to provide multiple-camera opportunities to the professional filmmaker.

The video prompter system is simple, uncomplicated and requires no experienced operator. However, if you prefer to rent the system with operator, Victor Duncan's rental departments can recommend experienced prompter operators.

The complete video prompting system is supplied in two compact, easily handled shipping containers. The system can be shipped almost anywhere in the United States overnight.

For specifications and additional information, contact your nearest Victor

Duncan Rental office or write to: Video Prompter, Victor Duncan, 2659 Fondren, Dallas, Texas 75206



ALLEN PRODUCTS INTRODUCES NEW FILM PROCESSING LINE

Allen Products, Milford, Ct., a leading manufacturer of film processors, has announced their new, moderately priced Criterion Line, specifically designed for the motion picture industry. Consisting of 5 different models, the new line has machines that will process Ektachrome, color negative or positive, and black and white film. They can handle either 16 or 35mm interchangeably and operate at speeds up to 100 fpm.

Allen's unique ATA film transport system automatically adjusts film tension. And standard as part of the transport system are removable component racks, and a variable drive control with tachometer readout.

Other features include a solution conservation system, and chemical support system built into the machines. Sound track applicators, daylight film magazines, and a chemical replenishment system are also available.

Standard in all of the machines that Allen builds for the motion picture industry are lighted digital readouts, which monitor film processing speeds and all solution temperatures; automatic lead accumulators that insure smooth running; heavy duty magnetically coupled pumps; and rugged #316 stainless steel construction.

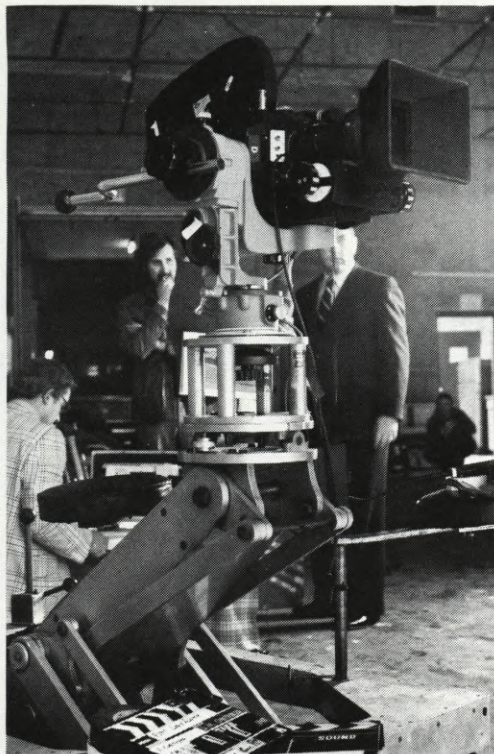
The base price for a black & white model in the Criterion line is \$12,500, which offers the budget-conscious operator a quality processor that will deliver years of trouble-free operation. Complete specs are available from Allen Products Co., 180 Wampus Lane, Milford, Ct. 06460.

NEW FROM ARRI Arriflex 35 BL Mark 2

A Mark 2 version of the Arriflex 35 BL camera is now available from Rank Film Equipment.

The new model is fitted with a single claw pulldown transport mechanism that provides appreciably quieter
Continued on Page 1318

Introducing the all-time 16mm *quiet* champ!



Fully up to Hollywood professional standards, our soundstage-silent CP-16R has already established itself as the outstanding all-around 16mm *production camera* — quietly setting a new standard for 16mm silent operation, outclassing 16mm production cameras that cost many thousands of dollars more.

The super-silent, rugged and versatile CP-16R is ideal for filming 16mm feature productions, theatrical documentaries, industrial/scientific films, as well as television specials and commercials.

Precision engineered and manufactured under the strictest quality controls, *all* CP-16R reflex cameras leaving the factory are rated at 30dB max. And, if equipped with Studio Rig, at 28dB max!

But don't just take our word for it. Judge for yourself.

Before embarking on your next 16mm studio-type production, run some sound tests and compare our CP-16R with its famed European rivals: the Arri 16SR, the Eclair NPR, etc.

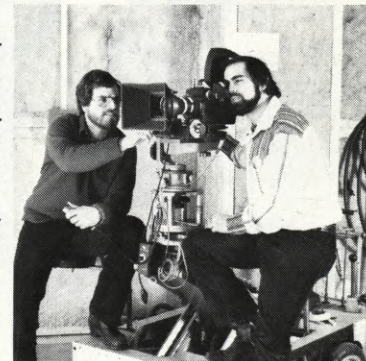
You'll find that, *with or without Studio Rig*, our CP-16R "out-silences" them all!



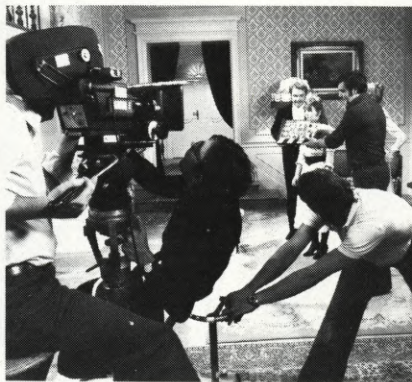
Canadian cinematographer David M. Ostriker (at right) shooting a television commercial with his own CP-16R and Studio Rig.

Equipped with Studio Rig, the CP-16R is rated at 28dB max. when measured on the weighted "A" scale at 3 feet from the optical flat in the matte box.

The optional J-4 zoom control motor is coupled to the lens through a belt drive system for maximum sound isolation.



**Our CP-16R
(with Studio Rig)
checks in at
a remarkable
28dB
max.**



The CP-16R with Studio Rig on a soundstage in Vienna, during the filming of a musical comedy feature for television.

Television features and specials in Austria, West Germany, and indeed all over Europe, are shot in 16mm, and the CP-16R is rapidly becoming the preferred camera (even in the heart of "Arriland") for filming such productions because of its outstanding quiet operation.

For further information, please write to:

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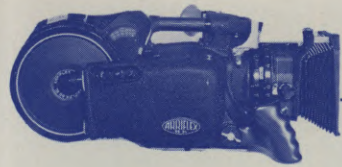
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16SR PRODUCTION CAMERA SYSTEM

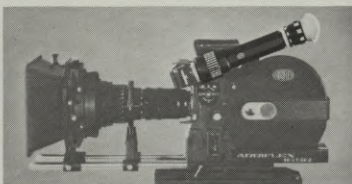
We are delighted to provide here an "update" on the growth of our Arriflex 16SR. From the beginning, Arriflex has been adding to the 16SR line. In recent months, and prominently at the recent SMPTE Equipment Exhibition in Los Angeles, we have shown a new series of accessories, each being an important addition in the development of the 16SR camera system.

FINDER EXTENDER

The Finder Extender is especially helpful in situations where it is necessary to put the 16SR camera into other than shoulder supported working positions, to make extreme low angle shots, overhead shots, or when using a gear head. The Extender mounts easily between the regular flange of the finder and the magnifying eyepiece.

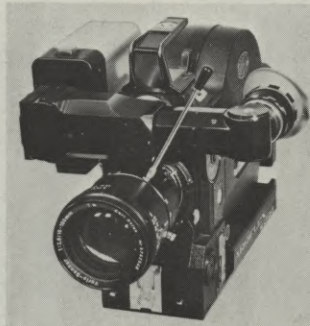
The 16SR viewfinder system retains its total versatility; every axis remains fully movable with image correction in all positions. No matter how much the viewfinder is moved as long as the cameraman stays in position *behind* the camera, the image remains erect and correct from left to right.

The Finder Extender is listed in our July 20, 1977 Price Lists, Pg. 2, #339-111; Price: \$1,396.00.



The 16SR Finder Extender is secured between the eyepiece and the threaded flange of the regular view finder. It puts the eyepiece about 7" farther back than 'normal'.

16SR VIDEO COUPLING



This head on shot of the 16SR provides a clear view of the special viewfinder which is part of the video pick-up system. It is secured with the camera's regular threaded flange. The standard eyepiece mounts on one side and the video camera on the other quickly and easily. The optics and the video camera are all preadjusted and prealigned.

We have mentioned the 16SR video pick-up in these pages before. However, the system has been expanded and improved, and since it is such an important accessory in the Arri 16SR production system, we want to update the information you have.

As the accompanying illustration shows, the video camera and processor used in this system are exceptionally compact and matched perfectly to the 16SR. The system is powered by 12V/DC.

Setting the video system up is quick and easy. The standard viewfinder of the 16SR is removed, and the special viewfinder of the system mounted in its place with the eyepiece mounted on one side and the video camera and electronics on the other. (See illustration). The entire system is preadjusted and prealigned. The basic optical viewfinder of the camera remains essentially unchanged except for the "camera right" swing over feature. A properly terminated

co-axial cable connects the camera to most TV monitors. Regular television receivers may also be used, but such sets will usually require a modification, or an adapter.

Video coupling is available in three camera versions. See our 16SR Price List dated July 20, 1977. Prices start at \$4,275.00.

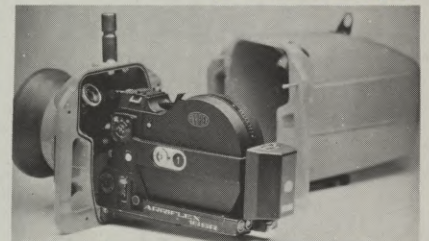
UNDERWATER HOUSING

The Arri 16SR with its new housing is a natural for underwater filming: APEC with fully automatic exposure control and auto diaphragm (for wide open previewing); battery powered



crystal controlled motor, professional pin registered film movement; Super Speed lenses; true, quick-change magazines to 400' capacity—these and other features are combined in standard equipment to provide the underwater cameraman for the first time with an off-the-shelf system.

(Continued on pg 2)



The new Arri Underwater Housing was designed to take full advantage of the low silhouette and slim lines of the Arri 16SR.

(Continued from pg 1)

The housing is a sturdy assembly, "custom fitted" around the trim lines of the 16SR. Excellent streamlining make it the diver's ideal—highly maneuverable and easily controlled even in the face of currents and turbulence. Camera installation, magazine and battery changes are fast and easy.

The camera's reflex finder system is especially extended and augmented so that there is a large, bright thru-the-lens image on the outside of the housing. Our printing deadline for this issue of the "Arri Update" has made it impossible to include complete information on the new housing. If you want complete data in print, including technical information, availability and prices, write to Arri Update at the Woodside, New York address.



The new 16SR Production Matte Box is shown here. Note that the Bridge Plate supports both the Matte Box and a large zoom lens.

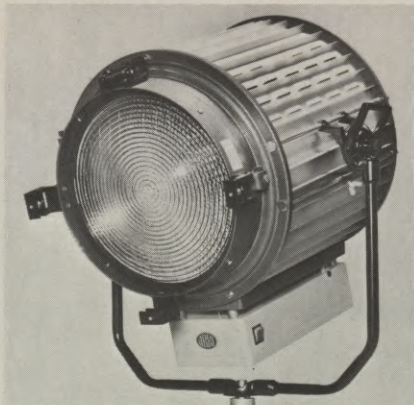
PRODUCTION MATTE BOX

The Arri 4" x 4" Production Matte Box is made from lightweight, high impact resistant materials, and a sturdy aluminum frame. It is supported and aligned by the 16SR bridge plate. The matte box is exceptionally compact, yet it offers all the functions and features required.

There are two individual stages and holder-frames for standard 4" x 4" filters. The stages rotate individually so that a polarizing filter can be adjusted for effect.

The 16SR Bridge Plate serves as the support for a number of accessories, including the Production Matte Box and extra long, heavy lenses. ■

INTRODUCING ARRIFLEX 6000°K ARRILITES



Model 2500 Watt ArriLite luminaire: Features 200,000 lumens output, 6000°K daylight color temperature, fresnel lens and 8X focusing range from spot to flood.

The speed with which metal-halogen lamps have developed into efficient, practical location and studio lights has been extraordinary. Only a few short years ago, they were still considered 'experimental.' Now, these lights are widely accepted and used in films and television all over Europe. Several manufacturers are in the field, but nobody has done a finer job with metal-halogen lamps or has been in it longer than Arnold & Richter.

Metallogen (TM) lamps are made exclusively by Osram, GmbH, in West Germany. The lamps are specially treated by an Arri patented process to improve light distribution. The Metallogen lamps uses a medium gap arc, which is enclosed in a specially shaped, tubular quartz envelope. In operation, the arc is combined with a mixture of vaporized mercury and several rare earth iodides.

There are major advantages in the ArriLite system. The 2500 watt Fresnel Lens Model ArriLite is typical of the series and demonstrates the advantages nicely: It has a light output of well over 200,000 lumens. That's about 80 lumens per watt, or *more than four times as much* as a tungsten-halogen light filtered for daylight. The ArriLite color temperature is 6000°K daylight quality without filtering.

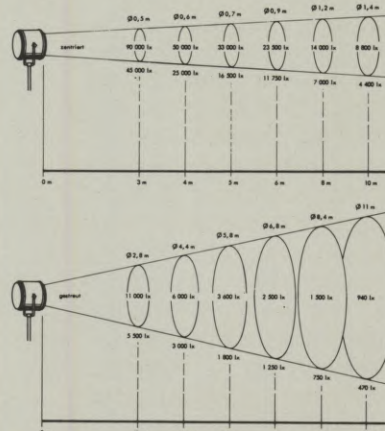
On location, where available amperage is generally limited, the same outlets or generator will provide four times more light than conventional tungsten units.

The 2500 Watt Fresnel ArriLite has an 8X focusing range from spot to maximum flood. Focusing is controlled at the rear of the lamphouse. Set for spot and at a distance of 20 ft (6m), it covers a 3 ft (0.9m) circle with an on-axis brightness of 2800 fc. At full flood and at the same distance, it covers a 22.5 (6.8m) circle at 170 fc.

Color temperature and light output are nearly constant. Color temperature decreases by 1°K per hour of operation. Lamp life is limited mainly by the amount of color change that is acceptable. Arri rates lamp life at about 300 hours.

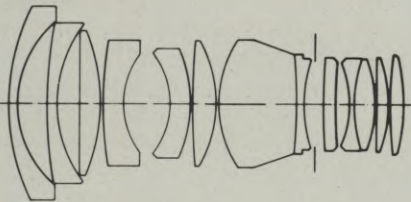
ArriLites are made in 575, 1200, 2500, 2 x 4000 watt models. The lights are part of a complete system which includes stands, power supplies to operate from 110-120 and 220-240 volt AC lines, filters, barndoors and the necessities for location lighting. The system also includes the hardware for needed overhead telescope mounting, remote controls and other accessories for studio installations.

ArriLite literature is now in preparation and will be ready for mailing in January 1978.



Schematics illustrate characteristics of the model 2500 ArriLite. Set for spot, and at a distance of 20ft (6m) it covers a 3ft (0.9m) circle with a center brightness of approximately 2800 fc; at full flood and at the same distance, it covers a 22.5ft (6.8m) circle at 170 fc.

NEW 18MM T 1.4 ZEISS "SUPER SPEED" LENS



The 18mm, T 1.4 Distagon is the latest addition to the Zeiss "Super Speed" series for the Arri 35BL. The new design includes, among other features, one aspheric element, one 'floating' element and multi-layer coating for superior, high aperture performance.

A new 18mm, T 1.4 Distagon is the latest addition to the Zeiss line of "Super Speed" lenses. It is now available for prompt delivery in limited quantities.

Of all the lenses that a cinematographer can buy in this focal length, the new Distagon is distinguished by its high aperture performance: exceptional corner to corner sharpness, color purity and saturation, outstanding shadow detail and freedom from glare.

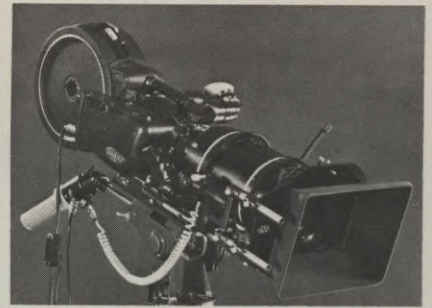
There are 13 individual elements in 11 groupings for maximum corrections—actually, not far in complexity from the construction of some zoom lenses. Among the elements, there is one aspheric for improved flatness of the field; one floating element to maintain design corrections at focusing ranges down to 10 inches and multi-coating on all glass-to-air surfaces to cut internal reflections. The new 18mm/T 1.4 is listed as part of the Arriflex 35BL system in our current Price List, Catalog #311-134, page 2, at \$3,617.00 User Net.

NEW ARRI 35BL SERVO ZOOM DRIVE MOTOR

A new Arri closed loop, servo drive motor is now available as part of the Arriflex 35BL production camera system. The zoom motor is ready for immediate delivery in limited quantities. It mounts on the bridge plate and meshes directly with the zoom lens or zoom lens housing. The control handle, with a universal mounting adapter can be attached to several places on the camera or on the tripod.

The motor operates from a separate 12V/DC power supply or directly from the camera battery pack. Zoom speeds range over a ratio of 40 to 1. The upper, cone shaped section of the handle has a thumb recess and rotates to control zoom-in, zoom-out and zoom speed. The rotating cone is spring loaded and turns back to the zoom-stop position automatically when released. A separate adjustment pre-establishes maximum zoom speed. With it, the camera operator can pre-determine maximum zoom speed.

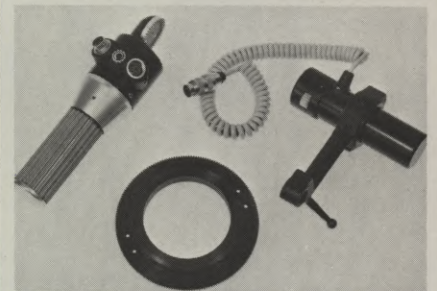
The Arri Servo Zoom Drive will combine with any of the conventionally used zoom lenses. For use with the 'bare' zoom lens, there are two different, gear-cut adapter rings that may be mounted on the zoom lens, and which will mesh with the gear on the



The Servo Motor Zoom Drive is shown on an Arri 35BL. The Control may be mounted on the panhead handle as show, or it may be secured directly on the camera.

motor. (See photo.) One ring is made for the 25-250mm Angenieux or the 25-250 Cooke Cine Varitol; the other is intended for use with the 20-100mm Cooke Varitol or the 20-120 Angenieux.

The Arri Servo Zoom Motor is listed in the Arriflex 35BL Price List dated July 20, 1977. (See page 3, Cat. #311-650, ARRI SERVO ZOOM MOTOR.) The price for the Servo Motor is \$1,947.00.



The main components of the Arri 35BL zoom lens Servo Motor. Reading clockwise from upper left: The Control Handle, The Servo Motor; and The gear-toothed adapter ring.

ARRI 16SR FILM

Arriflex Company of America and Vision Associates of New York are producing a 12 minute film about the Arri 16SR.

The film will detail the camera's construction and demonstrate how its design features can be applied in production.

Therefore, we are looking for a few excellent scenes shot with Arri SR's for a montage demonstrating a wide range of production methods and conditions.

We need 16mm ECN 7247 original with corresponding workprint. Out-takes as short as five feet or as long as you like are acceptable. Full credit will

be assigned for scenes used. They must, however, be shot with an SR, and they must be exquisite. It will be good advertising for you.

Furthermore, if you are contemplating or engaging in an interesting shoot—anywhere—please advise us. We are showing a number of crews in action, in sync, using the camera. Here is a good chance to be on the other end of the lens.

Please contact:

Volker Bahnemann, President
Arriflex Company of America
25-20 Brooklyn-Queens Expressway
West
Woodside, N.Y. 11377
phone 212-932-3403

"16's THE WAY TO GO!"

by Mike Elliot*

We have been shooting television commercials in 16mm for some time. Proctor & Gamble, who is one of the largest producers of commercials has been a prime mover in this development. They determined that they would realize substantial savings by switching to 16 combined with certain other techniques.

In many people's minds, 16mm commercials still seem questionable. The truth of the matter is that if you don't know how a commercial is filmed, in 16 or 35, once you see the finished product transferred to tape and on a television screen, you are hard pressed to know how it was shot. We have gone into this pretty thoroughly. For example, on one occasion we did a split screen test, using footage produced with an Arri 35BL and an Arri 16SR, and transferred to video tape. We had filmed the 35 and 16 simultaneously, with a 50 mm lens on the one camera and a 25 on the other. On a high quality monitor, there was no difference that a viewer could see. Oddly enough, what little difference might be seen had nothing to do with resolution, which is better on either 16 or 35 than any television screen can give you. The most important difference between the two is: at comparable field angles, depth of field is greater on 16mm than on 35. With 35mm pictures, the subject seems sharper because the background is softer—it's a kind of negative sharpness by comparison.

You can't overcome it by opening up the stop because most of the time you're shooting wide open already. You can't overcome it by using a longer lens because then you're changing the whole perspective of the photograph.

So much for picture quality. Obviously, it costs less money to work with 16. For a lot of reasons: It costs less to shoot because 16mm film runs at 36 feet instead of 90 feet per minute; the cost per foot of 16mm film is less; it costs less to print, less to ship; it costs less to do everything. It's all easier on 16.

These days, an enormous amount of material is released on tape. 16mm for this application is excellent. As a result, we are getting more and more inquiries and more production on 16.

*Mike Elliot was one of the cofounders of Elliot, Unger & Elliot. He is now Vice President of EUE/Screen Gems, a subsidiary of Columbia Pictures. Mike has been prominent on the New York film scene for many years; he is the winner of many awards for his innovative film work. Today, he is one of the most sought after director/cinematographers in the production of network television commercials and is widely recognized to be one of the most knowledgeable workers in this demanding field.



Mike Elliot (right) of EUE/Screen Gems, shooting a television commercial production with his Arriflex 16SR, on location in New York City.

Many people in this business always like to go with the best of everything, even if it doesn't show. Hence, they will always go with 35.

In production itself, it is always a matter of portability and ease that spells the difference in cost. Set ups are easier and fast. More gets done. To me, the difference in production is that 35 is a 'hump' and 16 is a joy.

This is where the Arri 16SR is so great; it's an exquisite production instrument. It's quieter than anything else; you change magazines in seconds. The viewfinder is fantastic. For myself, I will not consider doing certain kinds of work anymore, unless I have either a 35BL or an Arri 16SR because of the viewing system and the finder extender. The 16SR especially, lets you adapt to any shot without going through all sorts of contortions.

When we bought our Arri 16SR, we bought it with a video pick-up system. This has been so useful, that now we have requests from other production companies to rent the camera and video pick-up because their clients have requested it. The TV picture that comes out of that pick-up is simply better than anything else around.

To me, this feature is very good because it keeps people from crowding around me and the camera. There are many people who like to look through the viewfinder. Some of them are really interested and concerned with what you see. They need to know—with the 16SR video pick-up, they can watch on the monitor and the picture is so good that they can make their own judgments. The cameraman too, can judge the picture even for sharpness, except possibly if it's a very wide shot. One can't make any final esthetic judgments about color or lighting, but you certainly can tell how good the performance is and whether or not the zoom has any hooks in it.

I am sure that there are still a lot of guys who have reservations, but as far as I am concerned, it's nonsense to

talk about 16mm as the format of the 'future'. It's here now. It's not just 'good enough'—it's excellent! I just bought my second Arri 16SR because with its revolutionary finder system, five second magazine change and video take-off, it puts it all together. I'll always shoot 35, but as time goes by, I am confident that I'll use 16 more and more.



This is our fourth issue of ARRI News Update. I hope that we have contributed in a meaningful way to inform you about the industry and Arriflex products in particular.

We are looking forward to continue News Update in the same general format, giving you product information quickly, concisely, without the promotional drapings common to many "in-house" publications.

If you have any suggestions or want to comment on what we are doing or should be doing, we would like to hear from you.

In the meantime, in behalf of the entire staff at Arriflex, let me take this opportunity to wish you all, a very happy holiday season, and a healthy and prosperous 1978.

Sincerely,
ARRIFLEX COMPANY OF
AMERICA

Volker W. Bahnemann

Volker W. Bahnemann
President

The ARRI News Update is published periodically by the Arriflex Company of America. All inquiries for comprehensive technical information or additional copies of News Update should be directed to:

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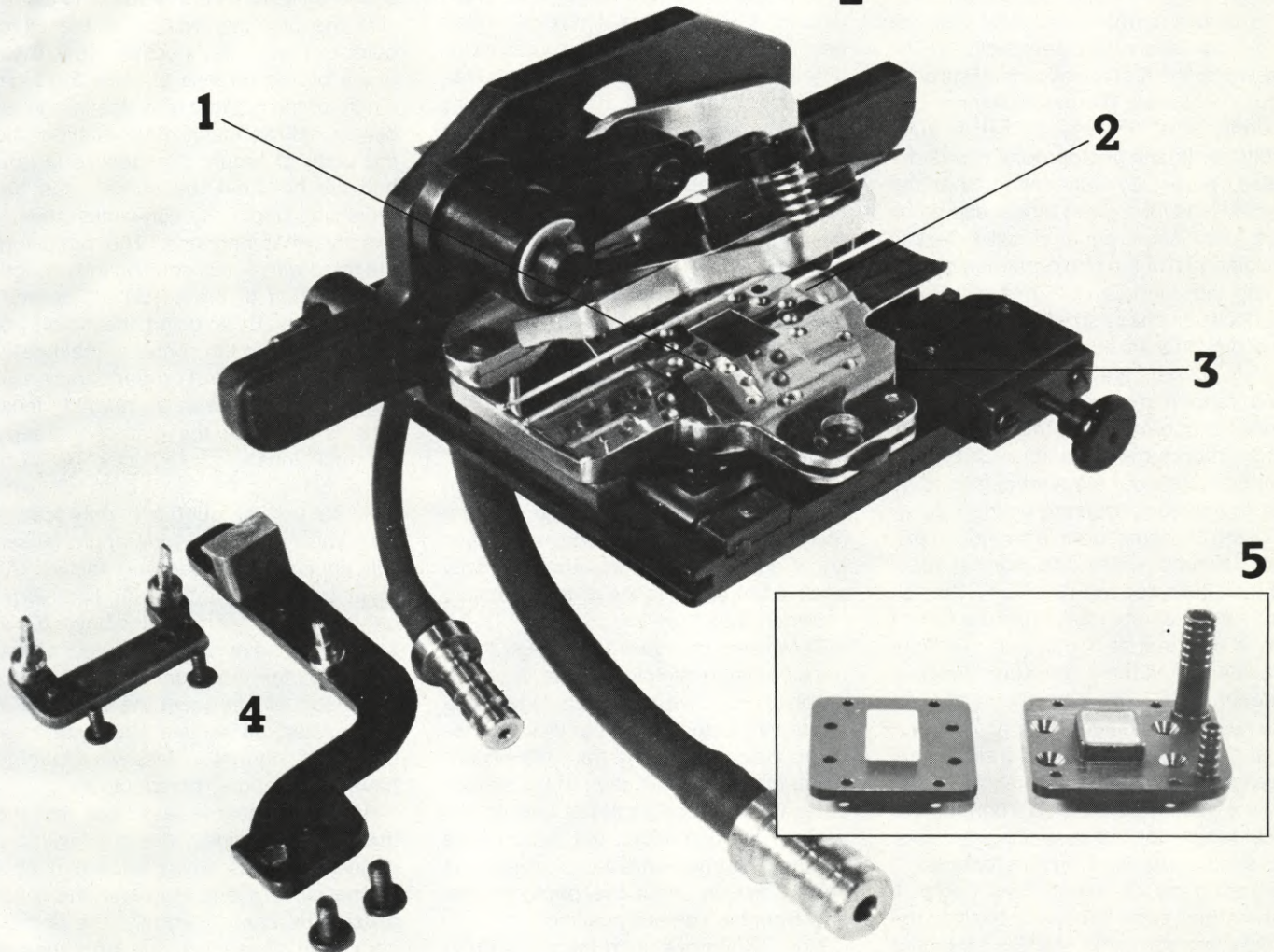
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How do you improve on an Academy Award? With innovative research and development.



OXBERRY's research and development never stopped! We began the era of the commercial liquid gate and have since maintained world-wide leadership with 35mm, 16mm, S-8 and custom sized liquid gates for all major optical printers. We are now proud to introduce our "second generation" 16mm liquid gate incorporating many vital new improvements and features:

- 1. improved the stability of the fixed pin registration by bringing the pin closer to the aperture. This is now the same as the dry gates, but one perforation away from the aperture.
- 2. improving the liquid flow pattern allowing the liquid to come out from around the glass windows. This permits increasing the distance between the film and the glass reducing the danger of scratches and dirt on the glass as well as making the pressure and vacuum settings less critical.

- 3. improved accessibility for maintenance and cleaning by making the gate open to 45°.
- 4. added the option of interchangeable pins that can be moved from the inside to the outside perforations by removing four screws. This allows the shooting of A&B rolls without the need to shoot from "tails" and also the printing of film with damaged perforations on one side.
- 5. added the option of replacing the liquid gate windows in the field. This eliminates the need for factory replacement.

The gate and it's improvements are at the same old price. For more information on OXBERRY liquid gates and other OXBERRY products write:

OXBERRY Division of Richmark Camera Service
180 Broad Street, Carlstadt, N.J. 07072
Phone: (201) 935-3000 Telex: 133509
Cable: Oxberry Carlstadt N.J.

CINEMA WORKSHOP



By ANTON WILSON

PERSPECTIVE—PART II

What is a normal lens? How does the choice of lens affect perspective? The answer to the first question may surprise you. In essence, the establishment of a "normal lens" for any format is quite arbitrary. In still photography it was decided, purely by convention, that the normal lens for a given format should be of a focal length equal in millimeters to the diagonal of the photographed image. Using this formula, a 35mm still frame produces an image size 24mm by 36mm. The diagonal of this frame is approximately 43mm, and most 35mm fixed-lens rangefinder cameras do employ lenses of approximately this focal length. Most interchangeable lens SLR type cameras consider the normal lens to be the slightly longer 50mm optic.

Using the same formula for motion picture formats yields the normal focal lengths indicated in FIGURE 1. The "silent" or full 35mm motion picture format has a diagonal of 31mm and the more prevalent Academy aperture yields a diagonal of 27mm. The 16mm camera aperture has a diagonal of 12.7mm.

At first glance this should seem very strange. These figures are about half of what is usually considered a normal lens focal length for the respective formats. To shed some light on this paradox, I contacted my old friend Paul Foote. It seems that some time way back in the 1920's, a group of the SMPE got together to make recommendations for lens focal lengths. They were obviously aware of the aforementioned rule-of-thumb

concerning the calculation of a "normal" lens for a still camera. However, these gentlemen thought motion pictures had a different set of criteria. Their logic was based on the fact that a still picture should take in more area of coverage because the eye has plenty of time to scan throughout the frame. They reasoned that the motion picture field of coverage need not encompass as much area and could, thus, be more restrictive, since the camera and composition could move to reveal additional information. As a result, it was decided that a "normal" lens for motion picture applications should be twice the diagonal of the format image area.

Using this formula yields a "normal" lens of about 54mm for Academy 35mm and 25mm for 16mm. Those are the more familiar figures we have come to know and love. But, so what? Exactly what is the significance of the so-called "normal" lens?

To answer this question, I must introduce one more simple formula. A photograph of projected image is being viewed in proper perspective if the viewer is located a distance away from the picture equal to the magnification of the picture times the focal length of the lens on the camera through which the picture was taken. If this criterion is met, the viewer is seeing exactly what the photographer saw from his camera position.

Now, let's move on to the projector in the theater, if the projection lens is the identical focal length of the camera lens, then it should be obvious that, regardless

of screen size, a viewer standing alongside the projector will be at the exact point of proper perspective. Now, if we use a projection lens of twice the focal length of the camera lens, the image receives half as much magnification and the point of proper perspective is now halfway between the screen and the projection booth. By convention, this is exactly what happens. The projectors are fitted with optics equal in focal length to twice that of the so-called "normal" camera lens. By so doing, the majority of the audience in the center of the theater will be at the point of proper perspective for scenes shot with a "normal" lens. This is basically the gist of the term "normal" lens.

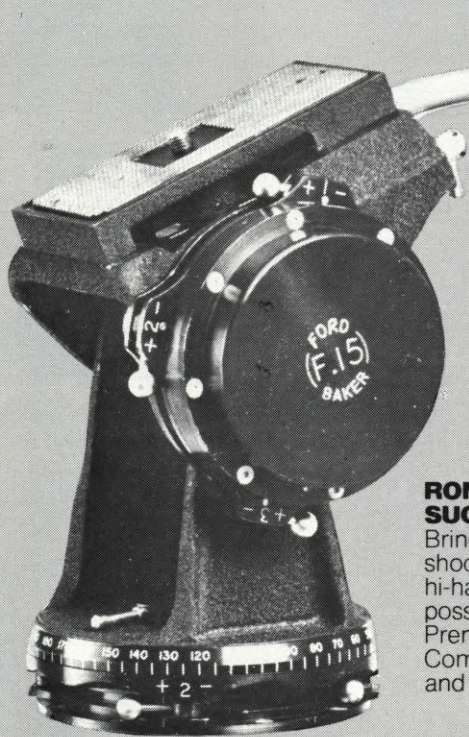
For close-up freaks, like myself, who sit in the third or fourth row, only scenes shot with extremely wide-angle lenses will appear in proper perspective. All other focal lengths from medium wide-angle, through "normal" and beyond, will appear to have a "telephoto" effect. Likewise, for those misdirected souls who habitually frequent the last rows of the theater, all scenes shot with focal lengths of "normal" or less will appear to have "wide-angle" perspective.

All this, of course, assumes that the theater was originally designed with the projection optics being twice that of a normal camera lens. However, this is not always the case. Recently, the deplorable trend of bisecting one large theater into two smaller ones, has totally destroyed these ratios. We will take a look at this problem next. ■

FIGURE 1—CALCULATIONS OF A NORMAL LENS

Format	Frame Dimensions	Diagonal inches	Diagonal millimeters	Twice Diagonal
16mm	.404" x .295"	.500"	12.7mm	25mm
35mm Full-Silent	.980" x .735"	1.225"	31mm	62mm
35mm Academy	.868" x .631"	1.073"	27mm	54mm

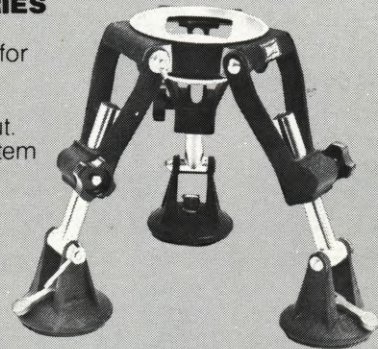
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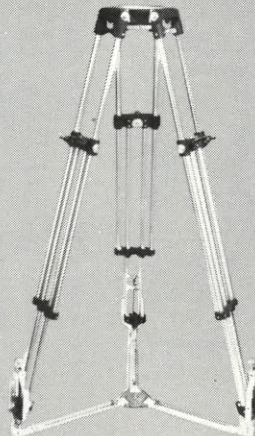
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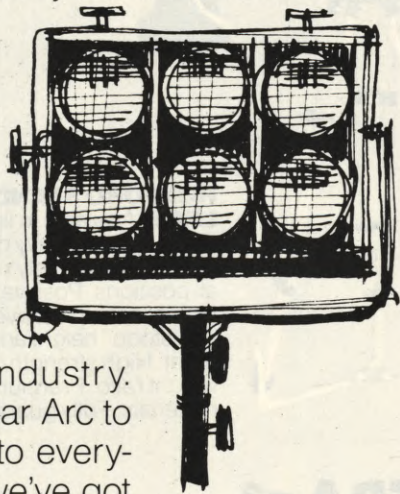
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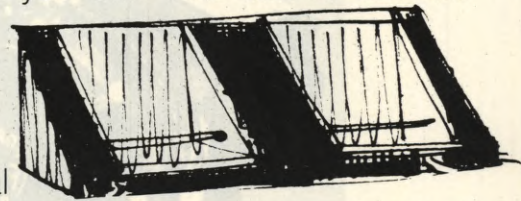
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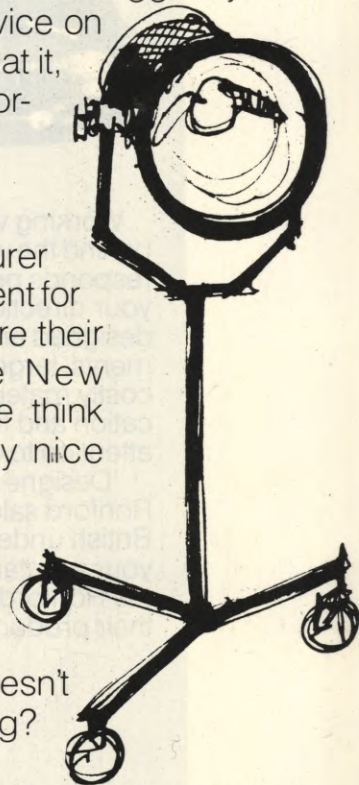


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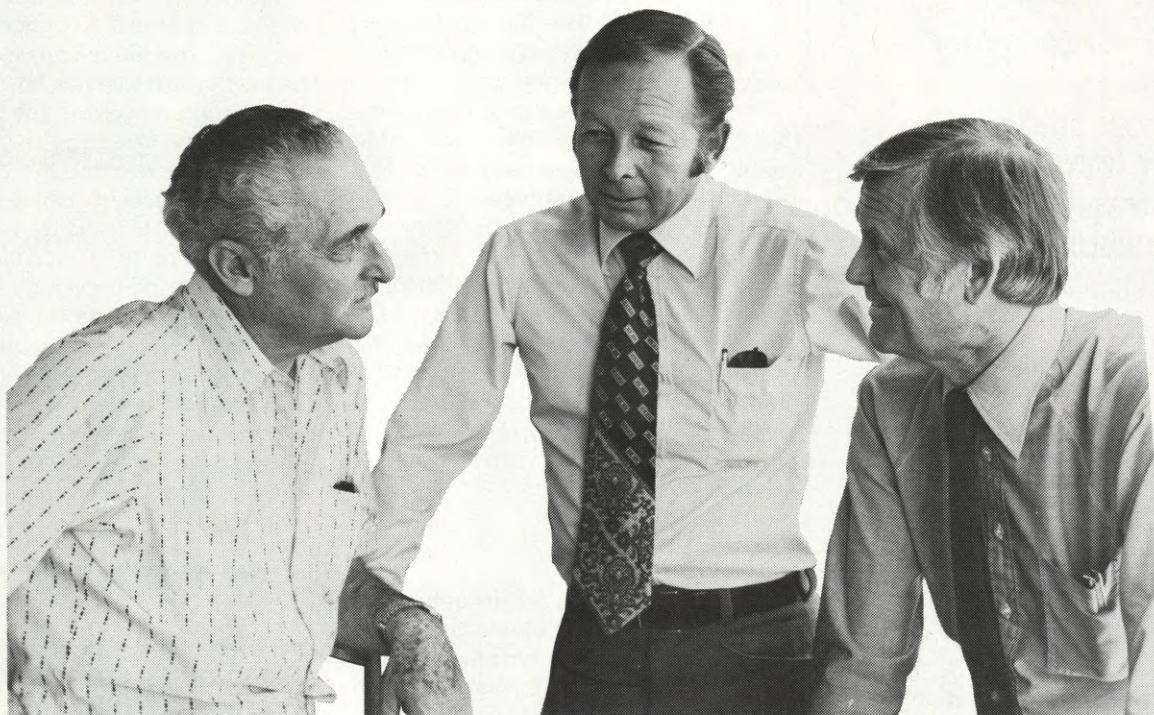


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Cinematographer Phil Lathrop, A.S.C. on location in Los Angeles with Mike Crane and Bob Klees of Deluxe during filming of a Lawrence Gordon Production, "THE DRIVER."

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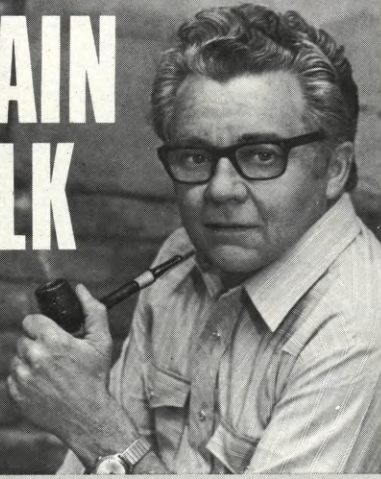
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PLAIN TALK



by *J. Carl Treise*

Don't be fooled just because a manufacturer says his film processor is made of stainless steel.

Some people think that "stainless steel" is a magic ingredient.

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Under some conditions, lesser grades of the #300 Series will often rust.

In other words, stainless steel is only as good as the manufacturer wants it to be.

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QUESTIONS & ANSWERS

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

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



Q Is there a formula for making adjustments between conventional light meters and the T-Stop lens?

A The approximate difference between a T-Stop lens and an f-Stop lens is about 1/3 to 1/2 Stop and this varies with the focal length of the lens, the longer focal length lens having more elements would naturally have a greater light loss. In general, when comparing a T-Stop calibrated lens with an f-Stop lens, the T-Stop lens should be considered to be 1/3 to 1/2 Stop faster as it relates to a conventional exposure meter.

The only absolute way to determine proper relationship between a conventional exposure meter and a T-Stopped lens, would be film test, which gets back to the age old advice, controlling the variables in photography; "tuning up all of the equipment"—exposure meter to camera (T-Stop or f-Stop lens), consider the shutter—film sensitivity and, of course, processing.

Q I am shooting a film entirely in snow. As I don't have any experience in snow photography, I would like certain basic information which would make my work considerably simpler.

1. Do you think there are any special precautions to be taken while handling film, keeping in mind the sub-zero temperature?

2. What type of meter reading is preferred? Incident or reflected?

3. What is the exposure latitude of the film while shooting snow scenes?

4. What precautions should one take to ensure that the equipment does not give trouble?

A In answer to your questions regarding filming in snow and sub-freezing condition, may I reply from my experience.

Snow reflects a great amount of light and, therefore, this usually means stopping down the lens considerably. Therefore, the use of neutral density filters are advised. They may be found in combination with the #85 filter such as the 85N50. If large close-ups are made, ex-

cluding a lot of white area, then the lens may be opened up so as to obtain facial expression.

I prefer to use a reflecting type of meter for snow work. If it is in good working order, you may be governed by the meter readings for exposure.

The exposure latitude is about the same in snow scenes as for any other type of scene, but there is a tendency to over-expose. The emulsion speed is not harmed by cold weather, but the film base is apt to become brittle so be careful when threading the camera.

In freezing weather, the camera itself can cause trouble because the oil-lubrication tends to solidify, thus causing undue tension. It is recommended that your camera be previously flushed with kerosene so as to remove all oil from the bearings. This kerosene is sufficient lubrication for all camera parts while working in sub-zero weather.

By using the above suggestions you should have no special trouble in filming snow scenes.

ASC CINEMATOGRAPHERS AVAILABLE FOR SEMINARS, LECTURES, INFORMAL DISCUSSIONS AND QUESTIONS & ANSWERS SESSIONS

The following members of the American Society of Cinematographers have indicated their availability to appear for seminars, lectures, informal discussions and questions and answers pertaining to motion picture and television photography, lighting, special photographic effects and production in general: L. B. "Bud" Abbott, Lloyd Ahern, Taylor Byars, Stanley Cortez, Victor Duncan, Linwood Dunn, Daniel Fapp, George Folsey, Lee Garmes, Richard Glouner, Burnett Guffey, John L. Hermann, Gerald Hirschfeld, Winton Hoch, Michel Hugo, Richard Kelley, Milton Krasner, Vilis Lapeniaks, Andrew 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.

PHOTO C. BANGERT



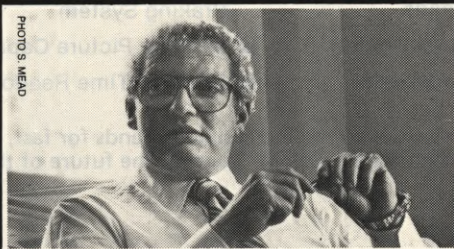
“On *American Enterprise*, TVC gave us beautiful dailies. Then they gave us beautiful prints—7,000 of them.”

“The incredible story of *American Enterprise*—from an idea to the most widely-seen educational film series ever—began in the spring of 1975, when we presented Phillips Petroleum Company with an idea and a challenge: to tell the story of how this nation evolved from an underdeveloped country to the economic marvel it is today.

“A series of five films was proposed. And, since America’s economic ‘sets’ were still largely in place—the mills of New England, the canals, the railroads, etc.—why not crisscross the country and use them?

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“*American Enterprise* worked because it tapped a need. It was the right combination of ideas, talents and people at the right time. TVC was very much a part of that combination.

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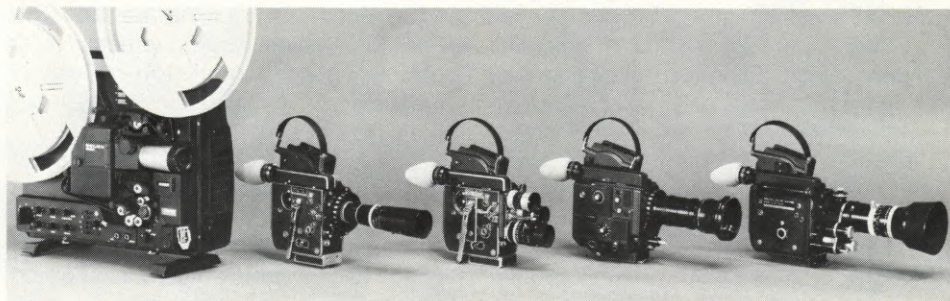
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INDUSTRY ACTIVITIES

PSA-MPD AMERICAN INTERNATIONAL FILM FESTIVAL—1978 COMPETITION

The Motion Picture Division of The Photographic Society of America announces their 49th Annual Festival Competition conducted by the Society. The competition is open to all filmmakers in the world, and it is not necessary to be a member of the Society to enter the competition.

There will be three separate categories of competition, with each category judged separately. Handsome trophies, plaques, and certificates will be awarded for the outstanding entries in each category.

CLASS "A" ENTRIES—films made with no commercial or financial object in mind, and film not subject to any sales or rental agreement prior to entering the competition. Films made as a hobby project by amateurs.

CLASS "B" ENTRIES—Student films made by students enrolled in a department of Cinematography—usually at the college level.

CLASS "C" ENTRIES—all films that do not qualify in Class "A", or Class "B". Short commercial subjects, etc.

All entries must be received by the Festival Committee on or before May 15, 1978. Films will be judged in Illinois, and winning films will be shown at the Gala Premier during the PSA International Convention in Denver, Colorado from August 8-12, 1978.

For complete Festival rules and entry forms, please write:

Mr. James Meeker, Festival Chairman
1329 Hilltop Drive
Milan, Illinois 61264 USA

CINE FALL 1977 GOLDEN EAGLE COMPETITION

CINE (The Council on International Nontheatrical Events) is happy to announce the results of its Fall 1977 Competition. U.S. filmmakers who participated in this Competition were awarded 142 Golden Eagle Certificates and 17 CINE Eagle Certificates.

The winners were selected from among 457 Fall entries, from professional and amateur filmmakers, with the CINE Board of Directors acting as the final jury. Specialized juries of experts have assisted CINE in judging films on: Agriculture, the Arts, Crafts, Culture,

Animation, Business and Industry, Experimental, Education, Entertainment (Children and Adult), Environment, Maritime, Medicine, Public Health, Religion, Social Documentaries, Safety, Science, TV Documentaries and Short Subjects, Sports and Travel.

The Golden Eagle Certificates awarded at the Spring and Fall Competitions in 1977 will be presented to producers and sponsors at the CINE Luncheon on Wednesday, December 7, during CINE's Annual Awards Ceremonies and CINE Showcase. These will be held December 6-8 at the Mayflower Hotel in Washington, D.C. The CINE Eagle Certificates (for Amateur productions) will be presented at a special ceremony at the Motion Picture Association of America's Auditorium on Thursday, December 8.

At the International Awards Banquet on Thursday, December 8, international awards and trophies will be presented to the winners by the Ambassadors or other high ranking diplomatic representatives from the countries where the festivals were held.

CINE is the voluntary, non-profit organization that selects the best U.S. short films for entry in film festivals abroad.

For further information, please write CINE, 1201 Sixteenth Street, N.W., Washington, D.C. Telephone: (202) 785-1136.

TV LAB MAKES FILM AND VIDEO DOCUMENTARY FUNDS AVAILABLE

Production funds for film and video documentaries are available from The Television Lab at Channel 13, which is handling the \$500,000 Independent Documentary Fund awarded by the National Endowment for the Arts and The Ford Foundation. The Fund is aimed at encouraging production of documentaries for public television by independent film and videomakers.

There is no restriction on subject matter or format other than acceptability for broadcast on P.B.S. Applicants should describe their project in two pages (with a summary at the top giving the film/video maker's name, description of the proposed documentary and total budget cost). A third page should be an itemized budget including any additional monies available to the project and all

donated services. A resume of the individual with the main artistic responsibility for the project should be attached. List any crew if known.

A completed documentary tape or film must accompany the application. Applications for full funding (generally not to exceed \$60,000) should be received by The TV Lab at Channel 13, 356 W. 58th Street, New York, N.Y. 10019 no later than December 16, 1977.

Some money has been set aside for completion funds (up to \$10,000). The deadline for that category is May 5, 1978. Announcement of awards for the first deadline will be in early February and for the second by mid-June.

Contact Kathy Kline at The TV Lab (212/262-4248) for more information.

DALLAS' USA FILM FESTIVAL SET TO HONOR CUKOR

Dallas' Eighth Annual USA Film Festival, to be held March 10-19 in SMU's Bob Hope Theatre, will begin with a three-day tribute to George Cukor, who has been chosen as 1978's "Great USA Director."

Cukor's career as a director of motion pictures, which spans nearly half a century, boasts one of the most impressive filmographies in motion picture history. Among the films he has directed are DAVID COPPERFIELD, A BILL OF DIVORCEMENT, DINNER AT EIGHT, HOLIDAY, LITTLE WOMEN, CAMILLE, THE WOMEN, THE PHILADELPHIA STORY, ADAM'S RIB, BORN YESTERDAY, PAT AND MIKE, the 1954 version of A STAR IS BORN, MY FAIR LADY, and TRAVELS WITH MY AUNT.

Although popularly labelled "a women's director" because of his success in directing stories with female protagonists, Cukor is equally adept at directing men (three of his male stars won Oscars for their roles in his films). Stars he has directed include: Ingrid Bergman, Ronald Colman, Joan Crawford, Leslie Howard, Melvyn Douglas, W.C. Fields, Greta Garbo, William Holden, Judy Garland, Cary Grant, Katharine Hepburn (eight films), Judy Holiday, James Mason, Jean Harlow, James Stewart, Robert Taylor and Spencer Tracy. The list goes on and on.

Cukor has said that his desire to direct started in high school. His announce-
Continued on Page 1317

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made it the 'standard' camera for networks and documentaries, as well as many educational and industrial applications.

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Wider wides and tighter telephoto shots.

Then, even though no camera at twice the price offers all these features, we added more. Scoopic 16MS features a magazine adapter that boosts continuous capacity to 400', without losing the camera's internal 100' capability. For sync sound, there's an optional internal crystal control, accurate



Snap-in 400' lightweight CP or standard Mitchell magazines.

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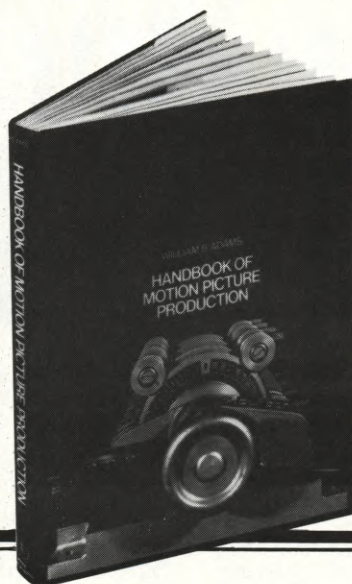
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THE BOOKSHELF

By GEORGE L. GEORGE

FILM GENRES AND MOVIE TYPES

A thoughtful and well focused study of an essentially native film genre, the American gangster/crime movie, has been successfully completed by Jack Shadoian in **DREAMS AND DEAD ENDS**. Using specific films rather than a theoretical approach, Shadoian effectively traces their origins to popular concepts of the day and changing social conditions. (MIT Press \$15.)

An anthology edited by Barry K. Grant, **FILM GENRE: THEORY AND CRITICISM** assembles informed contributions by scholars and critics who analyze both the visual aspects and the thematic content of such various types of films as comedy, war, western, horror and other popular genres. (Scarecrow \$10.)

Roy M. Prendergast's **A NEGLECTED ART** is a critical study of film music that considers its historic evolution from the silents on. Techniques and esthetics are discussed with a fine perception of the medium's potential, making the book a valuable adjunct to the scant literature on the subject. (N.Y. University Press \$15.)

A comprehensive survey by Robert W. Pohle, Jr. and Douglas C. Hart, **SHERLOCK HOLMES ON THE SCREEN** covers all movies devoted to the Conan Doyle sleuth. From 1903 to last year, nearly 300 movies starring actors Basil Rathbone, John Barrymore, Raymond Massey and many others were made, not counting the numerous Holmeses in films produced abroad. (Barnes \$19.95)

CINEMATIC LITERATURE

The nature of the writer's contribution to cinema is assessed in two books of a new series, the Ungar Film Library. Bruce F. Kawin's **FAULKNER AND FILM** (\$10./3.95) and Maurice Yacowar's **TENNESSEE WILLIAMS AND FILM** (\$9.) examines with diligence and perceptiveness the difference between Williams' plays and their screen versions, and the relationship of Faulkner's fiction to his scripts.

In **THE LAST OF THE NOVELISTS**, Matthew J. Bruccoli writes about "The Last Tycoon", F. Scott Fitzgerald's final book, and speculates stimulatingly about the author's intentions regarding his unfinished novel and its eventual filmization, as he draws heavily on Fitz-

gerald's correspondence and interviews with his intimates. (So. Illinois U. Press \$9.85)

Marcel Proust's "Remembrance of Things Past", that masterful 24-vol. literary exploration of time and memory, has been condensed by playwright Harold Pinter in a script, **THE PROUST SCREENPLAY: A LA RECHERCHE DU TEMPS PERDU**. In this unproduced script, Pinter remarkably distills the essence of the great work. (Grove \$2.95)

The script of the feature film starring the zany comedy antics of Monty Python's Flying Circus has now been published in **MONTY PYTHON AND THE HOLY GRAIL (BOOK)**. It is as hilarious as it was on screen, with many color and b&w illustrations, and provides materials for a serious study of film comedy techniques. (Methuen \$7.95)

Ken Russell's latest film, *Valentino*, is an excellent example of the British director's lushness and blatant sexuality, as Alexander Bland describes its eventful production in the richly illustrated "portrait of a film," **THE NUREYEV VALENTINO**. (Dell \$6.95)

FOR REFERENCE AND STUDY

As an addendum to two books dealing with the National Film Board of Canada reviewed in our October 1977 issue, let us mention that both these excellent studies are heavily indebted to Marjorie McKay's **HISTORY OF THE NATIONAL FILM BOARD OF CANADA**, a seminal work of considerable scholarship, accuracy and perception. It was commissioned by NFB in 1964 and is made available to researchers by that organization.

Carefully compiled by John Stewart, a comprehensive record of screen credits for Hollywood's "flaming years" (1920-29) is provided in Vol. II of **FILMARAMA**. A list of films of that period is included, cross-referenced to the performers' index. (Scarecrow \$25.)

The late Prof. Charles Thomas Samuels' **MASTERING THE FILM AND OTHER ESSAYS** assembles his discerning criticism and four chapters of his most ambitious work, a study of the esthetics of the sound narrative. (U. of Tennessee Press \$10.50)

Bernard Wilkie's **CREATING SPECIAL EFFECTS IN FILM AND TV** is an excellent basic guide to the design and use of special effects and props, clearly written, extensively illustrated, and of the highest professional standards. (Hastings House \$8.95)

A recognized master in public relations and promotional techniques, art director George Lois has written a dazzling primer of mass communications, **THE ART OF ADVERTISING**. His trailblazing graphics and often outrageous visualizations, whether in TV commercials or in print, are extensively reproduced in this luxurious volume. (Abrams \$45.)

Do-it-yourself television has proliferated since videotape machines have become available for non-professional purposes. Jonathan Price, in **VIDEOVISIONS: A MEDIUM DISCOVERS ITSELF**, explores many new uses ranging from sales meetings, sports instruction, and medical examination to avant-garde artists creating original visual forms. A stimulating book that captures the future of an expanding communications medium. (NAL \$43.95)

With serials dominating television programming, Jeff Robin has sought in **THE GREAT TELEVISION SERIES** to memorialize those that, over the years, have contributed to the perpetuation of myths founded on viewer identification. The result is an informative, appealing and well illustrated book that takes us over 30 years of hero (and anti-hero) worship. (Barnes \$17.50)

James Bacon, a long-time Hollywood newspaperman, writes about his volatile wards with affection and indulgence, as he relates in **MADE IN HOLLYWOOD** their extroverted antics, flagrant peccadillos and their occasional heartwarming impulses. (Contemporary \$8.95)

A standard reference work published in Great Britain, **KEMPS FILM AND TELEVISION YEAR BOOK 1977-78** provides an exhaustive guide to available production firms, personnel, facilities and services in the U.K., covering also but less extensively, the U.S., Canada and some 30 other countries. (Kemps \$30.)

If you shoot anywhere in the U.S. Southwest, the **WHITMARK DIRECTORY 1977-78** is an ideal source guide to talent, producers, agencies, services and locations in that region. (Whitmark, 4120 Main St., Dallas, TX 75226; \$25.)

MOVING?

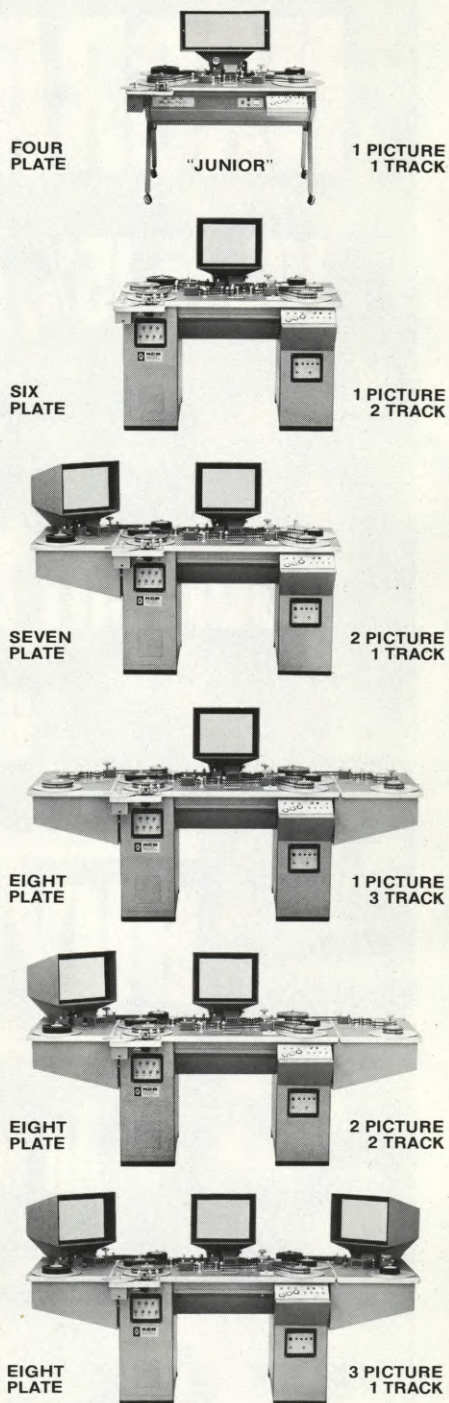
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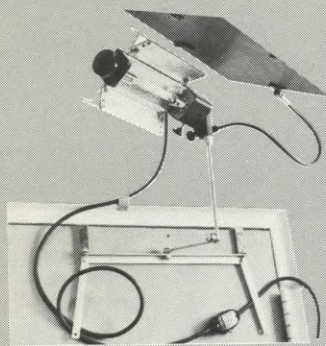
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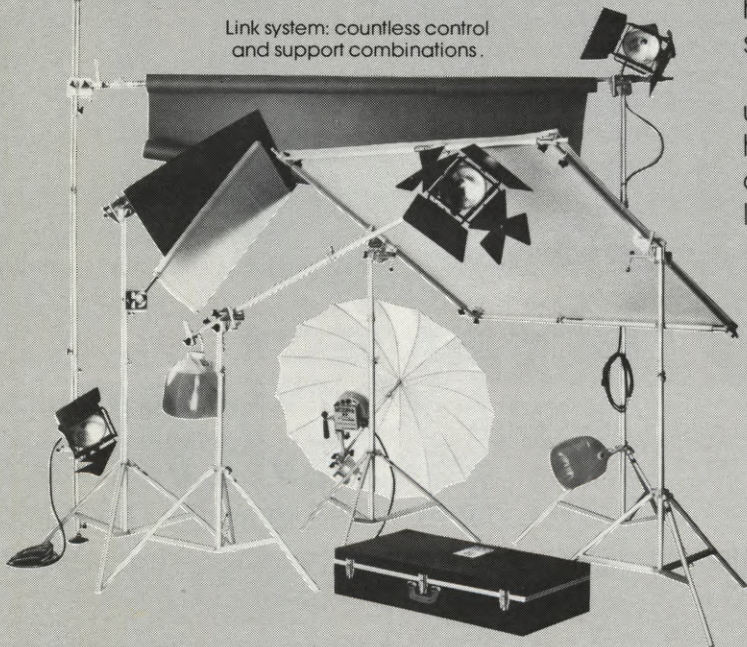
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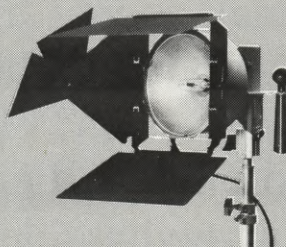
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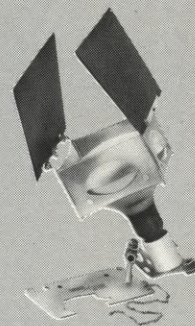
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
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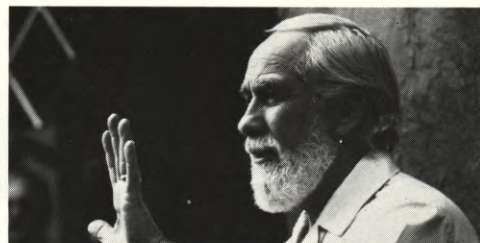
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Scene from Warner Brothers Features'
production of "The Heretic—Exorcist II"



*"I must say that the important factor in using
Rosco material was the consistency of the
material from order to order.
We used several thousand feet of Rosco
material and it performed."* —William A. Fraker, A.S.C.



*William A. Fraker, A.S.C.,
Director of Photography*

...and then Fraker created the sun.

After three days of experimenting, William A. Fraker, A.S.C., Director of Photography literally created the sun for this scene in "The Heretic—Exorcist II." Using Rosco Dark Amber, a ten foot sun-spot reflector and a 10K quartz light, he achieved just the effect he wanted.

Bill Fraker and his gaffer, Doug Pentek, created some very special lighting techniques for this set. "I used double MT2 on the backing and the village and MT2 on Richard Burton," says Bill. "The final effect on this shot has to be one of my favorites. I must say that the important factor in using Rosco material was the consistency of the material from order to order. We

used several thousand feet of Rosco material and it performed."

In a recent interview in *American Cinematographer*, Bill is quoted as saying, "Film-making is a tremendous team effort." Rosco is proud to be part of the cinematographer's team, contributing our part to the success of a major motion picture. Rosco is here to serve the cinematographer and help meet his challenges.

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ROBERT SURTEES, ASC, PHOTOGRAPHS "THE TURNING POINT"

Veteran Director of Photography, who has photographed just about every type of subject, takes on a different sort of challenge, enjoys it—and learns a lot about ballet in the process.

The 20th Century-Fox production of "THE TURNING POINT" is not essentially a ballet film, but rather a dramatic human interest story that unfolds against the glamorous, arduous background of professional ballet.

Starring Shirley MacLaine and Anne Bancroft as aging ballerinas, and the sensational Russian ballet star, Mikhail Baryshnikov, and teenage ballerina Leslie Browne as the star-crossed lovers of the piece, "THE TURNING POINT" was directed by Herbert Ross, himself a former dancer/choreographer. With Ross's wife, the former dramatic prima ballerina Nora Kaye as executive producer, the film has the ring of truth to it. But more than that, it has great visual

beauty and style, as the considerable footage devoted to the ballets themselves is woven skillfully through the threads of the dramatic story.

Ross, who co-produced along with Arthur Laurents, author of the screenplay, says of the film, "It's about the choices we make at the turning points of life and how we live with those choices." In exploring the motivations of their characters, Ross and Laurents are also examining a lot of fixed notions about men and women, about marriage and career, about life-styles and life force.

Participating in the filming was the American Ballet Theatre, the predominant dance company of the United States, if not the world, and the presence

of its principals in both dancing and dramatic roles lends an air of heightened authenticity to the story that unfolds.

Unlike such classic ballet films as "THE RED SHOES" and "TALES OF HOFFMAN", "THE TURNING POINT" does not present full-length ballets meticulously choreographed primarily for the camera. Rather, it serves up fragments of many ballets, all filmed in a more or less straight-on fashion (as audiences would actually view them in a theater), and all functioning as background atmosphere to the story itself.

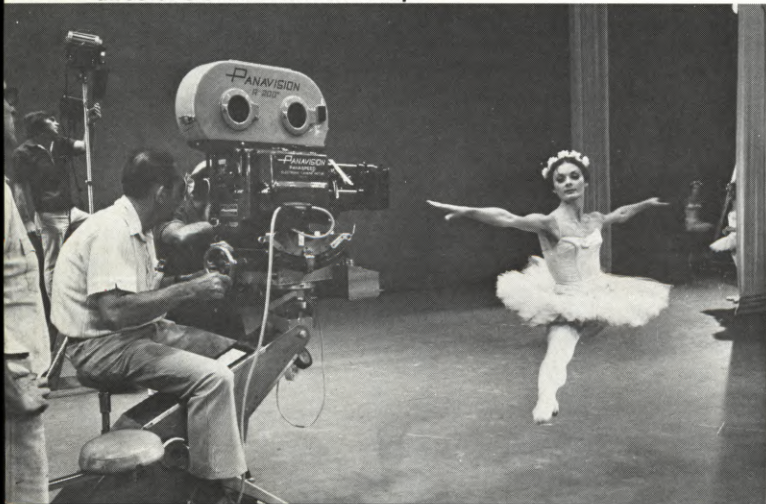
Selected as Director of Photography for "THE TURNING POINT" was veteran cinematographer Robert Surtees, ASC, recipient of three Academy Awards ("KING SOLOMON'S MINES", "THE BAD AND THE BEAUTIFUL" and "BEN-HUR"), and the man behind the camera on such other films as "OKLAHOMA!", "THIRTY SECONDS OVER TOKYO", "THE LAST PICTURE SHOW", "SUMMER OF '42", "SWEET CHARITY" and "THE STING". His two assignments immediately preceding "TURNING POINT" were "THE HINDENBURG" and the Barbra Streisand remake of "A STAR IS BORN", for both of which he received Academy nominations.

Working in a variety of actual locations and a few studio sets, Surtees displayed great versatility in achieving a blend of realism and high visual style. In the following interview for *American Cinematographer*, he discusses the specific challenges and satisfactions involved in his photography of "THE TURNING POINT":

QUESTION: How would you describe the photographic style you used in



(ABOVE LEFT) On the set of the 20th Century-Fox production, "THE TURNING POINT", Director Herbert Ross and Director of Photography Robert Surtees, ASC, check a camera angle. (BELOW LEFT) The Panavision camera moves onstage to film closeup segments of a ballet. (RIGHT) On the sidewalks of New York, location filming continues. Shirley MacLaine, who costars with Anne Bancroft, sits patiently in director's chair between setups.





Scenes from "THE TURNING POINT" cover a wide range of locales, but the ballet stage is the arena of principal action. The ballet sequences were shot in actual theaters in New York and Los Angeles. (ABOVE LEFT and RIGHT) Director Herb Ross, a former dancer/choreographer, has first-hand knowledge of the glamorous, arduous world of ballet—an enormous advantage in making this type of film.





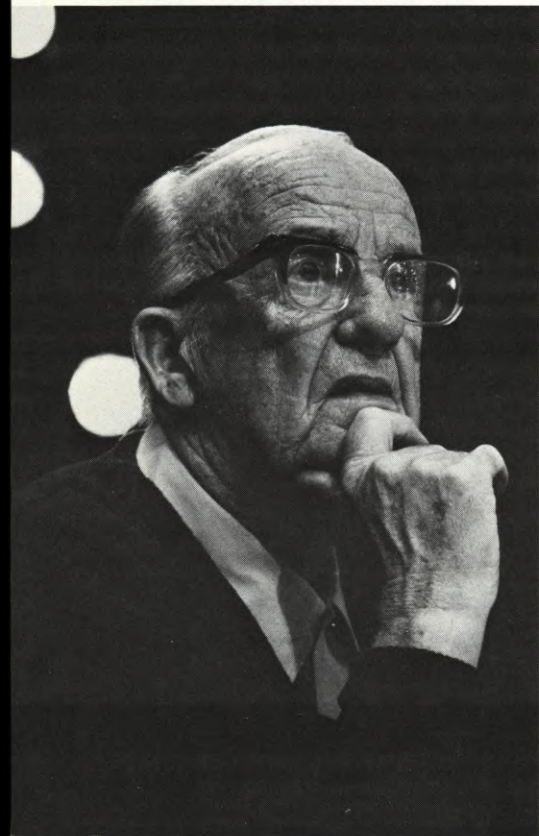
(LEFT) Ross coaches famed Russian ballet star Mikhail Baryshnikov and teenage American ballerina Leslie Browne before shooting a scene. Both dancers make impressive acting debuts in this film. (RIGHT) Surtees looks on, as light readings are taken. Stage lighting (entirely different from film lighting) was used to photograph the ballets—and it took some getting used to on the part of the camera crew.



shooting "THE TURNING POINT"?

SURTEES: *There was the temptation to make everything super-beautiful, because so many painters have done that in rendering ballet subjects, but we didn't want anything to be glamorized, and we certainly didn't want it to look like it had been shot in a studio. The aim of the photography was to capture the emotion that went with the dancing, so that the figures on stage seemed to speak, to tell you something with their movements. We wanted to present something seductive that would get the audience emotionally involved. Ballet is one of the most beautiful things the human body can express, if it's done right.*

After many decades as a top cinematographer, Surtees remains ever eager to experiment—and to learn more about his craft from such experimentation.



QUESTION: In "THE RED SHOES" certain ballet sequences were portrayed visually in an almost surrealistic manner. For example, there was a certain amount of fiddling about with camera speeds, slow-motion for certain leaps, and that sort of thing. Did you do any of that in "THE TURNING POINT"?

SURTEES: *No, we didn't go in for any spectacular speeding up of the cameras or anything like that. It would have been easy enough to shoot in slow-motion, but these dancers were so good that they didn't need that. Besides, it would have damaged the integrity of the picture. It's true that Baryshnikov's leaps are almost incredible—but they're real.*

QUESTION: What did you find especially challenging in being called upon to photograph "THE TURNING POINT"?

SURTEES: *Mainly, just the subject matter itself. "THE RED SHOES" was made in England and it was a very successful picture. However, in most of the others, the dancing went well, but the story never held up. There haven't been many ballet pictures made in the United States and the ones that were look pretty bad. We ran some of the American ballet films that have been done and they're all very self-conscious. Director Herb Ross (a former choreographer) and his wife, Nora Kaye (a famous ballerina) were determined that "THE TURNING POINT" should ring true in every respect, and for that reason it was decided that the picture should not be shot on studio sets, but in actual locations—real theaters, for example. In preparation for that, I went to New York and sat through about six ballets in a row.*

QUESTION: And what did you discover?

SURTEES: *That the only way we could make it really look like ballet would be to use the actual ballet lighting. However, the main difficulty there was in deciding whether there would be enough light for exposure in color—or too much, because there's no way to adjust regular theatrical lights. They hang on rails up above and you can't flood them out or make them brighter or dimmer. The lamps aren't built that way. They're like regular light bulbs mounted in units that are simply meant to protect them. They're all hung on iron bars that have to be lowered to change bulbs and then pulled up again. There must be 100 to 150 bulbs working at all times, but even so, they are so far away that you usually don't have enough light for cinematography. Also, even though all of the lights are on stage dimmers, you can't dim them, because that would change the color temperature—something else to worry about.*

QUESTION: How did you work your way around those problems?

SURTEES: *We took the time to lower the lights or raise them, instead of flooding them out like you do in a movie studio, and we got past some of the difficulties in that way. As far as I know, this was the first time stage lighting had been converted into motion picture lighting; we had to start from scratch, because originally we hadn't intended to do it that way. We had planned to set it all up on sound stages in Hollywood, but when I started talking with Herb Ross about what he wanted, I realized that wouldn't work. We would have had to use many lights up on parallels and they would have been in the shot half the time. The only other alternative was to shoot with the stage lighting and let the lights get into the shot now and then—which would seem natural in the theater. For the major part of a number we would be tilted*

slightly downward, but when a dancer did a leap we would tilt up and show the lights. I think it actually helped in a certain way. It made the illusion of being onstage much more effective.

QUESTION: Where did you actually shoot the ballet sequences?

SURTEES: At a theater in New York City that wasn't being used at the time. Later we returned to Hollywood in order to accommodate some of the non-dancing actors who were working in California. However, we still had two or three ballet numbers to film. We stuck to working in an actual theater, though—this time, the Shrine Auditorium. This proved to be much easier than taking over theaters in New York—which involved a major overhaul.

QUESTION: Usually lighting is designed specifically to a certain ballet, just as the scenery is. In other words, it's set to the choreography. That being the case, were you stuck with that lighting because of the choreography, or were you able to move lights around and be freely creative according to your own artistic conceptions?

SURTEES: I could do anything I wanted; that was up to me. I couldn't limit myself to just the choreographic lighting because, at the time, we didn't even know whether it was going to work—whether there was going to be enough or too much light. We couldn't light it 100% as it would be lighted for the stage, but that provided the rough idea and you set it up and worked from there. Each number was different and made different technical demands. In a ballet like "SWAN LAKE", for example, the lighting went all the way from night to early dawn, and the only way to get enough exposure was to drop the lamps to make them brighter. But there was a limit to how far you could go with that, because Baryshnikov leaped so high that we had to shoot clear to the ceiling to keep him in the frame. While we felt it was alright to let the stage lights show occasionally, we couldn't put extra lighting units up on parallels or anything like that, especially since we were using such wide angle lenses—around 15mm in the 1.85 format. That made it very difficult when you were tilting up.

QUESTION: In regard to camera placement for photographing the ballets, what kind of limitations (if any) did you have to observe?

SURTEES: We made a lot of experimen-



With countless Academy Award nominations and three golden Oscars to his credit, Surtees is known as a cinematographer who can photograph any sort of subject. He has proved this in a wide diversity of vehicles, ranging from the majestic spectacle of "BEN-HUR" to the fragile loveliness of "SUMMER OF '42". He especially enjoys the stimulus of working with talented, but relatively inexperienced, young directors.

tal tests to discover where were the best places from which to shoot ballet, and the very best spot turned out to be dead center in the audience, looking toward the dancers. The second limitation we had to observe was to not pan the camera. There is very little panning in the ballet sequences, because what you do when you pan is disturb the composition of the ballet. For example, suppose you are photographing someone who runs from one side of the stage to the other and does one of those big leaps. If you panned with him, it would flatten out the action, but if you held the camera stationary as he went from one side of the stage to the other, you would preserve the composition that the choreographer had intended. The best camera angle, therefore, turned out to be the one that would favor that composition. In terms of composition, ballet is nothing more than

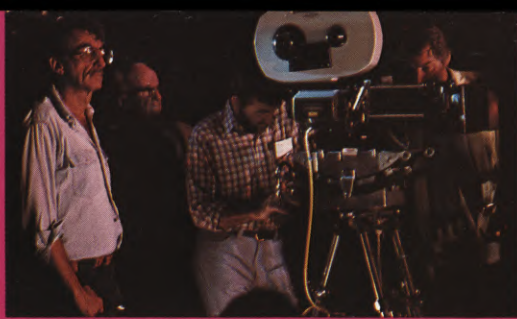
living sculpture. A choreographer sets up compositions by moving people, having them raise their arms, or remain still. This is exactly like sculpture—only with living things.

QUESTION: As a cinematographer, did you find the conventions of ballet "composition" to be limiting?

SURTEES: Well, I certainly had to adopt a new point of view. Composition, as it is employed in ballet, is very beautiful, but it's different from composition for the camera. It hasn't anything to do with photography at all. The main element in ballet is space—whereas, in photography it's light and shadow. At first it was very odd for me to see how the choreographers were working, because it bore absolutely no relationship to photog-

Herb Ross made his initial transition from stage to screen by staging special musical numbers for such films as "DOCTOR DOLITTLE", but has since won wide acclaim as a director of purely dramatic vehicles, as well. "THE TURNING POINT" is to him and his wife (the former prima ballerina, Nora Kaye, who serves as Executive Producer) a very personal statement about the world of ballet which they know so well.





raphy. I understand it all much better now.

QUESTION: Did you use a single camera or multiple cameras in photographing the ballets?

SURTEES: Multiple cameras. Sometimes as many as six or seven, all in a line, but since we preferred the straight-on angles, we had a heck of a time getting all of the cameras in most of the time. They would all be in one another's pictures. It was impossible to eliminate the problem, but eventually we got around it in one way or another.

QUESTION: What about the

closeups?

SURTEES: The closeups were staged later.

QUESTION: Since, as you said, the best camera angle was shooting straight from the audience toward the stage, that didn't afford much opportunity for camera movement, did it?

SURTEES: We did a lot of 360's from the center of the stage, but with the curtain down—supposedly during rehearsal. (We never showed the audience in this picture.) There was one spectacular dolly shot that we got to do—the very end

shot in the picture. The camera starts with a closeup near the back drape on the stage, then goes clear back through the theater and out the front door. We had platforms on wheels and whole rows of seats that could be moved of the way—and we deliberately picked a number that wasn't too fast. We got the shot on the second take.

QUESTION: Spotlights are an integral element of ballet lighting. Did they present any particular problem?

SURTEES: Only in New York. I found that I couldn't get any spotlights with the correct color temperature until I got back to





Hollywood. In New York I would take readings with a color temperature meter and put filters on the lamps until I got the temperature close to 3200°K. But boy, a lot of times they were way off—and I couldn't get enough "heat" (intensity) out of them either. Several times we had to hold everything up and move the spotlights down closer to the stage and build parallels to hold them. It was a hell of a lot of work. However, sometimes things like that turn out to be advantageous. What you're trying for is not quite perfect, but you have to go with it. So you shoot it, and it becomes more effective, because it looks like real stage lighting. For example, I noticed, when watching ac-

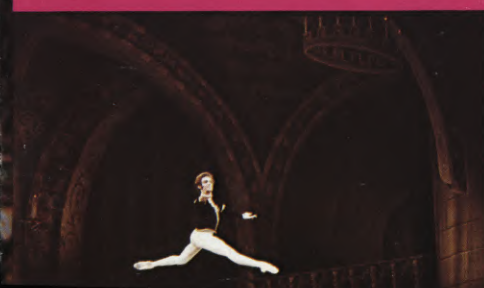
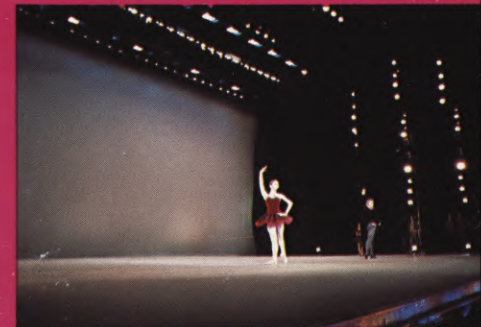
tual ballet performances, that every so often a dancer would go right through the lights in the wings of the stage and "burn up". Now, this is something we'd never allow in conventional motion picture work—but I allowed it, after I'd seen it once on the screen. It was a hell of an effect. We just let them burn, and it looked more like a real stage performance.

QUESTION: Most lighting for ballet comes from above and from footlights, as well as from straight-on spotlights. Wouldn't this combination tend to make the lighting a bit too flat for effective cinematography?

SURTEES: What saved it from that was the side lights from the floor and mounted on vertical pipes in the wings, but we couldn't use back light like you can in Hollywood. It wouldn't have looked right—and it certainly wouldn't have looked like theater lighting.

QUESTION: In photographing ballet, you inevitably become quite involved with colored light. Wasn't that so in this case?

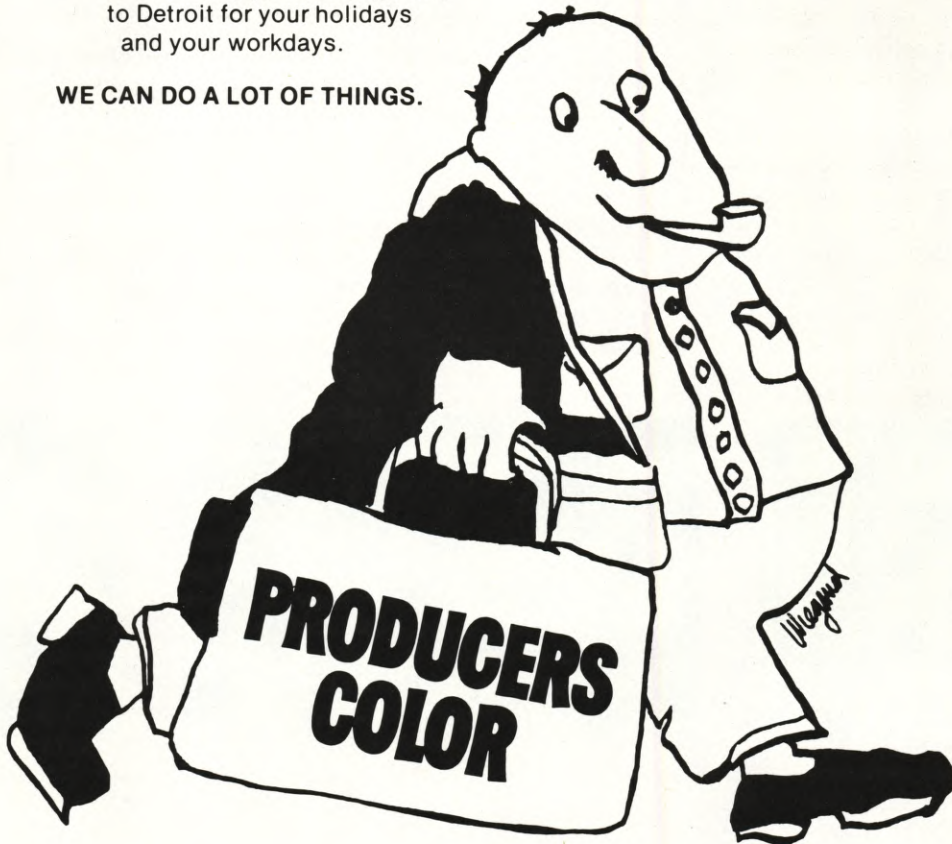
SURTEES: Yes, it was. Some of the ballets were "warm" numbers and others were "cold". For example, Continued on Page 1305



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THE 20th CENTURY-FOX "SOUND 360" SYSTEM

By **LEONARD KROLL**

Vice President, Post Production

What more appropriate place to discuss a new sound system than in the lobby of a motion picture theater? That's exactly how it all started—in the lobby of a Westwood Village theater during a "Sneak Preview" of a Twentieth Century-Fox film.

We were in production on a new science-fiction film titled "DAMNATION ALLEY". The action of the film takes place after an atomic War and depicts the journey of a small group of survivors across the United States in a specially designed military craft called the Landmaster, in search of additional survivors of the holocaust. It deals with visual atmospheric conditions, mutations, storms and, in general, is a rather bizarre high adventure filled with abnormalities.

A good deal of discussion was under way regarding the visual effects to be done for the film and it was felt that a specialized type of sound was also desirable in order to enhance the drama. Some existing systems were being considered, as well as one or two relatively new systems which were being offered at the time.

I had often wondered why no one had ever fully developed the sound sensation created by Cinerama, which I remembered as having been quite effective as it curved across the front of the theater—which brings me to the lobby of the Westwood Village theater.

Ted Soderberg, one of our leading re-recording mixers at Fox, as well as throughout the industry, and I were chatting about the film being previewed that night and talking of sound in general when I hit him with the thought I had been carrying around. For years we have been wasting two of the five speakers behind the screen in most 70mm houses. Why couldn't we pull two of them back into the audience, put them on the right and left wall, combine the normal surround speakers into one on the rear wall and circle the audience with sound, pulling them into the picture? This would be unlike the normal surround signal we have been accustomed to in conventional 6-track or 4-track pictures, which give a general filling out of effects or music, using one channel of signal and reproducing it through multiple speakers. My thought was to deliver separate, distinct sounds, reproducing them independently from the four walls, through speakers of similar quality as those behind the screen.

A new "total-surround" sound system that places members of the audience at the center of a screen situation and exposes them from all sides to the various sound elements they would hear in the true-life situation

The sound could be reproduced with total separation or in a combined technique, using any combination of speakers. It sounded simple to me and seemed like a much more sensible way to use six channels of sound. In fact, if it could be made to work with six, why not with the standard four-channel? After all, more theaters are equipped with four-track than six-track. (I spared Ted that headache for later.) Well, it all sounded pretty simple to me, but it turned out to be a re-recording mixer's nightmare, not to mention the preparation of sound effects and music—but I'm jumping ahead.

First of all, Ted had to think it out and

do some preliminary tests. He did, and about a week later he called and said he had something for me to hear, in our main theater. It turned out to be the first "360" Sound Demonstration. A simple wave crashing and some wind blowing—only the exciting part was that the wave started in front of the theater, seemingly crashed over my head and ended up diminishing behind me, while at the same time a strong wind was whipping around the walls of the theater. I closed my eyes to visualize the picture image, since this was a "sound only" test and instantly conjured up a picture of a

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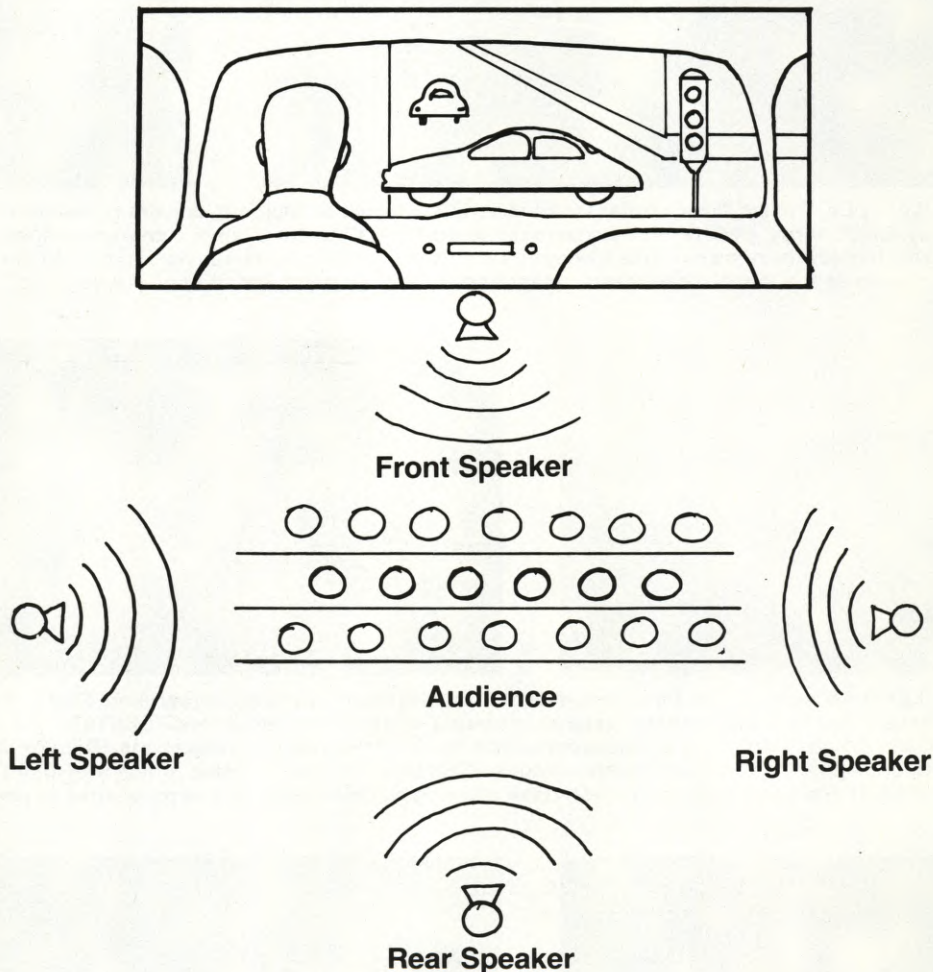
Rough sketch to illustrate an example of the effect produced by the new 20th Century-Fox "SOUND 360" System: In this example, members of the audience are "passengers" in the rear seat of the automobile. The sounds they are hearing are:

FRONT SPEAKER: Sound of traffic signal, car crossing, general traffic noises.

REAR SPEAKER: Sound of truck coming to a stop, air brakes, horn honking in distance.

RIGHT SPEAKER: People talking as they begin to enter crosswalk, motorcycle pulling up beside car offstage and idling.

LEFT SPEAKER: Fire engine approaching in distance, newsboy hawking papers. All sounds are simultaneous and balanced to the real-life experience.



THE FILMING OF "MYSTERIES OF THE GREAT PYRAMID"

By **JEFFREY PILL**
Co-producer

Filming inside one of the greatest man-made monuments on earth presents enormous technical challenges, but imbues the fascinated crew with the most profound sense of mystical, awesome adventure

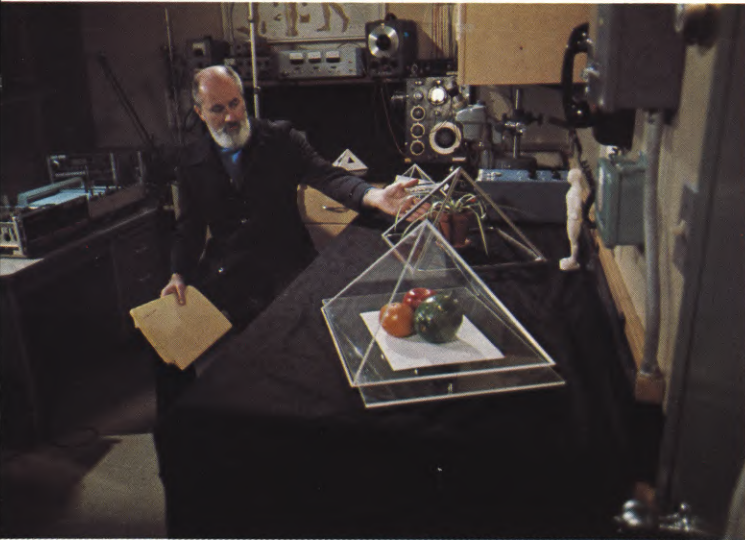
In November of 1976, Bill Kronick and I started preparing for the filming of the one-hour special, "MYSTERIES OF THE GREAT PYRAMID". We knew the CBS air date was to be the following April and, as we did more and more research, we realized how much material we would have to cover in a short amount of time, both for ourselves in preparing to make the film and in the finishing of the show

itself. We had to first research historical and archeological books and articles, and then prepare, shoot, and edit the film.

The Executive Producer, David Wolper, has been personally interested in the pyramids for years and said that he wished he could go with us to Egypt. But he was just finishing work on "VICTORY AT ENTEBBE", as well as "ROOTS", so

he couldn't break loose from the U.S.

We realized that the main thrust of the show had to deal with the different theories of the "how and why" of the Great Pyramid. There is no one accepted theory as to *how* the ancient Egyptians could have built it. And there are many theories as to *why* it was built. Was it merely a tomb for the Pharaoh Cheops? Or was it a fountain of sophisticated



(LEFT) Dr. William Tiller, Professor of Materials Science at Stanford University, works in his Palo Alto laboratory on experiments in pyramid energy. (RIGHT) Halfway across the world, in King Tut's tomb, cameraman Andre Gunn stands on the lip of the sarcophagus which holds the remains of the teenage monarch. Assistant cameraman holds Andre by the belt to steady him. Workmen and inspectors gasped as the intrepid cameraman leapt to this vantage point, but did not restrain him.



(LEFT) Aerial view of the three pyramids of Giza, with Great Pyramid in foreground. This was shot as part of an ill-fated aerial photographic expedition. The hazy, muddy weather created a mysterious atmosphere. (CENTER) The Great Pyramid of Giza from the air. (RIGHT) Cameraman Andre Gunn and soundman Dick Rector filming Bedouin musicians. (BELOW LEFT) Inside the King's Chamber, a guide uses torch to peer into the granite sarcophagus. (CENTER) The sarcophagus, which was found to be empty when the chamber was opened. (RIGHT) Workmen remove the inch-thick glass cover from King Tut's sarcophagus to permit reflection-free photography.





(LEFT) Filming a walking interview with Professor William Tiller. (left to right) Soundman David Kirschner, Production assistant Jon Malvino, Assistant cameraman Randy Love, Cameraman Jan d'Alquen in wheelchair for dolly movement, Professor Tiller, Co-producer Jeffrey Pill. (RIGHT) Filming the interview, while Professor Tiller and Jeff Pill walk across the Stanford campus. Randy Love pulls wheelchair, while Jon Malvino holds a white reflector card.

scientific knowledge that was symbolic of the entire Northern Hemisphere? Or was it an astronomical observation platform?

These are some of the theories that have been proposed. We felt it was our duty to present them in such a way that the audience would become aware of the true mysteries surrounding this awesome stone monument.

We also were to briefly show and discuss the tombs in Upper Egypt which are located in the Valley of the Kings, across the Nile from the Temples of Luxor and Karnak. King Tut is buried in this valley along with other Pharaohs who lived a thousand years after the pyramid age ended.

Also, we would show and discuss the phenomenon here in the U.S. called "pyramid energy" that has grown enormously in the last five years. The proponents of this kind of energy feel that for pyramid power to be effective, the small pyramids must be in the exact shape of the Great Pyramid at Giza. So, in the broadcast, we were going to examine the proof or non-proof of this pyramid power. Luckily for us, most of the companies manufacturing these pyramids, as well as a scientist who has experimented with this "energy", are located in California.

We tried to view all films that have been made about the subject of the pyramids and Ancient Egypt. These included many films from the BBC, a film from the series "Civilization", and a film from the series "Ascent of Man". They were all very good, but none were specifically designed to explore our main subject, so we realized that other than a few pieces of historical stock footage, we would have to shoot almost all the film

ourselves . . . shoot it in different parts of the world.

We were surprised to *not* see any aerials of the Great Pyramid, or the three pyramids at Giza. We couldn't understand why this was so and decided to definitely get good aerial shots. Little did we realize the frustration and money this decision would cost us.

We decided we did not want one crew to move with us around the world (not necessary and too costly), so we then had to begin lining up the different local crews that we would use. Obviously we needed a good crew for Egypt, so we would bring one into this location. We would also be shooting in London, where many of the world's most respected Egyptologists are located. We also planned to shoot in Boston at the Museum of Fine Arts, and in Los Angeles, which is the heart of "pyramid energy" manufacturing.

We had to line up the proper credentials and visas for ourselves. The letters started flowing to Egypt (to the Department of Antiquities), and to people in the American and Egyptian governments, requesting assistance. I have a friend who has been with a news organization in Cairo for a couple of years, and after explaining our project to him on the phone, he was able to line up an excellent production manager for us, a young Egyptian woman who had just finished one year in the United States at Columbia University's Graduate School of Journalism. So she was set to act as production manager as well as interpreter. Magda El Sanga is her name, and saving us was her game. She played well.

To decide what 16mm film stock to use in the show, we met with the Wolper post-production people. We wanted a finished show that would be broadcast off tape, which was to be made from an answer print off the A and B rolls. But we also needed a stock that would provide a good internegative to make release prints for worldwide distribution. From past experience the post-production people recommended that we not use negative. We had a very tight time schedule for this show, and almost everything to do with the 7247 stock, we were told, takes longer and is somewhat more expensive. And, they told us, dirt was still a problem with 7247 in the answer print. So, even though negative did look good as far as reproduction, we decided we didn't have the time nor the tolerance (aggravation-wise) to use the 7247 stock.

Our next decision was *what* reversal stock. I strongly recommended 7252 ECO for all the outside shooting. With so much of the film being shot in Egypt on the desert, I knew the ECO would look good, if not, in fact, be essential. I also suggested we examine the possibility of using the 7240 Video News Film for indoor shooting. I had recently used it while producing and directing a syndicated documentary series for TV and found that shooting it in low light conditions was preferable to 7242. However, in that series, we never made release prints; the show was broadcast on tape, which was again made from an answer print off the A and B rolls. The post-production people at Wolper received conflicting reports about the 7240 stock, with some

Continued on Page 1264

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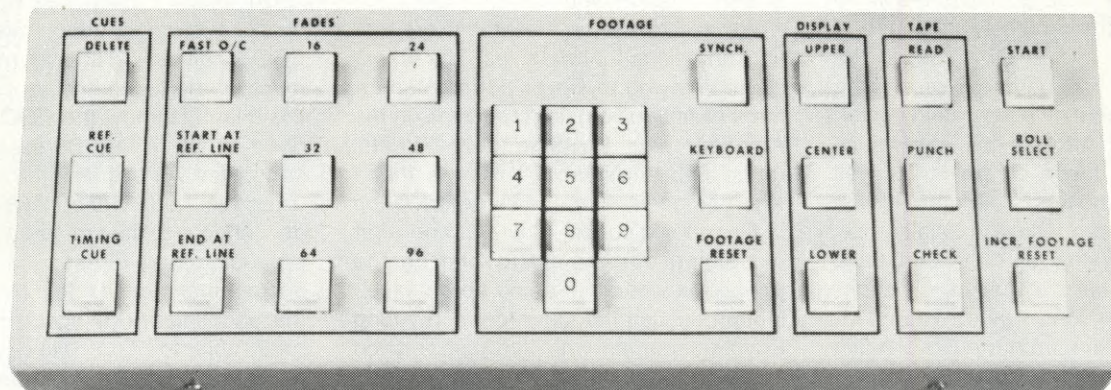
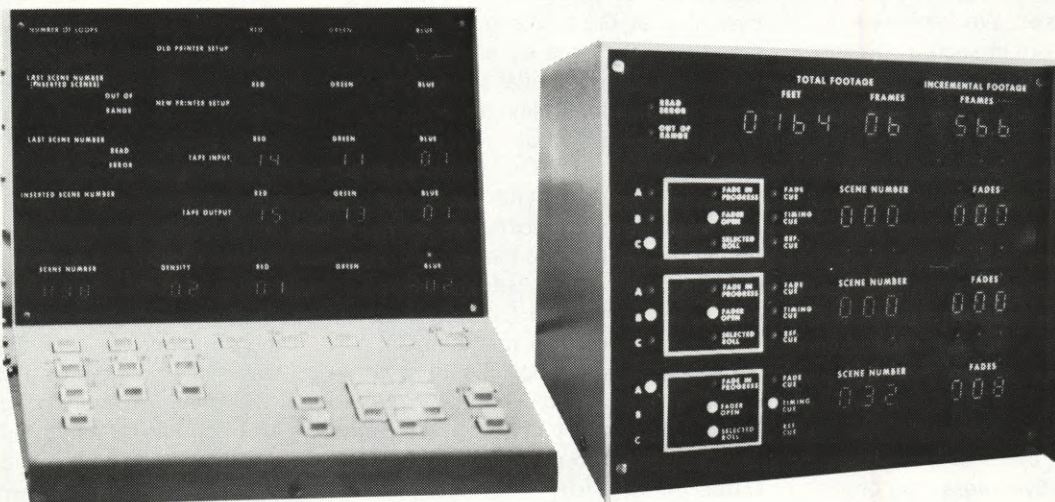
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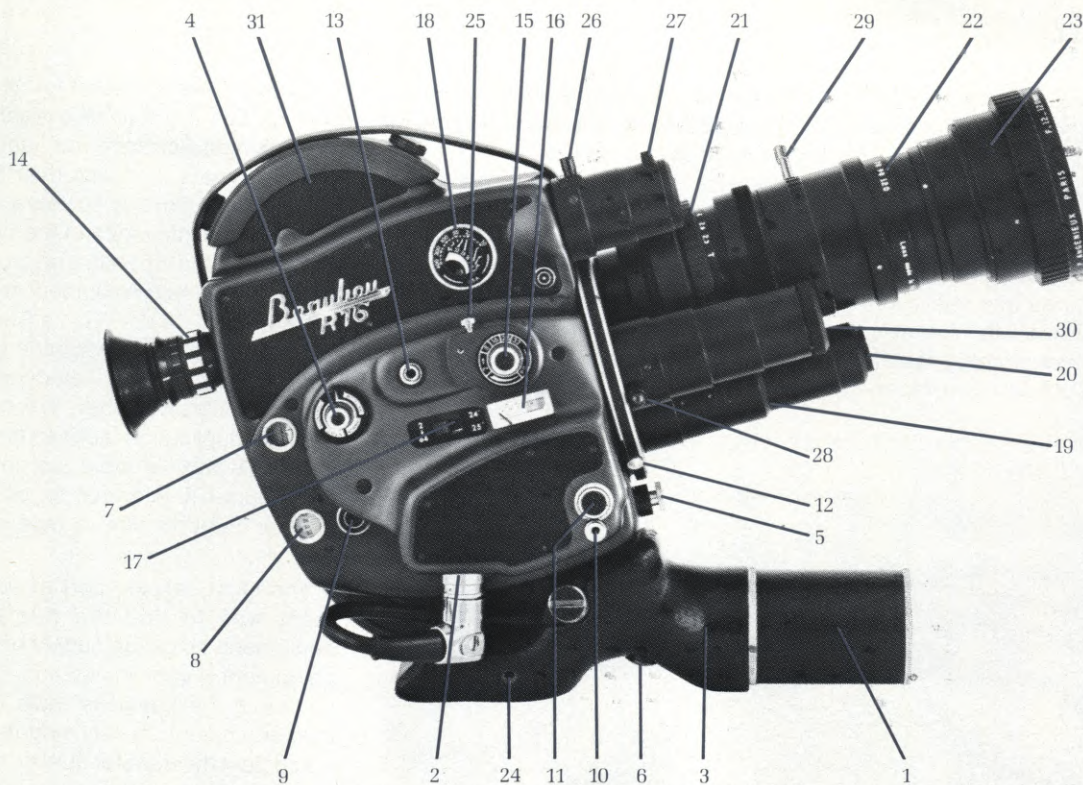


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16. Fine adjustment tachometer for exact speed setting. 17. Speed range changeover switch (24-25 f.p.s. 2-64 f.p.s.) 18. Film sensitivity and filming speed adjustment for light meter. 19. Automatic diaphragm control (Reglomatic). 20. Automatic or semi-automatic selector switch.
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*Body with lens.

TAPE-TO-FILM TRANSFER IN SCANDINAVIA

A significant and courageous step forward results in a highly advanced installation of facilities for the transfer of video tape signals to film

By **BENGT ORHALL**

Until about two years ago activity in the field of telerecording had been almost at a complete standstill. The only equipment available was black-and-white and somewhat dated. The television engineers worked in the opposite direction; i.e., to find sophisticated methods for transferring color pictures into television signals. No one really knew the extent to which a first-class telerecording installation could be put to use or, more impor-

tant, how much of a financial risk would be involved with the massive investment that such a system implies.

The rapid growing of the videomarket outside the television companies, of course, worried us a little, so in 1975, instead of fighting against it, AB Film-Teknik, as the first Scandinavian film laboratory, decided to undertake the massive investment of a video-department.

AB Film-Teknik, known for its daylight printing, has maintained a leading position amongst Scandinavian laboratories for many years, and with over 30 years experience in film and 10 years in sound, we branched into video in the beginning of 1976 with the emphasis on tape-to-film transfer. Our main equipment consists of two Ampex 2000 B VTR's, a Rank Cintel Mk III telecine with colorgrade and Vert. Appert. Corr. and a Teledyne CTR 3 Color Telefilm Recorder. We have also cassette duplication facilities for U-matic and VCR and we have just installed a VPX Super-8 scanner to be able to transfer Super-8 film to tape or 16mm film.

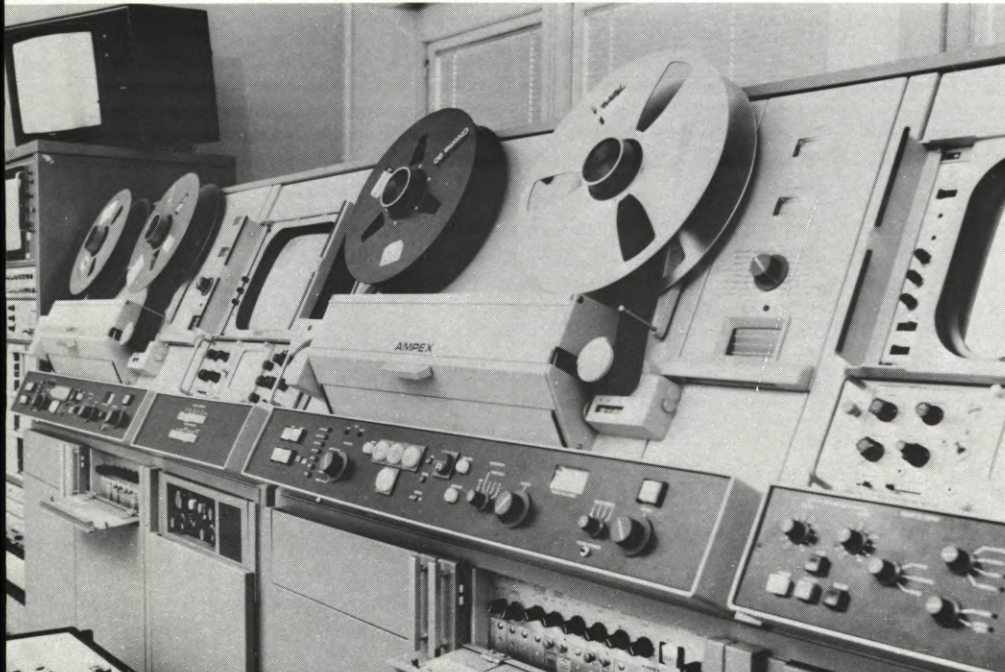
The most delicate part of our investment was to find the telerecording equipment, since the supply of standard equipment is very limited and most companies in the business have built their own equipment. In choosing the telefilm equipment the transfer quality, of course, was the most important factor, but we also knew that the operational reliability of the electronics and the mechanics must rank high. We investigated the market by studying samples from different companies and we also visited some laboratories in the U.S. During the trip to America we saw the prototype of a new triniscope recorder at Kodak Park in Rochester. The concept of that equipment seemed to meet most of our requirements. The manufacture and sale of the equipment was taken care of by Teledyne Camera Systems, so we contacted them for further information. We then discovered that the production model looked even better than the prototype.

It was a very logical assembly and it had a fast pulldown camera with a well proven reliability. Further factors in Teledyne's favour were that the separation of the three colors through dichroic mirrors and filters is extremely good and matches the spectral sensitivity of most color films and that the high luminosity permits the use of low sensitive, fine-grain films.

So the Teledyne CTR-3 was purchased and installation took place in February 1976. As it was the first equipment to leave the assembly line, the personnel at Film-Teknik were fortunate in having both an installation engineer and one of the designers from Teledyne



(ABOVE) AB Film-Teknik, with more than 30 years experience in film and 10 years in sound, branched out into video in the beginning of 1976. It is the first Scandinavian film laboratory which decided to undertake the massive investment of a video department. (BELOW) One of the two Ampex 2000-B VTR's installed at AB Film-Teknik.



with them for the first four weeks to carry out extensive tests.

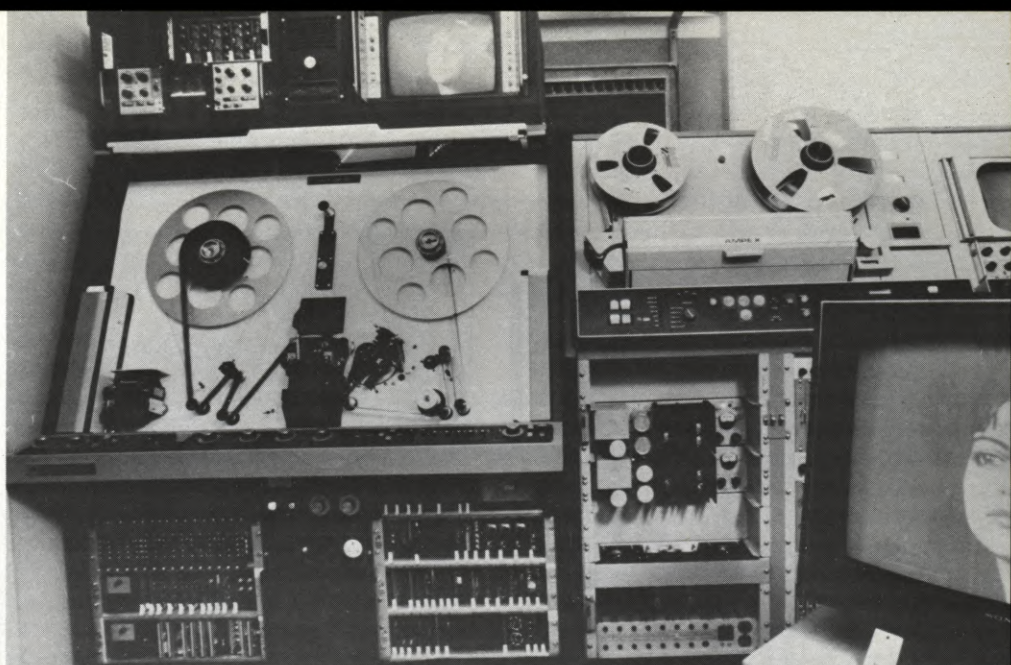
Well, now to our experiences gained after one year of telerecording. The first and remaining impression is that the results were well up to our expectations. Color saturation is very good, flesh tones are well reproduced and sharpness and resolution extremely good, especially in close-ups. The most used film stock is 7247, as most customers want several prints, but we have also gotten good results with Ektachrome Commercial and Gevachrome 700.

It seems as if the resolution power of 7247 corresponds very well to the line structure of the PAL-system, thus giving no problems with raster lines. The convergence control gave us some anxious moments at the beginning, but after some practice it functioned completely to our satisfaction. The well proven camera has shown itself to be truly well proven. In other words, the equipment has come up to all our expectations regarding quality and operational reliability.

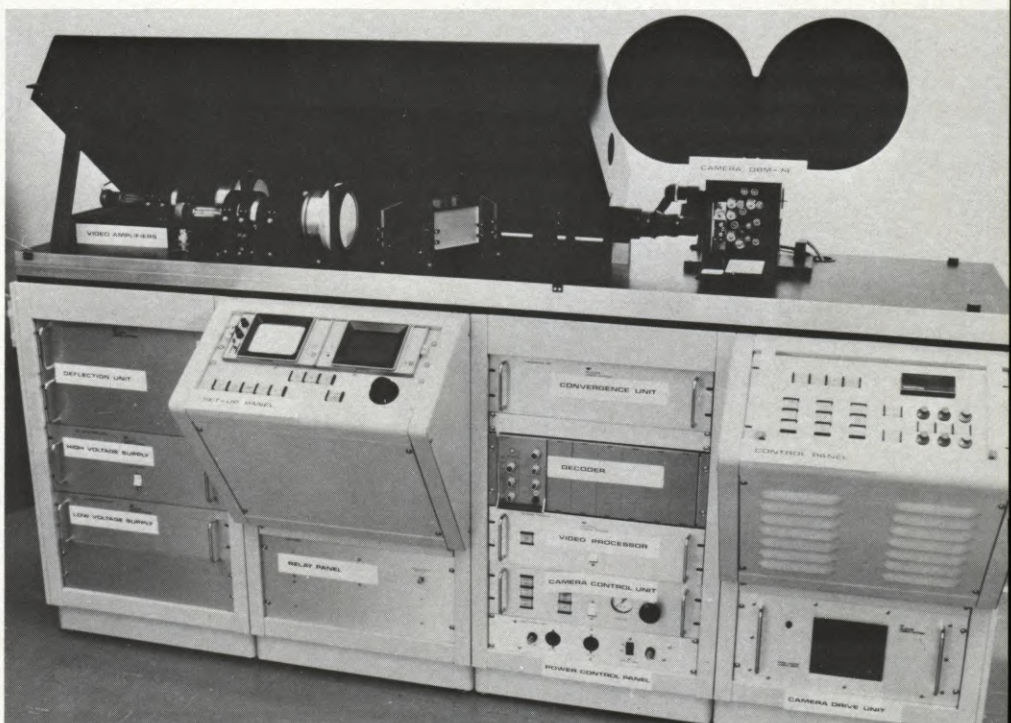
The response we received when we presented our first tests from the installation in front of a public consisting of producers and technicians of all categories was, with minor exceptions, amazingly positive. The positive reaction from serious producers was proof that we had made a wise investment, as there certainly was a latent need for professional transfers of videoprogrammes to film in Scandinavia.

What type of assignments had we expected for our installation? Well, in the first place video productions for which new distribution outlets were sought; also, those productions which had originally been intended for distribution as film, but for some technical reasons during production had been recorded on video. In the latter case, the time factor might have been of such importance that the demands for quality were pushed into the background.

A large number of inquiries poured in. The TV companies talked about new distribution outlets; industries who had invested in TV-cassette information and had faced major distribution problems (not least in export markets), showed considerable interest for this new possibility to record videoprogrammes on film. Even feature film producers were seriously considering the possibilities of fast videorecording, editing and transfer to film for release. But we were somewhat surprised when the first order arrived. A large part of the programmes originated from film. Film which was recorded on video, often mixed with color slides and captions. The conditions which had led to this tedious and long-winded way of



(ABOVE) Rank Cintel Mark III telecine with color grade and Vert. Appert. (BELOW) The Teledyne CTR 3-color Telefilm Recorder was purchased and installed in February, 1976. As it was the first equipment to leave the assembly line, the personnel at Film-Teknik were fortunate in having both an installation engineer and one of the designers from Teledyne with them for the first four weeks to carry out extensive tests.



film-video-film can be explained by the fact that these programmes were produced in the first place for videocassette production, where the source material in Scandinavia is predominantly film. When these producers' customers asked for a film copy of the same production it was necessary to use a great deal of time-consuming and somewhat expensive optical printer work to produce it. By using the master tape, made for cassette duplication, and transferring it to film, we are able to offer a faster and cheaper solution to this problem.

Generally it is better, from the standpoint of quality, to work with the original

photographic material in the conventional way with an optical printer, but we have found that the quality we can now offer for film-video-film transfer in most cases is entirely acceptable and that the time and, therefore, money saved counterbalance the possible loss in quality.

Other fascinating assignments for our installation are electronic improvement of badly exposed original materials and transferring of old faded prints into new fresh negatives. This can be done with good quality by connecting the RGB signal from the telecine via the color-grade to the telefilm-recorder. ■

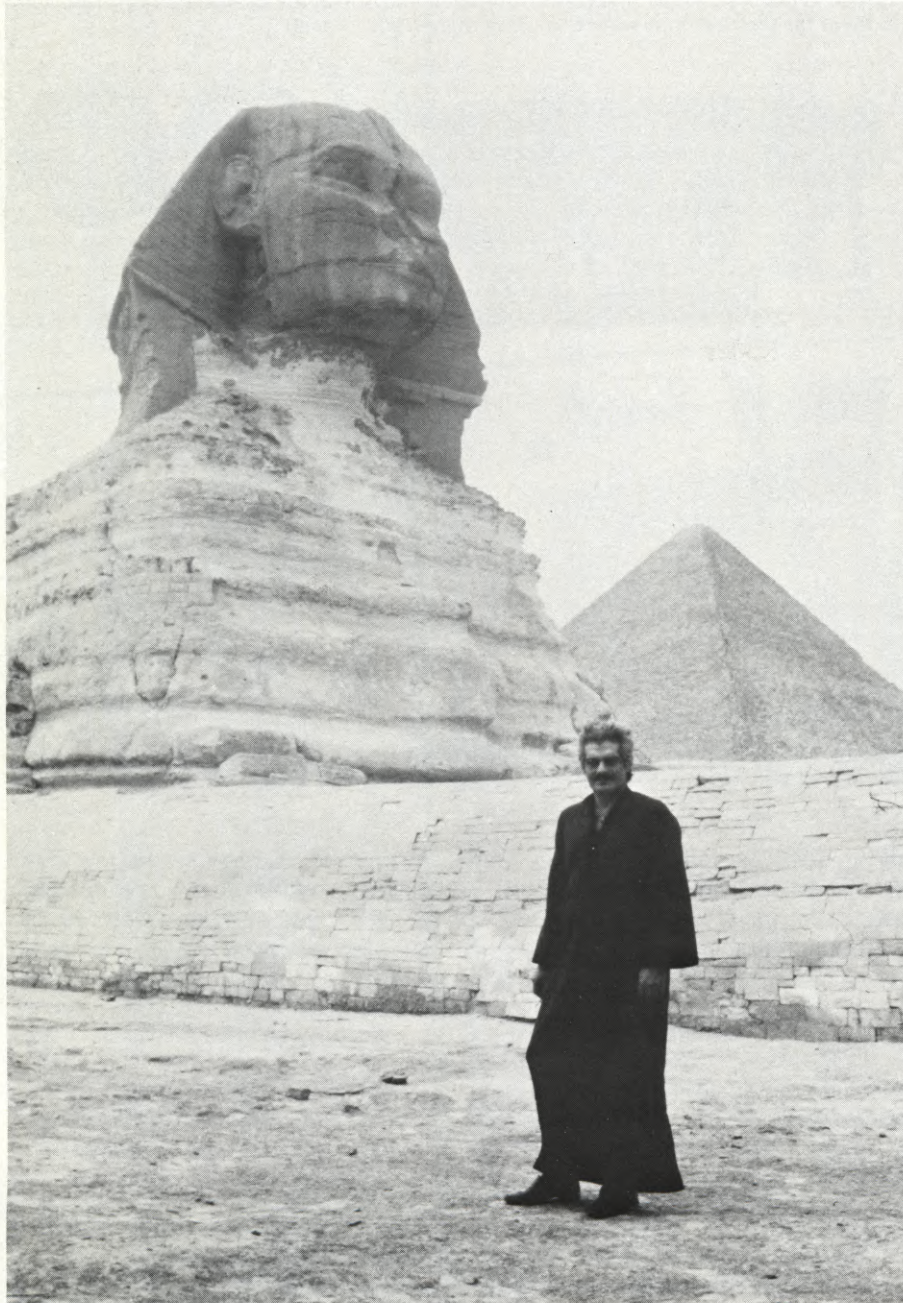
"THE GREAT PYRAMID"
Continued from Page 1259

people at CFI saying it was unstable when going to an interreg. CFI said the stock was used as an original projection stock in TV, and that they were not prepared to handle it in the way we would want. Our decision was made. 7252 outside, 7242 inside.

Amid all this flurry of activity, we were running into only one snag, and that was a place to stay. Cairo is a city that is growing at approximately a thousand people a day and it simply doesn't have enough hotel space. We knew we had to be in Egypt by late December if we were

going to make the air date in April. So all we could do was telex Magda we had to have a place to stay. We didn't know how she was going to do it, but we told her that we would be there in late December. Luckily for us, she was determined and found a new hotel that was just then being completed. No one in Cairo even knew about it. As she was driving by one day, Magda saw it, went in, and made arrangements for our rooms. It worked out perfectly because this hotel was within three minutes of the pyramids and was built in motel-fashion, so the crew never had to worry about moving the gear up and down stairs or in and out of elevators.

Egyptian film star Omar Sharif, serving as host and narrator for the film, stands in front of the Sphinx, with the Great Pyramid in the background. A documentary special produced for CBS with David Wolper as Executive Producer, the film was aired in April. An enormous amount of research and preparation had to be accomplished on a very short schedule.



It was now the beginning of December and we realized that we should have some film in the can before we left the country. We decided to start filming the pyramid energy section before heading for Egypt itself. I had talked with Dr. William Tiller, a professor in the Department of Materials Science at Stanford University, who had been doing some experiments with pyramid power. He was hesitant about being interviewed because many of the manufacturers have used his name inaccurately and exploited him in the sale of their product. He did not feel that any of his experiments were complete and/or definitive, so he had never published anything. He knew he was laying himself open to criticism from colleagues if he went too "public".

When I explained the kind of show we were doing and that it was a Wolper Production, he agreed to be in the film. So, a few days later, I was in Palo Alto with a San Francisco crew and we spent the day with Dr. Tiller. He showed us the laboratory where he works and explained some of his experiments.

I also had filmed in three different Los Angeles locations where many of the pyramid kits sold in stores around the country are manufactured. In talking with the managers and owners, I learned that they all definitely felt there is something to pyramid power . . . that pyramids, in the shape of the Great Pyramid, could sweeten liquids, improve one's sex life, increase one's awareness, and do just about everything to make people feel better or help the properties of any physical matter.

With that film shot, we left it at our offices in Los Angeles for work printing and syncing while we were out of the country. Bill Kronick and I then left the United States and flew to London. Bill was to spend more than a week in London talking to some of the leading English Egyptologists. I stayed in London only three days doing some preliminary interviews with Bill. He was staying to do the actual film interviews while I flew on to Cairo for a week of preparation. It had been recommended that rather than ship film in, I carry it as personal baggage. It cost an extra eight hundred dollars for excess weight, but this was the only way to insure that the film cans would be safe and not opened by inexperienced or testy customs people.

Magda, the production manager, met me at the airport and we spent the next week trying to prepare for the actual filming. In deciding who would be the best crew for Egypt, there were, of course, a number of people in the United States who expressed a strong desire to go. We

finally decided that the crew of Andre Gunn of Holland were our men. It would obviously help us budget-wise to use a crew from Europe. Also, Andre has done a number of National Geographics and, in fact, had recently finished shooting the National Geographic Special, "THE VOLGA", in Russia. For years Andre has been doing documentaries and wildlife films around the world, and has gone through a number of trying circumstances, including being kidnapped in Africa by political revolutionaries, who later released him. He has filmed in remote villages in India and spent months living in tents. So we knew that Andre was a good choice for Egypt. He brought his soundman, Dick Rector, and his assistant cameraman, Joop Janssen. Two days after Christmas, the crew arrived from Amsterdam and Bill arrived from London.

To insure that we would physically have the equipment in our hands when we were ready to start shooting, Andre had shipped all the gear (including two completely outfitted Arriflex 16BL's, extra lenses: a 500mm and 300mm, recording gear, lights, etc.—26 cases of gear altogether) a week before they themselves were to arrive. We wanted plenty of time for Egyptian Customs to do their job. Little did we realize that a week is not much time in Cairo. The customs people kept the gear for nine days, which hurt us because for two days the entire crew was ready to work, but had no equipment. Apparently the Egyptian customs officials could not understand why we would need 26 cases of gear to shoot for "only" three weeks. When we finally did get the gear, the crew discovered that *everything* had been minutely examined, every screw unscrewed, every bolt unbolted, every filter and envelope opened.

In order to move around the country, we had three drivers with three station wagons. This service in Egypt is very inexpensive (car and driver about \$22.00 per 10-hour day) and Magda had found us drivers who were not only experienced in Cairo traffic, but also were helpful and pleasant people as well. We all became a family.

The first major filming challenge was shooting inside the Great Pyramid. The entrances and passages in the Great Pyramid vary in size from twenty-eight feet high (in the Grand Gallery) to only three and a half feet high.

Some of the passages go for hundreds of feet inside and upwards into the Great Pyramid. There are fluorescent electric lights that have been rigged for tourists, but we had no way of utilizing them, and they would get in our way, both literally and figuratively.

The effect we wanted inside the Pyramid was one of mystery, intrigue, and age. So we had a native Egyptian moving up the passages and into the King's chamber. Through this style of following him and through his point of view, we could examine what it is like inside the magnificent structure.

In addition to the "normal" problems of cramped space, little air, and fluorescent lights (that we killed when actually filming), the situation was further complicated by having to close off the Pyramid to all tourists. The Egyptians don't like to do this. On the specified morning we requested, permission was given for us to be inside, alone, for a couple of hours.

When we would be set in a passageway or chamber and gave the signal, our Egyptian "guide" would light a torch and we would get the quick shot off. Of course, this was after having to relay (three people spaced hundreds of feet apart) down through the Pyramid to a worker just outside, who controlled the fluorescent lights, to "turn off the house lights." (Imagine, voices screaming down the only remaining wonder of the Ancient World's original seven "kill the house lights," and then "turn on the house lights").

When we were ready to shoot, our Egyptian would light his torch, we would make the shot, and then we would tell him to put out the torch. This proved more difficult than we anticipated. The torch would not want to go out, especially after we had used gasoline on it to make it burn brightly. Finally we had to bring a large bucket of dirt with us on our climb so that our guide could douse the torch with the dirt each time we had finished one of the shots.

This lighting and dousing of the torch created a lot of smoke. Being that the passageways are not very large, by the end of the two hours of work there was very little air left inside the Great Pyramid and quite a bit of smoke. We were told there was a group of Russian tourists who were waiting to get inside the Great Pyramid and they apparently were very upset with the American film crew that was holding them up. We finished shooting inside as quickly as possible, both because of the tourists as well as our desire to breathe.

We pushed the 7242 two stops and hoped for the best. As it turned out, the film looks beautiful. The grain is not bad at all, and a couple of well placed Sun-Guns in a few of the shots proved effective. The flames from the torch, the smoke and the darkness all added to the effect. If we would have had a couple of days, a generator, and hundreds of feet



Looking up the Grand Gallery inside the Great Pyramid. The walls are composed of seven courses of polished limestone and rise to a height of 28 feet. The Gallery is 157 feet long, rising at a 26-degree angle.

of cable, we could have lit the passages and chambers. But we didn't have the time, the equipment, nor the permission. Necessity does indeed breed invention.

Meanwhile, back in the U.S., David Wolper and the advertising agency had agreed on who they wanted as the host and narrator of the show. Our man was to be Omar Sharif, and luck was on our side. At the same time we were in Cairo, Omar was staying at a hotel just down the street from ours. This was his first visit to Egypt in more than ten years. He was extremely pleasant and helpful, so in the middle of our shooting, we spent one day with him in different locations that would be used in the film.

The other great challenge in our filming occurred 400 miles to the south of Cairo. This was on the east bank of the Nile, in the Valley of the Kings. Here are found many of the tombs of Pharaohs who lived a thousand years after the Great Pyramid was built. These tombs are dug into solid rock and some go as far as 300 feet down (in increments—level area, a steep drop, level area, drop, etc.) and the walls and rooms in these tombs are covered with beautiful art work and paintings. What was a marvel to us was

Continued on Page 1298

"This is the ideal camera... whether on the streets of New York or in a studio," says Sol Negrin, ASC.

"The XR35 is a versatile, high-performance 35mm camera with a terrific viewing system," says DP Sol Negrin, in charge of the New York location shooting of the new Japanese feature *Proof Of The Man*. "After filming 19 complete New York-based shows on *Kojak*, I am convinced this is the ideal camera to be used on any production, whether on the streets of New York or in a studio. The XR35 is a winner!"

"The XR35 is a winner!"
Sol Negrin, ASC



the camera in tight spots and corners in order to get the desired look for this high-action feature.

"The production really moved all over New York City. Utilizing a Cecomobile for camera, lighting, grip and sound equipment, the crew was able to get in those extra set-ups every day... bringing the picture in on schedule and within budget."

all too often.

"I especially like the small details that were built into the XR35... like the threading light in the camera body that shuts itself off once the camera door is closed; or the light over the lens which permits the iris and distance indicator marks to be seen on night shots or when in deep shadow on dark interiors. Even the bubble level is illuminated."



Director of Photography Sol Negrin, ASC, in charge of the New York location shooting of *Proof Of The Man*, checks a camera angle. Behind him, at right, is Japanese DP Shinsaku Himeda, of *Tora, Tora, Tora* fame.

"The thin, low profile of the XR35 permits placing the camera in tight spots and corners," says Walter Druker.

"F&B/CECO has been renting the Cinema Products XR35 lightweight studio camera for three years now," says Walter Druker, Vice President and General Manager of F&B/CECO, Inc. "The camera has performed well on feature films and television commercials out of both our New York and Hollywood rental facilities."

When Lee Haas, president of ProSerCo (the producers' service company that handled all the New York locations, crews, etc., for the Japanese feature *Proof Of The Man*) first discussed equipment with him, Druker suggested the XR35 as the prime camera.

"As it turns out, many scenes of the film were shot in tiny Brooklyn tenement hallways, apartments and narrow streets," says Druker. "At times, there was barely enough room for the crew and one or two lights. The thin, low profile of the XR35 allowed the director and the crew to place



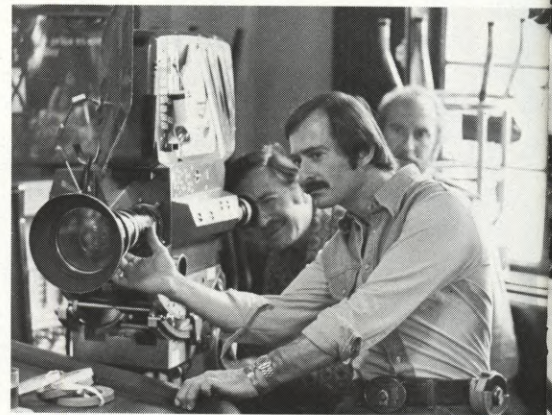
Walter Druker, Vice President and General Manager of F&B/CECO, Inc., and DP Sol Negrin with Cinema Products' XR35 lightweight studio camera.

"The viewing system is bright and very easy to focus," says Howard Block.

"From an operator's standpoint, the XR35 is a very good camera: the viewing system is bright and very easy to focus, and the camera balances and moves well," says Camera Operator Howard Block. "The XR35 is every bit as good as any Panavision camera I have ever used."

"I can pick it up by myself..." says Maurice Brown.

"The XR35 is a pleasure to work with," says First Assistant Cameraman Maurice Brown. "I can pick it up by myself if need be, for those quick moves that seem to come up



Filming *Proof Of The Man* interiors on location in New York, Sol Negrin lines up a shot while First Assistant Cameraman Maurice Brown adjusts lens. Camera Operator Howard Block looks on.

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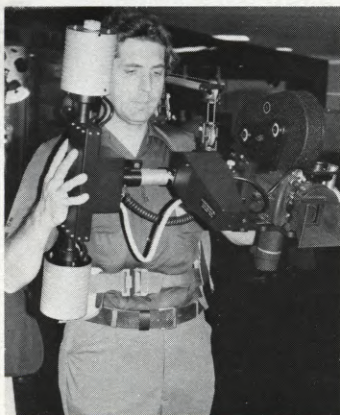
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THE THIRD ANNUAL A.S.C. COLLEGE CINEMATOGRAPHY AWARDS

UCLA Cinema student is awarded coveted American Society of Cinematographers best college cinematography trophy for poignant bi-lingual film which he directed and photographed in Paris

On the evening of October 24, at a banquet held in the A.S.C. clubhouse in Hollywood, student filmmaker Martin Ollstein of the University of California at Los Angeles won the third annual American Society of Cinematographers award for best photographed college film of 1976-77.

Actor Charlton Heston presented Ollstein with a specially created trophy for "BOBBY", a 20-minute film of a teen-aged American boy's adventures on a Paris vacation.

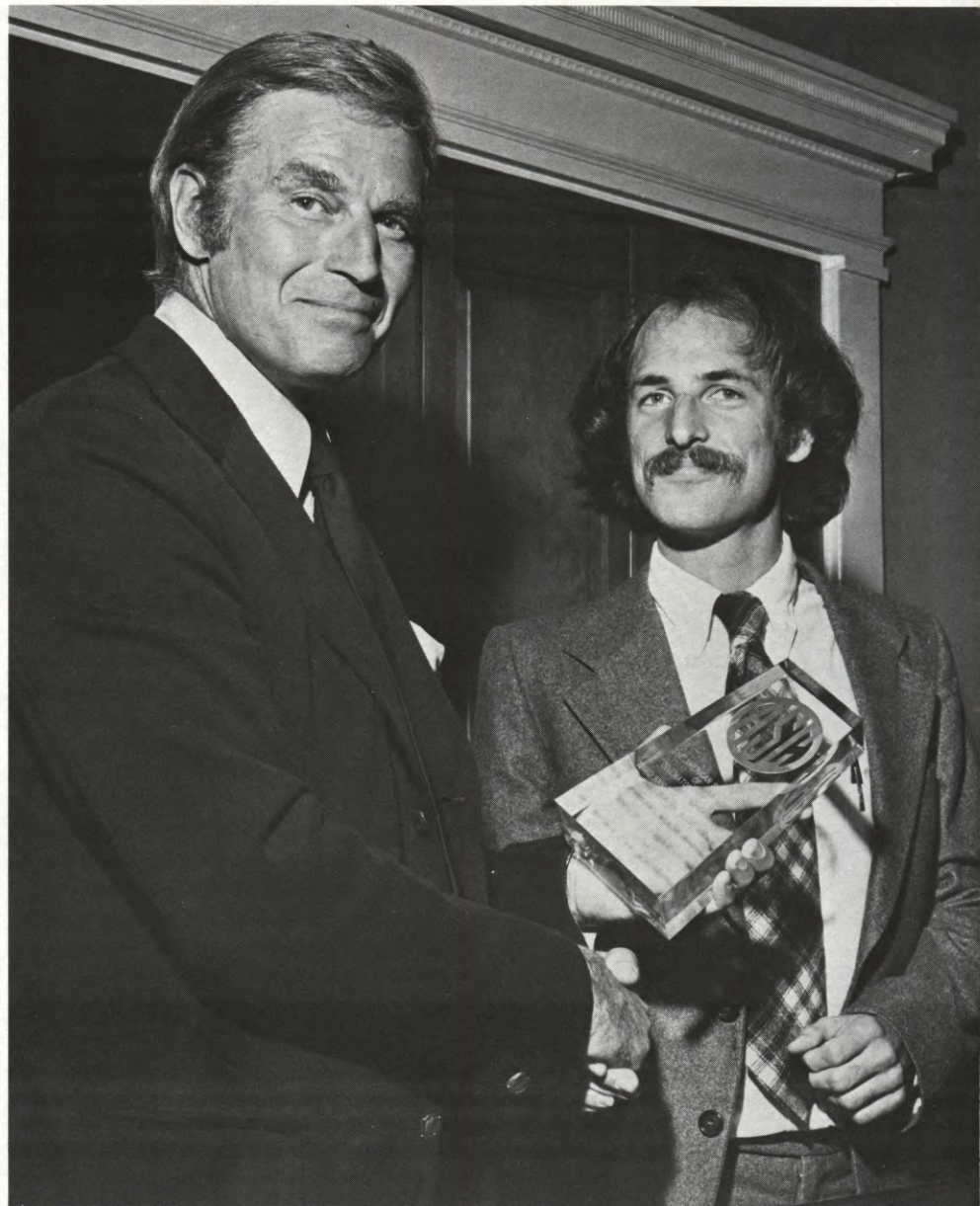
A second trophy was presented to Prof. Frank Valert of UCLA, head of the university's cinematographic department, honoring the school which produced the film.

Comedian Edgar Bergen, himself a 20-year member of the A.S.C., was master-of-ceremonies of the event for the third straight year. He was accompanied by his two "friends", Mortimer Snerd and Charlie McCarthy.

Plaques of achievement also were awarded by A.S.C. president Linwood G. Dunn to four other students and their schools, named as nominees.

These were: Chirine El Khadem, New York U., for the film, "A GUEST STAT-US"; Gerald Feldman, School of Visual Arts, New York, "THE REUNION"; Bruce Olinder, University of Southern California, "EL DORADO"; and Bill Sheehy, Loyola-Marymount U., "STRANGERS ON A TRAM."

Linwood Dunn, ASC, president of the American Society of Cinematographers, welcomes guests to A.S.C. Clubhouse at college awards banquet.



Film star Charlton Heston presents handsome lucite trophy with gold A.S.C. insignia to Martin Ollstein, UCLA Cinema student, in recognition of his award-winning cinematography in the film "BOBBY", which he also wrote, directed and edited. As Chairman of the Board of Trustees of the American Film Institute, Heston has long been active in encouraging and training "the film artists of tomorrow".

The two previous student winners of the A.S.C. award, Denis Mayer of San Diego State and Philip Earl Jr. of USC, were among those who congratulated Ollstein following the awards presentations.

An A.S.C. judging panel of eminent directors of photography selected the five nominees following a series of screenings of all entries. The entire A.S.C. membership voted to select the winning film.

A.S.C. rules stipulated that entries be at least ten minutes in length, and in 16mm or 35mm. All five nominated films were photographed in color.

In responding to Linwood Dunn's laudatory introduction prior to the presentation of the awards, Charlton Heston said: "Thank you very much. I must say that the expressions of respect and gratitude really should all be going the other way. One of the reasons I'm happy to be here tonight is that it offers



me the first opportunity I have had to express my permanent, collective gratitude to your profession for keeping me working so long . . .

"I can't tell you—although I'm sure all of you know—how many great cameramen there are to whom I owe an unpayable debt of gratitude for the image of my work which they have presented to the public. In a sense, cameramen provide the filmmaker's doorway to the audience. They provide us with our stage. The theater belongs to the actor, but film speaks to the audience only through the image—and the cameramen provide that image. I've had the great good fortune to be photographed by some of the best—more than I can remember. But just for the record, I'd like to speak of some I do remember: Loyal Griggs, Franz Planer, Bob Surtees (who photographed 'BEN-HUR'), Danny Fapp (who is with us tonight), Leon Shamroy, Russ Metty . . .

"The first picture I made was for Hal Wallis and it was photographed by one of the masters of black-and-white cinematography, Vic Milner. I remember that he lit a set-up that was so complicated and so encumbered with cookaloruses and singles and doubles and cutters that when he got ready to photograph it he had to break part of it down to get the stand-ins out and the actors in. But it was a beautifully photographed film and did a great deal to help me . . .

"Another reason that I'm delighted to be here tonight is that it gives me an opportunity to join you in honoring the young cinematographers, the cameramen of the future. I am well aware, through my work with the American Film Institute, of how seriously the A.S.C. takes its responsibility to the next generation of cameramen. I know how many

Famed comedian Edgar Bergen, for 20 years an A.S.C. Associate Member, entertains the crowd with his sidekick, Charlie McCarthy, in Napoleon hat.



In attendance at the banquet to congratulate Martin Ollstein on his victory were the two previous winners of the award: Denis Mayer (left) of San Diego State University, who won in 1975 for his photography of "NEGATIVE IMAGE", and Philip Earl, Jr., of the University of Southern California, who won in 1976 for his photography of "THE PREPARATORY". Stanley Cortez, ASC, Chairman of the Contest Committee, who did much of the planning of the event, unfortunately could not attend, due to indisposition.

hours your members have given in seminars at the A.F.I. to the Fellows we have studying there at the Center for Advanced Film Studies. I also know of the distinguished history of the awards we are gathered to present tonight and I'm truly happy and proud to be part of that presentation."

In accepting the handsome Lucite Award trophy, Martin Ollstein (who not only photographed, but wrote, directed and edited "BOBBY") said: "Thank you very much. I'm very pleased to accept this award and I'd like to thank all the members of the A.S.C. for this very great honor. I'd also like to thank Frank Valert, the head of cinematography at UCLA, for his advice, support, teaching and friendship—and the entire crew of the film 'BOBBY', one member of which is here this evening."

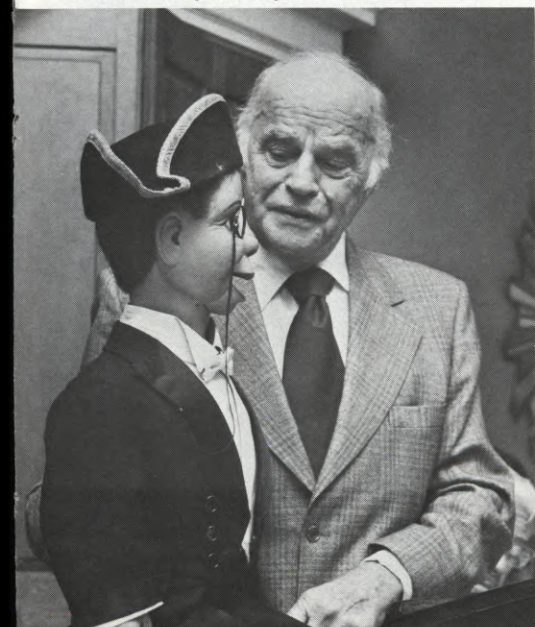
Ollstein went on to talk about the production of the film, the techniques and equipment used, and the challenges and bureaucratic frustrations of shooting in Paris.

He concluded by saying: "I'm now planning to shoot a longer film in California (I'm working on the script now), and I guess I'm ready to enter the marketplace. I'm interested in working as a

cameraman, but I also want to continue directing my own films. However, I've found that the luxury I enjoyed in making 'BOBBY'—that of both directing actors and creating images—is something that is not possible on a larger production.

"Thank you again for the honor, and I hope that I can share my future work with you." ■

Prof. Frank Valert, head of the UCLA cinematography department, receives from Heston a duplicate trophy honoring the school that produced the film.



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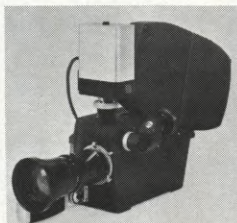
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HOW "BOBBY", THE BEST STUDENT-PHOTOGRAPHED FILM, WAS MADE

By MARTIN OLLSTEIN

Writer/Director/Cinematographer/Editor

UCLA filmmaker, winner of the 1977 A.S.C. College Cinematography Award, writes about the challenges, frustrations and techniques involved in the shooting of his film on the streets of Paris

"BOBBY" tells the story of a thirteen-year-old boy's search for respect and maturity. On vacation in Paris with his protective family, he runs away into the exciting foreign city in pursuit of his fantasy of "manhood". After some discouraging and frightening experiences, he meets an older French girl who shows him her own personal view of Paris, and gently reveals to him her understanding of maturity, independence, and responsibility.

I decided to make a film about Paris several years ago when I was invited to present my first dramatic film, "ABRAHAM", at the Grenoble International Short Film Festival, and ended up living in Paris for several months. When I got the opportunity last year to study film production in France as part of my Masters Program at UCLA, I was able to realize my plans for the film.

I wanted to portray the beauty of the city, as well as some of the indifference and hostility I had encountered there. The story of a young boy coming of age and discovering his personal male identity seemed an appropriate story to produce in this setting. By taking the point of view of a young, relatively innocent and impressionable boy, I was able to ex-

plore a special romantic Paris. The film is an homage to Paris, a story of adolescent development, and a comparison of the American and French cultures.

I chose to shoot the film in the autumn, when the light is softer, the leaves turn, and the colors are warm and saturated. The autumn fulfilled my expectations, but we almost ran into trouble when winter began to come on very quickly toward the end of principal photography. On returning to a location surrounded by trees for some pick-up shots, we discovered that the colorful autumn leaves had all fallen, leaving bare branches instead. I compensated for this by selecting higher camera angles that would not reveal the bare trees in the background and cause a problem in continuity.

The story takes place during one sunny afternoon. Each sequence had to match the others so that a soft, warm quality would infuse the film from beginning to end, growing only slightly darker in the final scenes, as the afternoon draws to a close. To create this pastel vision of Paris, representative of Bobby's perspective, I selected the 7247 Eastmancolor film stock for its subtlety of color shading. I also used a Wratten #85B filter for daylight instead of the #85

because, in this part of Europe, the daylight is slightly more blue in color. This was a recommendation of UCLA Professor Frank Valert, a professional cinematographer, originally from Czechoslovakia.

I wanted to suggest a city of light, brilliance and rich colors typical of the old, traditional culture. I maintained careful control over the color from scene to scene. In the hotel room, a golden color was predominant; at the picnic by the canal, it was an autumn brown.

My preparation for shooting "BOBBY" included working on the crews of two short French films (as Director of Photography on one) which acquainted me with the practical specifics of French motion picture production. Instead of "Roll Sound, Speed, Mark It, Action", I heard "*Moteur, Ça tourne, Annonce, Action.*" I was introduced to the rental house, Samuelson Alga-Cinema, and the laboratory, C.T.M., that I later used for "BOBBY". And I noticed that French crews were very well fed—meals were a major consideration on the production budget.

I met many actors and technicians on these productions whom I later asked to work with me. My crew was international—American, French, Canadian, and Austrian. The predominant language on the set was French, which everyone understood. Even Bill Williams, the young Bobby, spoke French fluently, and did his share of interpreting among the actors. In addition to writing a French and English version of the script, I prepared a detailed shooting script, or *découpage*, for the crew, detailing camera position, lens, and action covered in each set-up.

I was awarded a grant from the Director's Guild, administered through UCLA, on the merit of my previous film, "MICHAEL" (a story of a Los Angeles taxi driver), which allowed me to commence production on "BOBBY". I was also fortunate to receive the support of several organizations in the way of equipment and services. A scientific research organization in Paris became interested in the psychological aspects of the film, and approved a limited access to their production equipment. This included an Arriflex 16BL and a Nagra III. Samuelson-Alga was very reasonable in renting me the rest of the equipment that was needed. The lighting gear consisted

Martin Ollstein takes a light reading during shooting of the "Workmen's Bar" sequence for his award-winning film, "BOBBY". Illumination was provided by several 1K quartz lights on polecats reflected off white Styrofoam cards taped to the ceiling to give a soft, diffused light.



primarily of a 4K soft light, and several 1K and 650-Watt quartz lamps with stands, polecats, and alligator clips. I used a 12-120mm Angenieux Zoom, and a 10mm Schneider fixed lens.

Most scenes were shot either from a fixed tripod with a fluid head, or hand-held with a body brace. The few dolly shots were photographed from a wheelchair, as in the scene where Bobby and Michele walk down the sidewalk of the Boulevard de Clichy. One particularly difficult camera move was the pan/zoom-out from the aerial Metro at the moment the train appeared in front of the Eiffel Tower. I did two takes of the shot, and on the second attempt, a nice thing happened. As I was completing the zoom-out, a large leaf fell, dropping lazily through the frame at about the same rate as my zoom. I knew then that we had the shot.

The film was shot in 22 different locations (interior and exterior) during an intense shooting schedule of nine consecutive days. This limited schedule was imposed in order to take advantage of a week-long school vacation for Bill, and our limited access to the equipment. We averaged two locations per day, with a third added on several occasions. The most difficult aspect of shooting several scenes each day was transporting the crew and equipment from one set to the next through heavy city traffic.

The hotel scene was shot in a room graciously loaned to the production by the George V Hotel. The room itself had a golden aura about it. The scene was to be a bright sunny morning, but the weather that day was grey and overcast. To achieve the desired brilliance, we blacked out the windows, which were all on one side of the room, and lit the scene as if the key light source was still sunlight



An American in Paris: Ollstein, with the Arriflex 16BL camera on a body brace, prepares to photograph the sequence in which young Bobby (left) walks into the bar and says, "Un whisky, s'il vous plait!" The entire bar sequence was shot hand-held with this brace.

coming through the windows. We used the 4K soft light and several 1K quartz lights with diffusion.

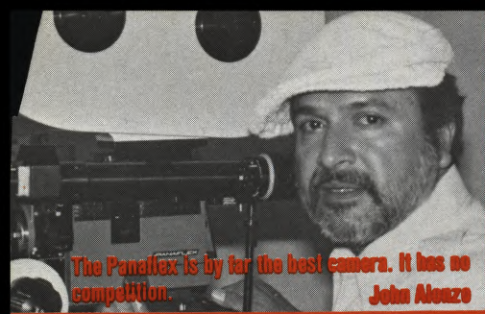
I rarely used reflectors in outdoor scenes, for we were fortunate in having soft, even light through much of the production. After searching in vain for an outdoor cafe by the Seine, I decided to create my own restaurant by the Canal St. Martin. After securing the required permits from the city of Paris, "Section des Canaux", we brought in tables, chairs, settings, food, and a waiter in jacket and tie. The only lighting problem here was finishing before the sun dropped behind the tall buildings that

lined the canal. With the days growing shorter, we had to stop shooting exteriors by 4:00. Shots taken later in the afternoon had to be carefully corrected by the lab's timer in order to match shots taken earlier in full sunlight.

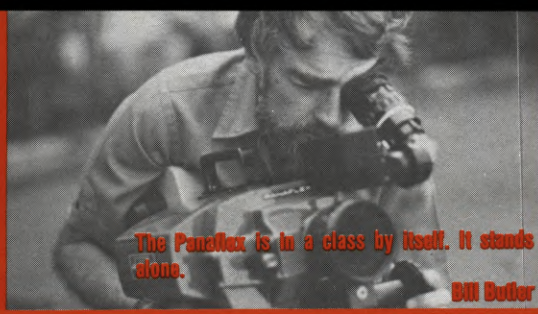
The underground subway was the most difficult scene to shoot. During pre-production planning, I shot tests in the subway of different lighting possibilities, filter choices, and processing options (normal, pushing one stop, and pushing two stops). The stations were lit with fluorescent lamps. After viewing the tests, I decided to shoot the scene with

(LEFT) The sequence inside the *fromagerie* was lit with 1K quartz lights, balanced for daylight with dichroic filters and diffused with spun glass. The entire front of the store was glass, lending the room a predominantly daylight ambience. **(RIGHT)** Beatrice Saint-Marc, as Michele, tries to cheer up Bobby (Bill Williams) on the Boulevard de Clichy near Pigalle. Ollstein operates, while Jean-Michel Chauvet records sound.





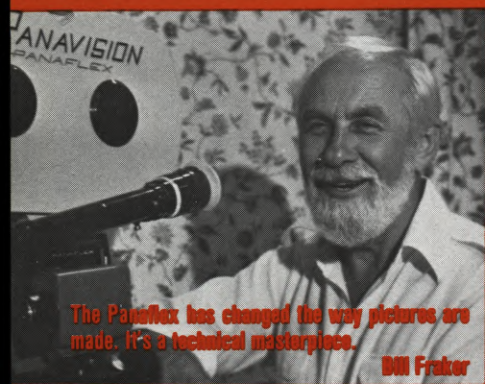
The Panaflex is by far the best camera. It has no competition.
John Alonzo



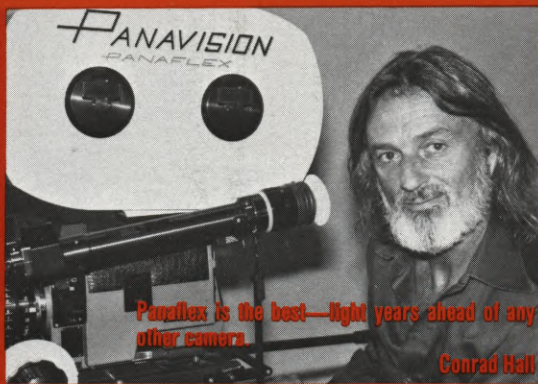
The Panaflex is in a class by itself. It stands alone.
Bill Butler



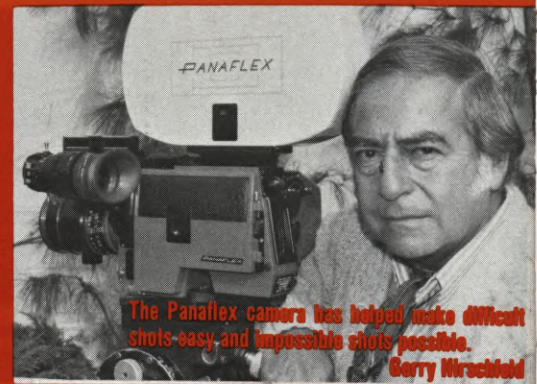
Panaflex-The most versatile camera today. I can't imagine making a film without one.
Michael Butler



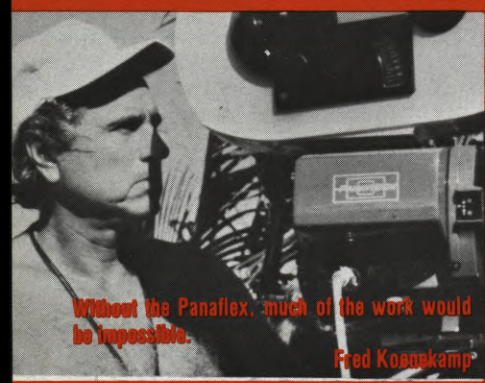
The Panaflex has changed the way pictures are made. It's a technical masterpiece.
Bill Fraker



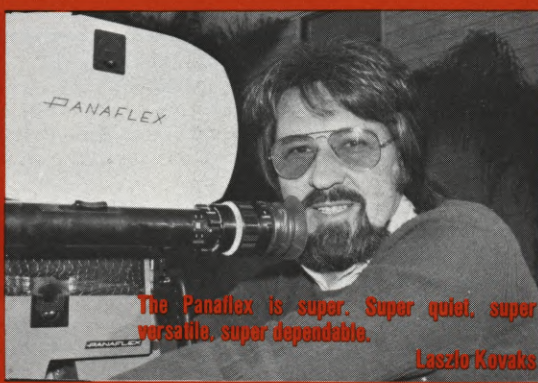
Panaflex is the best—light years ahead of any other camera.
Conrad Hall



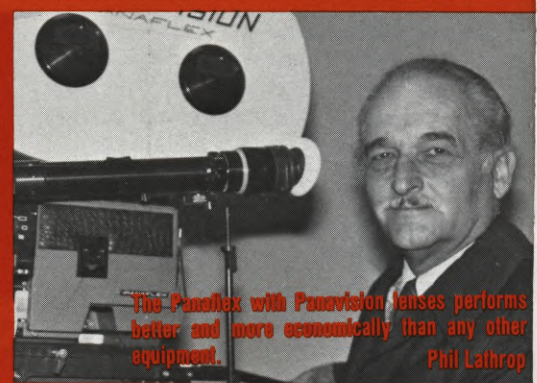
The Panaflex camera has helped make difficult shots easy and impossible shots possible.
Gerry Mirzakhoff



Without the Panaflex, much of the work would be impossible.
Fred Koehnkamp



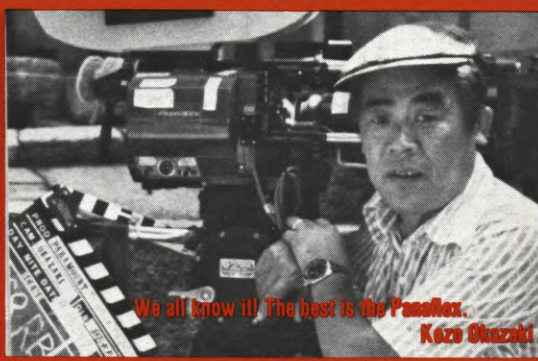
The Panaflex is super. Super quiet, super versatile, super dependable.
Laszlo Kovacs



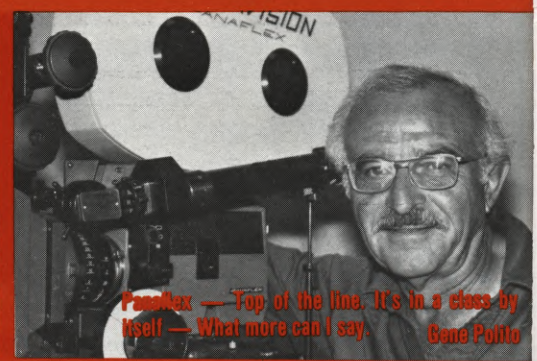
The Panaflex with Panavision lenses performs better and more economically than any other equipment.
Phil Lathrop



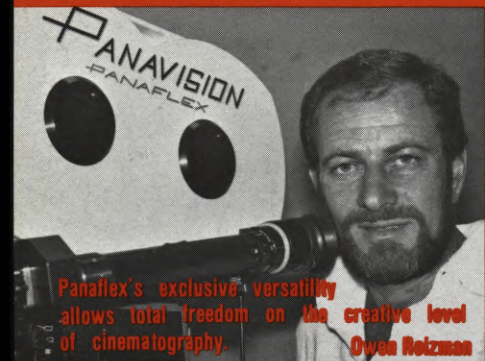
Panaflex — Allows freedom in any photographic situation, no matter how involved or complex.
Svan Nykvist



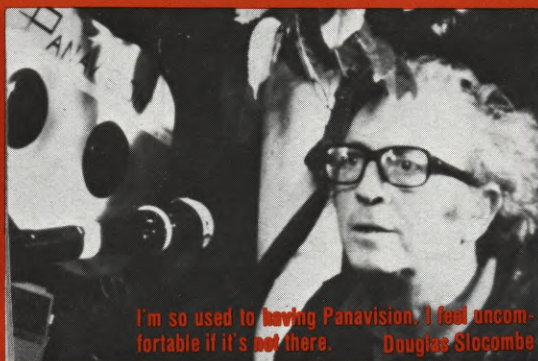
We all know it! The best is the Panaflex.
Keizo Okazaki



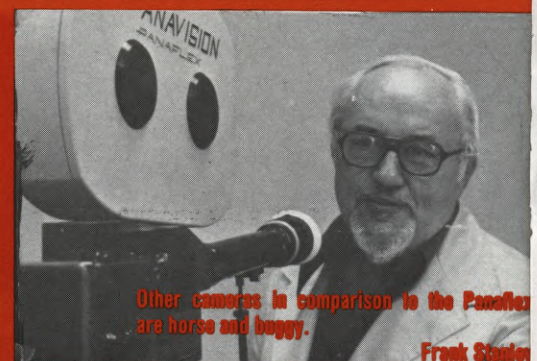
Panaflex — Top of the line. It's in a class by itself — What more can I say.
Gene Pultro



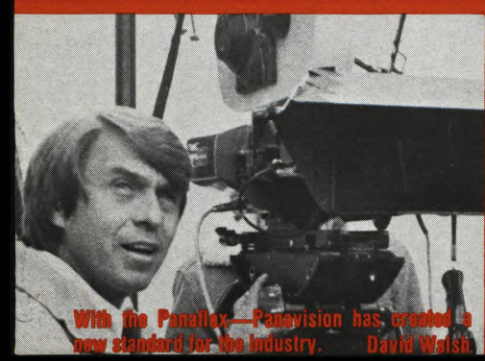
Panaflex's exclusive versatility allows total freedom on the creative level of cinematography.
Owen Roizman



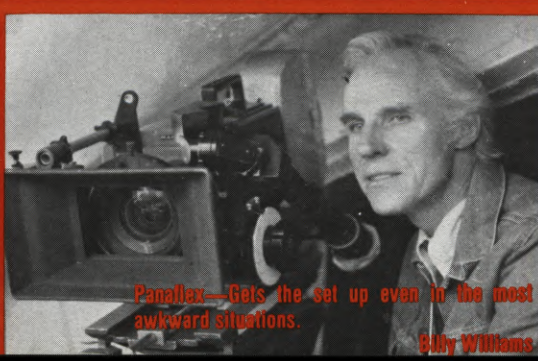
I'm so used to having Panavision, I feel uncomfortable if it's not there.
Douglas Slocombe



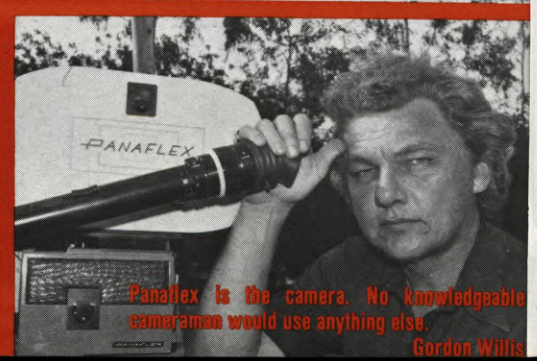
Other cameras in comparison to the Panaflex are horse and buggy.
Frank Stanley



With the Panaflex—Panavision has created a new standard for the industry.
David Walsh



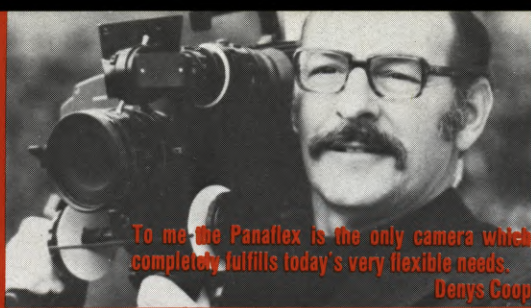
Panaflex—Gets the set up even in the most awkward situations.
Billy Williams



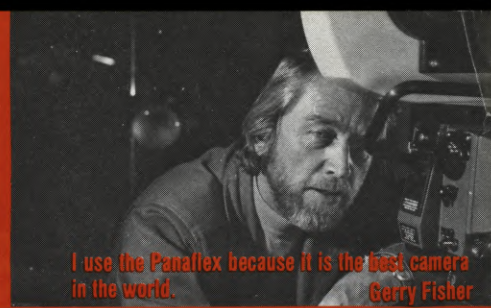
Panaflex is the camera. No knowledgeable cameraman would use anything else.
Gordon Willis



"The Best" is not enough to describe the Panaflex.
Bobby Dyrao



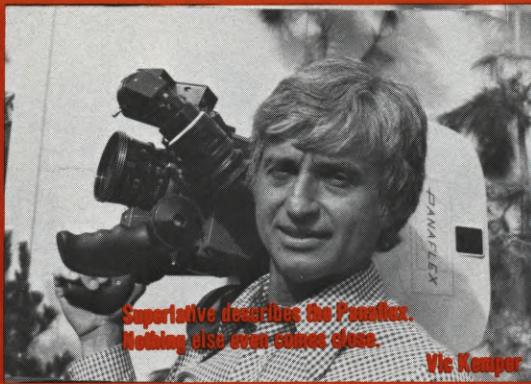
To me the Panaflex is the only camera which completely fulfills today's very flexible needs.
Denys Coop



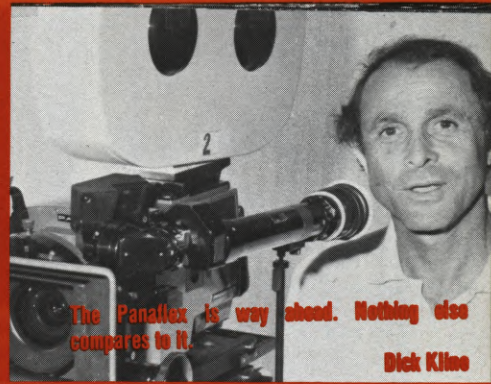
I use the Panaflex because it is the best camera in the world.
Gerry Fisher



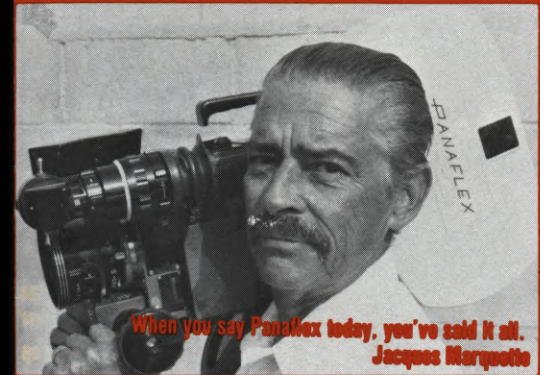
Panaflex is the ultimate. I really have a hard time remembering other cameras.
Michel Hugo



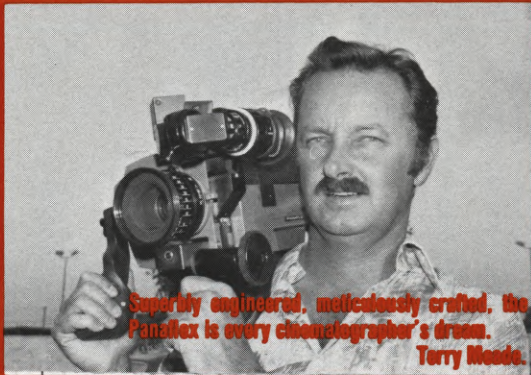
Superlative describes the Panaflex. Nothing else even comes close.
Vic Kemper



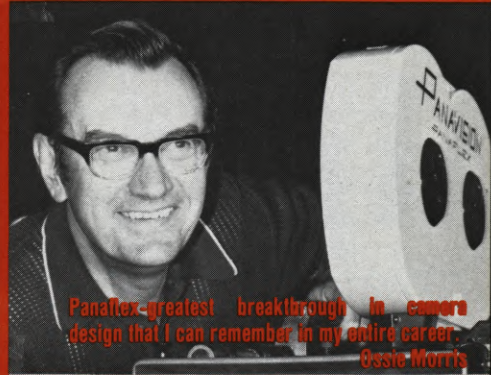
The Panaflex is way ahead. Nothing else compares to it.
Dick Kline



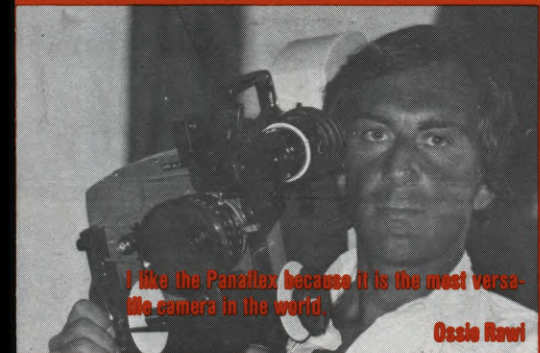
When you say Panaflex today, you've said it all.
Jacques Marquette



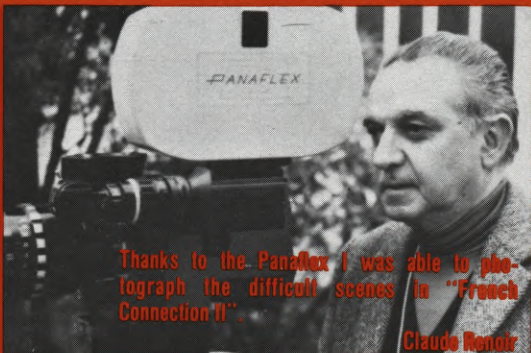
Superbly engineered, meticulously crafted, the Panaflex is every cinematographer's dream.
Terry Moede



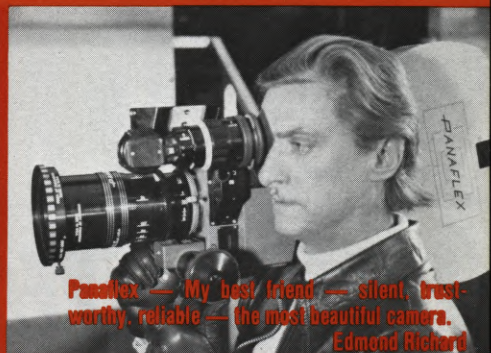
Panaflex-greatest breakthrough in camera design that I can remember in my entire career.
Ossie Morris



I like the Panaflex because it is the most versatile camera in the world.
Ossie Ravi



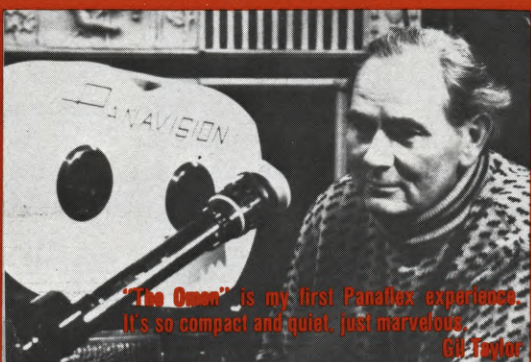
Thanks to the Panaflex I was able to photograph the difficult scenes in "French Connection II".
Claude Renard



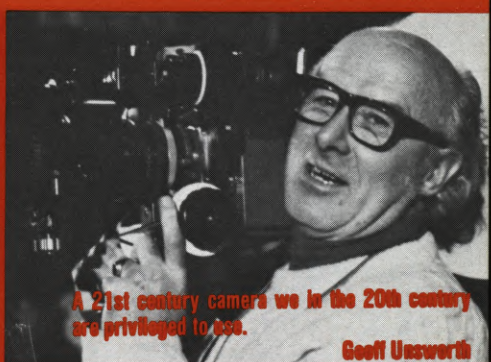
Panaflex — My best friend — silent, trust-worthy, reliable — the most beautiful camera.
Edmund Richard



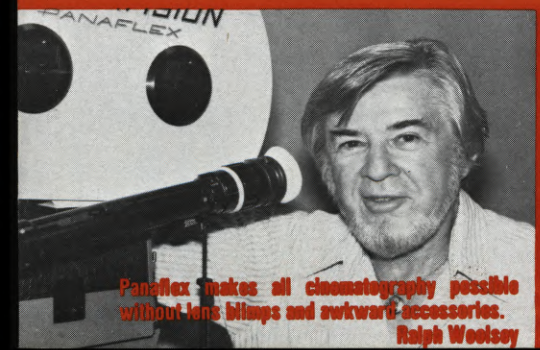
The best part of my job is the Panaflex.
Harry Stradling, Jr.



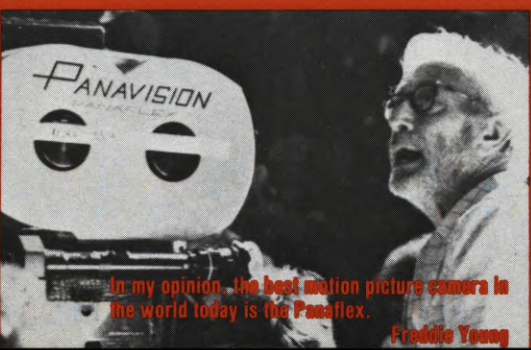
"The Omen" is my first Panaflex experience. It's so compact and quiet, just marvelous.
Gil Taylor



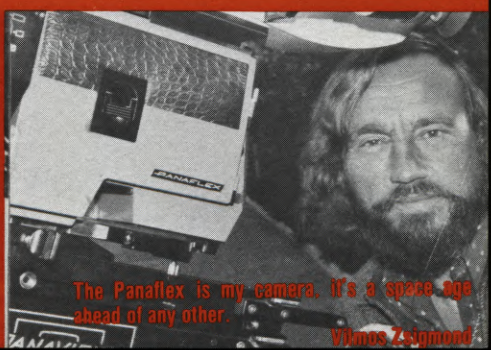
A 21st century camera we in the 20th century are privileged to use.
Geoff Unsworth



Panaflex makes all cinematography possible without lens blimps and awkward accessories.
Ralph Woolsey



In my opinion, the best motion picture camera in the world today is the Panaflex.
Freddie Young



The Panaflex is my camera. It's a space age ahead of any other.
Vilmos Zsigmond



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Top: CP -16 R
Bottom: Photosonics IPD with 300mm Canon lens

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Samuelson are well known for supplying the production equipment for the biggest films made.

Many recent 'block busters', 'Star Wars', 'A Bridge Too Far', 'The Spy Who Loved Me', 'Orca, Killer Whale', 'The Deep', 'The Last Remake of Beau Geste', 'Sorcerer' and 'Julia' were equipped with cameras, and in many cases sound, lighting etc. from London. Other pictures were serviced by our offices in Paris, Sydney, Melbourne and Johannesburg. Currently we are supplying all the cameras etc. for pictures like 'Superman', 'Force 10 From Navarone', 'Shalimar', 'Death on the Nile', 'The Wild Geese' and 'The Big Sleep' on locations all over the world.

The same Samuelson personnel who look after the cameras for the 'big ones' also service, maintain and check out our 16mm gear. Both gauges have equal standing and importance and are equally cared for within the company.

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THE NEW BOLEX 521 16mm SOUND PROJECTOR

A sophisticated new projector that features many professional options and allows instrumental and vocal playback with a high degree of sound fidelity

The Bolex 521, a new 16mm sound projector, which can also be used for viewing silent films, has been introduced by the Photo Products Division of Ehrenreich Photo-Optical Industries, Inc.

The projector is designed for use in lecture halls, classrooms, laboratories, studios, workshops and small theatres.

Highest Quality Audio Reproduction

Films with sound carried either magnetically or optically may be played back during screening. Additional sound may be added magnetically by direct sound mixing or by superimposition. Sound dissolves are also possible. And, finally, sound can be magnetically added to silent films.

To prevent sound saturation, a threshold compression device is activated as soon as critical recording levels are reached. Modulation peaks are instantly reduced. A lighted VU-meter (sound level gauge) and a built-in 3-watt speaker, or use of earphones, permits monitoring or editing without distracting others.

The amplifier has an output of 25 watts, which allows instrumental and vocal playback to be heard with a high degree of sound fidelity. Orchestral or even operatic vocal resources can be reproduced faithfully.

Separate microphone or record-player jacks enable simultaneous commentary or musical mixing for multiple sound input. Double locking devices prevent accidental erasure of pre-recorded sound materials. There are controls for treble, bass, volume, sound fade and superimposition.

Standard sound/picture separation for optical track is 26 frames; magnetic sound/picture separation is 28 frames. Signal background noise is extremely low and the "wow" rate is $\pm 0.3\frac{1}{2}$ —virtually indiscernable.

A single safety switch controls choice of magnetic, optical sound or silent film projection. This switch also activates a mechanism which retracts the magnetic recording head during silent or optical film projection and, thereby, prolongs its usefulness.

Full Feature Film Operation

The Bolex 521 accepts all standard film spools up to 2,000 feet (about one hour) for comfortable, interruption-free, feature film viewing. Automatic, foolproof film threading allows rapid and easy use.

No special training is necessary.

A separate motor drives the ventilation fan for silent and efficient cooling; electronically controlled, the motor assures smooth film transport and prevents flickering or uneven image.

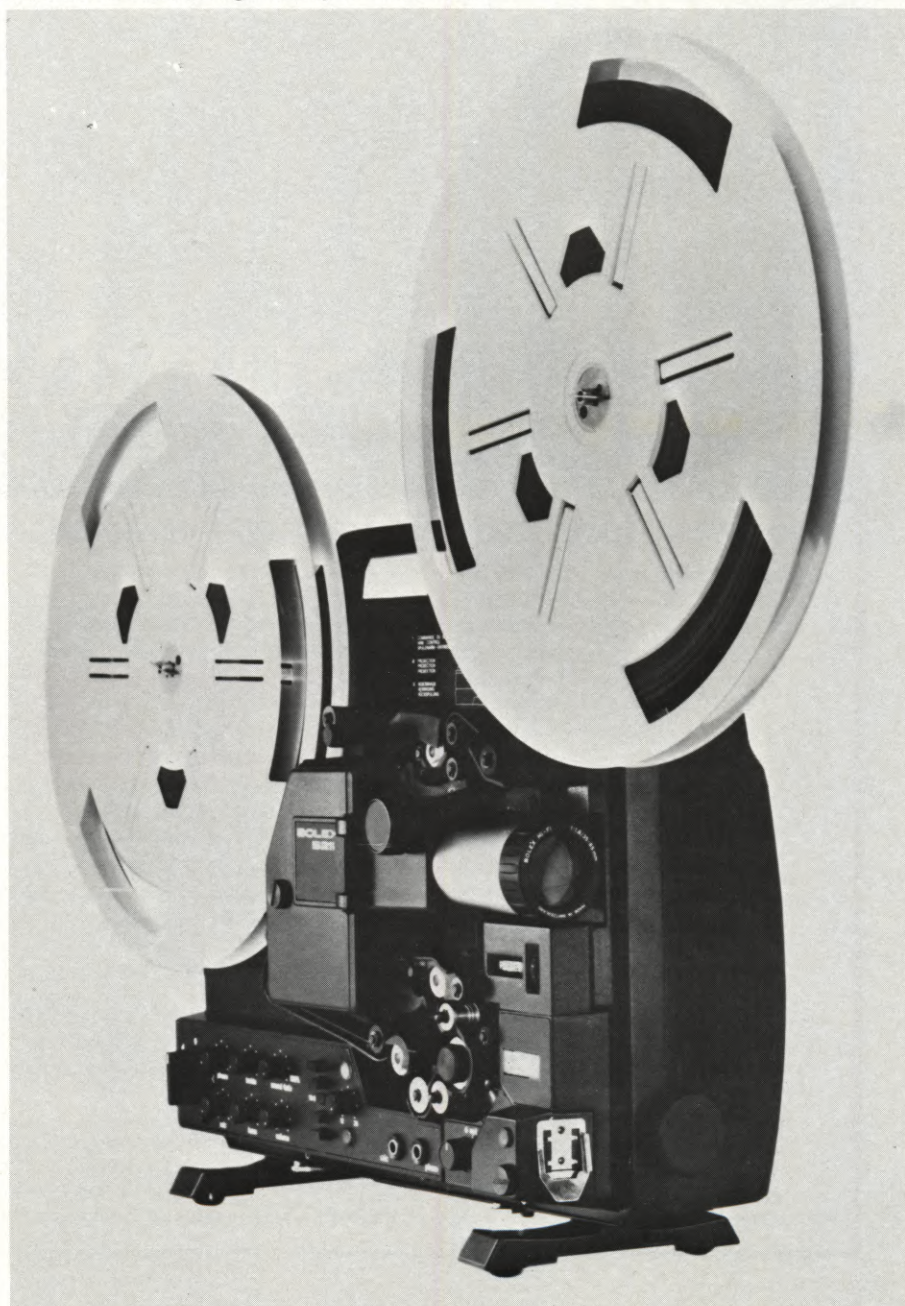
Both the 18 and 24 frame per second speeds are accurately secured by push-button locks, which preclude accidental speed change during viewing. A

potentiometer adjusts the variable film speeds for exact speed control.

Individual frame and sequential series projection permits detailed image study at the viewer's leisure. This is important for reviewing scientific procedures, screening sports films or critiquing dramatic takes as well as analyzing new cinematography.

Continued on Page 1310

The new Bolex 521 16mm sound projector (which can also be used for viewing silent films), has been designed for use in lecture halls, classrooms, laboratories, studios, workshops and small theaters. It projects films having either magnetic or optical tracks and additional sound may be added magnetically by direct sound mixing or by superimposition. Sound may also be added magnetically to silent films.



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VIEWING FILTER

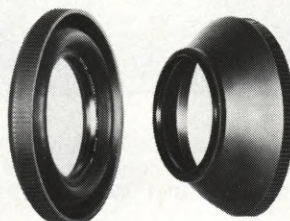
Permits the visual interpretation of shadow and high-lighted details corresponding to the film's emulsion. Color and b/w types available; interchangeable filters. With neck chain; pocket case.

No. 1 Black and White Viewing Filter 90/50.

No. 2 Color Viewing Filter ND 2.0.

No. 3 For faster color films and lower light levels.

Other densities & replacement glass available on request.



PROFESSIONAL RUBBER LENS SHADE

This shade, designed for heavy duty use, is made from a specially formulated rubber compound and is engineered to meet the rigors of all weather shooting. Highly protective of lens, it collapses easily for storage. Circular molded light baffles eliminate extraneous reflections and flare. Available in 86mm, Series 9 and 9 WA, 4½" and 4½" WA.



FLUORESCENT LIGHT FILTERS FL-B FL-D

Two Color Correction Filters designed to give accurate color renditions with average fluorescent lighting. Eliminates the deep blue-green cast ordinarily resultant from shooting color films with fluorescent lights. Can be used with the broad soft illumination of overhead and desk-type fluorescent lamps without regard to daylight, cool white or warm white rating of the lamps.

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(LEFT) The crew, preparing to shoot a sequence in the Paris Metro (subway). (Left to right) Guy Fromont, assistant director; Philippe Kotlarski, sound mixer; Joseph Kerrad, assistant cameraman; Claude Sartirano, production assistant; Anne Sartirano, continuity. (RIGHT) Shooting a sensitive closeup in the chaos of the Metro, under the gaze of a crowd of curious onlookers. Metro authorities extended complete cooperation for filming aboard the trains.



THE FILMING OF "BOBBY" Continued from Page 1273

an 81A filter on the camera (to warm up the ambient fluorescent light while losing only 1/3 stop) and use a Sun-Gun balance to 3200°K when there was an actor prominent in frame. It wasn't necessary to push the film. This mixture of light gave a slightly greenish background, which helped convey the seedy atmosphere of the subway, with faces appearing almost normal. The Sun-Gun was aimed at the actors from the position of the camera so that there were no shadows and the warm light from the Sun-Gun appeared to emanate from the practical subway lights. Although the station lights were all fluorescent, the bulbs in the train cars were tungsten, so the actors also had normal skin color when standing in the train.

In the scene, Bobby gets on the train with his family, but just as the doors begin to close, he pushes his way back out.

(ABOVE LEFT) A disconsolate Bobby asks for a drink in the bar. The role was played convincingly by non-professional Bill Williams, a young American boy whom Ollstein found in a bi-lingual secondary school. (BELOW LEFT) For scenes of Bobby trudging through the streets of Pigalle, a car was used as a dolly. (RIGHT) With quartz lights mounted overhead, Ollstein prepares to shoot a scene inside Michele's room.





(LEFT) Lining up the camera to shoot a closeup of Bill Williams alongside the Canal St. Martin, an outdoor cafe set which Ollstein created when he could not find the real thing. (RIGHT) Filming on the Boulevard de Clichy. The film was shot in 22 different locations (interior and exterior), during an intensive shooting schedule of nine consecutive days imposed by Bill's school holiday and limited access to the equipment.

The doors slam shut, and he watches from the platform as his stunned family is carried away by the train. The timing in the sequence was critical, but with the cooperation of the subway officials, we were able to cue the opening and closing of the doors. We even had the engineers stop the trains so that a door would arrive directly across from the camera. The R.A.T.P. (Paris Public Transit) was very helpful to the production. Even so, we had to do several takes of the scene, between which we had to wait while Bobby's "family" got off at the next stop, caught the next train back, and returned to the set. As the trains came rather often, there weren't many people waiting at one time, and we had plenty of working space on the platform.

But then, an obstruction appeared on the tracks just past our station, and a train came back and let out all the passengers to wait until the obstruction was removed. That train then moved to a
Continued on Page 1314



(ABOVE RIGHT) Bobby and Michele picnic along the Canal St. Martin. (BELOW LEFT) Filming on the streets of Paris was not as simple as it appears in these photographs, due to the French bureaucracy, which required a separate permit for shooting in each of the 20 zones of the city—a procedure which kept Ollstein busy visiting various police stations and writing multiple letters.



THE 119th SMPTE TECHNICAL CONFERENCE AND EQUIPMENT EXHIBIT

With a few reservations, this latest SMPTE Conference, held in Los Angeles, impressed many of its visitors from around the world as "the biggest and best ever"

By HERB A. LIGHTMAN

Since the SMPTE Conference went "annual" in 1975, it has become an event of vastly increased significance, and the 119th SMPTE Technical Conference and Equipment Exhibit, held in Los Angeles October 16 through 21, impressed many of those who attended as the "biggest and best yet".

It was certainly the biggest. Although precise attendance figures are not available at this writing, those who take note of such statistics tell me (with a certain "more is better" pride) that the number of delegates attending from all over the world set a new record. Assuredly, those who were slightly tardy in trying to book accommodations at the lush Century Plaza Hotel, headquarters for the Conference, came grimly face-to-face with that fact.

Was it the "best"? Such an evaluation is bound to be somewhat subjective, and the criteria vary from observer to observer. This observer inclines toward a mixed review—based on *quality*, not *quantity*. It was certainly the most elegantly social, with several formal functions and two or three informal get-togethers each evening. The locale was incomparable, extending beyond the plush confines of the hotel itself to make use of the adjacent futuristic facilities of

Century City—most notably, the sumptuous twin theaters which served as sites for the papers presentations. (In all, a far cry from the somewhat scary precincts of "Fun City", location of the Conference in alternate years.)

The equipment exhibit overflowed the main exhibition area to fill two huge subsidiary halls—mainly with video equipment. The Hollywood community pitched in to welcome its colleagues from out of town and abroad to what is still the film capital of the world. And as for papers—presented simultaneously in the two theaters from dawn to dusk each day—there were more than enough to keep the pages of the SMPTE Journal bulging for an entire year.

So—who could ask for anything more? This observer, for one. There is a tendency for anything, when it gets slightly big for its britches, to start coming apart at the seams—and in this case it was the organization of the affair itself that came a bit unravelled. To cite just one example: When members of the press arrived on the first day of the Conference, they were lured to a lush suite duly marked "Press Room"—but with absolutely nothing inside. There were no personnel to register the press representatives or issue their credentials. There were no

working press facilities. There was not even the inevitable samovar of steaming coffee which press people traditionally rely upon to keep them going as they slave over hot typewriters to meet their deadlines.

The best-unnamed gentleman responsible for this disgraceful lapse, a representative of one of the giant purveyors to the film industry, was, meanwhile, wandering aimlessly about the lobby and had to be tracked down (presumably with bloodhounds) in order to be persuaded to get his act together. All in all, this was not the way for the SMPTE to assure itself of the best possible press.

One could cite several other instances of sloppy, taken-for-granted breakdowns in organization, but why belabor the point? Actually, there were other aspects of the Conference that I found to be less annoying, but more disturbing. I shall deal with those later.

Officially the 119th SMPTE Technical Conference began on Sunday, October 16, but unofficially the festivities began the night before with a formal banquet in the hotel's Los Angeles Ballroom honoring Sidney Solow, for many years President and now Chairman of the Executive Committee of Consolidated Film Industries. Eight hundred of his friends and colleagues from all over the world were in attendance, bearing gifts and heart-felt tributes to the modest, unassuming man who is as much respected within the industry for his humanitarian accomplishments as for his technical expertise.

Seldom has the film and television industry honored one of its own with such an outpouring of sincere warmth and appreciation. Surrounded by his family, Solow was obviously delighted and his joy was made complete when his 28-year-old son, the brilliant cello virtuoso, Jeffrey Solow, played several numbers for the entertainment of those in attendance.

The next evening, following a day of registration and committee meetings, the Eastman Kodak Co. broke the ice with a let-it-all-hang-out "Mexican Party" amidst the hotel's reflecting pools. Complete with fiery south-of-the-border cuisine and strolling *mariaichis*, the party kicked off the conference in rollicking style.

At the Get-Together Luncheon the following noon, the Guest Speaker, George Stevens, Jr., seized the opportunity to review the activities of the American Film

As in years past, the Los Angeles Century Plaza Hotel served as headquarters for the 119th SMPTE Conference. Available also were the adjacent futuristic facilities of Century City, including sumptuous twin theaters which served as sites for the papers presentations.





Not part of the official program, but a sort of unofficial kick-off to the Conference was the banquet honoring CFI's Sidney Solow, held the night before and attended by 800 well-wishers. (LEFT) V.I.P. guests from all over the world—many bearing gifts and all voicing heart-felt compliments—fill the stage of the hotel's Los Angeles Ballroom. (RIGHT) With his wife by his side, the guest of honor, Sid Solow, thanks his friends and colleagues for their warm tribute.

Institute, of which he is Director. But it was William Friedkin, Academy Award-winning director of "THE FRENCH CONNECTION" and "THE EXORCIST", who struck a responsive chord with this particular audience when he said: "There is a quality that all the films I've directed have in common—whether they've turned out good or bad—whether they've pleased the public or not—and that's the technical standard they've enjoyed.

"That standard, of course, is not exclusive to my work. It is taken for granted by anyone who directs a film or a television show today. I don't know whether movies or TV shows are better than ever, but the one constant is the continually improving state-of-the-art, and, in my opinion, your technology has surpassed our creativity.

"From the manufacture of film stock to its passage through the camera—and ultimately into the homes and theaters of the world—the symbol of quality is embodied in the SMPTE standard. I know of no similar definition or excellence in any related field.

"There has never been a stronger urgency for the maintenance of that standard than now. We've reached the point where quality costs more—and can no longer be taken for granted. It has become the province of those who care.

"For example, when 'THE EXORCIST' opened in only 26 theaters around the country, members of the sound department of the Burbank Studios checked each of those theaters for technical specifications and we discovered a number of problems. One theater in New York was running with mis-matched projectors, one arc and one xenon, and had been running that way since its inception.

"Another theater had matched projectors, but was running 12 foot candles in one and eight in the other. A theater in Minneapolis had a pothole in the screen.

These were first-run theaters in major cities. But in every case where the exhibitors became aware of the problems they moved to correct them.

"All of you in this room know what goes into the final product that is the culmination of so many contributions. And most of you share the camaraderie that belongs to those who give their best, whether or not it's appreciated or even understood.

"Technicians have worked on my films around the clock—seven days a week for months—in laboratories and cutting rooms, mixing rooms and sound stages, to make the product that goes out under our names the best it can possibly be. Often I've received credit and awards for ideas or innovations that came from someone on the crew or someone in the lab.

"They have become my closest friends and collaborators—these technicians—they're people for whom I have the most admiration and respect. And I marvel at the wonders they continue to

bring forth.

"The ultimate reward is the work itself, but I can think of no group more deserving of praise, than those people whose achievements are to be honored this afternoon.

"These awards may not have the glamor of an Academy Award or an Emmy, but without the work of these individuals, without their care and concern, the efforts of the rest of us would be extremely limited.

"The people who are about to be honored are those who help people like me to achieve our dreams, and it's with great personal pride that I take part in their recognition."

Mr. Friedkin then proceeded to present a wide range of awards to those being honored by the SMPTE. Among those receiving Special Commendation Awards was Lester Shorr, ASC "for his contributions to motion picture technology. Emmy Award winner, past president of A.S.C., he has been a dis-

Continued on Page 1304

The Get-Together Luncheon, held in the Los Angeles Ballroom on Oct. 17, formally launched the event and brought old friends together from all parts of the world. Since it went "annual" two years ago, the Conference has gained considerably in significance, and registrars reported a record attendance of delegates this year.



THE 1977 PMPEA "HANDS-ON" SEMINAR

In order to further its liaison between film students and working top professionals of the motion picture industry, the Professional Motion Picture Equipment Association sponsors its third productive seminar

The Professional Motion Picture Equipment Association (PMPEA) held its third annual "HANDS-ON" seminar in conjunction with the 119th SMPTE Technical Conference in Los Angeles. This year the seminar took place at the preview theater of Twentieth Century-Fox Studios. The scheduled guests had included John Alonzo, ASC, well known for his cinematography on "BLACK SUNDAY", "CHINATOWN" and "FAREWELL, MY LOVELY". Unfortunately, a last-minute assignment prevented him from participating, and Garrett Brown filled in with a fascinating demonstration and discussion of his now-famous Steadicam.

The more than 300 attendees began to gather outside the preview theater at 9:00 AM. Coffee and donuts were provided by the PMPEA and by 9:45 AM there was lively conversation among the filmmakers. Being that this was the Sunday preceding conference week, the PMPEA Seminar provided the first



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opportunity for old acquaintanceships to be reestablished.

At 10 AM, the program began. Chad O'Connor, president of PMPEA, greeted the audience and Roy Isaia, seminar chairman, introduced the first guest. Haskell Wexler, ASC, is a cinematographer *extraordinaire*; he has twice received the "Best Cinematography" Academy Award for "BOUND FOR GLORY" and "WHO'S AFRAID OF VIRGINIA WOOLF?". He is also well known for his cinematography on "ONE FLEW OVER THE CUCKOO'S NEST" and his own film, "MEDIUM COOL". In addition to his ability as a cinematographer, Wexler proved himself a capable verbal communicator, as he held the PMPEA audience spellbound for more than two hours.

While Wexler touched on many subjects, the audience seemed most interested in his lighting techniques. The differences between black-and-white and color lighting were explained, as well as the subtleties of lighting a scene to varying levels of illumination. By employing lower levels of light, he pointed out, natural background illumination will be better integrated into the scene.

Wexler also covered the many different types of lighting fixtures he employs and the technical reasons why he would



(OPPOSITE PAGE) Two-time Academy Award-winning Director of Photography Haskell Wexler, ASC, discusses lighting techniques with the more than 300 film students and technicians who attended the PMPEA third annual "hands-on" seminar, held in the preview theater of the 20th Century-Fox Studios. (ABOVE) Garrett Brown, designer of the famed STEADICAM, demonstrates his invention at the seminar.

use a specific one in a given situation.

A myriad of questions were answered by him, and before anyone realized it, the morning session was almost over. There is no doubt that with his wealth of knowledge and experience, Wexler could have

continued for the entire day.

It was decided to continue with the next guest and slightly delay the noon break. Jim Webb most recently shared an Academy Award for the sound mix on
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EQUIPMENT EXHIBITED AT THE 119th SMPTE CONFERENCE

Although there were no genuine "blockbusters" and few new items not previously shown at FILM '77, this year's equipment exhibit overflowed the main exhibition hall, filling two additional halls

By ANTON WILSON

It is difficult to develop criteria for measuring the success of an SMPTE exhibition. Most people first ask, "What's new or revolutionary?" While this may seem a logical question, the magnitude of the answer is by no means indicative of the show's success. After attending many SMPTE Conferences over the years, I have discovered the true measure of the show's success. Call it ambience, vibes or just plain energy level—either a conference has it or it doesn't. There was no energy crisis at this year's SMPTE Conference. The energy level throughout the week never dipped from full power and one could almost feel the electricity in the air.

The main purpose of the Conference and the Exhibition is to bring the filmmakers, engineers and manufacturers together for a free exchange of ideas and information, and to this end the show succeeded beyond all expectations. Attendance was at an all-time high, as filmmakers and engineers from all over the world came to the exhibition hall. I spent the entire four days at the exhibits and not once did I see a single manufacturer in a booth get even a moment to sit down or relax. There seemed to be an almost complete absence of the so-called "tourist", as almost all the attendees appeared to be professionals in the industry asking for specific and perti-

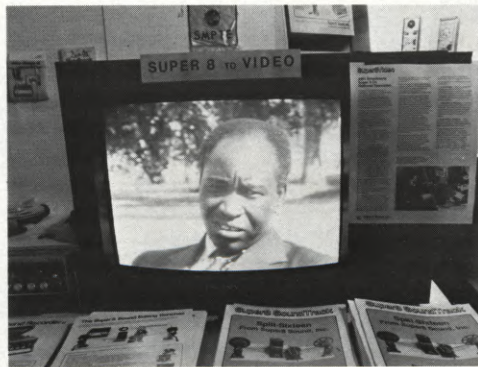
nent information. There was also an abundance of "hands-on" demonstrations. You couldn't walk down a corridor without bumping into someone wearing a Steadicam, trying out a new hand-held camera or taking a light meter reading of the hall with a digital liquid crystal light meter.

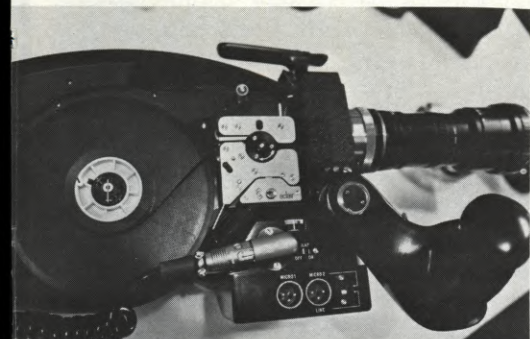
There are many elements that added to this high energy level. Three years ago the PMPEA, representing the manufacturers and dealers, fought for a single exhibition per year instead of the former semi-annual event, the rationale being that two shows were unnecessary and one show a year would create a higher level of interest and excitement. The SMPTE acted on the PMPEA suggestion and the results have proven successful beyond original expectations. In addition, the California Conference is staggered by one year with *Photokina*, which, I believe, adds something to its significance. Last, but certainly not least, the industry is BOOMING. Both in New York and Los Angeles, as well as in the midwest, people are making films, and interest in films and video is running at an all-time high.

To sum up in a few words, the exhibition was a BLAST! But now down to specifics. The show was one of the largest with more than 130 exhibitors filling four separate halls. Video has made significant advances in recent years, yet the exhibition has remained predominantly film, with only about 40 manufacturers representing the video industry, as opposed to 90 in film—film thus outnumbering video by more than two-to-one. This may be a bit misleading, as many "film" manufacturers also cater to



(LEFT) Ross Lowell and Art Kramer demonstrated Lowel-Light's new and versatile "Omni-Light". This extremely small, lightweight unit can operate at 650-watt, 110-volt, as well as 250-watt, 30-volt on battery. (CENTER) Super8 Sound provided an impressive demonstration of Super-8 single-system transfer to 2-inch quad video. Use of Kodachrome original eliminates grain, with result that could almost pass for 35mm. (RIGHT) Double your pleasure, double your fun with Lenny Lipton's 3-D Super-8. The system utilizes two cameras, two projectors and polarized glasses for viewer.





(LEFT) Eclair has begun to deliver the ACL single-system magazine. Shown here is the miniature built-in amplifier. An external amplifier is also available. (CENTER) Evidence of the video industry could be seen everywhere in the exhibition. Here Hitachi demonstrates a studio conversion for their popular SK-80 ENG camera. (RIGHT) Also shown by Super8 Sound was a new resolver for their cassette sync-sound recorder.

the video industry, such as with tripods and lighting. Moreover, it is common knowledge that the NAB is the big video show and many video organizations pass over the SMPTE Conference. There is no doubt, however, that the presence of video was definitely felt.

As usual, there were no really earth-shaking major new items; yet, one could spend more than an entire day trying to cover all those little advancements and latest new models that almost every manufacturer seemed to have.

I'll begin at the bottom with camera supports. First, the more conventional (and very much alive) tripod. O'Connor Engineering Laboratories displayed their complete line, with the latest model Hydro-Ped becoming very popular with the video industry. The new middle-weight O'Connor 30 is ideal for cameras in the 15 to 25 lb. range and is available for immediate delivery.

A new and exciting addition to the world of tripods is the Sachtler Panorama line. Sachtler, formerly of Sachtler & Wolf, has developed a new fluid head design that is a space-age jump ahead of current principles. By employing new materials, such as carbon-fiber and radical high pressure, thin blade techniques, he has created a new head that offers an unbelievable fluid range and yet

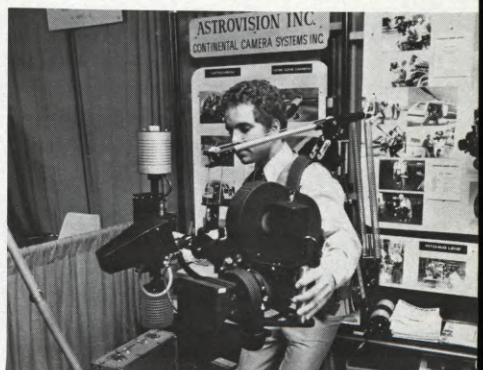
is smaller and lighter than most simple friction heads. The new head employs fluid plates that are 10 to 20 times thinner than conventional designs. The end product is three heads in the 16mm line that offer up to seven finite and selectable degrees of fluid damping in both pan and tilt. Moreover, there is a selectable spring balance that can be defeated or engaged at several different balance points. The ball leveling head fits an ultra-lightweight carbon-fiber leg set, with matching Vulcanite collapsible triangle/spreader. The mechanical finish is superb and could easily qualify for the Museum of Modern Art. The entire unit collapses into a PVC carrying tube only three feet high and about seven inches in diameter. The line is rounded out with a built-in quick-change camera plate that also fits a unique folding shoulder support for hand-held operation. This tripod system is destined to receive great attention from documentary, location and ENG cameramen. A larger 35mm version is also available; however, it was not shown at the convention.

These days "camera support" does not mean tripods alone. It seems everyone is attempting to develop new ways to float a camera in the air and I imagine these endeavors will continue until someone perfects the magic carpet (with

built-in ball-leveling hi-hat). Heading the list must be the Steadicam. Even though it was introduced almost two years ago, it still evokes interest and curiosity as if it were a newborn baby. This year Steadicam had several models, including the Arri 35IIC standard model, a universal model shown with a CP-16R, Arri 35BI, and both RCA and Ikegami ENG type cameras, and a new model designed specifically for shooting from a helicopter.

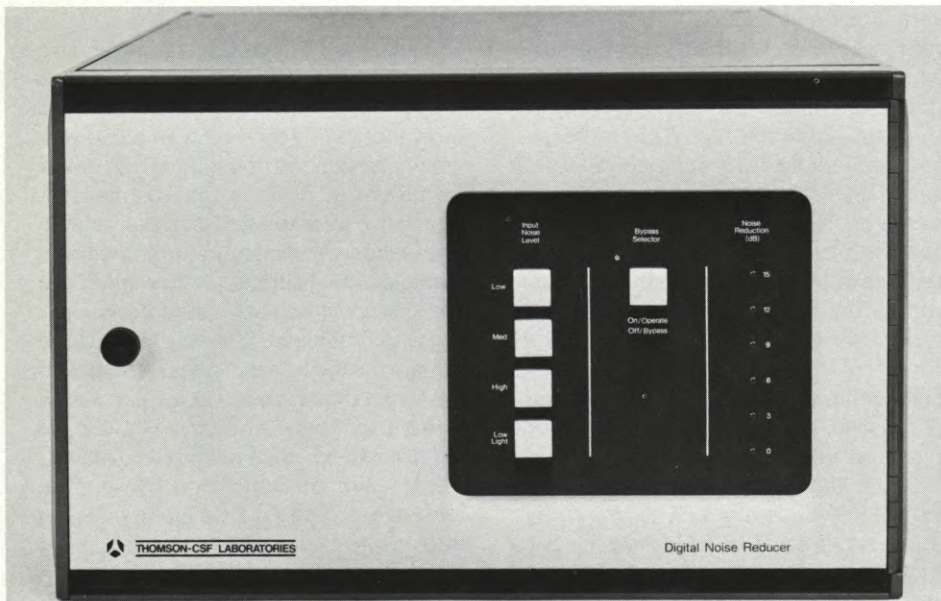
Continental Camera Systems has also developed some very interesting camera support systems. They are quite well known for their Astrovision jet plane with filming periscopes both above and below the fuselage. Their Continental helicopter mount is also very popular among high-altitude cinematographers and was displayed by FERCO, which rents the Continental mounts in both New York and San Francisco. The new Nose Cone camera, as the name implies, is fitted into the forwardmost peak of a Lear Jet. A video tape was shown of a recent assignment which involved simulating a P.O.V. shot of Superman flying. The camera was fitted with a 9mm lens and cranked at 12 fps. At 350 mph ground speed, this projects as 700 mph. Would you believe the pilot took the Jet down to only 20 feet off the ground? At 700 mph

(LEFT) Ferco, of New York and San Francisco, is the exclusive distributor for the "Egripman Camera Arm", which converts any tripod or dolly into a mini-crane. (CENTER) Vega showed a new miniature diversity wireless microphone. The audio output automatically switches to the stronger of two incoming signals, minimizing dropouts. (RIGHT) Continental Camera Systems showed its new "Body Mount" camera stabilization system. The device provides $\pm 90^\circ$ tilt and $\pm 45^\circ$ roll.

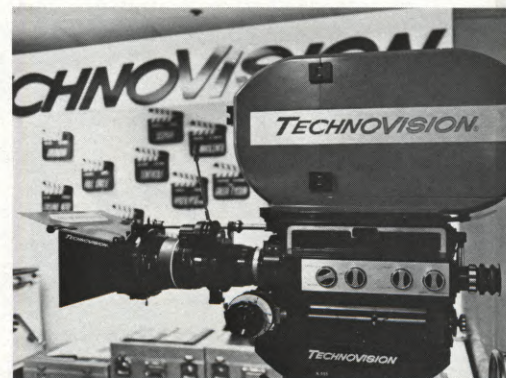
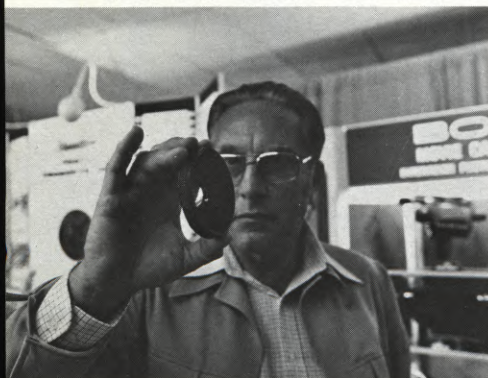




(ABOVE) Alan Gordon Enterprises showed many new items, including a 10-to-1 director's finder and the prototype of a stop watch that digitally displays not only the time, but also feet and frames for both 16mm and 35mm. (BELOW) The Thomson CSF Digital Noise Reducer can remove 9 to 15 dB of noise from video image. Most impressive, it can remove grain from Super-8, 16mm and 35mm film and render them almost as clean as 2-inch quad. It can also clean up 3rd and 4th generation 3/4-inch video to make it look like 1st generation quad.



(LEFT) Bolex is now delivering its 5.5mm Aspheron lens. This slim multi-coated aspheric lens screws onto the 10mm Switar, converting it to 5.5mm. This provides 95° of coverage with virtually no distortion. (CENTER) Cinema Products new miniature GSMO camera is a quiet camera that features quick-change 100', 200' and 400' magazines. It also accepts CP-16 lenses and other accessories. (RIGHT) Ferco, New York, is the exclusive U.S. agent for the Technovision system, featuring a complete line of anamorphic lenses.



and 9mm the results were hair-raising. Ironically, Continental's newest device is very down-to-earth, in the form of a body mount. It consists of a vest which the cameraman wears. The camera, video viewfinder and inertia weights are fitted on a bar that is suspended by a retractable cable from an overhead spring balanced boom. The device looks a little weird, but the mechanical finish is excellent and the results, in terms of stabilized footage, are impressive.

FERCO Of New York and San Francisco is the distributor for the new "EGRIPMENT" camera arm. This device converts any dolly or sturdy tripod into a mini-crane. It provides an endless combination of positions and movements from floor level to six feet and turning circles from under two feet to over six feet.

Moving to cameras, Cinema Products showed a pre-production model of the new GSMO camera. The GSMO is a miniature hand-held, self-blimped, double-system camera that accepts 30, 60 and 120 meter quick-change magazines. Of great interest to CP-16R owners is the fact that the camera utilizes CP-16R viewfinders, both standard and orientable, CP-16R lenses, and the CP-16 slide-in battery. The mirror-reflex GSMO, loaded with 30 meters of film and battery (less lens), weighs 3.2 kg (seven lbs.). The GSMO will be available by Spring 1978.

Eclair has begun delivery of its single-system ACL magazine and amplifier. Two versions are offered: a built-in miniature amplifier and an external over-the-shoulder version. The design and finish of the new SS ACL is impressive and the sound quality is first-rate.

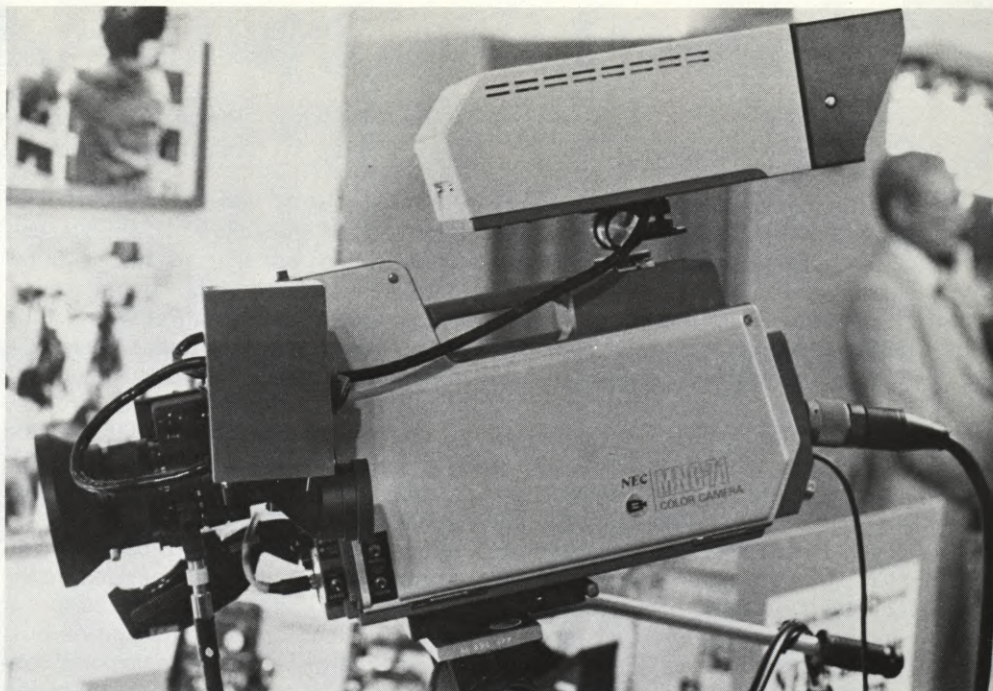
Arriflex displayed the entire Arri line, including blimped zoom lens housing for the 35BL. As previously mentioned, one of the important aspects of the Exhibition is to provide interchange between the filmmaker and the factory and this was

exemplified in the Arri booth by the presence of not only Volker Bahnemann from New York, but also Bobby Arnold and Horst Bergmann from Munich.

Those cameramen working in 35mm will be happy to know that FERCO will be renting the new Technovision line of lenses and cameras at both their New York and San Francisco locations. Technovision offers a complete line of anamorphic lenses designed with the latest technology. The system is very popular in Europe and considered by many to be the highest-definition, least-distortion, anamorphic system available. The Technovision system is comprised of 26 anamorphic lenses, including two zoom lenses, a 40mm-200mm T/4 and a 50-500 T/5.6. The fixed-focal-length lenses range from 20mm to 1600mm. Included in the lineup are a set of Hi-Speed lenses of T/1.4 aperture and focal lengths of 20mm, 35mm, 40mm, 50mm, 85mm and 135mm. In addition, there is an ultra-fast T/1.2 macro 55mm and a 270mm T/2.3 and 600mm T/4.0. Specially modified Technovision cameras are also available, including an Arri 35BL, and TSR 205, which is a BNCR movement in a magnesium blimp with crystal motor and 205° shutter, and a RP 205 HF, which is a modified ARRI 35IIC with 205° shutter, registration pin and studio viewing system.

Century Precision Optics displayed a new line of long-focal-length lenses that feature interchangeable mounts to fit Arri, Eclair and other cameras. Century Precision also makes the Duplikins, a set of devices that allow the making of freeze-frames from 16mm to 16mm, or 35mm slides from 16mm, or 16mm reproduction of 35mm slides.

Bolex has begun delivery of their "Aspheron" multi-coated aspheric lens. This super-slim lens mounts onto a 10mm Switar lens, yielding a focal length of 5.5mm, while maintaining the f/1.6 aperture. This is an amazing lens, pro-



Cinema Products is exclusive distributor for NEC's all-new MNC-71CP ENG color camera. This new camera, which marks Cinema Products' entry into the mainstream of the video industry, has many sophisticated features, including built-in gen-lock that allows it to easily adapt to studio-type setups. The new MNC-71CP should be available by the first of the year.

ducing over 95° of field coverage with virtually no distortion. The lens can focus from 2 inches to infinity and, when wide open at the hyperfocal setting, has a depth of field from 3 feet to infinity. Price is under \$450.

HMI lights have reaffirmed their popularity, as almost every major manufacturer displayed some form of the Metal Halide system. However, there were no major new developments since last year. Mole-Richardson once again showed their complete line, and LTM of France, with the broadest range of HMI type lights, now has a US-based distributor.

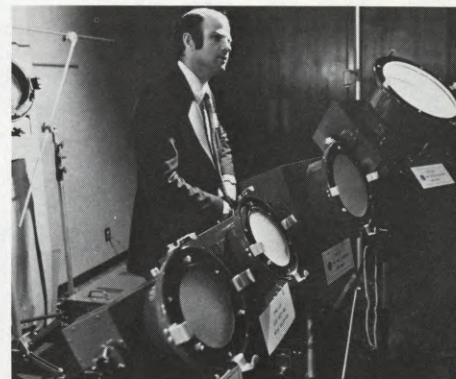
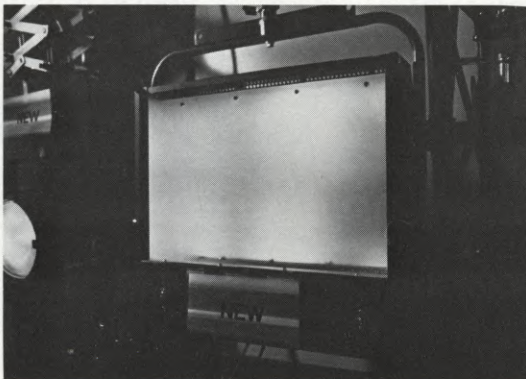
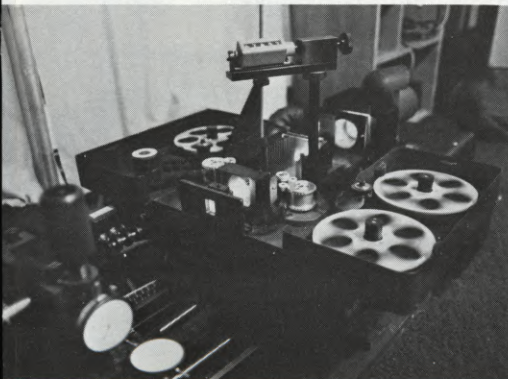
Lowel showed their new "OMNI" light, which is super compact and can operate at both 120 or 30 volts. It accepts most of the accessories available for the Total-

Light system. Ross Lowell assures me that the new light will be ready for delivery before the end of the year, but place your orders early if you want it for Christmas. I understand there is a back-order list.

ColorTran showed several new lights. One of the most interesting was a new 4K soft light. This extremely small and light unit incorporates four 1K bulbs that are independently switchable. The reflector is satin-finished aluminum instead of the more conventional white matte surface. The result is higher efficiency and less discoloration with time.

Stellavox displayed the new SP8 model recorder. This is basically an updated version of the SP7; however, it incorporates several advances. Most
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(LEF) The Oxberry Corporation now provides a new aerial image projector that is capable of zooming. **(CENTER)** Colortran showed a new miniature 4K soft light, featuring four 1K lamps that are individually switchable, and a new satin aluminum reflector in lieu of the more conventional white matte finish. **(RIGHT)** Almost all lighting manufacturers in the exhibit were showing HMI lights. Here Mole-Richardson displays their complete line, ranging from 575 watts to 4000 watts.



SHOOTING THE AERIAL SEQUENCES FOR "CAPRICORN ONE"

The unusual requirement of having to shoot a subject aircraft either straight forward or straight back required a very special camera mount

By DAVID B. NOWELL

When John Carroll of Continental Camera Systems told me in early December that I would be needed on the crew of a new feature slated to start in January I was, of course, happy to again have a chance to work on a movie that was to require so much aerial photography. Little did I realize the enormity of the project that would be needed to accomplish what the director, Peter Hyams, wanted. Right away, though, I knew things were headed in the right direction when I was told I would again be part of the Number One aerial photographic team in the movie industry. David Jones, the world's top helicopter pilot, would be aerial coordinator and David Butler the aerial cameraman. These two have worked together for years and have turned out some of the most spectacular aerial sequences to date. The three of us had worked last year in the Philippines shooting the aerial sequences for the upcoming film "APOCALYPSE NOW". Because all three of us have the first name David, we have to call each other by our last names in order to avoid confusion. After Jones and Butler spoke with Peter Hyams about the last sequence of the film, they found that this was not going to be the normal type of aerial filming. The requirements that Peter put forth were that all shots of the subject aircraft were to be looking either straight forward or straight back, while flying through narrow canyons at anywhere from 70 to 130 mph. Now comes the question: "How to?" We, the three Davids, got together with Bob Nettmann, president of Continental Camera Systems, to discuss what to build and how to build it. We would, of course, be using the Continental helicopter mount

because of its versatility and adaptability to different cameras, weights, and mountings, but first we had to know what type of aircraft we should use before we could build a frame to hold it. Mr. Jones and Mr. Butler decided it would be best to use a Hughes 500C because of its speed, maneuverability and the lack of horizontal stabilizers on the tail boom which could get in the shot when the camera was pointed backward. After some flight tests to check for weight and balance, Mr. Jones found that by flying from the right seat and bolting about 80 lbs. of lead to the right skid it would be possible to fly level and have plenty of control, with the entire camera mount and cameraman on the outside of the left door. Nobody had ever tried shooting like this before nor would they probably want to try. But it worked for us and would make it possible for Mr. Butler to do the intricate operating necessary for the film.

Now it was my turn to figure out what type of frame to build that could hold all this weight outside the aircraft. I used aluminum channeling and tubing because of its light weight and strength. With the help of Stan McClain a frame was constructed that would bolt to existing cargo tie-down points on the floor of the Hughes, then drop down outside to form a shelf on which to bolt the camera mount. The shelf was then braced from underneath the belly of the helicopter. Once bolted down, the entire frame became part of the helicopter and was capable of withstanding at least a half-ton of downward force.

Now we had to decide which camera to use. Normally we would have used a Panavision Arri 2C with a 50mm-

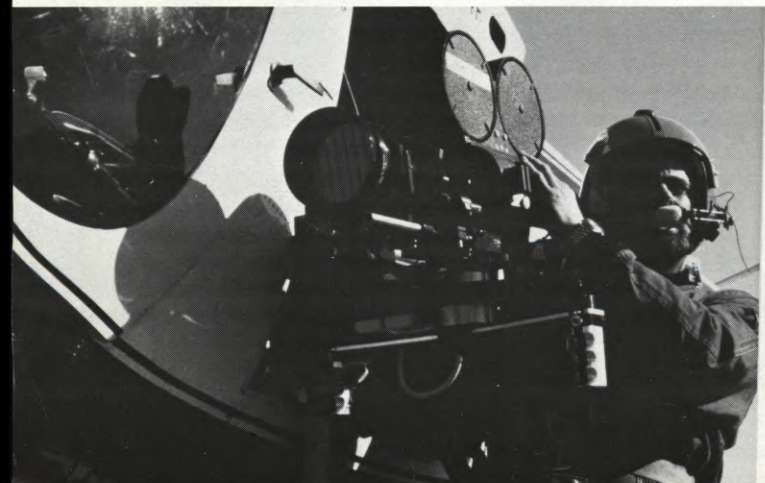
500mm zoom because of its light weight and ease of loading, but because the Director of Photography, Bill Butler, wanted pin registration on the plate shots that would be done from the aerial rig, we decided to go with Panavision's Mitchell MK II with 400' mags and the 50mm-500mm zoom lens.

Flight helmets became a must for the pilot and cameraman, not only for safety but to cut down on noise. Because the cameraman was outside, he used an oxygen mask like the type worn by jet fighter pilots. This not only protected his face from flying objects and the cold, but also helped to improve communications between himself and the pilot, because the noise from the wind rush had been almost eliminated. After a few more flight tests to modify things like springs and bracing we were ready to shoot some test footage of the aircraft that would be used in the movie.

The scene we would be doing starts as the last of three escaping astronauts jumps onto the wing of a biplane and tenaciously hangs on as the plane takes off to try and elude two nondescript military helicopters armed with machine guns with orders to destroy the plane and its occupants.

The job of flying the Stearman biplane was given to Frank Tallman, who is widely known for his stunt flying. Stuntman John Kazian, who has been doing wing-walking acts for years, doubles as the astronaut who clings to the wing, while another stuntman, Benny Dobbins, tries to keep him from sliding off. The job of flying the two "bad guy" helicopters went to George Nolan and Karl Wickman, both well known for their flying abilities in heli-

(LEFT) Cameraman David Butler during early testing of the Continental Camera helicopter camera mount. Prior to this, nobody had ever tried filming from a helicopter with the entire camera mount and the cameraman positioned on the outside of the left door—nor would they be likely to want to try it. (RIGHT) Famed movie and stunt helicopter pilot, David Jones, considered within the motion picture industry to be at the top of his unusual profession.



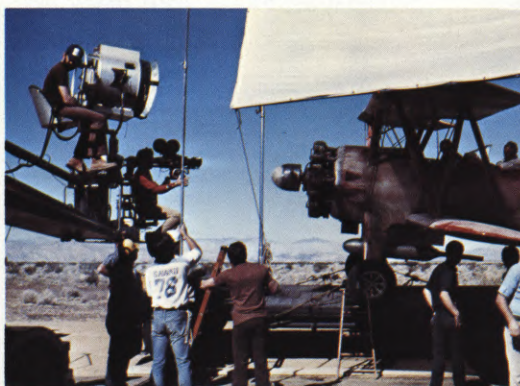
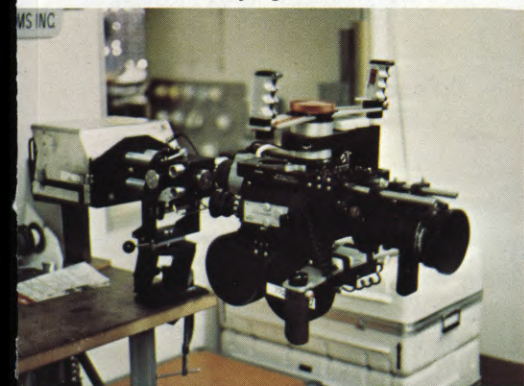


(LEFT) Director of Photography Bill Butler lining up shot using the Continental mount to give the feeling of flying with a stationary bi-plane. (CENTER) Stuntman John Kayean with miniature R/C bi-plane used in the crash sequence of film. Note the miniature figure on the wing, which John was doubling for on the real bi-plane. (RIGHT) "Near miss" sequence with camera helicopter following bi-plane, as pursuit helicopter banks to miss both by a few feet.

(LEFT) Assistant David Nowell giving last-minute check with David Butler during early testing of special helicopter mount. (CENTER) Butler checking camera speed before test run. (RIGHT) This photograph gives a good idea of the position the cameraman put himself in for the purpose of achieving spectacular shots for the movie.

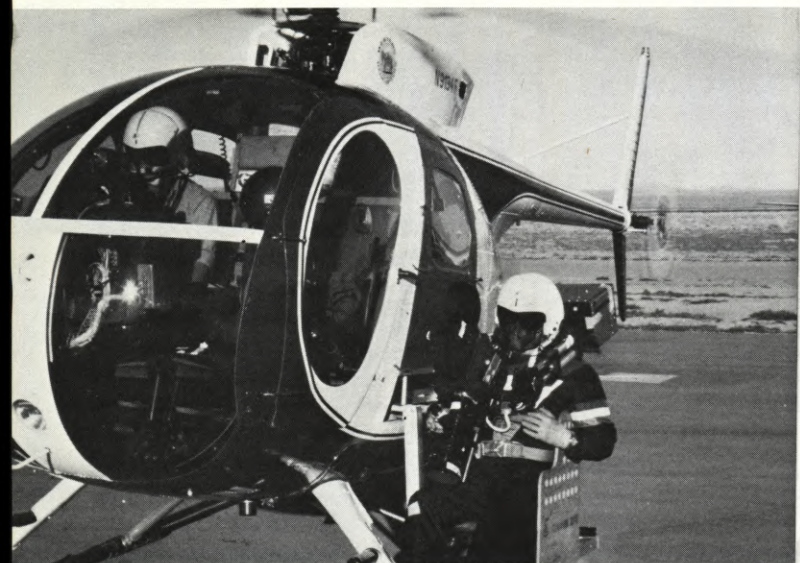


(LEFT) Special "upside-down" camera set-up used to film bi-plane flying inverted during the chase/pursuit sequence. (CENTER) Setting up a shot in which the actors could say their lines while appearing to be flying. (RIGHT) The helicopter mount worked perfectly to create the illusion of flying, even though the bi-plane was chained to the trailer.



(LEFT) Filming astronauts as they exit Lear Jet that has appeared to crash land in desert. Note the trough behind the Lear. (CENTER) Digging the Lear out of the desert floor after the filming was finished. (RIGHT) In order to simulate the effect of the Lear Jet skidding across the desert with its gears up, the runway was covered with Fuller's Earth and the resulting dust cloud was enough to obscure the landing gears from the camera.





(LEFT) Cameraman David Butler and pilot David Jones prepare to take off in final version of special helicopter camera platform. **(RIGHT)** The cameraman had to be equipped like a jet fighter pilot because of his exposure to 120 mile-per-hour winds and very taxing communications requirements.

copter movie work. The tests with these men and aircraft proved successful, so successful that director Peter Hyams thought it looked too good. He felt the scene should be shot slightly undercranked and with the subjects closer to the camera to give a more violent look to it. This, then, became our format for shooting this sequence.

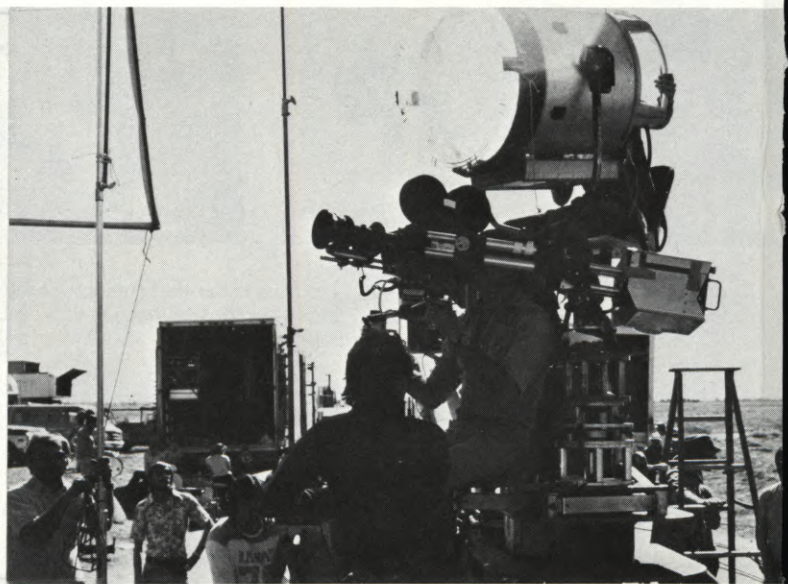
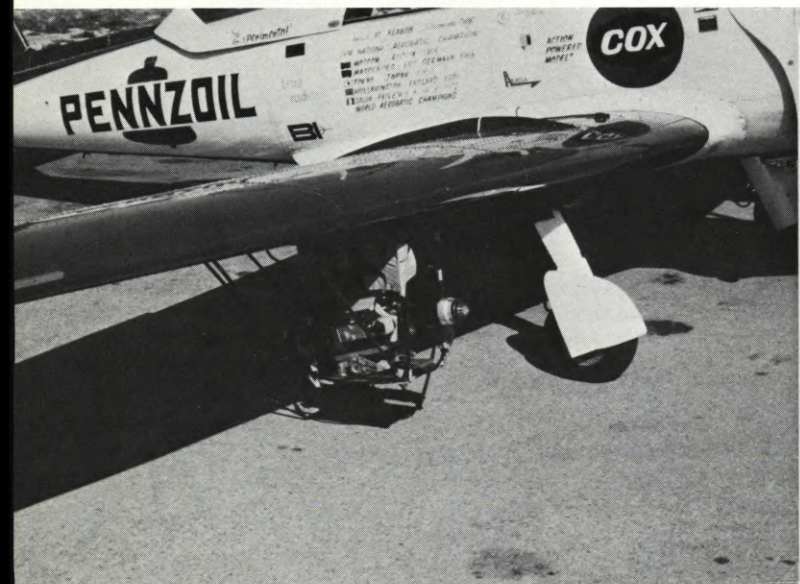
Now we were ready to start. The building of the helicopter rig and a few other camera mounts had taken all of January while the first unit was filming. On February 4 we headed for the desert to start the aerial scenes. Some of the first shots done were with the Lear-Jet in which the astronauts make their initial escape. It was during this time that we used Continental's Astrovision

camera set up in the Lear to get some dramatic point-of-view shots from the belly of the aircraft. This, coupled with the precise flying ability of Clay Lacy, owner of the Lear, gave the impact of the landing gear hitting the top of a car added visual perspective. Next came an air-to-air shot that no one has ever tried from a helicopter. Butler had to shoot the Lear approaching the runway and landing. The shot required that he start with the Lear flying at 140 mph and follow it to a stop. 140 mph winds outside an aircraft is hard enough but a wind chill factor of -30°F nearly made the shot impossible. As it turned out, Butler pulled it off perfectly.

When we finished with the Lear and the principal actors we were ready to

start in earnest on the actual stunt flying sequence. We knew we could pull it off on schedule as long as the weather stayed good. After one day of perfect flying weather the bottom fell out of the sky. Winds that only the people who live in the desert know stretched our shooting schedule from 10 to 21 days. During some of the days that were too windy for the helicopters to fly we were able to shoot with Art Scholl and his Super Chipmunk airplane. The script called for some shots of the biplane doing loops and rolls, but only another airplane could follow it through these maneuvers. This pressed into service another mount we had built. Art's Chipmunk is equipped with platforms under each wing. This allowed us to use one

(LEFT) Mitchell camera mounted on the Super Chipmunk belonging to Art Scholl for filming of the airplane "loop" sequence. **(RIGHT)** Director Peter Hyams checking shot that will simulate air-to-air footage of Stearman bi-plane, while actors are playing a dialogue sequence. The effect was very convincing.



or two cameras aimed either forward or backward. The wings have wiring inside to supply power to the cameras. A permanent switch box in the cockpit allows for either one or both cameras to be operated. Because Art would be pulling up to 6 positive and 4 negative g's, it was decided we would use the Mitchell MK II. It performed flawlessly, even under those severe loads.

When we did get good weather we were able to get the flying sequence finished within a short time. Even though the storyboard had been meticulously prepared, there was still a great deal of rehearsing that had to be done during these few remaining days. All the different angles required that the camera ship be very close to the subject ship. Because Butler had to shoot with the widest possible lens and still keep the subject large in the frame, close sometimes meant within a few feet of a whirling tail rotor.

All of the aircraft had to maintain close proximity and this required absolute precision flying with no room for error, not only because each aircraft was close to each other aircraft, but also because the entire formation was flying inside a canyon with only fifty to a hundred feet on either side to maneuver in. Probably one of the trickiest shots was when the helicopters try to cut off the biplane by flying around a mountain and then straight at the plane. This meant that the biplane had to stand on its wings and fly in between the two oncoming helicopters as the camera ship films this and then flies between the two helicopters itself. There was no room for any mistakes on this one. That is why the elites of the movie pilots were chosen for this movie. When this shot was completed and in the can everybody was able to breathe a lot easier.

This now left the climax of the scene to be done. In the story the biplane outmaneuvers the two helicopters and dives over the top of them. As he does so, he releases dust from his crop-dusting machine and obliterates the view of the pilots, causing them to crash into a cliff. The biplane flies off into the sunset. Fade to black.

But how to crash some helicopters and not seriously injure someone? Miniature helicopters; what else! Ernie Huber, who flew the miniatures in "TOWERING INFERNO", had built four helicopters and two biplanes for the crash scene. The little helicopters were armed with explosives that would detonate on impact of the small airframes. Once the site of the crash was picked, I then had to organize the setup of four high-speed Mitchells and their acces-



(ABOVE) Filling in the trench that will make the Lear Jet appear as if it has landed in the desert "gears up". (BELOW) Assistant cameraman David Nowell, who built the special camera mount with Continental Camera Systems, loading film into the Mitchell Mark II for an upcoming shot.



sories. We tried for four days to get this one shot, always being hampered by the winds. Believe me, we were quite well rehearsed as to where to put the cameras after four days of setups. Thanks to Roger Montgomery, who had been helping me the past few weeks, keeping all that extra equipment together was a lot easier. During these four days of attempts we almost lost one of the biplanes when its miniature dust bomb fell off, causing the plane to ground loop on take-off. Then on another day, when trying the shot, a gust of wind caused one of the miniature helicopters to crash and explode. Unfortunately, it crashed behind the cameras and nobody got it on film. Finally the scene was completed with

both helicopters crashing and exploding on cue with all four cameras catching the action perfectly at 120 fps.

While all the main filming was going on we managed to make our own demonstration film of footage shot from this mount. It is some of the most incredible aerial footage anyone has ever seen. I can understand why David Jones is most sought after as a helicopter pilot. I doubt that there is anyone else, lacking his expertise and knowledge, who could have pulled this movie off.

So after spending the rest of the day doing the last of the pickup shots, we packed up that Friday night to head back to Los Angeles and have our first weekend off in quite a few weeks. ■

THE ADVENTURE OF PHOTOGRAPHING JULES VERNE'S "FABULOUS JOURNEY TO THE CENTER OF THE EARTH"

By **ANDRES BERENGUER**

Director of Photography

On the 23rd of August, 1976, the shooting of "THE FABULOUS JOURNEY TO THE CENTER OF THE EARTH" began. An international production shot in Spain, with a budget of two million dollars and a shooting schedule of

twenty weeks, the film is slated for worldwide distribution.

When the director, Juan Piquer, called me in to discuss the project, my first impression was that we were going to have a lot of fun making this film, but I soon

found out that it required more than just enthusiasm to accomplish the task of putting the fantasies of Jules Verne on film.

The fact that the director knew exactly what he wanted helped a great deal, of course, and we had the assistance of some of the most experienced special effects technicians in Europe. These included: Francisco Prosper, Emilio Ruiz, the editor Derek Parsons—people who have worked on some of the biggest motion pictures ever made: "EL CID", "FALL OF THE ROMAN EMPIRE", "THE THREE MUSKETEERS", "THE WIND AND THE LION", "KRAKATOA", and many more.

John Melson, whose credits include "BATTLE OF THE BULGE", "SIMON BOLIVAR" and some twenty other American films, was the script writer. Melson produced a screenplay of classic structure that retained the humor and fantasy of the novel.

Summer was well along, and we were not going to have much time to hunt locations, build the sets and miniatures, and make photographic tests. I loaded my Nikon with rolls of 5247, which was the type of film with which the picture was going to be shot, and we went out testing filters for the photographic moods we wanted.

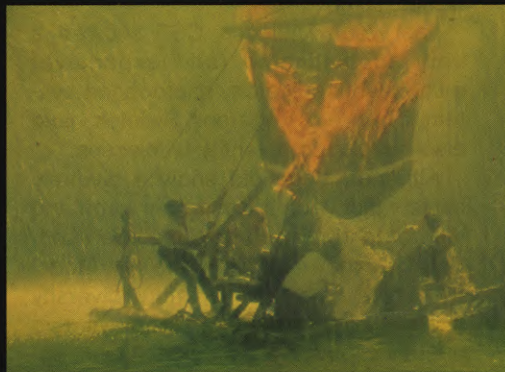
Among the special effects scenes of the film, there is one in which a giant

(ABOVE LEFT) A scene from the Spanish production of Jules Verne's "FABULOUS JOURNEY TO THE CENTER OF THE EARTH", filmed in a huge cave 180 miles from Madrid. The point in this cave, Spain's largest, where the company was shooting was more than a half-mile from the entrance, creating some problems for the crew. (BELOW) Victorian settings and costumes in muted jewel-like colors provide a subtle contrast to the more vivid action sequences at the Earth's core.





The film abounds with special effects and fantasy forms, including huge mushrooms and a giant monkey who chases the heroes into a tree. There are dinosaurs battling to the death, artificial lakes, volcanic eruptions, enormous turtles, etc. To accomplish these special effects, use was made of front-projection, blue screen, travelling mattes, etc. Especially successful was the mixture of miniatures and natural sets. With a carefully planned matching of perspectives, the filmmakers were able to combine large and small elements in the same scene without cuts.



monkey chases our heroes into a tree; the monkey pulls the tree out by the roots, shakes it, and then tosses it away. In another, we have a pair of dinosaurs fighting to the death close to our characters. In addition, there would be artificial lakes, volcanic eruptions, giant turtles, etc. To be able to accomplish this trick photography, we used front projection, blue backing, travelling mattes, etc. What worked to our total satisfaction was the mixing of miniatures and natural sets. With a carefully planned matching of perspectives, we were able to create extremely well the illusion of big-small in the same shot, without cuts.

Prior to starting this film, I talked it over extensively with my father, Manuel Berenguer, ASC, who has had considerable experience in this type of work (in "THE BATTLE OF THE BULGE" and "KRAKATOA" he did all the miniature work with Eugene Lourie, and they both received Academy Award nominations for the latter). I also had the chance of discussing the project with Stanley Cortez, ASC, whom I admire profoundly.

All the interiors of the film were to be pushed one stop at the laboratory. I combined this in some scenes with a slight post-fogging of the negative, in order to obtain a less contrasty picture.

One-third of the film takes place in "the center of the earth". To shoot these scenes we chose some huge caves that are located approximately 180 miles from Madrid, and that happen to be the biggest in Spain. It was over half a mile

from the entrance of the cave to where we were shooting—which created some problems for the production crew.

In the caves, the five characters of the story have to walk around with special flashlights in their hands. We had those lights equipped with 12-volt quartz lamps powered by special ni-cad batteries. I had the housings of the lamps painted in dull white to emulate a mini-soft-light because the actors had to carry them near their faces, and I did not want to have strong shadows in that situation. I also

had some brass rings fitted inside around each lamp to avoid the hot spot of light towards the lens, for one thing, and also to warm up the light effect on the face.

The rest of the cave that we would see in the shot was lighted just enough so that we could see the volumes of huge stones, and the walls and ceilings, every lamp being normal 3200K. Later on, I had the lab correct the excess red on the faces, adding enough blue so they would turn out normal and, at the same time,

Continued on Page 1308

Prior to filming, the author loaded his Nikon with 5247 negative in order to test filters for the photographic moods required. All interiors were pushed one stop in the laboratory. This was combined, in some scenes, with a slight post-fogging of the negative, in order to cut down the contrast for a softer overall effect.



**EQUIPMENT EXHIBIT AT
THE SMPTE CONFERENCE**
Continued from Page 1289

important is a new motor drive using very low inertia. This servo drive has almost no gyroscopic effect and draws very little power, due to its high efficiency. Like its predecessor, the SP8, it is very small and light, weighing about 8 lbs and it also has interchangeable head assemblies for mono full-track, stereo half-track, pilotone, etc.

Nagra displayed a new two-track version of the tiny SN tape recorder. In addition to the two-track heads, this machine also incorporates several electronic changes such as stacked printed circuit boards.

There is a definite trend in the sound industry to exploit the newer professional quality portable cassette recorders by converting them to sync sound. Super8 Sound has their XSDII model, which is based on the Sony TC-158 SD. This unit has built-in crystal, Dolby noise reduction, pilot signal and a new external resolver. The specs are impressive, with 20-16,000 Hz response, over 60 db s/n and wow/flutter under 0.08%.

Alan Gordon Enterprises has also jumped onto the cassette bandwagon with the CSS-1 recorder, based on the new JVC unit. The CSS-1 is unique in that it maintains two channels of audio information in addition to the extra sync track. Thus, two channels of audio, 2-channel binaural, or full stereo sound may be recorded with a sync track. The unit has Super ANRS noise reduction which achieves a S/N of 64 db. Response is 25-18,000 Hz with wow/flutter of 0.12%.

The wireless microphone seems to be the hottest item around these days. Although the radio microphone is not new by any means, it has been the recipient and object of many four-letter expletives, due to its unpredictable nature. Well, all that seems to be changing as radio mi-

crophones enter a new generation of design and better reliability. In addition to new circuitry, the latest technique evolves around "diversity". It seems that the most plaguing problem with wireless mikes is "dead spots". This is a small, specific and unpredictable area where two reflecting signals from the transmitter will cancel each other at the receiver, producing no reception at all. The diversity systems provide two paths for the radio signal and, thus, if one path happens to be in a "dead spot", the other path takes over, maintaining the transmission.

Last year Thomson CSF showed a very sophisticated (and expensive) multi-channel diversity microphone system. This year Vega and Swintek have also developed diversity wirelesses.

Although Vega did show a diversity system last year, it was rather large and did not lend itself to portable operation. This year they introduced the new Model 67, which is a true miniature diversity system. The model 67 employs two entirely separate antennas and two separate receiver sections. The diversity unit then chooses the stronger of the received signals. The unit can be used with any Vega transmitter and is only 1.3 inches thick by 6.3 inches wide and 8.7 inches deep. Weight is less than 3 lbs. with batteries.

The Swintek Mark 9 Dual Antenna Diversity system operates on a slightly different principle. The Mark 9 allows eight receivers to be operated from one common space diversity system, utilizing two discreetly placed antennas.

Steenbeck has introduced an entirely new 6-plate editing console with several new features. The new machine has infinitely adjustable speeds from stop through sound speed, plus the usual high-speed operation.

The company called Cinematics, Inc., has produced a flat-bed modular low-priced editing console that is convertible from 16mm to Super-8. Priced at under

\$3000 for a complete 16mm double system package, it should be attractive to independent filmmakers.

Magnasync/Moviola Corp., known for its full line of 16 and 35mm flatbeds, has introduced a very low-priced editing console for the small producer. It consists of three sets of torque motor rewinds in an upright configuration, similar to hand-operated rewinds. The unit uses a standard 4-gang synchronizer and a Moviola viewer. The motorized synchronizer is electronically controlled from the console, which automatically applies tension to the rewinds. In operation, it could prove even more versatile than a flatbed. In my opinion, this is an item that has been long overdue.

Super-8 is still alive and kicking and Super8 Sound Company of Boston is largely responsible. They offer a complete line of Super-8 cameras, editors, sound recorders, etc. In addition, they have helped pioneer many diverse Super-8 projects. For example, they have collaborated with Lenny Lipton on his Super-8 3-D system utilizing two crystal-controlled cameras and two interlocked projectors and, of course, the polarized glasses. Visitors to the Super8 Sound booth were entertained with honest-to-goodness 3-D movies, with the accompaniment of Mr. Lipton on the harmonica.

Super8 Sound also showed a Super-8-to-video transfer that had to be seen to be believed. A documentary team went on location to Africa to film a program for the ABC-TV network. ABC stipulated a 2" Quad VTR end product, so the producers shot in Super-8 and transferred to Quad. The trick here is that they used the virtually grainless Kodachrome film, and outdoor settings. I don't expect you to believe this, but the end result could almost pass for 2" Quad original and certainly for either 16mm or 3/4" VTR.

Most aficionados of Super-8 concur that the Beaulieu 5008 single-system, Super-8 camera is the *ne plus ultra* of the

(LEFT) The newest model Sony ENG camera on display. (CENTER) Convergence Company showed a new version of their editing console, representing the most advanced state-of-the art. (RIGHT) Beaulieu showed its new Model 5008S multi-speed Super-8 camera. This mirror-reflex single-system Super-8 camera has been made even more attractive by the incorporation of a variable speed capability permitting filming from 8 to 45 fps.





(LEFT) New Elmo Model GS-1200 stereo Super-8 sound projector is a versatile professional unit, featuring both optical and magnetic playback, as well as magnetic recording on two separate tracks. It has pulse sync, plus an f/1.1 zoom lens. (CENTER) Steenbeck showed an all-new 6-plate flatbed editing console. The unit has a new flickerless movement and can run at infinitely variable speeds from inching through 24 fps. (RIGHT) Century Precision Optics displayed a completely new line of long lenses with adaptors to mate with all professional cameras.

Super-8 scene. Well, Beaulieu has made this camera even better. The new camera bears the name 5008S "Multi-Speed" and, as the name implies, now incorporates speeds of 8, 18, 24 and 45 fps. It is now delivered with a Schneider f/1.4, 6-70mm zoom lens, but features C-mount lens interchangeability. Like all Beaulieus, it has a mirror-reflex shutter.

Elmo has just introduced a new Super-8 Sound projector that is the height of sophistication. The GS-1200 Stereo incorporates two complete sound systems, including two 15-Watt amplifiers. This allows simultaneous and individual recording on both the main and balance sound stripes, in addition to sound-on-sound recording. The projector has 1200' capacity, can play back optical as well as magnetic tracks, can record on both magnetic tracks, can be remote controlled, and incorporates a 24-volt, 200-watt halogen lamp system through an f/1.1, 12.5-to-25mm zoom lens. The projector also has four motors, one for each of the spindles, main drive and cooling. Super-8 has come of age.

As mentioned previously, the video industry was well represented. RCA, Ikegami, Sony, JVC and Hitachi all showed the latest models of their ENG type cameras. Almost all manufacturers had minor model changes but the cameras remained essentially the same. There does seem to be a trend to provide easy conversion of an ENG camera to tripod, studio-type use. This is probably

best exemplified by the new CP-MNC-71 portable color camera. This new model marks Cinema Products' inauguration into the mainstream of the video industry. The camera is an excellent ENG unit, yet it has many features, like built-in genlock, that allows it to easily adapt to studio type setups. The new CP/MNC-71 should be available by the first of the year.

The Exhibition included many video companies too numerous to mention. However, there were several of particular interest to the cinematographer in an indirect fashion. One of these is the Convergence Company which manufactures editing consoles that allow "film" or "Moviola" style editing with two 3/4" Umatic cassettes.

The "sleeper" of the show, in my opinion, was the Thomson CSF Digital Noise Reducer. This "box" measures about one foot by two feet and is crammed with more integrated circuits than I have seen in my life. This unit, in essence, digitalizes a video signal, isolates and removes the noise components, and then reconverts back to a clean analog video signal. What does this mean to the cinematographer? Only that it can remove up to 15db of noise from a telecine chain which virtually removes grain from the picture. The unit can make Super-8 look like 35mm and, more important, it can make 16mm look almost as good as 2" Quad. In addition, it can clean up multiple generation 3/4" Umatic and probably is

most impressive at restoring Microwave transmissions to usable quality. Remember the name: Thomson CSF Digital Noise Reducer. It may just be that "major new item" at this year's SMPTE.

Oxberry showed two new items: an animation camera that is convertible for better 16mm and 35mm operation and a new aerial image projector that can be zoomed via a movable head and follow-focus cam.

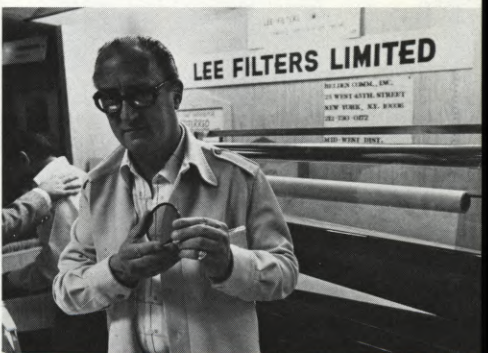
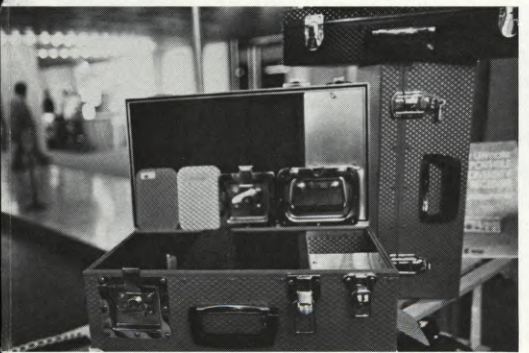
Image Devices of Miami is the American distributor for the rugged Samcine Rigidized Aluminum cases. These metal cases can be custom ordered with a variety of heavy-duty hardware.

Alan Gordon Enterprises had a large exhibit and showed many interesting items, including a new 10-to-1 director's finder with direct readout of focal lengths for all formats. Grant Loucks also showed me a prototype of a new digital stop watch that not only reads out in time, but also feet and frames for both 16mm and 35mm.

Herr Wendelin Sachtler, in addition to his fabulous new tripod, also showed an all-solid-state digital liquid crystal light meter. And Lee filters showed their new super lightweight non-glass filters.

There were more than 130 manufacturers, distributors, and dealers at the show and it would be impossible to cover each one. I have tried to mention those items that appeared to have greatest interest to the cinematographer. My apologies if I have omitted anyone. ■

(LEFT) Image Devices, of Miami, Florida, is now exclusive U.S. distributor for Samcine Rigidised cases. These cases can be custom ordered with a wide variety of hardware and colors. (CENTER) Swintek showed a new "Dual Antenna Diversity" wireless microphone, the "Mark 9 VHF". By utilizing two antennas, the system minimizes dropouts. (RIGHT) David Holmes, Managing Director of Lee Filters Limited, holds one of his company's new line of camera filters.



"THE GREAT PYRAMID"
Continued from Page 1265

how the Ancient Egyptians were able to see to paint and carve the things that are found in these tombs. We concluded that some form of mirrors had to be used, because torches would have used up the air and also created smoke, as we had learned the hard way.

(TOP) Egyptian guide moves up the Grand Gallery toward the King's Chamber. Handrails were installed for tourists. (BOTTOM) The guide, with lit torch ready, prepares to ascend Grand Gallery, while cameraman Gunn films scene.

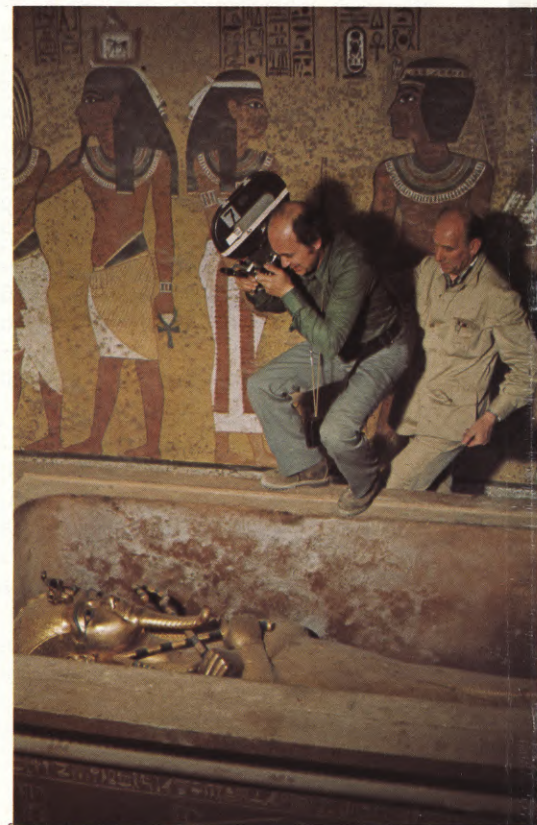


Again, we could not use generators or cables or days to prepare, so Andre and the crew made good, limited use of Sun-Guns to provide the light as needed.

We wanted to shoot in the mid-to-late afternoon to get good shots in daylight, as well as some beauty shots at sunset. After we arrived, however, we were informed that a security policeman would have to be in the plane, *unless* we wanted to give our film to the security police when we landed for them to "check" overnight. I wanted to know why they wanted the film, especially since they could *not* process it—there was no processor in Cairo that could handle 7252. I assumed their definition of "check" would be to open it. What else would they do with it? And why were we told this now? The Army Security people merely restated that if the security officer was *not* on the plane, we would have to give him the film. Fearing that if we gave up the film, we would probably not see it again, I said, "Alright, we'll take the security officer with us." That meant that one of us could not go. The plane only holds four. Andre and Joop agreed that Joop did not need to go. Andre was entirely set up, having done this many times before. So, the pilot, Andre, the security officer and I started out to the plane. However, another security officer, this one stationed at the door to the runway, would not let us out of the airport to get in the plane. Through interpreters I tried to find out why. It was explained to us that our security officer, the one who had to be on our plane, had not been cleared on our permit to get in our plane. I tried to ask why this was going on and what had we done to them to make them give us such problems. We had just been informed that the security officer *had* to be with us. How could I have submitted his name on the permit if I was just told that he had to be with us? And from the security officer at the door, I received a common answer in Cairo, "It's not my problem."

Finally, through frantic rushing around, which must have helped, we got into the air. Up we went—pilot, Andre, myself and our smiling security officer, who seemed oblivious to our problems. By the time we got to the pyramids, it was almost 4:30 and very hazy. We barely had time to get shots. We did shoot one roll of 7252 and part of a roll of 7242 and then had to head back to the airport.

When we landed, most of the private section of the airport was deserted. The other security people had gone home, as had the people from the airplane company. After unloading the film and breaking down the equipment, the security officer then told us (in Arabic, with our French pilot serving as interpreter) that



(TOP) A closeup of the young Pharaoh's intricately carved and painted coffin. His mummy lies inside. (BOTTOM) Cameraman Gunn stands on the lip of King Tut's sarcophagus in order to shoot from the best angle.

he was taking the two rolls of film with him and that we would have them back in the morning. I threw my hands in the air, argued, pleaded, and threatened in order to not let the film out of our grasp. It did no good. Apparently he had not heard why he was with us in the first place. I briefly thought of giving them the choice of tak-

ing me to jail or letting us keep the film—that I would not voluntarily give it up—but I knew that the next day we had to make film interviews that were vital, so I chanced that we would get the film back. No one would explain why we had been told if the officer were with us, we could have the film, and, even though he had been with us, he was still demanding it. Even with countless calls and government officials screaming at the Army Security Police officials for days afterwards, we have to *this day* never seen that film. What they did, are doing, or will do with exposed film that cannot be processed in Egypt, I don't know.

Another challenge was to film in the tomb of the most famous of all the Pharaohs buried in the Valley, King Tut. The tomb itself is very, very small, so we didn't have to light a large area. Having been there during that week before the crew arrived, I knew what we would want. The stone sarcophagus itself is covered with a large inch-thick plate glass cover which is held in place by a surrounding wooden frame that is screwed to an outer frame. We made arrangements with the inspector of the tombs to remove the wooden frame and then lift off the glass. We had to agree that if the glass was broken during any of the work, we would replace it at a cost of \$200. Ten workmen were called in, and after about an hour, the glass was finally removed, and King Tut, who is inside the body-shaped, gold-sheeted wooden coffin, was ready to be filmed. No problem of reflection off the glass for us.

Andre, being an excellent documentary cameraman, knows that sometimes it's better to just do something, rather than ask permission. So he jumped up on the edge of the sarcophagus, which is about three inches wide, and started to move around in order to film the best angles of King Tut himself. You could hear the gasps of the workmen and feel their tension as they saw this man with a heavy camera on his shoulder tight-rope walking on the edge of the sarcophagus.

Andre's assistant, Joop, stood behind Andre holding his belt from the rear so that in case Andre started to slip, Joop could yank him backwards, rather than allow either Andre or the camera to fall into the sarcophagus. King Tut is covered with one-eighth-inch-thick wood that is three thousand years old, covered with that thin gold sheeting. It was very quiet as we got the shots that we needed. When we finished, the workmen and inspector smiled with relief and then replaced the glass cover and re-screwed the wooden frame. Voices once again filled the tomb.

We left the Valley of the Kings and flew back to Cairo. Bill had to return to the United States to prepare for more filming in Boston and New York where he would interview more scientists and Egyptologists. But the main crew and I remained in Cairo to finish the filming of tourists around the Great Pyramid and excavations in areas around Cairo.

And there was that most important subject—the aerial shots of the Great Pyramid. We found out why there had been none before. It was simply that because of military security, no one has been allowed to fly around the Cairo area. However, shortly before we arrived in Egypt, a private airplane company had been granted permits to fly people such as ourselves to film the pyramids.

Magda had made arrangements for us to make the aerial shots. We decided to use a four-seat Cessna 172. So there would be the pilot, director, cameraman, and assistant cameraman. Weeks before we had had to submit names and passport numbers of the people to be in the plane. We had arranged for the Cessna to have the passenger door removed so that the cameraman would get an unobstructed view. We originally had tried to get a helicopter, but there were none available, other than the Egyptian Army helicopters. They cost a thousand dollars an hour and have been known to be unreliable. We planned to fly from 3:30 to 5:30 in the afternoon, so we arrived at the airport at 2:30.

There was no chance for the Dutch crew or myself to try to get the aerials

again before we had to leave Egypt, so I made arrangements with Magda to use an Egyptian crew to shoot them in late January after I was gone. This was accomplished and we had the new two rolls of film couriered to us at the Wolper offices in Los Angeles. After giving this film to CFI for processing, the lab called and told us that an entire roll had periodic torn sprockets (apparently caused by the camera jamming) and there was no way to process the film—that it wouldn't make it through the machine. Not willing to give up yet (those aerials were getting to be a mania for me), we called Eastman-Kodak and arranged for them to take the film and have someone go through it in a dark room and cut out all the torn sprockets. I realized this could ruin some shots, but decided it was better to try this than throw out the entire roll. As it turned out, we only lost the tail of about four shots, and most of the roll was saved. The persistence and the gamble to have Eastman chop out unexposed film paid off. The aerials we did use in the show are from that roll.

Those were most of the challenges and problems we had in shooting the film during four weeks in Egypt. All in all, the people in Egypt (other than the Army Security Police) were most helpful and extremely pleasant. And the country itself is a magnificent area of historical and cultural fascination. Someday I hope to return when I can spend more time enjoying the past history and present activities, rather than making sure a schedule is being met. ■

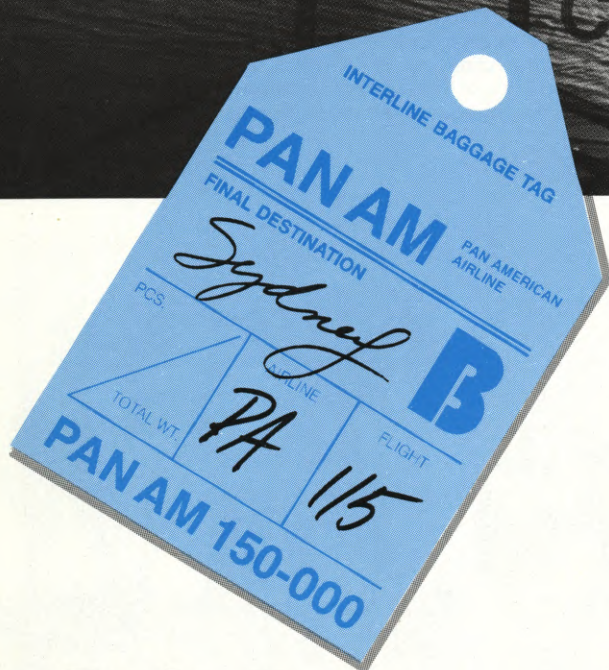
The crew poses in the Egyptian desert. (Left to right) Soundman Dick Rector, Assistant cameraman Joop Janssen, Writer/producer Bill Kronick, Production manager Magda El Sanga, Assistant and interpreter Rick Romano and cameraman Andre Gunn. Except for key personnel, local crews were engaged to shoot on the far-flung locations around the world.



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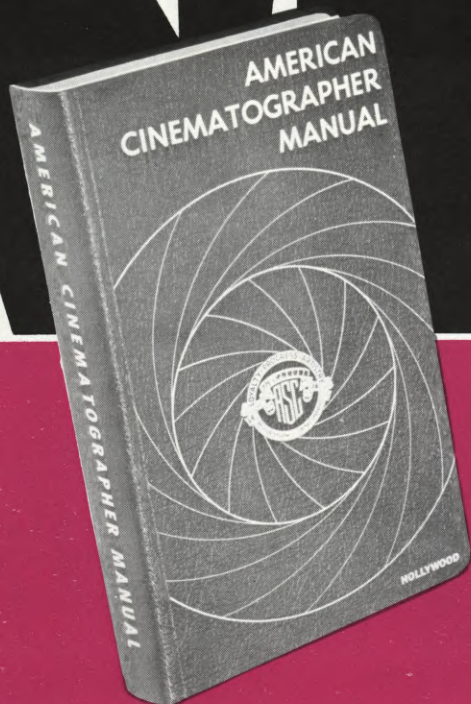
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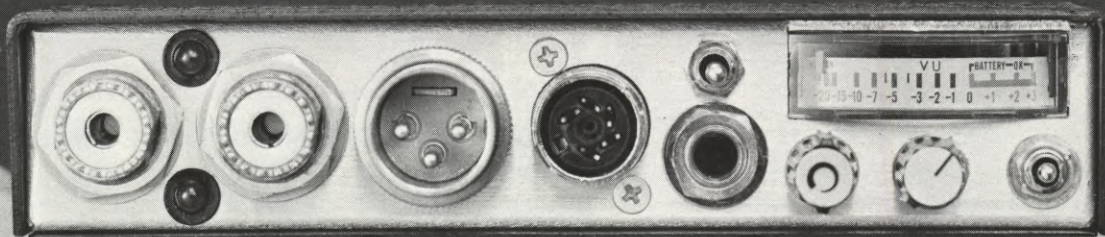
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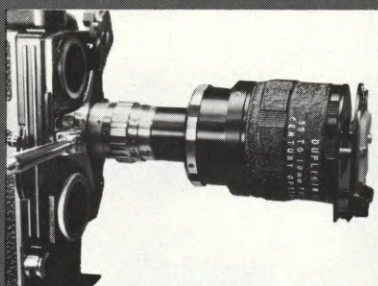
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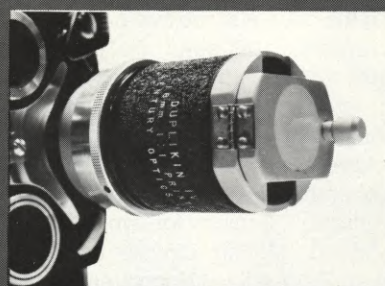
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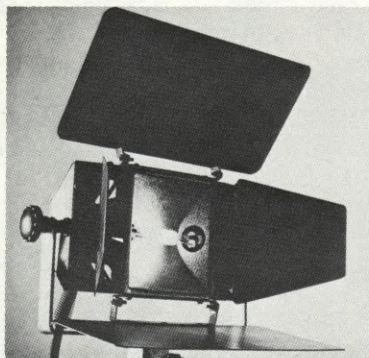
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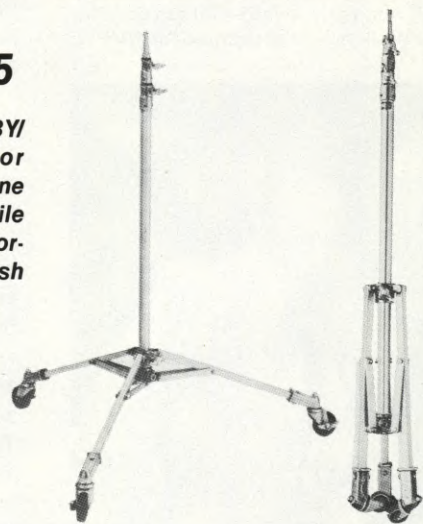
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THE 119th SMPTE CONFERENCE
Continued from Page 1283

tinguished Director of Photography and active in the motion picture industry for more than 50 years."

During the course of the five-day technical program, 106 separate papers were presented in the following categories: Interfaces (Film/Television), New Equipment and Processes in Motion Pictures, New Products in Television, Laboratory Practices, Television Post Production, Ecology for Labs, Television Sound, Motion Picture Sound, Television Production, Unconventional Imaging Systems, Corporate Uses of Motion Picture and Television Production, Motion Picture Production Techniques and New Television Technology.

It would appear from the above roster of sessions that motion pictures and television were about equally represented, but in actual practice considerably more time and attention were accorded video subjects than motion picture subjects. Clearly this was not the fault of the SMPTE (nor is the program meant to be a tug-of-war or popularity contest between the two media), but it would seem to this observer that representatives of the film medium had short-changed their own subject. With the exception of David Samuelson's fascinating "Survey of Current Film Production Techniques, 1977" (an expanded repeat of his recent *FILM '77* presentation in London), the papers devoted to motion

Among those receiving Special Commendation Awards was A.S.C. past president Lester Shorr, honored for his contributions to motion picture technology. He is shown here with Academy Award-winning director William Friedkin, who presented the SMPTE awards.



The Keynote Speaker at the Get-Together Luncheon was George Stevens, Jr., Director of the American Film Institute, who talked about the A.F.I. archival program for the preservation of American film art and the Institute's Advanced Film Studies program. At left is SMPTE President William D. Hedden; at right, Executive Vice President Robert M. Smith.

picture techniques and technology were a lacklustre lot. Moreover, several in the category which sounded interesting, as listed in the program, were not presented at all.

For example, John Alonzo, ASC, could not be present to read his paper entitled "Underexposure and Force Processing", so it never got read. The paper entitled "Post Flashing, A Simple Method of Contrast Control", by Howard Schwartz, ASC, *did* get read, but not by Mr. Schwartz, who was detained elsewhere by professional duties. The gentleman who read it did his best, but the paper lost something in the translation. A paper promised in the program and entitled: "Front and Rear Projection" by A.S.C. Associate Member William Hansard was not heard at all—a definite disappointment to many who attended specifically to hear this critical subject discussed.

Fortunately, the session entitled "Motion Picture Sound" fared somewhat better. For one thing, it was held in the plush Samuel Goldwyn Theater of the Academy of Motion Picture Arts and Sciences, acknowledged to be the most technically advanced motion picture auditorium in the world. For another, several of the papers added up to a quantum jump in the quality of motion picture sound as *presented in theaters*, long a source of frustration not only to those who work so hard to get excellent sound onto original tracks, but also those who are used to hearing high-fidelity sound in the home.

The paper entitled "Two-Language Photographic Soundtracks", by Ronald E. Uhlig, dealt with the latest refinements

in recording two different optical sound tracks on the same release print—and doing it in a relatively inexpensive manner.

"Dolby-Encoded Soundtracks: A Progress Report" provided an update on the superlative sound system first demonstrated in-depth at *FILM '75* in London—with the latest degree of excellence represented by the stunning track for "STAR WARS".

"Compatible Four-Channel Optical Sound for Motion Pictures", by Terry Beard (Nuoptix Associates, Inc.) and Fred Hynes and G.B. Wren (Todd-AO) dealt with the Nuoptix four-channel sound system, which records four discrete variable area tracks within the standard 76 mil. wide optical sound track area. The tracks are directly monaural-compatible and, thus, can be played back on a standard optical head.

Four separate papers were devoted to various elements of "The Colortek Optical Stereophonic Sound Film System", which is a high-quality sound system that consists of four separate and discrete audio tracks and a control track within the area assigned to the present monophonic variable area and variable density sound track. While the track may be reproduced on all standard projectors equipped with optical sound heads, it is recommended that the reproducing electronics be modified to accept this format correctly. The addition of a narrow control track "enables the stereophonic reproducer to be properly aligned automatically, as well as permitting control of the theater and special effects from the

Continued on Page 1313



"THE TURNING POINT"
Continued from Page 1255

"SWAN LAKE" is basically a cold number. Much of it takes place at the lake, with everything blue—and blue is one of the least intense colors we have. Green is a terrible color to pick up, too. There are even times when you can lose some of the red, because of the difference in Kelvin and exposure. The filters they use on stage lights are about the same as we use on motion picture lights—a little different, but not much. Even so, you've got to be very careful, because you can run into terrible exposure problems that will keep you awake nights. Several effects required a lot of colored lights—reds, oranges, ambers, or whatever the art director would dream up. In such cases, the men would have to drop all those hundreds of lights, put colored gels on, and pull them back up. We tried to make changes like that on weekends or during meal periods. For major sequences I tried to set the lights three or four days in advance, just as I had to do on the Barbra Streisand film, "A STAR IS BORN".

QUESTION: Was there any significant difference in the time it took to rig the stage lighting, as compared to lighting in the studio?

SURTEES: Actually, it went much faster. In the theater we set things up just as they would be for a performance, with five or six backings hanging from one overhead pipe and we'd go from one ballet into another. It would take only 15 or 20 minutes to make the change. Now, if we'd been shooting the same thing in the studio, we'd have had to have parallels built and it would have been a tremendous undertaking. To build such parallels in a theater overnight would have been impossible, too. But with the theatrical type of lighting, we were able to do it and even have two or three other scenes set in advance. For example, in shooting the "SWAN LAKE" ballet, we would finish one act, drop the new backings from the pipes up above, make a few adjustments, and be ready to go again within 20 minutes. The theatrical lights stayed almost constant—whereas, if we'd been shooting in the studio, we would have had to adjust the whole thing again. The big worry, as I said before, was never knowing if we'd have enough light to get it onto the film. Once or twice we got a little low and a couple of times it was too high, but there was never anything that had to be retaken.

QUESTION: How much did the spot-

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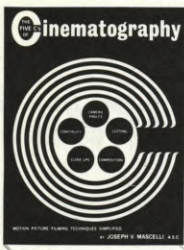
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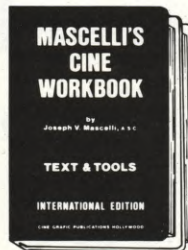
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lights help in maintaining adequate exposure?

SURTEES: The ones we used in New York didn't help much, although the ones we had in Hollywood were much better. The problem with theatrical spotlights is that you can't pull them down to make them hotter. The distance from the stage determines how bright they are. In the theater it isn't necessary to have lights that flood out or get hotter. All they have to have is enough light to get a spotlight effect—but that might not be one-third as much light as you would need to get an image onto motion picture film. According to the theater people, I was way high in intensity, but I had only 75 footcandles. That's pretty low—an f/2 stop.

QUESTION: Did you have to force-develop any of the footage?

SURTEES: From time to time, when I'd get a bit worried, I'd send some stuff to be pushed. One day we got a call from the lab telling us that in one scene, when the head dancer went to the back of the set (where there was a building as part of the scenery), he just disappeared. You couldn't see him at all. We were going to retake the scene, but first I called Otto Paoloni, who is the head of the Technicolor lab in New York (and just about the best lab man in the world), and had him take a look at it. To further complicate matters, I had a fog effect in the scene and the fog completely covered the dancer. Anyway, Otto took the film and pushed the hell out of it in the printing. He kept going as far as he could go, and it turned out to be one of the best shots in the picture. There's not a bit of fog and the dancer's completely in the clear back there. I've never met another lab man like Otto. Night and day he's right in there watching over your footage.

QUESTION: In regard to the fog effect that you mentioned, what kind of diffusion did you use on this picture?

SURTEES: Before the picture started shooting, we experimented with all kinds of diffusion, because I wanted to set what we were going to use to get the effects that we wanted. I tried everything—fog filters, even Saran Wrap—but we ended up shooting the picture with a #2 Fog. That was just enough and not too much. Actually, I see so many fog filters used in TV commercials that I'm allergic to them. But the #2 Fog was not too much and seemed to be in key with the subject matter. The effect of filters

like that can be helped if you put a lot of contrast into your lighting. If you fill the shadow side, you're in trouble. I learned that in working on "THE SUMMER OF '42". I shot that whole picture with a #4 Fog, but worked in high contrast, and it helped.

QUESTION: Aside from the ballets, what were some of the other location sequences which you shot?

SURTEES: As you know, we used the dancers from the American Ballet Theatre and we shot several sequences in the actual school which they maintain in New York for kids from about 10 years on up. Then we shot the big fight sequence between Shirley MacLaine and Anne Bancroft at Century City in Los Angeles. It was a night sequence, very low-key and contrasty, and was supposed to be taking place in New York down around the Trade Center. We would have actually shot it in New York, but it turned out to be just impossible to shoot there at night.

QUESTION: It's a well-known fact that despite your long career in the motion picture industry you claim to learn something new from each successive assignment. What did you learn from photographing "THE TURNING POINT"?

SURTEES: Well, one thing I learned from photographing the picture was how to appreciate ballet more—what's good and what isn't. There's so much to it that it would have been impossible to make such a film without a director like Herb Ross, who knows ballet. Having been a choreographer, he knows what part of the action is best to shoot and just what the music will do. It was a tremendous undertaking by Ross. I learned also that ballet people are the hardest working people in show business; there's no doubt about that. Those kids are out there working at seven in the morning and they're still going at seven that night—and for very little pay. I was tremendously impressed by those young people and I admire them so much. They were such nice kids—not a bad one in the whole gang of them—a little different from Hollywood. They are so attracted to what they are doing that they would do it for nothing. ■

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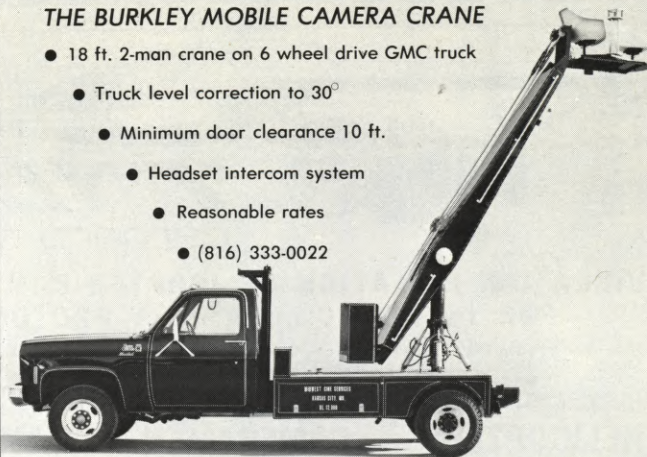
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would turn all the rest of my lighting slightly cold. This worked very effectively, to the point of giving the illusion of these people walking around lighted only by the lamps they were carrying.

The director and I wanted to have only the minimum amount of equipment to move around, so we decided not to use the zoom lens inside at all. I chose a set of high-speed lenses, including a 55mm T/1.1, that were very useful for this job. The key light for most of the interiors was 25 footcandles, and sometimes as low as 8 footcandles. I used dimmers extensively to create the effect of the light coming and going as the actors went through the caves.

At a certain moment in the story, the actors arrive at what is called in the novel "inside the Earth Sea". This Sea is lighted by a strange electrical phenomenon delivering a yellow-greenish type of effect. To achieve this special photographic mood, I used black and white filters instead of the 85. I also added gauze and low-contrast filters. This combination gave me a nice sort of dawn effect.

The film has three totally different photographic styles within it: in the beginning, while the characters prepare for the trip and get to Mount Sneffels in Iceland, it is naturalistic; inside the earth, also naturalistic, until they arrive at the interior Sea where we create a special mood with the black and white filters that I mentioned before. At the end, when they come out through Stromboli in eruption, I gave it a cold, bluish sunset effect. This last part we shot in Lanzarote, Canary Islands, which has a volcanic landscape of great beauty.

The descent through the crater of Mount Sneffels began in Lanzarote; then we had to continue in the big caves, then Madrid on location, and also the studio. To give continuity to these scenes was a task difficult to achieve, but I managed to make it look as though it all had been shot in one place.

One special difficulty that I had some fun with was when I had to reproduce in the studio some miniature work with the same special photographic mood that I had created in the "interior sea" sequence with the black and white filters. Consulting the laboratory, I found out that they could not reproduce the same effect with their printing filters, so I decided to do it in the camera. We had to shoot at 96 f.p.s., and to be able to use the same filter in the camera that I had used in the exteriors, I needed to have daylight in the set. Arcs would have been



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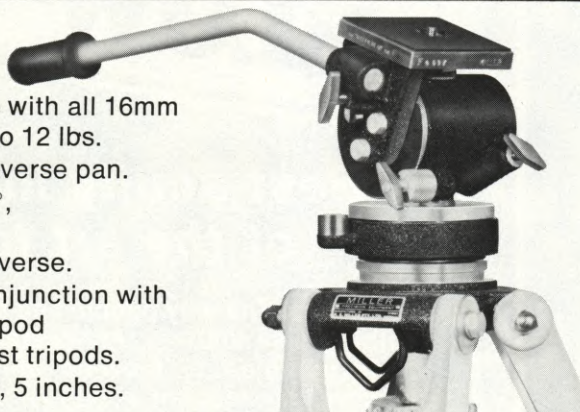
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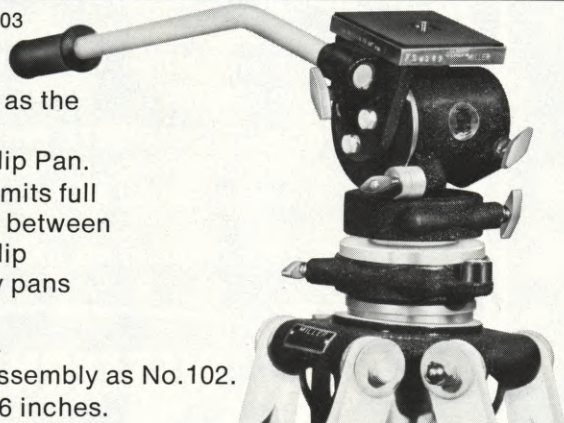
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too messy to work with, so I decided to use lanairo HMI units, which gave me the right type of color temperature with no gelatines, no smoke, little weight, and perfect control.

I also had the experience of shooting blue backing with the front projection system. This happened while we were in the Canary Islands. Kenneth More, the principal actor, was leaving soon to start another film in Canada, and had first to be in some trick shots that we had thought of doing in front projection. The plates that came back from Madrid were not good enough, so I decided to use the front projection system as a blue-backing screen. I achieved this simply by projecting enough blue light onto the screen. After some tests, we achieved success with it.

I had worked with Franz Planer, ASC, and Milton Krasner, ASC, (both in "KING OF KINGS"), Robert Krasner, BSC, ("EL CID"), Freddie Young, BSC, ("DR. ZHIVAGO"), "NICHOLAS & ALEXANDRA") and, naturally, with my father in many films. But in the summer of 1975 I met Gordon Willis, ASC, in California. He was then shooting "ALL THE PRESIDENT'S MEN". Not too long before that I had seen "GODFATHER II", which I thought had outstanding photography, so I was really pleased to meet him. He told me something that changed my way of thinking about photography: "See what you're looking at. When you get on a location, don't remanipulate it; keep it natural." I think I've learned that lesson. Now I really try to shoot with God's light, only helping it enough to be able to film.

I hope that I've achieved in "FABULOUS JOURNEY . . ." a natural feeling of light, as a contrast to the fantastic story that is being told, and that people who are my professional masters—my father, Stanley Cortez and Gordon Willis—will not be disappointed with the result. ■

(ABOUT THE AUTHOR: Andres Berenguer was born in Barcelona, Spain in 1944 . . . Studied cinematography in the Madrid Official School of the Cinema.

Assistant Cameraman on Samuel Bronston's KING OF KINGS, EL CID, 55 DAYS AT PEKING, CIRCUS WORLD and FALL OF THE ROMAN EMPIRE.

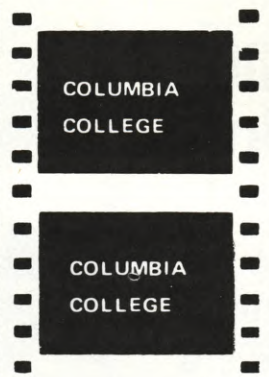
Camera Operator on THE THIN RED LINE, THE WHITE SAVAGES, and others.

Director of Photography (Second Unit): SAVAGE PAMPAS, SIMON BOLIVAR, CRIMES OF THE RUE MORGUE, RAIN FOR A DUSTY SUMMER.

Three years with his own company producing and photographing television commercials.

Director of Photography: THE FABULOUS JOURNEY TO THE CENTER OF THE EARTH (1976), STORM (1977).

Son of Manuel Berenguer, ASC—worked in many of his father's films in addition to those listed above.)



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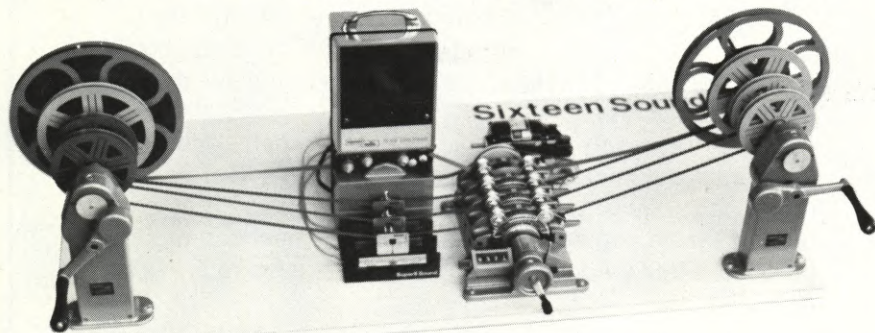
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BOLEX 521 16mm PROJECTOR Continued from Page 1278

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The Bolex 521 projector has a diecast aluminum body.

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The Bolex 521 requires little servicing. Lubricant reservoirs allow more than 500 hours of operation.

Suggested list price for the Bolex 521, with the 50mm f/1.3 lens, is \$3,039; with the 35-65mm f/1.6 zoom lens, it is \$3,175. ■

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General

High quality film projector equipped for magnetic recording and optical and magnetic playback of 16mm film

• Aluminium die-cast body; lid with built-in

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- Dimensions are 480mm (19.5 inches) front-to-back, 380mm (14.75 inches) high, 240mm (9.5 inches) wide—excluding handle
- Weight is approximately 40 pounds

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Mechanical system

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- Electromagnetically controlled shutter can be switched from two to three-blade operation
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Halogen lamp 24 V/250 W with built-in dichroic mirror

Choice of three lenses with milled knob focusing: 50mm f/1.3, 70mm f/1.6, 35-65mm zoom f/1.6

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Sound system

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- Halogen lamp 24 V/250 W with built-in dichroic mirror
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- Power cord
- Microphone
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- Earphones

Optional Accessories

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(TO BE CONTINUED)

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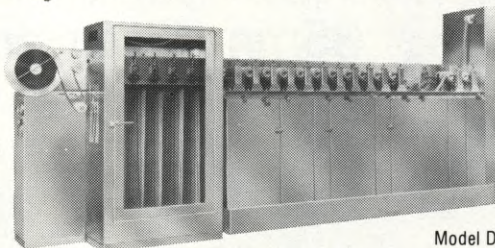
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In 16mm, both tape edges are on the frame line. Workprints look cleaner. On TV news footage, the splice is effectively invisible at 24 frames per second.

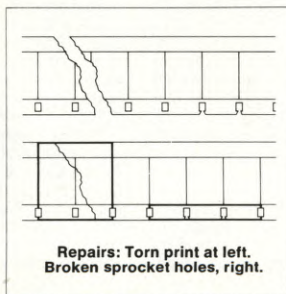
No frame loss

If you change the cut, there's no frame lost, of course. And since you made the original cut on the CIRO's block, ends match exactly.

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Broken sprocket-holes can be rebuilt with no tape in the image

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Repairs: Torn print at left. Broken sprocket holes, right.

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increases it from about 72/1000 inch to 75/1000 inch! (Horizontal editing machines let you use tape on one side only.) CIRO splices run through projectors smoothly.

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CIRO

NEW "SOUND 360" SYSTEM
Continued from Page 1257

small boat in a violent sea—and I was in that boat, totally.

I was like a kid with a brand new toy. I pinned Ted down immediately. Could he mix an entire film using this technique? He gave me a qualified yes, depending upon the results of a more sophisticated test of some edited film. I told him to hang tight; I'd be back.

Later that day I spoke with Alan Ladd, Jr. and told him I thought we had the sound for "DAMNATION ALLEY". Not something already heard by audiences, but totally new, a potential Fox trademarked system. But I needed to spend some money to fully test it with a cut sequence from the film. He said, "If you think it can be made to work, do it." The test was an overwhelming success. Laddie okayed it to be used on the film. Marketing set up an operation to have theaters equipped with the proper speakers and "Sound 360" was born.

So many people are involved with the ultimate development of any new concept in film and "Sound 360" is certainly no exception.

Those involved in the project included Ted Soderberg, Douglas Williams and Paul Wells, the mixers who spent long hours working out the technique for spreading and blending the sounds, as well as the music, the score, composed specifically to take full advantage of the system, by Jerry Goldsmith, who said he had never before heard his music sound as real. Others who contributed were: Don Hall, then the head of our Sound Effects Editing who laid out the routine for building the tracks; Len Engle, head of Music Editing, and the staff of the Twentieth Century-Fox Sound Department: Derek Toney, Jim Thompson and Henry Fracker, whose engineering skills made all of the right sounds go through the right wires and come out of the right speakers. All were major contributors to its ultimate completion.

"Sound 360" creates a unique audience experience and is planned to be used in many upcoming Fox releases. ■

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film to enhance its entertainment value."

An especially fascinating aspect of the demonstration was the screening of the earthquake sequence from MGM's "SAN FRANCISCO" (1936), with the sound track reproduced by means of the Color-tek system. The 40-year-old track was presented with a degree of stunning high-fidelity that could only be dreamed of when the picture was originally released. Especially impressive was the profound low-frequency vibration effect, startlingly similar to that of the very modern Sensurround system.

Earlier on I mentioned that there were a couple of other aspects of the 119th SMPTE Conference which disturbed me. One of these had to do with the fact that there were quite a few papers of such rarefied technical subject content that they were comprehensible only to scientists on the Einstein level. It is certainly not suggested that such papers be omitted from the program. Also, according to the principles of democracy, it sounds good to say that all papers should be accorded the same conditions of presentation, but it was a bit bizarre to see a theater designed to hold 1,800 people, with only five people comprising the audience. It would seem to me that such papers would be more effectively presented in smaller conference rooms where question-and-answer discussions could more readily be encouraged.

Even more disturbing—and I can imagine no excuse for such a lapse—was the lack of timekeeping discipline in several of the sessions. Speakers were permitted to drone on and on, sometimes running a session so late that the last few scheduled speakers found themselves playing to an empty house. In the technical conferences held biennially in London (and, indeed, in past SMPTE Conferences), a rigid timing schedule has been maintained—without hurting anyone's feelings. Why not this time?

It should be emphasized that any criticisms made here, stated or implied, are offered in a purely constructive spirit—nor are they to be construed as, in any way, denigrating the efforts of the many conscientious committee people who worked so hard to make the 119th Conference the undeniable success that it was. It's just that the SMPTE is such an important society that no compromises with excellence should be allowed to mar its annual gatherings.

Or to put it another way—paraphrasing the title of a famous recent book—when it comes to the SMPTE, "Why Not the Best?" ■

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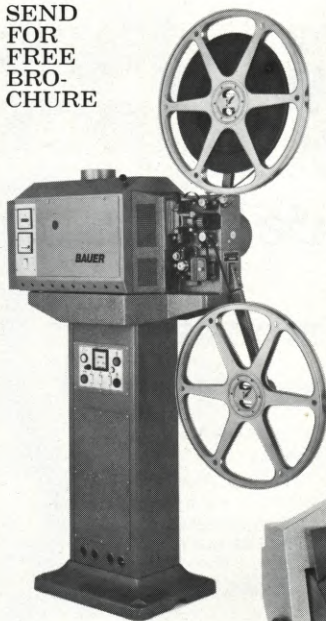
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THE FILMING OF "BOBBY" Continued from Page 1281

side track while another, and then yet another arrived, full of impatient commuters, and emptied onto the platform where we were shooting. So instead of shooting in a relatively calm atmosphere, the final takes turned into performances before a crowd of hundreds of tired Parisians.

The aerial Metro sequence presented a different problem. The R.A.T.P. let us take over an entire car on a train for several hours. We set up our equipment and rode the complete circuit several times to get the necessary footage. I had to anticipate the background that would appear behind the actors for each take so that it would match in the continuity of the sequence. We used only one portable light, balanced for daylight, and the 85B filter on the lens.

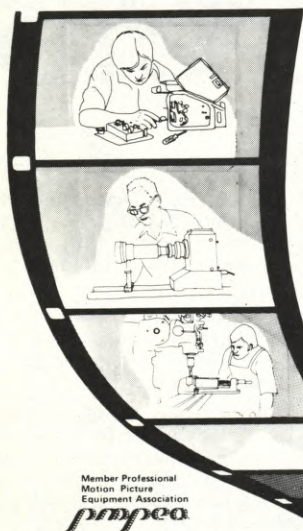
In the sequence set in a small workmen's bar, we set up 1K quartz lamps on two polecats and reflected them off white styrofoam cards, taped to the ceiling. This lighting set-up gave a soft general fill appropriate to the dingy, smoky atmosphere, and gave the crew more freedom to move about in the confined bar area.

The only interior scene that had to be balanced for daylight was the Cheese Shop (a scene that did not appear in the finished film, due to considerations of pace and rhythm). The entire front of the shop was glass, and the shop did not extend very far from the window; the principal ambient light was daylight. We used three 1K lights on stands, balanced with dichroic filters, to illuminate the scene. We had to use the lights sparingly to avoid the risk of damaging the cheese.

In the underground ovens of the bakery, we faced heat, perspiration, and severe time pressure. We lit, shot, and wrapped the scene in under an hour—including the sampling of a fresh "*tarte aux pommes*" by everyone.

C.T.M. Laboratory gave me excellent service. They did spectroscopic tests of the film stock before production began, and printed high-quality color work prints overnight so that we were able to view the rushes during production. I worked in close collaboration with the timer to achieve the warm, saturated color effect that I had been working for.

The cast was composed of both professional and novice actors. I met Beatrice Saint-Marc (Michele) at Cours Simon, her acting school, after having visited several workshops and casting agencies. The role of Bobby was the toughest to cast. I needed a young adolescent American boy with courage, confidence, energy, a sense of humor,



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and a certain fluency in the French language. I found Bill Williams in a bi-lingual secondary school at recess in a park.

During the period of pre-production, I spent considerable time with the young leads in order to facilitate the development of a real relationship between them. I felt that the story relied upon the believability of their relationship. We all enjoyed the rehearsals, and got to be good friends.

The familiarity we established proved invaluable during the intense shooting schedule when we were all pushed to our limits.

I edited the film on several different Atlas editing tables, and completed the post-production of the film in Paris. I worked as Assistant on "THE TENANT" (directed by Roman Polanski) as part of my study that year, and received valuable help from the film's sound mixer, Jean-Pierre Ruh, in terms of sound transfers and music recording.

The experience of making a film in another country gave me a new perspective on film-making, and a confidence that I could adapt my knowledge to a different system of production. I am very grateful to the cast and crew for the time and energy they devoted, as well as all the people who believed in the project and contributed in some way to making the film possible.

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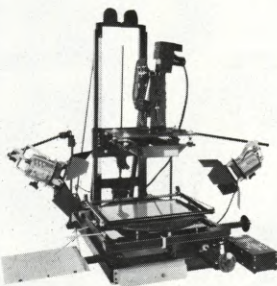
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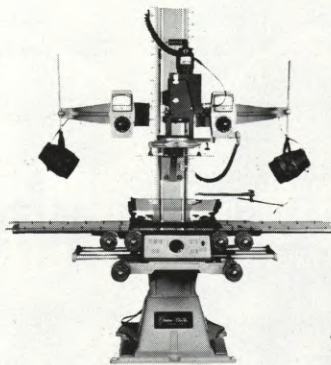
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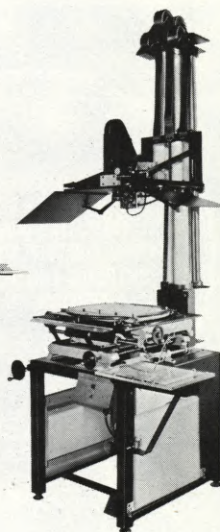
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PMPEA "HANDS-ON" SEMINAR
Continued from Page 1285

"ALL THE PRESIDENT'S MEN". He is also well known for his sound work with Robert Altman—most specifically on "NASHVILLE". Webb described the technique of multi-track location recording, which he has used extensively on Altman's films. This process involves using a multi-track one-inch 8-channel recorder fed by a 16-input mixer. The mixer can be fed by up to 15 wireless microphones. Thus, each actor in the scene can have complete freedom of movement and the location recordist need not have to mix on the spot. By keeping each voice in a separate track, the soundman and director retain the option of altering the mix right up to the final fine cut. Webb showed several slides of the hardware involved, including a special tape recorder and a highly modified mixer. In addition to the specific technical aspects of multi-track recording, he also discussed the aesthetic ramifications, such as reduced "perspective."

At this point the seminar recessed for a short coffee break and, from the conversation, it was apparent that the audience had gained considerable knowledge on the subject of sound recording.

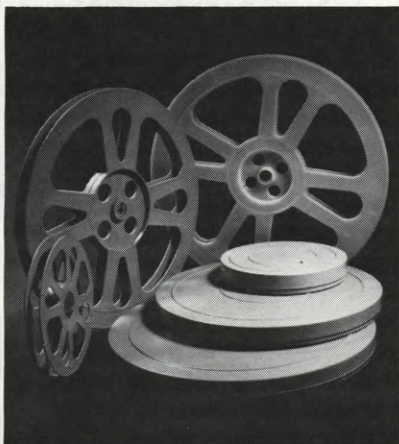
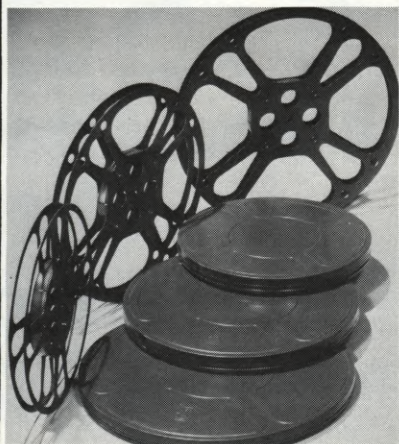
After the break, the seminar continued with the last guest, Garrett Brown. The Steadicam has to be one of the most intriguing devices to be released to the motion picture community in recent years. Combining the appeal of this apparatus with the charming and eloquent wit of its inventor, Garrett Brown, produced a most informative and entertaining session. Garrett reviewed the many spectacular aspects of the Steadicam, but stressed the more subtle and less dazzling applications of his invention. In many instances the Steadicam can be used as a "hand-held tripod". In the classic tripod shot, action is prearranged and the tripod and camera carefully placed. All this takes time and, in many cases, the actors fail to hit their marks exactly and the scene has to be re-shot. By employing the Steadicam, the action need be only loosely outlined and the camera (and Steadicam) can be moved slightly during the shot to provide the precise composition desired.

Many other examples were cited and Garrett demonstrated several himself. Following his presentation, he was deluged with questions and requests to try out the Steadicam. More than a half hour after the seminar was officially ended, Garrett was still surrounded by a sizeable throng. I believe it is very safe to say that this year's PMPEA Seminar was once again an unqualified success. ■

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INDUSTRY ACTIVITIES Continued from Page 1240

ment to his parents that he wanted to go into theatre was, for its time, the equivalent to, as Cukor puts it, today's child announcing that he wants to be a "pusher". Fortunately for film enthusiasts the world over, Cukor persevered in his ambition. After several years of working as a stage manager and director in legitimate theatre, Cukor left New York in 1929 when, with the advent of talking pictures, he was contracted by Paramount to serve as a dialogue director. And, as Cukor says of his transition to filmmaking, "I was immediately fascinated . . . I was caught up in the whole thing—I fell in love with movies, Hollywood, the whole thing!"

The proof of this fascination lies in his more than 50 feature films which cover the full range of film experience—comedy, drama, musical, mystery, and farce. Seven of his films have been nominated for Best Picture Academy Awards. They are: BORN YESTERDAY, DAVID COPPERFIELD, GASLIGHT, LITTLE WOMEN, PHILADELPHIA STORY, ROMEO AND JULIET, and MY FAIR LADY. Five of his films, BORN YESTERDAY, A DOUBLE LIFE, LITTLE WOMEN, MY FAIR LADY, and PHILADELPHIA STORY, brought Best Director nominations to Cukor. Both Cukor and MY FAIR LADY won in 1964.

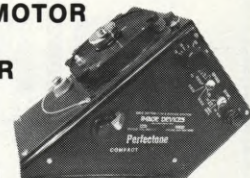
Cukor, who will be attending the March 10-12 Great Director tribute, is currently in the process of selecting the six films he feels are most representative of his career. These six will be shown at the 3-day retrospective during which Mr. Cukor will appear onstage nightly to be interviewed by Festival Director G. William Jones, and to answer questions from the audience.

Cukor is the eighth accomplished director to be honored by the USA Film Festival retrospective. Others have been George Stevens (1971), Frank Capra (1972), Raoul Walsh (1973), Joseph L. Mankiewicz (1974), William Wyler (1975), Mervyn LeRoy (1976) and King Vidor (1977).

The remaining seven days of the Festival will be devoted to the world or regional premieres of twelve feature films to be selected by critics Hollis Alpert, Judith Crist, and Arthur Knight, and one day of new animated films to be selected by producer Barbara Bryant and animator-author John Canemaker. The enormously popular USA Film Festival has traditionally played to standing-room-only audiences. Tickets for the Eighth Annual Festival will go on sale in January.

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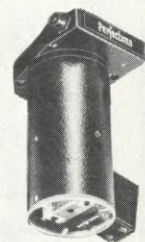
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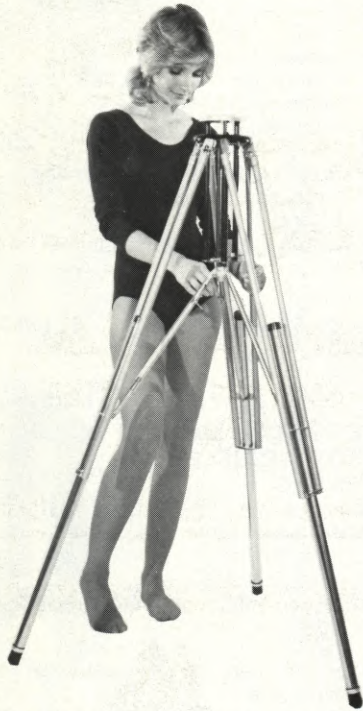
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WHAT'S NEW

Continued from Page 1224

running while the motor itself has been made more powerful to cope with large capacity (up to 1000') film loading.

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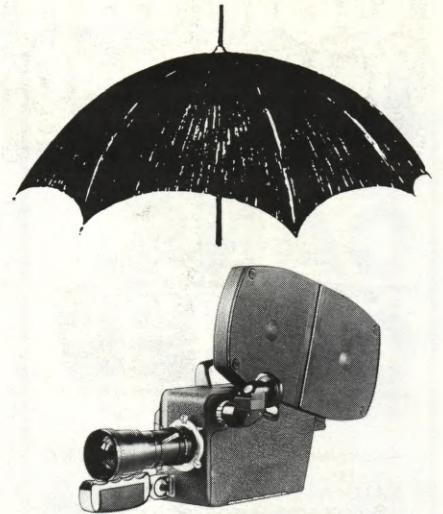
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Time coding provides an easy reference for editing sound and picture to extreme accuracy. The clapper board can now be replaced with edge frame sync marks by a press button start on the master clock.

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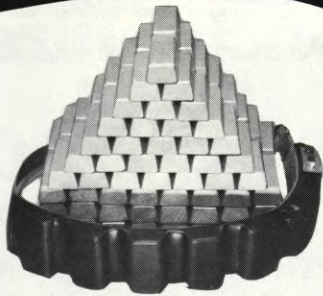
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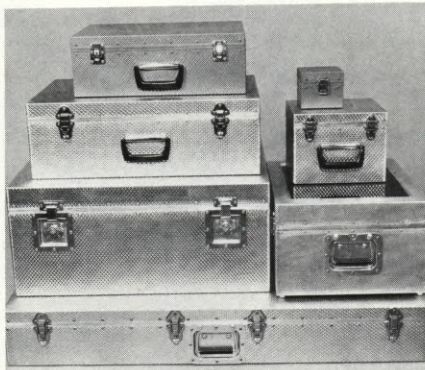
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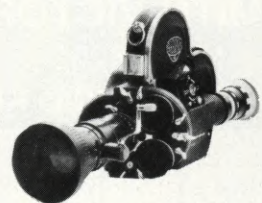
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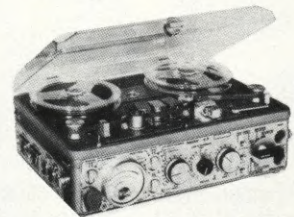
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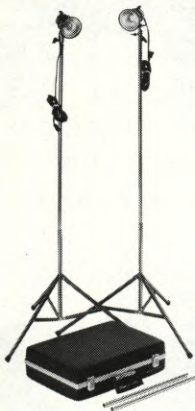
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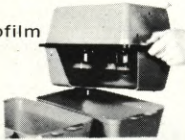
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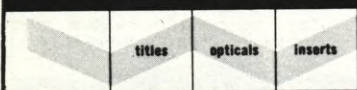
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NAGRA 4.2L recorder with QGX-time sync. QPSE-200 pre-amp, ATN-2, ALC, soft and hard cases, service manual, accessories, \$3,300. VISUALFORMS (419) 243-2181.

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ARRIFLEX "S", motor, 10, 16, 25mm Schneider; 100mm Kinoptik Achromat; new battery/charger; case; \$2450. Without lenses, \$1900. Beaulieu R-16, 17/85 Angenieux, electric handgrip, battery, charger, case, \$1295. Eclair ACL, 12/120 Angenieux, 2-200' mags, motor, 2 batteries, charger, case, \$4850. Eclair NPR, just overhauled, 9.5/95 Angenieux, 2 new type magazines, Perfectione motor, orientable finder, cases, \$9875. Kodak Cine Special I, 5 lenses, case, excellent, \$345. Bolex EBM, Vario Switar 16/100, magazine, powergrip, battery, Miller "F" ball tripod, excellent, \$3160. Several Bell & Howell Eyemos, and 70s. Arriflex BL heater Barney, \$125. Ask for used equipment list. CINEMA SALES, INC., 338 So. Pearl St., Denver, CO 80209. (303) 777-7699.

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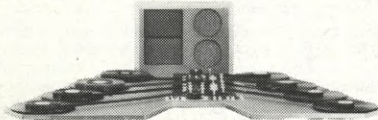
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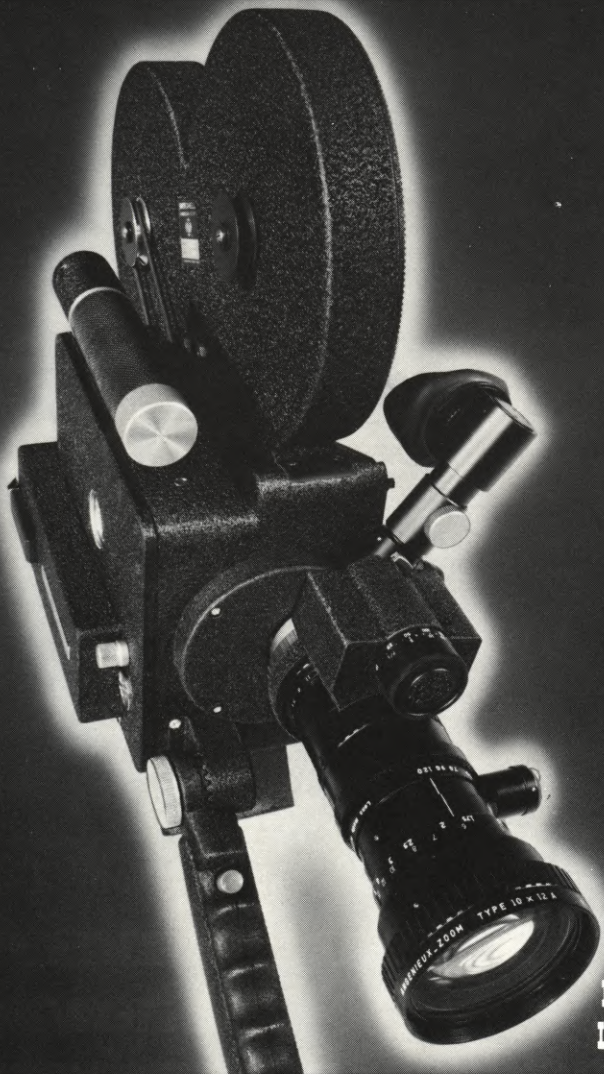
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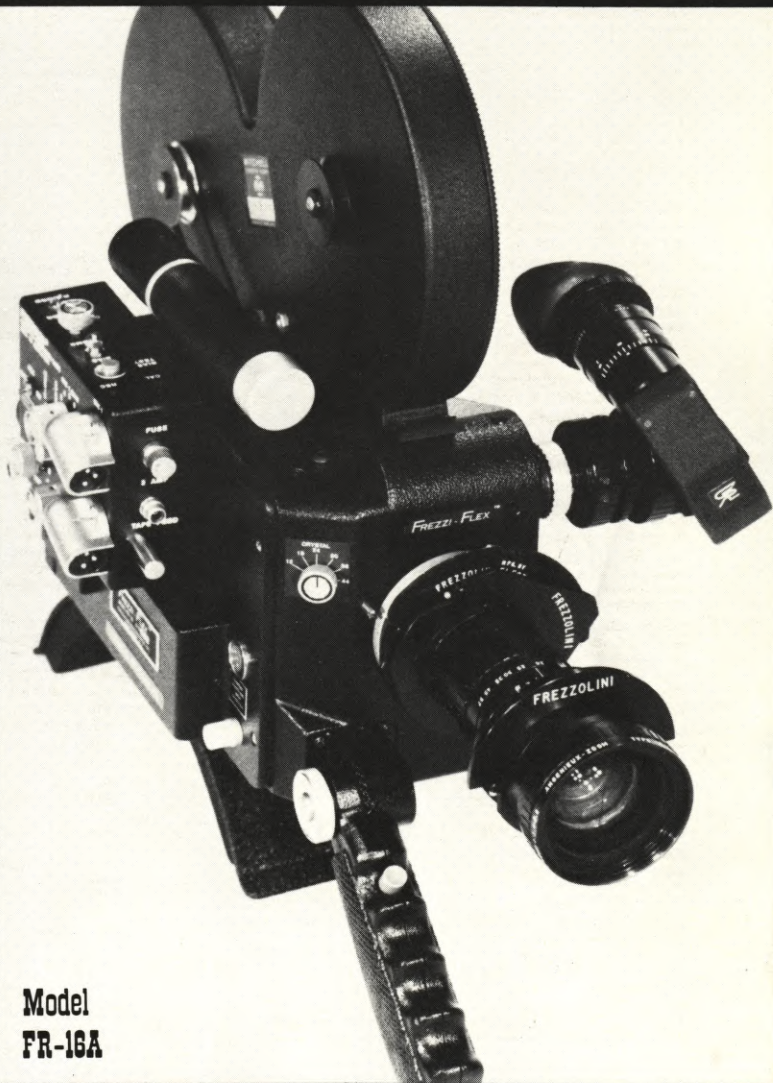
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