

“THE ARRIFLEX® STORY”

Arrange to see
this absorbing film
on your own screen

No matter whether you have been using Arriflex cameras for years or contemplating buying your first, this 32 minute color and sound 16MM film provides “inside story” information that will heighten your appreciation or resolve your interest in these sophisticated filming tools.

HOW ARE ARRIFLEX CAMERAS MADE?

“The Arri Story” takes you to West Germany on a guided tour through the ultra modern Arriflex plant. Here you witness first-hand, design and detailed manufacturing steps of these world renowned cameras from drawing board to finished product.

WHY ARE ARRIFLEX CAMERAS SO RELIABLE?

It's all in the meticulous unrelenting testing procedure before a single camera is ever checked out of the plant. “The Arriflex Story” shows you how and why more time is devoted to testing and inspection than actual fabrication. When finally you reach the final check-out test you'll understand why Arriflex cameras consistently produce ultra-sharp, rock-steady footage to the highest professional standards.

WHAT'S THE RANGE OF ARRIFLEX ASSIGNMENTS?

“The Arriflex Story” takes you literally around the world and to many of the more than 100 countries where Arriflex is the preferred camera among professional cinematographers. From Alaska to Zanzibar, on assignments as diverse as missile tracking to microbe hunting, from cinema art to newsreel, you will witness the facts that have earned Arriflex its reputation as the most versatile, most reliable professional motion picture camera in the world.

“THE ARRIFLEX STORY” is offered on loan without charge for screening anywhere in the continental U.S.A. to the following groups: Professional producers and cameramen, professional associations and affiliated chapters, institutions teaching motion picture production, Government Agencies and services concerned with motion picture production. Please request on letterhead.

ARRIFLEX CORPORATION
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257 Park Avenue South, New York, N. Y. 10010

Scientific-Technical Academy Awards Won by SMPTE Members

THREE SMPTE members, and two SMPTE sustaining member companies received Academy Awards last April from the Academy of Motion Picture Arts and Sciences for outstanding achievements.

Heading the list of winners were Petro Vlahos, System Development Corp.; Wadsworth E. Pohl, Technicolor Corp.; and Ub Iwerks, Walt Disney Productions, who together won the Class I Academy Award, a statuette, for the conception and perfection of techniques for Color Traveling Matte Composite Cinematography.

The Class II Plaque was awarded to Consolidated Film Industries' Sidney P. Solow, Edward H. Reichard, Carl W. Hauge, and Job Sanderson for the design and development of a versatile automatic 35mm composite color printer. Reichard and Hauge also won two Class III Certificates of Honorable Mention, the first for the design of the Proximity Cue Detector and its application to motion-picture printers; the second, with Leonard Sokolow, for the design and application to a motion-picture laboratory of a Stroboscopic Scene Tester for color and black-and-white film. Consolidated Film Industries is an SMPTE sustaining member, and all the above are SMPTE members.

Milton Forman, Richard Glickman and Daniel Pearlman of ColorTran Industries, an SMPTE sustaining member, won a Class III Certificate of Honorable Mention for advancements in the design and application to motion-picture photography of lighting units using quartz-iodine lamps. Forman is an SMPTE member.

The details of the technical aspects of the award-winning achievements follow.

Color Traveling Matte Composite Photography

According to Wadsworth Pohl, co-award winner, traveling mattes in color started with a patent issued to Technicolor about 1939, which described the use of a colored screen to fully expose the background of one record while leaving another record completely unexposed in the background. Since there are three records, it is obvious that there are several ways that this separation can be brought about. The present blue backing method which fully exposes the blue sensitive layer, while leaving the red sensitive layer of the negative unexposed, appears to be best suited to present Hollywood practice of using Eastman Color Negative as a color taking stock.

Pohl has been studying, since the 1940's, the problem of making mattes which can be used to combine the foreground and background action without displaying any matte line to produce the method now in use at Technicolor, which is dependent upon precise gamma and density control. Appropriate stocks must be used and all of the controls accurately followed or black lines around the foreground subjects, which were a common trademark of earlier traveling mattes, are easily produced.

While studying this problem for the Motion Picture Research Council, Petro Vlahos proposed making the yellow record

of the dupe as a synthetic record from the magenta master. The color difference matte, which is used to convert the color values of the magenta record to the color values of the blue record while eliminating the blue value of the background, is carried in the true blue record.

This has the effect of turning blues and blue spill light which may fall onto the foreground to black, which is not nearly as objectionable as blue. This method also permits the photography of transparent objects in the foreground, and foreground information such as rain, transparent water and so on, may be used.

The Walt Disney Studios, under the guidance of Ub Iwerks during this time, perfected the use of a sodium vapor lamp as a background working in conjunction with a Technicolor beamsplitter camera using Eastman Color Negative in one aperture and a black-and-white film sensitive to the sodium line in the other aperture. A dichroic reflecting coating which reflects nearly all of the sodium line and transmits nearly all of the remaining visible spectrum is used in this Technicolor beamsplitter camera. The same type of prism as one produced under the supervision of the Motion Picture Research Council has unfortunately not yet been duplicated despite much effort.

When a scene is photographed through such a camera, in which the background is illuminated with sodium vapor light, a nearly normal foreground will be obtained on the Eastman Color Negative and a matte obtained in the other aperture. It is a straightforward matter using this matte to make the required complementary matte and combine the scene with any desired background.

Automatic 35mm Composite Color Printer

The ease and speed with which 35mm Eastman color prints can be made from 35mm camera color negatives cut in the A and B format has been greatly enhanced by Consolidated Film Industries with their application of a new and modern 3-head contact printer, designed and constructed by CFI.

With separate printing heads for the A roll, B roll, and soundtrack negative, a composite print, complete with variable-length fades and dissolves, can be exposed in one pass through the printing machine. Operating at 120 ft/min, the printing machine achieves color and intensity corrections quickly with the use of CFI's single-frame subtractive color mattes.

Incorporating radio-frequency proximity cue detectors and notch sensing contactors, the printer is programed by a modified version of the latest Bell & Howell punched paper-tape system.

Though presently a subtractive-type color printer, the 35mm A and B Color Printer can easily be converted to an additive printer by the addition of dichroic optics and two light valve assemblies to the Bell & Howell lamphouse, which is now employed with a single light valve for intensity control only. (See SMPTE *Journal*, Oct., 1964, pp. 870-872.)



Photograph by Hella Hammid

Francis Thompson and Alexander Hammid Shooting "To Be Alive"

ARRIFLEX® filmed Johnson's Wax World's Fair cinematic masterpiece "TO BE ALIVE"

Inside the Johnson's Wax "Golden Rondelle" at the World's Fair, is 17½ minutes of sheer delight... the extraordinary 3-projector, 3-screen color film, "To Be Alive,"... so sensitively and imaginatively produced by documentarians Francis Thompson and Alexander Hammid. Among Fair visitors, film critics and publications like Time Magazine, the opinion is unanimous... **there's nothing better to be seen at the Fair!**

Typical of the accolades given "To Be Alive" was Columnist Archie Winston's full column commendation in the New York Post, lauding the film as "a completely integrated work of art... a film masterpiece."

"The world of design, moving towards abstraction, is here," he wrote. "The world of personal intimate portrait is here. The photography is grand enough to make a melodrama out of the passage of a centipede, human enough to translate a boy's roller derby into a thrilling road race, or to understand the contemplative beauty of Walden's pond. From universe to frog, from stick-beating Africane to dancing American teenagers, to the world viewed in prism colors... it's all here, spilling over with

the life, emotion and happiness of existence."

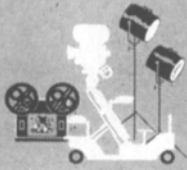
"To Be Alive" encompassed 18 months of shooting in Europe, Africa and the United States. But long before the film makers set out on their cinematic safari, basic problems of the triple camera set-up had to be solved. It was Mr. Hammid who designed the camera rig with the three Arriflex 35's mounted on a single pedestal. Each camera is driven by a standard Arri constant-speed motor.

Selection of equipment was an important factor. "We expected to travel a great deal for the production of our three-screen film," Producer Francis Thompson explained, "and to work in remote areas where the triple camera would have to be carried considerable distances and set up rapidly for unexpected opportunities. Our camera system had to be light, compact, rugged and reliable even in adverse climates because the precision matching of the three cameras prevented us from interchanging any one of them with a spare. Moreover," he added, "We wanted a camera with which cameramen the world over were familiar. We chose Arriflex."

Write for literature

ARRIFLEX CORPORATION
OF AMERICA
257 PARK AVENUE SOUTH, NEW YORK, N. Y. 10010

"THE ARRI STORY"—An absorbing 32 minute color sound film depicting the step by step manufacture of Arriflex precision cameras and their applications to varied cinematographic assignments. Available without charge for group showings. Write (on letterhead, please) Arriflex Corporation of America for bookings.

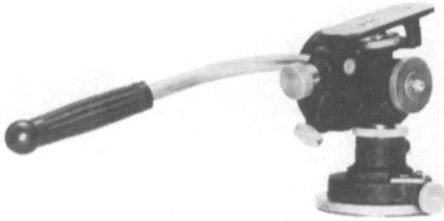


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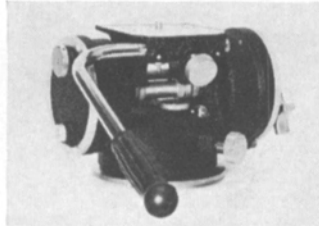
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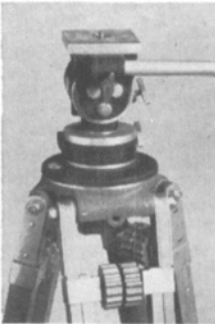
TRIPOD HEADS AND ACCESSORIES



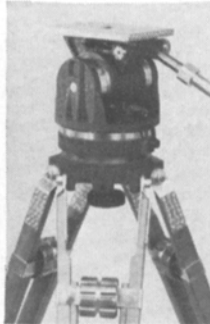
CM 101—O'Connor Model C Fluid Head. Perfectly controlled pan and tilt action for cameras weighing up to 20 lbs. Fully adjustable drag—independently set for both pan and tilt. Counterbalanced head in tilt position.



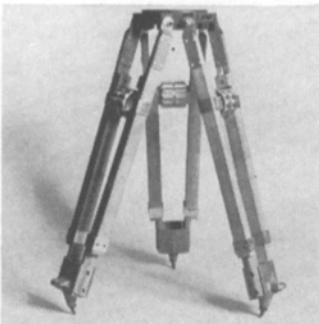
CM 102—O'Connor Model 100-B Fluid Head. Professional model for use with cameras weighing up to 100 lbs. Fingertip control and counterbalanced spring action.



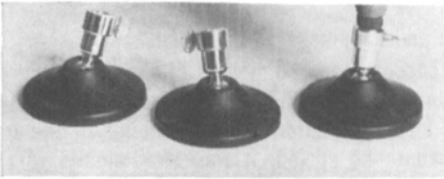
CM 103—Miller Model D Fluid Action Tripod Head. Precision built on a semi-hydraulic principle for use where smooth panning and tilting is essential. No slack, no bounce, no backlash.



CM 104—NCE Hydrofluid Ball-Leveling Pan and Tilt Head Tripod. Smooth pan and tilt action utilizes the silicone dampening effect. Ball-type adjustment permits fast leveling of tripod.



CM 105—NCE Baby Legs. Seasoned maplewood with self-aligning leg locks. Adjustable from 24" to 32".



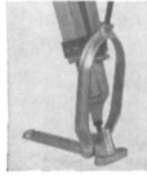
CM 110—Camart Sta-Sets. Fits easily and securely into tripod leg. Provides non-slip, quiet, vibration free support.



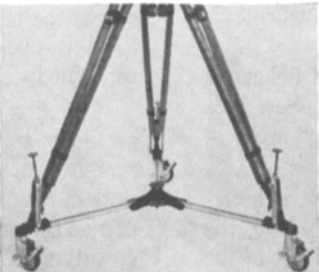
CM 106—NCE Hi-Hat. For low angle photography.



CM 107—Camart Heavy-Duty Collapsible Triangle. Rigid tripod support with true lock center casting. No breaking hinges, twisting or buckling.



CM 108—Camart Car Top Clamps. Steady support for your camera tripod when atop a station wagon or car platform.



CM 109—Camart Three Wheel Light Weight Collapsible Tripod Dolly. Moves heaviest camera in any direction even while shooting.

Write for descriptive literature and prices

LOOK TO CAMERA MART FOR EVERYTHING YOU NEED FOR MOTION PICTURE PRODUCTION

Stroboscopic Scene Tester

Film reciprocity differences have long been known to the photographic scientist and technician, but for many years the detrimental effects of this phenomenon were tolerated by laboratory personnel in one of the more critical production operations: that of scene testing and timing.

Until the utilization of xenon flashtubes as light sources in scene testing, the time scale and intensity scale testing machines, complete with their incandescent lights and machine components, could not be satisfactorily correlated to the resultant image produced by the high intensity-short exposure time present in the printing machine.

Consolidated Film Industries' research and development program achieved a stable, reproducible light source system for testing machines, which consists of a xenon flashtube and capacitive discharge power supply.

Modulation of intensity is achieved by neutral density wedges placed in the exposure gate. For application in color testing, neutral density filters and a specially selected range of subtractive color filters are utilized.

Several years of on-the-job testing and actual application at Consolidated Film Industries have borne out the hypothesis that scene tests can be accurately and reliably made to match the final prints, without deviations due to reciprocity failure. (See *SMPTE Journal*, Oct., 1964, pp. 866-869.)

Proximity Cue Detector

For many years, the only generally accepted method to cue motion-picture negatives or originals to activate printing machine functions—such as light changes and fades—was by notching the film along the edge and outside of the perforation.

In an attempt to eliminate the undesirable effects of notching, such as variation in size, shape, and position from laboratory to laboratory, the possibility of perforation damage, and the permanency of notching (and thus the problems created if re-editing is required), Consolidated Film Industries undertook the development of a new method of cue detection.

This program, which began in 1948, culminated in the early 1950's with CFI's development of a system for radio frequency proximity cue detection.

The latest model is operated in a reliable trouble-free fashion in the following manner: An adhesive metallic tape tab is placed on the edge of the film and transported beneath a sensing head. This creates an imbalance in the output of a crystal-controlled oscillator, which is boosted by a solid-state amplifier to trigger a control relay, to activate printing machines at the precise moments.

This non-contact method of cue reading pioneered by CFI is now used extensively throughout the world by numerous motion-picture film laboratories. (See *SMPTE Journal*, May, 1958, p. 299.)

Motion-Picture Photography of Lighting Units Using Quartz-Iodine Lamps

According to Milton Forman, Chief Executive of ColorTran Industries, using ColorTran lights, with their constant intensity and color temperature, it is now possible for a black-and-white studio to



Mark V on location

Iford Mark V negative was used throughout in the new Raymond Stross production "Ninety degrees in the shade" starring Anne Heywood and James Booth. This scene was shot at 250 A.S.A. (daylight) using filters.

The most versatile film in the world.



Mark V on the Stock Exchange

A still from a Pathe Newsreel documentary, shot at full aperture with an estimated exposure of 600 A.S.A. (tungsten).

The most versatile film in the world.



Mark V on TV

From the BBC TV programme "Dixon of Dock Green". The speed rating given to the negative was 1000 A.S.A. and the BBC cameraman shot at 40ft. candles at F/8. The negative received forced development.

Iford launches the most versatile film in the world

Iford Mark V is proving itself to be the film that shoots anything, anywhere, in virtually any light. The speed-to-grain ratio of Mark V makes it ideal for all conditions. Interior shots, TV films, low key exteriors shot in existing light, newsreel photography . . . Mark V adapts itself to all of them. And if the conditions are really bad, and you have to use forced development, you still get a perfect picture.

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