

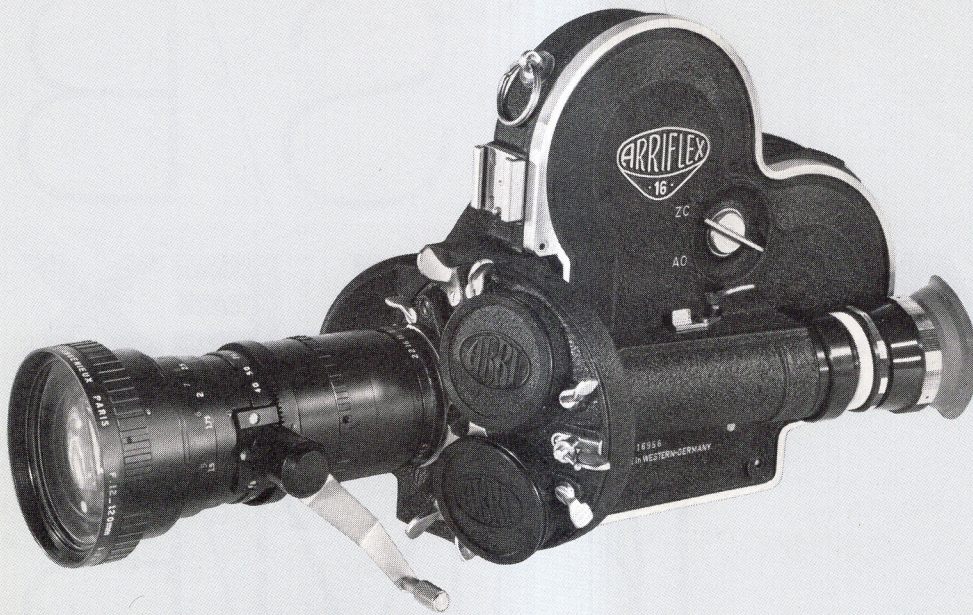
16S/B

ARRIFLEX®

PROFESSIONAL 16MM MOTION PICTURE CAMERAS

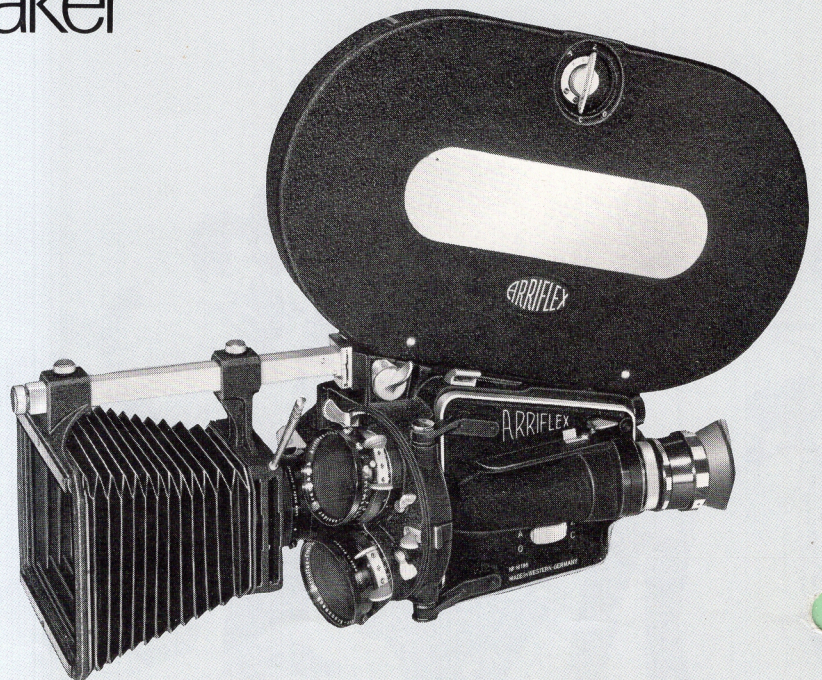
16M/B





the action 16's

basic equipment for the
16mm filmmaker



When the Arriflex factory first set out to develop a 16mm professional camera, their aim was a single, master design. It would incorporate their extensive experience, the advanced materials and ideas available in modern technology, and camera capability perfectly matched to professional 16mm film work. In the adaptation to the wide scope of modern filming, this "one" design, evolved into two similar cameras: the Arriflex 16S/B and the Arriflex 16M/B.

The capabilities of these two cameras overlap in most areas. There are very few things one can do that the other cannot—nevertheless, one camera may be better suited for a particular job than the other. Since their introduction, each of these cameras in its own way, has proven to be the most capable and versatile camera in the industry.

The 16S/B is the world's smallest fully-professional 16mm, mirror-shutter reflex camera with a 100 foot internal film capacity. It is the 'perfect' camera for those whose work emphasizes compactness and portability. No other camera in this class is so simple to use...so rugged and durable...or so capable of exceptional results. And yet, when required, this masterpiece of versatility can use 200 foot and 400 foot magazines, interchangeable lenses, motors and accessories and "grow" right up to a blimped camera for sound stage use.

The 16M/B shares with the 16S/B the virtues of mirror-shutter reflex viewing, precision construction, registration pin movement, and lightweight portability. But the 16M/B is designed only for use with magazines. This concept has endowed the 16M/B with uniquely valuable abilities. Since it has no internal film capacity, it is the smallest camera ever made that can accommodate long film runs—up to 1200 ft. And since the sprockets are built into each 16M/B magazine, rather than the camera head, magazine changes take only seconds. Thus, the 16M/B becomes the 'perfect'

camera for those whose work requires longer film runs with exceptionally fast handling coupled with minimum weight and bulk.

Many filmmakers, of course, alternate between these requirements, and so they have acquired both models. Minimizing their investments is the fact that almost all the accessories—lenses, motors, blimps, specialized equipment—are interchangeable between the two cameras.

Our third 16mm camera, the 16BL, satisfies still further requirements by combining outstanding Arriflex capability with a self-silenced mechanism—its advantages as a sync-sound camera are described in a separate brochure.

The unique versatility of Arriflex cameras has made them the most useful and most popular in the world...their precision workmanship, select materials and design excellence are combined to make Arriflex reliability legendary wherever films are made.

Above and beyond every feature, however advanced, a professional motion picture camera must be as rugged and dependable as fine materials, ingenuity and dedicated workmanship can make it. Arriflex 16S/B and 16M/B cameras are built to deliver theatre-quality footage under the most difficult conditions. Another reason why more Arriflex cameras are used around the world than any other.

And then there's value. No matter how the prices of 16 mm cameras may vary, there are none that cost less in the long run. The same fine design and construction that accounts for Arri precision, is also the source for Arriflex rugged performance and long life. It is not uncommon for an Arriflex 16mm camera to have run through a million and more feet of film. The reliability and durability built into 16S/B and 16M/B cameras have persuaded pros by the thousands that the best costs less when they invest in an Arriflex.

ARRI
ARRIFLEX COMPANY OF AMERICA

ARRIFLEX® 16S/B

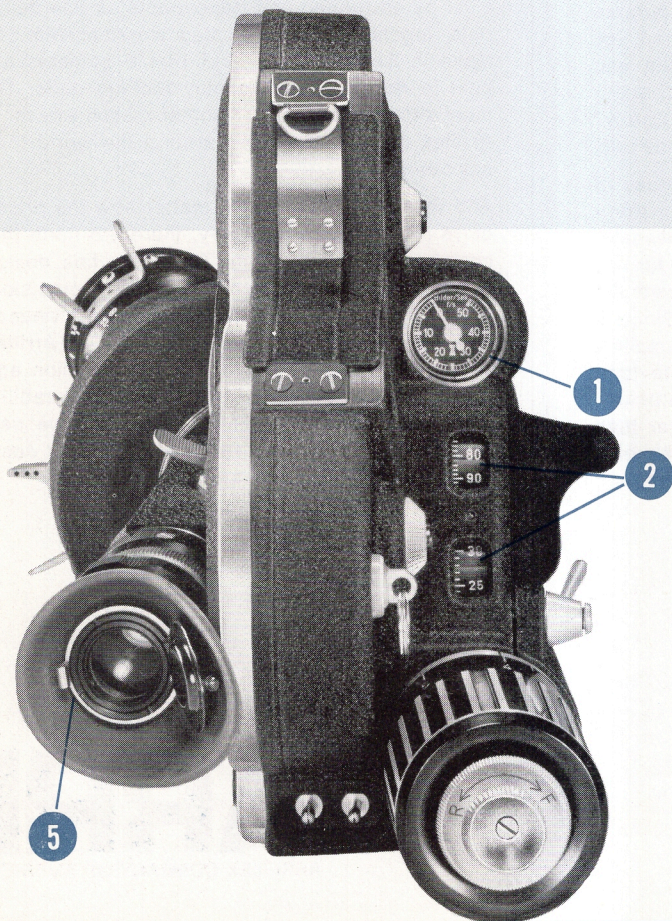


No other professional 16 mm camera is so compact, so easy to handle and operate, or so surely dependable. The Arriflex 16S/B weighs less than 6 lbs, yet it incorporates all the most wanted, advanced features, such as: famous Arri mirror-shutter reflex viewfinder; ultra-precise pin-registered film movement; divergent, three-lens turret; and one of the most extensive accessory systems available for any camera.

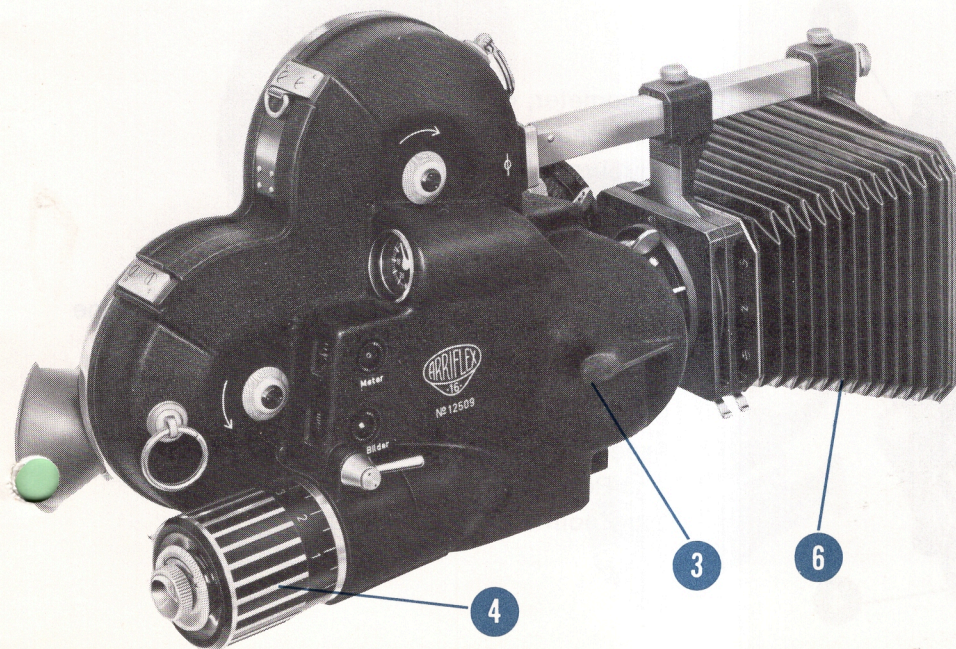
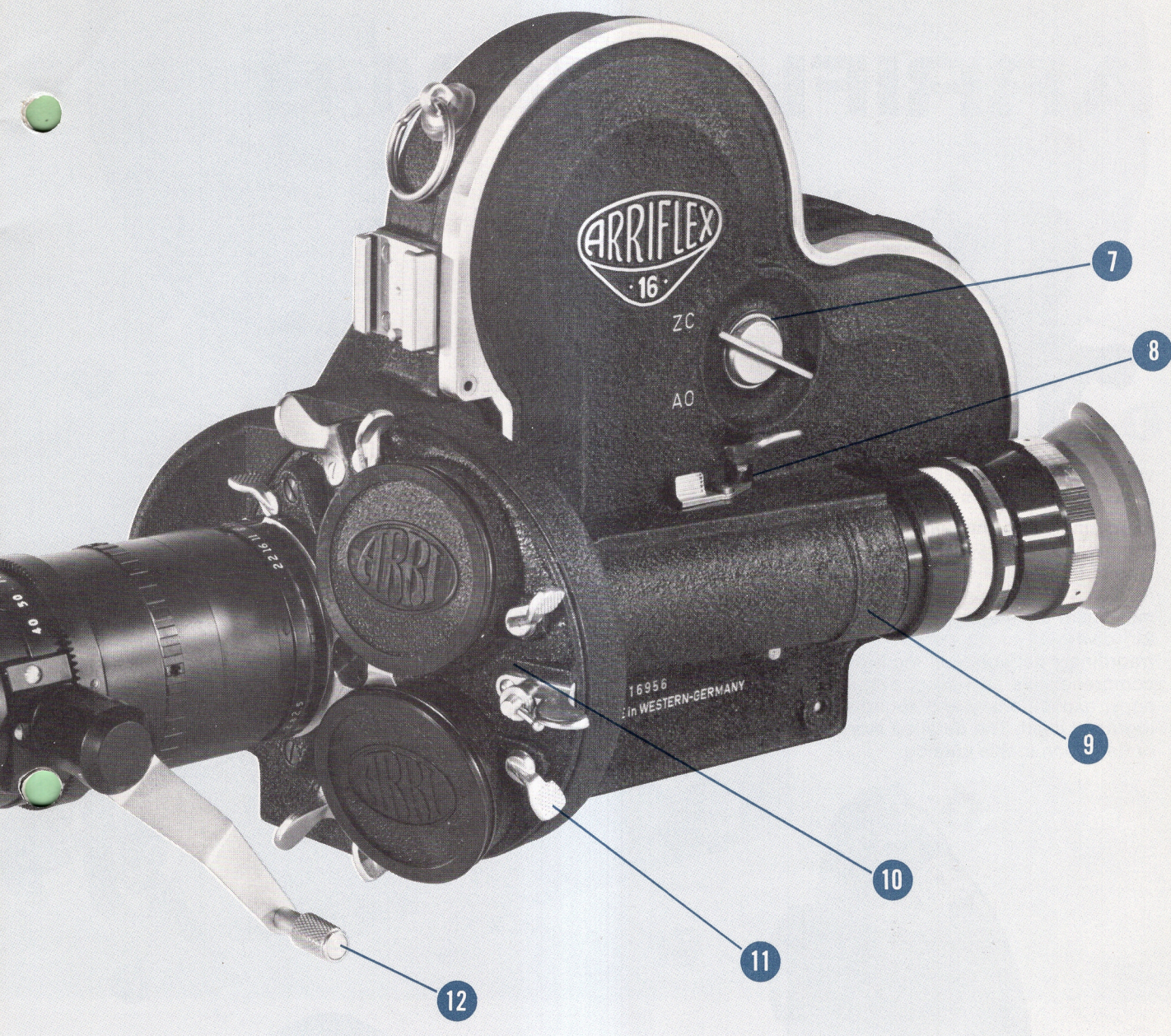
The basic camera body weighs only 5 lbs. 14 oz., making it a remarkably adept and maneuverable hand camera. The footage counter, frame counter and tachometer are all clearly visible for instant reference by the operator

from the viewfinder position. Camera handling and camera controls are so perfectly matched as to make this highly sophisticated instrument a marvel of operating simplicity.

But compact size and efficient configuration are only partial explanations for the 16S/B's worldwide popularity. Its divergent 3-lens turret accepts wide-angle and telephoto lenses without optical or mechanical interference... its mirror-shutter viewing system provides brilliant visual control... its precise durable lens sockets ensure critical optical alignment... its unique film transport produces rock-steady 16mm footage of optimum registration accuracy... and its vast accessory system including 200 ft. and 400 ft. external magazines, interchangeable motors, lenses, sound blimps and special-purpose equipment make this one camera capable of the most diverse assignments. The importance of these design and construction features is detailed in this catalog.



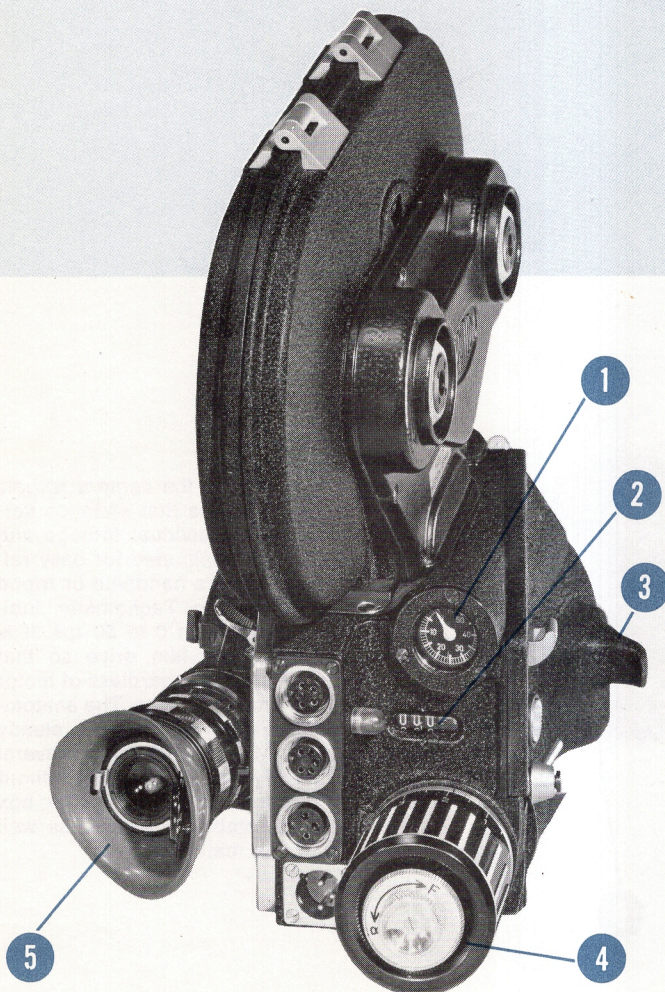
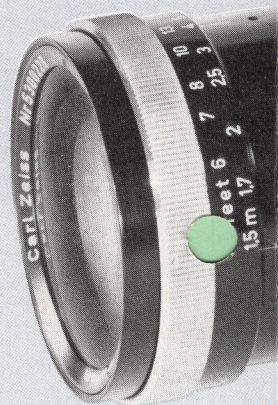
- 1 Tachometer, calibrated 0-50 fps
- 2 Footage and Frame Counters
- 3 Contoured Handgrip
- 4 Camera Drive Motor
- 5 10X Reflex Viewfinder Eyepiece
- 6 Adjustable Matte Box and Filter Holder
- 7 Camera Door Latch
- 8 Main Stop-Start Switch
- 9 Reflex Viewfinder
- 10 Three-Lens Divergent Turret
- 11 Lens Retaining Latch
- 12 Lens Zoom Lever



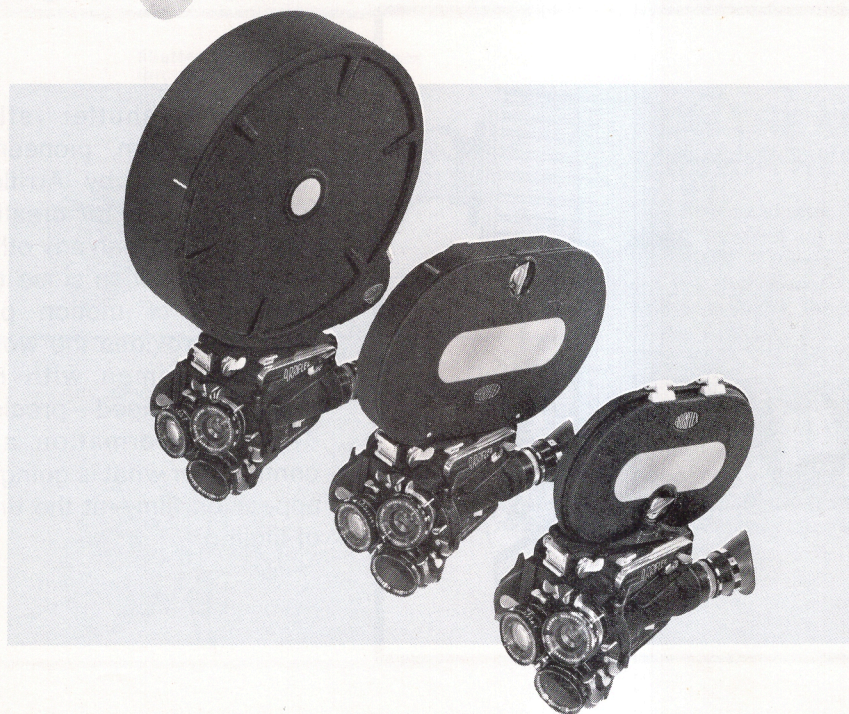
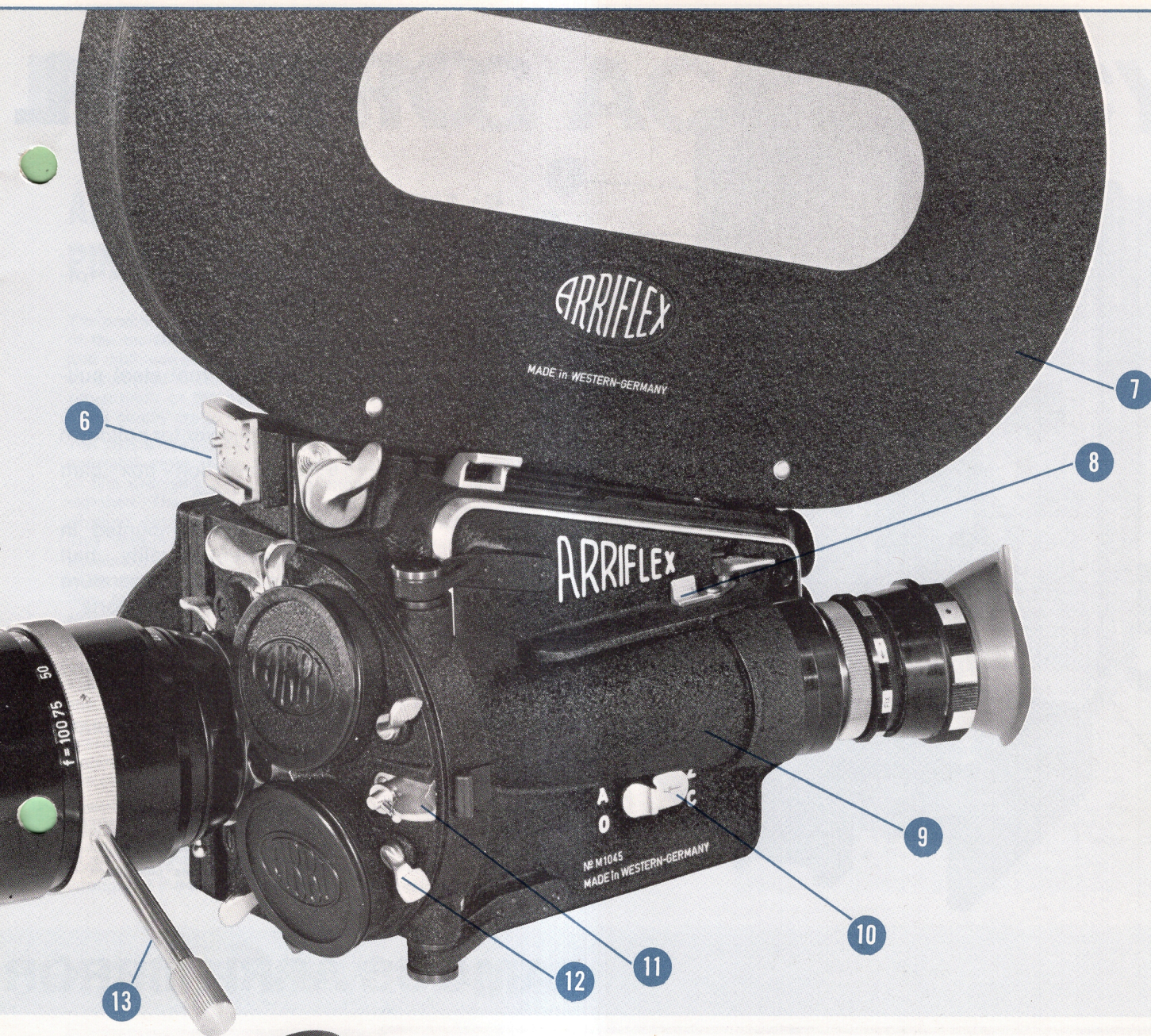
The right hand view of the camera reveals additional design details that enhance versatility and control. Individual footage and frame counters are positioned for easy reference, with the camera handheld or tripod supported. The built-in Tachometer indicates camera speed from 0 to 50 fps. It is geared directly to the film drive so that camera speed is shown, regardless of motor type, or current characteristics. The anatomical handgrip makes for comfortable, steady camera support. Motors, available in several types, are instantly interchangeable, without tools. The Arriflex "Standard" matte box serves as an adjustable sunshade, as well as filter holder and matte holder.

The speed and ease of filming with the 16M/B is further enhanced by its quick-change magazine system. Magazines lock on the camera at the touch of a finger, the preformed film loop is threaded quickly into the camera gate—so that in documentaries, sports, or in other filming situations

Every indicator that provides essential information for the cameraman is conveniently placed. Footage counters, fps tachometer, and even an indication of the type of lens in filming position, are all easily seen from the back of the camera. The Arriflex 16M/B shares with the 16S/B, the unique advantage of pin-registered film movement and mirror-shutter reflex viewing. The cameras also share in common, a 21° divergent turret and identical lens, motor, and power supply systems. The extraordinary capability of the 16M/B camera is greatly extended by the world's most comprehensive accessory system for application in animation, time-lapse, microscopy, expeditionary and sound-stage filming—a range as broad as 16mm cinematography itself. The detailed story of the 16M/B's construction and features is elaborated upon in this catalog.



- 1 Tachometer, calibrated 0-50 fps
- 2 Combined Footage-Frame Counter
- 3 Contoured Handgrip
- 4 Camera Drive Motor
- 5 10X Reflex Viewfinder Eyepiece
- 6 Accessory Shoe for Matte Box
- 7 M-400 Ft., Quick-Change, Gear-Driven Magazine
- 8 Camera Stop-Start Switch
- 9 Reflex Viewfinder
- 10 Hinged Camera Door and Door Latch
- 11 Three-Lens Divergent Turret and Turret Lock
- 12 Lens Retaining Latch
- 13 Lens Zoom Handle

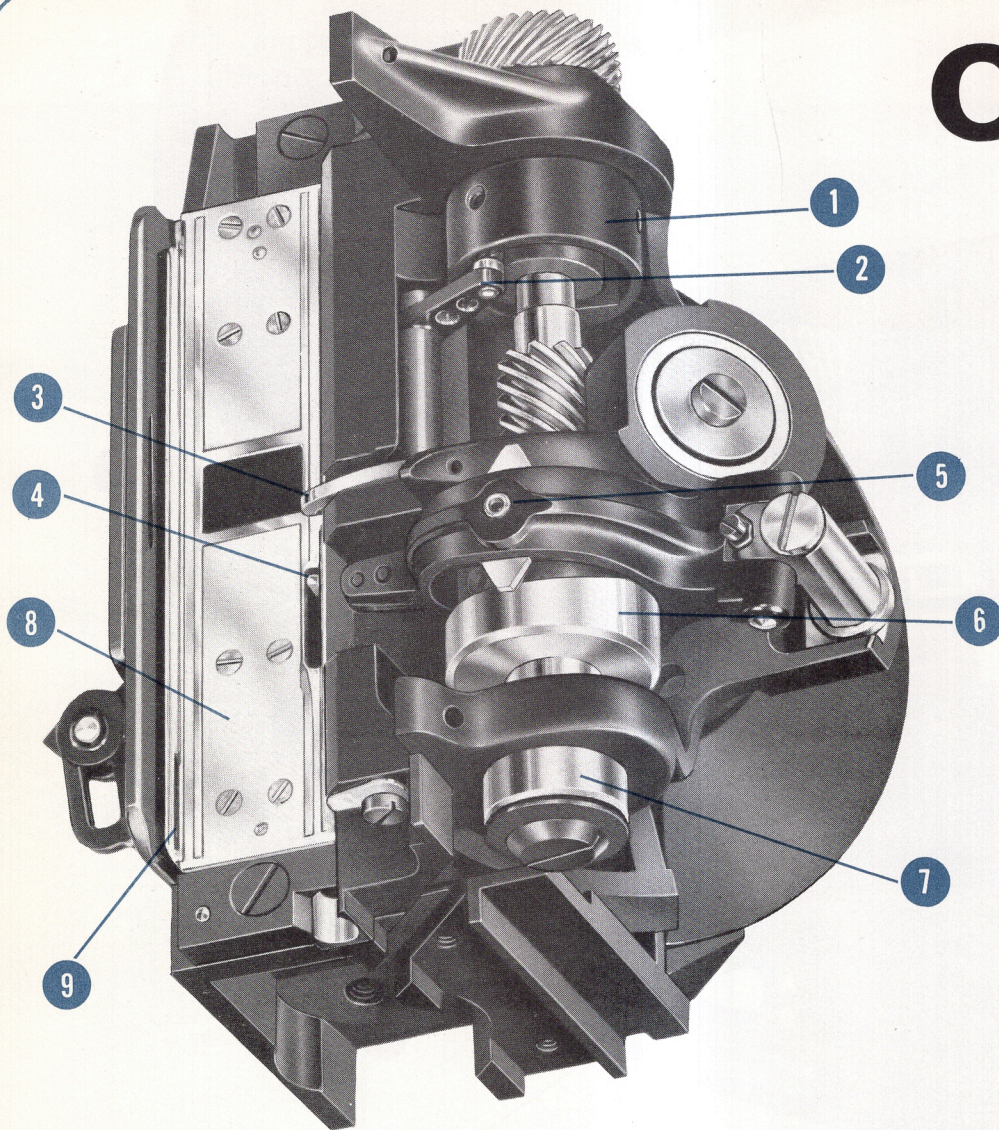


CHOICE OF THREE MAGAZINES

One camera, choice of three Quick Change magazines—200', 400' and 1200'—make the Arriflex 16M/B ideal for the tough, long run jobs, the handheld grab shots and just about everything in between.

All three 16M/B magazines are gear driven, have built-in sprockets and use the Arri pre-formed loop system. Together, all these advantages add up to the sturdiest, most reliable and most versatile magazine system available today. (Illustrated, left to right, the Arriflex 16M/B with M-1200, M-400 and M-200 foot magazines.)

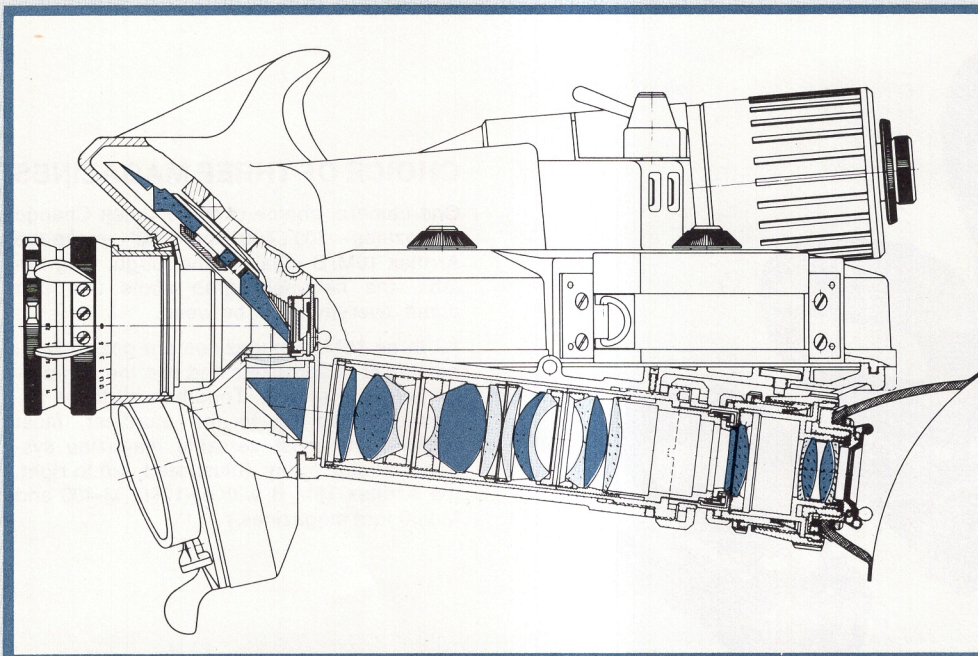
OPTICAL



- 1 Registration cam
- 2 Registration cam lever, with sapphire cam follower
- 3 Registration Pin
- 4 Hardened tool steel pull-down claw
- 5 Cam follower for pull-down
- 6 Double-action box cam for pull-down
- 7 Main Shaft—mounted in instrument quality ball bearings and temperature compensating supports
- 8 Extra Long film gate* all parts ground and hand polished
- 9 Spring loaded side pressure rail

*The rear pressure plate is an integral part of the film movement. It serves to hold film flat and true in the focal plane, and assures longitudinal stability, (no film breathing). The pressure plate has been removed in this photograph for purposes of illustration.

FAMOUS ARRI MIRROR



The mirror-shutter reflex viewing system, pioneered and perfected by Arriflex, has done more for creative cinetography than any other filming innovation since the beginning of motion pictures. It provides the working cameraman with his most urgent need—precise, detailed information and control over what is going to appear on film—at the time of filming.

PRINTING ACCURACY

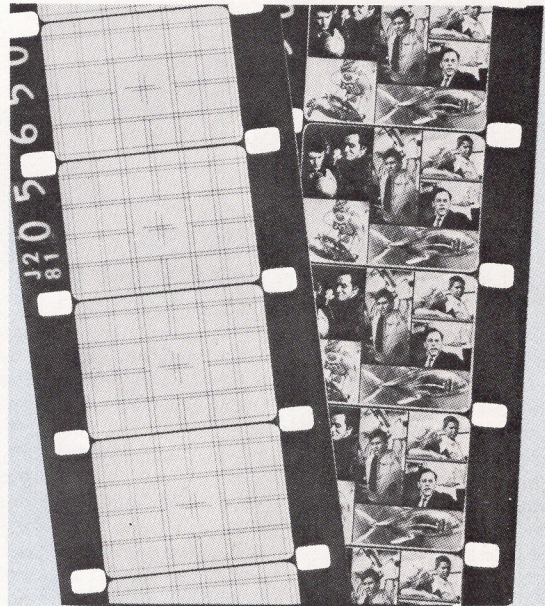
ARRIFLEX 16S/B and 16M/B PIN REGISTERED FILM MOVEMENT

The precision Arriflex 16mm pin-registered movement makes possible much of the technology in present day filmmaking: 16mm opticals, multi-image and multi-screen systems, 35mm blow-ups, and super 8mm reductions; all as important in 16mm today as they are in the 35mm format. Near perfect registration of the camera original is the first pre-requisite if opticals of finest quality are to reach the screen.

The 16S/B-16M/B registration pin is located immediately under the film aperture—right at the frame line. The registration pin locates each frame of film precisely and remains engaged for the full time that the film is exposed. The registration-pin, and pull-down claw are activated by individual cams which are meticulously machined and precision ground. This ultra-precise system assures that every moment of every motion is absolutely controlled. Registration is unfailing and flawless. The result is extraordinary precision and accuracy that endures for millions of feet of film. Moreover, special temperature compensating bearings absorb the effects of extreme heat or cold. The dependability of the Arriflex pin-registration movement prevails under all conditions, at all running speeds—at all times.

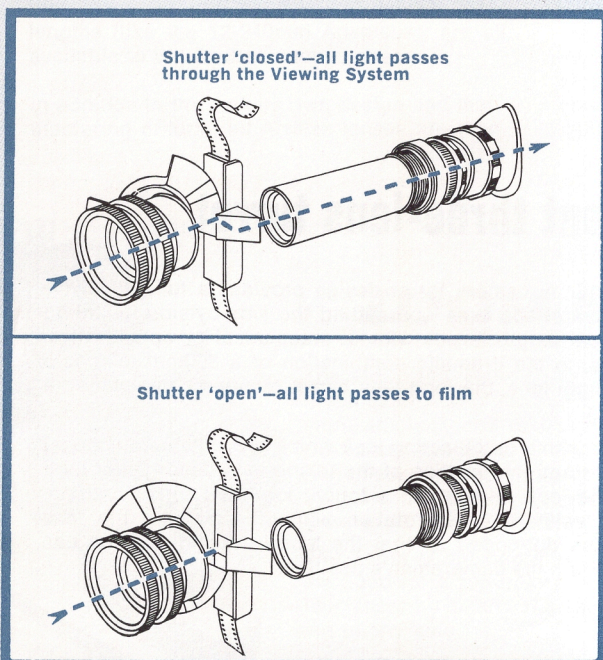
The famed precision registration of Arriflex 16mm cameras is maintained and augmented by the design of the entire film handling system. The extra-long, fixed-guide and spring-loaded side pressure rails contribute perfect lateral stability. The balanced, spring-loaded rear pressure plate, and cross stages on all four sides of the film aperture, front and back, combine to hold film dead-true and flat in the focal plane.

Picture quality is the technical essence of any professional film, and whether a production involves opticals or not, picture steadiness and sharpness are among the elements upon which filmmakers stake their reputations. This is one of the reasons why there are more Arriflexes in use throughout the world than any other professional camera.



Each Arriflex 16S/B and 16M/B camera is delivered with a test film, made with that camera. A portion of the test film consists of pictures made of a grid pattern. It is deliberately double exposed, with the grid itself being offset slightly before the second exposure. If film registration has been anything less than near perfect, it will show on the screen as movement between the first exposed set of grid lines in relation to the second set. But there is no such movement—because of the unfailing accuracy of each frame's registration!

SHUTTER VIEWFINDER



HOW THE ARRIFLEX MIRROR REFLEX SHUTTER WORKS

The camera shutter is an optically flat, surface-coated pyrex mirror selected for dimensional stability and long life. When the shutter is 'open,' 100% of the light reaches the film, without the deterioration and light loss that accompanies beam-splitter systems. When the shutter is 'closed,' it reflects 100% of the light into the viewing system for a bright, clear image even when the lens is stopped down or when filters are used. The viewfinder image is right side up, unreversed, and magnified 10 times for accurate focusing; various markings on the interchangeable ground-glass screens guide composition for TV safe action, projector aperture and other special requirements. The eyepiece, with its diopter adjustment for individual eyesight, can easily be removed without tools and interchanged with accessory eyepieces and extensions.

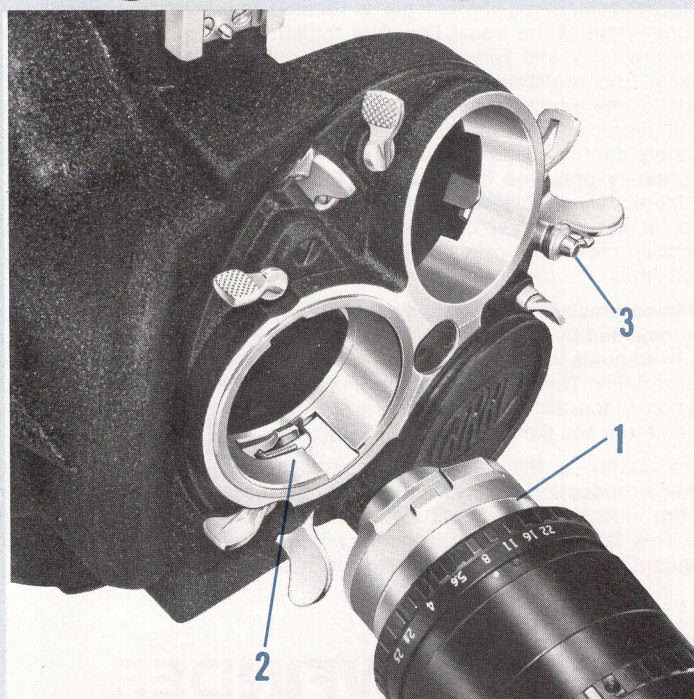
LENS-MOUNT SYSTEM for the ARRIFLEX 16S/B and 16M/B

HEAVY-DUTY BAYONET-LOCK MOUNTS

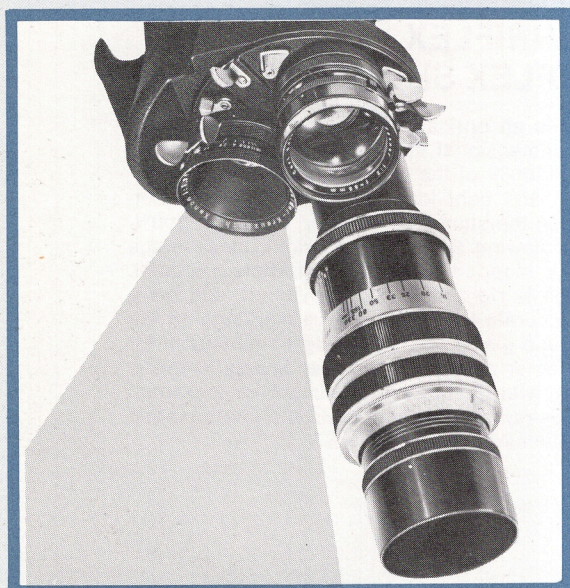
The heavy duty Arriflex Bayonet Lock Lens Mount was developed to maintain the close tolerances required by the larger, heavier zoom lenses, now so widely used. One lens position of the 16S/B and 16M/B turret is equipped for the special Bayonet Lock Lens Mount. The flanges of these lens mounts are locked into place under heavy spring tension. For lenses like the Zeiss 10-100mm Vario Sonnar, the 12-120mm Angenieux, 12-240 Angenieux, and other similar lenses, the mount assures the precise centering, seating and alignment that is so essential for optimum lens performance. And equally vital, the Bayonet Lock Mount is made of specially hardened steel by a sophisticated manufacturing process to make certain that this all important precision endures through long, hard use.

STANDARD MOUNTS

All three turret lens positions on the 16S/B and 16M/B cameras accept Standard Arriflex Lens Mounts. (Lenses with the Heavy Duty Bayonet Lock may be used only in the one special turret lens position equipped for this mount.) The Standard Mount has industry-wide recognition as a superior lens support. It combines convenience, quick-change simplicity and precision with modest cost—the characteristics most essential for fixed focal length lenses.



(1) Heavy-Duty Lens Mount, (2) Matching camera lens socket, (3) Turret Lock.



The divergent three-lens turret

The unique Arriflex 16mm camera turret design provides a full 21° divergence between the three lens axes—permitting the side-by-side mounting of long and short focal length lenses without mechanical or optical interference. For example, in the dramatic combination of a 300mm telephoto with a 16mm wide angle lens, the long lens barrel remains completely out of the short one's field.

Lens turrets are fitted with a quick-acting lock which prevents unintentional turret rotation and secures the position of the taking lens dead-center over the film aperture. The lock releases at a touch, for rapid turret rotation. Sturdy finger grips facilitate turret rotation without disturbing the lens settings. The grips are dot-coded so that the lens in taking position can be easily indentified from the cameraman's position.



ARRIFLEX 16S/B and 16M/B LENSES for unlimited creativity, capability and control.

Wide selections from the world's outstanding lens manufacturers, like Angenieux, Zeiss, Kilfitt, Schneider, Taylor Hobson, and others, are incorporated in the Arriflex program. Wide angle types, ultra-fast, high aperture objectives, macro and telephoto lenses, zoom lenses that range through as many as twenty focal lengths (like the 12-240mm Angenieux), are all available to the Arriflex camera user.

In addition to the makers own design and manufacturing criteria, all Arriflex lenses are man-

ufactured in strict conformance with Arriflex factory standards and specifications for optical and mechanical tolerances. One result is the exceptional quality and uniformity of Arriflex objectives. Another is that Arri lenses are seated in their mounts with such precision, with quality and performance so carefully controlled, that they will fit all series of Arriflex 16mm cameras interchangeably. And many lenses (like the longer focal length Schneider and Zeiss lenses) can be used on Arriflex 35 cameras as well.



All genuine Arriflex mounted lenses are readily identified by the registered Trademark "Arri" or "Arriflex" engraved on the front lens ring, or on the lens mount.

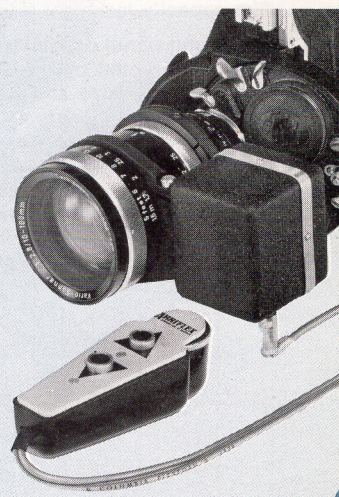
ZOOM MOTOR DRIVES

The Motorized Zoom Drive is a welcome tool for the working cameraman. As a literal extension of his hands and eyes, it makes imaginative camera work easier, more efficient, and results in superior effects on the screen. Two Zoom Motor Drives are available for the most widely used zoom lenses—one for the 12-120 Angenieux and another for the 10-100 Zeiss Vario Sonnar. The Drives are powered by husky DC motors that zoom through the focal range of the lens at speeds as slow as 50 seconds, to as fast as 5 seconds.

The Zoom Motor operates from the standard 8 Volt Arriflex battery, eliminating the need for a separate power supply. The motors are mounted on their respective lenses by means of a split clamp, without the need of special tools or machining of any kind.

Cat. #339 325. Zoom Motor Drive for 12-120 Angenieux with Hand Control Unit.

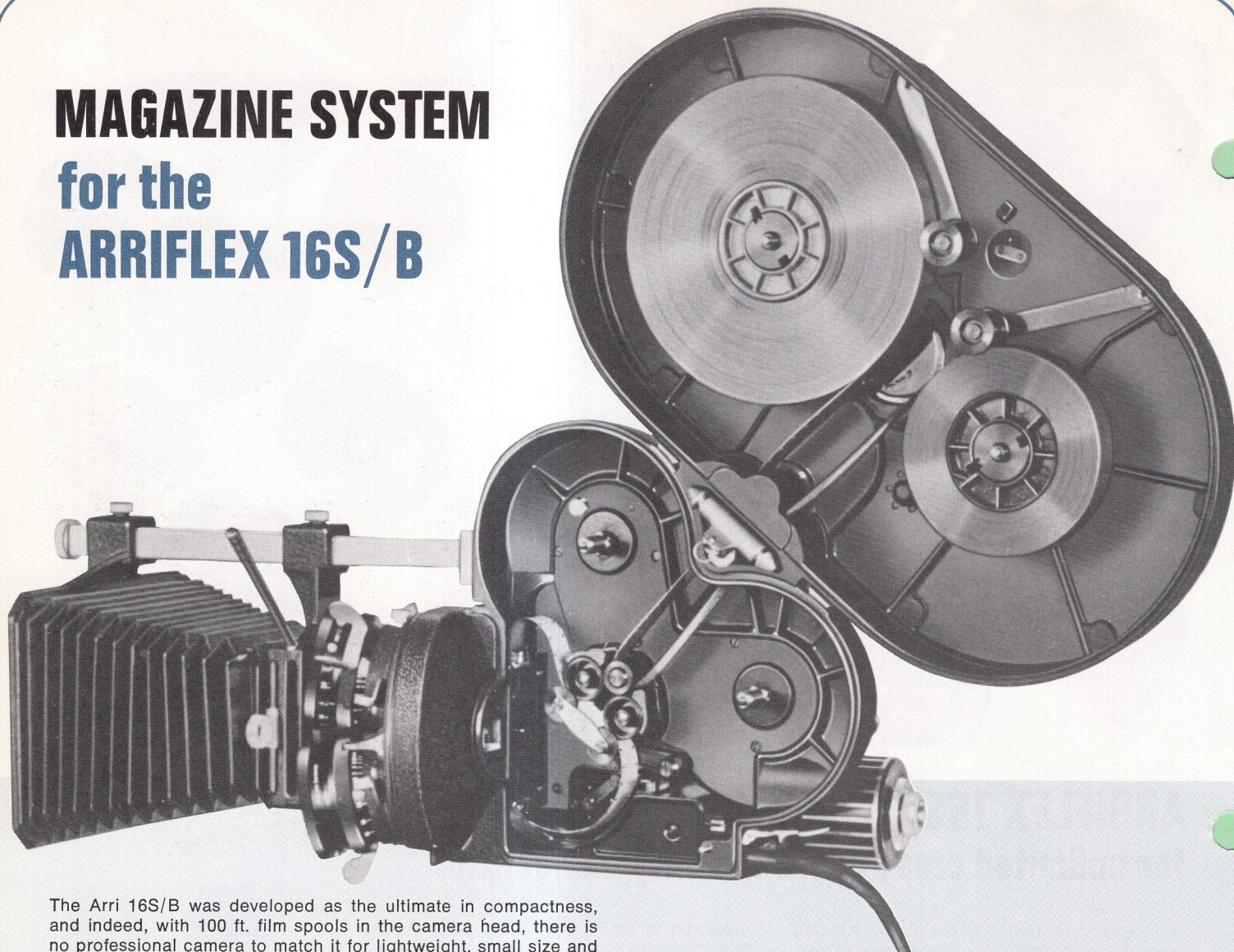
Cat. #339 336. Zoom Motor Drive for 10-100 Zeiss Vario Sonnar, with Hand Control Unit.



MAGAZINE SYSTEM

for the

ARRIFLEX 16S/B

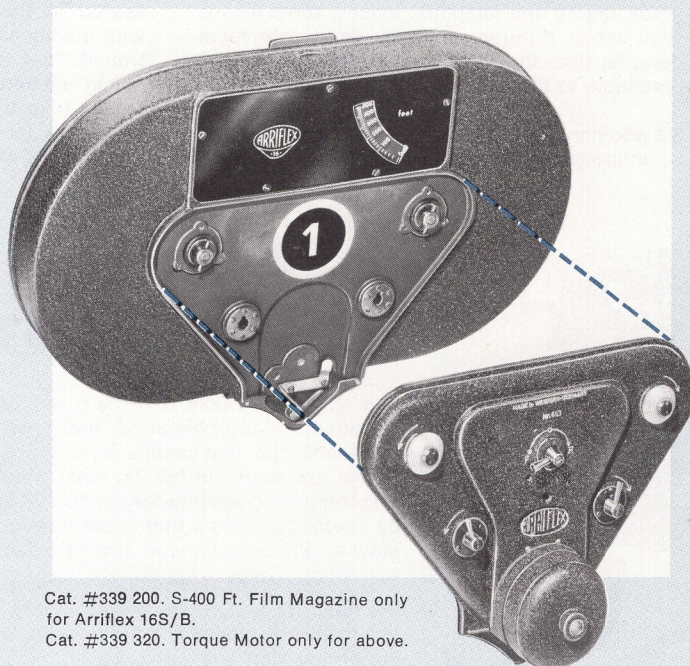


The Arri 16S/B was developed as the ultimate in compactness, and indeed, with 100 ft. film spools in the camera head, there is no professional camera to match it for lightweight, small size and easy handling.

The professional capability of the 16S/B includes 200 ft. and 400 ft. magazines. Each magazine requires its own size torque motor for film take-up. The torque motors are quickly interchanged from magazine to magazine. A working Arri 16S/B outfit usually includes several magazines, but only one take-up motor is needed. The torque motor is driven by the camera power supply (8 volt/DC) through internal wiring. The Torque Motors, like the cameras themselves, may be operated either forward or reverse.

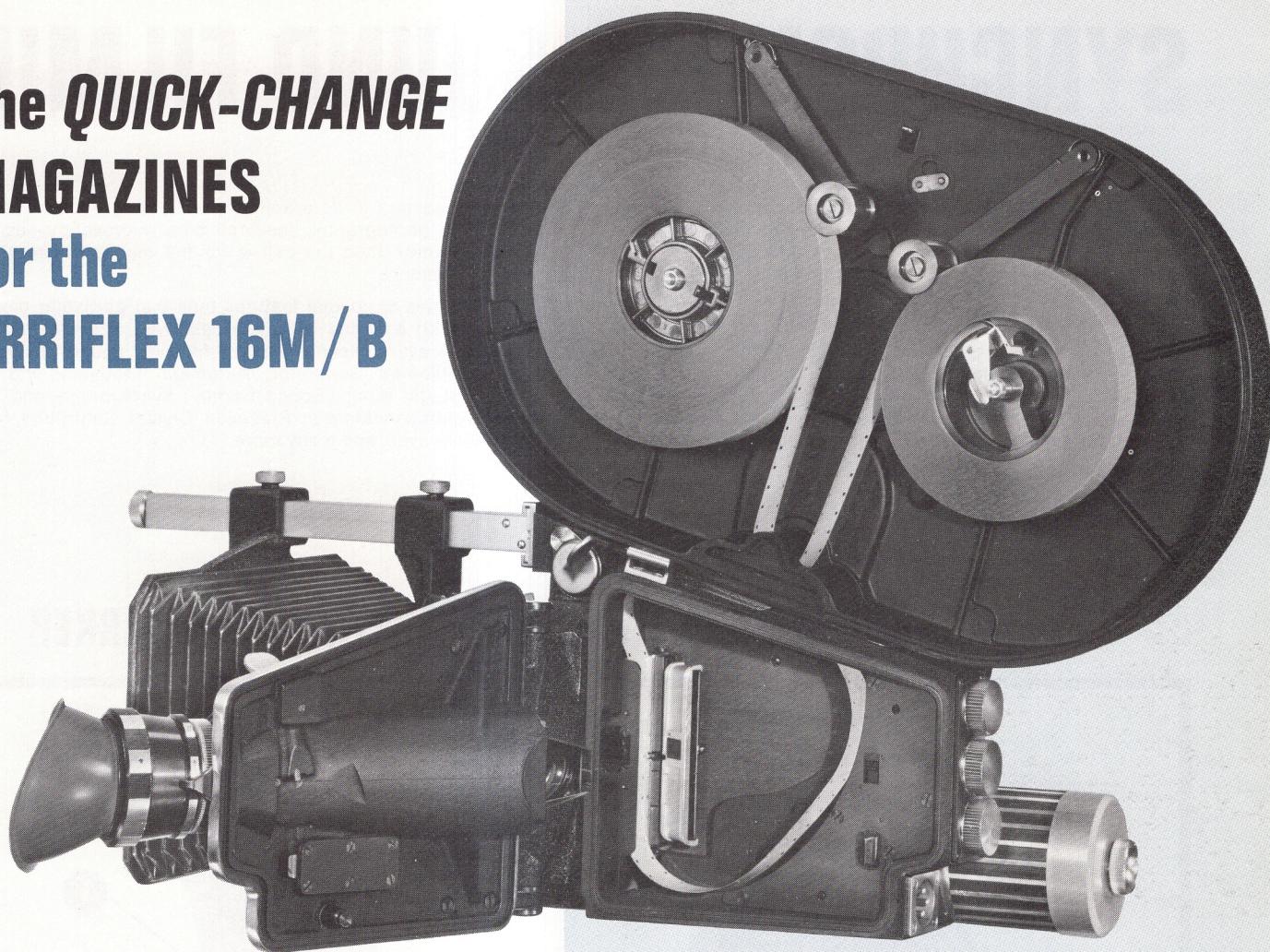
The complete film system of the Arriflex 16S/B covers an unusual range—capacities include 100 and 200 ft. daylight loading spools and 200 and 400 ft. darkroom load core-wound film—there is a film capacity just right for practically any assignment.

The professional capability of the 16S/B includes a 400 foot magazine, constructed on the single compartment, displacement principle, to keep size and weight to a minimum. (See illustrations) This magazine accepts 400 foot, core-wound, darkroom loads, or 200 foot daylight spools. Also part of the 16S/B system is a smaller, but similar magazine which accepts 200 foot rolls of film on laboratory cores only. (Not shown) Magazines are equipped with footage indicators and each magazine may be numbered for identification. Mounting magazines on the camera and threading film through the camera gate is done easily and quickly.



Cat. #339 200. S-400 Ft. Film Magazine only for Arriflex 16S/B.
Cat. #339 320. Torque Motor only for above.

The **QUICK-CHANGE** MAGAZINES for the **ARRIFLEX 16M/B**

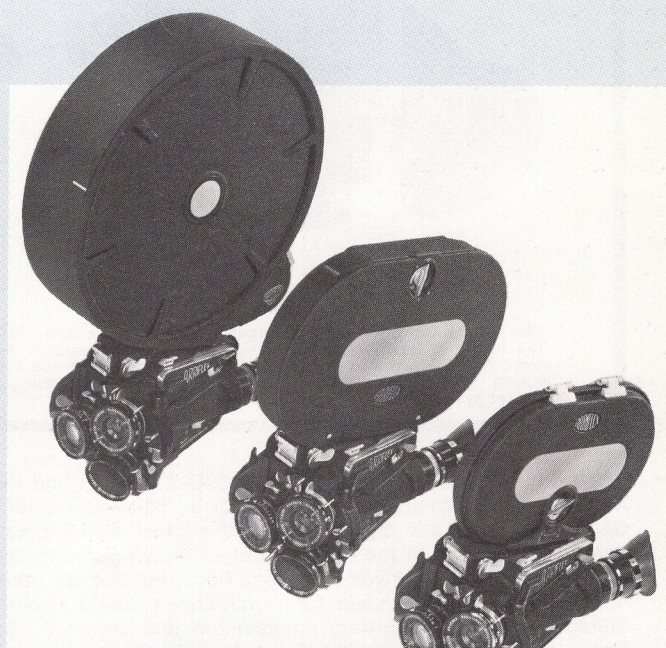


The Arriflex 16M/B is ideally suited for those assignments in sports, documentaries, TV, industry and government, where large film capacity and long takes are essential. To meet these requirements, the 16M/B was designed specifically as a magazine camera, with a choice of Quick-Change magazines that include 200, 400 and 1200 foot models.

The Quick-Change magazine design features film-feed and take-up sprockets that are built into the magazines, instead of the camera. This permits most of the film threading to be done in the magazines, when they are loaded. Attaching the magazines during filming takes only seconds. In all other respects, the 200' and 400' magazines for the Arri 16M/B are very similar to the corresponding types in the 16S/B program. (See preceding page for details.)

With a capability of a full 33 minutes of filming time, the M-1200 foot magazine has its own particular advantages. It is a double-compartment, coaxial design selected to minimize the front-to-back shift of weight of 1200 feet of film as it runs through the camera system.

The 16M/B Quick Change magazine system is typical of the rugged reliability so characteristic of all Arriflex equipment. And, because this design also keeps construction simple and limited to essentials, the cost of magazines is kept low to assure sizeable savings when outfitting with more than one.



The Quick Change Magazine System, for the Arriflex 16M/B cameras, is illustrated; from left to right:

- Cat. #339 212. M-1200 ft. Magazine only.
- Cat. #339 211. M-400 ft. Magazine only.
- Cat. #339 210. M-200 ft. Magazine only.

SYNCHRONOUS SOUND FILMING

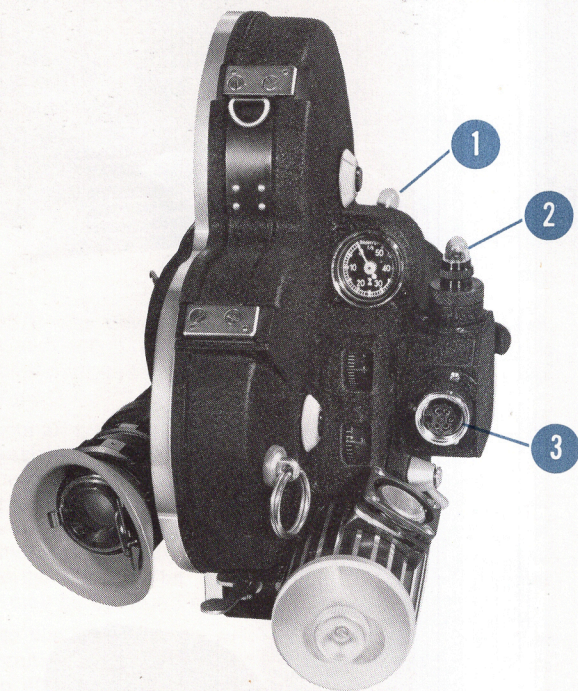
Arriflex 16S/B-16M/B cameras are highly mobile, general-purpose production cameras. Their unlimited versatility however, carries these fine cameras from the roughest, toughest location environment, right through to the studio sound stage. The same 16S/B or 16M/B, in just minutes, converts from basic camera into sophisticated, ultra-quiet, blimped studio camera.

When the filming assignment is mainly location sync sound, the Arriflex 16BL, developed for this special purpose, and described in a separate brochure, may well be first choice. But, when broad filming versatility is primary—when the need

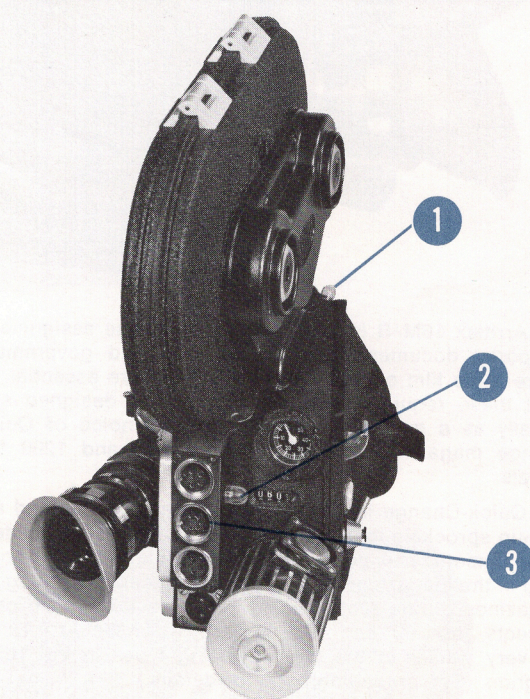
is for one camera to do practically everything—animation, expeditionary photography, research cine microscopy—as well as sync sound—then the call is for the multi-purpose 16S/B or 16M/B camera.

A whole series of special features built into particular models, together with a series of key accessories, provide the filmmaker with every essential facility for sync sound filming, including: Pilotone Generator; Automatic Clapstick and Cue Marker; Studio Blimp; Sound Barney; Synchronous and Governor Controlled Motors; Precision Crystal Controlled Motor for cordless sync, and many more.

PILOTONE GENERATOR/AUTOMATIC CLAPSTICK/CUE MARKER



The Arriflex 16S/B-GS (left) is a special version of the basic 16S/B. This model is equipped with a 60-cycle Pilotone Generator, Automatic Start Marker and Manual Cue Marker for synchronous sound filming. The Arriflex 16M/B (right) has a very similar Pilotone and Marker system as standard equipment.



(1) Start Marker Lamp—part of the system used to establish automatic start marks on film. (2) Cue Marker lamp, part of the system used to establish manual cue marks on film. (3) Five-pin Outlet—Carries 60-cycle Pilotone signal, DC voltage to drive audio start mark oscillator at the recorder, etc.

Standard equipment on the Arriflex 16S/B-GS Model and the Arriflex 16M/B cameras, include a built in, 60-cycle Pilotone Generator, Automatic Startmarker and manual Cue Marker. The characteristics of the Pilotone output match perfectly the requirement of the Arrivox-Tandberg Recorder and all other tape recorders widely used for synchronous sound filming. Suitably equipped recorders complement and complete the features built into the cameras. The Automatic Clapstick which makes Startmarks when each camera is started, is a tremendous convenience and time-saver. In the same basic system, a manually operated switch supplies the additional option

of making End Marks or other useful cue marks. Automatic Clapstick and Cue Markers are supplied as original factory installations only.

The 60-cycle Pilotone Generator alone (i.e. without automatic clapstick) may be supplied and installed at any time, on all Arriflex 16S cameras. The Pilotone signal is the heart of the synchronizing system, and in such cases requires only the use of conventional clapsticks to establish startmarks in the picture and the sound track. Pilotone sync is used almost exclusively for the production of modern, lip-sync sound films.

with ARRIFLEX 16S/B and 16M/B CAMERAS



**SOUND
BARNEY**

Multi-layered camera covering with excellent sound damping, (estimated at 60%). For location work that demands mobility and light weight, and where the studio blimp would be impractical, the Sound Barney will often make it possible to get excellent sound. The Barney also protects the camera against the weather.

Cat. #321 500. DOM Sound Barney for Arriflex 16S/B with 400 ft. Magazine.
Cat. #321 502. DOM Sound Barney for Arriflex 16M/B with 400 ft. Magazine.



ARRIFLEX 16S/B and 16M/B STUDIO BLIMP

THE UNIVERSAL STUDIO BLIMP—When sound stage quiet is called for, a camera Blimp is the only satisfactory answer. And the best is the Arriflex 16mm Universal Studio Blimp. It accommodates either the Arriflex 16S/B or the 16M/B camera. Cameras are easily installed or removed in minutes without tools via three large access doors. Reflex viewing, remote focus and F-stop adjustment and all the most needed operating conveniences are built directly into the Blimp. Residual noise goes down to a minute 21 db.

The Blimp houses the Arriflex 16S/B or 16M/B with 200 or 400 foot magazines. It is constructed for use with any fixed

focal length lens in the Arriflex 16mm program, in focal lengths from 8 to 85mm. Adapter kits are also available for either the 12-120 Angenieux or the 10-100 Zeiss Vario Sonnar zoom lenses. The cameras may be operated with 8 volt DC motors from batteries or with 117 volt, 60 cycle single phase synchronous motors from AC power lines.

A separate brochure, Technical Information Booklet #A-62-025 provides detailed information, and is available on request.

Cat. #321 003. Universal Studio Blimp only for 16S/B and 16M/B cameras.
Cat. #321 095. Adjustable Matte Box only for Studio Blimp.

ARRIVOX-TANDBERG SYNC SOUND RECORDER

The Arrivox-Tandberg is a 1/4" tape recorder, developed jointly by Arriflex and Tandberg, expressly for synchronous sound filming with Arriflex cameras. The Recorder is designed to provide professional quality audio and essential features at a budget price.

Recorder tape transport is driven by a servo motor system. Features include modern, push-pull pilotone synchronization; two mike inputs, switchable for use with either dynamic or condenser microphones (preamps and power supplies are built in); individual gain controls and speech-music switches, and a limiter that can be switched in or out. Accessories include: Resolvers; Microphones; Headsets; Batteries; AC Adapter-Charger; Eveready Carrying Case; and other items.

A separate brochure with complete data is available on request.



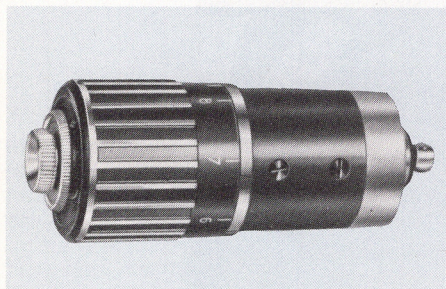
Cat. #354 100. Arrivox-Tandberg Synchronous Sound Recorder.
Size: 13" x 4" x 10". Weight: 10½ lbs. (without batteries)

MOTOR DRIVES

for Arriflex 16S/B and 16M/B Cameras

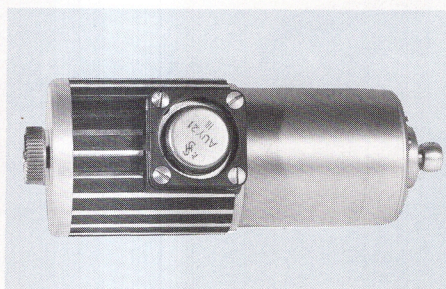
The Arriflex 16S/B and 16M/B are the most capable, most adaptable cameras in the world. This is due in no small measure to the extensive line of accessories available for these cameras. The Arriflex motor drive system is a good example; motors to provide for continuous and stop motion; Forward

and Reverse operations; variable speed or standard sound speed; AC or DC; motors to cover every filming requirement. They are all easily interchanged without tools of any kind. The motors described below may be used for either the Arriflex 16S/B or 16M/B camera.



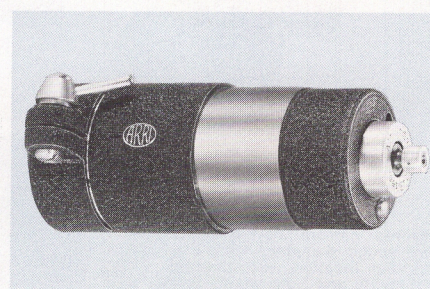
8 Volt, DC, Variable Speed Motor

This is the most useful and popular motor in the 16S/B-16M/B program. It operates from an 8 volt battery, or any adequate DC supply. A built-in rheostat controls camera speed. Powered by a standard 8 volt Arriflex battery, motor speed range is from about 6 to 40 fps. The motor may also be over-volted to 12 volts to drive the camera up to a maximum of 64 fps. Forward and Reverse operation. Cat. #339 300.



8 Volt, Governor Controlled Motor

The Governor Controlled Motor is designed to operate from 8 volt, DC, at a fixed speed of 24 fps. (Speed tolerance, plus/minus 1.5%). The motor may be special ordered for speeds from 16 to 32 fps. The Governor Controlled Motor runs Forward only. It is perfect for Pilotone synchronous sound filming as well as all other applications where the camera is to run at sound speed. Cat. #339 301.



Phase Shift Attachment

The Mechanical Phase Shift Attachment is used in the production of suppressed field kine-scope films. The Attachment goes between the camera and motor, making it possible to adjust the phase relationship between camera and TV display. This eliminates or minimizes the shutter bar commonly seen in kinescope films. Write for Technical Sheet. Cat. #339 360.

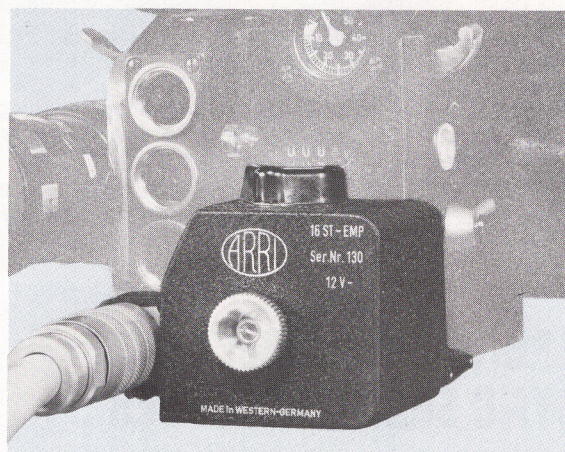


Synchronous Motors

The Arri 42 volt Synchronous Motor and Power Supply combination, has several special advantages. The Power Supply itself operates from regular 117 volt, 60 Hz, single phase power lines. It supplies stepped down voltage for the 42 volt motor. Low voltage at the motor represents an important safety feature where electric shock hazards exist. The same Power Supply also develops 8 volts DC for magazine take-up and the automatic clapstick. In addition, it powers a dynamic braking system. Cat. #339 302 Illustrated above.

The 117 volt Synchronous Motor operates directly from the 117 volt, 60 Hz, single phase power line. A small module, built into the back of the motor, supplies 8 volt DC for magazine take-up and the automatic clapstick. This is an excellent motor with distinct advantages in size and weight. Cat. #339 326 Not Illustrated.

Motor speed, in either case, is a constant, extremely accurate 24 fps, because it is controlled by the 60 Hz line frequency. Either motor is an excellent choice for sync sound filming. The 42 volt motor operates without sparking and makes an excellent choice for surgical filming. The Power Supply for the motor should of course, be kept outside the hazardous area.



12 Volt, D.C. Precision Crystal Control Motor

The Arriflex Crystal Control is a precision, electronic, camera-speed regulation system, used for cordless Pilotone synchronous sound. It will run the 16S/B or the 16M/B at 24 fps, with a near-perfect accuracy of plus/minus one frame in a 400 foot take. The complete system consists of the Crystal Controlled Motor and the combination Crystal Control Electronics Power Pack at the camera, and a matching Crystal Controlled 60 cycle Oscillator at the recorder. (Only the Crystal Controlled Motor is shown above.)

The Crystal Control system may be operated in four different modes: Crystal Frequency Controlled; Powerline Frequency Controlled; Variable Speed from 10 to 40 fps; and, Regular Governor Controlled. A separate brochure is available with complete information.

Cat. #339 384 Crystal Controlled Motor only.

Note: Single Frame Motor for animation and time-lapse cinematography is illustrated and described on Page 20.

POWER SUPPLIES

for Arriflex 16S/B and 16M/B Cameras

The Arriflex 16S/B and 16M/B accessory system includes batteries and power supplies to suit every need or preference. Arriflex Duro-Pack batteries are outstanding, proven products of advanced nickel-cadmium technology. These Duro-Packs are made specifically for 16S/B and 16M/B cameras. Battery cells are quality-controlled, being individually selected, tested and matched for maximum power and long life.

Transformer powered miniature charger is built into the Duro-Pack

battery case. This guarantees properly matched charging rates, maximum safety and outstanding convenience. The mini-charger is designed for practical, 10-12 hour overnight charging from 117 volt, 60 cycle, AC lines. Recharging is a simple, straightforward procedure that requires minimal attention.

Arriflex nickel-cadmium batteries represent your best buy because they assure the lowest battery cost per foot of film, consistent with heavy duty performance.



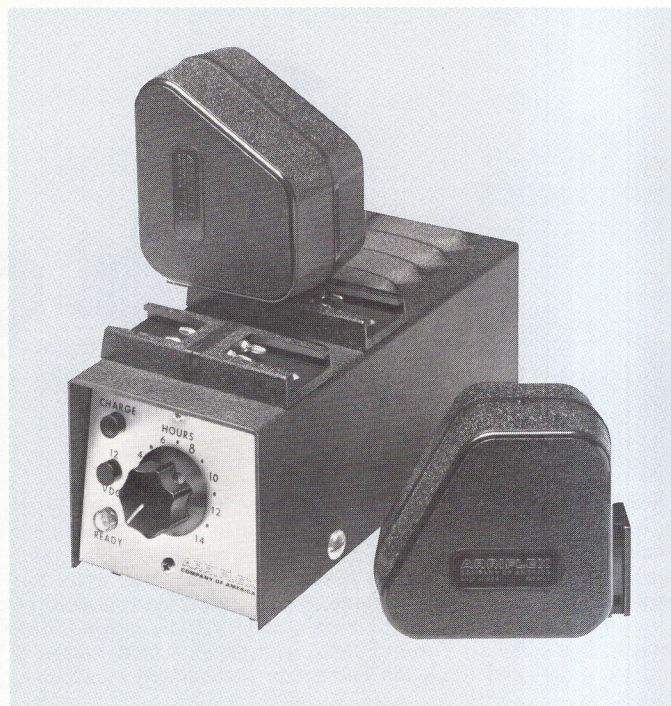
8-Volt, 4 AH Duro-Pack® Nickel-Cadmium Battery with built-in Mini-Charger

The 8-volt, 4 Ampere-Hour Duro-Pack is a convenient, compact battery package. It is designed to power Arriflex 16S/B or 16M/B cameras through a good day's filming, with a minimum of bulk and weight. The Pack will run either camera, with 400 foot magazines for 1800 feet of film per charge, at normal temperatures. Weight, 3¾ lbs., size 5½" x 2" x 7¼". Cat. #331 014.

8-Volt/8 AH — 16 Volt/4 AH Duro-Pack® with Mini-Charger

The 8 volt/16 volt nickel cadmium battery is a double capacity version of the Duro-Pack previously described. It is recommended for all applications where exceptionally large amounts of film must be exposed per working day. And because extreme cold reduces battery working capacity drastically, it is also recommended for use in sub-freezing temperatures. The double capacity of the 8 volt/16 volt Duro-Pack extends its operation under these conditions. (Consult our Technical Service Department for information on the use of Arriflex cameras and accessories at extreme low temperatures.) This Duro-Pack model will drive 16S/B or 16M/B cameras, with 400 ft. magazines, for approximately 3000 feet of film per charge, at normal temperatures.

The Duro-Pack has a built-in selector switch, so that the battery may be tapped at 8 volts with a capacity of 8 AH, or at 16 volts with a capacity of 4 AH. 16S/B and 16M/B cameras should be run from the 8 volts position only. Weight 6¾ lbs. Size 5½" x 3" x 7½". Cat. #331 015.

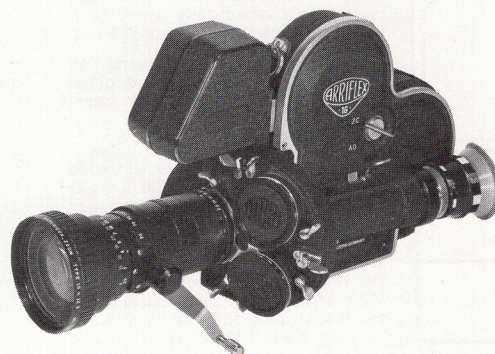


8 Volt/1.8AH Mini Duro-Pack® Nickel-Cadmium battery

Here's the new system for your Arri 16S camera that provides the freedom, economy and convenience of filming without a separate battery pack and separate power cable. Mounts directly on camera without cable. Approximately 1000' per charge. Weighs only 20 oz. Cat. #331-045.

Charger for Mini Duro-Pack® battery

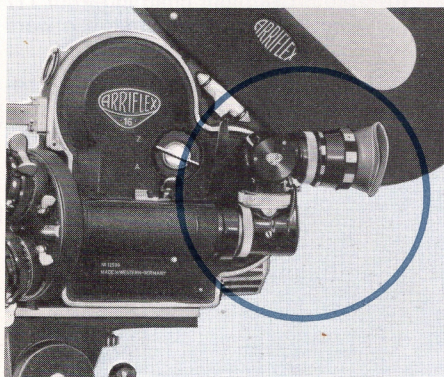
Recharges as many as 4 Mini Duro-Packs at a time! Operates from 110V AC or from 12V DC car or boat cigarette lighter outlet. Maximum charging time, 12 hours with timer. Cat. #331-053.



FINDER ACCESSORIES

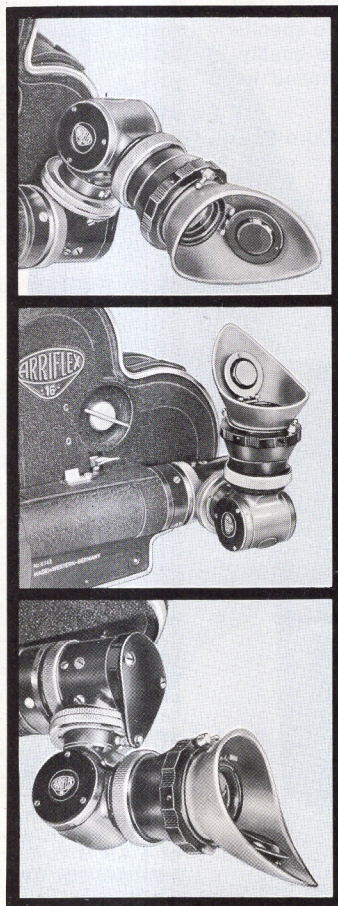
Arriflex 16S/B and 16M/B

PERISCOPE FINDER

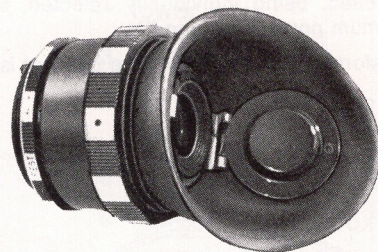


In some special applications, where it is not practical to look into the camera eyepiece from the rear—with camera mounted on an animation or microscope stand, or when shooting upwards from ground level—the Periscopic Finder Attachment offers valuable convenience. An optical system, consisting of a roof prism and ten lenses, it attaches to the camera between the regular finder and the detachable eyepiece. It carries the image “around the corner” so to speak. An elbow joint permits adjustment of the angle to suit the requirements of the moment.

The Periscopic Finder Attachment also serves as an extension eyepiece, and makes viewing with the left eye possible when the 400' magazine is used on the camera. Cat. #339 100



Interchangeable Viewfinder Eyepieces



All Arriflex 16S/B and 16M/B cameras are normally supplied with the standard viewfinder eyepiece. The eyepiece has a manually operated hinged cover that when closed, prevents back-light from entering the camera's reflex system. The cover should be closed whenever the cameraman's eye is not against the eyepiece during filming. (Illustrated)

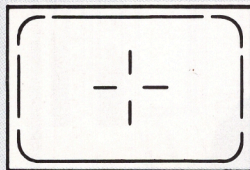
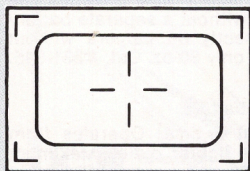
Available as an option on new cameras, or as an accessory for older cameras, is an automatic closure eyepiece. This eyepiece has an internal, automatic closure mechanism which opens when the eye is pressed against the eye-cup and closes as soon as it is removed. (Not Illustrated)

Both units offer diopter adjustments to compensate for personal eye acuity. In cases where this adjustment is not sufficient, or where astigmatism is a problem, a corrective lens can be mounted in a recess of the removable eye-cup.

Standard Arriflex 16S/B and 16M/B 10X Eyepiece. (Replacement) With Diopter adjustment and removable rubber eyecup. Catalog #339 114.

Automatic Arriflex Eyepiece. (Available as an option or as an accessory) Similar to above, but with Automatic Closure mechanism. Catalog #339 113.

INTERCHANGEABLE GROUND GLASS

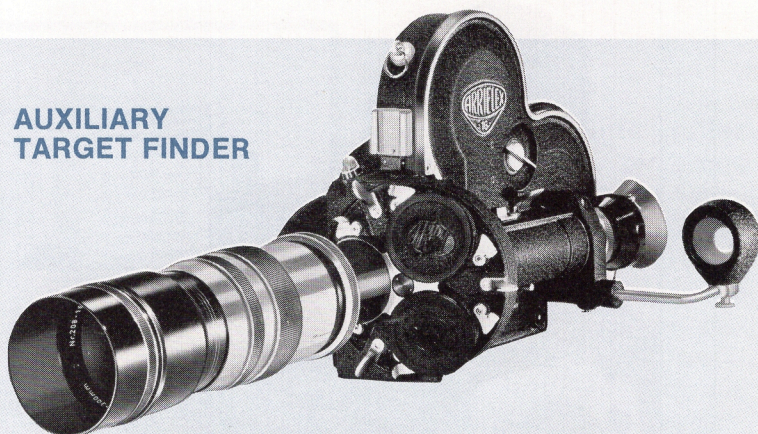


Arriflex 16S/B and 16M/B cameras are furnished with a standard viewfinder ground glass that shows: 1) Camera aperture, 2) “TV safe action” area (according to SMPTE and ISO standards) 3) Projector aperture, and 4) Center cross for critical alignment. The markings provide for practically every filming requirement. Catalog #339 130.

On special order, the cameras can be equipped with a ground glass marked to show projector aperture and center cross only. Catalog #339 131.

The 16S/B and 16M/B cameras can also be equipped with a clear glass, etched with center cross only. This is intended exclusively for cinematography, and similar, special work where, because of the high magnifications used, the grain structure of the ground glass becomes objectionable. Catalog #339 133.

AUXILIARY TARGET FINDER



The Auxiliary Target Finder is a particularly helpful accessory in cases where a long focal length lens is used to photograph small, fast moving distant objects, such as in sports, wildlife, racing, etc. The need for the Auxiliary Target Finder arises because, while the telephoto lens pulls in a large image, it has a very narrow field of view, making it very difficult to pick up a small rapidly moving, distant object. The Auxiliary Target Finder, with its wide field, makes it easy to “lock in” and track the subject in the camera viewfinder.

Cat. #339 121

LENS ACCESSORIES

Arriflex 16S/B and 16M/B

Arriflex Matte Boxes serve to shield the taking lens from stray light so as to maintain lens performance at its best, in terms of contrast and color purity. The Arriflex 16S/B and 16M/B Matte Boxes also serve as carriers for filters and filter holders. Often, this makes it possible to use one standard size filter for several different lenses.

UNIVERSAL MATTE BOX

The Universal Matte Box is intended to meet the special requirements of such widely used zoom lenses as the 12-120 Angenieux, the 10-100m Zeiss Vario Sonnar, and other similar large lenses. The Universal Matte Box features extra-large front and back clear aperture, and an extra-long beam for these lenses. The Matte Box may also be used with smaller, fixed focal length lenses by means of a small adapter in the rear stage.

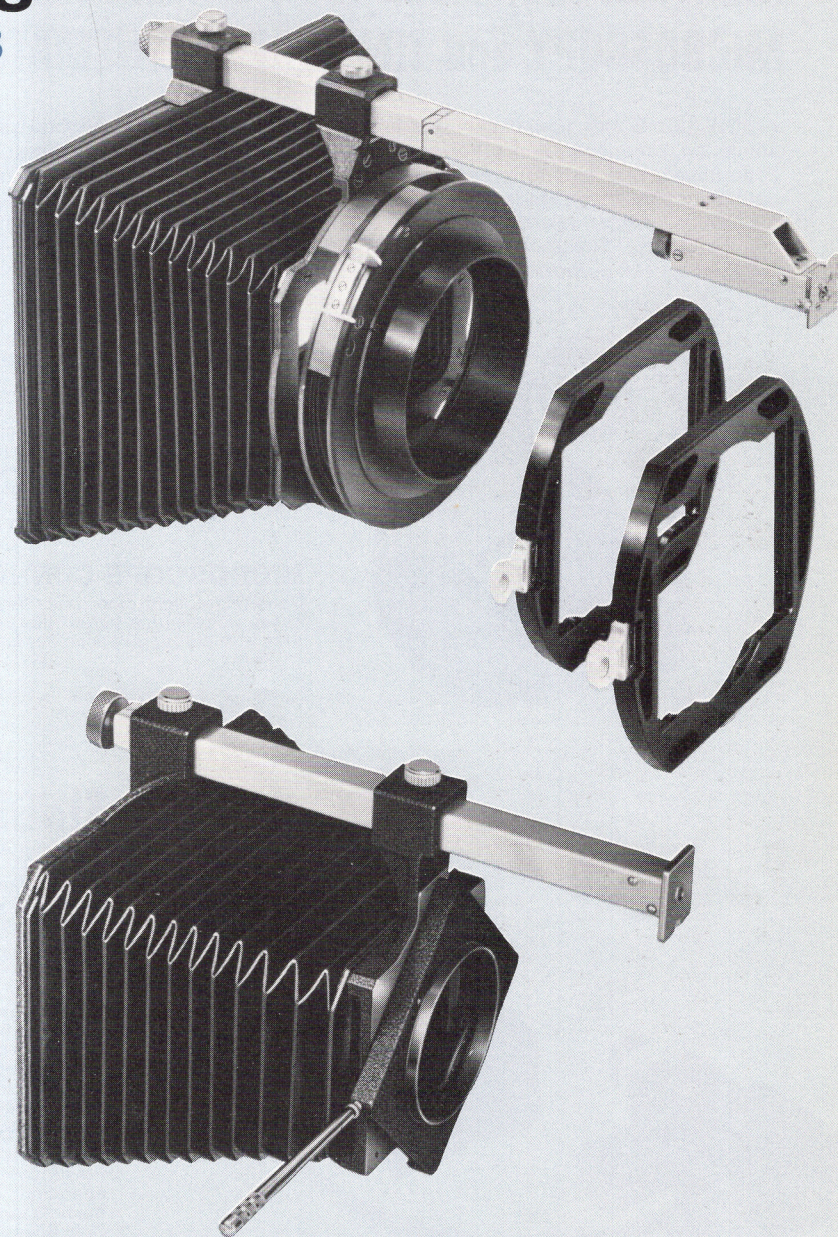
The Matte Box has two stages at the back for filters and Universal Filter Holders, two of which are supplied with the Matte Box. The Holders will accept any one of the following filter sizes: 3" x 3" Wratten; 75 x 75mm Arriflex; 75 x 100mm Arriflex graduated filters; or 94mm diameter, round polarizing filters. The filter stage of the Matte Box itself will also accept directly, (ie without holder) standard 4" x 4" Wratten filters, up to 10mm in thickness. Cat. #339 002.

STANDARD MATTE BOX

The Standard Matte Box is exceptionally compact, and recommended for all the shorter, fixed focal length lenses in common use, up to about 75mm, on both the Arriflex 16S/B and 16M/B cameras. The construction of the rear of the Matte Box features two stages for 60 x 75 x 3mm and 60 x 100 x 3mm filters, or holders for 2" x 2" glass filters or gels. The rear stage can be rotated and may be used with polarizing and graduated filters. The back end of the Matte Box is threaded to accept M58 x 0.75mm screw-in filters or adapters. The front of the Matte Box will take slide-in mattes for special effects. (See the Price Lists for a selection of available types). Cat. #339 000.

FILTERS AND FILTER HOLDERS

The Arriflex accessory program includes filters and filter holders in all the most commonly required shapes, sizes and colors. The selection is shown in our Price List and includes: Filters and filter holders for both the Universal Matte Box and the Standard Matte Box illustrated above, as well as screw-in and slip-on adapters for mounting directly on lenses. The lenses described in the Price List are keyed to matched filters and/or adapters—individual filters and holders are shown on the back pages. We invite you to write or call regarding special applications and problems.



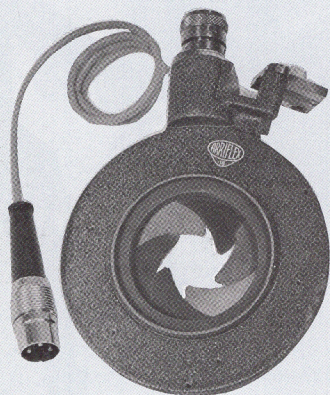
LENS CRADLE

In sports, wildlife and other special types of filming, extra long focal length telephoto lenses are often used with Arriflex 16S/B and 16M/B cameras. An Arriflex cradle for the lens is essential in these cases to provide supplementary support. Arriflex cradles are solidly built to provide the necessary support and rigidity. They are also equipped with the flexible adjustments necessary to establish and hold precise lens alignment. Arriflex cradles are available for 240 and 250 Angenieux zoom lenses, 300mm Pan Tele Kilar lenses, 400 and 600mm Sport Fern Kilars, and others. See the Price List for complete details.



ARRIFLEX 16S/B and 16M/B ANIMATION, MICROSCOPY and TIME LAPSE CINEMATOGRAPHY

Arriflex 16S/B and 16M/B cameras further demonstrate their multi-purpose versatility doing animation, time-lapse and other special types of cinematography in production studios, art departments and industrial and science laboratories. Arriflex cameras have all the built-in capabilities for these kinds of demanding work—such as ultra-precise registration movement for 'optical printer' results, and mirror shutter reflex viewing to make set-up and alignment quick and easy. These characteristics of 16S/B and 16M/B cameras are supplemented by a series of special purpose accessories, among which are the following:

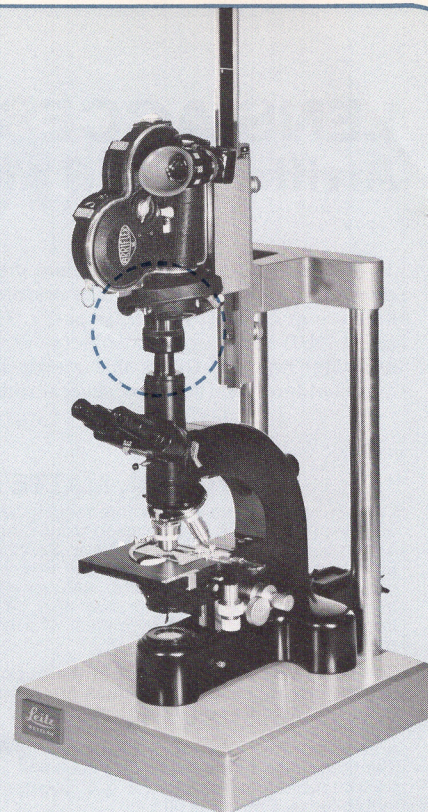


AUXILIARY SHUTTER

The Auxiliary Shutter serves as a capping shutter to prevent fogging in single-frame applications where light levels are high and a single frame of film remains in the gate for a relatively long time. Operated from its own 8 Volt DC solenoid, it is automatically controlled by the Arriflex Single Frame Mechanism. Cat. #339 345.

MICROSCOPE CONNECTOR SET

Consists of light trap, and "Rezar" lens adapter. These accessories permit the use of Arriflex cameras with all popular microscopes. Cat. #339 043.



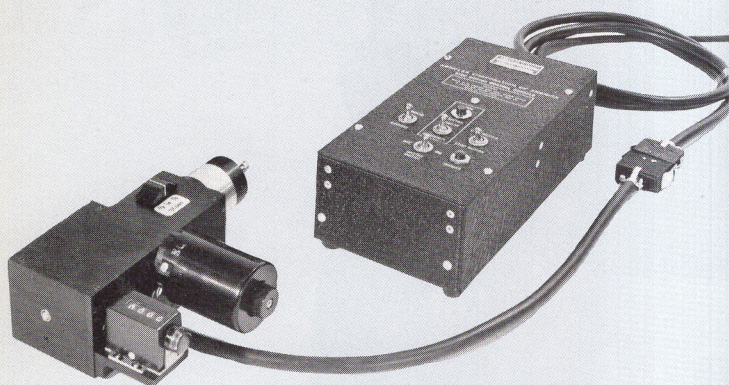
SINGLE FRAME MOTOR

The Arriflex Single Frame Motor is designed for use with either the 16S/B or 16M/B camera. Single frame operation is of course, the key to all animation and time-lapse cinematography.

The Single Frame Motor has every essential capability required for single frame operation, for sophisticated applications in science, industry and the film production arts. The Motor may be programmed so that one frame-cycle is completed on a single pulse—the basic requirement of all animation work. Exposure times of $\frac{1}{8}$, $\frac{1}{4}$ or $\frac{1}{2}$ second may be selected. The Motor may also be programmed to go through one-half cycle, on one pulse, stopping with the camera shutter open, and to complete the cycle on a second pulse, stopping with the camera shutter closed again. This capability makes possible extended time-exposures, commonly required in biological and medical studies of specimens in vivo.

Other salient features include: Contacts for strobe flash synchronization; Frame counter; Forward and reverse operation; Stop motion or continuous operation; Remote control via a programmed Intervalometer. (See instrument described below) For additional information, please write for separate Data Sheet.

Cat. #339 337 Arriflex Single Frame Motor with Control Console.

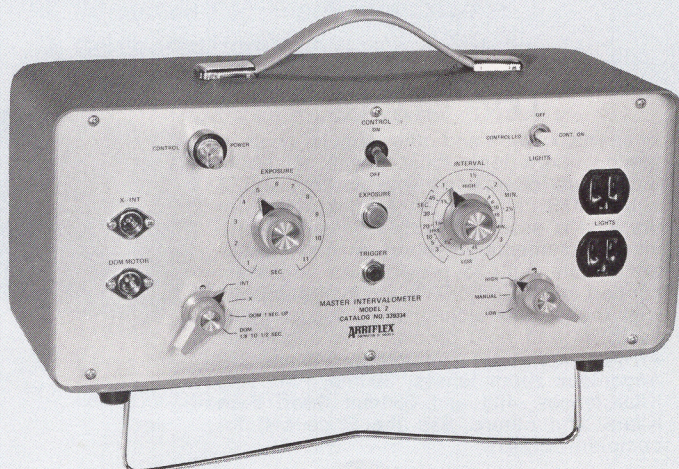


MASTER INTERVALOMETER—Model 2

The Master Intervalometer is a control instrument, developed especially for use with Arriflex 16S/B and 16M/B cameras that are equipped with the Single Frame Motor. It is used to program the operation of the camera, lighting, and other devices, in connection with time-lapse, stop-motion, data recording and similar, special purpose cinematography.

The camera functions are accomplished by means of two separate electronic timing circuits, which can operate the camera, frame by frame, with intervals between frames ranging from 3 seconds to as long as $1\frac{3}{4}$ hours, and time exposures of each frame of film from 1 to 11 seconds. Shorter exposure times of $\frac{1}{8}$, $\frac{1}{4}$ and $\frac{1}{2}$ seconds are accomplished by the Single Frame Motor itself.

The Master Intervalometer will handle programmed switching of lighting up to a maximum load of 1.8 kilowatts. A special relay circuit switches lights on, $\frac{1}{2}$ second before film exposure, to allow incandescent lamps to reach full brightness and color temperature. A series of outlets and control switches facilitate adaptation to individual requirements and to facilitate initial set-up. For additional information, write for Technical Data Sheet. Cat. #339 334 Master Intervalometer—Model 2.



ARRIFLEX 16S/B and 16M/B CAMERA SUPPORTS

BODY BRACE (A)

For hand-held filming, the ultimate in operator comfort and camera stability is achieved with the Arri Body Brace. This is a special design, involving the shoulder and body for support. It is fully adjustable to the individual's physique. Lightweight, reinforced fiberglass members are used wherever the Brace makes contact with the body. The brace is very lightweight and can be folded to a convenient size for transportation. An Arriflex Nickel Cadmium battery can be fastened to the back of the shoulder piece. The Body Brace can be supplied in two versions, either with or without Pistol Grip. Cat. #341 153 Arriflex Body Brace with Pistol Grip. (Illustrated) Cat. 341 154 Arriflex Body Brace with $\frac{3}{8}$ " camera retaining screw only.

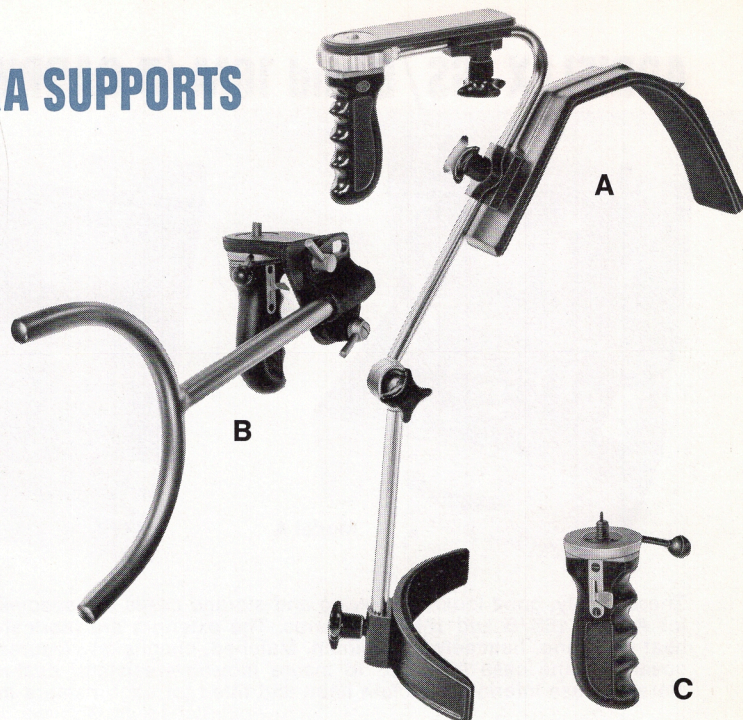
SHOULDER-POD PISTOL-GRIP (B)

The Arriflex Shoulder Pod is supplied in two models. The Shoulder Pod/Pistol Grip combination illustrated, offers the most in comfort and convenience, greatly contributing to camera stability during hand-held filming. The Pistol Grip has an integral trigger mechanism which enables the operator to stop and start the camera. It functions through the tripod socket of the camera. The Pistol Grip only may be mounted to the camera by means of a separate counter-plate supplied with the combination. Cat. # 341 152.

The other model (not illustrated) consists of only the Shoulder Pod. This is a basic camera support, and very serviceable. The 16S/B or 16M/B camera is secured to the Pod by means of a camera retaining screw. Cat. #341 150.

PISTOL-GRIP (C)

An individual Arriflex Pistol Grip is also available, but it cannot be combined with the Shoulder Pod. The grip has the same trigger mechanism described above. Cat. #341 155.



TRIPODS and PAN HEADS

ARRIFLEX 16 TRIPOD (A)

This tripod is designed to take full advantage of the camera's compactness, lightweight, and low optical axis. When the camera is mounted, its film plane is positioned precisely in line with the pan and tilt axis of the tripod head. The hemispherical ball joint head permits leveling of the camera without adjusting the tripod legs.

Other features include: lightweight, sturdy wooden legs with individual extension locks and scale; adjustable anti-slip chains; dual spikes and tie-down lips on each leg for triangles. Working Height 15" to 65"—Weight 13½ lbs. Cat. #341 100.

ARRIFLEX 16 SHORTY TRIPOD (B)

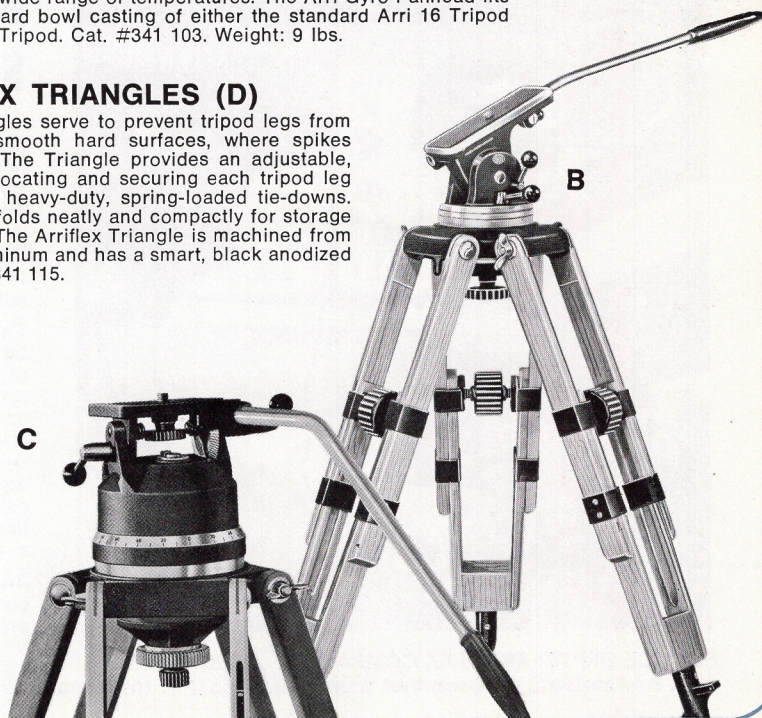
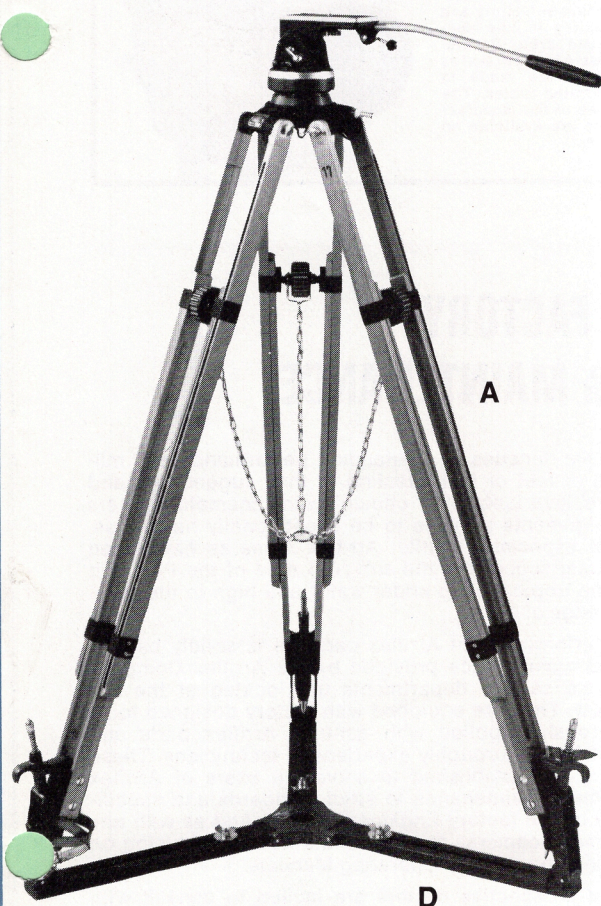
The Arri Shorty Tripod is designed for low angle shooting. It is normally supplied without a panhead. The Shorty complements the standard Arri 16 Tripod and it can be used with either the Arriflex Hemispherical Ball-Joint Panhead, or the Arri Gyro Head. Cat. #341 110. Working Height: 9" to 21". Weight: 8½ lbs.

GYRO PANHEAD FOR ARRIFLEX 16 TRIPOD (C)

For exceptional smoothness and reliability, there is nothing better than the Arri Gyro Head. The Gyro head utilizes two individual planetary gyro systems to produce exceptionally smooth, even-speed pans and tilts. These superior characteristics are retained over an exceptionally wide range of temperatures. The Arri Gyro Panhead fits into the standard bowl casting of either the standard Arri 16 Tripod or the Shorty Tripod. Cat. #341 103. Weight: 9 lbs.

ARRIFLEX TRIANGLES (D)

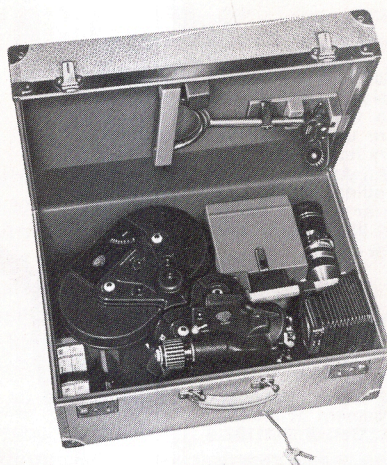
Arriflex Triangles serve to prevent tripod legs from slipping on smooth hard surfaces, where spikes cannot hold. The Triangle provides an adjustable, stable base, locating and securing each tripod leg in place with heavy-duty, spring-loaded tie-downs. The Triangle folds neatly and compactly for storage or shipment. The Arriflex Triangle is machined from extruded aluminum and has a smart, black anodized finish. Cat. #341 115.



ARRIFLEX 16S/B and 16M/B CARRYING CASES



Model A



Model B



Alu Case

These sturdy, good looking carrying and storage cases are specially made for Arriflex 16S/B and 16M/B cameras. The exteriors are fabricated from heat reflecting, hammered aluminum. Matched, channeled closures on the cover and the case are used to insure moisture-resistant, dust-resistant storage. Case interiors are cloth lined and fitted for each camera model.

ARRIFLEX 16S/B COMPARTMENT CASE MODEL A

This compact case is designed to accommodate the Arriflex 16S/B camera with three fixed focal length lenses, standard matte box, motor, power cable, and other small accessories. Cat. #332 000. Size: 15" x 9" x 8". (Fits under airplane seat) Weight: 8 lbs.

ARRIFLEX 16S/B COMPARTMENT CASE, MODEL B

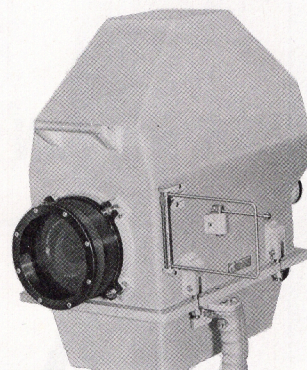
The Model B is a larger case made to accommodate the Arriflex 16S/B with one 400 foot magazine and torque motor mounted on the camera. It also accepts two additional magazines, camera motor, power cable, three fixed focal length lenses, standard matte box, shoulder pod and other accessories. Cat. #332 001. Size: 24" x 6" x 8½". Weight: 20 lbs.

ARRIFLEX 16M/B COMPARTMENT ALU CASE

The Alu case is made for the Arriflex 16M/B camera. It will accept the 16M/B with one 400 foot magazine mounted on the camera and one additional, 200 or 400 foot magazine, three fixed focal length lenses, standard matte box, camera motor and power cable, and other accessories. Cat. #332 002. Size: 20" x 9" x 15" Weight: 16½ lbs.

UNDERWATER HOUSINGS

Arriflex 16S/B and 16M/B cameras are widely used in underwater cinematography, because of their outstanding versatility and reliability in this specialized area. Several types of underwater housing are made in the United States. The names of the manufacturers are available on request.



ARRIFLEX FACTORY SERVICE & MAINTENANCE

Arriflex cameras have decades of outstanding performance and millions upon millions of feet of film attesting to their ruggedness and reliability. They are invariably 'first choice' with cinematographers whenever their assignments promise to be exceptionally hazardous, or the environment especially hostile. Arriflex cameras have been used with the greatest success in the sub-zero cold of the Poles, in the torrid heat of the tropics, deep under water and high in the ionosphere, at the very edge of space.

The world-famed performance of Arriflex cameras is solidly backed by the services and maintenance provided by the Arriflex Company of America. First-rate service departments are located at the addresses shown below. They are equipped with factory designed tools and gauges, generously supplied with genuine Arriflex parts and staffed by factory trained, thoroughly experienced technicians. These service departments are established to serve the users of Arriflex equipment with camera maintenance to strict standards and specifications established by the factory Engineering staff. And as with any fine piece of equipment, cameras should be returned for servicing on a regular basis, as indicated in the Operating Manuals.

Arriflex owners and prospective owners are invited to consult with our Technical Department regarding special applications, needs or problems.

SERVICE DEPTS: ARRIFLEX COMPANY OF AMERICA

25-20 Brooklyn Queens Expressway West, Woodside, N. Y. 11377 • 1011 Chestnut Street, Burbank, Calif. 91502