

Arriflex 16BL

NOTE: use a sturdy tripod for Arri-BL

Quiet hand-held single or double system sound or wild 16mm camera used for all types of TV film production and documentary film making. Facilities include Pilotone generator, automatic start and manual scene marking and connections for a single system (com-mag) sync sound module.

Description

Cam driven single pull-down claw and single register pin movement.

Single port Arri steel bayonet lens mounting. Takes all Arri mounted lenses except for those of short back focal distance (principally wide angle and Cooke Kinetal types).

Fixed opening 180° shutter. Optimum 24fps HMI frequency 48 or 60Hz.

Spinning mirror reflex viewfinder. Standard eyepiece fixed at side of camera level with film plane. Interchangeable periscope finder recommended for hand-held filming. Automatic closing eyepiece an available extra.

Early models have interchangeable 12v DC governor controlled and various voltage AC 24 or 25fps synchronous motors. Various crystal control modules may be used in conjunction with the DC motor. By external control modules DC motors may be run at variable speeds from 5-50fps. (Motors may be set for 24 or 25fps/50Hz or for 24fps/60Hz operation by changing the two gears seen behind a transparent cover inside the film chamber. Gears are marked with their speed and Pilotone frequency.) DC motor draws 3 amp. Blinking light at rear shows sync speed.

Later model, BLEQ, has in-built crystal control motor which may be set to 6,12,24,48 or 6.25,12.5,25, 50fps. External sync and a phase shift unit for filming a TV monitor and other electronic accessories may be used with this model.

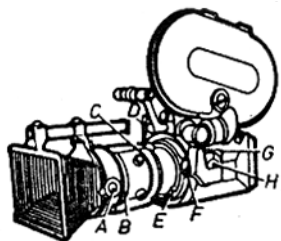
Magazines: 200, 400 ft. (60 and 120m) reversible displacement and 1200ft. (360m) non-reversible co-axial type. Film may be corewound or on daylight loading spools. Padded blimp covers; available for protection from the environment and for additional sound blimping. 16BL mags. look similar to 16M type, but are not interchangeable.

Footage counter and tachometer at rear of camera. Mags. have footage remaining indicator which is correct for B & W filmstock. (10 per cent should be deducted for colour.)

TTL exposure meter is an optional extra.

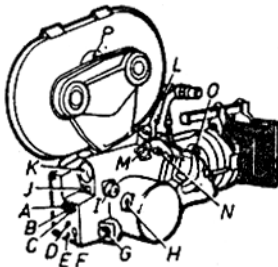
Single system com-mag recording module and amplifier is an available accessory. Amplifier has manual control and automatic gain and inputs for two microphones. Sound advanced 28 frames.

Serial number engraved on camera right side.



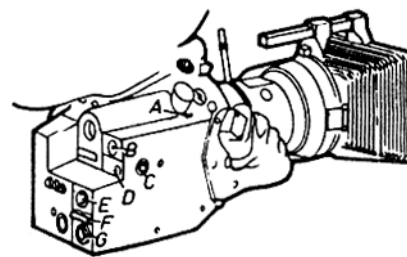
16BL with 400ft. (120m) mag., periscope finder and zoom lens blimp.

A. Blimp front release; B. Focus scale; C. Focus control; D. Zoom control; E. Aperture control; F. Lens blimp lock; G. Camera door lock; H. Viewfinder release.



16BL.

A. Auto start mark indicator lamp; B. Operation indicator lamp; C. Manual start mark indicator lamp; D. Earphone jack; E. Manual start mark connection; F. Pilotone and auto start mark socket; G. Power connection; H. Forward/reverse switch; I. Footage counter reset; J. Footage counter; K. Tachometer; L. Inching knob; M. Sound amplifier connection; N. Focal plane indicator; O. Start button; P. Footage remaining.



16BLEQ crystal control model.

A. Switch for sync / pre select / variable speeds; B. Speed for pre select control; C. Footage counter reset; D. 'Off speed' warning; E. Electronic accessory socket; F. Emergency connector; G. Power socket.

Arriflex model BL

The BL model of the Arriflex 16 mm line has become one of the most widely used cameras in the field of documentary film making and for television report work. It combines the characteristics and advantages of the M and ST models, as described above, but has the added advantage of a noiseless running mechanism, use of zoom lenses of special characteristics, and facilities for double or single sound recording using a magnetic sound module.

CAMERA BODY. The body consists of a unit mounted on a single platen which is floating acoustically within the camera housing in order to isolate the noise of the running motor. In this way, the intermittent system has a noise level of no greater than 31 dB.

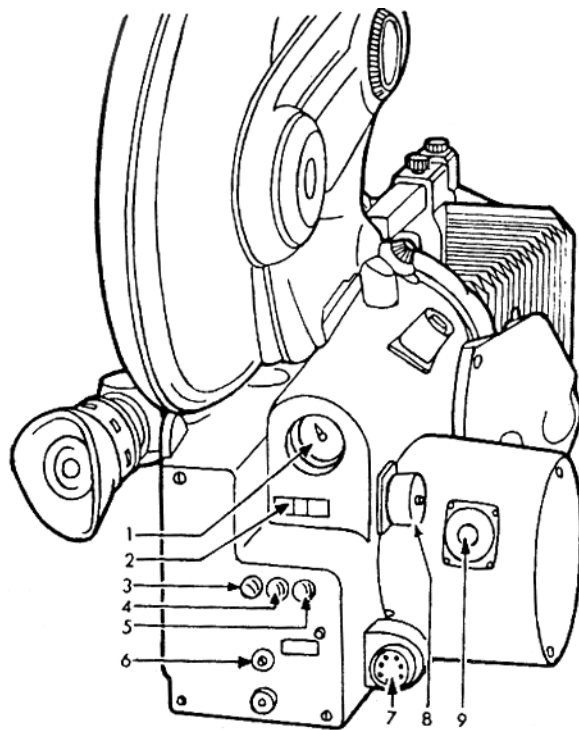
FILM TRANSPORT MECHANISM. This is the same as that used in other models, with a single claw shuttle and register pin.

LENS MOUNT. The great improvement in the image quality of zoom lenses has brought them into almost universal use. The Arriflex BL, therefore, has been provided with a single mount design for zoom lenses, with their own special housing which limits motor noise. Several models of zoom lens with housing are available: Angenieux f 2.2, 12-5-75 mm; Angenieux f 2.2, 12-120 mm; Angenieux f 2.2, 9.5-95 mm or Zeiss Vario Sonnar f 2.8, 10-100 mm. The lens housing provides facilities for lens controls with scales for diaphragm and focusing. On the front of the unit there is an extendible bellows sunshade and matte box. In view of the weight of the complete optical unit the lens mount is of rugged construction in steel. Zoom lenses can be operated automatically by a motor with controls set on the handgrip.

MOTORS. The motors are interchangeable and are positioned on one side of the camera. The motor is connected to the camera mechanism by two gears. The standard motor is for 12 v. DC, running at 3000 r.p.m. for a camera speed of 24 f.p.s. By interchanging the gears the camera speed can be changed to 25 f.p.s. The motor is provided with a governor to maintain a speed constancy within a limit of 1.5%. A special device to change the running speed can be supplied as an accessory. There are models which the Pilotone signal corresponds to 60 c/s instead of 50 c/s. The company supplies synchronous motors for 100 to 240 v, and 50 or 60 c/s.

CONTROLS. The main controls and connections are sited at the rear of the camera. These are a 0 to 50 f.p.s. tachometer, four digit foot counters with zero reset button, a socket for connecting the battery cable, earphone connection socket, Pilotone socket, indicating lights to show when the camera is running, another to show when the sync mechanism is running and another for the edgemarking system. The on-off switch is placed on the body of the motor.

VIEWING SYSTEM. This is identical to all other Arriflex 16 models, viewing through a mirror shutter at 45° of the plane of the film. The image is seen through a swivelling periscope viewing system with automatic closing eyepiece which can be adjusted to any operation position and allows for viewing with either the left or the right eye. An accessory can be added to raise the viewing axis for shoulder operation. The image obtained is bright and is conveniently enlarged (x 10) and permits focusing with ease. The ground glass can be interchanged for one with grids, TV safe area, cross hairs, etc.



(1) Tachometer, (2) footage or metre indicator, (3) start marking lamp, (4) operation control lamp, (5) manual scene control lamp, (6) earphone connection, (7) camera motor connection, (8) zero reset, (9) toggle switch

MAGAZINES. The camera takes the usual type of magazine made by this company for 200 and 400 ft. loads. These have a built-in drive system and blimp and are of the single chamber type. They are provided with a footage counter calibrated in feet or metres, according to buyer's needs. A loop of film from the magazine allows rapid threading.

BUILT-IN EXPOSURE CONTROL SYSTEM. At the request of users a built-in exposure control device can be added to the Arriflex BL which measures light values over an area equivalent to 50 per cent of the 16 mm field. This is built into the viewing system and indicates the exposure in the viewfinder. The meter uses a CD cell and has a film speed setting range from 16 to 500 ASA. The controls of this system are on the front end of the camera door.

SINGLE-SYSTEM SOUND MODULE. This camera allows for easy installation of a module containing a recording head, a playback head, and inertia flywheel and several guide rollers. By this means sound can be recorded on the magnetic track which is coated on the film. A transistorized amplifier has been designed for this purpose and is provided with two sockets for a pair of low impedance microphones with individual speech/music switches, gain control, and modulation meter.

ACCESSORIES. As in the use of other models made by this company, there is a wide range of accessories for the BL to meet the most varied requirements and to adapt the camera to any kind of work. Among them are an oscillator for tape recorder, 1200 ft. coaxial magazine, carrying handle, pistol grip with trigger release, filters, carrying and storage cases, shoulder pod and batteries.

Arri 16BL Loading and Lens Changing

Magazine loading

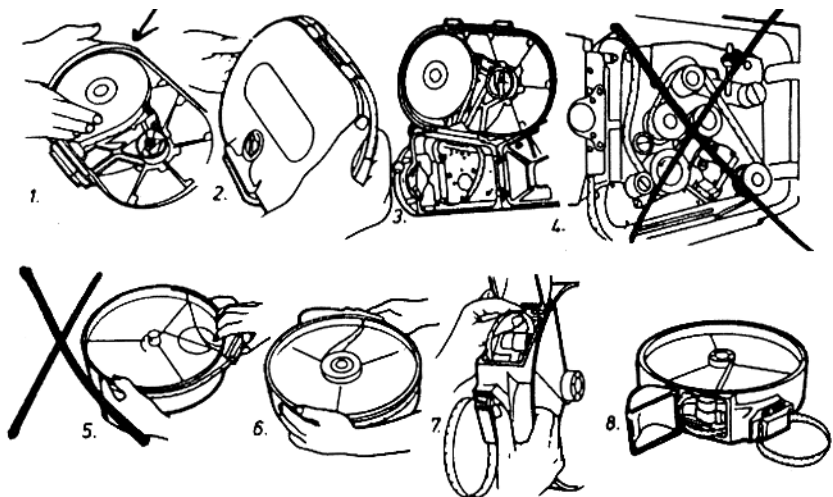
Open mag. check inside is free of emulsion dust. Filmstock must be wound 'emulsion-in' and 'B' wound if single perf. Trim film end through centre of a sprocket hole and at right angles for ease of loading. If using rolls ensure core adaptors are in place, if using daylight loading spool wound films, remove mag. core adaptors.

Hold film with end coming off in clockwise direction and thread and into feed mechanism before placing roll on left spindle. Film may be wound on male or female slotted cores. A collapsible core is normally fitted on the take-up side. Ensure that core adaptors are left in mag. after use. Gently turning mag. driving gear will ease film through mag. throat.

Measure out correct size loop by laying film along outside edge of mag. until it reaches first of two marks (43 perfs.). It is then fed back into right side of mag. and secured onto take-up centre or spool in clockwise direction, emulsion in. Set footage indicator lever and roller. Close mag. lid securely and wind on a little film by turning mag. drive gear to take-up to ensure it operates easily. Tighten up any film slack. When loading film for com-mag 'sound on film' operation a longer loop measured to second mark (76 perfs.) is required.

ARRI 16BL LOADING

1. Measuring loop length for silent or sep-mag. operation.
2. Measuring loop length for com-mag. loading.
3. Silent or sep-mag. loading path.
4. Com-mag loading path: A. recording heads.
5. 1200ft, (360m) mag. loading, measuring normal 36 perf. loop.
6. Measuring com-mag. loop.
7. Forming 19 perf. cross-over chamber loop.
8. Mag. loaded prior to closing cross-over chamber lid and replacing mag. cover.
9. To release zoom lens and blimp assembly, turn lock ring (A) anti-clockwise.
10. Press lens release button (B).
11. Remove lens directly outwards from camera.



Threading

Open the camera door, remove mag. aperture cover, open gate and inch mechanism until register pin is withdrawn and pull-down claw is half-way down its stroke. Check aperture for freedom from hairs etc.

Pass film loop through aperture. Place mag. on camera inclining gently to mesh gears. Secure by turning front knob clockwise, form loops in camera to size as indicated, hook film perf. onto register pin, close gate, inch camera, connect battery to camera and run a little film to check all is well. Close camera door and run to check or set camera speed. Zero footage counter. Never try to inch camera while it is running.