ARRIFLEX 16St



ARRIFLEX 16 St

The standard mirror reflex camera for 16mm film of proven worth throughout the world. Robust and of highest precision. With combined claw and register-pin system and an outstanding film gate. A camera with unsurpassed steadiness of image. On request with pilotone generator for synchronized picture and sound recording. On request with TTL exposure control system. The ARRIFLEX 16 St is a dynamic camera with a comprehensive system, ensuring optimum results. It is precise and thoroughly dependable.

Mirror Reflex Viewing System

170° double-blade revolving shutter: very bright, parallax-free, upright and non-reversed. Ground glasses and fibre optic screen with various format markings. Viewfinder with 10 × magnifying eye-piece, optionally with manual or automatic closure mechanism. Lockable diopter adjustment. Interchangeable eyecup, into which an additional diopter correction lens can be inserted.

Periscopic Viewfinder Attachment

Can be swivelled and rotated in any direction: screwed between eyepiece and viewfinder: provides unobstructed view when filming with the 120 m (400 ft) magazine, or for low-level shots and filming over obstacles. Also for shooting with a microscope – and ideal for left-eyed viewing.



Lenses

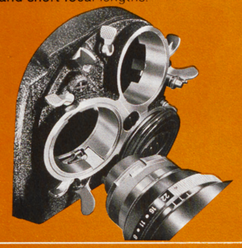
Normal, zoom and special models for all applications. In standard aluminium or steel mount, or with bayonet steel mount. For detailed information see price list.



A new feature: T-star multi-coated "Super Speed Lenses" by Zeiss with 1.3 T-stop for filming under extremely unfavourable light conditions – even by candlelight. These lenses make fascinatingly realistic camerawork possible.

Lens Turret

Rotatable, with diverging optical lens axes, avoiding vignetting between long and short focal lengths.



Bayonet Steel Mount

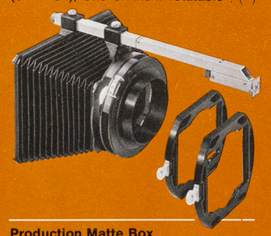
One lens opening with bayonet lock (fitted as standard) enables the insertion of medium heavy lenses without additional support.

Standard Matte Box

As light shield for standard lenses. With two stages for 60 × 75 × 3 mm and 60 × 100 × 3 mm filters or holders for filter foils (also for 50 × 50 × 4 mm glass filters). One of the filter stages rotatable with thread M 58 × 0.75 for polarizing filters. Special effect mattes can be slid into the front of the matte box.

Universal Matte Box

For larger shooting angles and more light intensity and also when the standard matte box is not large enough for size of filters. 100 × 100 mm (4'' × 4'') filters or 2 filter frames 75 × 75 mm (3'' × 3''), one of them rotatable . (**)



Production Matte Box

It is mounted on the support rods of the bridge plate. 2 filter frames 100 × 100 mm (4'' × 4''), another one rotatable for 4½'' diam polarizing filters.

Light Weight Matte Box

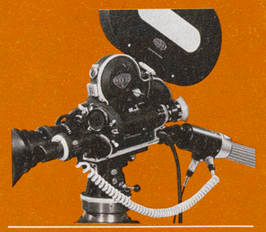
With 2 frames for 3'' × 3'' filters, for Zeiss Super Speed lenses, for Zeiss Vario-Sonnar 10–100 m and the Angénieux Zooms 9.5–57, 12–120 and 10–150 mm.

Filters

Dyed-in-the-mass glass filters, graduated filters, polarizing filters and wratten filters available in a wide range for all applications. (*) Filter foil kit in leather case.

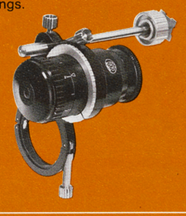
Servo Zoom Drive

For extremely even zooming at constant or infinitely variable speed. By preselection of a zoom speed it is also possible to simulate dolly-shots within certain time limit. Power supply from the camera. (**)



Fluid Drive for Zoom Lenses

For even zooming without motor control. Infinitely adjustable. With five speed markings.



Bridge Plate

For adjusting the camera's centre of gravity when mounted on tripod, with lens cradles and mount for production matte box as well as adapter plate for height adjustment to the centre of the lens.

Through the Lens Exposure Control System

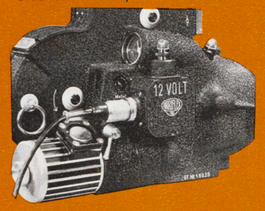
Can be supplied on demand. Optical data input from 13–28 DIN (16–500 ASA) and 24/25 to 64 fps. The measured part of the image corresponds with the important part of the 16 mm taking format and ensures exact exposure readings for all focal lengths.
The following factors are automatically compensated for:

Filter factors (except polarizing filters).
Light losses within the taking lens between f- and T-stops.
Possible (admissible according to standard) iris diaphragm tolerance of the taking lens.
Reduction of aperture (geometrical lens speed) at close-ups.

Errors caused by parallaxes between the measuring and filming direction as well as variations between measuring and taking angle are omitted – contrary to manual exposure control.
The proportion of infrared light (which varies considerably between artificial light and daylight) is filtered off the measured light beam.
On cameras already in the field, those with Serial No. 12001 and higher, the Exposure Control System can be installed in the factory. Older cameras on request. (**)

Pilotone and Automatic Start Marking System

24/25 fps, 50/60 Hz. Later installation in older cameras is possible.

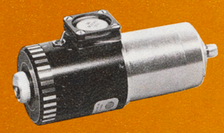


After switching on camera and tape recorder, the running film is marked by an additional exposure until it reaches the proper running speed. A control lamp indicates the duration of the start marking. Once the requested running speed is reached, the electrical exposure in the film gate stops. At the same time the pilot frequency of 1 Volt/50 Hz (USA 60 Hz) produced independently of the camera speed is recorded on the tape additionally to the sound.

Camera Motors and Power Supply

Variable Speed Motor

12 V, 4–50 fps

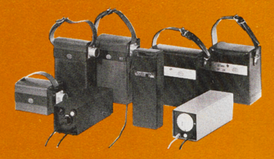


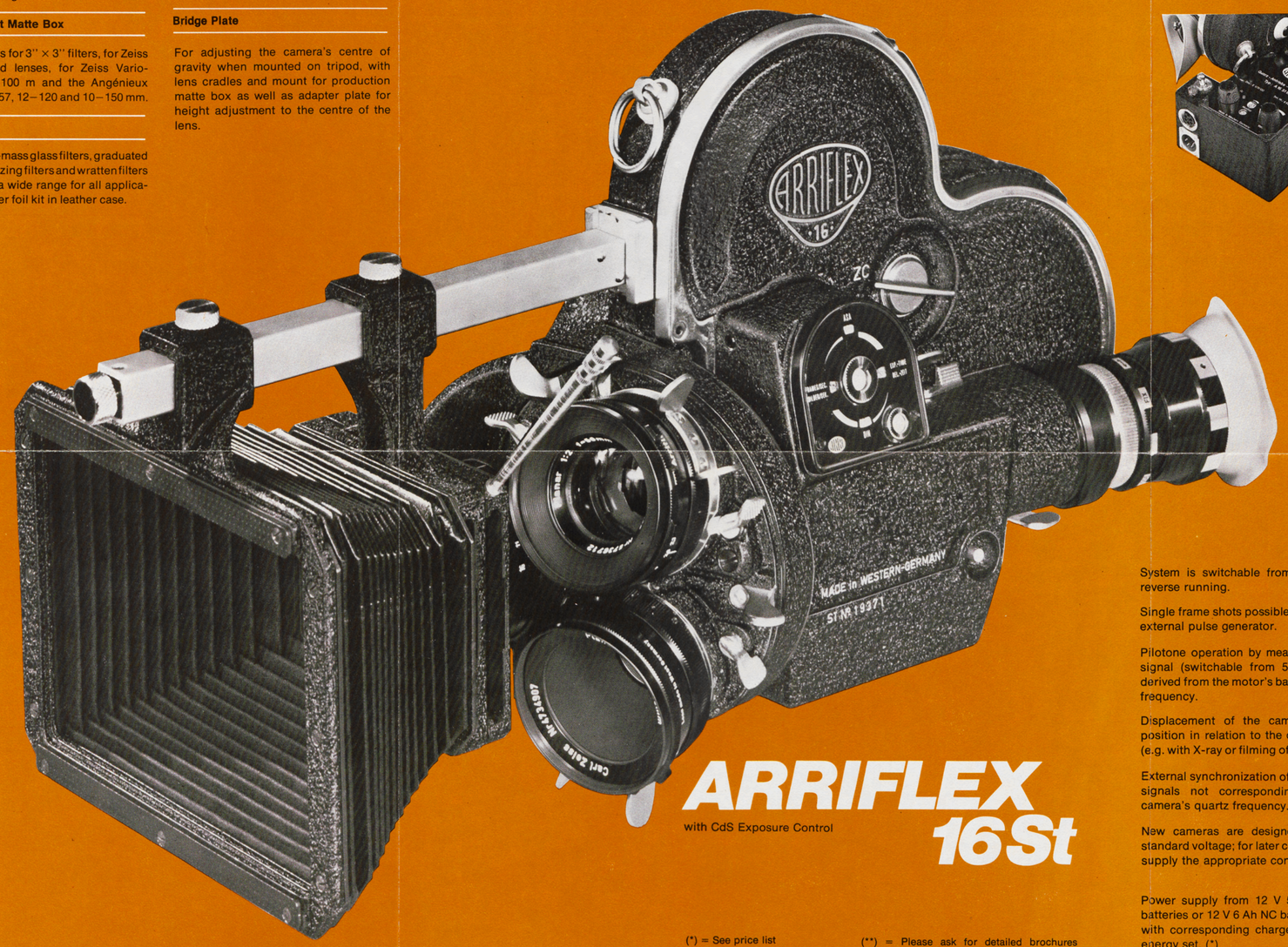
Governor Controlled Motor

12 V
(forward operation only), constant framing rate 24 or 25 fps

Power Supply for the Above Motors:

Dryfit and NC batteries incl. the appropriate chargers and one power supply unit. Moreover: High-energy dry cell battery. (*)





ARRIFLEX 16St

with CdS Exposure Control

(*) = See price list

(**) = Please ask for detailed brochures

Synchronous Motor with Power Supply

Switchable from 110 to 240 V for connection to single-phase AC. Available in 3 models:
42 V/50 Hz 24 fps, 42 V/50 Hz 25 fps and 42 V/60 Hz 24 fps, all of them with power supply 110 to 240 V. In connection with these motors, other cameras supplied from the mains can be used synchronously. (**)

The Phase Shifter

is used for filming from the television screen and eliminates the hum bar.

Quartz Drive System A 16 ST E

Standard drive voltage 12 V. This system considerably increases the range of operation of the ARRIFLEX 16 St.

Quartz synchronous cordless camera operation for frame sync sound recording.

Quartz sync use of several cameras of the same or different type at either 24 or 25 fps with a precision of ±½ frame per 120 m (400 ft) film.

Variable camera speed from 8 to 50 fps, infinitely adjustable.

Shutter stopping device with quick stop for unimpeded viewing through the viewfinder (especially important for 16 St with built-in exposure control!).

System is switchable from forward to reverse running.

Single frame shots possible with only an external pulse generator.

Pilotone operation by means of a pilot signal (switchable from 50 to 60 Hz) derived from the motor's back indication frequency.

Displacement of the camera's phase position in relation to the object filmed (e.g. with X-ray or filming of TV screens).

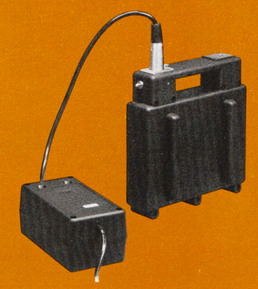
External synchronization of camera with signals not corresponding with the camera's quartz frequency.

New cameras are designed for 12 V standard voltage; for later conversion we supply the appropriate conversion sets. (*)

Power supply from 12 V 5.2 Ah Dryfit batteries or 12 V 6 Ah NC batteries, both with corresponding chargers and from energy set. (*)

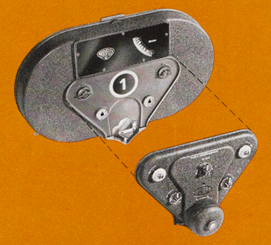
Energy Set

The energy set especially recommended for Quartz drive system consists of:
12 V 4 Ah NC battery, type NC-12/4 E in rubber housing with snap-on catch for adjustable shoulder strap, short circuit fuse and insulated charger type NCL-12/4 E in rubber housing, with automatic voltage selector 110/220 V and charging control. (**)



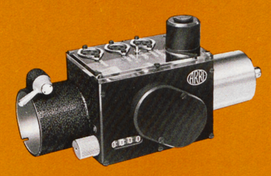
200 and 400 ft Magazines

Only 100 ft (30 m) spools can be loaded into the camera housing. 200 ft (60 m) or 400 ft (120 m) magazines (the latter also for 200 ft daylight spools) can be mounted on the camera. Both magazines with forward and reverse running, quickly changeable torque motor. Only one motor is required for several magazines of the same size. The amount of film is registered by a footage counter in feet or meters.
Black or white leather covers are available for 400 ft magazines.



Single Frame Gear Unit

The single frame gear unit (**) is mounted between camera and governor controlled motor. Exposure times adjustable to 0.14, 0.42 and 1.26 sec. Different times on request. Camera start and the switching-on of additional lamps is then carried out manually or automatically by means of a time lapse device. Built-in power supply 110–250 V for automatic control from 2 sec to 3 hours. The built-in or an external tele-counter registers the number of exposed frames. In order to avoid spill light when filming in long single frame intervals, an additional auxiliary shutter is recommended.



Aluminium Cases

Two sturdy camera cases, suitable for use in all climates, are available. One for 16 St with Zoom lens, standard or universal matte box, 3 further lenses, filters and accessories. Another for 2 additional 400 ft (120 m) magazines and shoulder tripod.
Moreover: Aluminium case for four 400 ft (120 m) magazines without torque motor.

Tripods

A screw-on pistol grip with built-in release facilitates hand-held shots.



For quick news camerawork two shoulder pods are available, which can be used with or without pistol grip. Six batteries can be inserted in one shoulder pod for the drive of the camera without auxiliary magazine. The shoulder pod with body brace and pistol grip (collapsible to minimum size for transport) gives best camera position and thus ensures convenient operation. A Dryfit battery for the camera motor can be mounted on the shoulder plate



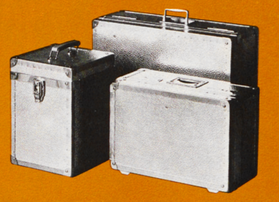
ARRI wooden tripods with friction pan and tilt head or for particularly fine pan action with gyro or fluid head. Special and gyro tripod can be extended from 44'' to 68''. The same models are also available as baby tripods, extendable from 24'' to 30'', for low-level shots. Ground tripod metal legs, attached to the bowl of the special 16 St tripod. Camera position 5'' from the ground.



Moreover: Collapsible tripod spiders and tripod scooter.



For further accessories please see the current price list.



ARRIFLEX 16 St

ARRIFLEX 16 St mirror reflex system camera for 16 mm film



ARRIFLEX 16 St with 120 m (400 ft) magazine, periscopic viewfinder attachment and quartz drive system on adapter plate with intermediate adapter, support rods, 4" × 4" production matte box and servo-zoom drive.

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TECHNICAL DATA

Aperture Format

7.5 × 10.3 mm in accordance with DIN 15602.

Film Material

16 mm standard negative or reversal film, black and white or color, with or without magnetic sound track, one or both sides perforated, emulsion winding inside, "B"-winding in the case of single perforation.

Framing Rates

4–50 fps infinitely variable with wild motor or fixed speed of 24 fps (25 resp.) with centrifugal governor controlled motor. On request quartz motor for 24 or 25 fps. Also single frame operation possible by means of special single frame unit.

Film Capacity

100 ft (30 m) daylight spools in the camera or 200 ft (60 m) resp. 400 ft (120 m) raw film on plastic core in auxiliary magazines. 200 ft (60 m) daylight spools can also be used in the 400 ft (120 m) auxiliary magazine.

Exposure Control System

On request professional CdS (through the lens) Exposure Meter, measuring behind the lens, for film speed 13–28 DIN/16–500 ASA and framing rates from 24/25 to 64 fps.

Pilotone System

On request pilotone system, 24 or 25 fps 50 Hz or 24 fps 60 Hz, with or without start marking. Pilot frequency 1 V.

Viewfinder System

Mirror reflex viewing system with double blade mirror shutter corresponding to 170° aperture sector, interchangeable ground glass with different format markings. Viewfinder eyepiece available with automatic closure mechanism. Periscopic finder attachment for flexible viewing through the finder.

Back Focal Flange Distance

52 mm $^{-0.02}_{-0.03}$

Lenses

From 5.7 mm, no upper limit for focal length, adapter rings for extreme close-ups, supplementary lenses and other accessories.

Tripod Thread

3/8" and 1/4"

Film Gate

Film gate with spring loaded pressure plate and side rail. Fixed fitting edge on the perforation side, in accordance with DIN 15602.

Film Transport System

Combined pull-down claw and registration pin system.

Camera Drive Motors

Motors with various functions for DC or synchronous AC operation, power supply from battery or mains; ARRIFLEX 12 V Quartz drive system A 16 St E.

Control Indicators

Tachometer 0–50 fps, frame counter, feet or meter counter, calibrated.

Temperature Range

–25°C to +40°C (–13° to 104°F), range extendable on request.

Dimensions

Length	16 "
Width	6 1/2"
Heigth	8 "

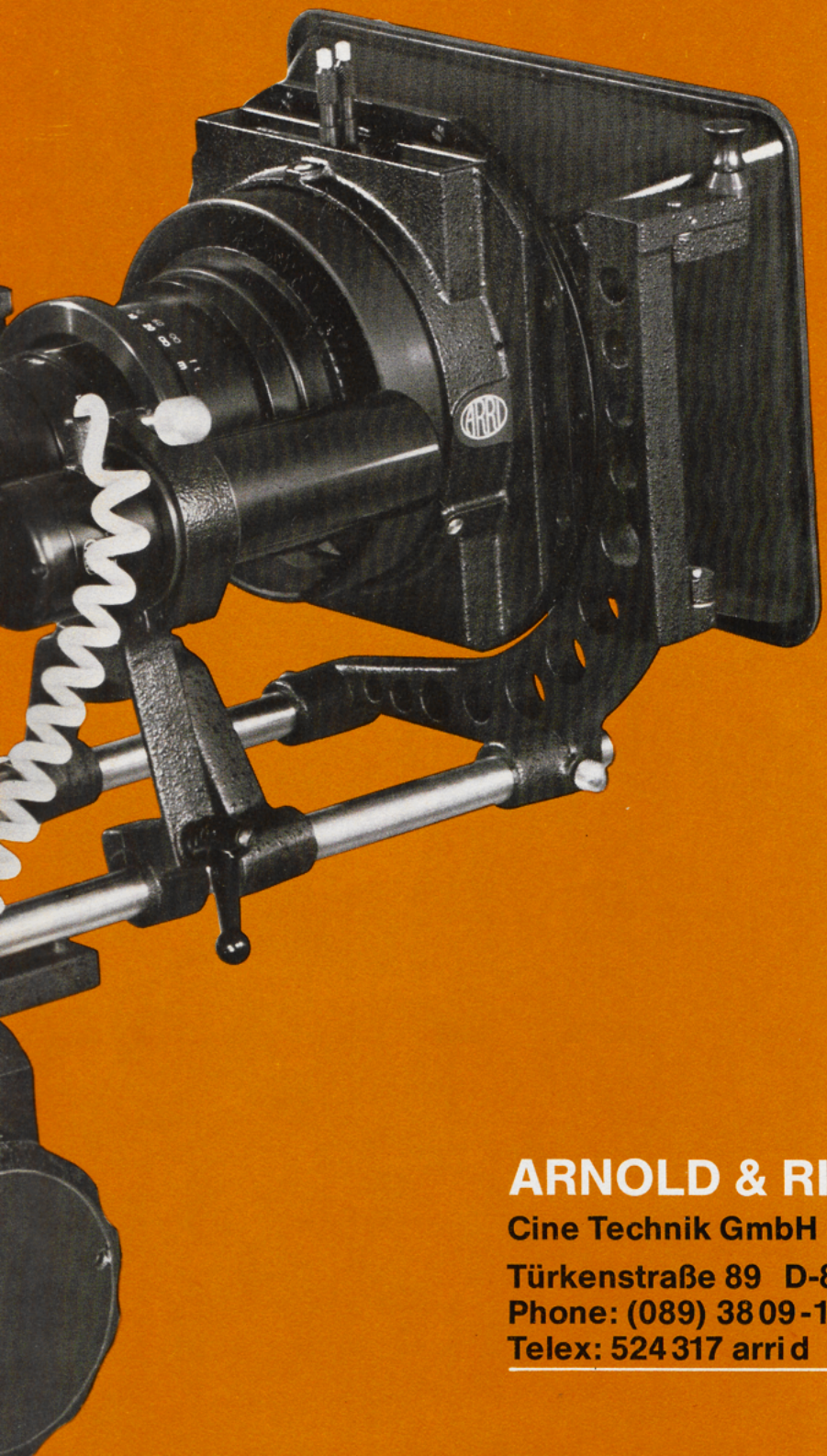
(405, 168, 197 mm), with matte box and motor, but without magazine.

Weight

9 lbs (4.2 kg)
(with matte box, 3 lenses and motor, but without magazine and film).

Technical data and standard equipment particulars are not binding and are subject to change without notice.

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