



AK 16

jetzt

PENTAFLEX 16

**GOOD SUCCESSES
ARE
YOU SAFE**

If you read the instruction manual before starting your first shots and practice using a piece of sample film in the handling of the unit.

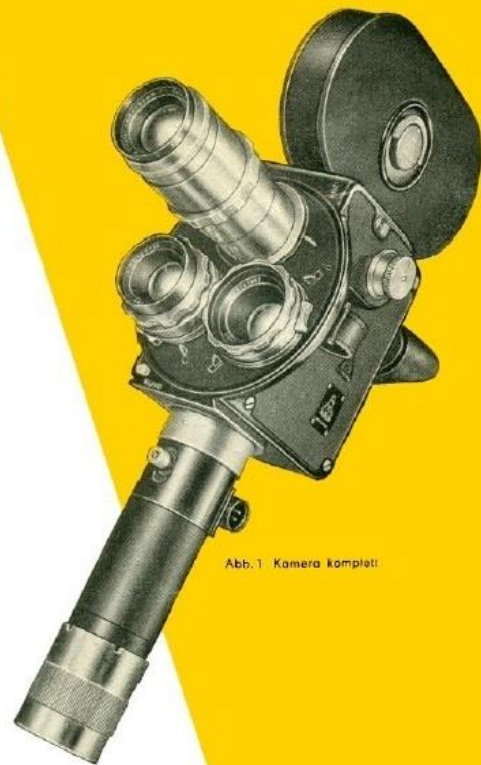
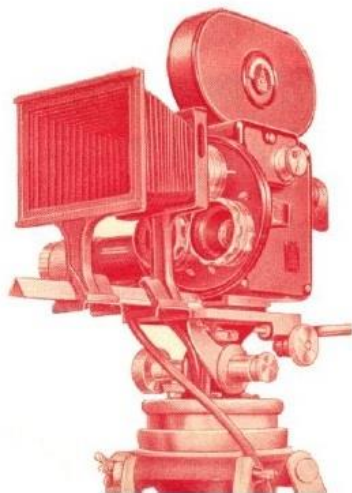


Abb. 1 Kamera komplett



(Image 1) a recording camera for 16mm one or two-sided perforated film, brings through 1hr system many advantages and expansion possibilities, which are for the filmmaker, the scientist and the amateur today

(2) with which a film exchange can be made within a few seconds by the change of the cassette. The cassette (picture 3) carries the entire transport mechanisms - with the exception of the gripper - A sensing-lever-counting device, which always shows the remaining film quantity in meters and / or. It can be supplied with cassettes with a film capture capacity of 30m, 60m or 120m.

Abb. 2 Einsetzen der Kassette

(Ref. 4) shows 1m standstill and in the run a right-sided, parallax-free and 10-fold magnified matt screen image, which allows very light and clear dis-evaluation of the image cut-out and the image sharpness. The viewfinder is in the receiving direction.

The sector diaphragm of the AK16 can be continuously adjusted (0-closed) in the range of 0 degrees to 180 degrees. It is used mainly for landing and take-offs, as well as in conjunction with a sine rewinding crankshaft.

Furthermore, different exposure times can be achieved by changes in the sector opening at the same recording frequency, for example:
 16 speed - sector opening 180 degree = 1/32 seconds
 16 speed - sector opening 90 degree = 1/64 seconds
 The table as of the Camera rear gives an impression of the table

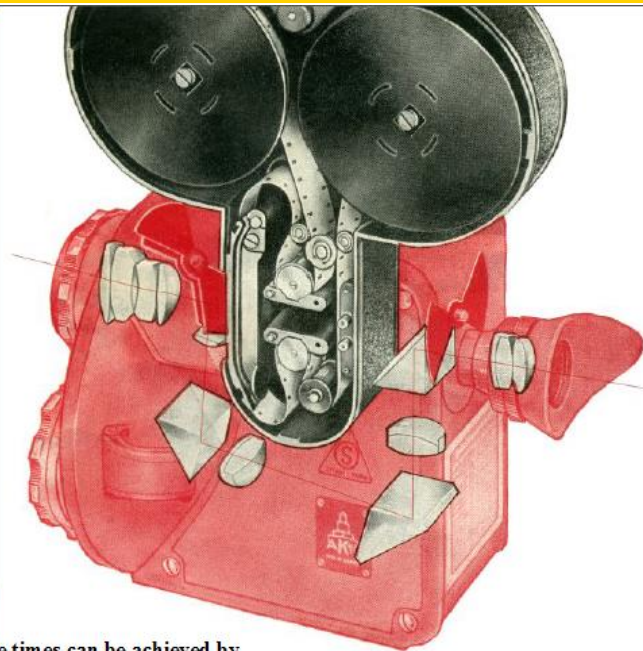


Abb. 3 Kamera mit Schnitt durch das Suchersystem



Abb. 4 Einsetzen des Objektivs

(Fig. 5) is equipped with the three standard lenses of different focal lengths. The iris diaphragms of the three lenses are coupled to one another, so that when the diaphragm is adjusted, the two others are automatically brought to the same value and thus no misalignment can occur through a lens change during recording. The focus of the lenses is adjusted individually. Of course, other lenses can also be used in the simple plug-in terminal.



Abb. 5 Kupplung der Objektivs

Lenses (image 7), the following types are available:
 Original Jena wide angle lens 2.8 / 12.5mm
 Original Jena standard lenses 1.4 / 25mm
 Original Jena telephoto lenses 1.4 / 50mm
 Original Jena telephoto lens 2.8 / 80mm
 Original Jena telephoto lens 4.0 / 135mm
 The first 3 lenses are called standard objective ones. All lenses have a depth-of-field scale and are equipped with anti-reflective coating.

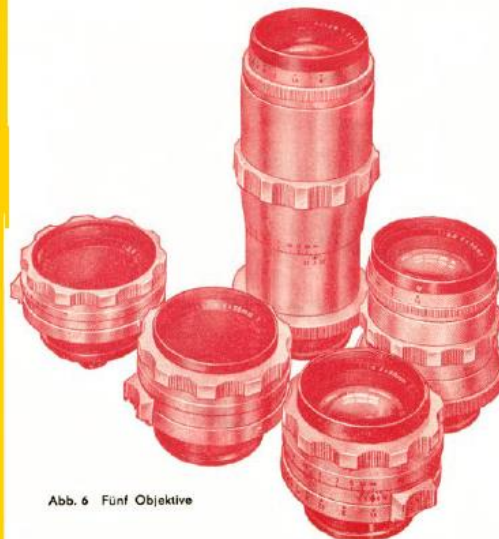
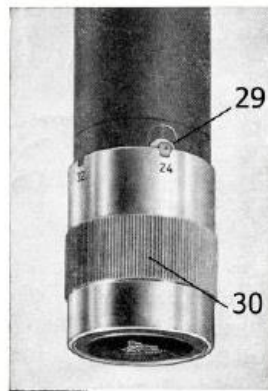


Abb. 6 Fünf Objektivs





The drive is fitted with a battery-driven battery motor (Fig. 8) that can be attached to the side or from below with a bayonet mount. The speeds are 12,16,20,24 and 32 images / sec. The running accuracy is plus or minus 5% despite the voltage fluctuations between 10.8 and 13 volts. The operating switch is designed as a pressure switch, which can be locked in the working position by sliding in the direction of the camera as a continuous-action switch. When the engine is switched off, the gear box and thus also the mirror diaphragm is automatically set so that the image can be viewed in the search beam path. The switch-off process is thus reduced to max. 2 images limited. A tipping-resistant lead-over for 12 volt 10amp. Used with a battery charge at 24 frames / sec. About 2400m film.



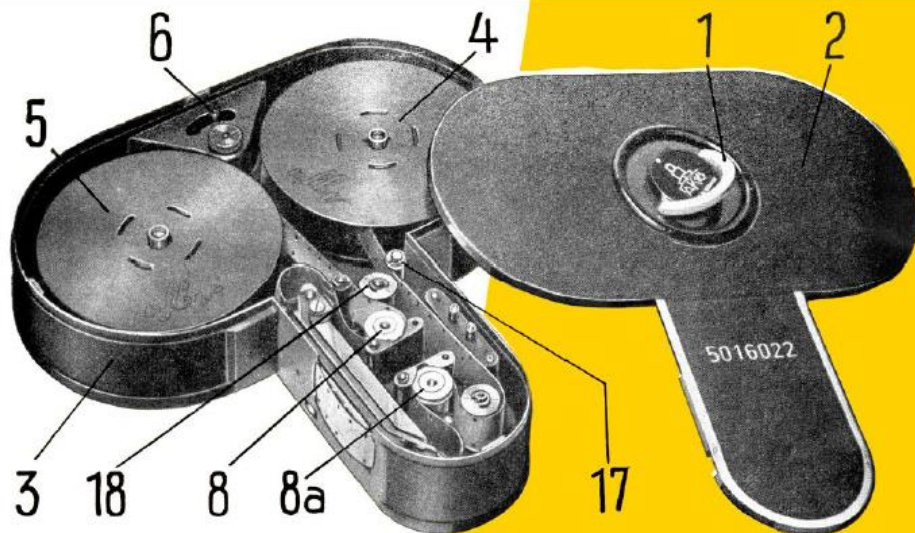


Abb. 8 Kasette geöffnet

Filming in

In the 30meter cassette (picture 3 and 9) do not take place in a bright sun. After turning the locking lever (1) upwards and forwards, the cover (2) is lifted off.

The empty coil (4) lying in the cassette (3) is pulled out. From the full spool (5) about 60cm of film are unrolled. The counter clock button (6) is pulled to the right and thus the space for the insertion of the full coil is released. Unroll the unrolled end to the bottom right. When the free end is finished, the embossed layer scheme is used.

For this purpose, the two pressure pads (7) are pressed against one another by light pressure until they engage. As a result, the two tooth drums (8) are released for inserting the film. At the same time, the toothed disc (9) of the counter-platform (10) is moved to the right with simultaneous pivoting inwards until it engages.

The unwound end of the film is placed around the upper toothed drum (8). The perforation must be placed in the teeth of the tooth drum. The push button (11) is then released and the runner (7) is placed around the toothed drum. The film is then pushed into the film channel (14) with simultaneous pressure on the unlocking button (13), whereby it must be noted that the retaining pin penetrates through the perforation and becomes visible in the hole (15). The free end is guided back into the deflection roller (16) between the sliding rollers (17 and 18) by the pressure pad (7a) by the pressure on the button (11a) and pushed into the winding core of the empty take-up reel.

The resulting film loop below the full spool may be somewhat smaller, but not larger than the one shown in the diagram, but the lower loop in the cartridge neck (lower left) may be somewhat larger, but not smaller than indicated in the diagram.



Abb. 9 Filmflaufschem

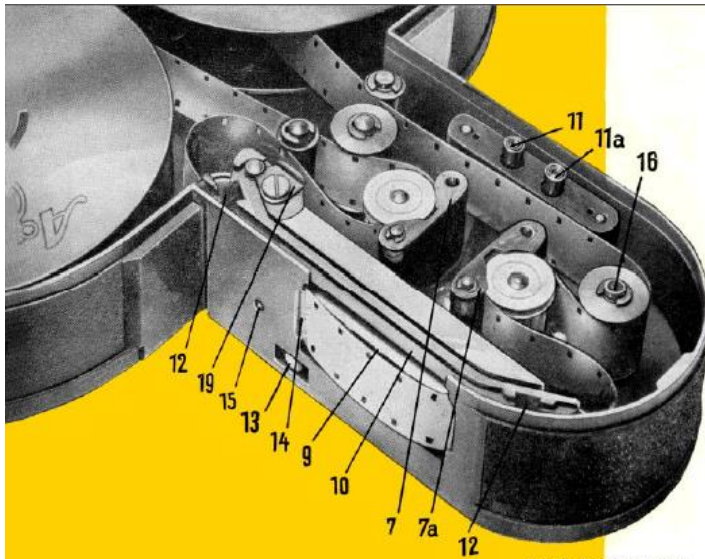


Abb. 10 Kassette mit Film

If necessary, require a 30m rewinding cassette in conjunction with the PENTAFLEX 16. This rewinding operation can be performed both by hand, ie, by means of a manual crank which can be screwed to the motor coupling point, as well as by means of an intermediate transmission. When a hand crank is used, a crank rotation in the direction of the arrow corresponds to the turning back of an image. Due to the construction of the camera, a slight shifting of the image results during the rewinding. If an exposure of the film is not desired when rewinding, the lens must be covered before beginning.

Application range of 30m Rewinding cassette
Overmakings and trick-In which a film-

This film insertion rule has validity for all three cartridges. However, it is to be noted that day film spools only

In the 30 m cassette can be used. In the case of the 60 m cassette, the film storage space is designed such that only unconsolidated film can be used on plastic cores as a darkroom filling. A 120 m cassette is equipped for 120 m of uncommitted film and after removal of the double cover for 60 m daylight film coils.



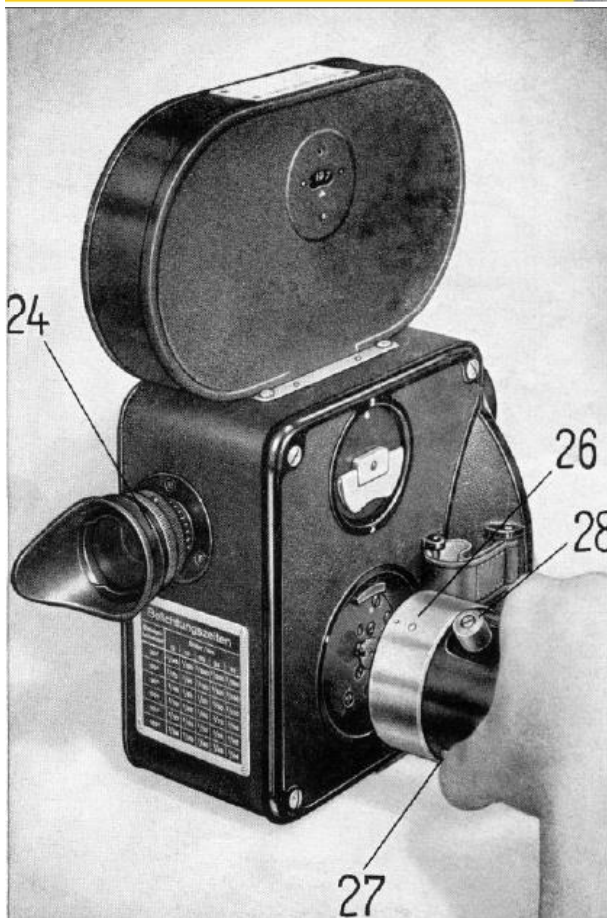
Abb. 11 Kassette mit Kassettenschutz

Operational readiness of the camera

To insert the cartridge (fig. 12), the handle (20) is turned to "A" with its white marking. This means that the gripper moves out of the movie theater, the transmission is locked and the cassette locking lever moves into the "open" position. The protective cap (fig. 11) is pulled from the cassette neck, the cassette neck is inserted into the shaft until the cassette with the horizontal sliding surfaces sits on the frame (19), pressed slightly downwards by the hand - and by turning the handle (20). The locking device must be actuated quickly and the Push the cassette about 5mm forward without removing it from the chess frame. After the end of this rotation, the handle (20) is turned towards the "Z" by its white marking.

Of the three lenses used in the turret head, the upper one is in the working position. If another lens is to be shifted into the beam path. The snap button (Fig. 6 no. 21) must be pressed briefly and at the same time the turret head must be swung until it clicks into place. Of the lens assembly, the 2 locking levers belonging to the lens (Fig. 6 No.22) must be pressed simultaneously to the center of the lens.

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This releases the lens and can be removed (Fig. 5). When inserting, it is important to note that the lens nose and the glare drive are plugged into the corresponding receptacles. The easiest way to do this is when the aperture of the lens and the lens mount are rotated to Anschlag. With the 12.5mm lens a vignetting occurs when the 135mm lens sits at the same time on the revolver head. The viewfinder eyepiece (fig. 13 no. 23) must be adjusted in such a way that the matt disc grain can be seen with the greatest sharpness. Using the plus or minus dioptic adjustable eyepieces, the spectacle wearer can adjust this setting to suit the eye and fix it with the help of the center ring. The sharpness of the film image is fundamentally controlled by the mirror reflex detector, only second lens should be used. In the case of distance measurement, the film must be of the same size (Fig. 5 No. 24).

The drive motor (Fig. 13) is removed as a tripod camera, or from below, after removing the protective cap on the motor connection at the side of the housing and used as a handle of the hand-held camera. Condition is that the red point on the camera is opposite to that of the motor, and that the motor is pressed into the bayonet and turned to the right until it snaps into place. The clutch motor axle camera axis is automatically found. (When removing the motor, pull the motor knob (fig. 13 no. 25) away from the camera and turn it to the left at the same time, after inserting the filled cassette (Fig. 8 nr.26).

Accumulator (battery)

Is particularly important to disconnect the plug from the mains before starting up and recharge the battery with pure battery acid-specific weight 1.28 = 32degree Beaums to approx. 0.5cm over the mark Saurestand max. In this condition, leave the battery to stand for about 3 hours, then replenish the plates after the suction cup (if the water level drops). Then connect the battery to the DC source, connect the positive pole of the line to the positive pole of the battery and the negative pole to the negative pole.

The charging current should be 1 amp. Not exceed. Ladedaure about 15 hours charge is terminated when the battery has reached a voltage of approx. 15-16 volt under current. This is about 2.5 to 2.6 volts per cell. After the current has been switched off, the superfluous acid has to be peeled off to the mark. Screw on the battery, siphon the battery of acid residues and lightly polish the pole rests.

Charging: The weider charging is like the start-up. Liquid lost by evaporation (electolytics) must be replenished by refilling of distilled water. After the end of the charge, remove excess acid as indicated above. The acid level must not fall below the mark.

All the 2-volts are to be tested for equal stress, likewise the density of the acid with the acid compound added is uniform

(Figure 15). If cells are under the voltage individually, these rechargeable batteries or rechargeable batteries must be adjusted. The acid density of the charged battery has 1.28 spec. Weight = 32 degrees beaume. At discharge, the voltage has dropped to 1.8 volt. When not used, it should be noted that charging must take place every 6 weeks. The plates must be constantly under acid.

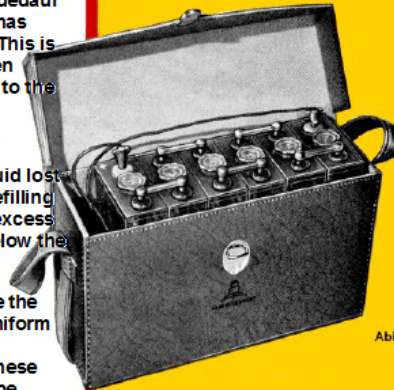


Abb.14 Akkumulator mit Tasche

Maintenance and care suggestions

The camera, engine and cassette oiling is required by the manufacturer or the authorized repair shops after 50 operating hours. The camera drive is provided with non-resinous, low-viscosity, cold-resistant oil. For this, a few drops are sufficient.

The optics of the search beam, the mirror and the lenses in the turret must be checked for cleanliness before each shot. When cleaning the dust, gently clean the glasses with a soft hairbrush.

The film channel in the cassette must be cleaned of the film dust deposits after each shot. Likewise, the image slider in the camera must be cleaned with a soft cloth or brush after each run. Due to its construction, further maintenance of the camera is not necessary.

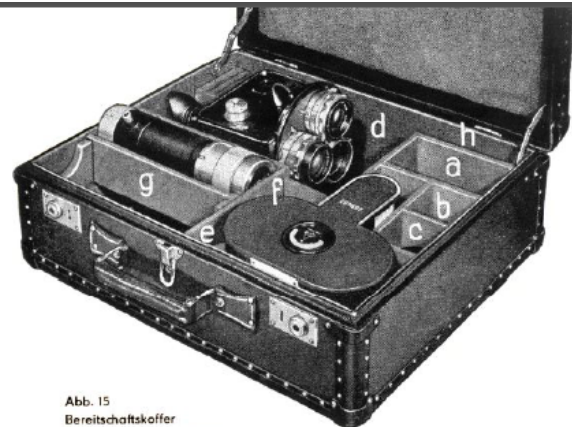
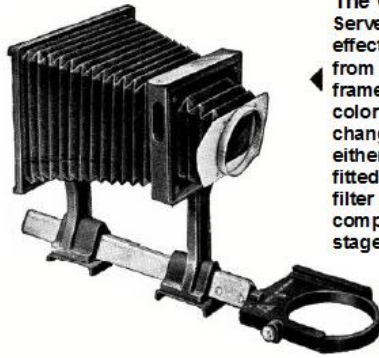


Abb. 15
Bereitschaftskoffer
für Kamera und Zubehör

(30) cassettes (31) are fitted with a gear box (35), the high-performance motor with gearbox (27), the spring mechanism (28), the single image switch (29), 3 filters (32), the drive cable (33) and 2 additional lenses (34). The suitcase is covered with black artificial leather and has a red effect on the inside.



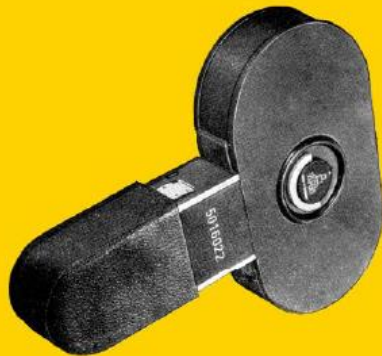
The Compendium

Serves as light protection and for the production of trick and effect recordings. The adjustment allows the use of lenses from 12.5 to 135mm. Trickmasks can be inserted into the front frame as required. A light-filled filter stage allows two solid-color filters to be accommodated. The Model II model has a changeable adaptation which makes it possible to choose either the normal lenses or the Pentovar, which can also be fitted with a Pentovar support which can be screwed to the filter platform. A lens support, which can be pushed onto the compendium rail instead of the mask holder and the filter stage, serves to support long-focal lenses.

The chest support facilitates the use of the camera as a hand-held camera and is especially appreciated by reporters. The weight of the device rests on the tripod when this support is used, so that arms and hands are largely relieved.



The intermediate ring has the PENTAFLEX 16 lens clamp mount on the outside and a pentacon lens thread on the inside. With the aid of the intermediate ring, all pentacon lenses, the bell control device and the entire macro accessory can be used.

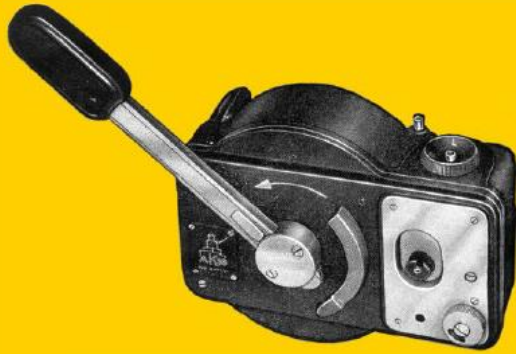


Rewinding cartridges 30 and 60m. The cassettes are pronounced quick-change cassettes. They are designed for 30 and 60m single-sided or double-sided perforated 16mm film. The film can be rewound in any length (cross-fading, etc.) in conjunction with the rewind crank and intermediate gear. A film counter on the back of the cassette shows the film reserve. For special applications a combined 120m cassette is available. The cassette has a rewinding device and is equipped for 60m daylight film coils (removal of the intermediate cover) and for 120m uncommitted film.

Synchronous motor, a cam drive motor for the production of network-synchronous film recordings. The operating voltage is 220v 4-50 hz. The picture frequency is 25 B / s. In connection with a network-controlled tape recorder, perfect synchronous recording is possible.



High performance motor and intermediate gear for fast moving objects. The high-performance motor allows film receptions up to 96 fps and can only be used with the intermediate gear box and a special cassette labeled R 96. The cassette is specially rated, and only film with a sliding layer may be used. The current source is a 12V accumulator. The power switch and a selector switch allow you to switch between 24 to 96 B / s forward and 4.7 to 19 B / s backwards. A table at the intermediate gear provides information on the image speeds for the individual settings of the selector switch. The image frequency of 48 fps can only be achieved with the spring system.



The spring mechanism for PENTAFLEX 16 allows the camera to be used without the electric motor and battery. The pulling capacity of the full spring is about 6m film. Ein Zöhluhr shows the amount of film, which is drawn by the pen. The picture frequency can be continuously adjusted to 12, 16, 24 and 48 fps. The selector switch with its three settings. Run-Single-Picture - Continuous-running perfects the application possibilities of the feather.



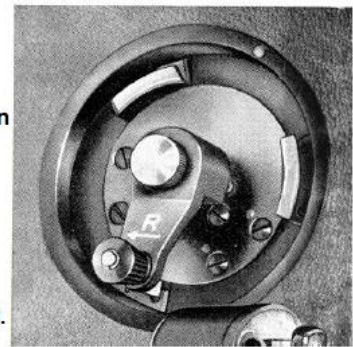
The single image switch is set with its bayonet lock on both sides between the drive motor and the camera. A selector switch with its three positions



B for still image with an exposure time for the duration of the pulse emission:

E for single image regardless of the duration of the pulse output (exposure time corresponds to the set frequency):

L for run image during pulse duration. Furthermore, a contact for synchronizing a flash device is provided.



The time stamp registering means is used for the registration and measurement of filmed movements. One-sided perforated 16mm film is used. The operating voltage is 220 volts. The time mark is displayed 32 pictures in front of the picture window on the film, outside the picture. At 50 Hz mains frequency every 10 ms alternately a strong and weakly depicted time mark is generated. The time stamp registration device is only supplied in conjunction with the special cassette R 96.

The hand crank is an important tool for fading and trickling. It is used at the motor coupling point. A crank rotation corresponds to the return transport of an image.

Bestell-Nummern	
12 V 3 Ah Akku (Normalausführung)	389.190
Tasche dazu	389.180
12 V 10 Ah Akku (für Hochleistungsmotor)	389.15
Tasche dazu	389.16
Bereitschaftskoffer	311.24
Kompendium II	311.50
Bruststativ	383.01
Zwischenring	374.05
Handkurbel	311.43
30-m-Rückwickelkassette	381.14
60-m-Rückwickelkassette	381.15
120-m-Rückwickelkassette	381.16
Spezialkassette R 96	381.17
Zeitmarkenregistriereinrichtung	381.18
Hochleistungsmotor mit Zwischengetriebe und Spezialkassette R 96	311.03
Hochleistungsmotor mit Zwischengetriebe	311.02
Hochleistungsmotor	390.13
Zwischengetriebe	311.44
Synchronmotor 25 B/s	390.12
Untersetzungsgetriebe von 25 auf 24 B/s	311.42
Federwerk	390.20
Einzelbildschaltgerät	311.45
Pentovar 1 : 2,8 f = 15 bis 60 mm	631.02
Pentovar 1 : 5,6 f = 30 bis 120 mm	631.05
Kombiniertes Pentovar 15 bis 120 mm	631.10
Objektivstütze	311.540



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