Hasselblad 500ELX

The Hasselblad 500ELX is a motorized single-lens reflex camera featuring lens, magazine, viewfinder, and focusing system interchangeability.

In addition to the speed and convenience of the motor drive, the film flash unit, metering (so called GFT) places the 500ELX in a leading position with regard to state-of-the-art flash technology.

With the Hasselblad flash adapter — SCA 300, all types of flash units conforming to the European System SCA 300 can be connected to the 500ELX. When flash duration is sufficient to provide a correct exposure the flash unit output is automatically cut. Hasselblad's new macro flash unit also conforms to the System SCA 300. GFT-metering is an especially important feature when using electronic flash for macro photography.

The ELX camera has a larger viewfinder mirror thanks to an entirely new mirror reflection system. Now the mirror always yields a completely unobstructed viewfinder image when using either extremely long telephoto lenses or a long bellows extension. On the following pages the operation and features of the camera are fully described.

Please take a little time to read the contents of this instruction book. Follow the picture sequence for the best initial operation of your 500ELX. Full operational possibilities are described, and will enable you to make the very most of your new camera.

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Opening the focusing hood

Lift the lid only at the rear edge, and swing it up to the vertical position.

The built-in magnifier

The magnifier pops up into the viewing position when the unit button is moved in the direction of the arrow. To re-fold the magnifier simply press it down with a finger until it locks back into the lid. The magnifier may be charged for a correction lens. See page 11.

Closing the focusing hood

Flip the lid plates at the hinge points, and fold down the lid.
Mode selector dial
The selector that has the settings governing the release modes of the camera.

- **NORMAL**: Following exposure and when the exposure button has been released, the film is advanced, the shutter-timer shutter cocked, and the mirror returned to the viewing position.
- **S**: PRE-RELEASE. In this mode, the actual operation of the between-the-lens shutter remains when the main release is pressed. Since a number of different operations (mirror return, pressure to the shutter, etc.) are involved, the reaction time between release and exposure is reduced to a minimum, as is camera-induced vibration. There is no "click step" for the S-mode. The selector returns to the O-mode after pre-release has been affected.

**Battery charging accessories**
The battery charger connects in any direction and an accessory holder 49237 is available for this purpose.

**Alternative release methods**
The camera can be triggered in different ways, e.g. with a release cord, infrared remote control, by radio, or by remote control by radio. The method of release may be set with a small switch located under the lens bayonet mount. The release cord must be used when the release button has completed its exposure. This is especially important at shutter speeds from 1/30 s. Failure to follow this rule will lead to exposure being terminated by the auxiliary shutter before the leaf shutter has closed.

**Release sockets**
In addition to the cable DTN contact on the side of the motor housing, the EXL has two release sockets at the front of the motor housing, one of which is utilized for the standard release button. To open access to the two sockets, the standard release button must be removed. To release the button, grasp it by the two small ridges and pull it firmly off the camera. The flare release cords may be used in the front sockets.

**Release cords**
A lanyard should be used when operating the camera at slow shutter speeds. A release cord can be attached to a suitable camera, releasing cords in lengths from 1' to 20', up to 15 cords are possible, and pull it firmly off the camera. The two release cords must be connected between the camera and the cord.

**General**
The 500/560 can also be released by using the electrical circuit between pins 1 and 3 (see circuit diagram). This should be observed by not exceeding 8 Ohms if triggering is to be released.

**Battery circuit diagram**
- **Batteries**: One or two 6V, 50mA (Lithium) batteries
- **Cord**: 1' to 20' (30 to 60 cm)
- **Socket**: 3-pin Din
- **Contact exposure indicator D5A**

**Lenses**
The 500/560 can be used with any 35mm or larger lenses. The 500/560 can be used with a Hasselblad 500 series.

**Diaphragm**
The translation of shutter speeds and aperture settings is automatic. The exposure is determined by the lens aperture setting. The desired shutter speed is set against the main meter index.

**Shutter speeds**
The shutter speed selector ring is set after the release button is depressed, but before the release button is fully depressed. The shutter can then be released.

**Exposure values**
The aperture and shutter speed combination set opposite the central index indicates the exposure. Every combination of aperture and shutter speed is possible.

**Crosst-coupled shutter speed/aperture**
A crosst-coupled shutter speed/aperture is determined by selecting the lens aperture setting and the shutter speed setting together and checking critically in the manner speed/aperture combinations may be altered. A crosst-coupled speed/aperture can be altered, without change in exposure value (EV).
Focusing and depth of field

The lens is focused with the focusing ring (the red-faced ring closest to the camera body). Rotate the ring until the viewfinder image is sharp.

The distance between the subject and the film plane is read off the focusing rangefinder scale opposite the central index. The distance in meters is shown in white numerals, and the distance in feet is in orange numerals.

Objects closer or farther away than the set distance can be sharp within certain limits. The position for the field of sharp focus, i.e. depth of field, varies with the aperture. A small stop yields wide depth of field, a large stop yields narrow depth of field.

The depth of field available at any given f-stop can be read off the depth-of-field scale located on both sides of the central index.

Viewing depth of field

Depth of field may be varied by stepping down the lens to the required aperture and viewing the resulting image on the ground glass.

To step down the diaphragm simply slide the manual preview button downwards until it locks into the preview position.

To release the button, and reopen the diaphragm, press in the button’s lower section.

Lenses removed

Depress the lens release button and rotate the lens counter-clockwise about one fifth of a turn to remove.

Note: Lenses remain in only one position. If the camera is cocked (fully wound), and not in the pre-

- red, B, or O modes.

Loading the magazine

The magazine may be loaded or, off, or all the camera. If the magazine is to be loaded off the camera then the magazine slide must be inserted, and have its flat side towards the center of the magazine. This facilitates removal of the roll holder for loading.

1) Fold out the roll holder key.

2) Turn the key counter-clockwise and withdraw the roll holder.

3) Place an empty spool under the speed clamps holder bar — insert to the speed clamp, insert a roll of film under the other end of the bar, assuring that it is centered accurately as in the picture. Be careful to remove all the paper tape that surrounds the new roll of film.

4) Turn the roll holder key clockwise until the film clamp opens. Pull a little of paper backing off the film roll and slide the edge under the clamp.

5) Insert the tongue of the backing paper into the slot in the open spool, or turn the spool.

6) Turn the speed knob clockwise until the arrow on the backing paper opposite the line on the speed clamp bar.

7) Turn the roll holder key counter-clockwise so that the film is caught under the clamp, and insert the roll holder into the magazine — jogging it a little if it does not slide into place. Once the roll holder is in the magazine by turning the key clockwise.

8) Fold out the film crank and rotate it clockwise about one turn until it stops. Replace the crank.

Number 1 will now be displayed in the frame counter window and the magazine is loaded — ready for use.

Note: The magazine can only be removed from the camera when a magazine slide is inserted, with slide inserted, it is attached to the camera.

Removing film from the magazine

When the last frame has been exposed, and wound on, the magazine is locked for further release.

Wind off the film by pulling out the film winding crank, and rotating it clockwise until the film is not to clear the spool.

The roll holder may now be withdrawn from the magazine and the exposed film removed.

General

The magazine's film winder crank is only blocked at frame 1. After frame 1, a partially exposed film may be wound off at any time.

The frame counter resets automatically when the roll holder is removed from the camera.

Double exposure

Protract an odd number when multiple exposures are desired. Set the lever on the film counter to the desired number. Press the shutter release to make the exposure, and keep it depressed whilst moving the winder, locking, and charging lever to the L position. Insert the magazine slide and remove the magazine from the camera. Remove the lever to the D. The camera will now wind, after which the magazine may be replaced. Repeat the cycle for additional exposures on the same frame.

Change of focusing hood or viewfinder

The focusing hood must be detached before changing the focusing hood or viewfinder can be removed. Remove the hood by sliding it rearwards in its guides. Slide the replacement hood into place, and slide it forward. Attach a magazine to the camera.
Changing the magnifier
The focusing hood has an easily interchangeable magnifier that you should not need to compensate for eyeight variations. Magnifiers with correction factors of +5 to +10 are available and easily interchangeable by following these instructions:
1. Remove the focusing hood from the camera and open it by fitting the lid firmly at the rear edge. Bring the magnifier to the viewing position by sliding the oval button on the direct on the side.
2. Push the magnifier half way back to its halted position.
3. Through the circular hole of the hood, grip the lower edge of the magnifier between your index and forefinger — and pull freely.
4. Insertion of the replacement magnifier is the reverse of the above procedure.

Automatic flash light metering
The camera's built-in flash sensor and electronic metering system are designed to provide accurate meter readings. When the camera is synchronized with the flash, the SCA 390 provides a control signal which is transmitted to a flash unit compatible with the System SCA 390. The automatic flash light metering system works only in connection with the flash unit that conforms to the System SCA 390.

Flash synchronization in general
The Hasselblad 503CL uses lenses from the Hasselblad CF series. These lenses have built-in leaf shutters with speeds from 1/2 to 1/5000. Flash synchronization occurs at full shutter opening via the PC flash terminal. Electronic flash units can be used at all shutter speeds, 1-1/500.

Attachment via the Hasselblad flash adapter SCA 390
For hand-held flash units the adapter is attached as shown in the picture:
1. The tripod contact in the spiral cord is connected to the camera's side socket.
2. The sync cord is connected from the adapter to the flash contact of the unit.
3. The connecting cord is attached to the hand-held unit. The cable is designated SCA 340 and generally does not come with the flash. When using smaller-size flash units that conform to the System SCA 390, the flash is attached directly to the adapter.
4. A special cord — the SCA 390A — can be used when separating the flash unit from the adapter.

Setting the film speed
The film speed is set via the ISO selector. This is divided into ISO ASA settings from 15 to 1000. The equivalent in DIN settings can be found using the table below. Caribbean films require compensation for differences in reflection. In these instances, the level of compensation is encountered for as a deviation in film speed.

ISO ASA

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Note: The film unit must always be set to the "T" position.

Accessory adapters
On the underside of the camera is a 3/8" (10mm) socket. The socket is located in the path of a quick Coupling plate that accepts good/poor plastic and flash gun brackets. A special stoplight is available for those that will not sync; and lock to it, the camera's quick Coupling plate in front of the strap lug on the left side of the camera in an accessory set for the Hasselblad sports finder, spirit level, and adjustable flash shoe.

The lenses accept 55mm or 65mm size filters and accessories via internal and external bayonet flanges.
Accessories

51861 Flash adapter SCA 200
For connecting flash attachments that are compatible with the European SCA 300 system to the 000LX camera.
Can be attached to the flash-phot'trin prism
finders, the flashgun bracket, or the camera's accessory rail.

49303/49316 Power supply unit
Used as the 000LX refinement of batteries when it is set up for stationary use. The unit consists of an amplifier and a motor housing panel in black or chrome which isolates the standard battery cover on the camera.
The unit is available for 110 volts AC or 220 volts AC.

51879 Macro flash unit
The flash unit contains two light sources that can be fired simultaneously, or one at a time. It is even possible to change the light from the aid of the flash with the aid of another source. The unit can be adapted to the Hasselblad S2000, SCA 300, or the flash adapter SCA 200. It is possible to achieve automatic control of flash duration (TTL). The two light sources can be positioned advantageously with the help of the Hasselblad macro flash bracket.

51857 Macro flash bracket
The bracket has three mounting shoes. The light arm is articulated at three points and swivels 360°. The bracket is attached to the viewfinder accessory mount with separate bayonet rings which also have a stop for a gelatin filter holder.