Inevitably you will find some technical terms in this booklet. So before you start reading the Manual, fold out this and the last page. Then you can see at a glance which particular dial, window or other part of the Minox LX the text refers to.
The battery
The Minox LX only functions with a correct battery. We recommend using a CR123 (Fein EK SF 27 or Mallory PX 27) in the battery compartment (check correct polarity). Don't use spent or old batteries.

Inserting the battery
Pull the camera fully open, depress the snap lock in the base and pull open the sliding cover. The battery compartment is now accessible from the camera top. Firmly rotate both battery contacts clean against some rough fabric (e.g. your coat sleeve). Move the black battery compartment tongue. Insert the battery the correct way round (note polarity marks on tongue and battery) so as to permit easy removal by pulling the tongue. A click on pressing the release does not signify correct shutter operation. Use the battery test to check correct battery function and correct insertion. If a battery appears to be too soon, try removing it, firmly rubbing down its contacts and re-inserting it.

Battery test
You can check the battery with the camera closed or open, but not released. Push the check switch, next to the shutter speed dial, fully towards the camera front and hold for about one second. The green signal must light up. If the green signal lights up at first but fades or goes out within a second, the battery is nearly exhausted. Replace as soon as possible. If the green signal does not light, the battery is fully spent or too old (remove immediately from the camera), or was inserted the wrong way round. Check the battery every time you load a film or when you haven't used the camera for a week or more. But don't check the battery too often or for too long – that also exhausts it. The battery test does not indicate how long it will last. Preferably it is a fresh battery at least once a year, even if the battery test still shows sufficient power. Remove even a good battery from the camera if you are likely to store the latter unused for long periods.

Opening the camera
To shoot, or to view the subject – pull the Minox LX fully open.

The Minox LX can shoot only when open. When you close the camera, the lens window and slowfinder are protected inside the body and the shutter release is locked. You can open the Minox LX and view through the finder even if you are not sure whether you want to expose. Closing the camera without releasing it wastes no pictures.

The three “eyes”
The front of the Minox LX shows – from top to bottom in the illustration – the silicon blue cell window (the metering cell of the automatic exposure control), the finder window and the lens window. Take care not to obstruct these three windows with your fingers while shooting. Keep the lens window absolutely clean – that is vital for sharp and brilliant pictures.

If you cover the meter window as you shoot, you get wrong exposures.

To check whether the lens window is clean, slide in the neutral density filter (page 12); any dirt or fingerprints will immediately show up against the dark filter. Preferably clean the lens window with a clean rag wound round a matchstick. Chemists' cotton-tipped swabs are also useful (see page 27).

Holding it steady
Hold the Minox at eye level firmly, but relaxed, with both hands. Keep the thumbs against the camera base, the other fingers on top. Keep the fingers away from the front to avoid obstructing any of the windows.

The pictures show suitable camera holds for horizontal and upright shots. If you cover the lens window while shooting, you will get a shapeless shadow covering most or all of the picture. If you obstruct the small meter window the exposure becomes too long. For the steadiest hold, press both hands against your head and press the camera ends against your thumbs – as if you were trying to bend the Minox. The Minox LX remains in its ever-ready case for shooting. Fold over the hinged section of the case flat against the fixed section.

Taking the picture
Once you have framed the view as you want it within the brightline finder frame, gently press the release key – without moving the camera.

Gently pressure on the release key is enough to trigger the shutter. During releasing hold your breath and take the camera from your eye only after you have heard the shutter click. (There are two soft clicks - with short exposure times they sound like a single stick.)
The push-pull rapid wind

To get your Minox LX ready for the next shot push the camera closed and pull it open again. This advances the film and tensions the shutter. The film is however only advanced if you have released the shutter before closing the camera.

Always push and pull the camera movement all the way.

A small circle in the lens window indicates that the Minox LX is standardized and ready for shooting. After the exposure the circle disappears, so push the camera closed and pull it open again for the next shot.

When you have finished shooting, close the Minox and put it in your pocket.

For quick shooting sequences push and pull the Minox as fast as you like – it can stand it.

Setting the film speed

Set the speed of the film you are using on the film speed scale in the camera base. Depress the initial button and turn it to bring the ASA or DIN speed setting of the film opposite the arrow index on the window rim. (Every Minox film packing carries both ASA and DIN values.)

To save space the scale carries figures for every third step only: Intermediate steps are marked by dots (e.g. 54 and 80 ASA between 50 and 100 ASA).

Too high an ASA or DIN speed setting yields underexposed shots, too low a setting overexposes pictures.

You can also expose deliberately for longer or shorter than indicated by the meter. For double the exposure time set the film speed dial to half the ASA value or 3 DIN lower. To halve the time, set the film speed to double the ASA value or 3 steps higher on the DIN scale. See page 29 for a list at Minox 2a x 11 mm film.

Automatic daylight exposure

For daylight shots (or artificial light other than flash, see page 22) set the shutter speed dial to A (automatic). This controls the exposure automatically between 1/3000 second and about 15 seconds.

The up-to-date automatic exposure control of the Minox LX uses a silicon blue cell (SBC) and an electronic shutter. This provides a long stopping time range with rapid and reliable response even to abrupt lighting level changes.

The automatic system controls the correct exposure according to the actual shot. For deliberate longer or shorter exposures adjust the film speed setting before you take the picture (page 10).

The automatic system on the Minox LX controls the exposure time. As with all Minox ultrastatic cameras, the depth of field and aperture of the lens remains constant (see page 16). The Minox LX reading is centre-weighted: it depends much more on the brightness in the centre of the view than in the corners.

Overexposure signal, ND filter

Very bright scenes (beach or high mountain subjects with brilliant sun) can on a fast film lead to overexposure even with 1/3000 second.

To check, point the camera at the subject, and push the control switch next to the shutter speed dial fully towards the camera back (as for the slow speed check, page 11). If the red signal lights up, you have overexposure.

To avoid that, slide the neutral density (ND) filter in front of the lens by the filter slide above the finder window. Push this fully towards the lens window.

A red mark in the top right finder image corner is a reminder that the ND filter is in position.

Overexposure signal, ND filter

The overexposure signal again operates with the camera closed or with the camera open, but not released. (Output is only brief to save battery current). The neutral density filter increases the exposure about 4 times. The exposure control automatically allows for this when the ND filter is in position.

Manual exposure settings

You can set exposure times from 1/2000 to 1/20 second manually without using the automatic exposure control. In this case turn the shutter speed dial away from "A" to the required time. The figures indicate fractions of a second (e.g. 30 - 1/2000 sec.

Automatic control sets a continuous time range. With manual control you can set only the values on the dial. If you happen to set the dial between two marked times, the shutter operates at the nearest adjacent speed. The Minox LX, unlike the previous Minox C, needs no manual exposure settings for flash shots as the LX provides automatic flash exposure control (set the dial to the flash symbol, see page 23).
Focusing and depth of field
The distance scale is calibrated in feet and inches (e.g., 1 foot 1 inch) or in metres. For specific distances, set the distance scale to the large black dot. The two smaller dots indicate the extent of the depth of field on the distance scale. For instance, with the snapshot setting to the red dot (approx. 12 feet or 4 metres) the depth of field extends from 6 feet (2 metres) to infinity (+). For views with no significant item nearer than 12 feet or 4 metres from the camera, shoot at the infinity (+) setting. The sharp zone then extends backwards from 12 feet or 4 metres (the red dot mark).

For medium distances you can use not only the snapshot setting (12 feet or 4 metres to infinity), but also other settings of extended depth of field. Thus at 6 feet or 2 metres the depth extends from about 4 to 12 feet or 1.5 to 4 metres (useful for flash photos). Halfway between 2 and 8 feet (1 and 2 metres) you get a sharp zone from 2 to 5 feet (1 to 2 metres). For close-ups between 8 and 24 inches (20 and 60 cm) use the measuring chain (see next page).

No aperture settings
The aperture of the 15 mm Minox f/3.5 lens is fixed at its full opening. So the camera has no aperture scale.

The exposure is controlled only by the shutter speed. In view of the full aperture this is always comparatively fast. Yet you have plenty of depth of field – for instance from about 6 feet or 2 metres to infinity at the snapshot setting.

The ultraviolet filter
The glass window in front of the lens is an ultraviolet absorbing filter to prevent loss of definition in colour and black-and-white shots – also colour casts in colour negatives – and the prevailing daylight contains a lot of UV radiation.

The UV filter does not increase the exposure time.

The bright-frame finder
The brilliant luminous frame within the finder shows the actual subject field recorded on the film.

When the neutral density filter is in position, a red signal appears in the finder (page 12).

The Minox finder incorporates automatic parallax compensation. Thanks to a coupling between the distance setting and the parallax finder, the apparent corrected field of view even with close-ups. With extreme close-ups at about 8-10 metres or 26-34 cm the field recorded on the film is reduced by approximately the width of the finder frame line.

The exposure counter
The exposure counter or frame counter indicates the number of exposures you have left on the film.

When you feed the film, set the counter to the appropriate start position. There are Minox films for 36 exposures and for 15 exposures. The counter scale for the short 15-exposure film is marked in white on black.
Loading the film
Always load (and unload) the film in subdued light—
the shade of your body if necessary—and never in
sunlight.
Keep opening, releasing and closing the camera
until the exposure counter arrives at the load set-
ing.
The load setting for 15-exposure films is the red
mark at No. 17 (illustration far left). The load setting
for 36-exposure films is the red dot between 0 and
36 (left).
Depress the back cover snap lock in the camera
base and pull out the sliding cover (bottom left). The film
compartments are now accessible.
Drop the Minox cartridge into the camera, push
down and slide the cover over it, then close the
cover to engage.
Open the camera, release and close the camera
before its successor.
This moves the exposure counter to its start posi-
tion: No. 36 for 36-exposure films and No. 15 at the
beginning of the blank-and-white scale for 15-ex-
posure films.
Remember also to set the ASA speed of your film on
the film speed dial (page 9).

Unloading
After the last exposure make two "blind" exposures
and advance the film each time. This moves
the exposure counter to the red dot between 0 and
36. Open the sliding back cover. The cartridge
jumps up by a few mm and is then easily removed
with a fingernail.
Immediately wrap up the exposed film in black paper or
the black plastic container. The exposure counter set-
ing with the red dot between 0 and 36 for removing
the exposed film is also the load setting for a 36-exposure
 cartridge. So you can immediately reload a new film-
exposure film without advancing the exposure counter.
If the next film to be loaded has 15 exposures, first ad-
vance the exposure counter to the red index at No. 17
(see page 20) before loading the film.

Flash shots
The Minox LX can take flash shots with any type of flash
unit. A particularly handy unit is the special Minox FL 4
flash holder for electronic flash cubes (see illustration) —
not only because of its small size (5.5 x 3.2 x 5.4 cm) but
also because of a special feature of the Minox LX: au-
tomatic flash exposure control.

Automatic flash exposure
For flash shots set the shutter speed dial to the flash symbol
(a automatic flash exposure control).

Minox FL 4 with flash cubes
Within certain distance ranges, determined by the film
speed, the Minox LX automatically controls the expo-
sure with flash cubes. Once you have set the shutter
speed dial to A, the silicon blue reel of the Minox LX
measures the flash illumination reflected from the sub-
ject and closes the camera’s electronic shutter as soon
as the meter has recorded the correct exposure. The lon-
gest time is however 1/30 second.

Automatic ranges with flash cubes

<table>
<thead>
<tr>
<th>ASA / DIN</th>
<th>Basic distances for</th>
<th>ND filter</th>
<th>ND filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 / 15</td>
<td>1.0 - 3.0 m</td>
<td>0.5 - 1.5 m</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.0 - 10 m</td>
<td>1.0 - 5.5 m</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.0 - 20 m</td>
<td>1.5 - 10 m</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.0 - 40 m</td>
<td>2.0 - 40 m</td>
<td></td>
</tr>
<tr>
<td>64-100/19-21</td>
<td>2.0 - 6.0 m</td>
<td>1.0 - 3.0 m</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.0 - 9.0 m</td>
<td>1.5 - 4.5 m</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.0 - 30 m</td>
<td>5.0 - 15 m</td>
<td></td>
</tr>
<tr>
<td>200 / 24</td>
<td>4.0 - 15 m</td>
<td>2.0 - 6.0 m</td>
<td></td>
</tr>
<tr>
<td>400 / 27</td>
<td>12.0 - 40 m</td>
<td>6.0 - 20 m</td>
<td></td>
</tr>
</tbody>
</table>

Distance ranges apply to areas of average ceiling height
and well lighting.
If for any reason you want to expose with flash cubes
but without automatic flash exposure control, set the
shutter speed dial to 1/30 second. You then always di-
lus the full light output of the flash cube.

Electronic flash
Preferably mount electronic flash units with contact foot
in the Minox hot shoe attachment (see illustration) for
fitting to the Minox LX.

As an electronic flash has a much shorter duration than
the flash of a cube, the automatic flash exposure control
cannot close the shutter before the electronic flash is
over. So even at the shutter setting, you generally
 utilize the whole light output of an electronic flash.

The automatic flash exposure control at the shutter setting
closes the Minox LX camera shutter after about 1000
or 30 second if the flash of the electronic unit would yield
the correctly exposed or overexposed picture. The shutter
clones after about 1/30 second; if the flash is inadequate
for a correct exposure.

Apart from the shutter speed dial setting you can for
electronic flash shots select any of the fixed time set-
ings from 1/15 to 1/30 second.

Computer flash units with automatic flash exposure con-
trol can be used with the Minox LX, including at the
shutter speed dial setting — if the flash unit provides a
correct exposure with the film speed used and at an
aperture of 5.5 (or approx. 4/0). Check the instructions
of your flash unit.
Minox accessories

Minox 8 x 11 mm films

For colour prints:
Minoxcolor II film, 80 ASA, 36- and 15-exposure cartridges.

For black-and-white prints:
Minoxchrome II, II A, III, ASA 36, 36 exposures. Processing (but not framing) included in purchase price.

Minoxchrome II, III, ASA 36, 36 exposures. Purchase price includes processing and framing in 3½ x 3½ cm glassless plastic frames.

For black-and-white prints:
Agfapan 100 Professional, 100 ASA, 36- and 15-exposure cartridges.
Agfa R 100 Professional, 100 ASA, 36- and 15-exposure cartridges.
Agfapan 400 Professional, 400 ASA, 36- and 15-exposure cartridges.
Agfa chrome 25 Professional, special document copying film, 56-exposure cartridges.

Flash unit and flash accessories

Minox FL 4: Flash holder for electric flash cubes (Illustration on page 23). For all Minox 8 x 11 mm cameras with flash socket. Exclusively with the Minox LX: Automatic flash exposure controls the exposure of flash shots with the FL 4.

Minox M 2/2 adapter: Fits the Minox FL 4 flash holder to cameras other than Minox ultraminiatures. The camera must have a standard flash shoe or flash socket.

Minox hot shoe: For direct connection of electronic flash units to Minox 8 x 11 mm cameras. Only suitable for flash units with hot shoe fitting. (Illustration on page 29.)

Tripod shots

You can mount the Minox LX on any normal tripod by the built-in tripod bush.

LX cable release socket: Permanent attachment of a cable release to the Minox LX. Available for all tripod shots.

Minox socket tripod: Rigid tripod with built-in bell-and-sOCKET head and cable release. Can be used as a table tripod, chestpod or wall support. To close it, insert the legs in each other; the tripod is then hardly larger than a pencil.

Binocular shots

Minox binocular attachment. Clamps the 8 x 11 mm Minox to binoculars as a lens attachment. The latest version of the attachment (with two cable release sockets) can be used with all 8 x 11 mm Minox models. The older version only has one cable-release socket and is not usable with the Minox LX as it has a differently located release key.

Document copying

Minox copy stand: Four-legged collapsible stand, can be set up for size A4, A5 or A6 originals and for 8 inch or 20 cm subject distance. Illustration on opposite page, left.

Minox document copying film: Agfachrome 25 professional, 56-exposure cartridge. Special black-and-white copying film, yields exceptionally high resolution and high contrast. You can control the contrast by tank development in special document copying developer.

Minox MR 11 microfilm reader: For reading 8 x 11 mm microfilm negatives (mounted in Minox document copying film sleeves with blue cover). Magnification: 29 x linear. Screen 220 x 315 mm (12.6 x 12.4 inches) large, anti-reflection coated. Rotating size All film carrier with two-way sliding tracks. Brightness of 15 volt, 150 watt tungsten lamp adjustable in four steps. For illustration see opposite page, right.
**Technical data**

**Camera type:** Minox LX ultraminiature camera

- **Minox model:** No specific model number provided.
- **10.610 chrome finish, metric distance scale**
- **10.620 chrome finish, feet scale**
- **10.630 black finish, metric scale**
- **10.640 black finish, feet scale**

**Negative size:** 8 x 11 mm

**Film:** Minox 6 x 11 mm film in double daylight cartridges for 15 or 36 exposures (8 x 11-15 or 8 x 11-36).

**Film advance:** Push-pull rapid wind, operates only after shutter is released.

**Film pressure plate:** Closing force approx. 7.5 N with camera in shooting readiness; film gate opens during film advance and loading.

**Shutter:** Electronically controlled double blade shutter.

**Manual setting range:** 1/2000 to 1/30 second. Automatic control range with shutter dial set to A (daylight exposure) 1/2000 second to approx. 15 seconds with scale set to 0 (flash exposure automation) from 1/2000 to 1/30 second.

**Meter cell:** Silicon photo diode (SBC)

**Film speed:** Adjustable from 12 to 400 ASA (12 to 27 DIN)

**Light signal:** Yellow or slow speed (automatically selected exposure time longer than 1/20 second). Red overexposure (use neutral density filter). Green: battery check.

**Battery:** Single 5.6 volt battery; Mallovy PX 27, Ucar S9 X 27 or Varta 7150.

**Lens:** 15 mm f/3.5; focusing range infinity to 8 inches or 20 cm; Full aperture only.

**Viewfinder:** LV filter as permanent lens window. Approx. 4 x NO filter can be switched into light path.

**Finder:** Bright-frame finder with automatic parallax compensation. Red warning signal for NO filter.

**Exposure counter:** Counts backwards from 35 to 1.

**Film transport:** Short-film section from 15 to 6.

**Flash contact:** X contact

**Tripod bush:** Built-in (1")

**Length closed:** 10.8 cm (4.25")

**Length open:** 12.4 cm (4.9")

**Width:** 2.6 cm (1.1")

**Height:** 1.6 cm (0.6")

**Weight:** 88 grams (3.1 oz.) without battery or film

**98 grams (3.5 oz.) with battery, without film**

**100 grams (3.5 oz.) with battery and film**

**Made by:** Minox GmbH

D-33578 Wobuln, Germany