

KIEV 60TTL



Instructions for use

1. GENERAL NOTES

The Kiev 60 TTL is a single lens reflex with a frame size of 6x6 cm. The camera uses standard 120 rollfilm, 60mm in width, and takes 12 exposures per roll. It is the ideal camera for the advanced amateur photographer who wants to move up to large format photography.

Basic delivery kit include: camera body, MC Arsat 80mm/2.8 lens with rubber lens shade, UV-1 and YG-1.4 filters, front and rear lens caps, TTL- metered prism finder, rubber eye cup for prism finder, folding waist level finder, plastic cap for bottom of prism finder when not on camera, body cap for Kiev camera body, flash bracket which screws to front of camera (cold shoe), camera strap, nylon camera case.

The curtain shutter of the camera provides speeds in the range of 1/1000 to 1/2 s and manual exposure "B".

The shutter cocking mechanism is of the lever type, interlocked with the film-transport mechanism and frame counter.

The camera is focused through a ground-glass surface, microscreen and wedges located in the centre of the field of vision of the viewfinder.

The back of the camera is thrown back on a hinge.

The scale of the frame counter returns into its initial position automatically when the back of the camera is opened.

The camera is provided with a synchroniser for operation with a flash lamp.

The camera is outfitted with lens MC Volna-3. The lens focal length is 80 mm, relative aperture is 1:2.8, the diaphragm can be set to any number within 2.8-22; the near focusing limit is 0.6 m.

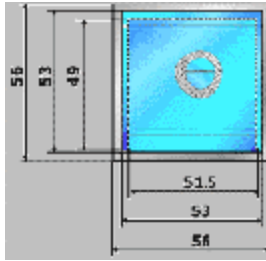
The lens is provided with a special multilayer coating the availability of which is indicated in the lens marking by letters MC. The multilayer coating upgrades the image quality, enhances its contrast due to better integral transparency and reduced light dispersion of the lens.

Provision is made in the camera for the use of change lenses produced for the Kiev-6C camera. Change lenses of the Pentacon Six camera can also be used. The lenses are bayonet-attached and are fixed in position with a captive nut.

Besides the TTL prism viewfinder the camera complete set comprises a viewfinder hood.

The viewfinder hood enables the picture to be viewed on the ground-glass with or without a magnifying lens and allows the use of the frame viewfinder for viewing. The field of vision of the viewfinder hood measures 53x53 mm.

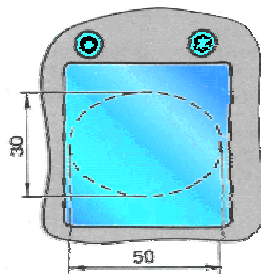
Magnification of the prism finder eyepiece is 2.5x the field of vision measures 49x51.5 mm. The field of vision sketch when operating with changeable viewfinders is shown in the Figure.



- frame size on film: 56x56 mm;
- viewfinder hood field of vision: 53x53 mm;
- TTL prism viewfinder field of vision: 49x51.5 mm.

The eyepiece design allows for application of diopter lenses. To install the diopter lens under the clamping ring of eyepiece 30, set into the fitting socket a lens of 16 mm in diameter and fasten it by the clamping ring.

The exposure time meter with light indication determining the exposure time by the light which has passed through the lens is located in the housing of the prism viewfinder. Advantage and convenience of the TTL measurement system is in automatic control of all factors affecting the value of the exposure time. The zone of measurement of the exposure time meter is in the central part of the viewfinder field of vision and has an oval shape (see the Figure).



The exposure time meter ensures measurements in the range of brightness from 1.6 to 13 000 cd/m², in this case the following values should be taken into account: film-in-use speed (8 to 1000 units of GOST or 10 to 31 units of DIN), exposure time (1/1000 to 8 s) and diaphragm (1.4-32).

Note:

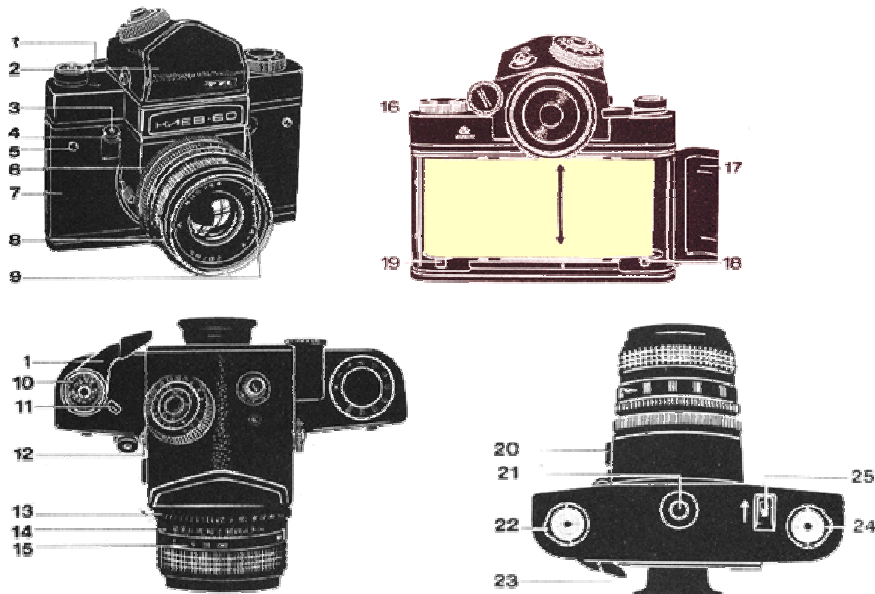
The point on the film speed scale corresponds to 1000 units of GOST.

A cell of 4 V voltage (dia. 16.5 mm, length 22 mm) is used as a power source of the exposure time meter (we are using G13 / A76 / LR44 cell type, 3 pcs.).

Fitness of the power supply source is checked with the help of the lighting signal located on the viewfinder housing.

2. CAMERA PRINCIPAL UNITS AND PARTS

- 1 - shutter cocking lever
- 2 - prism viewfinder TTL
- 3 - straight thread fastening socket
- 4 - release button
- 5 - button for fastening the strap
- 6 - lens-locking-in-position captive nut
- 7 - housing
- 8 - lens
- 9 - arm fastening socket for flash lamp
- 10 - film-in-use speed scale
- 11 - frame counter window
- 12 - viewfinder lock button
- 13 - diaphragm scale
- 14 - diaphragm scale for determining depth of field
- 15 - distance scale
- 16 - exposure time knob
- 17 - back
- 18 - centre for fitting take-up spool
- 19 - centre for fitting film spool
- 20 - depth-of-field control lever
- 21 - tripod socket
- 22 - take-up spool lock
- 23 - replaceable eye shade
- 24 - delivery spool lock
- 25 - back lock



3. OPERATING PROCEDURE

3.1. Loading

The camera can be loaded in light (preferably in the shadow).

Take the camera out of the carrying case.

Open back 17 having preliminarily shifted along the arrow up to the stop and depress button 25 located on the lower cover.

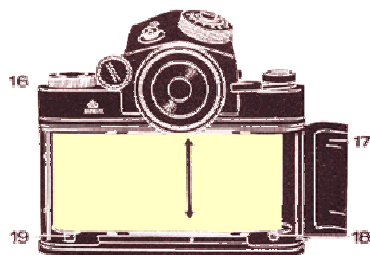
Pull locks 22 and 24 by the clips, turn them counter-clockwise and fix, this will bring centres 18 and 19 down.

Insert the take-up spool into the right-hand chamber of the camera so that the upper centre carrier fits its slot.

Holding the spool, introduce lower centre 18 into its hole turning lock 22 clockwise.

Tear the paper tag off the leader end. Insert the spool with a film into the left-hand chamber of the camera so that the carrier of the upper centre enters the spool slot. Holding the spool and leader by a hand to prevent the latter against unfolding, put lower centre 19 through the spool hole, turning lock 24 clockwise.

Thread the leader end into the take-up spool and turning the latter wind the leader onto it until the mark on the leader aligns with the red index on the camera housing.



To obtain the full-specified number of pictures on the film and to ensure correct operation of the frame counter observe the following rules:

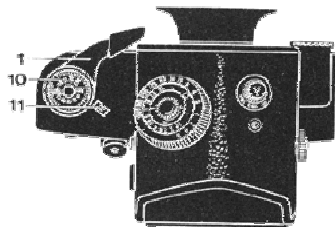
- when loading wind the leader tightly on the take-up spool;
- take measures against leader cocking, creeping over the spool flanges or crumpling leader edges;
- cocking the shutter, take care to bring the lever to the stop in one motion (do not cock the shutter, making several small turns of the lever).

Close the back pressing it to the camera until a click is heard.

3.2. Preparing for Shooting

Make three blank shots to wind the leader onto the take-up spool. Now after the shutter is cocked the next time figure "1" will appear in frame counter window 11 which corresponds to the first frame on the film.

Set the film-in-use speed on scale 10, processing as follows: holding lever 1, turn the disk with scale 10 until the film speed number aligns with the index. The film speed scale is given in units of GOST and DIN.



3.3. Shooting

Shooting with the camera consists of the following steps:

- shutter cocking and film transport;
- determining the exposure time (shutter speed and diaphragm);
- exposure time setting;
- diaphragm setting;
- focusing;
- view finding;
- shutter release.

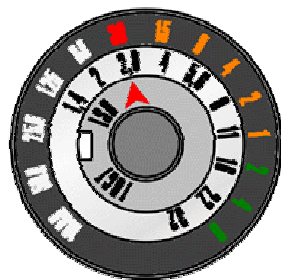
Cock the shutter turning lever 1 up to the stop. If the shutter is cocked fully, the lever will automatically return to the initial position, if not, it will remain in an intermediate position (in this case it should be additionally cocked) An incomplete cocking of the shutter should be avoided. At the beginning of cocking the shutter a slight gradient of force applied to the lever may be felt. In cocking the shutter the film is wound through one frame and the next number appears in the frame counter window. The counter indicates the number of frames shot.

Determination of the exposure time is carried out with the shutter being cocked.

For determining the exposure time set on the calculator the speed of the film loaded into the camera turning knob 31 until the film speed values in units of GOST and DIN appears in windows 32 and 28.

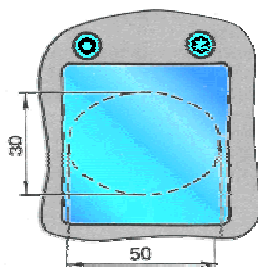
Set on the calculator the lens speed turning scale 29 until the appropriate value coincides with index 30.

The lens speed means the number corresponding to the maximum relative aperture. For example, for lens MC Volna-3 2.8/80 - 2.8.



For determining the "exposure-diaphragm" pair corresponding to the shooting conditions do the following procedures: check fitness of the power source, turning knob 35 until index 34 coincides with position CB / "check battery". The monitor signal should light in window 33. If it does not light it is necessary to replace the power source:

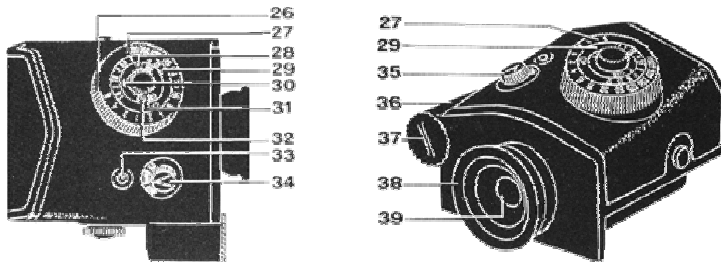
- turn on the exposure meter setting knob 35 into position ON;
- observing through viewfinder eyepiece 39 sight the camera onto the object of shooting so that its image will arrange in the ranges of the zone of measurement of the viewfinder. In the field of vision of the viewfinder eyepiece you will see one of lighting signals: O - little light or * - much light. Slowly turn ring 26 up to the moment of lighting of the second signal (if signal O is lit - counter-clockwise, if signal * - clockwise). Determination of the exposure time is carried out at simultaneous lighting of signals O and *;



- choose the "exposure-diaphragm" pair, which is necessary for shooting on the calculator by exposure scale 27 and by diaphragm scale 29;
- upon determining the exposure time turn out the exposure meter, for this purpose turn knob 30 to position OFF.

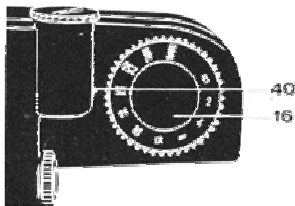
Note:

In the event of the bright light the light should not be permitted, as far as possible, to penetrate into the eyepiece. In this instance eye shades 38 and 23 should be used.



Set the chosen "exposure-diaphragm" values on the camera exposure time knob scale and on the lens diaphragm scale.

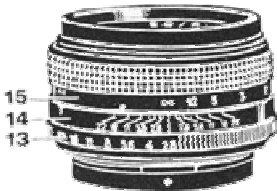
Exposures may be set both with the shutter released and cocked turning knob 16 until the selected number aligns with index 40 on the top cover. Setting of exposures from 1/ 1000 to 1/60 s with the shutter released requires somewhat more effort than when the shutter is cocked.



Manual exposure "B" setting should be accomplished by turning the knob clockwise only (between shutter speeds 1/ 1000 s and "B" the ring is locked).

Set the diaphragm, turning ring 13 until the selected value aligns with the index on the stationary ring. The scale is fixed at all diaphragm values.

Focusing for sharp image either by the ground-glass surface, microscreen and wedges or by the distance scale is accomplished, turning the ring with scale 15. Focusing can be carried out only with the shutter cocked, when the mirror is in the working position and the diaphragm is fully open.

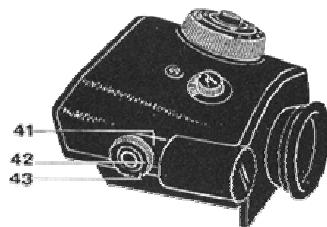


Depth of field is determined by the distance scale with the aid of additional scale 14. Depth of field can be checked by the image of the objects details on the ground-glass surface in the field of vision of the viewfinder, after pressing lever 20 down to the limit of its travel, then the lens will be diaphragmed to the opening set previously. After the lever is let go, it will automatically return to the initial position and the diaphragm will fully open.

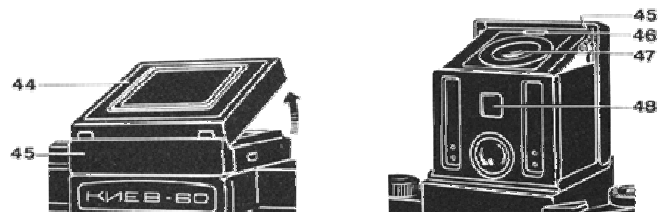
Depending on the definite conditions of the picture shooting, view finding can be carried out by the use of the viewfinder hood.

To replace the TTL prism viewfinder by the viewfinder hood proceed as follows:

- turn ring 43 clockwise until it aligns with indexes 42 and 41. Depress buttons 12, lift the TTL prism viewfinder up;
- set viewfinder hood 45 on the guide pins (in so doing make certain that it is well secured on the camera).

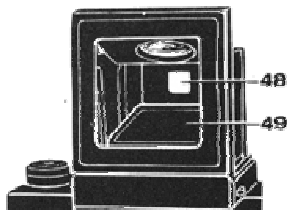


Open the viewfinder hood, turning front wall 44 in the direction of the arrow illustrated in the Figure. In its end position the front wall of the hood is locked and the side and rear walls are automatically folded down. When lock lever 46 is shifted up, viewfinder lens 47 is set to the working position.



Upon completion of shooting with the aid of the viewfinder hood, press the viewfinder lens wall to the front wall of the viewfinder until the indexing lever snaps it in, then fold up the side walls (first left-hand, then right-hand), then the rear wall, and holding the latter, return the front wall into the initial position.

In prompt shooting (such as sports photography) the viewfinder hood can be used as a simple frame viewfinder. Then window 48 in the rear wall of the viewfinder hood will serve as one frame and the window in the front wall, closed in the non-working position with cover 49, as the other. The cover, when depressed, will turn and lock in the end position.

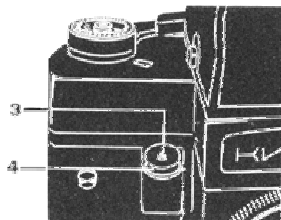


In shooting with the frame viewfinder focusing is effected either by the use of lens distance scale 15 or by the ground-glass through the eyepiece.

To fold down the frame viewfinder depress the wall of eyepiece lens 47, in this case cover 49 will return to the initial position.

After folding down the frame viewfinder, close the viewfinder hood as explained previously.

To release the camera shutter, gradually depress release button 4 up to the stop. During this action the lens will be diaphragmed, the mirror automatically rises and the shutter operates.



Shooting with exposures in excess of 1/30 s should be performed by the use of the tripod. The tripod socket in the camera is provided with the 3/8" thread. The shutter is released with the aid of the straight thread which is screwed into socket 3 of the release knob.

3.4. Unloading the Camera

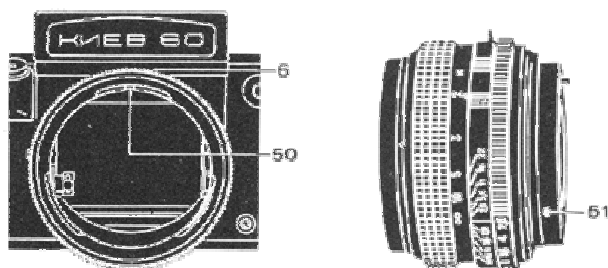
Shooting can be carried out until the "K"-letter (end) appears in the frame counter window, which indicates that the film is used up. Then it is necessary to wind the remaining paper leader on the take-up spool with the aid of the shutter cocking lever. Since in this position the shutter cocking mechanism is disconnected, the release button may not be depressed each time after cocking.

Upon completion of rewinding (when rewinding is over, the force applied to the cocking lever diminishes) open the back of the camera, move out the take-up spool centre and remove the spool with the used film.

4. REPLACING THE LENS

The camera is adapted for the use of interchangeable lenses. To remove the lens turn nut 6 counter-clockwise up to the stop and disconnect the lens from the camera.

When installing the lens, it is necessary to fit it into the camera so that guide pin 51 of the lens gets into slot 50 on the camera housing. Then turning the nut clockwise to the limit of its travel clamp the lens on the housing.



The following interchangeable lenses are produced for the Kiev 60 camera.

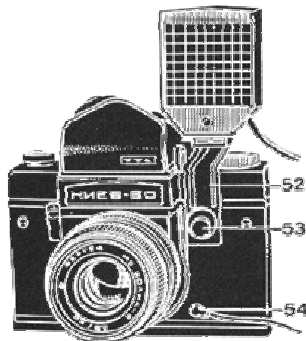
Zodiak-8, MC Zodiak-8 - 3.5/30 superwide-angle (180 deg.)
Mir-26, MC Mir-26 - 3.5/45 wide-angle (83 deg.)
Mir-38, MC Mir-38 - 3.5/65 wide-angle (66 deg.)
MC Vega-28 - 2.8/120 long-focus (36 deg.)
Kaleinar-3, MC Kaleinar-3 - 2.8/150 long-focus (28 deg.)
MC Telear-5 - 5.6/250 long-focus (18 deg.)
Jupiter-36, MC Jupiter-36 - 3.5/250 long-focus (19 deg.)
MC Arsat Macro - 5.6/500 superlong-focus, non-mirror (8 deg.)
MC PCS Arsat 4.5/55 shift

5. FLASH PHOTOGRAPHY

The Kiev 60 TTL camera is provided with the synchrocontact with receptacle 54 for the connection of a flash lamp.

To install the flash lamp the camera complete set is provided with arm 52 which is fixed to the camera housing with the aid of screw 53.

Shooting with flash lamp is performed with exposures from 1/30 to 1/2 s.



6. MACROPHOTOGRAPHY

Close-up photography of small objects (macrophotography) can be accomplished using rings. The use of the rings enables shooting to be made at a distance less than 0.6 m which is minimum for the MC Volna-3 lens. The rings are installed as required between the camera housing and the lens similarly to the installation of interchangeable lenses. The rings can be attached together (in which case the distance to the object will be the minimum and make up about 0.3 m).

When operating with the viewfinder hood and when using the rings, increase the exposure time found with the aid of the exposure meter in accordance with the data given in the Table.

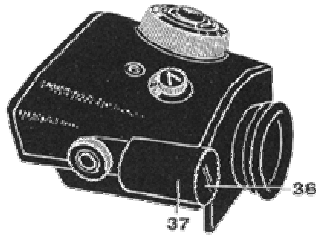
Designation of ring fitted on the camera, m	Coefficient of increase of exposure time found with the aid of exposure meter (with lens distance scale set to 0.6 m)
0.4	2x
0.35	3x
0.4+0.35 (both rings together)	3.5x

During operation with the TTL prism viewfinder influence of the rings on the value of the exposure time is taken into account automatically.

7. INSTALLATION AND REPLACEMENT OF POWER SOURCE

Unscrew lid 37 with the help of a coin installed into the slot of the lid.

Set the power source in socket 36 locating it with its plus side to the lid (on the internal side of the cover mark "+" is engraved).



8. USE OF LIGHT FILTERS

The camera set is provided with light filters used as attachments, which can be screwed into the front part of the lens (thread M62x0.75).

The achromatic light filter UV-Ix is used for weakening the effect of ultraviolet rays, for example, when taking pictures under high-mountain conditions, it is also helpful in colour photography.

The light yellow-green filter YG-1.4x improves tone reproduction of multi-colour objects on high-sensitive photographic materials with a slight loss of their sensitivity. Virtually correct tone reproduction of multicolour objects is achieved by the use of the filter on medium sensitivity films.

9. CAMERA UPKEEP

The camera should be handled with care, kept clean, guarded against jolts, strikes, moisture and abrupt temperature fluctuations.

The camera should be kept in the closed carrying case. The lens should be closed with the cap and the change viewfinder attachment should be in the case socket.

The lens should not be removed from the camera, if not necessary, so as to keep dust off the surface of the optical parts. If the camera is stored without the lens, the aperture in the camera as well as the lens should be closed with caps.

Wipe the surfaces of the optical parts with clean soft cloth or with cotton slightly wetted in rectified spirit or ether.

When bringing the camera into a warm room on frosty weather do not take it out of the case at once. It is recommended to let it warm gradually (for two hours) in the case.

Do not exert excessive force in manipulating the camera. In case of some troubles or damage do not attempt repairing the camera by yourself. The camera must be repaired or adjusted only by specialists.

Important!

The camera curtains are made from light-tight rubberised fabric and to preserve it against deterioration the following measures should be taken in shooting in the sun:

- remove the lens cap and open the viewfinder hood immediately before shooting;
- do not direct the camera lens towards the sun;
- do not leave the camera in the sun during long-term outage between shootings.