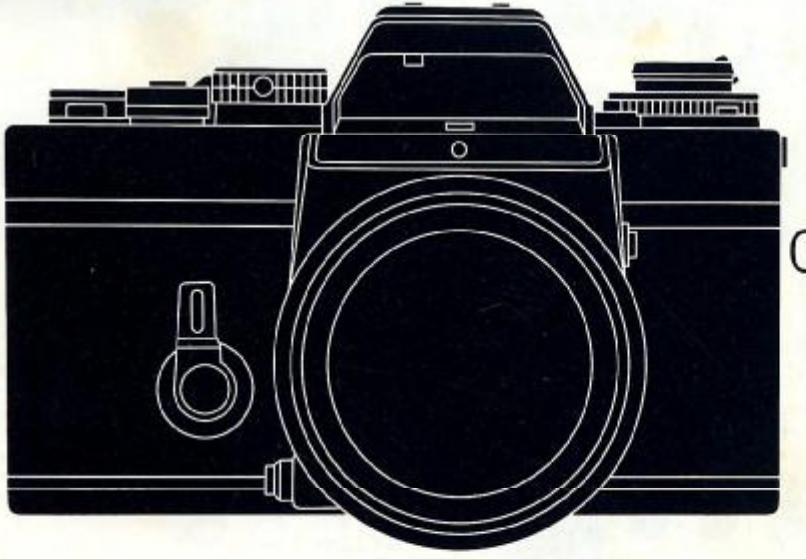
MINOLTA XE-1



OWNER'S MANUAL

E

Your Minolta XE-1 is a top-quality single-lens reflex camera whose electronic system will control exposure for you automatically, freeing you for more enjoyment or greater creativity. You can also control exposure manually, with or without reference to the meter indication. In either case, your XE-1 offers full control of all camera exposure variables, and all necessary information is visible without taking your eye from the finder. This eminently refined and well-thought-out camera with its unique new electronic shutter lets you enjoy easy handling, utmost smoothness and quietness, and considerate "fail-safe" features throughout. Further, your XE-1 is an integral part of the Minolta SLR system and uses all interchangeable lenses and applicable system accessories. It is thus ready to grow with you and your needs for utmost versatility even in advanced, professional, or specialized scientific or technical use.

Before using your camera for the first time, study this manual carefully all the way through – or at least all the sections needed to cover your own photographic needs. As you read, attach a lens to the camera body (see p. 50) if necessary, load batteries, and handle your XE-1 and acquaint yourself with its parts and features. Then load it with film and proceed to actual picture taking. In this way, you can take good photos and begin to realize the broad potential of your XE-1 right from the start. Be sure to keep this manual for reference later as necessary.

CONTENTS

MAIN FEATURES

Outstanding electronic exposure system

Incorporating the electronic auto-exposure control system developed for Minolta's top XM model, the XE-1 covers a wide range of photographic conditions with high accuracy and very low power consumption. It resists temperature and humidity and maintains high performance from general photography through highly specialized work. The XE-1's system features:

- Fully automatic exposure by stepless shutter speeds from 1/1000 to four full seconds, plus metered and full manual
- Monolithic-IC memory and control circuits
- Minolta's exclusive contrast-compensator metering
- Better operation at high and low temperatures
- Two tiny silver batteries as a power source

High-performance new shutter

The XE-1's unique new "CLS" ("Copal-Leitz Shutter") is a metal-blade vertical-run type providing high precision and durability. It operates more quietly and smoothly and offers admirable compactness.

With basic design by Germany's Ernst Leitz GmbH, the CLS was developed through joint work with Japan's Copal Co., Ltd., who further contributed experience and original ideas. Minolta supported and cooperated with both Copal and Leitz in this project.

Complete information-center viewfinder

- Focusing can be done in three ways: By the split-image or microprism focusing aid or on the mat field.
- Shutter speed, aperture figure, exposure mode, coupled limits, and metering information are all visible while you view.
- Metered-manual exposure control is possible by matching shutter-speed numbers in the finder.

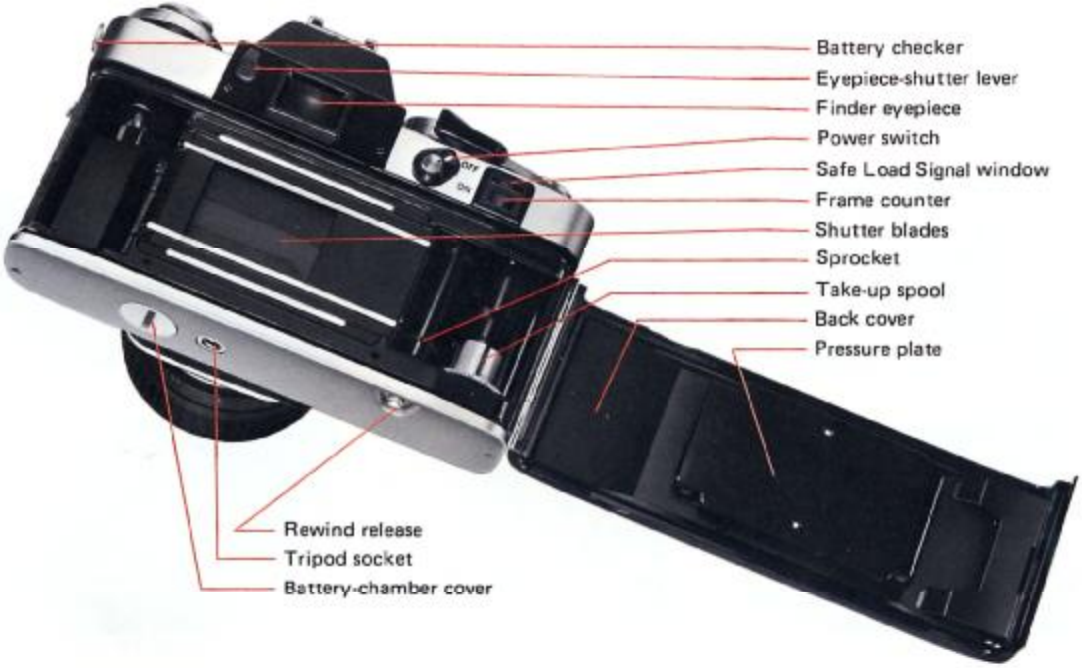
Minolta SLR bayonet lens mount

- Virtually all existing Rokkor interchangeable lenses can be used in either automatic or manual operation, the current line including some thirty models from 16mm fisheye through 1600mm extreme telephoto. Attaching is simple, quick, and sure, with full-aperture metering for MC lenses, stop-down type for others.
- The XE-1 also uses all applicable system accessories of the more than 150 currently available.

Versatile, easy, "fail-safe" operation

- Unusually smooth, positive multiple exposures without frame-counter advance
- Up to two stops' continuous exposure adjustment over or under the normal electronic setting
- X or FP flash synchronization through the hot shoe or single terminal with switch
- Self-timer with adjustable delay for auto or manual exposure control
- Eyepiece shutter for unmanned or similar operation
- Oversize mirror; image cutoff negligible even with 1600mm RF Rokkor lens
- Exclusive Safe Load Signal monitors film alignment and advance.
- Shutter release locked when power switch off
- Mirror stays up, no exposure made if shutter released when battery power insufficient.
- "X" (1/90 sec. with X/FP sync.) and "B" (bulb) settings operate without battery power.
- Safety locks on "AUTO" setting, ASA dial, and exposure-adjustment control
- Handy memo holder and ASA/DIN conversion scale on back
- Unusually smooth short-stroke film advance

NAMES OF PARTS


Battery checker
Eyepiece-shutter lever
Finder eyepiece
Power switch
Safe Load Signal window
Frame counter
Shutter blades
Sprocket
Take-up spool
Back cover
Pressure plate
Rewind release
Tripod socket
Battery-chamber cover

SUMMARY OF OPERATION (on "AUTO")

The steps pictured on this page outline use of your XE-1 on automatic mode. They give a general idea of how very easy it is to get perfectly exposed pictures with this camera and are keyed to corresponding sections of the manual for ready reference. This brief guide

1 Check batteries (see p. 12).

2 Move power switch to "ON" (p. 12).

3 Open back cover (p. 14).

7 Set selector dial to "AUTO" (p. 25).

8 Set lens aperture (p. 25).

9 Adjust focus (p. 33).

may also be useful as a quick refresher for good results after you have not used the camera for some time. It is not, however, a substitute for the detailed instructions in the rest of this manual, which should be thoroughly studied for best results.

4 Load film properly; close cover (p. 15).

5 Advance film to "1" (p. 16).

6 Set film speed (p. 18).

10 Release shutter (p. 36).

11 Turn power off (p. 12).

12 Rewind and remove film (p. 38).

BATTERIES AND POWER

Two 1.5-volt silver-oxide batteries, Eveready S-76 or equivalent, supply the power for the meter, electronic exposure control, and electronic shutter settings.

IMPORTANT

Should viewing become impossible because the mirror of your XE-1 remains up after the shutter has been released, it does NOT mean that the camera is out of order. This occurs automatically to warn you when there is insufficient battery power for proper operation at electronic shutter settings. To return the mirror for viewing, simply turn the shutter-speed/function selector to "X" or "B." For further details, see p. 13.

Installing batteries

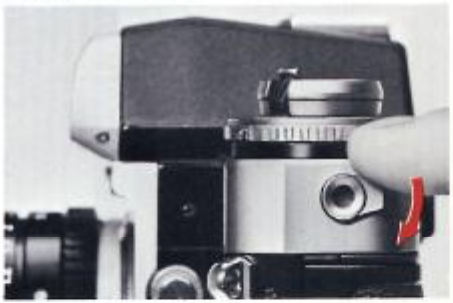
1. Using a coin or similar object, turn the battery-chamber cover counterclockwise and remove it.
2. After wiping terminals with a clean dry cloth and handling only by the edges, insert two of the specified batteries plus (+) side out into the sleeve on the inside of the cover. (If batteries are inserted improperly, they will not make contact, and no current will flow.)
3. Replace the cover and screw it in clockwise as far as it will go.

Testing batteries

Depress the battery-checker lever toward the bottom of the camera. If the red lamp lights, batteries are serviceable.

Test batteries immediately after installing them. If the lamp does not light, make sure that they are fresh and have been inserted correctly.

Batteries should be tested from time to time thereafter, preferably before starting each new roll of film and particularly before starting picture-taking sessions or trips. A set of batteries will generally last for about one year in proper normal use.



Power switch

To operate the camera, move the power switch to "ON." This will unlock the shutter-release button and cause the meter needle in the finder to move if there are sufficient light and battery power.

When not operating the camera, always be sure to move the power switch to "OFF." This will lock the shutter release against accidental exposures and prevent needless battery drain.

Cold-weather operation

Batteries by nature tend to decrease in capacity as the temperature goes down. Though the silver-oxide batteries used for the XE-1 are superior to most others in this respect, it also happens with them.

If *old* batteries are used at temperatures below 0°C (32°F), the camera's electronic operation may not be satisfactory. You should thus replace older batteries with fresh ones before using your XE-1 in cold weather and carry spare fresh batteries with you during such use.

Low-voltage warning

Your XE-1 is equipped with a device to warn you and prevent wasted film if battery voltage becomes insufficient while the shutter-speed/function selector is at an electronic setting (i.e., any one other than "X" or "B"): If the shutter is released when voltage is too low, no exposure will be made on the film, and the mirror will remain up to prevent viewing.

Turning the shutter-speed/function dial to either "X" or "B" (mechanical settings) will reset the mirror to its viewing position. The camera may then be operated at either of these mechanical settings without replacing batteries or at any electronic or mechanical setting after inserting serviceable batteries. In either case, use the multiple-exposure lever (see p. 45) to recock the shutter without wasting a frame of film. (The mirror will also reset automatically after film has been advanced in the usual way and the shutter released once.)

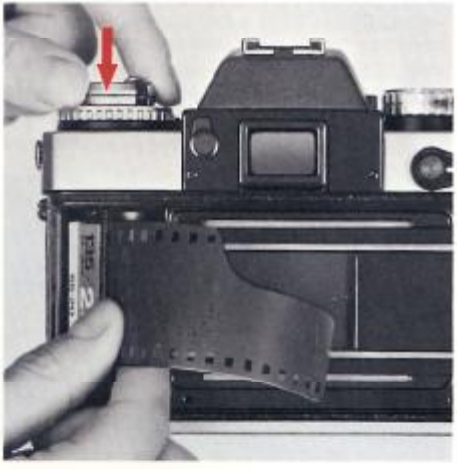
NOTE

If the camera is not to be used for more than two weeks, it is advisable to remove the batteries.

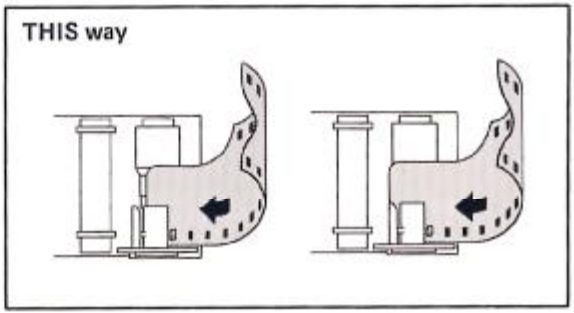
LOADING AND ADVANCING FILM

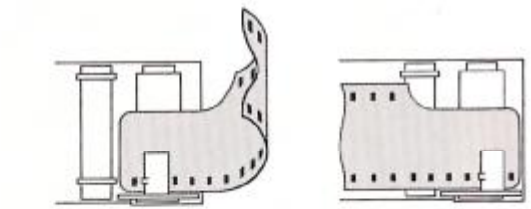
1. Pull out on the back-cover release knob until the camera back springs open.

2. Leaving the knob pulled out, position a film cartridge in the chamber with the projecting-spool end toward the bottom of the camera. Then push the back-cover release knob all the way in, rotating it slightly to do so if necessary.

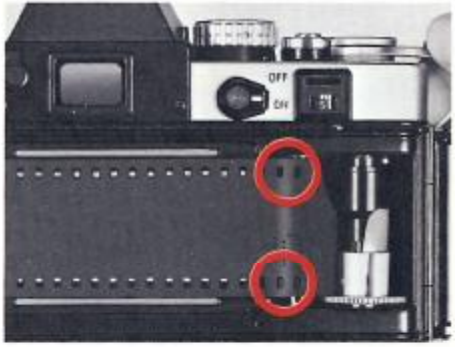


3. Insert the end of the film leader as shown into one of the slots in the take-up spool so that the tooth is engaged with a sprocket hole near the end of the leader. Make sure that the end of the leader does not project from another slot between tabs on the spool.

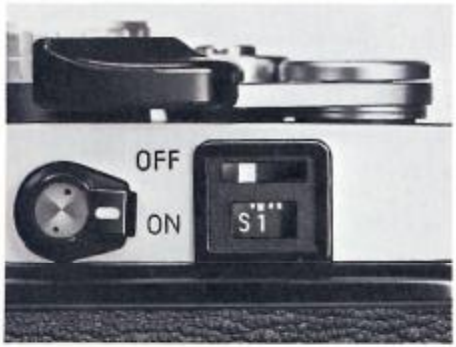




4. Operate the film-advance lever slowly until the film has begun to wind firmly around the take-up spool and the sprocket teeth are engaged with holes on both edges of the film. If the advance lever stops at the end of a full stroke during this procedure, release the shutter and continue.



5. Close the camera back and push in on it until it clicks locked.
6. A red "S" should now appear opposite the index in the frame-counter window. Advance film and release the shutter until the index points to "1" on the frame-counter dial.



7. A red bar should also now appear at the left in the Safe Load Signal window. This indicates that the film is loaded and winding properly on the take-up spool. If the Safe Load Signal does not appear or swings far to the right in the window, repeat steps 1 through 6 to assure that film is properly engaged on the spool. As you continue to take pictures, the red signal will move gradually toward the right in the window, indicating that film is advancing properly.

CAUTION

Film should be handled and loading done in subdued light — at least shaded from direct sunlight by the body.

Film-advance lever and frame counter

The film-advance lever is designed with 30° unengaged movement before the beginning of its engaged stroke to allow swinging it out from the body so that the right thumb will fit comfortably behind it. Continuing to move the lever through its engaged angle of 130° until it springs back to the unengaged position advances film and frame counter and cocks the shutter for the next exposure. (To cock the shutter without advancing film, see p. 45.)

When the lever stops and resists further movement at the end of a film, never attempt to force it farther. (See p. 38 for instructions on rewinding and unloading film.)

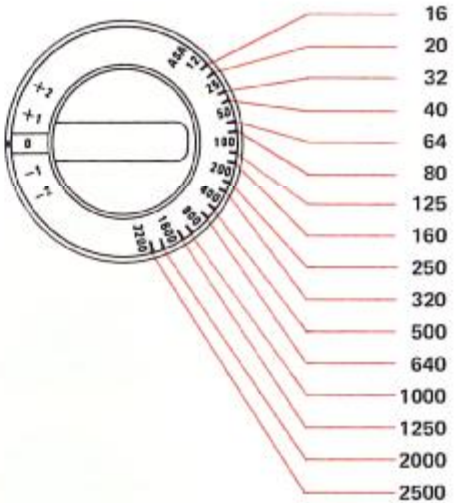
The frame counter does not advance when two or more exposures are made on the same frame. The counter automatically resets for film loading when the camera back is opened.

FILM SPEED

Film-speed selector

Each film on the market has an ASA or DIN exposure-index number to indicate its sensitivity to light. For correct exposure, the meter must be set for the effective exposure index of the film in use.

To do this, depress the selector release and turn the film-speed selector until the proper ASA value indication clicks into place opposite its index. Dots between numbered graduations indicate ASA numbers as shown at right.



CAUTION

When setting film speed, the index of the exposure-adjustment control (see p. 47) should generally be locked at its zero position.

ASA/DIN conversion scale

A convenient scale for converting DIN to ASA film-speed ratings is located on the back cover of the camera.

Memo holder

Around the ASA/DIN conversion table is a convenient frame that can be used to keep memos handy with the camera. It is just the right size to hold the film-box end, which can be inserted as a reminder of the film in use.

EXPOSURE-CONTROL FUNDAMENTALS

The two camera exposure-control settings are lens opening (aperture) and shutter speed. The size of the aperture determines the amount or volume of light reaching the film from a given subject and lighting. The shutter speed determines the length of time this light acts upon the film. Apertures are expressed in f-numbers, which are larger for small openings and vice versa (e.g., f/16 represents a small opening, f/2 a large one). Shutter speeds are expressed in seconds or fractions thereof, which are generally the reciprocals of the numbers shown on shutter-speed scales (e.g., 60 = 1/60 sec., but 2s or a yellow 2 on this camera = 2 full seconds). At usual apertures, each f-number setting (e.g., f/8) lets in twice as much light as the next numerically larger one (f/11) and half as much as the next smaller (f/5.6). Similarly, each shutter speed (e.g., 1/60 sec.) allows light to strike the film twice as long as the next higher speed (1/125) and half as long as the next lower one (1/30). The interval between two standard f-numbers (say, f/4 and f/5.6) or shutter speeds (say, 1/15 and 1/30) is one "stop." Total exposure on the film is determined by the combination of aperture and speed. Other things being equal, using the next smaller f-number (i.e., giving one stop more exposure) will balance using the next higher shutter speed (i.e., giving one stop less exposure), and so on. A great range of combinations (e.g., f/5.6 at 1/30, f/4 at 1/60, f/2.8 at 1/125, f/2 at 1/250, etc.) will thus yield the same total exposure. The specific combination you choose under given lighting conditions will depend upon the degree to which you want the greater depth of field (see p. 34) of smaller apertures and the greater movement-blur preventing ability of faster speeds (p. 29).

XE-1 METERING POINTERS

Minolta's exclusive contrast-compensator metering system employs two CdS cells mounted on the pentaprism to take separate, overlapping light readings. These cells are circuited so that the reading of each affects that of the other to automatically yield optimum exposure in both normal and most high-contrast situations. For best results, the photographer should thus generally not make compensatory adjustment for such differences. One exception is that exposure should generally be decreased one to two stops if the most important subject area is much brighter than the rest of the picture (e.g., is in a spotlight or shaft of sunlight). Some photographers also prefer to increase exposure a half stop or more with a backlighted subject or one whose most important area is considerably darker than the area surrounding it. (For further details, see p. 48).

Though the XE-1's special system and finder are designed to minimize the effect on the meter of light entering through the finder eyepiece under usual conditions, care must be exercised to prevent this especially if you wear eyeglasses. Use of a rubber finder eyecup is further recommended when the subject is in shade and the camera is in sunlight, when bright sidelight falls between eye and eyepiece, or when stop-down metering is used, particularly at small apertures. When viewing is unnecessary, the eyepiece shutter (see p. 26) can be used to completely eliminate this problem.

Besides offering exceptionally long service life and consistent conversion of light to electrical values, the CdS cells in your XE-1, like all others, have characteristics comparable to human vision. They are able to "see" roughly the same light and color as your eyes and photo film can; this is a great advantage for accurate exposure. Like your eyes, however, their time of response varies with the intensity of the light falling on them. It thus takes them a while to become accustomed to low light levels after exposure to bright light. For accurate exposure, you should thus be careful not to point the camera at very bright natural or artificial light sources before making exposures. And you should give your CdS electric eyes a short time to get accustomed to darker conditions, when, for example, taking pictures in shadow or indoors after shooting in bright sunlight.

STOP-DOWN BUTTON

The stop-down button on the XE-1 has two positions: Inner for full-aperture metering and outer for stop-down metering (see right) or depth-of-field preview (see p. 35).

Pushing the button once will set it at one of these positions; pushing it again will set it at the other.

At full aperture

METERING METHODS

With MC Rokkor lenses, metering is done at full aperture, with the stop-down button at its inner position (see left), for greatest sensitivity and accuracy. The viewfinder thus remains at maximum brightness for utmost ease of composing and focusing, with the automatic diaphragm closing down only at the moment of exposure to the aperture preset on the aperture ring.

Stop-down metering is used for lenses other than the MC type (see p. 51).

Stopped down

HOLDING THE CAMERA

Your camera should be held in a comfortable position that will provide sufficient steadiness. A recommendable way that permits ready operation of important controls is shown here.

To hold the camera horizontally, cradle the bottom of it in the palm of the left hand with the thumb and index or middle finger on the focusing grip of the lens. The thumb and middle or ring finger of the same hand can be used to turn the aperture ring. Grasp the camera body firmly with the right hand as shown so that the index finger rests on the shutter-release button. In this position, the thumb can conveniently operate the film-advance lever.

The camera may be rotated to a vertical position when held this way, the only difference being that its rewind-crank end will rest in the palm of the left hand.

VIEWFINDER

As you look through the viewfinder of your XE-1, you can see:

❶ **F-number** of lens aperture set,

❷ Shutter setting ("A" for automatic; "X," or "B," or speed number for manual mode),

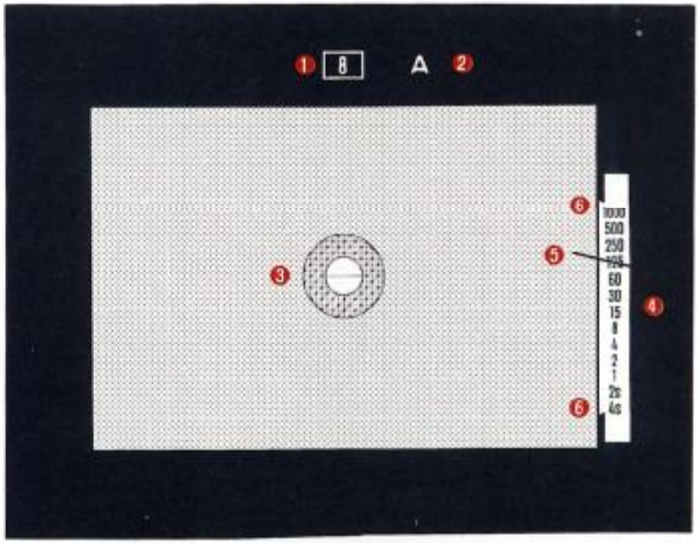
❸ **Split-image / microprism focusing spot,**

❹ **Shutter-speed scale,**

❺ **Indicator needle** (shows speed being set on automatic mode; indicates correct exposure when aligned with scale number corresponding to speed manually set), and

❻ **Meter coupling range limits.**

For operation details, see the following sections on exposure control and focusing.



AUTOMATIC EXPOSURE CONTROL

Automatic operation

1. Turn the shutter-speed/function selector to align "AUTO" with the index, at which point it is locked to prevent accidental movement. A red letter "A" will appear as the shutter-setting indication at the right above the finder frame.

2. Set the desired lens opening by turning the aperture ring on the lens barrel. The f-number set will appear centered above the frame in the finder, and the shutter speed as indicated by the needle at the right of the frame will vary automatically and steplessly to yield proper exposure for the aperture and other settings with the light being metered.

3. It is then only necessary to confirm focus (see p. 33), compose your picture, and release the shutter (p. 36).
4. The accurate range of shutter operation on automatic mode is 1/1000 to 4 sec., as indicated by the indention on the left side of the shutter-speed scale. When the needle moves above or below this indention, correct exposure will not be obtained, and the aperture or other conditions should be adjusted so that it points to a value within the coupled range.

NOTE

To continuously provide more or less exposure on automatic mode, see p. 47.

Eyepiece shutter

For remote or unmanned operation or when the camera is set on a support and used without viewing on automatic mode, be sure to rotate the lever at the left rear on the finder as indicated to close the eyepiece shutter. This will prevent unwanted light from entering through the eyepiece and affecting the meter reading and exposure when the eyepiece is not being shielded by the photographer's head, as it normally would be.

WAYS OF USING AUTO MODE

On AUTO mode, your XE-1 will set the precise shutter speed for proper exposure for you automatically. Even so, you have considerable control over results and can adjust aperture and shutter speed over considerable ranges to suit the conditions and yourself.

General use

For usual good personal pictures with a minimum of care where no particular effect is desired, simply turn the aperture ring to set a medium aperture (say, about f/8) that will provide as much depth of field (see p. 34) as possible while producing a shutter speed (say, about 1/125 sec.) fast enough to stop any motion necessary in the subject and guard against blur from camera movement (see p. 36).

Aperture priority

There may be times when it will be most important to set the lens aperture to obtain a particular effect, such as rendering a certain range in sharp focus or emphasizing a subject against an out-of-focus background. In this case, set the desired aperture, and let the camera select the shutter speed. Small f-numbers yield a shallow field of sharp focus, as in Example A below, while large f-numbers give greater depth of field, as in Example B. To determine actual depth of field, use the depth-of-field scale (see p. 34) or stop-down button (p. 22).

A: Large lens opening

B: Small lens opening

Shutter priority

At other times, the subject or effect you want may make the shutter speed more important. In this case, turn the aperture ring until the needle indicates the required speed on the finder scale; exposure will automatically be correct. High shutter speeds such as 1/500 to 1/1000 sec. can "freeze" fast action, as in Example C below. Such slow speeds as 1/2 to 1 sec. can be used to emphasize subject flow or motion, as in Example D.

No matter how the camera is used, it is important to support it (see p. 23) and release the shutter properly (p. 36).

C: High shutter speed

D: Low shutter speed

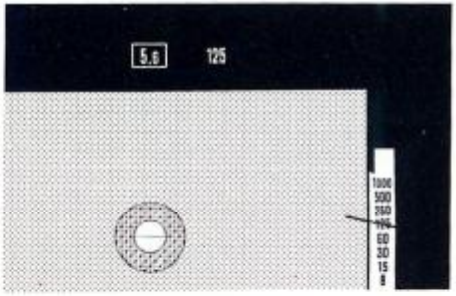
METERED/MANUAL EXPOSURE CONTROL

Metered/manual operation

1. While depressing the AUTO-setting release if from the "AUTO" setting, turn the shutter-speed/function selector to align any step indication from "1000" through the yellow "4" with the index. The number of the speed set will appear as the shutter-setting indication at the right above the finder frame.

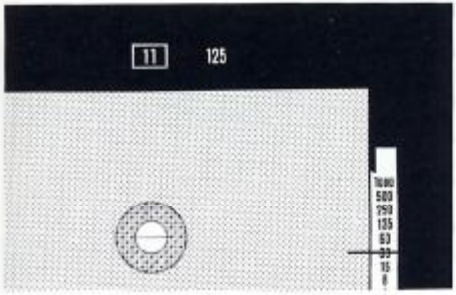
2. To set proper exposure for light as metered, turn the aperture ring until the needle extends through the center of the number on the shutter-speed scale that corresponds to the shutter-setting number appearing above the frame. If necessary alignment cannot be attained, adjust the shutter-speed setting or other conditions to permit it.

Correct metered-manual exposure



3. Needle alignment can of course be disregarded and any shutter-speed and lens-aperture combination set for full manual operation.

Full-manual setting

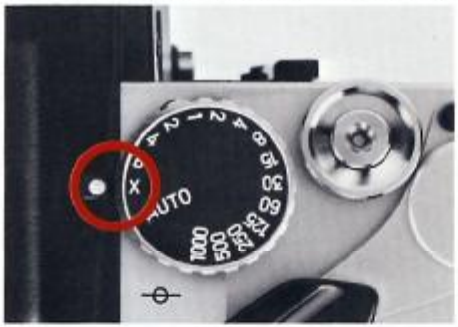


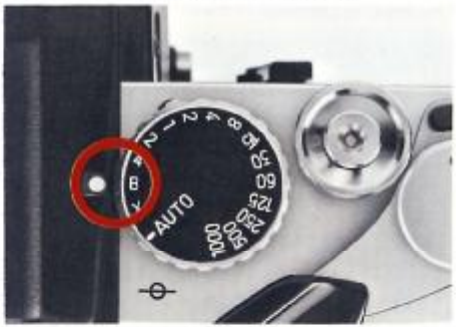
"X" and "B" settings

Both "X" and "B" shutter settings are mechanically controlled. With either of these letters aligned with the index, then, you can view, make exposures, and advance film even though batteries are unserviceable or completely lacking.

Turning the shutter-speed/function selector to align "X" with the index (while depressing the AUTO-setting release if from "AUTO" setting) provides a fixed shutter speed of 1/90 sec. for fully synchronized exposure with electronic flash, existing continuous light, and/or FP flashbulbs. "X" will appear at the right above the finder frame at this setting.

Turning the shutter-speed/function selector to align "B" with the index (while depressing the AUTO-setting release if from "AUTO" setting) sets the camera for making "bulb" exposures. That is, the shutter will open when the shutter release is depressed and remain open until it is released. "B" will appear at the right above the finder frame at this setting.





FOCUSING

The focusing screen of your XE-1 features a split-image spot surrounded by a band of microprisms in the center of a mat field.

To focus the camera visually with usual lenses, look through the viewfinder with lens at full aperture and turn the focusing collar on the lens until the upper and lower subject images in the spot are exactly aligned with no broken lines between them and/or the subject image in the band does not shimmer or appear broken up. At this point, the subject image within the focusing aid should appear clearest and seem to blend with that on the mat field around it.

Though the most satisfactory focusing aid and method depends upon the conditions and personal preference of the photographer, the above method may provide best results with lenses of about 35mm to 100mm focal length.

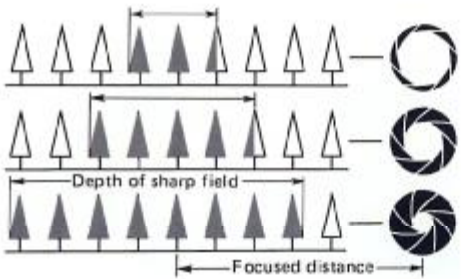
Generally speaking, however, you will probably find that using the split-image spot will result in most accurate focus with subjects having vertical lines and with wideangle lenses; the microprism band for lenses from about 35mm through 100mm especially with subjects not having vertical lines; and the plain mat field for longer lenses or macro or other work involving considerable lens extension.

Out of focus

Subject in focus

Depth-of-field scale

The distance behind and in front of the focused distance within which the image appears acceptably sharp is called the depth of field. Besides being greater the shorter the focal length of the lens and vice versa, this increases as the lens is stopped down and becomes greater the farther from the camera the lens is focused. It is at its least for any given lens in normal mounting when the lens is at maximum aperture (as when metering and focusing normally with MC Rokkor lenses) and at minimum focusing distance.



The near and far limits of acceptable sharpness can be determined from the depth-of-field scale on the lens barrel. With the lens focused at a given point, the image will be in satisfactory focus from the nearer value to the farther value on the distance scale indicated by the depth-of-field scale marks for the aperture to be used.

For example, if a 50mm lens is focused at 5m (about 16 ft.) and the aperture is f/8, the appropriate graduations to left and right of the index on the depth-of-field scale indicate acceptable sharpness from about 3.4m to 9.7m (approx. 11 to 32 ft.).

Depth-of-field preview

Depth of field at any aperture and focusing distance can be previewed visually by pushing the stop-down button to release it to its outer position. This will stop the diaphragm down to the aperture corresponding to the f-number preset on the aperture ring, allowing you to see through the viewfinder how much of the subject is acceptably sharp.

Pushing the stop-down button again to fix it at its inner position will reopen the diaphragm to full aperture.

Infrared index

For proper focus when making pictures with infrared radiation, first focus your subject with visible light as described above, then turn the focusing ring to the right to align the point of proper focus on the distance scale with the index designated with small red "R" in the depth-of-field scale.

Film-plane index

The symbol on the camera top plate to the right of the viewfinder indicates the exact plane occupied by the film in the camera. This can be used to measure distance from subject to film precisely where desired for photomacrography, close-ups. etc.

RELEASING THE SHUTTER

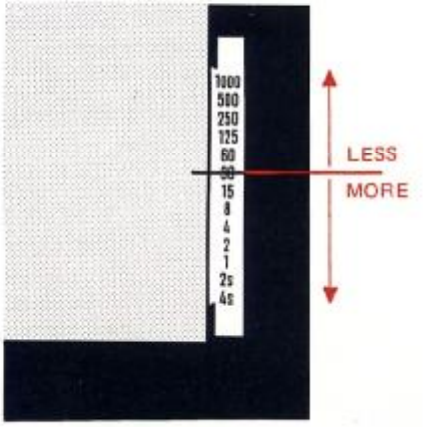
The way the camera is supported (see p. 23) when exposures are made and how the shutter is released are as important as focusing for best photographic results, and to avoid blurred pictures due to camera movement during exposure these factors become more critical the slower the shutter speed.

You may wish to use the figure "30" on the shutter-speed scale as the reference point to gauge the chance of camera movement. When the meter needle swings below it, you should pay special attention to both camera and subject movement in taking pictures.

With the possible exception of highest speeds, the camera or hands holding it should generally be firmly steadied against your face or body when you release the shutter.

At slower speeds, it is advisable to steady the camera against a doorframe, post, or other firm support while depressing the release.

DANGER OF BLUR FROM CAMERA/SUBJECT MOVEMENT



The shutter should always be released with a slow, steady squeeze — never a quick jab — preferably while holding your breath.

For maximum sharpness when making exposures too long to permit hand-holding the camera, mount it on a tripod using the built-in socket on the bottom and trip the shutter with a cable release screwed into the threaded socket provided in the shutter-release button.

If the eyepiece is not being shielded by the photographer's head when the shutter is released in this way, the eyepiece shutter should be closed (see p. 26).

NOTE

The shutter-release button is locked and cannot be depressed when the power switch is off.

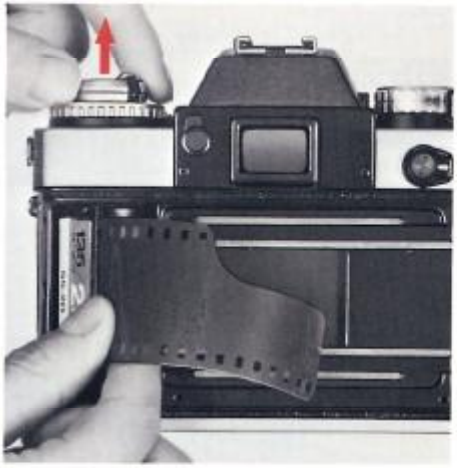
REWINDING AND UNLOADING FILM

1. Push the rewind release.

2. Unfold the rewind crank and turn it in the direction indicated by the arrow on it until the red Safe Load Signal bar moves out of

the window to the left. You will then feel tension on the film increase and disappear, and the crank will turn freely.

3. When you are certain that the film is completely rewound, pull out the back-cover release knob to open the back and remove the cartridge.



FLASH PHOTOGRAPHY

Your Minolta XE-1 is circuited for X or FP flash synchronization through either its threaded PC sync. terminal or its convenient hot shoe. You can thus use either direct-contact cordless flashguns or units having cords on it.

Synchronization

Turning the sync. selector switch so that its index points to the appropriate indication sets the camera for synchronization as follows:

NOTE

Since, as indicated by the table, 1/90 is the maximum shutter speed for proper X synchronization, do not use speeds faster than this with electronic- or auto-flash units. FP flashbulbs synchronize at all auto and manual shutter settings.

Sync. selector switch setting	Type of flash	Synchronized speed range in seconds	
		On automatic mode (stepless speeds)	On metered/manual mode (step speeds)
X	Electronic flash ("strobe")	4 through 1/90	4 through 1/60, X (1/90), B
	Class M or MF flashbulbs	4 through 1/30*	4 through 1/30*, B
FP	Class FP flashbulbs	4 through 1/1000	4 through 1/1000, X, B

* Certain Class-M bulbs have a flash duration long enough to cover higher speeds.

Connecting flash units

Bracket-type flash units are attached to the camera by means of its tripod socket.

Cordless clip-on flash units are attached and electrically connected by simply sliding them

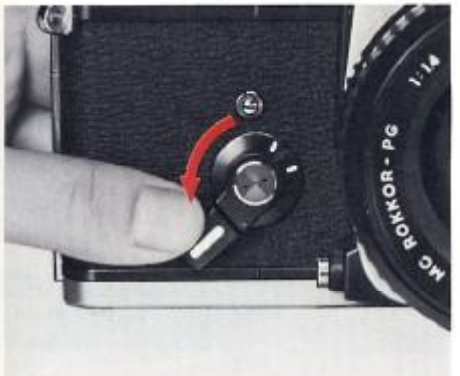
into the camera's hot shoe. Sync. cords of either clip-on or bracket-type conventional units requiring them must be plugged into the camera sync. terminal for operation.

SELF-TIMER

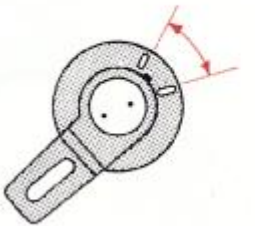
The self-timer built into your Minolta XE-1 can be used to delay release of the shutter for a variable number of seconds after actuation.

To operate it:

1. Advance film.
2. Cock the self-timer by moving the lever counterclockwise. Moving it as far as it will go so that the small pointer on the opposite side is aligned with the white reference mark nearer the top of the camera sets the self-timer for a delay of about ten seconds.



Moving it to align the pointer with the lower white mark will set it for about six seconds' delay. Delays between these limits can be obtained by setting the pointer at intermediate positions.



3. To start the self-timer, push the small release button which is hidden under the end of the lever when in its rest position.
   If the shutter is not cocked, the self-timer will stop operating part way through its cycle; it can be reset either before or after advancing film.
   You can override the self-timer's release of the shutter by pushing the shutter-release button to trip the shutter at any time before or after the self-timer has started operating.

CAUTION

For proper exposure when the self-timer is used with the camera set on AUTO, be sure to close the eyepiece shutter (see p. 26).

MULTIPLE EXPOSURES

Double or multiple exposures are very smooth and positive with the XE-1. To intentionally make more than one exposure on a single frame of film:

1. Make the first exposure in the usual way.
2. Move the multiple-exposure lever to the right as far as it will go, uncovering the red dot normally hidden beneath it. (Do not touch the lever or hold it in position during the next step.)
3. Operate the film-advance lever. This will cock the shutter for the next exposure, but the film and counter will not advance. (The multiple-exposure lever will return to its original position.)
4. Make your second exposure.

5. Repeat steps 2 and 3 as many times as desired if you wish to make further exposures.
6. After the last multiple exposure, advance film to the next frame in the usual way, not moving the multiple-exposure lever.

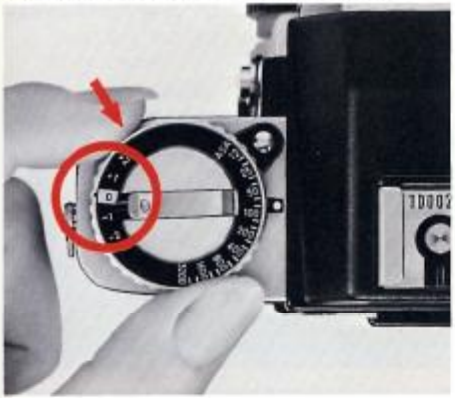
NOTE

Exposure adjustment if and as desired for multiple exposures with the camera on automatic or metered-manual mode can be made by means of the exposure-adjustment control (see p. 49).

EXPOSURE-ADJUSTMENT CONTROL

To deliberately give more or less exposure on either automatic or metered/manual mode, use the exposure-adjustment control as follows:

While depressing the adjustment-control release, turn the index to the side having plus (+) numbers to produce more exposure or to the side having minus (–) numbers to produce less exposure. The numbers indicate the amount of adjustment in stops or EV steps (i.e., "+1" indicates one stop more or double the zero-position exposure, and "+2" means two stops or four times more exposure; "–1" is one stop less or one half the exposure, and "–2" produces two stops' less or one quarter the normal exposure). There is a lock at the "0" (zero) position and click-stops at both plus and minus "1" and "2" positions. The index may be set at intermediate positions.



CAUTION

Always return the exposure-adjustment control to zero after use.

WHEN AND HOW MUCH TO ADJUST EXPOSURE

1. If the contrast-compensating system of your XE-1 does not automatically provide as much exposure as desired in pictures whose most important area is considerably darker than the area surrounding it, set the index of the exposure-adjustment control at from +1/2 to +2. Examples of such pictures are ones with strong backlighting and no fill-in illumination, such as Examples A and B, or subjects against a background of snow or light-colored sand, unless the bright area occupies a very small part of the image frame.

2. If the most important subject area is much brighter than the rest of the picture, set the index of the exposure-adjustment control at from −1 to −2. Examples of this kind of picture are subjects in a spotlight or shaft of sunlight, or against a very dark backgroud, as Examples C and D, unless the background occupies only a small area in the image frame.

A: Without adjustment

B: Exposure increased

3. As above, when copying documents printed on white stock or other subjects that are predominantly light in color, an adjustment to +1/2 or more may be called for. Similarly, you will probably want to make an adjustment from −1 to −2 for predominantly dark copy matter or that on a dark background.
4. You may also want to use the adjustment control when making multiple exposures. Exactly how it should be set will depend upon the number of exposures and the effect desired. A simple example would be for a "spirit" or "ghost" picture in which background details seem to show through a semitransparent subject: With the camera set on a tripod so that it cannot move and exposure adjusted to −1 to reduce light by half, two exposures are made on the same frame (see p. 45); one of only the background, the other with the subject in place before it.

The above suggestions will serve as starting points for trial; individual conditions and taste will of course determine exact final exposure.

C: Without adjustment

D: Exposure decreased

ATTACHING AND REMOVING LENSES

To Attach

Align the red dot on the lens barrel with the red dot on the camera lens-mount flange; insert the lens bayonet into the mount; and turn the lens clockwise until it locks into place with a click.

To remove

While pushing the lens-release button, turn the lens counterclockwise as far as it will go; then lift the lens bayonet out of the mount.

USING OTHER THAN MC LENSES

Metering and exposure with RF Rokkor (reflex-mirror type), Auto Rokkor, and Manual-Preset Rokkor lenses is by the stop-down method as follows:

Auto Rokkor lenses

1. After focusing, push the stop-down button to release it to its outer position.

2. Use automatic or manual mode as explained on p. 25 or 30, respectively. The viewfinder field will darken as the lens is stopped down, and the split-field spot and micro-prism band may become unusable due to darkening.
3. Leave the lens stopped down to the proper taking aperture when releasing the shutter.

RF (mirror-type) and Manual-Preset Rokkor lenses

Proceed as for Auto Rokkors above, except that the stop-down button need not be pushed, as metering may be done and exposure made with it in either inner or outer position.

CAMERA SPECIFICATIONS

Type:	35mm single-lens reflex with automatic and metered/full-manual exposure control
Lens mount:	Minolta SLR bayonet, 54° rotating angle; coupling for full-aperture metering and automatic diaphragm control with MC Rokkor lenses (stop-down metering used for other Rokkor lenses); button for depth-of-field preview and stop-down metering. (Standard lenses: MC Rokkor 50mm f/1.7, 50mm f/1.4, or 58mm f/1.2; see p. 55 for specifications.)
Auto-exposure control:	Special low-voltage circuit incorporating 2 monolithic IC's varies shutter speed continuously and steplessly to yield proper exposure according to metering system indication at the aperture, film speed, and exposure adjustment set. Auto-exposure range: EV 1 to EV 17 (e.g., 1 sec. at f/1.4 to 1/1000 at f/11) at ASA 100 with f/1.2 lens; see diagram, p. 54.
Shutter:	Vertical-traverse metal-blade focal-plane type; electronically controlled speeds: 1/1000 to 4 sec., steplessly on automatic mode or in steps on manual mode; mechanically controlled settings (no battery power required): "X" (1/90 sec.), "B" Shutter release locked when power switch off
Light metering:	Full-aperture TTL type with overlapping readings taken by 2 CdS cells mounted on the pentaprism and circuited to provide optimum exposure in both flat- and most contrast-lighting situations; stop-down metering also possible Film-speed range: ASA 12 to 3200 set by dial (around rewind-crank/back-release knob) with lock Device opposite film-speed dial provides up to ±2 EV continuous adjustment of auto or metered manual exposure with 1 EV click-stops and a lock at zero setting.
Mirror:	Oversize quick-return type (PO value: 140mm; finder image cutoff negligible even with 1600mm f/11 RF Rokkor extreme telephoto)
Finder:	Eye-level fixed pentaprism type showing 94% of 24 x 36mm film-frame area; magnification: 0.84X with 50mm lens focused at infinity

Mat-Fresnel-field focusing screen with central horizontally oriented split-image focusing spot surrounded by microprism band

F-number set and manual shutter setting or "A" (for AUTO mode) visible above the frame, stepless speeds or metered-manual exposure setting indicated by needle on scale at right of frame; indention shows meter-coupling range.

Eyepiece shutter positioned by lever

Flash sync.: Threaded PC terminal and hot shoe with switch for X or FP delay; X contact: Electronic flash synchronizes at "X" (1/90 sec.) and lower stepless and step speeds; FP contact: FP flashbulbs synchronize at all settings.

Film advance: Lever type, single 130° stroke after 30° unengaged movement

Safe Load Signal indicates film loading and advancing condition.

Multiple-exposure lever coaxial with advance lever allows unlimited recocking of shutter without advancing film.

Advancing-type frame counter resets automatically when camera back opened (no advance with multiple exposures).

Self-timer: Lever type, operating time variable from approx. 6 to 10 sec.

Power: Two 1.5v silver-oxide cells, Eveready S-76 or equivalent, contained in camera base power both auto exposure control and shutter's electronically governed operation; battery checker on end of body.

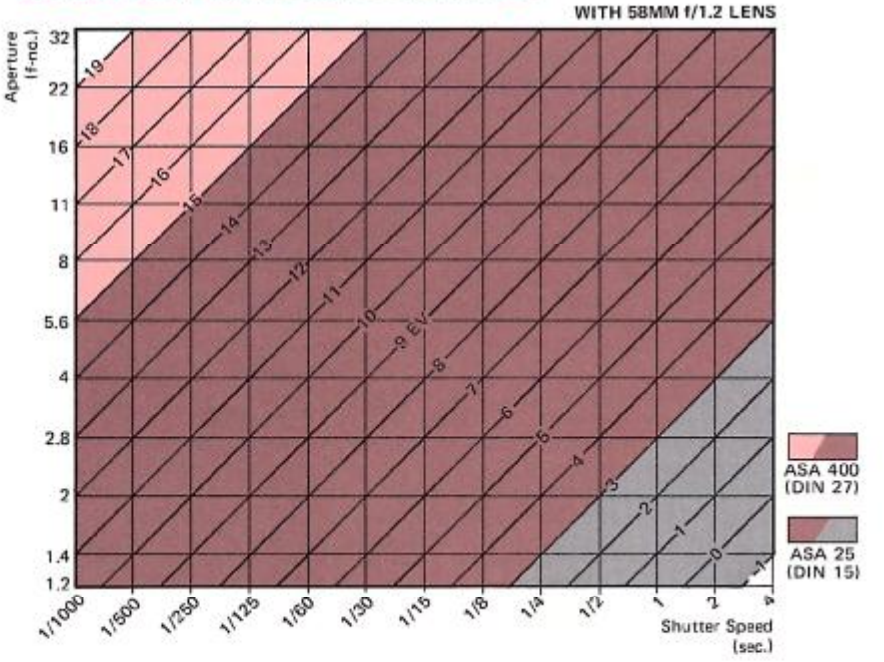
Mirror stays up (no exposure made) as warning when voltage too low for electronic operation.

Turning power switch off locks shutter release.

Other: 4-slot take-up spool; memo holder and ASA-DIN conversion scale on back cover

Size and weight: 61 x 97 x 148mm (2-3/8 x 3-13/16 x 5-13/16 in.), 775g (27-5/16 oz.) without lens

COUPLED AUTOMATIC EXPOSURE RANGE



STANDARD LENS SPECIFICATIONS

Lens:	50mm f/1.7 MC Rokkor	50mm f/1.4 MC Rokkor	58mm f/1.2 MC Rokkor
Type:	Meter-coupled Gauss-type standard lens		
Construction:	6 elements in 5 groups	7 elements in 5 groups	7 elements in 5 groups
Angle of view:	46°	46°	41°
Coating:	Minolta Achromatic		
Min. focusing dist.:	0.5m (1.74 ft.)	0.5m (1.75 ft.)	0.6m (2 ft.)
Diaphragm:	Fully automatic, meter-coupled		
Aperture scale:	1.7, 2.8, 4, 5.6, 8, 11, 16	1.4, 2, 2.8, 4, 5.6, 8, 11, 16	1.2, 2, 2.8, 4, 5.6, 8, 11, 16
	Each with full and half click-stops		
Focusing:	Double helicoid system		
Filter thread diam.:	55mm		
Dimensions:	64.5mm x 41mm (φ2-9/16" x 1-5/8")	65mm x 46mm (φ2-9/16" x 1-13/16")	70.5mm x 54mm (φ2-13/16" x 2-1/8")
Weight:	230g (8-1/8 oz.)	305g (10-3/4 oz.)	475g (16-3/4 oz.)

CARE AND STORAGE

- As with all high-precision instruments, no part of your XE-1 should ever be forced at any time. If operation is not as you think it should be, carefully restudy the applicable instructions or consult an authorized Minolta service representative.
- Always keep your camera in its case with the lens capped when not in use.
- Never subject your camera to shock, high heat and/or humidity, water, or harmful chemicals or gases.
- Never lubricate any part of the body or lens.
- Always use a body cap when a lens is not installed on the body. Keep lenses, properly capped front and rear, in their cases when not in use.
- Never touch the shutter blades or anything inside the front of the body with the fingers. These parts and the inside of the back should be dusted with a soft brush from time to time as necessary, with particular care never to exert pressure on the shutter blades. The anti-corrosion treatment of these blades may cause them to appear brownish or soiled, but this is normal and may be disregarded.
- Never touch lens or other glass surfaces with the fingers. If necessary, remove loose matter from them with a blower lens brush. Use special photographic lens tissue or a soft clean cloth to remove smudges or fingerprints with a gentle circular motion. Only if absolutely necessary, the tissue may be moistened very slightly with not more than one drop of a satisfactory quick-evaporating fluid cleaner specially compounded for photographic lenses. *Such fluids must never be dropped directly on the glass surface.*
- Smudges or fingerprints on the mirror may be removed with lens tissue slightly moistened with lens-cleaning fluid as above.
- External camera and lens-barrel — *but not glass* — surfaces may be wiped with a soft, silicone-treated cloth.
- Never leave the shutter or self-timer cocked when the camera is to be stored overnight or longer. It is advisable to operate the film advance and release the shutter once or twice from time to time during extended storage.
- If the camera is not to be used for more than two weeks, the batteries should be removed.

- If the camera is to be stored for a long period of time, body and lens should be returned to their original packing and kept in a cool, dry place away from dust or chemicals, preferably in an airtight container with a drying agent such as silica gel.

Specifications subject to change without notice

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