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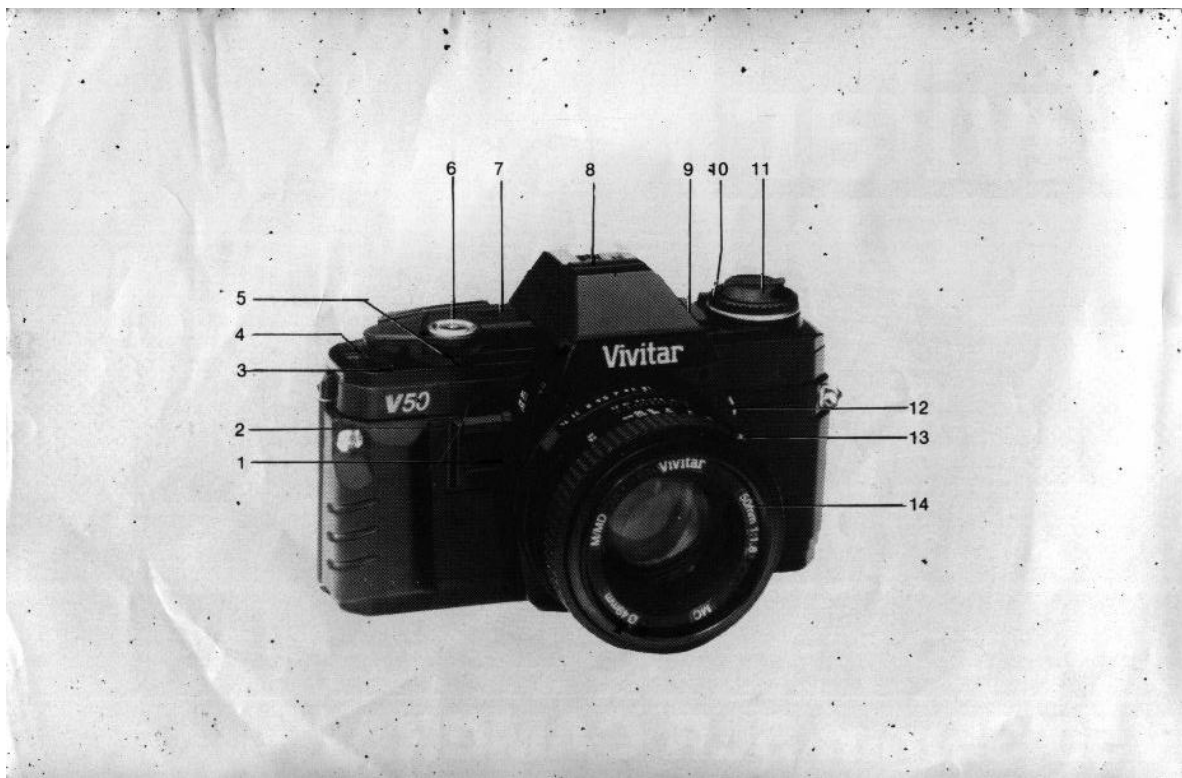
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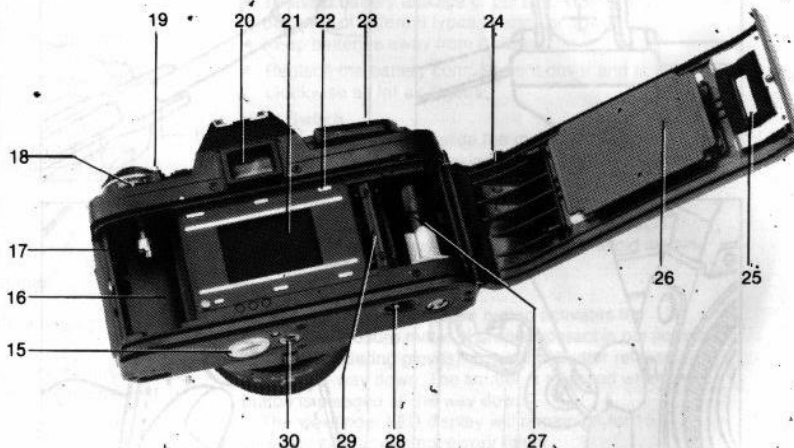
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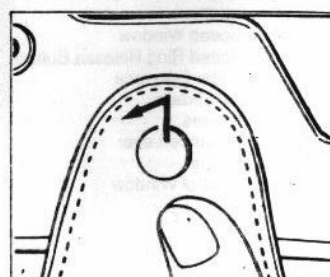
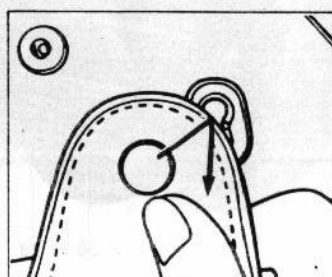
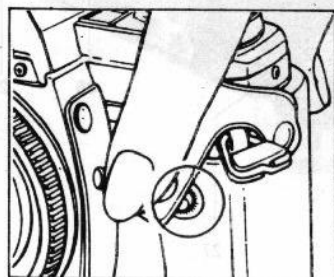
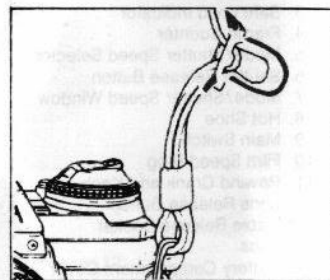
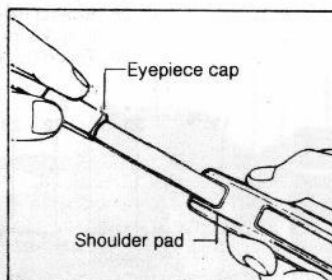
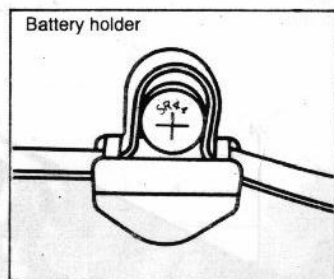
Description of Parts

- | | |
|------------------------------------|---------------------------|
| 1. Self-Timer LED | 26. Pressure Plate |
| 2. AE Lock/Self-Timer Switch | 27. Film Take-Up Spool |
| 3. Safe Load Indicator | 28. Rewind Release Button |
| 4. Frame Counter | 29. Film Sprocket |
| 5. Mode/Shutter Speed Selector | 30. Tripod Socket |
| 6. Shutter Release Button | |
| 7. Mode/Shutter Speed Window | |
| 8. Hot Shoe | |
| 9. Main Switch | |
| 10. Film Speed Ring | |
| 11. Rewind Crank and Knob | |
| 12. Lens Release Button | |
| 13. Cable Release Socket | |
| 14. Lens | |
| 15. Battery Compartment Cover | |
| 16. Film Chamber | |
| 17. Rewind Shaft | |
| 18. Film Speed Window | |
| 19. Film Speed Ring Release Button | |
| 20. Viewfinder Eyepiece | |
| 21. Shutter Curtain | |
| 22. Film Guides | |
| 23. Film Advance Lever | |
| 24. Back Cover | |
| 25. Film Control Window | |



Strap and Case

Attach the strap (provided) and case (optional) as shown. The strap includes a battery holder used for storing fresh spare batteries.



Attaching and Removing Lens

1. Remove body cap and lens caps.

IMPORTANT:

- Never set a lens down on its back end unless the rear lens cap is on, or its control pins may be damaged.
 - Do not touch any part inside the camera, especially the mirror, when attaching or removing the lens.
2. To attach the lens:
Align the red mounting index on the lens barrel with the red index dot on the camera's lens mount. Insert the lens into the mount, then turn the lens clockwise until it locks in position with a click.
 3. To remove the lens:
While pressing the lens release button, turn the lens counterclockwise as far as it will go, then lift it out of the mount.

Batteries and Power

Batteries

1. Use any of the following types of batteries:
 - Two 1.55V silver oxide (SR-44 or equiv.)
 - Two 1.5V alkaline manganese (LR-44 or equiv.)
 - One 3V lithium (CR-1/3N).
2. Using a coin or similar object, unscrew the battery compartment cover by turning it counterclockwise, and remove it.

3. Wipe the terminals with a clean dry cloth. Hold the batteries by their edges and insert them, with the plus (+) side up, into the sleeve on the inside of the cover.

NOTE:

- Do not use 1.35V mercury batteries (MR-44 or equiv.), which are the same shape and size, because their voltage is too low.
 - To avoid battery leakage or bursting, do not mix batteries of different types, brands or ages.
 - Keep batteries away from children.
4. Replace the battery compartment cover and screw it in clockwise as far as it goes.

Main Switch

To operate the camera, slide the main switch to "ON". When you have finished taking pictures, move the main switch to "OFF" to prevent accidental exposures and battery drain. (If the switch is left on, however, battery drain occurs only when the shutter release button is touched. So you may want to leave it on to avoid missing unexpected shots.)

Shutter Release Button

Touching the shutter release button activates the camera's exposure meter. If proper contact is not possible (e.g. when wearing gloves), press the shutter release button half-way down. The shutter is released when the button is pressed all the way down.

The viewfinder LED display will remain on for 15 seconds after you remove your finger.

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Battery Check

The camera automatically checks the battery power when the shutter release button is touched or pressed.

- When the batteries are nearly exhausted, the mode LED ("A" or "M") in the viewfinder blinks to warn that fresh batteries will soon be needed.
- When the batteries are completely exhausted (or not correctly installed), no LEDs light and the shutter does not work.

Cold Weather Operation

Since batteries tend to lose power as temperature drops, please use fresh batteries when photographing in cold weather and keep a spare set with you, preferably in a warm pocket close to your body. Battery capacity will be restored when temperature returns to normal.

For prolonged cold weather use at approx. 32°F (0°C) or lower, it is recommended to use silver oxide batteries. If a lithium battery is used below 32°F (0°C), the camera may not operate.

Film and Film Speed

The camera uses standard 35mm cartridge film. Each film has an ISO film speed number, which indicates the film's sensitivity to light. For proper exposure, the camera's film speed ring must be set to the correct film speed.

Setting the Film Speed

While pressing the film speed ring release button, turn the film speed ring until the desired number is aligned with the index and locks in place when you remove your finger from the release button.

Film Control Window

You can check the type and speed of film loaded in the camera by looking in the film control window in the camera back.

Loading Film

Before opening the camera back, make sure there is no film inside the camera by checking the safe load indicator. Never open the back cover if there is any red showing in the indicator window.

1. Slide the main switch to "ON".
2. Unfold the rewind crank and pull up on the rewind knob until the back cover springs open.

NOTE:

- Shield the film from direct light while loading and unloading it.
 - Do not touch the shutter curtain or the film pressure plate with your fingers.
 - When loading film in a dark place or with the lens cap on, loading will be easier if the mode/shutter speed selector is set at "1000".
3. Put a 35mm film cartridge in the chamber with its projecting spool down. Then push the rewind knob all the way in.
 4. Insert the end of the film into a slot on the left side of the take-up spool.
 5. Slowly operate the film advance lever and press the shutter release button until the sprocket teeth are engaged with holes on both edges of the film.

If the film advance lever only goes half the way or if the main switch is off, the shutter release button will not work.

6. Make sure that the film is taut and lies flat between the film guides, then close the back cover.

7. Advance the film and release the shutter until the index in the frame counter points to "1".

If the film is loaded and advancing properly, a red bar should appear at the far left in the safe load indicator. If the red bar does not appear or swings far to the right, repeat steps 4 through 7.

Film Advance Lever

The film advance lever has a 130° stroke after 30° unengaged play to make the advance comfortable.

Safe Load Indicator and Frame Counter

As you take pictures and advance the film, the red bar in the safe load indicator gradually moves to the right.

Never force the film advance lever when it stops and resists further movement at the end of the film, which may be somewhat after the common film length (20, 24, 36 exposures) shown in red in the frame counter.

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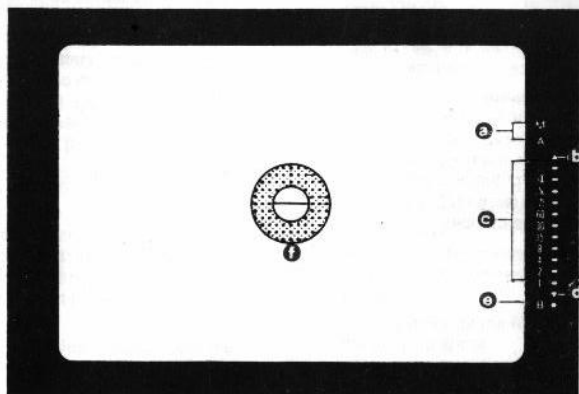
Viewfinder

The viewfinder has the following components:

- Mode indicators— M: Manual mode, A: Auto mode.
 - Over-range LED: Blinks at 4 times per second.
 - Shutter speed scale/LEDs
- Glowing LED indicates: (1) in "A" (auto) mode, the shutter speed set by camera (if two LEDs glow, camera has set the stepless speed between the two), and (2) in "M" (manual) mode, the metered speed.
 - Blinking LED (4 times per second) indicates user-set

shutter speed in manual mode.

- "60" LED blinks at 2 times per second as a flash-ready signal with certain electronic flashes.
- 1-4 sec./Under-range LED
- Glowing if metered speed is between 1 and 4 seconds.
- Blinks at 4 times per second if outside range.
- B setting indicator
- Focusing Screen: Split image spot, microprism band and matte field.



Taking Pictures in Auto Mode

1. Set the mode/shutter speed selector to "AUTO".
2. Set the lens to the desired aperture.

In the aperture priority auto mode, all you need to do is to set the desired lens opening; the camera will automatically select the shutter speed needed for proper exposure.

Viewfinder Display

Before releasing the shutter, compose your picture, focus and check the viewfinder for the following:

- Is the under-range LED blinking? If so, turn the aperture ring toward the largest aperture (i.e. f/2, f/1.7, f/1.4 etc.) until the LED stops blinking, or increase the light level if possible.
- Is the over-range LED blinking? If so, turn the aperture ring toward the smallest aperture (i.e. f/16 or f/22) until the LED stops blinking. If it does not stop, use a neutral density (ND) filter, or reduce the light level if possible.
- Is any LED on indicating 1/30 sec. or slower shutter speed? Using slow shutter speeds may result in blurred pictures due to camera shaking. To correct, turn the aperture ring toward the largest aperture (i.e. f/2, f/1.7, f/1.4 etc.) until any of the LEDs indicating speeds faster than 1/60 sec. lights. If not possible, use a tripod or flash (see below).

Selecting Aperture





In auto mode, your camera will automatically set the precise shutter speed for proper exposure according to the preset aperture. Even so, you have considerable control over results and can adjust aperture and shutter

speed over sizable ranges.

For good pictures where no particular effect is desired, simply set the aperture as indicated in the chart below. These settings will provide as much depth-of-field as possible while producing a shutter speed fast enough to stop the motion of most subjects.

There may be times, however, when you want to obtain a particular effect, such as rendering a certain range in sharp focus, emphasizing a subject against an out-of-focus background, or selecting a specific shutter speed. In these cases, you must select the appropriate aperture to give the desired depth-of-field or desired shutter speed (see below).

Guidelines for typical picture-taking

ISO				
25/15°	f/8	f/4	f/2	f/1.4
64/19°	f/8	f/4	f/2.8	f/1.4
100/21°	f/11	f/5.6	f/4	f/1.4
160/23°	f/11	f/8	f/5.6	f/2
200/24°	f/11	f/8	f/5.6	f/2
400/27°	f/16	f/11	f/8	f/2.8
1000/31°	f/22	f/16	f/11	f/4

Focusing

Focus with split-image spot

Turn the focusing ring until the upper and lower subject images in the spot are exactly aligned and come into one.

Focus with the microprism band

Turn the focusing ring until the subject image in the band does not shimmer or appear broken up.

Focus with the matte field

Turn the focusing ring until the whole image in the screen becomes clear.

You will probably find that focusing is easiest if:

- Split-image spot is used for subjects having vertical lines;
- Microprism band is used for lenses from medium wide-angle through medium telephoto, especially with subjects not having vertical lines;
- Matte field is used for longer focal length lenses or for macro or other work involving considerable lens extension.

Holding Camera and Releasing Shutter

To obtain sharp, blur-free photos, hold the camera as still as possible, either horizontally or vertically, and press the shutter release button gently. The camera should be steadied against your face. Hold the camera with your left hand, use your right index finger to press the shutter release and your right thumb to operate the film advance lever.

Mounting the camera on a tripod

For maximum sharpness when making exposures of 1/30 second or longer, mount the camera on a tripod and use a cable release cord. Screw the cord into the cable release socket and use it to release the shutter.

- Do not use excessive force when attaching the camera to a tripod.
- The mounting screw should be 1/4 in. (5.4 mm) or shorter.

Self-Timer

The self-timer can be used to delay shutter release for 10 seconds, so you can get into the picture.

1. Mount the camera on a sturdy support, such as a tripod, compose your picture and focus.
2. Set the mode/shutter speed selector at any setting other than "B" and make sure that the film is advanced.
3. Pull the self-timer switch upwards.
4. To start the self-timer, press the shutter release button.
A visual signal will indicate how much time is left before the self-timer releases the shutter. The self-timer LED will blink slowly for 8 seconds, then fast for one second, then stay on continuously for the last second before shutter release.

NOTE

- You may cancel the self-timer after it has been started by pushing the self-timer switch down or by sliding the main switch to "OFF".
- After taking the picture, switch off the self-timer, or the next picture will be taken after a 10 sec. delay.

Eyepiece Cap

When using the self-timer in auto mode, slide the eyepiece cap onto the eyepiece frame to prevent unwanted light from affecting the exposure. To keep it handy, the eyepiece cap should be threaded onto the camera strap.

- When using a zoom lens, zoom before pressing the AE lock or an exposure error will occur.
- The AE lock is not usable in flash photography with an automatic electronic flash.

Manual Exposure Mode

In the camera's match-LED manual mode, the manually set shutter speed is indicated in the viewfinder by an LED blinking at 4 times per second, while the metered speed is indicated by a glowing LED. To obtain normal exposure as metered by your camera, simply adjust the aperture and/or shutter speed until the blinking and glowing LEDs match up. There are two ways to do this:

1. First set the shutter speed selector at the desired click-stop from "1" (1 sec.) to "1000" (1/1000th sec.), then turn the aperture ring until no LEDs light up other than the LED blinking next to the selected speed.
2. Alternatively, first set the aperture as desired, then turn the shutter speed selector so that the blinking LED matches up with the glowing LED. If two LEDs are glowing, adjust the aperture ring slightly so that only one glows. Do not set the shutter speed between click-stops.

Long Exposure with "B" Setting

When the mode/shutter speed selector is set at "B", the shutter will open when you press down the shutter release button and remain open until you release the button. This makes exposure longer than one second possible. A tripod or other firm support must be used. To avoid

Rewinding and Unloading Film

1. Press the rewind release button on the camera bottom.
2. Unfold the rewind crank and turn it in the direction of the arrow until the red bar in the safe load indicator moves out of the window.
3. Open the back cover and remove the film cartridge.

Creative Controls

AE Lock

In Auto mode, if the background behind the main subject is very bright compared to the subject, the subject will be underexposed unless the AE lock is used. To obtain proper exposure in high-contrast lighting situations where your subject occupies only a small portion in the center, use the AE lock as follows:

1. Shift the camera's position so the subject fills most of the frame. For small subjects, you may need to move closer (or with a zoom lens, zoom in).
2. Press the AE lock all the way down (use your middle finger) and hold it.
3. While still holding the AE lock down, recompose your picture as desired and press the shutter release button all the way down.

NOTE:

- The AE lock cannot be used in manual mode or with the self-timer.
- If you wish to change the aperture or any other settings, do so before pressing the AE lock.

shaking the camera when pressing the shutter release button, use a standard cable release, preferably a lockable type for longer exposures. The eyepiece cap should be used to prevent incoming stray light from affecting the exposure.

NOTE:

- The self-timer does not operate at "B" setting.
- With fresh batteries at moderate temperatures, the maximum long exposure is approximately 10 hours. At lower temperatures, exposure time may be shorter.

Depth of Field

When a lens is focused on a given subject, there is a certain range behind and in front of the subject which appears sharp. This range is called "Depth of Field". The depth of field varies according to the aperture set: large apertures (e.g. f/2) yield a shallow depth of field, rendering the background out of focus. Small apertures (e.g. f/16) give greater depth of field with sharper background.

Depth of field also varies with subject distance. When the lens is focused on a close subject, the depth of field is shallow; when focused on a distant subject, the depth of field is greater.

The depth of field can be checked using the depth of field scale on the lens. This is a series of f/stop numbers repeated on both sides of the index line between the aperture scale and the distance scale. Find the two numbers that match the aperture you have set, and see what distance range they delimit on the distance scale.

Shutter Speed

Sometimes the effect that you want makes the shutter speed more important. Fast shutter speeds such as 1/500 or 1/1000 sec. can "freeze" the subject in motion. Slow shutter speeds such as 1/2 or 1 sec. can be used to emphasize the subject flow or motion.

To set a desired shutter speed when using auto mode, turn the lens aperture ring until the LED next to the desired shutter speed lights up.

Other Focusing Methods

Distance Scale

You may find that in certain situations it is easier to focus by estimating the distance to your subject, and then aligning the corresponding figure on the distance scale with the index, such as when taking long exposures or flash pictures when it is too dark to focus through the lens.

Infrared Index

Most lenses have an infrared index, usually a red dot or line on one side of the depth of field scale. For proper focus when using infrared film, first focus your subject as usual with visible light and note the distance. Attach a red filter and turn the focusing ring to align the focus distance you noted with the infrared index. Set the exposure according to the film manufacturer's recommendations.

Film Plane Index

The symbol beneath the film advance lever indicates the position of the film inside the camera. This mark can be used for measuring the distance from subject to film when

taking extreme close-ups, photomicrographs or photomicrographs, where the exact distance is important.

Flash Photography

Cordless clip-on flash units are attached and electrically connected by simply sliding them into the camera's hot shoe.

Synchronization

Set the mode/shutter speed selector at "60" to assure complete exposure of the film frame. Slower speeds can also be used to achieve certain effects, but speeds faster than 1/60 sec. will not give proper exposures. For more detailed instructions, see the flash unit instruction manual.

With certain flashes, the "60" LED will blink as a flash-ready signal when the flash is turned on and fully charged.

Care and Storage

This camera is a precision instrument which should be handled with care. Protect the camera from drop or shock. If it drops into water, the water will seep into the camera interior and cause rust. Please take special care when you use it near water.

The camera may not operate properly in extreme cold weather. It is recommended to keep it warm. Care should be taken to avoid condensation of vapor in the camera interior when it is subjected to drastic and abrupt change of temperature.

Dust is your camera's worst enemy. The exterior of the camera should be cleaned with a clean, soft cloth now

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and then. Never use any organic solvents.

Always keep the lens clean. If the lens gets dirty, blow off dust with a blower brush, then clean it lightly with a clean soft cloth. If smudges still remain on the lens, wipe it gently with lens tissue which has been moistened with a couple drops of lens cleaning fluid. Do not use any fluid other than lens cleaner.

Never touch the mirror with your finger. If the mirror gets somewhat dirty, it will not affect pictures.

Clean the exterior of the camera with a soft cloth immediately after you use it on the beach, to remove salt. Take the batteries out if you do not plan to use the camera for more than two weeks.

Keep the camera away from high heat and high humidity. Store it in a cool, dry place, preferably in an airtight container with drying agent such as silica gel.

Do not leave the camera in the trunk, glove compartment or on the rear window shelf of a car where it may be subjected to high temperature, or it may damage the camera.

Specifications

Type: Quartz electronically controlled 35mm single lens reflex auto exposure camera.

Frame Size: 24 x 36 mm.

Exposure Control Modes: Aperture priority automatic ("AUTO") and match-LED/full-metered manual ("M").

Lens Mount: M/MD bayonet type.

Rangefinder: Matte focusing screen with central split-image spot surrounded by microprism band.

Viewfinder: Eye-level fixed pentaprism type showing 95% of 24 x 36 mm frame area. Magnification 0.9X with 50mm standard lens focused at infinity. Power -1D. Mode indication, shutter speed scale with LED setting indication, over/under-range LED indicators are visible in the viewfinder.

Metering: TTL center-weighted averaging type by silicon photocell.

Auto Exposure Range: EV1-EV18 at ISO 100 with 1/1.4 lens.

Film Speed Range: ISO 12-3200 set by film speed dial that locks at 1/3EV increments.

AE Lock: Press-down type.

Shutter: Quartz-controlled horizontal traverse cloth curtain.

Shutter Speeds: Stepless speeds 4-1/1000 sec. set automatically or fixed speeds 1-1/1000 sec. and "B" (bulb) set manually.

Shutter Releasing: Electromagnetic shutter release mechanism locks when voltage is too low for proper operation. It can also be controlled by remote cable release cord. Shutter release button as metering switch, camera's meter works and LED display remains 15 sec. after it is touched.

Self-Timer: Electronic for 10 sec. delay, with operation indicated by camera-front LED that blinks at 2 Hz for 8

sec., then 8 Hz for 1 sec., then remains on until shutter releases. Cancelable anytime before release.

Flash: Hot shoe for X sync, camera-control contact on hot shoe for automatic setting of shutter at 1/60 with certain flash units. Sync speed 1/60 sec. or slower with electronic flash and 1/15 sec. or slower with flash bulbs.

Film Advance: By lever with 130° stroke after 30° unengaged movement.

Frame Counter: Automatic resetting and showing number of exposed frames.

Film Rewinding: After the film is unloaded, rewind release button pops out when film advance lever is turned.

Mirror: Instant-return slide-up type.

Back Cover: Springs open when rewind knob is pulled up. Film cartridge view window.

Power: Two 1.5V alkaline-manganese (LR-44), two 1.55V silver oxide (SR-44) or one 3V lithium (not usable below 0°C).

Main Switch: Indicates ON and OFF.

Other: Safe load indicator, battery holder and eyepiece cap.

Dimensions: 137 x 90 x 51.1 mm.

Weight: 470 g without lens and batteries.

Lens: 50mm f/1.8, accessory filter size Ø49 mm.

Specifications subject to change without notice.

(English)

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