



MIRANDA
SENSOREX II

ATTENTION

**DO NOT USE TYPE RM675 OR
TYPE RM675R. The Correct Battery
Replacement is the PX675 or EPX675.**

73 MCC

We thank you for selecting our MIRANDA Sensorex as your companion and hope that it gives you much pleasure and satisfaction for a long time to come.

As the pioneer of single-lens reflex in Japan and as a specialized manufacturer of this type of camera, the Miranda Camera Company has been continually developing its products with new ideas and great originality.

MIRANDA Sensorex which has become your companion from today offers a new standard for quality cameras. It provides the advantage of through-the-lens light measuring at open aperture or closed aperture through average reading, and is equipped with a lens of an extremely high resolution, a bright and easy-to-use viewfinder. With a wide interchangeability of both viewfinders and lenses, and

distinctive features found only on high grade cameras, it rightly deserves being called the perfect SYSTEM CAMERA.

It has, moreover, a built-in self-timer, an almost noiseless shutter and vibration-free mirror mechanism, a compact easy-to-hold body, and a complete line of convenient accessories to suit all occasions.

We firmly believe that it is able to meet any requirements of amateurs or professionals.

Before taking your first picture, however, we earnestly advise you to read this Manual carefully as it would enable you to make best use of the remarkable capabilities of this MIRANDA Sensorex Camera.

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1. Automatic Exposure through TTL System

A high-class camera which combines a TTL (through-the-lens) system of light measuring, under which critical measurement is made of the light transmitted to the film.

2. Accurate Exposure through Average Light Measurement

The Miranda Sensorex has a unique system of exposure determination, known as the partial-average method. A part of the image, as seen in the viewfinder, is measured for light intensity and the average light is computed which forms the basis for the exposure setting. Moreover, as both the shutterspeeds—and diaphragm are cross-coupled to the meter, exposure computation can be performed from either shutterspeeds or diaphragm.

3. Easy-to Compose and Efficient Viewfinder

The functions, necessary for photo-taking, are visible in the viewfinder, and the composing of a picture takes only a moment. The newly invented micro-split image rangefinder permits quick and sharp focusing and can be used with any type of lens.

4. Interchangeable Viewfinders for Increased Versatility

The Pentaprism Viewfinder is very convenient for general picture taking.

In instances requiring special techniques, such as low and high angle shots, close-ups, reproduction and photo micrography, we recommend the use of the interchangeable reflex viewfinders.

5. Newly Designed Standard Lenses for Excellent Color Rendition

The newly-developed Auto Miranda f:1.4/50mm and f:1.8/50mm lenses are superb for color-photography. These lenses not only offer an extreme resolving power but depict scenic views with abundant peripheral light.

6. Unique Type of Lens Mount

The lens mount of MIRANDA Sensorex has on its outside a 4-claw bayonet mount and on its inside a screw mount of 44mm inner diameter (All MIRANDA cameras and lenses have the same standard lens mount). The bayonet mount is for attaching the auto MIRANDA lenses, extension bellows, etc., quickly and easily by merely giving 1/8 of a full turn after mounting. The inner screw mount is for preset lenses and most other accessories.

7. Automatic Synchro-Switch and Hot Shoe

The synchro-contacts for electronic flash (X) and bulb flash (FP) are switched automatically by rotating the shutter-dial. The Hot Shoe flash gun accessory shoe is employed for the first time with an interchangeable pentaprism type SLR.

8. Complete Line of Interchangeable Lenses and Accessories

This camera system meets every requirement of photography. With a wide range of interchangeable lenses and accessories, Miranda's Sensorex displays its superiority not only in general photography but also in the fields of scientific, medical, industrial and educational photography.

TECHNICAL DATA

Standard Lenses AUTO MIRANDA: 50mm/f:1.4, 5-group 7 element (Gauss, modified type) AUTO MIRANDA: 50mm/f:1.8, 4-group, 6-element (Gauss, modified type) fully automatic diaphragm, angle of view 46°, smallest aperture f:16, preview lever, filter size 52mm ϕ (F1.4), 46mm ϕ (F1.8), closest focusing distance with 50mm/f1.4 43cm (17 in.); 50mm/f1.8 45cm (18 in.)

Shutter focal plane, B, 1-1/1000 sec., built-in self-timer with maximum delay of 10 seconds.

Flash Synchro FP and X, automatic synch to X at 1/60 sec., cordless hotshoe.

Exposure Meter light measuring at open aperture, built-in TTL CdS meter, closed-down light measuring possible, light sensor behind the mirror, partial light measuring, EV coupling range 1-18 at ASA 100 with 50mm f:1.4 lens. Film speeds ASA 25-1600, battery-Mallory 675R.

Viewfinder magnification 0.92X with 50mm lens at infinity, field of view 96%, condenser and Fresnel lens combined, interchangeable viewfinder, focusing screen w/micro-split image rangefinder.

Lens Mount Miranda mount (4-claw bayonet and 44mm ϕ -screw mount)

Film Advance winding angle 180°, marginal angle 25°, ratchet advance possible.

Film Rewind rewind crank, self-resetting button for rewind.

Film Counter advance counting type, self-zeroing, with film winding indicator.

Film Loading rapid loading type spool, hinged-back cover.

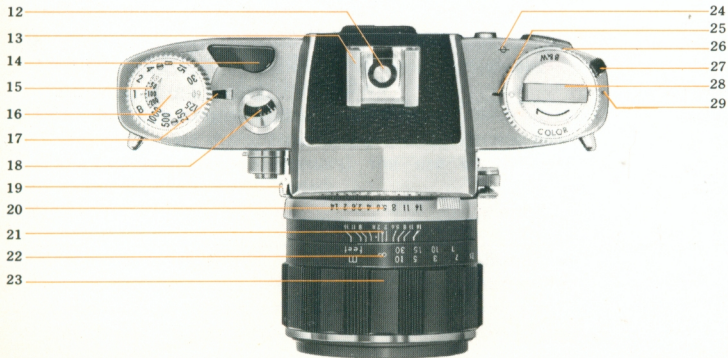
Size 144 x 93 x 87mm (f:1.8), 144 x 93 x 95mm (f:1.4)

Weight w/f:1.8 950 grams, w/f:1.4 1100 grams

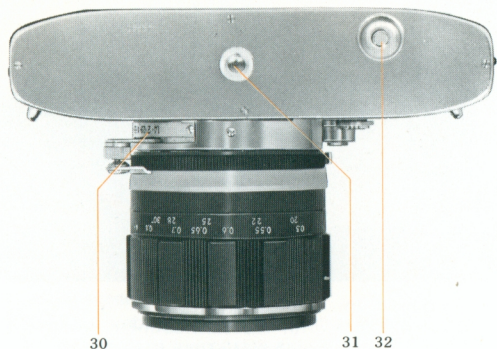
NAME OF PARTS



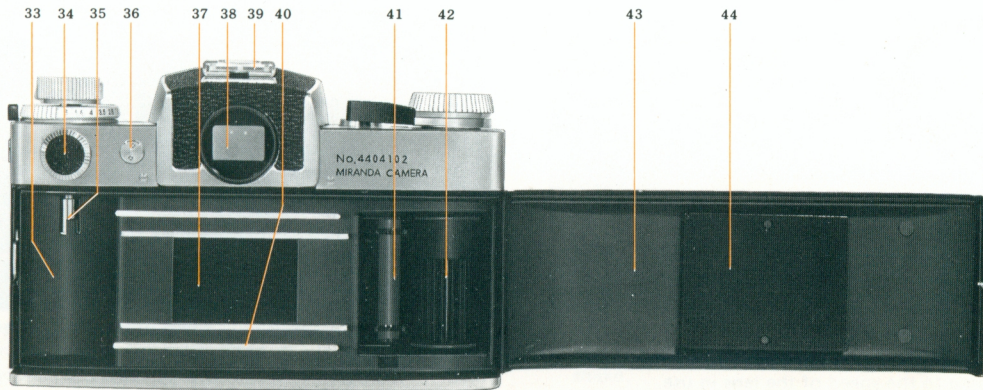
- 1 Pentaprism Viewfinder
- 2 ASA Film Speed Setting Ring
- 3 Lens Positioning Mark
- 4 Neckstrap Eyelet
- 5 Shutter Release Button
- 6 Self-Timer
- 7 Standard Lens
- 8 Film Rewind Knob (Back Cover Release)
- 9 Flash Terminal
- 10 Preview Lever
- 11 Diaphragm Setting Lever



- 12 Hot Shoe Contact
- 13 Accessory Shoe
- 14 Film Advance Lever
- 15 ASA Film Speed Dial
- 16 Shutter Speed Dial
- 17 Shutter Speed Index (w/Film Wind Indicator)
- 18 Automatic Film Counter
- 19 Lens locking Button
- 20 Aperture Ring
- 21 Depth of field Scale
- 22 Distance Scale
- 23 Focusing Ring
- 24 Film plane Index
- 25 Lens Selector Index
- 26 Lens Selector Dial
- 27 CdS Meter Switch
- 28 Film Rewind Crank
- 29 Meter Switch "ON" Position

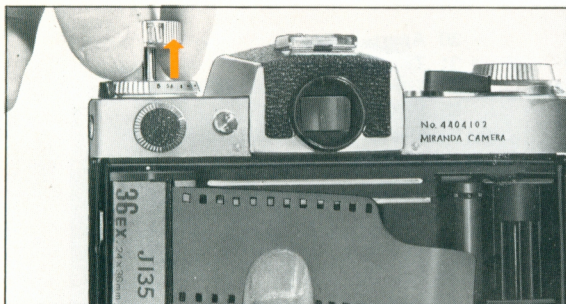


- 30 Aperture Scale
- 31 Tripod Socket
- 32 Film Rewind Release Button
- 33 Film Chamber
- 34 Mercury Battery Compartment
- 35 Film Rewind Shaft
- 36 Viewfinder Release Button
- 37 Shutter Curtain
- 38 Viewfinder Eyepiece
- 39 Hot Shoe Cover
- 40 Film Guide Rail
- 41 Sprocket Wheel
- 42 Rapid Load Take-up Spool
- 43 Back Cover
- 44 Film Pressure Plate

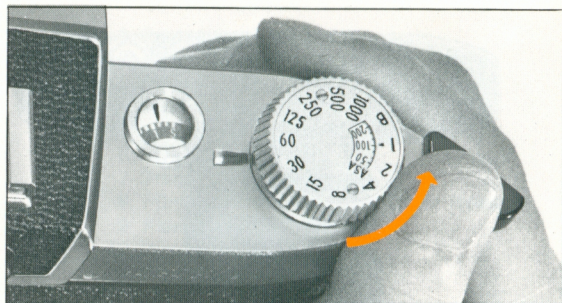


GUIDE TO PICTURE TAKING PROCEDURE

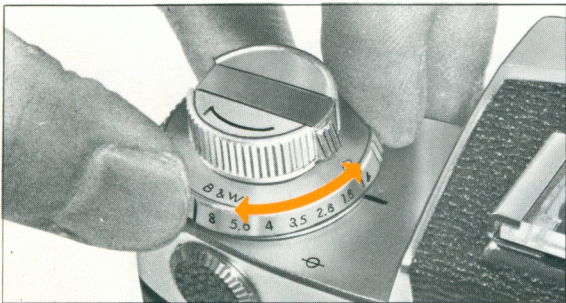
Before starting to take pictures, load the camera with the mercury



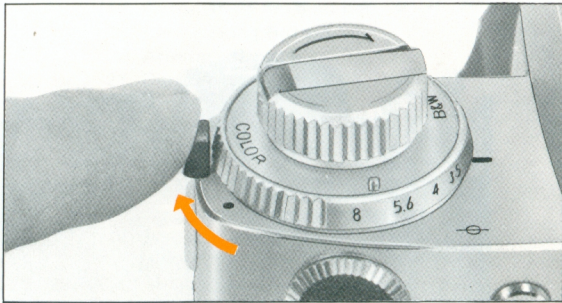
- 1. Open the camera back cover and load the film.**
Open the camera back by pulling up the rewind knob and insert the film properly in the film chamber.



- 2. Wind the film**
Wind the film until the film counter points to "1" to wind up the exposed part of the film.



- 5. Set to correct lens speed**
Turn the lens selector dial and set it to the number, corresponding to the speed of the lens in use.



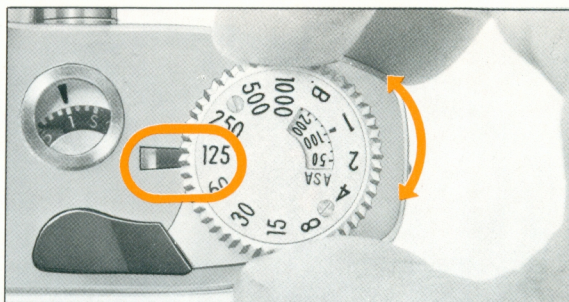
- 6. Switch on the meter**
Set the meter switch lever to the black mark.

battery (See page 8).



3. Set the film speed

Set the ASA number of the film which is loaded. Failure to do so will result in inaccurate exposures.



4. Determine the shutter speed

In general picture taking, appropriate shutter speeds are: 1/125 to 1/250 sec. for bright outdoor and 1/30 sec. for indoor photography.



7. Compose picture and focus

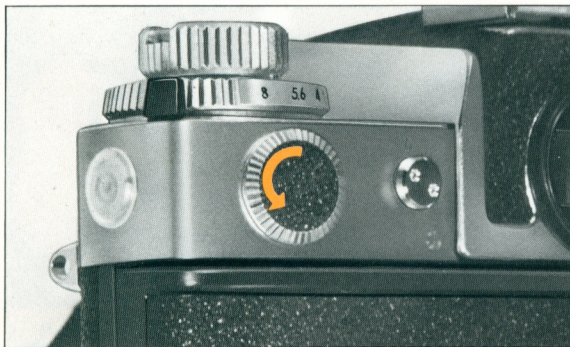
When accurate focus is obtained, the overlapping of the image in the central zone of the ground glass is merged.



8. Press the shutter button gently

Hold the camera steady, taking care to avoid camera shake.

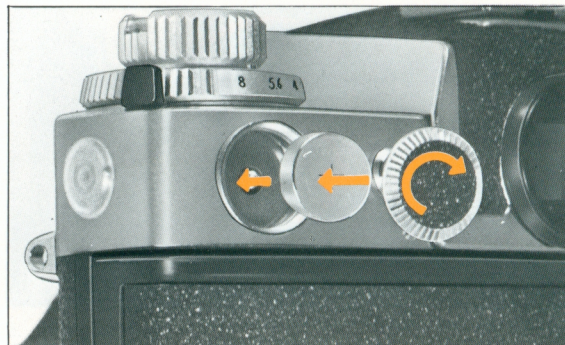
HOW TO LOAD MERCURY BATTERY



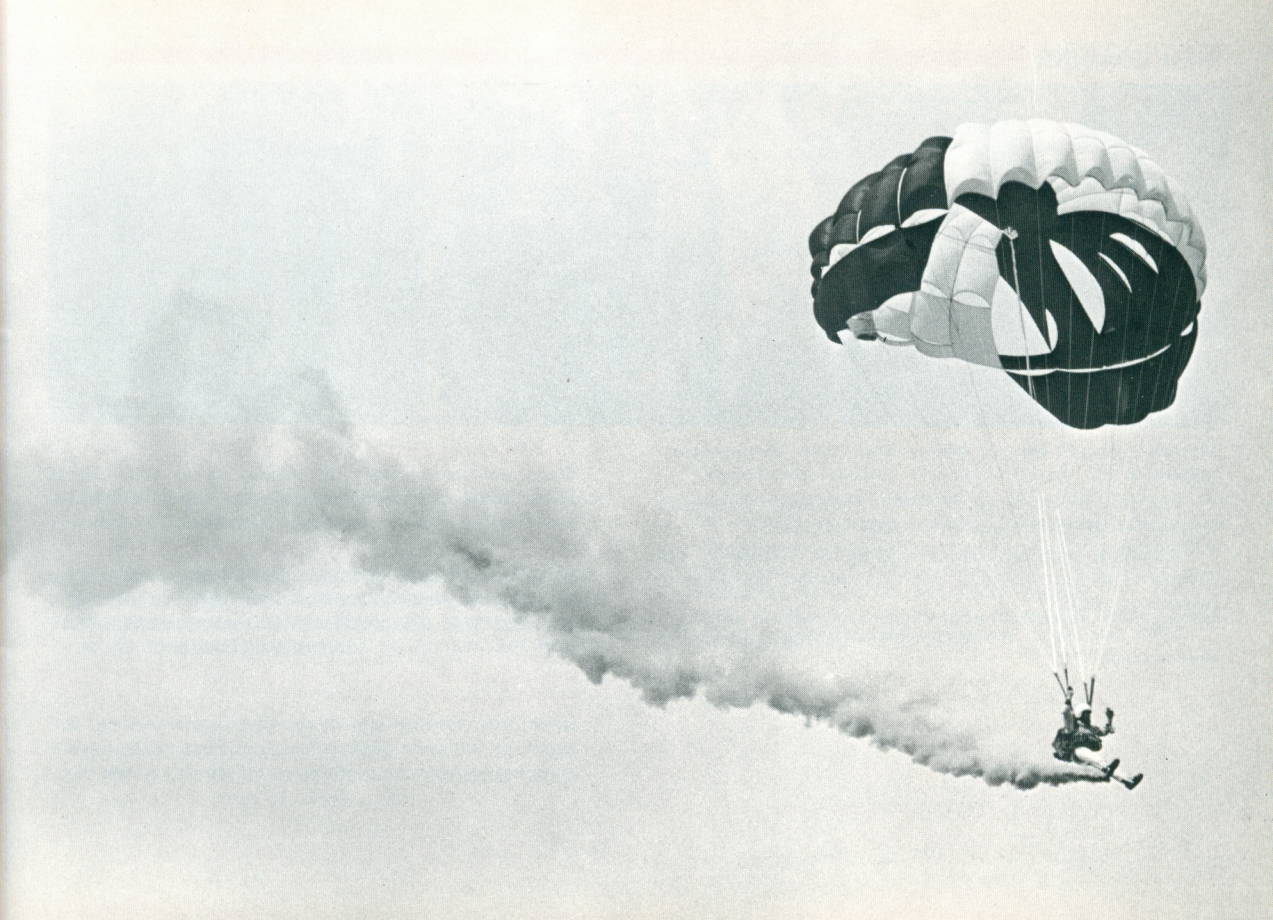
A mercury battery is provided for the Sensorex as the source of power for its CdS meter. If the mercury battery is not inserted in the battery chamber, the meter will not function. Before using the camera, make sure that the mercury battery is properly inserted in the battery chamber.

How to load Mercury Battery

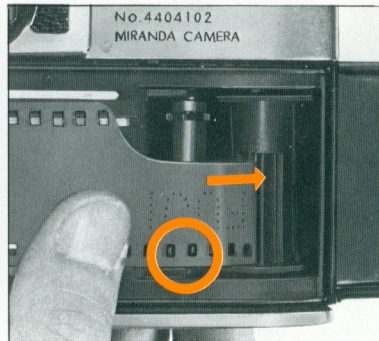
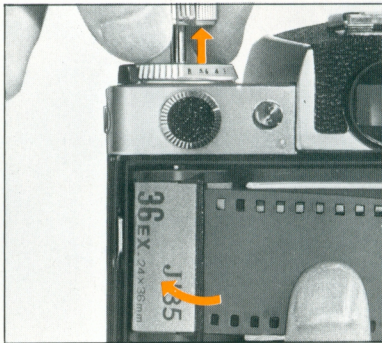
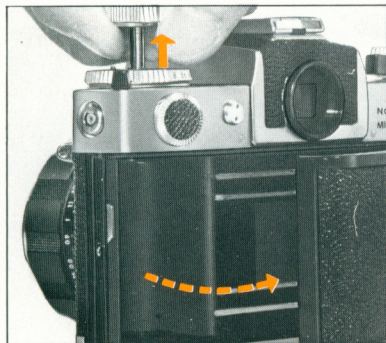
1. Clean the faces of the mercury battery with dry silicon cloth.
2. Open the battery chamber of the camera by turning the cover counterclockwise.
3. Insert the mercury battery into the chamber with the plus (+) side facing outwards, towards the cover, and replace the cover securely.
4. If the plus (+) and minus (-) poles are reversed, the meter will not function, although the misplacement will not affect the mechanism of the camera.



- ⇒ The meter will not function if the polarity of the mercury battery is reversed.
- ⇒ Under ordinary circumstances, the mercury battery will provide sufficient power to work the meter over a duration of about two years. The battery power declines sharply when it nears the end of its life-span, resulting in sluggish movement of the meter needle seen through the finder. In this case, replacement of the mercury battery is necessary.
- ⇒ When replacing the mercury battery, use Mallory #675 or equivalent.
- ⇒ Remove the mercury battery from its compartment when the camera is to be left unused over any great length of time.



FILM LOADING



For the Sensorex camera, 35mm film (20 or 36 exposures) is used.

- ⇒ Always load or unload the film in the shade. If no shade is available, utilize the shadow of your own body.
- ⇒ Whenever possible, avoid loading or unloading the camera in a dusty place or near the seashore, where salty winds may blow.
- ⇒ While loading or unloading, take care not to touch the shutter curtain.

1. Open the camera back

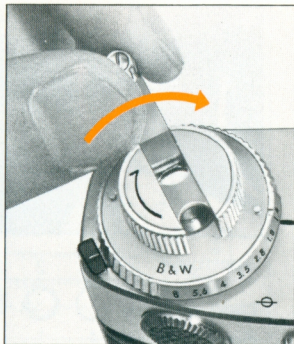
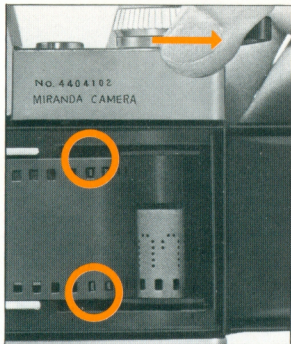
Open the camera back by pulling up the film rewind knob. When the back is opened, the exposure counter automatically returns to the start (S) mark.

2. Insert the cartridge into the film chamber.

Pull up the rewind knob and insert the cartridge into the film chamber taking care that the projecting end of the cartridge faces down. After inserting the cartridge, push back the rewind knob to its original position.

3. Insert the trimmed end of the film into a slit of the film take up spool

Insert the trimmed end of the film into any slit of the spool, at the same time making sure that the film wind sprocket engages the perforation on the side of the film.



4. **Turn the film advance lever and make sure that the sprocket engages both perforated edges of the film**

After ascertaining this, close the camera back. The back closes at finger pressure.

5. **Take-up the slack in the film**

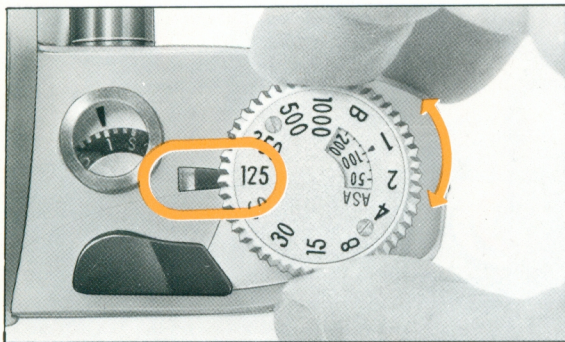
Lift the rewind crank and turn it gently in the direction of the arrow and any slack will disappear. Care must be taken not to turn the crank in a reverse direction, as this may spoil the film.

6. **Turn the film advance lever to take up the exposed film**

Operate the shutter for some blank shots till the exposure counter registers "1". This will take up the film which has been exposed during loading. When the film advance lever is being operated, the film rewind lever must turn in a direction against the engraved arrow, indicating that the film is properly moving.

After the film loading has been completed, make sure to set the proper ASA film speed.

SHUTTER AND DIAPHRAGM



The shutter speed controls the amount of light reaching the film and “freezes” the image of a moving subject.

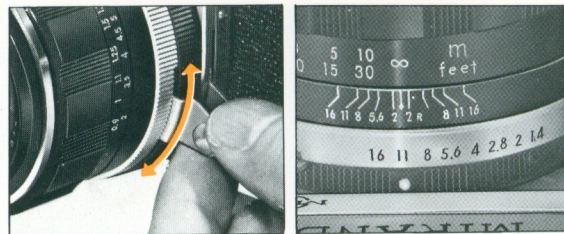
⇒ The indications “B, 1, 2 1000” indicate “Bulb, 1 sec., 1/2 sec. ... 1/1000 sec.” shutter speeds. To set the shutter speed, the shutter dial is turned to the left or right until the desired speed number lines up with the shutter speed indicator. The indicator turns red when the film is advanced and white when the shutter is released.

⇒ “Bulb (B)” is used for long exposures with the shutter remaining open as long as the shutter button is depressed.

⇒ When the dial is set to the red “60” mark, the “X” contact is automatically set for synchronization with electronic flash (See pages 26, 27 for flash shooting).

⇒ Shutter speed can be freely changed before or after the film advance.

The diaphragm controls the amount of light reaching the film and determines the depth of field (focal range).



Aperture “f” stop	1.4	2	2.8	4	5.6	8	11	16
Light Volume Ratio								
	2	1	1/2	1/4	1/8	1/16	1/32	1/64

⇒ To adjust the aperture according to the light intensity, shift the aperture setting lever in either direction.

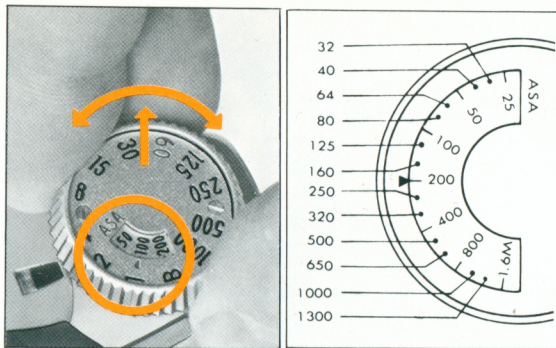
The aperture ring of the lens is calibrated (F values) from the full-open to the smallest apertures and clickstops at the red indicator position, on top of the lens barrel.

⇒ The higher the aperture value the less amount of light is transmitted to the film plane. The calibration on the scale is so arranged that the setting to the next higher value reduces the volume of incoming light by half. If, therefore, the scale is adjusted in succession to the next higher value, the amount of light transmitted through the lens will be decreased in progression of 1/4, 1/8, 1/16 and so on.

⇒ By setting the diaphragm to the intermediate positions of the scale, intermediate apertures are obtained.

⇒ The shutter and diaphragm are cross coupled to the exposure metering system. See page 14 for how to use the exposure meter.

SETTING THE FILM SPEED



Before taking pictures, see that the film speed dial is properly set to the ASA speed number of the film to be used. Failure to make this adjustment on the dial will prevent the exposure meter from giving a correct exposure reading.

Do not forget to set the dial exactly to the ASA number of the speed of the film loaded in the camera.

⇒ Lift and turn the knurled outer ring of the shutter in either direction until the desired figure comes directly opposite the red indicator, at shutterspeed "1"

⇒ It is unnecessary to readjust the ASA speed scale unless film of a different speed rating is loaded in the camera.

⇒ Film speeds (ASA) are shown on the outer packaging or in the film instructions.

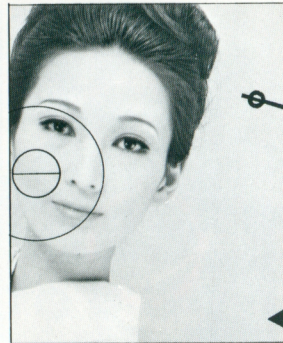
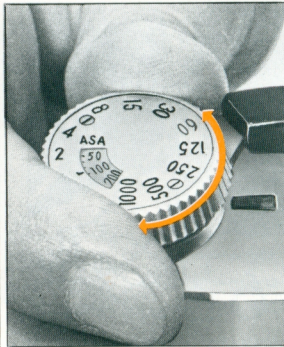
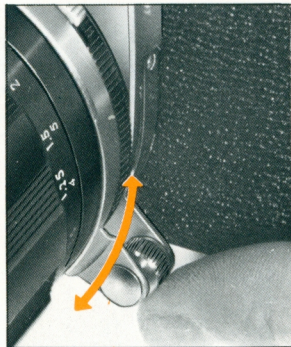
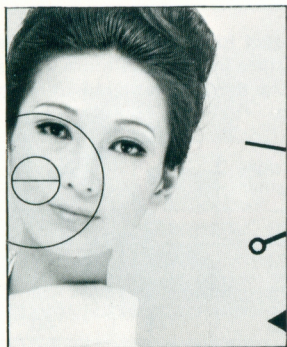
Intermediate settings on the film speed dial denote film speeds in the illustration.

Film Speed Equivalents

The exposure meter is calculated for films quoted with the ASA speed rating. However, films indicated in other speeds can quite easily be converted to the ASA rating by utilising the following conversion chart:

ASA & BSA	German DIN	European Scheiner	Gost	Weston
25	15/10	26	22	20
32	16/10	27	32	24
40	17/10	28	32	32
50	18/10	29	45	40
64	19/10	30	65	50
80	20/10	31	65	64
100	21/10	32	90	80
125	22/10	33	130	100
160	23/10	34	130	125
200	24/10	35	180	160
250	25/10	36	250	200
320	26/10	37	250	250
400	27/10	38	350	320
500	28/10	39	500	400
650	29/10	40	500	500
800	30/10	41	700	650
1000	31/10	42	1000	800
1250	32/10	43	1000	1000
1600	33/10	44	1500	1250

HOW TO READ THE METER IN THE VIEWFINDER



The CdS meter incorporated in the MIRANDA Sensorex is of the match-needle type permitting speedy, accurate light measurement. It is moreover cross-coupled to the shutter and diaphragm mechanisms.

By looking through the viewfinder, you can see at a glance whether the prevailing light is sufficient to guarantee correct exposure without extra adjustments. Moreover, since the meter is cross-coupled, light reading can be done through pre-selection of either the shutter speed or lens aperture, depending on the method preferred by the user.

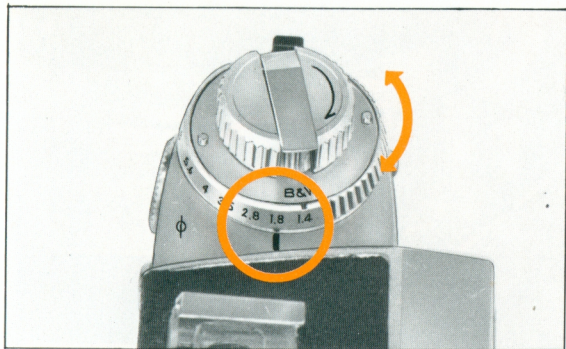
⇒ Aim the camera toward the subject and while looking through the viewfinder turn the shutter speed dial or diaphragm setting lever until the follower needle (with ○ on

the tip) coincides with the meter needle. This simple procedure enables accurate light measurement.

⇒ To obtain special effect by doubling the exposure, match the upper curve of the ○ to the meter needle. To decrease the exposure by one setting, match the lower curve of the ○ to the needle.

⇒ When in case of aperture pre-selection method the needles fail to coincide even when the shutter speed dial is turned, set the shutter speed to the closest setting and then turn the diaphragm setting lever until the needles are perfectly matched. Do not under any circumstances adjust the shutter speed dial to an intermediate setting.

OPEN APERTURE LIGHT MEASURING



The MIRANDA Sensorex is the only camera in the world permitting open aperture light reading with either exclusive Miranda lenses other brand, or preset diaphragm lenses. The method employed in light measurement is basically the same with any of these lenses.

The exposure computer system of the MIRANDA Sensorex is adjusted perfectly to the Auto-Miranda lens or other preset diaphragm lens in use, simply by setting the lens selector dial on the camera according to the maximum aperture of the lens. If, for instance, a 50mm f/1.8 lens is mounted on the Sensorex, turn the dial until the figure 1.8 appears opposite the black mark.

The lens selector dial has the following settings:

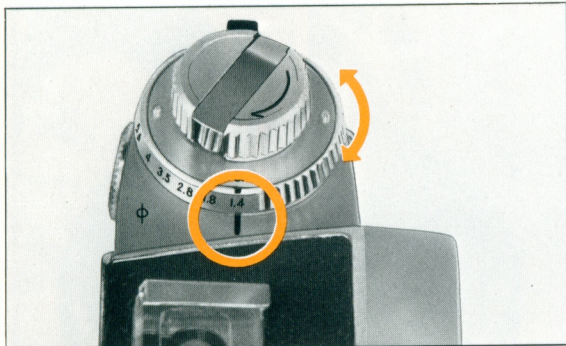
1.4 1.8 2.8 3.5 4 5.6 8



The CdS meter of the MIRANDA Sensorex is cross-coupled to the shutter speed and diaphragm mechanisms. Therefore, exposure is determined according to one of the following methods:

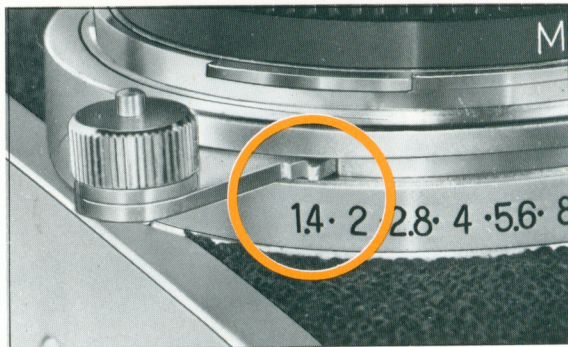
1. An appropriate shutter speed is pre-selected and the diaphragm setting lever is turned until the two needles in the finder are matched perfectly.
2. By pre-selecting the lens aperture, the meter needles are matched by turning the shutter speed dial.
3. In case of preset diaphragm lenses, the diaphragm setting lever is manipulated and the aperture reading, where the two needles coincide, is then transferred to the aperture scale of the lens.

CLOSED APERTURE LIGHT MEASURING



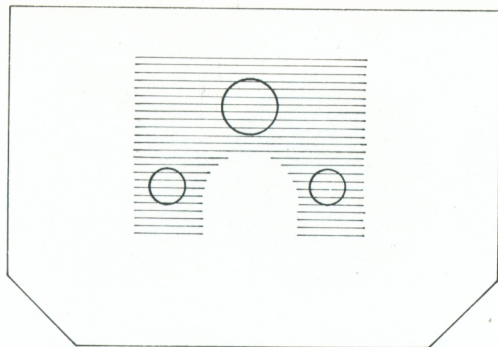
In ordinary situations, the open aperture light reading is more convenient as it enables bright viewing of the subject area and also effectively provides against inaccuracy of light measurement resulting from strong backlight entering through the viewfinder eyepiece. Nevertheless, closed aperture light reading is necessary in photomicrography or when using lenses of undeterminable f-number.

The method of closed aperture light reading is identical with any type of lens used.

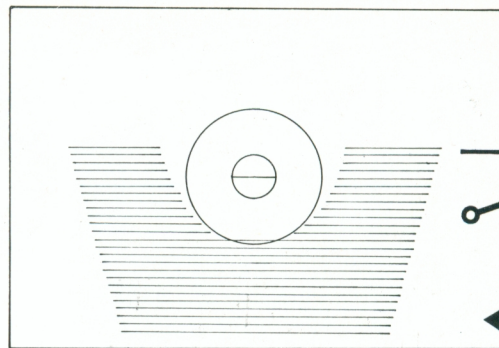


1. Adjust both the lens selector dial and diaphragm setting lever of the camera to f/1.4.
2. Stop down the lens to the required aperture and match the needles by turning the shutter speed dial.
3. Take every precaution against backlight entering from the viewfinder eyepiece. Because the light transmitted through the lens in case of closed aperture light reading is often weaker than the backlight, error in exposure reading is liable to occur. To prevent errors in light reading, therefore, the use of the eyecup is recommended.

VARIABLE SENSING ZONE



Mirror area



View finder area

Partial Average System

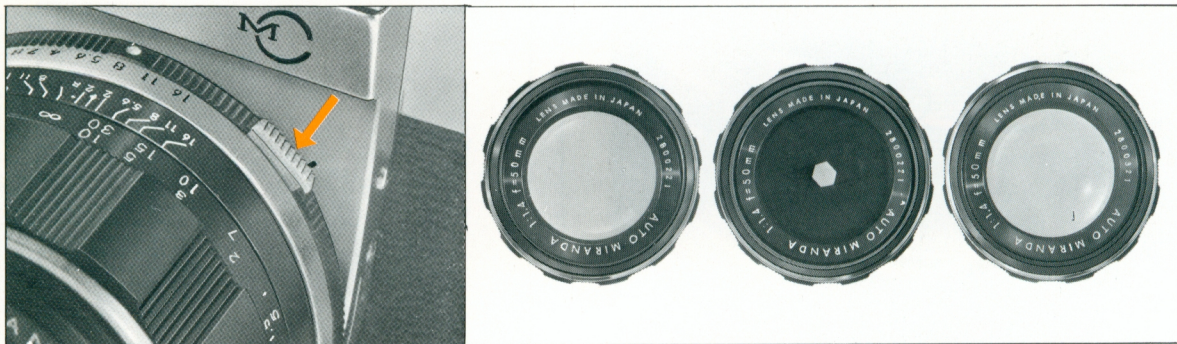
The Sensing area of the CdS meter of the Miranda Sensorex is placed behind the mirror, always in position for exposure reading, except for the split second action of the mirror when taking a picture.

The exposure meter measures an average of a part of the image, eliminating the light-influence of the sky, which could cause over exposure of the picture, especially when color film is used. This light-measuring is performed in a unique way. The single CdS-cell, behind the mirror, in

actual fact is composed of 3 separate super sensitive light measuring elements, positioned in the upper portion and left and right side of the mirror.

As the mirror is placed in the camera at a 45° angle, the reflected image in the view finder covers the area as shown in the pictures.

When photographing it is therefore a prerequisite to have the main subject in the area, covered by the exposure meter.



The fully automatic diaphragm of Miranda lenses is of special construction which keeps the lens wide open all the time to provide a very bright viewfinder image for easy picture composition and speedy adjustment of focus.

⇒ When the shutter button is pressed, the diaphragm automatically closes down to the aperture to which the lens has been set beforehand and makes it work only at that aperture. But when the shutter closes, the diaphragm automatically reopens.

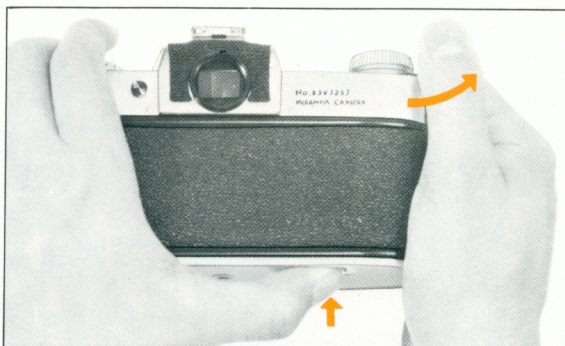
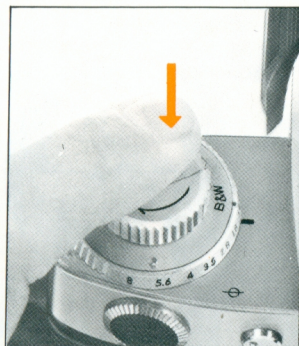
⇒ The viewing can therefore be done at fully open aperture at all times. But if one desires to actually check the effects of a given aperture on the image, the special lever on the lens barrel can be used. This preview lever

when depressed stops down the diaphragm temporarily to the aperture which has been pre-selected so that the depth of field and background blurs can be directly checked.

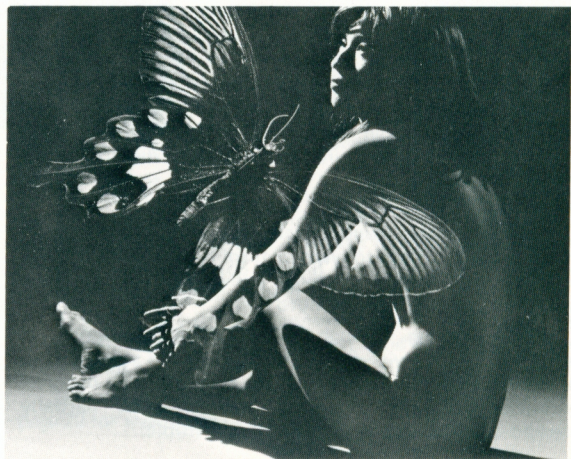
⇒ Miranda's fully automatic diaphragm system is used not only in the standard 50mm lens but also in all other Auto-Miranda lenses. As with the standard lens, they permit viewing at full aperture, no matter what f-stop has been pre-set for the actual shooting. In snapshots particularly, it saves the trouble of having to open the aperture for focusing and to close it down for the shot.

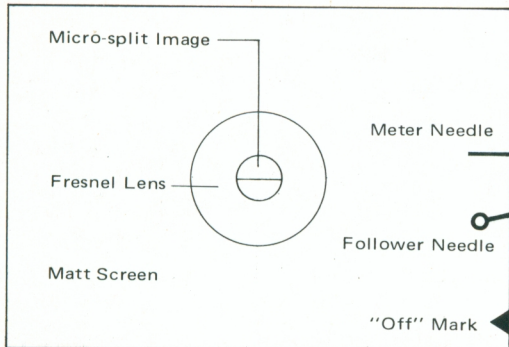
⇒ When changing the lens, it makes no difference whether the aperture is stopped down or not, for once it is mounted on the camera the aperture automatically opens fully.

HOW TO MAKE DELIBERATE DOUBLE EXPOSURES



For deliberate double exposures, make the first exposure in the normal way. Then take up the slack film in the film cartridge by turning the rewind crank in the direction of the arrow until it stops. **While still holding the rewind crank in this position**, depress the film rewind release button located on the bottom of the camera and turn the film advance lever to cock the shutter. This operation cocks the shutter without advancing the film. The shutter is now ready to make the second exposure. Finally, we suggest you make one blank exposure before taking the next picture, to avoid the possibility of overlapping.

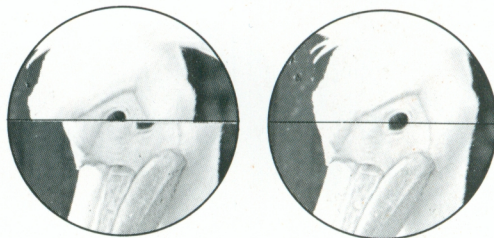




Focusing is done by means of the micro-split image that appears in the center of the viewfinder when the focusing ring is turned either to the left or right. When the image is out of focus, the image looks blurred around the borderline of the micro-split image in the center, and the viewfinder looks dim and blurred. When the subject is brought into focus, the left-or-right blurring of the image disappears, the image becomes crisp and the focusing screen of the viewfinder becomes clear.

⇒ The micro-split image rangefinder of the Sensorex is an improved type of the conventional split image. It is a highly efficient split-image of Miranda's invention which can be used even with a Long telephoto lens.

⇒ When looking through the viewfinder, observe the center part of the viewfinder. If viewed from a position at an upwards or downwards, or left or right angle using an ultra-telephoto lens, the micro-split may be partially blacked-out (one side is darkened and invisible).

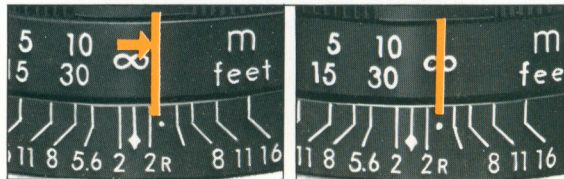


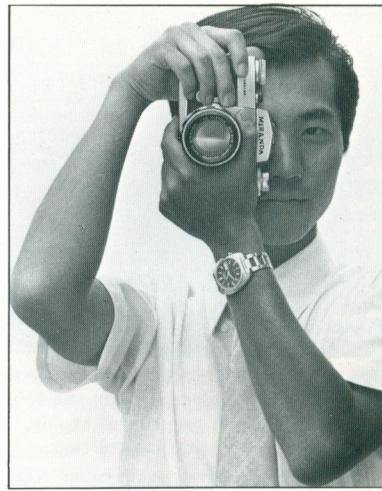
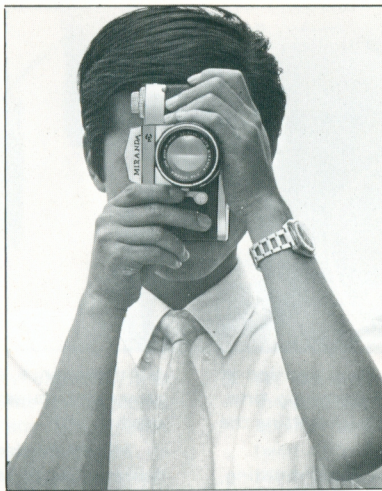
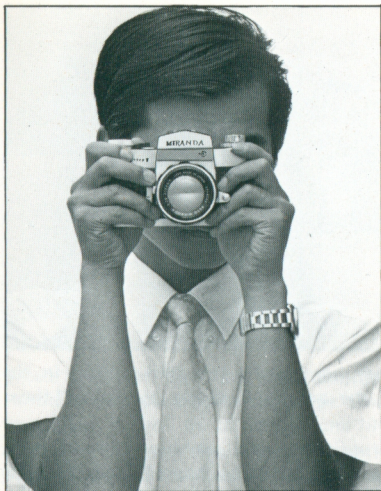
⇒ When an ultra-telephoto lens exceeding 450mm is used, the micro-split may be difficult to focus. In this case, adjust focusing on the matt screen surrounding the micro split.

A near-sighted or far-sighted photographer can use efficiently an eye sight-compensation lens mounted in the eyepiece of the viewfinder to accomplish accurate focusing. Also, a rubber eye cup is attachable to the eyepiece.

Focusing in Infra-red Photography

When taking pictures with infra-red film, perform the focusing first and then shift the reading of the distance scale to the "R" position, engraved on the lens barrel.





For crisp photographs, the camera must be held steadily since any jarring or vibration will result in unsharp pictures even with the best cameras. It is suggested, therefore, before starting to take pictures, to familiarize yourself, in front of a mirror, with the best way to hold the camera.

⇒ With the camera firmly held in both hands, hold it closely against the face, but not too tightly, as this will stiffen the posture with the result that the camera may vibrate, or that a moving subject can not be followed. It is important that the body be relaxed and the camera remains stable.

⇒ Hold the breath for an instant and gently depress the shutter release button. Vibration of the camera by begin-

ners is mostly due to uneven depression of the shutter release.

⇒ Vertical holding of the camera will be more apt to cause camera shake than horizontal. Practice is required. In the vertical position, one way is to hold the camera with the shutter button up and the other with the button down. Choose whichever hold is preferable.

⇒ In shooting with a telephoto lens, it is advisable to support the lens barrel with the left hand as this will reduce camera shake.

⇒ Use a tripod when a slow shutter speed is used (See page 22 for shooting at slow shutter speeds).



The self-timer of the Sensorex can be set at any position of its run and thus lengthen or shorten its operating time. Operation may be interrupted at any time by resetting the lever to its original vertical position.

⇒ When the self-timer is operated in closed down shooting, attach a cover plate to the eyepiece of the view finder or cover it with a hand, to avoid light coming in through the eyepiece.

⇒ The self-timer is actuated by depressing the shutter button. The operating time is adjustable from half-a-second to ten seconds, depending upon how far the lever is turned. The lever may be set either before or after advancing the film.

⇒ If the self-timer operation is no longer required after setting the lever, it can be returned to its original position. In this case, the shutter can be released as usual since the self-timer is not in operation. (However, operate the



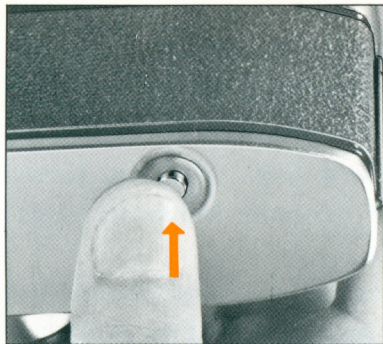
self-timer once after completing the roll of film in the camera to release the actuating spring of the self-timer mechanism).

⇒ Hand-held shooting at speeds slower than 1/30 second is liable to cause camera shake. In such a case, use a tripod when possible, preferably a sturdy kind.

When using a tripod it is better to work with a cable release, which can be screwed into the cable release socket on the shutter release button.

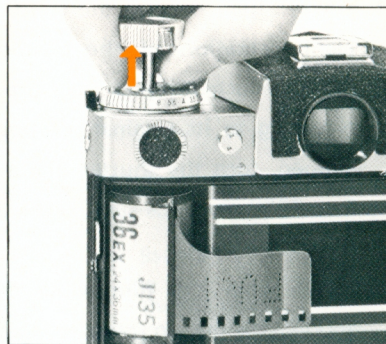
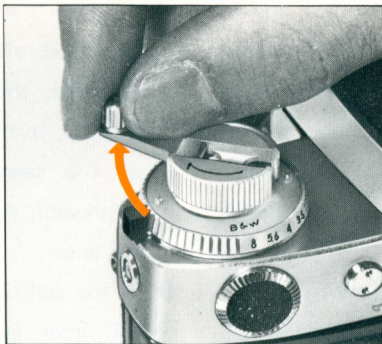
⇒ When shooting at a slow shutter speed or with the self-timer using the closed down system, it is recommended that an accessory "cover plate" to the viewfinder's eyepiece be used, or cover it with a hand as otherwise backlight may enter through the eyepiece and affect the exposure.

⇒ When the shutter has been operated at a slow speed, make sure that the shutter is completely released before advancing the film.



When a roll of film has been completely exposed, it is rewound into the original cartridge. Once the roll has come to an end, do not try to advance the film any further, even if the winding lever stops during the course of its advancement. Forced advance might tear the film which might, in turn, make rewinding impossible. In extreme cases, damage to the winding mechanism of the camera may result.

1. Press once the rewind button located at the bottom of the camera. The button will remain depressed.
2. Lift the rewind crank on the rewind knob and turn it in the direction as indicated by the engraved arrow on the knob, so that the film is rewound into the cartridge.



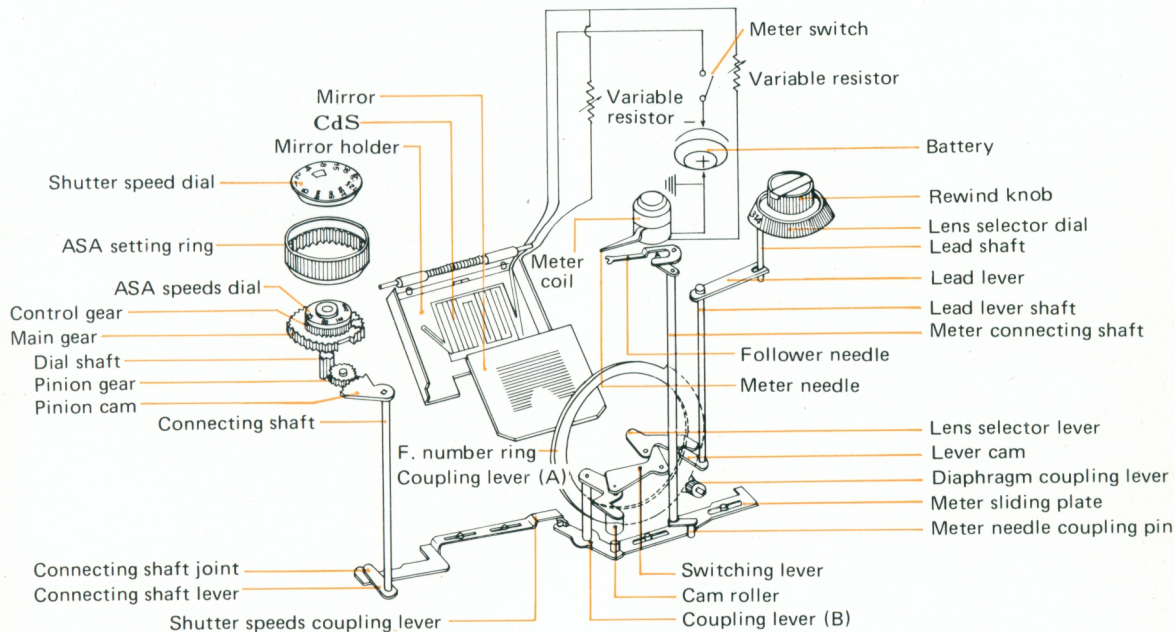
3. At the end of the roll you will feel the resistance increase and then suddenly cease. Turn the rewind crank several more times to make certain that the film has been entirely rewound. Then lift the rewind knob to open the back cover, and remove the cartridge.

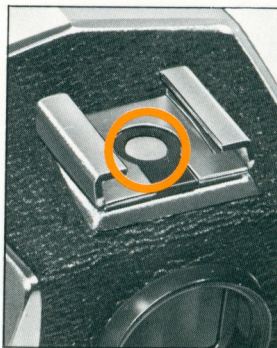
⇒ Sometimes when the film advance lever stops during its advancement, the rewind button may not remain depressed after being pressed once. In such a case, rewind the film slightly, at the same time pressing the rewind button and once again advance the film to the end. Then, press the rewind button again.

⇒ The depressed rewind button will return to its original position when a new film is advanced with the film advance lever.

1. Always fully depress the shutter button. Insufficient operation of the button can leave the shutter curtain open and prevent the mirror returning to its original position. If this should happen, turn the shutter dial a few times from B-to-1000 and vice-versa until the normal function is restored.
2. Never wind the film while the shutter is in action. Failure to observe this may keep the mirror elevated. If this occurs, remove the lens and gently push the bottom of the mirror with a finger, and, at the same time, depress the shutter button. This will restore the normal function.
3. Turn film advance lever until it goes no further. One full turn of 180° is necessary to advance one frame. Insufficient winding may make the shutter button unworkable, or even if it does work it may not permit proper opening of the shutter curtain. This point requires careful attention.
4. It may happen that while the film is being rewound after the film has been completely exposed, the rewind button will not remain depressed. In this case, rewind the film slightly and, at the same time, keep the rewind button depressed, then advance the film and try rewinding anew.
5. If the self-timer stops while in action, move the self-timer lever back and forth a few times, till it works again.
6. A major cause of failure of electronic flash or bulb flash is improper contact of the plug and the flash socket.
Examine contact and plug when mounting the flashgun to the camera.
7. If the lens is left detached, make sure that the front of the lens faces down. If the rear of the lens should face downwards the coupling pins could become damaged.

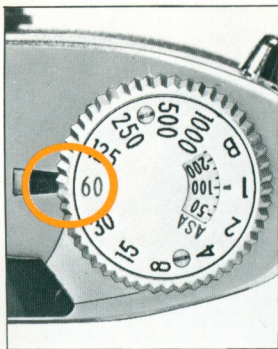
MIRANDA SENSOREX EXPOSURE METER SYSTEM





Use electronic flash or flashbulbs at night or in a dimly lit room or during daytime as a fill-in light source.

- ⇒ A cordless strobo or flashgun may be used for the Sensorex as it is provided with the hot-shoe type accessory shoe.
- ⇒ When a regular cord-equipped strobo or flashgun is used, attach it to the accessory shoe, and connect the PC cord to the syncro contact located on the side of the camera, underneath the meter switch lever.
- ⇒ The syncro contact is interlocked with the shutter dial for automatic switching. The X contact is only connected when the dial is set at 1/60 sec. (60 in red). At all other shutter speeds, the camera is synchronized for bulb flash.



Exposure in Flash Shooting

Operate the camera's lens aperture at shutter speed "60" following the Guide Numbers provided in the instruction manual or on the body of the strobo or flash bulb.

Guide Number (GN)

⇒ The GN is obtained by multiplying the distance (in meters) between the camera and the subject by the aperture (f value). The aperture value can be determined by dividing the GN with the distance to the objective. For instance, when a strobo flash with GN 24 is used, and the distance set at three meters, the aperture value is calculated as $24 \div 3 = 8$, therefore set the lens to f8. In the event the exact aperture value thus determined is not marked on the lens, use an aperture of lesser value. (For example, when the aperture value 6 is obtained by dividing GN 24 by 4m, the value f5.6 should be used in substitution for 6).

⇒ The GN varies depending upon the ASA sensitivity value of the film used. The GN for a flashbulb varies not only with the film sensitivity but also with the shutter speed. Therefore, study the instruction manual carefully for use of the GN's.

Various Ways of Using Flash

As main light source

⇒ The flash unit is pointed towards the subject and exposure is determined by the exposure index attached to the flash unit.

Bounce light

⇒ This way of lighting diffuses the light evenly over the subject and surroundings and is obtained by flashing upwards, reflecting the light from ceiling and walls. In this case the lens opening should be increased by 2–3 more stops, due to a certain amount of loss of light.

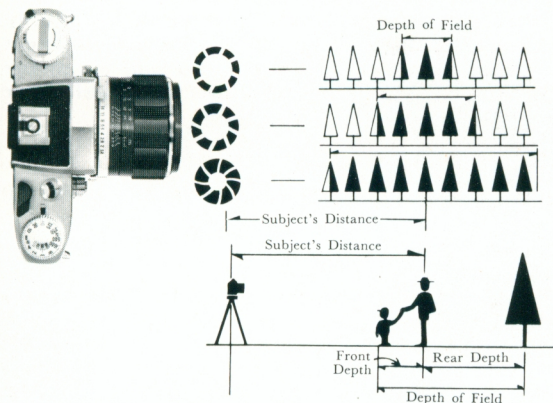
Fill-in light

⇒ To be used for outdoor photography against the light, to avoid shadows in nearby subjects. No special precautions have to be taken as the fill-in flash will not affect the exposure.

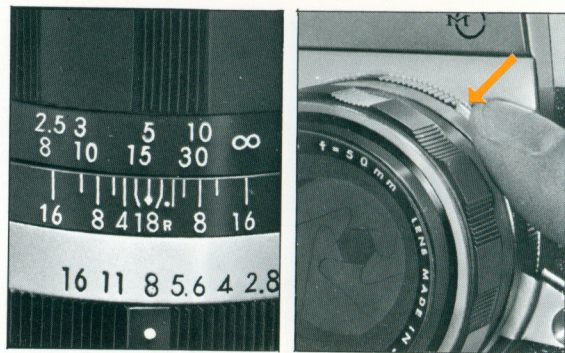
Combination Table for Flash Shooting

SHUTTER SPEED	CONTACT	FLASH USED
60 (one sixtieth of a second)	X	Strobo
Other shutter speeds	FP	FP-class bulb

Note: When the Automex or earlier Sensorex pentaprism or reflex-type viewfinders are used, cordless flash photography can not be performed without a minor adjustment.



This is the range that appears in sharp focus for any particular distance and diaphragm setting. There is relatively very little depth of field when close-up subjects are focused on, and a great deal of depth of field in the case of more distant subjects. Closing the diaphragm down increases the depth of field and opening the diaphragm reduces it. The depth of field also varies with the lens used. Wide angle lenses have great depth of field while telephoto lenses provide lesser depth of field. If your picture is such that you want both nearby and distant objects to be in sharp focus, then the smallest possible diaphragm should be used. However, very frequently the composition of a picture can be improved by having the principal subject in sharp focus while giving a soft, out-of-focus effect on other objects in the scene. This will de-emphasize distracting background objects and concentrate the viewer's attention on the principal subject.



How to Ascertain the Depth of Field

At the center of the lens barrel, facing up, is the depth-of-field scale which indicates the depth of field at a glance. The picture shows the focus adjusted to 5 meters, indicating that the range in which sharp images are obtained extend from 3.4 to 10 meters at $f/8$ aperture and about 2.5 meters to infinity at $f/16$.

How to Use the Depth of Field Lever

On the side of the lens barrel is the preview button. Pressing down this lever, which is unrelated to the automatic diaphragm mechanism of the lens, temporarily stops down the lens to the preset aperture. This permits ascertaining, through the viewfinder, the actual depth of field at that aperture value.

This checking can of course be done more easily by magnifying the viewfinder's image. This applies particularly to copying. By interchanging the camera's viewfinder with the critical focuser VFE-3, the image can be viewed more critically through its high-power magnifier.

AUTO MIRANDA 1:1.4 50mm Lens

In feet

diaphragm \ distance	∞	30'	15'	8'	5'	3'	30"	20"	17"
1.4	189' 8.8"	25' 11.5"	13' 11.1"	7' 8.2"	4' 10.5"	2' 11.5"	29.64"	19.84"	16.89"
	∞	35' 6.3"	16' 3.1"	8' 4.1"	5' 1.6"	3' 3.5"	30.37"	20.15"	17.11"
2	134' 2.9"	24' 6.5"	13' 6.1"	7' 6.7"	4' 9.9"	2' 11.3"	29.45"	19.78"	16.84"
	∞	38' 6.8"	16' 10.4"	8' 5.9"	5' 2.2"	3' 0.8"	30.53"	20.22"	17.16"
2.8	94' 11.6"	22' 9.9"	12' 11.7"	7' 4.7"	4' 9.1"	2' 11.0"	29.28"	19.69"	16.78"
	∞	43' 8.9"	17' 9.3"	8' 8.6"	5' 3.2"	3' 1.1"	30.75"	20.32"	17.22"
4	67' 1.5"	20' 9.2"	12' 3.4"	7' 2.0"	4' 8.0"	2' 10.5"	28.99"	19.56"	16.69"
	∞	53' 11.9"	19' 2.0"	9' 0.7"	5' 4.6"	3' 1.6"	31.08"	20.45"	17.32"
5.6	47' 5.5"	18' 5.1"	11' 5.1"	6' 10.4"	4' 6.5"	2' 10.0"	28.59"	19.39"	16.56"
	∞	80' 9.1"	21' 11.2"	9' 6.9"	5' 6.8"	3' 2.3"	31.55"	20.65"	17.65"
8	33' 6.8"	15' 10.5"	10' 4.8"	6' 5.8"	4' 4.4"	2' 9.2"	28.05"	19.15"	16.39"
	∞	271' 2.5"	26' 10.7"	10' 5.2"	5' 10.1"	3' 3.3"	32.24"	20.93"	17.65"
11	23' 8.9"	13' 3.5"	9' 2.8"	6' 0.2"	4' 1.9"	2' 8.2"	27.32"	18.81"	16.15"
	∞	∞	39' 11.5"	11' 11.2"	6' 3.3"	3' 4.9"	33.26"	20.16"	17.94"
16	16' 9.4"	10' 9.6"	7' 11.6"	5' 5.5"	3' 10.6"	2' 6.8"	26.34"	18.36"	15.83"
	∞	∞	128' 11.8"	14' 12.0"	7' 0.2"	3' 7.3"	34.84"	21.96"	18.36"

AUTO MIRANDA 1:1.8 50mm Lens

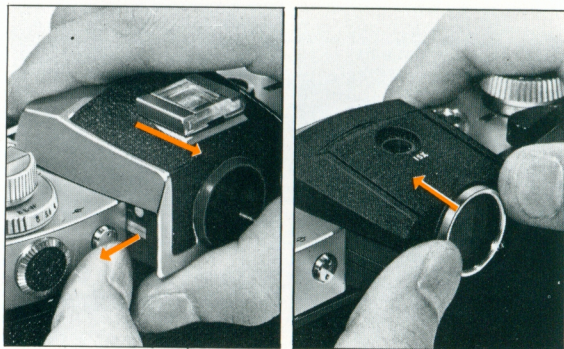
In feet

diaphragm \ distance	∞	30'	15'	8'	5'	3'	30"	20"	17"
1.8	145' 0.9"	24' 10.6"	13' 7.3"	7' 7.1"	4' 10.1"	2' 11.3"	29.52"	19.80"	16.85"
	∞	37' 9.2"	16' 8.5"	8' 5.5"	5' 2.1"	3' 0.7"	30.49"	20.21"	17.15"
2.8	92' 4.4"	22' 8.1"	12' 11.1"	7' 4.5"	4' 9.0"	2' 10.9"	29.25"	19.69"	16.77"
	∞	44' 3.7"	17' 10.4"	8' 8.9"	5' 3.3"	3' 1.1"	30.79"	20.33"	17.24"
4	65' 3.4"	20' 7.1"	12' 2.7"	7' 1.7"	4' 7.9"	2' 10.5"	28.98"	19.57"	16.69"
	∞	55' 3.0"	19' 4.9"	9' 1.1"	5' 4.8"	3' 1.6"	31.10"	20.47"	17.32"
5.6	46' 1.9"	18' 2.7"	11' 4.2"	6' 10.1"	4' 6.3"	2' 9.9"	28.54"	19.37"	16.54"
	∞	84' 9.9"	22' 1.2"	9' 7.6"	5' 7.0"	3' 2.3"	31.61"	20.67"	17.48"
8	32' 7.7"	15' 8.1"	10' 3.8"	6' 5.4"	4' 4.2"	2' 9.1"	27.99"	19.13"	16.38"
	∞	348' 6.3"	27' 5.9"	10' 6.3"	5' 10.4"	3' 3.4"	32.32"	20.95"	17.68"
11	23' 1.0"	13' 1.0"	9' 1.6"	5' 11.7"	4' 1.6"	2' 8.0"	27.24"	18.78"	16.14"
	∞	∞	41' 11.5"	12' 1.3"	6' 3.7"	3' 5.0"	33.39"	21.38"	17.99"
16	16' 3.9"	10' 7.3"	7' 10.3"	5' 4.9"	3' 10.3"	2' 6.7"	26.26"	18.31"	15.79"
	∞	∞	164' 5.2"	15' 4.6"	7' 1.2"	3' 7.5"	35.00"	22.08"	18.43"



The viewfinder of the SLR camera shows the very image which is formed by the taking lens. It is easy to check the relation between the subject's perspective and its background, as well as the color tones when using color film, exactly as will be exposed on the actual film.

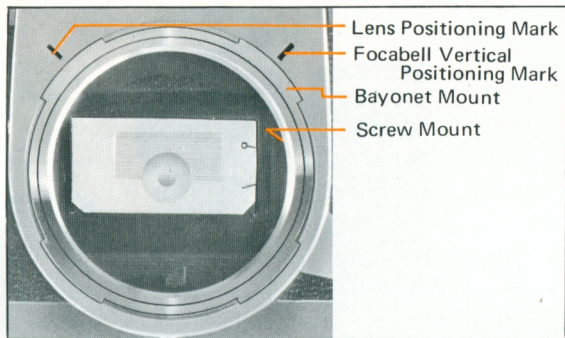
Usually a pentaprism finder is utilized as it is designed to show an overall undistorted image, right/left and top/bottom. However, when shooting from a low angle, or from an overhead position, close-up shots, duplicating, or in microphotography, a reflex-type viewfinder is considered indispensable and increases the camera's performance range.



The pentaprism viewfinder of the Sensorex can be interchanged with the reflex-type finders VFE-1 and VFE-3.

- ⇒ The viewfinder can be removed for interchanging by sliding it toward the rear, while pushing the viewfinder lock button to the left. To attach, match the viewfinder's base to the camera's groove and slide it forward until it clicks into position.
- ⇒ When a reflex-type viewfinder is used, its eyepiece is apt to permit adverse light to enter, which may cause exposure error. Be sure to shield the light.
- ⇒ The pentaprism and reflex-type finders VF-1 and VF-3, designed for the previous model Sensorex, can not be used for flash synchro photography.

LENS MOUNT AND LENS INTERCHANGEABILITY

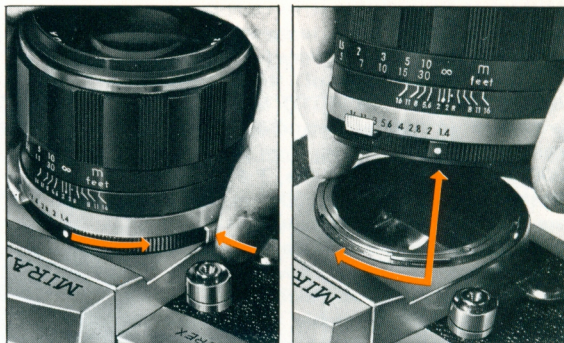


The lens mount of the MIRANDA Sensorex has on its outside a 4-claw bayonet mount and on its inside a screw mount of 44mm diameter (ALL MIRANDA cameras and lenses have the same standard lens mount).

The bayonet mount is for attaching the auto lenses (having automatic diaphragms), extension bellows, etc., quickly and easily by merely giving 1/8 of a full turn after mounting. The inner screw mount is for preset lenses and most other accessories.

⇒ Lenses may be interchanged before or after the film advance and regardless of the diaphragm settings.

⇒ To remove the auto MIRANDA lens, give it one-eighth of a turn counterclockwise, with the lens lock lever depressed. Match the red index on the lens barrel with the red mark on the camera body, and remove the lens. For attaching the lens, match the lens' red index with the red mark on the camera body and give it one-eighth of a turn clockwise, till the lens clicks into position. The lens lock button does not need to be depressed at this time.



⇒ When the lens is removed, make sure that no direct sunlight or dust penetrates the interior of the camera. The mirror and lens surfaces should not be touched with the fingers.

⇒ The green mark, located on the right side of the frontplate, has no connection with the change of lenses as it is used to match the Focabell A-111 or S bellows units when mounting them at a right angle to the camera.

MOUNT	LENSES AND ACCESSORIES
Bayonet	Auto Miranda, T-4 Soligor, Focabell A-III and S, PM Adaptor, NM Adaptor and Auto Extension Tubes.
Screw	Preset T-2 Soligor and other accessories.

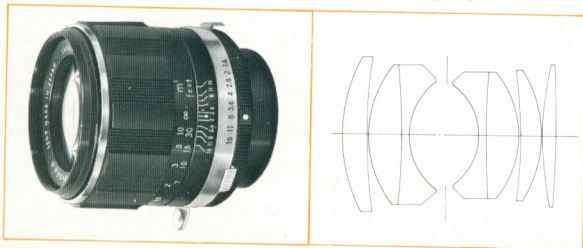
INTERCHANGEABLE LENSES

MIRANDA-SENSOREX series comprises a range of interchangeable lenses of superb quality, electronically designed and meeting the requirements of the modern optical theories. The AUTO MIRANDA group, all of fully automatic diaphragm, comprises 7 lenses ranging from 25mm to 200mm focal length. Besides, T-4 Soligor lenses vary from 21mm to 300mm. There are also 20 preset-diaphragm lenses ranging from 25mm to 800mm. These are designed to cover any situation with which professional photographers may encounter.

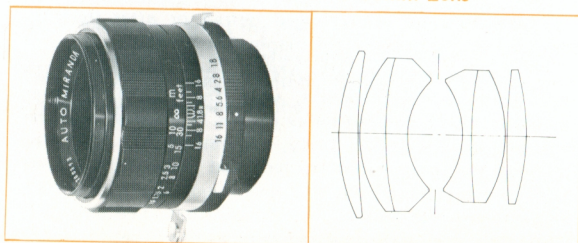
MIRANDA interchangeable lenses have wonderful resolving power, produce delicate "blurring" effects, offer excellent color balance, are light in weight and easy to handle. For all of this, they are receiving the focused attention of the world photographers.



AUTO MIRANDA 1:1.4 50mm Lens



AUTO MIRANDA 1:1.8 50mm Lens



AUTO MIRANDA LENSES

	Angle of view	Construction groups-elements	Smallest aperture	Closest focus (m)	Filter size (mm)	Length (mm)	Max. diameter (mm)	Weight (g)
25mm F2.8	82°	7 – 8	F16	0.25	52φ	60	59φ	300
28mm F2.8	74°	6 – 8	F16	0.25	46φ	54	59φ	273
35mm F2.8	64°	5 – 6	F16	0.30	46φ	48	59φ	222
50mm F1.8	46°	4 – 6	F16	0.43	46φ	47	59φ	235
50mm F1.4	46°	5 – 7	F16	0.43	52φ	55	63φ	345
105mm F2.8	23°	5 – 5	F16	1.2	46φ	69	59φ	340
135mm F3.5	18°	3 – 4	F16	1.5	46φ	95	60φ	435
135mm F2.8	18°	5 – 5	F16	1.5	55φ	96	65φ	500
180mm F3.5	14°	4 – 4	F16	2.3	58φ	143	69φ	728
200mm F3.5	12°	5 – 6	F16	3.0	62φ	150	70φ	760
Macron 52mm F2.8	45°	4 – 6	F32	0.2	58φ	61	64φ	260

ACCESSORIES FOR INCREASED VERSATILITY

A. Reflex Viewfinders



Reflex Viewfinder VFE-1



Reflex Viewfinder VFE-3
(magnification: 5X)



Reflex Viewfinder VFE-3
(magnification: 15X)

Pentaprism Viewfinder

In general photography, a pentaprism viewfinder is used. It shows the image right side up and right way round. The pentaprism viewfinder, has a hotshoe attached, for cordless flash photography.

Reflex Viewfinder VFE-1

This is a viewfinder of an ordinary type and is used for low-angle or high-angle shooting. Facing sideways, it may be conveniently used for candid shots. The Viewfinder Hood flips-open. With the magnifier raised, the image is magnified for easy focusing.

Through a reflex viewfinder, the image is shown right-and-left inversed.

Reflex Viewfinder VFE-3

Being one of Miranda's highly efficient viewfinders, this viewfinder shows its excellence in critical reproduction applications, close-ups, and photomicrography.

By erecting the centre part of the viewfinder, the entire picture area can be viewed through its 5X magnifier.

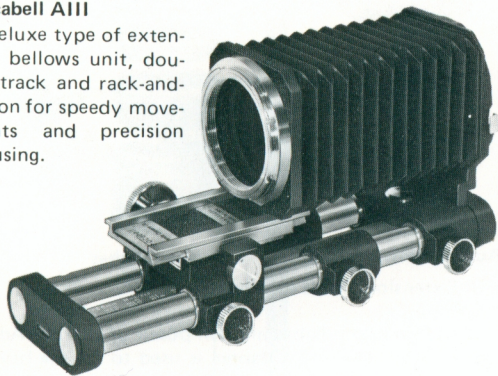
When folded down, the center of the focusing screen can be viewed at 15X magnification for accurate focusing.

This viewfinder is tightly enclosed and permits easy viewing in bright places.

B. Focabell

Focabell AIII

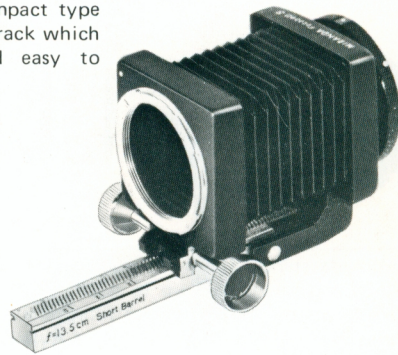
A deluxe type of extension bellows unit, double track and rack-and-pinion for speedy movements and precision focusing.



- ⇒ Releasing a knob on its right side permits the bellows to slide forward. Tightening it back locks the bellows firmly.
- ⇒ Between the two tracks is a scale giving magnification ratios and exposure factors, black figures on one side for the 50mm lens and red figures on its reverse for the short-barrel 135mm lens. This scale can be detached by removing a screw and re-attached to indicate the side which matches the lens being used.
- ⇒ Magnification ratio is 1 ~ 2.6 times with 50mm lens and infinity to 0.6 times with short-barrel 135mm lens. The figures on the scale show magnification ratios at top and exposure at bottom.
- ⇒ The magnification ratios are read off from the position indicated by the tip of the precision focusing device.

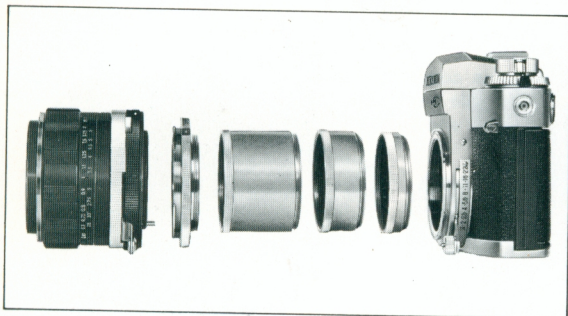
Focabell S

Foldable compact type with single track which is light and easy to carry.



- ⇒ Erect the track and lock it in position by moving the small button on the focusing knob side.
- ⇒ The focusing knob is on the right side and the locking knob which is turned clockwise for locking the track is on the left side.
- ⇒ The magnification scale on the left side is for 0.9 ~ 2.5 times with the 50mm lens, that on the right is for infinity to 0.5 times with the short-barrel 135mm lens.
- ⇒ The magnification ratios can be read off from the position of the tip of the precision focussing device.

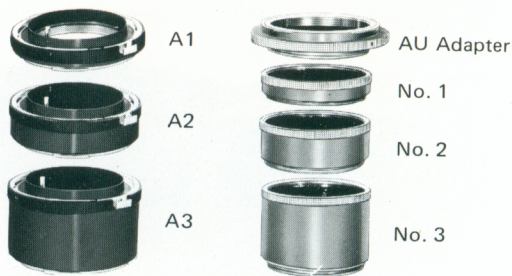
C. Extension Tubes



A Miranda standard lens without an extension attachment permits a close-up shot up to 43cm (a 21 x 14 size is approximately the maximum size filling the viewfinder). For greater extension, extension tubes or Auto Extension Rings A1, A2 and A3 are used.

Auto Extension Ring

⇒ The Auto Extension rings are 8mm, 16mm and 32mm in thickness respectively. When an automatic diaphragm lens is used, the Auto-diaphragm mechanism still operates even



Auto Extension Ring

Extension Tubes

with Extension Tubes attached.

Extension Tubes

⇒ The Extension Tubes are composed of the AU Adapter and 3 tubes. The AU Adapter is used to fix the bayonet-mount lens onto the Extension Tube. It is 8mm in thickness, the same thickness as the No. 1 ring.

⇒ The 3 rings are No. 1 (8mm), No. 2 (16mm) and No. 3 (32mm). By alternately changing the AU Adapter tubes, a 0.15 ~ 1.23 extension can be obtained.

Auto Extension Ring (A1 A2 A3)	Extension Tubes	Total Length (mm)	Picture Coverage (mm)	Magnification ratio	Exposure increase ratio	Shooting Distance (mm)
A1	Adapter only	8	156 x 238	0.15	1.3	185.4 ~ 358.5
A2	Adapter and No. 1	16	78 x 117	0.31	1.7	131.3 ~ 189.5
A1 + A2	" No. 2	24	52 x 78	0.46	2.1	104.0 ~ 133.1
A3	" No. 1 + No. 2	32	40 x 60	0.62	2.6	87.4 ~ 105.1
A1 + A3	" No. 3	40	32 x 48	0.77	3.1	76.4 ~ 88.1
A2 + A3	" No. 1 + No. 3	48	26 x 39	0.92	3.7	68.4 ~ 76.8
A1 + A2 + A3	" No. 2 + No. 3	56	24 x 36	1.08	4.3	62.5 ~ 68.8
	"No. 1 + No. 2 + No. 3	64	20 x 30	1.23	5.0	57.8 ~ 62.8

D. Copystand & Microcopy Stand



Copystand

MIRANDA COPY STAND is fitted with arms for illumination lamps. A camera is held not only by the tripod socket but also the metal brackets to insure a secure, horizontal hold of the camera. Easy reproduction of literature, brochures, etc.



Microcopy Stand

This multiple-use copystand is designed for reproduction photography and photomicrography. Its extra-solid die-cast construction permits vibrationfree reproduction, with either the regular Miranda cameras or the Laborec photomicrographic camera.

E. Lens Adapters

MIRANDA Sensorex has a lens mount of large diameter and a thin body which enables it to accept various types of lenses with the aid of lens mount adapters.



PM Adapter:

For lenses of Asahi Pentax, Edixa, Yashica Penta, Petri Penta and others having the Praktica mount.



XM Adapter:

For mounting Exakta and Topcon mount lenses.



NM Adapter:

For Nikon lenses.



LF Adapter:

For Leica and Canon screw-mount lenses.



CSF Adapter:

For standard lenses of Contax and Nikon S.



CTF Adapter:

For wide angle and telephoto lenses of Contax and Nikon.



ML Adapter:

For mounting Miranda lenses on Leica and enlargers.



AU Adapter:

For making close-ups up to 10 inches with Miranda lenses.

F. Other Available Accessories



Auto Adapter

When an auto-miranda lens is used in conjunction with a Focabell A-III or Focabell-S, or with extension tubes, the combined use of this adapter and a double cable release will activate the shutter and automatic diaphragm simultaneously.



Universal Helicoid

(Helical focusing mount)
For precision focusing and close-ups.



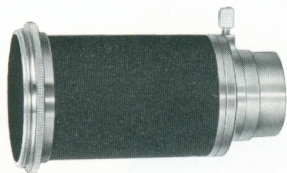
Reverser Ring



Double Cable Release

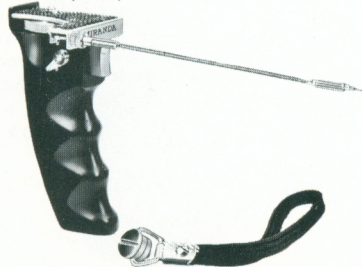
To be used in conjunction with the MIRANDA Auto-Adapter.

Cable Release



Microscope Adapter

When mounted between the camera body and microscope, this adapter makes microscopic picture-taking extremely easy.



Pistol Grip



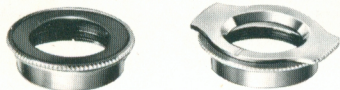
Flash Gun Bracket



Eyecup

Rubber Eyecup to be attached to eyepiece of pentaprism or VFE-3 viewfinders.

Has built-in Type A eyesight adjustment lens mount.



Eyesight Adjustment Mounts

To be attached to eye-piece of pentaprism or VFE-3 viewfinders.

Type A: for near or farsightedness.

Type B: for astigmatism.



Eye Sight Compensation Lenses (framed)

No.	Composition Sight	Diopter
1	0	+ 1.5
2	-1.5	0
3	-2	-0.5
4	-3	-1.5
5	-4	-2.5
6	+ 1	+ 2.5
7	+ 2	+ 3.5

Note: - for near-sight, + for far-sight



Front Lens cap



Rear Lens cap



Body cap



Eveready carrying case



Camera strap



Viewfinder case



Standard Lens Hood

Can be reversed on 50mm lens and fits into the camera case.

PRECAUTIONS IN STORING

For proper care of any camera it should be regularly exercised and not put away for a long period without use. Many troubles can be attributed to non-usage. Therefore you should store your camera where you can get at it easily and put it through its normal operations at least once per month, i.e.

- a) Set the shutter and release it a few times as if taking a picture.
- b) Turn to a slow shutter speed and again release a few times.
- c) Operate the selftimer.
- d) Examine the exposure meter for correct operation.
- e) Check film transport.
- f) Check the pentaprism viewfinder.

These actions will keep the mechanism in good order, retaining the natural qualities of the lubricant—thus ensuring the camera is ready for instant use when required.

Before embarking on a holiday or other important assignment it is advisable to test the camera at least four weeks prior to your departure. Many spoiled holiday records would have been avoided if this precaution had been taken. Treat your camera tenderly. It has been produced with great care and attention to detail. Do not allow it to be swung about by its shoulder strap or thrown into the back of a car etc. If you protect your camera against possible damage, you will be amply repaid by years of excellent and trouble-free service.

CARE AND STORAGE OF CAMERA

When used on the beach, in strong wind or other unfavorable conditions, damage may be caused if left unattended, so please observe the following precautions:

Care After Use

- ⇒ Clean the lens of dust and dirt by using a soft brush lightly, but do not clean too often.
- ⇒ Use chamois or other soft material to clean the chrome-plated parts.
- ⇒ Always use a blower to clean the mirror, which must never be touched with fingers.

Precautions in Storing

- ⇒ Avoid places of high temperature or high humidity.
- ⇒ Be careful to avoid shocks as they may cause damage.
- ⇒ Keep the shutter uncocked.

Care and Maintenance of Camera

- ⇒ When not in use for a long period, it is better to take the mercury battery out of its chamber.
- ⇒ Set the lens to infinity before closing the camera case.
- ⇒ Be very careful not to drop the camera into salt water as repair may become impossible.
- ⇒ In case the camera is to be left unused for some time, pack it in a plastic bag together with a drying chemical and enclose it within a can or other strong container to prevent damage.

YOUR CAMERA NUMBER:

8309372

YOUR LENS NUMBER:

1976518

Exclusive United States Importer:
ALLIED IMPEX CORPORATION

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Printed in Japan