

# WILSONWERKS ARCHIVES

This camera manual is for reference and historical purposes, all rights reserved.

This cover page is copyrighted material. This document may not be sold or distributed without the express consent of the publisher.

©2008 wilsonwerks Llc

*Leica*  
**BRONICA®**

**ETRS**

INSTRUCTIONS

Congratulations on your choice of the Zenza Bronica ETRS single lens reflex camera which will offer you high quality performance, handling convenience and versatility required for professional photography. The Zenza Bronica ETRS has been developed as a complete modular "system" camera, with a very high degree of interchangeability in lenses, finders, focusing screens, film backs, etc. At the same time, it has a full range of other valuable accessories which will permit its use in many other day-to-day assignments, requiring a fast-handling camera with complete exposure automation.

To get best results from your camera, may we suggest that you read this instruction manual carefully, before you even touch the camera. Thoroughly familiarize yourself with its working parts, before loading your first roll of film, and your pleasure in using the Zenza Bronica ETRS will be even greater.

#### NOTICE

The choice of finder's is left to the discretion of the photographer. The ETRS system allows the photographer to order a system which will best suit his needs. (Instructions following are based on the use of the Bronica ETRS with the Waist-Level Finder.)

## Contents

Specifications . . . . .	2	16. Flash Photography . . . . .	24
Parts of the ZENSA BRONICA ETRS . . . . .	4	17. Multiple Exposures . . . . .	25
1. Loading the Battery . . . . .	7	18. Attachment and Removal of Film Backs . . . . .	26
2. Checking the Battery . . . . .	8	19. Interchanging Finders and Magnifiers . . . . .	28
3. Film Loading . . . . .	8	20. Interchanging Focusing Screens . . . . .	29
4. Film Unloading . . . . .	12	21. Film Type Indicator Frame . . . . .	31
5. Setting the Shutter Speed Dial . . . . .	13	22. Attaching and Removing the Neck Strap . . . . .	31
6. Time (T) Exposures . . . . .	14	23. Facts about the Battery . . . . .	33
7. Exchange Lenses . . . . .	15	24. Pointers on Shooting with the Zenza Bronica ETRS . . . . .	34
8. Waist-Level Finder . . . . .	16	25. Care of the Zenza Bronica ETRS . . . . .	35
9. Setting the Aperture . . . . .	17	26. Accessories for Increasing the Versatility of the ETRS . . . . .	36
10. Focusing Adjustments . . . . .	18	27. Zenzanon Interchangeable Lenses . . . . .	42
11. Film Advance and Shutter Cocking . . . . .	19	Depth of Field Table . . . . .	44
12. Exposure Counter . . . . .	19	Accessories for the Zenza Bronica ETRS . . . . .	45
13. Shutter Release Button . . . . .	20		
14. Distance Scale and Depth of Field Scale . . . . .	22		
15. Infrared Photography . . . . .	23		

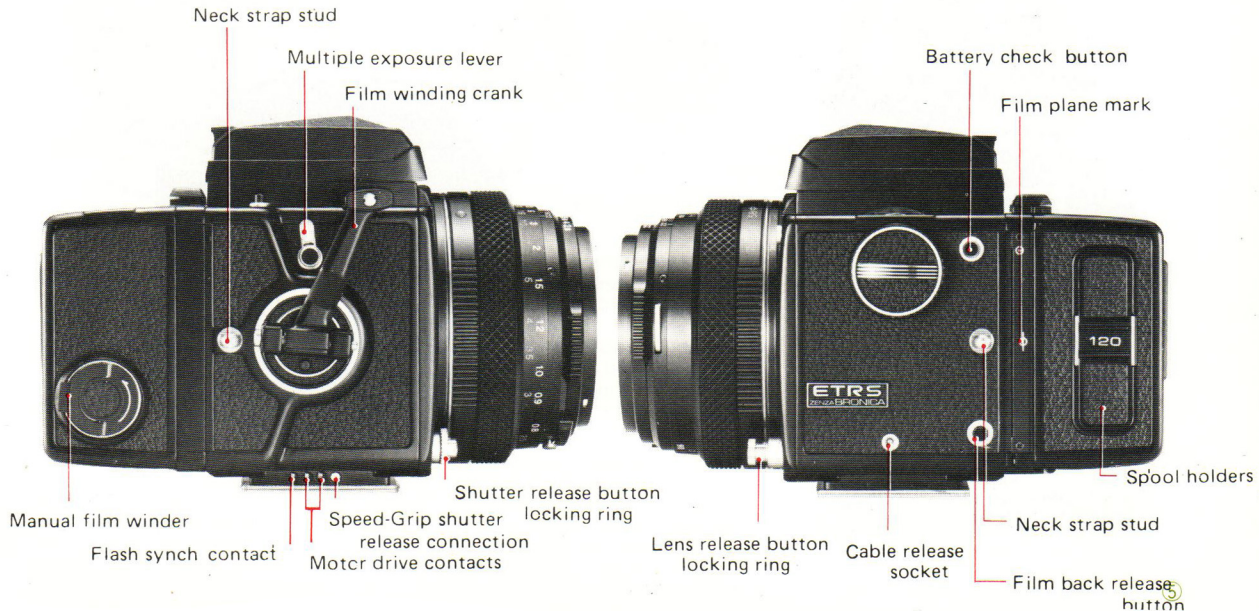
## Specifications of the ZENZA BRONICA ETRS

Type	4.5cm x 6cm format lens shutter single lens reflex camera, with interchangeable lens, film back, finder and focusing screen systems.
Frame size	42.5mm x 55.1mm (side/length ratio of 1:1.29 closely matches standard paper and reproduction sizes)
Film	120 roll film (15 exposures)
Standard lens	Zenzanon E 75mm F2.8 lens; interchangeable type; 5 elements in 4 groups; multi-layer anti-reflection coated; 50° angle of view, F22 minimum aperture, helical focusing from inf. to 60cm.(2 ft.)
Filter size	58mm diameter screw mount on 75mm lens; 62mm diameter screw mount on lenses from 40mm to 250mm focal lengths.
Lens mount	Exclusive four-claw Bronica bayonet mount.
Lens diaphragm	Fully automatic instant reopening lens diaphragm action; equal-distant aperture scale graduations; depth of field previewing.
Shutter	Electronic control SEIKO #0 between-lens leaf shutter; shutter speeds 8 sec. to 1/500 sec. plus T (time exposures); mechanical control setting 1/500 sec.
Multiple exposure	Multiple exposures possible with lever on body.
Film back	Daylight loading interchangeable type, exclusive backs for 120 (15 exposures) and 220 (30 exposures) roll films, 70mm (90 exposures) film and Polaroid film pack. (Supplied with 120 roll film back.)

Finder system	Interchangeable finder system, with choice of five optional finders or waist-level finder, AE (automatic exposure)-II finder, rotary viewfinder, prism finder and sports finder. (No standard finder is supplied and, therefore, a suitable one must be ordered separately.)
Focusing screen	Interchangeable type. Standard screen has diagonally-oriented split-image rangefinder spot surrounded by microprism ring and full-area matte screen. Optional types are (1) central matte spot surrounded by full-area fresnel lens and (2) full-area matte screen with vertical/horizontal grid-lines.
Flash synchronization	X-setting (up to 1/500 sec.)
Battery checking	Red-colored LED lights up within screen area when battery check button is depressed, if there is sufficient power.
Battery	Single 6-volt silver oxide battery (Eveready No. 544, UCAR No. 544 or Mallory No. PX-28); also powers AE-II finder, when attached.
Dimensions	110mm (4-1/2") wide x 106mm (4-1/4") high x 157mm (6-1/4") long (with standard lens and waist-level finder).
Weight	1,346 grams (2.9 lbs.): ETRS camera with waist level finder and 75mm F2.8 lens 493 grams (1 lb.): ETRS body only (with battery) 326 grams (11.4 oz.): 120 roll film back only 417 grams (14.6 oz.): 75mm F2.8 lens only 110 grams (3.8 oz.): Waist level finder only

## Parts of the ZENZA BRONICA ETRS

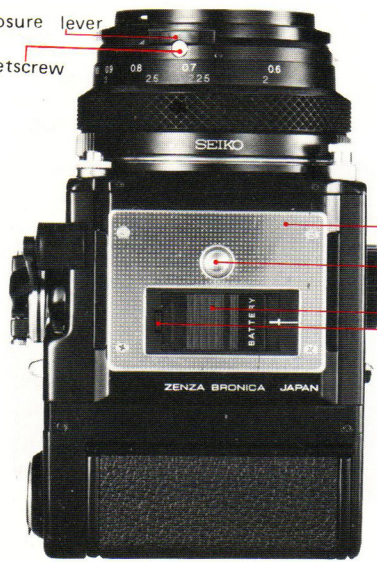






Time exposure lever

Setscrew



- Tripod mounting shoe
- Tripod socket (1/4" screw)
- Battery chamber cover
- Battery chamber button

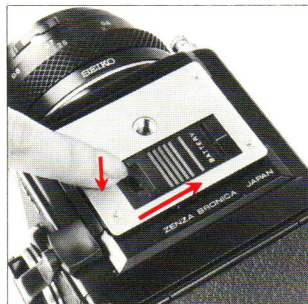
Film type indicator frame



## I Loading the Battery



A. The electronically-controlled shutter will not work without loading the battery. The shutter will be mechanically-controlled when the battery is not loaded or when it is loaded with its polarity marks reversed. It will then be released at 1/500 sec., regardless of the setting on the shutter speed dial. Use one silver oxide battery (EVEREADY No. 544 or equivalent).

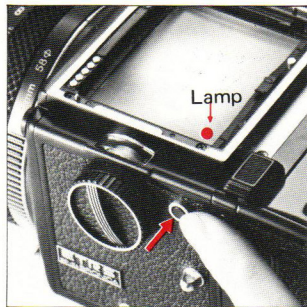


B Depress the battery chamber button with your finger and, at the same time, move the battery chamber cover in the arrow-indicated direction. The cover will come off easily.



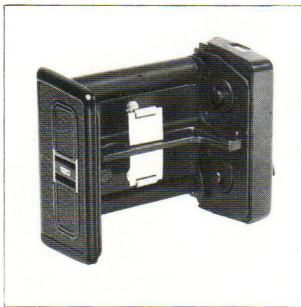
C. Coincide the plus (+) and minus (-) marks on the battery with similar polarity indications in the battery chamber. Then, push in the negative end of the battery first and follow with the positive end. Insert the BATTERY end of the battery chamber cover which also has a mark coinciding to that on the body. Then move the cover in the other direction (opposite to the arrow-indication) until it locks in place.

## 2 Battery Checking



If a red-colored battery check lamp lights up in the left-rear corner (of the waist-level finder) when the battery check button is pressed, the battery is loaded properly and there is sufficient power for electronic operations.  
\* If the lamp does not light up, (1) the battery is not loaded properly or (2) it is completely drained.

## 3 Film Loading



A. The film back consists of a film holder and a film back frame, with exclusive film holders supplied for 120 and 220 roll films. The film holder has an insert or frame for loading film, as well as a built-in film winding mechanism.



B. The film back frame, on the other hand, consists of a base with a dark slide slit and a back cover with a film type indicator frame. The film back frame completely encloses the film holder and shields it from outside light (see page 24), as well as connecting it to the camera body.

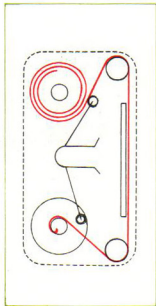


C. To detach the film holder, open the back cover. First, press the safety lock (1) in the arrow-indicated direction and then push the back cover release button (2) towards the exposure counter.



D. There are two spool holders on the film holder. The top one is for the fresh film spool while the bottom one is for the empty take-up spool. The left-side shafts of both spool holders can be opened outwards, as illustrated. Therefore, insert the right end of the spool on to the right-side shaft, which is fixed, and then close the left-side holder (shaft) which will engage the spool.

\* The spool holders on the left side will be locked securely, when the back cover is closed.



E. When the fresh film spool is loaded, draw out the leading end and turn it across the film pressure plate, as shown. Run it down to the lower end and turn it over to the take-up spool. Insert the end into the take-up spool slit and wind it slightly until engaged.

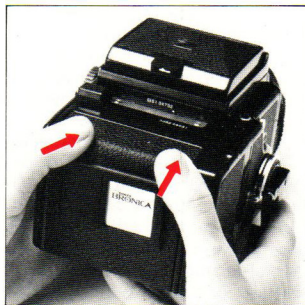
\* The inside of the leader paper must face out, when running across the film pressure plate.



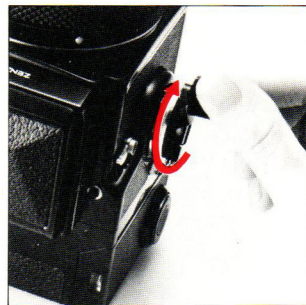
F. Unfold the manual film winder on the right side of the film holder and rotate in the arrow-indicated direction, while checking the advancing film. When the starting point, or arrow mark, is aligned with the triangular ▼ start-mark on the top left side of the film holder, stop rotation.



G. The film can be loaded in the film holder, without detachment from the camera body, and should be loaded in the same manner as explained for the detached film holder. However, the starting point, or arrow mark, should be aligned to the start-mark by advancing the film with the film winding crank on the camera body.



H. Close the back cover, by pressing it firmly against the base of the film back, as illustrated. The back cover will automatically lock and close, with the safety lock also locking the back cover release button. The same operation will close the back cover when the film back is detached from the body.



I. Upon loading the film, rotate the film winding crank until it stops to place the first frame into place for taking the picture. The exposure counter will also change from "S" to "1", while the shutter will also be cocked.

The manual film winder on the film back should be used to advance the film to its first frame, when the film back is detached from the body. However, the manual film winder will not stop rotating.

\* If the film is not advanced when the film winding crank is rotated, the film holder is not inserted properly and/or the camera body may be set for multiple exposures. In the latter case, return the multiple exposure lever to an upright or vertical position.

## 4 Film Unloading



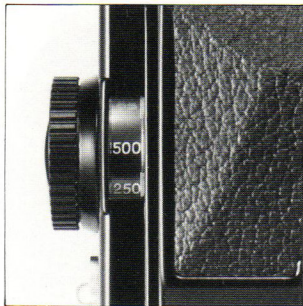
A. After the 15th exposure of the 120 roll film (30th exposure of the 220 roll film), the film winding crank will turn freely with further rotations. Therefore, continue rotating the film winding crank until the remaining film and all the leader paper is wound up on the take-up spool.

Open the back cover when winding action becomes very light.

B. Remove the film holder and, while preventing the loose film from unwinding, take out the take-up spool. Seal the exposed film and return it to its original box until development.

\* Load and unload film away from direct sunlight and/or strong illumination.

## 5 Setting the Shutter Speed Dial

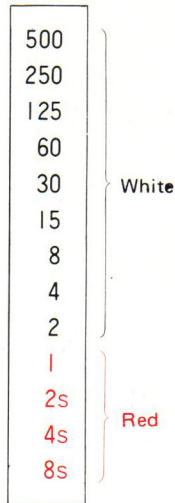


A. The shutter speed scale is viewed in its window over the shutter speed dial. The numbers on the scale are shutter speed settings, with numbers 1 to 8S full numbers and numbers 2 to 500 fractions of a second. For example, "8S" is 8 sec., "2S" is 2 sec. and "500" is 1/500 sec. \* The shutter is released at 1/500 sec., regardless of the setting when the battery is not loaded or is completely drained.

B. The numbers on the scale are color-coded in red and white. Red-colored numbers are full number settings of 1 second and longer while white-colored numbers are settings from 1/2 to 1/500 second. There is no B (bulb) setting.

See the following page for time (T) exposures.

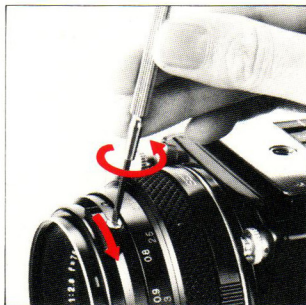
The shutter speed dial cannot be rotated beyond the settings for 1/500 sec. and 8 sec., at both ends of the scale.





## 6 Time (T) Exposures

A. Time exposures are made with the time exposure lever on the lens, regardless of the setting on the shutter speed scale. However, the lever is locked to prevent accidental movement and must be unlocked for use. Unscrew the setscrew on the time exposure lever until further revolution is not possible, which will permit the lever to be moved freely.



B. Next, cock the shutter with the film winding crank and then shift the time exposure lever to the left (looking from the body towards the lens) which will expose a red-colored "T" on the barrel. The shutter will stay open when the shutter release button is depressed in this condition.

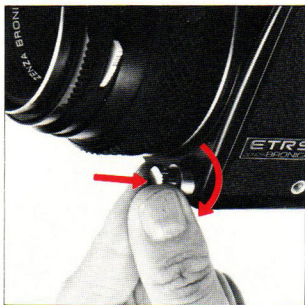
The shutter is closed by shifting the time exposure lever in the opposite direction and exposing the letter "A" once more.



\* Except for time exposures, always shift the time exposure lever so that "A" is visible on the lens barrel and keep it locked with the setscrew to prevent accidental movement.

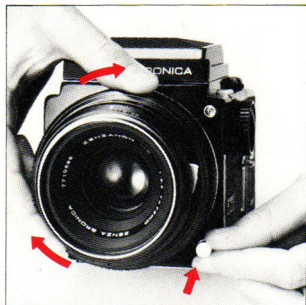
## 7

## Exchanging Lenses



A. The lens cannot be detached or attached unless the shutter is cocked.

Therefore, first, rotate the film winding crank and cock the lens shutter. Then, rotate the lens release button 45° in the clockwise direction and depress it at this position.



Next, while keeping the lens release button depressed, rotate the lens in the clockwise direction, too, until it makes a full stop, at which point it can be detached.

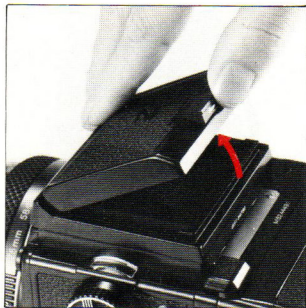
The locking ring on the lens release button will automatically return to "lock" when pressure is released from the lens release button.



B. To attach the lens to the body, first, align the red dots on the lens and body and then insert the lens fully into its mount. Rotate in the counter-clockwise direction until it stops, with an audible click which will indicate that it is securely locked.

\* The lens cannot be attached, unless the film is advanced and the shutter cocked on the body.

## 8 Waist-Level Finder

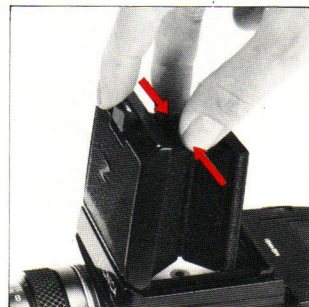


A. The focusing hood of the waist-level finder is opened by pushing or pulling up on the focusing hood/magnifier catch at the rear end of the folded waist-level finder.

\* As noted, there is no standard finder for the Bronica ETRS and the user has a choice of several finders. Instructions are made on the basis of the waist-level finder because of its popularity.



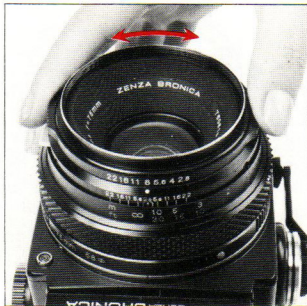
B. To close the focusing hood, first, push down the magnifier (if it is flipped up). Next, press in both side frames, as illustrated, and, at the same time, press the front frame back towards the rear end. The focusing hood will automatically be folded down.



C. The magnifier can be flipped up into viewing position, by simply sliding the focusing hood/magnifier catch in the arrow-indicated direction (to the left). To return the magnifier to its storage position, simply push it down until it catches.

\* The magnifier is interchangeable with one matching the eyesight of the user. See "19. Exchanging Finders".

## 9 Setting the Aperture



A. The aperture ring is rotated, in either direction, to set the required f/number opposite the white index dot. The aperture ring click-stops at the numbered settings. Intermediate settings are also possible.

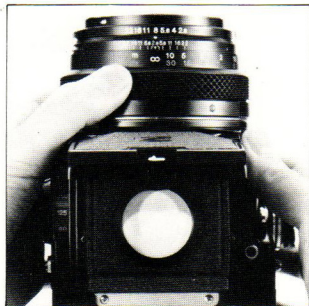
\* Intermediate settings cannot be used when the AE-II (automatic exposure) Finder is used.



B. All Bronica interchangeable lenses for the ETRS have fully automatic lens diaphragms which means that the focusing screen is always viewed at the full aperture, with the brightest possible image. However, depressing the depth of field preview lever will stop the lens diaphragm down to the pre-selected lens opening (aperture), permitting the photographer to check the depth of field effect on the focusing screen.

\* The aperture ring must not be adjusted while the depth of field preview lever is being depressed.

## 10 Focusing Adjustments



A. The lens is focused on the subject, by rotating the focusing ring in either direction, while checking the effect on the microprism / split-image range-finder spot in the center of the focusing screen (standard type).

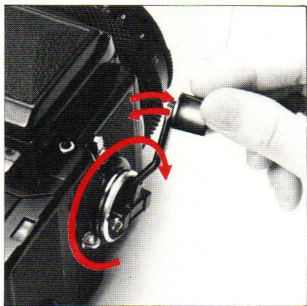


B. The central split-image spot splits the image diagonally, with the upper and lower halves being separated diagonally when the lens is out of focus. When in focus, however, the two halves will coincide with the diagonal displacement disappearing. The microprism ring surrounding the central spot can also be used for checking the sharpness of the focused image, since the image will glitter when the lens is not focused.



The full-area matte surface surrounding the central focusing aids can also be used for checking image sharpness.

## 11 Film Advance and Shutter Cocking



Rotating the film winding crank completely one time, in the forward direction, will advance the film one frame and, at the same time, cock the shutter, with the winding action stopping automatically. On the other hand, short, rapid strokes, up to an accumulated full rotation, will also do the job.

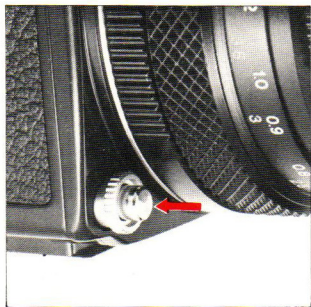
## 12 Exposure Counter



The exposure counter shows the number of frames exposed or, in other words, is an additive type. Starting from "S", the odd numbers 1, 3, 5, etc., up to 15, are indicated in actual numbers while the even numbers are indicated with dots, coupled with the film winding crank action.

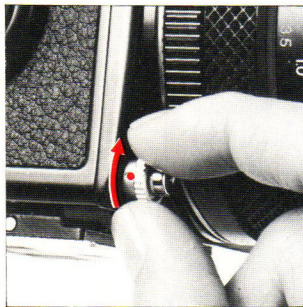
The letter "S" and number "15" are orange-colored while the other numbers and dots are white.

## 13 Shutter Release Button



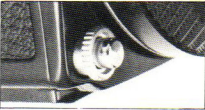
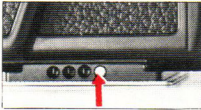

A. Depress the shutter release button with the ball of the finger. Press all the way in with a smooth and gentle action. There is no need for strength or jerky action, which will induce camera shake and affect picture sharpness.

\* A red-colored LED will flash briefly in the left-rear corner of the waist-level finder, when the leaf shutter closes and the shutter action is completed.



### B. Safety Lock

The shutter release button has three settings to which it can be set by rotating in the clockwise direction. Two of these settings have safety locking features of slight difference. The three positions are indicated by the red dot being placed at the bottom, at a position  $45^\circ$  from bottom setting and at the side, with functions differing as per table.

Release with Shutter release button red dot positioned at			
Bottom	Releases	Releases	Releases
45° left	Locked	Releases	Releases
90° left	Locked	Locked	Locked

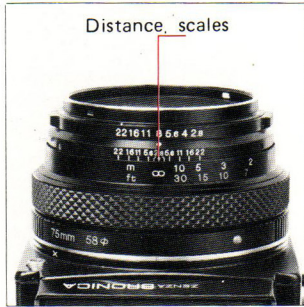
Remarks: Use Motor Drive E with red dot positioned at 45° left.

The shutter cannot be released, in the following cases:—

1. Shutter release button is locked.
2. Dark slide is inserted.
3. Film winding crank has not been rotated fully. (Same when the exposure counter is still between "S" and "1".)
4. Shutter is not cocked.
5. Lens is not properly attached. (Same with extension tubes and bellows.)
6. Lens release button is being depressed.
7. All frames (15 on 120 roll film and 30 on 220 roll film) have been exposed already.  
\* If film winding crank is rotated while depressing shutter release button, the shutter will be released when the winding action is completed.  
\* A cable release or self-timer can be used with the cable release socket on the body.



## 14 Distance Scale and Depth of Field Scale



A. Distance scales on the Bronica lenses for the ETRS can be used for setting the focus on the required distance or finding the distance actually focused. Simply rotate the focusing ring and set the required distance opposite the green-colored index, which will adjust the lens for the required distance.



B. There is an apparent zone of sharpness, both in front and back of the focused subject, which is known as the depth of field. The depth of field scale shows the zone of apparent sharpness at any lens opening or distance and can be utilized for quickly and simply ascertaining the depth of field. The depth of field scale is next to the distance scales and is made up of identical pairs of apertures on both sides of the green-colored distance index. These

identical pairs of apertures indicate the distance that will be in focus at these lens openings. For example, if the 75mm lens is focused at a distance of 3m, it can be seen from the depth of field scale that the zone will extend from about 1.9 to 8 meters (6 ft. to 26 ft.), when a lens opening of F22 is used.

## 15 Infrared Photography



In infrared photography, some adjustment must be made in the focus in order to retain sharpness on the film, because the invisible infrared rays are longer in wave length than the visible rays used for focusing. For infrared photography —

1. Use a R filter or equivalent with an infrared (black-and-white) film.
2. The red-colored line, next to the green-colored distance index, is the infrared index.

3. After focusing in the normal manner, re-set the distance indicated by the green-colored distance index to the infrared index, by shifting the distance ring.

4. Follow instructions enclosed with the infrared film and filter and, to be on the safe side, make several bracketing shots. In general, more exposure rather than less seems to be a safe guide.

## 16 Flash Photography



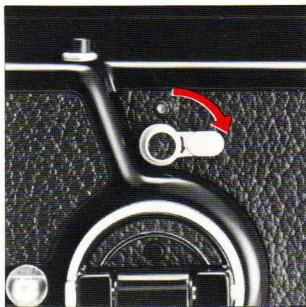
A. Always use flash cords with a standard PC type plug. When detaching the flash cord, grip the plug firmly and pull it out straight, instead of using a twisting action.

Shutter Speed Light Sources	Red					White								
	T	8s	4s	2s	1	2	4	8	15	30	60	125	250	500
X contact														
F bulb														
M bulb														

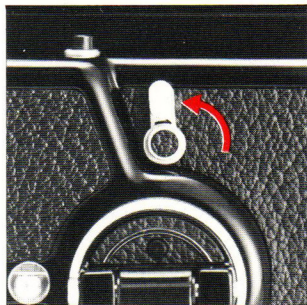
B. The lens shutter of the Zenza Bronica ETRS has a X-setting for flash synchronization, which means that electronic flash units will synchronize at all shutter speed settings, up to the fastest 1/500 second. Thus, it is very convenient for taking shots in daylight which require flash fill-in, too.

When using Class M and Class F flash bulbs, they will synchronize at the shutter speed settings indicated in the above table.

## 17 Multiple Exposures



A. To make multiple exposures, rotate the film winding crank (to advance the film and cock the shutter) and then turn the multiple exposure lever in the clockwise or arrow-indicated direction, which will expose a red mark. When set in this manner, the shutter can be released and cocked any number of times, without advancing the film.

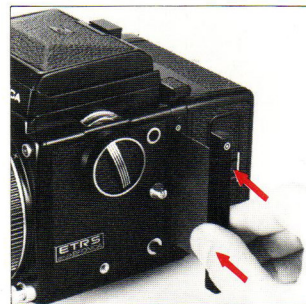


B. Upon taking the multiple-exposed picture, be sure to return the multiple exposure lever back to its vertical position and cover the red mark. Otherwise, there will be additional multiple exposures on the same frame.

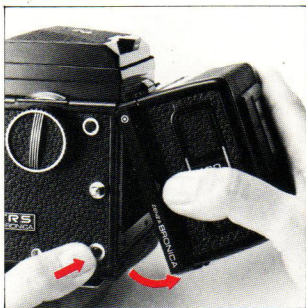
## 18 Attachment and Removal of Film Backs

The film back is a film chamber that can be attached or detached freely, thus permitting free exchange of film types even during shooting sessions.

The camera body and film back are fully coupled, upon connection. Therefore, always turn the film winding crank completely one time, upon attaching the film back. If winding is not possible, all preparations for taking the picture have been completed. But, if winding is possible, rotating the film winding crank until it stops will automatically take care of the incompleting action, whether uncocked shutter or film not advanced. Thus, it's always possible to choose the film type most suited for the shot, even midway in the roll.

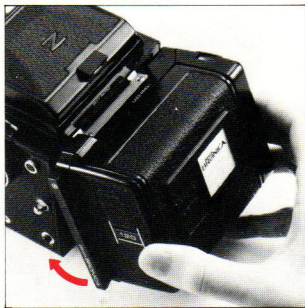


A. To remove the film back from the camera body, insert the dark slide into the dark slide slit, as illustrated, with the ⊕ mark on the dark slide at the top end. Push it all the way in.



B. Depress the film back release button and the lower end of the film back can be removed, as illustrated. Simply shift the film back up slightly and pull it away.

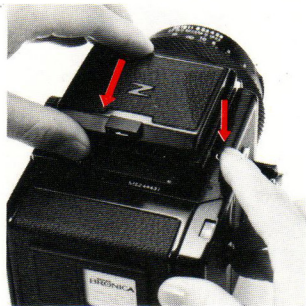
\* The dark slide can be withdrawn, even while the film back is detached from the camera body and, therefore, extra care is required, in this respect.



C. To attach the film back to the camera body, simply insert the latches at the upper end of the film back into the attachment openings at the upper end of the camera body. Then, press the lower end of the film back against the body until it locks securely.

\* The dark slide must be withdrawn from its slit, upon attachment of the film back to the body, as otherwise the shutter cannot be released. Furthermore, there is danger of the film back accidentally becoming detached from the body, should the dark slide be left in its slit while the camera is being carried. Therefore, make it a rule to withdraw the dark slide promptly upon attaching the film back to the body.

## 19 Interchanging Finders and Magnifiers



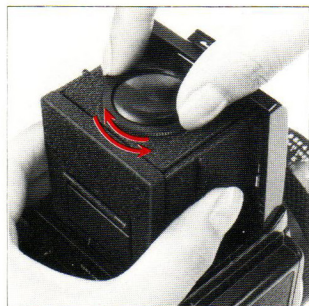
A. The finder attached to the camera body can be exchanged with other optional finders, to match shooting conditions to photographic conditions.

To detach, simply depress the finder release button, while, at the same time, sliding the finder backwards where it can be taken up.

\* As noted, instructions are based on the waist-level finder which, however, is not necessarily the finder supplied.



B. To attach the finder on the body, first, simply place protrusions on the bottom of the finder into corresponding openings in the finder frame and, then, slide the finder forward where it will lock.



C. The standard magnifier supplied with the waist-level finder has a power of  $-1.50$  diopters, which can be exchanged for others with powers of  $+1.50$ ,  $+0.50$ ,  $-0.50$ ,  $-2.50$ ,  $-3.50$  and  $-4.50$  diopters. These optional accessories should be purchased to suit the user's eyesight, if necessary.

Simply rotate the magnifier frame in the counter-clockwise direction to unscrew.

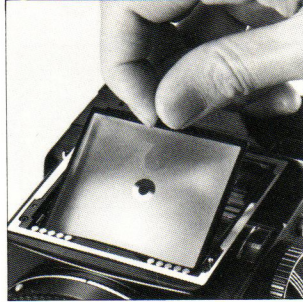
Attach in the reverse manner.

## 20 Interchanging Focusing Screens



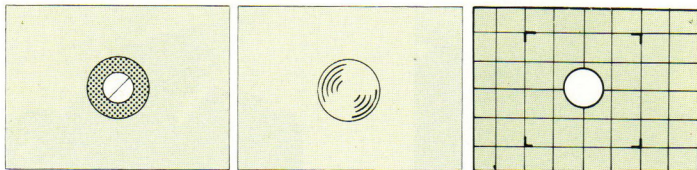
A. The focusing screen can be exchanged, depending on the type of photographic work being undertaken.

First, remove the finder attached to the camera body. Then, move the screen removal lever in the arrow-indicated direction, as illustrated. Finally, lift it up by the lever.



B. To install the focusing screen, insert the protrusions at the forward end of the focusing screen frame into corresponding openings in the focusing screen frame of the body. Then, drop the rear end of focusing screen and slide the screen removal lever to the right.

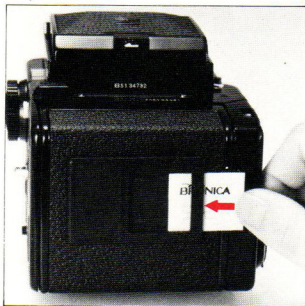




C. The standard focusing screen has a diagonally-oriented split-image rangefinder which is surrounded by a microprism ring and a full-area matte screen plus fresnel lens.

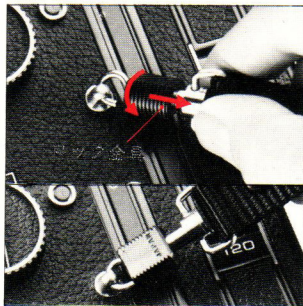
A screen with a matte spot plus full-area fresnel lens, as well as a screen with a full-area matte plus vertical/horizontal grid-lines, are also available optionally.

## 21 Film Type Indicator Frame

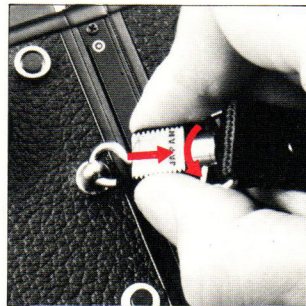


Upon loading the film, tear off the end flap from the empty film package and insert it in the film type indicator frame. This will help you keep track of the film loaded in the film back and should prove useful when two or more film backs are used, with different types of films.

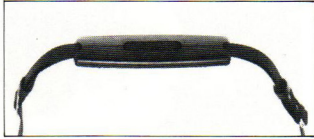
## 22 Attachment and Removing the Neck Strap



**A. Attaching the Strap**  
Pull back the spring-loaded black-colored plastic catch and revolve 90° which will lock it open, leaving the hook exposed for very simple attachment to the eyelet. When hooked, simply revolve the catch back 90° and release, which will lock the hook securely.



**B. Detaching the Strap**  
Simply pull back the plastic catch and revolve 90°, which will leave it locked open, making it a very simple matter to unhook the strap from the eyelet.



C. The shoulder pad is supplied separately from the neck strap and should be used in the following manner. First, adjust the neck strap to a suitable length and then fix the shoulder pad on the inside of the neck strap, at the point where it will rub against the shoulder.

## 23 Facts about the Battery

The battery supplies power for the various electronic control mechanisms incorporated in the Zenza Bronica ETRS. When used incorrectly, there is possibility of the wrong exposure being set to the camera and/or the camera not operating. Be sure to use and store the battery correctly for obtaining optimum performance from it at all times.

\* Take the battery out of the battery chamber when storing the camera.

\* Leaving the battery in the camera for a long time, without using it, can lead to leakage problems and result in poor contact.

Discard a battery with leakage or corrosion and thoroughly clean out the battery chamber, before inserting a new battery.

\* Clean the contacts of the battery chamber and battery with a soft cloth. Don't use sandpaper or emery cloth.

\* Don't throw the battery into a fire, or hit it strongly, as there is danger of explosion.

\* The silver oxide battery has very good cold weather resistance. However, there is a tendency for performance to drop when the temperature falls below 0°C (32°F). Therefore make it a rule to use a new battery and/or keep replacement batteries on hand for

6-volt silver oxide battery



shooting outdoors in such freezing weather. Keep the battery (and camera) under cover, next to the body, and load just before beginning the session.

## 24 Pointers on Shooting with the Zenza Bronica ETRS

You will be able to use the Zenza Bronica ETRS to your entire satisfaction and, thus, get better results from it, if you will take the trouble to thoroughly familiarize yourself with the operations of the camera and fully understand the extent of its superior specifications.

\* Make full use of the interchangeable film back feature.

(1) Color and back-and-white shots can be taken alternately, as required, or daylight type color film and tungsten type color film can be used interchangeably.

(2) Shooting can go on continuously, with practically no interruption, if sufficient pre-loaded spare film backs are always available.

(3) You don't have to waste unsuitable film left over from a previous session. Simply load up a new film back, with the required film, and go out shooting.

(4) A single ETRS can be used by many persons in the same studio or at home, by simply having additional film backs on hand.

\* The shutter cannot be cocked when film is not loaded in the film back. The use of the multiple exposure lever will, however, permit you to cock the shutter, in such instances. This feature is, of course, very

convenient for familiarizing yourself with the camera and for testing the shutter in flash photography. (See "17. Multiple Exposures".)

\* Battery power is not consumed when time exposures are made or when the ETRS is used with the mechanically-controlled 1/500 sec. setting.

\* The voltage will drop when the camera is used for long shooting sessions in freezing weather. Insert a new battery or keep a spare on hand, for such occasions. Furthermore, keep such batteries in an inside pocket.

\* The focusing screen is detachable, for exchanging with other types. Do not place trimming masks or tapes on the bottom surface of the screen, as this will lead to inaccurate focusing.

\* A red LED will flash within the focusing screen area and signal closing of the shutter when taking the picture. Wait for this signal, especially at slow shutter speeds, before rotating the film winding crank.

## 25 Care of the Zenza Bronica ETRS

\* Restrict cleaning of the reflex mirror to blowing or brushing with the blower brush or a soft camel hair brush. Don't touch the surface with your fingers or a cloth.

\* Clean the plastic focusing screen in the same manner. Don't touch the surface as you may leave fingerprints.

\* Protect your camera from temperature changes which can result in moisture condensation, frost, etc., inside the body, leading to rusting of metallic parts and troubles.

\* Protect your camera from impact and vibrations, too.

\* Always protect the lens with its cover, when carrying the camera.

\* Clean the camera and lens very carefully after using it outdoors in wet weather or at the seashore.

\* Wipe the camera carefully with a well-wrung damp cloth, using fresh water, if the exterior

is effected by salty air. Then, wipe it dry with a soft, dry cloth. If necessary, send it out for a quick inspection at an authorized repair station.

\* If the equipment is not being used for a long period, store everything in tin-lined containers, with plenty of desiccant, such as silica gel. Finally, store the equipment in a cool, dry and well-ventilated (but not windy) place.

\* Do not thread too strongly, when using a longer-than-standard tripod screw, as you may damage the body.

\* Both camera body and lens must be in the "cocked" condition to attach or remove the lens. In other words, cocking the lens shutter sets the cocking pins of both lens and body to a green-colored dot.

The cocking pin of the detached lens can be set to the dot by moving it manually. On the other hand, simply revolve the

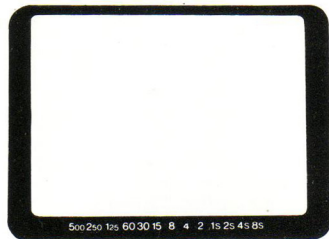
film winding crank to set the cocking pin of the body mount.

\* Don't throw the battery into a fire or hit it strongly, as there is danger of it exploding.



\* When shooting with the optional AE-II Finder, remember to readjust the film speed dial of the finder when a film back with a different film speed is attached to the body.

## 26 Accessories for Increasing the Versatility of the ETRS



### AE-II FINDER E

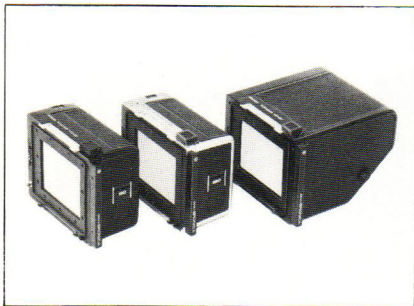
Attaching the AE-II FINDER E converts the ETRS to automatic exposure operations of the aperture-preferred type, with metering through the lens. The prism type finder shows an eye-level laterally-correct upright image which is easy to view and focus, while the shutter speed setting is automatically controlled in stageless steps through its full range, which means that highly accurate exposures are always possible, on AUTO, by depressing the shut-

ter release button. Stroking the shutter release button halfway activates exposure measurements, with an LED-illuminated display of the shutter speed setting shown continuously in the finder field in easy-to-read digits for previewing the exposure, which can be adjusted or used for taking the picture, by depressing the release button fully.

The finder provides dynamic action capability, by coupling a prism type finder (ideal for

following fast-breaking actions) with an automatic exposure control system which makes possible accurate exposures under all types of conditions. The finder can also be switched to manual exposure control, coupled to the metering system, or be used as a simple prism finder, without metering. Exposure measuring range is EV4 to EV17 (ASA 100) and exposure compensations are possible from 1/2x to 2x, in 1/3rd EV steps.

## Film Back Interchangeability



One of the greatest attraction of the ETRS is complete film back interchangeability which makes it possible to detach or attach the film back any time, in daylight and/or in mid-roll, and use different film types interchangeably.

Thus, an extra film back or two will let a single ETRS do the work of several, such as, for example:—

1. Take color and black-and-

white shots of the same subject.

2. Reload without losing a shot, even when shooting fast action, by using pre-loaded film backs.
3. Use different film speeds in the same session, by changing film backs.
4. Use a single ETRS in common, but with personal film backs, in the studio or at home.



5. Use Polaroid® pack film backs for instant pictures for previewing lighting and/or exposures.

Film	ASA#	For	Print Size (cm)	Exposures
665	75	B&W/ Neg.	8.5x10.8	8
667	3000	B&W	8.5x10.8	8
668	75	Color	8.5x10.8	8
107	3000	B&W	8.5x10.8	8
108 P2	75	Color	8.5x10.8	8
87	3000	B&W	8.3x8.6	8
88	75	Color	8.3x8.6	8

There are 4 types of film backs:—

- \* Film Back ETRS 120 (15 exposures)
- \* Film Back ETRS 220 (30 exposures)
- \* Polaroid® Pack Film Back (8 ex.)



## Film Winding Systems



The ETRS, together with two types of accessory film winding systems, gives the user many types of film winding/shutter cocking systems or film winding crank, film winding lever, automatic motorized winding and even remote control motorized action, which means that it's possible to choose the system most suited to the occasion.

### \* Speed-Grip E

Attaching the Speed-Grip makes it suitable for fast operations like the 35mm SLR, in both horizontal and vertical formats, without any changes in handling. And, at the same time, it provides fast thumb-stroked speed-lever action, for keeping up with fast-moving actions.

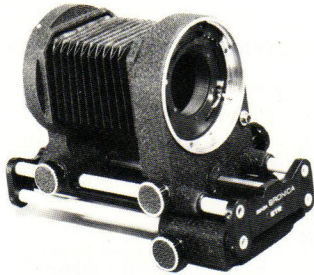
And, a built-in shutter release button, which is automatically connected to the release system upon attachment, gives it fast shooting speed comparable to smaller cameras while a built-in hot shoe permits use of cordless electronic flash units on top of the accessory.



### \* Motor Drive E

Simply attaching the Motor Drive converts it to fully motorized operations, with automatic winding, continuous motorized shooting or remote control motorized operations and, when the AE-II Finder is also used, you have a camera which is automated to a very high degree.

## Automatic Close-up Photography



Automatic close-up photography is possible with the ETRS which makes close-up shooting very simple, contrary to the difficulties and limitations normally encountered when taking close-up shots.

### \* Automatic Bellows Attachment

The accessory provides variable lens extensions continuously with Zenzanon-E lenses from 40mm to 250mm, with the lens shutter and lens diaphragm actions automatically coupled



to the control circuit, upon attachment. And, of course, there are no changes in operations when the accessory is inserted between camera body and lens, while full exposure automation is also possible with the AE-II Finder.

### \* Automatic Extension Tubes

The three tube set permits fixed extensions of 14mm, 28mm and 42mm, when used between camera body and lens, and can be used with all Zenzanon lenses up to the 250mm. Furthermore,



operations are very simple, since lens shutter and lens diaphragm are automatically coupled when the accessory is inserted and, of course, exposure automation is also possible with the AE-II Finder.

### \* Close-Up Attachment Lenses

Two types of close-up lenses can be screwed into the front filter mount of the 75mm lens and will provide very simple close-up shooting operation for the lens. The lenses can be used singly or in combination.

**CLOSE-UP ATTACHMENT LENS TABLE**

	Focusing Scale Setting	Camera-to-Subject Distance	Magnification	Area Covered (cm)
C.U.L.-1 (f = 50 cm)	$\infty$	82.2	0.15x	34.5 x 27.0
	60	37.0	0.35x	15.5 x 12.0
C.U.L.-2 (f = 25 cm)	$\infty$	38.0	0.30x	17.8 x 13.8
	60	30.0	0.52x	10.5 x 8.2
C.U.L.-1 + C.U.L.-2 (f = 16.7 cm)	$\infty$	30.0	0.46x	11.9 x 9.2
	60	26.6	0.66x	8.3 x 6.4

(The camera-to-subject distance is the distance from the film plane to the subject with Zenzanon-E75mm F2.8 lens.)

**WITH AUTOMATIC EXTENSION TUBE (E-14, E-28, E-42)**

		Magnification	Area Photographed (mm)
75mm	E-14	0.18 ~ 0.36	235x305 ~ 118x153
	E-28	0.36 ~ 0.54	118x153 ~ 78x102
	E-42	0.54 ~ 0.72	78x102 ~ 59x 76
40mm	E-14	0.35 ~ 0.5	121x157 ~ 85x110
	E-28	0.7 ~ 0.85	61x 79 ~ 50x 65
	E-42	1.05 ~ 1.2	41x 53 ~ 35x 46
50mm	E-14	0.28 ~ 0.42	152x197 ~ 101x131
	E-28	0.56 ~ 0.7	76x 98 ~ 61x 79
	E-42	0.84 ~ 0.98	51x 66 ~ 43x 56
150mm	E-14	0.09 ~ 0.22	455x590 ~ 193x250
	E-28	0.19 ~ 0.31	228x295 ~ 136x176
	E-42	0.28 ~ 0.41	152x197 ~ 105x135
250mm	E-14	0.06 ~ 0.14	759x984 ~ 304x394
	E-28	0.11 ~ 0.20	379x492 ~ 217x281
	E-42	0.17 ~ 0.25	253x328 ~ 169x219

## Finder Interchangeability



Various finders can be used interchangeably on the ETRS and will provide the user with different viewpoints, as well as show shutter setting. Therefore, the user should choose the type most suited for his work.

### \* AE-II FINDER E

### \* Prism Viewfinder E

The accessory shows an eye-level laterally-correct and upright image which is ideal for following fast actions, especially as it shows a very bright image

of high magnification and can be used easily in both horizontal and vertical formats.

### \* Rotary Viewfinder E

The accessory makes reflex view-focusing very easy, as the eyepiece rotates 90° to the left or right for view-focusing a very bright and distinct erect image which moves with the lens. For reflex viewing in horizontal/vertical formats, as well as eye-level view-focusing from the side.

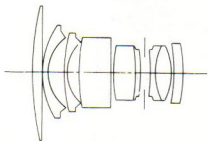
### \* Sports Finder E

An open frame finder accessory, which folds for storage, with direct-viewing frames for 50mm, 75mm and 150mm lenses. For news coverage and sports shots.

### \* Waist-Level Finder E

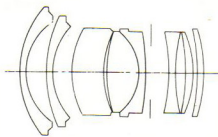
The accessory also folds flat but shows a laterally-reversed upright image when erected. Has flip-up magnifier for critical focusing which makes it suited to careful composition work. Opens/closes with single action.

## 27 Zenzanon Interchangeable Lenses



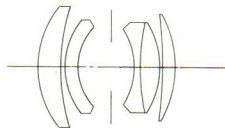
### Zenzanon E 40mm F4

Lens construction: 9 elements 7 groups  
Angle of view:  $82^{\circ}30'$   
F/numbers: 4 to 22  
Diaphragm: Fully automatic  
Minimum focus: 40cm (1.3 ft.)  
Electronic leaf shutter: Seiko #0  
Shutter speeds: 8 sec. to 1/500 sec.  
plus T (time exposure)  
Filter size: 62mm screw-in type  
Length: 62mm  
Weight: 478 grams (1.04 lbs.)  
Equivalent 35mm focal length: 25mm



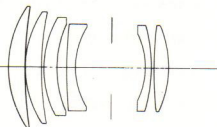
### Zenzanon E 50mm F2.8

Lens construction: 8 elements 7 groups  
Angle of view:  $70^{\circ}$   
F/numbers: 2.8 to 22  
Diaphragm: Fully automatic  
Minimum focus: 50cm (1.6 ft.)  
Electronic leaf shutter: Seiko #0  
Shutter speeds: 8 sec. to 1/500 sec.  
plus T (time exposure)  
Filter size: 62mm screw-in type  
Length: 62.5mm  
Weight: 464 grams (1.01 lbs.)  
Equivalent 35mm focal length: 30mm



### Zenzanon E 75mm F2.8

Lens construction: 5 elements 4 groups  
Angle of view:  $50^{\circ}$   
F/numbers: 2.8 to 22  
Diaphragm: Fully automatic  
Minimum focus: 60cm (2 ft.)  
Electronic leaf shutter: Seiko #0  
Shutter speeds: 8 sec. to 1/500 sec.  
plus T (time exposure)  
Filter size: 58mm screw-in type  
Length: 54.3mm  
Weight: 417 grams (1.2 lbs.)  
Equivalent 35mm focal length: 46mm



#### Zenzanon E 150mm F4

Lens construction: 6 elements 6 groups

Angle of view: 26°30'

F/numbers: 4 to 22

Diaphragm: Fully automatic

Minimum focus: 1.5m (4.9 ft.)

Electronic leaf shutter: Seiko #0

Shutter speeds: 8 sec. to 1/500 sec.

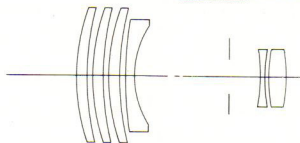
plus T (time exposure)

Filter size: 62mm screw-in type

Length: 86mm

Weight: 605 grams (1.3 lbs.)

Equivalent 35mm focal length: 90mm



#### Zenzanon E 250mm F5,6

Lens construction: 6 elements 6 groups

Angle of view: 16°

F/numbers: 5.6 to 22

Diaphragm: Fully automatic

Minimum focus: 3.5m (11.5 ft.)

Electronic leaf shutter: Seiko #0

Shutter speeds: 8 sec. to 1/500 sec.

plus T (time exposure)

Filter size: 62mm screw-in type

Length: 148mm

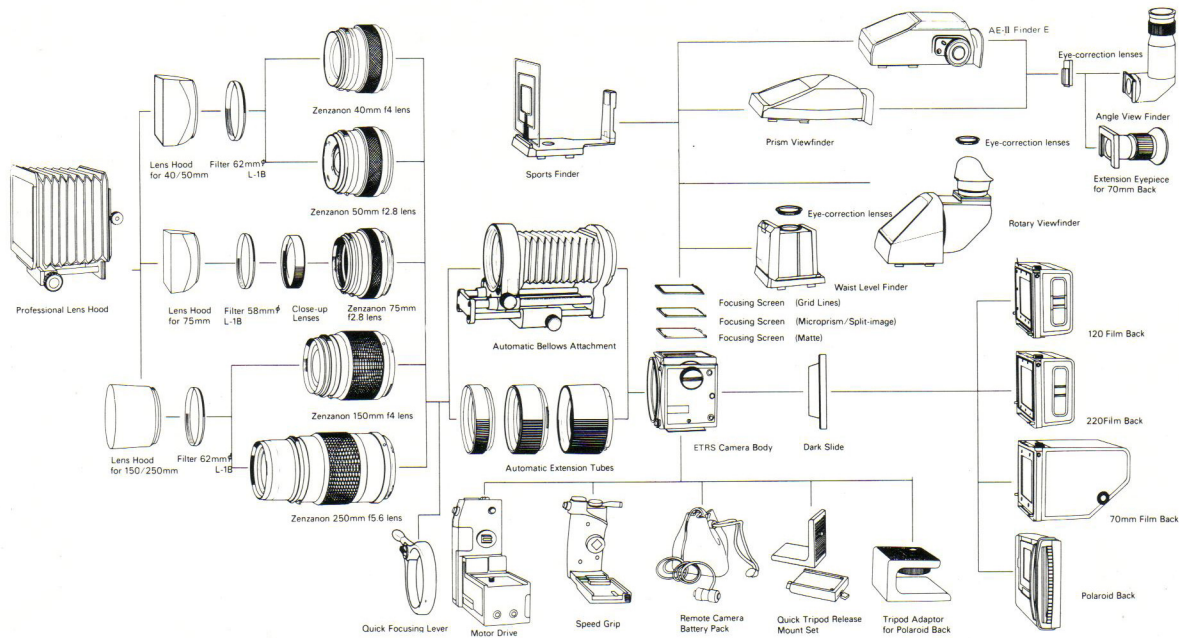
Weight: 820 grams

Equivalent 35mm focal length: 150mm

## Depth of Field Table

### ● ZENZANON-E 75mm F2.8

F/num- bers	Distance ( feet )												F/num- bers	Distance ( meter )											
	∞	30	15	10	7	5	4	3.5	3	2.5	2.25	2		∞	10	5	3	2	1.5	1.2	1	0.9	0.8	0.7	0.6
2.8	∞	40.0	17.1	10.9	7.40	5.19	4.11	3.58	3.06	2.54	2.28	2.02	2.8	∞	13.8	5.77	3.25	2.10	1.56	1.23	1.02	0.92	0.81	0.71	0.61
	118	24.0	13.4	9.27	6.65	4.83	3.89	3.42	2.94	2.46	2.22	1.98		36.0	7.86	4.41	2.79	1.91	1.45	1.17	0.98	0.88	0.79	0.69	0.59
4	∞	46.7	18.2	11.3	7.58	5.27	4.17	3.62	3.09	2.55	2.29	2.03	4	∞	16.5	6.18	3.38	2.15	1.58	1.25	1.03	0.93	0.82	0.71	0.61
	82.8	22.2	12.8	8.99	6.51	4.76	3.85	3.39	2.92	2.45	2.21	1.97		25.2	7.21	4.20	2.70	1.87	1.43	1.16	0.97	0.88	0.78	0.69	0.59
5.6	∞	60.2	19.9	11.9	7.84	5.39	4.24	3.67	3.12	2.58	2.31	2.04	5.6	∞	22.2	6.84	3.56	2.22	1.62	1.27	1.05	0.94	0.83	0.72	0.61
	59.3	20.1	12.1	8.65	6.33	4.66	3.79	3.34	2.89	2.43	2.19	1.96		18.0	6.49	3.95	2.60	1.82	1.40	1.14	0.96	0.87	0.78	0.68	0.59
8	∞	107	23.1	12.9	8.27	5.58	4.35	3.75	3.18	2.61	2.34	2.06	8	∞	47.4	8.13	3.87	2.33	1.67	1.30	1.07	0.95	0.84	0.73	0.62
	41.6	17.6	11.2	8.18	6.08	4.53	3.71	3.28	2.85	2.40	2.17	1.94		12.7	5.65	3.63	2.46	1.75	1.36	1.11	0.94	0.86	0.77	0.68	0.58
11	∞	5093	29.1	14.6	8.89	5.85	4.50	3.86	3.25	2.66	2.37	2.09	11	∞	∞	10.7	4.34	2.49	1.75	1.35	1.09	0.97	0.86	0.74	0.63
	30.4	15.3	10.2	7.67	5.80	4.39	3.61	3.21	2.79	2.36	2.14	1.92		9.27	4.87	3.30	2.31	1.68	1.32	1.09	0.92	0.84	0.75	0.67	0.58
16	∞	∞	51.7	18.6	10.2	6.34	4.77	4.06	3.38	2.74	2.43	2.13	16	∞	∞	22.7	5.49	2.82	1.89	1.43	1.14	1.01	0.88	0.76	0.64
	21.1	12.6	8.94	6.94	5.40	4.16	3.46	3.09	2.71	2.31	2.10	1.89		6.42	3.96	2.87	2.09	1.57	1.25	1.04	0.89	0.81	0.73	0.65	0.57
22	∞	∞	1005	27.7	12.3	7.08	5.16	4.32	3.55	2.84	2.51	2.19	22	∞	∞	∞	8.08	3.34	2.11	1.54	1.21	1.06	0.92	0.78	0.66
	15.4	10.4	7.80	6.25	4.98	3.92	3.30	2.97	2.62	2.24	2.05	1.85		4.71	3.25	2.48	1.89	1.45	1.18	0.99	0.86	0.79	0.71	0.64	0.56



Changes in specifications and/or designs may be made without advance notice.



**BRONICA CO., LTD.**

Futaba Bldg.,  
2-2 Shin Ogawa-Machi  
Shinjuku-ku, Tokyo, Japan  
Tel: (03) 267-0211  
TELEX: 0232-2096 BRONC J  
Cable: BRONICA TOKYO

Printed in Japan  
E.3.10.78