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.10180S

Zenza BRONICA ETRS

TELECONVERTER E 2X

INSTRUCTIONS

Red Before Use

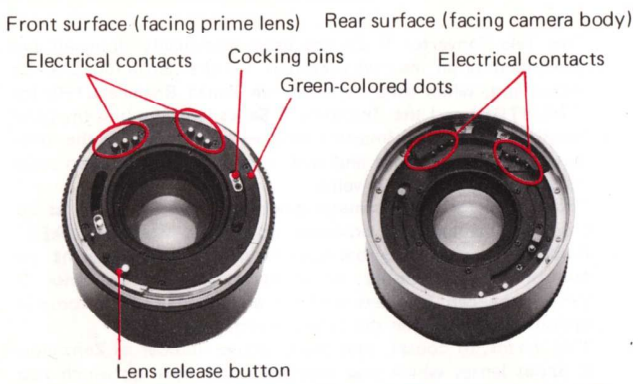
The Tele-Converter E 2X has been specifically designed and developed as an integral accessory for the Zenzanon E Series lenses and, when used between the Zenza Bronica ETRS (or ETR/ETRC) and the Zenzanon E Series lens, doubles the focal length of the prime (master) lens, without changing the minimum focusing distance and with only a decrease of two stops in the effective aperture value.

There is no loss of automatic diaphragm action, as well as no change in automatic exposure operations when the AE-II Finder E is also used, because the coupling mechanisms are built into the accessory, which means that the Zenzanon E Series lens can be used without any changes in automatic operations, even when the Tele-Converter E is used.

This means, of course, that the effective number of Zenzanon E Series lenses which you may presently have or which you may purchase and/or which may be developed in the future, is instantly doubled by simply utilizing the Tele-Converter E 2X.

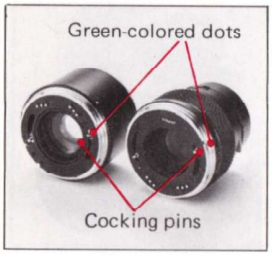
To get best results from the Tele-Converter E 2X, please read the instruction manual carefully before even touching the accessory, as this will help increase your pleasure in using it with the Zenza Bronica ETRS, ETR or ETRC and the Zenzanon E Series lenses.

NOMENCLATURE



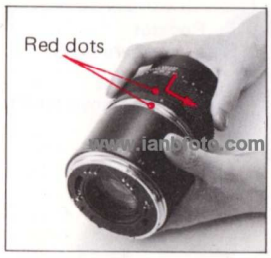
ORDER OF ATTACHMENT
First, attach the prime lens to the Tele-Converter E 2X.
Then, attach the Tele-Converter E 2X (with prime lens connected) to the camera body.
Detach in the reverse order of the above.
It will not be possible to attach the Tele-Converter E in any other way.

1. CONNECTING THE TELE-CONVERTER E AND ZENZANON E LENS



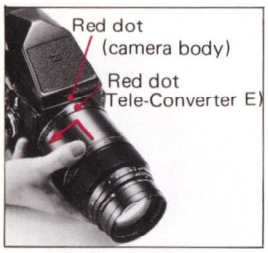
(1) First, check whether the cocking pins on the rear of the prime lens and the accessory are set to their green-colored dots, as illustrated. If not, move the cocking pins manually and align them to the green-colored dots.

* Attachment of the prime lens and/or Tele-Converter E is not possible when the cocking pins are not set to the green dots.



(2) Next, line up the red dots on the prime lens and accessory, insert the lens fully into the accessory and rotate counter-clockwise until it stops (about 34°) and a click is heard, which will indicate that the lens has been securely locked. The lens release button will also jump out, at this time, which will be another indication that the connection has been made.

2. ATTACHMENT TO THE CAMERA BODY



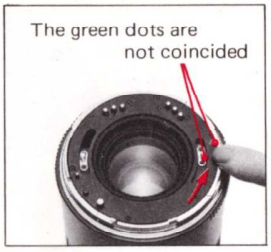
(1) In order to attach the Tele-Converter E (with prime lens connected) to the camera body, first, rotate the film winding crank on the body and cock the shutter. Then, line up the red dots on the Tele-Converter E and body, insert the former into the latter and rotate the accessory counter-clockwise until a full stop is made. A clicking sound will also be heard, in this case, indicating that the accessory has been securely locked, which will complete all preparations for photography.

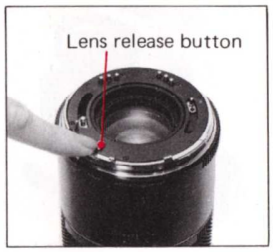
* The shutter will not work unless the accessory is rotated until a full stop is made and locked securely.

(2) In order to detach the Tele-Converter E (with prime lens connected) from the camera body, first, advance the film and cock the shutter with the film winding crank. Then, rotate the lens release button 45° clockwise and depress. Next, while depressing the lens release button, rotate the Tele-Converter E clockwise until it makes a full stop, at which point it will be possible to detach it.

* Reference can also be made to page 15 of the ETRS and ETR instruction manuals, since attachment/detachment is the same as that explained therein.

3. DISCONNECTING THE TELE-CONVERTER E AND PRIME LENS





(1) Since the cocking pins are not coincided to the green dots, when the Tele-Converter E is detached from the camera body, they must be moved manually and coincided in order to detach the lens from the accessory. Next, while pressing the lens release button, rotate the lens clock-wise until it makes a full stop and can be detached.

4. FOCUSING

Focus with the focusing ring of the prime lens, when the lens is connected to the Tele-Converter E.
It may be found rather difficult to focus with the split-image rangefinder and micro-prism ring of the standard focusing screen, in this case, because the effective F/value will be two stops less than the marked F/number, or, in other words, rather dark. Therefore, use the surrounding matte screen area.
No adjustment is required to use the distance scale, in this case.

5. EXPOSURE COMPENSATION

(1) When using the Tele-Converter E, the actual F/value is two stops slower than the F/number marked on the lens and, therefore, the exposure must be increased by an exposure factor of 4x. However, such exposure compensations are automatically taken of when the AE-II Finder E is also used for automatic exposure operations.

* Since the effective F/value is two stops slower than that marked on the lens, ambient light through the eyepiece will greatly influence exposure measurements, especially when shooting in low-light situations.
Therefore, either place your eye against the eyepiece or cover it with your hand, if it is not necessary to keep an eye on the scene, when accurate exposure measurements are required.

(2) When setting the exposure manually (without the AE-II Finder E), adjust the exposure setting for an exposure factor of 4x.

* In other words, since the actual F/value of the lens is two stops slower than marked, it will be necessary to use a F/number which is two stops faster than indicated. Or, if you prefer to leave the F/number unadjusted, simply multiply the shutter speed four times to obtain the adjusted shutter speed setting.

(3) When using auto-flash electronic units, open up the lens opening two stops more than indicated in order to compensate the exposure.

(4) When using electronic flash units on "manual", the correct exposure will be two stops faster than the one found by calculation from the guide number. Or, the guide number can be used at one-half its true value.

6. POINTERS ON USING THE TELE-CONVERTER E 2X

(1) Using the Tele-Converter E with the Zenzanon E 500mm lens gives the photographer a 1000mm focal length lens. In the same manner, the 250 mm lens becomes 500 mm and the 200mm a 400mm lens.

(2) There is no change in the minimum focusing distance, although the focal length of the prime lens is doubled. This means an increase in close-focusing capability, since the use of the accessory provides image magnification for the same camera-to-subject distance.

(3) Because of the 4x exposure conditions are equal to the ASA 100 film when the ASA 400 film is loaded in the camera. In other words, simply dividing the ASA film speed by four will give the user an adjusted ASA film speed setting, for setting exposure manually (in which case, it will not be necessary to adjust the F/number or the shutter speed).

(4) The optional accessory matte spot focusing screen is recommended with the Tele-Converter E because focusing will be found rather difficult with the split-image rangefinder and microprism ring of the standard focusing screen due to the two stop light loss.

(5) The accessory is recommended for use with the Zenzanon E Series lenses from 75mm to 500mm. Of course, it can also be used with shorter focal lengths, such as Zenzanon E 40mm and 50mm lenses, as well as the PCS Super-Angulon 55mm lens, if a certain amount of optical degrading can be disregarded.

(6) There is no quality loss in the prime lens performance when the Tele-Converter E is used, because the accessory has been designed specifically for use with the Zenzanon E Series lenses. However, for optimum performance, it is always recommended that the lens be used stopped down about two stops from the maximum effective lens opening, whenever possible.

7. SPECIFICATIONS

Tele-Converter E 2X Only

Magnification	2x
Lens construction	6 elements in 5 groups (multi-coated)
Lens diaphragm	Fully automatic lens diaphragm action
Exposure measurements	TTL (thru-the-lens) full aperture exposure measurements
Exposure factor	4x (2 F/stops)
Overall length	63mm
Maximum diameter	83mm
Weight	425 grams

In Combination with Prime Lens

Focal length	Double that of prime lens.
Aperture coupling range	F2.8 to F45 (effective F/values of F5.6 to F90)
Photographic magnification	Double that of prime lens.
Depth of field	One-half that of prime lens.
Minimum focusing distance	Same as prime lens.
Effective prime lenses	Zenzanon E 75mm to 500mm lenses (excluding Zenzanon E 40 mm, 50mm, PCS Super-Angulon and Zoom Zenzanon E Variogon lenses).