WERRA

VEB Carl Zeiss,
Jena, East Germany

U.K.: C.Z. Scientific Instruments Ltd., London.
U.S.A.: Standard Camera Corp., New York, N.Y.

From the design point of view, the Werra camera series is somewhat unusual. In its engineering for compactness the Werra achieves considerably smaller dimensions than most other miniature cameras, and also departs from several traditions in location and type of controls.

There are altogether six Werra models based mostly on the same body. The simplest model Ic has a fixed *f*2.8 lens and shutter speeds up to 1/750 second.

The Werra IIb and IV feature also a photoelectric exposure meter; on the Werramat and model V (Werramatic) this meter is coupled with the aperture and shutter speed controls. The models III, IV and Werramatic have a coupled rangefinder and interchangeable lenses.

The disposition of the camera controls is interesting.

The film transport is the ring surrounding the lens barrel; turning this ring clockwise tensions the shutter, and advances the film counter. This can easily be done with a camera held in shooting position. The double exposure and film lock mechanism blocks the release button until the shutter has been tensioned, and the film advanced.

The release button is let into the top of the camera and (apart from the scale window of the exposure meter) forms the only operational control there. It incorporates a cable release socket.

The rewind knob is in the camera base, together with the reversing button, film counter, and camera back lock.

The exposure meter of the Werra IIb registers light readings on a scale with numbers from 1 to 7. These are then converted into exposure settings by a calculator in the camera back. The meter has two measuring ranges for bright light (with the perforated cell cover closed) and for dim light (with the cover open).

The meter of the Werra IV is similar, but the scale indicates *f*-stops. The aperture, shutter speed, and film speed scales on the shutter itself act as a calculator in this case, as well as setting the required exposure combination. Apertures and speeds are cross-coupled.

The meter of the Werra V (Werramatic) and Werramat couples the meter needle control with the lens aperture control. On centering the meter needle with an index visible through the viewfinder, the shutter is automatically set to an aperture-speed combination for correct exposure. Apertures and speeds are again cross-coupled, and the actual combination selected is visible in the lower right hand corner of the viewfinder for a visual check while shooting.

The standard lens on all Werra models is a 2 inch (50 mm.) Jena T (Tessar) *f*2.8. On the Werra Ic and IIb, as well as Werramat this is fixed in a helical focusing mount which rotates the whole lens. In addition to the normal distance figures, the focusing scale also carries three special settings marked in red as standard focusing zones.

The lens unit of the models III, IV and V is interchangeable in a bayonet mount. This lifts out the complete lens with its focusing mount. The aperture setting control remains on the camera. Alternative focal lengths available are $1\frac{3}{8}$ inch (35 mm.) and 4 inches (100 mm.).

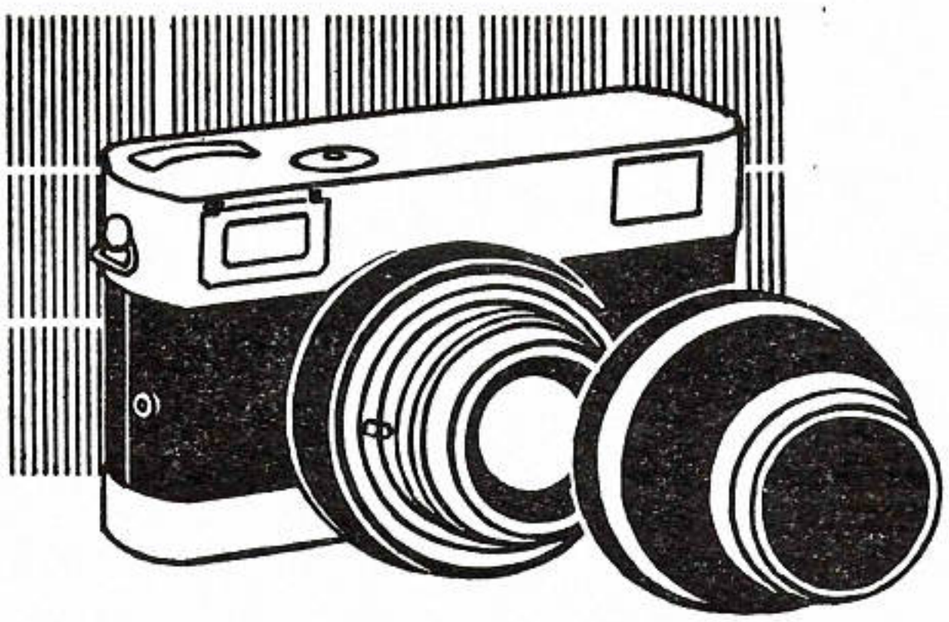
The viewfinder of the interchangeable lens models carries two brilliant frames for the standard and the long focus lens. The complete finder field indicates the view of the wide-angle lens.

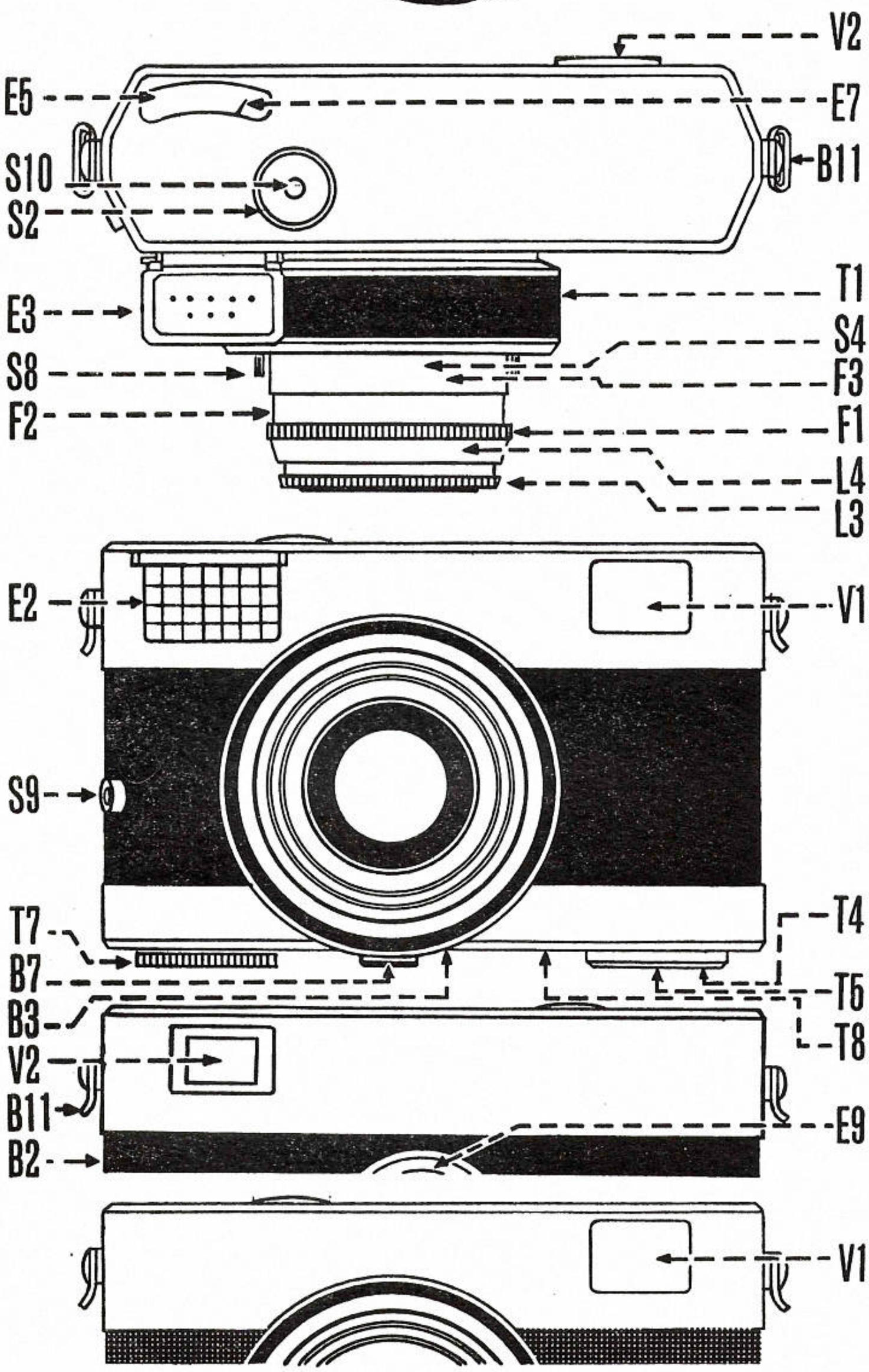
Parallax correction marks in the finder indicate the necessary compensation at close subject distances.

The centre of the viewfinder also carries the rangefinder field. This is sharply defined and acts as a split-image rangefinder. It is coupled with the helical focusing movement, irrespective of the lens used.

All Werra models have a combined lens hood and lens cap. This conical attachment screws into the film transport ring when not in use, and protects the lens and shutter. A small cap completely closes the front. When required as a lens hood, this unit—without its cap—screws into the front of the lens.

The camera back is completely removable together with the base. The take-up spool is built in, and winds up the film emulsion side outwards. The film counter in the camera base counts exposures forward from No. 0.





THE WERRA Ic AND IIb ON PARADE

The detailed camera features are:

Lens: L3, aperture setting ring; L4, aperture setting scale.

Focusing: F1, focusing mount; F2, distance scale; F3, depth of field scale.

Shutter: S2, release button; S4, shutter speed scale; S8, speed setting control; S9, flash socket; S10, cable release socket in release button.

Exposure meter (on Werra IIb only): E2, meter cell; E3, perforated cell cover to give two measuring ranges; E5, meter scale; E7, meter needle; E9, exposure calculator.

Viewfinder: V1, finder window; V2, finder eyepiece.

Film and transport: T1, winding ring; T4, film counter; T5, counter setting; T7, rewind knob; T8, reversing button.

Body: B2, removable back (comes off complete with base); B3, back lock in base; B7, tripod bush; B11, eyelet for carrying strap.

TOP: General view of the Werra IIb against a 1 in. scale grid, together with lens cap.

UPPER CENTRE: Top view of the Werra IIb.

CENTRE: Front view.

LOWER CENTRE: Back view of top section.

BOTTOM: Front view of top section of Werra Ic; identical with the model IIb except for the absence of exposure meter.

THE WERRA Ic AND IIb SUMMED UP

Compact precision miniature of simple specifications and unusual design. Model IIb with built-in exposure meter. Current versions introduced in 1961.

High-performance lens of critical definition, good colour correction, flatness of field, and resolution. Shutter accurate and consistent to the extent required for general amateur photography. Solid precision workmanship.

THE WERRA III, IV AND V ON PARADE

The detailed camera features are:

Lens: L3, aperture setting and uncoupling control; L4, aperture scale; L5, lens changing mount.

Focusing: F1, focusing mount; F2, distance scale; F3, depth of field scale; F4, rangefinder window; F10, focusing eyepiece.

Shutter: S2, release button; S4, shutter speed scale; S7, synchronizing and self-timer lever; S9, flash socket; S10, cable release socket in release button.

Exposure meter (on models IV and V): E2, meter cell; E3, cell cover (provides two measuring ranges on model IV; acts only as protection on model V); E5, meter scale (on model IV only); E6, film speed setting; E7, meter needle (on model IV only).

Viewfinder: V1, finder window; V2, combined viewfinder and rangefinder eyepiece.

Film and transport: T1, transport ring; T4, film counter; T5, film counter setting; T7, rewind knob; T8, reversing button.

Body: B3, back lock; B7, tripod bush; B11, carrying strap eyelets.

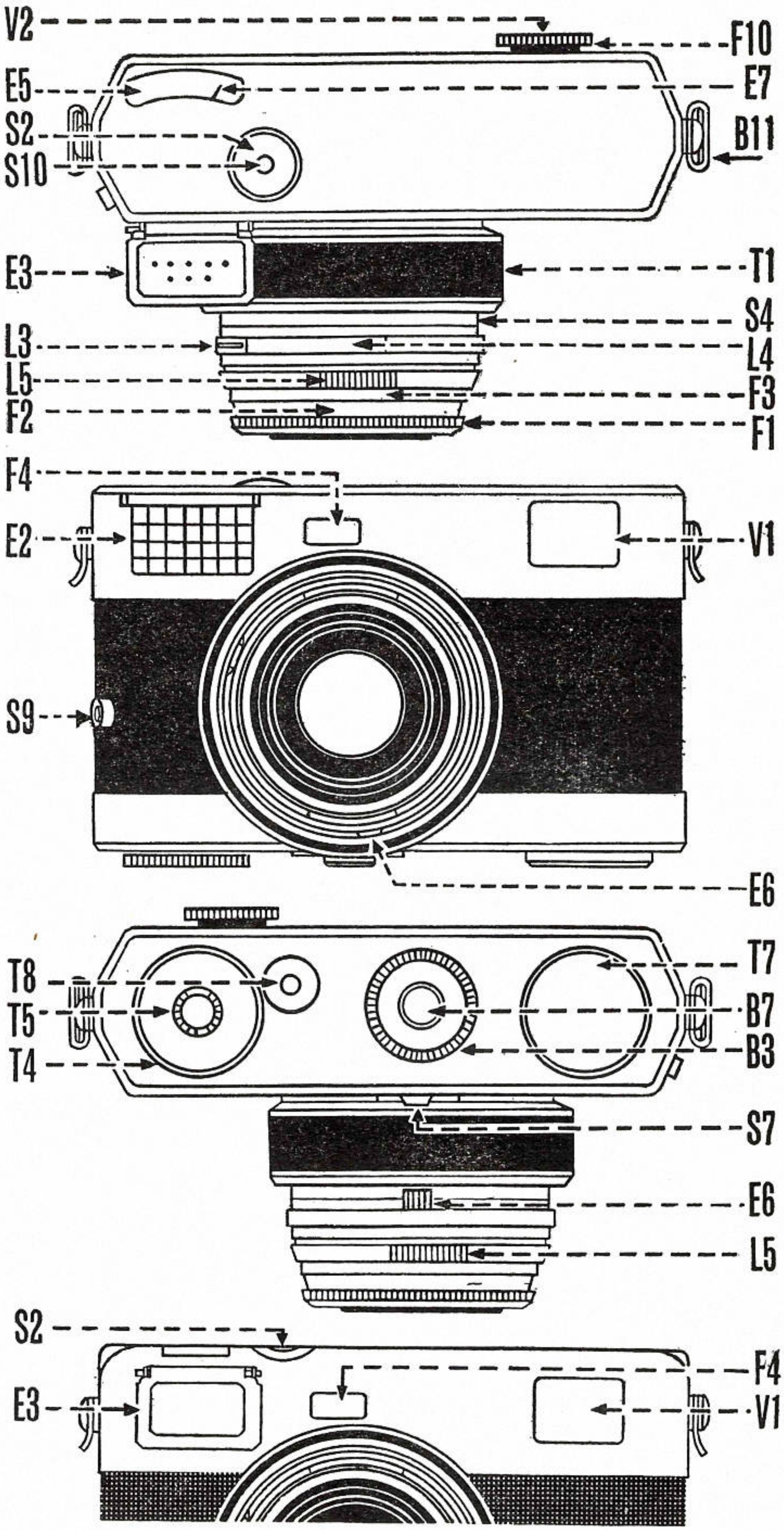
TOP: General view of the Werra IV against a 1 in. scale grid, with lens cap removed.

UPPER CENTRE: Top view of the Werra IV.

CENTRE: Front view of the Werra IV. The model III is identical, but does not carry an exposure meter.

LOWER CENTRE: Bottom view.

BOTTOM: Front view of top section of the Werra V and Werramat (the latter has no rangefinder nor interchangeable lenses).



THE WERRA III, IV AND V SUMMED UP

Compact camera of somewhat unorthodox design, but good versatility with interchangeable lenses, coupled rangefinder, and (on models IV and V) exposure meter. Introduced in 1959 (latest models III and IV), 1960 (model V), and 1961 (Werramat).

High-performance standard lens of critical definition at full aperture, high colour correction, flatness of field, and resolution. Shutter accurate within close limits of the engraved speeds. Solid precision workmanship.

THE FACTS: WERRA Ic, IIb AND WERRAMAT

PICTURE SIZE: 24 x 36 mm.
No. of Exposures: Up to 36.
Negative Material: 35 mm. perforated miniature film.

FILM TRANSPORT: Rapid winding ring around rear of lens mount.
Film Counting: Automatic counter in base.
Double Exposure Lock: Film transport tensions shutter.
Film Lock: Transport arrested after each frame.
Film Indicator: On model IIb in exposure meter calculator; on Werramat on shutter ring.

STANDARD LENS: 2 in. (50 mm.) Jena T (Tessar) *f*2.8 (takes 30 mm. screw-in or 32 mm. push-on filters.)
Construction: 4-element triplet.
Angle of View: 47°
Lens Changing: Lens not interchangeable.
Alternative Maximum Apertures: None.

FOCUSING MECHANISM: Helical movement of whole lens.
Distance Scale: On lens mount.
Nearest Unaided Distance: 3 ft.
Rangefinder: None.
Focusing Screen: None.
Depth of Field Indicator: On lens mount.

SHUTTER: Between-lens Prestor.
Release: Button in camera top.
Shutter Speeds: 1, 1/2, 1/5, 1/10, 1/25, 1/50, 1/100, 1/250, 1/750 sec., B.
Speed Scale: On shutter rim.
Synchronization: X, M.
Delayed Action: Built into shutter.
Cable Release Socket: In release button.

VIEWFINDER: Direct vision optical finder with reflected bright-line frame.
Finder Position: Diagonally above lens.
Parallax Compensation: Close-up parallax marks in bright-line frame.
Alternative Finders: None.
Scale of Image: $\frac{3}{4}$ natural size.
Eyesight Correction: None.

BODY: Die-cast alloy, rigid construction.
Opening: Removable back.
Tripod Bush: Centrally below lens in base.
Accessory Shoe: None.
Body Finish: Satin chrome, black plastic covered.
Dimensions: $4\frac{3}{4}$ x 3 x 3 in.
Weight: 18 oz.

EXPOSURE METER: Model IIb has a photo-electric exposure meter built in; this is coupled to aperture-speed settings on the Werramat, with settings visible in the finder.

SPECIAL FEATURES: Reversible screw-on lens hood acts also as lens cover.

RANGE OF ACCESSORIES: Filters, combination adapter to join two cameras as stereo unit.

PRICE GROUP: I (model Ic); III (model IIb, Werramat).

THE FACTS: WERRA III, IV AND V

PICTURE SIZE: 24 x 36 mm.
No. of Exposures: Up to 36.
Negative Material: 35 mm. perforated miniature film.

FILM TRANSPORT: Rapid winding ring round rear of lens mount.
Film Counting: Automatic counter in base.
Double Exposure Lock: Film transport tensions shutter.
Film Lock: Transport arrested after each frame.
Film Indicator: Speed settings marked on shutter ring.

STANDARD LENS: Interchangeable 2 in. (50 mm.) Jena T (Tessar) *f*2.8 (takes 30 mm. screw-in or 32 mm. push-on filter).
Construction: 4-element triplet.
Angle of View: 47°.
Lens Changing: Bayonet mount.
Alternative Focal Lengths: 35 mm., 100 mm.
Alternative Maximum Apertures: *f*4 for long-focus lens.

FOCUSING MECHANISM: Helical movement of whole lens.
Distance Scale: On front lens mount.
Nearest Unaided Distance: 2.7 feet.
Rangefinder: Split-image type combined with viewfinder.
Rangefinder Base Length: 50 mm.
Focusing Screen: None.
Depth of Field Indicator: On lens mount.

SHUTTER: Behind-lens Prestor RVS with swing-blade system.
Release: Button in camera top.
Shutter Speeds: 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/750 sec., B.
Speed Scale: On shutter rim.
Synchronization: X, M.
Delayed Action: Built in.
Cable Release Socket: In release button.

VIEWFINDER: Optical direct vision type combined with rangefinder.
Finder Position: Diagonally above lens.
Parallax Compensation: Correction marks in finder.
Alternative Finders: Frames marked in finder for alternative focal lengths.
Scale of Image: $\frac{3}{4}$ natural size.
Eyesight Correction: Adjustable finder eyepiece mount.

BODY: Die-cast alloy, rigid construction.
Opening: Removable back.
Tripod Bush: Centrally below lens in base.
Accessory Shoe: None.
Body Finish: Satin chrome, green plastic covered.
Dimensions: $4\frac{3}{4}$ x 3 x $3\frac{1}{8}$ in.
Weight: 20 oz.

EXPOSURE METER: Photo-electric meter built into models IV and V; coupled on model V to aperture and shutter settings, with setting visible in finder.

SPECIAL FEATURES: Reversible screw-on lens hood acts also as lens cover.

RANGE OF ACCESSORIES: Filters, alternative lenses, coupling adapter to join two cameras as stereo unit.

PRICE GROUP: III (models III and IV); IV (model V).