CONTAX RTS

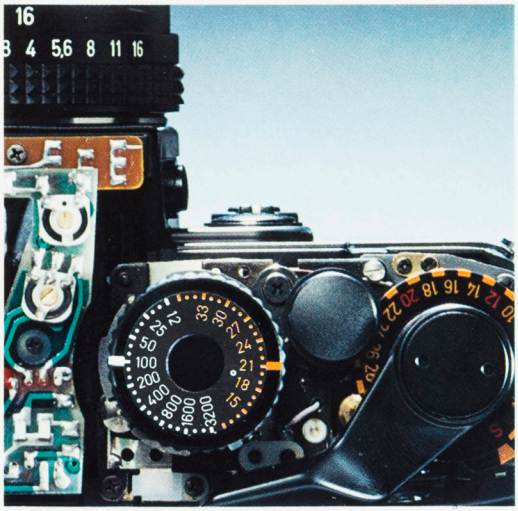
Real Time System

The CONTAX RTS is a highly advanced 35 mm SLR designed to provide photography with the tremendous potential of "Real Time". The extra accuracy of "Real Time" is not limited to the electronics, the shutter and other components of the camera body, but is featured throughout the entire system, because the Contax RTS is the basis of a complete SLR system.

The CONTAX RTS is the result of a unique co-operation between two of the world's leading Photographic manufacturers – Carl Zeiss of West Germany and Yashica of Japan – bringing together the maximum experience available in optical technology and the maximum experience in electronic camera technology. The resulting technical excellence of this SLR system has been made even more attractive (functionally and aesthetically) by introducing a third team of experts to shape the camera body – The Porsche Design Group of West Germany.

The CONTAX RTS is shaped to achieve perfect co-ordination from the brain, the eyes and the hands of the photographer: it uses the most advanced mechanics and electronics to provide unequalled accuracy: it offers lenses of the very highest quality. Each of these factors has been blended to give Real Time operation . . . both manually and automatically.

CONTAX RTS



Highlights of the CONTAX Real Time System

Precision, quality, dependability and automatic control of exposure are all vital factors in any modern high grade camera. In designing the Contax RTS it was decided that in reaching for the ultimate . . . the whole concept (and indeed the end product) must go further. A lot further.

So "Real Time" was an added pre-requisite. Real Time is taken from computer terminology. It means the total absence of physical time-lag in the distribution of information. Used in an advanced SLR, Real time must be built into components that are often taken for granted. For example, a new lens mount had to be devised, and this had to satisfy the stringent requirements of both Yashica and Zeiss. Many thousand manhours of research finally produced such a mount. Not just a method of joining a lens to a camera body with total accuracy, but also a mount that will provide co-ordination of optical, electronic and mechanical systems. A mount that will transmit from lens to viewfinder information that can be converted to the most effective display of:-

(a) the correct shutter speed in relation to chosen aperture
(b) the maximum aperture of the lens in use, and
(c) the aperture at which that lens iris has been set

This extreme attention to the lens mount has resulted in a unit computed for use with present and future ultra-fast lenses and a fantastic range of accessories. Made from stainless steel, the System bayonet mount has an effective diameter of 48 mm and a flange back measurement of 45.5 mm.

Real Time "LED" Shutter Speed Display

Light emitting diodes (LED's) have an advantage over tungsten filament lamps. They do not have a warm-up period and therefore no time-lag. A 16-dot LED viewfinder display provides a starting point to REAL TIME viewfinder information. Linked to a Silicon Photo Diode (SPD) sensor, the 16-dot LED instantly and clearly indicates the required exposure.

Whenever exposure conditions need to be checked, depression of a button on the camera front illuminates the LED display in the viewfinder to indicate the correct shutter speed in relation to any selected lens aperture. One dot indicates the use of a standard shutter speed (1/60, 1/125, etc.) Two dots indicate a between-speed. This "Real Time" shutter speed display will operate regardless of whether Automatic or Manual has been selected. It will operate regardless of whether or not the film has been advanced.

Real Time Magnetic Release

The shutter release button needs a movement of less than one millimetre. It is a magnetic release with an electronic function. The release button stroke has been carefully calculated to find the ideal movement for Real Time photography with minimum risk of accidental exposure.

The use of magnets and electronics act as an extra aid to smooth operation. Thus a camera that is shaped for perfect handling is made even easier in use by a shutter release with the smoothest operation. Camera shake is eliminated except by very clumsy use.

But the electro-magnetic release has wider applications . . .

. . . A whole range of devices which generate electrical pulses (motor drive, infra-red remote control, etc) can be used with the maximum ease. Further – a conventional cable release is replaced by a more convenient "cable-switch". This totally new system has applications that are beyond the capability of other SLRs.

Real Time Shutter Speeds

Sometimes shutter can behave erratically, through various causes, inertia,

etc. With a focal-plane shutter this results in unevenness across the frame. At some shutter speeds it may not be immediately noticeable, but at very fast speeds unevenness can become totally unacceptable. The use of a Real-Time shutter overcomes both minor and major deficiencies and produces better negatives and transparencies.

The CONTAX RTS has accurate speeds from four seconds to one two-thousandth. To guarantee the utmost precision right up to and including 1/2000 – a totally new shutter has been designed to combat every aspect of erratic movement – including a method of counter-acting inertia.

This totally new design concept has been reinforced by using electronics to time the speeds. The net result is unprecedented accuracy over the unusually wide range of 4 secs to 1/2000 sec.

All Types Remote Operation with Real Time Control

The unique magnetic release of the CONTAX RTS offers tremendous and wide ranging advantages in Real Time operation when the camera is used on a tripod, etc. Apart from employing "cable-switches" (which do not need the pressure, or have the inherent movement of "cable releases") there are many accessories which can be operated with improved simplicity and accuracy.

These include Radio Remote Control, Infra-red remote control, and an Intervalometer.

With such accessories, and with the camera set on "Auto", the photographer has precision and accuracy never previously available – for animal or bird photography, surveillance photography, photogrammetry, photography in hazardous situations, medical photography, etc, etc.

Real Time Motor Drive System

The magnetic release system is also utilized to provide a better partnership between the camera function and motor drive. At the final stage of the operation of the magnetic shutter release system, a motor drive switch causes a signal to be transmitted to the motor drive system. By virtue of this unique method of interchange of information between camera and motor drive the CONTAX RTS ensures perfectly synchronised operation on "Auto" under all lighting conditions.

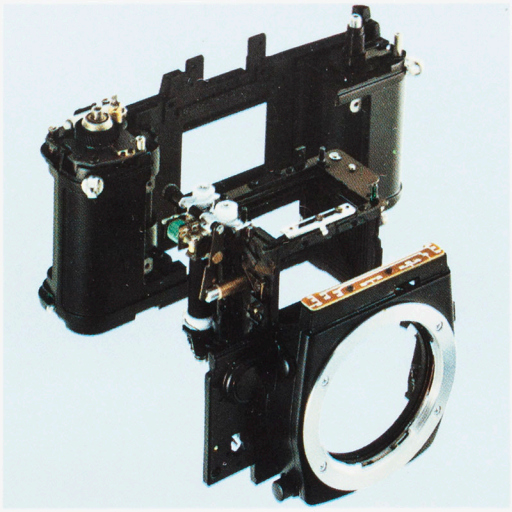
Two kinds of motor drive have been designed for use with the CONTAX RTS. The Real Time Winder, which is compact, light and versatile, can be regarded almost as standard equipment because it increases versatility without impairing manoeuverability of the basic camera.

Both motor drive units can be regarded as electrical information distribution panels to be used in conjunction with or without other accessories such as the Remote Control Units.

Real Time (T-star) Carl Zeiss Lenses

These lenses are, in the main, newly computed for the CONTAX RTS and (as may be expected) represent the apex of optical performance. They are T-star coated not only to minimize flare but also to provide unimpaired transmission of all visible colours. The image at the focal-plane will therefore have the best possible optical quality in sharpness and colour fidelity.

The high optical quality extends to the very wide maximum apertures of all these Carl Zeiss lenses. This, coupled with the T-star multi-layer antireflection coating, permits the use of comparatively high shutter speeds even in subdued lighting conditions – a "Real Time" advantage for all photographic applications.



Functional Outline of the CONTAX Real Time System

Exposure control using the centre-weighted TTL Light Readings
By using a Silicon Photo Diode (SPD) light sensor in conjunction with the most sophisticated electronic circuitry "Real Time" exposure control becomes a reality. The system has no equal in its speed of functional response and requires no warm-up or preliminary switching.

The SPD is located directly above the viewfinder eyepiece and takes centre-weighted light readings immediately the magnetic release system has been activated. The very slightest variation in light intensity will produce an instantaneous response. The subject-brightness information is then stored in the memory register as the reflex mirror begins its upward movement.

The exposure is thus computed within a fraction of a millisecond and the correct shutter speed for the pre-selected lens aperture is momentarily displayed in the viewfinder when the shutter is released.

The LED display can, of course, be illuminated at any time for checking or adjusting the shutter speed.

On "Auto" the exposure is computed on the basis of pre-selecting the aperture. On Manual, either the shutter speed or the lens aperture can be pre-selected by referring to the viewfinder LED display.

Comprehensive operational information in the viewfinder
The CONTAX RTS features an extremely comprehensive viewfinder: it is so advanced as to be unique in the range of information supplied. The photographer is supplied with all exposure information (as well as focusing and framing) while the camera is at eye level.

(1) **Aperture Display**
The aperture display of the CONTAX RTS is both automatic and comprehensive, When any one of the Carl Zeiss T-star lenses is clicked into the camera body the numbers on the aperture scale (along the top edge of the viewfinder frame) increase or reduce to indicate the maximum aperture of the lens in use.

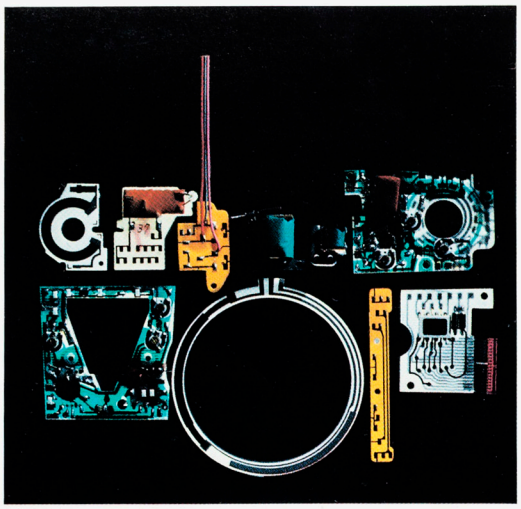
Rotation of the aperture ring on the lens operates a slide resistor for open aperture metering and automatically moves a tab in the viewfinder so that the selected aperture is illuminated in green. There is no black-out of the top area of the viewfinder field with any of the Carl Zeiss lenses and so aperture selection can always be made while using the viewfinder.

(2) **16-dot LED Shutter Speed Display**
In addition to the precise shutter speed in relation to the preselected lens aperture, the display also shows whether the camera is set on "Auto" or "Manual". It also indicates warning of over or under exposure.

On "Auto", the transparent green pointer covers "A" which is above the range of shutter speeds listed on the right-hand side of the viewfinder. On "Manual" the pointer moves down (as the shutter speed dial is rotated) to cover the figure corresponding to the selected shutter speed. An LED dot to the right of the shutter speed list indicates the correct choice for a given aperture. If this LED dot aligns with "B" it indicates under-exposure. This dot can be illuminated at any time for exposure calculation, but will in any case be illuminated momentarily regardless of whether the camera is set on "Auto" or "Manual" as the shutter is released.

On "Manual" the green pointer must be aligned with the LED dot by turning

Information-packed viewfinder display of the CONTAX RTS
Picture within the viewfinder frame was taken with the Tele-Tessar 200 mm f/3.5 – data as indicated.



either the lens aperture ring (to move the dot) or the shutter speed dial (to move the pointer). In other words, either the lens aperture or the shutter speed can be pre-selected for manual operation, according to the specific photographic requirements.

A single LED dot indicates the use of a standard shutter speed (1/60, 1/125, 1/250, etc). Two LED dots signify the use of a speed between the two indicated. This applies regardless of whether the camera is set on "Manual" or "Auto".

(3) **Exposure Compensation Display**
The CONTAX RTS features an exposure compensation scale at the base of the ASA film speed dial. This provides the photographer with facilities for exposure compensation – for special effects or for subjects with unusual brightness ranges. This feature is available regardless of whether the camera is being operated on "Auto" or "Manual".

As soon as the exposure compensation dial is moved away from the normal (1x) setting, a black circular tab appears at the lower edge of the viewfinder frame. Thus, the viewfinder incorporates a reminder that exposure compensation is being made.

The Tremendous of Real Time System Application
All mechanical and electronic components of the CONTAX RTS are designed to provide the most effective use of every item that goes to make up this comprehensive Camera System.
The use of an electro-magnetic shutter release effectively incorporates the equivalent of a solenoid. Not as an accessory . . . but as an integral part of the camera. The advantages are applied to every kind of photography. Every accessory within the System has been designed and built around the concept of electrical operation.

By virtue of this concept, the CONTAX RTS is the only 35 mm SLR System Camera permitting fully automatic exposure control when remote control and motor drive units are in use.
The use of the Real Time Winder (whose features are listed below) spans new horizons in Real Time photography and enables the photographer to complete assignments that would be impossible with any other camera.

Outline of the features of the Real Time Winder
This compact, lightweight and versatile motor drive unit is designed exclusively for use with the standard camera back as well as the Data Back. Without impairing the manoeuverability of the CONTAX RTS, the Real Time Winder provides an advantageous alternative to normal hand operated film advance, in addition to its use as a conventional motor drive unit.

Film Drive Speeds: Two-way selection ("S" for single frame advance. "C" for continuous automatic film drive). Usable at all shutter speeds and on "Auto". Maximum of 2 frames a second on "C" setting over a shutter speed range from 1/60 to 1/2000.

Power Source: 6 AA size alkaline or manganese cells (Pen cells in the U.K., such as Ever Ready HP 7 or Mallory MN 1500). Fresh Alkaline cells will provide sufficient power for film drive of up to 50 cassettes.

Shutter Release: Camera magnetic release employed.

CONTAX RTS System Accessoires

Carl Zeiss Interchangeable Lens Group
1. F-Distagon T* 16 mm f/2.8
2. Distagon T* 15 mm f/3.5
3. Distagon T* 18 mm f/4
4. Distagon T* 25 mm f/2.8
5. Distagon T* 28 mm f/2
6. Distagon T* 35 mm f/1.4
7. Distagon T* 35 mm f/2.8
8. Planar T* 50 mm f/1.4
9. S-Planar T* 60 mm f/2.8
10. Planar T* 85 mm f/1.4
11. Sonnar T* 85 mm f/2.8
12. Planar T* 135 mm f/2.0
13. Sonnar T* 135 mm f/2.8
14. Tele-Tessar T* 200 mm f/3.5
15. Vario-Sonnar T* 40 mm – 80 mm f/3.5
16. Mirotar 500 mm f/4.5
17. Mirotar 1000 mm f/5.6

Finder System
1. Rubber Eyecup/Light Shield
2. Diopter lenses (8 types from +3 to −5 diopters)
3. Right-angle Finder Type II
4. Magnifier
5. Viewing screens (Standard microprism screen, split-image screen, matte screen, sectioned matte screen and cross scale screen)

Filters and Lens Hoods
- Lens hoods
- Filters
- Diffusers A, B & C

Macrophoto System
6. Auto Bellows
7. Focusing Rail
8. Connector Cord
9. Cable Release
10. Slide Copier
11. Auto Extension Tube set type F
12. Microscope Adaptor type F
13. Oscilloscope Mount
14. Oscilloscope Adaptor RT
15. Macro Stand Stage Glass
16. Macro Stand
17. Copy Stand type II

Data Back
20. Data back

Real Time Winder System
21. Real Time Winder
22. RTW Battery Case
23. Power Cord 300
24. Power Cord 1000
25. RTW Power Pack
26. Power Pack Jacket A

External Camera Power System
18. External Battery Protector
19. External Power Adaptor

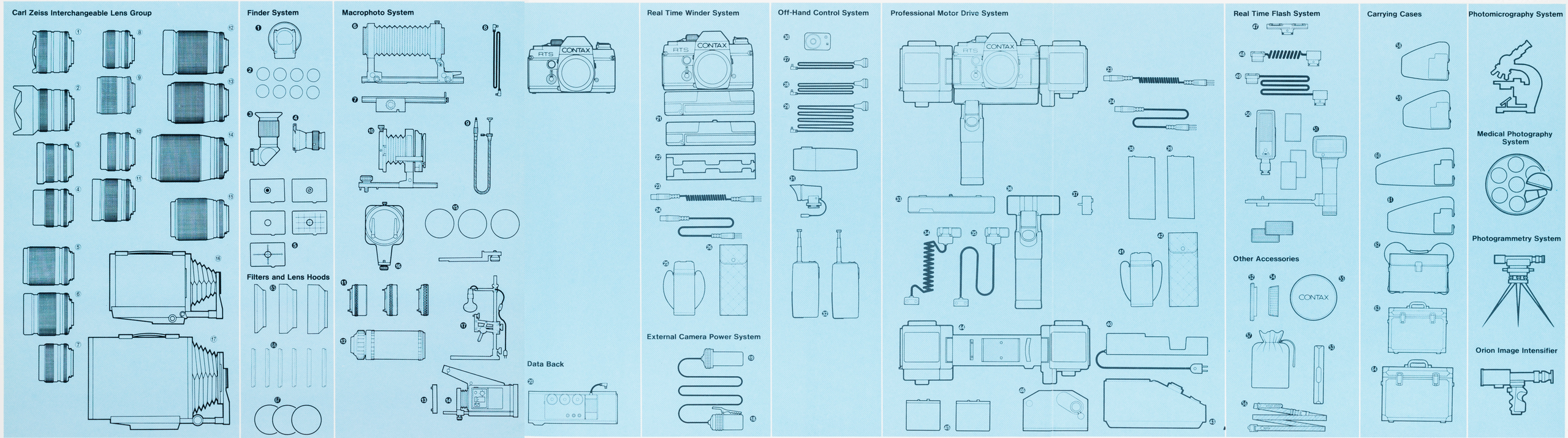
Off-Hand Control System
27. Cable switch 30
28. Cable switch 300
29. Cable switch 1000
30. Interval Timer
31. Infra-red Controller Set
32. Radio Controller Set

Professional Motor Drive System
33. Professional Motor Drive
34. Motor Drive Control Cord 300
35. Motor Drive Control Cord 1000
36. Motor Drive Control Grip
37. Motor Drive Battery Checker
38. Motor Drive Battery Cartridge
39. NiCd Battery Pack
40. NiCd Battery Charger
41. Motor Drive Power Pack
42. Power Pack Jacket B
43. Motor Drive AC Control Box
44. 250 Film Back
45. 250 Film Magazine
46. Film Loader

Real Time Flash System
47. Twin-Flash Adaptor
48. Direct-shoe Extension Cord Type A
49. Direct-shoe Extension Cord Type B
50. Real Time Flash 24 (Wide-angle Adaptor for RFT 24 & Colour Filters)
51. Real Time Flash 34 (Colour Filters for RTF 34)

Other Accessoires
52. Body Cap
53. Shoulder Pad
54. Lens Rear Cap
55. Lens Cap
56. Shoulder Strap
57. Lens Case

Carrying Cases
58. Standard ever ready case
59. Deluxe ever ready case
60. Tele-Nose
61. Wide-Nose
62. Outfit Case
63. Professional Case



Carl Zeiss interchangeable Lens Group

CONTAX RTS Technical Data

LENS
Planar 50 mm f/1.4 standard Lens composed of 7 elements in 6 groups and interchangeable with a wide range of Carl Zeiss lenses designed specifically for the Contax RTS. All lenses feature T-star multi-layer anti-reflection coating.

LENS MOUNT
New bayonet mount developed from mutual co-operation by Carl Zeiss, West Germany, with Yashica, Japan. Features a complete coupling system for (1) keying the aperture slide resistor to afford TTL full aperture light reading and viewfinder display of the aperture setting in use, (2) viewfinder display of the maximum aperture of the lens in use, and (3) providing fully automatic diaphragm action.

- Effective diameter: 48 mm
- Flange Back measurement: 45.5 mm
- Setting Angle: 72 degrees (Lens locks in place when given one-fifth of a turn, clockwise).
- Lens release button on the left side of the lens mount as viewed from the front of the camera.

SHUTTER
Newly designed focal plane shutter providing electronic timing of speeds for both "Auto" or "Manual" methods of operation. It uses a completely new design which ensures supreme accuracy of exposure at all shutter speeds.

- Shutter speeds: Continuously variable from 4 secs. (f/1.4 at ASA 100) to 1/2000 sec on Auto; 14 clickstop speed settings (4, 2, 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500, 1/1000 and 1/2000 sec) plus B on Manual. X = 1/60 sec.
- Shutter speed control is placed coaxially with the film rewind. Auto setting is positioned at the end of an anti-clockwise movement.
- Standard DIN "X" sync terminal, plus direct "X" contact shoe with safeguard against electric shock (circuit contact is made only when the electronic flash unit is mounted on the shoe).
- Built in self-timer (with mechanical governor) activates the magnetic shutter release after a delay of 8 seconds.

SHUTTER RELEASE
Electromagnetic release method of original design. Depression of the shutter release button activates a micro-switch which instantly energizes an electromagnet and starts a chain-reaction . . . It activates the TTL full aperture light reading system; triggers the movement of the reflex mirror; stores the light reading information in the memory register; stops down the lens diaphragm to the preselected setting and releases the focal plane shutter.

- Stroke: Not more than 1 mm.
- Release socket on the camera body affords use of a wide range of off-hand control units.

EXPOSURE CONTROL
Through-the-lens, full aperture, centre weighted exposure measurements using an SPD (Silicon Photo Diode) sensor which is positioned immediately above the viewfinder eyepiece.

- "Auto" exposure measurement is taken immediately upon depression of the magnetic release button.
- Depression ot the LED display push button activates the light reading system and switches on the LED shutter speed display in the viewfinder, providing effective exposure checking before or after film wind for either "Auto" or "Manual" method of operation.
- Exposure control as well as other electronic systems are powered by a 6 V silver oxide (Eveready 544, Mallory PX 28 or equivalent) or 6 V alkaline (Alkaline Eveready 537 or equivalent) battery.
- ASA film speed range from ASA 12 to 3200.
  EV range from EV-1 to EV 19 (f/1.4 at ASA 100).
- Exposure compensation: Four-way exposure compensation with setting of 4 x, 2 x, [1 x], 1/2 x and 1/4 x.

VIEWFINDER DISPLAY
The viewfinder displays all necessary exposure information.

- 16-dot LED array shutter speed display illuminates when the LED display push-button is depressed and when the magnetic release is activated, thus providing an effective preview of the correct shutter speed in relation to the lens aperture in use.
- On "Auto" and "Manual" the LED display indicates between-speeds as well as normal progressively stepped speeds.
- On "Auto", the green pointer is at "A" position.
- On "Manual", the green pointer indicates the speed chosen on the shutter speed dial.
- On "Manual", the shutter control dial or the lens aperture ring must be turned to bring the pointer in alignment with the LED dot for correct exposure.
- Aperture display shows (1) the maximum aperture of the lens in use as the last f/ number on the right-hand end of the scale, and (2) the aperture at which that lens is set by the f/ number shown green in the scale.
- Exposure compensation is signalled at the lower left corner of the finder frame. This provides a warning that exposure measurements are being modified.

VIEWFINDER
Through-the-lens reflex viewfinder adjusted to −0.82 diopter shows 92% of the actual picture area. Reflecting surfaces of the pentaprism are silver coated. The reflex mirror features multi-layer coating. Maximum brightness of the viewfinder image results from the combination of these features.

- Magnification: 0.87 x

VIEWING SCREEN
Standard viewing screen with microprism centre focusing spot interchangeable with other screens through the lens mount.

FILM ADVANCE
Film advance lever advances the exposed frame and charges the shutter in one 140° movement or in several short strokes.

FRAME COUNTER
Automatic resetting frame-counter registers the number of exposed frames.

FILM REWIND
Film rewind by foldaway crank-handle. When the crank-handle is folded into place, the main section of the film rewind knob remains stationary. Film advance can however be observed by movement of a specially marked disc within the film rewind knob.

CAMERA BACK
Removable camera back interchangeable with the Data Back or 250 Film Back. Back cover lock released by pulling the rewind knob to the end of its movement.

MULTIPLE EXPOSURE PROVISION
Pressure on the film rewind release button on the camera base applies a ratchet brake to the take up spool. This permits shutter rewind without film advance.

OTHER FEATURES

- Depth of field preview button
- Mirror lock lever
- Film rewind release button which automatically resets when the film transport lever is operated.
- Battery check button which causes an LED display to light up if the battery is in good condition.
  Accessory shoe
- Motor drive coupling terminal and film advance coupler.

SIZE & WEIGHT
142 x 89.5 x 50 mm; Approx. 700 grams (body only).

For more information on the Contax Camera, Carl Zeiss Lenses and System accessories, write to your nearest Yashica or Contax agent, enclosing return postage and cost of the brochures.

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