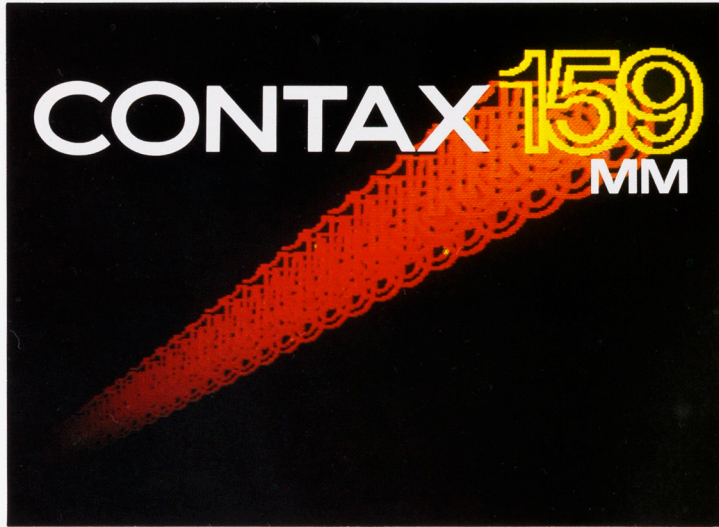


CONTAX

159
MM



Capture the Decisive Moment.



35mm Auto Exposure SLR with Multi-Mode Control

A photograph is a moment in time—a fleeting instant captured on film. A birthday grin, a lover's smile, a cry of victory, a howl of anguish—all these make memorable photographs. The best any camera can do is make it easier for the photographer to capture, precisely, that instant.....the decisive moment when the smile is widest, the eyes softest, the action at its penultimate. The new CONTAX 159MM is designed and engineered to do that, to help the photographer capture the moment—not an instant before, not an instant after.

To accomplish this, CONTAX has engineered the highest levels of performance ever achieved for a 35mm single-lens reflex camera—exemplified by its maximum shutter speed of 1/4000 sec. and manual X-synchronization at 1/250 sec.

The body is of the strongest, most durable materials; the electronics reflect microprocessing technology in advance of "state-of-the-art"; the mechanics combine functional design with precision finishing. The result is a camera of incredible smoothness and reliability, of superlative accuracy and quality. The CONTAX 159MM offers the photographer a wide selection of operating modes in order to meet the widely diversified requirements created by individual styles, preferences and shooting conditions. The camera can be used with completely manual control with or without the use of its through-the-lens metering capability. Or, its advanced circuitry allows sensitive Auto Exposure operation under aperture-priority conditions. Built-in Program capability provides a three-stage automated control for Normal, Low-Speed or High-Speed shooting emphasis. The camera shares the famed direct TTL metering and "Fail-Safe" flash/shutter synchronization capabilities of the Contax TLA Electronic Flash System and also has a Program Flash mode. Finally, in Manual mode, the CONTAX 159MM offers an ultra-fast 1/250 sec. X-synchronization shutter speed. 7 Carl Zeiss T* (T-Star) lenses for Program-Mode use are available. Other CONTAX Real Time System accessories can be employed, including the full range of outstanding Carl Zeiss T* (T-Star) lenses, macro/close-up attachments, remote control and other equipment. The CONTAX 159MM has a new exclusively designed auto winder and new data back accessories, reflecting the total system approach to photography that has always been the hallmark of CONTAX single-lens reflex cameras.

CONTAX
159MM



The Decisive Moment

CONTAX
Real Time Photography



CONTAX realizes that even the finest, most precisely engineered camera will provide pictures only as good as its lenses. That's why CONTAX SLR's use Carl Zeiss T* (T-Star) interchangeable lenses. The super-fast shutter speeds of the CONTAX 159MM, its precision SPD/Quartz factoring, its digital microprocessing capabilities—all these would not create superb results without a lens of the finest optical specifications. The Zeiss T* lens offers perfect color balance, exceptional contrast and extraordinary image fidelity. Distortion has been reduced to levels that even a computer-testing system may find difficult to measure. The combination of the CONTAX 159MM and your choice of Zeiss T* lens expand the capabilities of even the most accomplished photographers. When you press the shutter release, what appears in the viewfinder is exactly what appears on your film.

Tele-Tessar T* f/4 300mm



A compact, lightweight design, this lens features total correction of all aberrations and completely even field illumination. Useful particularly in situations when the subject cannot be directly approached.



Photo taken with the Tele-Tessar T* f/4 300mm at f/4, 1/4000 sec. The ultra-fast shutter speed enabled the photographer to stop the motion of the water without using electronic flash. This effect was created by spraying the model with water from a hose.

1/4000sec.



Action Freezing 1/4000 sec.

◀ Photo taken with Distagon T* f/2.8 35mm at f/4, AE (at 1/4000")



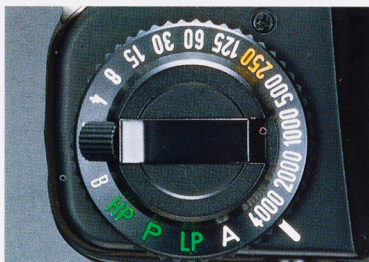
Designed for those who demand extraordinary image quality in a moderate wide angle rather than extremely high speed. Image field illumination is also excellent, even at full aperture.



◀ Photo taken with Sonnar T* f/2.8 180mm at f/4, AE (at 1/4000")

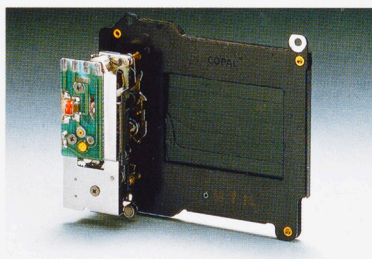


A new, extremely compact, lightweight version of the famed "Olympia Sonnar". The large maximum aperture provides full response to sports and other types of action photography.



Shutter Dial Setting at 1/4000"

The all new shutter around which the CONTAX 159MM was built is perhaps the finest mechanism ever devised for photography. With a top speed of 1/4000 sec. it's fast enough to freeze virtually any action you will ever photograph. And precision CONTAX Quartz timing guarantees speeds so accurate and consistent that you can look forward to perfect results every time.

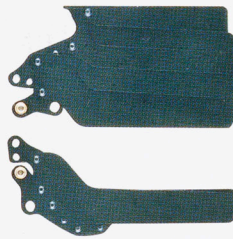


Shutter Assembly

CONTAX engineers used many resources in developing this fine shutter. First they adopted the vertical format, which means the blades travel from top to bottom instead of side to side as in conventional shutters. Since the blades only

have to travel 24mm instead of the normal 36mm, travel time is significantly reduced. But this alone was not enough to obtain a top shutter speed of 1/4000 sec. Next a special aluminum alloy was developed for the shutter blades, an alloy light enough to reduce inertial forces yet tough enough to withstand the rapid travel time under hard usage. The weight of the blades was thus reduced by two-thirds over that of the stainless steel blades used in the compact CONTAX 139 Quartz, far lighter than ever before possible. Other means were also employed to lighten the entire shutter unit, including hollow shafts for the shutter blade connections.

The final result was a shutter that is outstanding in every respect. The blades require only a fleeting 3.3ms to cross the 24mm film aperture. Operation is accurate and consistent, even at the 1.8mm slit width required for the 1/4000 sec. top speed. And durability is high enough to withstand hard, continued usage.



Aluminum Alloy Shutter Blades

CONTAX 159MM + 159 Winder (W-7)



Perfectly Synchronized Flash

CONTAX
Real Time Photography



For electronic flash photography, the CONTAX 159MM provides a manual mode X-synchronization capability at shutter speeds up to 1/250 sec. This high-speed synchronization capability is especially important for photographers who wish to synchronize electronic flash during daylight shooting. By providing a faster shutter speed, the CONTAX 159MM ensures sharper photographs with improved color rendition. It also eliminates the possibility of blurred movement (caused by too-slow a shutter speed during daylight). Twilight flash photography is particularly enhanced with the high-speed shutter setting capturing background highlights, while the synchronized electronic flash fills in light on the main subject in the foreground. This high-speed flash synchronization is yet another example of how the CONTAX 159MM protects your image.

Planar T* f/1.4 85mm



One of the fastest 85mm lens available for 35mm SLR cameras. Image quality is excellent even at full aperture. Excellent for both outdoor and indoor photography where light levels may be low.



Photo taken with the Planar T* f/1.4 85mm at f/5.6, Manual 1/250 sec, using the RTF540 with Power Pack and the CONTAX 159 Winder W-7 Using the 1/250 sec. X-synchronization in daylight accented the water and darkened the background. The model was jumping on a trampoline and the water was thrown with a bucket.

X-1/250sec.

The Portable Studio



▲ Planar T* f/1.4 50mm at f/5.6, AE Lock (40 sec. exposure); TLA-30

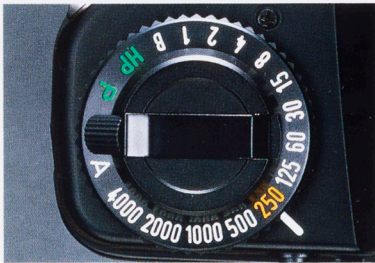


A fast, high-performance standard lens incorporating the latest achievements in optical glass and correction of image errors. Valuable both for fast action and low light levels.

◀ Sonnar T* f/3.5 100mm at f/8, TLA 1/100"; TLA System (RTF540+TLA-30+Extension)



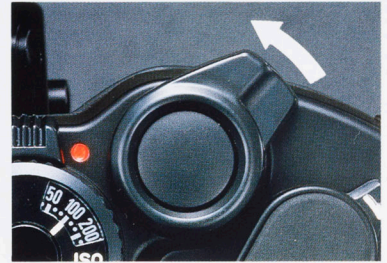
Exceptional cost-performance in one of the most versatile short-telephoto focal lengths. Total correction of aberration and excellent corner-to-corner illumination are the results.



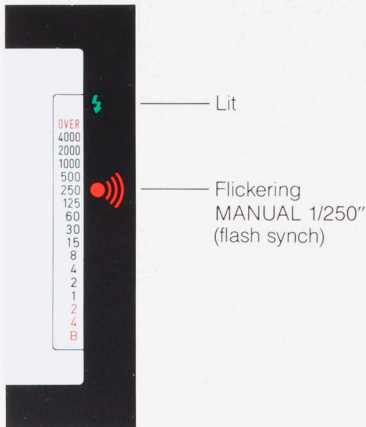
Shutter Speed Dial 1/250 sec. at Manual Mode Setting



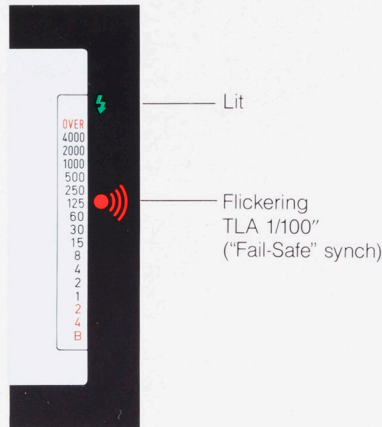
AE Mode Setting



AE Lock switch



Ready for 1/250 sec. Synchronization (Manual Mode)



Ready for TTL Auto Flash

The capability to synchronize electronic flash at a maximum speed of 1/250 sec. is one of the strongest points about the new CONTAX 159MM for the photographer who uses flash. CONTAX enhances electronic flash use by providing the world's most advanced system of portable lighting—the CONTAX TLA Electronic Flash. Equipment in the TLA System shares the unique capability of allowing totally automated flash photography. Thanks to real-time Silicon Photo Diode sensitivity, the CONTAX 159MM is capable of measuring electronic flash output Through-The-Lens, and signaling the TLA-compatible flash unit to cut output when precisely the right amount of light has been put on the subject. Backing up that TTL flash-metering is a "Fail-Safe" system of flash/shutter synchronization. Dedicated electronic circuitry within the flash unit and camera body allow the camera to control shutter speed according to flash use. If a TLA unit is hooked up and ready to fire, the camera reverts automatically to the proper X-synchronization speed (1/100" for the 159MM). When the flash unit is turned off, or recycling between shots, the shutter speed switches to the proper setting for optimum non-flash exposure. Either way, activating the shutter ensures accurate exposure results.

This automation continues even with multiple flash unit use or off-camera thanks to the TLA Multi-Flash/Extension System—equipment that allows true studio-quality portable lighting setups while retaining all the automated advantages of the basic TLA System. TLA System equipment ranges from the professional RTF540 to the simple TLA-20, providing completely automated operation and Program Flash with the CONTAX 159MM. The RTF540 and TLA-30 units can also be used for professional quality auto electronic flash exposures—in combination with the CONTAX 159MM's maximum 1/250 sec. X-synchronization capability.

Creative Flash Controls

The CONTAX TLA Flash System provides the photographer with a number of additional creative controls for flash photographs with a difference. Since flash exposure is automated by the TTL flash-metering system, the Exposure Compensation capability of the camera can be engaged to provide precise variations in overall tone. Even more creative effects are possible, however, with use of the AE Lock mechanism. One of the most exciting AE Lock techniques is the use of a very slow shutter speed—in contrast to the ultra-high 1/250 sec. X-speed standard on the CONTAX 159MM. At slower speeds, the photographer can achieve intriguing blends of blurred movement and frozen action, altering the shutter speed to vary the amount of blur that will "lead into" the frozen instant of flash-exposed time. With exposure calculations unnecessary, the photographer is free to concentrate on creative techniques and is more able to adapt quickly to changes in position, subject or type of action.

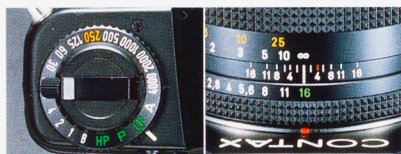
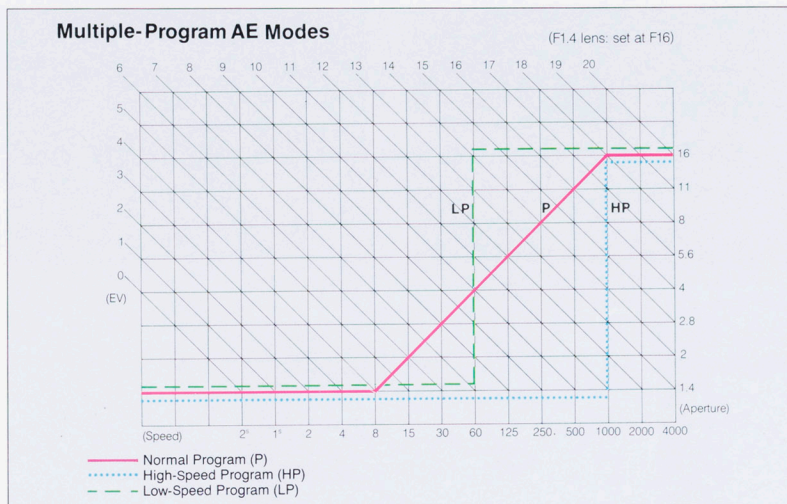


CONTAX 159MM+TLA30

The Professional Approach to Program

The multiple modes of the CONTAX 159MM program exposure system provide an enormous advantage for both ordinary and specialized shooting situations. With the Zeiss T* lenses for program mode, the camera can be used in a completely automated way with no adjustment of either shutter speed or aperture.

The normal Program (P) mode is simple and accurate for all normal shooting conditions. Simply setting the lens aperture at its smallest setting (in green) and the shutter dial at (P) activates the CPU's programming. Shutter speed and aperture are then adjusted automatically by the camera, in a regular series of steps from f/16 at 1/1000 sec. to f/1.4 at 1/8 sec. This ensures optimum shutter/aperture values at any given ambient light exposure value. Should the lens be set at an aper-



Low-speed Program Mode Settings

Photo taken in Low-speed Program Mode (1/16)

Sonnar T* f/2.8 135mm

Outstanding for landscape photography, flora and fauna studies, portraits and other situations where a telephoto effect is desired without the undesirable flattening of perspective prevalent with longer focal lengths.



Multi-Mode Photography

ture larger than the smallest setting, the program curve (shown in the diagram) will cut off at that aperture, increasing the shutter speed in response to greater light values.



Normal Program Mode Settings

The High Speed Program mode (HP) can be used to ensure a sufficiently fast shutter speed, for sports or other action-type shooting. The program curve drops in a straight line from f/16 at 1/1000 sec. to f/1.4 at 1/1000 sec. before lengthening exposure time.

The Low Speed Program mode (LP), conversely, maintains maximum depth-of-field by keeping a small aperture setting. The program curve runs horizontally, from f/16 at 1/1000 sec. to f/16 at 1/60 sec. Then, to prevent camera shake, the curve drops directly to f/1.4 at 1/60 sec. In High or Low Program modes, of course, manually setting a larger aperture value automatically adjusts the program curve at that point.

The result is a professional system that not only offers photographers programmed control over the two vital parameters of action and depth of field; it also allows the photographer to "fine tune" its operation.

Program operation is also possible with TLA System electronic flash. The basic

setting (under EV10.5) is f/4 at the auto-synch shutter speed of 1/100 sec. but the aperture will be adjusted down to f/16 in accordance with ambient light at this same shutter speed. Program flash is especially useful for daylight or twilight fill-flash use, because auto aperture adjustment will maintain proper ambient light exposure while retaining X-synchronization.

All program modes operate throughout the aperture range of Zeiss T* program mode lenses and within a shutter speed range from 1/8 to 1/1000 sec. If aperture adjustment is exhausted at these two extremes, program use beyond these EV levels provides the same results as ordinary AE operation.



High-speed Program Mode Settings

Photo taken in High-speed Program Mode (1/2.8)



CONTAX 159MM with Data Back Quartz D-6

The Zeiss T* Lens System



For more than a century Zeiss lenses have been the standard by which other optics are judged. The Carl Zeiss name has long been the ultimate mark of lens quality—quality in both design and production. Today, as in the past, Zeiss lenses continue to set the standards. And Zeiss lenses were the choice for the CONTAX, the most sophisticated, professional single-lens reflex cameras ever made. To match that superlative camera quality, Carl Zeiss created equally superlative lenses—optics that bear the special T* (T-Star) mark designating a multi-coating process that virtually eliminates flare and ghost images. Every Zeiss T* lens is color matched and color balanced. The result is a complete color consistency

throughout the entire lens system, from fisheye to super-telephoto. To determine optical quality, every Zeiss T* lens is subjected to Modulation Transfer Function tests, and must pass with flying colors in order to leave the factory. MTF testing is the strictest and most accurate means of determining practical optical capability. It balances resolution with contrast to show the practical, effective performance of the lens under any light conditions. Other Zeiss T* qualities which have won the praise of the world's most critical photographers are their extremely even field illumination, freedom from distortion and overall light transmission factors. A continuation of the proud Zeiss tradition and a perfect match for the superior CONTAX performance, these lenses provide the photographer with unequalled optical capabilities.

Distagon: Distagon designates a wide-angle lens having a back-focal length longer than its actual focal length. This may seem only a technical point, but it is necessary in order to allow free move-

ment of the mirror in a single-lens reflex camera. The Distagon lens design permits angular fields as large as 100° with large maximum apertures and excellent correction of the various types of aberration found in wide-angle designs. Even at fully-open apertures, image definition is generally excellent; aperture variations produce limited or no focus shift.

Planar: Planar lenses date back nine decades, to the basic design created by P. Rudolph of the Zeiss Works in 1896. The classic Planar consists of two strongly-curved lens elements enclosed by positive lens elements—each lens-half features Gauss telescope characteristics, (which is why the Planar is often called a Gauss-type lens). Excellent and uniform sharpness across the entire image field makes the Planar a universal lens, while its large back focal length makes it ideal for SLR camera use, since there is no interference with the mirror.

Sonnar: Sonnar lenses were developed early in the history of 35mm photography.



They complement the format well, since they offer superior optical performance from very compact designs. With continuous refinement over the years, Sonnar lenses today are characterized by relatively high speeds for given focal lengths, together with good qualities of definition and even field illumination. They are used widely in sports and news photography, portraiture and a number of technical applications.

Tessar: Tessar is a lens design created by P. Rudolph in 1902, characterized by extraordinary image quality combined with keen definition, brilliance and even illumination of the entire image field. Despite requiring only a limited number of lens elements, the Tessar design provides excellent correction of all types of distortion. This design is used frequently in landscape and architectural photography, as well as in portraiture, close-ups and enlargement/reproduction applications.

Tele-Tessar: The Tele-Tessar has a narrow image angle and thus a long focal length

in relation to the image format. Its greatest advantage is its compactness. The first Tele-Tessar lens was developed in the Zeiss factory in 1921 by W. Merté. The Tele-Tessar is specially suitable for photography at large distances, such as in sports and expedition photography. The shallow depth of focus is another characteristic feature of this lens.

Vario-Sonnar: The Vario-Sonnar offers the advantage of continuously variable focal length, thus serving the purpose of several different focal lenses. The continuously variable focal length permits most accurate framing of the subject without the bother of interchanging lenses.

Mirotar: The Mirotar creates a high-speed mirror lens of extreme focal length using mirrors, so that chromatic aberrations are fully eliminated. The double-reverse light path allows the lens to be extremely compact, while focus remains consistent throughout the photographic spectrum—even for infrared photography. Uniform image quality is assured through utmost

precision in the manufacture of the mirrors, lens elements and mounts, and the Mirotar is notable for relatively high speeds considering the long focal lengths.

Zeiss T* Lenses for Program Mode:

In order to take advantage of the Program Automated Exposure capabilities of the new CONTAX 159MM SLR, Carl Zeiss has adapted seven T* lenses in the lineup of Contax optics. The lenses employ special mounting accessories that provide the aperture control required for program use. T* lenses for Program Mode are available in the following types: Distagon T* f/2.8 28mm, Distagon T* f/2.8 35mm, Planar T* f/1.4 50mm, Planar T* f/1.7 50mm, Sonnar T* f/2.8 85mm, Sonnar T* f/3.5 100mm, Sonnar T* f/2.8 135mm. They accept all standard Contax Real Time System accessories and can be used in non-program modes with the full range of Contax SLR cameras.

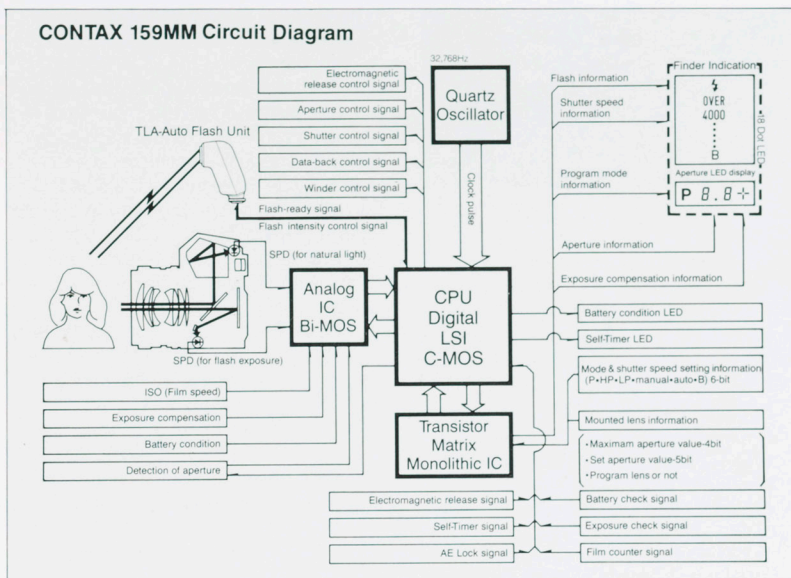




Precise Exposure Automation

The CONTAX 159MM provides the world's most sophisticated system of automated exposure—an aperture-priority system controlled by a digital C-MOS LSI microchip based on Silicon Photo Diode light measurements made in Real Time. Quartz Crystal timing ensures precisely the right shutter speed in a stepless range from 1/4000 sec. to as long as 60 sec.

All this exposure automation takes place within the camera, with no need for concern by the photographer. An LED data display within the viewfinder will show approximate shutter speed (along with aperture and various other camera-status information) whenever desired, but the CONTAX 159MM can be operated without ever referring to this readout simply by setting an aperture and allowing the camera to handle the rest. (For those who find even this a burden, take a look at the PROGRAM functions described on page 12/13, which eliminate even aperture-setting.)

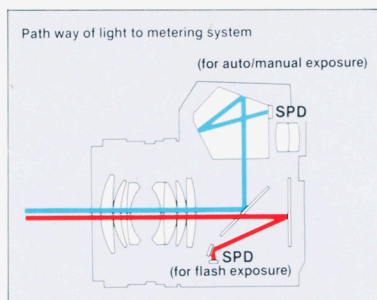


AE Shutter Dial Setting

Auto Exposure control is activated simply by setting the camera's shutter dial to the "A" position. This sets up the micro-processing circuitry for aperture-priority AE operation. The Silicon Photo Diode measures light coming through the lens and relays the value to the Central Processing Unit. Here, adjustment is made for aperture setting (naturally, light metering is performed at full aperture) and any other exposure factors, and a shutter speed value is determined. That value is relayed

lighting conditions, making it the perfect partner for the sophisticated exposure calculation system. The CONTAX 159MM uses two SPD's: one in the prism for ambient lighting, the other in the camera base to read reflected electronic flash lighting directly off the film base.

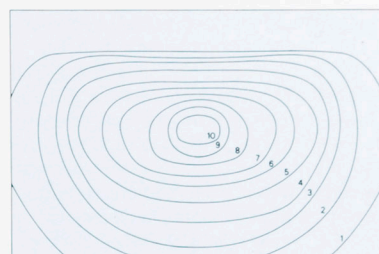
Next is the center-weighted metering pattern, which the SPD's are programmed to read. This pattern has been carefully worked out by CONTAX engineers to reflect optimum results for the widest possible range of subjects. Because composition tends to place the main subject toward the center, and more likely the lower half of the frame, more weight is put on exposure requirements in this area.



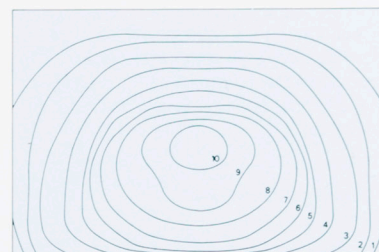
to the Quartz Crystal Element, which ensures that precisely the right shutter speed is used when the shutter is activated. All this, of course, happens in Real Time—the Speed of Light! The camera constantly updates its exposure calculations to ensure that lighting changes even as the shutter release button is being pressed are taken fully into account.

There are several points about the automated exposure system used by CONTAX that deserve mention:

First is the Silicon Photo Diode. This special light-sensitive cell reacts instantaneously to even the slightest change in



Ambient light metering pattern



Flash exposure metering pattern

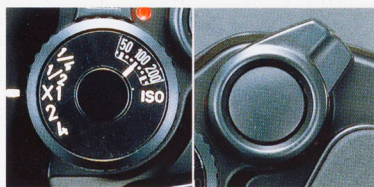


AE-determined shutter speed indication

◀ Distagon T* f/2.8 28mm



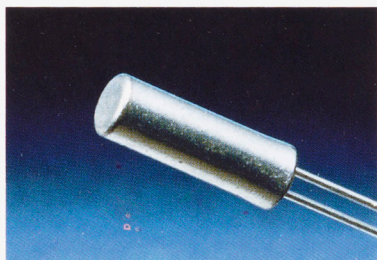
Designed for those who demand the highest image quality without the need for extra speed. Imaging performance and image field illumination are remarkable, even at full aperture.



Exposure Compensation Dial

AE Lock Lever

Exposure compensation capability is provided in two ways. First is the Exposure Compensation Dial, which provides up to two full stops, of exposure control in 1/2-stop clicks. Then there is the AE Lock system. As in the famed CONTAX RTS II Quartz, the CONTAX 159MM employs an EV-based AE Lock. This means that the system locks in an Exposure Value rather than simply a shutter speed. Thus, apertures can be changed with the AE Lock activated, and the system will compensate by adjusting shutter speed. In addition, the 159MM allows use of the Exposure Compensation Dial even with the AE Lock activated for fine control of overall exposure results.



Quartz Crystal Element

The Quartz Crystal Element controlling shutter timing provides a level of accuracy unmatched by conventional timing systems—to within a single one of the 32,768 pulses it generates every second. But the Quartz element is even more important as the source of consistency and timing accuracy for camera operations. All time-related functions of the camera are regulated by this same Quartz accuracy for vastly improved reliability. The consistency provided by Quartz timing contributes to extremely fine exposure control possibilities, since there will be no variation or deviation from the required speed. Quartz shutter timing remains in effect for manually-set speeds as well as under AE operation.

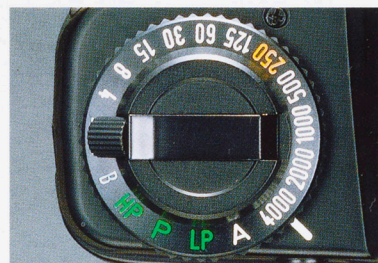
The Manual Exposure Functions

In addition to its extraordinary exposure automation system, the CONTAX 159MM provides high-precision Manual exposure capabilities based on the same electronic functions. The photographer can set both aperture and shutter speed manually and depend on the Quartz timing system to deliver precisely the shutter speed desired. Manual shutter settings are available from 1/4000 sec. to one full second, along with "B" (Bulb) for extended shutter opening.

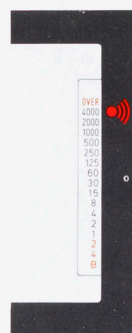
When using the CONTAX 159MM in its manual mode, the photographer can also take advantage of the light metering capabilities of the automated exposure system. The Silicon Photo Diode will read light values, and the CPU will recommend an optimum manual shutter speed through the viewfinder's LED data display. The photographer merely adjusts aperture and/or shutter speed according to the LED indications for excellent exposure results. The exposure system requires proper setting of the film sensitivity dial, which provides for film speeds from ISO 12 to ISO 3200 in both AE and Manual modes.

Quartz timing of the camera's operating functions also continues in manual mode operation to ensure consistency and accuracy in all functions—mechanical or electronic.

Depth-of-Field is one of the vital elements in composing photographs and



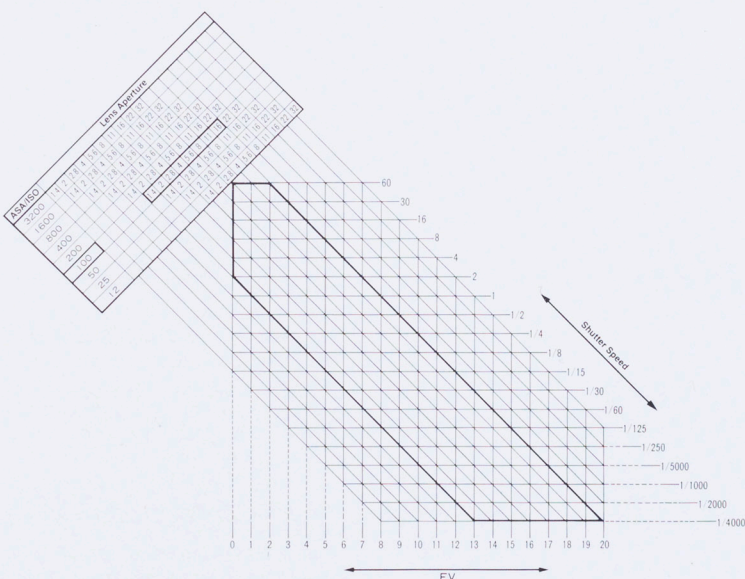
Manual Shutter Setting (1/4000")



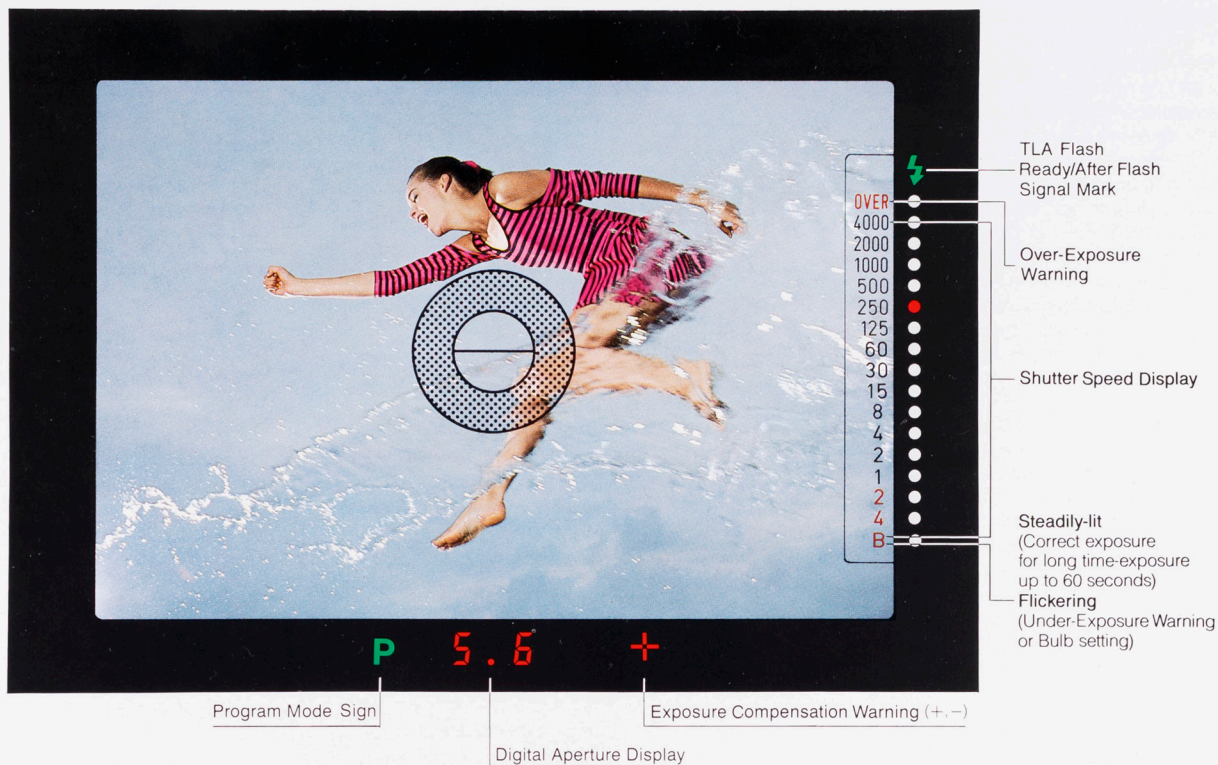
Flickering Manual control with LED indication

relates to exposure as a function of aperture. Thus, in manual mode operation the photographer has full control over the plane of full-focus and can expand or narrow it to suit the subject and alter the perspective.

CONTAX 159MM EV Chart



The Viewfinder & Display



The long-eyepoint viewfinder of the CONTAX 159MM provides full viewing of the image area (95% at 0.82X) even for photographers wearing eyeglasses. The bright image results from special, high-reflection coatings and makes focusing fast and easy.

During AE mode operation of the camera, the viewfinder display provides shutter speed and aperture information. Shutter speeds are indicated by a 17-dot-LED array to the right of the screen; aperture values appear in LED's at the

bottom. Manual operation with TTL metering is possible by "matching" LED's through adjustment of aperture or shutter speed dials. Other viewfinder information displays include a green arrow used during TLA System dedicated flash operation, Exposure Compensation system use indication and Program AE operation indication. In all modes, Manual, AE and Program, with or without flash, the viewfinder display can be activated for information by putting slight pressure on the shutter release button. When activated,

the viewfinder display remains lit for 16 seconds, then cuts off to save battery power. It can be reactivated simply by slight pressure on the shutter release again. The system also cuts off automatically after each photo. The entire display operates automatically at three stages of brightness according to ambient lighting conditions. This ensures easy visibility at all times, along with minimum use of battery power.

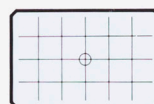
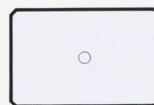
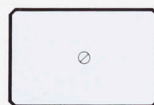
The Interchangeable Focusing Screens (FT Type)

The CONTAX 159MM allows the photographer to select the type of focusing screen best suited to his or her general interest, from among five basic types. The standard screen FT-4 installed in the camera body is a horizontal split-image with microprism collar. Four other screens can be selected for special uses; installation should be performed by CONTAX/YASHICA servicing facilities.

FT-2 45° Split-Image Screen: This is an extremely handy screen useful for most photo applications. The diagonal split-image focusing aid indicates sharp focus by the aligning of the two halves of the image.

FT-3 45° Split-Image/Microprism Collar Screen: Suitable for general photography and assures pinpoint focusing via a split-image focusing spot surrounded by a microprism collar in the center of a matte field. When the images in the split-image circle are in perfect alignment and the glitter disappears from the microprism collar, precise focus is obtained.

FT-4 Horizontal Split/Microprism Collar Screen (Standard screen installed in the camera). Combining the advantages of both types of screens, this allows the photographer to employ the split-image focusing aid for subjects with sharp lines or the microprism collar for general-area focusing sharpness.



FT-5 Matte Screen: This screen has an overall, uniform matte field that allows critical focusing over wide areas. It is especially useful with certain focal-length lenses.

FT-6 Sectioned Matte Screen: This screen too has an overall matte field, but also features cross-section horizontal and vertical lines that can be exceptionally useful in checking perspective and proportions, or insuring proper alignment of horizons.

The Most Advanced Electro-Me

Reliability in Electronics Circuitry:

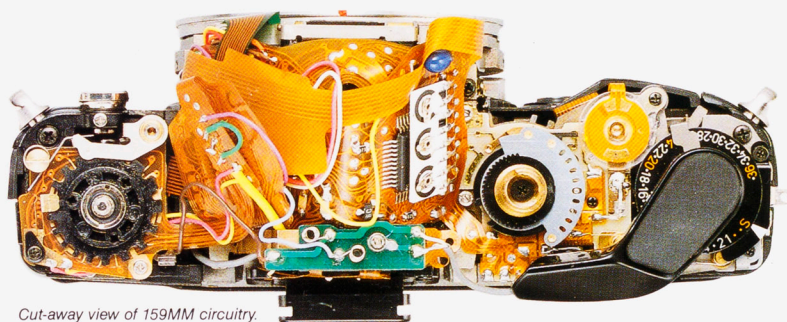
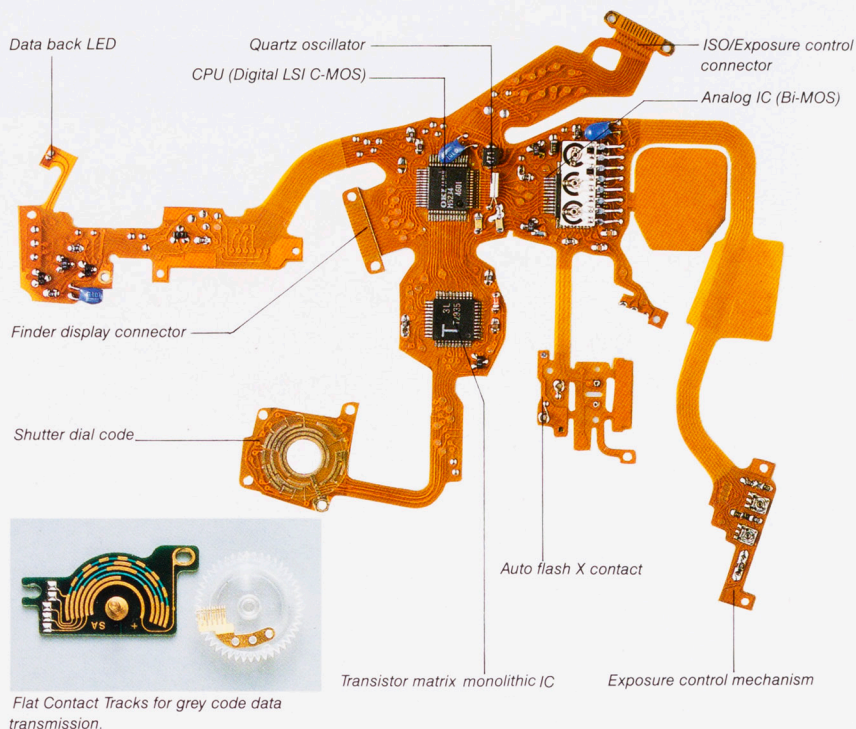
The electronics within the CONTAX 159MM have received the most careful attention, since they are so vital to the automated operation of the camera. Aperture information is transmitted to the CPU via a special, precision-flat baseplate. The grey-code digital values travel through special flat contact tracks and are relayed via pronged brushes. Other contact points for the circuitry are equipped with multi-contacts, which receive goldplate finishing. This ensures the highest contact efficiency in contacts, durability, consistency and reliable performance under all conditions.

Electronic Feedback Control:

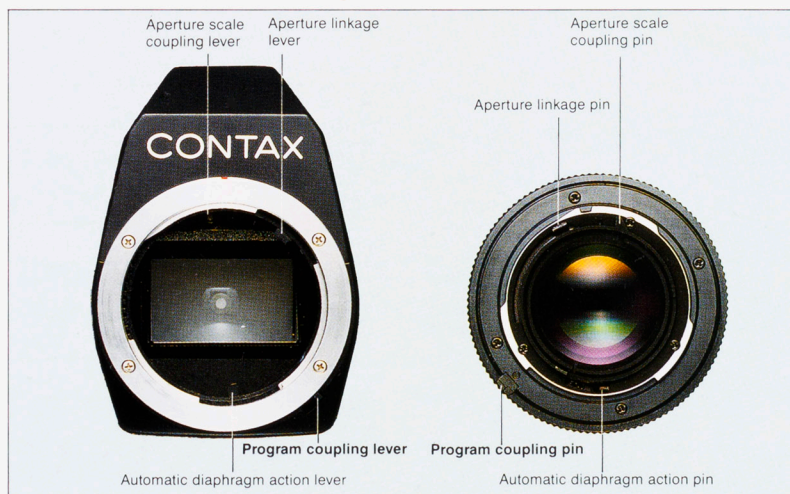
Preventing operational errors caused by temperature change becomes vital in sophisticated electronic circuitry such as the type used in the CONTAX 159MM. Thus, the camera incorporates a special feedback function, which monitors the circuitry and detects temperature-induced changes. This feedback system helps to maintain stable, constant exposure results and operating performance under even the most extreme temperature and weather conditions.

Energy Conservation Circuitry:

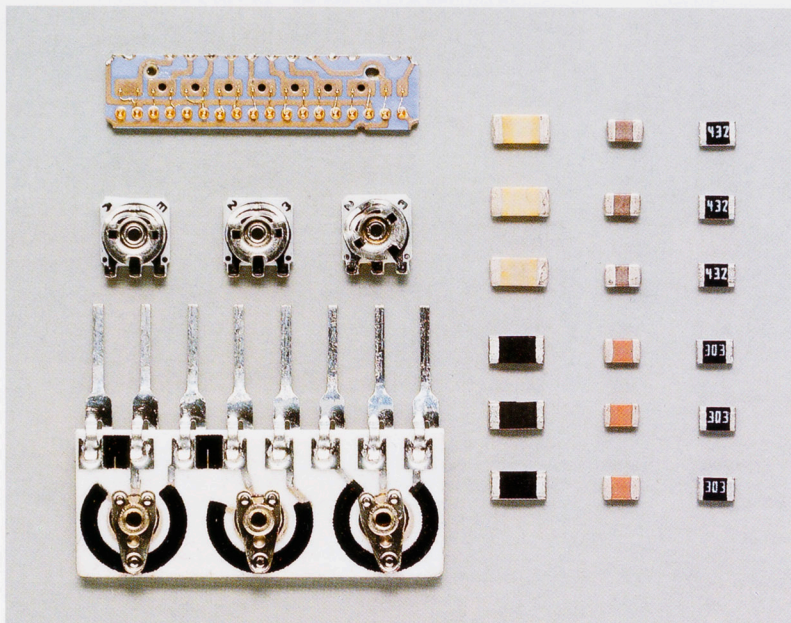
Battery failure in an electronic camera can be serious if no replacement battery is immediately available. Therefore, the CONTAX 159MM has been designed to operate on the minimal possible amount of battery power for longer and more reliable battery operation. One of the major uses of battery power is the viewfinder LED screen. In addition to the auto cut-off, the 159MM's display adopts an intermittent lighting system for its LED's, which operates similarly to fluorescence on a 250Hz circuit. In contrast to LED's that are continuously lit, this dynamic intermittent system provides excellent visibility on vastly reduced power. In fact, the new 159MM requires only two 1.55V silver oxide batteries. The LED's were further improved by adopting new ceramic baseplates developed by Kyocera for clarity and greater accuracy in operation. The CONTAX 159MM employs a quick-response encoder circuit for instantaneous activation of the Aperture control in programmed-mode.



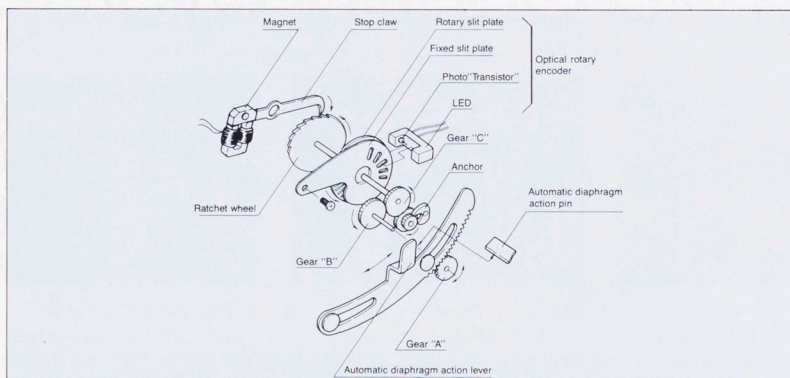
Cut-away view of 159MM circuitry.



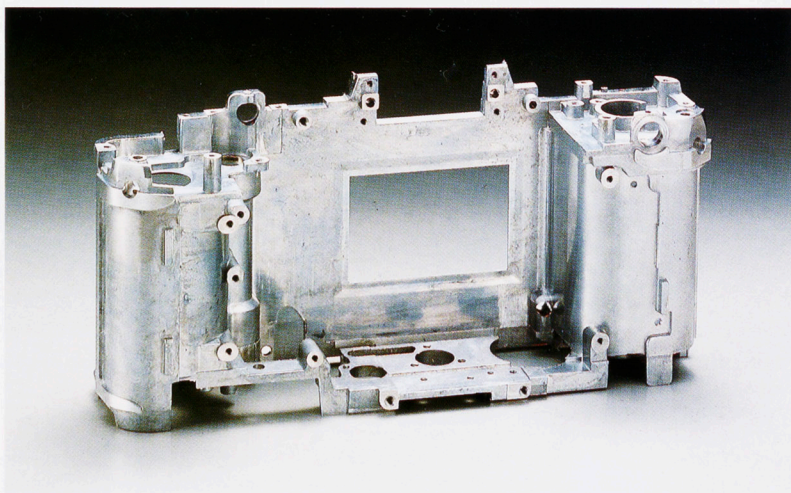
mechanical Functions



Kyocera fine ceramics technology



Multi-Program Control Mechanism



Die Cast Body

Precision-Finished Mechanisms

Every moving part within the body of the CONTAX 159MM has been finished to exceptional fineness and extreme tolerances. As in the RTS II Quartz shafts and other film transport and rotating parts have received nitride finishing, followed by special honing for total smoothness in movement. These processes ensure more than just smooth movement; however, they guarantee that even after thousands of operations, each moving part will continue to provide the same level of operational reliability it did when it was first installed in the camera body.

"Long Eyepoint" Pentaprism Viewfinder:

A special new irregular-diagonal design has been incorporated in the pentaprism of the CONTAX 159MM, allowing it to extend the eyepoint by 2mm without increasing weight. The viewfinder is of the long eyepoint type, allowing easier viewing by photographers who wear eyeglasses and helping to eliminate ghost or diffused images within the viewfinder.



Long-eyepoint viewfinder

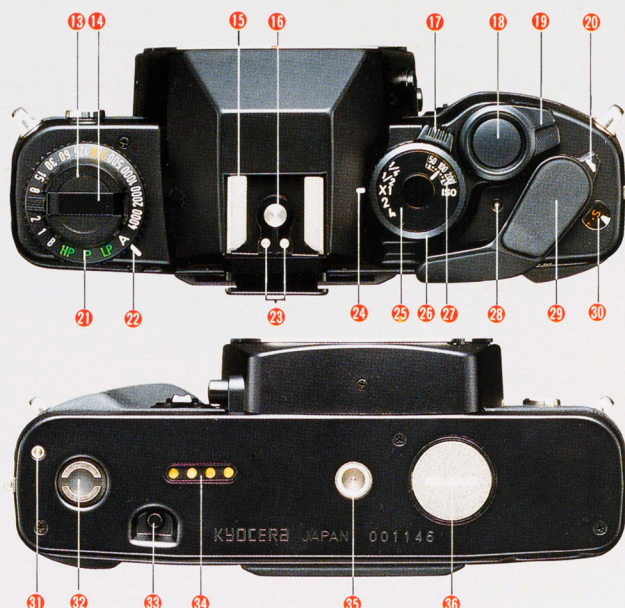
Protective Body Coating:

The body frame of the CONTAX 159MM is produced to rigid standards of toughness and durability from a copper silumin impregnated aluminum alloy. The camera housing receives a special coating of binary liquid hardening paint. The combination of the binary coats produces a superb coating, beautiful in appearance and impervious to wear and scratching. Finally, the body is coated with a non-slip rubber finish at all points where the hands make contact. This not only protects against accidental dropping of the camera, it helps insulate the camera mechanisms from external temperature changes.



- ① Carrying Strap Eyelet
- ② Self-Timer Button Lock Ring
- ③ Self-Timer Index
- ④ Lens Release Button
- ⑤ Lens Index
- ⑥ X Synch Terminal
- ⑦ Self-Timer Button/Self-Timer Flasher
- ⑧ Depth-of-Field Preview Button

- ⑨ CONTAX/YASHICA Mount
- ⑩ Automatic Diaphragm Coupling Lever
- ⑪ Deflection Mirror
- ⑫ Program Coupling Lever
- ⑬ Film Rewind Knob
- ⑭ Film Rewind Crank-Handle
- ⑮ Accessory Shoe
- ⑯ Direct X Contacts



- ⑰ Main Switch/Battery Check
- ⑱ Electromagnetic Shutter Release
- ⑲ AE (Auto Exposure) Lock Lever
- ⑳ Multiple-Exposure Lever
- ㉑ Shutter Control Dial
- ㉒ Shutter Speed Index
- ㉓ Auto Flash Contacts
- ㉔ Exposure Compensation Scale Index

- ㉕ Exposure Compensation
- ㉖ Exposure Compensation/Film speed Setting Ring
- ㉗ Film Speed Window
- ㉘ Battery Check Lamp
- ㉙ Film Advance Lever
- ㉚ Exposure Counter
- ㉛ Winder Guide

The Ergonomic Control System



17 Main Switch

Activates the camera's electronic circuitry and acts as a shutter release lock. Auto exposure circuitry is "on" whenever this switch is turned on.



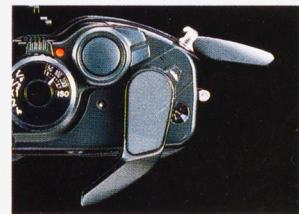
19 AE Lock

Operated by a lever concentric to the shutter release button: freezes the camera's exposure system at the operative EV (Exposure Value) but allows use of Exposure Compensation system. Continuous AE Lock operation.



21 Shutter Control Dial

Provides manual speed settings from 1/4000 sec. to 1 sec., plus B (bulb) and locked positions for A (Auto Exposure), LP (Low Program), P (Program) & HP (High program); Max. X-synchro speed of 1/250 sec. marked in orange.



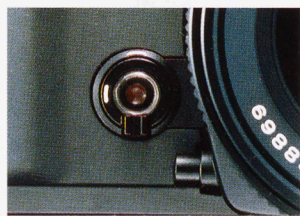
24 Film Advance Lever

Single-Stroke rapid advance lever with a 135° throw and a stand-off angle of 30° from the body. Shutter speed auto-sets to 1/100" until counter advances to "1" after loading film.



17 Battery Check

Performed by pressing the Main Switch fully to the left. Red LED ㉔ atop camera lights if sufficient battery power remains.



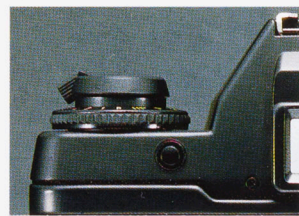
7 Self-Timer Button Self-Timer Flasher

Quartz-timed 10-second delay activated by unlocking Self-Timer Lock and pressing LED/button on camera front. Can be cancelled by pressing again or by turning off Main Switch.



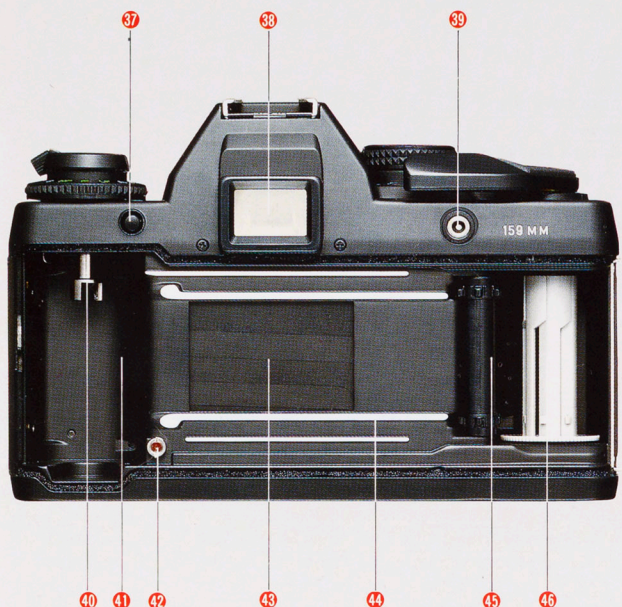
20 Multiple-Exposure Lever

Pressing this lever allows the shutter to be charged without advancing the film transport in order to allow multiple exposures to be made on the same frame of film.



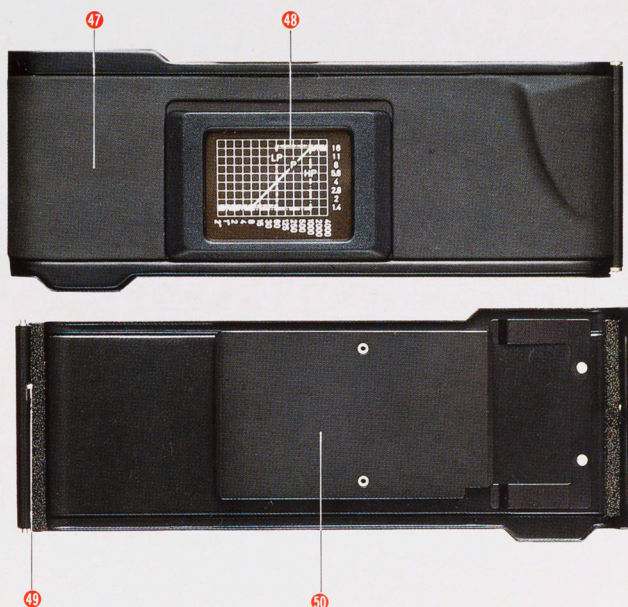
27 Shutter Dial Lock Release

The shutter dial locks in the A, LP, P & HP positions. It can be released by pressing on this release button located on the camera back just below the dial.

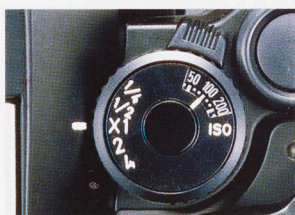


- 37 Winder Coupling
- 38 Film Rewind Release Button
- 39 Winder Coupling Terminal
- 40 Tripod Socket
- 41 Battery Compartment Cover
- 42 Shutter Dial Lock-Release Button
- 43 Viewfinder Eyepiece
- 44 Release Socket

- 45 Film Rewind Stud
- 46 Film Cassette Chamber
- 47 Data Back LED
- 48 Shutter Curtain
- 49 Film Guide Rails
- 50 Sprocket
- 51 Take-up Spool
- 52 Camera Back

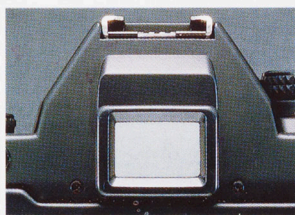


- 48 Memo Holder
- 49 Camera Back Release Lug
- 50 Pressure Plate



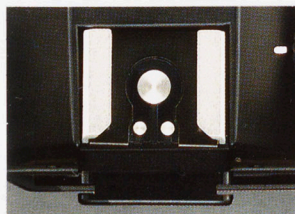
46 Exposure Compensation Dial

Provides $\pm 2\text{EV}$ exposure compensation with intermediate click-stop settings equal to half-stops. Concentric Film Speed dial is adjusted by lifting and rotating collar: ISO 12—3200.



48 Viewfinder Eyepiece

The eyepiece allows even photographers wearing eye-glasses to view the entire frame easily. It is slotted along the sides to accept an accessory eyecup.



45 Accessory Hot-Shoe

Provides secure accessory linkage plus contact points for dedicated TLA Electronic Flash circuitry.



49 Shutter Release Socket

Located on camera back, just below Film Advance Lever: provides threaded electronic linkage for all Contax off-camera control equipment through the electromagnetic shutter release system.



Shutter release button and control switch

AE Lock button
Shutter release button



CONTAX 159 Winder W-7

A completely new auto winder has been designed for exclusive use with the CONTAX 159MM camera. Basic specifications for this winder are similar to those of other CONTAX brand auto winders but the 159MM version incorporates a unique new touch. A special shutter release button has been built into the grip-type winder in just the right position

for easy operation when the camera/winder unit is held vertically. This shutter release incorporates the half-pressure LED Display activation; a separate AE Lock switch is also provided, so even in vertical position, the photographer can quickly and easily engage this vital exposure adjustment feature.

The winder provides choice of single-frame or continuous film advance. In single-frame mode the film-wind function operates when the shutter button is released after an exposure. Continuous mode offers sequential photography at a maximum rate of three frames per second.

Like auto-winding equipment for other CONTAX SLR's, this 159 Winder provides full access to remote photography, sequential or single-frame, and operates compatibly with TLA Electronic Flash System and other CONTAX accessories to provide versatile, highly creative applications.

CONTAX 159MM Specifications

Type: 35mm single-lens reflex featuring Auto/Manual exposure modes and focal plane shutter.

Image Size: 24 × 36mm.

Lens Mount: CONTAX/YASHICA bayonet mount.

Shutter: Quartz-timed electronic self-timer with 10 sec. delay metal focal plane shutter.

Shutter Speeds: 1/4000 to 60 sec. in Auto mode; 1/4000 to 1 sec. (13 steps) in Manual mode, with "B".

Flash Synchronization: Indirect X-synch only with dedicated flash unit; automatically synchs at 1/100 sec. in electronic flash mode at 1/250 sec. or slower (flash bulb synchs at 1/30 sec. or slower) in manual flash mode. X-synch terminal provided.

Self-Timer: Quartz-timed electronic self-timer with 10 sec. delay. LED flashes during operation, accelerating 2 sec. before activation of shutter. Cancellable in mid-operation.

Shutter Release: Electromagnetic release system with dedicated release socket.

Exposure Modes: (1) Normal Program AE mode; (2) High-speed Program AE mode; (3) Low-speed Program AE mode; (4) Aperture-priority AE mode; (5) Manual exposure mode; (6) TTL Program Auto Flash mode; (7) TTL Aperture-Priority Auto Flash mode; and (8) Manual Flash mode.

Metering System: TTL center-weighted metering at full aperture (direct TTL center-weighted metering when using TLA electronic flash system) via Silicon Photo Diode (SPD) cell. Metering range from EV 0 to 20 (f/1.4 lens, ISO 100). Film speed range from ISO 12 to 3200. Metering switch turned on by depressing shutter release button partway in, automatic cut off after 16 seconds.

AE Lock: Exposure memory locking, EV compensating type with exposure compensation dial.

Exposure Compensation: +2 to -2 EV with 1/2-step click stops (intermediate setting).

Viewfinder: Eye-level, pentaprism type with long eyepoint, showing 95% of picture area at 0.82X magnification using 50mm lens set at infinity.

Focusing Screen: Horizontal split-image/micropism collar screen as standard; interchangeable with four other types (requiring services of Contax/Yashica service center).

Viewfinder Display: LED digital display indicating aperture and exposure compensation (+, -) signs; LED display indicating shutter speed (correct shutter speed, over- and underexposure), program AE modes (P), dedicated flash mark; array indicating shutter speeds.

Film Advance: Lever operated, 135-degree winding angle and 30-degree stand-off angle; provision made for operation with Contax 159 Winder W-7.

Film Rewind: By rewind crank after depressing film rewind release button.

Exposure Counter: Auto resetting type; at all shutter settings except "B" (Bulb), camera shutter system automatically operates at 1/100 sec. until counter advances to "1".

Multiple Exposure: Enabled by turning multiple exposure lever.

Specifications and exterior design subject to change without notice.

Accessory Shoe: Direct X-synch hot-shoe with CONTAX TLA capability.

Camera Back: Hinged type opened by pulling up on film rewind knob; memo holder provided; interchangeable with Data Back Quartz D-6.

Power Source: Powered by two 1.55V silver oxide batteries (SR44) or 1.5V alkaline manganese batteries (LR44); provided with main switch.

Battery Check: Indicated by battery check lamp activated by main switch operation.

Other Features: Provided with couplings for motorized winder, LED for Data Back application, and depth-of-field preview button.

Size: 138(W) × 89(H) × 55(D) mm. (5-7/16 × 3-1/2 × 2-1/8 in.)

Weight: 520 grams (w/o batteries). (1.14 lbs.)

CONTAX 159 WINDER W-7 Specifications

Type: Grip-type motorized film winder.

For Camera Models: CONTAX 159MM and CONTAX 139 Quartz.

Film Drive Modes: Continuous automatic film drive at "C" setting and single-frame film drive at "S" setting.

Maximum Film Drive Speed: Up to 3 frames per second at "C" setting.

Usable Shutter Speed Range: At all shutter speeds on Auto modes or Manual.

Shutter Release System: Electromagnetic release system; activated by using shutter release button on grip or the winder body (vertical position use, lock lever) and by using the camera's shutter release button.

Exposure Check: By slightly pressing in either of the two built-in shutter release buttons on the winder (automatic cut-off after 16 sec.).

AE Lock: By activation of the vertical position AE lock button.

Functional Check: Functional check lamp gives off a flash each time film advance has been effected. Provided with a check button.

Power Source: Six 1.5V AA-size penlight batteries, or RTW Ni-Cd pack.

Drive Capacity: Alkaline batteries—about 50 rolls; manganese batteries—about 20 rolls. (All applicable to 36-exposure 35mm films at normal temperatures, continuous sequence mode.)

Auto Stop System: Film drive stops automatically when film end has been reached and functional check lamp lights up.

Film Rewind: By operation of film rewind release lever (provided with lock button) on the winder; film rewind crank on camera.

Mounting Method: Unit screwed into tripod socket on camera base.

Remote Control Operation: Remote control capability using Infrared Controller S, Radio Controller, and CONTAX Cable Switches.

Size: 147.5(W) × 95(H) × 66.5(D) mm. (5-13/16 × 3-3/4 × 2-5/8 in.)

Weight: 290 grams (w/o batteries). (0.64 lbs.)



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