Mamiya®

645 PRO TL

# Welcome to the world of the Mamiya 645

The 6 × 4.5cm format of the Mamiya 645 records images on a film area about 2,7 times larger than a 35mm camera —a size difference with immense impact on image quality. One look is all it takes to see that the Mamiya 645 provides definition, image fidelity and brightness impossible to accomplish with smaller formats.

● 6 × 4.5cm format (actual negative size: 56 × 41.5mm)

The Mamiya 645 is backed by a comprehensive line of high-performance interchangeable lenses, designed and engineered for superior definition and color balance. The result is a powerful combination producing unrivaled image quality. Just reproduce a Mamiya 645 image at high magnification to see the difference.

Experience superior photographic results with the Mamiya 645.
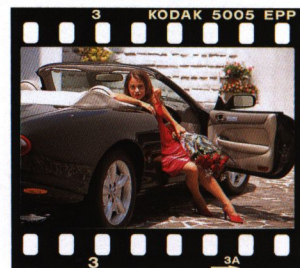
● 35mm format
(actual negative size: 24 × 36mm)

Portions of enlarged images.
Left is 645 format, right is 35mm format.

The Mamiya 645 Series provides photographers v every component needed to tailor a camera system pel-fectly to suit the requirements of the job. This system concept allows selection of lenses, finders, film holders and power drive grips ideally matched to the shooting

More than 20 years of service to the world's most creative photographers

The Mamiya M645 was the world's first 6 × 4.5 SLR, introduced in 1975. This unique but extraor-dinarily versatile format quickly gained popularity worldwide. Since then, the 645 has been updated and improved as advances in technologies and ma-terials enabled new features and designs. Today, the pinnacle of performance is the newest addition to the line, the fifth generation 645 PRO TL. Twice honored with Japan's Good Design Award, the Mamiya 645 Series has set the pace for the rest of the industry.

Photographic versatility combining large image size with 35mm mobility

Mamiya 645 cameras provide unsurpassed versa-tility by combining the medium format's 6 × 4.5cm image area with the freedom of mobility of a 35mm system. In other words, the 645 gives the photogra-pher all the tools needed for full creative expres-sion in a camera as light and easy to handle as 35mm SLR. This has been true from the very first 645 model, and continues today in the fifth genera-tion 645 PRO TL—photography at its finest.

style of the individual photographer or to whatever pho-
tographic effect is required. The latest addition to the
645 PRO lineup is the fifth generation Mamiya 645 PRO
TL, which continues the performance excellence of the
645 PRO body and adds TTL flash output control.

Integrated TTL flash output control

The Mamiya 645 PRO TL was designed to make flash
photography simpler and more reliable. Light from
the flash unit is reflected back from the film sur-
face when the shutter is released and is measured
by a sensor positioned inside the camera body. The
camera processes this information and adjusts flash
output to ensure lighting is optimum at all times,
regardless of the focal length of the lens or even
when using special-purpose filters. The Mamiya 645
PRO TL puts all the tools needed for effective flash
photography right in the palm of the hand.

A wide selection of proven, high-performance lenses

The multicoated lenses available for the Mamiya
645 PRO TL reflect further refinement of some of
the world's most advanced design, grinding, and
ultra-precision finishing technologies. Each lens is
manufactured to the most critical optical and me-
chanical standards, affording the photographer the
best possible resolution, contrast, color balance and
overall image quality.

A modular photographic system for building exactly the tools to suit photographic needs

The Mamiya 645 PRO TL System centers on the camera body, which can be configured through selection of interchangeable components from among five major groups. This means beginners, experienced amateurs and demanding professionals alike can put together whatever features and functions they need. Whatever the need—lightweight configuration, automatic exposure, fully manual operation, macro capabilities or simply the basics—the Mamiya 645 PRO TL System has the answer.

Mamiya 645 PRO TL Block Diagram
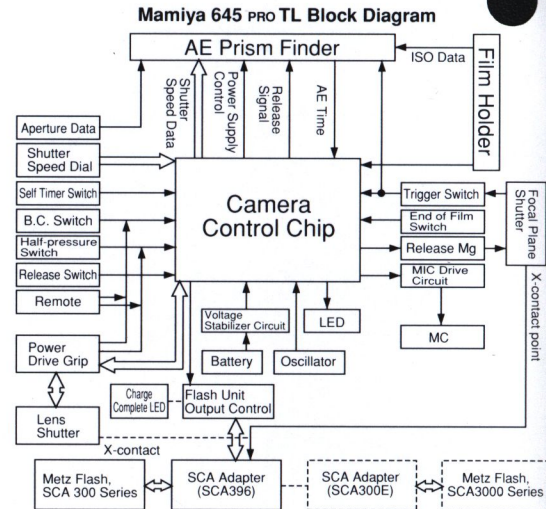
Polaroid Pack Film Holder HP401

135 Film Holder HC401

120 Roll Film Holder HA401
220 Roll Film Holder HB401

Film Holder Component Group

Select from the various film holders available to suit the desired photographic effects and results. Even partway through a roll, the film holder can be interchanged with another for quick and easy film or format changes. Record the same scene in color, monochrome or Polaroid, to meet varying needs. In addition to the standard 645 film holders, the new PRO TL Series includes a 35mm holder that positions the film at the center of the lens image circle for a bright, clear, telephoto effect. The Polaroid holder allows use of instant film that can be used to check image composition, exposure and other variables.

Winder Component Group

Film winding plays a vital role in setting the overall rhythm and mood of a shoot. The crank winder that is standard equipment with the PRO TL is designed to fold compactly out of the way when not needed, and to provide a smooth positive throw. Power drive grips enable automatic film advance as well as a firm, secure grip on the camera. The power drive grip is available in two variations, one designed for lightweight simplicity and the other for greater functional versatility.


Power Drive Grip WG402

Power Drive Grip WG401

The block diagram displays the logic circuitry that provides the brains of the Mamiya 645 PRO TL. Regardless of how the system is configured, this circuitry assures all information on exposure settings, on/off settings and other parameters is transmitted efficiently between each component group. Overall system control is provided by a microprocessor that coordinates all relevant data and provides immediate information on and easy solutions to malfunctions or misoperation.

Waist Level Finder N
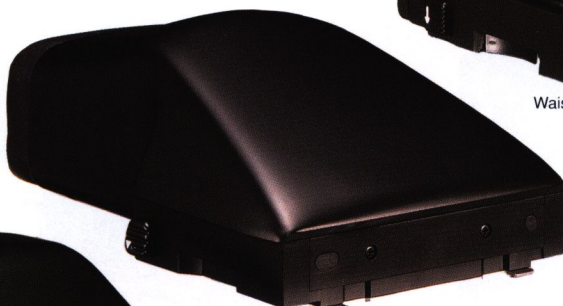
Prism Finder FP401

AE Finder FK402

AE Prism Finder FE401

Finder Component Group

The Finder Component Group features two TTL aperture-priority AE finders for photographers requiring automated exposure control. The AE Prism Finder features a high-precision TTL AE system with 3-way metering and 3-step EV exposure compensation. For photographers who prefer to adjust exposure manually, there are two non-metering finders, one for eye-level viewing and the other for waist-level viewing.

Lens Component Group

The 21 interchangeable lenses making up the 645 lens group provide the Mamiya 645 PRO TL with plenty of photographic versatility. Selections include three wide-angle lenses, two standard lenses, five telephoto lenses, three APO telephoto lenses made from a special high-grade optical glass, and various special function lenses (fisheye, shift, standard macro, telephoto macro, wide angle/close-up zoom, close-up zoom, and one leaf-shutter lens).

Mamiya 645

PRO TL

C 80mm f/2.8N

A150mm f/2.8

A 200mm f/2.8 APO

Accessories

Accessories include a set of auto extension rings for simplified close-up photography, a quick shoe for speedy tripod attachment, a System Set including flash unit adapter and various other useful accessories, a remote controller, and aluminum trunks for safe and secure transport of system equipment.

A versatile camera body with built-in TTL flash unit output control

645 PRO TL, Metz Mecablitz flash unit, and SCA adapter for the ideal flash control system

The 645 PRO TL body comes with an SPD photoreceptor reading off the film surface at the bottom of the mirror box, sensitive metering circuitry and a 6-pin input/output connector on the side of the body. When the flash fires, light passes through the lens and reflects off the surface of the film to the SPD photoreceptor. Special circuits measure the amount of light reaching the film and control signals are sent
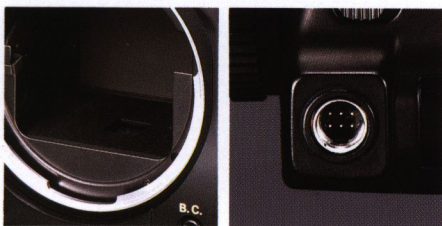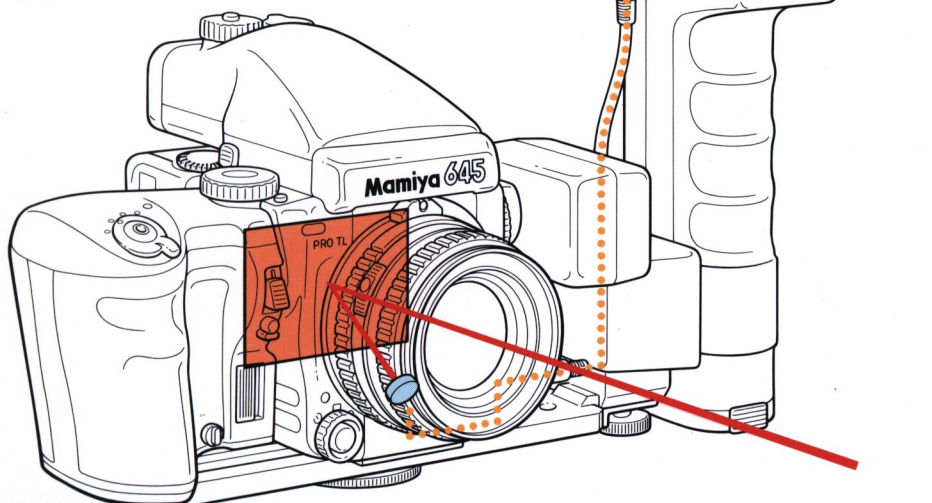
via the connector and SCA adapter to the flash unit. Flash output is instantly adjusted to the optimum level for a perfect exposure. This TTL flash output control system is designed to function at all shutter speeds from 1/60 to 4 seconds, making flash photography simpler and more reliable than ever before.

Enjoy greater freedom in adjusting aperture to meet depth-of-field requirements

The TTL flash output control system enables selection of an optimal aperture setting—from wide open to smallest aperture—to best suit the depth-of-field required for the image. No matter what aperture setting is used, the result is a perfect flash exposure on every shot. The system functions even with the use of special-purpose filters or auto extension rings to provide optimized flash output at all times.

Viewfinder flash indicator

A flash mark on the finder screen lights green to indicate charging is complete, and blinks at 8Hz after shutter release to indicate flash level was optimized for the shot. The photograph above shows the viewfinder flash indicator when the FE401 AE Prism Finder is in use.

Auto shifting to 1/60 second shutter speed as soon as charging is complete

When using a flash unit with a focal plane shutter, shutter speed is relatively slow, normally 1/60 second or longer. With the shutter speed dial set on the AE or AEL settings, or at any speed faster than 1/60 second, however, the 645 PRO TL automatically shifts to a 1/60 second speed for flash photography as soon as flash unit charging is complete.

All-speed synchronization for leaf-shutter lenses

The leaf shutter lens (55mm), has shutter speeds to 1/500 sec. and is flash synchronized at all speeds for fill-flash applications.

645 PRO TL with Metz Mecablitz 54MZ 3, SCA adapter, and flash unit bracket

645 PRO TL with Metz Mecablitz 70MZ 5, SCA adapter, and double shoe adapter

# Interchangeable rollfilm holders with preloadable film inserts plus a Polaroid Holder

120 Roll Film Holder HA401
220 Roll Film Holder HB401

The HA401 is a 120 roll film holder providing 15 exposures; the HB401 provides 30 exposures with 220 roll film (6×4.5cm format, actual negative size: 56×41.5mm). Consisting of a magazine shell that connects to the body of the camera and an insert that holds the film, these film holders are designed to make film loading and replacements simple and smooth. The insert must match the type of film being loaded (120 or 220), but each holder can be used with either type of magazine shell. Both film holders are designed and engineered to keep the film surface perfectly flat. Other features include a dark slide, dark slide storage slot, film speed dial (ISO25 to 6400), and memo clip. Weight: 390g

135 Roll Film Holder HC401

This 135 film holder provides an actual negative size of 24×36mm, centered at the lens image circle for photographs with optimum brightness and clarity. A panorama adapter included with the HC401 can be used to record panorama images measuring 13×36mm. Other features include special focusing screens for 35mm and panorama sizes, a dark slide, dark slide storage slot, film speed dial (ISO25 to 6400), and memo clip. Weight: 405g
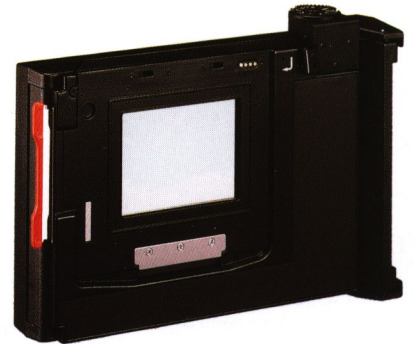
Polaroid Pack Film Holder HP401

This film holder accepts 6×4.5 format (actual negative size: 56×41.5) Polaroid Series 100 and 600, as well as Fuji Series FP100 and FP3000E film. In addition to being useful for checking composition, lighting, exposure, and other variables, instant film can also be used to take commemorative photos or informal snapshots. The N Type or N2 Type Polaroid Tripod Adapter is required to mount the camera on a tripod with the Polaroid Pack Film Holder attached. Also note that the camera's neck strap cannot be used while the Polaroid Pack Film Holder is attached. Weight: 370g

Panorama Adapter

120 roll film in place inside insert, which is installed in the holder

Interchangeable finders to help you capture the limitless range of expression of light

AE Prism Finder FE401

This TTL aperture-priority AE prism finder is equipped with Mamiya's original three-way metering. High-precision automatic exposure photography is assured by setting the shutter dial on the camera body to the AE or AEL position. Three-way metering offers selection between average, spot and autoshift metering to suit existing lighting situations. 3EV manual exposure compensation (in 1/3 EV steps) provides plenty of versatility for personal style. Light metering and calculations are performed even in the manual mode, and LEDs blink to signal when exposure setting is correct; this feature supports shutter speed-priority photography as well.

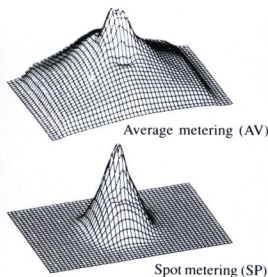Average metering (AV)
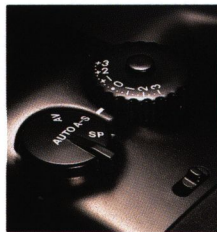
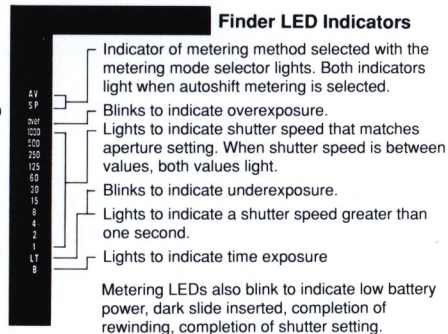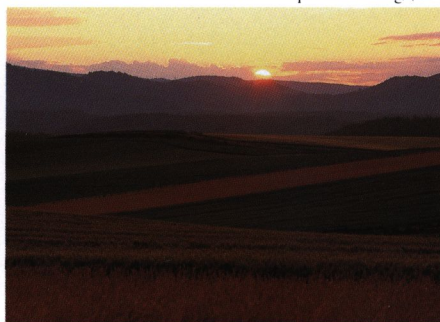Spot metering (SP)

3-way AE Metering

Average metering (AV) provides center-weighted metering of the full frame. Even when there are differences in relative brightness, this setting calculates an average value that provides the best balance for exposure.

Spot metering (SP) takes a reading only at the center of the frame. This makes it possible to obtain proper exposure of images with strong contrast in different elements, or for pinpoint exposure control over a specific element in the frame.

Autoshift metering (A-S) automatically switches between average and spot metering according to the relative contrast in brightness between the center and the surrounding area of the frame. At mid-ranges, variable ratio metering is used in place of average and spot metering.

Average metering (AV)

Spot metering (SP)

Finder LED Indicators

Indicator of metering method selected with the metering mode selector lights. Both indicators light when autoshift metering is selected.

Blinks to indicate overexposure.

Lights to indicate shutter speed that matches aperture setting. When shutter speed is between values, both values light.

Blinks to indicate underexposure.

Lights to indicate a shutter speed greater than one second.

Lights to indicate time exposure

Metering LEDs also blink to indicate low battery power, dark slide inserted, completion of rewinding, completion of shutter setting.

●Manual Mode
The current shutter speed setting remains lit in the finder, and blinks when it is appropriate to the current aperture value. If a change in the aperture stops the shutter speed LED from blinking, simply change the shutter speed to find one that blinks to assure proper exposure.

AE Prism Finder FE401 Specifications
●Metering Range: EV1 (f/2.8, 4 sec) to EV19 (f/22, 1/1000 sec) with ASA/ISO 100 film and 80mm f/2.8 lens ●Coupling Range: Auto: 8 sec to 1/1000 sec at 1/6 EV stop intervals; Manual: 4 sec to 1/1000 sec at 1 EV stop intervals ●Film Speed: ISO25 to 6400 specified with film speed dial on film holder ●Built-in eye piece shutter, detachable rubber eye cup, optical specifications and diopter lenses same as prism finder ●Weight: 325g


AE Finder FK402

The FK402 provides TTL center-weighted, aperture-priority AE capabilities and a non-prism Kepler-type finder that produces an unreversed, laterally correct image in a lightweight configuration. The finder screen uses LEDs that light or blink to indicate shutter speed instead of numeric values. Light metering and calculations are performed even in manual mode, so the LED indicators can be used to assure correct selection of shutter speed and aperture. The reflex finder features diopter adjustment in the range of –5 to +5.

[AE Position]

AE — Intermediate "AE Mode"

⊕ — Intermediate Shutter Speed
⊖
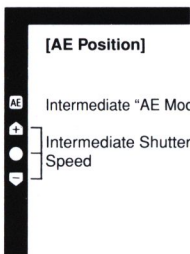
Finder LED Indicators and Shutter Display in the AE mode
The AE indicator at the top indicates AE mode. The brightness of the AE indicator changes in the AE Lock mode to show relative brightness of the image. Three LEDs light or blink to indicate shutter speed in the AE mode.
● ○ lit: 1/125 sec
● ○ ⊕ lit: 1/1000 to 1/500 sec
● ○ ⊖ lit: 1/125 to 1/60 sec
● ⊖ blinking (twice/second): 1/30 to 1/15 sec
● ⊖ blinking (4 times/second): 1/8 to 1/2 sec
● ⊖ blinking (8 times/second): 1 to 4 sec
● AE and ⊕ or ⊖ blinking (8 times/second): Out of metering range

[Manual Position]

⊕ — Over Exposure
○ — Proper Exposure
⊖ — Under Exposure
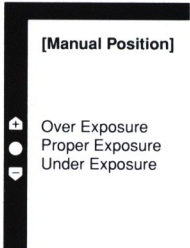
Finder LED Indicators and Shutter Display in the Manual mode
The AE indicator at the top goes out to indicate the Manual mode. Three LEDs light or blink to indicate aperture setting and shutter speed combinations.
● ○ lit: correct exposure
● ○ and ⊕ or ⊖ lit: 1/2-stop over exposure or underexposure
● ⊕ or ⊖ lit: 1-stop overexposure or underexposure
● ⊕ or ⊖ blinking (twice/second): 2-stop overexposure or underexposure
● ⊕ or ⊖ blinking (4 times/second): More than 2-stop overexposure or underexposure
● ⊕ or ⊖ blinking (8 times/second): Out of metering range
When overexposure or underexposure is indicated, simply adjust the aperture or shutter speed until the ○ indicator lights to indicate correct exposure.

AE Prism Finder FE402 Specifications
●Metering Range: EV1 (f/2.8, 4 sec) to EV19 (f/22, 1/1000 sec) with ASA/ISO 100 film and 80mm f/2.8 lens ●Coupling Range: Auto: 8 sec to 1/1000 sec at 1/6 EV stop intervals; Manual: 4 sec to 1/1000 sec at 1 EV stop intervals ●Film Speed: ISO25 to 6400 specified with film speed dial on film holder ●Built-in Diopter Adjustment: –5 to +5 ●Optical specifications same as prism finder, no exposure compensation mechanism (film speed dial on film holder used) ●Weight: 270g

Power drive grips for motorized film advance
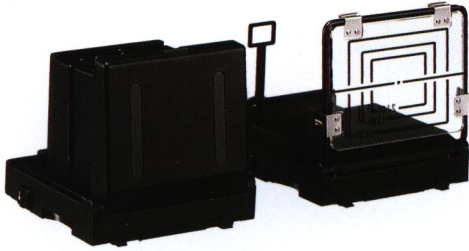
Waist Level Finder N

This lightweight reflex finder opens and closes with the touch of a finger, and includes a flip-up magnifier for critical focusing. It is the perfect choice for everything from manual mode photography to photography requiring external metering, low-angle shots, close ups or copy work. Waist Level Finder N comes with a sports finder that makes it easier to follow a moving subject when the lens is set to infinity.

Waist Level Finder N Specifications
●Finder Magnification: 1.3 (standard lens at ∞) ●Magnifier Magnification: 4 times ●Diopter: Standard 1.5; replaceable with one of six other types (−3 to +2) ●Sports Finder: 80mm lens frame (with 110mm, 150mm, 210mm lens mask) ●Weight: 125g

Power Drive Grip WG401

The WG401 Power Drive Grip replaces the standard film advance crank of the 645 PRO TL to provide auto film winding along with a grip designed for steady handholding during shooting or transport. High-speed continuous exposures can be achieved either with the shutter release button or a cable release. A conveniently located mode selector includes ON and OFF settings, as well as START, which automatically sets newly loaded film to the first frame, and BC (battery check), which shows the current status of battery power using a 3-stage LED.

Electronic leaf-shutter lens for flash synchronization at 1/500 second

Using the WG401 Power Drive Grip along with a leaf-shutter lens (using the grip connector that comes with the lens) enables simultaneous electronic film winding by the grip and setting of the lens shutter. The FE401 AE Prism Finder displays the optimum shutter speed, which comes in useful when setting the shutter speed of the lens.

Power Drive Grip WG401 Specifications
●Film Transport Rate: Approximately 0.65 sec (1.5 frames/sec); 1.1 sec with leaf-shutter lens ●Power Supply: Six AA-size alkaline-manganese batteries (Ni-Cd battery pack; optional 9V AC adapter can also be used) ●Maximum Battery Capacity: Approximately 80 rolls on alkaline-manganese batteries; 70 rolls on Ni-Cd battery pack (120 film, normal temperature) ●Mode Selector: Supports cable release operation; automatic positioning of first frame of new film roll; shutter release lock; battery check (status indicated by 3-stage LED) ●Other: Auto stop at end of film roll; auto leaf shutter setting when connected to leaf shutter lens using PL401 Grip Connector ●Weight: 290g (without battery)/430g (including batteries)

Prism Finder FP401

For normal prisms including a pentaprism to provide an unreversed image of outstanding brightness. The perfect choice for photography using manual mode with external exposure metering, or any other eye-level photography.

Prism Finder FP401 Specifications
●Finder Magnification: 0.79 (standard lens at ∞) ●Diopter: Standard−0.8; 6 interchangeable correction lenses (−3 to +3) ●Eye Cup ●Weight: 300g

Power Drive Grip WG402

Lightweight, compact and quiet, the WG402 Power Drive Grip is designed for simple, no-nonsense auto film winding. A lithium battery to supply power helps keep weight and size at a minimum.
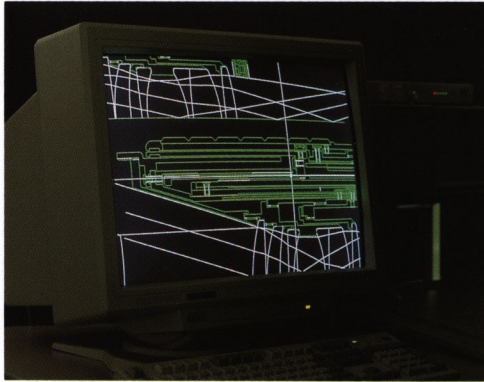
Power Drive Grip WG402 Specifications
●Film Transport Rate: Approximately 0.9 sec (1 frame/sec) ●Power Supply: One 2CR5 6V lithium battery ●Maximum Battery Capacity: Approximately 130 rolls (120 film, normal temperature) ●Mode Selection: Release button only; pressing down part way automatically positions first frame of new film roll ●Other: Auto stop at end of film roll; release lock lever ●Weight: 190g (without battery)/225g (including battery)

A full selection of high-performance lenses take photographic creativity beyond conventional limits

Mamiya lenses have an unrivaled reputation for superb image quality, quality that reflects an intense dedication to providing serious amateur and professional photographers with the absolutely finest reproduction of detail, color fidelity and elimination of optical flaws. The 21 interchangeable lenses available for the Mamiya 645 system provide exceptional versatility in image creation—from fisheye to telephoto, perspective control to macro capability. Mamiya quality starts with design concept, the planning of a lens lineup that will enable the photographer to select a set of lenses capable of handling any photographic requirement. Each lens is designed to meet specific needs while offering superior performance in its class. Lens elements are grouped and balanced to maximize resolution and minimize optical distortion. Every step in the production process—grinding and polishing of elements, Multi-surface coating, machining of lens barrels and focusing helicoids, assembly of the finished lens—is backed by the strictest quality control standards. The result is an optical instrument uniquely suited to the demands of creative photography, that adheres fully to the most exacting standards of image reproduction, a Mamiya lens ready to get the job done. Mamiya world–class lenses utilize the latest optical advances combined with CAD (Computer aided design) technology.

	Fisheye ULD C 24mm f/4	C 35mm f/3.5N	C 45mm f/2.8N	Shift C 50mm f/4	C 55mm f/2.8N	C 80mm f/1.9N	C 80mm f/2.8N	Macro C 80mm f/4N	Macro A 120mm f/4M	A 150mm f/2.8	C 150mm f/3.5N
Optical Construction	10 elements 8 groups (including Filters)	9elements 7groups	9elements 7groups	10elements 8groups	8elements 6groups	7elements 6groups	6elements 5groups	6elements 4groups	9elements 8groups	6elements 4groups	5elements 5groups
Angle of View	180	90	76	70	65	47	47	47	33	26	26
Minimum aperture	22	22	22	32	22	22	22	22	32	22	32
Diaphragm	Automatic	Automatic	Automatic	Manual	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
Minimum Focusing Distance	0.3m	0.45m	0.45m	0.45m	0.45m	0.7m	0.7m	0.36m	0.4m	1.5m	
Maximum Magnification Ratio	0.14	0.11	0.15	0.18	0.18	0.15	0.15	0.5	1.0	0.12	
Area Covered	298×402mm	387×522mm	286×386mm	230×310mm	231×312mm	284×384mm	281×380mm	83×112mm	42×56mm	342×462mm	344×465mm
Equivalent focal length for 35mm	15mm	22mm	28mm	31mm	34mm	50mm	50mm	50mm	73mm	93mm	93mm
Filter size	4 types incorporated	77mm	67mm	77mm	58mm	67mm	58mm	67mm	67mm	67mm	58mm
Lens hood	None required	None required	Slip-on	None required	Screw-in	Screw-in	Screw-in	None required	None required	Built-in	Built-in
Dimensions (L×w)	82×100mm	61.5×80mm	70.5×75mm	105.5×80mm	59.4×70mm	59×75.5mm	43.5×70mm	75×79mm	111×77.4mm	107×74.5mm	80×70mm
Weight	785g	445g	475g	735g	305g	420g	235g	585g	745g	740g	420g

C 55mm f/2.8N

C 80mm f/2.8N

C 45mm f/2.8N

Wide-angle Lenses
● The 35mm lens provides a super wide-angle 90 degree view angle.
● The 45mm and 55mm lenses are designed for outstanding performance in a compact configuration.

Standard Lenses
● The 80mm f/1.9 lens provides all the brightness of a 35mm camera.
● At 235g, the 80mm f/2.8 lens gives you all the performance of the Mamiya 645 System in an ultra-lightweight design.

C 35mm f/3.5N   C 45mm f/2.8N   C 55mm f/2.8N   C 80mm f/1.9N   C 80mm f/2.8N

	C 210mm f/4N	A 300mm f/2.8 APO	ULD C 300mm f/5.6N	A 500mm f/4.5 APO	C 500mm f/5.6	Zoom C 55~110mm f/4.5N	Zoom ULD C 105~210mm f/4.5
elements 5groups	5elements 4groups	9elements 8 groups (includ Filters)	6elements 5groups	11elements 9groups (including Filters)	6elements 5groups	11elements 10groups	13elements 11groups
20	19	13	13	8	8	65~35	36~19
22	32	22	32	32	45	32	32
Automatic	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
2.5	2.5m	3.5m	4m	5m	9m	1.5m	1.8m
0	0.1	0.1	0.09	0.11	0.07	0.04~0.08	0.07~0.14
437×590mm	406×547mm	437×590mm	445×600mm	377×509mm	622×839mm	55→986×1331mm 110→520×702mm	105→558×754mm 210→294×396mm
124mm	130mm	186mm	186mm	310mm	310mm	34~68mm	65~130mm
77mm	58mm	Plug-in, 6 types	58mm	Plug-in, 6 types	105mm	67mm	58mm
Built-in	Built-in	Built-in	Built-in	Built-in	Built-in	Screw-in	Built-in
143.5×91mm	137×70mm	237×139.5mm	164×70mm	377.5×162mm	358×114mm	104×77mm	158×74.5mm
1100g	725g	2910g	710g	5410g	2280g	800g	875g

	A 55mm f/2.8 N/L
Optical Construction	8elements 6groups
Angle of View	65
Minimum aperture	22
Diaphragm	Automatic
Lens Sutter	SEIKO #0 1/30~1/500, F (Focal Plane Shutter), X
Lens Sutterset	Auto (with Power Grip WG401), Manual, Mirror-up
Minimum Focusing Distance	0.45m
Maximum Magnification Ratio	0.18
Area Covered	231×312mm
Equivalent focal length for 35mm	34mm
Filter size	67mm
Lens hood	Screw-in
Dimensions (L×w)	61.5×79.6mm
Weight	520g

13

C 210mm f/4N

A 150mm f/2.8

C 150mm f/3.5N

ULD C 300mm f/5.6N

Telephoto Lenses

A lineup of versatile lenses that covers everything from a 150mm medium telephoto to 500mm super-telephoto (equivalent to 92mm to 310mm on a 35mm camera).

- Designed for easy portabilily, the 150mm f/2.8 lens provides outstanding color fidelity.
- The 150mm f/3.5 lens weighs only 420 grams and the 210mm f/4, 735 grams.
- The 300mmm f/5.6 lens employs very low dispersion glass for unmatched natural color reproduction.
- The 500mm f/5.6 produces beautiful natural hues and provides outstanding cost performance.

A 150mm f/2.8   *C 150mm f/3.5N*   *C 210mm f/4N*   *ULD C 300mm f/5.6N*   *C 500mm f/5.6*

14

A 300mm f/2.8 APO

A 500mm f/4.5 APO

A 200mm f/2.8 APO

APO Lenses

Mamiya APO lenses employ very low-dispersion glass and are designed to optimize correction of color or spherical aberrations. The result is ultra-fine detail, vivid color and subtle tones that truly bring a photographic image to life.

● The 200mm f/2.8 lens provides APO quality in a compact design.

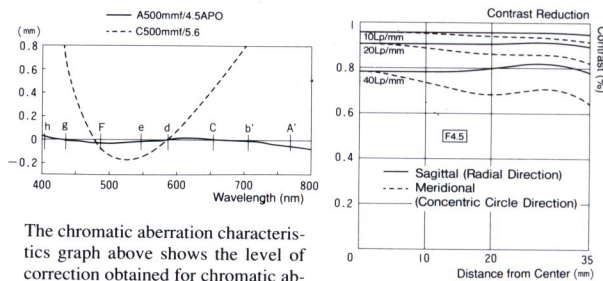● The 300mm f/2.8 and 500mm f/4.5 are large-diameter lenses with internal focus design.

A 200mm f/2.8 APO   *A 300mm f/2.8 APO*   *A 500mm f/4.5 APO*

A500mm f/4.5 APO Lens

Optical Axis Chromatic Aberration

— A500mmf/4.5APO
---- C500mmf/5.6

MTF Characteristics Graph

Contrast Reduction

10Lp/mm
20Lp/mm
40Lp/mm

F4.5

Sagittal (Radial Direction)
Meridional
(Concentric Circle Direction)

The chromatic aberration characteristics graph above shows the level of correction obtained for chromatic aberration. The vertical axis the amount of divergence from the focal plane, while the horizontal axis the light wavelength. The APO lens maintains a value of zero for virtually any wavelength and color, which indicates an outstanding level of correction.

These values indicate how much a resolving power chart with black and white stripes of differing pitch diverges at the center of a 1mm wide strip of film. A value of 1 indicates 100% fidelity. The horizontal axis the distance from the center of the screen, and a value in the range of 0.8 to 0.6 is considered to be satisfactory.
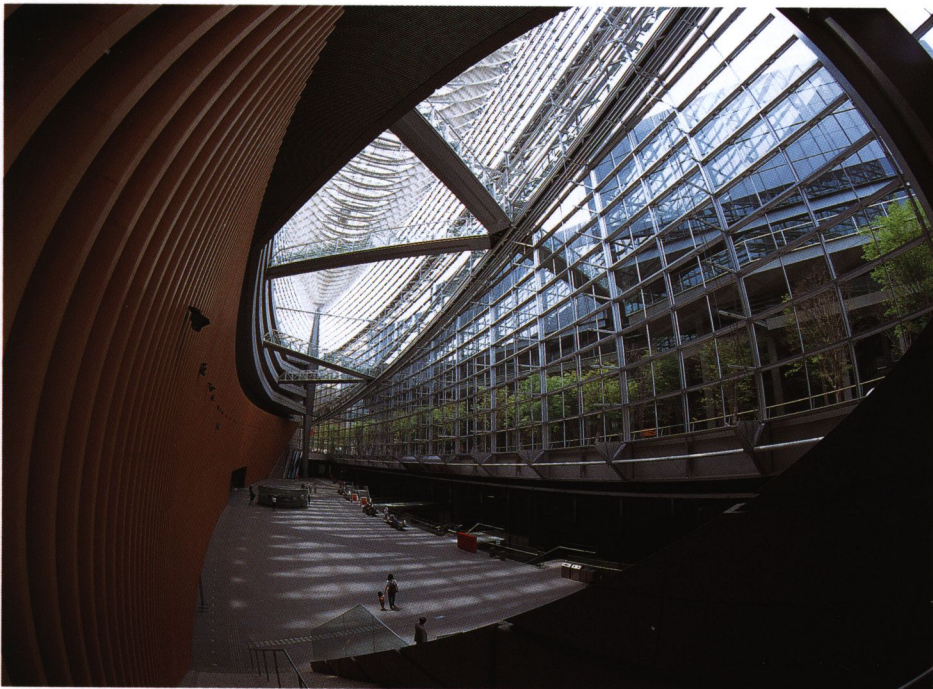
Fisheye ULD C 24mm f/4
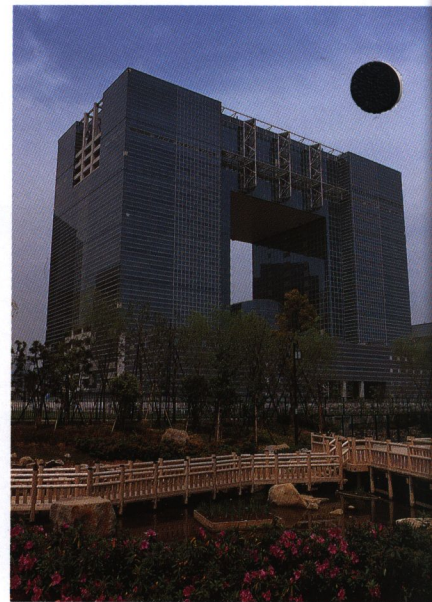
Shift C 50mm f/4 (Norma

Macro A 120mm f/4

Macro A 120mm f/4M

Specialty Lenses

- The Fisheye 24mm lens has a unique 180-degree field of view.
- The Shift 50mm lens performs versatile perspective control.
- The Macro 80mm lens provides an image ratio of 1:2, and a special extension ring can be used for image ratios up to 1:1. The Macro 120mm is a medium telephoto macro lens that provides continuous image ratio settings up to 1:1.
- Two zoom lenses are available, the 55-110mm that is suitable for everything from wide-angle shots to portraits, and the 105-210mm that is the perfect choice for medium telephoto photography.

Fisheye ULD C 24mm f/4   *Shift C 50mm f/4*   *Macro C 80mm f/4N*   *Macro A 120mm f/4M*   *Zoom C 55~110mm f/4.5N*

Shift C 50mm f/4 (Shifted)

Zoom ULD C 105~210mm f/4.5 (105mm)

A 150mm f/3.8N/L

Zoom ULD C 105~210mm f/4.5 (210mm)

Zoom ULD C 105~210mmf/4.5

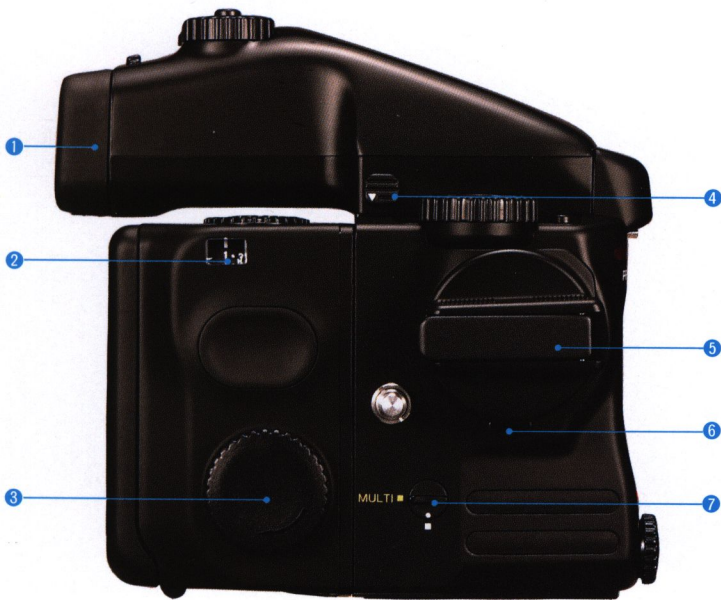
A 55mm f/2.8N/L

Leaf-Shutter Lenses

The 55mmN/L lens comes with built-in leaf shutters with speeds of 1/30 to 1/500 second. Leaf shutters are synchronized at all speeds with the TTL flash output control system of the 645 PRO TL. It is also possible to use the camera's focal plane shutter with this lens.

Designed with the photographer in mind

❶ Eye Cup
❷ Film Counter Window
❸ Film Advance Knob (Can also be used when the film holder is not mounted on the camera.)
❹ Finder Lock Release Button
❺ Film Advance Crank (Foldable type, with a selection of six start positions.)
❻ Film Advance Crank Lock Lever
❼ Multiple Exposure Lever
❽ Aperture Ring Coupling Pin (Sends lens aperture value to AE finder.)
❾ Self-timer/Battery Check Lamp
❿ Lens Alignment Dot

⓫ Shutter Release Selector (□Electromagnetic Release/●Shutter Lock/ ᴜDigital Self-Timer)
⓬ Shutter Release Button
⓭ Focusing Release Pin
⓮ Mirror
⓯ TTL Flash Unit Output Control System Light Sensor
⓰ Battery Check Button
⓱ Finder Lock Release Button
⓲ Hot-shoe (X Contact)
⓳ Flash Synchro Terminal (X Contact)
⓴ Mirror-up Lever
㉑ Lens Release Button
㉒ 6-pin Terminal for TTL Flash Unit Output Control System Light Control Signal Input
㉓ Film Holder Release Button

㉔ Film Holder Lock Release Button
㉕ Pack Cover Button
㉖ Pack Cover Lock Release Button
㉗ Dark Slide Storage Slot
㉘ Dark Slide Slot
㉙ Grip Guide Holds
㉚ Strap Lugs
㉛ Metering Mode Selector
㉜ Eyepiece Shutter Lever
㉝ Shutter Speed Dial Lock Release Button
㉞ Shutter Speed Dial
㉟ Film Speed Dial
㊱ Exposure Compensation Dial Lock Release Button
㊲ Exposure Compensation Dial
㊳ Diopter Lens Mounting Frame
㊴ Memo Clip
㊵ Finder Window

Easy-to-use shutter speed dial
Large numerals on an oversized knurled dial simplify selection of manual shutter speeds and automatic metering with the AE Prism Finder. The red "A" (AE) and "AEL" (AE Lock) settings function only when the AE Finder is attached.

Electronic contact between the finder and film holder
Sixteen contacts on the body link with the AE Finder to provide a data signal path for winder, lens and holder. Four contacts in the holder pass data on the film holder dial setting, the dark slide position, and other data.
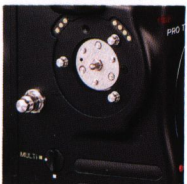

Electronic contact for the Power Drive Grip and multiple exposure function
The four contacts on the right are Power Drive Grip signal contacts used for shutter release and winder data, while the three contacts link the Power Drive Grip (WG401) with a leaf-shutter lens. Setting the multiple exposure knob to MULTI makes it possible to expose the same frame any number of times.

Electronic Self-timer and Time Exposures
Pressing the shutter release button while the shutter release selector is in the self-timer position causes an LED to light for eight seconds and then blink during the two seconds before the shutter is released. Self-timer operation can be canceled at any time during this 10-second period. The LED also doubles as a battery level indicator, indicating the current battery power level by either lighting, blinking or turning off. The shutter speed dial can be set to B (Bulb) for time exposures when the shutter release selector is in the self-timer position. Time exposures are controlled by special circuits that minimize battery power consumption even during very long exposures.
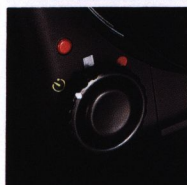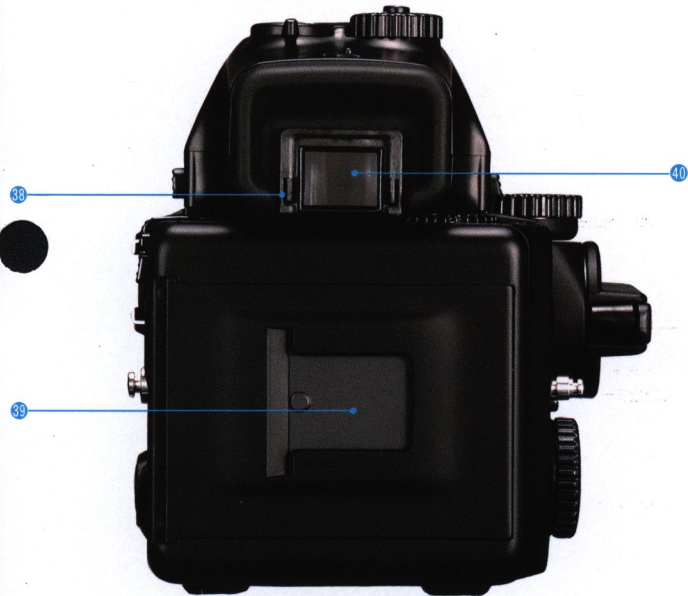

Quick and simple focusing screen changes
A total of six focusing screens are available to suit a wide variety of applications and themes. Focusing screens are designed for quick and simple replacement. Simply slide the release pin inside the top of the bayonet mount ring, this causes the screen to hang down. Next, use the tweezers that come with the focusing screen for replacement.

Mamiya 645 PRO TL Specifications

Camera Type:	6 × 4.5 cm format, electronically controlled focal-plane shutter, single lens reflex
Actual Film Image Size:	56 × 41.5mm

Film Type:	120 roll film (120 Roll Film Holder HA401): 15 exposures
	220 roll film (220 Roll Film Holder HB401): 30 exposures
	   *The same standard insert is used for both 120 and 220 roll film
	135 roll film (135 Roll Film Holder HC401)
	   *Insert type with panorama attachment.
	Instant film (Polaroid Pack Film Holder HP401)
	   *Back type, Polaroid Series 100, 600; Fuji Series FP

Lens:	Mamiya-Sekor C80mm f/2.8N (standard); 21 other lenses available; All feature depth of field preview switch and also depth of field scales.
Lens Mount:	Mamiya M645 Bayonet Mount
Shutter:	Moving coil, electronically controlled, horizontal focal-plane shutter Manual: 4 to 1/1000 second, B, T (with time exposure) Auto: 8 to 1/1000 second, 1/6 unit steps (with AE Finder)
Shutter Release Button:	Electro-magnetic release; selectable release lock and self-timer (10 seconds, operation indicated by LED, interruptible)
Mirror:	Instant return, front coated mirror with lock-up lever
Finder:	Interchangeable (Waist Level Finder N, Prism Finder FP401, AE Prism Finder FE401, AE Finder FK402)
Focusing Screen:	Standard: Type E (microprism, split prism); six replacement types available as options)
Field of View:	94% *[1]
Film Transport:	Standard: Single turn winding by Film Advance Crank AC401; Variable crank start position (6); replaceable with Power Drive Grip WG401 or WG402.
Exposure Counter:	Progressive type, automatic reset; automatic counter for 120 and 220 film; automatic switching by film holder insert
Multiple Exposure:	Using multiple exposure knob
Auxiliary Shutter:Release Socket:	Accepts receiver connection for remote control by transmitter and electromagnetic cable release. When using Left Grip GL402, connection of Terminal Adapter RA402 between contacts enables use of grip release button. Connection of Cable Release Adapter RC402 enables cable release operation.
Power Supply:	6V battery × 1 (4LR44 alkaline-manganese battery or 4SR44 silver-oxide battery, 2CR1/3 lithium battery)
Battery Check:	Indicated as one of three levels by battery check LED
Dimensions and Weights (without battery)	Body: 124 (W) × 103 (H) × 124 (D) mm; 970g
	With Waist Level Finder N,80mm f/2.8N lens: 124 (W) × 106 (H) × 158 (D) mm; 1,330g
	With AE Prism Finder FE401,80mm f/2.8N lens: 124 (W) × 135 (H) × 170 (D) mm; 1,530g
	With AE Prism Finder FE401, 80mm f/2.8N lens, Power Drive Grip WG401: 172 (W) × 135 (H) × 170 (D) mm; 1,780g
	With AE Prism Finder FK402, 80mm f/2.8N lens, Power Drive Grip WG402: 156 (W) × 140 (H) × 197 (D) mm; 1,620g
	* All weights include 390g to account for 120 Roll Film Holder HA401.

* Specifications are subject to change without notice.
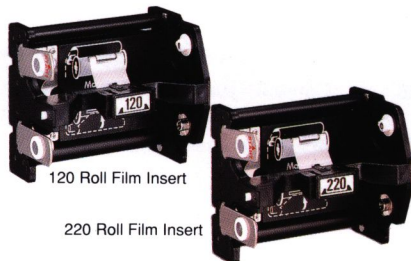*1This information is based on a linear (horizontal/vertical) measurement.

Mirror lock-up and electronic shutter release
Setting the mirror-up lever to the M.UP position locks the mirror to prevent even the slightest vibration during close-up or telephoto work. An electronic shutter release socket provides connections for cable releases, wire releases, the left-hand grip, and wireless remote controls.

Bottom of camera
The battery compartment, tripod mount (accepts U 1/4-inch and U 3/8-inch tripod screws), and grip guide holes (two holes left and right of tripod mount to secure flash unit bracket, left grip, quick shoe) are located on the bottom of the camera.

Auto Extension Rings

Angle Finder N

Magnifier FD401

120 Roll Film Insert

220 Roll Film Insert

No. 1   No. 2   No. 3-S   Auto Macro Spacer

Angle Finder N

This finder attaches to a prism finder to help make low-angle and close-up work more comfortable. The insert rotates a full 360 degrees for shooting at any angle. Includes built in diopter correction (–4 to +4). Weight: 125g

Magnifier FD401

Attaching to a prism finder, this magnifier provides enhanced focusing for close-up and telephoto work by magnifying the center portion of the screen. After focusing, it can be raised to confirm overall composition. Standard magnification is 2:1, and built-in diopter correction (–5 to +5) is provided. Weight: 50g

Remote Control Set RS401

Near infrared signals are sent from a transmitter to a receiver connected to the camera for wireless remote control operation. Outdoor operation is possible from up to 30 meters, and a choice of three channels ensures interference-free operation.

Power Supply
   Transmitter: Two AA-size alkaline batteries
   Receiver: One S-006P 9V battery
Weight (without batteries)
   Transmitter: 130g
   Receiver: 140g

120 and 220 Film Inserts (with cases)

These inserts can be used interchangeably with either 120 or 220 magazine shells. Weight: 100g each

Polaroid Tripod Adapter N2

This adapter is required when using the camera on a tripod with the Polaroid Back attached. It raises the camera so that the Polaroid holder clears the tripod head. Weight: 185g

Mamiya Carbon Tripod AY701·702·703
Mamiya Carbon Monopod AX701

Lightweight, durable carbon material (TORAY "TOKARAY") in combination with Mamiya's original multi-layer construction provides strength and lightness far surpassing aluminum or other metals. Innovative non-slip stoppers (patent pending) prevent accidental folding of legs when weight is applied. Tripod legs can be locked at various angles, and the monopod weighs just 370 grams.

Specifications	Carbon Tripods			Carbon Monopod
	AY701	AY702	AY703	AX701
Length extended (25 degree leg spread)	1,445mm	1,486mm	1,944mm	1,500mm
Length folded	599mm	490mm	660mm	500mm
Sections	3 steps	4 steps	4 steps	4 steps
Segment diameter(Top leg)	27mm	27mm	31mm	27mm
Leg spread angles	25·60·80*			–
Weight	1,580g	1,490g	2,120g	370g
Platform screws	1/4-inch and 3/8-inch			

* Optional Short Center Pole is required for 80° leg spread

Mamiya Magnesium Pan Head AW701
Mamiya Magnesium Pole Head AW702

The perfect choice for the Mamiya Carbon Tripod or Carbon Monopod.
Made of lightweight yet highly rigid magnesium alloy. The 2-handle, 3-way pan head features a large grip. The pole head has a separate screw for mounting the camera to ensure secure locking. Both items are designed for minimum weight and maximum performance.

Specifications	Magnesium Pan Head AW701	Magnesium Ball Head AW702
Type	2 handle 3 way	Ball and socket head
Camera plate	86 × 55mm	63 × 35mm
Base plate	51mm	44mm
Diameter of ball	–	φ30mm
Height	110mm	81 mm
Weight	620g	160g

Auto Extension Rings

Close-up extension rings that can be used while maintaining auto diaphragm and metering capabilities. Three different lengths suit various image ratios up to 1:1. Weight: 55g (No. 1), 90g (No. 2), 120g (No. 3-S)

Auto Macro Spacer

Used with the 80mm Macro lens, this close-up extension ring maintains auto diaphragm and metering capabilities, and provides image ratios from 1:2 to 1:1. 120g

2 x Tele-Converter N

A converter that doubles the effective focal lengths of existing lenses while maintaining auto diaphragm and metering capabilities. Designed for use with 150, 200, 210, 200, and 500mm lenses. Weight: 330g

Mamiya Quick-Shoe AQ701

Install the Quick Shoe onto a tripod for quick and easy mounting and removal of the camera. One-touch mounting combines with a double-action release mechanism for the best combination of high speed and security. The camera is held securely in place by Mamiya's own three-point anchoring mechanism. (Cannot be used with Polaroid film holder.) Weight: 225g

Left-Hand Grip GL402 (with Terminal Adapter RA402)

Complete with shutter release and hot shoe, the GL402 also provides cordless connection to the body for release and synchro signals. The shutter release also includes a lock function. (Cannot be used with Polaroid film holder.) Weight: 330g

Remote Control Set RS401

Magnesium Alloy Pan Head AW701

Magnesium Alloy Ball Socket Head AW702

Mamiya Carbon Tripod AY701

Mamiya Carbon Monopod AX701

Mamiya Quick Shoe AQ701

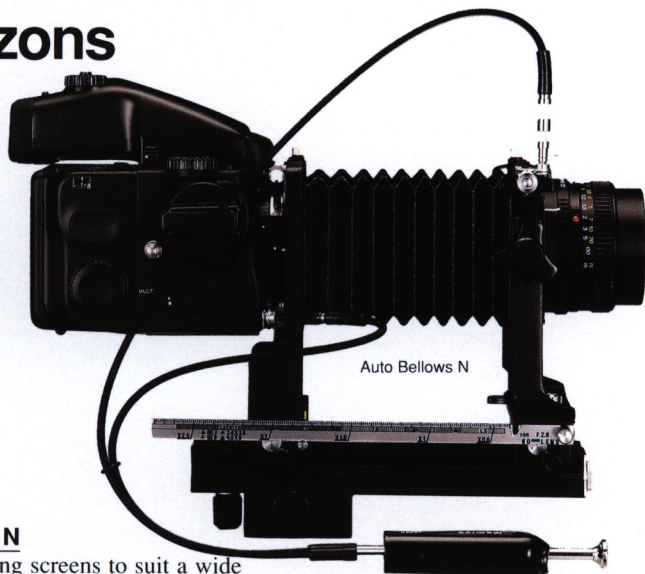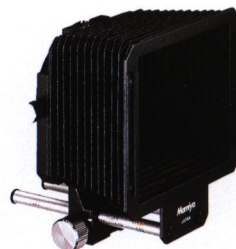Left Hand Grip GL402

2X Tele-Converter N

Auto Bellows N

Electromagnetic Cable Release

External Battery Case

Bellows Lens Hood

Focusing Screen N

A total of six focusing screens to suit a wide range of photographic objectives, lenses, holders, and subjects.

Type A: Matte

All matte with Fresnel lens to provide a clear view of the entire screen.

Type A4: Checker

A matte screen with Fresnel lens and grid for close-ups, copy work, architectural photography, and any other applications that require strict vertical and horizontal alignment.

Type B: Rangefinder Spot

A matte screen with fresnel lens and split-image center focusing aid that helps achieve sharp focus.

Type C: Microprism

A matte screen with fresnel lens and microprism center focusing aid for quick focusing.

Type E: Rangefinder Spot/Mircroprism
(Standard)

A matte screen with fresnel lens and horizontal split-image center focusing aid enclosed in a microprism collar. Focusing is possible anywhere on the screen.

135/Panorama

Supplied with 135 Film Holder HC401, this focusing screen is identical to Type E except for 35mm and panoramic fields of view indicated in the screen. Since the entire 6 × 4.5 field of view is visible, this screen can continue to be used even if the film holder is changed to a different type.

Flash Unit Bracket AD401

This bracket makes it possible to mount a compact flash unit directly above the center of the lens for direct lighting of the subject. Complete with shoe for the SCA396 adapter, this bracket allows simple connections that do not interfere with normal camera operations. (Cannot be used with the Waist Level Finder.) Weight: 403g

Auto Bellows N (with double cable release and scale)

A precision close-up device with continuous magnification range, this bellows virtually converts the 645 PRO TL into a view camera. Features include a rack-and-pinion base rail, front shift, tilt and swing movements for perspective control, and a revolving back for turning the camera vertically and horizontally. Weight: 1,300g

Mamiya Aluminum Trunk

Strong, lightweight cases with a light-brown alumite finish. Prism cut corners are reinforced with resin for extra strength, a full urethane padding can be cut out to provide storage for camera, lenses, accessories, and other items. The top cover is equipped with convenient pockets for storing smaller items. Available in three different sizes.

Product Number	Outer W × D × H mm	Weight kg
	Inner W × D × H mm	
KM705	460 × 344 × 160	3.7
	440 × 325 × 100	
KM706	502 × 371 × 183	4.9
	470 × 350 × 115	
KM707	615 × 371 × 183	5.7
	580 × 350 × 115	

SCA396 Adapter

Equipped with a film speed dial, this adapter inputs ISO data. It also receives signals from the flash unit and the 645 PRO TL. Weight: 122g

Electromagnetic Cable Releases

Releases that can be connected to the camera's electronic shutter release terminal for remote shutter release. Available in two types: Type A with a 1-meter spiral cord and Type B with a 4-meter straight cord. Weight: 39g (Type A), 68g (Type B)

External Battery Case

Keeps camera battery warm to prevent loss of battery performance due to cold.

Bellows Lens Hood

Attaches to front of a lens (ring attachment with a 58mm and 67mm lens, lens mask attachment with a telephoto lens) to make it possible to cut out problem-causing light while viewing the result through the viewfinder. Allows insertion of a 3-inch (7.5cm) gelatin filter. Can be used with the following lenses: 55, 80 f/1.9, 80 f/2.8, 150, 210, 300mm f/5.6. Weight: 310g

Flash Unit Bracket AD401

SCA 396 Adapter

Mamiya 645 *PRO TL* System

Viewfinder Equipment

Magnifier FD401

Angle Finder N

Eye Correction Lenses N
+3 +2 +1 −1 −2 −3 diopter

AE Prism Finder FE401

Prism Finder FP401

AE Finder FK402

Diopter Lenses
+2 +1 0 −1.5 −2 −3 diopter

Waist Level Finder N (with Finder Mask)

Finder Mask

Film Holder Equipment

120 Roll Film insert

120 Roll Film Holder HA401 (with Film Insert)

Dark Slide

220 Roll Film insert

220 Roll Film Holder HB401 (with Film Insert)

Panoramic Adapter

135 Roll Film Insert

135 Roll Film Holder HC401 (with Film Insert, Panoramic Adapter, 135/panorama Focusing Screen)

Dark slide

Polaroid Pack Film Holder HP401

Finder Screens

Type A (Matte)

Type A4 (Checker)

Type B (Rangefinder Spot)

Type C (Microprism)

Type E (Rangefinder Spot/Microprism)

135/Panorama (Rangefinder Spot/Microprism)

Film Advance Equipment

Film Advance Crank AC401

Power Drive Grip WG401 (with Wrist Strap N)

9V AC Adapter

Power Drive Grip WG402 (with Wrist Strap N)

Mamiya 645

645 *PRO TL* Body (with Film Advance Crank AC401 and Strap N)

Body Accessories

Tripod Adapter N N-2 for Polaroid Pack Film Holder

Tripod Adapter N for Polaroid Pack Film Holder

Quick-shoe AQ701

External Battery Case

Magnesium Alloy Pan Head AW701

Magnesium Alloy Ball Socket Head AW702

Mamiya Carbon Tripod AY701 AY702 AY703

Mamiya Carbon Monopod AX701

Remote control Equipment

Remote Control Set RS401

Electro-Magnetic Cable Release Type A (1m)

Electro-Magnetic Cable Release Type B (4m)

Cable Release Adapter RC402

Terminal Adapter RA402

Left Hand Grip GL402 for 645 pro-TL (with Terminal Adapter)

Straps/Cases

Soft Lens Case Type A Type B

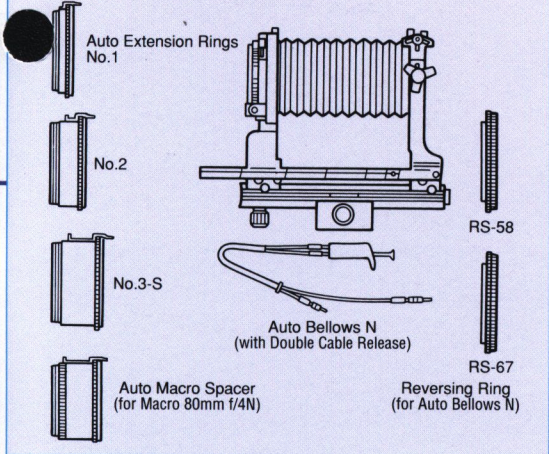Mamiya Wide Strap Color: Type A:Green, Type B: Black

Strap N
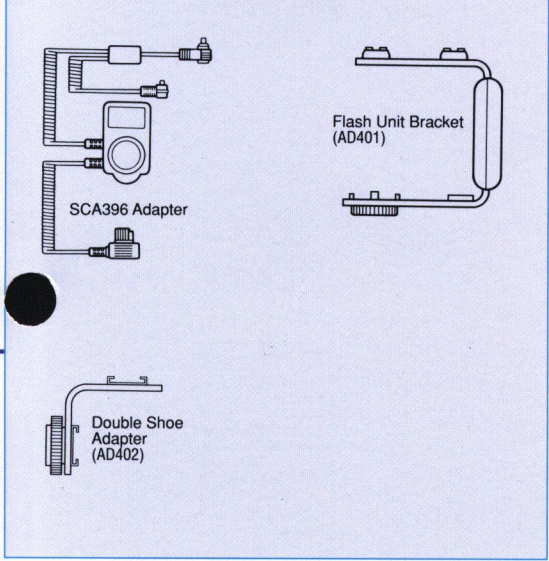
Wrist Strap N (for Power Drive Grip)
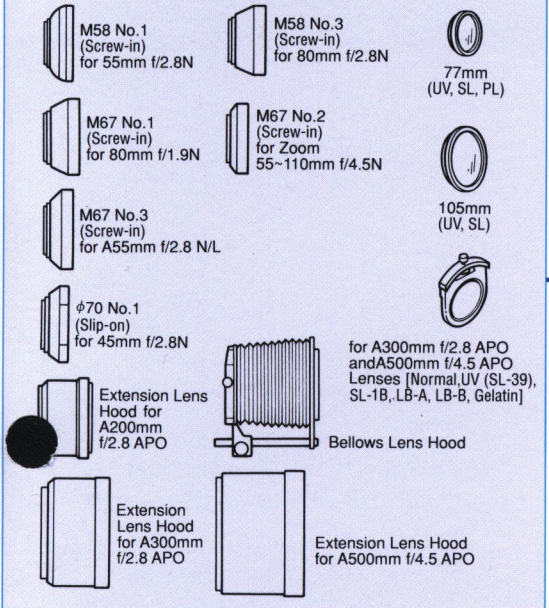
Mamiya Tripod Case

Aluminum Trunk KM705,KM706,KM707

Close-up Equipment

Auto Extension Rings No.1

No.2
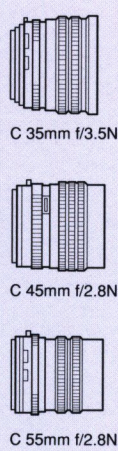
No.3-S

Auto Macro Spacer (for Macro 80mm f/4N)

RS-58

Auto Bellows N (with Double Cable Release)

RS-67

Reversing Ring (for Auto Bellows N)

Flash Equipment

SCA396 Adapter

Flash Unit Bracket (AD401)

Double Shoe Adapter (AD402)

Hoods/Filters

M58 No.1 (Screw-in) for 55mm f/2.8N

M58 No.3 (Screw-in) for 80mm f/2.8N

77mm (UV, SL, PL)

M67 No.1 (Screw-in) for 80mm f/1.9N

M67 No.2 (Screw-in) for Zoom 55~110mm f/4.5N

M67 No.3 (Screw-in) for A55mm f/2.8 N/L

105mm (UV, SL)

φ70 No.1 (Slip-on) for 45mm f/2.8N

for A300mm f/2.8 APO and A500mm f/4.5 APO Lenses [Normal,UV (SL-39), SL-1B, LB-A, LB-B, Gelatin]

Extension Lens Hood for A200mm f/2.8 APO

Bellows Lens Hood

Extension Lens Hood for A300mm f/2.8 APO

Extension Lens Hood for A500mm f/4.5 APO

Lenses

Wide Angle Lenses
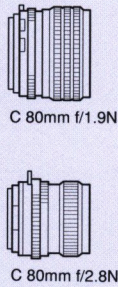
C 35mm f/3.5N

C 45mm f/2.8N

C 55mm f/2.8N

Standard Lenses

C 80mm f/1.9N

C 80mm f/2.8N

Telephoto Lenses

A 150mm f/2.8

C 150mm f/3.5N

C 210mm f/4N

ULD C 300mm f/5.6N

C 500mm f/5.6

2× Tele-converter N

APO Lenses

A 200mm f/2.8 APO

A 300mm f/2.8 APO

A 500mm f/4.5 APO

Zoom Lenses

Zoom C 55~110mm f/4.5N

Zoom ULD C 105~210mm f/4.5

Special Effect Lenses

Fish-eye ULD C 24mm f/4

Shift C 50mm f/4 (with Cable Release Adapter RC402)

Macro C 80mm f/4N

Macro A 120mm f/4M
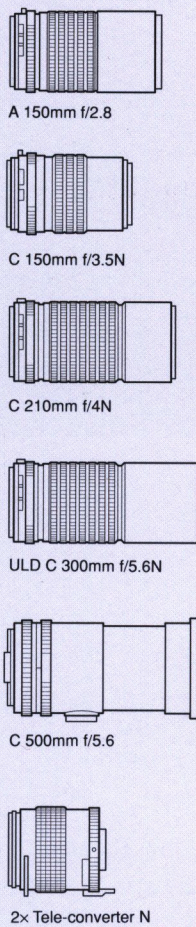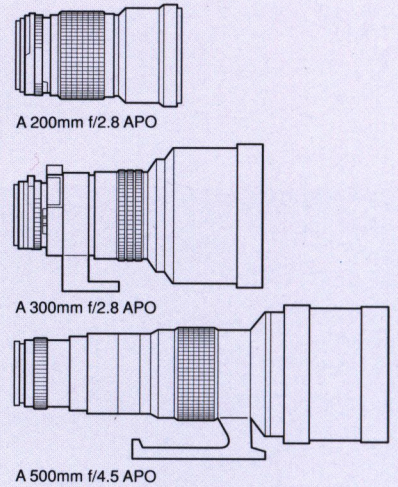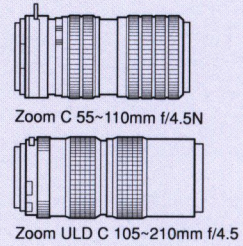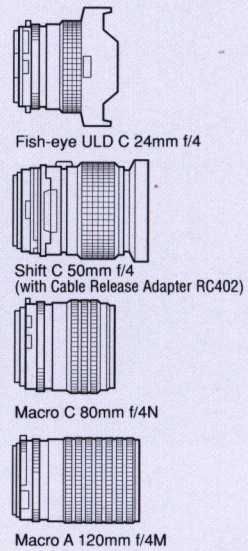
Leaf Shutter Lenses
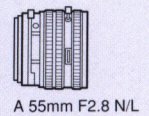
A 55mm F2.8 N/L

Mamiya® 645 PRO TL

C 55mm f/2.8N

MAC **MAMIYA AMERICA CORPORATION** 8 Westchester Plaza, Elmsford, NY 10523 · 914-347-3300
For fast information FAX your request to 914-347-3309 · E-mail:info @mamiya.com · Web site:www.mamiya.com
Specification and features are subject to change without notice.