

Mamiya

www.ianbfoto.com

645AFD



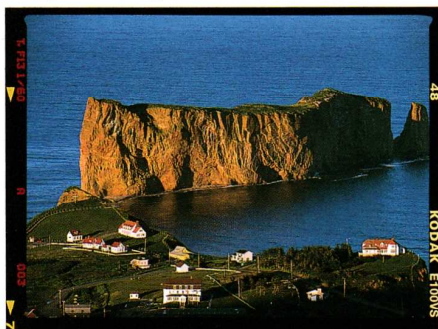
Mamiya pioneered the 645 SLR camera system in 1975 and has become the world leader in the medium format field. The new auto-focus 645AFD, with its digital capabilities, makes the camera and its world-class lenses ready for the challenges of the new century.



The New Mamiya 645AFD

Every function has been enhanced to build a precision tool for auto-focus photography. Conveniently located front and rear dials provide easily accessible controls of camera functions. All camera modes, settings and status appear on a backlight digital display. The 645AFD combines the exceptional image detail of 6 x 4.5cm format with 35mm ease of use.

Mamiya - the world leader in quality medium-format cameras now presents the 645AFD with enhanced ergonomics, advanced features and MSC (Mamiya Serial Communication) enabling data transfer from the camera to external capture devices - including digital backs. The Mamiya 645AFD, ready to conquer the digital world.



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





AF APO 300mm f/4.5 IF

Simple-to-use functions make it easier than ever before to capture images.

Mamiya 645AFD Features

Capture the moment — anytime, anywhere

High-speed, high-precision auto focus

- TTL phase-difference detection
- H-shape CCD line sensor
- Wide focus area
- Multiple focus modes
 - Single AF(S)
 - Continuous AF(C)
 - Manual(M)
- Infrared Auto Focus Assist Beam (ON, OFF possible)
- AF lock

Capture the delicate textures of light...

Exposure control, metering modes

Multi-mode AE (Auto Exposure)

- (Av) Aperture-priority AE
- (Tv) Shutter-priority AE
- (P) Program AE
- (Program shift settings also possible.)
 - (PH) High
 - (PL) Low

- (M) Manual
- X(1/125sec.)
- (T) Time

3-Way metering mode

- (A) Center-Weighted/Average metering
- (S) Spot metering
- (A-S AUTO) Variable ratio metering (A-S auto-switching)

Ambient Exposure Compensation

+/-3 EV in 1/3EV steps

Artistic flash...

TTL flash sophistication

- Metz SCA3002 system compatible(SCA3952)
- X-synch at 1/125 sec. with all flash equipment
- Flash exposure compensation ±3EV in 1/3EV steps

Cutting-edge optical and digital technology

645 Interchangeable Lenses

- AF 35mm f/3.5
- AF 45mm f/2.8
- AF 55mm f/2.8
- AF 80mm f/2.8
- AF 150mm f/3.5
- AF ULD 210mm f/4 IF
- AF APO 300mm f/4.5 IF
- Zoom AF 55-110mm f/4.5
- Zoom AF ULD 105-210mm f/4.5
- Macro MF 120mm f/4



(actual size)

Automatic Film Winding

- Automatic positioning of the first frame, easy loading
- Integral motor provides for quiet, high precision film winding
- Single, continuous shooting and midroll winding is possible

Meet the full range of image needs...

Interchangeable Digital film backs

- 120/220 roll film back
- Polaroid film back
- Digital back



Always ready for the perfect moment...

High-speed shutter

- Vertical-travel metal focal plane shutter with maximum speed of 1/4000sec
- 1/125sec flash sync
- Shutter automatically opens when film back is removed to prevent accidental damage



Capture every nuance of light...

Auto Bracketing

- 3 steps exposure: normal (metering value), under-exposure (- compensation), over-exposure (+ compensation). 1 frame per release in single mode, 3 frames per release in continuous mode
- Selectable 4 steps: 0.3, 0.5, 0.7, 1EV
- In manual mode, Auto Bracketing on shutter speed possible

Information you can use...

Exposure data imprinting

DATA Mode

- Exposure mode
- Aperture value
- Shutter speed
- Bracketing position
- Exposure compensation
- Metering mode
- Index number

DATE Mode

- Year, month, day, time
- Index number (consecutive number up to 999)



Fast & Smooth...

Three Digital Displays

Viewfinder LCD Panel

- Focus mark
- Out-of-focus direction mark
- Aperture value
- Shutter speed value
- Metering mode (A, S, A-S AUTO)
- Exposure compensation value
- Bracketing position
- Flash charge ready mark
- AE lock

Body LCD Panel

- Exposure mode
- Aperture value
- Shutter speed value
- Self-timer
- Auto bracketing
- Battery status indicator
- Multi-metering
- Program AE shift value
- Exposure data imprinting

Film magazine LCD Panel

- Film speed
- 120/220 film detection
- Number of exposures

- button turns on backlight for LCD illumination under dim lighting
- FUNCTION and SET buttons for easy operation
- Mode setting button
 - Self-timer
 - Multiple exposure
 - Auto bracketing (provides custom settings)

The 645AFD offers evolutionary technology for traditional film capture, while enabling MSC (Mamiya Serial Communication) data transfer of all camera functions to external capture devices - including digital backs. Utilizing the same camera body for film and digital capture offers the greatest flexibility for any photographic application.

Fast, highly precise auto focus

Mamiya 645AFD auto focus is based on a TTL phase-difference detection system. A high-sensitivity H-shape CCD covers a wider focus area to assure precise plane of focus even for subjects incorporating vertical and horizontal lines. Instant focus calculation and lens drive assure the photographer is always ready to capture the perfect moment. Focus is confirmed by the focus mark on the viewfinder LCD panel for simpler operation. An AF infrared beam activates automatically under low light conditions to ensure accurate focusing no matter what the situation, only in Single AF mode (Infrared beam can be disabled).

A choice of focus modes to suit the subject

Single AF Mode (S)

This mode puts priority on precise focusing at the moment the shutter is released, which is ideal for still subjects. Focus is locked when the viewfinder LCD focus mark lights. AF lock is activated in this mode.

Continuous AF Mode (C)

This mode continually adjusts focus even while the shutter release button is being pressed. It is best for moving subjects; focus is not locked even when the focus mark lights.

Manual Focus Mode (M)

Selecting this mode cancels Auto Focus. The focus symbol appears inside the viewfinder on the LCD panel when the image is in focus, and a focus aid feature indicates the rotation direction of the focus ring with ◀ and ▶ symbol.

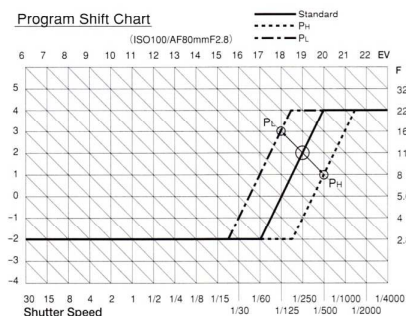
Exposure modes to complement the full range of photographic needs

(P) Program AE Mode

This mode automatically determines optimal



exposure settings, using pre-programmed aperture and shutter values to ensure exposure accuracy under ambient lighting. Digital dial-controlled program shift enables adjustment of shutter speeds in 1.0EV steps for shorter (PH) or longer (PL) exposures, providing versatile response to shooting conditions. This mode is ideal for general photography without the need to make adjustments.



(Av) Aperture Priority AE Mode

This mode emphasizes the depth-of-field effect of aperture setting on the image. Simply adjust the aperture value with the digital dial to the appropriate setting, and the camera automatically adjusts shutter speed to match. Aperture values can be set in 1/2 steps.

(Tv) Shutter Speed Priority AE Mode

This mode emphasizes the effect of shutter speed on the image. Set the desired shutter speed via the digital dial and the camera automatically adjusts aperture value to

match. Shutter speed values can be set in 1/2 steps.

(M) Manual Mode

This mode enables the photographer to have total control over both aperture and shutter speed, and is best used to adjust settings based on readings from a separate exposure meter. The rear dial adjusts aperture value while shutter speed is set using the front dial. Both values can be set in 1/2 steps.

The difference between the set value and metered value are displayed on the viewfinder LCD panel. Pressing the AEL button for 1 second will display the shutter speed resulting from the metered value.

The adjustment range is ± 6 EV, displayed in 1/3 steps ($\times 3 / \times 7 / \times 0$).

In Manual Bulb mode (electronically controlled) extended time exposure is possible.

(X) X Mode

This mode locks the shutter speed at the sync speed of 1/125 sec. In this position, the dials lock and cannot be rotated.

(T) Time Mode

This is a mechanically controlled mode for long exposures. It consumes no battery power. Exposure dials are locked to each mode except for (T) Time Mode.

Three metering modes provide detailed information about lighting conditions

(A) Center-Weighted Averaged Metering

This mode meters the average reflected brightness of the entire image, with emphasis on the center of the screen.

(S) Spot Metering

This mode meters reflected light on the subject at a specific point, indicated by the circle at the center of the viewing screen. It is optimal for use with high contrast subjects and for measuring brightness at a specific area of the subject.

(AUTO A-S) Variable Ratio Metering

This mode automatically switches between average and spot modes depending on the relative contrast within the overall image; it provides exposure settings suited to a wide range of subjects and lighting conditions.

+/-3EV exposure compensation

The 645AFD offers exposure compensation to provide photographers with the ability to enhance creativity. Exposure compensation is adjustable within the range of +/-3EV, in 1/3EV steps. In Auto Exposure Mode, the compensation value setting is displayed on the viewfinder LCD panel.


Digital control dials simplify aperture and shutter speed settings without your eye ever leaving the viewfinder

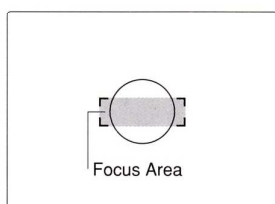
Shutter speed and aperture settings are adjusted using a pair of digital dials. Adjustments are made using the front dial located near the shutter release button, operated with the right forefinger, and the rear dial on the upper part of the back, operated with the thumb. This ergonomic layout enables fast, easy adjustments without distraction while constantly observing the subject through the viewfinder.

LCD panels show exposure conditions and camera settings at a glance.

A digital data communication system makes it possible to see all information on the viewfinder, body, and film back LCD panels. The viewfinder display shows information about current exposure conditions. The body and film back displays show current settings and selections, all in an easy-to-understand intuitive format.

- Viewfinder display
- Body display
- Film magazine display

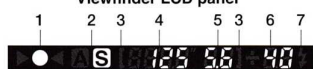
External LCD panels on the camera body and film back are illuminated by pressing the  Back Light key. LCD panels are illuminated for 10 seconds.



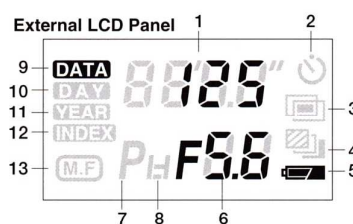
AF ULD 210mm f/4 IF



Viewfinder LCD panel

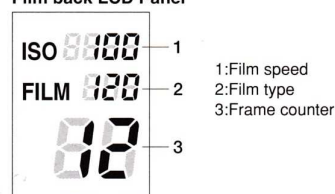


- 1: Focus mark
- <right>: Focusing ring position, focus point closer
- <left>: Focusing ring position, focus point further away
- 2: Metering mode indicators
- 3: AE lock indicator
- 4: Shutter speed
- 5: Aperture value
- 6: Exposure compensation value and bracketing position (Appears when AE is on)
- 7: Flash charge mark



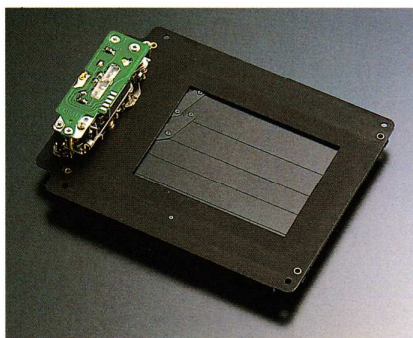
- 1: Shutter speed
- 2: Self-timer mode
- 3: Multiple exposure mode
- 4: Auto bracketing mode
- 5: Battery check
- 6: Aperture value
- 7: Program Mode
- 8: Program shift indicator
- 9: Imprinting Mode (Exposure data)
- 10: Imprinting Mode (Calendar)
- 11: Calendar indicator
- 12: Index number indicator (ID)
- 13: Manual focus mode

Film back LCD Panel



- 1: Film speed
- 2: Film type
- 3: Frame counter

Fully Digital Controls enable super-fast 1/4000-sec shutter speed, auto bracketing, exposure data imprinting, and customizable mode setting button



Super-fast 1/4000-sec shutter speed expands creative potential

The vertical-travel metal focal plane shutter provides a maximum shutter speed of 1/4000 second. This permits the photographer to employ techniques, from soft-focus portraits using a wide aperture lens to razor-sharp images of even the fastest-moving subjects. The high-speed shutter also allows flash synchronization at a fast 1/125 sec. which enables effective application of daylight synchronization and other flash techniques. When the film back is removed, a protective mechanism automatically opens the shutter, and closes it again when the back is replaced, to prevent accidental damages to the shutter.

Auto bracketing for one-touch exposure adjustment

Auto bracketing is effective under complex lighting conditions when determining proper exposure settings is difficult, or for shooting with narrow-latitude slide films. Exposure is



±0



-0.7



+0.7

adjusted automatically to take one shot per shutter release in single mode, 3 shots per release in continuous mode, at normal (metered value), under (minus) and over (plus) exposures. The exposure steps can be preset to 0.3, 0.5, 0.7, or 1 EV, and auto-bracketing can also be used in combination with the $\pm 1/3$ EV exposure compensation function. Settings are possible in Manual (M) Mode and in any AE mode.

Exposure data imprinting records vital information

Activate the data imprinting to generate a record of exposure data factors outside the image area. DATA mode imprints exposure mode, aperture value, shutter speed, exposure compensation level, bracketing position, metering mode, index (frame) number.

DATE mode records year, month, day, and time, along with an index number.

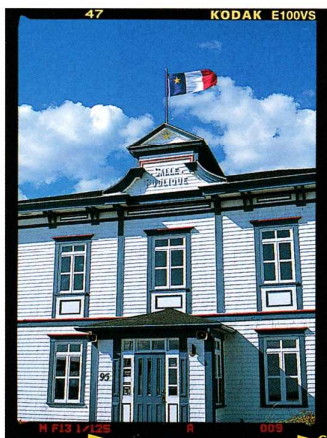
The 3-digit index numbers run 001 to 999.

Data is stored in the camera's memory, and is not cleared when a film back is replaced.

This allows easier record keeping and management when shooting large numbers of images.

FUNCTION key and SET button simplify even fine adjustments and function selections

Precision custom adjustments can be performed at the touch of a few buttons. The FUNCTION key and F1 key are data imprint function settings to turn viewfinder



< DATA Mode >					
A_v	F8.0	1/250	+0.5E	S	007
Exposure Mode	Aperture	Shutter Speed	Exposure Compensation	Metering Mode	Index Number
< DATE Mode >					
'01	8	21	10:10		401
Year	Month	Day	Time		Index Number

indicators on and off, and to turn the dial lock on and off. The F2 key sets the date and time and initializes the index number. For each setting, a digital dial is used in combination with the SET button which can also be used alone to check current settings. Flash exposure compensation is possible with the SET button when flash is used.

One-touch multiple exposure activation

Enter Multi Exposure Mode by pressing the MODE button, then set the desired number of exposures in a range of 2 to 6 with the digital control dial. Digital cancellation of film winding assures precise registration of multiple images on a single frame.

Self-timer

The MODE button can be used to change the initial default self-timer setting of 10 seconds to a value in the range of 3 to 60 seconds. Settings can be made in 1-second steps from 3 to 10 seconds, and in 10-second steps for settings longer than 10 seconds. Time laps photography is possible in continuous motor drive mode.



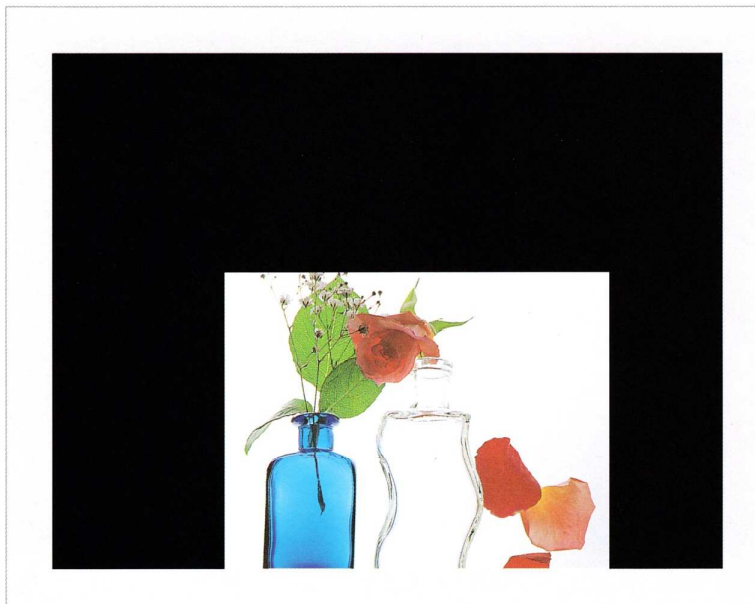
AF 55mm f/2.8



*Multi exposure can be used to create a large variety of images.

- Film backs allow use of either 120 or 220 roll film.
- Interfaces with digital imaging backs.
- Interchangeable film backs enhance creativity.

The 645AFD carries on a proud Mamiya tradition of interchangeable film backs. In addition to the 120/220 roll film back and Polaroid film back, the 645AFD also supports digital imaging backs.



120/220 roll film back

The film back incorporates a microprocessor that communicates with the camera body. The magazine incorporated an LCD panel with ISO setting buttons. It also features an integral center mounted winding motor for smooth quick film winding. The LCD shows film speed, film type, and number of exposures at the touch of a button. A backlight and backup battery even let the photographer view information when the back is not attached to the camera. Simply rotating the pressure plate 180 degrees switches between 120 and 220 film, and ensures that either type of film is kept perfectly flat. It is possible to switch between single and continuous exposures even part-way through a roll of film. An easy loading feature automatically advances film to the first frame when loaded. Film winding automatically activates at the end of 16 frames (120 film) or 32 frames (220 film). Midroll winding is also possible.

New Polaroid film back

Polaroid film enables a previewing of images. Simply replace the film back with the Polaroid back to obtain immediate feedback on composition, lighting and exposure, as well as the effects of complex lighting conditions, multiple exposure, or extended exposure.

The image size is 6 x 4.5cm (Actual image

size: 56 x 41.5mm), and the magazine accepts pull-type Polaroid 100 and 699 Series, as well as Fuji FP100 and FP3000B film. The Polaroid back also includes a film speed dial (ISO25 to 6400), and a storage pocket for the dark slide.

*The Polaroid Tripod Adapter N or Polaroid Tripod Adapter N-2 is required when the camera is mounted on a tripod.

Adapted to a digital future

The 645AFD offers advanced microprocessors technology for traditional film capture, while enabling MSC (Mamiya Serial Communication) of all camera functions to digital capture backs. Utilizing the same camera body for film and digital capture offers the greatest flexibility for any photographic application.



TTL flash control,
1/125-sec sync speed for
versatile flash photography



Sophisticated TTL Flash Control

The Mamiya 645AFD incorporates automated TTL-OTF (through the lens, off-the-film) flash control, with an X-sync hot shoe and dedicated circuitry. The flash system is compatible with the Metz SCA3002 System, which provides exceptional flash control. Using a Metz flash with the SCA3952 adapter enables transfer of aperture, film speed and other data for automatic synchronization as well as power zoom control link and automatic operation of the Auto Focus measuring beam. In AE modes "A" and "P", "Ph" or "PL", the shutter speed is automatically set to 1/125sec. or slower.

All this technology provides versatile flash photography capability. Furthermore, SET button allows individual exposure compensation of flash and ambient light.



AF 80mm f/2.8
+ 54MZ-3

Flash status viewfinder display

When the flash unit is connected and achieves full power, the viewfinder LCD displays the flash charge symbol. This symbol flashes after each shot to indicate that the flash made a correct exposure.



645AF+Metz Mecablitz 54MZ-3+SCA3952 Adapter

Advanced Flash Features

- Flash ready indicator in camera viewfinder
- Correct exposure confirmation in viewfinder
- Auto flash sync speed control (only in P and Av mode)
- TTL flash control
- Cordless TTL with Metz compatible flash units
- Motor zoom control
- AF measuring beam control
- Auto Transfer of ISO
- Auto Transfer of lens aperture
- Flash compensation $\pm 3\text{EV}$
- Flash bracketing in flash auto mode with compatible Metz flash unit
- Program auto flash mode
- Exposure compensation transfer
- Wake-up function for camera/flash

Note: some Metz flash units do not support all features.

Ergonomically designed body with integral viewfinder and power grip.



Simplified mechanism enables a compact, lightweight configuration

The viewfinder and grip are incorporated into the body, eliminating the need for additional electrical contacts and mechanical links. The result is a simpler design with greater precision and strength, and a more compact configuration.

Natural balance and feel

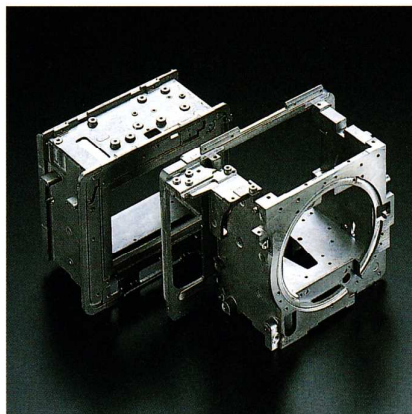
The 645AFD is designed to have a neutral balance and natural feel when held in one hand, even when shifted between vertical and horizontal views or during operation of camera controls. When supported only by the neck strap, the camera retains a light, well-balanced feeling. The palm of the hand and fingertips close naturally into place for stable grip. The groove on the left of the top cover and the leather-soft rubberized covering contribute to comfortable handling.

Designed for safe, trouble-free operation

Full digital controls and self-diagnostic circuitry eliminate problems before they happen. In the event of incorrect settings or battery trouble, the shutter release locks to protect accidental exposure and the camera body's LCD panel indicates where the problem is.



Die cast finder



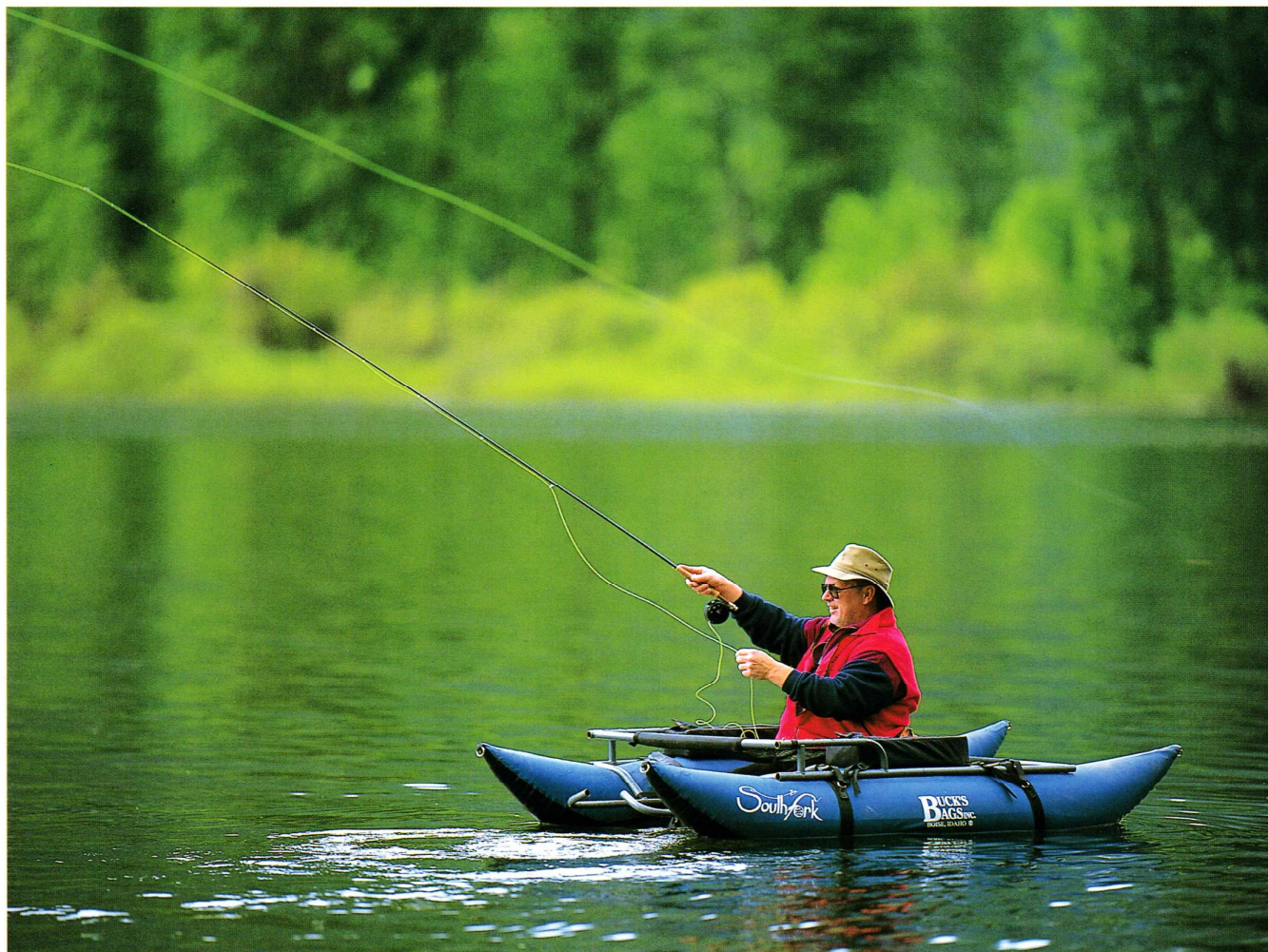
Die cast body

The first medium-format camera with a magnesium alloy viewfinder cover

The 645AFD is the first medium-format camera to protect the prism and digital circuitry of the viewfinder with a magnesium alloy cover. In addition to providing secure protection, this magnesium alloy also contributes to the overall compact and lightweight design of the camera. The result is an innovative configuration with a revolutionary new look for the medium-format SLR.

Die-cast aluminum body and film back

The body shell is die-cast from a lightweight, high-strength aluminum alloy. Exceptional precision in machining assures reliable, durable performance even under the harshest working conditions.



AF APO 300mm f/4.5 IF

Preview depth of field

Hold down the preview button in Auto Focus mode to stop down the lens to the working aperture and lock focus. Preview can be used in all AE modes.

Mirror Up

The 645AFD is designed and engineered to minimize mirror shock. The Mirror Up function eliminates the shock entirely during tripod-mounted slow speed, macro or multiple exposures. Use AE lock or manual settings in this mode.

Diopter Adjusts viewfinder to vision.

The built-in diopter enables adjustment of the viewfinder image to suit individual vision. Rotate the dial towards + or - to

adjust within a range of -2.5 to +0.5 diopter. Optionally available diopter lenses extend this range to -5 to -2 or 0 to +3.

Eyepiece Shutter

The eyepiece shutter protects against stray back light entering through the eyepiece and affecting exposure values.

Electronic Shutter and Remote Triggering Connection

For long exposures such as bulb or slow shutter speeds, use of the electronic shutter release cable avoids camera vibration. (Available cord length in 1m (3ft.) or 5m (17ft.).) Wireless remote triggering possible with radio triggering system.

Interchangeable Focusing Screens

Select the viewfinder screen that suit particular photographic needs. Each screen comes with tweezers to make installation quick and easy.

Powered by AA-size Batteries

The Mamiya 645AFD is powered by six easily obtainable AA-size batteries, and can also use low-noise, long-life lithium batteries. Batteries are housed in the grip.



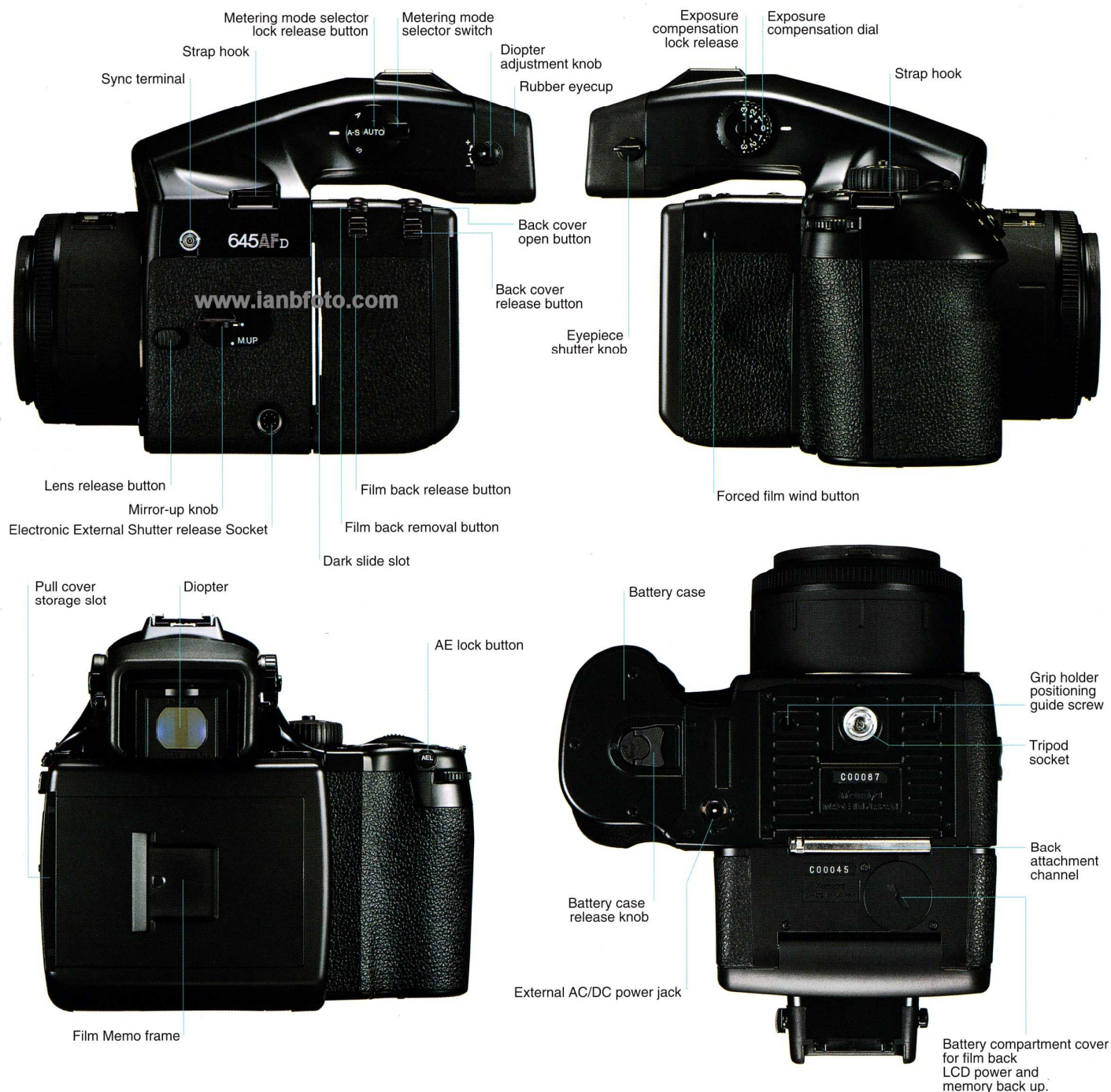
Parts Names and Body Specifications



Mamiya 645 AFD Specifications

Camera Type	6 x 4.5cm format, electronically controlled focal-plane shutter, TTL multiple mode AE, AF single lens reflex	completion mark, AE lock.)
Actual Image Size	56 x 41.5mm	activates automatically under low light, low contrast.
Film Type	120 roll film (16 exposures); 220 roll film (32 exposures); Polaroid Land Film back (requires special HP402 back)	Range: about 9m; Automatic switching to flash unit's built-in infrared beam when Metz flash unit is attached. (ON, OFF possible)
Lens Mount	Mamiya 645 AFD Mount, compatible with M645 mount (manual focus confirmation, focus aid, stop-down exposure metering)	AF Lock
Viewfinder	Fixed prism viewfinder magnification x0.71; built-in diopter adjustment (-2.5 to +0.5, separate diopter correction lenses provide adjustment ranges of -5 to -2 diopter and 0 to +3 diopter); built-in eye-piece shutter	Exposure Control Modes
Focusing Screen	Interchangeable between Matt (standard) and Checker and manual focus microprism for M645 lenses.	Aperture-priority AE, shutter-priority AE, programmed AE (PH, PL setting possible) (1.0-step change by program shift setting), manual
Field of View	94%* of actual image	Metering method
Viewfinder Information	Focus mark, out-of-focus direction mark, aperture value, shutter speed, metering mode (A, S, A/S AUTO), exposure compensation value (difference between set value and actual value and displayed in Tv, Av, P modes with the AEL button), bracketing position, battery charge	Center-weighted average (AV), spot (S) and variable ratio (A-S AUTO)
		Setting Steps
		Shutter speed and aperture both can be set in 1/2 steps; electronic dial lock
		Light Metering
		TTL metering; center-weighted average (AV), spot (SP), and auto A-S variable ratio
		Metering Range
		EV 2 to EV 19 (with ISO100 film, F2.8 lens)
		Exposure compensation
		±3 EV (1/3 step)
		Film speed
		ISO 25 to 6400
		AE lock
		With AEL button; released by re-pressing or power switch off; light metering value differentiation in viewfinder exposure compensation display when AEL

*This information is based on a linear (horizontal/vertical) measurement.

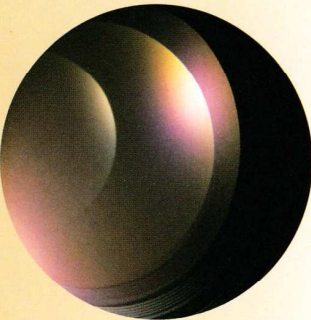


Shutter	button is held down; $\pm 6EV$ (1/3 step)	value, self-timer, ABL, battery check, multiple exposure, programmed AE or programmed AE shift
Shutter speed	Electronically controlled vertical metal focal-plane shutter	value, data imprinting. Interchangeable Film back: ISO
	AE 30 to 1/4000sec. (1/8 step), manual 30 to 1/4000 sec. (1/2 step), X, B (Bulb, automatic controlled), T (time, mechanically controlled), automatic shutter control open mechanism (open when back is removed, automatically closed when back is attached)	speed, type of film (120/220), exposure number
Auto-Bracketing	Enabled with Mode setting button, 0.3, 0.5, 0.7, 1-step units	7 segment dot matrix; DATA mode: exposure mode, aperture value, shutter speed value, exposure compensation, bracketing position, metering mode, ID number; DATE mode : year, month, date, time, ID number Switchable between enabled and disabled
Flash Synchronization	1/125sec., automatically sets to 1/125sec. synchronized 1/60~1/125 with TTL flash in program (when Metz flash unit is used)	Sync terminal
Flash control	TTL direct metering, supports Metz SCA3002 system (SCA3952 Adapter)	Cable release socket
Film transport	Automatic via built-in motor, single or continuous exposures	Remote-control terminal
Film loading	Automatic advance to first frame when shutter release button is pressed once (Easy Loading)	Self-Timer
Multiple Exposure	Enabled with Mode button (2 to 6 exposures); can be cancelled	
External LCD	On camera body: shows aperture value, shutter speed	Depth-of-field confirmation Preview Button
		Tripod Socket
		Power Requirements
		Size(w/ AF 80mm f/2.8 and 120/220 film back)
		Weight

Specifications are subject to change without notice.

Advanced optical designs coupled with precise digital control provide unmatched image performance

Optical performance is the key to creating images of unmatched clarity and precision. The new system of interchangeable lenses for the 645AFD offers the same superb optical characteristics that have been the hallmark of Mamiya medium-format photography for decades, but add to that advanced digital circuitry to bring a new dimension of precision and control to the exposure process.



The world's most stringent quality control is applied at each phase of the design and manufacture of these optics - especially for glass material control, polishing and coating - and in the precision machining of metal parts. Mamiya's integrated design and manufacturing facilities have won ISO9001 and ISO9002 certification.



AF 35mm f/3.5



AF 35mm f/3.5

With an angle of view of 90 degrees, this is a wide-angle lens approximately equivalent to a 20mm lens in 35mm format. The built-in floating mechanism provides the photographer with the ability to obtain images with high contrast and quality, from infinity to 14" minimum focusing distance. This lens is perfect for landscapes where maximum depth-of-field is required. Furthermore, the lens itself is equipped with an Auto/Manual focus switching ring, allowing one touch selection of Auto or Manual focus.

	AF 35mm f/3.5	AF 45mm f/2.8	AF 55mm f/2.8	AF 80mm f/2.8
Optical Construction	9 elements 7 groups	9 elements 7 groups	7 elements 6 groups	6 elements 5 groups
Angle of View	90°	74°	64°	47°
Minimum aperture	22	22	22	22
Diaphragm	Automatic	Automatic	Automatic	Automatic
Focusing System	Auto Focus /Manual	Auto Focus /Manual	Auto Focus / Manual	Auto Focus / Manual
Minimum Focusing Distance	35cm	45cm	45cm	70cm
Maximum Magnification ratio	0.156	0.13	0.18	0.15
Area Covered	274×375mm	310×418mm	226×305mm	279×377mm
Equivalent Focal Length for 35mm	22mm	29mm	34mm	50mm
Filter Diameter	77mm	67mm	58mm	58mm
Lens Hood	Bayonet	Bayonet	Bayonet	Bayonet
Dimensions (length x diameter)	62×84mm	73.5×77mm	65.5×77mm	49.5×77mm
Weight	480g(17oz.)	495g(17.5oz.)	445g(15.7oz.)	300g(10.6oz.)



AF 45mm f/2.8



AF 45mm f/2.8

With an angle of view of 74 degrees, this lens is approximately equivalent to a 28mm lens in 35mm format. Its wide angle of view and depth of field makes the lens appropriate for any situation, from snapshots to scenics. Low-dispersion glass minimizes chromatic aberration. A floating mechanism lends uniformity to image resolution, from center to periphery. This lens is also suitable to architectural photography and other subjects dominated by straight lines, and it offers sharp and crisp image rendering.

AF 150mm f/3.5	AF ULD 210mm f/4 IF	AF APO 300mm f/4.5 IF	Zoom AF 55-110mm f/4.5	Zoom AF ULD105-210mm f/4.5	Macro MF 120mm f/4
5 elements 5 groups	7 elements 5 groups	8 elements 8 groups	11 elements 10 groups	13 elements 11 groups	9 elements 8 groups
26°	19°	14°	65°~35°	36°~19°	33°
32	32	32	32	32	32
Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
Auto Focus / Manual	Auto Focus / Manual	Auto Focus / Manual	Auto Focus/Manual	Auto Focus/Manual	Manual
150cm	200cm	300cm	150cm	150cm	40cm
0.12	0.13	0.11	0.04~0.08	0.09~0.18	1.00
341×461mm	332×448mm	371×500mm	55mm~986×1331mm 110mm~520×702mm	105mm~441×595mm 210mm~230×312mm	42×56mm
93mm	128mm	182mm	34~68mm	65~130mm	73mm
58mm	58mm	77mm	67mm	58mm	67mm
Bayonet	Built-in	Built-in	Bayonet	Bayonet	Bayonet
80.5×79mm	141×86mm	213×99mm	110×86.5mm	158×82mm	111×83mm
540g(19oz.)	750g(26.5oz.)	1,430g (50.4oz.) (with lens holder)	870g(30.7oz.)	990g (35oz.)	845g(30oz.)



AF 55mm f/2.8



AF 80mm f/2.8

AF 55mm f/2.8

With an angle of view of 64 degrees, this lens is approximately equivalent to a 35mm lens in 35mm format. With minimal perspective change, it produces the most natural image of all the wide-angle lenses. A floating mechanism improves resolution at the periphery in close-ups, for image sharpness all the way out to infinity. This lens is suitable for a wide range of situations, from general photography to scenics. It is designed to provide the feel of a standard lens with a slight wide-angle effect.



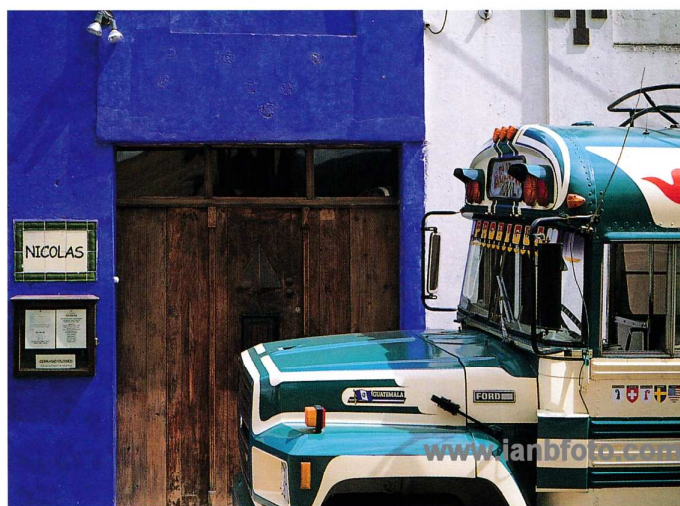
AF 80mm f/2.8

With an angle of view of 47 degrees, this lens is equivalent to a 50mm lens in 35mm format. This is the standard lens for the format, with a field of view approximating natural human sight. It is the most general-purpose lens in the series, and works well in various applications for close or distant subjects. Packing high performance into a compact, lightweight configuration, it is well corrected for distortion, producing a natural, well-balanced image.





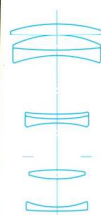
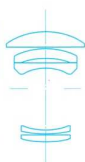
AF 150mm f/3.5



AF ULD 210mm f/4 IF

AF 150mm f/3.5

This medium telephoto lens has a 26 degree angle of view, approximately equivalent to a 100mm lens in the 35mm format, a focal length perfect for portraits or scenery combined with a compact configuration for general versatility. This is the first AF 150mm medium telephoto lens; auto/manual focus selection is accomplished instantly by sliding the focusing ring. The ring does not rotate in AF mode, to assure focusing accuracy.



AF ULD 210mm f/4 IF

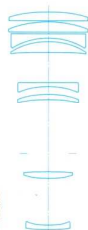
With an angle of view of 19 degrees, this lens is approximately equivalent to a 135mm lens in 35mm format. Its natural focusing effect suppresses the foreshortening typical of telephotos while still isolating the subject. Excellent for a wide range of situations, and particularly for portraits. Super low-dispersion glass assures good contrast even for close-ups. The internal focusing mechanism makes handling easier, with no change in the balance between overall lens length and weight.



AF APO 300mm f/4.5 IF



Macro MF 120mm f/4

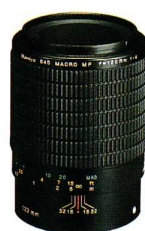


AF APO 300mm f/4.5 IF

With an angle of view of 14 degrees, this lens is approximately equivalent to a 180mm lens in 35mm format.

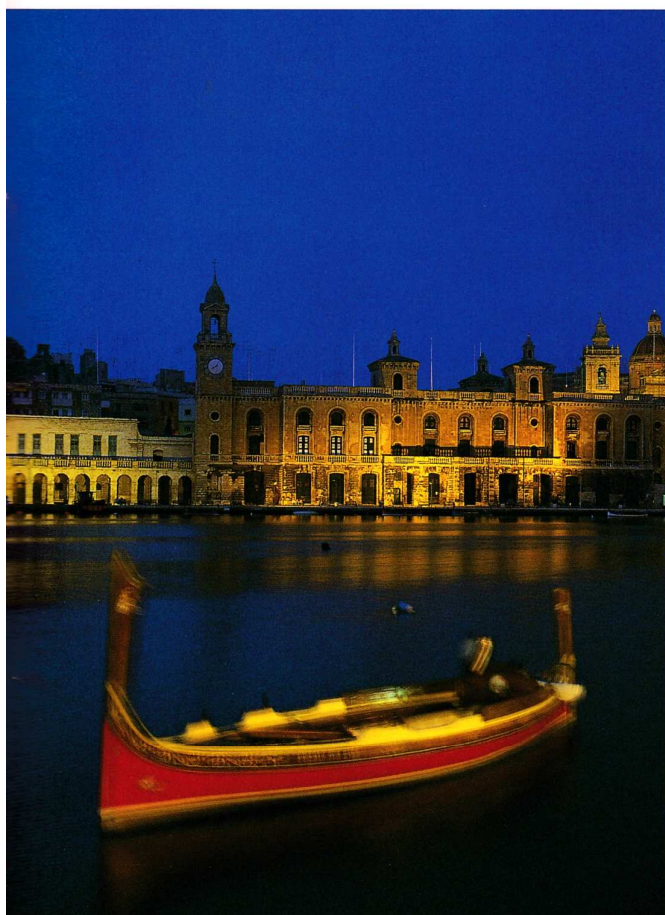
Superb correction of color and spherical aberration enable a clear, high-contrast image from center to periphery. The APO design lens gives exceptional resolution along with sharp colors and tonal fidelity.

The internal focusing mechanism keeps balance uniform from front to back, making this lens extremely easy to handle.

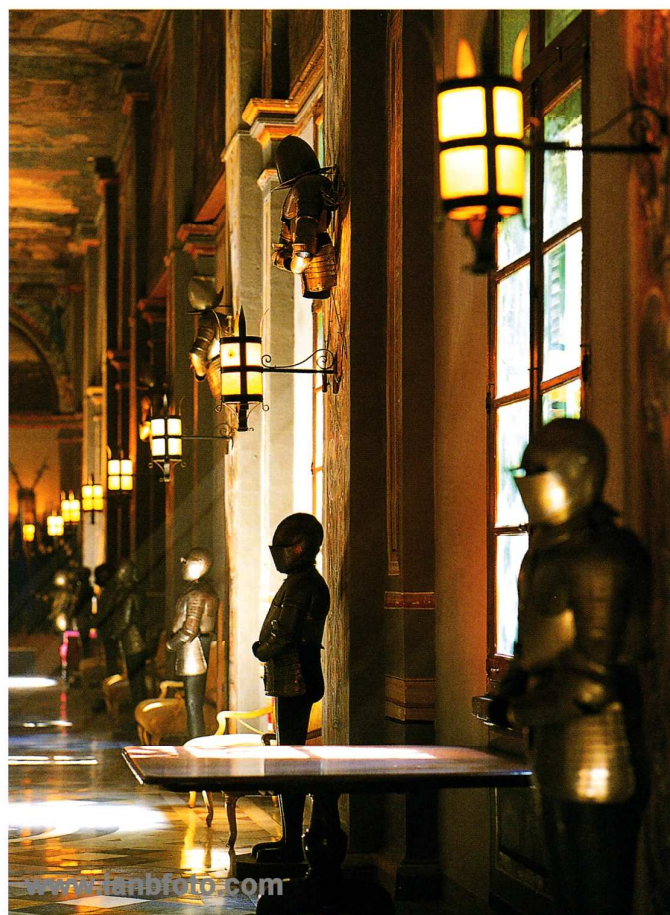


Macro MF 120mm f/4

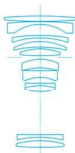
With an angle of view of 33 degrees this versatile lens offers the perspective of a 73mm focal length in the 35mm format, ideal for portraiture, landscapes or general photography. Pinpoint sharpness with manual focus is assured from infinity to 1:1 magnification by a green diode in the finder providing focus confirmation. Lens elements of anomalous dispersion glass equal APO lens performance in terms of contrast, resolution and correction of color aberrations for superior image reproduction. A floating mechanism assures uniform sharpness from center to the corners.



Zoom AF 55-110mm f/4.5

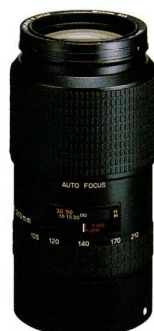


Zoom AF ULD 105-210mm f/4.5



Zoom AF 55-110mm f/4.5

With an angle of view ranging from 65 to 35 degrees, combined with auto-focus and zoom capability, this lens can serve triple duty over the focal lengths of wide/normal/portrait equivalent to 34-68mm in the 35mm format. Internal focusing eliminates the danger of vignetting when combined with front-element filters, and a unique "flower" design lens hood is built in to prevent stray reflections from striking the lens surface.



Zoom AF ULD 105-210mm f/4.5

With an angle of view ranging from 36 to 19 degrees, equivalent to the 65-130mm focal lengths in the 35mm format, this medium-telephoto zoom lens has the reach to capture distant subjects and the versatility to work in close when needed. It is an ideal choice for all-purpose photography. Low dispersion glass lens elements provide excellent resolution of fine detail. The internal focusing mechanism allows use of front filters with no degradation of image quality.

System accessories provide the tools for versatile photographic expression



Magnifier FD402

This magnifying eyepiece enables precise focusing for macro and telephotography by magnifying the center of the viewfinder image to twice normal size. After focusing, it can be flipped up without detaching to confirm overall composition. Weight: 46g(1.6oz.)

Angle Viewfinder FA401

The Angle Viewfinder enables confirmation of image composition from a comfortable posture for low-angle, macro, and other situations. It can be rotated a full 360° (for easy viewing from any angle. Weight: 140g(5oz.)

Auto Bellows NC401

This high-precision macro accessory enables continuous adjustment of magnification ratio for precision manual focusing.

A data cable transmits diaphragm information to the lens mount, enabling use of aperture priority AE mode or exposure confirmation in manual mode.

The AF 80mm lens reverse ring allows reproduction at magnifications greater than 1:1 with minimal aberration over a range of 0.75 to 2.20 times the AF 80mm f/2.8 lens. The camera mount can be rotated 90° (for simple selection of vertical/horizontal composition. The upper and lower rails can be used in combination at a right angle, enabling the auto bellows to shift horizontally and enable reproduction of vertical images at the same magnification

ratio.

Weight: 1,340g(47oz.)

Remote Control Set RS402

The remote control set takes full advantage of the automated functions of the 645AFD, opening the way to a new world of remote control photography. The wireless unit operates via near-infrared impulses transmitted to a receiver that attaches to the camera. Wireless operation is possible from up to 100ft. outdoors; 3-channel switching eliminates signal interference.

Power Requirements:

Transmitter: Two AA-size alkaline batteries

Receiver: One S-006P 9V zinc-carbon battery

Weight:

Transmitter: 130g(4.6oz.) (without batteries)

Receiver: 140g(5oz.) (without batteries)

Magnetic Cable Release RE401 (1m)/RE402 (5m)

Connects to the camera's electronic shutter release, and provides vibration free operation.

RE401 comes with a 1-meter (3ft.) spiral cord; the RE402 comes with a 5-meter (17ft.) straight cord.

Weight: RE401 = 50g(1.8oz.), RE402 = 80g(3oz.)

Auto Extension Rings

NA401 (No.1)/NA402 (No.2)/NA403 (No.3)

This set of macro extension rings supports the automatic diaphragm capabilities of the

AF lens series. AE operation using focus marks is possible in manual mode. Rings are available in three lengths (No. 1, No. 2, No. 3), which can be used to achieve the desired magnification ratio.

Using all three rings with the 80mm lens provides maximum magnification of 1:1.

Optimal Lens: AF 80mm f/2.8

Weight: No.1 = 95g(3.4oz.), No.2 = 125g(4.4oz.), No.3 = 155g(5.5oz.)

External Battery Case PE401

This case protects against deterioration of battery capacity and performance when shooting in extreme cold. Insert the battery into the case, which can then be placed inside a pocket; a cord from the case to the camera provides power for camera operations. Holds six AA-size batteries.

Weight: 115g(4oz.)

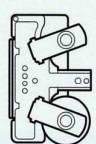
SCA3952 Adapter (Metz Strobe)

This adapter is designed for use in combination with a SCA3002 Flash System strobe. It provides various useful features, including TTL direct flash control and a power zoom function that automatically matches the coverage angle to the focal length of the lens. Use of the SCA300 System strobe's requires a separately SCA3000C converter cable.

Weight: 38g(1.3oz.)

Mamiya 645AFD System

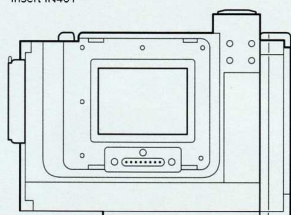
Film Backs



120/220 Roll Film
Insert IN401

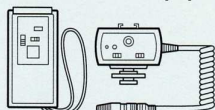


120/220 Roll Film back HM401

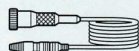


Polaroid Film Back HP402

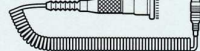
Remote Control Equipment



Remote Control Set RS402



Electro-Magnetic Cable
release RE402(5m)



Electro-Magnetic Cable
release RE401(1m)

Cases/Strap



Mamiya Aluminum Trunk



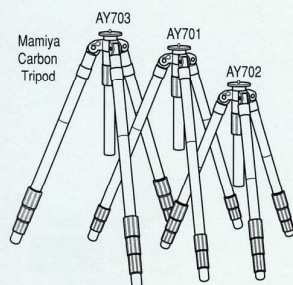
Soft Lens Case type A
type B
type C
type D



Mamiya Tripod Case

Mamiya Aluminum Trunk

Model No.	Outside:W×D×H mm	Weight kg
	Inside: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	



Mamiya
Carbon
Tripod

Body Accessories



Mamiya
Carbon
Monopod
AX701



Mamiya
Magnesium
Alloy Pan
Head AW701



Mamiya
Magnesium
Alloy Ball
Head AW702



Quick-shoe AQ701



Tripod Adapter
N for Polaroid
Pack Film Holder

External Power Equipment



External
Battery Case



Tripod Adapter
N-2 for Polaroid
Pack Film Holder

Viewfinder Equipment



Eye Correction Lens
DE401



Eye Correction Lens
DE402



Eye Correction Lens
DE403



Finder Screen
Type A(Matte)
SA402



Finder Screen
Type A4(Checker)
SD402



Finder Screen
Type C(Microprism)

Camera Body
Strap



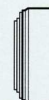
Close-up Equipment



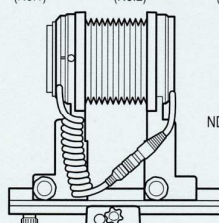
Auto Extension
Ring NA401
(No.1)



Auto Extension
Ring NA402
(No.2)



Auto Extension
Ring NA403
(No.3)



Auto Bellows NC 401
(with Reverse Ring)

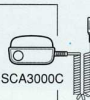
ND401 (58)

Flash Equipment



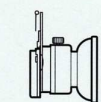
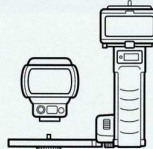
SCA 3952 Adapter

SCA3002



SCA3000C

SCA300
60CT-4
45CL-4

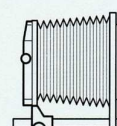


2X Magnifier/Diopter
FD402

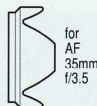


Angle Viewfinder FA401

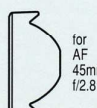
Hoods



Bellows Lens Hood



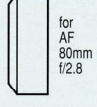
for AF
35mm
f/3.5



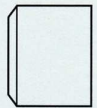
for AF
45mm
f/2.8



for AF
55mm
f/2.8

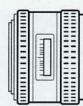


for AF
80mm
f/2.8

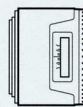


for AF 150mm f/3.5

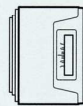
Lenses



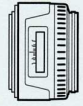
AF 35mm f/3.5



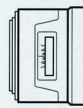
AF 45mm f/2.8



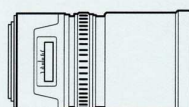
AF 55mm f/2.8



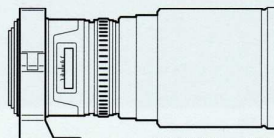
AF 80mm f/2.8



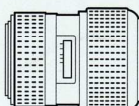
AF 150mm f/3.5



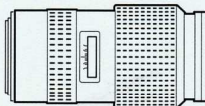
AF ULD 210mm f/4 IF



AF APO 300mm f/4.5 IF



Zoom AF 55-110mm f/4.5



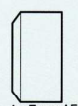
Zoom AF ULD 105-210mm f/4.5



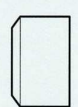
Macro MF 120mm f/4



for Zoom AF
55-110mm f/4.5



for Zoom AF ULD
105-210mm f/4.5



for Macro MF
120mm f/4

Specifications	Carbon Tripods			Carbon Monopod
	AY701	AY702	AY703	AX701
Length extended (25-degrees 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-degree leg spread

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

Interchangeable lens and film back systems expand the systems' capability.
Mamiya 645 NON-AF Series lenses are compatible with Focus Aid, in manual mode.

Mamiya
645 AF D
www.ianbfoto.com



Photo by Meiki Rin

AF 150mm F3.5

Printed in Japan

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