

PENTAX
A RICOH COMPANY



645D

Discover in detail, the camera that revolutionized the world of digital medium-format photography

The PENTAX 645D is the first digital medium-format camera developed by PENTAX. It is designed for versatile use and allows the image to incorporate exceptional quality previously reserved for fashion and advertising.

The 645D incorporates a large, high-performance, 40 megapixel CCD image sensor (33x44mm) approximately 1.7X times larger than that of 35mm-format models. Due to this large sensor, it provides superb image detail beyond your expectations and gives a boost to the creative aspirations of all photographers. It also features a rugged, weather-resistant construction, a large viewfinder and compatibility with a lens range of almost 20 models (including FA 645 lenses).

Thanks to its size, its maneuverability and outstanding reliability, outdoor photography is effortless and studio shooting is easy. The 645D is designed for professionals as well as advanced amateurs.



EISA awarded '2011-2012 Best Professional SLR'

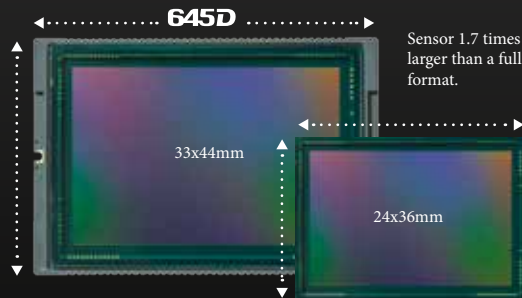
TIPA awarded '2011 Best Professional SLR of the year'

2011 Japan Camera GP in the 'Best Camera of the Year'





Exceptional image quality



40 MP sensor for super-high-resolution images

The PENTAX 645D incorporates a high-performance CCD image sensor, measuring 33mm by 44mm, which is 1.7 times larger than a 35mm format sensor and 3.9 times larger than an APS-C sensor. With approximately 40 effective megapixels, the 645D provides a wide dynamic range for supremely detailed reproduction of ambience and depth in super-high-resolution images. Create imagery deeply rich in tonal gradation and accurate in texture detail, with a top resolution of 7264x5440 pixels, allowing for ultra-high resolution imaging, exceptionally large printing, and outstanding cropping flexibility. Enjoy large poster-size prints without the loss of quality, tonal range or color space.

14-bit A/D (analog/digital) converter for unfailing conversion of image data to digital files

The PENTAX 645D features a high-performance A/D converter for accurate, reliable conversion of large volume analog image data to digital files, while maintaining high data levels, resolution and tonal gradation.



High-performance, high-speed, PRIME II imaging engine

The PENTAX 645D features the acclaimed, PENTAX-original PRIME II imaging engine (PENTAX Real Image Engine). With its high-speed data processing and new algorithm, exclusively programmed for medium format digital SLR cameras, this high-performance imaging engine produces super-high quality images rich in tonal gradation and accurate color reproduction, while allowing fast data transmission, even while shooting RAW-format images as large as 50MB per file.



Cécile Cée 645D D FA 55mm ISO 1600

Sensitivity up to ISO 1600 with excellent noise management

This sensor displays a remarkable dynamic range and captures the delicacy of artificial light, with the ability to use the entire speed range (200-1000 standard ISO and from 100 up to 1600 in extended mode). With excellent noise management, the grain remains under control, even at ISO 1600.

The PENTAX 645D is comfortable for use not only in studios with controlled light, but also on-location in any outdoor setting with natural light.

Weather resistant body

The PENTAX 645D is one of the few weather and dust sealed digital medium format cameras available today. The 645D is protected against rain and dust with 70 weatherproof seals and an outstanding cold-resistant body, assuring reliable performance and operation at temperatures as low as -10 degrees C.

The PENTAX 645D's main housing is made of lightweight, but strong magnesium-steel alloy, while the chassis is made of die cast aluminium to minimize the expansion and distortion caused by heat, and also to optimize thermal stability. Featuring two LCD panels, one on the camera's top panel and the second on the back panel, are covered with tempered glass for extra protection. Rely on the sturdy construction of the PENTAX 645D to take you anywhere for impressive imagery.







Easy to use

Intuitive and practical ergonomics

The PENTAX 645D offers exceptional ergonomics for ease of use in any location. The deep grip provides comfortable handling and use, especially while shooting handheld.

The 645D has many easily accessible shortcut controls on the body, allowing easy access to different settings without the need to refer to the menus. Enjoy comfortable buttons and dials for ISO sensitivity, bracketing, focusing, light measurement, flash, white balance, and recording format. Enjoy uninterrupted shooting with dual slots for SD/SDHC/SDXC memory cards.





Large, bright, clear optical viewfinder

Incorporated into the PENTAX 645D's viewfinder, a trapezoid-shaped glass prism not only assures a field of view of approximately 100%, but also greatly contributes to the compactness of the camera body. Coupled with a bright, easy-to-focus Natural-Bright-Matte focusing screen, the PENTAX 645D's viewfinder offers a large, clear view of the subject.



Large, easy-to-view 3.0 inch LCD monitor with 921,000 dots

Positioned on the camera's rear panel, a large 3.0 inch color LCD monitor with approximately 921,000 dots providing a clear, bright view of displayed images and menus. Its wide-view design allows quick, effortless confirmation of the displayed image from approximately 170 degrees both horizontally and vertically, meaning the photographer has little difficulty shooting from low and high angles. The LCD monitor is also treated with an exclusive AR (Anti-Reflection) coating to minimize reflections on the screen, even in outdoor locations and bright sunshine.

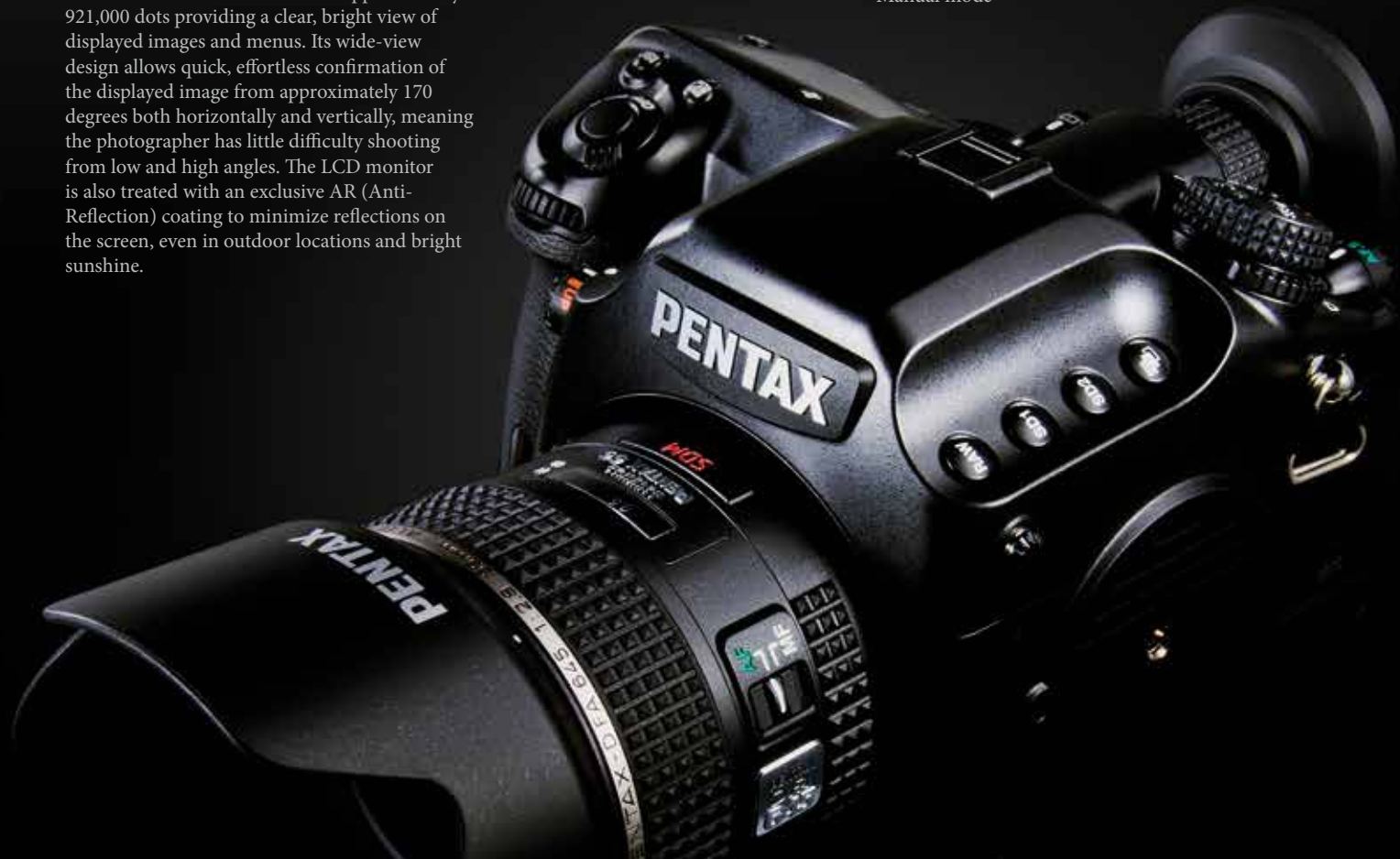


User-friendly

The 645D offers an intuitive interface with clear and comprehensive menus to easily configure settings on the body. Navigation throughout the menu catalog is user-friendly and instantaneous allowing for quick setting adjustments during shooting. Additionally, images rotate automatically with rotation of the body, enhancing and streamlining the shooting process. Finally, the PENTAX 645D has multiple exposure modes for accurate reproduction of creative intentions:

The Hyper Program function allows the user to instantly switch from Programmed AE mode to Shutter- or Aperture-Priority AE mode. Hyper Manual mode enables instant return back to auto mode when the camera is set on Manual mode with a single push of the green button.

- Sensitivity-Priority mode
- Shutter/Aperture-Priority mode
- Manual mode





| Fast and sharp

Fast image transfer

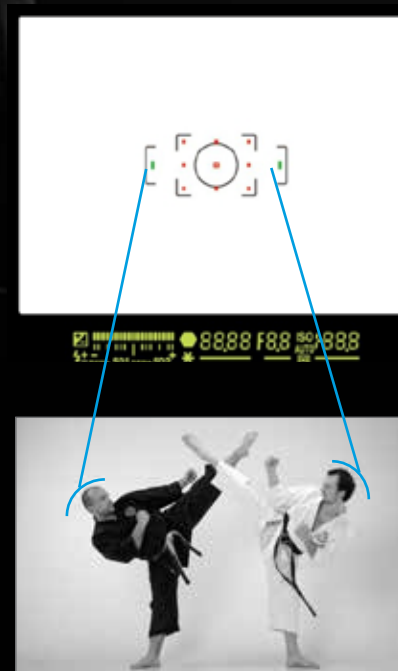
The 645D is compatible with all SDXC cards for faster transfer and larger writing capacity (>32 GB)

Precision autofocus

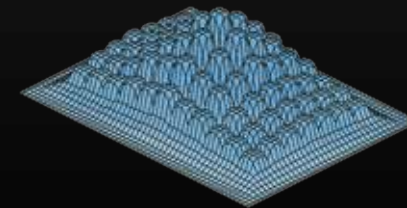
The PENTAX 645D's new SAFOX IX+ wide frame autofocus system features 11 sensor points (nine cross-type sensors positioned in the middle) to ensure the extra-high-precision focusing demanded from medium format cameras. PENTAX redesigned the entire optical system to develop this sophisticated autofocus technology. Simultaneously, PENTAX added new functionalities of analysis for light source data in the field of view.

Accurate light metering

The PENTAX 645D employs a state-of-the-art, 77-segment multi-pattern metering system to ensure super-high-accuracy metering. To further enhance the exposure accuracy, this metering system collects additional data such as image orientation (horizontal or vertical), and the distance to and magnification of the subject, using the sensors installed inside the camera body.



© Maksim Chicherin D FA 645 55mm



© Maksim Chicherin D FA 645 55mm





Advanced functions

Adjustable brightness and color

Brightness and color of the LCD screen can be calibrated - a crucial first step for image processing.

Multiple exposures

Capture multiple exposures of up to 9 images with an automatic exposure option.

HDR

The HDR (high dynamic range) function creates one composite image with an extra-wide gradation range from three images with different exposures.

Automatic lens correction

The lens correction function automatically compensates for lateral chromatic aberration, as well as barrel and pincushion distortion common to wide-angle lens photography. The PENTAX 645D bayonet is compatible with the analog 645 medium format lenses and also accepts 67 lenses via an optional adapter.

Copyrights management

This function attaches a copyright credit on recorded images (name of photographer, copyright holder) in the EXIF file.

Dynamic range enlargement

DRE (Dynamic Range Enlargement) makes it possible to expand the contrast range, while shooting, in order to obtain better definition in shadow and highlight areas.

Mirror lock-up

The mirror lock-up function prevents blur caused by the movement of the mirror during the exposure, ensuring the sharpest possible image capture for professional level applications. This large button can be used with a cable release. The first press locks the mirror up, and the second takes the picture.

Advanced flash functions

- X-synchronization : 1/125 sec.
- With the high-speed-sync function (HS), available on 540 FGZ and 360 FGZ flashes, it is possible to have maximum synchronisation speed equivalent to 1/4000 sec shutter speed.
- X-synchronization socket for studio flash
- Wireless function : with the 540 FGZ flash mounted on the 645D, you can remotely and wireless control other Pentax flashes in P-TTL mode.



Custom image and digital filters



The PENTAX 645D's Custom Image function lets the user easily control the 'feeling' of an image to more precisely reflect the user's creative intentions, or to more accurately reproduce the ambience of the scene. All parameters - such as saturation, hue, contrast, sharpness and highlight/shadow contrast - can be easily adjusted to desired levels, so that the photographer can shoot images with great ease. Nine pre-set options are available, such as monochrome for taking pictures in Black & White. Also included are 18 digital filters: Toy Camera, Monochrome, Retro, Color, High Contrast, Soft, Extract Color, Starburst, Sketch, Watercolor, Fish-Eye, Pastel, Slim, Miniature, HDR, Posterization, Base Parameter Adjustment, Custom Filter.

Preview button

This button is useful to check the exposure and the depth of field before shooting. Either test the depth of field, or virtual release with display on the LCD screen. Use a 3-channel histogram and zooming capabilities while previewing images.

Image comparison



Compare the details of two different images side by side (zooming by picture or simultaneous, scrolling of photos).

Pixel mapping

The dead pixel detection system collects information about the adjacent pixels. This function is often only found on external software but has been included within the 645D internal program.

AF fine adjustment

This function enables fine-tuning of the focus accuracy in front or behind the point calculated by the AF module. When mounting a new lens, this procedure is essential in ensuring optimal lens performance.

Digital level function



The Digital Level function displays the vertical and horizontal inclination of the camera, helping guarantee that captured photos remain level to the horizon.

Digital Camera Utility Software

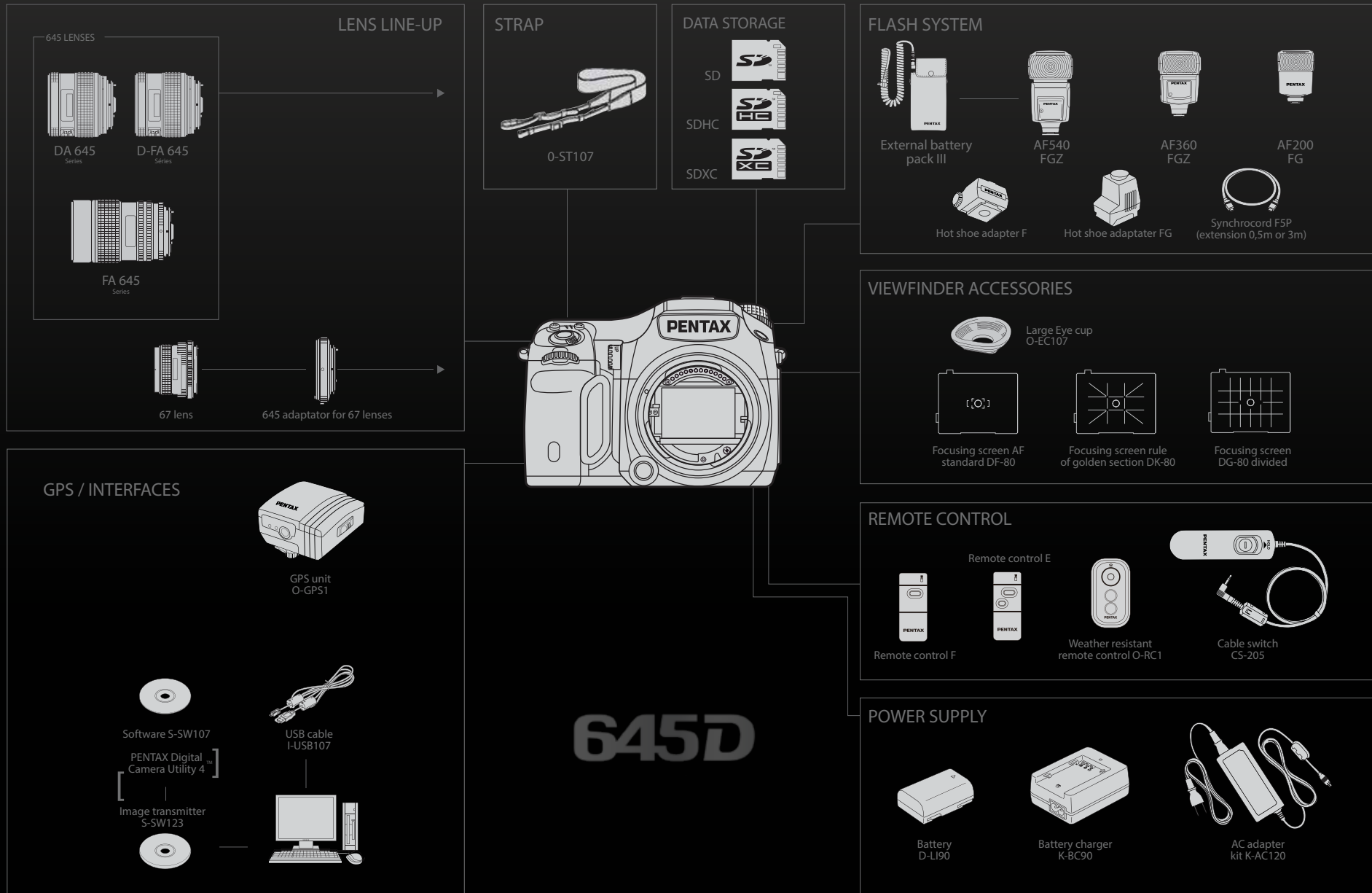
Included with the 645D is a RAW-data processing application (based on the popular SILKYPIX RAW-data processing engine developed by Ichikawa Soft Laboratory) and browser application.

Dust removal system DR11 and Dust-Alert



The 645D's dust removal system effectively and efficiently shakes dust off the image sensor by vibrating UV/IR-cut filters placed in front of the CCD image sensor at supersonic speed using a piezoelectric element. Thanks to the user-friendly Dust-Alert system, the photographer can easily check for dust adhering to the image sensor and remove the dust with the optional sensor cleaning kit.

| Lenses and accessories line-up



| Lenses optimized for digital 645D



© Cécile Cée DA 645 25mm

smc PENTAX DA 645 25mm F 4 AL [IF] SDM AW



- Designed for use with PENTAX digital 645D camera
- Dustproof and weather resistant (AW) - 11 seals
- Super Direct-drive Motor (SDM) for fast and silent focusing
- 2 aspherical lenses for sharp pictures
- Quick Shift focus system
- Aero-Bright and SP (Super Protect) coatings
- Built-in filter holder

This ultra wide angle lens offers a focal length of approximately 19.5mm in the the 24x36mm format, providing the widest perspective of all the lenses compatible with PENTAX 645D. It is ideal for both landscape photography and studio photography.

Incorporating two high performance aspherical lens elements in its optics, this ultra wide angle lens provides exceptional resolving power with outstanding brightness levels even at the edges, while keeping aberrations to a minimum. All lens characteristics are optimized for digital photography: for instance, exclusive lens coatings are applied to lens elements, while anti-reflection materials are also applied to the interior of the lens barrel. The lens features a highly dependable dustproof, weather resistant construction with 11 special seals to effectively prevent the intrusion of dust and water into the lens.



smc PENTAX D FA 645 55mm F2.8 AL [IF] SDM AW



© Maksim Chicherin D FA 645 55mm



- Designed for use with analogue and digital PENTAX 645 medium format cameras
- Dustproof and weather resistant (AW) - 7 seals
- Super Direct-drive Motor (SDM) for fast and silent focusing
- 2 aspherical lenses for sharp pictures
- Quick Shift focus system
- Aero-Bright and Super Protect coatings

This lens features new optics, optimized for high-quality digital photography to assure exceptional image detail performance while also providing an image circle suitable for existing PENTAX 645-format film cameras.

This fixed focal length standard lens also comes with a dependable, dustproof, weather resistant construction for active outdoor photography. Its 7 protective seals prevent the intrusion of dust and water within the lens. Combining this lens with the PENTAX 645D body, guarantees the user a reliable and sustainable digital imaging experience, even when shooting outdoors in the rain or fog.

HD PENTAX D FA 645 MACRO 90mm F2.8 ED AW SR



© Jin Akaishi HD D FA 645 90mm



- Medium-telephoto Lens with focal length of approximately 71mm or 65mm in 35mm format
- MACRO Capabilities at maximum magnification of 0.5 times
- Velvety Image Description ideal for portraiture
- New HD Coating and Aero Bright Coating
- Lens-installed SR (Shake Reduction) Mechanism
- 11 special seals for dustproof and weather-resistance
- Super Protect (SP) Coating




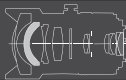
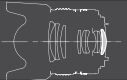




With the incorporation of the PENTAX-original HD coating and the PENTAX-innovated lens-installed SR (Shake Reduction) mechanism, this medium-telephoto lens assures bright, velvety imagery that is ideal for portrait photography.

At larger apertures, this lens defines the subject with fine, delicate lines and gorgeous, soft edges. Coupled with a beautiful bokeh (out-of-focus rendition) effect created by a very shallow depth of field, it is an ideal lens for photographing people in a portrait setting.









At smaller apertures, this lens produces sharp, solid images to make it useful for other applications such as science and still-life photography. Capture stunning life size details as this lens also offers macro photography at a maximum magnification of 0.5 times. In close-up applications, its floating mechanism effectively compensates for the curvature of the field to assure sharp, well-defined images.

645D LENSES

PENTAX made all its PENTAX 645 SMC lenses to deliver the highest quality (sharpness, contrast, color reproduction, reduction of indication scattering). Each lens has specific features so that it can deliver unique image quality. The 645D is compatible not only with all film medium format lenses but also with digital lenses to meet the needs of professionals.

	smc DA 645 25mm F4 AL IF SDM AW	smc D FA 645 55mm F2.8 AL IF SDM AW	HD D FA 645 Macro 90mm F2.8 ED AW SR
Lenses			
Optical construction			
Icons			
Equivalence in 24 X 36mm	20mm	44mm	71mm
Angle of View (degrees)	95	53-65	34
Lens Construction (groups / elements)	8/12	7/9	9/11
Maximum aperture	f/4	f/2.8	F2.8
Minimum Aperture	f/32	f/22	F22
Minimum Focusing Distance	0.4m	0.5m	0.413m
Filter Diameter	-	67mm	67mm
Maximum Magnification	0.11X	0.17X	0.5X
Diameter & Maximum Length	90mm x 148.5mm	81.3x68.2 mm	???????
Weight	1040g	416g	1040g
Rear converter (A 645 1.4X)	-	-	-
Rear converter(A 645 2X)	-	-	-
Lens hood	included	included	PH-RBL77
Case	37752	included	37727
Other Features	AF is SDM only Aerobright coating Rounded aperture Built-in, pull-out-type filter holder in its barrel (normal and C-PL)	AF is SDM only AeroBright Coating	AD Coating, Aero Bright Coating Rounded Aperture Blades SP (Super Protect) Coating Internal Shake Reduction Quick-shift Focus SystemI

Glossary

-  SMC (super multi coating)
Super-multi-coating is standard for all PENTAX lenses. smc describes seven microscopically thin layers of high-quality coatings that are applied to the lens elements. smc coatings significantly increase the amount of light transmitted by the lens.
-  AL (Aspherical Lens elements)
Unlike spherical lens elements, aspherical elements do not have a uniformly curved spherical shape. The form of an aspherical lens is adapted to a specific task and the curvature of each is individually calculated. The production of these lenses is accordingly complex.
-  ED (Extra-low dispersion glass)
Normal glass lens elements tend to divide the incident light into its various color components, just like a prism would. This happens particularly at the edges, adding unwanted color fringing to the image. The longer the focal length of the lens the more apparent the fringing effect. ED glass is an exceptionally high-quality specialty glass that greatly reduces this chromatic aberration.
-  IF (Inner Focusing) Each lens is composed of several groups of lens elements. With an Inner Focusing design only one of these groups is moved. Inner Focusing brings a number of advantages compared to a conventional focusing design where all the lens groups are moved. Firstly it works faster, and secondly, the overall length of the lens remains unchanged so the center of balance remains constant. Additionally, since the front lens element doesn't rotate, filters do not have to be readjusted every time the focus point changes.
-  SDM (Supersonic Direct-drive Motor)
Small motors manage the actual focusing of an autofocus system. With the "Supersonic Direct-drive Motor" PENTAX has developed a technology that drives the focusing mechanism with an ultrasonic motor. PENTAX SDM lenses drive the autofocus system significantly faster and operate more quietly than conventionally driven AF lenses.
-  QS Quick Shift Focus System
The PENTAX Quick Shift Focus System allows instant switching between Auto Focus and Manual Focus simply by turning the focusing ring on the lens.
-  SP Coating
Based on a fluoride bonding the coating prevents the contamination of the lens by water-based or oily substances. SP coated lenses are much more easily cleaned of finger marks, smears or other substances than may come in contact with the lens.
-  Water and dust protection
Humidity and dirt are the natural enemies of high performance electronics and precision optics. To safeguard against these elements, the latest PENTAX lenses are protected by a comprehensive system of seals for thorough protection, so that neither water nor dust can penetrate.

Other accessories

Flash



AF360 FGZ

Type	ELECTRONIC FLASH WITH ZOOM HEAD		
Guide number	36 at 85mm, 30 at 50mm (ISO 100)		
Compensation	Flash exposure -3.0 to +1.0 EV, in 0.5 EV steps		
Functions	P-TTL, TTL, Automatic, Manual (6 steps 1/1-1/32), Slave, Wireless, Flash with 1st and 2nd curtain sync, SB function for distance measurement, Contrast Control, High-Speed-Synchronisation		
Head	Auto zoom, manual zoom, vertical bounce: -10°, 0°, 45°, 60°, 75°, 90°		
Flash range	0.7 - 5.4m at F5.6 / ISO 100		
Power requirements	4x AA batteries (or rechargeable)		
Battery life	Recycle time	No. of flashes	
	Alkali-Manganese (LR6)	6 s approx.	250 approx.
	Nickel Metal Hydrid (Ni-MH)	6 s approx.	160 approx.
Compatibility	Digital, 35mm, 645, 67 (medium format)		
Dimensions	76 x 142 x 107mm (W x H x D)		
Weight	270g (without batteries)		
Accessories	Soft case		



AF540 FGZ

Type	ELECTRONIC FLASH WITH ZOOM HEAD		
Guide number	54 at 85mm, 45 at 50mm (ISO 100)		
Compensation	Flash exposure -3.0 to +1.0 EV, in 0.5 EV steps		
Functions	P-TTL, TTL, Automatic, Manual (7 steps 1/1-1/64), Slave, Wireless, Flash with 1st and 2nd curtain sync, SB function for distance measurement, Contrast Control, High-Speed-Synchronisation		
Head	Auto zoom, manual zoom, vertical bounce: -10°, 0°, 45°, 60°, 75°, 90° horizontal rotation: right: 0°, 30°, 60°, 90°, 120°, 150°, 180° left: 0°, 30°, 60°, 90°, 135°		
Flash range	0.8 - 8m at F5.6 / ISO 100		
Power requirements	4x AA batteries (or rechargeable)		
Battery life	Recycle time	No. of flashes	
	Alkali-Manganese (LR6)	6 s approx.	250 approx.
	Nickel Metal Hydrid (Ni-MH)	6 s approx.	160 approx.
Compatibility	Digital, 35mm, 645, 67 (medium format)		
Dimensions	76 x 142 x 107mm (W x H x D)		
Weight	380g (without batteries)		
Accessories	Soft case		



AF200 FG

Type	ELECTRONIC FLASH		
Guide number	20 at 28mm (35mm film format) (at ISO 100)		
Compensation	Flash exposure -0.5 and 1 EV		
Flash functions	P-TTL, TTL, Manual (Full)		
Head	Focal length 28 mm/24 mm (with builtin diffuser) (values given refer to focal lengths for 35mm film format) vertical: 30°/39°; horizontal: 26.5°/35°		
Flash range	0.7 - 3.6m at F5.6 / ISO 100		
Power requirements	4x AA batteries (or rechargeable)		
Battery life	Recycle time	No. of flashes	
	Alkali-Manganese (LR6)	4 s approx.	300 approx.
	Nickel Metal Hydrid (Ni-MH 2,700 mAh)	4 s approx.	400 approx.
	AA Lithium	4 s approx.	450 approx.
Compatibility	Digital, 35mm, 645, 67 (medium format)		
Dimensions	68 x 83.5 x 93mm (W x H x D)		
Weight	190g (without batteries)		

O-GPS1 GPS unit



The O-GPS1 unit enables to record shooting location data. It mounts on the hot shoe and records the latitude, longitude, altitude, universal time coordinated (UTC) and direction of the shooting location into captured images EXIF data. Using mapping software such as Google Earth™, the user can easily recall shooting locations and directions on a map. The O-GPS1 offers a Simple Navigation function, which calculates the direction and distance to a given destination from the current position. The user can, either locate destinations using location data stored on recorded images, or register and/or assign them by uploading location data created on a PC. The O-GPS1 comes equipped with an Electronic Compass function, which displays the camera's direction on its LCD monitor with great precision. With its weather-resistant construction, it can also be used in light rain.

TR Power Pack 3 for the AF540 FGZ

The ultimate power source for independent photography. Professional photography demands sufficient power. This means the TR Power Pack 3 for the AF540 FGZ (not for use with AF360 FGZ). The use of 6 C-type batteries extends the shooting capacity and shortens the recycling time.



The flash must have batteries installed when using the Power Pack.

Compatible	AF540 FGZ
Battery	6x C-type alkaline batteries (NiCd batteries are not usable)
Number of flashes	approx. 700
Recycling time	approx. 4.5sec.
Size (W x H x D)	95 x 190 x 40mm
Weight	340g (without batteries) 740g (with batteries)
Standard accessories	Connecting cable (1.5m), case, strap

Adapters

HOT SHOE ADAPTER F



The Hot Shoe Adapter F is particularly suitable for the SF- and Z-series cameras and the flash units of the FTZ- and FGZ ranges. It connects a flash unit to a sync cable. Up to 4 units can be connected together.

HOT SHOE ADAPTER FG



The Hot Shoe FG is designed so that the camera's built-in flash can be used in conjunction with the adapter. The top of the adapter has a socket for the sync cable.

SYNCHROCORD F5P



This cord allows you to control a flash to a distance of 0.5m or 3m.

645D

CCD SENSOR

Number of pixels	Approx. 40 megapixels - effective
Sensor type	33 x 44mm CCD sensor with primary colour filter
Pixel size	6.0 µm x 6.0 µm
Converter A/N	14 bits
Image size	JPEG: L - 40M (7264x5440), M - 32M (6528x4896), 21M (5376x4032), S - 13M (4224x3168), 7M (3072x2304), RAW: 40M (7264x5440)

LENS

Mount	PENTAX 645AF2 bayonet mount
Usable lenses	PENTAX 645AF2, 645AF and 645A mount lenses

VIEWFINDER

Type	Trapezoid-shaped glass prism
Focusing screen	Natural Bright Matte focusing screen
Field of view	100 %
Magnification	Approx. 0.62 x (w. D-FA645 55mm f/2.8 at infinity), Approx. 0.85 x (w. FA645 75mm f/2.8 at infinity)
Diopter adjustment	-3.5 to +2.0

LCD SREEN

Type	3" (7.6cm) color LCD, approx. 921k dots, wide-angle viewing, adjustable brightness and colors, scratch resistant, reinforced glass with AR coating
Digital preview	For confirming WB and exposure
Other features	Index view (1, 2, 4, 9, 16, 36 or 81 images), Enlargement (up to 32X, scroll available), Image Rotation, Folder view, Slideshow, Histogram, Resize, Cropping, Bright/Dark area, Calendar view

FILE FORMATS

Photo format	RAW (PEF, DNG), JPEG (Exif 2.2), DCF 2.0
	3 Quality levels of JPEG (good, better, best)
	RAW 14bit (PEF, DNG), RAW+JPEG

MEMORY

External memory	Compatible with SD and SDHC memory cards
	Dual slot

FOCUSING

Type	TTL phase difference detection autofocus, 11-point AF system (SAFOX IX+) with indication in finder
Options	AF-Single, AF-Continuous
Focus points	Auto, Select or Center
Superimpose	Available, up to 9 pictures

EXPOSURE CONTROL

Metering system	TTL open-aperture 77-segment metering
Metering mode	Multi-segment, center-weighted or spot metering
Operational range	EV 2 - EV 21 (at Standard ISO 200 with 55mm f/2.8)
Modes	Program, Sensitivity-Priority, Shutter-Priority, Aperture-Priority, Shutter and Aperture-Priority, Metered Manual, Bulb, X speed, User
Shutter type	Electronically controlled vertical-run focal plane
Shutter speeds	Auto and manual: from 1/4000 to 30 sec (1/3 EV steps or 1/2 EV steps), bulb
Sensitivity range	ISO Auto, from 200 to 1000, extended: from 100 to 1600 (1/3, 1/2 or 1EV steps) ± 5EV (1/3EV steps)
Exposure compensation	Available
Auto exposure lock	

FLASH

Synchronization	Hot shoe, X-sync socket, sync-speed: 1/125 sec., P-TTL, high-speed-sync, wireless control mode with PENTAX dedicated external flash
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POWER SUPPLY

Battery	Rechargeable D-L190 Lithium-ion battery
Capacity	Approx. 800 shots and 440 min in play mode
Other sources	Optional AC adapter also available

INTERFACES

Video outputs	Mini-HDMI, Mini-phone type (NTSC or PAL)
USB	USB 2.0 mini-B (Hi-Speed)
Other	Cable switch, X-sync socket, DC power input

OS

PC	Windows XP SP2, Vista™ and 7
Mac	OS X 10.3.9 or most recent

RECORDING PARAMETERS

Drive modes	One shot, Self-timer (2 or 12 sec), Continuous shooting, Remote control (0 or 3 sec), Remote continuous shooting, Interval, Exposure bracketing, Multiple exposure, Extended bracketing
Continuous shooting	Approx 1.1fps on both Slot 1 and Slot 2 RAW(PEF)+JPEG(40M at ★★★) until 13 frames RAW (PEF at DNG) until approx. 13 frames JPEG (40M at ★★★) until 13 frames
Custom Image	Bright, Natural, Portrait, Landscape, Vibrant, Muted, Reversal Film, Monochrome
Mirror Lock-up	For vibration free shooting. Can be enabled via dedicated dial or infrared remote control
White balance	Auto, Daylight, Shade, Cloudy, Fluorescent light (D, N, W, L), Tungsten light, Flash, CTE, Manual settings 1, 2 or 3, Colour temperature setting (3 types) with WB fine adjustment
Dust Removal II	Image sensor cleaning function by supersonic vibration, with dust alert function

OTHER FEATURES

World time	75 cities, 28 time zones
Folder names	Date (100_MMDD...), PENTX (100PENTX...)
File names	Standard, User customize
Digital filters	Monochrome, Extract colour, Colour, Base Tweaking, Soft
HDR	Available (1 composite picture out of 3 images)
Others	Dynamic Range Expansion, Digital level function, Automatic compensation of distortion and late-ral chromatic aberration with D-FA645- and FA 645-series, Versatile White Balance control system, including the CTE mode, attachment of copyrights credit on recorded images, compatible with the SDM autofocus mechanism

DIMENSIONS AND WEIGHT

Dimensions	156 × 117 × 119 mm (WxHxD)
Weight	1400 g unloaded 1480 g with battery and 2 SD cards

SOFTWARE INCLUDED

Software	PENTAX Digital Camera Utility 4 (v 4.20)
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PENTAX
A RICOH COMPANY