

645D



PENTAX
A RICOH COMPANY

www.pentax.co.uk/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 megapixels CCD image sensor (33 x 44mm) approximately 2 times larger than that of 35mm-format models. Due to this, 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.

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



The 645D has received many awards:



大賞
Camera of The Year



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'

Summary

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 - Connectivity
 - DNG & RAW formats built-in
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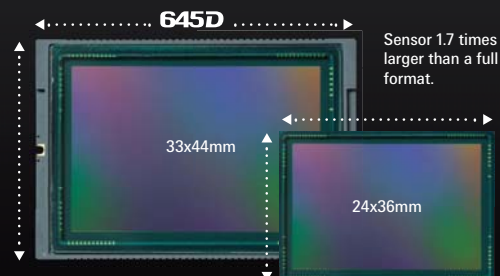
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© Kerrick James D-FA645 55mm





Exceptional image quality



40 MP sensor for super-high-resolution images

The PENTAX 645D incorporates a high-performance CCD image sensor. It measures 33mm by 44mm, and is 1.7 times larger than 35mm format sensors and 3.9 times larger than APS-C sensors. Thanks to approximately 40 effective megapixels, it provides a wide dynamic range for faithful reproduction of the ambience and the sense of depth in super-high-resolution images that are rich in tonal gradation and accurate in texture detail. This 40 megapixel CCD sensor provides a top resolution of 7264 x 5440 pixels, which is ideal for ultra-high resolution imaging, exceptionally large printing applications, and outstanding cropping flexibility. The pictures reach a resolution of 7264 x 5440 pixels, which allows large poster size prints without loss of quality. They also have large tone range and colour space.

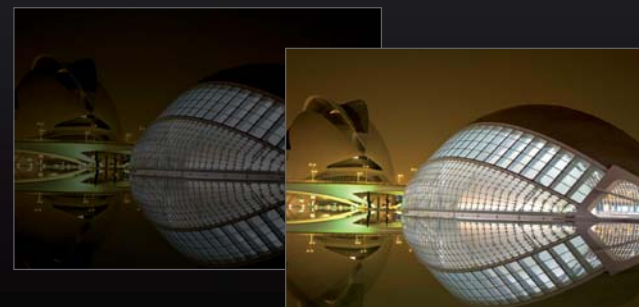
14-bit A/D converter for faithful conversion of image data to digital files

The PENTAX 645D features a high-performance A/D converter, which faithfully converts the large volume of analogue image data, output by the large CCD sensor (16384 levels), to digital files carrying an impressive amount of image data, including resolution and tonal gradation.



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

The PENTAX 645D features the acclaimed, PENTAX-original PRIME (PENTAX Real Image Engine) II as its imaging engine. Thanks to 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 faithful colour reproduction, while allowing speedy data transmission. Even with 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

The sensor displays a remarkable dynamic and fully respects the delicacy of artificial light. Entire speed range (200-1000 standard ISO and from 100 up to 1600 in extended mode) can be used. With its excellent noise management, the grain remains under control even at ISO 1600.

The Pentax 645D is comfortable to use not only in studio with light controlled but also during externally with different light.



Weather resistant body

The PENTAX 645D is one of the few digital medium-format cameras to be protected against rain and dust. With its 70 weather-proof seals and outstanding cold-resistant performance, you can be sure of reliable operation even at a temperature as low as -10°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 kinematic accuracy and thermal stability. The LCD panels, one on the camera's top panel and second on the back panel, are covered with tempered glass for extra protection. One touch of the PENTAX 645D impresses with its sturdy construction.



Easy to use

Intuitive and practical ergonomics

The PENTAX 645D offers exceptional ergonomics. The grip provides comfortable handling and use, especially while shooting handheld.

The 645D has many easily accessible shortcut controls on the body. This allows access to different controls without need to access the menus. ISO sensitivity, bracketing, focusing, light measurement, flash, white balance, recording format, dual slot SD/SDHC/SDXC memory card selection. A truly comfortable luxury.





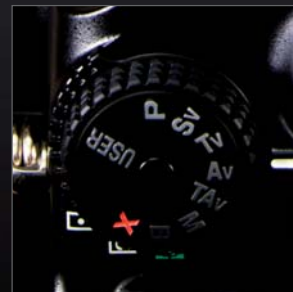
Large, bright and clear optical viewfinder

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 colour LCD monitor with approximately 921,000 dots provides 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 images 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 the outdoor locations and under bright sun light.



User friendly

The 645D offers an intuitive interface with clear and comprehensive menus to easily configure settings on the body. Navigation throughout the menus is instantaneous and the image rotated automatically with rotation of the body. The PENTAX 645D has multiple exposure modes for faithful reproduction of creative intentions:

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

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





| Fast and sharp

Precision autofocus

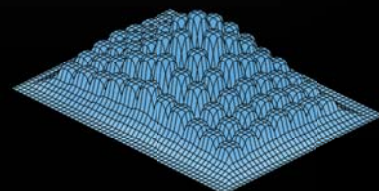
The PENTAX 645D's new SAFOX IX+ wide frame autofocus system features 11 sensor points (nine cross-type sensors positioned in the middle) to ensure the extra-high-precision focusing demanded on medium-format cameras. To develop this sophisticated AF system, the entire optical system was redesigned with the simultaneous addition of the new functionality to analyse and make use of the light sources data in the field of view.



© Maksim Chicherin D-FA645 55mm

Accurate light metering

The PENTAX 645D employs a state-of-the-art, 77-segment multi-pattern metering system to ensure super-high-accuracy metering. The exposure accuracy is further enhanced by collecting such additional data as image orientation (horizontal or vertical) and the distance to and magnification of the subject, using the sensors installed inside the camera body. With the data obtained and incorporated into exposure calculations.



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Fast image transfer

With the latest firmware 1.13, the 645D is compatible with all SDXC cards for faster transfer and a bigger writing capacity (>32 GB)





Advanced functions

The Pentax 645D offers clear and comprehensive menus

Dual SD/SDHC/SDXC memory card slots

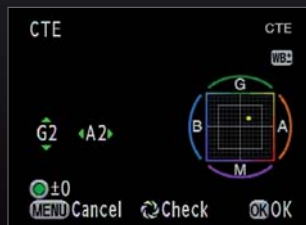
In order to have maximum image control, the 645D is equipped with two independent SD slots. Both slots can be individually managed allowing the user to store, for example, RAW files on one and JPEG files on the other. It is also possible to set slot No 2 to take over when the No 1 is full. The settings for these two memory card slots are accessible from dedicated buttons, located on the camera body. By downloading the latest firmware, you can use SDXC cards which benefit from an even faster transfer rate.



Connectivity

The 645D has many slots available: USB port, HDMI port to enable immediate viewing of your pictures on a HDTV, a plug for AC adaptor, a X-synchronization socket for studio flash and a cable switch.

White balance



Versatile white balance control system: automatic, daylight, shade, cloudy, fluorescent light, tungsten, flash, CTE, manual or colour temperature. Option to save 3 customized white balance.

Universal DNG format and built-in RAW image development



Control of many settings: type of file (JPEG or TIFF), resolution, compression, image customization, white balance, sensitivity, shadow corrections, colour space, etc...

Batch processing possible.

Advanced bracketing



Choose from 6 bracketing modes including; white balance, saturation, shade, dark/light adjustments, contrast and sharpness.

Interval shooting



The 645D allows you to program a series of shots from 2 to 999 images, with a shooting interval from 1 second to 24 hours.

Customizable buttons

It is possible to assign a range of functions to the RAW/Flex button: choose from recording format (JPEG, RAW, RAW+JPEG), exposure bracketing, digital preview, digital level function, composition adjustment. AF button and the 2 dials are also fully customized.

36 customizable functions

Which allow full customizing of the cameras settings. Even the program line characteristic can be customized.



Advanced functions

Adjustable brightness and colour

Brightness and colour of the LCD screen can be calibrated; a crucial 1st step for image processing.

Multiple exposure

Multiple exposure of up to 9 images with automatic exposure option.

HDR

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

Automatic lens correction

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 analogue 645 medium format lenses and also accepts 67 lenses via an optional adapter.

Copyrights management

Attaches copyright credits 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 high light areas.

Mirror lock-up

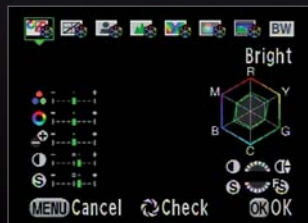
Mirror Lock-up function prevents blur caused by the movement of the mirror during the exposure, ensuring the sharpest possible image capture for professional level applications. This large button can be used with a cable release. The first press locks the mirror up, the second takes the picture.

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 an image's 'feeling' to more precisely reflect the user's creative intentions, or to more faithfully 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. 9 pre-set options are available, such as monochrome for taking pictures in Black & White. Feel free to use one the 18 digital filters : Toy Camera, Monochrome, Retro, Colour, High Contrast, Soft, Extract Colour, Star Burst, Sketch, Water Colour, Fish-Eye, Pastel, Slim, Miniature, HDR, Posterization, Base Parameter Adjustment, Custom Filter.

Preview button

Either, test the depth of field, or virtual release with display on the LCD screen, 3 channel histogram and possible zooming. Useful to check the exposure and the depth of field before shooting.

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 that 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 to bring out the best lens performance.

Digital level function



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

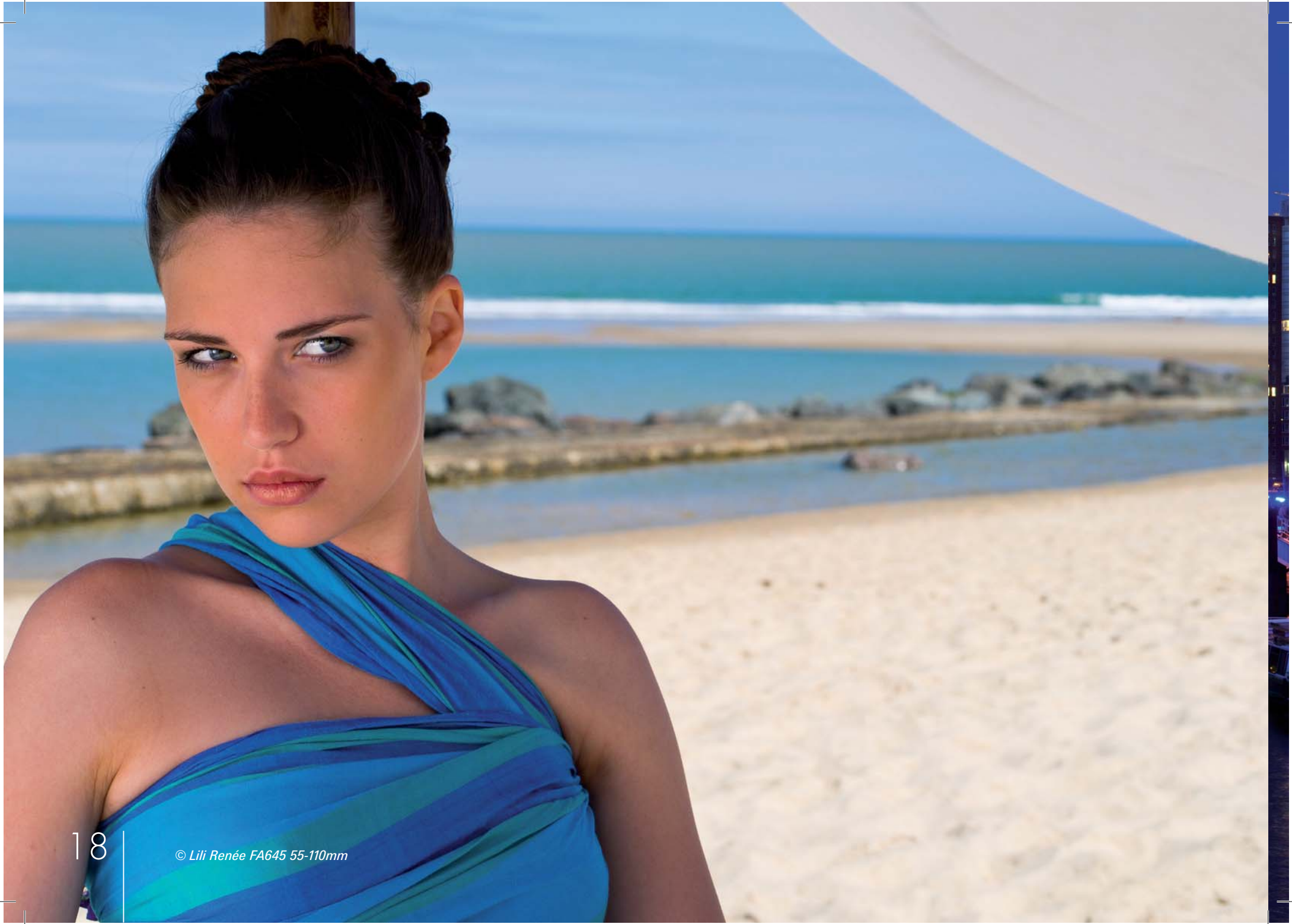
Digital Camera Utility Software

Including a RAW-data processing application (based on the popular SILKPIX RAW-data processing engine developed by Ichikawa Soft Laboratory) and browser application.

Dust removal system DR11 and Dust alert



By vibrating UV/IR-cut filters placed in front of the CCD image sensor at supersonic speed using a piezoelectric element, this mechanism effectively and efficiently shakes dust off the image sensor. Thanks to the user-friendly Dust-Alert system, the photographer can check at a glance for dust adhering to the image sensor and remove the dust with the optional sensor cleaning kit.

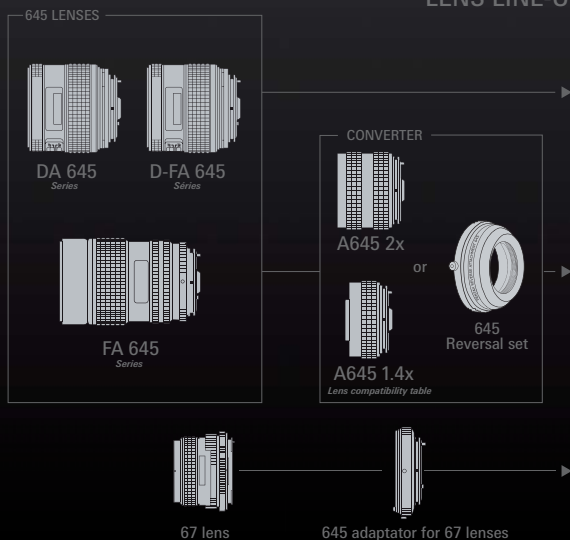






Lenses and accessories line-up

LENS LINE-UP



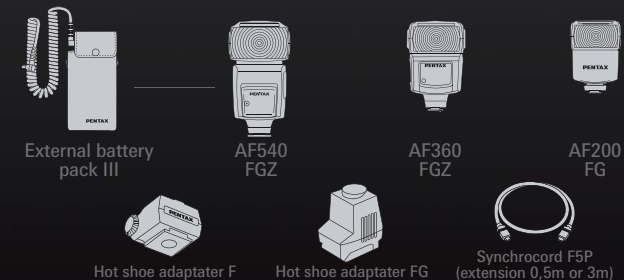
STRAP



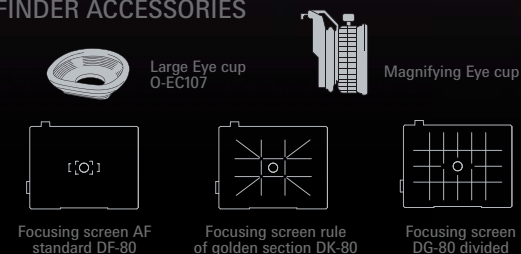
DATA STORAGE



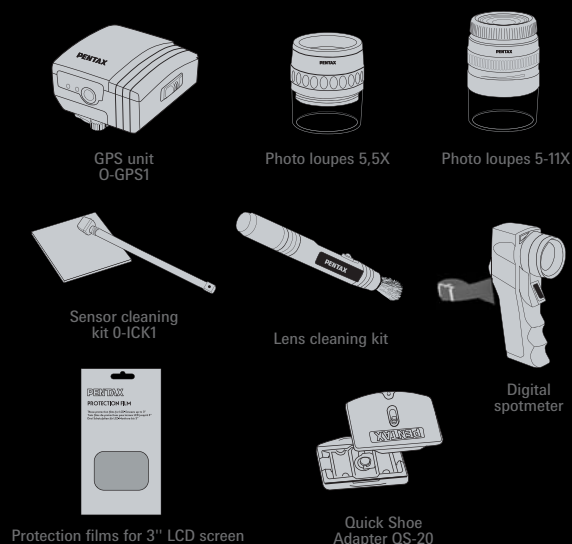
FLASH SYSTEM



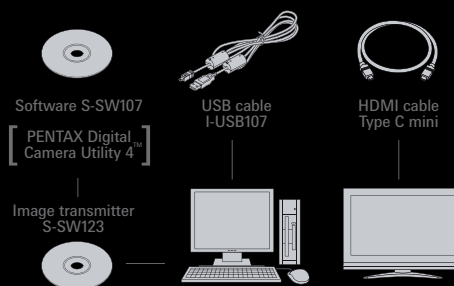
VIEWFINDER ACCESSORIES



OTHERS ACCESSORIES



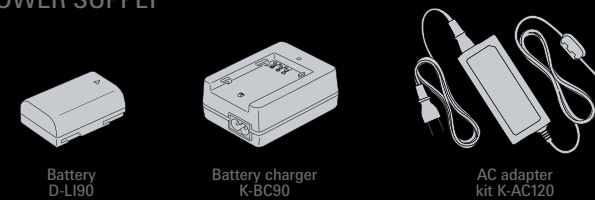
INTERFACES



REMOTE CONTROL



POWER SUPPLY



Lenses optimized for digital 645D



© Cécile Cée DA645 25mm

smc DA645 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

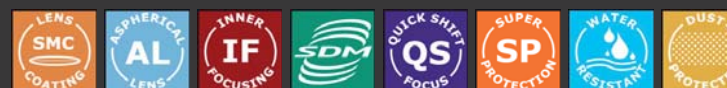
This ultra wide angle lens offers a focal length of approximately 19.5mm in the the 24x36mm format, providing the widest perspective of all the lenses compatible with PENTAX 645D. It is ideal for both landscape photography and studio photography.

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. As the newest model of the dependable AW (All Weather) series, 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 D-FA645 55mm F/2.8 AL [IF] SDM AW






- Designed for use with analogue and digital PENTAX 645 medium formats 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

It features not only 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, dust-proof, weather-resistant construction for active outdoor photography. With its 7 seals it prevents the intrusion of dust and water within the lens. By combining this objective with the PENTAX 645D body, the user is assured of a reliable and sustainable digital imaging, even when shooting outdoors in the rain or fog.

645 lenses compatible with digital 645D

	Fixed focal lens								
	smc DA645	smc FA645	smc FA645	smc D-FA645	smc FA645	smc FA645	smc FA645	smc FA645	smc FA645
	25mm f/4 AL IF SDM AW	35mm f/3.5 AL IF	45mm f/2.8	55mm f/2.8 AL IF SDM AW	75mm f/2.8	150mm f/2.8 IF	200mm f/4 IF	300mm f/4 ED IF	400mm f/5.6 ED IF
Lenses									
Optical construction									
Icons									
Equivalence in 24 X 36mm	20mm	28mm	36mm	44mm	60mm	120mm	160mm	240mm	320mm
Angle of View (degrees)	95	90	76	53-65	50	26	20	13.5	10
Lens Construction (groups / elements)	8/12	7/10	8/9	7/9	5/6	7/7	5/6	8/8	6/7
Maximum aperture	f/4	f/3.5	f/2.8	f/2.8	f/2.8	f/2.8	f/4	f/4	f/5.6
Minimum Aperture	f/32	f/32	f/22	f/22	f/22	f/22	f/32	f/32	f/45
Minimum Focusing Distance	0.4m	0.3m	0.45m	0.5m	0.6m	1.2m	1.5m	3m	3m
Filter Diameter	-	82mm	67mm	67mm	58mm	67mm	58mm	77mm	77mm
Maximum magnification	0.11X	0.25X	0.15X	0.17X	0.18X	0.15X	0.16X	0.11X	0.14X
Diameter and maximum length	90mm x 148.5mm	88 x 90mm	76.5 x 66.5mm	81.3x68.2 mm	74.5 x 37.5mm	74,5 x 96mm	74.5 x 119mm	83 x 207.5mm	83 x 252mm
Weight	1040g	545g	475g	416g	215g	500g	625g	1490g	1260g
Rear converter (A 645 1.4X)	-	-	-	-	-	X	X	X	X
Rear converter (A 645 2X)	-	L	X	-	X	X	X	X	X
Lens hood	included	38733 Flower-type hood	included Flower-type hood	included	38701	38730 Flower-type hood w/ window to handle PL filter	included	included	included
Case	37752	37727	inclus	inclus	33927	37727	33925	33922	33942
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/MF switch by shifting the focus ring front/backward F2.8 for smooth defocus	AF is SDM only AeroBright Coating	Light and compact	High reflective index low dispersion lens		Tripod collar with vertical/horizontal switch	Tripod collar with vertical/horizontal switch

DA : AF lenses compatible only with 645D



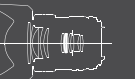




D-FA : AF lenses for 645D, compatible with 645, 645N and 645NII

FA : AF film format lenses compatible with 645D

A : AF film format lenses compatible with 645D with exposure control in Position A.

Convertors do not allow automatic AF with 645D

PENTAX made all its PENTAX 645 SMC lenses to deliver the highest quality (sharpness, contrast, color reproduction, reduction of indication scattering). Each lens have 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.

Macro			Telephoto			Converter	
smc FA645	smc FA645	smc FA645	smc FA645	smc FA645	smc FA645	A645 1,4X	A645 2X
Macro 120mm f/4	33-55mm f/4.5 AL	45-85mm f/4.5	55-110mm f/5.6	80-160mm f/4.5	150-300mm f/5.6 ED IF		
							
							
						-	-
96mm	26,5-44mm	36-68mm	44-88mm	64-128mm	120-240mm	-	-
32.5	93-65	76-44.5	65-35	47-24.5	26-13.5	-	-
7/9	8/11	9/11	9/9	10/11	13/15	4/5	4/8
f/4	f/4.5	f/4.5	f/5.6	f/4.5	f/5.6	-	-
f/32	f/32	f/32	f/45	f/32	f/45	-	-
0.39m	0.4m	0.5m	0.8m	1m	2m	-	-
67mm	82mm	77mm	82mm	77mm	67mm	-	-
1X	0.21X	0.22X	0.16X	0.17X	0.18X	-	-
82.5 x 110mm	88 x 104mm	85 x 99.5mm	88 x 104mm	85 x 130.5mm	80 x 201mm	77 x 31mm	77 x 60mm
735g	585g	815g	500g	1010g	920g	265g	350g
X	-	-	-	-	X	-	-
X	X	X	X	X	X	-	-
37639	Flower-type hood w/ window to handle PL filter	38725	Flower-type hood w/ window to handle PL filter	Flower-type hood w/ window to handle PL filter	included	-	-
33925	33924	33940	37727	33929	37728	-	-
High reflective index low dispersion lens AF limitation	High reflective index low dispersion lens Ghost-less coating	AF/MF switch by shifting the focus ring front/backward F4.8 for smooth defocus	Ghost-less coating Compact design	Ghost-less coating	AF/MF switch by shifting the focus ring front/backward F5.6 for smooth defocus		

To calculate the equivalent in 645 film format multiply the focal length by 1.3
To calculate the equivalent in 24x36mm film format multiply the focal length by 0.8

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 colour components, just like a prism would. This happens particularly at the edges, adding unwanted colour 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 centre 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.

Quick Shift Focus System The PENTAX The PENTAX Quick Shift Focus System allows instant switching between Auto Focus and Manual Focus simply by turning the focusing ring on the lens. A clever clutch mechanism takes care of the rest.

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. So that neither water nor dust can penetrate, the latest PENTAX lenses are protected by a comprehensive system of seals for thorough protection..

Other accessories

Flash



AF-360 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, A-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 f/5.6 / 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		



AF-540 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, A-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 f/5.6 / 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		



AF-200 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	PTTL, ATTL, automatic, 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 f 5.6 / 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 AF-540 FGZ

The ultimate power source for independent photography. Professional photography demands sufficient power. This means the TR Power Pack 3 for the AF-540 FGZ (not for use with AF-360 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	AF-540 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

Adaptater

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.

645 Magnifier



This accessory magnifies by 2x the viewfinder image to allow precise focusing in close-up shooting or copy applications.

Rear converter A645 1.4X or 2X

It allows you to multiply the focal length by 1.4X or 2X (Autofocus is not available)



645 adapter for 67 lenses

This adapter is designed to allow use of 67 lenses on the 645D (Autofocus is not available)



645 reversal set

This bayonet allows you to use lenses in reverse for the Macro shooting for magnifications greater than 1:1. For all lenses with 58mm filter.



SMC PENTAX 5,5X and 5-11X Photo loupe

These large diameter photo loupes are equipped with treated lenses to produce a clear and uniform image.



Digital spotmeter

With an angle of measurement of one degree and measuring range of 1 to 20 EV, this compact spotmeter is useful in situations where an even sharper measure of light is necessary. The measurement appears on a digital display in the viewfinder.



Focusing screens

For very specific needs (Macro, Architecture ...), you can replace the standard focusing screen with a AF standard, golden section rule or divided model.



Large eye cup



PENTAX image transmitter S-SW123

Enables shooting via computer and transfer of images backup on a computer (either on a file on a computer or simultaneously on SD card in the body).



Weather resistant remote control O-RC1

Allows shooting from a distance. Can be used in bad weather (rain, drizzle).



Remote control F

Allows shooting from a distance.



Cable switch CS-205 (0.5m)

This cable is used to trigger the shutter without causing movement of the camera. Particularly useful for macro photography or long exposures.



Battery D-LI90



AC adapter kit K-AC120



Quick shoe adapter QS-20

This accessory allows quick and easy mounting or removal of the camera on or from a tripod.



Lens cleaning kit



Sensor cleaning kit O-ICK1

Dust is removed and collected from the sensor with a specially coated cleaning head. Adhesive papers are provided that carefully remove dust particles.



Set of protective films for LCD screen 3"



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
Convertor 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)
Dioptr adjustment	-3.5 to +2.0

LCD SREEN

Type	3" (7.6cm) colour LCD, approx. 921k dots, wide-angle viewing, adjustable brightness and colours, 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
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MEMORY

External memory	Compatible with SD and SDHC memory cards Dual slot
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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-LI90 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 approx 1.1fps on both Slot 1 and Slot 2
Continuous shooting	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 x 117 x 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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