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PENTAX K-7
A Mid-Class Digital SLR Camera,
Aimed at Realizing the Essence of SLR Photography and Equipped
with Sophisticated Features for Top-Quality Digital Photography

HOYA CORPORATION PENTAX Imaging Systems Division is pleased to announce the launch of the PENTAX K-7 lens-interchangeable digital SLR camera. Despite its compact, lightweight body, this new model brings together a wide array of advanced functions and user-friendly features with outstanding reliability and operability. This makes it possible to enjoy high-quality digital SLR photography with great ease.

The K-7 has been developed as a high-end model of the PENTAX K digital SLR camera series. True to its series concept, it was designed not only to assure outstanding image quality, but also to provide exceptional ease and comfort of operation and the utmost satisfaction to photo enthusiasts of all levels, including advanced amateurs. After making a thorough review of all essential digital SLR camera components and functions, PENTAX has revised and upgraded many of them, including viewfinder, shutter unit, continuous-shooting capacity, and exposure and autofocus systems. Protected by a durable, high-quality metallic body, but the K-7 is designed to be extremely compact and functional — just like all other K-series models — for enhanced portability and maneuverability. In addition, it has added several user-friendly features, including video recording, high dynamic range (HDR), and automatic horizon correction. All of these make the K-7 a tremendous photographic tool, perfect for all discerning digital SLR photographers.

Major Features

1. Durable and functional body, smaller than any other in its class

The K-7 is built exceptional solid and durable, as its chassis is made of high-rigidity stainless-steel alloy and its housing is made of durable but lightweight magnesium-steel alloy. Thanks to 77 special seals applied to the body, it also features a dustproof, weather- and cold-resistant construction, assuring reliable operation even under harsh conditions and at a temperature as low as -10°C. It also features a newly

designed shutter unit providing a top shutter speed of 1/8000 second and the outstanding durability to withstand 100,000 shutter releases. Despite all these features, the K-7 is one of the most compact and functional mid-class models in the market, because PENTAX applied all the experience and expertise in camera downsizing the company has developed from the earliest days of film-format SLR cameras.

2. Optical viewfinder showing nearly 100% field of view

The K-7's glass prism finder offers an approximately 100% field of view and an approximately 92% magnification to facilitate focusing and framing operations. It also features a new Natural-Bright-Matte III focusing screen to improve focusing accuracy during manual-focus operation.

3. High-speed continuous shooting at approx. 5.2 images per second

The K-7's high-speed continuous shooting mode captures as many as 40 images (in JPEG recording format) at a maximum speed of approximately 5.2 images per second, allowing the photographer to follow the movement of an active subject or preserve a sequence of the subject's expressions.

4. New DR II mechanism to minimize dust spots

The K-7 comes equipped with the newly developed DR (Dust Removal) II mechanism, designed to effectively minimize annoying dust spots on recorded images, even after changing lenses in dust-prone outdoor settings. By shifting the low-pass filter located in front of the CMOS image sensor at supersonic speed using a piezoelectric element, it shakes the dust off the low-pass filter as effectively and efficiently as any other dust removal device. The K-7's unique dust-alert system also lets the user check for dust adhering to the low-pass filter prior to actual shooting.

5. High-quality image reproduction

(1) Approximately 14.6 effective megapixels for true-to-life image reproduction

The K-7 incorporates a newly developed CMOS image sensor measuring 23.4mm by 15.6mm and featuring a high-speed, four-channel image data readout. With approximately 14.6 effective megapixels, this image sensor can faithfully and accurately reproduce fine-detailed, gradation-rich images. With the adverse effects of digital noise greatly reduced, the sensitivity can be increased from ISO 100 up to the highest level of ISO 6400 (via a custom function) without worry.

(2) High-performance, high-speed PRIME II imaging engine

The K-7 features the newly developed PRIME (PENTAX Real Image Engine) II, an upgrade of the original PRIME, as its imaging engine. This new imaging engine offers greater data-processing speed and produces better-quality images with richer gradation and more accurate color rendition. It also offers high-speed movie data transmission.

6. New 77-segment multi-pattern metering

Newly developed for the K-7, a sophisticated 77-segment multi-pattern metering

system greatly improves light-metering accuracy. By accurately analyzing various types of data (such as the image's composition and format between upright and horizontal, and the subject's distance and magnification) transmitted from the sensors in the camera body, this system greatly improves the accuracy of exposure control.

7. New-generation SR mechanism for improved shake-reduction effect

The K-7 features the PENTAX-developed SR (Shake Reduction) mechanism, which effectively compensates the adverse effect of camera shake by approximately 2.5 to four shutter steps, assuring sharp, blur-free images even under demanding shooting conditions. This innovative mechanism is compatible with all PENTAX interchangeable lenses — even most of the lenses designed for film-format cameras.* Since this new-generation version can freely shift the image-sensor unit to keep it level regardless of the camera's inclination, it also provides such user-friendly new functions as automatic level adjustment and minute angle adjustment (in the direction of up/down, right/left and clockwise/counterclockwise), helping to compose the image exactly the way the photographer wants.

** Lenses compatible with this mechanism are the PENTAX K-, K_A-, K_{AF}-, K_{AF2}- and K_{AF3}-mount lenses; screw-mounted lenses (with an adapter); and 645- and 67-system lenses (with an adapter). Some functions may not be available with certain lenses.*

8. Live View real-time, on-display image confirmation with Face Recognition AF and high-speed continuous shooting modes

The K-7 features the Live View function, which allows the user to view the image on the LCD monitor during shooting. You can take advantage of this convenient function not only in the Contrast AF mode, which optimizes the focus based on the subject's contrast, but also in the Face Recognition AF mode, which automatically and accurately focuses on the subject's face. Thanks to the newly developed diaphragm-control mechanism, the Live View function can also be used in the continuous shooting mode with the mirror at lock-up position.

9. High-quality still image recording at 1280 x 720 pixels; 30-frames-per-second movie recording at HD-television proportions

The K-7 adds a new movie recording function, extending the benefits of SLR photography to the world of movie shooting: For instance, reduce the depth of field to make the subject stand out, or use different lenses to create distinctive visual effects. Beautiful movie clips can be recorded at different sizes — 640 x 416 pixels, 1536 x 1024 pixels, or 1280 x 720 pixels (16:9 high-definition TV proportions) — at a frame rate of 30 frames per second. The K-7 is also equipped with an HVMI terminal and an external microphone input terminal.

10. New 11-point wide-frame AF sensor

The K-7's new SAFOX VIII+ wide-frame autofocus system features 11 sensor points (with nine cross-type sensors positioned in the middle). By adding a light source type to its data range, and driven by a greatly improved algorithm, this AF

system assures reliable, responsive autofocus operation superior in speed and accuracy to the previous system. The K-7 also incorporates an AF-assisting spotbeam projector in its built-in flash unit to improve autofocusing accuracy in the dark.

11. Custom Image function to easily create desired visual effects

The K-7's Custom Image function lets the user control the image's finishing touch to capture their photographic intention, or reproduce the ambience of the scene. With the K-7, the user can select one of seven modes, including the new "Muted" mode designed to recreate an image with delicate, subdued colors. In addition to saturation, tone, contrast and sharpness — the factors previously available — it is now possible to adjust "key" and "contrast highlight/shadow" to the desired levels. The effects of these factors can be effortlessly confirmed on a preview image using the Digital Preview or Live View function before finalizing the settings.

12. Versatile exposure system for faithful reproduction of creative intentions

(1) Hyper Program function

The K-7's Hyper Program function allows the user to instantly switch to the Shutter- or Aperture-Priority AE mode from the Programmed AE mode, with a simple turn of the electronic dials on the grip. To return to the Programmed AE mode, simply press the green button positioned next to the shutter release button.

(2) Hyper Manual function

When shooting in Manual mode, a single push of the green button allows the user to instantly set the proper exposure for the subject.

(3) Sensitivity-Priority mode

The K-7 features a unique Sensitivity-Priority (Sv) mode, which is designed to automatically select the optimum combination of aperture and shutter speed for a user-selected sensitivity. The sensitivity can be shifted instantly in 1/2 or 1/3 steps by turning the electronic dial on the back panel.

(4) Shutter/Aperture-Priority mode

Taking full advantage of the unique capability of digital cameras permitting automatic shift of sensitivity at any time, the Shutter/Aperture-Priority (TAv) mode automatically selects the most appropriate sensitivity for a user-selected shutter-speed/aperture combination. It allows the user to experiment with a greater range of photographic expressions with great ease.

13. Large, easy-to-see 3.0-inch wide-view LCD monitor with approximately 920,000 dots

The K-7 features a large 3.0-inch color LCD monitor with approximately 920,000 dots on its back panel. Its wide-view design allows the photographer to check the monitor image from approximately 170 degrees both vertically and horizontally, facilitating low- and high-angle shooting using the Live View function.

14. Powerful rechargeable battery

The K-7 is powered by a large-capacity, rechargeable lithium-ion battery, which can

capture approximately 980 images** when fully charged.

*** Under testing conditions prescribed by PENTAX, when using a rechargeable D-LI90 lithium-ion battery with no flash.*

15. Other features

- 1) HDR (high dynamic range) function to create one composite image with an extra-wide gradation range from three images with different exposures
- 2) Dynamic-range expansion function to compensate for both white-washed (overexposed) and blacked-out (underexposed) areas
- 3) Digital level function for easy checking of the image's levels
- 4) Automatic compensation of distortion and lateral chromatic aberration (available only with D_A- and D_{FA}-series lenses)
- 5) White balance control, featuring a new CTE mode to emphasize the color components of sunset scenes and a new incandescent-tinted fluorescent light mode
- 6) Multi-exposure function, with a superimposition of already-recorded images on the LCD monitor for at-a-glance comparison
- 7) Attachment of copyright credits on recorded images
- 8) RAW button for single-action switching of image file format
- 9) 16 digital filters to add a range of visual effects; a new function to record an overwritten history also available
- 10) Color-specific control buttons/dials for easy recognition and quick access, based on the universal color design
- 11) PENTAX Digital Camera Utility 4 software package, including a RAW-data processing application (based on the popular SILKYPIX RAW-data processing engine developed by Ichikawa Soft Laboratory) and a browser application

Optional accessory

Battery Grip D-BG4

Exclusively designed for the PENTAX K-7 camera body, the Battery Grip D-BG4 is powered by either a rechargeable lithium-ion battery or six AA-size batteries. Since it supplements the camera's battery as an additional power source, the number of recordable images is greatly increased. To facilitate vertical-position shooting, this grip features extra shutter-release button, preview lever, electronic dials, AE-lock button, Green button and AF button. It also provides the same dustproof, weather- and cold-resistant construction as the camera body itself.

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K-7 Specifications

Effective Pixels		approx. 14.6 megapixels
Image Sensor	Total pixels	approx. 15.07 megapixels
	Type	CMOS with a primary color filter
	Size	23.4mm x 15.6mm
Color Depth		8 bit (JPEG) or 12 bit (RAW)
Recorded Pixels	Still	JPEG: [14M] 4672x3104 pixels, [10M] 3936x2624 pixels, [6M] 3072x2048 pixels, [2M] 1728x1152 pixels
	Movie	RAW: [14M] 4672x3104 pixels
Sensitivity (Standard output sensitivity)		[0.9M] (1280x720, 16:9), [1.6M] (1536x1024, 3:2), [0.3M] (640x416, 3:2) Auto, Manual : 100-3200 (1EV steps or 1/2EV steps or 1/3EV steps) can be expand to ISO6400 Bulb mode : up to ISO1600
Recording file Format	Still	RAW (Original/DNG), JPEG (Conforms to Exif 2.21), Conforms to DCF (Design rule of Camera File system) 2.0
	Movie	Motion JPEG (AVI) 30fps
Formats	Still	Compressed: JPEG - Baseline (: Premium , : Best , : Better, : Good) Compressed: RAW (PEF) Non compressed: RAW (DNG)
Storage Media		SD, SDHC memory card RAW+JPEG : available
White Balance		Auto, Daylight, Shade, Cloudy, Fluorescent Light (D, N, W, L), Tungsten Light, Flash, CTE, Manual setting , with WB fine adjustment
Viewfinder	Type	Pentaprism type
	Focusing screen	Natural-Bright-Matte III focusing screen
	Field of view	approx. 100%
	Magnification	approx. 0.92x (with 50mm F1.4 lens, infinity, -1m ⁻¹)
	Diopter adjustment	approx. -2.5 - +1.5m ⁻¹
Live View	Type	TTL by Image sensor
	Field of view	approx. 100%
	Display	Enlargement (2X, 4X, 6X in case of AF mode, 2X, 4X, 6X, 8X, 10X in case of MF mode) Grid pattern
	Autofocus Mode	Contrast detection + Face detection / Contrast detection / Phase difference detection
LCD Monitor	Type	TFT color LCD monitor, brightness adjustable, Color adjustable, Wide angle view, AR Coating
	Size	3.0 inch
	Dots	approx. 921,000 dots
Preview Method		Optical preview , Digital preview
Playback		One Image, Two Images, Index (4 or 9 or 16 or 32 or 81 thumb nails), Enlargement (up to 32X, scroll available), Image Rotation, Folder view, Slideshow, Histogram, Resize, Cropping, Bright/Dark area, Calendar view, Index view
Digital Filter	Recording Mode	Toy Camera, Retro, High Contrast, Extract Color, Soft, Star Burst, Fish-eye, Custom
	Playback Mode	Toy Camera, Monochrome, Retro, Color, High Contrast, Soft, Extract Color, Star Burst, Water Color, Fish-eye, Pastel, Slim, Miniature, HDR, Base Tweaking, Custom
Focusing System	Type	TTL phase difference detection, 11-point wide autofocus system (SAFOX VIII+)
	Focus Mode	AF-single (with focus lock); Manual focus AF-continuous
	Focus Point	Auto, Select, Center
	AF assist lamp	available
Exposure Control	Metering System	TTL open-aperture 77-segment metering (coupled with lens and AF information)
	Metering Mode	(1) Multi-segment metering, (2) Center-weighted metering, (3) Spot metering
	Exposure Range	EV 0-22 (at Standard Output Sensitivity 100 with 50mm F1.4 lens)
	Modes	(1) Green, (2) Program AE, (3) Sensitivity-Priority AE, (4) Shutter-Priority AE, (5) Aperture-Priority AE (6) Shutter and Aperture Priority AE, (7) Metered Manual, (8) Bulb, (9) X speed
	Exposure Compensation	±5 EV
	Auto-bracketing	3 or 5 frames within range of ±0.5EV, ±1.0EV, ±1.5EV, ±2.0EV (0.5EV steps) or ±0.3EV, ±0.7EV, ±1.0EV, ±1.3EV, ±1.7EV, ±2.0EV (0.3EV steps)
	AE Lock	available
Shutter	Shutter Type	Electronically controlled vertical-run focal plane shutter
	Shutter Speed	1/8000 - 30 sec. and bulb
Drive Modes		Single-frame, Continuous (Hi, Lo), Self-timer (12s, 2s), Remote control (0s, 3s), Remote Continuous Shooting, Exposure Bracketing, Exposure Bracketing+Self-timer, Mirror Lock-up Shooting, Mirror Lock-up Shooting+Remote control
	Continuous shooting	approx. 5.2 fps, sequence : until approx. 40 frames (JPEG and continuous (Hi)), approx. 15 frames (RAW(PEF)) , approx. 14 frames (RAW(DNG)), approx. 3.3 fps, sequence : until the memory card becomes full (JPEG and continuous (Lo)) , approx. 17 frames (RAW(PEF)) , approx. 17 frames (RAW(DNG))
Built-in Flash	Type	Built-in retractable P-TTL pop-up flash
	Guide number	approx. 13 (Standard Output Sensitivity 100/m)
	Angle of view coverage	28mm wide-angle (equivalent to 35mm)
	Flash Exposure Compensation	-2 EV - +1EV (1/2EV steps)
Flash Synchronization		Hot shoe, X-sync socket, sync-speed: 1/180 sec., P-TTL, high-speed-sync, wireless-sync with PENTAX dedicated flash
Image Stabilizer	Type	Image sensor shift mechanism , Max 4 stops
Dust Removal		Image sensor cleaning function by supersonic vibration
Time	World Time	75 cities (28 time zones)
Data Folder	Folder Name	Date (100_MMDD···) , PENTX (100PENTX, 101PENTX···) ,
	File Name	Standard, User customize
Power Sources		Rechargeable D-LI90 lithium-ion battery Optional AC adapter also available.
Battery Life	Number of recordable images	approx. 980 (Normal Recording)*2 , approx. 740 (50% use Flash)*1
	Playback time	approx. 440 minutes*2
Interfaces		USB2.0(Hi-Speed)/AV output, DC input , Cable switch, X-sync socket, HDMI output, Stereo microphone
Video Output		Compatible with NTSC and PAL formats
Lens Mount		PENTAX K _{AF2} bayonet mount
Usable Lens		PENTAX K _{AF3} , K _{AF2} , K _{AF} , and K _A -mount lenses. * Power zoom function available. K-mount lenses usable with restrictions. S-mount lenses, 67/645 lenses usable with adapter and with restrictions.
Dimensions		approx. 130.5(W) x 96.5(H) x 72.5(D)mm (5.1 x 3.8 x 2.9 inches)
Weight		approx. 670g (22.9 oz.) without battery and SD memory card. approx. 750g (26.5 oz.) loaded and ready with battery and SD memory card

*1 Recording capacity shows approximate number of shots recorded during CIPA-compliant testing. Actual performance may vary depending on operating conditions.

*2 According to the result of PENTAX in-house testing.

K-7 Specifications

Storage capacity

<Still>

Recorded Pixels	RAW		JPEG															
	4672 x 3104	RAW	4672×3104				3936×2624				3072×2048				1728×1152			
	PEF	DNG	★★★★	★★★	★★	★	★★★★	★★★	★★	★	★★★★	★★★	★★	★	★★★★	★★★	★★	★
Quality Level																		
128MB	5	5	9	15	26	52	13	21	37	73	21	34	60	116	66	104	177	325
256MB	10	10	18	29	52	102	25	41	72	142	42	67	118	227	130	203	346	634
512MB	20	20	36	58	103	204	51	81	144	282	83	133	234	450	258	402	686	1258
1GB	40	40	73	117	206	408	102	163	289	564	167	267	468	902	516	805	1373	2518
2GB	82	82	148	238	420	830	208	332	585	1138	339	543	945	1807	1041	1617	2793	5121
4GB	162	161	292	467	826	1630	409	652	1149	2234	666	1068	1856	3549	2045	3176	5485	10057
8GB	331	329	594	952	1682	3319	832	1327	2339	4548	1356	2173	3778	7224	4162	6463	11164	20468

<Movie>

Recorded Pixels	1.6M(1536×1024、3:2)	0.9M(1280×720、16:9)	0.3M(640×416、3:2)
Quality Level	★★★★	★★★	★★★
128MB	0:14	0:28	0:18
256MB	0:28	0:55	0:35
512MB	0:55	1:18	0:50
1GB	1:51	2:36	1:10
2GB	3:45	5:16	1:40
4GB	7:23	10:22	2:20
8GB	15:03	21:06	3:59

The maximum file size is 4GB for movie.
The maximum length is 25 minutes for movie.