PENTAX *K-1*

The K-1 takes greatness to the next level. As the first full frame DSLR engineered under the PENTAX brand, the K-1 brings outstanding performance, operability and affordability to photographers. With its large 36.4 megapixel CMOS image sensor, the K-1 incorporates all of the performance of a high-resolution full frame 35mm digital camera as well as all of the unique PENTAX-original features and technologies that photographers have become accustomed to, in a compact, rugged, weather-resistant body.

MODEL DESCRIPTION

Type	TTL autofocus, auto-exposure SLR digital-still camera
Lens Mount	PENTAX KAF2 bayonet mount (AF coupler, lens information contacts, K-mount with power contacts)
Compatible Lens	KAF3, KAF2 (power zoom compatible), KAF, KA mount lens

IMAGE CAPTURE

Image Sensor	Primary color filter, CMOS. Size: 35.9 x 24.0 (mm)
Effective Pixels	Approx. 36.40 megapixels
Total Pixels	Approx. 36.77 megapixels
Dust Removal	Image sensor cleaning using ultrasonic vibrations "DR II" with the Dust Alert function
Sensitivity (Standard output)	ISO AUTO/100 to 204800 (EV steps can be set to 1EV, 1/2EV or 1/3EV)
Image Stabilizer	Sensor-shift shake reduction (SR: Shake Reduction)(5-axis)
AA Filter Simulator	Moiré reduction using SR unit. OFF/Type1/Type2/Bracket (3images)

FILE FORMATS

File format	RAW (PEF/DNG), JPEG (Exif 2.3), DCF2.0 compliant
Recorded Pixels	[35mm Full Frame] JPEG: L(36M:7360x4912), M(22M:5760x3840), S(12M:4224x2816), XS(2M:1920x1280) [APS-C size] JPEG: L(15M:4800x3200), M(12M:4224x2816), S(8M:3456x2304), XS(2M:1920x1280) RAW: (15M:4800x3200)
Quality Level	RAW (14bit): PEF, DNG JPEG: (Best), (Better), (Good), RAW + JPEG simultaneous capturing available
Color Space	sRGB, AdobeRGB
Storage Medium	SD, SDHC and SDXC Memory Card (Conforms to USH-I standards)
Dual SD slot	Sequential Use, Save to Both, Separate RAW/JPG, Image copy between slots possible
Storage Folder	Folder Name: Date (100_1018,101_1019...) or User assigned folder name (Default "PENTX")
Recording File	File Name: "IMGP****" or User assigned file name File name numbering: Sequential, Reset

VIEW FINDER

Type	Pentaprism Finder
Coverage (FOV)	Approx. 100%
Magnification	Approx. 0.70x (50mmF1.4 at infinity)
Eye-Relief Length	Approx. 20.6mm (from the view window), Approx. 21.7mm (from the center of lens)
Diopter adjustment	Approx. -3.5m to + 1.2m-1
Focusing Screen	Natural-Bright-Matte III focusing screen
Viewfinder Overlay	AF Points, Grid Display, Electronic Level, AF Frame, Spot Metering Frame, Crop

LIVE VIEW

Type	TTL method using image sensor
Focusing Mechanism	Contrast detection (Face detection, Tracking, Multiple AF points, Select, Spot) Focus Peaking: ON/OFF
Display	Field of View approx. 100%, Magnified view (up to 16x), Grid Display (4x4 Grid, Golden Section, Scale display, Square 1, Square 2, Grid Color: Black/White), Histogram, Bright area warning, Composition Adjustment

LCD MONITOR

Type	Wide viewing angle TFT color LCD, Air-gapless glass. Flexible-tilt.
Size	3.2 inch (aspect ratio 3:2)
Dots	Approx. 1037K dots
Adjustment	Brightness, Saturation and Colors adjustable
Outdoor View Setting	Adjustable ±2 step

WHITE BALANCE

Type	Method using a combination of the image sensor and the light source detection sensor
White Balance	AUTO WB, Multi Auto WB, Daylight, Shade, Cloudy, Fluorescent Light (D:Daylight Color, N:Daylight White, W:Cool White, L:Warm White), Tungsten Light, CTE Manual WB (up to 3 settings), Color Temperature Configuration (up to 3 settings), Copying the white balance setting of a captured image
Fine Adjustment	Adjustable ±7 steps on A-B axis or G-M axis

AUTOFOCUS SYSTEM

Type	TTL: Phase-matching autofocus
Focus Sensor	SAFOX 12, 33 point (25 cross type focus points in the center)
Brightness Range	EV-3 to 18 (ISO 100 / at normal temperature)
AF mode	Single AF (AF.S), Continuous AF (AF.C)
AF Point Selection	Spot, Select, Expanded Area (S, M, L), Zone select, Auto (33 AF points)
AF Assist Light	Dedicated LED AF assist light

METERING

Type	TTL open aperture metering using 86K pixel RGB sensor, Multi-segment, Center-weighted and Spot metering
Metering Range	EV-3 to 20 (ISO100 at 50mm F1.4)

Exposure Mode	Scene Analyze Auto, Program, Sensitivity Priority, Shutter Priority, Aperture Priority, Shutter & Aperture Priority, Manual, Bulb, Flash X-sync Speed, USER1, USER2, USER3, USER4, USER5
EV Compensation	±5EV (1/2EV steps or 1/3EV steps can be selected)
AE Lock	Button type (timer type: two times the meter operating time set in Custom Setting); Continuous as long as the shutter button is halfway pressed

SHUTTER

Type	Electronically controlled vertical-run focal plane shutter * Electronic shutter when using Pixel Shift Resolution
Shutter Speed	Auto:1/8000 to 30 sec., Manual:1/8000 to 30 sec. (1/3EV steps or 1/2EV steps), Bulb

DRIVE MODES

Mode Selection	Still Image: Single Frame, Continuous (H, M, L), Self-timer (12s, 2s, Continuous), Remote Control (0s., 3s., Continuous), Bracketing (2, 3 or 5 frames), Mirror-up (Possible to use with Remote Control), Multi-Exposure (Possible to use with Continuous, Self-timer or Remote Control), Interval Shooting, Interval Composite, Interval Movie Record, Star Stream
Continuous Shooting	[35mmFull Frame] Max. approx. 4.4 fps, JPEG (L: at Continuous H): up to approx. 70 frames, RAW: up to approx. 17 frames Max. approx. 3.0 fps, JPEG L: at Continuous M): up to approx. 100 frames, RAW: up to approx. 20 frames Max. approx. 0.7 fps, JPEG (L: at Continuous L): up to approx. 100 frames, RAW: up to approx. 100 frames [APS-C size] Max. approx. 6.5 fps, JPEG (L: at Continuous H): up to approx. 100 frames, RAW: up to approx. 50 frames Max. approx. 3.0 fps, JPEG L: at Continuous M): up to approx. 100 frames, RAW: up to approx. 70 frames Max. approx. 1.0 fps, JPEG (L: at Continuous L): up to approx. 100 frames, RAW: up to approx. 100 frames *ISO100
Multi-Exposure	Composite Mode(Additive/Average/Bright) Number of Shots(2 to 2000 images)
Interval Shooting	[Interval Shooting] Interval: 2s. to 24h./ Standby Interval: Min. 1s. to 24h., Number of shots: 2 to 2000 images, Start Interval: Now/Self-timer/Remote Control/Set Time [Interval Composite] Interval: 2s. to 24h./ Standby Interval: Min. 1s. to 24h., Number of shots: 2 to 2000 images, Start Interval: Now/Self-timer/Remote Control/Set Time, Composite Mode: Additive/ Average/Bright, Save Process: On/Off [Interval Movie] Recorded Pixels: 4K/FullHD/HD, File Format: Motion JPEG (AVI), Interval:2s. to 24h./ Standby Interval: Min 1s. to 24h., Number of shots: 8 to 2000 images (8 to 500 images at 4K), Start Interval:Now/Self-timer/Remote Control/Set Time [Star Stream] Recorded Pixels: 4K/FullHD/HD, File Format: Motion JPEG (AVI), Interval:2s. to 24h./ Standby Interval: Min 1s. to 24h., Number of shots: 8 to 2000 images (8 to 500 images at 4K), Start Interval: Now/Self-timer/Remote Control/Set Time, Fade-out: Off/Low/Medium/High

FLASH

Flash Modes	Auto Flash Discharge, Auto Flash + Red-eye Reduction, Flash On, Flash On + Red-eye Reduction, Slow-speed Sync, Slow-speed Sync + Red-eye, P-TTL, Trailing Curtain Sync, Contrast-control-sync, High-speed sync, Wireless sync * Contrast-control-sync and High-speed sync requires 2 or more dedicated external flash
Sync Speed	1/200sec.
Flash Exposure Compensation	-2.0 + 1.0EV

CAPTURE SETTINGS

Custom Image	Auto Select, Bright, Natural, Portrait, Landscape, Vibrant, Radiant, Muted, Flat, Bleach Bypass, Reversal Film, Monochrome, Cross Processing
Cross Process	Random, Preset 1-3, Favorite 1-3
Digital Filter	Extract Color, Replace Color, Toy Camera, Retro, High Contrast, Shading, Invert Color, Unicolor Bold, Bold Monochrome
Clarity	Adjustable ±4 step

Skin Tone	Type1/Type2
HDR	Auto, HDR1, HDR2, HDR3, Advanced HDR, Exposure bracket value adjustable, Automatic composition correction function
Pixel Shift Resolution	Available, Motion Correction ON/OFF
Lens Correction	Distortion Correction, Peripheral Illumin. Correction, Lateral Chromatic Aberration Correction, Diffraction Correction
D-RANGE Compensation	Highlight Correction, Shadow Correction
Noise Reduction	Slow Shutter Speed NR, High-ISO NR
GPS	GPS Logging (Logging Interval, Logging Duration, Memory Card Options), GPS Time Sync
Electronic Compass	Available
Astrotracer	Possible
Horizon Correction	SR On: correction up to 1 degrees, SR Off: correction up to 2 degrees
Composition Adjustment	Adjustment range of ±1.5mm up, down, left or right (1mm when rotated); Rotating range of 1 degree
Electronic Level	Displayed in viewfinder (Horizontal and vertical); Displayed on LCD monitor (Horizontal and vertical)

MOVIE

File Format	MPEG-4 AVC/H.264 MOV
Recorded Pixels	Full HD (1920x1080, 60i/50i/30p/25p/24p HD (1280x720, 60p/50p)
Sound	Built-in stereo microphone, external microphone (Stereo recording compatible) Recording Sound Level adjustable, Wind Noise Reduction
Recording Time	Up to 25 minutes or 4GB ; automatically stops recording if the internal temperature of the camera becomes high.
Custom Images	Auto Select, Bright, Natural, Portrait, Landscape, Vibrant, Radiant, Muted, Flat, Bleach Bypass, Reversal Film, Monochrome, Cross Processing
Cross Processing	Random, Preset 1-3, Favorite 1-3.

PLAYBACK VIEW

Playback View	Single frame, Multi-image display (6,12, 20, 35, 80 segmentation), Display magnification (up to 16, 100% display and quick magnification available), Grid display (4x4 Grid, Golden Section, Scale display, Square 1, Square 2, Grid Color: Black/White), Rotating, Histogram (Y histogram, RGB histogram), Bright area warning, Auto Image Rotation, Detailed information, Copyright Information (Photographer, Copyright holder), GPS information (latitude, longitude, altitude, Coordinated Universal Time) , Orientation, Folder Display, Calendar Filmstrip Display, Slide Show,
Delete	Delete single image, delete all, select & delete, delete folder, delete instant review image
Digital Filter	Base Parameter Adj, Extract Color, Replace Color, Toy Camera, Retro, High Contrast, Shading, Invert Color, Unicolor Bold, Bold Monochrome, Tone Expansion, Sketch, Water Color, Pastel, Posterization, Miniature, Soft, Starburst, Fish-eye, Slim, Monochrome
RAW Development	RAW file select Select Single Image, Select Multiple Images, Select a folder RAW Development Parameter: White Balance, Custom Image, Sensitivity, Clarity, Skin Tone, Digital filter, HDR, Pixel Shift Resolution, Shadow Correction, High-ISO NR, Distortion Correction, Peripheral Illumin. Corr., Lateral Chromatic Aberration Correction, Diffraction Correction, Color Fringe Correction, File Format (JPEG/TIFF), Aspect Ratio, JPEG Recorded Pixels, JPEG Quality, Color Space
Edit	Image Rotation, Color Moiré Correction, Resize, Cropping (Aspect ratio and Slant adjustment available), Movie Edit (Divide or delete selected frames), Capturing a JPEG still picture from a movie, Saving RAW data in buffer memory, Image Copy

CUSTOMIZATION

USER Mode	Up to 5 settings can be saved
Custom Functions	26 items
Mode Memory	16 items
Button Customization	Fx1 Button, Fx2 Button (One Push File Format, Outdoor View Setting, Flash Mode, Pixel Shift Resolution, Shake Reduction, Horizon Correction, Electronic Level) AF Button (AF1/ AF2/ Cancel AF) Preview Dial (Optical Preview/Digital Preview) Various settings for the action of the e-dials in each exposure mode can also be saved.
AF Customization	AF.S: Focus-priority/ Release-priority 1st Frame Action in AF.C: Release-priority/Auto/Focus-priority Action in AF.C Continuous: Focus-priority, Auto, FPS-priority Hold AF Status: OFF, Low, Medium, High AF in Interval Shooting: Locks focus at 1st exposure, Adjusts focus for each shot AF with Remote Control: Off/On
Operation Control Lock	Type1: E-Dial, EV Compensation, ISO, Green Button, AE Lock Type2: 4-way controller, AF point change button, Change AF Point, OK Button, Menu Button
Text Size	Standard, Large
World Time	World Time settings for 75 cities (28 time zones)
Language	English, French, Germany, Spanish, Portuguese, Italian, Dutch, Danish, Swedish, Finnish, Polish, Czech, Hungarian, Turkish, Greek, Russian, Korean, Traditional Chinese, Simplified Chinese, Japanese
AF Fine Adjustment	±10 step, Uniform adjustment, Individual adjustment (up to 20 can be saved)
Illumination Settings	LCD Panel (High/Low/Off), Backside Controls (High/Low/Off), Lens Mount (On/Off), Card Slot/ Connector (On/Off)
Indicator Lamps	Wi-Fi (High/Low/Off), GPS (High/Low/Off), Self-timer (On/Off), Remote Control (On/Off)
Copyright Information	Names of "Photographer" and "Copyright Holder" are embedded to the image file. Revision history can be checked using the provided software.

GPS/ELECTRONIC COMPASS

Satellites	GPS, QZSS, SBAS(WAAS/EGNOS/GAGAN/MSAS)
Reception Frequency	L1 1575.42MHz
Recorded Information	Latitude, Longitude, Altitude, Time (UTC), Direction
Geodesics	World Geodetic System (WGS84)
GPS Logging	KML format, Logging Interval: 5 / 10 / 15 / 30sec. / 1min., Logging Duration: 1-24hr. (Up to 9hours at Logging Interval 5sec. Up to 18hrs. at Logging Interval 10sec.)
Electronic Compass	Azimuth calculation using triaxial geomagnetic sensor and triaxial acceleration sensor, True north standard

POWER SUPPLY

Battery Type	Rechargeable Lithium-ion Battery D-LI90
AC Adapter	AC Adapter Kit K-AC132 (Optional)
Battery Life	Number of recordable images: Approx.: 760 images Playback time: Approx. 390 minutes * With a fully-recharged Rechargeable Lithium-ion Battery. Tested in compliance with CIPA standard. Actual results may vary depending on the shooting condition.

INTERFACES

Connection Port	USB2.0 (micro B), External power supply terminal, External cable switch terminal, X-sync socket, HDMI output terminal (Type D) , Stereo microphone input terminal, Headphone terminal
USB Connection	MSC/PTP

WIRELESS LAN

Standards	IEEE 802.11b/g/n
Frequency (Center Frequency)	2412MHz 2462MHz (1ch 11ch)
Security	Authentication: WPA2, Encryption: AES

DIMENSIONS AND WEIGHT

Dimensions	Approx. 136.5mm (W) x110mm (H) x 85.5mm (D) (excluding protrusions)
Weight	Approx. 1010g (Including dedicated battery and 1x SD Memory Card), Approx. 925g (body only)

OPERATING ENVIRONMENT

Temperature	-10°C 40°C (14°F 104°F)
Humidity	85% or less (no condensation)

ACCESSORIES

Included	Strap O-ST162, ME Viewfinder Cap, Rechargeable Lithium-ion Battery D-LI90, Battery Charger D-BC90, AC plug cord, Software (CD-ROM) S-SW162 <Mounted to the camera> Eyecup FT, Hot shoe cover FK, Sync socket 2p cap, Body mount cap KII, Battery Grip terminal cover
Software	Digital Camera Utility 5