

Clifton Cameras Product Specification

Pentax K-1 II 28-105mm f3.5-5.6 ED HD PENTAX-D FA DC WR Kit

Specifications

Pentax K-1 II Digital SLR Body

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:	KAF4, KAF3, KAF2 (power zoom compatible), KAF, KA mount lens

Image capture unit

Image Sensor:	Primary colour 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"
Sensitivity:	(Standard output) ISO AUTO/100 to 819200 (EV steps can be set to 1EV, 1/2EV or 1/3EV)
Image Stabilizer:	Sensor-shift shake reduction (SR II: Shake Reduction)(5-axis)
AA Filter Simulator:	Moiré reduction using SR unit. OFF/Type1/Type2/ Bracketing(2 images)/ Bracketing (3 images)

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) RAW: (36M:7360x4912) [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/JPEG, Image copy between slots possible
Storage Folder:	FolderName: Date (100_1018,101_1019...) or User assigned folder name (Default "PENTX")
Recording File:	File Name: "IMGP****" or User assigned filename File name numbering: Sequential, Reset

Viewfinder

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:	Fixed 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 colour 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



Night Vision LCD Display: ON/OFF

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 (ISO 100 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: ± 5 EV (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 (Timed exposure setting possible from 10 sec. to 20min.)

LV Electronic Shutter: ON/OFF

Drive modes

Mode Selection:	<p>Still Image:</p> <p>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</p> <p>Movie:</p> <p>Remote Control</p> <p>* Bracketing, Interval Shooting, Interval Composite, Interval Movie Record and Star Stream are possible to use with Self-timer/Remote Control.</p>
Continuous Shooting:	<p>[35mm Full-Frame]</p> <p>Max. approx. 4.4 fps, JPEG (L: ★★★ at Continuous H): up to approx. 70 frames, RAW: up to approx. 17 frames</p> <p>Max. approx. 3.0 fps, JPEG L: ★★★ at Continuous M): up to approx. 100 frames, RAW: up to approx. 20 frames</p> <p>Max. approx. 0.7 fps, JPEG (L: ★★★ at Continuous L): up to approx. 100 frames, RAW: up to approx. 100 frames</p> <p>[APS-C size]</p> <p>Max. approx. 6.4 fps, JPEG (L: ★★★ at Continuous H): up to approx. 100 frames, RAW: up to approx. 50 frames</p> <p>Max. approx. 3.0 fps, JPEG L: ★★★ at Continuous M): up to approx. 100 frames, RAW: up to approx. 70 frames</p> <p>Max. approx. 1.0 fps, JPEG (L: ★★★ at Continuous L): up to approx. 100 frames, RAW: up to approx. 100 frames</p> <p>*ISO100</p>
Multi-Exposure:	<p>Composite Mode(Additive/Average/Bright)</p> <p>Number of Shots(2 to 2000 images)</p>
Interval Shooting:	<p>[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</p> <p>[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</p> <p>[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</p> <p>[Star Stream] Recorded Pixels: 4K/FullHD/HD, File Format: Motion JPEG (AVI), 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</p>

External 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, 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, U:nicolor Bold, Bold Monochrome

Clarity: Adjustable ± 4

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, Image Stabilization On

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 ± 1.5 mm 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 SoundLevel 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.
Digital Filter:	Extract Color, Replace Color, Toy Camera, Retro, High Contrast, Shading, Invert Color, Unicolor Bold, Bold Monochrome

Playback

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), Brightarea 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:	17 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 LoggingInterval5sec. 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-AC167 (Optional)
Battery Life:	Number of recordable images: Approx.: 670 images Playback time: Approx. 340 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) x 110mm (H) x 85.5mm (D) (excluding protrusions)
Weight:	Approx. 1010g (Including dedicated battery and 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 Eyecup FT, Hot shoe cover FK, Sync socket 2p cap, Body mount cap KII, Battery Grip terminal cover
Software:	Digital Camera Utility 5

Pentax 28-105mm f3.5-5.6 ED HD PENTAX-D FA DC WR

Focal Length:	28-105mm Equivalent to 43-161mm in 35mm format
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(when attached to PENTAX APS-C size DSLR cameras)

Maximum Aperture: F3.5-5.6
Minimum Aperture: F22-38
Lens Construction: 15 elements in 11 groups
Angle of View (Diagonal): 75-23.5°

(when attached to PENTAX 35mm full-frame SLR cameras)

53-15.5°

(when attached to PENTAX APS-C size DSLR cameras)

Mount Type: KAF3
Minimum Focusing Distance: 0.5m (1.64 ft.)
Maximum Magnification: 0.22x
Filter Diameter: 62mm
Diaphragm Control: Fully automatic
Number of Diaphragm Blades: 9

Rounded diaphragm (28mm: F3.5-6.3 105mm: F5.6-10)

Lens Hood: PH-RBC62 (included)
Lens Cap: O-LC62 (included)
Lens Case: S80-120 (optional)

Maximum Diameter x Length: approx. 73.0mm x 86.5mm (approx. 2.9in. x 3.4in.)

Weight: approx. 440g / with hood approx. 463g
(approx. 15.5oz./ with hood approx. 16.3oz.)

Included Accessories: Lens Hood PH-RBC62, Lens Cap O-LC62,
Lens Mount Cap K

Others: HD Coating
SP (Super Protect) Coating
WR (Weather Resistant)
DC Motor
Quick-shift Focus System