Canon

E O S - 1 D C 4K





CINEMA EOS

LEAVE NO STORY UNTOLD



LEAVE NO STORY UNTOLD - GO WHEREVER THE STORY TAKES YOU

Revolutionizing motion picture digital imaging, Canon introduces the EOS-1D C 4K DSLR Cinema Camera. An unusually innovative video camera in a DSLR's body, the EOS-1D C offers digital 4K movie recording, two separate modes of 16:9 HD motion imaging, and full-frame still images – all captured on Compact Flash (CF) cards. The Canon Full-Frame CMOS sensor, Canon Dual **DiG!C** 5+ Image Processors and compatibility with Cinema and EF Lenses combine in the EOS-1D C to provide superb image quality and color sensitivity for a remarkable range of lighting conditions.

Designed for multiple recording modes in-camera as well as having external recorder capability, the EOS-1D C uses both Motion-JPEG compression for 4K and MPEG-4 AVC / H.264 for the two HD modes, offering unprecedented compatibility with consumer and professional editing software. This gives film and video makers the utmost facility in working with the broadest variety of workflow and post-production requirements.

Housed in a compact and durable body weighing less than 3.5 pounds, the EOS-1D C is a versatile digital acquisition tool that can function in the most demanding environments and cramped spaces.

The distinctive functionality, mobility and affordability of the EOS-1D C can meet the countless creative image-making and story-telling needs of major studios, independent film, television, corporations and educational institutions.





"We are story tellers, that's what we do and story is king. When a tool can help you in that process and take your story that much higher – and take your visuals that much higher – well that's what it's all about."

Shane Hurlbut / Director of Photography for "The Ticket"

Above: behind the scenes on the set of the short film "The Ticket."

CANON CINEMA & EF LENSES - WHAT IT TAKES TO CHANGE PERSPECTIVE

Canon's expanding lineup of dedicated Super 35mm Cinema Lenses is designed exclusively for high-end cinematography. All of the lenses conform to Canon's perpetual high standards in accuracy, clarity and optical brilliance to deliver outstanding performance. And with one of the finest and most comprehensive range of EF Lenses – comprising more than 60 prime and zoom models in a variety of user configurations – you'll be able to find exactly the right perspective to capture your creative vision. Never before has functionality been so dexterously blended with versatility.

Canon Cinema Lenses

Canon offers a complete line of cinema lenses, including Zooms, Compact Zooms and Primes. All of these lenses fulfill contemporary 4K production standards, further enhancing the performance of any HD imaging system. And each lens features an 11-blade aperture diaphragm to help ensure beautiful bokeh. Markings on both sides of the lens barrel simplify focus reading and aperture setting from behind or on either side of the camera, while torque of the control rings maintains proper resistance. To enable film crews to change optics quickly and without adjusting the rig setup, each category of Cinema Lenses shares a uniform front diameter, rotation angle for operational controls, and gear positions.

Canon Cinema Zoom and Compact Zoom Lenses

Canon Cinema Zoom and Compact Zoom Lenses use new optical glass materials, new optical coatings and powerful new design techniques to offer extraordinary 4K optical performance. All Zoom Lenses feature large aspherical lens elements that help achieve sharp, consistent images, and a geared inner-focusing mechanism helps minimize focus-induced changes in the angle-of-view, greatly reducing focus breathing. All of these lenses are available with industry-standard PL-mount or Canon's EF-mount.

The wide-angle Cinema Zoom CN-E14.5–60mm T2.6 L S/SP represents a masterpiece of contemporary optical design, with a focal range that was chosen to meet a wide range of needs in movie-making and high-end television production, and resolution that exceeds 4K. The Cinema Zoom telephoto CN-E30–300mm T2.95–3.7 L S/SP lens rivals best-in-class zoom lenses, in a surprisingly low-weight, opto-mechanical housing.

Canon Cinema Compact Zoom Lenses offer 4K resolution in form factors that enable more flexible, less intrusive shooting. The CN-E15.5–47mm T2.8 L S/SP delivers a wide to medium range of focal lengths, while the CN-E30–105mm T2.8 L S/SP covers wide to modest telephoto shots. Both zoom lenses are ideal for Steadicam™ and hand-held shooting.

Canon Cinema Prime Lenses

The flexible series of Canon Cinema Prime Lenses offers spectacular 4K-image quality and a full-frame image circle, in lightweight, compact designs. This family of lenses features high optical speed, produces exceptionally sharp images and superb contrast, and maintains tightly controlled focus breathing and geometric distortion. These EF-mount models offer consistent form factors and markings that have been optimized for motion picture production, and represent the beginning of an evolving family of cinema primes.

Canon Cinema Prime Lenses are also compatible – under manual operation – with all Canon EOS DSLR models, including the full-frame EOS-1D X and EOS 5D Mark III, as well as the EOS 7D and EOS 60D models that use APS-C sized image sensors.

functions to extend the shooting advantages of technical-view cameras to the EOS system. Tilt movements alter the angle of the focal plane between the lens and image sensor, modifying depth-of-field independently of the lens aperture. Shift movements slide the lens' optical axis along the plane of the image sensor, enabling photographers to correct or alter perspective to almost any angle, and help add unimagined drama to a scene. **Macro Lenses** — By revealing the finest detail and achieving extraordinary edge-to-edge accuracy at very shallow depth-of-field, macro photography can be an ultimate test of optical performance. Canon EF specialty lenses include six 14.5-60 ultra-precise macro lenses and three screw-on, close-up lenses. Accompanied by the Life-Size Converter EF and two Extension Tube accessories, Canon's macro lens array provides valuable imaging options for the EOS-1D C camera. **Fisheye Zoom Lens** — Super wide-angle and special-effects photography let you capture each subject from a unique perspective. The Canon EF 8-15mm f/4L Fisheye USM is the world's first fisheye zoom lens to create circular images with a 180-degree angle-of-view on full-frame DSLRs. 1 LENS EF 70-200mm 1:28 L IS II USV **Canon L-Series Lenses** Canon L-series Lenses are highly regarded by video professionals 300mm who demand uncompromising optical performance. These specialty lenses incorporate a number of innovative Canon 0 30 70 7 10 20 technologies, including Ultra-low Dispersion (UD) glass, Canon fluorite and aspherical lens elements, plus Super Spectra ANON MACRO LENS EF 100mm 1:2.8 IS USM Multi Coating. 228 246 Canon 14 135 Canon 70 000 EOS-1D Canon

Canon EF Series Lenses – A Wide and

Perfected in Canon laboratories and proven in the field,

Canon EF Lenses incorporate a rare array of the world's most advanced optical, micro-electronic and manufacturing technologies. Many EF lenses utilize the advanced Canon Peripheral Illumination Correction feature, which helps to

ensure beautiful, consistent color and brightness across the

entire image plane. In addition to offering full compatibility with existing lenses, the EOS-1D C's EF mount opens up new,

creative possibilities with Canon specialty lenses, including

Tilt-Shift, Macro and Canon's exhilarating EF 8–15mm f/4L

Tilt-Shift Lenses - TS-E lenses incorporate tilt and shift

Varied Selection

Fisheye USM zoom lens.

THE TOOLS OF GREAT IMAGE MAKING — 4K/FULL HD CAPTURE AND OUTSTANDING IMAGE QUALITY

Coupled with Canon's compact EF Lenses and Cinema Lenses, the EOS-1D C helps ensure optimum image quality in the most challenging conditions. The EOS-1D C has built its superb image quality around the latest generation of Canon Full-Frame CMOS sensors, offering a unique combination of image acquisition options. The 4K is recorded as Motion-JPEG, the HD is recorded as MPEG-4 AVC / H.264, and the still images are recorded as RAW or JPEG. All of the selected motion imaging formats can be recorded as normal gamma-corrected video or with Canon Log Gamma. For capturing stills, the EOS-1D C offers the same level of high performance as an EOS DSLR with state-of-the-art focusing, exposure and burst mode.

Canon 24 x 36mm 18.1 Megapixel Full-Frame CMOS Sensor

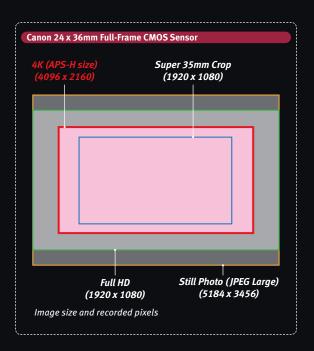
Canon CMOS sensors are the heart of Canon imaging. The EOS-1D C's Full-Frame CMOS sensor in combination with the EF Lenses and Cinema Lenses helps facilitate the range of depths-of-field and angles of view to accommodate various styles of shooting and composition. Featuring improved signal-to-noise ratios and ISO sensitivity, this latest generation of CMOS sensor provides greater detail in deeply shadowed scenes while preserving more detail in more exposed areas of the frame. High-quality results are achieved across the ISO range from 100 to 51200, expandable from ISO 50 to 204800. The rolling shutter effect in the EOS-1D C is minimized by high-speed readout of the sensor.

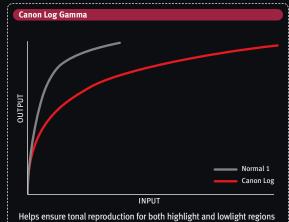
High Performance 4K Motion Image Capture at 24 FPS

The EOS-1D C utilizes the Full-Frame CMOS sensor to originate 4K video motion imaging at 24 fps by direct activation of 4096x2160 pixels within that full frame. The 4K RAW output signal is debayered and converted to three 4K video components which are then internally recorded to CF cards via a Motion-JPEG codec as 8-bit 4:2:2 YCbCr color sampling at a data rate of 500 Mbps – entailing a mild compression ratio that helps ensure high-quality 4K image capture. 4K files can also be played in native resolution using the EOS Movie player. Color and luminescence are preserved while footage can easily adapt to post-production workflows without conversion.

Two Distinct Modes of HD Shooting – Full Wide HD and Super 35mm Crop HD

The EOS-1D C fully exploits the Full-Frame CMOS sensor and the associated full image circle of EF lenses. The camera utilizes the entire 5184 horizontal pixels of the image sensor in a 16:9 image format, which is debayered and downconverted to the 1920x1080 HD format, in order to provide the wonderful shallow depth-of-field and the exceptional wide angle of view this unique imaging system can produce. This HD shooting operates at the standard 24/25/30P frame rates but can extend up to 50 and 60 progressive fps – perfect for coverage of fast action or for creating flawless slow motion action. For the more traditional look of motion imaging using Super 35mm Cinema Zoom Lenses, the EOS-1D C can be switched to the Super 35mm Crop HD shooting mode. This directly reads out the photosites within that image format. For all HD shooting modes, the recording codec is MPEG-4 AVC / H.264, recording HD video at high data rates – 180 Mbps at 60 fps in the Intra-frame mode, for example. This exceptional camera imaging system, combined with the high performance digital recording. ensures superb HD image capture.





$\label{thm:constraints} \mbox{Helps ensure tonal reproduction for both highlight and lowlight regions during post-production.}$

Canon Log Gamma

Canon Log Gamma is a special setting that allows the EOS-1D C to record the maximum dynamic range delivered by the image sensor. The files produced using log format are ideal for sophisticated post-production processes that seek excellent tonal and color reproduction of scenes with challenging exposures. When using Canon Log Gamma, the EOS-1D C can provide a dynamic range of up to 800%. Canon Log Gamma ensures optimized tonal reproduction for both highlight and lowlight regions during post-production.

Dual DiG!C 5+ Image Processors

The EOS-1D C utilizes the Canon **DiGIC 5+** Image Processor, employed in a dual configuration, for stunning speed and powerful image processing. It delivers improved data handling, approximately 30% faster performance than the **DiGIC 5** Image Processor, and refined algorithms that reduce noise at higher ISO speeds. It also allows the EOS-1D C to apply real-time compensation for chromatic lens aberrations, both lateral and axial, in both still and motion recording based on lens data stored in-camera. That lens data can be added and deleted by using the included EOS Utility software.

HDMI Output with Timecode

The 4K video can be monitored on the camera's rear LCD monitor while an uncompressed YCbCr 4:2:2 8-bit HD video is output via HDMI to an external recorder for proxy editing or for a parallel high-quality HD recording of the 4K origination. When shooting 4K at 24P, the HDMI will deliver a 24P HD downconverted 1920x1080 video output. Timecode embedded into the footage supports post-production and easy synchronization of audio or visual effects. Camera control is also embedded via HDMI and the transport controls on the external recorder can be used to control the camera remotely.



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AN EFFICIENT WORKFLOW TO THE FINISH — 4K WORKFLOW & POST-PRODUCTION COMPATIBILITY

The Canon EOS-1D C is designed to blend seamlessly into existing file-based workflows including recording systems and non-linear editing systems. When the EOS-1D C is in any of the HD shooting modes, use of the industry-standard MPEG-4 AVC / H.264 file format allows compatibility with consumer and professional editing software from Avid®, Apple®, Grass Valley® and other brands, helping ensure near-universal industry support and significantly reducing post-production complexity. Similarly, for shooting 4K, the Motion-JPEG file is widely employed within the post-production industry. Film and video makers can work within up-to-date editing and post environments without having to change established working methods. Multiple recording modes, resolutions and frame rates allow the EOS-1D C to adapt to virtually any production and post-production creative requirements. Canon Data Import Utility Application software is available for both Windows®- and Macintosh®-compatible formats.

Dual-slot CF Cards

The Canon EOS-1D C utilizes CF cards as storage media, complying with Design rule Camera File system 2.0 and Exif 2.3. With seven resolution options – Large, Medium 1 and 2, Small, RAW, M-RAW and S-RAW – it is possible to create new folders and select folders on the card. When "Auto switch card" is set as a recording function, the camera will automatically switch to the second CF card once the first one is full. The same image can also be saved on both cards in either different sizes or the same size. Between the two CF cards it is possible to select individual images to copy, folder(s) to copy, or select all images to copy. When recording 4K internally the bit rate is approximately 500 Mbps and requires a UDMA7 100 MB/sec. CF card, or faster.

NLE Software Compatibility

MPEG-4 AVC files are compatible with a large number of consumer and professional non-linear editing (NLE) systems. Images shot on the EOS-1D C are compatible with NLE software on both Windows® and Macintosh® PCs installed with the EOS Digital Solution disk. Image transfer is also possible via LAN to computers with pre-installed Windows OS or Mac OS with FTP server function. The EOS-1D C is enhanced by Canon Log Gamma, the image-quality mode that maximizes the image sensor's characteristic with its wide dynamic range. It creates neutral images with suppressed contrast and sharpness, making the entire post-production process - including non-linear editing, color grading and final packaging – highly flexible. It also provides comprehensive Look Up Tables (LUT) for conversion to other systems.

Multiple Recording Modes

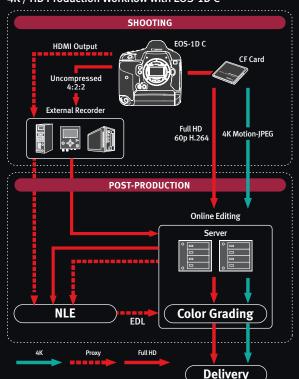
The EOS-1D C offers a wide range of recording formats for both motion picture and still images. The image recording formats for 4K are Motion-JPEG and MPEG-4 AVC / H.264 with variable bit rate for Super 35mm Crop HD and Full Wide HD. For audio recording, the format is Linear PCM with metadata information embedded in the MOV file. Material can be recorded in digital formats applicable to both NTSC and PAL regions. For still image recording, the image format options are JPEG, RAW (CR2), M-RAW, S-RAW, RAW+JPEG, M-RAW+JPEG and S-RAW+JPEG. For motion image recording, the recording speeds are 24 fps for 4K; 30 fps, 25 fps and 24 fps for Super 35mm Crop HD; and 60 fps, 50 fps, 30 fps, 25 fps and 24 fps for Full Wide HD.

F Card Compatibility	
When Shooting 4K	
100 MB/sec or faster UDMA7 cards	
SanDisk Extreme® Pro UDMA7	128GB
Lexar® Professional 1000x UDMA7	32GB
Lexar® Professional 1000x UDMA7	128GB
Lexar® Professional 1000x UDMA7	64GB
Lexar® Professional 1000x UDMA7	16GB
When Shooting Full HD 60P/50P	
60 MB/sec or faster cards	
SanDisk Extreme® Pro UDMA7	128GB
Lexar® Professional 1000x UDMA7	32GB
Lexar® Professional 1000x UDMA7	128GB
Lexar® Professional 1000x UDMA7	64GB
Lexar® Professional 1000x UDMA7	16GB
Delkin Devices UDMA7 CF 1000x	128GB
Delkin Devices UDMA7 CF 1000x	64GB
Delkin Devices UDMA7 CF 1000x	16GB
Transcend Compact Flash 600x	64GB
Transcend Compact Flash 400x	64GB

The Canon EOS-1D C requires a CF Card to store media. The chart above lists the CF Cards that are currently compatible with the EOS-1D C. The compatibility of each CF Card has been tested by Canon Inc. Canon USA can give you no assurances that the listed CF Cards will perform for any particular end users of the EOS-1D C, and Canon USA disclaims any warranty, express or implied, to such effect. This chart does not constitute an endorsement of the listed CF Cards, and there may be other CF Cards that enable the EOS-1D C to function properly. Canon Inc. may test other CF Cards in the future, and recommends that end Service & Support for future revisions to this list.



4K / HD Production Workflow with EOS-1D C



flash cards which we were able to ingest take the 4K files and color them in DaVinci Resolve®."

Aaron Kroger / DIT for "The Ticket"

4K Workflow

The EOS-1D C can record up to 8 minutes of full motion 4K at up to 24 fps on a 32GB Compact Flash card. This recording can be directly introduced to post-production facilities accustomed to Motion-JPEG files. Alternatively, the CF recording can be read into a computer workstation and transcoded to another popular file format, such as Pro Res, and then taken into the post-production and grading process. If an offline procedure is preferred, the HDMI connection will deliver a 1920x1080 at 24P HD downconversion – with timecode – from the 4K original. This can be externally recorded and taken to the offline editing session. Similarly, in either of the two HD shooting modes, the CF cards can be taken directly to postproduction systems.

A TOUGH CAMERA FOR TOUGH ASSIGNMENTS — CREATIVE VERSATILITY IN A COMPACT & DURABLE BODY

The tough and rugged EOS-1D C, effectively sealed for protection against dust and moisture, is designed to go where other 4K cameras cannot. The size and weight of this remarkable self-contained camera allow cinematographers to capture both motion picture and still images in the tightest and most hostile environments. With a bare minimum of equipment, the EOS-1D C helps to ensure optimum image quality in virtually all lighting conditions, in cramped spaces limiting mobility like cars, planes, boats and underwater housings – and even mounted on the end of extended jib arms. Meanwhile, the optional Wireless File Transmitter WFT-E6A unit connects the EOS-1D C to the future with its link to wireless technology.



The EOS-1D C is a video imaging powerhouse providing a choice of 4K at 24P or high frame rate HD in-camera capture with no need for external power or recording devices. Fully self-contained in a magnesium alloy exterior and designed for portability and mobility, the camera weighs less than 3.5 pounds. Its dimensions are 6.2" wide, 6.4" high and 3.3" deep. Control layout is intuitive for both still and movie shooting and its compact size provides an unobtrusive means of getting all kinds of desired footage. It comes with an LP-E4N Lithium-ion battery pack that, when fully charged, enables the EOS-1D C to run for up to 1 hour and 25 minutes shooting 4K and over 2 hours shooting Full HD. It is tightly sealed for protection from dust and weather conditions, and also features the EOS Integrated Cleaning System, which includes a Self-Cleaning Sensor unit and Dust Deletion Data Acquisition that can be appended to subsequent images. In addition, the accessory alignment positioning plug is designed so that third-party accessories can be precisely attached.

Canon Cinema and EF Lenses Compatibility with Full-Frame Sensor

The EOS-1D C deploys the latest generation of Canon's Full-Frame CMOS sensor. The Canon Cinema Prime Lenses and standard EF Lenses will cover the full image circle of that Full-frame sensor. The Super 35mm Cinema Zoom Lenses require the camera to be switched into the Super 35mm Crop mode.

Built-in Headphone Terminals

The EOS-1D C includes a built-in headphone terminal for a stereo mini-jack. It gives the clearest audio image while the camera records and allows the most immediate and flexible monitoring of audio while shooting.

Wireless File Transmitter WFT-E6A Unit with Remote Capabilities

The EOS-1D C also has a system extension terminal that can connect to the optional Wireless File Transmitter WFT-E6A unit to provide unique wireless capabilities not typically available in cinema cameras. Users can control the EOS-1D C using any web-enabled devices such as laptops, smartphones and tablet PCs. Functions of the EOS-1D C with the WFT-E6A unit include the ability to adjust shooting parameters, to start and stop the camera, to monitor a remote feed and to input metadata. Using Bluetooth v2.1+EDR, the transmitter unit can also communicate with external GPS units to embed location data with footage.







"I think what's really exciting is the versatility. In the moment it allows you to adapt and change."

Lydia Hurlbut / Executive Producer for "The Ticket"

Above: behind the scenes on the set of the short film "The Ticket."

Fully-featured 18.1 MP Full-Frame DSLR with 12.0 fps Still Image Burst Rate

The EOS-1D C shares its heritage with the EOS-1 Series family and is a world-class DSLR camera besides being a digital cinematography powerhouse. For capturing stills, the EOS-1D C offers the same high level of performance as an EOS DSLR with top-of-the-range focusing, exposure and burst mode. It originates high-resolution still images at 5134 (H) x 2340 (V) pixels. These can be critical as background plates in moviemaking. Dual **DiG!C 5+** Image Processor chips and an 18.1 Megapixel Full-Frame CMOS sensor provide a burst rate of up to 12.0 fps for capturing action with exceptional quality. With ISO sensitivity ranging from 100 to 51200, expandable to L: 50, H1: 102400 and H2: 204800, the EOS-1D C allows the photographer to grab the best possible shot in the most challenging light conditions. The 61-Point High-Density Reticular Autofocus system with a coordinated 100,000 pixel RGB Metering system provides sharp images with incredible color and clarity.

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OUR CONTINUING COMMITMENT TO SERVICE, SUPPORT AND EDUCATION

Motion picture and video production is not just an artistic endeavor. It's also a business, with targeted budgets, profit requirements and inevitable deadlines. Professionals want to know they are dealing with professionals; while dealing with Canon, you can count on a proven creative partner. Our service is world-class, with Canon support programs specially customized to meet your needs. And, to help ensure that you remain current with new technologies and techniques, our educational commitment spans the range of live and online resources.



Dedicated Service for Professionals

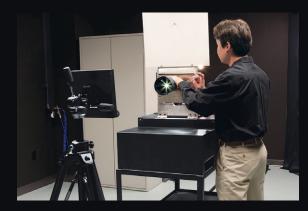
The Canon Hollywood Professional Technology & Support Center was established to bring our world-class service directly to motion picture studios, the television industry, plus independent producers and videographers. Located in the heart of Hollywood, CA, our facility is staffed with expert technicians who are fully prepared to take care of all your Cinema EOS products. We can accurately adjust cameras and lenses, repair both cinema and still-photography equipment, and meet the needs of professionals like yourself who are working with tight and often inflexible deadlines.

With our industry-leading turnaround times and substantial service-parts inventories, we aim to get you back in action fast. And while working on location, you can count on Canon's nationwide service centers for factory-quality repairs and available 24/7 Call Center support. And this is just part of our two-way relationship with you, the end user. Canon not only makes certain that all of your equipment is functioning perfectly when delivered, but we also use your valuable feedback and suggestions to help develop new and even better products. In fact, the Cinema EOS system was developed as a direct result of such industry feedback.

Support Programs Customized for Your Needs

Cinematographers, production companies, film schools and other industry professionals can take advantage of optional service programs tailored to meet their specialized needs. We offer service partnerships for full-service dealers as well as rental houses, thereby providing additional flexibility to Canon's industry partners. We tailor our custom training packages to the needs of your specific film and TV productions, with expert staff available to deliver training at our Hollywood facility or on location throughout the USA. Whether you require fast repair turnaround times, loaner equipment or equipment maintenance, Canon has a program to keep your business and equipment up and running. We will be expanding these important service offerings as the Cinema EOS production community expands.













Unsurpassed Educational Resources

Education is another important cornerstone of Canon's commitment to professional cinematographers. Whether working online, at a production lot or as part of a remote shoot, we are here to provide you with all the essential resources that you need to remain current and keep your creative passion alive.

Canon Live Learning (CLL) seminars and workshops are conducted nationwide and in our Hollywood Professional Technology and Support Center, with classes taught by both industry experts as well as Canon's renowned and experienced Explorers of Light. Covering a wide range of still and cinematic topics, ranging from techniques through equipment selection to in-depth system configuration, CLL events offer professionals and enthusiasts alike the opportunity to sharpen their skills in a number of immersive hands-on settings.

Schedules are available at: usa.canon.com/canonlivelearning

The Canon Digital Learning Center, our web-based education and information portal, is targeted at busy, working professionals. It is widely recognized for its depth of available information, which is presented in a friendly, compelling format. The Canon Digital Learning Center's comprehensive online resources include tutorials, interviews, QuickGuides and downloadable White Papers: it continues to grow with the addition of information in support of the new Cinema EOS family of video products. Available assets range from comprehensive system FAQs, technical articles by professional cinematographers, interactive menu and button simulators to tutorials, sample videos, behind the scenes and much more. And because the Canon Digital Learning Center is tablet friendly, our encyclopedic online materials are always accessible 24/7 via the internet, anywhere in the world. Think of it as the "Anytime, Anywhere" resource for professionals, enabling you to hit the set running with the confidence and know-how to make the very most of the Cinema EOS system.

Learn more at: learn.usa.canon.com

You can learn more at: pro.usa.canon.com/support

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IMAGING SENSOR

Resolution: Approx. 18.1 million effective pixels (Total pixels: Approx. 19.3 million) Recording Pixels: 5208 x 3477 effective pixels

Sensor Type: Full-Frame CMOS sensor

Pixel Size: 6.95 microns square

Lens Focal Length Factor: Full-frame: 1.0x, 4K: approx. 1.3x;

Super 35mm Crop: approx. 1.6x

Compatible Lenses: Canon EF Lenses (excluding EF-S, EF-M lenses) Canon Cinema (CN-E) Lenses'

* Since the image circle of Cinema Zoom Lenses only support the image sizes of Super 35mm Crop and APS-C, vignetting will occur if you shoot larger image sizes.

AUTOFOCUS

Number of AF Points: 61

Number of Cross-Type AF Points: 1 to 5 cross-type AF points at f/2.8, 10 to 20 cross-type AF points at f/4, 15 to 21 cross-type AF points at f/5.6, 1 cross-type AF point at f/8 $\,$ (The number of cross-type AF points will differ depending on the lens.)

AF Area Selection Modes: Single-point AF (Manual selection), Auto selection 61-point AF Single-point Spot AF (Manual selection), AF point expansion (Manual selection, 4 points: up, down, left, and right), AF point expansion (Manual selection, surrounding 8 points) Zone AF (Manual zone selection)

AF Point Setting for Vertical / Horizontal Orientation: Available

Focus Modes: One-Shot AF, Predictive AI Servo AF*, Manual focus

* For automatic AF point selection, the AF point to start the AI Servo AF operation can be selected. For automatic AF point selection, the active AF point can be displayed.

EOS MOVIE SHOOTING AND PLAYBACK

Recording Format: MOV – 4K: Motion JPEG, Super 35mm Crop, Full HD, HD MPEG-4 AVC / H.264, variable bit rate

Audio: Linear PCM, Meta information is embedded in the MOV file (no separate THM file) NTSC and PAL

Coverage: Approx. 100% vertically and horizontally

Movie Recording Resolutions, and Frame Rates (Progressive):

Movie-recording Size	NTSC	PAL	Compression Method
4K [4096 x 2160]	24 fps	24 fps	JPEG
Super 35mm Crop [1920 x 1080]	30 fps	25 fps	ALL-I / IPB
	24 fps	24 fps	ALL-I / IPB
Full HD [1920 x 1080]	60 fps	50 fps	ALL-I
	30 fps	25 fps	IPB
	24 fps	24 fps	ALL-I
HD [1280 x 720]	60 fps	50 fps	ALL-I / IPB
SD [640 x 480]	30 fps	25 fps	IPB

Movie Recording Size-related Figures: Movie-recording NTSC Compression File Size

Movic-recording	MIDC	Compression	(Approx.)	Total Recording Time (Approx.)		
Size		Method		4GB Card	32GB Card	128GB Card
4K	24 fps	JPEG	3.76 GB/min.	60 sec.	8 min.	32 min.
Super 35mm Crop	30 fps 25 fps 24 fps	IPB ALL-I	385 MB/min. 685 MB/min.	9 min. 30 sec. 5 min.	1 hr. 19 min. 44 min.	5 hr. 16 min. 2 hr. 57 min.
Full HD	60 fps 50 fps	ALL-I	1.36 GB/min.	2 min. 30 sec.	22 min.	1 hr. 29 min.
	30 fps 25 fps 24 fps	IPB ALL-I	235 MB/min. 685 MB/min.	16 min. 5 min.	2 hr. 9 min. 44 min.	8 hr. 37 min. 2 hr. 57 min.
HD	60 fps 50 fps	IPB ALL-I	235 MB/min. 610 MB/min.	18 min. 6 min.	2 hr. 28 min. 49 min.	9 hr. 52 min. 3 hr. 19 min.
SD	30 fps 25 fps	IPB	78 MB/min.	48 min.	6 hr. 28 min.	25 hr. 55 min.

Required Storage Card Performance:

Movie-recording Size	NISC	Compression Method	CF Card writing/Reading speed[Approx., MB/sec.]	[Approx., Mbps]
4K	24 fps	JPEG	UDMA7 100 MB/sec. or faster	500
Super 35mm Crop	30 fps 25 fps 24 fps	IPB ALL-I	20 MB/sec. or faster 30 MB/sec. or faster	50 90
Full HD	60 fps 50 fps	ALL-I	60 MB/sec. or faster	180
	30 fps 25 fps 24 fps	IPB ALL-I	10 MB/sec. or faster 30 MB/sec. or faster	30 90
HD	60 fps 50 fps	IPB ALL-I	10 MB/sec. or faster 30 MB/sec. or faster	27 80
SD	30 fps 25 fps	IPB	10 MB/sec. or faster	10

Color space: Color space matches the TV monitor

Color Sampling Method: YCbCr 4:2:2 (8-bit): 4K YCbCr 4:2:0 (8-bit): Super 35mm Crop, Full HD, HD, SD

Color Profile (Color Matrix): Rec. ITU-R BT.601: 4K, SD

Rec. ITU-R BT.709: Super 35mm Crop, Full HD, HD

Image Creation Processing: Based on current Picture Style, Canon Log Gamma (View Assist possible) Video Range: Full range (0-255)

Timecode: Count up: Rec run, Free run

Start time setting: Manual entry, Reset, Set to camera time

Count indicator: Rec/Play time (Recording and playback time), Timecode Drop frame: Enable, Disable

Maximum File Size Per Video Clip: 4GB

Maximum Length for a Movie: 12 hours

HDMI Output for Movie Footage: Possible

Output frame rate: Auto/24p/50i/60i, Adding time code is possible, Possible to

synchronize an external recording device to start/stop recording Signal Compatible with HDMI Output: 1080: 60i/50i/24p. 480/60p. 576/50p

HDMI Output Signal During: Before movie shooting: 1080: 60i/50i/24p

Full HD Television Connection: During movie shooting: 1080: 60i/50i/24p Audio Recording Method: Linear PCM, Internal monaural microphone

External stereo microphone jack – Recording level automatically adjusted, Sampling

frequency: 48 kHz, Bits: 16-bit x 2 ch, Compatible with a commercially-available external microphone with 3.5mm dia. stereo mini-jack.

Headphone Terminal: Stereo mini-jack (3.5mm diameter) provided * Max. -9 dBv (with 16 k)

Sound Recording Adjustment: Sound-recording level: Auto, Manual (64 levels), None

With the movie silent setting, recording level can be changed with touch pad. Sound-recording meter: Provided, Wind filter: Disable/Enable

Video Snapshots: Not provided

Creative Image Processing: Based on current Picture Style, Canon Log Gamma (View Assist possible) Creative Image Processing: Same as focusing with Live View shootin

During movie shooting, the image cannot be magnified for manual focusing.

- Compatible with power focus mode in movie shooting.

Metering Method: 1. AF point-linked evaluative metering - When the AF mode is Live modeor Face Detection Live mode

2. Center-weighted average metering – For manual focusing or when the AF mode is set to Quick mode, Metering range: EV 0 to EV 20 (At $73^{\circ}F$ / $23^{\circ}C$ and ISO 100, with 50mm f/1.4 lens) Video Exposure Control: 1. Program AE for movie shooting - For shooting modes other than manual exposure and bulb, Shutter speed (1/30-1/4000 sec., signal accumulation time), aperture, and ISO speed automatically set.

2. Manual exposure – For manual exposure, Shutter speed (signal accumulation time), aperture, and ISO speed (auto/manual) manually set. The shutter speed is limited to $1/4000\ sec.$ at the maximum and to 1/30 sec. at the minimum for 24/25/30 fps or 1/60 sec. or higher for 50/60 fps.

ISO Speed: • P, Av, Bulb: Automatically set within ISO 100-25600, Expandable to H (equivalent to ISO 51200), H1 (equivalent to ISO 102400) and H2 (equivalent to ISO 204800).
• Tv: Automatically set within ISO 100–25600

- M: With Auto ISO, automatically set within ISO 100-25600.

With manual setting, ISO 100–25600 set manually (in 1/3- or whole-stop increments). Expandable to H (equivalent to ISO 32000/40000/51200), H1

(equivalent to ISO 102400) and H2 (equivalent to ISO 204800) * If Highlight Tone Priority is set, the ISO speed range will be ISO 200-25600.

Exposure Compensation: Up to ±3 stops in 1/3-stop increments

AE Lock: Possible • During movie shooting, press the AE lock button to set AE lock and the AF point selection button to cancel AE lock (no automatic cancellation).

• AE lock (canceled automatically when metering turns off) possible before movie shooting. Movie shooting can start while AE lock is in effect.

Movie Digital Zoom: Not Provided

Information Display: Switchable with INFO button (5 settings)

Image Stabilization: With an IS lens and the Image Stabilizer switch turned on, image stabilization operates during metering and movie shooting.

Final Image Simulation: Before shooting, the effects of the following settings will be reflected in the Live View image, Function: Exposure, Auto Lighting Optimizer, Depth-offield, Peripheral illumination correction, White Balance, Chromatic Aberration Correction, White Balance Compensation, Highlight Tone Priority, Picture Style

 $\textbf{Still Image Capture During Video Recording:} \ \textbf{Still photos shooting possible during movie}$ shooting by pressing the shutter button (Still image capture is not possible when Canon Log Gamma is set, or when 4K, Super 35mm Crop, or Full HD recording at 60p/50p is set)

- Still shooting will interrupt the movie shooting
- The still photo is inserted in the movie for about 1 sec.
- Exposure control used for movie shooting is applied to the still shooting.
- Flash cannot be used.

• Super high-speed continuous shooting at 14 fps cannot be selected.

Wireless Remote Control Shooting: Enabled with Wireless Controller LC-5. Possible only when the shutter button can start/stop the movie shooting.

Playback Methods: (1) Playback on camera LCD monitor, (2) Playback on TV connected with

AV or HDMI cable, (3) Playback with ImageBrowser EX

* Recommended are (1) and (2), while (3) requires a high-performance personal computer Movie Shooting Battery Life: 4K: 1 hr. 25 min. at 73°F / 23°C, 1 hr. 15 min. at 32°F / 0°C Full HD (30 fps, ALL-I): 2 hr. 10 min. at 73°F / 23°C, 2 hr. at 32°F / 0°C

 $\textbf{Movie Playback:} \ \textbf{The following playback is possible: Playback, Slow motion (variable speed)} \\$ possible), Jump to first frame, Previous frame, Next frame, Jump to last frame, Edit first or last frame, and Audio volume (11 levels, including mute)

* The audio level when the camera is connected to a TV set is adjusted with the TV set. Editing Out First/Last Scenes: First/last scenes editable (deletion) in 1-sec. increments Still Photo Extraction: Possible with updated version of ImageBrowser EX

IMAGE RECORDING

Image Type / Processing: JPEG, RAW (14-bit)

Image Format Options: JPEG (compression adjustable), RAW (CR2), M-RAW, S-RAW, RAW + JPEG, M-RAW + JPEG, S-RAW + JPEG

Resolution Options: Large – 5184 x 3456 (Approx. 17.90 million pixels), Medium 1 – 4608 x 3072 (Approx. 14.20 million pixels), Medium 2 – 3456 x 2304 (Approx. 8.00 milli pixels), Small – 2592 x 1728 (Approx. 4.50 million pixels), RAW – 5184 x 3456 (Approx. 17.90 million pixels), M-RAW - 3888 x 2592 (Approx. 10.10 million pixels), S-RAW - 2592 x 1728 (Approx. 4.50 million pixels)

 $\textbf{Data Recording Format:} \ \textbf{Complies with Design rule for Camera File system 2.0 and Exif 2.3}$ Folder Setting: Creating new folders and selecting folders on the card is possible. Storage Media: CF card (2 slots)

- Type I/II drive (Incompatible with Microdrive)
- High-speed writing possible with UDMA CF cards. Recording Options: Standard – Select one of the CF cards to record. Auto switch card

Image copying: Possible between the two CF cards (2 slots).

- When the current card becomes full, the camera switches to the other card automatically.

Record separately - The same image is saved to both cards, but in a different size (L, M1, M2, S, RAW, M-RAW, or S-RAW) that was set for the respective card. Record to multiple - The same image is saved to both cards in the same size (RAW+JPEG also possible).

Noise Reduction: Long exposure noise reduction (set with a menu): - Functions with exposures 1 sec. or longer. [Auto] or [Disable] (always applied) settable. High ISO speed noise reduction (set with a menu): - [Standard], [Low], [High], or [Disable] can be selected.

PERFORMANCE

Imaging Processor: Dual DIGIC 5+ Image Processor Maximum Frames Per Second:

12 fps High-speed continuous shooting, 14 fps Super high-speed continuous shooting Drive Modes:

Single Shooting, High-speed continuous shooting (12 fps), Low-speed continuous shooting (3 fps), Silent single shooting, Self-timer (10 sec. and 2 sec.), Super high-speed continuous shooting (14 fps)

Number of Maximum Frames / Burst: JPEG Large: 180, JPEG Medium 1: 310, JPEG Medium 2: 1390, JPEG Small: 6430, RAW: 38, M-RAW: 28, S-RAW: 41, RAW + JPEG Large: 17, M-RAW + JPEG Large: 19, S-RAW + JPEG Large: 20, High-speed continuous shooting with 8GB UDMA-7 card based on Canon's testing standards and may vary depending on shooting conditions.

Flash Sync Speed: Up to 1/250 sec.

Shutter "Lag" Time-

(1) During SW-1 ON, time lag between SW-2 ON and start of exposure: Approx. 0.09 sec. With flash, approx. 0.035 sec.

(2) Time lag between simultaneous SW-1/SW-2 ON and start of exposure: Approx. 0.55 sec. Start-up Time: Approx. 0.1 sec. (Based on CIPA testing standards)

UDMA High-Speed Compatible: High-speed writing possible with UDMA CF cards.

IMAGE PLAYBACK

LCD Monitor: 3.2-inch (Screen aspect ratio of 3:2)

Approx. 1,040,000 dots (Clip, All Clips, Last Clip), Approx. 100% coverage, Approx. 170° vertical and horizontal viewing angle

Brightness Adjustment: Manually adjustable to one of seven brightness levels **Playback Options:** Single image display, Two types of single-image full display and two types of shooting information display, Index display, 4-image index and 9-index image, Jump display, Jump 1 image, Jump 10 images, Jump 100 images, Date, Folder, Movies, Stills, or Rating

DUST REDUCTION

3-Part Dust Reduction System: EOS Integrated Cleaning System:

1. Self Cleaning Sensor Unit – Carrier wave type, removes dust adhering to the infrared and ultraviolet-blocking glass. Self-cleaning executed automatically (taking about 1.8 sec.) when power is turned on or off. Manual execution also possible (taking about 5.2 sec.). Low-pass filter has a fluorine coating.

2. Dust Delete Data acquisition and appending – The coordinates of the dust adhering to the infrared- and ultraviolet-blocking glass are detected by a test shot and appended to subsequent images. The dust coordinate data appended to the image is used by the provided software to automatically erase the dust spots.

EXPOSURE CONTROL ISO Range: 100-51200 in 1/3-stop or whole-stop increments, ISO Expansion Range - L: 50, H1: 102400, H2: 204800,

Auto ISO: 100-51200

Shutter Speed Range: 1/8000 to 1/30 sec., bulb, X-sync at 1/250 sec. Shutter speed's control range can be set with a Custom Function.

Exposure Modes: Program AE (shiftable), Shutter-priority AE (Safety shift possible), Aperturepriority AE (Safety shift possible), Manual exposure, Bulb, E-TTL II autoflash program AE $\,$ Metering Modes: 252-zone metering with approx. 100,000-pixel RGB AE sensor and TTL

maximum aperture metering employed. EOS iSA (Intelligent Subject Analysis) system employed - Evaluative metering (linked to all AF points), Partial metering (center, approx. 6.5% of viewfinder), Spot metering (center, approx. 2.5% of viewfinder): Center spot metering, AF point-linked spot metering (Custom Function), Multi-spot metering Up to eight multi-spot meter

readings can be taken. Center-weighted average metering. Metering Range: EV 0–20 (at 73° F / 23° C with 50mm f/1.4 lens at ISO 100) Exposure Compensation: Manual: ±5 stops in 1/3- or 1/2-stop increments,

Automatic Image Correction: Peripheral Illumination Correction, Chromatic Aberration Correction, Highlight Tone Priority, Auto Lighting Optimizer

COLOR CONTROL

AFR: +3 stons in 1/3- or 1/2-ston increments)

White Balance Modes: Auto (AWB), Preset (Daylight, Shade, Cloudy, Twilight, Sunset Tungsten, White Fluorescent, Flash), Custom (Custom WB), Color Temperature (Approx. 2,500–10,000 Kelvin), Personal WB settings PC-1 - PC-5 (up to five white balance data that you set yourself with the provided software.)

White Balance Compensation: Alter white balance in amber-blue direction, and/or magentagreen direction ±9 levels

White Balance Bracketing: Alter white balance in amber-blue direction or magenta-green direction, ±3 levels in single-level increments

Picture Styles: Auto, Standard, Portrait, Landscape, Neutral, Faithful, Monochrome, User Defined 1-3

Compatible Flashes: Canon EX-Series Speedlites (Manual flash only with non EX-Speedlites) F-TTL II: Yes

Flash Exposure Lock: Available

Flash Exposure Compensation: ±3 stops in 1/3-stop or 1/2-stop increments

PC Socket: Not Provided

VIEWFINDER

Display: Intelligent Viewfinder uses a transparent LCD for superimposed display of the following: AF Information - AF Points, AF Confirmation, AF Status Indicator

 ${\it Exposure information-Metering\ mode,\ Shooting\ mode,\ AE\ lock,\ Shutter\ speed,\ Aperture,}$ Exposure compensation, ISO speed (always displayed), Exposure level, Exposure warning Flash information – Flash ready, High-speed sync, FE lock, Flash exposure compensation Image information

Battery check

Composition information – Grid, Electronic level Coverage: 100%

Eyepoint: Approx. 20mm Magnification: 0.76x

Focusing Screen: Interchangeable Diopter: -3 ~ +1.0 (user-adjustable)

LIVE VIEW

Type: Electronic viewfinder with image sensor

Autofocus: Live mode (Contrast based), Face Detection Live mode (Contrast based), Quick mode (Phase based)

Live View Features: Magnified view, 3 Grid types, Correct Exposure/Exposure Simulation Display activated through Menu (Aspect Ratio indicator not provided.)

MULTIPLE EXPOSURES

Exposures: 2 to 9

Type: Additive, Average, Bright, Dark

SHUTTER DURABILITY

Shutter Durability: 400,000 Cycles

COPYRIGHT AND CAMERA INFORMATION

Copyright Capability: The copyright information set with the camera is appended to the image as part of the Exif information.

Camera System Information: Basic information: Serial No., Firmware version, Shutter-release cycles Camera status log: Error log, Caution log

INTERFACE

Video Output: HDMI mini OUT terminal (Type C), CEC compatible,

Audio (stereo)/video (NTSC/PAL selectable) OUT termina

External Microphone IN Terminal: 3.5mm diameter stereo mini-jack

Headphone Terminal: Provided PC Terminal: Not provided

Audio (stereo)/video (NTSC/PAL) output, Connects to GPS Receiver GP-E2 (Non-dedicated GPS)

Remote Control Terminal: N3-type terminal Wireless Remote Control: Enabled with Wireless Controller LC-5 System extension terminal: For Wireless File Transmitter WFT-E6A and GPS Receiver GP-E1

Digital Terminal: For personal computer communications, direct printing (Hi-Speed USB),

Ethernet terminal: RJ-45 jack (for gigabit Ethernet)

POWER SUPPLY

Battery: LP-E4 or LP-E4N Lithium-ion battery pack

• With the AC Adapter Kit ACK-E4, AC power is possible Battery Life: With a fully charged LP-E4N Battery Pack: Approx. 2 hr. 10 min. (at 73°F/23°C)

Battery Information: The power source type, remaining capacity (in 1% increments + 6-level battery check), shutter count, and recharge performance can be checked.

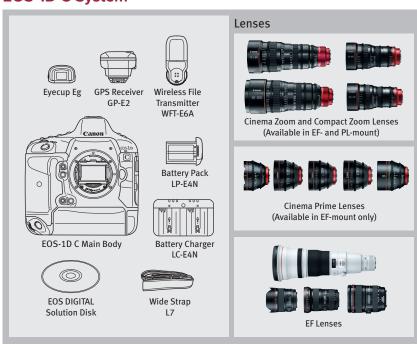
• The battery registration and operation history (serial number, remaining battery level when removed, and date) cannot be checked.

· Battery rechargeable regardless of remaining capacity. BODY

Exterior Material: Magnesium alloy
Weight (without eye-cup): CIPA Standard: Approx. 54.5 oz. (1545g); Body only with date/time function battery: Approx. 47.8 oz. (1355g)

Weather Sealing: Dust and water resistant Dimensions, W x H x D: 6.2 x 6.4 x 3.3 in. (158 x 163.6 x 82.7mm)

EOS-1D C System



EOS-1D C Kit Contents



- EOS-1D C Body
- Evecup Eg*
- Battery Pack LP-E4N* • Battery Charger LC-E4N*
- Cable Protector and Clamp
- Stereo AV Cable AVC-DC400ST* • USB Interface Cable IFC-200U*
- Wide Strap L7*
- EOS Digital Solution Disk • Software Instruction Manual

* Also available as optional accessory

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Emmy® Award for Technology & Engineering for 2012

Improvement to Large Format CMOS Imagers for Use in High Definition Broadcast Video Cameras

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