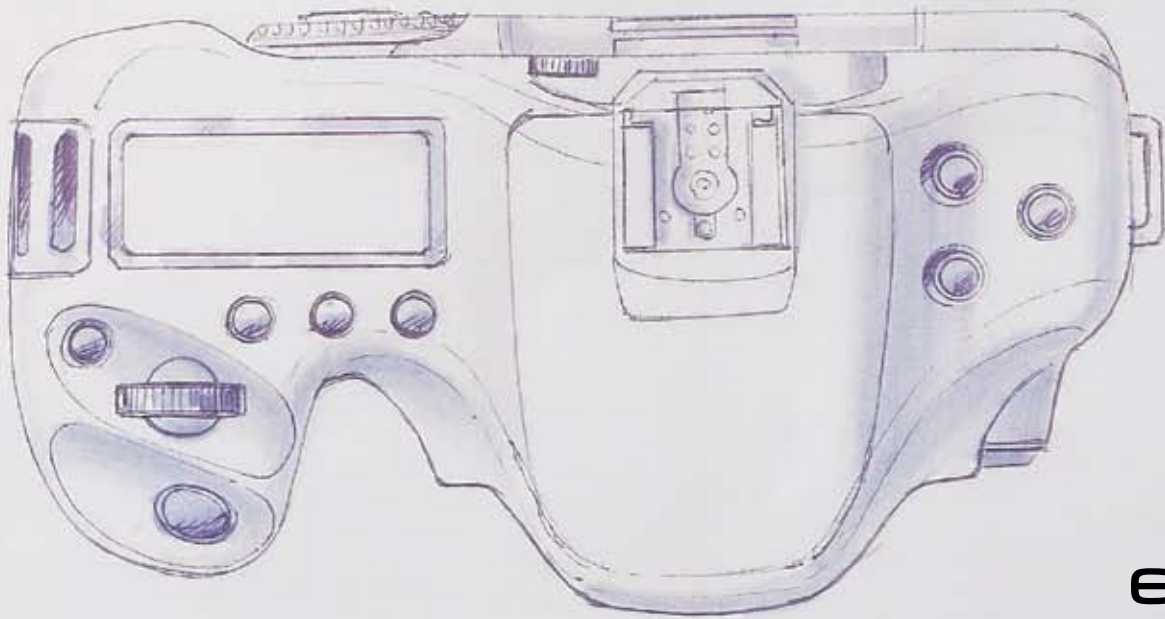
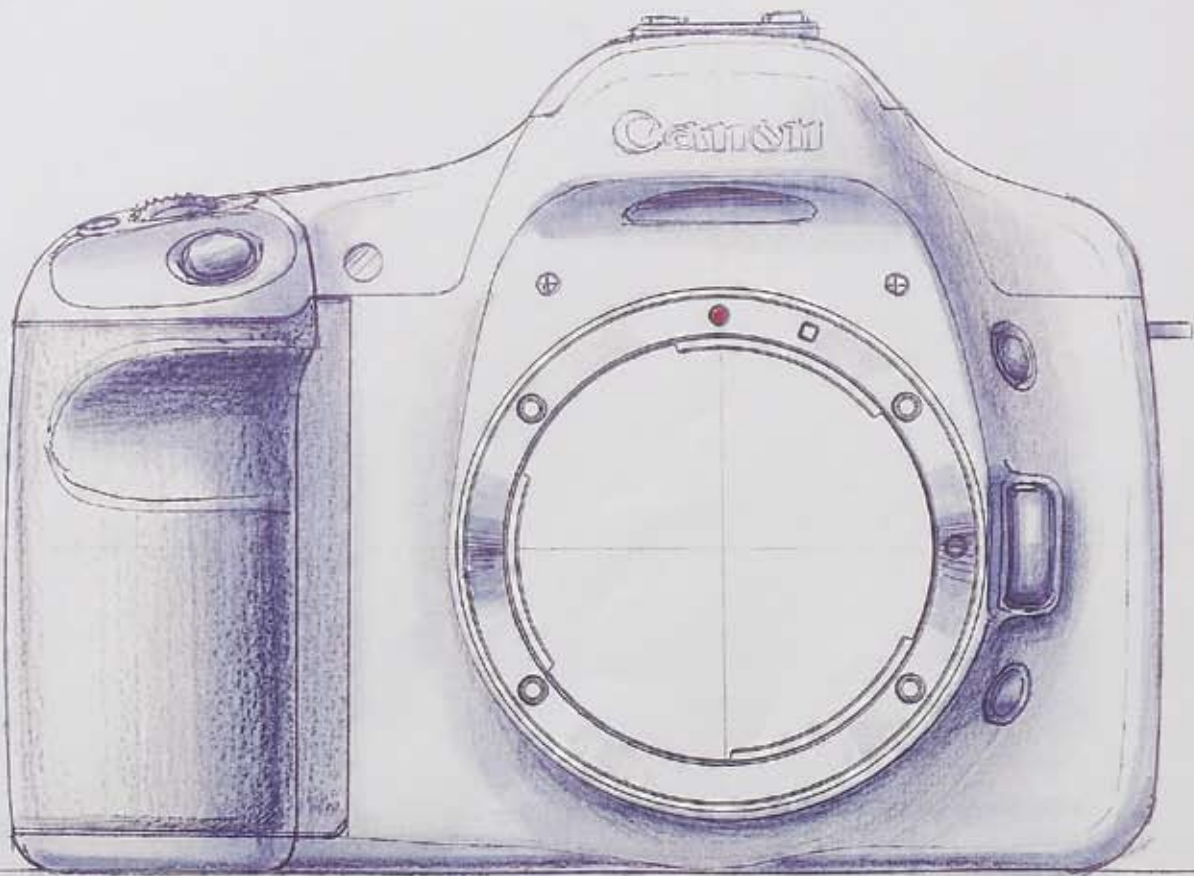


Canon



EOS 7D

Designed by you, built by Canon.



you can

EOS 7D

The technology within





Designed by you, built by Canon.

The Canon EOS 7D represents a giant leap forward in SLR technology. The camera is the fruition of an ongoing Canon research project talking to thousands of photographers around the world about their wants and needs. The first result of this is the astonishing EOS 7D.

Bursting with a range of 'firsts', the 18 Megapixel EOS 7D is a versatile and customisable DSLR that blends new technologies with advanced specifications previously only seen in EOS-1 series cameras. The EOS 7D gives you more control over your EOS photography.

A new intelligent metering system that delivers accurate consistent exposures, a 19-point autofocus system that helps to deliver unrivalled tracking of subjects, an Integrated Speedlite Transmitter for controlling off-camera Speedlites, and full manual control over 1080p HD movie shooting.

Development

Canon has regularly revolutionised digital SLR photography with cameras such as the easily affordable EOS 300D; the highly successful EOS 5D full frame DSLR; and the EOS 5D Mark II - the first DSLR with Full 1080p HD movie recording capabilities.

The next leap in the ongoing development of the EOS SLR family is the outstanding EOS 7D. The camera is the first fruit of a long term and ongoing research project involving Canon and photographers worldwide. It is designed to offer the wide-ranging array of features that photographers demand from their camera to shoot a wide range of subjects.

This consultative development process was so precise that in addition to garnering opinions on big issues, such as autofocus accuracy and industry leading image processing, it also included finer details such as body design and even the shutter sound. The passion of photographers has been poured into the EOS 7D to produce a camera that not only matches, but also exceeds their greatest expectations.



EOS 7D





Key features

- 18 Megapixel APS-C CMOS sensor
- Continuous shooting at 8 frames per second with up to 126 shot JPEG burst, with UDMA card
- ISO range expandable to 12,800 for excellent low light performance
- Intelligent 100% viewfinder with 1.0x magnification and built-in LCD overlay
- 19-point cross-type AF system including Spot AF and Zone AF
- iFCL metering system with new 63-zone Dual-layer Metering Sensor
- Dual "DIGIC 4" processors for high performance, natural colour and noise control
- Full HD EOS Movie shooting with manual control and selectable frame rates
- 3.0" Clear View II LCD – effective even in bright sunlight
- Integrated Speedlite Transmitter enabling the EOS 7D to act as a master in a multi-flash set up
- Customisable controls
- Environmentally protected magnesium alloy body
- Optional Wireless File Transmitter compatible with GPS and External HDD



*RIGHT: EOS 7D + EF 200mm
f/2L IS USM; 1/1250sec, f15,
ISO 100.*





CMOS Sensor

DIGIC 4 | Image processing | EICS

Advanced sensor technology

Developed and built in-house, the CMOS sensor in the EOS 7D delivers high resolution, high sensitivity that provides outstanding image quality.

APS-C

The EOS 7D uses the APS-C format that produces a field of view increase of 1.6x focal length. This smaller than full-frame sensor leads to advantages in the camera design by allowing for a smaller, lighter body and lighter, more compact lenses.

18 Megapixels

The high resolution 18 Megapixel sensor gives you the ability to crop into your images to improve composition, while still retaining enough data for high quality large prints.

DIGIC 4 and image processing

The EOS 7D uses Dual “DIGIC 4” processors to move the data from the sensor into the image processing pipeline faster and give the power to deal with the data from the 18 Megapixel sensor, even when shooting at 8 frames per second. “DIGIC 4” is able to remove highly noticeable colour noise and luminance noise without loss in image detail. This allows for higher ISO shooting without the associated issues of noise. The EOS 7D has a standard ISO range of 100-6400 and an expansion H setting of ISO 12,800.

Improved colours

The DIGIC 4 processor gives the advantages of 14-bit Analogue to Digital conversion for improved colours and smoother tonal gradation. It also allows the use of the fastest UDMA mode 6 memory cards.

RAW file size options

Canon has provided the option to shoot at two smaller RAW file sizes – M-RAW and S-RAW. These files have all the advantages of the RAW file format, but at lower resolutions meaning you can shoot more images per memory card.

Auto Lighting Optimizer & Highlight Tone Priority

Auto Lighting Optimizer (ALO) improves your images by adjusting contrast in a scene. On the EOS 7D, for the first time, this function can be used when shooting in Manual. Highlight Tone Priority (HTP) shifts the dynamic range to the highlights part of the exposure range. This gives smoother tonal gradation in the highlights for better results when shooting bright scenes. The extra processing power of the EOS 7D allows HTP to be used with ISO settings from 200 to 6400 for more shooting flexibility in different lighting.

Copyright info

The EOS 7D allows you to automatically input your copyright data into the EXIF data of every image you take – this is the first time for EOS that this information can be input using only the camera.

EOS Integrated Cleaning System (EICS)

The EOS 7D's EOS Integrated Cleaning System includes a fluorine coating that helps to prevent dust sticking to the sensor. It also has a more efficient ultrasonic vibration that is more effective at shaking dust from the sensor than previous EICS systems.



TOP: The EOS 7D's Dual “DIGIC 4” processors deliver outstanding images at high speed.

RIGHT: EOS 7D + EF 300mm f/2.8L IS USM; 1/2500sec, f/2.8, ISO 400.







Drive system

Shutter mechanism

Power supply

Canon has completely re-designed the electrical system to make it more efficient so that the LP-E6 battery from the EOS 5D Mark II can be used. To drive the shutter unit, the high performance dual motor shutter from the EOS 50D has been fine-tuned to extract as much performance as possible.

A/D conversion

A new Analogue to Digital conversion device has been developed for the EOS 7D that deals with nothing but the A/D conversion. This uses 14-bit Analogue to Digital conversion to provide files that have enhanced colour depth and better colour gradation.

AF microprocessor

In a first for a non EOS-1 series camera the EOS 7D has a dedicated AF microprocessor. This speeds up AF processing and allows the camera to ensure your subjects are sharp while making sure that you don't miss capturing the moment.

Shutter system

When shooting at 8fps the mirror has to move very quickly to allow light through to the sensor for each frame. To counter any mirror bounce and efficiently control the mirror motion, a new mirror stopper has been developed for the downward part of the mirror's motion.

LEFT: Capture the exact moment thanks to the EOS 7D's 8fps continuous shooting speed.

BOTTOM: The shutter unit of the EOS 7D.



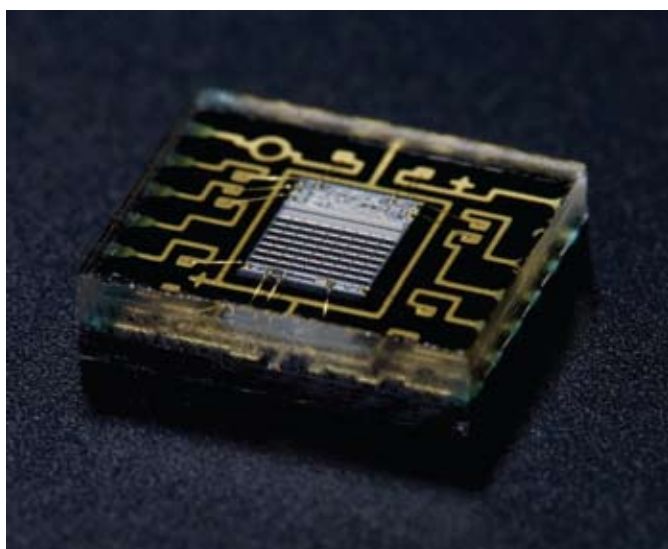
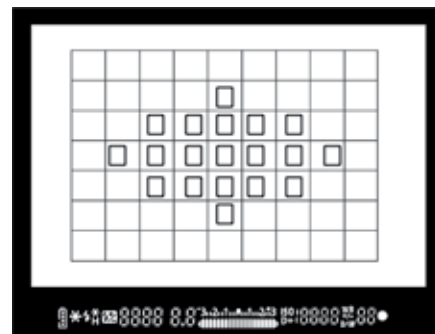
Metering system

63-zone Dual-layer Metering Sensor

The EOS 7D features a completely new metering sensor - the iFCL sensor - to capture perfectly exposed images time-after-time. FCL stands for 'Focus, Colour and Luminance' and hints at the fact that the metering system not only measures colour and luminance data, but also uses information from the AF system.

The metering sensor has 63 measurement zones and is a Dual-layer design with each layer sensitive to different wavelengths of light. Exposure sensors in general are more sensitive to red light. This means when photographing subjects with lots of red in them - skin tones for example - the sensor receives a stronger signal as it only detects brightness levels. This can lead to the wrong assumption that there is more light than there really is. The dual layer system overcomes this by having one layer sensitive to red/green light and one layer sensitive to blue/green light. Both these layers measure the light in their respective spectra and the metering algorithm then combines the two to provide an accurate light reading.

To complement the new metering sensor, the EOS 7D also has a newly designed metering algorithm. During the exposure reading the EOS 7D looks to see which points, in addition to the selected point, have achieved or almost achieved focus. This information lets the camera know which part of the image is the subject. It then takes metering readings from the zones corresponding to the AF points that are over the subject and combines them with readings from all the other zones. This allows for consistent shot-to-shot exposure, even in complex situations - where there are reflections from a model's glasses for example.





TOP LEFT: The 63 zones of the EOS 7D's metering system shown in relation to the AF points.

BOTTOM FAR LEFT: The new 63-zone Dual-layer Metering Sensor.

BOTTOM LEFT: The EOS 7D has +/-5 stops of exposure compensation, plus an additional 3 stops of exposure bracketing. This allows shooting up to 8 stops away from the metered exposure.

TOP RIGHT: The iFCL system uses Focus, Colour and Luminance information to calculate an accurate exposure.

Exposure control

For the first time in an EOS camera, exposure compensation is now possible over +/- 5 stops. The viewfinder and LCD top panel display up to +/- 3 stops in the display and arrows at either end for when you go beyond this range. The full 8-stop range can be displayed on the LCD monitor.

The EOS 7D allows the user to bracket 3 stops above and below their exposure. Combined with the +/- 5 stops of exposure compensation you can quickly set an exposure value that is 8 stops away from the metered exposure. Using these features you can now fully explore the world of HDR shooting as well as ensure your images are exposed correctly whatever the lighting conditions.

The EOS 7D's metering modes remain unchanged from previous EOS DSLRs, providing Evaluative, Partial, Centre-weighted average and Spot so you can choose how to measure the light in a scene to suit your method of working.

Autofocus



Autofocus processor

The EOS 7D features a separate processor to handle AF calculations. This allows the EOS 7D to track focus quick enough to keep up with the 8fps shooting speed as well as enhancing AF accuracy and reliability in all situations.

Autofocus sensor

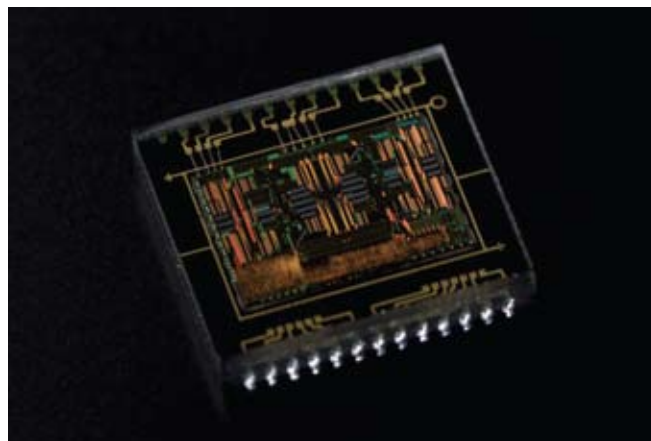
The sensor in the EOS 7D has been designed from scratch and is a 19-point system with some new AF point selection methods. To meet Canon's stringent standards of AF performance the size of the sensor has been optimised to ensure that autofocus is accurate in all situations.

All AF points in the EOS 7D are cross-type sensors with lenses that have a maximum aperture of $f/5.6$ or faster. The result is the EOS 7D features unrivalled AF tracking whichever AF point you select. For enhanced precision, the central AF point features extra sensitivity when used with lenses having a maximum aperture of $f/2.8$ or faster.

Autofocus accuracy

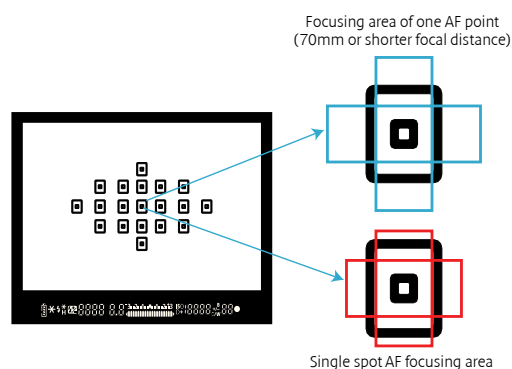
When light passes through the autofocus optics required to split the image into two phases, chromatic aberrations can occur because each wavelength of light is refracted differently. Chromatic aberration errors can be compensated for within the EOS 7D's AF processor. However, since different types of light exhibit different amounts of chromatic aberration it's important to know what light conditions you are photographing under to perform the correct adjustment.

The EOS 7D's metering sensor has two metering layers that are sensitive to different colours of light, so the camera can determine the colour of light in the scene. With this information, the AF processor can accurately adjust for any chromatic aberrations that may occur in the AF system.



TOP LEFT: The EOS 7D's autofocus system can track subjects at up to 8fps. EOS 7D + EF 300mm f/2.8L IS USM; 1/15000sec, f/2.8, ISO 200.

BOTTOM LEFT: The AF Sensor from the EOS 7D.



Autofocus Point Selection Method

With the 19-points that can be selected to perform autofocus, there are five methods that can be chosen to make use of the AF points:

1 - Manual Selection: Single Point AF – any of the 19 AF points can be selected giving you flexibility in framing your subjects when using the creative shooting modes of P, Tv, Av, M and Bulb.

2 - Manual selection: Spot AF – this mode is useful in situations where you want to be very precise about the area you focus on – when shooting small macro subjects or when taking portraits.

3 - Manual selection: AF point expansion – focus is achieved with the selected AF point with assistance provided by the surrounding AF points. This is especially useful when tracking fast moving subjects and was a custom function on previous EOS cameras.

4 - Manual selection: Zone AF – the user is able to select one of five zones (left, top, centre, bottom and right) to use at any one time. The camera will automatically select a point from within the selected zone to track the subject. This makes it easier to track moving subjects such as birds in flight.

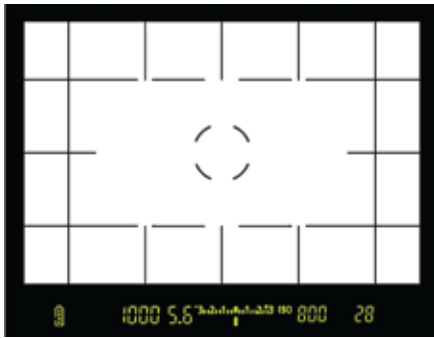
5 - Auto Selection: 19 point AF – on all previous EOS models, the centre point was always used as the primary AF point to first achieve focus. By being able to select the AF point to start tracking with you have a much greater flexibility in how you compose your images.

AI Servo II AF

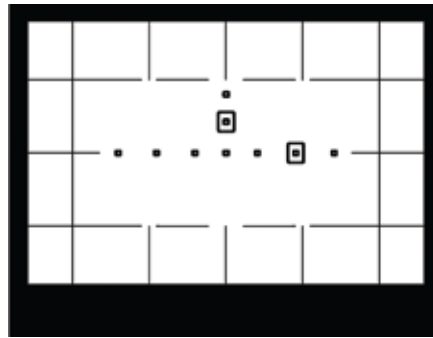
The AI Servo II AF mode that tracks moving subjects has been significantly improved in the EOS 7D. The system is predictive and continually calculates the next position of the subject being tracked. It will now ignore a reading if it is significantly different to what it expected to help to stop the lens jumping completely out of focus.

The system can also keep track of a moving subject even if an obstacle is detected between the camera and the subject, such as when shooting sports. Should you drift away from the subject, the focus will now not snap to the background immediately so when you put the AF point back on the subject the EOS 7D camera re-finds focus much more quickly.

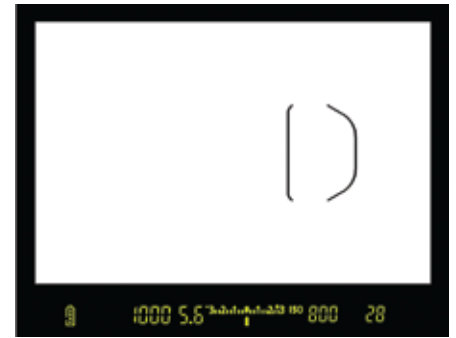
The system on the EOS 7D needs no 'warm-up' time and can track a subject immediately and more accurately. In short it's a fast, accurate and stable tracking AF system that will get you the shot no matter what the situation. It can even be used when shooting macro subjects – something that was not possible before.



Spot metering circle and composition grid



Electronic level (showing 4° Roll, 3° Pitch)



Zone AF

TOP: The Transmissive LCD allows the photographer to control what is shown in the viewfinder.

BELOW: The EOS 7D's features to allow the photographer to store a set of AF settings that can be recalled mid shoot at the touch of a button.

BOTTOM: The AF customisation functions from the EOS-1 series have been included in the EOS 7D, giving the photographer complete control.

Expanding AF functionality

The EOS 7D has the ability, whilst shooting, to switch between AF points and start AF with just one button press. Pressing the AF-ON button will start AF with the selected point, while pressing the AE Lock button will start AF using the previously registered point. This gives you complete control over the AF point in time pressured situations.

Autofocus Point Orientation

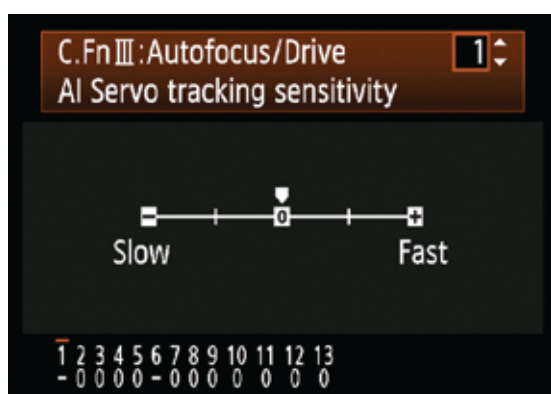
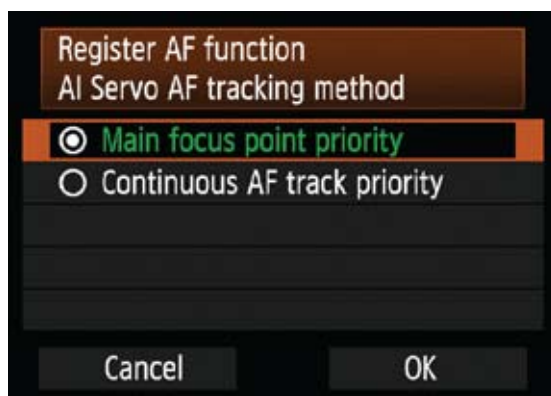
As part of the extra AF system customisation on the EOS 7D, you can select different AF configurations based on the orientation of the camera. You can select up to three different AF points or zones corresponding to whether you hold the camera in a landscape orientation, portrait with the grip up or portrait with the grip down orientation. Simply rotating the camera will choose whichever AF point and AF point selection method you have set for that orientation.

Orientation linked AF points can be combined with the registered AF point function. This allows you to select two points for each orientation. You might find this useful when shooting a wedding where there will be a mixture of portrait and landscape shots and you also want to put the subject in different places within the frame.

AF Wizard

Found through the Custom Control screen. Selecting 'switch to registered AF function' for the depth-of-field preview button or the AF Stop button on the lens will transfer you to the wizard where you can set the four AF custom functions to register the AF area selection mode, setup AI Servo tracking sensitivity, set AF priority for the first and second image and choosing the AF tracking method.

This makes it easy to understand the AF settings and is useful when for example you are shooting a running race where you might want different AF settings for the start and the race itself.



Viewfinder

Electronic level | LCD panel

Viewfinder

The EOS 7D has a viewfinder with 100% coverage and 1.0x magnification – a first for EOS. This gives photographers an unrivalled experience when using the viewfinder.

The EOS 7D doesn't have interchangeable focusing screens but instead deploys a Transmissive LCD Screen. This LCD screen can be illuminated in low light and enables several new views to be superimposed such as Single AF points, Spot AF points, AF Area, AF Zones, Spot metering circle and a Grid display.

Viewfinder information includes a battery indicator, and extended exposure compensation meter that shows +/-3 stops - arrows have been included to indicate when the exposure compensation is set off of the scale as the 7D has up to +/-5 stops of exposure compensation.

Dual Axis Electronic Level

The EOS 7D is the first EOS camera to feature a Dual Axis Electronic Level that is capable of indicating both pitch and roll angle. This is particularly useful for landscape photographers to ensure level horizons and for photographers shooting with tilt and shift lenses who need to level the pitch of the camera to ensure that verticals are captured vertically.

LCD panel

The 3.0" VGA Clear view II LCD monitor has 920,000 dots, a viewing angle of 160°, and an all-new, more advanced construction. To combat glare, the air-gap between the LCD's protective cover and the liquid crystal has been filled with an elastic optical material. This is designed to remove the cause of reflections and helps photographers to view the panel from tight angles and in bright weather conditions.

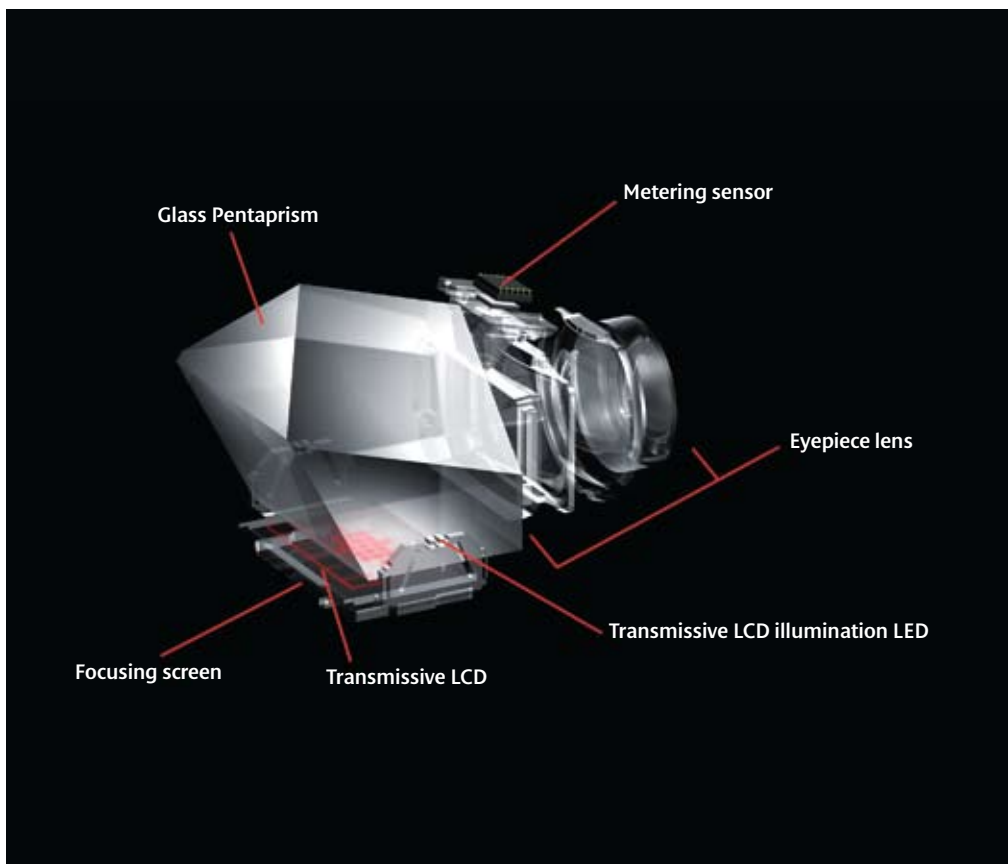


Diagram showing the construction of the EOS 7D's viewfinder.

HD Movies

EOS Movie

Straight out of the box the EOS 7D offers full manual control of the exposure for Full HD movie shooting for ISO settings up to 6400 and shutter speeds up to 1/4000sec. If you decide not to make use of the manual movie exposure, the camera can control the exposure for you but you retain some control via exposure compensation of up to +/- 3 stops.

A dedicated switch to the right of the viewfinder lets you switch easily between Live View Mode and EOS Movie mode. The centre of the switch is a Start/Stop button that is used to enter or exit Live View or to start and stop the EOS Movie recording.

The EOS 7D features user selectable recording resolutions and frame rates. It is now possible to record at Full HD 1920x1080 resolution at 29.97fps, 25fps or 23.976fps. The lower HD resolution of 1280x720 and the standard definition of 640x480 can be recorded at 59.94fps or 50fps.

There is also the ability to perform very simple editing of your clip in-camera via the 'trimming' feature. Sound recording on the 7D is via a built in mono microphone and a 3.5mm mini-jack plug for recording from an external microphone.

Live View Mode

Live View enables you to see what the camera sensor can see on the rear LCD monitor so you can zoom in on parts of a scene by 5x or 10x magnification to check critical focus very accurately. It can also be combined with use of the depth of field preview button.

With Live View Mode you can preview the exposure of your image before you take the shot. Pressing the INFO button will cycle the display in Live View to show the Dual Axis Electronic Level; a screen with the image, AF frame and magnification rectangle; or a fully live histogram for in-depth analysis of your exposure settings. It is also possible to set a grid display in Live View to help with composition.

BELOW: The EOS 7D operates superbly in low light thanks to a wide choice of exposure control settings. EOS 7D + EF-S 18-135mm f/3.5-5.6 IS; 1/125, f/5.6, ISO 6400.



RIGHT: 01. The AF point selection screen allows you to select AF points quickly and easily.

02. The Auto Lighting Optimizer screen allows you to adjust the level of correction on the fly.

03. When using the new Custom controls screen the control that you are customising is highlighted on the image of the camera in the screen, making it incredibly easy to set the camera up just how you like it.

Design & Construction



ABOVE: The EOS 7D has weather sealings (shown in red) and high precision alignment of seams (shown in green) for superb weather and dust resistance.

Handling & controls

The EOS 7D features a number of new buttons and controls that are new to the EOS range. They include a rocker switch with a 'START/STOP' button in the centre. The rocker allows you to select either Live View or Movie mode. Pressing the centre button starts and stops Live View and/or Movie shooting.

The Quick Control 'Q' button provides direct access to the camera's Quick Control Screen on the LCD panel. This lets you change a variety of camera settings 'on the fly' – shutter speed, aperture, ISO speed, Highlight Tone Priority, flash exposure compensation, Auto Lighting Optimizer, custom controls, metering modes, drive modes, AF modes, white balance, Picture Style, Image recording quality, AF point selection, shooting mode and exposure compensation/AEB setting.

Pressing the INFO button will cycle through camera settings, Shooting settings, Electronic Level, and Display off. As an option the user can choose which items to display allowing quicker access to commonly used screens.

Just to the left of the viewfinder is the RAW+JPEG button that allows you to shoot in RAW and JPEG formats at the same time.

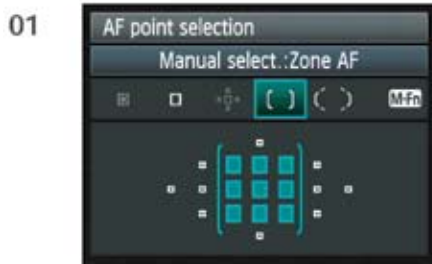
Customisation

Many of the custom functions from the EOS-1 series have been implemented in the EOS 7D to give you fine control over the AF system. There are a total of 27 custom functions that control exposure, image, autofocus and general operation. All of this gives you total customisation control for shooting in different conditions and styles.

The Custom Controls custom function lets you customise camera controls and buttons so that a frequently used function can be assigned to a convenient control. There are 10 controls that can be reassigned to various functions, these are: shutter button, AF-ON button, AE Lock button, Depth-of-field preview button, Lens Stop button, Multi-function button, SET button, Quick and Main command dials and the multi-controller.

Construction & weather sealing

The EOS 7D body has been beautifully crafted to give a high quality feel and a classy look. The external seams of the EOS 7D have been designed to be more precise and the camera has a very rugged construction thanks to its magnesium alloy body that is coated with the same durable matte finish of the EOS-1 series cameras.



Flash system

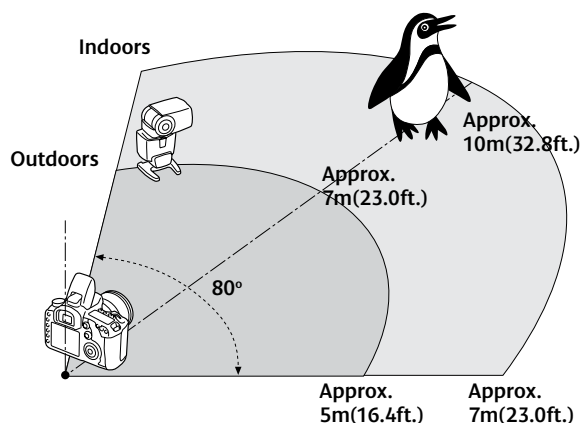
Integrated Speedlite Transmitter

The built-in flash on the EOS 7D includes an Integrated Speedlite Transmitter that acts as a master control unit for wireless slave units and opens up new worlds of wireless flash shooting.

The EOS 7D can be used to control up to three groups of slave lights and set ratios or manual power outputs for each group. The flash on the camera can also be used as part of the exposure like a fourth flash group. The Integrated Speedlite Transmitter can be set to one of four channels, just like the Speedlites. In this way up to four photographers can work together without triggering each other's Speedlites accidentally.

Menu control

The EOS 7D also features an external Speedlite control function menu. This menu screen allows you to control all of the settings and custom functions of an attached Speedlite 580EX II, Speedlite 430EX II or Speedlite 270EX.



TOP: The EOS 7D's Integrated Speedlite Transmitter means the camera works as a master in a multi-flash set up.

BOTTOM: The Speedlite 430EX II is the perfect companion to the EOS 7D, enabling you to experiment with off camera flash.



Accessories

WiFi



© Michael Nichols/National Geographic

New WFT-E5 WiFi unit

The EOS 7D is part of a complete system that provides you with the ability to tackle any photographic situation. One of the new accessories for the EOS 7D is the Wireless File Transmitter, WFT-E5, that offers the ability to wirelessly transmit images from your camera to a computer, adds enhanced remote capture, media server functionality and linked shooting.

The transmitter is compatible with 802.11a, 802.11b and 802.11g for high-speed wireless file transfer. It offers high-speed wireless file transfer via three transmission modes for connection to other devices. FTP is used to transfer images to an FTP server. EOS Utility mode allows two-way communication between the camera and a computer, and WFT Server allows a web browser to view images stored on the memory card as well as control the camera from a web browser.

In another first for EOS, the WFT-E5 provides the EOS 7D with a linked shooting ability. This means that a master camera fitted with a WFT-E5 can control up to 10 slave EOS 7D cameras that are also fitted with WFT-E5 units - they can be triggered from the master camera from up to 100m away. So, you can easily capture an image of a subject from several different viewpoints all at the same time.

With the use of the WFT-E5's built-in WFT Server (formerly HTTP mode), the EOS 7D can be controlled wirelessly over an HTTP connection using a web browser. This means you can see what your camera sees and control the settings and shooting functions through a web browser or even on a device like a smart phone.

Bluetooth dongles

The WFT-E5 has a full size USB port - often used to connect to a GPS device. Through this USB port the WFT-E5 is compatible with a Bluetooth dongle. Using a Bluetooth dongle allows you to connect with a small Bluetooth GPS device stored in a pocket or in your camera bag and so 'geotag' all images taken on the camera without having to connect any wires between the GPS unit and the EOS 7D.

TOP: The WFT-E5 wifi unit allows photographers to get close to wildlife or sports subjects when triggering their cameras from afar.

BOTTOM: The WFT-E5 unit for the EOS 7D is a highly advanced unit that opens up new possibilities for wifi shooting.





Macro lens

EF-S Lenses



*FAR LEFT: The new EF 100mm f/2.8L Macro IS USM lens incorporates the new Hybrid Image Stabilization (IS) technology for stunning macro results.
EOS 7D + EF 100mm f/2.8L Macro IS USM; 1/125sec, f/4, ISO 640.*

LEFT: Hybrid IS compensates for shift (linear) camera shake where the camera moves in a level plane up and down or from side-to-side.

EF 100mm f/2.8L Macro IS USM

The arrival of the EOS 7D has coincided with the introduction of a new L-series lens – the EF 100mm f/2.8L Macro IS USM. This lens features Canon's latest incarnation of its Image Stabilization technology, known as 'Hybrid IS'. Hybrid IS incorporates an angular velocity sensor plus a new acceleration sensor. This compensates for both angular camera shake, where the camera tips or pitches up and down or side-to-side, and shift (linear) camera shake where the camera moves in a level plane up and down or side-to-side.

This fast aperture macro optic offers up to four-stop correction or up to two-stop correction when shooting 1:1 lifesize macro. It features a UD element to reduce aberrations and provide high resolution.

This dust and water resistant lens features Super spectra coatings to help deliver the highest possible image quality and it also has a three-position focus limiter to enable the lens to be limited to macro shooting, normal use or portrait shooting.

EF-S 15-85mm f/3.5-5.6 IS USM

A high quality wideangle to telephoto zoom the EF-S15-85mm is one of two lenses that come as part of EOS 7D kits.

Featuring impressive build quality it has a four-stop Image Stabilizer, a minimum focus distance of 0.35m at all focal lengths, and Super spectra coatings that are optimised to minimise flare and ghosting. The lens incorporates a high speed USM motor with full time manual focus to give you control over your focusing options.

EF-S 18-135mm f/3.5-5.6 IS

Extending the telephoto end of the zoom range the EF-S18-135mm f/3.5-5.6 IS comes in one of the two EOS 7D camera kits. This 7.5x standard zoom for APS-C format cameras covers the wideangle to portrait focal length ranges and is excellent for shooting landscapes, sports and portraits among other subjects. It features a four stop Image Stabilizer to allow for shooting in low light without camera shake.



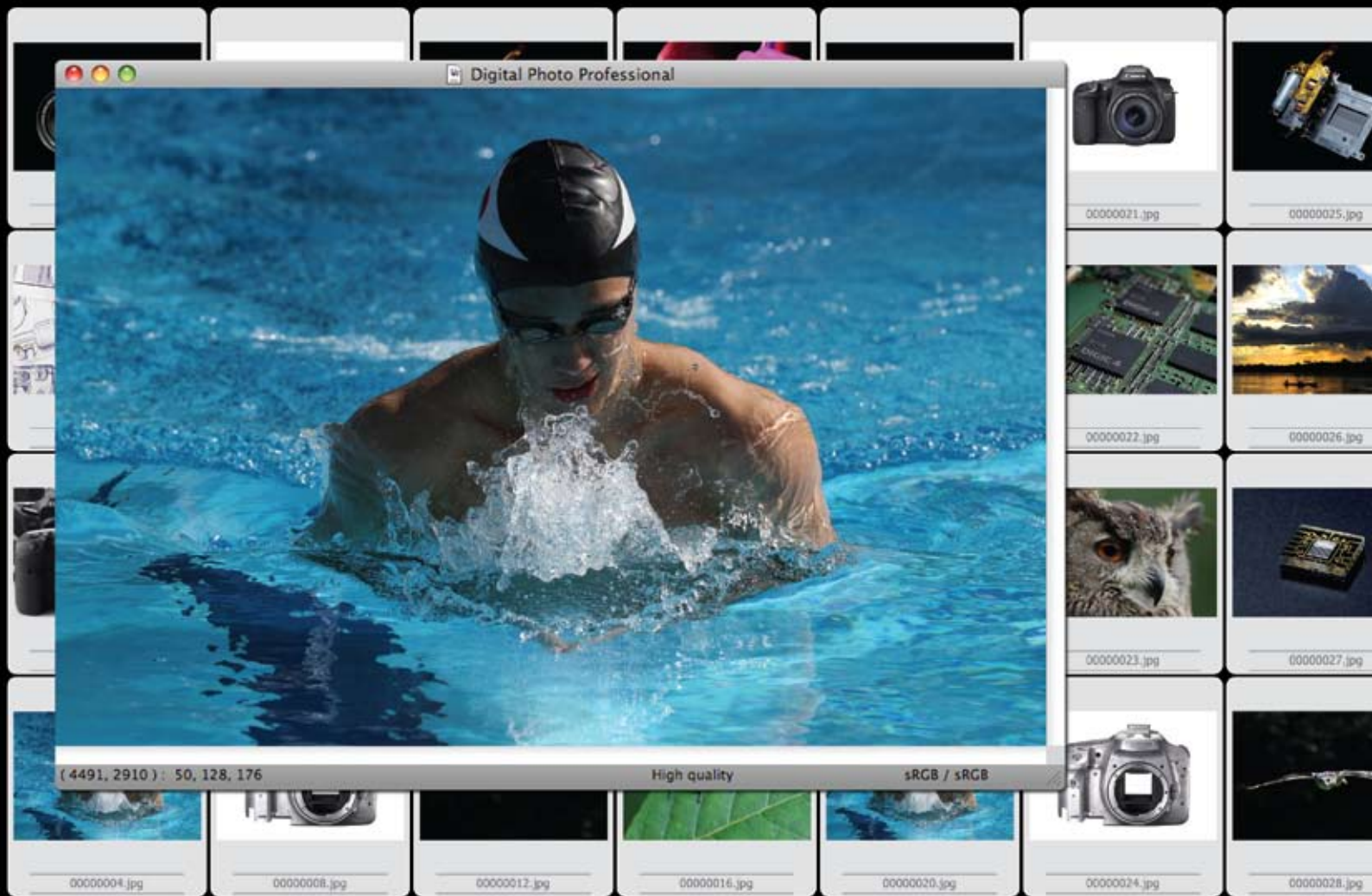
EF 100mm f/2.8L Macro IS USM



EF-S 15-85mm f/3.5-5.6 IS USM



EF-S 18-135mm f/3.5-5.6 IS



Canon Software

EOS Utility

EOS Utility comes bundled with the EOS 7D and is a free communication software programme for remote camera operation and to register camera settings on a computer. You can download images from your EOS camera to a computer or use your computer to register various settings in the camera. With the EOS 7D you can have remote Live View shooting which is great for studio shoots.

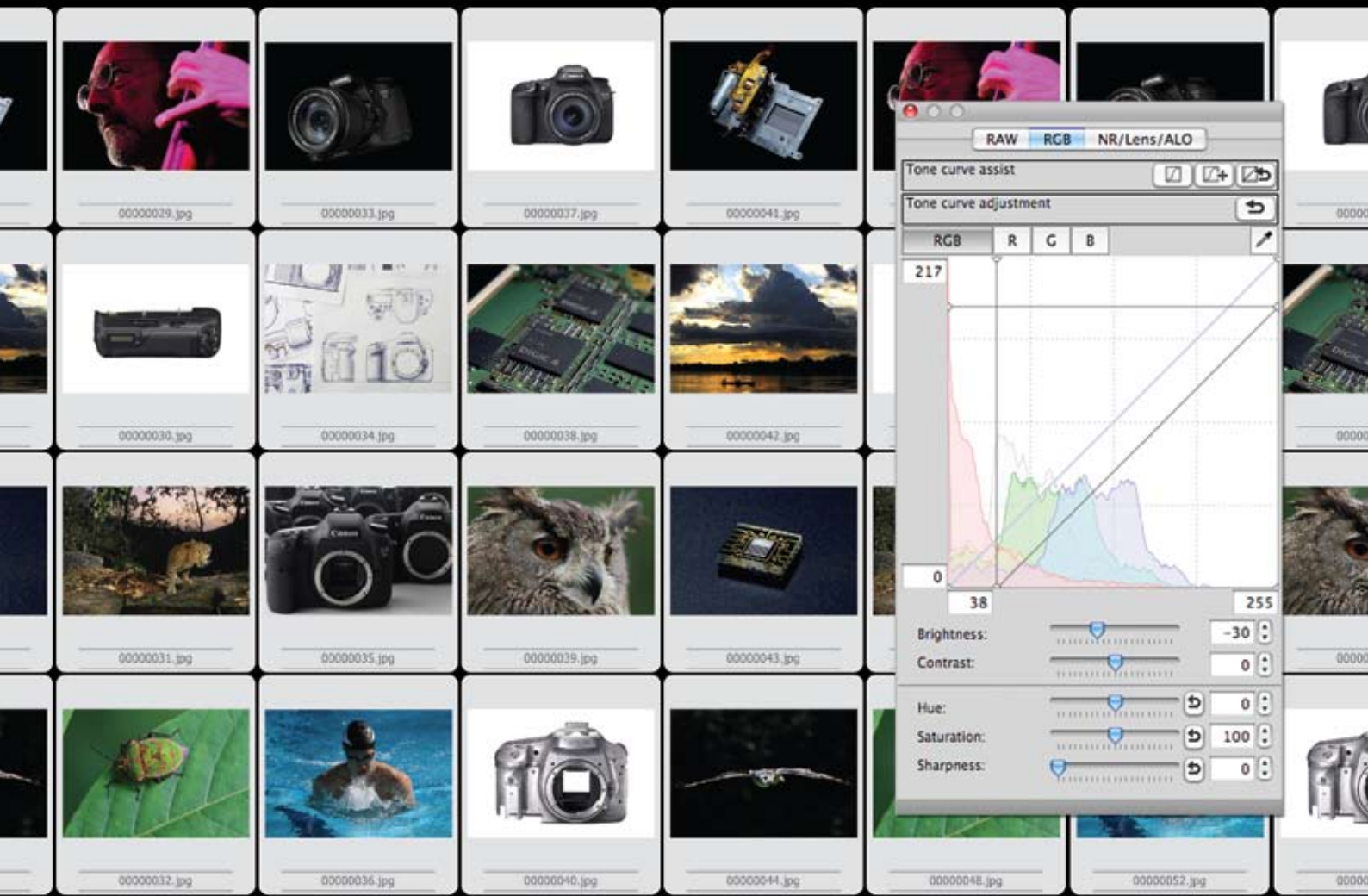
Digital Photo Professional

Digital Photo Professional is Canon's software tool aimed at photographers who mainly shoot in RAW. The current incarnation allows you to sort and display thumbnails, gives an edit window for comparing and editing images, and has tool palettes for RAW, RGB, and NR/Lens palettes. The RAW palette enables camera-like adjustments such as the Picture Style and white balance. The NR/Lens palette is for noise reduction and lens aberration correction for RAW images shot with applicable lenses.

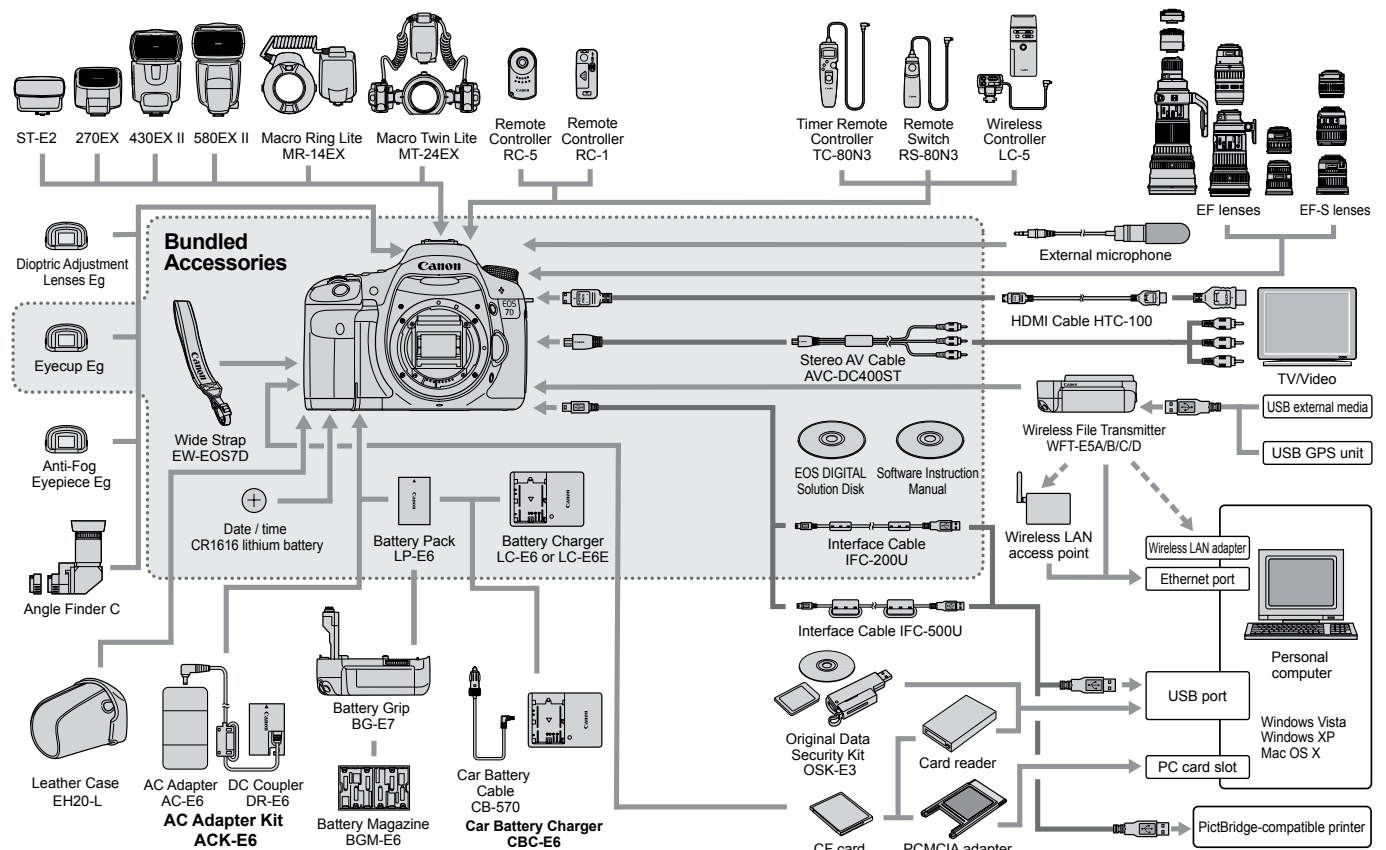
Picture Style Editor

Picture Style Editor is a software programme that allows you to take creative control of colour in your images and movies. You can easily create your own Picture Style files to adjust captured images. You can view before and after images to compare the adjusted Picture Style parameters such as sharpness, contrast, colour saturation and colour tone. You can also fine-tune a specific colour (its hue, saturation, luminosity and gamma characteristic) in the image by up to 100 degrees.

TOP: Canon's unique knowledge about the Canon RAW format is built into the fabric of Digital Photo Professional, making it the ideal choice for processing your images.



System Map



EOS 7D SPECIFICATIONS

IMAGE SENSOR	
Type	22.3mm x 14.9mm CMOS
Effective Pixels	Approx. 18.00 megapixels
Total Pixels	Approx. 19.00 megapixels
Aspect Ratio	3.2
Low-Pass Filter	Built-in/Fixed
Sensor Cleaning	EOS integrated cleaning system with fluorine coating
Colour Filter Type	Primary Colour
IMAGE PROCESSOR	
Type	Dual "DIGIC 4"
LENS	
Lens Mount	EF/EF-S
Focal Length	Equivalent to 1.6x the focal length of the lens
FOCUSING	
Type	TTL-CT-SIR with a CMOS sensor
AF System/Points	19 cross-type AF points (f/2.8 at centre)
AF working range	EV -0.5 - 18 (at 23°C & ISO100)
AF Modes	AI Focus - One Shot - AI Servo
AF Point Selection	Automatic selection: 19 point AF - Manual selection: Single point AF - Manual selection: Spot AF - Manual selection: AF point Expansion - Manual selection: Zone AF - AF points can be selected separately for vertical and horizontal shooting
Selected AF point display	Indicated by a transmissive LCD in viewfinder and on top LCD panel and Quick Control screen
Predictive AF ¹	Yes, up to 8m
AF Lock	Locked when shutter button is pressed half way in One Shot AF mode or AF-ON button is pressed.
AF Assist Beam	Intermittent firing of built-in flash or emitted by optional dedicated Speedlite
Manual Focus	Selected on lens, default in Live View Mode
AF Microadjustment	C.Fn III-5, +/- 20 steps, Adjust all lenses by same amount, Adjust up to 20 lenses individually
EXPOSURE CONTROL	
Metering modes	TTL full aperture metering with 63 zone Dual Layer SPC - (1) Evaluative metering (linked to All AF point) - (2) Partial metering (approx. 9.4% of viewfinder at centre) - (3) Spot metering (approx. 2.3% viewfinder at centre) - (4) Centre weighted average metering
Metering Range	EV 1 - 20 (at 23°C with 50mm f/1.4 lens ISO100)
AE Lock	Auto: In 1-shot AF mode with evaluative metering exposure is locked when focus is achieved. - Manual: By AE lock button in creative zone modes.
Exposure Compensation	+/-5 EV in 1/3 or 1/2 stop increments (can be combined with AEB).
AEB	3 Shots +/-3 EV 1/3 or 1/2 stop increments
ISO Sensitivity ²	Auto (100-3200), 100-6400 (in 1/3-stop or whole stop increments) - ISO can be expanded to H: 12800
SHUTTER	
Type	Electronically-controlled focal-plane shutter
Speed	30-1/8000 sec (1/2 or 1/3 stop increments), Bulb (Total shutter speed range. - Available range varies by shooting mode)
WHITE BALANCE	
Type	Auto white balance with the imaging sensor
Settings	AWB, Daylight, Shade, Cloudy, Tungsten, White Fluorescent light, Flash, Custom, Colour Temperature Setting. White balance compensation: 1. Blue/Amber +/-9 - 2. Magenta/Green +/-9.
Custom White Balance	Yes, 1 setting can be registered
WB Bracketing	+/-3 levels in single level increments - 3 bracketed images per shutter release. - Selectable Blue/Amber bias or Magenta/Green bias.
VIEWFINDER	
Type	Pentaprism
Coverage (vertical/horizontal)	Approx. 100%
Magnification	Approx. 1.0x ³
Eyepoint	Approx. 22mm (from eyepiece lens centre)
Dioptre Correction	-3 to +1 m-1 (dioptre)
Focusing Screen	Fixed (Transmissive LCD screen)
Mirror	Quick-return half mirror (Transmission: reflection ratio of 40:60, no mirror cut-off with EF600mm f/4 or shorter)
Viewfinder Information	AF information: AF points, focus confirmation light. - Exposure information: Shutter speed, aperture val ue, ISO speed (always displayed), AE lock, exposure level/compensation, spot metering circle, exposure warning, AEB. Flash information: Flash ready, high-speed sync, FE lock, flash exposure compensation, red-eye reduction light. Image information: White balance correction, CF card information, monochrome. shooting, maximum burst (2 digit display), Highlight tone priority (D+). Composition information: Grid, Dual Axis Electronic level.
Depth of field preview	Yes, with Depth of Field preview button.
Eyepiece shutter	On strap
LCD MONITOR	
Type	3.0" Clear View II TFT, approx. 920K dots
Coverage	Approx. 100%
Viewing Angle (horizontally/vertically)	Approx. 160°
Coating	Anti-reflection and Solid Structure
Brightness Adjustment	Auto: Using extenal ambient light sensor - Manual: Adjustable to one of seven levels
Display Options	(1) Quick Control Screen - (2) Camera settings - (3) Dual Axis Electronic Level
FLASH	
Built-in Flash GN (ISO 100, meters)	12
Built-in Flash Coverage	up to 15mm focal length (35mm equivalent: 24mm)
Built-in Flash recycle time	Approx. 3 seconds
Modes	Auto, Manual flash, Multi flash, Integrated Speedlite Transmitter
Red-Eye Reduction	Yes
X-sync	1/250sec
Flash Exposure Compensation	+/- 3EV in 1/2 or 1/3 increments
Flash Exposure Bracketing	Yes, with compatible External Flash
Flash Exposure Lock	Yes
Second Curtain Synchronisation	Yes
HotShoe/PC terminal	Yes/Yes
External Flash Compatibility	E-TTL II with EX series Speedlites, wireless multi-flash support
External Flash Control	via camera menu screen

SHOOTING	
Modes	Auto (Stills and Movie), Creative Auto, Program AE, Shutter priority AE, Aperture priority AE, Manual (Stills and Movie), Custom (x3)
Picture Styles	Standard, Portrait, Landscape, Neutral, Faithful, Monochrome, User Defined (x3)
Colour Space	sRGB and Adobe RGB
Image Processing	Highlight Tone Priority - Auto Lighting Optimizer (4 settings) - Long exposure noise reduction - High ISO speed noise reduction (4 settings) Auto Correction of Lens Peripheral illumination
Drive modes	Single, Continuous L, Continuous H, Self timer (2s+remote, 10s+remote)
Continuous Shooting	Max. Approx. 8fps. (speed maintained for up to 126 images (JPEG) ⁴ (with UDMA card), 15 images (RAW)) ⁵
LIVE VIEW MODE	
Type	Electronic viewfinder with image sensor
Coverage	Approx. 100% (horizontally and vertically)
Frame Rate	30 fps
Focusing	Manual Focus (Magnify the image 5x or 10x at any point on screen) - Autofocus: Quick mode, Live mode, Live Face detection mode
Metering	Real-time evaluative metering with image sensor - Active metering time can be changed
Display Options	Grid overlay (x2), Histogram
FILE TYPE	
Still Image Type	JPEG: Fine, Normal (Exif 2.21 [Exif Print] compliant)/Design rule for Camera File system (2.0), RAW: RAW, M-RAW, S-RAW (14bit, Canon original RAW 2nd edition), - Digital Print Order Format [DPOF] Version 1.1 compliant
RAW+JPEG simultaneous recording	Yes, any combination of RAW + JPEG, M-RAW + JPEG, S-RAW + JPEG possible.
Image Size	JPEG: (L) 5184x3456, (M) 3456x2304, (S) 2592x1728 - RAW: (RAW) 5184x3456, (M-RAW) 3888x2592, (S-RAW) 2592x1728
Movie Type	MOV (Video: H.264, Sound: Linear PCM)
Movie Size	1920 x 1080 (29.97, 25, 23.976 fps) - 1280 x 720 (59.94, 50 fps) - 640 x 480 (59.94, 50 fps)
Movie Length	Max duration 29min 59sec, Max file size 4GB
Folders	New folders can be manually created and selected
File Numbering	(1) Consecutive numbering - (2) Auto reset - (3) Manual reset
OTHER FEATURES	
Custom Functions	27 Custom Functions with 70 settings
Metadata Tag	User copyright information (can be set in camera)
LCD Panel/Illumination	Yes/Yes
Water/ Dust resistance	Yes (equal to EOS-1N)
Sound Memo	Yes
Intelligent Orientation Sensor	Yes
Playback zoom	1.5x - 10x
Display Formats	(1) Single image with information (2 levels) - (2) Single image - (3) 4 image index - (4) 9 image index - (5) Magnified view
Slide Show	Image selection: All images, by Date, by Folder, Movies, Stills - Playback time: 1/2/3/5 seconds - Repeat: On/Off
Histogram	Brightness: Yes - RGB: Yes
Highlight Alert	Yes
Image Erase/Protection	Erase: Single image, All images in folder, Checkmarked images, unprotected images - Protection: Erase protection of one image at a time
Data Verification	Original image verification data can be appended to the image (OSK-E3 required for verification)
Menu Categories	(1) Shooting menu (x4) - (2) Playback menu (x2) - (3) Setup menu (x3) - (4) Custom Functions menu - (5) My Menu
Menu Languages	25 Languages - English, German, French, Dutch, Danish, Portuguese, Finnish, Italian, Norwegian, Swedish, Spanish, Greek, Russian, Polish, Czech, Hungarian, Romanian, Ukrainian, Turkish, Arabic, Thai, Simplified Chinese, Traditional Chinese, Korean and Japanese
Firmware Update	Update possible by the user.
INTERFACE	
Computer	Hi-Speed USB
Other	HDMI mini output, Video output (PAL/NTSC), Extension system terminal (for WFT-E5), External microphone (Stereo mini jack)
DIRECT PRINT	
Canon Printers	Canon Compact Photo Printers and PIXMA Printers supporting PictBridge
PictBridge	Yes
STORAGE	
Type	CompactFlash Type I/II (Microdrive compatible, UDMA compatible), external storage with WFT-E5
SUPPORTED OPERATING SYSTEM	
PC & Macintosh	Windows XP (SP2/SP3)/Vista inc SP1 (excl. Starter Edition) OS X v10.4-10.5
SOFTWARE	
Browsing & Printing	ZoomBrowser EX/ImageBrowser
Image Processing	Digital Photo Professional
Other	PhotoStitch, EOS Utility (inc. Remote Capture, WFT utility*, Original Data Security Tools*), Picture Style Editor * Requires optional accessory
POWER SOURCE	
Batteries	Rechargeable Li-ion Battery LP-E6 (supplied), 1xCR1616 for date & settings
Battery life	Approx. 800 (at 23°C, AE 50%, FE 50%) ⁶ - Approx. 750 (at 0°C, AE 50%, FE 50%)
Battery Indicator	6 levels + percentage
Power saving	Power turns off after 1, 2, 4, 8, 15 or 30mins.
Power Supply & Battery Chargers	AC Adapter Kit ACK-E6, Battery charger LC-E6, Car Battery charger CBC-E6
PHYSICAL SPECIFICATIONS	
Body Materials	Magnesium Alloy body covers
Operating Environment	0 - 40°C, 85% or less humidity
Dimensions (WxHxD)	148.2 x 110.7 x 73.5mm
Weight (body only)	Approx. 820g
ACCESSORIES	
Viewfinder	Eyecup Eg, Dioptic adjustment lens Eg, Anti-Fog Eyepiece Eg
Case	EH20-L
Wireless File Transmitter	Wireless File Transmitter WFT-E5
Lenses	All EF and EF-S lenses
Flash	Canon Speedlites (220EX, 270EX, 380EX, 420EX, 430EX, 430EX II, 550EX, 580EX, 580EX II, Macro-Ring-Lite, MR-14EX, Macro Twin Lite MT-24EX, Speedlite Transmitter ST-E2)
Battery Grip	BG-E7
Remote Controller/Switch	Remote control with N3 type contact, Wireless Controller LC-5, Remote Controller RC-1/RC-5
Other	Original Data Security Kit OSK-E3

All data is based on Canon standard testing methods except where indicated and is subject to change without notice.

Subject to change without notice. **1** With EF300mm f/2.8L IS USM at 50kph **2** Recommended Exposure Index **3** With 50mm lens at infinity, -1m-1 dpt **4** Large/Fine resolution **5** Based on Canon's testing conditions, JPEG, ISO 100, Standard Picture Style. Varies depending on the subject, memory card brand and capacity, image recording quality, ISO speed, drive mode, Picture Style, Custom functions etc. **6** Based on the CIPA Standard and using the batteries and memory card format supplied with the camera, except where indicated.

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