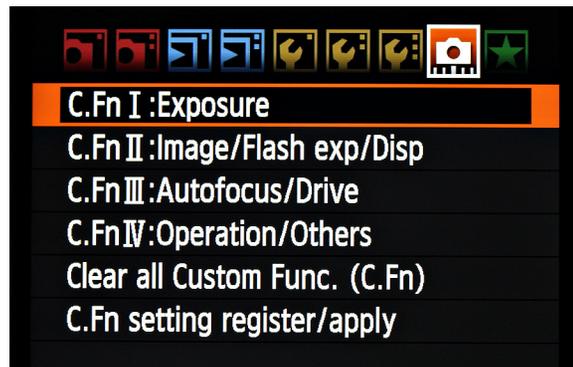




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## QuickGuide to EOS Custom Functions

The Custom Functions included in Canon EOS DSLRs allow you to customize your camera to suit your individual style and preferences. They also allow you adjust your camera to be more suitable for specific types of photography, such as sports, macro, or low-light interiors. EOS DSLRs with Camera User Settings also allow you to save and recall up to three groups of Custom Function Settings. This QuickGuide will explain how to access Custom Functions, list the most commonly used functions, and explain their value.



### How to Access Custom Functions

All recent Canon EOS DSLRs have a Custom Function (C.Fn) menu similar to the one above. The functions are divided into four groups, each indicated by a Roman

numeral. Within each group are a set of numbered functions. The number of available functions will vary by camera model; however, we have listed some of the most commonly available functions. To access C.Fns:

1. Press the Menu Button on back of camera.
2. **EOS Rebel models:** Select the third Set-Up Menu tab, using the Main Dial (Press SET, highlight Custom Functions (C.Fn) with up/down keys, and press SET.) **Other EOS models:** Highlight the orange-colored tab with camera icon
3. **EOS Rebel models:** Use left/right control keys to select the desired C.Fn. **Other EOS models:** Use the Quick Control Dial (or Multi-controller Button) to select one of the four groups.
4. Press the Set Button to display the list of C.Fns available within a group.
5. Turn the Quick Control Dial (or Multi-controller Button) to select a C.Fn.
6. Press the Set Button to display the options available for the C.Fn you selected.
7. Highlight the C.Fn option you want (up/down keys with Rebel models; Quick Control Dial or Multi-controller with other models)
8. Press the Set Button to set the option you have selected.

Press the Menu Button if you wish to return to the C.Fn menu to change other C.Fns.

### ISO Expansion (most EOS models)

All digital SLRs have a basic ISO range such as ISO 100-6400. Turning ISO Expansion ON will extend the upper-end of the range by one or two stops. With cameras that have a normal maximum of 6400, a one-stop increase (H1) would equal ISO 12,800. H2 is possible on some models and would double the ISO again, in this example to ISO 25,600. Any time you expand the ISO you also increase the amount of noise in your images.

EOS-1D, 1Ds, and 5D models also have an option for an ISO 50-equivalent "L" setting. ISO 50 is useful for studio flash photography when you want to use a wider aperture. Note, however, that there will be approximately one less stop of dynamic range in the highlights at ISO 50, which is why this setting is normally locked-out. ISO 50 is also not available during video recording.

### Flash Sync Speed in Av Mode

**0: Auto** — In default Av mode all EOS SLRs set shutter speeds that blend ambient light with flash. Shutter speeds can range from 1/250 second (the maximum flash sync speed) in bright light to 30 seconds (the longest available shutter speed) in a dimly lit area. The result of slow-shutter sync is natural-looking backgrounds, but with an increased risk of image blur caused by camera or subject motion.

**1** — To reduce the risk of image blur the camera will choose only shutter speeds between 1/250 - 1/60 second when set to Av mode and a flash is connected.

**2** — To minimize risk of blurring, the camera will lock the shutter speed at 1/250 (or 1/200) second when set to Av mode and a flash is connected.

**Note:** High-speed sync and slow-shutter sync are not possible when this C.Fn is set to Option 1 or 2.

### Long-Exposure Noise Reduction

Noise can build-up in images taken at long shutter speeds. This C.Fn controls how the camera performs noise reduction during long exposures.

**0: Off** — This is the default option.

**1: Auto** — This will perform noise reduction on exposures over 1 second if the camera detects a high pixel-to-pixel variation in tones (i.e., noise). The "card busy" light will remain active for the same length of time as the original exposure. For example, a shutter speed of 10 minutes would require an additional 10 minutes for noise reduction—however, you will be able to continue shooting as long as the burst indicator in the viewfinder shows "1" or higher.

**2: On** — This will perform noise reduction on all exposures of 1 second or longer. Unlike Setting 1, however, you won't be able to continue shooting until the "card busy" light is off.

### High ISO Noise Reduction

This C.Fn sets how much noise reduction the camera performs on images shot at all ISO settings. The options are Standard (0), Low (1), Strong (2) and Disable (3). Although noise reduction is especially useful at high ISO speeds, it also helps minimize shadow noise at low ISO speeds. Because noise reduction smooths digital grain, it may also reduce fine detail. In general, the less fine detail present in an image, the higher the noise reduction setting can be.

### High ISO Noise Reduction (continued)

Also note that if you set Option 2, (Strong) the maximum burst rate will decrease because the camera has to carry out more complex calculations which in turn require more processing time.

### Highlight Tone Priority (HTP)

All cameras have a fixed dynamic range, from shadow to highlight, that they can capture. HTP shifts some of the available dynamic range from the mid-tones to the highlights to produce smoother tones, with more detail in bright areas. This helps prevent JPEG images with overexposed highlights that can't be recovered. HTP is also useful to RAW shooters who process their images with Canon's DPP software. Most third-party RAW processing software will **not** recognize Highlight Tone Priority.

When the camera is set to HTP, the lowest available ISO will be 200. The HTP setting will be indicated by a **D+** symbol in the LCD display. Avoid using HTP in low light or when shooting subjects with heavy shadows because it may cause more noise to appear in those areas.

### Auto Lighting Optimizer (ALO)

ALO performs in-camera processing to help preserve shadow detail in high-contrast scenes. It also adds a modest boost in contrast to low-contrast scenes. The amount of adjustment can be set to Off (0), Low (1), Standard (2) or Strong (3). ALO can be useful for JPEG shooters working on a deadline and who don't have time to manually adjust the contrast of each photo.

Recent EOS models apply ALO at the Standard level by default, even when set to Manual exposure mode. Users who desire full control over shadow and highlight values may therefore wish to turn ALO off.

### Mirror Lockup

MLU raises the mirror and locks it in the up position. This eliminates the possibility that vibration caused by mirror motion may affect the image. MLU requires two presses on the shutter release: the first to raise the mirror and the second to release the shutter.

MLU is best used with the camera mounted to a tripod and with shutter speeds from 1/60 – 1 second. Also use a remote release or the self-timer; otherwise, touching the camera will negate any advantage of mirror lockup.

Live View (if available on your camera) provides all the benefits of mirror lockup with the added advantages of accurate focusing on the rear LCD and exposure adjustment with a live histogram.

### Custom Controls (AF-ON button, Assign SET button, etc.)



Custom Controls allows you to change the functions assigned to the buttons and dials on your camera. For example, depending on your preference, you can assign AF actuation to either the Shutter Release Button or the AF-On Button (for cameras that have one) or the AE Lock Button on the back of the camera.

### Back-button AF

Enabling back-button AF will allow you to focus by pressing the AE Lock Button or AF-On Button on the back of your camera with your right thumb. It also allows you to separate autofocus from the shutter button. (You would still use the shutter button to wake-up the camera with a half-press and to fire the shutter with a full press downward.)

The advantages include:

1. The camera will stop autofocus as soon as you lift your thumb off the rear AF button. There is no need to hold the shutter button pressed half-way to hold focus.
2. Pressing the shutter button after recomposing will not change focus. With many Canon lenses you can also touch-up focus with the manual focus ring without concern that pressing the shutter button will override your focusing setting.

3. It's often easier to get consistently sharp pictures of small objects by pre-focusing, then moving the camera forward or back until you achieve sharp focus. The camera won't try to re-focus each time you press the shutter button.

### SET button operation during shooting

You can assign a specific function to the Set button during shooting. Because it's easy to press the Set button with your right thumb, assigning a function to this button allows you to conveniently access that function without having to use your left hand. The available functions include:

1. Off (default)
2. Image Quality
3. Picture Style
4. Menu Display
5. Image Playback
6. Quick Control Screen

### Camera User Settings

Camera User Settings allow you to save and recall any group of settings within seconds. Depending on the camera model, you can save up to three groups of settings. Once you have all the settings you want to save:

1. Press Menu, then select the 3rd Camera Set-up Menu (the Wrench with 3 dots).
2. Choose "Camera User Settings."
3. Select Register.
4. Choose the Mode Dial C# position you want to register your settings to (C1, C2, or C3), then press Set.
5. When prompted to save the settings for that position, select OK.

Once you've memorized a set of settings you can instantly recall them by turning the Mode Dial to the registered C# setting. As you shoot, you can change any particular setting away from what you registered; however, the camera will automatically return to the memorized settings if you turn it off or if it goes to sleep. To completely change a registered setting, set the camera as you need to (exposure mode, AF mode, etc.) and repeat the steps above using the C# you previously registered.