

**Canon**

***XLH1***

**PROGRAMMED  
AUTO EXPOSURE**

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## PROGRAMMED AE (PROGRAM AUTOMATIC EXPOSURE)

Program Auto Exposure (Program AE) is a term used to encompass several shooting modes that rely on the camera's sophisticated algorithms to analyze the light coming through the lens and deliver proper exposure, automatically, under a variety of lighting conditions. To call it point-and-shoot video is undervaluing its capabilities.

The XL H1 is designed to give control over the camera's set-up and operation. This runs the gamut from video format selection to SMPTE time code settings and white balance from gamma, knee, master pedestal, sharpness and coring, to noise reduction, color matrix and color phase, from audio levels to zebra stripe settings. And, of course, from aperture to shutter speed.

The XL H1 also provides a set of automatic exposure modes that are useful tools for everyday shooting situations, as well as a sophisticated answer to some problematic situations, including those times when the videographer simply doesn't have the time (such as in a breaking news environment) for a leisurely/lengthy set-up. These modes are: Tv, Av, Manual, Spotlight, Night, Easy Record, and Auto.

**Tv Mode:** Tv stands for Time Value, and is perhaps better known as shutter priority. In this mode, the XL H1 automatically sets the lens aperture for a proper exposure based on the shutter speed you have selected. The chosen shutter speed is displayed in the viewfinder. In 60i you have 13 shutter speeds to select from: 1/4, 1/8, 1/15, 1/30, 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/15000 second. In 24F, the shutter speeds under 1/60 change to 1/3, 1/6, 1/24, 1/48. If you have selected a shutter speed that is too low for the light conditions, a warning to use an ND filter will appear in the viewfinder.

**Av Mode:** Perhaps better known as aperture priority, the Av or Aperture Value mode selects the shutter speed necessary for proper exposure when you select the aperture. This mode is particularly useful when you want to control depth of field. The chosen aperture is displayed in the viewfinder. You have 20 apertures to select from when using the 20x HD lens, depending on zoom position: f/1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.2, 3.4, 3.7, 4.0, 4.4, 4.8, 5.2, 5.6, 6.2, 6.7, 7.3, 8.0, 8.7, and 9.5. If you select an aperture that is too large for the lighting conditions, a warning to use an ND filter will appear in the viewfinder.

**Manual Mode:** This mode provides control of both the shutter speed and aperture, giving you a viewfinder display of both selections, as well as a bar and pointer display of how the chosen combination handles the light levels as metered by the XL H1.

**Spotlight Mode:** Based on a scenario where the subject in the center of the frame is brightly lit, while the background is dark (such as a person giving a speech), Spotlight mode delivers proper exposure for the bright subject to prevent overexposure or blooming.

**Night Mode:** In Night mode, the XL H1 continues to record even when light levels fall. The camera selects lower shutter speeds to deliver proper exposure – down to 1/4 or 1/3 second, depending on video format. This can deliver moving subject afterimage and comet-tailing, lower picture quality and noise, and the autofocus system may not function properly.

**Easy Record (Green Mode):** This is the equivalent of a simple camera's point-and-shoot operation. When this mode is selected, the XL H1 automatically controls shutter and aperture, focus, gain, and white balance. This mode is great for when action is happening and you need to catch it.

**Auto Mode:** Auto mode is similar to the Easy Record mode, except while the camera selects shutter, aperture, focus, gain, and white balance, you have the option of manually changing the selections.

**AE Shift:** When in Auto, Tv or Av modes, you can engage AE Shift in the camera menu to make slight adjustments to the image brightness – to compensate, for example, for backlighting or for scenes that are being rendered slightly overexposed. There are 13 steps available, from -2 to +2, in 0.25 increments.

**AE Lock:** Engaging the AE Lock on the XL H1 holds the exposure at a particular setting, preventing unplanned exposure changes with a moving subject, for instance. Auto exposure lock can be engaged in Auto, Tv and Av modes.