Canon

XL H1
CUSTOM PRESETS

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With these two topside buttons, you can select and activate any of the 6 onboard custom presets, or you can turn off the presets altogether and revert to the camera's "out of the box" mode. The presets themselves allow you to customize every aspect of the image, from complex color manipulation to shadow detail, and are programmed or imported within the menu (on the CUSTOM PRESET page). This complete image control is one of the many reasons why the XL H1 is such a great creative tool.

Once you have programmed any or all of the 6 onboard presets, use the right-hand "Select" button to toggle through each of them, and use the left-hand "On/Off" button to activate or de-activate the one you've chosen. It's that simple. For more information on the presets and the specific creative options they present, please see the "CUSTOM PRESETS" section within the MENU.

"CUSTOM PRESET" WINDOW

This window gives you total image control, made even more effective when used with the "Vector and Wave Monitor" window. All of the image variables that you can manipulate within the camera (using the on-board "Custom Preset" menus) are recreated here, laid out in a user-friendly manner that is much more conducive to experimentation.

You should definitely have a well-calibrated studio monitor hooked up to the camera when adjusting any of these parameters, and should not make final decisions based solely upon the image in the Console's "Rec Viewer".

COLOR GAIN: Affects the saturation of the colors. A value of −9 will make the image monochromatic.

R GAIN, G GAIN, B GAIN: Separate controls adjust the individual saturations of the three primary color components of the video signal.

COLOR PHASE: Similar to the "hue" control on your television set; negative numbers shift the image toward green, positive numbers shift the image toward magenta.

SHARPNESS: Increases or decreases the overall sharpness. A little less sharpness might be a bit more flattering for your actors, or look a little more "film-like", or even help hide the presence of grain in a situation where you may have had to turn on the "Gain" function. A little more sharpness, on the other hand, may be required to make those spectacular nature shots leap off the screen.

DTL H/V BAL and H DTL FREQ: These controls can help adjust image noise that may occur if you have a lot of strong vertical or horizontal lines in the frame. (NOTE: "V DETAIL" is an option compatible only with the XL2 camera, and is that camera's equivalent of these two "detail" controls)

CORING: Can be helpful in dialing out image noise that may be present in densely detailed objects. Can specifically help reduce some of the "stairstepping" that can occur along diagonal lines.

SETUP LEVEL: Basically raises and lowers the Gamma Curve while maintaining the same "shape". You can see it take effect on the Waveform Monitor. A lower setup level can help the image look a little more "rich", as long as you're not in danger of crushing the shadow detail into the 0% line of the Waveform Monitor. Higher setup levels will bring more detail into the shadows, but may also "wash out" the image. Be careful not to shift the curve so far that you cannot deliver a product that is considered "broadcast safe" under NTSC guidelines.

MASTER PEDESTAL: Raises and lowers only the bottom portion of the Gamma Curve, thus changing the actual shape of the curve. Like the Setup Level, lowering the Master Pedestal can give a little more richness to the overall image, while raising it will allow more detail in the shadows. Unlike the Setup Level, manipulation of the Master Pedestal will not affect the brighter objects in the frame (the upper portion of the Gamma Curve).

This option is helpful when used (carefully) in tandem with the Setup Level. For example, you can adjust the shape of the Gamma Curve (and how much latitude your image is capturing) with the Master Pedestal, and then use the Setup Level to move that newly shaped curve "up or down".

COLOR MATRIX: Affects the overall "look" by altering how the camera is interpreting the relationship between colors. Select a traditional "video" look (in which the colors tend to "pop" a little more) or one of two "cinematic" settings (which tend to offer additional nuances within their color palettes).

GAMMA: Selects the shape of the Gamma Curve, which determines the luminance range of your image. Every film stock and every video format has its own unique Gamma Curve. Simply put, it's a graphic representation of how the capture medium will handle the light.

You can clearly see the differences between the three Gamma Curve options by watching the Waveform Monitor as you select them. The Wave Monitor's depiction of the Cinema Gamma Curves appears to be more "squashed" than the relatively "wider" representation of the Video Curve. This means that, with the Cinema curves, more picture information is actually being captured between the 0% black level and the 100% overexposure level. Thus, they offer wider latitude than the Video Curve, and will feature more information in the highlights and shadow areas. In practical terms, this makes the Cinema Curves appear "richer" and more film-like.

The "Cinema 2" curve was specifically designed with an eventual film output in mind. Its particular latitude should provide the most faithful translation to celluloid, though it makes for a "darker" image on video. In general, if your image is going to remain in the digital realm but you want the richer look of film, the "Cinema 1" curve is probably the best choice.

KNEE: Raises or lowers the top of the Gamma Curve (otherwise known as the "knee"), giving you either greater or less detail in the highlights. For example, the "low" setting will bring down the top "roll off" portion of the Gamma Curve, lowering those overexposed details that have IRE values just over 100% (on the Wave Monitor) back into range. The "high" setting may push more details over the 100% overexposure level.

BLACK: Raises or lowers the bottom portion of the Gamma Curve (otherwise known as the "toe"), giving you either greater or less detail in the shadow areas. For example, the "stretch" setting will bring up the lower "roll off" portion of the Gamma Curve, raising those underexposed details that have IRE values just under 7.5% (on the Wave Monitor) back into range. The "press" setting may push more details below the 7.5% underexposure level.

NOISE REDUCTION 1: This is a highly effective function of the XL H1's new generation of Digic DV II DSP, and is a much more useful tool than previous generations of noise reduction. It's a great way, for example, of eliminating the kind of noisy grain that occurs if you activate the camera's "Gain" controls. The "low" setting will dial out a good deal of graininess without adding any unwanted artifacts to the image. The "high" setting, however, should be used with care on moving images, because it can add a trailing after-image.

NOISE REDUCTION 2: This option was primarily designed to dial out the kind of noise you might find in "flat" colors or surfaces, such as a solid blue sky. It should be used in very specific circumstances, however, as it can tend to soften the whole image. Even the "high" setting of this option will not add a trailing after-image.

COLOR MATRICES (R-G, R-B, G-R, G-B, B-R, B-G): These controls allow you to fine-tune the color of your image on a level previously attainable only with high-end professional gear. With the convenient layout of these controls, along with Console's built-in scopes and a good studio monitor hooked up to the camera, it's fast and easy to experiment. You can very rapidly start to see what each color matrix is doing, and zero in on just the right look for your project.

IMPORT: Allows you to import a Custom Preset from the camera, a card, or your hard-drive.

EXPORT: Allows you to export the current Custom Preset on the Console screen. If you choose to send it to one of the camera's six on-board slots, it will ask you to name the Custom Preset you're saving, and then ask if you're sure you want to overwrite the existing preset on the camera. You can also save the preset onto a card or your hard-drive.

VARIATION: This option allows you to see side-by-side mini-previews of what the different Custom Preset controls can do. To accomplish this, the camera takes a series of freeze frames from your live camera image, and applies the different "looks" to those static images.
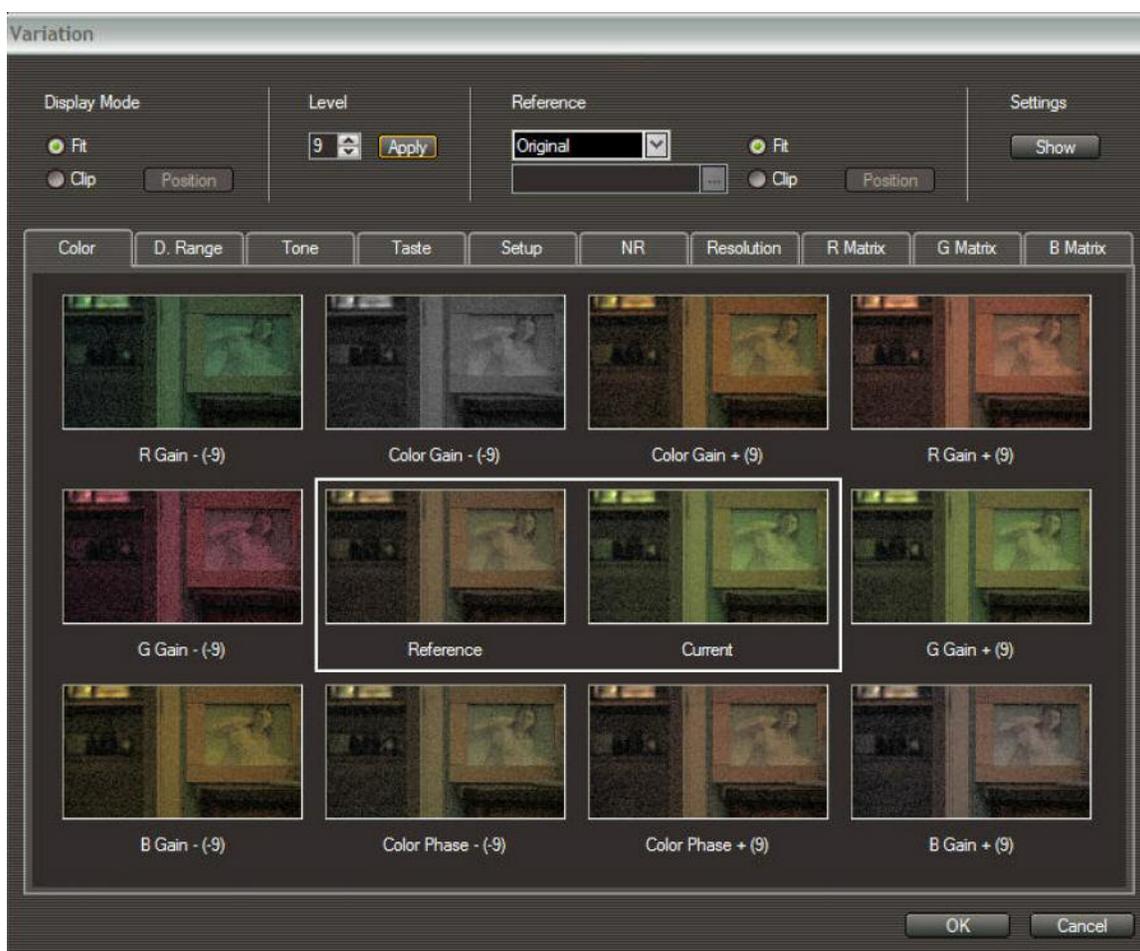
Here are the options offered in the "Variation" window:
1. DISPLAY MODE: "Fit" mode will display the entire image, while "clip" mode will zoom into a small portion of the image. In "clip" mode, you can hit the "position" button, and choose which zoomed-in area you wish to view.

2. LEVEL: This adjusts how much or how little of an effect the preview windows will apply to the tiny freeze-frames, for any of the Custom Preset controls that allow 9

levels of intensity. For example, if you want to see a preview of a radical color change, then you should set this "Level" number to 9. The preview windows will then display R Gain, B Gain, G Gain, etc. at both +9 and -9. (On these tiny preview windows, going "bold" like this is often the only way to see any difference at all.)

3. REFERENCE: Allows you to determine which image you're using as your "control" (or "reference") image. As you experiment with the different variations, this will be the image that does not change. The default reference image is whatever "freeze frame" your camera captured at the moment you turned on the "Variation" feature. You may also choose the "Image File" option, and call up a pre-existing still image from your hard-drive. Again, you can use the "fit" and "clip" features to display the whole frame, or zoom into a small portion.

4. SETTINGS: This button will display your current Custom Preset, and will highlight whichever specific settings you're working with at the moment.

5. TABS: COLOR, D. RANGE, TONE, TASTE, ETC... Select whichever category contains the parameters you want to preview. The headings are self-explanatory except for "taste", which brings up previews of the "Sharpness" and "Coring" options.

RESET: Simply resets the current Custom Preset to the default settings. Don't worry if you hit it by accident; it will ask you if you're sure you want to do it.