



XH G1

High Definition Camcorder

Item Code: 1629B001



Your Vision...in High Definition

The XH G1 is unmatched in this category of camcorder. With HD-SDI, Genlock and Time Code IN/OUT, all SMPTE compliant, as well as complete control over the image parameters, the XH G1 meets the demands of any professional use.

The excellence of the XH G1 begins with Canon Genuine Canon 20x HD zoom lens with Professional L Series Fluorite that is matched with 3CCDs, each of which is at 1440 x 1080 pixels. Super-Range Optical Image Stabilization corrects for a wide range of camera movement and vibration, and Instant AF (Auto Focus) ensures ultra-quick, accurate focus. The DIGIC DV II HD image processor then ensures improved color reproduction and noise reduction - for a final result that is the zenith of image quality.

If you need advanced image control, the XH G1 gives you features that let you make manual adjustments to fine-tune your video. If you prefer to concentrate on your subject and let your camcorder take care of exposure and image controls, the XH G1 lets you do that as well.

With a wide range of features and optional accessories, the XH G1 is a versatile, flexible and powerful performer that is sure to meet your uncompromising standards.



Features

The Image Quality of High Definition

The XH G1 captures true 1080 High Definition resolution video at 60i, 30F or 24F frame rates (or, 50i/60i with optional upgrade). It captures a true 16:9 widescreen HD image that's made for your broadcast and theatrical projects.



Genuine Canon HD Zoom Lens



The XH G1 comes with a Genuine Canon 20x HD zoom lens that shows why the name Canon is synonymous with optical excellence.

Canon reserves the L-Series designation for its highest quality photographic lenses. The Professional L Series Fluorite lens of the XH G1 ensures outstanding resolution, contrast and color reproduction, and delivers clarity and image quality you won't see with conventional optical glass lenses. And, because it's an ultra-low dispersion (UD) lens, chromatic aberration is reduced for brilliant results.



The XH G1's design gives you equally impressive operational performance. The design lets you operate the zoom using the lens barrel ring, the control on the camera's grip, or the control on the camera's handle. When using the zoom ring on the lens, you can control the speed of your zoom by varying the angle of the ring, or by varying the speed at which you rotate the ring. When using the grip control, you can zoom at 16 different speeds; or you can use the control to operate at a single zoom speed which you preset. When

using the handle zoom control, you can operate the zoom at a single speed which you preset. You can also select high-speed zoom to increase the zoom speed when using either the grip or handle control. And, because the lens is designed with a zoom ring, you can operate zoom, focus and aperture using a single hand.

This f1.6 - 3.5, 4.5 - 90mm lens gives you a wide view that -- at its widest -- is equivalent to a 32.5mm focal length lens on a 35mm camera. It also comes with 2 built-in ND filters, and can be enhanced with Canon's optional WD-72 wide converter (.75x) to meet all your needs.



3 CCD Performance



The XH G1 is equipped with three 1/3" Native 16:9 CCDs (1440 x 1080 each) -- the same image sensor that is at the heart of Canon's exceptional XL H1. They deliver outstanding picture quality, highly accurate color reproduction, and a wide dynamic range with virtually no color noise.

CCD Overview		
Moving images	SD (4:3) when selected	Approximate pixels 1,170,000 (1080 x 1080)
Moving images	SD (16:9) when selected	Approximate pixels 1,560,000 (1440 x 1080)
Moving images	HD when selected	Approximate pixels 1,560,000 (1440 x 1080)
Still images	SD (4:3) when selected	Approximate pixels 1,170,000 (1080 x 1080)
Still images	SD (16:9) when selected	Approximate pixels 1,560,000 (1440 x 1080)

Super-Range Optical Image Stabilizer

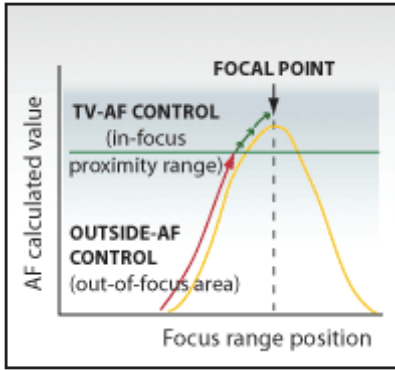


The XH G1 also comes with Canon's innovative Super-Range Optical Image Stabilizer (OIS), which combines gyro- and image-sensors to give image stabilization through a wider range of camera motions. Some image stabilization systems correct one type of camera motion or vibration better than another. But Canon's Super-Range OIS corrects for a wide range of camcorder motion: the fast vibration you'd experience while recording from a moving car; the medium-speed motion of hand-held recording; and the slower motion of body sway. No matter what you're recording and how you're recording it, the XH G1's stabilization design corrects camcorder shake instantly.

In addition, optical stabilization keeps your shot steady without a loss in image quality -- something that can't be said for electronic image stabilization.



Instant AF



With HD, focus is more critical than ever. It demands Instant AF: the next generation of auto focus, designed with HD resolution in mind. Because HD resolution is higher, focusing time is longer -- it's harder to find perfect focus. Canon's Instant AF combines an external AF sensor with Canon's legendary auto focus system for fast and accurate focus. Together, the two sensors reduce focusing time -- even in low-light, low contrast, or high brightness situations -- and improve focusing performance on difficult subjects.

The XH G1 gives you a choice of 3 AF modes for different shooting applications:

- Natural AF changes focus at a speed that appears natural and doesn't distract the viewer
- Super Quick AF changes focus as rapidly as possible and is designed for applications in which quick focus is more important than other considerations -- for example, in new gathering or documentary work
- Stable AF ensures smooth, stable focusing when speed isn't the highest priority



DIGIC DV II HD Image Processor

DIGIC DV II is the next generation of Canon's exclusive DIGIC DV signal processing technology. DIGIC DV II processes the HD signal at 1440 x 1080 with 4:2:2 color sampling. Designed specifically for processing the immense volume of information in 1080 HD signals, DIGIC DV II ensures optimal image quality for HD video.



DIGIC DVII

Tonal reproducibility has been increased for high image quality. Color reproducibility has also been enhanced for improved color image quality -- especially in skin tones, and dark and light scenes. The DIGIC DV II processor also employs a new, hybrid noise reduction system that integrates two types of noise reduction. This, along with a new gamma system reduces noise in monotone and shadow areas especially, for high definition images that are crystal clear.

Complete Customization

Image, display and the functionality of the camera can be customized to suit your preference or application. This customization ensures that your XH G1 fits your creative, production and personal needs and preferences exactly. Settings can be saved to memory for easy retrieval or downloaded into other XH G1 and XH A1 cameras via an SD memory card or Canon's CONSOLE version 1.1.

Image Control

A variety of image control functions give you as much or as little exposure control as you want, and let you fine-tune your exposures for outstanding video. You get Total Image Control, Exposure Lock for re-composing your shot after setting your exposure, AE shift (+/- 2 levels), Gain Setting, 2 Custom Keys, as well as:

- **7 Program AE Modes**

A variety of AE modes allow you to take as much or as little control of exposure as you need. Auto and Full Auto modes let you concentrate on your subject and the composition of your shot rather than exposure, or make it easy maintain exposure during shots with lighting conditions that change. Manual lets you control every aspect of your exposure manually. With Tv priority, you select the shutter to match your subject; for example, you might select a shorter shutter speed for a fast moving subject. With Av priority, you select your aperture; for example, you might want more control over your depth of field. Spotlight gives you the optimal exposure for a brightly light subject against a darker background. Night mode automatically adjusts exposure parameters to give you the best image possible of video recorded at night.



- **9 Custom Presets**

With the XH G1, you can make set a variety of image quality adjustments and store them for later use or for exporting to other camcorders. The adjustments include: hue, color gain, sharpness, setup level, color matrix (Normal/CINE1/CINE2), gamma (Normal/CINE1/CINE2), auto knee/knee, black (normal/stretch/press), G gain, B gain, R gain, NR1, NR2, coring, master pedestal, horizontal frequency adjustment, H/V balance, and matrix settings (R-G/R-B/G-R/G-B/B-R/G-B).

Custom Functions

With the XH G1's Custom Functions capability, you can establish the camera settings best suited to your preference. Three custom functions (C.Fn1, C.Fn2 and C.Fn3) are provided. Each custom function allows a total of 21 main items to be selected. All three custom functions can be recorded on a memory card, and can then be downloaded to another camcorder. Items include: Shockless WB/GAIN, AE Response, High-speed Zoom Setting, Focus Ring Response Characteristics, Ring/Dial Operation Direction Settings, Subject Distance Unit Setting, Color Bar Display, Remote Control Codes, and Tally Lamp Settings.

Custom Display



The Custom Display function lets you set 22 display items to create a custom menu to suit your specific needs. Once set, the functions can be recorded on a memory card, and can then be downloaded to another XH G1 or XH A1 camcorder. Items that can be selected include: Record Programs, Camera Data 1, Camera Data 2, Zoom, Focus, Neutral Density, Image Effects, Focus Assist Function, Customize, Recording STD, DV Record Mode, Frame Rate, Tape, Tape remainder, Tape/Card, Light Metering, Card, Card Remainder, Audio, Condensation, Battery, and Wireless Remote.

60i / 50i Video Mode Option

With the XH G1's versatile open-architecture approach, you can even customize your HD camcorder to record in both 60i and 50i. (This optional upgrade must be performed by a Canon Service Center.)

HD-SDI/SD-SDI Out, Genlock, Time Code

The XH G1 gives capabilities required by ENG, TV and commercial production professionals. Whether it's a multi-camera broadcast situation, a feature film, or a run-and-gun documentary, this camera delivers all the options needed to integrate seamlessly with existing workflows.

BNC connectors provide HD-SDI (SMPTE 292M) and SD-SDI (SMPTE 259M) uncompressed 1.485 gigabit/second output with 4:2:2 color sampling — with embedded Time Code and audio; Genlock input for multi-camera synchronization in live-switched environments; and dedicated Time Code input and output terminals for post-production requirements. The camera also generates industry-standard color bars and audio reference tone for setup in professional broadcast and post-production environments. These signals are all SMPTE compliant.



Additional Features

- **2.8" Widescreen LCD and .57" Widescreen EVF** provide you with bright, high-resolution views. The LCD gives approximately 207,000 pixels and the EVF, 269,000. The LCD and EVF can be used at the same time, giving both camera person and director a view of the action. The VF stows in the camcorder body when not in use, and can also point forward for self-portrait work.
- **Still Image Shooting** capabilities turn your XH G1 into a valuable production tool for storyboarding, continuity and publicity shots, and other applications. You get single image shooting, continuous shooting, high-speed continuous shooting, histogram display, AEB, image quality selection, print order, protect, slide show, and index display. And, digital still images can be recorded in either digital color space or video color space. Image sizes are 1920 x 1080, 848 x 480, 1440 x 1080, and 640 x 480. Still image shooting records images to a MultiMedia Card or SD Memory Card. Metering modes include center-weighted average metering, evaluative metering, and spot metering.



MultiMediaCard



Simultaneous Still Image Shooting lets you capture still images to memory card while you record video to tape. It also lets you capture still images to card from HDV footage for news applications or for creating storyboards.

- **Support for 9 languages** including: German, Spanish, French, Italian, Polish, Russian, English, Chinese (simplified), and Japanese.
- **Analog-Digital Converter** lets you use your XH G1 to convert the analog signal from your TV, VCR or analog camcorder to digital. Or use your XH G1 as a signal converter by connecting it between an analog device and another digital device.
- **Level Shot and Grid Marker** features make it easy to keep your camera level or compose your shot with precision. Simply press the Level Shot Control button, and a horizontal marker appears in your viewfinder. Line up any horizontal lines in your shot -- such as the horizon -- to the marker and you can be sure your camcorder is level. The Grid Marker feature lets you compose your shot accurately in relation to a precise grid.



- **Canon CONSOLE Image Control & Storage Software Version 1.1** is an XH G1 accessory that lets you control key functions of the Canon XH G1 camcorder remotely through a PC, delivering camera set up and image adjustment capabilities wherever you are working. Commands and responses are exchanged through a single IEEE1394 cable.

- Backwards compatible with the feature set of the XH G1 camcorder
- Control all aspects of color and exposure settings
- Measure and adjust video and phase parameters precisely with wave form and vector display
- Control zoom, focus, white balance preset shift, shooting mode & frame rate, color correction, skin detail, sky detail, custom presets
- Split screen views of record and playback control panels let you view video as it's recorded to the hard drive and simultaneously adjust camera settings for the next shot



- **Built-in XLR terminals (2)** supply phantom power (+48 dB) and can be switched between LINE and MIC.
- **External Microphone Holder** lets you attach an external microphone to your XH G1.
- **Internal Battery Compartment**
- **Flash Accessory Shoe** can accept a Canon EX Speedlite flash unit for still photography.
- **Letterbox Display** during playback allow easy viewing of HD footage on any monitor, even a 4:3 monitor.
- **1 Year Parts and Labor Limited Warranty**



Specifications

Digital Video

Power Supply (rated)	CA-920
Image Sensor	3 - 1/3" Native 16:9 CCDs (1440 x 1080)
Total Pixels	Approx. 1.67 Megapixels
	Tape Recording
	HD: 1440 x 1080; Approx. 1.56 Megapixels
	SD (4:3): 1080 x 1080; Approx. 1.17 Megapixels
	SD (16:9): 1440 x 1080; Approx. 1.56 Megapixels
Maximum Recording Time (with an 80-min. cassette)	SP: 80 min
Lens	Zoom Ratio: 20x Optical Focal Length: 4.5mm - 90mm (32.5mm - 650mm; 35mm photo equivalent) Zoom Speed: 16 Zoom Speeds, plus High Speed and variable Max. F/Stop: f/1.6 -- 35mm Filter Size: 72mm
White Balance	Outdoor, Indoor, Manual, Set (2x), Color Temperature (in degrees Kelvin)
Image Stabilization	Super-Range Optical
AF System	3 Mode Instant Auto Focus (external sensor plus TTL)
Viewfinder	Widescreen .57" Color Viewfinder (Approx 269,000 pixels)
LCD Screen	2.8" Widescreen LCD (Approx. 207,000 pixels)
Recording Media	MiniDV Cassette
DV Terminal	IEEE 1394
Video Terminal	LANC terminal, BNC Video, Component Video, and Composite Video
Audio	2-channel recording/MPEG1 Audio Layer II
	DV
	16 bit (48 kHz)
	12 bit (32 kHz)
	4ch synchronous recording not possible
	HDV
	2-channel recording/MPEG1 Audio Layer II
Microphone Terminal	2 XLR (line/mic level) inputs with phantom power (+48v) Mic terminal (3.5mm)
Dimensions	Approx 6.4 x 7.4 x 13.8 in (163 x 189 x 350 mm) - not including grip belt Approx. 6.4 x 7.4 x 12.4 in (140 x 189 x 314 mm) - not including the lens hood and grip belt
Weight (not including lens and battery pack)	4.6 lb (2100g)
Weight (fully loaded)	5.2 lb (2300g)

Supplies & Accessories



Battery Pack (BP-950G)

Battery Pack (BP-970G)



Canon DigitalMaster HDVM-E63PR Mini DV Tape
For Professional Use

Canon HDV tape is the highest quality recording media for HDV camcorders. This is also the recommended media for Canon's HDV camcorder, the XH G1. (63min tape duration)



CB-920 Car Battery Adapter



Hard Case HC-4200

This lockable, reinforced case holds the XH G1 / XH A1 with lens hood and battery pack attached. There is also additional space in the case for additional battery packs, MiniDV cassettes, the WD-37 Wide-Converter and other accessories. The case is also certified for overhead airline bins.



Wide Converter WD-72

Mounts on the front of the XH G1 / XH A1 lens to give you a 0.75x wider angle view, useful when shooting in a confined area or scenic shots.

Canon RC-72 0.8x Wide Angle Adapter for Ratio Conversion



Tripod Adapter TA-100

TA-100 Tripod Adapter allows you to quickly mount/dismount the XH G1 on or from a tripod.

CH-910 Dual Battery Charger/Holder



The CH-910 holds two battery packs and can charge them one after the other. Once the batteries are charged, the CH-910, with batteries in place, can be clipped to your belt and then connected directly to a Canon Digital Camcorder. This will give you twice the recording time of just one battery. It can be used with any combination of Canon BP-900 series Lithium-Ion batteries.

Video Light VL-10Li II



A small, light and powerful video light for indoor and outdoor use. Rated at 10 watts, it accepts a Lithium-Ion battery pack for power and attaches to the XH G1 / XH A1's accessory shoe.

CONSOLE Image Control & Storage Software v1.1

Software



In keeping with Canon's Open Architecture approach, CONSOLE Image Control & Storage Software v1.1 delivers flexibility and versatility. It makes the XL H1, XH G1 and XH A1 HD camcorders even more powerful tools for the professional videographer.

CA-920 Compact Power Adapter



This is the standard charger and power source. It will charge one battery at a time.

DC-Coupler DC-920



Combines with the CA-920 or CB-920

4-pin to 4-pin IEEE 1394 cable



Allows the connection of a digital video camcorder to a computer or another digital video camcorder.

VL-10Li Video Light



The VL-10Li is a 10-watt video light for both indoor and outdoor use. It accepts a Lithium-Ion battery pack for power and is attached to the camera's accessory shoe.

CA-910 Compact Power Adapter

This is the standard charger and power source. It will charge one battery at a time.



CB-910 Car Battery Adapter

The CB-910 powers the camera or charges the battery by plugging into a car's cigarette lighter socket.



BP-930 Lithium Ion Battery Pack

Record for up to 90 minutes with the compact BP-930. The BP-930, an optional power pack, will deliver up to 135 minutes of power when using the viewfinder only or up to 130 minutes when using the LCD screen.



BP-945 Lithium-Ion Battery Pack

An optional accessory for the XH G1, the BP-945 can deliver over three-and-a-half hours of recording time using the viewfinder only or up to 225 minutes when the LCD screen is used.



STV-250N Mini Plug to RCA

Used to connect to a TV or VCR.



Roller Case

This roller case allows for easy transportation and protection for your digital video camcorder.



Kata Backpack

Backpack



DVM-E60 Digital Videocassette

This tape allows the recording of 60-minutes of video in SP mode and 90-minutes in LP mode.



DVM-CL Digital Video Head Cleaning Cassette

This is used to clean the video head for a digital video camcorder.

DVM-E80 Digital Videocassette

This tape allows the recording of 80-minutes of video in SP mode and 120-minutes in LP mode.



Zoom Remote Control ZR-1000

Controls Start/Stop, Focus, On-Screen, Record Search (+/-)

**Can't find the part or accessory you're looking for? Customer Support can help.
Call 1-800-828-4040 for assistance.**

What's in the Box

XH G1 Kit Contents:

1. XH G1 High Definition Camcorder
2. DC Coupler (DC-920)
3. Component Video Cable (DTC-1000)
4. Stereo Video Cable (STV-250N)
5. Wireless Controller (WL-D5000)
6. Shoulder Strap (SS-1000)
7. Battery Pack (BP-950G)
8. 16MB SD Card (SD-16M)
9. HDV Tape (HDVM-E63PR)
10. CA-920 Battery Charger

