Create Your Vision

GL2
3CCD DIGITAL VIDEO CAMCORDER

www.canondv.com
Achieve Super High Resolution in Video and Still Image Recording

3CCD

The GL2 maximizes the capability of the DV format by using a 3 CCD system assigning a separate CCD to each primary color (red, green, blue). A beam-splitting prism precisely separates the light passing through the lens into individual color components, and each is sent to its own CCD. This process achieves outstanding detail with highly accurate color reproduction suitable for the demands of the high-end production field - wide dynamic range, low color noise, natural color resolution and low aliasing.

Pixel Shift

Canon solves common shooting dilemmas by using a signal processing technique called Pixel Shift, which has been used in professional grade video cameras for many years. It achieves wider dynamic range, reduced vertical smearing and sharper digital still images.

The green component of a video signal contains 60% of the picture detail, and the red and blue components comprise only 40%. The green CCD in the GL2 is shifted vertically and horizontally the equivalent distance of 1/2 pixel from the red and blue CCD. The green signal is then sampled more frequently to extract the maximum picture detail from the video signal. This allows the GL2 to achieve resolution equal to camcorders with nearly twice as many pixels in video recording.

Professional L-Series Fluorite Lens

Canon has satisfied the demands of experienced image makers for years through the power, design and quality of 35mm and broadcast TV lenses. Our Professional L-Series lenses utilize Fluorite, a material which provides outstanding resolution, contrast and color reproduction, especially in lightweight, high-magnification lenses. Now incorporated into the lens on the GL2, Fluorite delivers the ultimate clarity and image quality. The Fluorite element inside of the lens defeats color aberration - the effect when components of light stray from one another within a lens, causing a reduction in sharpness, contrast and color. Our Fluorite lens precisely controls components of light providing an excellent balance of these three critical ingredients of picture quality. This is unobtainable with conventional optical glass.

Optical Image Stabilizer

Canon’s superb optical stabilization system corrects camera shake instantly so even hand-held shots, at full telephoto, and shots taken from a moving car, are smooth and steady. And since it is optical, there is no loss of image quality inevitable with electronic image stabilizers. It perfectly complements the high picture quality of the DV format.

20x Zoom Lens with 100x Digital Zoom

The GL2 incorporates a 20x Professional L-Series Fluorite optical zoom lens which transforms distant subjects into dramatic close-ups. The 20x optical zoom is the 35mm focal length equivalent of 39.5 to 790mm. The digital zoom, capable of extending to 40x and a maximum of 100x, provides sharper detail compared to others thanks to Canon’s superior lens quality. You’ll reveal details too distant to be seen with just the eye alone. At full telephoto the 35mm focal length equivalent is an amazing 79,000mm. Add the optional WD-58H Wide-converter to increase the field of view by 0.7x for indoor shots or panoramic views.
16:9 Aspect Ratio
The GL2 is equipped with two 16:9 aspect ratio methods.

16:9 Guides
The 16:9 guides are thin white lines, which appear in the display only. They let you view a 16:9 wide screen composition while in the standard 4:3 aspect ratio, which is especially helpful if you're planning to transfer your DV footage to film.

16:9 Recording Mode
The GL2 includes a 16:9 recording mode, which applies an electronic anamorphic stretch allowing you to fill the frame of a 16:9 wide screen TV.

3 Shooting Modes
The GL2 has three shooting modes to accommodate any of your recording needs.

Normal Movie Mode
By merging Canon's superior lens quality with 3 CCDs, the GL2 delivers stunning resolution and color reproduction - some of the best images outside of a TV studio. This mode records video in the standard interlaced fashion similar to conventional camcorders. Normal Movie Mode is ideal for recording video which appears smooth and natural during playback on a TV or video editing computer.

Digital Photo Mode
(1.7 Megapixel High Resolution Photos)
The GL2 features newly developed image processing, for capturing crisp, high-definition photos. Images may be captured in a choice of different image qualities and compression sizes to suit your needs. Capture up to 10 stunning 1.7 megapixel (1488 X 1128 pixel) images onto the included 8MB SD Memory Card. Images may be also captured at VGA (640 X 480 pixel) in standard or fine compression. For added flexibility, you may take up to 700 still pictures on a Mini DV single tape (in SP mode). The camera records the still pictures for approximately 6 seconds, as well as recording the sound for your verbal notes or narration. You can search through the recorded tape for your photos using the supplied remote control.

Frame Movie Mode
This mode captures video in a unique non-interlaced method allowing the GL2 to record 30 frames of video per second. Similar to a motor drive on a 35mm camera, Frame Movie Mode performs like a Digital Motor Drive. You'll capture every gesture and expression of your subject with spectacular clarity. It's perfect for users who choose to grab high quality still images from video for making prints, video for website content, or even sending emotionally charged images over the internet. The non-interlaced method has even been acknowledged by users for its cinematic-like appearance.
DV format
Whether your need is broadcast production or simply the very best picture quality, the Mini DV format delivers more than 540 lines of horizontal resolution – nearly a 25% improvement in picture quality over the best analog formats. The tape formulation is advanced to last longer and even withstand repeated use without failure, virtually eliminating drop out, delivering higher output and less noise.

IEEE1394 DV Terminal
The GL2 is equipped with a DV IN/OUT terminal that conforms to IEEE1394. It takes just a single digital cable to transfer or copy your videos in pure digital form to your DV compatible computer or another Canon DV camcorder. Once you’ve transferred video images to your computer, you can edit your movies, stream them over the Internet, or post them on your Web site. Also, you can print them out on a Canon color printer, transfer them back to your Canon camcorder and archive them on a Mini DV cassette, or create a dubbing master.

USB Terminal*
Allows high speed transfer of memory card data to computers mounting the USB terminal. By using the USB cable and software provided, you can process and organize still images on your PC. The camcorder functions as a memory card reader/writer. Bundled software: ZoomBrowser EX (Windows) / ImageBrowser (Macintosh). You can easily download, browse, archive and retouch still images. Automatically resize images and attach them to e-mail, arrange them for printing, and add text anywhere on the page.

SD Memory Card and MultiMediaCard*
The GL2 expand video possibilities by using an SD (Secure Digital) Memory Card or a MultiMediaCard in addition to a Mini DV cassette. These ultra-small and ultra-light media record, store and manage still images, as well as allow easy transfer of still images to a PC with the camcorder. You can add a title made by yourself on the currently recording image on the cassette.

*An 8MB SD Memory Card is supplied with the camcorder.

Gain Control
As well as automatic gain, the GL2 has settings for: 0dB, +6dB, +12dB, +18dB* for creative control in any shooting condition.

*card camera mode: 0dB, +6dB, +12dB
White Balance
White Balance can be set for Automatic, preset Indoors, preset Outdoors for any lighting condition.

AE Shift/AE Lock
By adjusting the AE Shift Control you can lighten or darken the image to precisely control the exposure level of the Program AE modes. In difficult lighting conditions, AE Lock allows you to lock exposure at the current level to control the brightness of the image.

Programmed AE
Puts advanced recording techniques at your fingertips to ensure great results in various shooting conditions. There are six programs in all, giving you the balanced control that you have come to expect from Canon.

Full Auto
Also called the “Green Zone”. This is the ideal selection for general shooting.

Auto mode
Similar to Full Auto, Auto handles all camera settings automatically, but also allows the user to select manual functions (focus, exposure, white balance, for example).

Manual Mode
If you want to make all the decisions, this is the mode to use. Select your own combination of shutter speed, aperture and gain.

Spotlight
Designed to be used when subjects are illuminated by intense light sources, such as under spotlights on a dark stage. This mode is designed to prevent the subject from being grossly over-exposed, against a dark background.

Sand & Snow
This program is designed to prevent a dark, under-exposed subject when shooting in places with bright backgrounds, such as a sunny beach or ski resort.

Shutter-priority/Aperture-priority (Tv/Av)
The Tv and Av modes permit easy operation while retaining the creative image controls commonly found on Canon’s 35mm SLR cameras. In the Tv mode, select a shutter speed from 1/8 to 1/15,000* of a second and the GL2 will automatically set a matching aperture. In the AV mode, select an aperture from f/1.6 to f/8** and the GL2 automatically sets a matching shutter speed.

* card camera mode: 1/60 to 1/500 of a second
** card camera mode: 1/2 to 1/8

Slow Shutter (Camera Mode)
Whether your aim is a “streaming” background when panning, or brighter recording in low light, you can choose from three slow shutter settings: 1/30, 1/15 and 1/8 of a second.

Picture Adjustment
Create a custom picture preset, and store it quick, creative control.

Color Gain
Adjust the saturation of the color between off to oversaturated. This adjustment allows you to shoot in black and white.

Color Phase
Adjust the Color Phase toward red or green for exact control.

Camera Sharpness
Adjust the range of picture sharpness to your preference before recording. Softer may compliment the subject while sharper will make details more visible.

Setup Level
Adjust the black level of the video signal for the best shadow detail.
PCM Digital Stereo Sound
The GL2 is complete with selectable audio modes; 16 bit and 12 bit. 16 bit, the highest quality, produces CD quality, two channel sound on one track. The 12 bit mode divides the audio track into two, recording two channels on one track while leaving the remaining track open for post production audio recording.

Direction Accurate Microphone
This microphone incorporates two pairs of pick-up elements each for left and right. This arrangement realizes a superior directional ability and fuller, richer stereo sound. Also, you can change the microphone frequency characteristics to match the recording condition (normal, voice, windscreen).

Manual Audio Control
For complete control, the GL2 offers 2 channel manual audio adjustment. The audio level can be monitored by an external illuminated VU meter or in the viewfinder/LCD view screen.

XLR Audio Inputs
The optional MA-300 Microphone Adapter is equipped with 2 XLR connectors for use with professional audio equipment and a BNC video connector.

Clear Scan
The GL2 can be adjusted to match the frequency of a CRT monitor, allowing you to record it without rolling black bars.

SMPTE Color Bars
The GL2 generates SMPTE color bars for accurate matching to your monitor or edit suite.

Zebra Pattern
Reveal areas of overexposure, using these diagonal stripes to guide you when setting the aperture and shutter speed. Select from five levels: 80, 85, 90, 95, and 100 %.

Interval Timer
With the interval timer, you can record for a selected time with selected interval. This function is convenient for nature observation such as flowers, sunsets, etc. You can select the interval time from 30 sec, 1 min, 5 min and 10 min, and the recording time from 0.5 sec, 1 sec, 1.5 sec and 2 sec.

SLR-Style Flash Photography
Attach a Canon Speedlite E-TTL flash (420EX or 550EX) to use the GL2 for flash photography, just like you would with an SLR camera. The camera sets the flash duration, sending out a pre-exposure flash to ensure correct exposure before the main flash is sent out.

Advanced Accessory Shoe
Simply slide on an accessory, and the shoe transmits power directly from the GL2. Choose to attach Canon’s DM-50 Directional Stereo Microphone*, the stereo shotgun mic with high sensitivity and super-directional pick up. Or, attach the VL-3 Video Light*, which can either stay on continuously or turn on/off automatically in response to changes in the brightness of the shooting situation.

*Optional

Zero Pattern
Reveal areas of overexposure, using these diagonal stripes to guide you when setting the aperture and shutter speed. Select from five levels: 80, 85, 90, 95, and 100 %.

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*Optional
**Analog Line-In**
For instant editing, simply connect your TV, VCR, or analog camcorder to the GL2 and send the analog signal directly to your computer’s IEEE1394 terminal*, without recording to tape. If you choose, you may first record the analog signal to DV tape, allowing you to create a high-quality master of your original.

* The Analog-Digital Converter may not function depending on the software used.

**VCR Stop**
You can turn the recorder section off leaving the camera section turned on, so you can adjust the camera section without worrying about the Automatic shut-off (5-minute timer).

**Custom Key**
You can assign frequently used functions to the key (camera mode, Play(VCR) mode card camera mode and card play mode independently) to customize the camera to your shooting preferences or environment. You can assign the following functions to the Custom Key.

**Camera mode**
- Index Write
- Zebra pattern
- VCR stop
- TV screen
- Mic
- Mic ATT
- Zoom grip speed
- Zoom handle speed
- Audio level meter
- AE shift
- Image stabilizer

**Play(VCR) mode**
- TV screen
- Mic
- Mic ATT
- Audio ATT
- Audio level meter

**Card camera mode**
- Zebra pattern
- TV screen
- Zoom grip speed
- Zoom handle speed
- AE shift
- Image stabilizer

**Card play(VCR) mode**
- TV screen

**LANC**
The LANC terminal permits easy connection of compatible controllers or the Canon ZR-1000 Remote Control.

**Digital Effects**
The GL2 includes a selection of digital effects for a more appealing look and greater imaging variety.

**Fader**
Use the fader to start or end scenes with a fade to or from black such as the Fade Trigger, Wipe and Overlap.

**Zoom Speeds**
The GL2 is outfitted with 4 zoom speed options: Variable (pressure controlled) or Low, Medium and Fast. These apply to the zoom rockers on the handgrip and the top grip (3 zoom speeds).

**Data Code**
Data code, which is recorded separately from the video signal, lets you display or hide data such as date, time, exposure etc. as required. This data can also be permanently “burned in” over the video for verification or surveillance purposes.

**Top Grip With Recording Controls**
In addition to the normal side grip, the GL2 features a carrying handle complete with a duplicate set of recording and zoom controls to better meet your individual recording style, as well as being ideal for low-angle recording.

**Time Code**
This precisely identifies each recording down to the individual frame, showing the hour, minute, second and frame in the display. The GL2 uses a “drop-frame” system that is frame accurate.

**Index Recording**
You can mark “the best take” when you are shooting, for easy access when playing back in the VCR mode.

**Photo Search/Date Search/Index Search**
The wireless controller included with the GL2 allows you to quickly locate still photos on a recorded cassette. Video can be searched based on the date recorded or by the index mark.

**AV Insert and Audio Dubbing**
Add a new scene into your video from another source such as a camcorder or VCR. (Your video must be recorded in SP mode.) You can also add a new stereo audio track onto your video such as a voice over or background music. (Your audio must be recorded in the 12 bit mode.)

**Effects**
Give variety to your images during recording by adding Black and White, Sepia, Strobe motion or Trail.
**GL2 Nomenclature**

1. Stereo microphone
2. Audio LCD panel
3. D.E. (digital effects) ON/OFF button
4. EXPOSURE dial
5. ND FILTER button
6. WHITE BALANCE SELECT button
7. WHITE BALANCE set button
8. CSTM KEY button
9. CSTM PRESET button
10. START/STOP button
11. Advanced accessory shoe
12. Strap attachment bar
13. DISPLAY/DATA CODE button
14. PHOTO button
15. OPEN/EJECT button
16. Speaker
17. Remote sensor
18. Battery release button
19. LCD panel open button
20. Manual AUDIO LEVEL L dial
21. Battery release button
22. Manual AUDIO LEVEL R dial
23. Program selector switch
24. AUDIO REC LEVEL switch
25. D.E. (digital effects) SELECT button
26. Memory card slot
27. Audio LCD panel
28. Tally lamp
29. Remote sensor
30. Strap attachment bar
31. OPEN/EJECT button
32. + REC SEARCH button
33. Display/data code button
34. Record review button
35. REC SEARCH button
36. PHOTO button
37. POWER switch
38. Zoom control
39. Strap attachment bar
40. Zoom control
41. Power indicator
42. Remote sensor

*System requirements for software:

- Interface: USB; only preinstalled Windows 98/Windows Me/Windows 2000/Windows XP systems with built-in USB ports, or only systems equipped with genuine Apple-brand built-in USB interfaces.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>CPU</th>
<th>RAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows [150MHz or better]</td>
<td>32MB or more</td>
<td></td>
</tr>
<tr>
<td>Windows Me/Windows 2000/Windows XP [300MHz or better]</td>
<td>64MB or more</td>
<td></td>
</tr>
<tr>
<td>Macintosh 8.6–9.2/10.1</td>
<td>PowerPC</td>
<td></td>
</tr>
</tbody>
</table>

- Free hard disk space:

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Free hard disk space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows ZoomBrowser EX</td>
<td>120MB or more</td>
</tr>
<tr>
<td>PhotoStitch</td>
<td>40MB or more</td>
</tr>
<tr>
<td>Macintosh ImageBrowser</td>
<td>20MB or more</td>
</tr>
<tr>
<td>PhotoStitch</td>
<td>30MB or more</td>
</tr>
</tbody>
</table>
Power Sources

Lithium Ion Battery Packs
A variety of one, two, and three-level battery packs are available.

<table>
<thead>
<tr>
<th>Battery pack</th>
<th>Maximum recording time using viewfinder</th>
<th>Maximum recording time using LCD screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP-915 (supplied)</td>
<td>2 hr.</td>
<td>3 hr., 55 min.</td>
</tr>
<tr>
<td>BP-915 (optional)</td>
<td>8 hr.</td>
<td>9 hr., 30 min.</td>
</tr>
<tr>
<td>BP-915 (optional)</td>
<td>7 hr.</td>
<td>8 hr., 50 min.</td>
</tr>
</tbody>
</table>

When you attach two battery packs to the CH-910 Dual Battery Charger/Holder, the maximum-recording time will be almost doubled.

CH-910 Dual Battery Charger/Holder
Holds two battery packs. Can charge them consecutively and connect directly to GL2 to give twice the playback time.

CB-920 Car Battery Adapter
To charge lithium batteries or power the camera from a car cigarette lighter socket. (Available soon)

Creative Shooting Accessories

VD-58H Wide-converter
Gives wide-angle coverage at 0.7X (Lens hood included)

ZR-1000 Zoom Remote Controller
Plugs into the camcorder’s LANC terminal and allows you to control functions such as record start/stop, zoom and focus while the camcorder is mounted on a tripod, without touching the camcorder body itself.

Advanced Accessory Shoe

DM-50 Directional Stereo Microphone
Attaches to the shoe for cable-free operation. Picks up shotgun or shotgun + surrounding sound. Powered by the camcorder’s power source. Wind shields included.

MA-300 Microphone Adapter
The MA-300 allows attachment of 2 audio inputs with XLR connections and the addition of a BNC video connector.

MA-300 Microphone Adapter

VL-3 Video Light
This 3W light attaches to the shoe for cable-free operation. Continuous on and auto on/off settings. Powered by the camcorder’s power source.

VL-10Li Battery Video Light
Powerful 10W illumination. A lithium ion battery attaches directly, so operation is cable-free.

220EX/420EX/550EX Speedlite Flash
Attachs to the GL2 to give SLR-style flash photography.

Carrying Case

HC-4100 System Case
A solid and lockable system case that provides stylish protection during transportation and storage.

Canon Digital Videocassettes

DVM-E60/DVM-E80 Digital Video Cassette
DVM-CL Digital Video Head Cleaning Cassette
Availability differs from area to area.

GL2 Specifications

Power supply (rated): 7.2 V DC
Power consumption: 4.8 W (using viewfinder), 5.7 W (using LCD screen)
Television system: EIA standard (525 lines, 60 fields) NTSC color signal
Video recording system: 2 rotary heads, helical scanning system DV system (Consumer digital VCR SD system) Digital component recording
Audio recording system: PCM digital sound: 16 bit (48kHz/2ch), 12 bit (32kHz/4ch)
Image sensor: 3CCD 1/4" Pixel Shift (charge coupled device) 410,000 pixels (380,000 effective pixels)
Tape format: Videocassettes bearing the “DV” mark.
Tape speed: SP: 1/8 ips (18.11 mm/s), LP: 1/10 ips (12.56 mm/s)
Maximum recording time: SP: 80 minutes (with a 80 min. cassette); LP: 120 minutes (with a 80 min. cassette)
Fast forward/rewind time: 2 mins 20 sec. (with a 80 min. cassette)
Lens: F1: 6.2-2.9, 40x power zoom, 4.3-84 mm
Focusing system: TTL autofocus, manual focusing possible

Minimum focusing distance: 3 ft 3 3/8 in (1 m), 1/2 inch (1 cm) on maximum wide angle
Maximum shutter speed: 1/num sec (camera mode)
Minimum illumination: 0.37 lx (slow shutter at 1/ of a second) (camera mode)
Recommended illumination: More than 100 lx
Film diameter: 58 mm
Viewfinder: 0.44-inch, color LCD (approx. 180,000 pixels)
LCD screen: 2.5 in measured diagonally (6.4 cm), 200,000 pixels (approx.)
Microphone: Stereo electret condenser microphone
USB terminal: mini-B
DV terminal: DV 4 pin connector (based on Mini-B)
Video terminal: 1 Vp-p/75 ohms unbalanced S-video terminal: 1 Vp-p (Y signal), 0.286 Vp-p (C signal)
Audio terminal: Input level: -10 dBV (AUDIO ATT OFF), 0 dBV (AUDIO ATT ON)/47 kohms, unbalanced; Output level: 4 dBm, less than 3 kohms, unbalanced
Operating temperature range: 32 - 104 °F (0 - 40 °C)

Dimensions: 4 4/5 x 5 1/2 x 12 in (118 x 136 x 306 mm)
Weight: 2 lb 7 1/2 oz (1.12 kg)

Recording media: SD Memory Card, MultiMediaCard
Number of recording pixels: 1488 x 1128 pixels, 640 x 480 pixels
Image format: Design rule for Camera Format system (DCF), Digital Print Export 2.2 compliant*, Digital Print Order Format (DPOF) compliant (only images marked for printing)*: This camcorder supports Exif 2.2 (also called Exif Print*). Exif Print is a standard for enhancing the communication between camcorders and printers. By connecting to an Exif Print-compliant printer, the camcorder’s image data at the time of shooting is used and optimized, yielding extremely high quality prints.
File format: JPEG (compression mode: Fine/Standard)
Estimated SD Memory Card SDC-8M capacities (approx.)*: 1488 x 1128: Fine 6 images, Standard 10 images 640 x 480: Fine 47 images, Standard 90 images* *The actual number you can record varies depending on the image.

THE CANON GL2 KIT

- GL2
- BP-915 Battery Pack
- CA-920 Compact Power Adapter
- DC-920 DC Coupler
- SS-650 Shoulder Strap
- WL-D77 Wireless Controller
- S-150 S-video Cable
- STV-250N Stereo Video Cable
- Lens hood
- Large eyecup
- SDC-8M SD Memory Card
- Software/USB Cable

Errors and omissions excepted. Weight and dimensions are approximate. Subject to change without notice.

CDM screen pictures simulated.
**Connect only equipment bearing the LANC symbol.
*Macintosh and Windows are either registered trademarks or trademarks of their respective companies. **Exif Print is a trademark of Canon Inc.
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