Canon pursued imaging greatness resulting in the ultimate digital camcorder system, the XL1s. It starts with a highly intelligent "open architecture" design, which allows you to customize your XL1s with the widest variety of optional accessories available. Plus you have extensive control over picture and sound adjustments to tailor the "look and feel" of each recording to your preference or even your clients’. Whether you define yourself as an imaging enthusiast, professional videographer or digital filmmaker there is a Canon XL1s digital camcorder configuration that’s just right. Which one is right for you?

IEEE1394 DV Terminal

The XL1s 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.

dv format

Whether your need is broadcast production or simply the very best picture quality, the Mini DV format delivers more than 500 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 dropout, delivering higher output and less noise.

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Achieve Super High Resolution Alongside Super Low Light Capability

3CCD
The XL1s 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, brighter video in low light, reduced vertical smearing and sharper digital photos.

Super Low Light
The XL1s incorporates three CCD image sensors specifically designed for freedom when shooting under extremely low light conditions. The size of each pixel is 72 square microns. That's 150% larger than the pixel-size on comparable models. The result is an overall 4dB (approx.) improvement in sensitivity.
The choice is Yours...

Interchangeable Lens System
A super-flexible system with an unbeatable range. The XL1s maximizes your options via the XL mount system for a focal range from 24 to 2160mm. This unbeatable range is made possible though the use of Canon's XL and EF 35mm camera lenses.

3X Extra Wide-Angle Zoom Lens
The 3X zoom lens provides the world's widest field-of-view on any DV camcorder. The focal length is 3.4mm to 10.2mm (35mm equivalent 24mm to 72mm) and the resolution exceeds 600TV lines.

Optical Image Stabilized 16X Zoom Lens IS II
It resolves over 600 TV lines to deliver an extraordinarily sharp image. By exceeding the DV standard of 500 TV lines, this lens provides greater visual "sharpness" through the critical 100 to 250 TV line resolution area. It also includes Canon's "SuperRange" Variable Angle Prism for enhanced optical image stabilization plus a ND filter, manual focus and zoom rings and a Push AF button.

3D Imaging Video Lens
Now it's possible to create stereoscopic video with the XL1s simply by changing the lens. It incorporates a 3X zoom feature and convergence features can be fully automatic or manually controlled for realistic depth and presence.

Manual 16X Zoom Lens
Perfect for the video application that requires precise manual lens control, this lens provides focus, zoom and aperture scales. Even more it includes a powered zoom, automatic iris and 2 built-in ND filters.

1.6X Extender
Attach this extender between the XL1s camera and the Optical Image Stabilized 16X Zoom Lens or the Manual 16x Zoom Lens to increase the focal length magnification by 1.6x.
SuperRange Optical Image Stabilizer

Until now, optical image stabilizers have used solely a gyro sensor to detect camcorder vibration (the data from which controls a vari-angle prism that continuously corrects the path of the incoming light). SuperRange goes one step further by examining the image after it is received by the CCD, and detecting any low-frequency vibrations missed by the gyro. This data is fed-back to accelerate and refine the movement of the vari-angle prism. This greatly improves performance for low frequency vibration, resulting in the most advanced optical image stabilization available today. This feature is found only on Canon's optical Image Stabilized 16X zoom lens.

EF Adapter

The EF adapter allows you to attach Canon EOS 35mm camera lenses to the XL1s. This is especially helpful for telescopic imaging such as sports, wildlife, surveillance and astronomy because the image magnification of any 35mm lens is increased 7.2X when mounted onto the XL1s.

Extra Wide-angle Zoom Lens XL 3.4–10.2mm

16X Manual Zoom Lens XL 5.4–86.4mm

16X Zoom Lens XL 5.5–88mm IS II

With Extender XL 1.6X

EF SERIES

Focal range expressed as 35mm equivalents
Professional Performance In Each and Every Feature

3 Shooting Modes
The XL1s 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 XL1s 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 with self timer
Take almost 700 brilliantly clear still pictures on a single tape (in SP mode). The photo mode further distinguishes the XL1s by capturing extremely high resolution still images. 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 XL1s 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 popularized by Canon’s XL1s has even been acknowledged by users for its cinematic-like appearance.

16:9 Aspect Ratio
The XL1s is equipped with two 16:9 aspect ratio methods.

16:9 Guides
The 16:9 guides are thin white lines, which appear in the viewfinder 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 XL1s 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.

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” and identified by the green rectangle on the Command Dial, 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.
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, you select the shutter speed from 1/60 to 1/15000 of a second and the XL1s will automatically set a matching aperture. In the Av mode, you select the aperture from f/1.6 to f/16 and the XL1s automatically sets a matching shutter speed.

Slow Shutter
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
Up to three picture adjustment settings can be stored, allowing you 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.

Clear Scan
The XL1s can be adjusted to match the frequency of a CRT monitor, allowing you to record the monitor without rolling black bars.

SMPTE Color Bars
The XL1s generates SMPTE color bars for accurate matching to your monitor or edit suite.

White Balance
White Balance can be set for Automatic, preset Indoors, preset Outdoors and 3 Set memories, for any lighting condition.

AE Shift
By adjusting the AE Shift Control you can lighten or darken the image to precisely control the exposure level of the Program AE modes.

Digital Effects
The XL1s is equipped with a 2X Digital Zoom to electronically increase the magnification of the image plus a Fade Trigger feature, which applies a black fade to the beginning or end of a scene.

Gain Control
As well as automatic gain, the XL1s has settings for -3dB, 0dB, +6dB, +12dB, +18dB, and +30dB for creative control in any shooting condition.

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.

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 Keys**

You can assign frequently used functions to the keys (camera mode and VCR mode independently) to customize the camera to your shooting preferences or environment. You can assign the following functions to the Custom Keys.

**Camera mode**
- Index Write
- Zebra pattern
- VCR stop
- TV screen
- Audio 1 in
- Audio 2 in
- Zoom grip speed
- Zoom handle speed
- No function assigned

**VCR mode**
- TV screen
- Data code
- Audio 1 in
- Audio 2 in
- No function assigned

**Four Channel Digital Audio**

The XL1s records digital stereo sound. You can record 16 bit audio (2 channels, 48kHz) or 12 bit audio (4 channels, 32kHz). Audio level can be fully automatic or manually controlled and monitored by an illuminated VU meter. The XL1s also accepts Line or Mic level audio sources to ensure an accurate impedance match.

**PCM Microphone**

The XL1s comes complete with a high quality microphone, that gives excellent performance.

**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.)

**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.

**Index Recording**

You can mark "the best take" when you are shooting, for easy access when playing back in the VCR mode.

**Ergonomics and Magnesium Body**

The XL1s camcorder is designed to support extensive field use. Its chassis is mounted on a single, durable magnesium alloy frame to provide overall strength and protection from external shock – blending twenty times the durability of ordinary camcorder bodies, with countless times the style. The layout and design of the controls and functions makes the XL1s ergonomically and practically a joy to use.

**Top Grip With Recording Controls**

In addition to the normal side grip, the XL1s 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.

**DV Control**

You can control the record and pause of equipment that conforms to the AV/C protocol connected to the XL1s using the DV terminal. For example, record to miniDV tape and an optional FireWire Controller and Hard Drive system simultaneously.

**Time Code**

This precisely identifies each recording down to the individual frame, showing the hour, minute, second and frame in the display. The XL1s uses a "drop-frame" system that is frame accurate.
Remote Control
The XL1s kit includes a full function wireless remote control to manage features during recording and playback hands free.

Photo Search/Date Search/Index Search
The wireless controller included with the XL1s 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.

Zoom Speeds
The XL1s 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).

SLR-Style Flash Photography
Attach a Canon Speedlite E-TTL flash (420EX or 550EX) using the optional FA-200 Flash Adapter to use the XL1s 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.

CH-910 Dual Battery Charger/Holder
Holds two battery packs. Charges them consecutively and connects directly to the MA-200 adapter for longer recording time and better balance.

Canon XL1s Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power supply</strong></td>
<td>7.2 V DC</td>
</tr>
<tr>
<td><strong>Power consumption (While recording, AF=ON)</strong></td>
<td>8.7 W (Approx., recording with the AF turned on)</td>
</tr>
<tr>
<td><strong>Television system</strong></td>
<td>EIA standard (525 lines, 60 fields) NTSC color signal</td>
</tr>
<tr>
<td><strong>Video recording system</strong></td>
<td>2 rotary heads, helical scanning systemDV system (Consumer digital at VCR SD system) Digital component recording</td>
</tr>
<tr>
<td><strong>Audio recording system</strong></td>
<td>PCM digital sound: 16 bit (4kHz/2ch), 12 bit (32kHz/4ch simultaneous)</td>
</tr>
<tr>
<td><strong>Image sensor</strong></td>
<td>3CCD 1/3&quot; Pixel Shift (charge coupled device) 270,000 pixels (250,000 effective pixels)</td>
</tr>
<tr>
<td><strong>Tape format</strong></td>
<td>with Speedlite Without Speedlite</td>
</tr>
<tr>
<td><strong>Fast forward/rewind time</strong></td>
<td>2 mins 20 sec. (with a 60 min. cassette)</td>
</tr>
<tr>
<td><strong>Lens mount</strong></td>
<td>XL Interchangeable lens system</td>
</tr>
<tr>
<td><strong>Focus system</strong></td>
<td>TTL autofocus, manual focusing possible.</td>
</tr>
<tr>
<td><strong>Maximum shutter speed</strong></td>
<td>1/15,000 sec</td>
</tr>
<tr>
<td><strong>Minimum illumination</strong></td>
<td>2 lx (using XL 5.5-88mm lens and slow shutter at 1/8 of a second)</td>
</tr>
<tr>
<td><strong>Recommended illumination</strong></td>
<td>More than 100 lx</td>
</tr>
<tr>
<td><strong>Filter diameter</strong></td>
<td>72mm (XL lens)</td>
</tr>
<tr>
<td><strong>Viewfinder</strong></td>
<td>0.7-inch, color LCD (approx. 180,000 pixels)</td>
</tr>
<tr>
<td><strong>Microphone</strong></td>
<td>Stereo electret condenser microphone</td>
</tr>
<tr>
<td><strong>DV terminal</strong></td>
<td>Special 4 pin connector (based on IEEE1394)</td>
</tr>
<tr>
<td><strong>Output level</strong></td>
<td>RCA jack, 1 Vp-p/75Ω unbalanced, synchronized load</td>
</tr>
<tr>
<td><strong>S-video terminal</strong></td>
<td>4 pin mini DIN, 1 Vp-p (Y signal), 0.286 Vp-p (C signal)</td>
</tr>
<tr>
<td><strong>Audio terminal</strong></td>
<td>RCA jack (L, R), 2 sets 4dBm (47Ω load)3Ω or less, unbalanced</td>
</tr>
<tr>
<td><strong>Input level</strong></td>
<td>Audio terminal: -11dBV (LINE), unbalanced -35dBV (MIC ATT), unbalanced -55dBV (MIC), unbalanced</td>
</tr>
<tr>
<td><strong>Microphone terminal</strong></td>
<td>ø 3.5mm stereo mini-jack, -59dBV (with 600Ω mic)/600Ω</td>
</tr>
<tr>
<td><strong>Operating temperature range</strong></td>
<td>32˚ - 104˚ F (0˚ - 40˚ C)</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>8.7/16 x 8.7/16 x 16.5/16 in (223 x 214 x 415 mm)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>3 lbs 11/16 oz approx. (1.7kg) (fully loaded): 6 lbs 4/16 oz approx. (2.86kg)</td>
</tr>
</tbody>
</table>

THE CANON XL1s KIT

- XL1s Camcorder Body
- Zoom Lens 16X XL 5.5-88 mm IS II
- BP-930 Battery Pack
- CA-910 Compact Power Adapter
- DC-900 DC Coupler
- SS-1000 Shoulder Strap
- WL-D3000 Wireless Controller
- SP-100 Shoulder Pad
- S-150 S-video Cable
- STV-150 Stereo Video Cable
- Lens Hood
XL1s Nomenclature

1. Stereo microphone
2. Viewfinder focusing ring
3. Viewfinder
4. Eye cup
5. Shoulder strap attachment bar
6. ND FILTER switch
7. STABILIZER switch
8. LIGHT button
9. AUDIO MONITOR button
10. POWER dial
11. EJECT button
12. Focusing ring
13. Zooming ring
14. Auto/Manual Focus switch
15. PUSH AF button
16. EXP. LOCK button
17. IRIS/SELECT dial
18. LENS RELEASE switch
19. MENU button
20. GAIN dial
21. White balance selector knob
22. WHITE BALANCE set button
23. STANDBY button
24. Socket for Shoulder Pad SP-100, Microphone Adapter/Shoulder Pad MA-100, MA-200
25. Shoulder Pad SP-100
26. EYE POINT SELECT switch
27. START/STOP button
28. LOCK lever
29. Accessory shoe
30. (phones) terminal
31. PHONES LEVEL dial
32. Tally lamp
33. Remote sensor
34. Handle zoom control
35. PHOTO button
36. start/stop button
37. Tally lamp
This mark identifies genuine Canon video accessories. When you use Canon video equipment, we recommend Canon-brand accessories or products bearing the same mark.

Availability differs from area to area.

**EF Adapter XL**
Allows the attachment and compatibility of Canon EF photographic lenses.

**EF Lenses**
The selection of EF lenses you can attach to the XL1s is the largest in the world. Since the focal length is multiplied by 7.2X with the EF lens, you can get the incredible long range and high picture quality.

**SX-72U Filter Set**
Includes neutral density (ND 8), polarizing and ultraviolet filters.

**XL3.4-10.2mm 3X Wide-Angle Lens**
This extra wide-angle 3X zoom lens provides 24-72mm equivalent focal length with high resolution exceeding 600 TV lines. It has an ND filter, manual focus and zoom ring.

**XL5.5-88mm 16X Image Stabilized Lens IS II**
Optical image stabilized zoom lens has an ND filter, manual focus and zoom ring providing you with great flexibility for versatile shooting conditions.

**XL5.4-86.4mm 16X Manual Zoom Lens**
This manual lens gives you the flexibility of calibrated power zoom, power iris, 2 built-in ND filters and calibrated manual focus.

**XL7.5-22.5mm 3D Imaging Video Lens**
This stereoscopic lens has power or manual zoom, auto or manual focus, and manual convergence control with auto capability.

**HL-3100 System Case**
A solid and lockable system case that provides stylish protection during transportation and storage.

**FU-1000 Monochrome CRT Viewfinder Unit**
This professional style 1.5 inch monochrome CRT for use in critical shooting situations.

**420EX/550EX Speedlite Flash**
Attaches to the XL1 to give SLR-style flash photography. (The optional FA-200 Flash adapter is also necessary.)

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

**FA-200 Flash Adapter**
Enables you to use a Speedlite flash with the XL1s.

**FA-200 Flash Adapter**
Enables you to use a Speedlite flash with the XL1s.

**CH-910 Dual Battery Charger/Holder**
Hold two battery packs. Can charge them consecutively and connect directly to XL1s to give twice the playback time.

**CB-910 Car Battery Adapter**
To charge lithium ion batteries or power the camera from a car cigarette lighter socket.

**CB-910 Li Battery Packs**
Maximum continuous recording time:
- BP-915: 50 minutes
- BP-930: 105 minutes
- BP-945: 135 minutes

**420EX/550EX Speedlite Flash**
Attaches to the XL1 to give SLR-style flash photography. (The optional FA-200 Flash adapter is also necessary.)

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- BP-945: 135 minutes

*16X IS II and 16X manual lenses only.*

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**Canon**

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