

# Canon

Imaging across networks

## **XL1s**

THE BROADCAST QUALITY  
DIGITAL CAMCORDER





## The Canon XL1s – Meeting the Highest Expectations

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 for you.

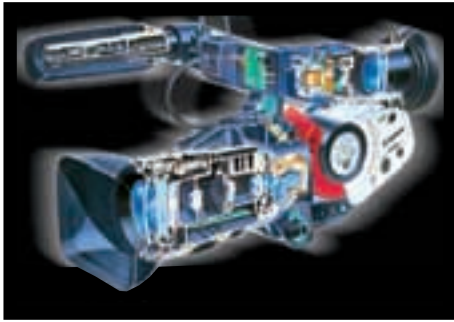
- Premium picture quality and performance
- Enhanced manual functions for experienced users
- Wide variety of interchangeable lens
- Leading-edge audio technology
- Full manual zoom lens available
- User oriented interface







## 3 CCD Pixel Shift Technology for Super-High Resolution



### 3 CCD

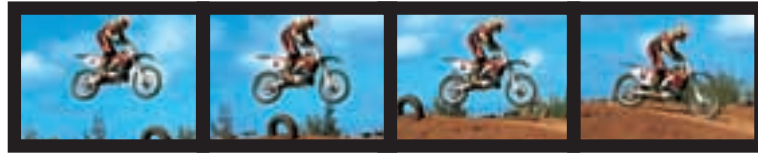
The XL1s maximizes the capability of the DV format by using a 3 CCD system assigning a separate CCD to each primary color (red, green, blue). A beam-splitting prism precisely separates the light passing through the lens into individual color components, and each is sent to its own CCD. This process achieves 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.

### High Resolution Even In 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 approximately an overall 14 dB improvement in sensitivity.



### Three Different Shooting Modes for All Your Recording Needs

#### Normal Movie Mode

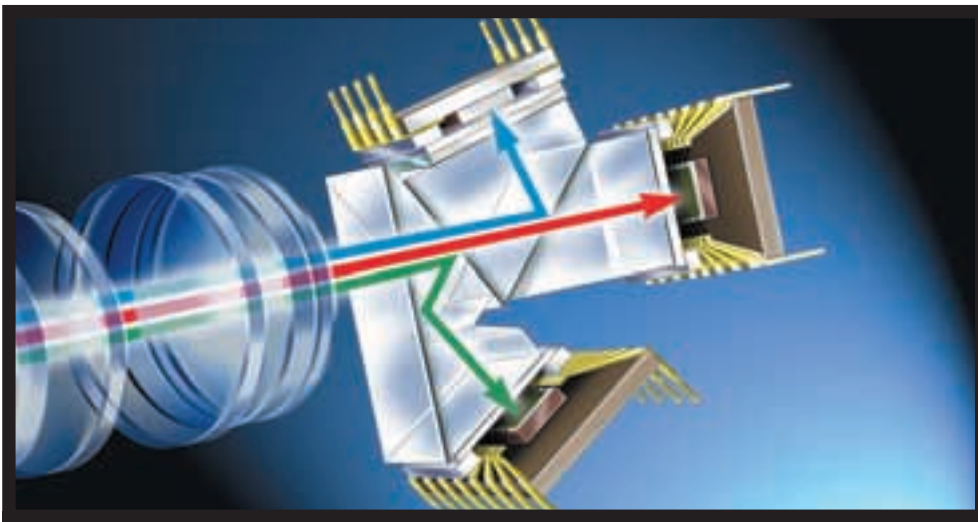
By merging Canon's superior lens quality with 3 CCD's, the XL1s delivers stunning resolution and color reproduction - some of the best images outside of a TV studio. This mode records video in the standard interlaced fashion similar to conventional camcorders. Normal Movie Mode is ideal for recording 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 25 frames of video per second. Similar to a motor drive on a 35 mm 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.



## Interchangeable Lens for Increased Flexibility and Creativity in Shooting



### The Choice Is Yours...

The XL1s maximizes your options via the XL mount system for a focal length range from 24 to 2,160 mm. This super-flexible system with unbeatable range is made possible through the use of Canon's XL and EF 35 mm camera lenses.

#### Optical Image Stabilized 16x Zoom Lens

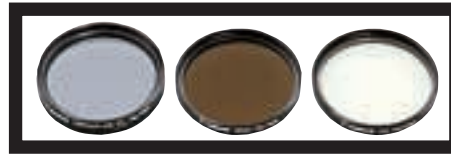
This lens resolves over 600 TV lines to deliver an extraordinarily sharp image. By exceeding the DV standard of 500 TV lines, it provides greater visual "sharpness" through the critical 100 to 250 TV line resolution area. This lens also includes Canon's "SuperRange" Variable Angle Prism for enhanced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

#### 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 two built-in ND filters.

#### 3x Extra Wide-Angle Zoom

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



#### FS-72U Filter Set

Includes neutral density (ND 8), polarizing and ultraviolet filters.

#### 1.6x Extender

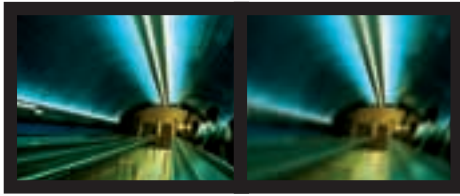
Attach this extender between the XL1s camera and the Optical Image Stabilized 16x Zoom Lens or the Manual 16x Zoom Lens to increase the focal length magnification by 1.6x.

#### EOS Adapter for Image Magnification

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

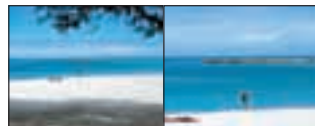


## Keep It Steady



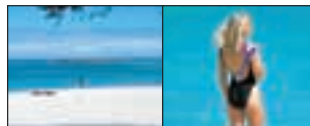
### SuperRange Optical Image Stabilizer - The Most Advanced System Available

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.



3x wide

3x telephoto



16x wide

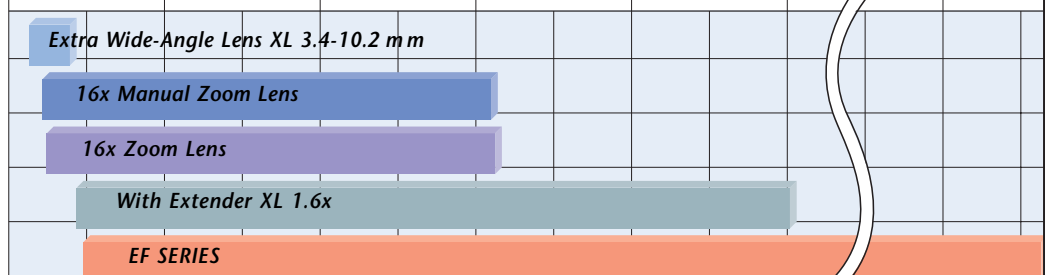
16x telephoto



32x digital zoom

32x with 1.6x Extender

0 mm      200 mm      400 mm      600 mm      800 mm      1,000 mm      8,500 mm



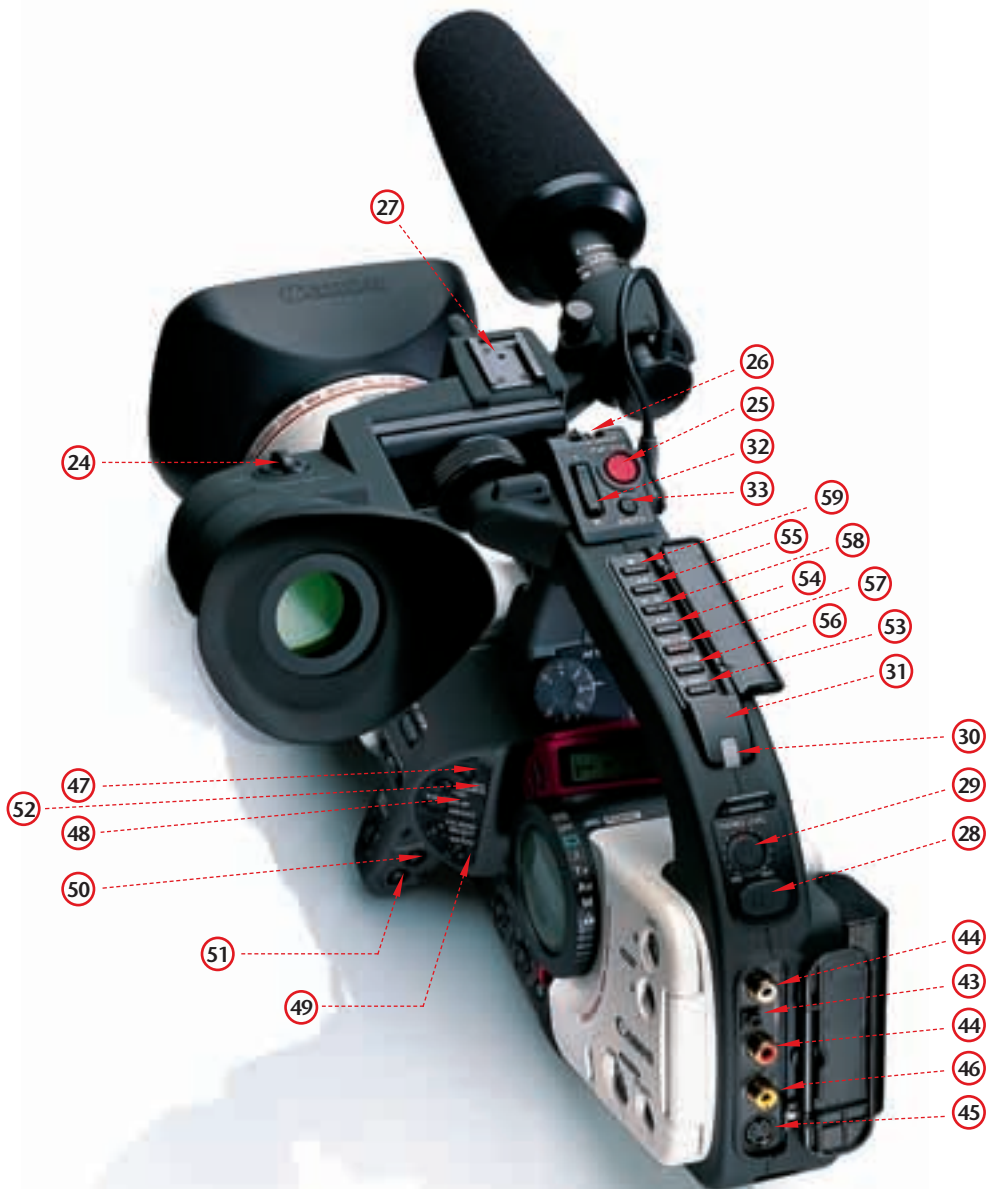
Focal range expressed as 35 mm equivalents

- 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 LENS RELEASE switch
- ⑱ GAIN dial



- ③⑥ User Preset Select Button
- ③⑦ User Preset (ON/OFF) Button
- ③⑧ L/R dials (AUDIO 2)
- ③⑨ LEVEL dial (AUDIO 1)
- ④① BALANCE dial (AUDIO 1)
- ④② AE Shift dial
- ④③ Audio LCD panel
- ④④ DC out terminal
- ④⑤ Audio 1 RCA Jacks
- ④⑥ S-Video terminal
- ④⑦ Video terminal
- ④⑧ RECORD SEARCH + button
- ④⑨ EVF DISPLAY button
- ④⑩ D. EFFECT on/off button
- ⑤① SHUTTER up key
- ⑤② SHUTTER down key

- 19 White balance selector knob
- 20 WHITE BALANCE set button
- 21 STANDBY button
- 22 Socket for Shoulder Pad SP-100,  
Microphone Adapter/ Shoulder MA-100
- 23 Shoulder Pad SP-100
- 24 EYE POINT SELECT switch
- 25 START/STOP button
- 26 LOCK lever
- 27 Accessory shoe
- 28 Headphones terminal
- 29 PHONES LEVEL dial
- 30 Tally lamp
- 31 Remote sensor
- 32 Handle Zoom Control
- 33 PHOTO Button
- 34 Custom Key 1
- 35 Custom Key 2



- 36 RECORD button
- 37 AUDIO button
- 38 AUDIO METER button
- 39 AUDIO METER button
- 40 AUDIO METER button
- 41 AUDIO METER button
- 42 AUDIO METER button
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- 47 AUDIO METER button
- 48 AUDIO METER button
- 49 AUDIO METER button
- 50 AUDIO METER button
- 51 AUDIO METER button
- 52 RECORD SEARCH - / (record review) button
- 53 AV insert button
- 54 FF button
- 55 REW button
- 56 Audio DUB button
- 57 REC button
- 58 PLAY / PAUSE button
- 59 STOP button



## Four Audio Channels



### Four Channel Digital Audio for Recording Versatility

The XL1s records digital stereo sound. You can record 16 bit audio (2 channels, 48 KHz) or 12 bit audio (4 channels, 32 KHz). 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.

### High Frequency Microphone

The XL1s comes complete with a high quality microphone that gives excellent performance in terms of frequency response.

### Headphone Terminal

You can monitor the level and quality of the audio you are recording, to ensure the best quality.

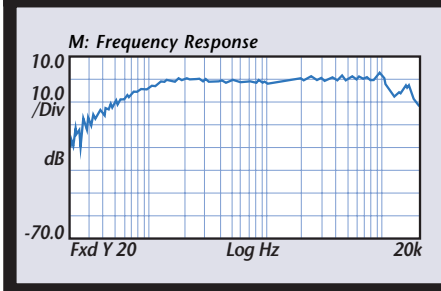
### XLR Audio Inputs

The optional MA-200 Microphone Adapter/Shoulder Pad is equipped with 4 XLR connectors for use with professional audio equipment and a BNC video connector. This unit also allows you to attach an optional, commercially available, wireless microphone receiver. Plus, it functions as a shoulder pad for advanced handling and control.

### MA-200 Microphone Adapter/ Shoulder Pad

You can attach 4 mics with XLR-connector simultaneously and have the video signal by the BNC-connector.

Headphone terminal



MA-100 MA 200 Microphone Adapter/Shoulder Pad



## Transfer your DV Footage to Film



### 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 for Advanced Recording Techniques



Ensures 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 mode handles all camera settings automatically, but also allows the user to select manual functions

### Manual Mode

If you want to make all the decisions, this is the mode to use. You can choose any combination of shutter speeds and lens apertures.

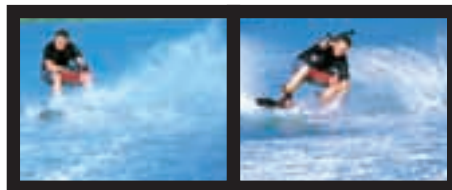
### Spotlight

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.

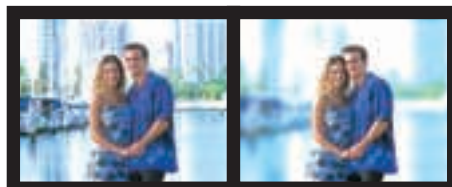
### Shutter-priority/Aperture-priority (Tv/Av)

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 1/6 to 1/16000 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.

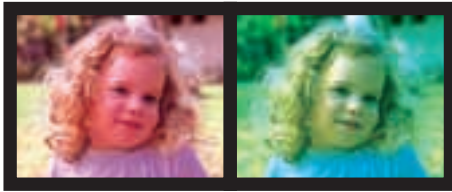
#### Tv Mode



#### Av Mode



# Complete Versatility



Color Phase

## Four Different Picture Adjustment Modes

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 clearer.

### Setup Level

Adjust the black level of the video signal for the best shadow detail. (Focus, exposure, white balance, for example).

### 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.

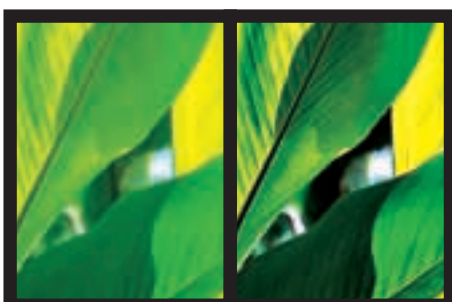
### SMPTE Colour Bars

The XL1s generates SMPTE colour bars for accurate matching to your monitor or edit suite.

### White Balance for Any Lighting Condition

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

Camera Sharpness



Zebra Pattern

## AE Shift with Three Slow Shutter Settings

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.

#### 1 Fader

Use the fader to start or end scenes with a fade to or from black.

#### 2 Effects

Give variety to your images during recording by adding Black and White, Slim, Stretch or Strobe motion.

### Gain Creative Control

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

### Zebra Pattern Avoids Overexposure

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).

### Slow Shutter Settings

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.

### 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

### Composite/S-Video In & Out

The XL1s can be connected to any monitor by a composite (RCA) cable or by an S-Video cable. The same video terminals also accept video signals for recording from external sources such as a TV, VCR or another camcorder. The MA-200 adaptor has a BNC connector for connection to professional equipment.

### 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.)

### 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 a miniDV tape and FireWire Hard drive 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.

### 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.



*Durable, magnesium alloy frame*

## 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.

## Three Zoom Speeds

The XL1s features three zoom speed options: Variable (pressure controlled) or Low, Medium and Fast. These apply to the zoom rockers on the handgrip and the top grip.

## Wireless Remote Control

The XL1s kit includes a full function wireless remote control to manage features during recording and playback hands free.

## LANC Terminal

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

## Plug and Play!

### IEEE 1394 DV Terminal

The XL1s is equipped with a DV IN/OUT terminal that conforms to IEEE 1394. 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.

## The Canon XL1s KIT

- XL1s Camcorder Body
- Zoom Lens 16x 5.5-88 mm IS
- 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



The Canon XL1s KIT



ZR-1000 Zoom Remote Controller

CH-910 Dual Battery Charger/Holder



420EX/550EX Speedlite Flash

FU-1000 Monochrome CRT Viewfinder Unit

## Optional Creative Shooting Accessories

Building on the modular design of the XL1s, Canon has a complete range of optional accessories to enhance every shooting situation.

### ZR-1000 Remote Control

This optional wired remote control connects to the LANC terminal to operate the zoom speed, focus, recording, data display and other features, and attaches to most tripod handles.

### 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.

### SLR-Style Flash Photography for

#### Correct Exposure

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 a 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.

### FU-1000 Monochrome CRT Viewfinder Unit

With this monochrome CRT viewfinder unit, you can get more precise focus or detailed information.

- MA 200/100
- FS-72U Filter Set
- 3x Extra Wide-Angle Zoom Lens
- Manual 16x Zoom Lens
- 1.6x Extender
- EOS Adapter

# XL1s Specifications

<b>Power Supply Voltage</b>	<b>General</b> 7.2 VDC
<b>Power Consumption</b>	Approx. 8.7 W (using autofocus during recording)
<b>Operating Temperature</b>	0°C to 40°C
<b>Dimensions (W x H x D)</b>	Approx. 223 mm x 214 mm x 415 mm
<b>Weight (camera only)</b>	Approx. 1,700 g
<b>Weight (fully equipped)</b>	Approx. 2,860 g
<b>Continuous Recording Time</b>	Approx. 1 h 55 min. with BP-930 battery pack Approx. 2 h 55 min. with BP-945 battery pack Approx. 5 h 50 min. with CH-910 and 2x BP-945 battery pack
<b>Chassis</b>	Magnesium Alloy Casing
<b>Camera section</b>	<b>Camera</b>
<b>Imaging Device</b>	3 x 1/3-inch CCD (3 CCD Pixel Shift)
<b>Pixel Count (per CCD)</b>	Total 320,000 pixels Effective 300,000 pixels
<b>Colour Separation</b>	Prism and dichroic filter
<b>Digital Quantization</b>	8-bits A/D
<b>Signal Composition</b>	PAL standard colour video signal
<b>Scan Method</b>	625 lines, 50 fields/25 frames
<b>Auto Exposure Modes</b>	Full auto, auto, spotlight, TV (shutter-priority), AV (aperture-priority), Manual
<b>Shooting Modes</b>	Field Movie Mode Frame Movie Mode Photo (Still) Mode
	<b>Moving image shooting</b>
<b>Self-timer</b>	10 sec. / Remote control 2 sec.
<b>Interval timer</b>	4 modes
<b>Clear scan</b>	TV mode, M mode: 57.7-200 Hz
	<b>Photo (Still) image shooting</b>
<b>Recording time</b>	6.5 sec.
<b>Flash</b>	Speedlite 380EX, 420EX, 550EX (with optional FA-200 flash adapter)
<b>Self-timer</b>	10 sec. / Remote control 2 sec.
<b>Picture quality adjustment</b>	Colour Gain, Hue, Sharpness, Set-up
<b>Custom Preset</b>	Up to 3 types
<b>Custom Key</b>	2 items can be registered among 9 items
<b>Light Metering Method</b>	Lower center weighted + peak average light metering
<b>Evaluation</b>	56-zone evaluation metering; Spotlight mode
<b>Minimum Illumination</b>	Approx. 2 lux (with XL 5.5-88 mm IS II, and 1/6 sec. Slow shutter)
<b>Shutter Speed (Tv mode)</b>	30 steps 1/6 to 1/16,000 sec.
<b>Slow Shutter</b>	3 levels 1/30, 1/15, 1/8
<b>Aperture (Av mode)</b>	28 steps F1.6 to F16 and Close (depending on lens used)
<b>Gain</b>	7 steps -3 dB, 0 dB, +6 dB, +12 dB, +18 dB, +30 dB, Auto
<b>AE Level Shifting</b>	13 steps Center $\pm$ 6 levels -2.0, -1.5, -0.75, -0.5, -0.25, $\pm$ 0, +0.25, +0.5, +0.75, +1.0, +1.5, +2.0
<b>AE lock</b>	AE Lock Button
<b>White Balance</b>	TTL 64-Zone new white detection method Auto, Manual Set (3 positions), Preset (5600 k, 3200 k)
<b>16:9 ratio</b>	Area marker display: Displaying an area marker for 16:9 ratio on the 4:3 ratio screen. Recording mode: Vertical extension mode
<b>Digital Effect</b>	Colour bar (EBU), 2x Digital zoom
<b>Digital Fade</b>	Black auto fade
<b>Zebra pattern</b>	Variable levels 80%, 85%, 90%, 95%, 100%
<b>Character Recording</b>	Year, Month, Day, Hour, Minute, Second.
<b>Search</b>	Photo search, Date search, Index search
<b>Index recording</b>	Recorded on tape.
<b>Power Save</b>	Shut-off / VCR stop
	<b>Lens</b>
<b>Lens Mount Method</b>	Bayonet mount (XL mount system) EF Lens (with optional EF adapter XL) Focal length increases 7.2x for EF-Lens
<b>Zooming Speed</b>	
<b>Handle zoom</b>	XL 5.5-88 mm IS II: Variable speed and Constant speed (3 speed H/M/L)
<b>Grip zoom</b>	XL 5.5-88 mm IS II: Constant speed (3 speed H/M/L)
<b>Built-in Filter</b>	XL 5.5-88 mm IS II: ND-filter/Transmission factor 3.1% (1/32, 5 aperture) On - Off
<b>Image Stabilization</b>	Super range optical system
<b>Filter Diameter</b>	72 mm
<b>AF (Auto focus)</b>	TTL-video signal detection type AF
<b>AF Operating Range</b>	Close-up to infinity (depending on lens used) (2 cm to infinity using XL 5.5-88 mm IS II)
<b>MF (Manual Focus)</b>	By using lens focus ring when AF is off
<b>Focus Override</b>	Temporary Focus Override without turning the AF off
<b>One Push AF</b>	By pressing one plus AF button when AF is off

	<b>Viewfinder</b>
<b>Type</b>	Electronic colour viewfinder
<b>Image Display</b>	0.7-inch TFT colour LCD, approx. 180,000 pixels
<b>Eyepoint</b>	2 positions: 23 mm (at eye) Approx. 68 mm (with sports viewfinder)
<b>Adjustment</b>	Diopter: +2.0 to 5.0 diopter (at eye) Brightness control: Bright volume of EVF Colour control: Menu adjustment On / Partly Off / Off
<b>Display</b>	
<b>Recording Section</b>	<b>General</b>
<b>Format</b>	MiniDV
<b>Recording Method</b>	Consumer digital DVC (SD specifications) PAL format (625 lines, 50 fields)
<b>Tape Speed</b>	Approx. 18.83 mm/sec. (SP mode) Approx. 12.57 mm/sec. (LP mode)
<b>Tape</b>	1/4-inch miniDV
<b>Cassette Size</b>	66.0 x 48.0 x 12.2 mm
<b>Recording Time</b>	80 min. with 80 min. tape (SP mode) 120 min. with 80 min. tape (LP mode)
<b>FF/REW Time</b>	Approx. 2 min. 20 sec. (using 60-min. tape)
<b>A/V Insert</b>	The tape-recorded with SP mode
<b>Time code</b>	Auto
	<b>Audio</b>
<b>Sampling Frequency</b>	48 kHz/16 bit: 2-ch 32 kHz/12 bit: 4-ch synchro recording is available
<b>Maximum Sensitivity</b>	-71 dBv
<b>Signal Level</b>	-59 dBv
<b>Microphone</b>	High-performance MS system stereo electric capacitor
<b>Recording level and balance</b>	Auto / Manual
<b>Audio dubbing</b>	12-bit ST1 mode
<b>XLR audio input</b>	4-channel: MA-200 (optional) 2-channel: MA-100 (optional)
	<b>Signal Input</b>
<b>DV In Signal</b>	IEEE1394-AV/C protocol
<b>Video In</b>	Signal level 1 VP-p 75 ohms (composite)
<b>S-Video In</b>	C: 0.3 VP-p/75 ohm Y: 1.0 VP-p/75 ohm
<b>Audio In</b>	-11dBv/47 k ohm (LINE), -35 dBv/600 ohm (MIC ATT) -55 dBv/600 ohm (MIC), unbalanced
	<b>Signal Output</b>
<b>DV Out Signal</b>	IEEE1394-AV/C protocol
<b>Video Out</b>	Signal level 1 VP-p 75 ohm (composite)
<b>S-Video Out</b>	C: 0.3 VP-p/75 ohm Y: 1.0 VP-p/75 ohm
<b>Audio Out</b>	4 dBm (47 kohm load)/3 k ohms or less, unbalanced
	<b>Others</b>
<b>DV Input/Output Terminal</b>	Special 4-pin (IEEE1394 compatible)
<b>Audio Input Terminals</b>	RCA terminal jack (L/R) 2 systems
<b>S-Video Signal Terminal</b>	4-pin mini-DIN
<b>Video Input/Output Terminals</b>	RCA pin jack
<b>Audio Input/Output Terminals</b>	RCA terminal jack (L/R) 2 systems
<b>External Mic Terminal</b>	3.5 mm dia. Stereo mini-jack
<b>Headphone Jack</b>	3.5 mm dia. Stereo mini-jack
<b>Mic Power Terminal</b>	2.5 mm mini
<b>Flash Terminal</b>	Special 6-pin
<b>Edit Terminal</b>	LANC compatible

\* Weight and dimensions shown are approximate. Specifications are subject to change without notice.

**Canon**  
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**Canon Inc.**  
30-2, Shimomaruko 3-Chome,  
Ohta-Ku, Tokyo 146-8501, Japan  
www.canon.com

Europe, Africa and Middle East  
**Canon Europa N.V.**  
P.O.Box 2262, 1180 EG Amstelveen,  
the Netherlands  
www.canon-europa.com



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