

JVC[®]

HD/SD Memory Card Camcorder

GY-HM150E

ProHD



Performance Evolution



Workflow

With Native File Recording, JVC has eliminated one of the main obstacles to achieving a smoother, more streamlined production workflow. Until now, getting footage into a file format that computer-based editing systems could work with was a time consuming process. With Native File Recording, your footage is ready to edit the moment it's shot.



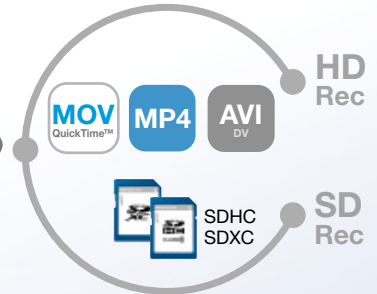
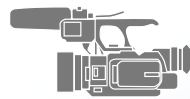
Exceptional Performance and Compatibility for Professional Workflows

Introducing the GY-HM150E, a highly mobile, professional dual memory card camcorder with the flexibility to fit seamlessly into almost any production environment. For both HD and SD assignments, the camcorder natively records Apple's QuickTime™ (MOV) file format for Final Cut Pro™ for a smooth, hassle-free workflow. For compatibility with other NLE systems, the GY-HM150E also supports HD MP4 and SD AVI file recording. Dual memory card slots offer the flexibility of seamless relay recording or simultaneous recording for instant backups and duplicates.



HD/SD Shooting

In the transition period from SD to HD production, camcorders must be able to meet the requirements of both without compromising image quality or features. The GY-HM150E meets this challenge by providing a true SD shooting mode in standard DV 25 Mbps format, recording to either MOV or AVI file format for direct editing within NLE systems.



Simultaneous Recording to Dual SDHC/SDXC Memory Cards

Dual SDHC/SDXC memory card slots allow for either relay recording for almost unlimited shooting times, or simultaneous recording for backups or duplicates without the need for any additional equipment.



Native File Recording

Record footage directly in ready-to-edit QuickTime™ MOV files, the native file format of Apple's Final Cut Pro™, or in MP4 format (XDCAM EX™ workflow-compatible) for direct editing in other major NLE systems, including Avid Media Composer, Adobe Premiere and Grass Valley Edius Pro. Native file recording means no transcoding or file-wrapping is necessary, resulting in more efficient workflows and no loss of image quality.



Exceptional Quality

Encoding video at higher bit-rates means just one thing: a higher quality picture.





1080p Dynamic Digital Signal Processor (DDSP)

JVC's new Dynamic Digital Signal Processor is the engine that drives the GY-HM150E. This highly efficient MPEG2 encoder processes video signals at up to 35 Mbps for full progressive or interlace 1920 x 1080 HD video.

Advanced Performance Meets Handheld Portability

GY-HM150E

Rotary Optical Image Stabiliser

With the increased resolution of HD pictures, even a small amount of camera shake becomes noticeable to the viewer. The newly developed Rotary Optical Image Stabiliser (ROIS) corrects for camera shake with no loss of image resolution or quality.

10x Fujinon HD Lens

The GY-HM150E is equipped with a high definition 10x zoom lens by Fujinon, a world leader in HD lens technology. In keeping with the overall design philosophy of the camcorder, the lens is designed to maximise optical performance while minimising size and weight.

Iris Dial

To improve manual iris adjustment when shooting, the iris dial is now located on the side panel.

Three 1/4-inch Progressive CCD Design with Diagonal Offset

High definition is all about image quality. The combination of newly designed 1/4" progressive CCDs and JVC's Diagonal Offset technology delivers pristine HD pictures with rich, lifelike colour.



Focus Assist

When shooting to HD, accurate focusing is critical. JVC developed Focus Assist to make accurate HD focusing quick and easy. When Focus Assist is switched on, the image in the viewfinder or LCD monitor becomes monochrome and all objects that are in focus appear with coloured edges.

2.7-inch LCD Monitor

The 2.7-inch 16:9 aspect ratio LCD monitor provides not only an alternative to the viewfinder when shooting, it also displays a wide array of monitoring and setup indications.

Dual SDHC/SDXC Card Slots with Simultaneous and Relay Recording

The GY-HM150E gives users the flexibility of dual SDHC/SDXC memory card slots for either simultaneous recording to dual memory cards for an instant backup or duplicate copy, or seamless relay recording between two cards for continuous shooting.

Extended Compatibility for Production Environments

The Next Generation of Direct File Access

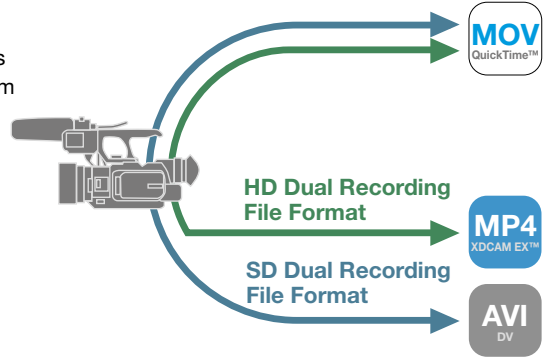
Dual Format Recording (QuickTime™ for FCP™/XDCAM EX™ Compatible MP4)

Because it uses QuickTime™ as its native file format, the GY-HM150E is the perfect choice for users of Apple's Final Cut Pro™ editing system. Both HD and SD MOV files recorded by the camcorder can be dropped directly into Final Cut Pro™, keeping them first-generation and eliminating the time-consuming process of file conversion. You'll spend less time preparing the files for editing, and more time letting your creativity get to work.

For users of all major NLE systems, including solutions from Adobe, Avid, Grass Valley, Vegas and Apple, the GY-HM150E supports the MP4 file format, which can be brought into your editing system without re-encoding.

HDV-compatible M2T files can also be created from these MP4 files using the ProHD Clip Manager (Version 1.1).

Finally, the popular type-2 AVI file format can be recorded in SD for easy import into almost all current and legacy NLE systems.



Dual SDHC/SDXC Card Slots for Simultaneous or Seamless Relay Recording

Dual SDHC/SDXC card slots make the GY-HM150E a truly versatile camcorder. Using standard, inexpensive and widely available Class-6 or Class-10 SDHC/SDXC cards, footage can be recorded either to both cards simultaneously, or from one card to the other in relay. Simultaneous recording means you can easily create backup or duplicate files as you shoot without the need for any external equipment — either for a client copy or simply for peace of mind. In relay recording mode you can shoot continuously and seamlessly

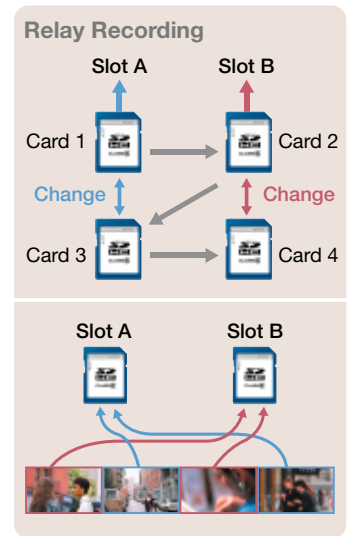
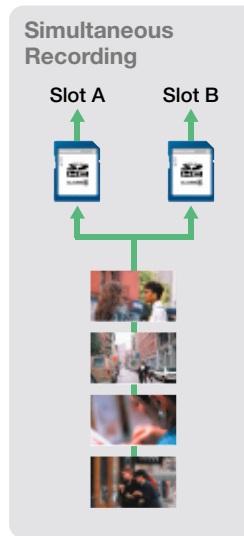


over multiple cards. When one card is full, the camcorder switches seamlessly and automatically to the other card. And because cards are hot swappable, there is in effect no limit to the continuous shooting time in any mode, even with lower capacity cards.

Hot swappable media also means it is possible to start editing footage from one card while still shooting to the other. The dual card slots also offer the flexibility of scene-by-scene card selection.

Additionally, while the Rec trigger is used to pause and unpauses recording on one card,

the other card can act as a continuous backup that overrides the pause function. Also when recording, clips separated with the Rec trigger can be saved as a conjoined clip using Clip Continuous Mode, and the Clip Cutter mode allows you to separate clips by using the User button as a trigger.



Advanced MPEG2 High Bit Rate Encoding

1080p Dynamic Digital Signal Processor (DDSP)

At the heart of the GY-HM150E is a custom JVC-developed Dynamic Digital Signal Processor. Processing is performed on the full progressive 1920 x 1080 signal, regardless of the camcorder's settings, ensuring the highest picture quality in any shooting mode. All major HD resolutions are supported, including 1920 x 1080, 1440 x 1080 and 1280 x 720.



35 Mbps MPEG2 Encoding

The highly efficient MPEG2 codec compresses video signals at up to 35 Mbps — high enough to support full 1920 x 1080 resolution — for simply stunning image quality. The MPEG2 long GOP (Group of Pictures) codec is a widely used, broadcast-standard compression system and is supported by all popular editing systems and broadcast servers.

35 Mbps

35 Mbps		25 Mbps	19 Mbps
1920 x 1080/60i	1280 x 720/60p	1440 x 1080/60i	1280 x 720/60p
1920 x 1080/50i	1280 x 720/50p	1440 x 1080/50i	1280 x 720/50p
1920 x 1080/30p	1280 x 720/30p		1280 x 720/30p
1920 x 1080/25p	1280 x 720/25p		1280 x 720/25p
1920 x 1080/24p	1280 x 720/24p		1280 x 720/24p
1440 x 1080/60i			
1440 x 1080/50i			

Standard Definition Recording Capability

Responding to the needs of the industry, the GY-HM150E, in addition to its capability as an HD recorder, offers Standard Definition recording for maximum flexibility. Recording in SD provides a time-saving alternative to down-conversion of HD material for SD broadcasts, which is still an industry standard in many countries worldwide. This feature offers a fundamental advantage for professionals with time-sensitive SD workflows.

HD/SD Rec

	HQ mode (35Mbps)	SP mode (25Mbps)	SP mode (19Mbps)	DV mode (25Mbps)
1920 x 1080	60i/50i 30p/25p/24p			
1440 x 1080	60i/50i	60i/50i		
1280 x 720	60p/50p 30p/25p/24p		60p/50p 30p/25p/24p	
720 x 576				50i

* The GY-HM150E supports all major HD signal formats including 1920 x 1080, 1440 x 1080 and 1280 x 720 as well as SD signal in DV codec.

Uncompressed Audio Recording for Optimal Quality

Two-channel 16-bit/48 kHz uncompressed linear PCM can be recorded via the built-in stereo ambient microphone and the detachable shotgun microphone, or via a pair of balanced XLR connectors.



Linear PCM Recording

Professional Quality HD Recording

10x Fujinon HD Lens

The JVC GY-HM150E is equipped with a high definition 10x zoom lens by Fujinon, a world leader in HD lens technology. The design minimises the weight and size of the lens, while still providing exceptional HD optical performance, with low distortion. To reduce lens flare and ghosting, the lens surface has a new Electronic Beam Coating (EBC) that greatly reduces the amount of light reflecting off the lens surface, and increases light transmission.



The focal length of the lens ranges from 3.7–37 mm (39–390 mm at 35 mm film equivalents), offering a good balance of wide angle and zoom. For wider angle shooting, the built-in lens hood can be removed and an optional wide-angle converter fitted.



Three 1/4-inch Progressive CCD Design with Diagonal Offset

The three progressive CCD design provides rich, accurate colours, while JVC's Diagonal Offset technology increases sampled luminance information in both horizontal and vertical directions by shifting the red and blue pixels relative to the green. The result is a sharper picture without any corresponding loss in sensitivity. Furthermore, using a global shutter, the design minimises wobbling during quick pans and fixed pattern noise in low light conditions, contributing to a more stable image.



Rotary Optical Image Stabiliser

With the increased resolution and sharpness of HD pictures, even a small amount of camera shake becomes noticeable to the viewer. JVC's newly developed Rotary Optical Image Stabiliser (ROIS) corrects for lateral and vertical movement of the camera without the degradation of image quality associated with digital image stabilisation systems. The result is pristine HD images that remain sharp and stable.

Enhanced Features and User-Friendly Functionality for Creative Control

Manual Versatility, Automatic Flexibility

Shooter-Friendly Controls and Layout

Ergonomics has played a major role in the design of the GY-HM150E.

The camera's handgrip makes the camera very comfortable to hold for any operator, even on long shoots. And despite its extremely compact dimensions, all the camcorder's main functions are accessible directly from controls and switches on the camera body, right where you would expect them to be.



- **Lens zoom/Focus selector**
- **White balance** — selectable between preset and two user settings
- **Gain** (L, M, H)
- **Full auto** (on/off)
- **Auto/Manual focus**
- **ND filter** (OFF, +1/10ND)
- **User1/User2/User3/User4/User5/User6** (allows user to predefine functions such as Focus Assist, Colour Bars, TC setting, LoLux, Zebra, Tele/Macro, etc.)

Focus Assist

With the increased resolution of HD, accurate focusing is critical — focusing errors that may pass unnoticed in SD video are far more obvious when watching in HD. JVC developed Focus Assist to make accurate HD focusing quick and easy. When Focus Assist is switched on, the image in the viewfinder or LCD monitor becomes monochrome and all objects that are in focus appear with coloured edges. Keeping the important elements in the picture in focus while shooting is greatly simplified.



Focus Assist OFF



Focus Assist ON

Comprehensive Auto Functions

In most ordinary shooting situations the automatic functions of the GY-HM150U take care of the technicalities, letting you focus on the action in the frame and getting the shot the way you want it.

Wired and Wireless Remote Control

The GY-HM150E comes with a wired remote interface (Ø 3.5mm connector) for operating the camcorder remotely when using a tripod, jib, crane or boom. An infrared remote control is also available, great for when an operator is unavailable or unnecessary.



2.7-inch LCD Monitor

The 2.7-inch 16:9 aspect ratio LCD monitor provides not only an alternative to the viewfinder when shooting, it also displays a wide array of monitoring and setup indications. To the left of the screen is a mini joystick and push button for navigating menus and selecting options, as well as a zoom control and a recording start/stop button.



Versatile Manual Functions

For greater creativity and control, many of the camcorder's functions can be controlled manually, from shutter speed and exposure to horizontal and vertical image detail, gamma adjustment and brightness gain. Manual control can open the door to some great special effects, as well as enabling better footage to be shot in challenging shooting environments.

- **LoLux mode** — a JVC exclusive feature that permits shooting in adverse lighting conditions
- **H detail & V detail Adjustment**
- **KNEE Setting**
- **Zebra pattern** which range specification is possible
- **Colour matrix/Gain Adjustment**
- **Gain settings** of 0, 3, 6, 9, 12, 15, 18 dB & AGC can be assigned to the "L/M/H" gain switch
- **Gamma Adjustment** which gives rich expression of gradation



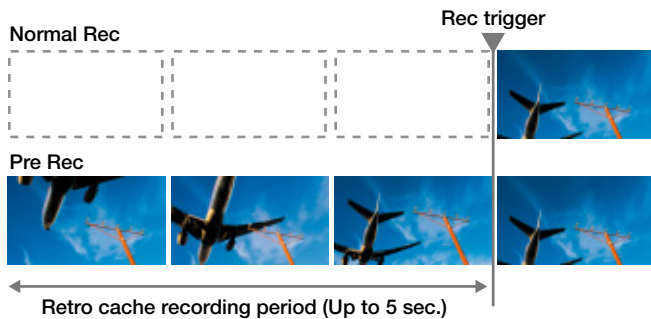
More Function Assignable Buttons for Enhanced Usability

The GY-HM150E is further equipped with three new USER buttons, resulting in a total of six buttons which can be assigned a range of useful functions: Focus Assist, Colour Bar, TC Setting, Tele Macro, Lolux, Zebra, Clip Continuous, Load File, OK Mark, Clip Cutter Trig, Backup Trig, AE Area, Clip Review, Rec, and Rec stop.

User-Friendly Functionality

Pre Rec Mode

How many times have you missed a crucial moment because you didn't hit the record button in time? With Pre Rec enabled, the camcorder continuously buffers up to 5 seconds of video, so that when recording is started the cached video is included in the recorded file, giving you up to 5 second head start.



Time-Lapse

The enhanced time-lapse feature offers variable recording intervals and frequency settings, allowing for total control when creating time-lapse effects.

Video Output

For external monitoring or capture, the GY-HM150E is equipped with a variety of video output options, including HDMI™ and component output for HD or downconverted SD video, and composite output for SD video only. HDMI™ output is via a standard HDMI™ connector and can output full HD video as well as uncompressed audio.

	HD	SD
HDMI™	720p or 1080i	Downconverted 576i/p
Component	720p or 1080i	Downconverted 576i
Composite	-	Downconverted 576i

No cross convert capability.
Output signal format is determined by System select and Connection setting in the menu.



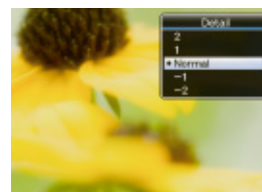
Component out
A/V (Composite) out
HDMI™ out
USB 2.0 out

GUI

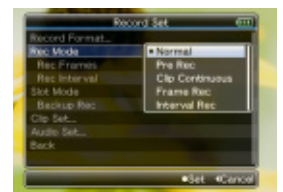
The GUI can be viewed in both the LCD monitor and overlaid in the viewfinder. The high-resolution picture thumbnail display makes it a simple task to select clips visually for review, and more detailed file and file format, frame rate, resolution and time code data.



File content display



Menu display



Item select over picture

Flexible Connections and Easy Monitoring

Versatile input switching and independent channel assignment allow both mic and line-level sources (such as wireless receivers) to be connected, and each XLR connector offers independent phantom power. Audio recording levels can be controlled automatically or manually, and there's an audio level meter in the viewfinder and LCD monitor for easy monitoring.



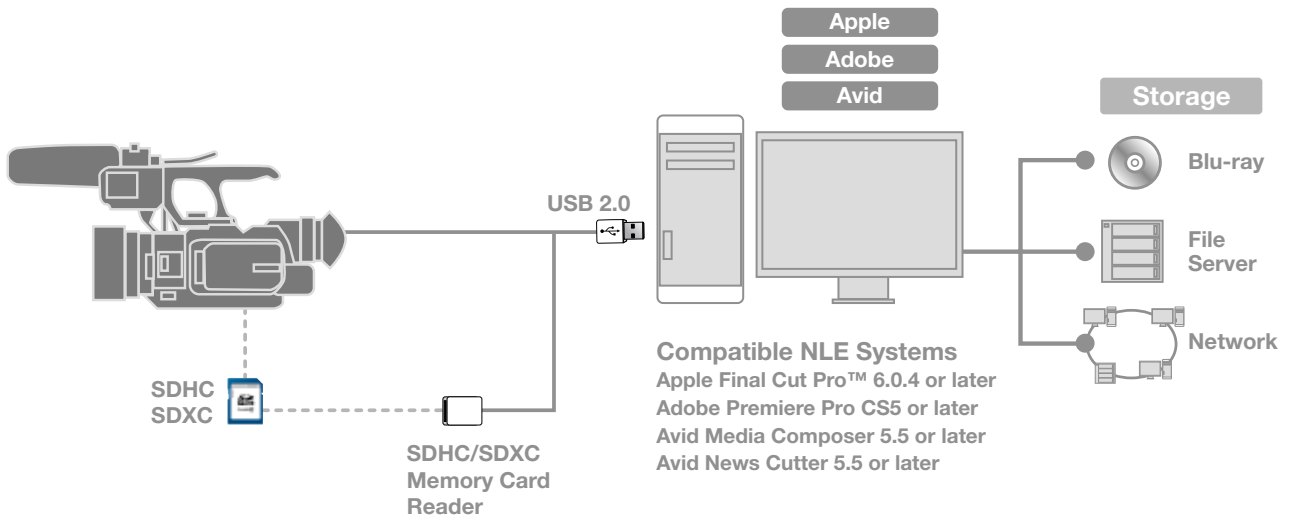
GY-HM150E Editing Workflow

Native File Recording for Integrated Workflows

With Native File Recording, JVC has eliminated one of the main obstacles to achieving a smoother, more streamlined production workflow. Until now, ingesting footage into editing systems was a time consuming process. With Native File Recording, your footage is ready to edit the moment it's shot.

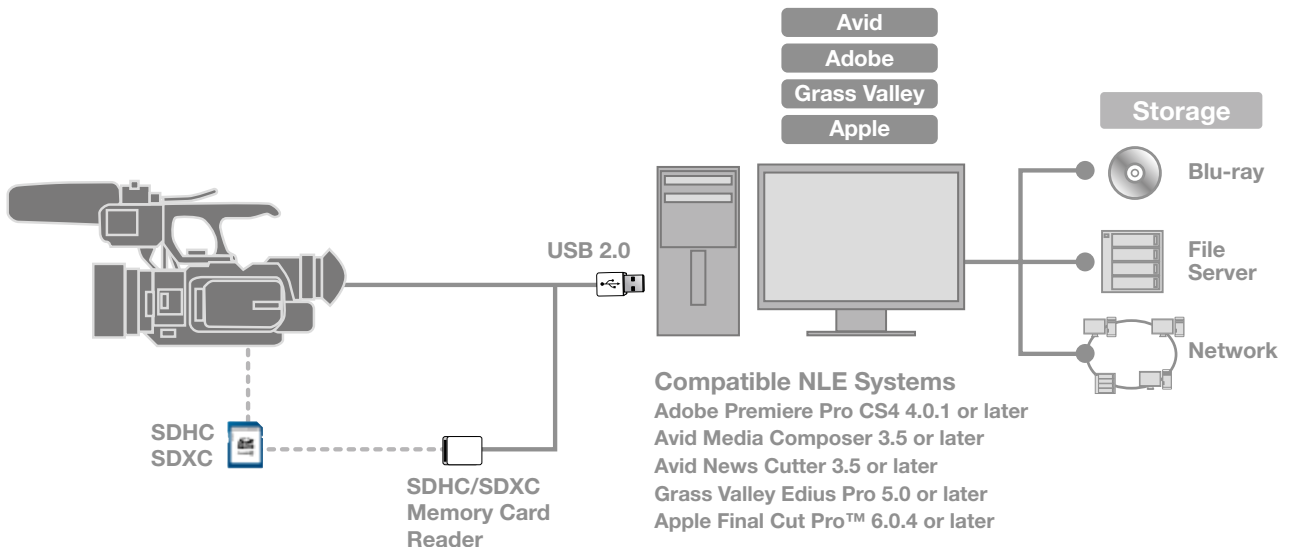
QuickTime™ MOV File Workflow

Direct file access to Apple's Final Cut Pro™



XDCAM EX™ Compatible MP4 File Workflow

Ingest MP4 clips to major NLE systems



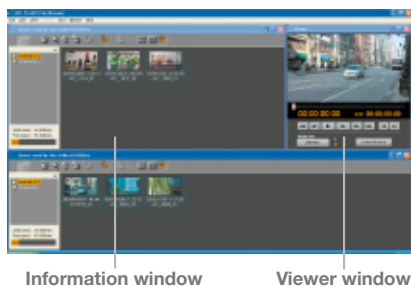
ProHD Software

JVC ProHD Clip Manager

The ProHD Clip Manager for both Mac and Windows makes it easy to manage MP4 clips on the GY-HM150E's memory cards from your computer. With a few clicks of the mouse you can copy, move or delete clips, preview clip content, as well as view and edit clip metadata. A thumbnail view of all the clips in the current folder shows the content of each clip at a glance. Use the viewer to watch the whole clip, or change the clip's index frame used for the thumbnail. You can also manage folders to keep your clips organised, and check the remaining free space on a card. The latest version of ProHD Clip Manager offers an even greater level of NLE compatibility by enabling MP4 files to be converted to M2T widely supported by NLEs.



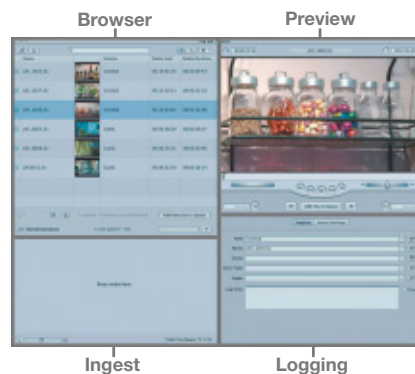
Main screen for Windows®



ProHD Log and Transfer Plug-in

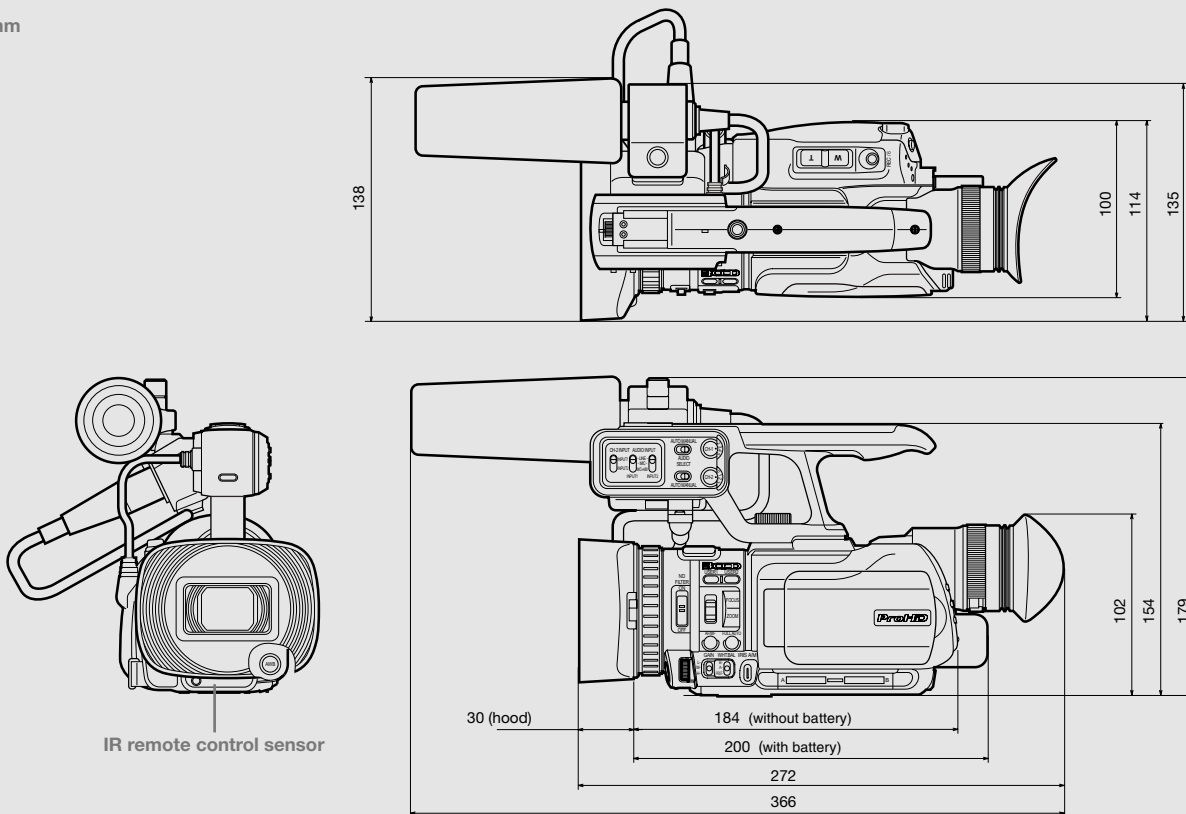
The ProHD Log and Transfer Plug-in is a plug-in for Apple's Final Cut Pro™ that lets you drop MP4 files recorded on the GY-HM150E into the clip bin. With the plug-in installed, you can view thumbnails of the MP4 files on a memory card from the Log and Transfer screen of Final Cut Pro™. Simply drag and drop the thumbnails into the bin to automatically convert the clips to QuickTime™, ready for use.

Log and transfer screen



Dimensions

Unit: mm



Specifications

GY-HM150E

[General]

Power requirement: DC 11 V (using AC adapter)/DC 7.2 V (using battery)
 Power consumption: 7.8 W (when LCD screen backlight is set to [STANDARD])
 Dimensions (W x H x D): 366 mm x 179 mm x 138 mm
 Mass: Approx. 1.4 kg (including battery BN-VF823, SDHC/SDXC card and microphone)
 Temperature:
 Operating: 0°C to 40°C
 Storage: -20°C to 50°C
 Humidity:
 Operating: 35 % to 80 % RH
 Image pickup device: 3-chip 1/4" Progressive CCD
 Colour separation prism: 3-colour separation prism
 Sync system: Internal sync (built-in SSG)
 Filter diameter:
 When the hood is detached: 46 mm (screw pitch: 0.75 mm)
 Compatible with filter, tele-converter and wide-converter
 When the hood is attached: 72 mm (screw pitch: 0.75 mm)
 Compatible with filter only
 Lens: Fujinon F1.8 to 2.8, 10x, f=3.7-37 mm (35 mm conversion: 39 to 390 mm)
 ND filter: OFF, +1/10ND
 Gain: 0dB, 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, Lolux, AGC
 Minimum illumination: 5lx (typical) (1920 x 1080 mode, F1.8, +18dB, with 16-frame accumulation)
 Electronic shutter: 1/3.75 to 1/10000, EEI
 Viewfinder: 0.24" LCOS, 260,000 pixels, 16:9, colour
 LCD monitor: 2.7" LCD, 230,000 pixels, 16:9, colour
 Supported media: SDHC (Class 6/10), SDXC Slots: x 2
 Recording time: Approx. 25 minutes (8 GB SDHC/SDXC card, 35 Mbps, VBR mode)

[Video/Audio]

Recording file format: QuickTime™ File Format for Final Cut Pro™ (HD/SD)/MP4 File Format (HD)/AVI type-2 File Format (SD)
 Recording format:
 Video: MPEG-2 long GOP
 HQ mode: VBR, 35 Mbps (Max) MPEG-2 MP@HL
 SP mode: CBR, 25 Mbps (1440 x 1080i)/19 Mbps (1280 x 720p24/25/30): MPEG-2 MP@H-14
 19 Mbps (1280 x 720p50/60): MPEG-2 MP@HL
 SD Video: DV compression 4:1:1, 8-bit, 25Mbps
 Audio: LPCM 2ch, 48 kHz/16bit
 Video frame rate:
 NTSC settings:
 HQ mode: 1920 x 1080/59.94i, 29.97p, 23.98p, 1440 x 1080/59.94i, 1280 x 720/59.94p, 29.97p, 23.98p
 SP mode: 1440 x 1080/59.94i, 1280 x 720/59.94p, 29.97p, 23.98p
 PAL settings:
 HQ mode: 1920 x 1080/50i, 25p, 1440 x 1080/50i, 1280 x 720/50p, 25p
 SP mode: 1440 x 1080/50i, 1280 x 720/50p, 25p
 SD mode: 720 x 576/50i

[Connectors]

AV output: Video analogue composite output (SD mode: 576i/HD mode: downconverted 480i or 576i, 4:3/16:9): 1.0 V (p-p), 75-ohms, Audio Stereo, analogue output 300 mV, 1 k-ohms (Special cable)
 Component output: Y, Pb, Pr component output (SD mode: 576i/HD mode: downconverted 480i or 576i/720p/1080i)
 Y: 1.0 V (p-p), 75-ohms Pb, Pr: 0.7 V (p-p), 75-ohms (Special cable)
 HDMI™ output: HDMI™ (SD mode: Auto/576i/480p HD mode: Auto/Downconverted 480i/480p or Downconverted 576i/576p) (x.v. Colour compliant)
 USB: Mini USB-B type, USB 2.0
 Headphone: 3.5 mm mini-jack (stereo)
 Remote interface: 3.5 mm mini-jack (3 axis)
 Audio input:
 [MIC]: -60 dBμ, 3 k-ohms, XLR (balanced), +48 V output (phantom power supply)
 [LINE]: +4 dBμ, 10 k-ohms, XLR x 2 (balanced)

[Accessories Provided]

Battery pack (BN-VF823) x 1, AC adapter (AP-V20M) x 1, Battery charger (AA-VF8) x 1, Microphone x 1, Wireless remote control unit x 1, Component cable x 1, A/V cable x 1

■ SDHC Class 6/10, SDXC recording time (approx.)

	MOV/MP4			MOV/AVI
	SP		HQ	SD
	720p	1080i	720p/1080i	576i
4GB	22 min.	17 min.	12 min.	15 min.
8GB	45 min.	35 min.	25 min.	30 min.
16GB	1 hr. 30 min.	1 hr. 10 min.	50 min.	1 hr.
32GB	3 hr.	2 hr. 20 min.	1 hr. 40 min.	2 hr.
64GB (SDXC)	6 hr.	4 hr. 40 min.	3 hr. 20 min.	4 hr.

Optional Accessories



BN-VF823U
Battery



AA-VF8U
Battery charger

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