

# JVC<sup>®</sup>

The Perfect Experience / —

# ProHD

HD Memory Card Camcorder  
GY-HM700/GY-HM100

## *A Guide to the Most Efficient Workflow with ProHD*



SDHC ►



Smooth  
Integration ►



Native File  
Workflow ►

# Why Choose ProHD Memory Camcorders?

The professional video industry is moving toward a tapeless, flash memory-based workflow. JVC ProHD leads the way using SDHC recording media, offering advantages in terms of media cost and reliability, and Native File Recording to realize a faster, simpler and more efficient workflow. What's more, ProHD integrates seamlessly into your existing systems and production infrastructure.

## ProHD Native File Recording Workflow

**Non-Proprietary, Affordable & Reliable Recording Media**

Records to Standard Class 6 SDHC Cards

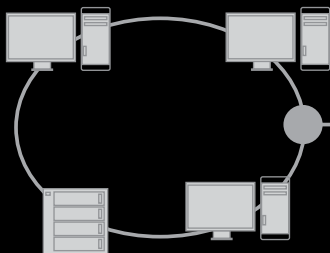
**Native File Recording**  
No File Re-Wrapping,  
No Re-Encoding,  
No Waiting!

Ready-to-Edit QuickTime™ MOV and XDCAM EX™ MP4 Formats

**Smooth Integration into Existing Facility's System and Devices**

Uses Broadcast-Standard MPEG-2 Long GOP, 35/25/19 Mbps Codec

**Network**



**Editing**

Final Cut Pro™



Avid

Adobe

Canopus

**Distribution and Storage**



Blu-ray



File Server



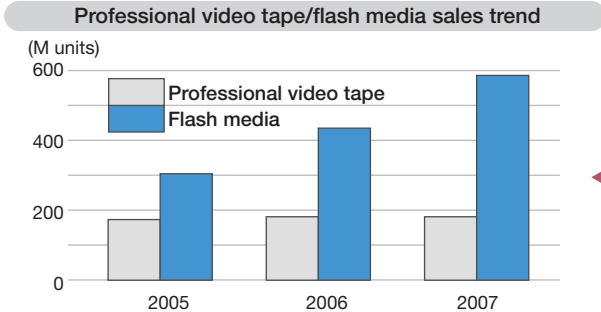
## Non-Proprietary, Affordable & Reliable Recording Media

The combination of ProHD and SDHC recording media confer significant advantages in terms of cost savings, shooting flexibility and reliability. The provision of twin card slots on the GY-HM700/HM100 models allows operators to record seamlessly over multiple cards.

### Widely Used, Available Anywhere

Among the many types of flash media on the market today, SDHC stand out as the de facto standard. And while sales of professional video tape have remained largely static over the last few years, sales of flash media\* have skyrocketed – with the result that SDHC cards are widely and readily available all over the world.

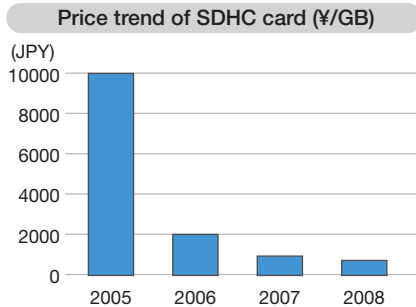
\* Includes sales for all uses.



**Increasing sales of flash media**

### Economical & Cost Efficient

As the use of SDHC media has become more widespread over the last few years, its cost per gigabyte has fallen dramatically, to a point where it is now a consumable item and comparable to professional video tape in terms of cost per hour of video. And while prices for specialized media cards for professional video use have also fallen, they remain far more expensive than SDHC media per gigabyte, added to which, older codecs generally use higher bit-rates and thus require more storage space.



**Price comparison**

	SDHC (1080i/SP mode)		P2 (1080i/DVCPRO HD)	
	Price	Capacity	Price	Capacity
60 min.	\$70	8GBx2	\$2,500	64GB
120 min.	\$200	16GBx2	\$5,000	64GBx2

**Consumable Price**

Media costs based on survey of published prices as of Jun, 2009.

### Robust & Reliable

SDHC media has already proved itself as a robust and reliable format that meets the demands of the professional user. Even when compared to expensive proprietary flash media, SDHC can hold its own in terms of data storage life, operating temperature and humidity, and number of read/write/erase cycles. Clips can be protected from accidental deletion or deleted if no longer needed. Damaged clips (due to improper eject, etc.) may be repaired with the "restore file" function.

**Recording media you can trust**

**Media reliability**

	SDHC
Typical insert/eject number	<b>More than 20,000 times</b>
Typical data storage year	10 years
Typical read/write/erase cycle	<b>100,000 cycles</b>
Storage temperature	-25°C to 85°C
Storage humidity	8 to 95%
Typical anti vibration gravity	<b>15Gs (Maximum amplitude of vibration)</b>
Typical anti shock gravity	<b>2000G</b>
Typical anti static electricity durability	15kV(ESD)
MTBF	1,000,000 hours

SDHC card is proven as reliable media for professional use.



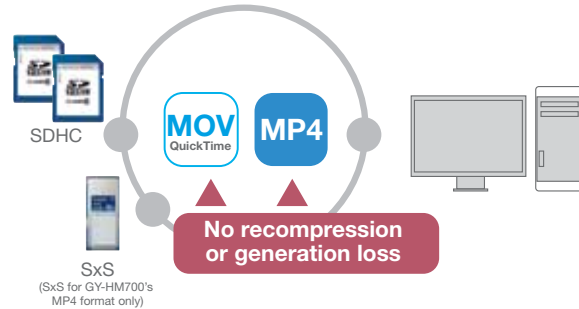
# Native File Recording

## No File Re-Wrapping, No Re-Encoding and No Waiting

Native File Recording — the ability to record directly to the native file formats of non-linear editing systems — is the feature that will accelerate and streamline your production teams' workflow both in the area of ENG and in the post production. Needless to say, these gains in production efficiency translate directly into significant cost savings for your business.

### Common File Wrapper with QuickTime™ MOV & XDCAM EX™ MP4 Formats

ProHD memory card camcorders are designed to support most professional non-linear editing systems. Users of Apple's Final Cut Pro™ can record directly in QuickTime™ MOV format, while XDCAM EX™ MP4 file format\* recording ensures broad compatibility with other major NLE systems, including those from Avid, Adobe and Canopus. Support for native file formats eliminates any loss of quality when video is brought into the NLE system for editing.



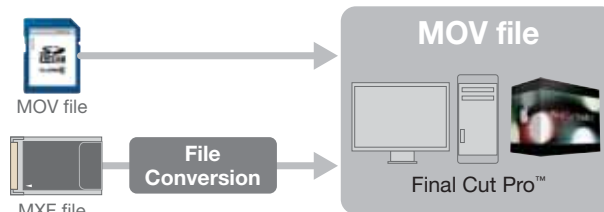
\*GY-HM700 requires the optional KA-MR100G SxS memory card recorder for XDCAM EX™ MP4 file-based workflow.

Note:

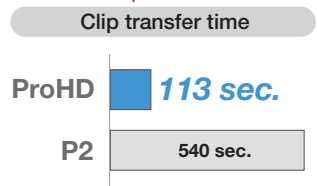
- Playback compatibility may not be guaranteed on the different types of products due to variation of supported recording mode.
- MP4 is the compliant file format used on the XDCAM EX™.
- SxS is a flash memory card designed for professional video cameras with a high-speed PCI Express interface.

### Immediate Import & Editing

Files recorded to SDHC media are immediately editable without conversion or file wrapping, making on-the-fly editing possible directly from the card. What's more, the relatively small size of MOV/MP4 files means that when you need to transfer clips to HDD, it is quick. In contrast, on-the-fly editing in FCP of competing formats is only possible after file wrapping, and much larger file sizes significantly increases clip transfer times.



Almost 5X faster



	ProHD		P2
File Format	MOV		MXF
Purpose	On-the-fly edit	Clip import	On-the-fly edit/Clip import
Clip transfer time	Few sec.	113 sec.	540 sec.
Recording time	8 min.		8 min.
File capacity	1.99GB		6.61GB
Bit rate	1080i60 35 Mbps		1080i60 100 Mbps

### Save Operating Expenses

Integrating ProHD memory card camcorders into your existing workflow can reduce operating costs on three fronts: The simplified, streamlined workflow makes it possible to reduce total ENG and newsroom staffing; the on-going purchase

of consumables and the need for frequent expansion of server capacity is reduced; and compatibility with the lower bit-rate Super Encoded HD format means more efficient use of leased fiber and microwave bandwidth.

- Less staffing requirement
- Fewer ongoing consumable purchases
- Reduced bandwidth requirement

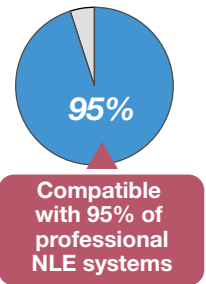
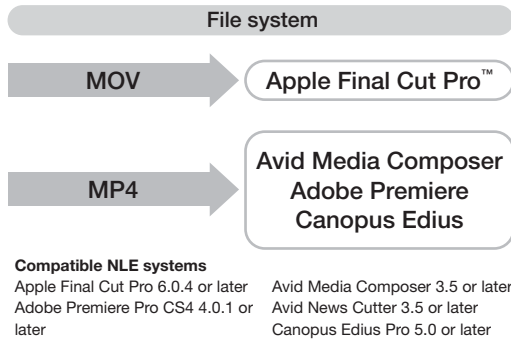


## Smooth Integration into Existing Facility's System and Devices

ProHD memory card camcorders are designed to integrate seamlessly into the majority of existing post-production infrastructure, and into existing workflows based on the file systems and codecs in common use in today's broadcasting industry. Migrating to ProHD requires little additional infrastructure investment or restructuring.

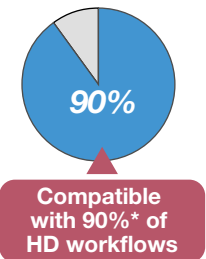
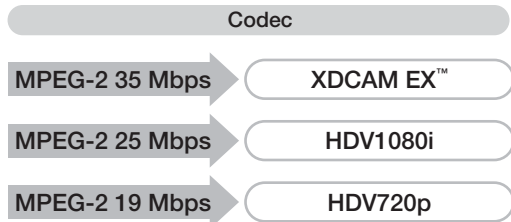
### Native MOV/MP4 File Recording

Native support for QuickTime™ MOV and MP4 file formats mean full compatibility with not only production workflows based on Apple's Final Cut Pro™ but also workflows based on other popular NLE systems, including Avid Media Composer, Adobe Premiere and Canopus Edius. Together these systems account for around 95% of the installed base of professional NLE systems, making these native file based ProHD camcorders a natural choice for almost any production facility.



### Broadcast-Standard 35/25/19 Mbps Encoding

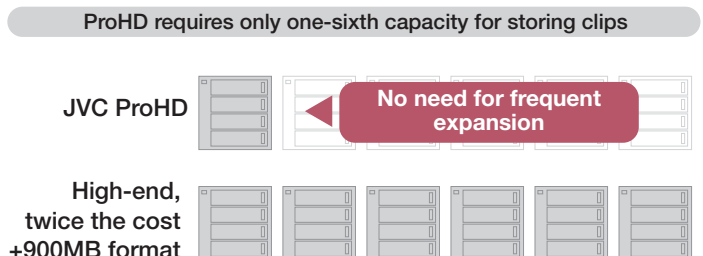
ProHD uses the industry-standard MPEG-2 Long GOP (Group of Pictures) codec to compress and encode video recordings. The three standard encoding bit-rates in use today are supported: 35 Mbps (XDCAM EX™ workflow), 25 Mbps (HDV1080i workflow), and 19 Mbps (HDV720p workflow). This ensures compatibility with around 90% of the industry, making ProHD a highly flexible recording solution.



\* Share of the sub-\$10,000 camcorder market that is compatible with ProHD (HDV720p), HDV1080i and/or XDCAM EX™ codec.

### Saving Facility Costs

ProHD's support for "Super-Encoded" HD format gives you full HDV720p capability with a real-time data stream of just 19 Mbps (2.4MB/s). A one-minute news clip therefore requires only 150MB of storage per minute of video, compared with up to 900MB for competing professional systems. This economical bandwidth requirement translates into substantial cost savings for broadcasters that consume large amounts of media by reducing the need for expansion of file server capacity and network bandwidth.



Credits for photos\* on the top of this page (from left side): Photo courtesy of WXYZ-TV(ABC, Detroit) / DirtyPoliticsTheMovie.com / DirtyPoliticsTheMovie.com / Waterman Broadcasting Corp. \*Do not include the photo of the building.



# Eco Reasons for Memory Card Workflow

Moving from tape-based to memory card-based production results not only in efficiency gains and cost savings — there are ecological benefits too.

## Maintenance-Free Mechanism

Flash memory recording media has several ecological advantages over tape. With no moving parts card are more robust than cassettes, require less power in use, and fewer resources in manufacture. They are also highly reusable, eliminating video tape waste. Without complex mechanical tape transports, memory card camcorders consume less energy, require less periodic maintenance and fewer replacement parts than their tape-based counterparts.

### Periodical inspection and replacement of mechanical parts

	Video tape camcorder	ProHD memory camcorder
Head drum	Required	<b>No mechanical parts</b> ↓ <b>No inspection/replacement required</b>
Pinch roller	Required	
Several guide rollers/arms	Required	
Several reel disks	Required	
Several mechanical motors	Required	

**No consumable parts**

## Space-Saving Media

Compared to DVCPRO-HD LP cassettes, SDHC cards are incredibly compact, dramatically reducing storage space requirements for archived recordings. Six JVC protective carriers (each containing up to three SDHC cards) occupy the same space as one cassette. Storage space saved per hour of video is even more startling: while the LP cassette holds two hours of DVCPRO-HD video, six cases of three 32GB SDHC cards can store some 60 hours of 19 Mbps HD video.



Approx. 2 hours of HD recording time on 1x DVCPRO HD 126 XL cassette.

### COMPARE

Same "on-the-shelf" physical volume



Approx. 60 hours of HD recording time on 18x 32GB SDHC memory cards in 6 ProHD plastic sleeve carriers.

**Up to 30x the recording time in the same storage space!**

### GY-HM700U/HM700E



- Compact shoulder mount
- Native file recording
- QuickTime™ MOV / MP4\* file format
- Twin SDHC card slots with seamless continuous recording
- SxS double media hybrid recording (optional)
- 1080p Dynamic Digital Signal Processor (DDSP)
- 35 Mbps MPEG2 encoding
- Uncompressed audio recording with full manual control
- 14x Canon HD lens
- Three 1/3-inch progressive CCD design with Triplex Offset

- 1.22 Megapixel LCOS viewfinder
- Focus assist function
- 4.3-inch LCD monitor
- GUI
- Shooter-friendly controls and layout
- Pre Rec mode
- Spot exposure meter
- Variable frame rate recording (over crank, under crank)
- Remote camera control connector
- SDI and IEEE1394 output of HD and downconverted SD video

\*Requires the optional KA-MR100G SxS memory card recorder to record MP4 files on either SDHC or SxS media.

### GY-HM100U/HM100E



- Compact handheld camcorder
- Native file recording
- QuickTime™ MOV / MP4 file format
- Twin SDHC card slots with continuous recording
- 1080p Dynamic Digital Signal Processor (DDSP)
- 35 Mbps MPEG2 encoding
- Uncompressed audio recording with manual controls
- 10x Fujinon HD lens
- Three 1/4-inch progressive CCD design with Diagonal Offset
- Rotary Optical Image Stabilizer

- Still Picture Capture
- Focus assist function
- 2.8-inch LCD monitor
- GUI
- Shooter-friendly controls and layout
- Comprehensive auto functions
- Versatile manual functions
- Data battery
- HDMI™/component/composite output
- Wireless remote control

Final Cut Pro™ is not supplied.

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