

# JVC

The Perfect Experience

## ProHD Solid State Media Camcorder GY-HM100U



The GY-HM100U is a Compact Handheld camcorder with performance and features found only in larger and more expensive models. It's designed to be easy to use, making it ideal for news reporters and producers. Seasoned shooters will find that its small size lets them work in environments where larger cameras would be impractical—all while producing recordings on par with broadcast cameras.

- Professional format recording with selectable data rates up to 35Mbps
  - Native Final Cut Pro format  
Fastest HD shoot to edit workflow. Edit immediately without conversion or transcoding
  - ISO Base Media File Format  
Compatible with all major non-linear editing systems
- Records to dual SDHC memory cards (no moving parts in recording system)
- Full HD recording (selectable) 1920 x 1080 (1080p24/25/30, 1080i) 1280 x 720P (p60/50/30/25/24)
- Fujinon HD lens with manual or auto modes
- Extensive image customization modes (gamma, matrix, knee, detail, etc.)
- Uncompressed LPCM audio (2ch) recording



## ProHD

[www.jvc.com/pro](http://www.jvc.com/pro)

## Performance

### Three 1/4-inch Progressive CCDs

Three newly developed 1/4-inch progressive scan CCDs—one each for red, green and blue—provide rich, accurate colors. To separate primary colors, JVC has incorporated a high accuracy Fujinon glass prism and the proprietary mounting technology.

### Spatial Offset Technology

The Red and Blue pixel locations are shifted relative to Green, allowing the sampled luminance information to be significantly increased in both horizontal and vertical directions. This results in much higher resolution images without sacrificing sensitivity.

### Fujinon 10:1 Zoom HD Lens

The GY-HM100U utilizes a high definition lens by Fujinon, world leader in HD lens technology. This lens features 3 aspheric elements which minimize the weight and space required, while producing less distortion, ghosting, and flare. In addition, the lens surface is coated with a new Electronic Beam Coating (EBC) that greatly reduces degradation caused by light reflecting off the lens surfaces leading to greater light transmission and reduced flaring and ghosting. To protect the lens, a flip-in cover is provided, eliminating the need for an external cap.



Focus is controlled manually or automatically. A smooth servo zoom is controlled with a conventional rocker on the handgrip, or manually on the lens. For close-up shooting, a macro mode allows for shooting subjects as little as 2-inches away from the lens. Exposure (iris) is automatically or manually controlled, letting the shooter adjust the depth of focus by selecting the appropriate F stop. The current F stop is displayed in the viewfinder in the manual mode.

An advanced JVC-developed Optical Image Stabilization (OIS) system provides effective camera-motion compensation without any of the quality loss associated with digital image stabilization systems.

### Newly Designed 1080p Digital Processor

JVC's digital signal processor (DSP) processes all images as full 1920x1080 progressive signals, providing the maximum image information to work with regardless of the actual recording mode that is used. Also integrated into the chip are five digital noise reduction technologies that evaluate the signal and apply the appropriate compensation while increasing vertical resolution by about 30%.



### JVC Original 35Mbps MPEG2 Encoder

Drawing from its experience in developing rack mount encoders used by major television stations, JVC developed a proprietary codec capable of providing highly efficient compression up to 35 megabits per second, a bitrate that can support full 1920 x 1080 encoding. This is significantly higher than the data rates used in other hand held camcorders and results in recorded images of exceptional quality. MPEG2 long GOP is the most widely accepted broadcast standard compression supported by all popular editing systems and broadcast servers.

# 35 Mbps

The GY-HM100 supports all major HD signal formats including 1920 x 1080, 1440 x 1080 and 1280 x 720.

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

### Native File Recording

The GY-HM100 incorporates JVC's Native File Recording technology that stores video in the ready-to-edit format used by Apple's Final Cut Pro™ non-linear editing system. The ".mov" files created in the camera can be easily dragged onto the NLE timeline without conversion or rewrapping, saving time while keeping the recorded material first generation. There is no need to use an intermediate codec.

The camera can also store files in the ISO Base Media File Format (MPEG-2 Long GOP), compatible with all major non-linear editing systems. In this mode, the files and folders are recorded so that they can be easily accessed in the post production process.

The GY-HM100 records audio as uncompressed LPCM data in both Final Cut Pro™ and ISO formats.

## Secure Digital High Capacity (SDHC) memory card recording



The GY-HM100 records on widely available SDHC Class 6 memory cards, presently available in capacities up to 32GB. The camera provides 2 memory card slots, for a total of up to 64GB of on board storage—enough for more than 6 hours\* of continuous HD recording. (The camera automatically begins recording on the second card when the first card fills up.) Being able to quickly switch cards with dual slots is invaluable in a breaking news situation

where a producer may wish to begin editing while the shooter is still capturing footage.

\*When recording in 19Mbps mode



### 2 Memory Card Slots

SDHC cards are highly reliable with no moving parts, no pins to break nor sockets to clog. Unlike competing solid state media, the per-minute cost of SDHC memory is comparable to video tape. Moreover, SDHC media is the first practical solid state solution to physical archive.

## Still picture capture capability

Create 2 megapixel still images (1920 x 1080) with either a live grab, or from recorded video. Since the CCDs are progressively scanned, still images are crystal clear, even if there is motion in the scene. With the GY-HM100, you can copy or move still images from one memory card to another allowing you to store still images on one card, and video on the other.

## Uncompressed Audio with Manual Controls

The GY-HM100 records 2 channels of uncompressed LPCM (linear pulse code modulated) 16 bit audio sampled at 48Khz. Audio levels can be controlled manually, or automatically using AGC. An audio meter is provided in the LCD and VF displays to facilitate adjustment. Balanced XLR connectors are provided on the handle for an external microphone and/or wireless receiver. 48V phantom power is available for each microphone. Versatile input switching allows the microphone signal to be directed to the desired channel. A shotgun microphone is provided, as well as a built-in stereo microphone for ambient sound pickup.



## Operational/Ergonomic Features

### Compact Hand-held Form Factor

The GY-HM100 is the smallest pro format 3-CCD camcorder available—about the size of the lens of a 2/3-inch camera. At only 3.3 lbs, it can be used comfortably for hours, and without the need for clumsy support bracing. Its size makes it ideal for hand-held POV use and for applications where a full size camera would be impractical such as traveling into potentially hostile situations. For a smaller footprint and less conspicuous shooting, the handle can be easily removed. When media needs to be concealed, Micro-SDHC memory cards can be used with a card adapter.

### Shooter-friendly controls and layout

The camera's hand grip has a comfortable, familiar feel comfortably accommodating hands of all sizes. Controls and switches are right where you'd expect them. To conserve on space, a single ring is used for both manual focus and manual zoom. When holding the camera by the grip, zoom and trigger controls operate the same as on full size cameras.

### Patented "FOCUS ASSIST" function

Achieving exact focus with HD signals is critical. JVC's Focus Assist turns focusing into a fast, easy and accurate process. When Focus Assist is activated, the picture in the viewfinder becomes monochrome and all objects which are in focus take on a colored fringe. Focus Assist works equally in the viewfinder as well as on the LCD panel. The Focus Assist function can be assigned to one of the three USER buttons.

### Versatile Manual Controls

When operating the camera in the manual mode, depth of field can be adjusted by manually setting the iris. Aperture priority automatically selects the correct shutter setting based on the iris selection. Shutter can be manually adjusted from 1/4 to 1/10000 sec.

### 2.8-inch LCD Display

The 2.8-inch LCD offers a 16:9 aspect ratio and provides a wide array of monitoring and setup indications. It is especially designed to cut surface reflections and glare to maintain a clear, visible, bright view during outdoor recording. Menu items are easily selected using a small joystick and push buttons.

### Wireless Remote Control

A simple infrared remote control unit (provided) allows the camera to be operated remotely. This is especially useful at events when the camera is used to capture POV shots when an operator is not available.

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## GENERAL

Power	DC 11V (AC adaptor), DC 7.2V (Battery)
Power consumption	7.2W (with VF and LCD monitor)
Dimensions	138(W) x 178(H) x 365(D)mm (5-7/16" x 7" x 14-3/8")
Weight	Less than 1.4kg (3.1 lbs) (Including battery, microphone, SDHC cards)
Operating temperature	0°C to 40°C (32℥ to 104℥)
Storage temperature	-10°C to 60°C (18℥ to 140℥)
Operating humidity	30% to 80%
Storage humidity	Under 85%

## CAMERA

Image sensor	1/4" Progressive scan 3CCD
Synchronizing system	Internal synchronization
Stabilizer	Optical image stabilizer
Lens	Fujinon F1.8, 10x, f=3.7-37mm (35mm conversion:39 to 390mm)
Filter diameter	46mm
Shutter speed	1/4 to 1/10000
Gain	0, 3, 6, 9, 12, 15, 18 dB, ALC
ND filter	1/10
LCD display	2.8"
Viewfinder	0.44"

## HD VIDEO RECORDING

Recording media	2x SDHC memory card Class 6
Video recording	Video codec: MPEG2 Long GOP File format: Quick time format for Final Cut Pro/ISO base media file format
Recording mode	60 Hz setting: 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 50Hz setting: 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
Audio recording	LPCM 2ch, 48kHz/16-bit(Internal stereo mic/External mic input)

## STILL IMAGE RECORDING

Recording media	Multimedia card/SD card/SDHC card
Format	JPEG

## INTERFACE

Video output	Composite output (480i, 4:3/16:9) (φ3.5mm mini jack) Component output (480i /720p /1080i) (Multi-pin cable) HDMI output (480i: / 720p /1080i)
Audio input	XLR x2 (MIC,+48V/LINE)
Mic input	φ3.5mm mini jack
Audio output	φ3.5mm mini jack
Headphone	φ3.5mm mini jack
USB	USB2.0, mini B

## PROVIDED ACCESSORIES

Battery pack x1, AC adapter x1, Battery charger x1, Microphone x1,  
Wireless remote control unit x1, Component cable x1, A/V cable x1



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