

April 2016

## HD/SD Memory Card Camcorder



Mobile newsgathering is now faster and better than ever with the introduction of two upgraded models in JVC's 600 Series of ProHD mobile news camcorders – the GY-HM660 and GY-HM620 cameras. Small and light enough to be used anywhere, these advanced cameras surpass the performance of many traditional ENG-style units. The GY-HM660 is also the industry's first streaming camcorder with an integrated IFB audio channel\*.

Both the GY-HM660, which replaces the current GY-HM650, and the GY-HM620, which replaces the GY-HM600, feature new CMOS image sensors for greater sensitivity and a brighter LCD display for improved daylight viewing. On the GY-HM660, dual codecs make it possible to record on two cards simultaneously: full HD on one memory card and a smaller web-friendly file or SD on the other card. Transfer the footage back to the station with the GY-HM660's built-in FTP and optional WiFi connectivity via integrated USB host.

The GY-HM620 is ideal for people looking purely for a high performance camcorder. It is equipped with HD-SDI and HDMI outputs, both of which can work simultaneously. Other improvements over previous models include a brighter LCD and professional audio inputs with Phantom power, equalizer, wind noise filter and a dedicated auxillary input for audio sources such as wireless microphone receivers.

### Mobile News in Action

The GY-HM660/620 long (23x) wide angle lens is perfect for fast paced ENG. The camera offers superb low light performance with F13 sensitivity at 2000 lux, thanks to three new CMOS sensors offering greater sensitivity. The cameras offer multi-codec performance: MPEG-4/H.264 up-to 50Mbps / AVCHD / MPEG-2 (35Mbps/25 Mbps) / SD H.264. The GY-HM660 also offers dual recording with different codecs, for example HD/SD or web friendly formats, HD + Web\* (Proxy H.264 960x540 or 480x270).

### Dual HD, Backup and Series recording

The GY-HM660 performs live transmission (streaming) while recording to memory cards. Zixi advanced streaming is built-in and provides forward error correction, automatic repeat request and adaptive bitrate control. Stream directly to USTREAM or YouTube with RTMP protocol, plus you can also stream to Streamstar live production systems. Transmission at selected resolutions, bitrates and formats is possible independent of the recording mode. Stream 1920x1080 (3, 5 or 12 Mbps), 1280x720 (1.5 or 3Mbps) or 480i (0.8, 0.2 Mbps). The camera now supports SMPTE 2022 FEC error correction, and there's also UDP multicast streaming. The UDP Multicast allows streaming to the internet to as many viewers as you want (within the network bandwidth) without needing complicated hardware.

### **NEW** Interruptible foldback (IFB) for audio\*

JVC is committed to delivering the studio experience anywhere with our advanced IP technologies. Coming as an update in the very near future is a new interruptible foldback (IFB) feature that allows reporters in the field to communicate with the studio control room while streaming live HD reports from the field. The GY-HM660 is the first camcorder to feature this built-in audio return support via IP connection. If you have an audio IFB device, the GY-HM660 can pick-up the IFB from the IP connection and delivered it via the headphone jack to the camera operator or reporter. *\*This feature is available in a near future update.*

April 2016

**Main features**

- **NEW:** 1/3-inch 12-bit CMOS sensors (1920 x 1080 x 3)
- **NEW:** F13 sensitivity
- 23x Fujinon Auto focus zoom lens with manual functions
- F1.6-3.0, 23x, f=4.1-94.3mm (35mm conversion:29 to 667mm)
- Optical image stabilizer
- 3 position ND filter (1/4, 1/16, 1/64)
- HD-SDI and HDMI outputs
- 0.45-inch 1.22M pixel colour viewfinder
- **NEW:** brighter 3.5-inch 920K pixel LCD display with focus assist
- SDXC/SDHC memory card recording (2 slots for dual-backup, continuous recording)
- Large file size support with SDXC card
- 50Mbps H.264 Extreme High Quality mode (XHQ)
- Dual Codec: simultaneously record HD + SD, HD + 480x270 or 960x540 (for Web delivery)\*
- Multiple encoding formats
  - HD H.264 (50Mbps)
  - HD MPEG2 (35/25/19Mbps)
  - AVCHD 1920x1080 60i
- 1080/60p recording capability
- SD H.264
- 480x270 H.264 (web)\* and 960x540 H.264 mode\*
- Wide media format compatibility:
  - .MXF with rich Metadata (optimized for asset management)\*
  - .MOV (Final Cut Pro)
  - .MP4 (XDCAM EX™)
- AVCHD with additional lower bitrate AVCHD modes
- Professional switch layout and comprehensive video settings
- Pre Rec (retro) mode (15 sec.)
- Interval (time lapse) recording
- High performance 2D DNR
- Built-in stereo microphone
- 2-channel balanced audio inputs (mic/line switchable) w/phantom power supply
- Wired remote control connector (LANC / Control-L)

\* GY-HM660 only

April 2016

**GY-HM660 IP features**

- USB host supports a wide range of WIFI, 3G, 4G and CAT5 cable adapters
- Live streaming with advanced Zixi error correction and adaptive bit-rate control
- **NEW:** Interruptible foldback (IFB) - *very near future update*
- **NEW:** High latency mode, recovering up to approximate 40-50% package loss
- RTMP protocol lets you stream directly to USTREAM, YouTube
- **NEW:** SMPTE 2022 FEC MPEG-TS/RTP streaming
- RTSP and UDP streaming
- **NEW:** UDP multicast streaming
- High bit-rate streaming (up to 12 Mbps)
- Background FTP clip transfers while recording
- **NEW:** ZIXI FTP support
- Web browser interface with full administration and remote features, including live preview, metadata editing and clip reviews (no dedicated application needed)
- Live streaming from 12Mbps down to 200Kbps
- Clip trimmer (basic editor)

**Optional accessories****SSL-JVC50**

Standard Li-ion Battery (IDX), DC7.4V, 4900mAh, 37Wh

**SSL-JVC75**

Long-life Li-ion Battery with D-TAP Connector (IDX), DC7.4V, 7350mAh, 55Wh

**LC-2J**

7.4V 2-ch Simultaneous Charger (IDX)

**SDHC Class 4/6/10, SDXC recording time (approx.)**

Recorded files can be divided while recording MOV/MXF on an SDXC card. User can select recording capacity time between "up to 4GB/30 minutes max" and "up to 64GB/4 hours max".

|       | MOV/MP4/MXF |        |        | MTS            |         |         |         |         | MOV      |        |          |             |          |
|-------|-------------|--------|--------|----------------|---------|---------|---------|---------|----------|--------|----------|-------------|----------|
|       | MPEG-2/HD   |        |        | AVCHD          |         |         |         |         | H.264/HD |        | H.264/SD | H.264/Proxy |          |
|       | HQ          | SP     |        | HQ Progressive | HQ      | SP      | LP      | EP      | XHQ      | UHQ    | SD       | HQ          | LP       |
|       | 720p/1080i  | 1080i  | 720p   | 1080p          | 1080i   |         |         |         | 1080p/i  |        | 480i     | 540p        | 270p     |
| 4GB   | 12m         | 17m    | 22m    | 16m            | 19m     | 25m     | 46m     | 1h 22m  | 9m       | 17m    | 47m      | 2h 10m      | 4h 45m   |
| 8GB   | 25m         | 35m    | 45m    | 33m            | 38m     | 50m     | 1h 35m  | 2h 48m  | 18m      | 35m    | 1h 35m   | 4h 30m      | 9h 40m   |
| 16GB  | 50m         | 1h 10m | 1h 30m | 1h 7m          | 1h 18m  | 1h 40m  | 3h 10m  | 5h 36m  | 36m      | 1h 35m | 3h 10m   | 9h          | 19h 20m  |
| 32GB  | 1h 40m      | 2h 20m | 3h     | 2h 15m         | 2h 36m  | 3h 20m  | 6h 20m  | 11h 12m | 1h 12m   | 2h 20m | 6h 20m   | 18h         | 19h 20m  |
| 64GB  | 3h 20m      | 4h 40m | 6h     | 4h 30m         | 5h 12m  | 6h 40m  | 12h 40m | 22h 24m | 2h 25m   | 4h 40m | 12h 40m  | 36h         | 78h 40m  |
| 120GB | 6h 40m      | 9h 20m | 12h    | 9h             | 10h 32m | 13h 20m | 25h 20m | 44h 48m | 4h 50m   | 9h 20m | 25h 20m  | 72h         | 157h 20m |

Notes: Recording times are estimate.  
Recommended SDHC/SDXC memory card brands: Panasonic, Toshiba and SanDisk.  
SDHC Class 10 enabled only in XHQ mode; SDHC Class 4 enabled in AVCHD mode.

**Availability**

From May 2016 onwards