JVC®

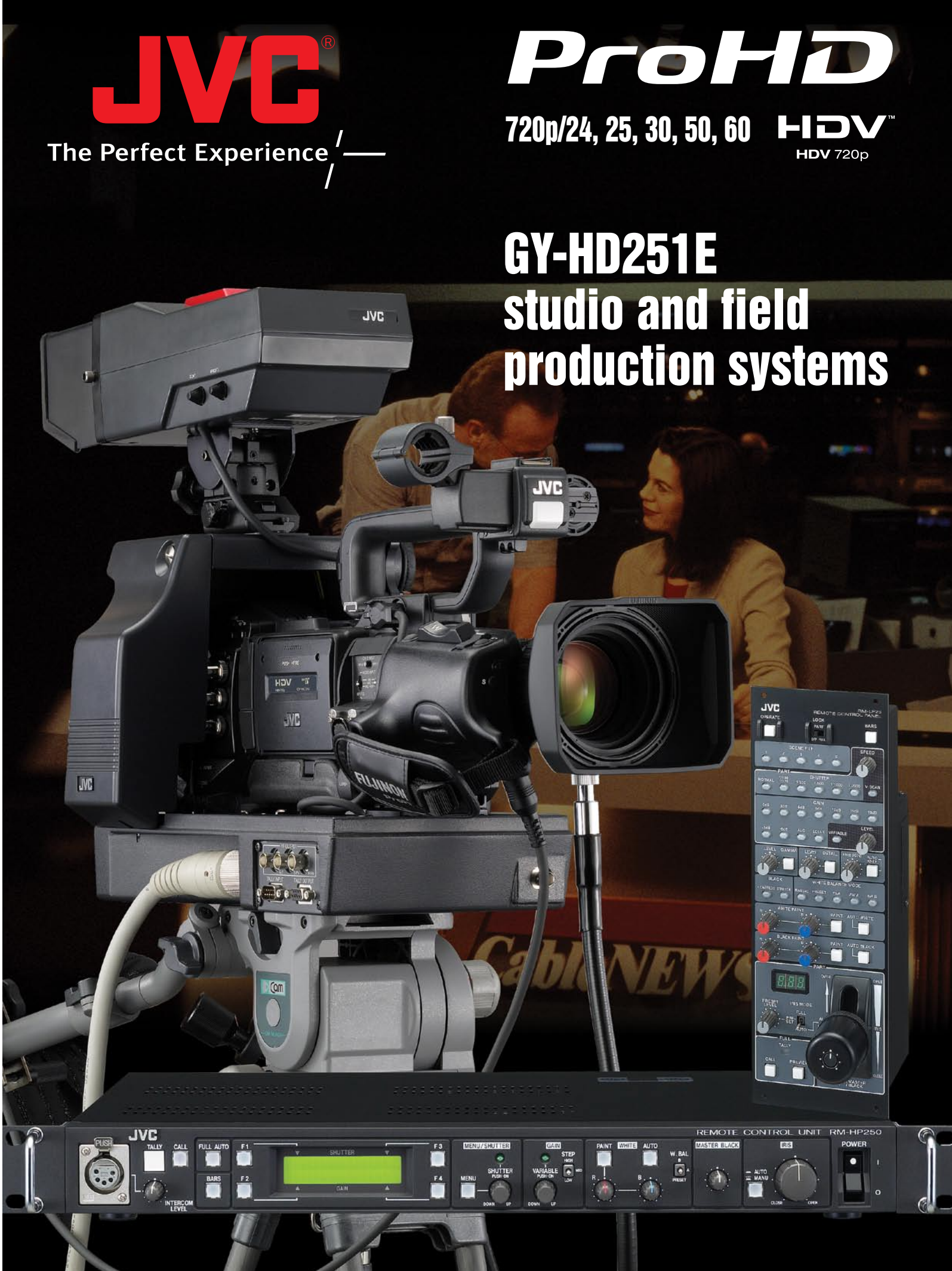
The Perfect Experience

ProHD

720p/24, 25, 30, 50, 60 HDV™

HDV 720p

GY-HD251E
studio and field production systems



2-in-1 — Studio and ENG/EFP. Experience total versatility with the GY-HD251E in HD or SD.

JVC's new GY-HD251E provides an affordable and intelligent upgrade to full HD capability, making it ideal for both studio and ENG applications. With full-raster progressive HD imaging and HD/SD SDI output in both 720p and 1080i, the GY-HD251E delivers outstanding high definition performance, while providing a backward compatible design that lets you connect to your existing system with no need for cable or other upgrades. You can build an economical HD or SD studio system suitable for a wide range of applications, including sports, concerts and other events. Ergonomically designed for shooting in the field, ProHD camcorders have a compact, shoulder mounted design that provides excellent mobility with minimal fatigue during extended shooting. JVC's GY-HD251E — the optimum choice for the new era of Professional Full HD imaging.

GY-HD251E Key features:

■ **Interchangeable HD lenses**
The GY-HD251E features a standard professional 1/3" bayonet lens mount that enables you to attach a wide variety of professional lenses. In addition to the standard detachable 16x servo Fujinon lens, an extensive selection of optional lenses are available, including an 18x Fujinon high-definition zoom lens, 13x (3.5 mm) Fujinon wide angle zoom lens, 17x Fujinon zoom lenses in both zoom and motorized versions, 20x Canon zoom lens, a wide angle converter for the standard 16x lens, and adapters that allow 1/2" and 2/3" bayonet mount lenses to be used. You can even attach PL mount film camera lenses on the GY-HD251E with the use of the HZ-CA13U Cine Optical PL Adapter.

■ **Uncompressed progressive 4:2:2 720p/50 live signal output**
The GY-HD251E can capture and output both digital and analogue high quality HD signals at 50 progressive frames per second, making it ideal for live broadcasting. The uncompressed full-resolution signal in either 720p or converted 1080/50i can be output via the standard HD SDI with embedded audio, as well as analogue component terminals, providing an ideal feed to a video server, HD switcher or microwave link.

■ **3-CCD camera system with 720p HD CCDs**
The GY-HD251E uses three 1/3" high-definition CCD image sensors. Each array has a resolution of 1280 x720 full-raster square pixels using a micro lens system, providing optimum quality images. Other advantages include state of the art circuitry which virtually eliminates lag and image burn.

■ **Built-in MPEG-2 Super Encoder**
The GY-HD251E is capable of delivering a broadcast quality full raster 1280x720 50p encoded transport stream thanks to a high quality encoder built into the camera. At under 20Mbps, this stream can be transmitted via microwave without further encoding, making the camera ideal for live remote telecasts.

■ **Genlock**
The GY-HD251E camcorder has genlock input capability for synchronization and time code input/output, making multi-camera shooting possible. BB or VBS signals (SD) and HD tri-level sync signals (HD) are able to synchronize the camcorder to various components, including external audio recorders, other cameras and switchers. In addition, H Phase (HD/SD) and SC Phase (SD only) can also be adjusted.

■ **Compact shoulder mount design**
JVC's ProHD camcorders are the only professional HD camcorders to feature a compact shoulder mount design. As with the entire ProHD line, the GY-HD251E offers excellent mobility and enhanced usability, while its flexible range of ergonomic adjustments ensures that operators, regardless of stature or physique, can operate the camcorder steadily and, above all, comfortably.

■ **HDV and DV compatible**
As the HDV format uses the same recording track pitch as Professional DV, the GY-HD251E can record either standard (SD) or high-definition (HD) signals according to your needs.

■ **IEEE 1394 and HD/SD SDI connectivity**
The standard IEEE 1394 6-pin interface enables direct output of encoded signals to NLE systems, storage devices and microwave systems for capturing, editing, archiving and live transmission. There's also an HD SDI connection that enables transmission of uncompressed digital HD signals via coaxial cable. Since the HD SDI interface can frequently use existing SD SDI cabling*, re-configuration of your existing SD studio system to HD production is simplified.

**NOTE: The gauge and length of the existing SD SDI cabling will determine if it can accommodate the HD SDI signal.*

■ **Professional function and switch layout**
■ **Detachable 230,000-pixel LCD colour viewfinder**
■ **3.5" LCD display panel**
■ **Camera settings recorded on SD card**
■ **Patented "FOCUS ASSIST" function**
■ **Optional external HDD recorder: DR-HD100**
■ **Multiple progressive frame rate recording: 24p, 25p, 30p, 50p, 60p**

Accessories

With Telecast CopperHead

With BMS CT2200HDV

VF-P400E

4" studio viewfinder

VR70P-HDA

Marshall 7" LCD studio monitor

3rd party product

RM-P210E

Analogue base station

CopperHead

Telecast camera unit

3rd party product

RM-HP250DE

HD remote control base station

Telecast Base station

Telecast base station

3rd party product

RM-LP25U

Operation control panel

CT2200HDV

BMS HD camera-back wireless transmitter

3rd party product

KA-HD250U

Studio adapter

DR2100

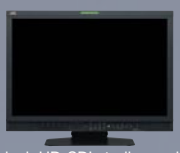
BMS 2-way diversity receiver

3rd party product

VC-P1xxU

26-pin cable (various lengths)

DT-V24L1D



24-inch HD-SDI studio monitor

HK-VCxx

26-pin cable (various lengths)

European market only

DT-V20L1D

20-inch HD-SDI studio monitor

GY-HD251E Studio/EFP system configurations

JVC RM-P210E
Multicore studio configurations (SD system)

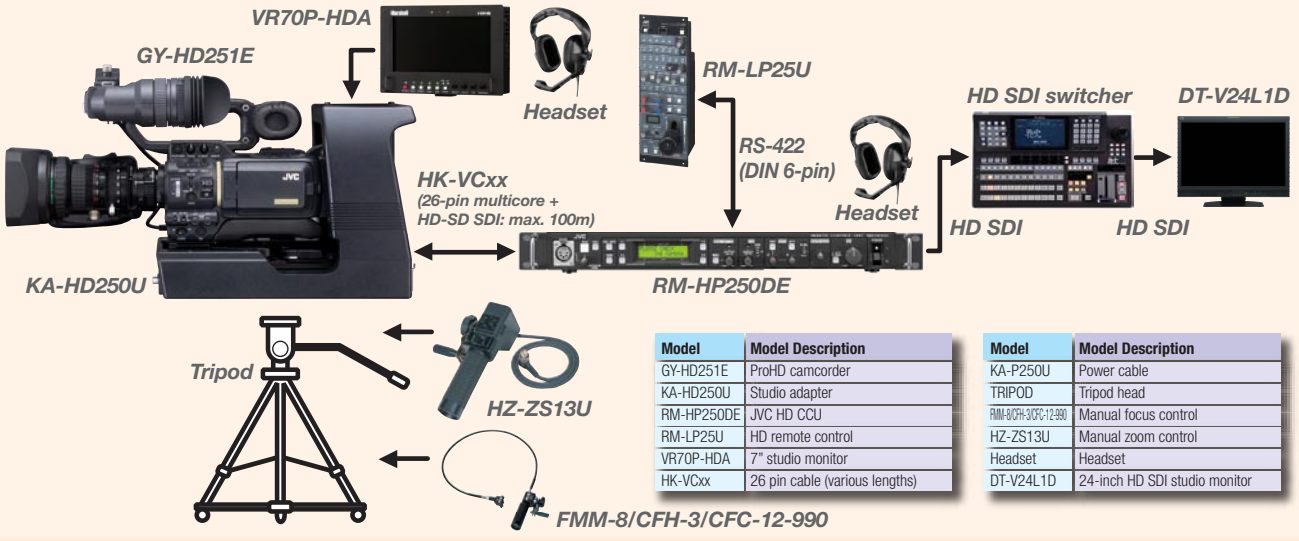
Key features and user benefits:
- The GY-HD251E with KA-HD250U can be used to construct an economical SD studio system that produces 16:9 or 4:3 SD images.
- Your investment is future proofed. Upgrading from an SD to an HD system will require changing the video interface only.
- If you are replacing a GY-DV550E camera system, you can continue to use the RM-P210E CCU, the 26-pin control cable, and the VF-P400E studio viewfinder.
- An existing 26-Pin Sony Multicore Cable can be used to connect RM-P210E and KA-HD250U.
- When required, you can use the GY-HD251E as an ENG camera by detaching it from the KA-HD250U.

Model	Model Description
GY-HD251E	ProHD camcorder
KA-HD250U	Studio adapter
RM-P210E	Analogue base station
VF-P400E	4" studio viewfinder
VC-P1xxU	26 pin cable (various lengths)
HK-VCxx	26 pin cable (various lengths)
KA-V400U	Adapter cable
TRIPOD	Tripod head
FMM-8/CFH-3/CFC-12-990	Manual focus control
HZ-ZS13U	Manual zoom control
Headset	Headset
DT-V24L1D	24-inch HD SDI studio monitor

JVC RM-P210E
Multicore studio configurations (HD system)

Key features and user benefits:
- The GY-HD251E with KA-HD250U can be used to construct an economical HD studio system with using an existing RM-P210E and VF-P400E.
- HK-VCxx cable enables HD connection with minimal investment.
- When required, you can use the GY-HD250U as an ENG camera by detaching it from the KA-HD250U.

JVC RM-HP250DE
Multicore studio configurations (HD system)



Model	Model Description
GY-HD251E	ProHD camcorder
KA-HD250U	Studio adapter
RM-HP250DE	JVC HD CCU
RM-LP25U	HD remote control
VR70P-HDA	7" studio monitor
HK-VCxx	26 pin cable (various lengths)

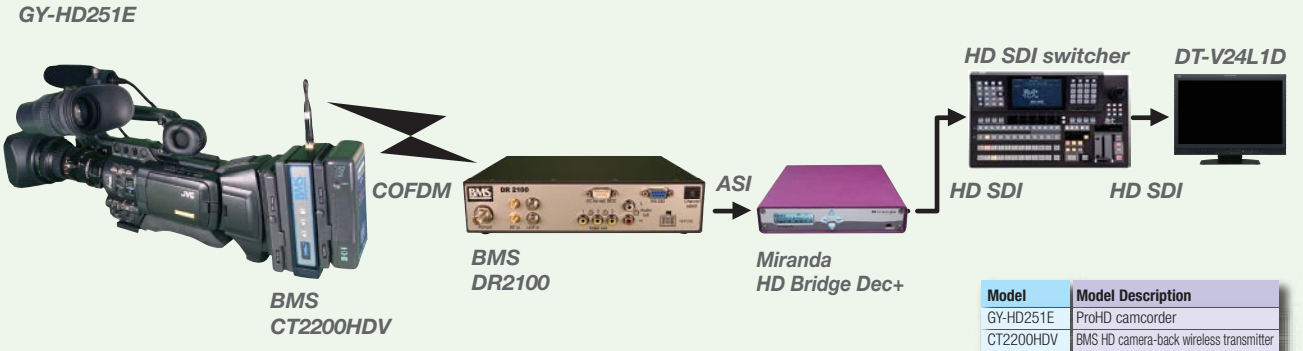
Model	Model Description
KA-P250U	Power cable
TRIPOD	Tripod head
FMM-8/CFH-3/CFC-12-990	Manual focus control
HZ-ZS13U	Manual zoom control
Headset	Headset
DT-V24L1D	24-inch HD SDI studio monitor

Key features and user benefits:
- The GY-HD251E with KA-HD250U can be used to construct an economical HD studio system that produces stunning images.
- Both HD component and HD SDI video are supported.
- The new RM-HP250DE enables you to connect an operation control panel to the studio system.
- Live 720P or 1080i signal can be output according to the requirements of your studio application.
- An existing 26-Pin Sony Multicore Cable can be used to connect RM-HP250DE and KA-HD250U (analogue HD/SD component only).
- When required, you can use the GY-HD251E as an ENG camera.

Wireless EFP applications with BMS CT2200HDV/Fibre applications with Telecast CopperHead

BMS

Wireless EFP configuration (HD system)



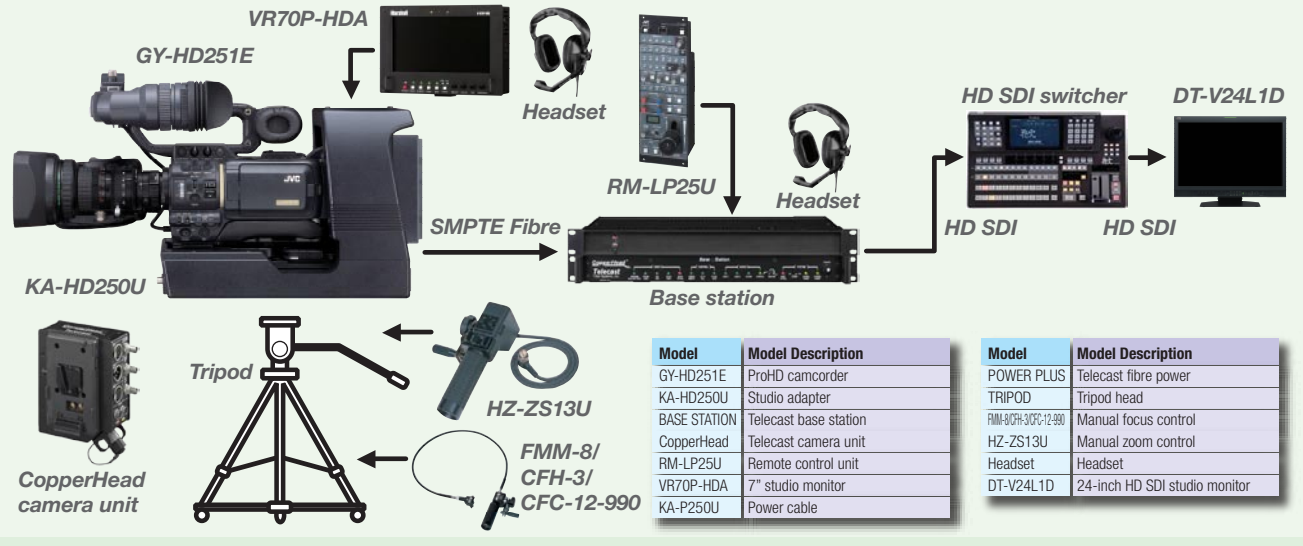
Model	Model Description
GY-HD251E	ProHD camcorder
CT2200HDV	BMS HD camera-back wireless transmitter
DR2100	BMS 2-way diversity receiver
HD Bridge Dec+	ASI-HD SDI decoder
DT-V24L1D	24-inch HD SDI studio monitor

Key features and user benefits:

- HD wireless EFP system for mobile field acquisition.
- The camera adapter's light weight allows for shoulder-mounted operation with minimal operator fatigue.
- BMS CT2200HDV simply transcodes from HDV to ASI to enable compact size and lower latency.
- Between BMS CT2200HDV transmitter and DR2100 diversity receiver, utilizing ASI Stream, HD quality can be maintained.
- COFDM 2GHz transmission with 64 QAM modulation and standard bandwidth (8MHz).
- Resistant to multipath and robust signal, even in difficult RF environments.
- Up to 1000 m depending on local environment and antenna setup.
- Running time approx. 3h with an IDX 70Wh Battery.

TELECAST FIBRE

Long-length fibre cable studio configurations (HD system)



Model	Model Description
GY-HD251E	ProHD camcorder
KA-HD250U	Studio adapter
BASE STATION	Telecast base station
CopperHead	Telecast camera unit
RM-LP25U	Remote control unit
VR70P-HDA	7" studio monitor
KA-P250U	Power cable

Model	Model Description
POWER PLUS	Telecast fibre power
TRIPOD	Tripod head
FMM-8/CFH-3/CFC-12-990	Manual focus control
HZ-ZS13U	Manual zoom control
Headset	Headset
DT-V24L1D	24-inch HD SDI studio monitor

Key features and user benefits:

- CopperHead camera mounted fibre optic transceiver fits on the back of the GY-HD251E system and transmits HD SDI video to its base station, as well as intercom, and camera control data in both directions all over a single fibre cable.
- The system transmits genlock, time code, and tally to the GY-HD251E system for full "live" capability.
- Up to 150 watts of power is supplied to the camera and attached options.
- This configuration can be operated with cable length of up to 2,000 meters.

Specifications

GY-HD251E

[General]
Power requirement: DC 12 V (10.5 — 17 V)
Power consumption: Approx. 24 W (in Record mode)
Dimensions: 224 (W) x 242.3 (H) x 414 (D) mm
Mass: 3.8 kg (including lens [Th16x5.5BRMU], viewfinder, microphone and tape)
Temperature:
- Operating: 0°C to 40°C
- Storage: -20°C to 60°C

Humidity:
- Operating: 30% to 80% RH
- Storage: 85% RH or less

[Camera section]
Image pickup device: 1/3" interline-transfer CCDs
Colour separation optical system: F1.4, 3-colour separation prism
Number of pixels: Total: Approx. 1,110,000 pixels
Colour system: PAL (wide band R-Y, B-Y encoder)
Colour bars: SMPTE HDTV colour bars/EBU colour bars
Sync system: Internal sync (built-in SSG)
External sync:BB, VBS, signal or HD tri-sync signal
Lens mount: 1/3" bayonet system
ND filter: +1/4ND, +1/16ND
Gain: 0, 3, 6, 9, 12, 15, 18 dB, ALC
Electronic shutter:
- Standard value: 50 Hz
- Fixed values: 7.5-10,000 Hz, 11 steps (HDV HD60P/HDV HD30p) 6.25-10,000 Hz 11 steps (HDV HD50p/HDV HD25p; DV 50i/DV25p mode), 6-10,000Hz, 12 steps (HDV HD24p)
- Variable scan: about 60 to 10,000Hz (HDV HD60p/HDV HD30p)/ about 50 to 10,000 Hz (HDV HD50p/HDV HD25p; DV 50i/25p mode), about 24-10,000Hz (HDV HD24p)

[VTR section]
[Video]
Recording format: 720/24p, 720/25p, 720/30p, 720/50p, 720/60p, 576/25p, 576/50i
Video Format:
[HDV]
- Video signal recording format: HDV1 format, 8-bit, 19.7 Mbps
- Compression: MPEG-2 video (profile & level: MP@H-14)
- Sampling frequencies: 720/60p: 74.25/1.001 MHz (4:2:0 component), 720/50p: 74.25 MHz (4:2:0 component), 1080/60i: 74.25/1.001 MHz (4:2:0 component, cross conversion), 1080/50i: 74.25 MHz (4:2:0 component, cross conversion)

[DV]
- Video signal recording format: DV format, 8-bit, 25 Mbps
- Compression: DV compression, 4:2:0

Audio:
[HDV]
- Audio signal recording format: MPEG1 layer II, 384 Kbps, 16 bit Quantization

[DV]
- Audio signal recording format: 16-bit (locked audio), 48 kHz PCM for 2 channels or 12-bit, 32 kHz PCM for 4 channels
- Usable tape: Mini DV tape
- Tape speed: 18.831 mm/sec.
- Record/play time: 63 minutes (with an M-DV63PROHD tape)

[Connectors]
HD/SD SDI output: 0.8 V (p-p), 75 ohms, unbalanced (BNC)
HD SDI: SMPTE292M/299M standard (embedded audio)
SD SDI: SMPTE259M/272M standard (embedded audio)
Analogue composite output: 1.0 V (p-p), 75 ohms, unbalanced (RCA)
Analogue component output:
- Y: 1.0 V (p-p), 75 ohms, unbalanced (BNC)
- R-Y/B-Y: 0.7 V (p-p), 75 ohms, unbalanced (BNC)
- Analogue composite input: 1.0 V (p-p), 75 ohms, unbalanced (BNC: switchable from Genlock input)
- Genlock input: 1.0 V (p-p), 75 ohms, unbalanced (BNC)

Audio inputs:
- Mic: -60 dBs, 3 kohms, balanced (XLR), +48 V output for phantom power supply
- Line: +4 dBs, 10 kohms, balanced (XLR)
- Audio outputs: -8 dBs, low impedance, unbalanced (RCA)
- Earphone jack: -18 dBs to -60 dBs, 8-ohm impedance (stereo mini-jack x2)
- Time code input: 0±6 dBs, high impedance, unbalanced (BNC: switchable from component output)
- Time code output: 0±6 dBs, low impedance, unbalanced (BNC: switchable from component output)
- IEEE1394 connector: 6-pin
- Remote connector: DIN 6-pin

[Accessories provided]
Viewfinder, lens (Th16x5.5BRM), microphone, SD memory card and V-wedge tripod adapter

RECORDING FORMATS & LIVE SIGNAL OUTPUTS

	Recording (Shooting)	Rec on tape	1394 out	Component/SDI out (EE out)	Composite out
HD (HDV)	720/60p	←	←	←	480/60i
	720/30p	←	←	720/60p	480/60i
	720/50p	←	←	←	576/50i
	720/25p	←	←	720/50p	576/50i
	720/24p	←	←	720/60p	480/60i
HD	720/60p	N/A	N/A	1080/60i	480/60i
	720/50p	N/A	N/A	1080/50i	576/50i
DV	576/50i	←	←	←	←
	576/50i (25p)	←	←	←	←

	Playback		1394 out	Component/SDI out			Composite out
HDV	720/60p		←	480/60i	1080/60i	720/60p	480/60i
	720/30p		←	↑	↑	↑	↑
	720/50p		←	576/50i	1080/50i	720/50p	576/50i
	720/25p		←	↑	↑	↑	↑
	720/24p		←	480/60i	1080/60i	720/60p	480/60i
DV	576/50i		←	←			←
	576/50i (25p)		←	←			←

	Recording (1394 in)	Rec on tape		Component/SDI out			Composite out
HDV	720/60p	←		480/60i	1080/60i	720/60p	480/60i
	720/30p	←		↑	↑	↑	↑
	720/50p	←		576/50i	1080/50i	720/50p	576/50i
	720/25p	←		↑	↑	↑	↑
	720/24p	←		480/60i	1080/60i	720/60p	480/60i
DV	576/50i	←		←			←
	576/50i (25p)	←		←			←

** Recordings in HDV 1080i format cannot be played back by GY-HD251 and BR-HD50.*

Simulated pictures.
The values for weight and dimensions are approximate.
E.& O.E. Design and specifications subject to change without notice.

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