

JVC

PROFESSIONAL

FULL QUALITY LOW COST D-9 EDITING RECORDER FULL QUALITY LOW COST D-9 SOURCE PLAYER

BR-D860E/BR-D560E

Top-end D-9 performance at a low-end price

The question facing broadcasters today is not whether or not to switch to digital, but how. Broadcasters looking for a cost-effective solution that ensures a smooth, painless transition and optimal quality have already found the answer:

JVC's D-9.

This robust format has already proven itself a match for more expensive systems, establishing itself as the most popular 1/2" 50 Mbps 4:2:2 component digital recording format in use today. And now it's even more accessible thanks to the introduction of the new BR-D860E D-9 recorder and BR-D560E D-9 player. Designed specifically for professional applications, these competitively priced units offer increased functionality and an expanded feature set to assure the highest quality 4:2:2 digital editing.

The BR-D860E, for example, comes with pre-read capability and both VTRs feature independently editable 2-channel PCM audio, as well as jog/shuttle search, built-in RS-422 & RS-232C interfaces and optional SDI interface.

So if you're ready to make the transition to digital, do it right. Do it with JVC D-9.

Big-budget performance at a low-budget price.



D-9
COMPONENT DIGITAL

► High-quality performance

4:2:2 component digital processing and mild 3.3:1 compression for superior multi-generation picture quality



D-9's outstanding picture quality is derived from 4:2:2, 8-bit component processing that meets CCIR-601 specifications and assures the highest resolution and colour detail even over multiple generations. To

further ensure the best possible image quality in multi-generation editing and digital search, D-9 uses a very low compression ratio of 3.3 to 1 with DCT-based intra-frame coding and a data recording rate of 50 Mbps. The combination of these processing and compression techniques with wide-band component recording enables D-9 to minimise artefacts and reproduce natural, true-to-life colours, sharp, crisp details, and subtle contrasts. Now, with the BR-D860E/D560E, you'll be able to obtain D-9's superior broadcast-level results at an entry-level price.

High-quality 2-channel digital sound with 16-bit, 48 kHz sampling

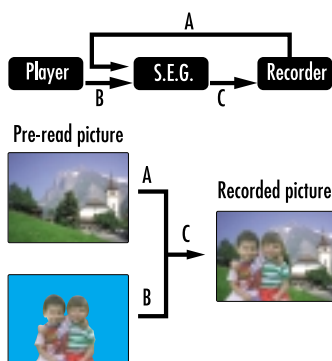
D-9's audio specs are equally impressive. Two independently editable, 16-bit PCM (pulse code modulation) signals can be recorded with a sampling frequency of 48 kHz, ensuring audio quality equal to today's most exacting standards.

Maximum recording time of up to 124 minutes

High-resolution D-9 signals are captured and preserved on a high-density 1/2-inch tape featuring an advanced metal-particle formulation based on W-VHS HDTV technology. Tape speed is 57.8 mm/s with a maximum recording time of 124 minutes.

► Versatile editing facilities

Advanced pre-read function with 5H window



Digital pre-read, a prized high-end function for most editors, adds powerful layering capabilities to virtually any suite. It enables the recorder to play back the digital signal on the tape before recording a new signal in its place. This means you can build an A/B roll system with only two VTRs instead of three, saving the cost of one VTR. In addition, video pre-read allows complex layering effects to be performed even when working in an analogue environment. The

video pre-read window tolerance range of 5H expands the selection of signal effects generators which can be used with these VTRs.

Powerful editing functions

The advanced capabilities of JVC's D-9 brings a new world of powerful editing features to your edit suite. Editing features include two auxiliary audio (cue) tracks and built-in time code (VITC/LTC) recording. Independent video and two-channel audio editing capability (on tapes recorded with 4 channels) facilitates frame-by-frame editing in assemble/insert editing, as well as in time code editing. The cue-up time (preroll time) is faster than for the top-of-the-line BR-D92E and high-speed operability such as shorter loading and unloading time allows you to work more efficiently. For even more editing flexibility, you can connect these units to a non-linear editing system.

► System flexibility

Optional SDI board

To simplify connections, just install the optional SDI boards to embed digital audio and video signals for input/output.

This board also provides an AES/EBU interface equipped with a sample-rate converter that enables the VTR to accept digital audio signals using different sampling schemes. Since this board also accepts unlocked digital audio from sources that do not lock to video sync, you can easily connect it to most DAT, CD players, MD recorders and audio workstations.

Analogue interface

The BR-D860E/D560E features connectors for analogue composite, Y/C, and component signals.

► Reliable, user-friendly design

Instantaneous-lock function

JVC's originally developed instantaneous-lock auto-tracking algorithm virtually eliminates tracking errors by auto calibrating each tape during its first 2 seconds of playback. This function is useful in play-to-air situations.

Viterbi circuit

This circuit improves the error rate.

Self-diagnosis function via RS-232C interface

Thanks to the RS-232C interface, you can check the VTR's operating condition without interfering with operation.

When the request command is sent via the RS-232C interface, diagnostic checks are run for head clogging, error rate, etc.

In addition to featuring built-in self-diagnostics, the BR-D860E can be remote-controlled via the RS-232C interface.

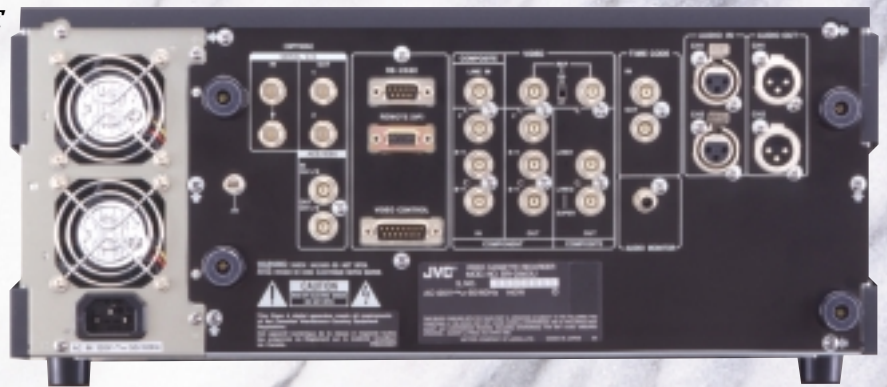
Other features

- Chroma filter to improve analogue performance
- Audio V fade function
- Noiseless slow playback facility within a speed range of approximately -1/3 to +1/3 normal
- Audio monitor facility for search
- Counter search
- Jog/shuttle search dials
- Remote control via RS-422A interface using industry-standard command set
- External sync analogue reference signal input
- Capstan bump for frame synchronisation
- Headphone output with level control
- Time code re-generation external TC or jam sync
- Input level adjust for digital audio
- Manual audio recording level adjustment
- ORC auto setting in the adjustment mode

Front panel of the BR-D860E



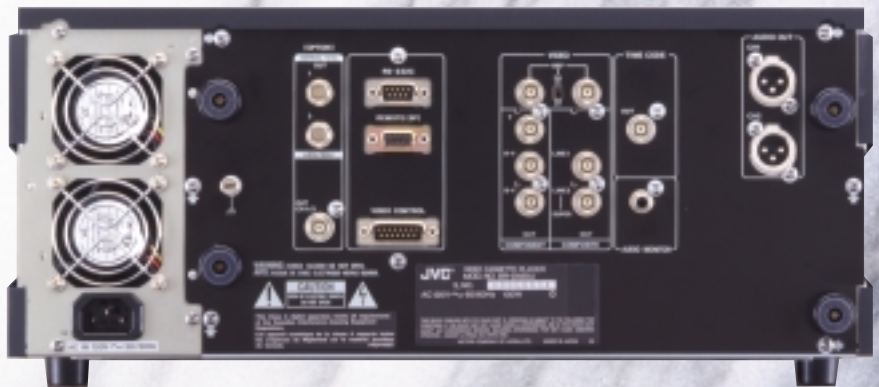
Rear panel of the BR-D860E



Front panel of the BR-D560E



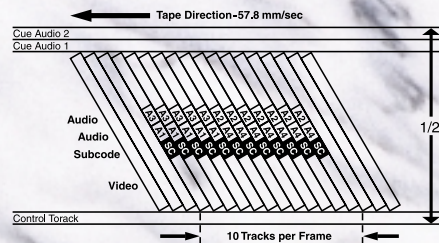
Rear panel of the BR-D560E



D-9 basic format

Tape	1/2" metal particle
Recording time	124 minutes (using DS-124 tape)
Video	
Sampling	4:2:2 8-bit component
Y: 13.5 MHz	
R-Y/B-Y: 6.75 MHz	
Compression	3.3: 1 DCT-based, intra-frame coding
Data rate	50 Mbps
Audio	
4-channel PCM, 48 MHz, 16-bit	
Each channel individually editable	
Remote diagnostics	Via RS-232C
Rotation speed	4500 rpm
Tracks	2 audio cue, 1 control, 10 video/audio per frame
Head drum	62 mm (same as S-VHS)

Tape pattern



With a trace-width of 20 μm , 1 frame consists of 12 tracks with the video area on either side of the audio area. The longitudinal tracks include two cue audio tracks and a control track for tracking.

Specifications

GENERAL

Format: D-9
 Tape: 1/2-inch metal particle
 Power consumption: 140 W (BR-D860E), 100 W (BR-D560E)
 Weight: Lighter than 23 kg
 Temperature
 Operating: 5°C to 40°C
 Storage: -20°C to 60°C
 Humidity: 30% to 80%
 Tape speed: 57.795 mm/s
 Recording time: 124 minutes (using DS-124 tape)
 Picture search: ± 32 times with visible colour picture (forward & reverse)
 FF/REW time: Approx. 3 minutes (with DS-104 tape)
 Slow motion: $\pm 1/3$ times with full picture quality (requires remote control)
 Remote control: RS-422A
 Remote diagnosis: Via RS-232C (list capabilities)
 Rotation speed: 4500 rpm
 Tracks: 2 audio cue, 1 control, 12 video/audio per frame
 Track pitch: 20 μm
 Head drum: 62 mm (same as S-VHS)

VIDEO

Adjustable range of video control
 System phase: More than $\pm 3 \mu\text{s}$
 Subcarrier phase: More than 360°
 Video phase: More than $\pm 1 \mu\text{s}$
 Video level: More than $\pm 3 \text{ dB}$
 Chroma level: More than $\pm 3 \text{ dB}$
 Chroma phase: More than $\pm 30^\circ$
 Setup level: Less than 0 mV to more than 100 mV
 Input level
 Line: 1.0 Vp-p, 75 ohms, unbalanced
 Component: Y: 1 Vp-p/R-Y & B-Y: 0.7 Vp-p, 75 ohms, unbalanced
 External reference signal: 0.286 Vp-p (sync & burst), 75 ohms, unbalanced

AUDIO

Bandwidth: 20 to 20 kHz $\pm 1.5 \text{ dB}$
 Dynamic range: More than 85 dB (at 1 kHz)
 Distortion ratio: Less than 0.1% (at 1 kHz)
 Crosstalk: Less than -75 dB (at 1 kHz)
 Headroom: 20 dB
 Emphasis: Automatically switched in PB (OFF in REC)
 Number of tracks: PCM x 2
 Input level
 Line: -6/+4 dBs, high impedance, balanced
 Output level
 Line: -6/+4 dBs, high impedance, balanced
 Monitor: -6/ dBs, low impedance, balanced
 Phones: $-\infty$ to -14 dBs, 8 ohms

TIME CODE

Input level
 Line: 0 ± 6 dBs, high impedance, balanced
 Output level
 Line: 0 ± 3 dBs, low impedance, balanced

OPTIONS

Digital input/output interface board (SA-D92U)
 Digital output interface board (SA-D52U)
 Rack mount kit (SA-K67U)

Options

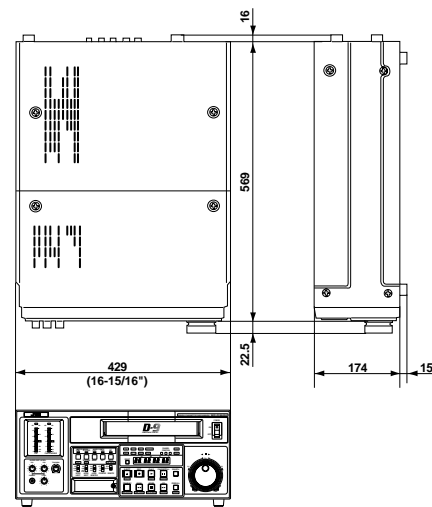


SA-D92U



SA-D52U

Dimensions



(unit: mm/inches)

This product is a controlled product under the Japanese Export Laws. You are kindly requested to obtain prior approval from your government authorities when exporting this product. It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

Design and specifications subject to change without notice.

JVC

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