

JVC

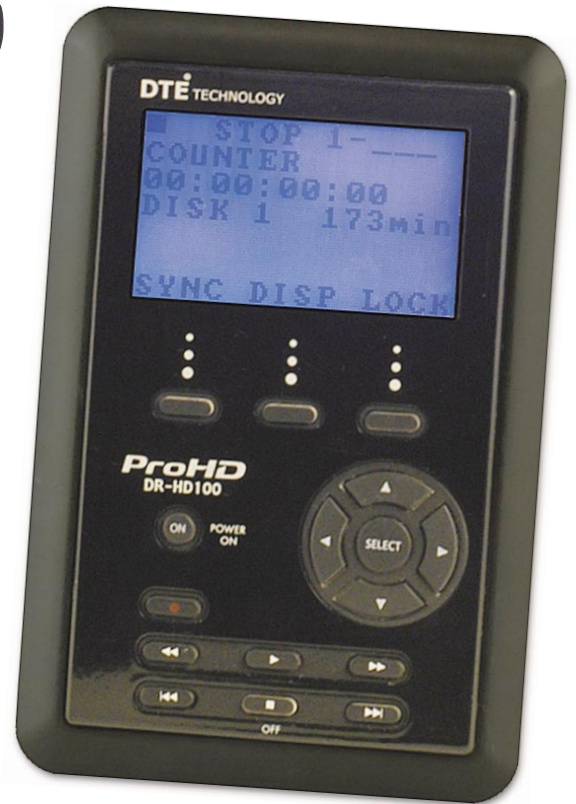
The Perfect Experience / —

HARD DISK DRIVE RECORDER **DR-HD100E**

Integrates with ProHD camcorders
Two models: 40GB and 80GB capacity



ProHD



Hard disk recording in all its simplicity and with all its advantages is provided by the DR-HD100E hard disk drive recorder, another groundbreaking product in the ProHD range.

Main features:

- Records in both HDV and DV formats.
- Available with 40GB or 80GB capacity for 3.5 hrs or 7 hrs respective recording.
- DTE™ (Direct-to-Edit) function saves hours of transfer and file rendering prior to editing.
- Built-in 10 sec shock cache protects the recording by eliminating errors.
- Records simultaneously to tape & disk for back-up and archiving.
- Records sequentially to tape & disk for extended durations and security.
- Built-in removable battery supply with seamless switch over to external DC input.
- Two sizes of replacement battery.
- Integral mounting with camcorder.
- Intelligent file management allows clips to be assigned to pre-named folders.
- Instant real time editing when connecting the drive directly to the NLE.
- Transfer files from DR-HD100 into NLE at speeds greater than 4x.

Unique JVC features:

- Viewfinder display of recording status of DR-HD100.
- Switching off the camcorder will also automatically switch off the DR-HD100 once it has finished any required housekeeping, so preventing the batteries of the camcorder and disk drive from discharging.
- Entirely black housing for colour match with camcorder.
- Customised brackets available from leading battery manufacturers for mounting the DR-HD100 directly to the camcorder.

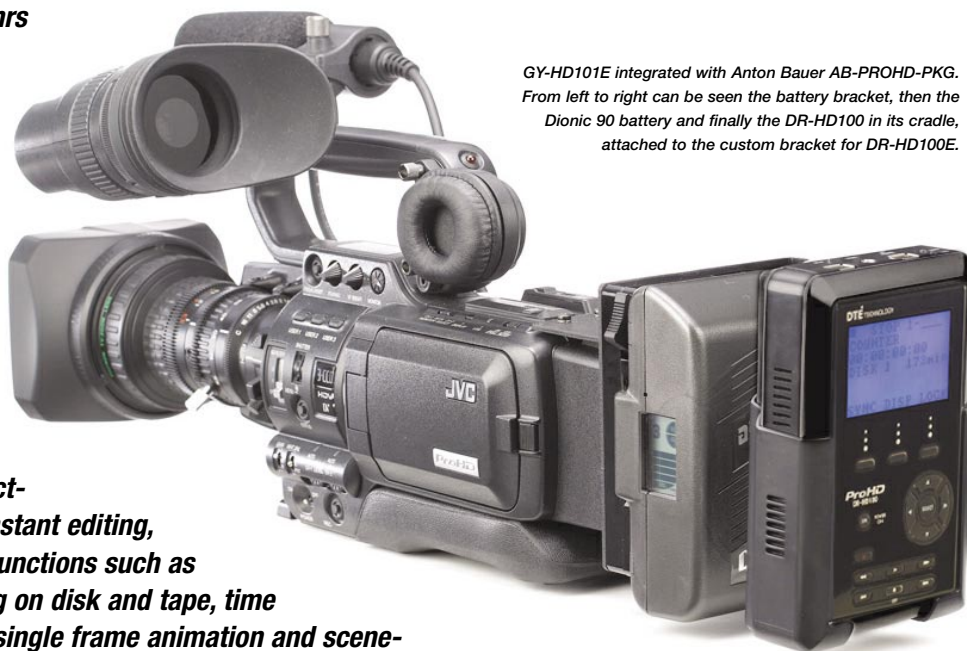
Hard disk recording in all its simplicity and with all its advantages is provided by the DR-HD100E hard disk drive recorder, another groundbreaking product in the ProHD range.

A single short FireWire cable between camcorder and the DR-HD100 passes data for audio, video, time code and control. The recorder has its own backlit display and control buttons which make for easy navigation of the powerful menu system.

Recording durations of 3.5hrs and 7hrs are possible on the 40GB and 80GB drives respectively, for both DV and HDV™ signals.

Weighing just 450g and being of compact design the DR-HD100 can be neatly attached to the rear of camcorder models GY-HD100E and GY-HD101E.

Switchable between High Definition and Standard Definition recording modes, loaded with the unique and time-saving DTE™ (Direct-to-Edit) file formatting process for instant editing, and with other user-programmable functions such as sequential or simultaneous recording on disk and tape, time lapse settings, retro disk recording, single frame animation and scene-marking for rapid retrieval, the DR-HD100 becomes a highly desirable, if not indispensable, digital recording tool which adapts itself to virtually all applications.



GY-HD101E integrated with Anton Bauer AB-PROHD-PKG. From left to right can be seen the battery bracket, then the Dionic 90 battery and finally the DR-HD100 in its cradle, attached to the custom bracket for DR-HD100E.

Features unique to the JVC models:

■ Viewfinder status display

Loaded with firmware specially developed for JVC, both viewfinders will display all the important information that the cameraman needs to know about the DR-HD100, (i) remaining disk capacity, (ii) recording status and (iii) battery power remaining.

■ Auto power off

The JVC hard disk recording system makes intelligent use of the FireWire controls to ensure that when the camcorder is switched off, then automatically so too the DR-HD100. This conserves all sources of on-board DC power, whether it is the integral battery inside the DR-HD100 or the external 12V DC battery.

■ Housing colour is black

To match the black colour scheme of the camcorder, the DR-HD100 and its support cradle are also finished in black, except for the control buttons which are silver and the LCD display panel which is backlit in blue.

■ Availability of customised brackets for DR-HD100 and for large capacity camcorder batteries

Whilst the development of the DR-HD100 was taking place, JVC was also sharing information with the leading manufacturers of camcorder power systems, namely IDX, PAG and Anton Bauer. These manufacturers started by designing their own rear-of-camera brackets which by necessity also

regulate the 14.6V down to the camcorder's requirement of 7.2V, which gets applied to the contacts inside the camcorder's rear battery compartment. All three of the external battery brackets has a 12V DC output which can be connected to the DR-HD100 for extended running time beyond that provided by the recorder's own integral battery.

Specifically to mount the DR-HD100 directly to the camcorder, each battery manufacturer has made a further add-on bracket. Shown in this brochure are photos of the mounting systems from IDX and Anton Bauer.

Other key features:

■ Designed for use ideally with model GY-HD101

The IEEE1394 port on GY-HD101 allows bi-directional transfer of the HDV and DV signals, whereas the GY-HD100 only allows output of the signals. Thus the FireWire cable between DR-HD100 and GY-HD101 carries not only the recording signal but also the playback signal, allowing the camera operator to review the recorded video footage in the viewfinder(s).

When used with the GY-HD100 model, the details of:

(i) remaining disk capacity, (ii) recording status and (iii) battery power remaining are all available in the viewfinder(s). It is only the review of recorded video which is not possible.

■ Control from the Camcorder

The GY-HD100 and GY-HD101 give control of the DR-HD100 via the FireWire connection.

- Record
- Record Pause

■ Two Models of Hard Disk Recorder

DR-HD100E40GB and DR-HD100E80GB have built-in drives of 40GB and 80GB capacity respectively. These drives are not of the removable type. The 40GB capacity will typically provide, subject to the disk housekeeping required, 3½ hrs of video, with the 80GB giving 7 hours or more. It is possible to link up to 4 drives for

sequential recording, which provides 30hrs of uninterrupted recording, which can also be unattended.

■ Intelligent and Flexible Power Management

The DR-HD100 comes with a removable integral battery, DR-FS490, fitted as standard. This will typically power the recorder for 90 minutes. The battery is recharged on-board using the 15V DC battery charger provided.

When 15V is applied to the DC port, the on-board battery will be charging and the recorder is operational. If only 12V is applied, then the DR-HD100 will be fully operational but the battery will not receive any charge.

With an external 12V DC supply connected, the DR-HD100 will first use its own battery power before switching seamlessly over to the external DC supply coming from the add-on battery which is powering the camcorder.

Additional batteries are available. DR-FS490 is a straight replacement for the original "90 minute" battery supplied, whereas the DR-FS4180, known as the "fat battery", typically provides 3 hours of operation.

■ Wired Remote Control

For applications such as the recording of wildlife or covert

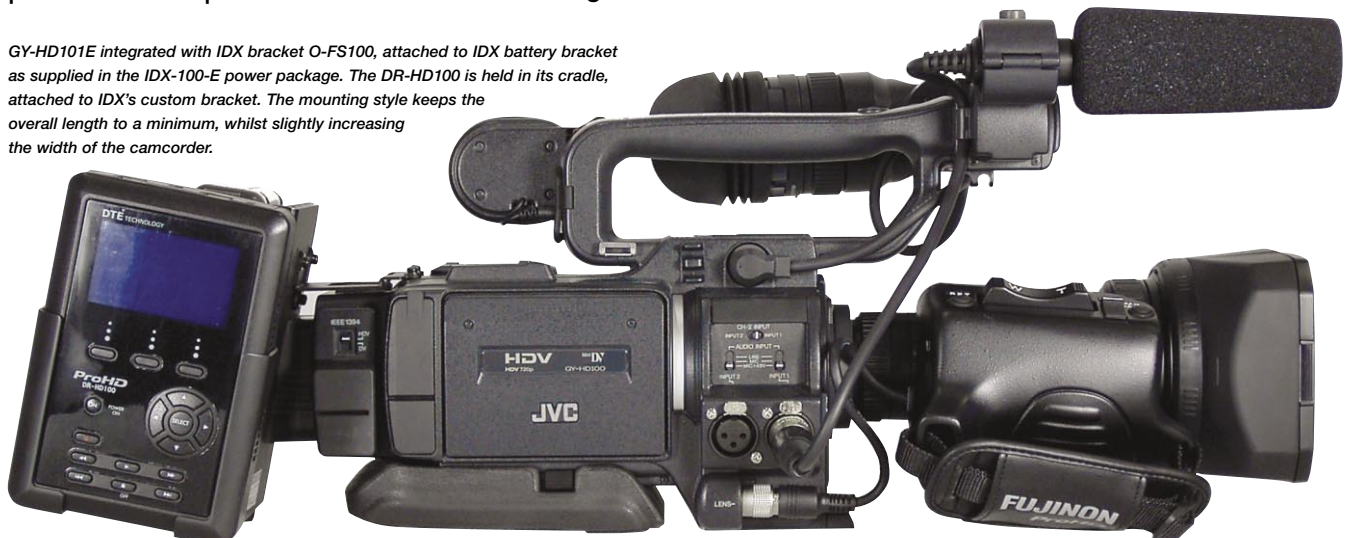
surveillance, a remote control port (phono socket) is provided which will accept both RS-232C and GPI commands. A wired remote GPI control kit is available as an optional extra.

■ The DTE (Direct-to-Edit) advantage

The DTE function makes it possible to go from acquisition to editing at unparalleled speed, with great efficiency and total reliability. Designed specially for JVC's ProHD camcorder range, the DR-HD100 features DTE (Direct-to-Edit) digital recording technology, which converts the camcorder's DV or HDV* output to a selectable NLE file format at the same time as it records the video to disk. The result is that either the drive itself immediately becomes an NLE source drive, or the footage can be transferred to the NLE's hard drive at up to 4x speed because the file-rendering has already been done.

** The pre-file-formatting functionality which is the essence of DTE technology is fully implemented for DV. For HDV this is not the case, because implementation can only be achieved some time after the individual NLE manufacturers have released their HDV solution. HDV editing for 50Hz systems in Europe is only just starting to come available. JVC will release the DTE upgrades for HDV as and when they become available. DTE firmware upgrading of the DR-HD100 is straightforward and can be done by the user in the field.*

GY-HD101E integrated with IDX bracket O-FS100, attached to IDX battery bracket as supplied in the IDX-100-E power package. The DR-HD100 is held in its cradle, attached to IDX's custom bracket. The mounting style keeps the overall length to a minimum, whilst slightly increasing the width of the camcorder.





Front, top and rear views of the DR-HD100.
The outline of the removable battery is discernible in the rear view shot.

Technical Specifications - DR-HD100E:

Dimensions: 40mm x 142mm x 95mm

Weight: 0.45 kg (with standard FS490 battery)

Input/Outputs:

- HDV 19.8 Mbps, 25 Mbps and MPEG2 ts (.m2t) via IEEE1394 (6-pin) port
- FireWire computer up to 400 Mbps via IEEE1394 (6-pin) port
- GPI & RS-232C control via phono port for 3.5mm mini jack.

Power:

- External: 12V to 15V DC, 7.5W via mini jack from external source
- Internal: Integral, removable Li-ion rechargeable DR-FS490 battery pack.

Audio, Video & Timecode:

- 25Mb/s, 8-bit, 4:2:0, DV PAL
- 19.7Mb/s 8-bit HD MPEG2 transport stream (720p 24/25/30)
- Embedded Timecode (Drop or Non-Drop Frame)
- Audio: DV embedded 2-ch (16-bit, 48kHz) or 4-ch (12-bit, 32kHz - RawDV only)
- HDV embedded MPEG1 Audio Layer II

DTE File Formats:

Standard Definition (DV):

Raw DV, AVI Type 1, AVI Type 2, AVI Type 2 24p, Matrox AVI, Canopus AVI, QuickTime, QuickTime 24p, AVID OMF, Pinnacle AVI.

DTE File Formats (continued):

High Definition (HDV1):

.M2T (720p 24/25/30) transport stream.
As and when specific DTE formats are ready, they will be released for easy field upgrading.

Disk Information:

Internal Disk Types:

- DR-HD100E40GB, 40GB, 5400rpm, 8 MB cache
- DR-HD100E80GB, 80GB, 5400rpm, 8 MB cache

Disk Format:

- FAT32

DR-HD100 is compatible with Windows 98SE, ME, 2000, XP and Mac OS 9/OSX

Accessories supplied:

- 1 x Universal AC Adapter & Charger
- 1 x FireWire cable, 6-pin to 6-pin, right angled, black, 1.2m
- 1 x Mounting cradle, black
- 1 x Belt Clip
- DC lead from AC adapter to DR-HD100

The DC lead from the 12V tap on the party battery bracket to the DR-HD100 is available as an accessory from the battery manufacturer. Likewise the special lead with two DC connections for 12V lighting as well as the DR-HD100.

Optional accessories:

- Rechargeable battery DR-FS490 (typical 90 min run-time)
- Rechargeable battery DR-FS4180 (typical 180 min run-time)
- Wired remote GPI control kit DR-FSRM

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