

JVC
PROFESSIONAL

PROFESSIONAL DV



1. High Quality
2. Compact & Lightweight
3. Professional Design
4. User-Friendly Operation
5. Low Running Cost

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GY-DV500 DV CAMCORDER

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Digital Recording

□ Digital video recording on MiniDV cassette

- Approx. **500-line horizontal resolution.**
- **Wide color bandwidth** produces sharp color images.
- **TBC** for stable pictures with less jitter.
- Video (luminance) sampling rate of **13.5 MHz** (same as D-1).
- **4:1:1 (NTSC) / 4:2:0 (PAL) digital component** recording (same as DVCAM and DVCPRO).



The quality that professionals demand!

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Digital Recording

□ PCM audio recording



CH-1
CH-2
connectors

- 2 channels of **48 kHz, 16-bit high-quality** stereo recording (same quality as DAT).
- 2 channels of **32 kHz, 12-bit** stereo recording (quality surpassing FM broadcast).
- **Dynamic range** of more than **85 dB**.

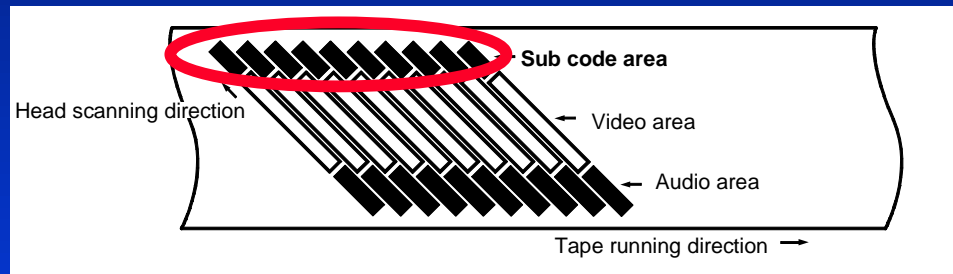


Choice of high quality audio modes to best suit your needs.

Digital Recording

❑ Search function with timecode

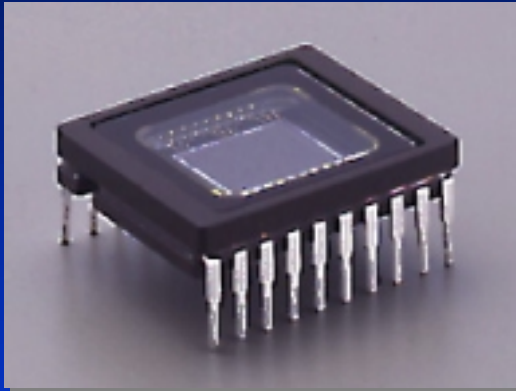
- **Sub code area** holds **timecode** and **index ID** information.
- Timecode allows accurate **frame-based editing**.
- Index IDs enable quick, **easy access to target point**.



Quick and accurate search made possible by digital format.

Professional Specifications

□ 1/2" 3-CCD image pickup



- Incorporates **three 1/2" 380,000-pixel (NTSC) / 440,000-pixel (PAL) CCDs.**
- Advanced circuitry virtually **eliminates vertical smear** when shooting bright lights in a dark room.
- **Reduces lag and image burn** to insignificant levels.



*Image source which far surpasses
1/3" CCD performance.*

Professional Specifications

□ 14-bit digital signal processor (DSP)



Advanced **14-bit video processing** to...

- Bring out **natural details.**
- Eliminate **spot noise.**
- Accurately reproduce **dark areas.**
- Restore detail and color information in **bright areas.**



Supports image quality through digital processing.

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Professional Specifications

☐ LOLUX 0.75 lux



- Increases light sensitivity with almost **no increase in noise.**
- High quality images with excellent color balance even at **0.75 lux illumination.**

LOLUX



Increases image acquisition possibilities without sacrificing quality.

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[More professional features...](#)

[Key Features](#)

Extremely Light Weight

- Only **5 kg (11 lbs)** fully loaded.
- **DC-DC** power supply trims size further.

Camcorder + Lens + Viewfinder + Battery + Tape =



5 kg
11 lbs
or less!

*For mobility that's ready for
any assignment!*


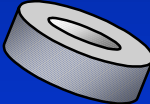
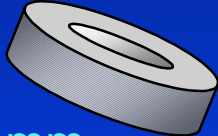
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Compact Mechanism



- Use of MiniDV allowed development of **compact, lightweight** mechanism with **reduced drum size**.

	GY-DV500	8mm VCR	VHS VCR
Drum diameter	 21.7 mm	 40 mm	 62 mm
Relative speed	Approx. 9.9 m/s	Approx. 3.8 m/s	Approx. 5.8 m/s
Rotation speed	9000 rpm	1800 rpm	1800 rpm
Track pitch	10 micron	20.5 micron(SP)	58.0 micron(SP)

Taking maximum advantage of a mini format.

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Other Advantages of Compact Design

❑ Diecast magnesium body

- Contributes to the **reduced weight** of the GY-DV500.
- Offers **improved rigidity and durability**.

❑ Low power consumption

- Consumes **only 20 watts or less**.
- **No need for heavy/bulky** large-capacity battery packs.

❑ Size comparison with a VHS camcorder



Switch Layout Conforming to Professional Specs



- Switches laid out in the way **most professionals are accustomed to** (Broadcast camcorder switch layout).
- **No need to re-learn** operation from scratch.
- Sure operation **“by touch”**.



Intuitive, precise, easy and error-free operation from day one.

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1/2" Bayonet Lens Mount

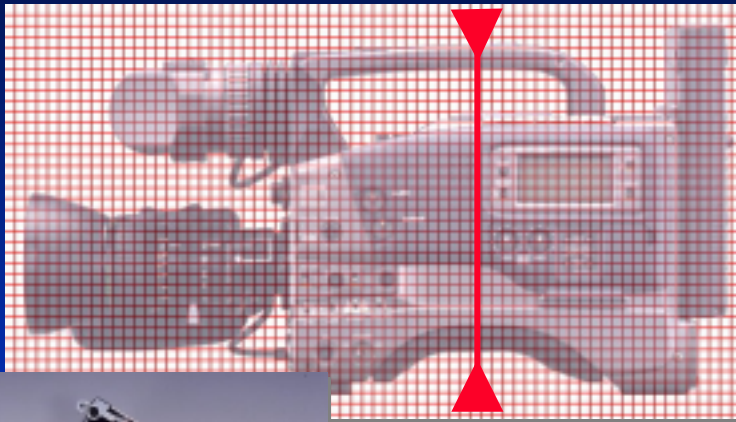


- **Standard** professional lens mount system.
- Compatible with **widest selection of professional lenses** by a large number of manufacturers.
- No adapters necessary -- **no hidden costs.**

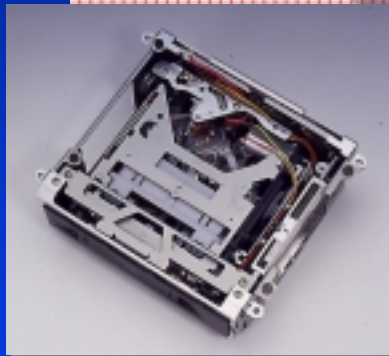


Taps the vast number of interchangeable professional lenses already available.

Balanced, Reliable Design

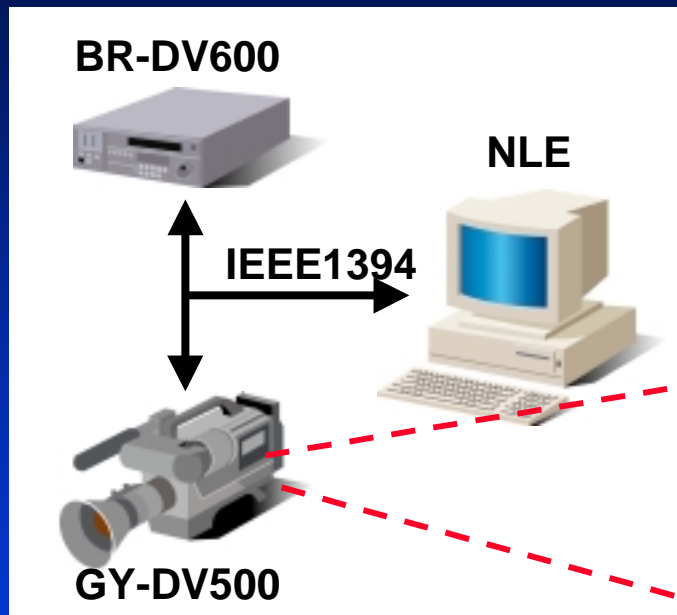


- Weight is **carefully balanced** for ease of use in ENG environment.
- Mechanism specially designed to assure **reliable and stable shooting** performance.



The stability that pros need, for extended shooting with less fatigue.

Maximum System Flexibility

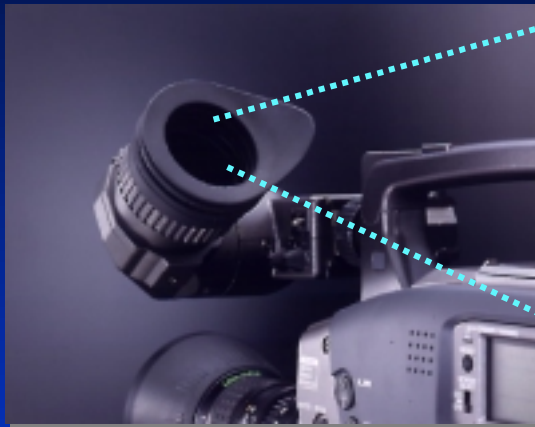


- **IEEE 1394 (DV) input/output** for lossless digital video and audio transfer to/from **NLE system or DV equipment.**
- Basic PC control via **DV connector or RS-232C port.**



Versatile connectivity makes it ideal as a spooler/ recorder/player in an editing system.

Viewfinder Status Display



SCENE FILE	A
WHITE BAL	A
FILTER	3.2K
SHUTTER	1/1000
GAIN	6dB
IRIS LEVEL	NORMAL
IRIS DETECT	NORMAL
FULL AUTO	OFF
REC TIME	> 60

--- OPERATION ---	
SCENE FILE A	
FAW	: NONE
GAIN L	: 0dB
GAIN M	: 6dB
GAIN H	: 9dB
SMOOTH TRANS	: OFF
REC TIME	: REMAIN
ZEBRA	: 70 - 80%
LENS TRIGGER	: MOMENTARY
CAM MIC 48V	: ON

Displays various events, camera setting status, recorder operation and selected setup parameters.

- Uses **characters and menus** to display selected information in viewfinder.



Easy setting and operation without interrupting the shot.

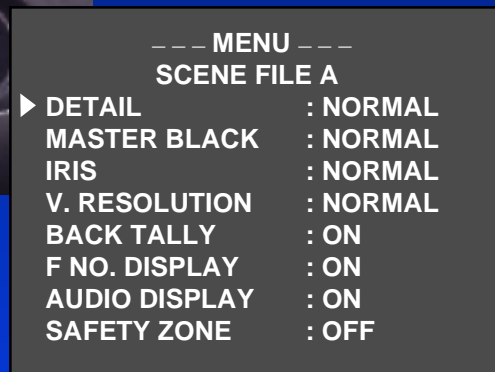
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Convenient Menu Dial



- Built-in menu dial allows **quick, easy navigation** through viewfinder menu.
- Can easily set **shutter speed**.



Easy access to viewfinder menu for quick and error-free operation in the field.

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[More on viewfinder menu...](#)

[Key Features](#)

Easy Tape Availability



- MiniDV tapes are **readily available**, virtually anywhere.
- MiniDV tapes **cost much less** than DVCPRO or DVCAM tapes.

	Price / cassette	Cost / 60 minutes
MiniDV	\$ 8 (1h)	\$ 8.00
DVCPRO	\$ 40 (2h)	\$ 20.00
DVCAM	\$ 40 (3h)	\$ 13.30

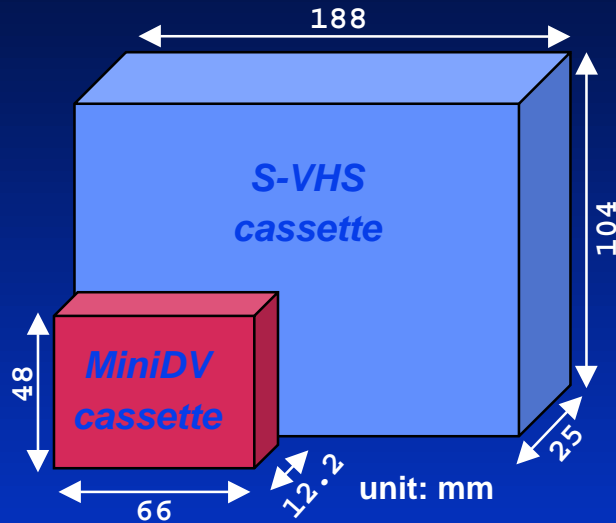
(Approximate market price)

Widespread distribution and low cost thanks to global consumer market.

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Space Saving



- Only **66 x 48 x 12.2** mm.
- Takes up **less space** in your bags when **travelling**.
- Takes up **less space** for storage in a **tape library**.

	Cassette size (WHD: mm)	Max. recording time	Cassette volume (cm ³) (MiniDV cassette = 1)
MiniDV tape	66 x 48 x 12.2	60 minutes	39 (1.0)
S-VHS tape	188 x 104 x 25	124 minutes	488 (12.5)
8mm tape	95 x 62.5 x 15	180 minutes	89 (2.3)

High performance, without the bulk.

KEY FEATURES



MiniDV Format



Professional Camera Features



Viewfinder Menu



IEEE 1394 (FireWire)



Super Scene Finder (SSF)



System Flexibility

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MiniDV Format

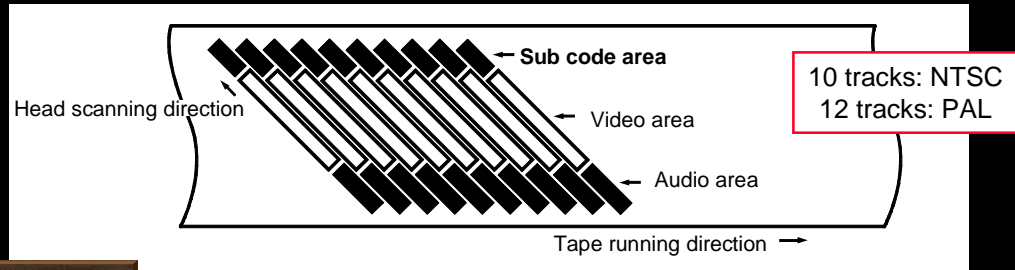
Recording System

Timecode and index ID signals are recorded in the sub code area. Video and audio signals are recorded independent of each other, in separate areas. Auxiliary data such as recording date and time and other information is recorded in the video and/or audio areas during shooting, and can be displayed as required.

Track width is approximately 10 microns, with 10 tracks (NTSC) / 12 tracks (PAL) composing 1 frame. Since this is about five times as many tracks as in an analog video frame (2 tracks), drum rotation has to be increased to 9,000 rpm (five times faster than analog video).

Consequently, a much more reliable and precise mechanism is required.

Digital video recording pattern conceptual diagram



Professional Camera Features

❑ Full Auto Shooting

Activates the Automatic Video Level Control (ALC), Extended Electronic Iris (EEI) and Full Auto White. All the operator needs to do is zoom, focus, and press the record button.

❑ Accu-Focus

Activates the electronic shutter for approx. 10 seconds, forcing open the iris. Minimizes depth of focus so the lens can be focused quickly and precisely.

❑ Continuous Auto Black (CAB)

Continually corrects black balance by sampling the optical black from the CCDs. Assures perfect black balance in a changing environment without having to interrupt a shot.

Professional Camera Features

❑ Automatic Level Control (ALC)

ALC with Extended Electronic Iris allows continuous automatic shooting in all light levels, without the operator having to switch gain setting or use an ND filter.

❑ Variable Scan View

Can capture flicker-free footage of video and computer monitors.

❑ Black Stretch/Black Compress

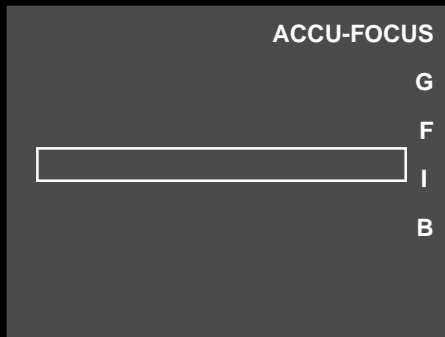
Enhances or suppresses reproduction of dark areas on the screen.

❑ Built-in Phantom Microphone Power

Phantom power can be supplied to optional microphones through any of the XLR connectors and switched off to any channel not in use.

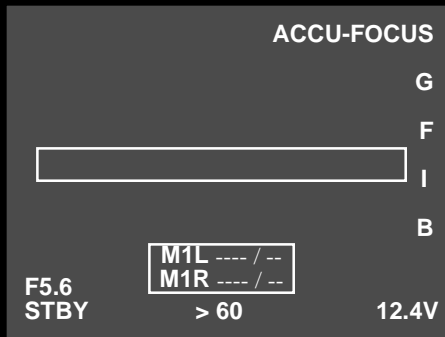
Viewfinder Menu

❑ Various special functions indications



When a special function such as Accu-Focus, black stretch/black compress, full auto shooting, Lolux ON/OFF is selected, the function is indicated by name in the viewfinder.

❑ Various status indications



- Audio indicator
- Tape remaining time
- VCR operation
- Battery capacity indication
- Iris f value indication
- Warning indication

Viewfinder Menu

❑ Camera setting indications

SCENE FILE	A
WHITE BAL	A
FILTER	3.2K
SHUTTER	1/1000
GAIN	6dB
IRIS LEVEL	NORMAL
IRIS DETECT	NORMAL
FULL AUTO	OFF
REC TIME	> 60

Camera settings such as scene file, white balance and filter can be checked at a glance.

❑ Camera/VCR parameter setting

---- MENU ----	
SCENE FILE A	
DETAIL	: NORMAL
MASTER BLACK	: NORMAL
IRIS	: NORMAL
V. RESOLUTION	: NORMAL
BACK TALLY	: ON
F NO. DISPLAY	: ON
AUDIO DISPLAY	: ON
SAFETY ZONE	: OFF

---- OPERATION ----	
SCENE FILE A	
FAW	: NONE
GAIN L	: 0dB
GAIN M	: 6dB
GAIN H	: 9dB
SMOOTH TRANS	: OFF
REC TIME	: REMAIN
ZEBRA	: 70 - 80%
LENS TRIGGER	: MOMENTARY
CAM MIC 48V	: ON

Together with menu dial, camera and VCR settings are simplified with in-viewfinder menu system.

IEEE 1394 (FireWire)

Developed from Apple Computer's original "FireWire" proposal, IEEE 1394 has been widely accepted as the standard digital interface for use in digital video devices.

□ Features of IEEE 1394

- **Fast digital data transfer:** 1394's transfer speeds are 100 Mbps, 200 Mbps and 400 Mbps. Professional DV adopts 200 Mbps.
- **Hot-pluggable:** As a 1394 bus is dynamically reconfigured when new nodes are added, it is not necessary to configure node IDs or worry about termination.
- **Guaranteed transfers:** 1394 specifies both guaranteed bandwidth (isochronous) and variable bandwidth (asynchronous) transfers. Professional DV adopts isochronous transfer so that time-sensitive media, such as audio, can be reliably transferred without being interrupted by bus traffic.

❑ Features of IEEE 1394 (cont'd)

- **Open standard:** An open IEEE standard opens the playing field to third-party developers and increases industry acceptance.

❑ Advantages of IEEE 1394

- You can dub between two camcorders using 1394 input/output and the copy will be identical to the original.
- You can transfer video footage directly from the GY-DV500 to an NLE system with no data loss.

Super Scene Finder

A JVC exclusive, Super Scene Finder lets the operator log scenes automatically or manually in the field, and mark the best scenes. This dramatically speeds up the transfer process and saves disk space, because only those scenes required for editing need to be digitized. Scene data is written directly onto the MiniDV cassette, eliminating the need for special higher priced cassettes. Up to 134 scenes can be marked per cassette. In addition, scene data from the last 3 cassettes is held in the camcorder's memory, allowing the data to be added to the cassette at a later time. And since this system is self-contained, no additional investment is required in order to use it.

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Super Scene Finder

ENG



GY-DV500

Addresses are stored in the GY-DV500's EEPROM memory.



MINI DV TAPE

Recording at the beginning of a tape.

Data transmission



GY-DV500 or BR-DV600

RS-232C



NLE

Data transmission from GY-DV500/BR-DV600 to NLE system.

Video/audio acquisition



GY-DV500 or BR-DV600

VIDEO/AUDIO



NLE

Only required scene data is acquired into the NLE system.

Super Scene Finder

❑ Comparison with Sony's Clip Link

	Super Scene Finder	Sony's Clip Link
Log data recording area	Log data stored in the camcorder's EEPROM (for the last 3 cassettes), then recorded at beginning of tape.	Log data is recorded in the cassette's IC memory.
Number of log data	Up to 135 scenes for one cassette.	198 scenes (16 kbit memory) 45 scenes (4 kbit memory)
Mark-in/out timecode data	Hour: minute: second: frame	Hour: minute: second
Index picture	No	Yes (optional board required/transfer with QSDI)

System Flexibility

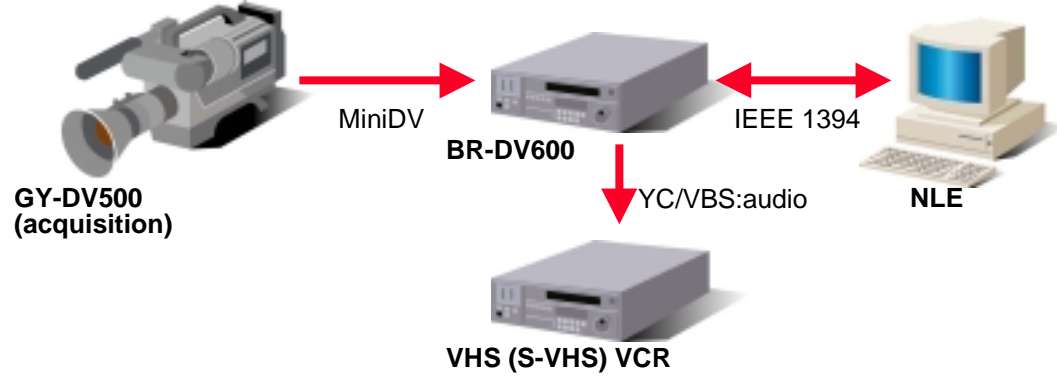
System 1 (NLE system)

MiniDV (camcorder) → low-cost non-linear editing system



Video footage recorded on the GY-DV500 camcorder can be transferred directly to an NLE system via the IEEE 1394 I/O.

MiniDV → low-cost non-linear editing system (→ VHS copy)



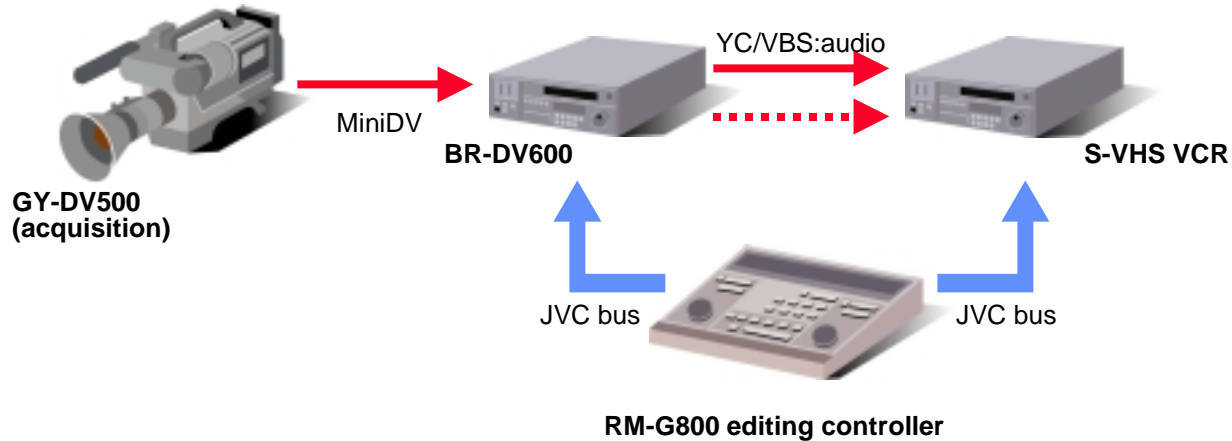
When shooting with the GY-DV500, unload the MiniDV tape and load it into the BR-DV600 feeder/recorder for editing on an NLE system or dubbing on a VHS (S-VHS) VCR. Finished work on NLE can be D/A converted on BR-DV600 and dubbed to a VHS (S-VHS) VCR.

System Flexibility

□ System 2 (S-VHS)

MiniDV → S-VHS (VHS) editing system

When shooting with the GY-DV500, unload the MiniDV tape and load it into the BR-DV600 feeder/recorder. Analog signals are transferred to the S-VHS VCR for editing or dubbing.



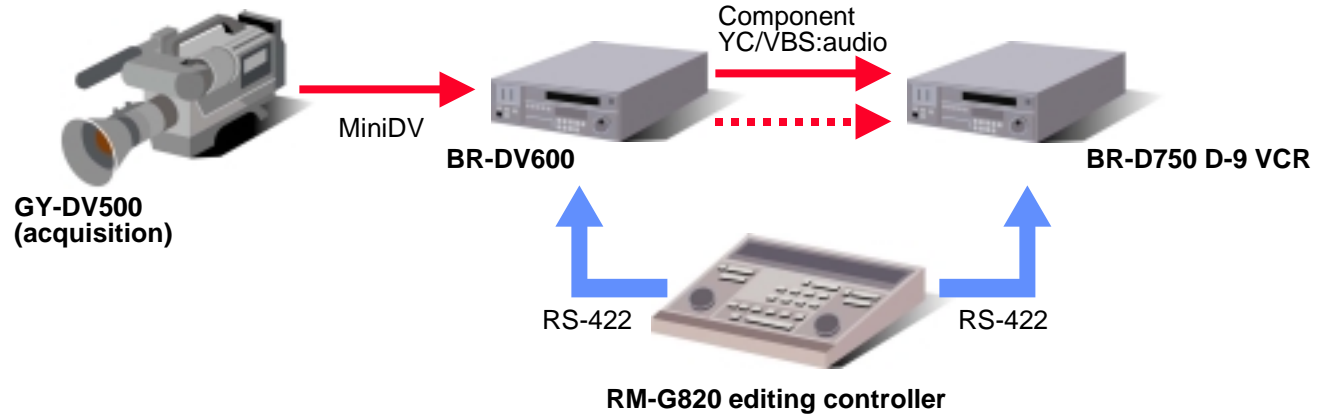
System Flexibility

System 3 (D-9, DVCPRO and DVCAM, etc.)

MiniDV → Other format editing system

When shooting with the GY-DV500, unload the MiniDV tape and load it into the BR-DV600 feeder/recorder. Signals can be transferred to any format VCR via analog connection, or by DV connector (if VHS is so equipped). The MiniDV cassette can be played back in a DVCAM VCR or DVCPRO VCR (with adapter).

EXAMPLE OF CONNECTION TO D-9 SYSTEM



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