

DN-500 HDV / DV Hard Disk Recorder



Instruction Manual

www.datavideo-tek.com

Rev 220109

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Warnings and Precautions

- 1. Read all of these warnings and save them for later reference.
- 2. Follow all warnings and instructions marked on this unit.
- 3. Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- 4. Do not use this unit in or near water.
- 5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
- 6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
- 7. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your Datavideo dealer or your local power company.
- 8. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
- 9. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord's rating.
- 10. Make sure that the total amperes of all the units that are plugged into a single wall outlet do not exceed 15 amperes.
- 11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
- 12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
- 13. Unplug this product from the wall outlet and refer to qualified service personnel under the following conditions:
 - a. When the power cord is damaged or frayed;
 - b. When liquid has spilled into the unit;
 - c. When the product has been exposed to rain or water;
 - d. When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation;
 - e. When the product has been dropped or the cabinet has been damaged;
 - f. When the product exhibits a distinct change in performance, indicating a need for service.

To avoid any possible static damage to your equipment please ensure your camcorder / deck is switched off when connecting or disconnecting the IEEE-1394 cable.

Warranty

Datavideo warrants that the equipment it manufactures shall be free from defects in material and workmanship for a period of 12 months from the date of product purchased. If equipment fails due to such defects, Datavideo will, at its option, repair or provide a replacement for the defective part or product. Equipment that fails after the warranty period, has been operated or installed in a manner other than that specified by Datavideo, or has been subjected to abuse or modification, will be repaired for time and material charges at the Buyer's expense.

This warranty does not affect your statutory rights within the Country of purchase.

Disposal

For EU Customers only - WEEE Marking.



This symbol on the product indicates that it will not be treated as household waste. It must be handed over to the applicable take-back scheme for the recycling of electrical and electronic equipment. For more detailed information about the recycling of this product, please contact your local Datavideo office.

Packing List:

The following items should be included in the box. If any items are missing please contact your supplier.

Items	Description	Q'ty
1	DN-500 DV / HDV Hard Disk Recorder	1
2	Power Supply (12V 4.2A)	1
3	DV Conversion software S/N	1
4	CD for DV file converter software	1
5	AC cord 3P	1
6	2.5" Removable HDD 'caddy' *	1
7	IEEE 1394 6Pin -6Pin Cable 1.8m	1
8	S-Video Cable 1.2m	1
9	Y Type USB Cable 45cm	1
10	M3 X 4 mm Screws	10
11	2.0 X 8 mm Screws	2
12	HD Label	2
13	SD Label	2
14	Label	4
15	L Type Rack	2
16	2 RCA to 2 RCA 1.5m	1
17	BNC to BNC Cable 1.2m	2
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Introduction

The Datavideo DN-500 is a rack mountable HDV / DV Hard Drive Recorder. It can record HDV via the IEEE-1394 (iLink, FireWire) output from HDV Camcorders (.m2t), or DV from DV or Analogue video sources (.dv). The DN-500 can be as an external firewire drive from which files can be dragged and dropped to a PC or MAC. The DN-500 has a built in utility to convert .dv files to .avi files, and is also supplied with DV file converter software to create other file formats such Quicktime. The DN-500 has a removable hard drive in a caddy, which can be ejected from the unit and connected to a PC or MAC via USB to transfer the video files.

Features

Stand Alone DV / HDV Hard Drive Recorder / Player with Removable Caddy Hard Disc Drive*. Records DV from Digital or Analogue Video Inputs (DV via IEEE-1394 (iLink FireWire) or Component (YPbPr) / S-Video (Y/C) / Composite (CVBS) analogue video inputs). Records HDV (.m2t) from HDV input (HDV via IEEE-1394 (iLink, FireWire)). Full VTR playback functionality, including loop playback. RS-422 control GPI input Drag and Drop file transfer to PC or MAC via IEEE-1394, remove drive caddy and connect to PC or MAC for Drag and Drop file transfer.

N.B. The DN-500 cannot be operated as a DV Device from a PC - The AVC Command set is not supported.

* Hard Drive Caddy may be supplied empty or with drive already fitted please check with your dealer

How to mount 2.5" hard drive into removable caddy.

If your DN-500 does not come with a hard drive pre-fitted in the caddy please follow these instructions to fit your own drive. Always check compatibility before buying hard drive.

N.B Hard Drive Support.

At the time of writing this manual the largest capacity HDD tested with the DN-500 is the WD3200BEVT Western Digital 320GB.

For up to date information about HDD compatibility contact your local Datavideo Office

1. Remove the two screws from the front of the 2.5" removable caddy, then pull out the PCB.

2. Put 2.5" hard drive onto socket side of PCB and push into connectors. Turn unit over and use 4 supplied screws to attach.

3. Slide PCB and hard drive into removable caddy slots. USB and SATA connections should be visible at back of caddy.

4. Replace two screws to fasten removable caddy front, and insert into DN-500.

Lock caddy into DN-500 by pushing lever to left.







Connections & Controls

Front Panel





Power On / Off Button. This is a soft power on / off button which powers the unit on from a state of standby; the main power on / off switch is on the rear panel.

Display Panel. Displays the status of the DN-500. The display will show Track Number, timecode, or if the Menu Button is pressed the Menu Display.

Menu Button. This calls up the menu display which is navigated using the Fwd / Rew Buttons and Previous / Next Buttons

Fwd / Rew Buttons. In playback mode these buttons will operate as Fast Forward and Rewind Buttons. If the Menu Button is pressed these buttons will navigate backwards and forwards between the various menu options.

Video Input Button. Switches the DN-500 to Video Input (Component YUV / S-Video Y/C / Composite CVBS) – Analogue Video Inputs can only be recorded in DV formats. See *Operation with an analogue video source* for more details.

Previous / Next Buttons. These buttons navigate up and down between recorded tracks and menu options.

Record Button. Puts the DN-500 into Record Mode. To start recording press the Record Button and Play Button simultaneously. *N.B. Unit will not record if no video signal is present.*

Play / Pause Button. Starts playback of a track, or pauses playback of a track- status will be displayed on the Display Panel. Also Starts / Pauses a recording when unit is in Record mode.

Stop Button. Stops playback or record.

The Audio Input Level LEDs show the audio input levels from the incoming source.

The Audio Level Adjustments allow you to adjust the headphones volume.

Accepts a stereo mini jack plug for stereo headphones. The headphone volume is controlled by the Audio Level Adjustments.

6 Pin DV In/Out Port. This is a convenient front mounted DV / IEEE-1394 Port for connection to a DV / HDV camcorder, or to a PC for file transfer.

2.5" Removable HDD Rack, SATA & USB interface connecting to a PC for file transfer.

Rear Panel









2 channels XLR Balanced Audio input & output.

Note: XLR and RCA Phono inputs can not be used at the same time.

Component YUV Video input & output, commonly used with Betacam, DVC Pro, some DVD Players.

Black Burst Output Can be used as a video reference source when synchronising other devices to the DN-500.

RS-422 Port. The DN-500 can be controlled via RS-422 from external devices. The DN-500 uses standard Sony protocol. Connect the RS-422 control cable to this port.

6 Pin DV In/Out Ports. Ports for connecting to a DV / HDV camcorder, or to a PC for file transfer.

S-Video / Composite Video and Stereo Audio In / Out. These are the standard connections for analogue video and audio signals. You can connect standard analogue video signals to the inputs and record them in DV format. A standard analogue video monitor could be connected to the output for simple record / playback monitoring of DV recordings.

See Video Input Source Menu for more details. N.B. Analogue Inputs & Outputs are only suitable for RAW DV (DV) operation - It is not possible to record or playback M2T (HDV) files via the Analogue Inputs / Outputs

The GPI socket can be used for simple external control. The DN-500 can accept pulse or level trigger inputs, which can trigger record or playback and pause commands See GPI Mode & Function Menus for more details.

RS-232 DC IN 12V 4.2A

RS-232 Socket. May be used for some firmware updates, or other future uses.

DC In Socket. Connect the supplied 12V 4.2A PSU to this socket. The connection can be secured by screwing the outer fastening ring of the DC In plug to the socket

Grounding Terminal. When connecting this unit to any other component, make sure that it is properly grounded by connecting this terminal to an appropriate point. When connecting, use the socket and be sure to use wire with a cross-sectional area of at least 1.0 mm2.

Powering On

Connect the DN-500 power supply to the DC In socket. Ensure the power cable is connected to a suitable mains socket.



Switch the power On/Off switch to the ON position

Press the Power Button until it lights up

The LCD display panel should show DN-500 and after a few seconds the track display should appear and the DN-500 is ready to go

POWER

Datavideo	INITIALIZING	TRACK 01	00:00:00:00
DN-500	MAIN SYSTEM	PREVIOUS	NEXT

Menu Options

The DN-500 is a menu driven unit; there are 18 menus which are used to initially set up the unit. The menu settings are non-volatile (they are stored even when the unit is switched off), so many of the settings, such as date and time, you will only need to set once. We will look at each individual menu in more detail, but here is a quick overview of them. **N.B.** *Not all menus appear when the Analogue Input Button is illuminated.*

The 18 Menus are:

HDD MODE CANCEL	ENTER	HDD MODE - This sets the DN-500 to HDD mode for drag and drop file transfers to a PC or MAC. See HDD Mode Menu for more details.
SETUP LOOP PLAY CANCEL	ENTER	SETUP LOOP PLAY - Sets the DN-500 to loop play a track, the track will continuously loop until stopped.
RECORD FORMATS	ENTER	RECORD FORMATS - Sets the DN-500 record format to .dv for DV recordings or .m2t for HDV recording. See Record Formats Menu for more details.
FREE SPACE CANCEL	ENTER	FREE SPACE - Displays how much HDD space is available on the DN-500.
TOTAL SPACE Cancel	ENTER	TOTAL SPACE - Displays the total available HDD storage on the DN- 500.
NPUT VIDEO STA Cancel	NDARD ENTER	INPUT VIDEO STANDARD - Sets the DN-500 video input to NTSC to PAL. See Input Video Standard Menu for more details.
NTSC SETUP LEVE CANCEL	L ENTER	NTSC SETUP LEVEL - Sets the ire to 0 or 7.5 for NTSC. 7.5 ire is most commonly used in the U.S.A. and Canada and 0 ire in far eastern countries such as Japan. <i>See NTSC Setup Level Menu for more</i>
VIDEO INPUT SOUF	RCE ENTER	VIDEO INPUT SOURCE - The DN-500 has three types of Analogue Input - select between CVBS (Composite), Component (YPbPr) or S- Video (Y/C). See Video Input Source Menu for more details.
SET GPI TRIGGER CANCEL	MODE ENTER	SET GPI TRIGGER MODE - The DN-500 has two GPI trigger modes, Pulse or Level trigger can be set. See GPI Mode & Function Menus for more details.

SELECT GPI FUNCTION CANCEL ENTER	SELECT GPI FUNCTION - The GPI function can be set to either Play / Play Pause or Record / Record Pause. See GPI Mode & Function <i>Menus for more details.</i>
SET DATE & TIME CANCEL ENTER	SET DATE & TIME - Sets the date and time on the DN-500; the setting is non-volatile so it is stored when the unit is powered off. See Set Date & Time Menu for more details.
SET FULL SYT CANCEL ENTER	SET FULL SYT - Occasionally DV devices can suffer from conflicts. In the event of the DN-500 conflicting with another device Set Full Syt is enabled to overcome the conflict.
FORMAT HARD DISK CANCEL ENTER	FORMAT HARD DISK - Formats the HDD and removes all files and tracks from the DN-500. See Format Hard Disk Menu for more details.
ERASE TRACK CANCEL ENTER	ERASE TRACK - Erases individual tracks from the DN-500. See Erase Track Menu for more details.
CONVERT DV TO AVI CANCEL ENTER	CONVERT DV TO AVI - Converts DV files to .AVI files for greater NLE compatibility. See Convert DV to AVI Menu for more details.
SET OUTPUT CHANNEL CANCEL ENTER	SET OUTPUT CHANNEL - Allows the output channel of the DN-500 to be switched to a different I.D. number. This is important if there are any conflicts between DV Devices. <i>See Set Output Channel Menu</i>
HDD SURFACE SCAN CANCEL ENTER	HDD SURFACE SCAN - Checks the HDD for errors / bad sectors. This is only necessary if your DN-500 is not performing correctly, or you install a new HDD. A result.txt file is created in the root directory of the HDD, this can be viewed from a PC
FIRMWARE VERSION CANCEL ENTER	FIRMWARE VERSION - Display the Rev No. and Firmware Version of the DN-500

HDD Mode Menu

In addition to ejecting the hard drive caddy and connecting it to a PC or Mac via USB you can also connect the DN-500 directly to a computer via FireWire.

The HDD Mode Menu will set the DN-500 up as an external IEEE-1394 (Firewire) drive, for direct drag and drop file transfer to a PC or MAC.

The files appear in the root directory of the DN-500 hard disk, and are numbered with the track number that appears in the LCD display when you are recording or playing back the track.

The DN-500 uses a FAT32 file structure, so large tracks are broken down into 2 GB files which are sequentially named:

For example if Track 02 is 1 hour in duration it will appear as follows:

dv02 is the file name for Track 02
Each 2 GB section is given a sequential _xx numeric extension
The last file in the sequence is likely to be smaller than 2GB.

Connecting to a PC / MAC

NB: Although your PC / MAC may see the DN-500 as an AVC compliant DV Device it is not intended to be operated as such.

Connect the DN-500 IEEE-1394 output to a PC or MAC.

To set the DN-500 into HDD Mode firstly press the Menu button so that it is illuminated. You will see the display change to the HDD Mode Menu.





Press the Next () Button to select ENTER and the display will show the HDD Enable Confirmation Screen







Press the Next (▲) Button again to confirm, after a few seconds HDD Mode will be enabled







HDD MODE ENABLED

The PC / MAC should recognise that an external IEEE-1394 (Firewire)HDD has been connected. The DN-500 can then be used just like any external drive. **See Connecting to a PC / Connecting to a MAC for** *more details.*

To return the DN-500 to Deck Mode either use "Safely Remove Hardware" with a PC, or with a MAC use "Eject" or Drag the DN-500 Drive to "Trash". Once un-mounted the DN-500 display will return to Track Display.

Record Formats Menu

The Record Formats Menu sets the recording format of the DN-500, you can choose between RAW DV (.DV) or M2T (HDV).

Raw DV can be recorded from a DV deck, camcorder, vision mixer with IEEE-1394 (iLink, FireWire, DV) output, or from an analogue video signal (Composite (CVBS), S-Video (Y/C), Component (YUV (CPbPr)).

M2T (HDV) can only be recorded from a camcorder, deck with an HDV signal via IEEE-1394 (iLink, FireWire), it is not possible to record M2T from an analogue input.

N.B. M2T recordings cannot be played back via the analogue outputs of the DN-500 - To view recorded files set your HDV Camcorder / Deck to Recorder Mode - the DN-500 files can then be played back to the viewfinder / monitor.

To select the Record Format: Press the Menu Button, to enter menu mode

HDD MODE
CANCEL

Press the FWD (▶▶) Button to navigate the menus until RECORD FORMATS is displayed

RAW DV (DV) CANCEL



м

RECORD	FORMATS
CANCEL	ENTER

ENTER

SELECT

Press the Next (▲) Button to enter the RECORD FORMAT set up menu





Press the FWD (►►) Button to select either RAW DV (DV) or M2T (HDV)

RAW DV (DV)	•	M2T (HDV)	•
CANCEL	SELECT	CANCEL	SELECT

To confirm your selection and exit the menu press the Next (\blacktriangle) button.





RAW DV	(DV)	•
CANCEL		SELECT

Then press the Menu Button to leave menu mode

	RECORD FORMATS		TRACK 01	00:00:00:00
MENU	CANCEL	ENTER	PREVIOUS	NEXT

Input Video Standard Menu

The Input Video Standard Menu sets the DN-500 to receive either NTSC or PAL video signals.

To select the Input Video Standard:

Press the Menu Button, to enter menu mode

	HDD MODE	
MENU	CANCEL	ENTER

Press the FWD (►►) Button to navigate the menus until INPUT VIDEO STANDARD is displayed

	INPUT VIDEO CANCEL	STANDARD ENTER		
Press the Next (▲) Button to enter the	e INPUT VIDEO S	STANARD set up	menu	
	PAL CANCEL	SELECT		
Press the FWD (►►) Button to selec	t either PAL or NT	SC		
	PAL CANCEL	SELECT	NTSC CANCEL	► SELECT
To confirm your selection and exit the	menu press the N	Next (▲) button.		
	PAL CANCEL	SELECT	INPUT VIDEO CANCEL	STANDARD ENTER
Then press the Menu Button to leave menu mode				
MENU	INPUT VIDEO CANCEL	STANDARD ENTER	TRACK 01 PREVIOUS	00:00:00:00 NEXT

NTSC Setup Level Menu

The NTSC Setup Level Menu sets the DN-500 either 0 ire or 7.5 ire - This is not necessary for PAL inputs.

7.5 ire is most commonly used in the U.S.A. and Canada and 0 ire in far eastern countries such as Japan. If you are unsure which to set, please consult your dealer.

To select the NTSC Level:

Press the Menu Button, to enter menu mode

	HDD MODE	
MENU	CANCEL	ENTER

Press the FWD (▶▶) Button to navigate the menus until NTSC SETUP LEVEL is displayed



NTSC SETUP	LEVEL
CANCEL	ENTER

Press the Next (\blacktriangle) Button to enter the NTSC level set up menu



Video Input Source Menu

The Video Input Source Menu sets the analogue input mode of the DN-500. The DN-500 has Composite (CVBS), S-Video (Y/C) and Component (YPbPr) analogue inputs.

N.B. It is only possible to record RAW DV (DV) from the analogue inputs - M2T (HDV) can only be recorded from a HDV stream via IEEE-1394 (iLink, FireWire).

To select the Video Input Source:

Press the Menu Button, to enter menu mode

MENU

nouo	
HDD MODE	
CANCEL	ENTER

Press the FWD (►►) Button to navigate the menus until VIDEO INPUT SOURCE is displayed



VIDEO	INPUT	SOURCE
CANCE	L	ENTER

Press the Next (▲) Button to enter the VIDEO INPUT SOURCE set up menu





CVBS (COMPOSITE) CANCEL SELECT

Press the FWD (►►) Button to select either Composite, Component or S-Video

CVBS (COMPOSIT	E) 🕨	COMPONENT	(YPbPr)	S - VIDEO (Y / C)	
CANCEL	SELECT	CANCEL	SELECT	CANCEL	SELECT

To confirm your selection and exit the menu press the Next (\blacktriangle) button.





CVBS (COMPO	SITE) ►	VIDEO INPUT	SOURCE
CANCEL	SELECT	CANCEL	EN

Then press the Menu Button to leave menu mode

	VIDEO INPUT SOURCE		TRACK 01	00:00:00:00
MENU	CANCEL	ENTER	PREVIOUS	NEXT

ENTER

GPI Mode & Functions Menus

The DN-500 can be set to receive either pulse or level GPI triggers, which can be set to activate Play / Pause or Rec / Pause.

To select the GPI Mode:

Press the Menu Button, to enter menu mode

	HDD MODE	
MENU	CANCEL	ENTER

Press the FWD (▶▶) Button to navigate the menus until SET GPI TRIGGER MODE is displayed

	SET GPI TRIGGER CANCEL	MODE ENTER		
Press the Next (▲) Button to enter the	e SET GPI TRIGGER	MODE menu		
	PULSE TRIGGER CANCEL	SELECT		
Press the FWD (►►) Button to selec	t either Pulse Trigger	or Level Trigge	er	
	PULSE TRIGGER CANCEL	SELECT	LEVEL TRIGGI CANCEL	ER F SELECT
To confirm your selection and exit the	menu press the Next	(▲) button.		
	PULSE TRIGGER CANCEL	SELECT	SET GPI TRIGO	ER MODE ENTER
Then press the Menu Button to leave menu mode				
MENU	SET GPI TRIGGER CANCEL	MODE ENTER	TRACK 01 PREVIOUS	00:00:00:00 NEXT

To select the GPI Function:

Press the Menu Button, to enter the menu mode

Press the FWD (▶▶) Button to navigate the menus until SET GPI FUNCTION is displayed



SELECT	GPI	FUNCTION
CANCEL		ENTER

Press the Next (▲) Button to enter the SET GPI FUNCTION menu





PLAY/PLAY PAUSE CANCEL SELECT

Press the FWD (►►) Button to select either Pulse Trigger or Level Trigger

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	ļ

PLAY/PLAY	PAUSE ►	RECORD/REC	ORDPAUSE
CANCEL	SELECT	CANCEL	SELECT

To confirm your selection and exit the menu press the Next (▲) button.

RECORD/REC	ORDPAUSE	SELECT GP	FUNCTION
CANCEL	SELECT	CANCEL	ENTER

Then press the Menu Button to leave menu mode

MENU	SELECT GPI	FUNCTION	TRACK 01	00:00:00:00
	CANCEL	ENTER	PREVIOUS	NEXT

Set Date & Time Menu

To set the Date & Time on the DN-500

Press the Menu Button, to enter menu mode

MENU	HDD MODE	
	CANCEL	ENTER

Press the REW (◀◀) Button to navigate the menus until SET DATE & TIME is displayed



SET	DATE	&	TIME
CAN	CEL		ENTER

Press the Next (▲) Button to enter the SET Date & Time menu





6	Feb	2007	12:00
CA	NCE	L	SET

You will see a flashing cursor on the date value.

To set the date use the Play/Pause Button to increase the value or the Stop Button to decrease the value



Increases Value



Decreases Value

Use the FWD (\blacktriangleright) Button to move the cursor to the next column to the right i.e. Month / Year / Hours / Minutes or the REW (\blacktriangleleft) Button to move the cursor back to the left.



Moves the cursor to the right



Moves the cursor to the left

Once you have set the date & time press the Next (**▲**) Button to exit the menu

	16 Oct 2007 CANCEL	14:30 SET	SET DATE & CANCEL	TIME ENTER
Then press the Menu Button to leave	menu mode			
MENU	SET DATE & CANCEL	TIME ENTER	TRACK 01 PREVIOUS	00:00:00:00 NEXT

Set Full Syt Menu

DV devices can sometimes conflict with one another, it is not a common occurrence but it can happen. When conflicts occur one DV device may not recognize the other, or the output from one is switched off by the other. "Set Full Syt" will overcome conflicts of this type, so if you have a conflict with another DV device switch Syt Full Syt to Enable.

Press the Menu Button, and use the REW (◄◄) Button to navigate to SET FULL SYT

	SET FULL SYT	
MENU	CANCEL	ENTER

Press the Next (▲) Button to select Enable and then press it again to exit the menu.

		ENABLE CANCEL	► SE	T			SET FL	JLL SYT L	ENTER
Then press the	Menu But	ton to leave	menu mode						
MENU			SET FULL CANCEL	SYT	ENTER	TRAC PREV	K 01 IOUS	00:00:	:00:00 NEXT

Format Hard Disk Menu

Format Hard Disk will remove all tracks from the hard drive.



MENU	HDD MODE	
	CANCEL	ENTER

Press the REW (<<) Button to navigate the menus until FORMAT HARD DISK is displayed



	TRACK 01	00:00:10:15	TRACK 01	00:00:00:00
	CANCEL	ERASE	CANCEL	ERASE
Then press the Menu Button to leave	menu mode			
MENU	TRACK 01	00:00:00:00	TRACK 01	00:00:00:00
	CANCEL	ERASE	PREVIOUS	NEXT

Convert DV to AVI Menu

The DN-500 has a built in file conversion utility which can convert .dv files to .avi files (type 1 or type 2). You can choose the format that best suits your NLE platform.

N.B. The DN-500 requires sufficient HDD space to create the .avi file. For example a One GB .dv file will require at least One GB of free space on the DN-500 for the .avi file to be created.

Tracks that have been recorded in M2T (HDV) cannot be converted to .avi The converted AVI file will not be displayed on the track list, but it will be available to drag and drop to a PC.

The conversion takes about 60% realtime, i.e. A 1 hour track will take around 36 minutes to convert. *N.B. You can convert files more quickly using the DV File Converter program that is supplied with the DN-500, see page 27 for more details.*

Press the Menu Button, to enter menu mode

HDD MODE	
CANCEL	ENTER

Press the REW (<<) Button to navigate the menus until CONVERT DV TO AVI is displayed



MENU

CONVERT	DV	то	AVI
CANCEL			ENTER

Press the Next (▲) Button to enter the CONVERT DV TO AVI menu



l	

TRACK 01	00:00:10:15
CANCEL	SELECT

Use FWD (\blacktriangleright) or REW (\triangleleft) to select the track that you want to convert - (Track 01 in this case) - Then press the Next (\blacktriangle) Button to confirm the selection.



Press the Next (▲) Button to select OK - and then press the Menu Button to exit.



Set Output Channel Menu

Occasionally DV device outputs will conflict. It is not a frequent occurrence but when it happens it is possible to change the Output Channel I.D of the DN-500 to overcome the conflict. For example if another DV device has the same output channel I.D. as the DN-500 this will result in a conflict, which will mean that the DN-500 output is blocked. Please change the output channel I.D. of the DN-500 to solve the problem.

The default output channel of the DN-500 is 1, this is fine for recording from a DV Device and monitoring / playing back to an analogue monitor.

If you want to output DV from the DN-500 to another DV Device you need to select channel 63.

N.B. When the DN-500 is set to channel 63 you cannot playback a track to analogue output, until the DV device is switched off or disconnected.

Press the Menu Button, to enter menu mode

MENU

HDD MODE CANCEL ENTER

Press the REW (<<) Button to navigate the menus until SET OUTPUT CHANNEL is displayed



SET	OUTPUT	CHANNEL
CAN	CEL	ENTER

Press the Next () Button to enter the SET OUTPUT CHANNEL menu



Use FWD (▶▶) or REW (◄◄) to change the output channel number - in this case we have selected 1



CHANNEL	NUMBER:	
CANCEL		SE

Press the Next (**A**) Button to confirm the setting





SET OUTPUT	CHANNEL
CANCEL	ENTER

Then press the Menu Button to leave menu mode

	SET OUTPUT CHA	NNEL	TRACK 01 00:00:00:00	
MENU	CANCEL	ENTER	PREVIOUS	NEXT

Scan HDD Surface Menu

Surface scan is a utility which checks the disc surface for errors and bad sectors. It is not generally necessary to use Surface Scan unless your DN-500 is not performing correctly, or you have changed the HDD.

To run Surface Scan press the Menu Button to enter menu mode.

MENU	
------	--

HDD MODE	
CANCEL	ENTER

Press the REW (◀◀) Button to navigate the menus until SCAN HDD SURFACE is displayed

CANCEL



HDD	SURFACE	SCAN
CAN	CEL	ENTER

Press the Next (▲) Button twice to start the HDD Surface Scan.







HDD SURFACE SCAN SCANNING > **1% DONE**

The progress of the scan will appear in the LCD display. Once complete the Surface Scan Done message will appear. Press the Next (\blacktriangle) Button to exit the surface scan.



A txt file called Result will have been created in the root directory of the DN-500 HDD, this can be accessed via a PC, by connecting the DN-500 as a HDD.

Operation with a DV Camcorder / Deck / Vision Mixer

Recording a track

To record from a DV Camcorder / Deck / Vision Mixer connect the DV device to the DN-500 via an IEEE-1394 (iLink, FireWire) cable. You can connect to either of the rear 6 Pin ports, or to the front mounted 4 Pin port, but only connect one DV device to the DN-500 at a time.

DV/HDV

N.B. To avoid any possible static damage please ensure your camcorder is switched off when connecting / disconnecting the IEEE-1394 cable.



Rear Mounted DV 6 Pin Ports

Front mounted DV 4 Pin Port

Use the Next / Previous Buttons to select an empty track from the DN-500 track list, one that shows a duration of 00:00:00:00 in the LCD display.

TRACK 02
PREVIOUS01:25:12:09
NEXTNot suitable - Track
has been recordedTRACK 01
PREVIOUS00:00:00:00
Image: 00:00:00:00Suitable - Track is
empty

Press both the Record and Play/Pause Buttons simultaneously and the DN-500 should start recording.



The counter should start counting and the REC symbol should appear

If it does not start recording check the following:

There is a DV signal from the DV device.

The Analogue Input Button is not illuminated

The DN-500 Record Format is set to RAW DV (DV), not M2T (HDV) see Record Formats Menu.

The track you have selected on the DN-500 is empty. The counter next to the TrackNo. on the LCD display should b showing 00:00:00:00.

There is some available space on the DN-500 Hard Disk - Go to the FREE SPACE Menu and check that the DN-500 is not full.

During record you can pause the DN-500 by pressing the Play/Pause button, the counter on the LCD display will stop.





The counter should stop counting and the REC PAUSE symbol should appear

To release pause press the Play/Pause button again.



The counter should start counting again and the REC symbol should return

N.B. It is not possible to stop recording and then restart on the same track, once a track has been stopped you must select a new empty track from the DN-500 to start recording again.

Playing a DV Track

Tracks that have been recorded in RAW DV (DV) mode can be played back to DV devices via one of the IEEE-1394 ports, or to analogue monitors or recorders via the Composite, S-Video (Y/C) or Component (YUV) video outputs.

To play a track back to a camcorder you will need to switch the camcorder to recorder / edit mode, so that it is receiving a signal from the DV port. - Please consult your camcorder instruction manual for more details.

Use the Previous (\blacktriangle) / Next (\blacktriangle) Buttons to select the track you want to play, and then press the Play (\triangleright II) Button.



It is also possible to set the DN-500 to loop play. In loop play the track will seamlessly looped until stopped. To set up loop play press the Menu Button to enter menu mode and then the FWD (▶▶) Button until SETUP LOOP PLAY is displayed.





╇



Press the Next (\blacktriangle) Button to enter the setup loop play menu, and then press the FWD (\blacktriangleright) Button to select ENABLE



Press the Next (▲) Button to select SET and then press the Menu Button to return to track display.



When you press play the selected track will start playing, and will loop until the Stop (**■**) Button is pressed. To cancel loop playback, follow the above procedure but select disable instead of enable.

N.B. To play a track from the DN-500 to a DV Device the output channel must be set to 63.

Operation with a HDV Camcorder / Deck

Recording a track

To record from a HDV Camcorder / Deck connect the HDV device to the DN-500 via an IEEE-1394 (iLink, FireWire) cable. You can connect to either of the rear 6 Pin ports, or to the front mounted 4 Pin port, but only connect one HDV device to the DN-500 at a time.

DV/HDV IN/OUT

N.B. To avoid any possible static damage please ensure your camcorder is switched off when connecting / disconnecting the IEEE-1394 cable.



Rear Mounted DV 6 Pin Ports

Front mounted DV 4 Pin Port

Make sure that the DN-500 Record Format is et to M2T (HDV). *Please see Record Formats Menu for more details.*

Use the Next / Previous Buttons to select an empty track from the DN-500 track list, one that shows a duration of 00:00:00:00 in the LCD display.

TRACK 02
PREVIOUS01:25:12:09
NEXTNot suitable - Track
has been recordedTRACK 01
PREVIOUS00:00:00:00
Image: NEXTSuitable - Track is
empty

Press both the Record and Play/Pause Buttons simultaneously and the DN-500 should start recording.



The counter should start counting and the REC symbol should appear

If it does not start recording check the following:

There is a HDV signal from the HDV device. Some camcorders have options to put out DV or HDV via their IEE-1394 (iLink) ports, make sure the output is set to HDV.

The Analog Input Button is not illuminated

The DN-500 Record Format is set to M2T (HDV) see Record Formats Menu.

The track you have selected on the DN-500 is empty. The counter next to the TrackNo. on the LCD display should b showing 00:00:00:00.

There is some available space on the DN-500 Hard Disk - Go to the FREE SPACE Menu and check that the DN-500 is not full.

During record you can pause the DN-500 by pressing the Play/Pause button, the counter on the LCD display will stop.



The counter should stop counting and the REC PAUSE symbol should appear

To release pause press the Play/Pause button again.



The counter should start counting again and the REC symbol should return

N.B. It is not possible to stop recording and then restart on the same track, once a track has been stopped you must select a new empty track from the DN-500 to start recording again.

Playing a M2T (HDV) Track

Tracks that have been recorded in M2T mode can only be played back to HDV devices via one of the IEEE-1394 ports.

N.B. It is not possible to playback M2T tracks to analogue monitors or recorders via the Composite, S-Video (Y/C) or Component (YUV) video outputs.

To play a track back to a camcorder you will need to switch the camcorder to recorder / edit mode, so that it is receiving a signal from the HDV port. - Please consult your camcorder instruction manual for more details.

Use the Previous (\blacktriangle) / Next (\blacktriangle) Buttons to select the track you want to play, and then press the Play (\triangleright II) Button.







It is also possible to set the DN-500 to loop play. In loop play the track will seamlessly looped until stopped. To set up loop play press the Menu Button to enter menu mode and then the FWD (**>>**) Button until SETUP LOOP PLAY is displayed.







Press the Next (\blacktriangle) Button to enter the setup loop play menu, and then press the FWD (\blacktriangleright) Button to select ENABLE









ENABLE

CANCEL

SET

NEXT

01:25:12:09

SET

Press the Next (▲) Button to select SET and then press the Menu Button to return to track display.







When you press play the selected track will start playing, and will loop until the Stop (
) Button is pressed. To cancel loop playback, follow the above procedure but select disable instead of enable.

Operation with an Analogue Video Source

The DN-500 can record DV files from analogue video sources, Composite CVBS, S-Video (Y/C) or Component Video (YUV (YPbPr)).

N.B. To avoid any interference disconnect any digital inputs (DV / HDV) from the DN-500 during Analogue operation.

N.B. It is not possible to record M2T (HDV) files from an analogue video input.

Recording a Track

To record from an analogue video source you first need to set the analog input - see Video Input Source Menu for more details.

Ensure that the DN-500 is set to record .DV (RAW DV) – see Record Formats Menu for more details.

Press the Video Input Button so that it is illuminated. You should see the video source on your output monitor. If audio is present the audio meters will indicate the level.



Use the Next / Previous Buttons to select an empty track from the DN-500 track list, one that shows duration of 00:00:00:00 in the LCD display.

TRACK 02 01:25:12:09 PREVIOUS NEXT

Not suitable - Track has been recorded

TRACK 01 00:00:00:00 Suitable - Track is PREVIOUS NEXT empty

Press both the Record and Play/Pause Buttons simultaneously and the DN-500 should start recording.





The counter should start counting and the REC symbol should appear

If it does not start recording check the following:

There is an analogue video input present.

The Analogue Input Button is illuminated

The DN-500 Record Format is set to RAW DV (DV), not M2T (HDV) see Record Formats Menu.

The track you have selected on the DN-500 is empty. The counter next to the TrackNo. on the LCD display should b showing 00:00:00:00.

There is some available space on the DN-500 Hard Disk - Go to the FREE SPACE Menu and check that the DN-500 is not full.

During record you can pause the DN-500 by pressing the Play/Pause button, the counter on the LCD display will stop.





The counter should stop counting and the REC PAUSE symbol should appear

To release pause press the Play/Pause button again.



The counter should start counting again and the REC symbol should return

N.B. It is not possible to stop recording and then restart on the same track, once a track has been stopped you must select a new empty track from the DN-500 to start recording again.

For details of playback please see Playing a DV Track on page 21.

Connecting to a Computer

Files that have been recorded onto the DN-500 can be transferred directly to a PC or MAC via the IEEE-1394 (iLink, FireWire) port.

Alternatively, and more conveniently, the hard drive caddy can be ejected and connected to a PC or MAC via the supplied USB cable.

The files appear in the root directory of the DN-500 hard disk, and are numbered with the track number that appears in the LCD display when you are recording or playing back the track.

The DN-500 uses a FAT32 file structure, so large tracks are broken down into 2 GB files which are sequentially named:

For example if Track 02 is 1 hour in duration it will appear as follows:dv02.dv (2 GB)-dv02_01.dv (2 GB)-dv02_02.dv (2 GB)-dv02_03.dv (2 GB)-dv02_04.dv (2 GB)dv02_05.dv (2 GB)dv02_06.dv (77 MB)-The last file in the sequence is likely to be smaller than 2GB.

Once transferred to a PC / MAC files can be dropped onto a timeline, in a suitable NLE application, and they will playback seamlessly.

Connecting the HDD Caddy / Enclosure directly to a PC

First turn off the DN-500.

Turn the lock lever to the right to unlock the drive caddy. Push the caddy into the unit and it will come out a few centimetres.

Gently pull the drive unit clear of the DN-500, you will feel some resistance as the drive disconnects internally.



The HDD Enclosure is fitted with a mini USB connector; this can provide power to the HDD, as well as exchange data. Connect USB connector on the thicker wire first.



N.B. With some PCs and Laptops the USB bus power may not be sufficient to power the HDD.

If the HDD does not power up correctly please connect the second USB lead to another USB port on your PC / Laptop.

N.B If your PC does not provide USB power an additional power supply will be required for the HDD.

Connect the supplied mini USB to USB cable to the HDD Enclosure, and connect the thicker lead to your PC or Laptop. If the drive does not power up correctly – connect the second USB connector to the computer as well as the first.



When connected to a PC a new Local Disk should appear, in this case Disk E, and the .dv files are available to drag and drop or access directly.

le Edit View Pavorites Too	a riebi				
3 mi - O - 🎓 🔎	Search 🜔 Folders 🛄+				
idress 🖳 My Computer	THE R. LEWIS				- E G
	Hard Disk Drives				
System Tasks					
View system information	Local Disk (C:)		50	Local Disk (E:)	
D Change a setting	1.00				
Local Disk (E:)					EE
le Edit View Pavorites Too	is Help				4
An. 0. 4 0	Sauch Ch. Bullers				
3 mm - 6 0 1	Search Constant				
dress 🖙 Er\	in and in the local sector of the local sector		2015		Y 🔁 0
File and Folder Tasks	Name A	5/26	Type	Date Modified	
California (1)	30000000.mfo	1 1/8	INFO File	06/05/2008 12:29	
Make a new folder	disk.info	1 10	INFO File	06/05/2008 12:29	
Web	@dv01.dv	154,125 KB	DV	06/05/2008 12:30	
Share this folder	@ dv02.dv	135,000 KB	DV	06/05/2008 12:31	
Million and Coloring	0103.0V	73,125 KB	Dy	06/05/2008 12:32	
Other Places (8)					
Wy Computer					
My Documents					
My Network Places					
Details 8					
Details 8 Local Disk (E:)					
Details (E) Local Disk (E) Local Disk					
Details (E) Local Disk (E) Local Disk File System: FAT32 Free System: 733 GB					
Details (E) Local Disk (E) Local Disk File System: FAT32 Free Space: 232 GB Total Size: 232 GB					
Details (E) Local Disk (E) Local Disk File System: FAT32 Free Space: 332 GB Total Size: 232 GB					

Connecting the HDD Caddy / Enclosure directly to a MAC

Connect the supplied mini USB to USB cable to the HDD Enclosure, and connect the thicker lead to your MAC. If the drive does not power up correctly – connect the second USB connector to another USB socket as well as the first.



A Datavideo drive will appear on the desktop.



If you access the drive you will see the .dv files are available for copying across to a local drive, or direct access.



To safely remove the drive from your MAC, either select Eject from the Finder File Options (Fig 1), or select Eject from the drive window options (Fig 2)



Fig 1



NB: Although a PC may see the DN-500 as an AVC compliant DV Device it is not intended to be operated as such.

If your PC sees an AVC Device select Take No Action.

EN < 🕿



Connect the DN-500 IEEE-1394 output to a PC.

😟 Found New Hardware 🛛 🖄

AVC Device

To set the DN-500 into HDD Mode firstly press the Menu button so that it is illuminated. You will see the display change to the HDD Mode Menu



Press the Next (▲) Button to select ENTER and the display will show the HDD Enable Confirmation Screen



Press the Next (▲) Button again to confirm, after a few seconds HDD Mode will be enabled



The PC should recognise that an external IEEE-1394 (Firewire)HDD has been connected. Select Open Folder to View Files. The drive should also appear in My Computer as an internal HDD. Once connected the DN-500 can be used just like any HDD. You can select the required files and drag and drop them to the required destination.



To return the DN-500 to Deck Mode use "Safely Remove Hardware". You will find "Safely Remove Hardware" on the Taskbar.

D I D	Poquele
Safely Remove Hardware	Safely remove Datavideo HDD IEEE 1394 SBP2 Device - Drive(D:)
EN 🔇 🐷 12:00	

Double click on Safely Remove Hardware and the dialog box will appear, select the Datavideo HDD IEEE SBP2 Device and click on Stop. A second dialog box will appear.

🗞 Safely Remove Hardware 🛛 💽 🔀	Safely Remove Hardware 🔹 👔 🔰	
Select the device you want to unplug or eject, and then click Stop. When Windows notifies you that it is safe to do so unplug the device from your computer. Hardware devices: Datavideo HDD IEEE 1394 SBP2 Device	Windows will attempt to stop the following devices. After the devices are stopped they may be removed safely. Image: Datavideo HDD IEEE 1394 SBP2 Device Image: Datavideo HDD IEEE 1394 SBP2 Device	
Datavideo HDD IEEE 1394 SBP2 Device at LUN 0	Datavid OK Cancel	5
Properties Stop	Properties Stop Display device components Close	

Select Datavideo HDD IEEE SBP2 Device and click on OK. After a few seconds a "Safe To Remove Hardware" message should appear above the Taskbar. You can then disconnect the DN-500.

🔱 Safe To Remove Hardware	\mathbf{X}
The 'Datavideo HDD IEEE 1394 SBP2 Device' device can no be safely removed from the system.	W Bin
EN 🔇	12:04

Once un-mounted from the PC the DN-500 display will leave HDD Mode and return to Track Display.



NEXT

Connecting to a MAC when caddy is in DN-500

NB: Although a MAC may see the DN-500 as an AVC compliant DV Device it is not intended to be operated as such.

Connect the DN-500 IEEE-1394 output to a MAC.

To set the DN-500 into HDD Mode firstly press the Menu button so that it is illuminated. You will see the display change to the HDD Mode Menu



Press the Next (**A**) Button to select ENTER and the display will show the HDD Enable Confirmation Screen



Press the Next () Button again to confirm, after a few seconds HDD Mode will be enabled



The MAC should see the DN-500 as a HDD and the files will appear in the root directory of the drive.



You can select the required files and drag and drop them to the required destination.

To un-mount the DN-500 from your MAC either "Eject" the drive, or drag it to the Trash Can Icon.

Once the DN-500 is un-mounted from the MAC the LCD display will return to normal.

HDD MODE	ENABLED	TRACK 02	01:25:12:09
		PREVIOUS	NEXT

DV File Converter Software

DV File Converter is an easy to use utility for converting native DV files to the file format best suited to your NLE system. You will find that it is quicker and more versatile than the on board utility in the DN-500, and can create the finished files directly on your PC, so it requires no additional disk space on the DN-500.

It is a PC based program with minimal system requirements:

Intel Pentium III 500 Mhz processor or faster Windows 98/ME/2000/XP DirectX 128MB of RAM

You can find more in-depth operating instructions for DV File Converter under the "About" tab of the program.

Installation

Insert the DV File Converter Disk into your PC and find the file ddvfc100.exe



Double click on ddvfc100.exe and follow the on screen prompts to install the program.





Registration

Once installed open the program and select the Registration Tab.

Datavideo DV File Converter v1.0	_ 🗆 ×
1. Enter Registration Key:	
Name:	
Organization:	
Key:	
Please enter the same name and organization information as you did when you registered.	
2. Press this button: Register!	

Enter your name, organisation and key, (the key can be found on the disc or disc sleeve) and then click on the Register button.

Datavideo DY File Converter v1.0	
Operation: Convert To QuickTime Start Processing	
Write Separate Audio Track Write 64-bit Offsets (>4GB)	
Audio Interleave: 10:1	
Range: from: start to: end Frames	
Output Folder: C\Documents and Settings\R Flename: esources Output Options: Select When Finished: Do Nothing Automatic Conversion	mov
Input Folder: G	Browse
Files:	
	ш.
0 files	Show Path
Add Remove Remove All	

Click on the operation button to select the required file type. In this example we have chosen QuickTime.

Operation:	 Convert To QuickTime 	
	Convert To AVI Type 1	
	Convert To AVI Type 1/OpenDML	
Write :	Convert To AVI Type 2	sets (>4GB)
	Convert To AVI Type 2/OpenDML	
Codec: A	Convert To Reference AVI Type 1	le
	Convert To Reference AVI Type 2	
Audio Interl	Convert To Canopus AVI Type 1	
0	Convert To Canopus AVI Type 2	1
Range: from	Convert To Matrox DigiSuite/RT2500 AVI	Ц
	Convert To Raw DV (.dv/.dif/.dvsd)	
	Convert To Sony ES-3 DV clip (.dv)	
Output Fold	Convert To Sony DSR-DU1/DR1000P file (.dvd)	ame: <source/> .mov
Output Ont	Convert To OMF (.omf)	textheir a
output opt	Join Filer	
	Extract DV Audio	
Autom	Insert DV Audio	
1	Change Coder (AVI only)	
Input I	Add Premiere Timecode (AVI oply)	Browse
	Add Convright (AVI only)	
Files:		<u> </u>
		-
		-

Now click on Output Folder and select the destination to which you want the files to be delivered. In this example we have chosen our F:\Media Folder.

Datavideo DV File	Converter v1.0	_0×
Conversion Pref	erences 7 About 7 Registration	_
Operation: Con	vert To QuickTime Start Processing	
Write Separa	ite Audio Track Write 64-bit Offsets (>4GB)	
Audio Interleave:		
Range: from: sta	rt to: end Frames	
Output Folder:	<source folder=""/> <source folder=""/> /Converted	1
Output Options:	F:\Media Folder	
Automatic	Other ftp Upload Other Directory	
Input Folder:	G:\	Browse
Files:		
0 files		Show Path
Add Ren	nove Remove All	

Now connect your DN-500 to the PC and enable HDD Mode. Click on the Add button and find the DN-500 drive, in this example it is drive G:. Use Shift + Left Mouse Click to highlight all the files that you want to convert, then click on Open

Datavideo DV File Converter v1.0 Conversion Preferences Abou	it V Registration	X
Operation: Convert To QuickTin	Start Processing	
Write Separate Audio Track Codec: Apple DV Codec Audio Interleave: 10:1	Write 64-bit Offsets (>4GB) Data Conversion: None	
Range: from: start to: e	end Frames Select File(s) To Process	? x
Output Folder: F:\Media Folder	Look in: 🖙 Local Disk (G:)	······································
Output Options Select	Iddsta\$ Iddsta Iddtta I	C dvos dv G dvoz dv G dvoz dv G dvoz dv G dvog dv I dupver, bx
	File name: "dv03.dv" "dv01.dv" "dv02.dv" "dv03.dv Files of type: Open as read-only	V'''dv04.dv''''dv05.dv''''dv06.dv''''dv07.dv
0 files Add Remove Ren	Tove Al	hath

The selected files will appear in the Files window.

Datavideo DV File Converte	er v1.0	_10
Conversion V Preferences	Y About Y Registration \	
Operation: Convert To (QuickTime Start Processing	
Write Separate Audo	Data Conversion	
codec. Apple by codec		
Ranges from: start	to: end Frames	
Output Folder: F:(Media Output Options: Select.	Folder Filename <source/> mov . When Finshed: Do Nothing	
Automatic Conversion	D	owse
dv09.dv	DIF/DV PAL 4:20 (16:9 format)	2
dv0Ldv	DIF/DV PAL 4/20 (16/9 format)	
dv02.dv	DIF/DV PAL 4/20 (4/3 format)	
dv03.dv	DIF/DV PAL 4/20 (4/3 format)	
dv04.dv	DIF/DV PAL 4/20 (16/9 format)	
dv05.dv	DIF/DV PAL 4/20 (16/9 format)	
dv06.dv	DIF/DV PAL 4/20 (16/9 format)	
dv07.dv	DIF/DV PAL 4/20 (16/9 format)	
dv08.dv	DIF/DV PAL 4:20 (16:9 format)	2
9 files	Show	v Path
Add Remove	Remove All	

Click on Start Processing to start the conversion. You will see the progress in the Files Window

Conversion V Preferences	About Y Registration	
Operation: Convert To C	STOP Processing	
Write Separate Audio Codec: Apple DV Codec	Traci: Wirte 64-bit Offsets (>468) Data Conversion: None	
Range: from: start	to: end Prames	
Output Folder: P:\Media	Folder Filename: <source/> .mov	
Output Options:	When Hinshed: Do Nothing	
Automatic Conversion		
Automatic Conversion		COMPR.
Automatic Conversion		rowse
Automatic Conversion Input Folder: G\ lifes: dv09.dv	Processing (82.%)	towse
Automatic Conversion Input Folder: Q\ les: dv09.dv dv01.dv	Processing (82 %) DIF/DV PAL 420 (164) format)	towse
Automatic Conversion Input Folder: Q1 W93.dv dv03.dv dv01.dv dv02.dv	Processing (82 %) DIFJOV PAL 420 (169 format) DIFJOV PAL 420 (43 format)	towse
Automatic Conversion Input Folder: Qt dv02dv dv02dv dv02dv dv03dv	Processing. (82 %) DP/DV PAL 420 (L69 format) DP/DV PAL 420 (43 format) DP/DV PAL 420 (43 format)	irowse 2
Automatic Conversion Input Folder: Qt dv09dv dv01dv dv02dr dv03dr dv04dr	Processing. (82 %) D/D/D/ PAL 420 (165 format) D/D/D/ PAL 420 (43 format) D/D/D/ PAL 420 (43 format) D/D/D/ PAL 420 (45 format)	irowse
Automatic Conversion Input Folder (a) 4/03.dv dv03.dv dv02.dv dv03.dv dv03.dv dv03.dv dv03.dv dv03.dv	Processing (82 %) DF/DV PAL 420 (169 format) DF/DV PAL 420 (43 format) DF/DV PAL 420 (43 format) DF/DV PAL 420 (169 format) DF/DV PAL 420 (169 format)	towse 2
Automatic Conversion Input Polder: α\ dr002dr dr012dr dr012dr dr012dr dr012dr dr012dr dr012dr dr012dr	Processing. (92.%) DF/DV PAL 42:0 (L69 format) DF/DV PAL 42:0 (45 format) DF/DV PAL 42:0 (45 format) DF/DV PAL 42:0 (L69 format) DF/DV PAL 42:0 (L69 format) DF/DV PAL 42:0 (L69 format)	towse
Automatic Conversion Input Polder: α\ 4/03.dr dr01.dr dr02.dr dr03.dr dr03.dr dr03.dr dr05.dr dr05.dr dr05.dr dr05.dr	Processing, (82 %) D07DV PAL 420 (169 format) D1F/DV PAL 420 (43 format) D1F/DV PAL 420 (43 format) D1F/DV PAL 420 (169 format) D1F/DV PAL 420 (169 format) D1F/DV PAL 420 (169 format) D1F/DV PAL 420 (169 format)	itowse 2
Automatic Conversion Input Folder: Q1 4003.dr 4002.dr 4002.dr 4003.dr 4005.dr 4005.dr 4005.dr 4005.dr 4005.dr 4005.dr 4005.dr	Processing(82 %) DF/DV PAL 420 (169 format) DF/DV PAL 420 (43 format) DF/DV PAL 420 (43 format) DF/DV PAL 420 (169 format)	towse 2
Automatic Conversion Input Polder: (a) were: dv02dv dv02dv dv02dv dv02dv dv03dv dv05dv dv05dv dv05dv dv05dv dv05dv lb65	Processing, (92.%) DF(DV PAL 420 (16.9 format) DF(DV PAL 420 (16.9 format)	z z ww.Path

patavideo DV File Converto	er v1.0	-15
onversion (Preferences	About Registration	
Operation: Convert To (Quick:Time Start Processing	
Write Separate Audio	Track: Write 64-bit Offsets (>468)	
Codec: Apple DV Codec	Data Conversion: None	
Audio Interleave: 10 : 1		
Range: from: start	to: end Frames	
Output Folder: Fi/Media	Folder Filename: csource>.mov	
Output Options Select.	When Finished: Do Nothing	
Automatic Conversion	n	
Automatic Corwersion	n Bro	wse
Automatic Corversion Input Folder: Gi) les: dv09.dv	n Bro Done (dv09.mov)	wse]
Automatic Conversion Input Folder: Q1 les: dv09.dv dv01.dv	n Done (dx09mov) Done (dx01mov)	W50
Automatic Conversion Input Folder: Q1 dv09.dv dv01.dv dv02.dv	n Done (dróli mov) Done (dróli mov) Done (dróli mov) Done (dróli mov)	W50
Automatic Conversion Input Folder: QL dr00.dv dr00.dv dr00.dv dr00.dv	n Done (drótmov) Done (drótmov) Done (drótmov) Done (drótmov) Done (drótmov)	wse
Automatic Conversion Input Folder: (a) lete: dv09.dv dv02.dv dv02.dv dv03.dv dv04.dv	n Done (drótmor) Done (drótmor) Done (drótmor) Done (drótmor) Done (drótmor)	WS0
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Automatic Conversion Input Folder: aq 4/03.dv 4/03.dv 4/03.dv 4/03.dv 4/03.dv 4/03.dv 4/05.dv 4/05.dv	n Done (drótmov) Done (drótmov) Done (drótmov) Done (drótmov) Done (drótmov) Done (drótmov)	4
Automatic Conversion Input Folder: @\ dv03.dv dv03.dv dv03.dv dv03.dv dv03.dv dv05.dv dv05.dv dv05.dv dv05.dv	n Done (drótmor) Done (drótmor) Done (drótmor) Done (drótmor) Done (drótmor) Done (drótmor) Done (drótmor) Done (drótmor)	wse a
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The finished files will be delivered to your destination folder.



The original DV files will remain on the DN-500, these files can be deleted once the conversion has been completed, or backed up to your PC if they are valuable.

Backing up the DV files to your PC may also be useful as you may wish to convert them to a different file format in the future.

N.B. With certain file formats the flagging of 16:9 (Widescreen) Aspect Ratio, needs to be manually corrected. Although file converter delivers correctly proportioned 16:9 files some programs do not recognise that they are 16:9 and will display them as 4:3. Most NLE applications allow you to set the aspect ratio of a file manually, and once set to 16:9 the files will appear correctly.

RS 422 Command Set / Protocol

Interface Overview

- Conforming to EIA RS-422A.
- Full duplex communications channel is utilized.
- Data is transmitted asynchronously, bit serial, word serial with data exchange between devices.
- Standard transmission rate on the interface bus is 38400 bits per seconds (bps)
- The data word utilized by the interface system is as follows :

|--|

• 1 Start bit + 8 Data bits + 1 Parity bit + 1 Stop bit. Odd Parity

ODD parity : The total of "1"s in D0+D1+ . . . D7+PARITY equals an odd number.

Command Block Format

The communication between the CONTROLLER and the DEVICE is composed of CMD-1 + DATA COUNT, CMD-2 + DATA and CHECKSUM, and is transmitted from CMD-1 + DATA COUNT in order. When DATA COUNT is zero, the data is not transmitted.

When it is not zero, the data corresponding to the value is inserted between CMD-2 and CHECKSUM.

Name	CMD-1 Data Count		CMD-2	Data 0~15	Checksum
Nibble	Most Significant Nibble	Least Significant Nibble			
Size	1 Byte		1 Byte	015 Byte(s)	1 Byte

CMD-1: classifies commands into the main groups which indicates the function and direction of commands as follows.

CMD-1	Function	Initiator
0	System Control	Controller
1	System Control Return	Device (DN-500)
2	Transport Control	Controller
4	Preset And Select Control	Controller
6	Sense Request	Controller
7	Sense Return	Device (DN-500)

Data Count: DATA COUNT indicates the number of dat words attached to the command. (0 to FH) **CMD-2**: CMD-2 is the designated command to the DEVICE or the command return from the DEVICE. **DATA**: The number of dat words and their contents are defined by the specific CMD-2.

CHECKSUM: The CHECKSUM is the sum of the DATA (D0 to D7) contained in each data word, from CMD-/DATA COUNT to last data word before CHECKSUM. The CHECKSUM is used to verify data accuracy and reject communication sequence when the bit error is contained.

Connector Pin Assignment

Interface : 9 pin D-Sub female

The pin assignment of the Controller and DN-500 is shown in the following table:

Signal Pin	Controller	DN-500
1	Frame Ground	Frame Ground
2	Receive A	Transmit A
3	Transmit B	Receive B
4	Transmit Common	Receive Common
5	Spare	Spare
6	Receive Common	Transmit Common
7	Receive B	Transmit B
8	Transmit A	Receive A
9	Frame Ground	Frame Ground

Communication Protocol

1. All communications between the CONTROLLER and the DEVICE will be under the direct supervision of the CONTROLLER.

When the DEVICE (DN-500) receives the COMMAND from CONTROLLER, the following COMMAND is returned.

- ACK: In case that the DEVICE receives a COMMAND not requiring data
- COMMAND+DATA: In case that the DEVICE receives a COMMAND requiring data
- NAK+ERROR DATA: In case that a communication error is detected or an undefined COMMAND is received
- 2. The CONTROLLER must not transmit additional COMMAND blocks to a DEVICE (DN-500) prior to response to a previous COMMAND block.
- 3. The CONTROLLER must transmit of bytes in a COMMAND block for with intervals less than 10 milliseconds. If a DEVICE (DN-500) detects an interruption of a byte in a COMMAND block that exceeds 10 milliseconds, it executes a TIME-OUT error sequence, voids the receiving COMMAND block, and transmit a NAK (TIME OUT).
- 4. When a DEVICE (DN-500) receives a COMMAND block from the CONTROLLER, the DEVICE must transmit a response within 9 milliseconds. Therefore if the CONTROLLER cannot receive the appropriate response from the DEVICE within 10 milliseconds after transmitting the COMMAND block the CONTROLLER detects a communication error, and must execute an appropriate process.
- 5. When a DEVICE (DN-500) detects a communication error, it must immediately transmit a NAK to the CONTROLLER. (The content of an error is shown on the COMMAND tables.) When the CONTROLLER receives a NAK, if must immediately stop transmission of the block. The DEVICE must not accept a subsequent command within 10 milliseconds after that (except NAK-UNDEFINED command) and must execute a necessary process.

Command Table

COMMAND	RETURN
00.11 : Device Type Request	12.11.20.41 NTSC Mode 12.11.21.41 PAL Mode
20.00 : Stop	10.01 : Acknowledge
20.01 : Play	10.01 : Acknowledge
20.02 : Rec	10.01 : Acknowledge
20.10 : Fast Forward	10.01 : Acknowledge
2x.13 : Shuttle Forward	10.01 : Acknowledge
20.20 : Rewind	10.01 : Acknowledge
40.50 : Increase Track Number	10.01 : Acknowledge
40.51 : Decrease Track Number	10.01 : Acknowledge
41.52 : Set Track Number	10.01 : Acknowledge
61.0C : Current Time Sense	74.04 : LTC Time Data
61.20 : Status Sense	7x.20 : Status Data

Detailed Description of Commands

00.01:DEVICE TYPE REQUEST

12.11:DEVICE TYTPE

The "00.11 : DEVICE TYPE REQUEST" command is used for asking the specifications of the DN-500 used as DEVICE. When the DEVICE receives this command, it attaches 2-bytes specification data to "12.11 : DEVICE TYPE" and sends the information to the CONTROLLER. NTSC : 12.11.20.41 PAL : 12.11.21.41

10.01:ACK

When a command from the CONTROLLER is received normally, the DEVICE returns this command as acknowledgment.

11.12:NAK

When a communication error is detected or an undefined COMMAND is received, the DEVICE returns this command as not-acknowledgment. BIT-7 to BIT-0 of DATA-1 will be set in accordance with the contents.

[DATA-1]

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
	FRAMING	OVERRUN	PARITY		CHECKSUM	SOFTWARE	UNDEFINED
TIMEOUT	ERROR	ERROR	ERROR		ERROR	OVERRUN	COMMAND

20.00:STOP

20.01:PLAY

20.02:RECORD

20.10:Fast Forward

2x.13:Shuttle Forward

20.20:Rewind

- 40.50:Increase Track Number
- 40.51:Decrease Track Number
- 41.52:Set Track Number
- 61.0C:Current Time Sense
- 61.20 : Status Sense

Status Return Data

	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0
Data 0	Busy							Local Enable
Data 1	Standby On		Stop		Rewind	Fast Forward	Record	Play
Data 2			Shuttle			Tape Reverse	Still	
Data 6		Lamp Still	Lamp Forward	Lamp Reverse				

Version History: V0.1 Initial. 06-20-2007 V0.2 Status Return Table 09-25-2007 V0.3 Detailed Description of Commands

Specifications

Supported Video Formats:

NTSC - DV 25 Mbps, 8-bit Y.U.V. 4:1:1 PAL- DV 25 Mbps, 8-bit Y.U.V. 4:2:0

HDV 1080i / 60 25 Mbps 8-bit Y.U.V. 4:2:0 HDV 1080i / 50 25 Mbps 8-bit Y.U.V. 4:2:0

Supported File Formats:

HDV .m2t DV. .dv + .avi type 1 or 2 via conversion

Analogue Video Format:

Composite Video: 75Ω 1.0 V p-p S-Video (Y/C): 4 Pin Mini Din 75Ω Y: 1.0 V p-p, C: 0.627 mV p-p Component: BNC Y, R-Y, B-Y 75Ω Bandwidth: > 5.0 mHz Noise Ratio: > 50dB DA, DP < 3%, 3°

Digital Audio

Embedded 2 Ch (16 bit 48 kHz) or 4 Ch (12 bit 32 kHz via IEEE1394) 2 Ch (16 bit 48 kHz) via Analogue Input

Analogue Audio

Unbalanced/Balanced Audio In / Out +10 dB Maximum - Phone (RCA) plugs Bandwidth: 20 \sim 20 kHz Noise Ratio: > 65dB THD: < 0.3%

RS-422 & GPI Control Interface

Sony Standard RS-422 Interface GPI via 3.5mm Jack, Pulse or Level

Operating Temperature 0° - 50 °C

Operating Humidity 0 - 70%

Power - 12V 4.2A

Dimensions - 482mm (W) x 293mm (D) x 44mm (H)

Weight - 7 Kg

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It is our goal to make your products ownership a satisfying experience. Our supporting staff is available to assist you in setting up and operating your system. Please refer to our web site www.datavideo-tek.com for answers to common questions, support requests or contact your local office below.

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