

Elite HD™

DIGITAL VIDEO RECORDER



FFV
Fast Forward Video

1151 Duryea Avenue Irvine, CA 92614, USA
Phone (949) 852-8404 Fax (949) 852-1226
www.ffv.com

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User's Manual

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Maintenance

The Elite HD has been built to meet the demands of internal or external environments; however, the hardware is subject to the same dangers from static as any other electronic device. Use care when connecting or disconnecting cables.

Important: Take care not to introduce any moisture into the unit. Electronic assemblies are sensitive to static electricity, due to the electrostatically sensitive devices used within the circuitry. All semiconductors, as well as some resistors and capacitors, may be damaged or degraded by exposure to static electricity. If you experience any problems with the unit please call Fast Forward Video's service department. **DO NOT ATTEMPT** to repair or modify the unit as this might cause further damage, which could void your warranty. A technician can decipher whether your problem is caused by a faulty component, and determine whether you need to return it for evaluation and/or repair.

Cleaning: The chassis should only require dusting with a soft cloth. Solvents may harm the painted surface and leak to the inside causing severe damage.

PACKAGE CONTENTS (May vary depending on model)

- 1 – Elite HD
- 1 – DC POWER SUPPLY
- 1 – RIGHT ANGLE BNC (w/ battery mount units only)
- 1 – 6" BNC CABLE (w/ battery mount units only)
- 1 – CD (includes user manual and MAC/PC codec component)
- 1 – QUICK START GUIDE
- 1 – 2.5" Drive Enclosure
- 1 – 120 GB Hard Drive
- 1 - DB-9 Cable (KEEP IT HANDY FOR FIRMWARE UPDATES)
- 1 - RS-422/232 Converter - only with RS-422 units (KEEP IT HANDY FOR FIRMWARE UPDATES)
- 1 - Gender Changer used with converter (KEEP IT HANDY FOR FIRMWARE UPDATES)

PLEASE RETAIN THE ORIGINAL SHIPPING CARTON AND FOAM. If you need to return the unit for service or upgrade it is **STRONGLY** recommended that you use the original carton and foam, which were specifically designed to protect it from damage while in transit. **IF RETURNED IN SOMETHING OTHER THAN ORIGINAL PACKAGING, A FEE WILL BE ASSESSED FOR THE USE OF NEW SHIPPING MATERIALS WHEN RETURNED BACK TO YOU. A PROTECTIVE METAL SHIPPING CASE IS ACCEPTABLE.**

FCC Information to the user

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2). This device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a class a digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the user will be required to correct the interference at his/her own expense.

Overview

Elite HD is the first camera-mounted digital video recorder and player to harness the JPEG2000 compression codec which provides direct use in NLE systems without time consuming transcoding. The Elite HD gives broadcasters a powerful new option for recording high-quality video from any camera that provides an HD-SDI output at 1080i or 720p while simultaneously increasing record times, reducing recording media costs and streamlining workflow.

FEATURES

- Camera back mount or standalone DVR
- Seamless post production with drag and drop functionality of the JPEG2000.mov file
- Gold Mount & V-mount
- Motion JPEG 2000 compression
- 100 Mbits/sec data rate
- Discrete access to every frame
- Record in HD & SD
- 10 bit quantization
- 4:2:2 sampling
- 8 embedded audio channels
- SMPTE 259M-C and SMPTE 292 (HD-SDI)
- 2.5" hot swappable SATA drive with USB connection
- Loop record feature
- Instant cueing, clip recall
- Time code input
- External Trigger Input
- Optional RS-422 control

CONFIGURATIONS

- Elite HD Gold Mount w/ RS-232
- Elite HD Gold Mount w/ RS-422
- Elite HD V Lock w/ RS-232
- Elite HD V Lock w/ RS-422
- Elite HD STD w/ RS-232
- Elite HD STD w/ RS-422

Quick Start Guide

Menu Setting Navigation – To enter the menu you must be in LIVE mode. Please review the below commands in order to make any menu changes.

Change to Live Mode:	Press the REC (X) button
Enter Menu:	Press the STOP (✓) button
Scroll:	Press any arrow buttons
Set/Select Menu Option:	Press the STOP (✓) button
Confirm:	Press the STOP (✓) button
Exit Menu:	Press the REC (X) button



1. **Install Drive** – Slide the 2.5" drive enclosure into the slot located on the right side of the unit. It is normal for the drive enclosure to get warm; it quickly reaches a maximum temperature and will not exceed recommended temperature throughout use. Please note all new drives need to be formatted (see step 10) and then power cycle the unit.
2. **Apply Power** – Plug the power adapter into a wall socket and connect it to the DC IN located on the bottom of the unit. If the unit is equipped with battery mounts attach battery to front of unit. Turn on unit POWER by holding recessed switch located on the bottom of the unit for one second.
3. **Connect inputs** – Connect HD/SDI embedded video source to IN.
4. **Select Video Format Menu** – The factory default setting is 1080i/59.94. To change the video settings enter the menu and scroll to SET VIDEO FORMAT and press STOP (✓). Scroll through the different video format options and set new format by pressing STOP (✓) then REC (X) to exit menu. The new set video format will appear on the LCD during the live/recording modes and will be retained throughout power cycles.
5. **Record** – Press and hold REC (X) button and press PLAY (►) to start recording and press STOP (✓) to stop recording, which will create a separate clip each time done. Please note the first clip will be named CLIP0000.
6. **Lock Keypad** – Enter the menu (✓) and scroll up to LOCK KEYPAD. Select (✓), confirm (✓) and exit (X) the menu. The next command will be locked.
7. **Unlock Keypad** – To unlock press and hold STOP (✓) then press REC (X) – release and press STOP (✓) again.
8. **Play Clip Menu** – Connect HD/SDI embedded video OUT to compatible HD monitor or editing system. Enter the menu (✓) and scroll to LOAD CLIP. Scroll through the different clip names and select (✓) a clip. Exit (X) menu and press PLAY (►).
9. **Unload Clip Menu** – Enter the menu (✓) and scroll to UNLOAD CLIP. To unload the clip press STOP (✓) and exit the menu.
10. **Delete All Clips Menu** – Enter the menu (✓) and scroll to DELETE ALL CLIPS. Select the menu by pressing STOP (✓) and confirm by pressing STOP (✓) again. Exit (X) menu. Please note this menu must be used to format a new drive before you can record.
11. **Delete Clip Menu** - Enter the menu (✓) and scroll to DELETE CLIP. Scroll through the different clip names and select (✓) a clip. Confirm (✓) and exit (X) the menu.
12. **Turn Off Elite HD** - Turn off unit POWER by holding recessed switch located on the bottom of the unit for five seconds.

Installing Hard Disk Drive

We recommend that you have the drives installed, formatted and tested by Fast Forward Video. However, you may install the drives by following the procedure below. We ONLY recommend specific hard drives - see <http://www.ffv.com/page/support.htm> for part numbers. These specific drives have been tested with the Elite HD, and proven to have the best performance and reliability.

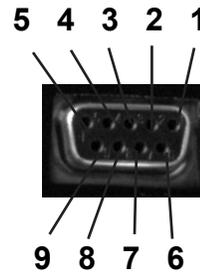
2.5" Drive Removal/Replacement Procedure:

1. Pull the drive from the Elite HD.
2. Remove the two screws from the rear panel of the drive enclosure.
3. Remove the circuit board from the drive enclosure. For drive removal unscrew 4 mounting screws on underside.
4. Attach the 2.5" SATA hard drive to the circuit board, and fasten it to the board using drive mounting screws.
5. Once the hard drive has been secured on the circuit board, insert the circuit board (with hard drive attached) in the drive enclosure (drive facing up). Fasten the rear panel of the drive enclosure to the enclosure using the screws that were removed in step #2.
6. Slide the drive back into the Elite HD making sure the Elite HD label is facing up.
7. Use the formatting drive procedure to prepare drive for use.

Formatting Drive

1. Slide drive into the Elite HD.
2. Turn on unit POWER by holding recessed switch located on the bottom of the unit for one second.
3. Make sure you are in LIVE (X) Mode - press and hold STOP (✓) then press REC (X).
4. Enter the Main Menu (✓) – press STOP (✓).
5. Scroll to the DELETE ALL CLIPS menu by pressing any arrow.
6. Press STOP (✓) to accept the menu.
7. Press STOP (✓) to confirm formatting.
8. The LCD will display "Please Wait" during the formatting process.
9. Press REC (X) to exit menu when formatting is complete.

Connections



- **POWER** - Switch to turn the unit ON and OFF. To turn unit on, slide switch briefly. The Elite HD will need a moment to power up and read the drive. To turn the unit off, slide and hold switch for 5 seconds.
- **DC IN** - Neutrik XLR-4M 12V provides power to the unit when camera battery mounts are not in use (Pin 4-Pos;Pin1-GND).
- **IN (HD-SDI VIDEO)** - BNC 75 ohms - Connection for incoming HD-SDI signal from camera and audio is embedded.
- **OUT (HD-SDI VIDEO)** – BNC 75 ohms - Connection to HD-SDI device or monitor and audio is embedded.
- **TIME CODE IN** - BNC connectors for longitudinal time code (LTC).
- **TRIGGER** - 3.5mm stereo audio jack (ring tip sleeve) - GPI trigger connector for remotely switching the unit to record/standby. Recording starts when the toggle switch closes and stops when it opens.
Tip - Record Trigger Ring - LED Output Shank - GND
- **RS-232 or RS-422 MACHINE CONTROL** - DB9 connector for controlling the Elite HD from an external device or a PC. **Please Note:** If using the RS-422 with a controller where you want to insert clips within a 24 hour time line you will need to change the personality setting to BVW-75mode, which will not record in the mov. format. To change this setting you will need to connect the unit to a PC and open DVR master. (See page 16 - changing settings)

DB-9 Pin #	RS-232 Cont. Signal Name	RS-422 Cont. Signal Name
1		Ground
2	TX Out	TX Out-
3	RX In	RX In +
4		Transmit Common
5		Spare
6		Receive Common
7		TX Out +
8	Ground	RX In -
9		Ground

Battery Mounts



Gold Mount



V Lock Mount

Gold Mount

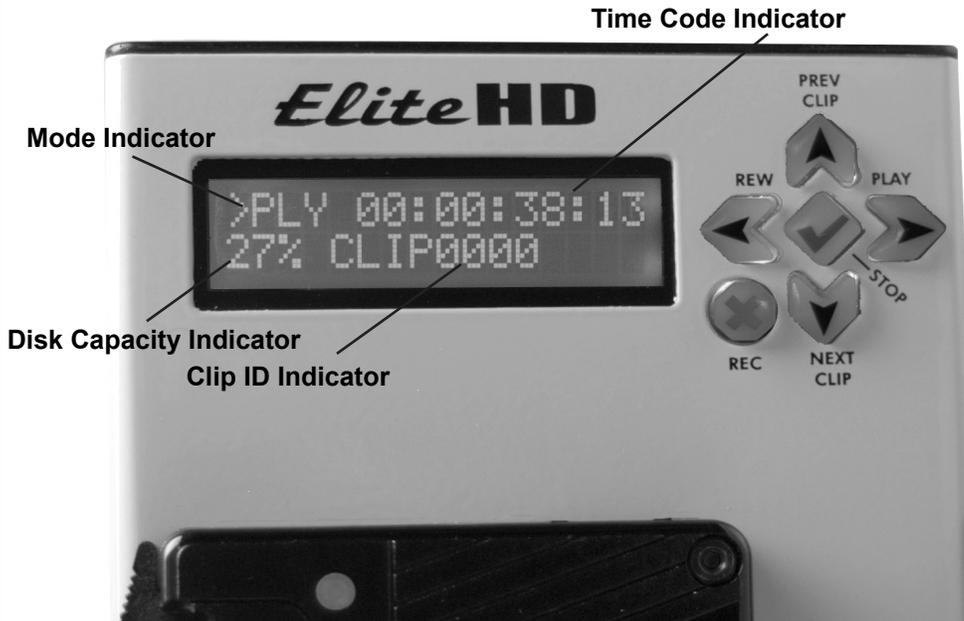
1. Align the back of the Elite HD with the mount located on the back of the camera.
2. Gently slide the Elite HD to the right to connect the camera and unit.
3. Place the camera battery in the slots located on the front of the Elite HD.
4. Gently slide the battery to the right to connect the battery to the unit.
5. Press the release down to detach the Elite HD from the camera.
6. Gently slide the battery to disconnect from the Elite HD.

Automatic Fuse Reset: Please wait 60 seconds for the fuse to reset.

V-Lock Mount

1. Align the back of the Elite HD with the mount located on the back of the camera.
2. Gently slide the Elite HD down to connect the camera and unit.
3. Place the camera battery in the slots located on the front of the Elite HD.
4. Gently slide the battery down to connect the battery to the unit.
5. Press the release button located on the mount to detach the Elite HD from the camera.
6. Gently slide the battery to disconnect from the Elite HD.

Front Panel Controls



An LCD panel reveals a menu of options and a variety of parameters used to operate the Elite HD's functions.

- **LIVE MODE (RECORD READY or PASS-THRU)** To go into Live Mode press REC (X) once by itself. **LIVE** is displayed in the LCD screen which indicates the unit is passing-thru video and is ready to record. Video format setting will be displayed.
- **RECORD** To start recording, Get into LIVE Mode, press and hold the REC (X) button then press the PLAY (▶) button. **REC** is displayed on the LCD screen with a time code sequence indicating the record process has been initiated and video data is being recorded onto the drive. Please note that you may need to power cycle the unit when switching between video formats.
- **STOP** To stop record/play press the STOP (✓) button. **STOP** is displayed on the LCD which indicates the play function is terminated, or **LIVE** is displayed on the LCD which indicates the record function is terminated and the unit is back in Live Mode (Pass-Thru) and ready once again to record.
- **PLAY MODE** To play a loaded clip, press the PLAY (▶) button. **PLY** is displayed on the LCD with a time code sequence indicating the time for the loaded clip. If you press the REC (X) button while in Play Mode, the unit will switch to Live Mode. Please note that the time code may vary if clips have embedded time code within the video stream.
- **REWIND** To rewind a loaded clip press the REW (◀) button. **REW** is displayed on the LCD with a time code sequence. If the unit is currently in Play Mode, first press the STOP (✓) button then press the REW (◀) button.
- **TIME CODE DISPLAY** Displays the assigned time code for the frame in use. Please note the time code sequence may vary if embedded time code is present.
- **DISK CAPACITY INDICATOR** Displays the percentage of disk space available.
- **PREV CLIP BUTTON** (◀) Press this button to review previously recorded clips.
- **NEXT CLIP BUTTON** (▶) Press this button to review the next recorded clip.
- **CLIP ID INDICATOR** Displays the current clip ID number.

Main Menu

```
Live 00:00:00:00
Disk 720p/50.00
```

The Elite HD offers a menu of options and a variety of parameters used to operate the unit's functions. In order to access this menu the unit must first be in **LIVE** Mode. When the screen displays **LIVE**, press the STOP (✓) button and the Main Menu will appear. You can press any of the arrow buttons to scroll through the MENU.

Load Clip Menu

Allows you to playback individual clips - when connected to a compatible HD monitor or editing system.

1. From the LIVE Mode, press the STOP (✓) button to enter the Main Menu.
2. Scroll to **LOAD CLIP** if the unit is not already there.
3. Press the STOP (✓) button to enter the LOAD CLIP menu.
4. Press any arrow to scroll through the recorded clips.
5. Press the STOP (✓) button to select a clip. This will also put you back in the Main Menu.
6. Press the REC (X) button to exit the Menu, the clip name will display on the bottom line of the LCD.
7. Press the PLAY (▶) button to start the clip.

Unload Clip

Allows you to return to record mode - after playing back an individual clip.

1. From the LIVE Mode, press the STOP (✓) button to enter the Main Menu.
2. Press any arrow to scroll to **UNLOAD CLIP**.
3. Press the STOP (✓) button to unload clip.
4. Press the REC (X) button to exit Main Menu – the selected video format should be displayed on the bottom line of the LCD to show that no clips are loaded.

Delete All Clips

Allows you to clear and format an entire disk drive.

1. From the LIVE Mode, press the STOP (✓) button to enter the Main Menu.
2. Press any arrow to scroll to **DELETE ALL CLIPS**.
3. Press the STOP (✓) button to select that menu choice.
4. Press the STOP (✓) button to confirm the formatting process – the LCD will display a **Please Wait** message indicating the drive is being formatted.
5. Once completed press the REC (X) button to exit the Main Menu – the drive capacity indicator % will display 0%.

Delete Clip Menu

Allows you to delete individual clips.

1. From the LIVE Mode, press the STOP (✓) button to enter the Main Menu.
2. Press any arrow to scroll to **DELETE CLIP**.
3. Press the STOP (✓) button to select that menu choice.
4. Press any arrow to scroll through the individual clips.
5. Press the STOP (✓) button to select a particular clip.
6. Press the STOP (✓) button to confirm the deletion process. – The LCD will display a **Please Wait** message during the deletion process. Please note the time code will stay the same as if the clip was still there.
7. Once completed press the REC (X) button to exit the Main Menu.

Set Video Format Menu

Allows you to choose recording format for the next clip.

NOTE: The selected video format will appear on the LCD during the LIVE/REC modes and will be retained throughout power cycles until changed.

1. From the LIVE Mode, press the STOP (✓) button to enter the Main Menu.
2. Press any arrow to scroll to **SET VIDEO FORMAT**.
3. Press the STOP (✓) button to select that menu choice.
4. Press any arrow to scroll through various format options to find desired format.
5. Press the STOP (✓) button to select the format desired. - The LCD will display **SET**
6. Press the REC (X) button to exit the Set Video Format menu.
7. Press the REC (X) button to exit the Main Menu.

Available formats		
1080i / 59.94	720p / 59.94	480i/59.94
1080i / 60.00	720p / 60.00	576i/50.00
1080i / 50.00	720p / 50.00	*720/QT 30*
1080s / 23.98	720p / 23.98	*720/QT 29.97*
1080s / 24.00	720p / 24.00	*720/QT 25*

QT = records in 60/59.94/50 but adjusts the playback speed to 30/29.97/25 for a smoother playback within QuickTime player

Update Firmware Menu

Allows you to update and verify firmware version

New features for the Elite HD are posted to our website as they become available. Our customers have access to these features via firmware updates for the lifetime of the product. Please check this site regularly to implement the newest changes. Firmware updates are located at <http://www.ffv.com/page/support.htm>. **PLEASE BE AWARE SOME FIRMWARE UPDATES WILL NOT ALLOW YOU TO PLAY OLD FOOTAGE (see firmware notes).**

Locate the latest revision of firmware – filename xxx.fud. Make sure to download and unzip the fud file so it will be seen during the updating process.

Connect the Elite HD to your computer:

1. Connect DB9 cable from the RS-232 port located on the rear panel of the Elite HD. If you have a RS-422 unit please connect the RS232/422 converter and gender changer to the Elite HD before connecting the DB9 cable.
2. Connect the DB9 cable to the 9 pin serial port of your computer.

(If the computer does not provide a 9 pin serial port, a USB to Serial converter is necessary – Keyspan (part number USA-19HS) makes an inexpensive one that works well. If using a USB to serial converter please make sure the driver has been downloaded onto your computer)

Update Firmware Menu (continued)

Once the Elite is connected to your PC or MAC please use one of the three methods to upload the firmware.

Hyper Terminal - PC compatible with Windows XP or below

ZTerm - MAC compatible

DVR Master (with latest version) - PC compatible with Windows XP, VISTA & Windows 7

HYPER TERMINAL

Program is PC compatible with Windows XP or below

1. Open Hyper Terminal program on your PC
Start Menu – Accessories – Communications – Hyper Terminal
2. Optional message – “Default Telnet Program?” select NO
3. CONNECTION DESCRIPTION: FFV, choose an Icon, OK (see figure 1).
4. CONNECT TO: Connect using: COM** (see figure 2)

This will display the COM port that the unit is currently connected to, which may vary - if no COM port is listed check connections and make sure Serial to USB drivers have been downloaded) – click OK.

5. COM* Properties (see figure 3)
BITS PER SECOND: 57600
DATA BITS: 8
PARITY: NONE
STOP BITS: 1
FLOW CONTROL: NONE
Click APPLY & OK
6. On Elite select Firmware Update menu and confirm upgrade by pressing the green check mark – the unit will display “Perform Update”.
7. Hyper Terminal will display “Firmware Update Utility” is ready for update when “CCCC...” is displayed.
8. Select TRANSFER Menu – “Send File”
9. Browse and select the unzipped fud file – change Protocol to “Xmodem” – SEND
10. The “Xmodem file send for FFV” menu will show the update progression
11. Update complete close program.
12. Cycle Elite HD power OFF then ON for update to take effect



Figure 1



Figure 2

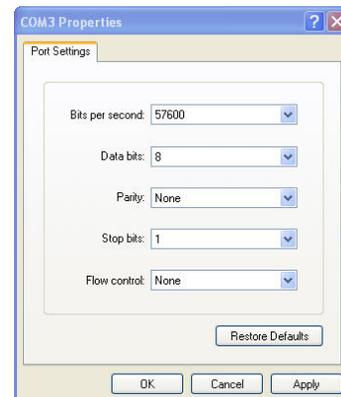


Figure 3

Update Firmware Menu (continued)

ZTERM

Program is MAC compatible - download at <http://www.versiontracker.com/dyn/moreinfo/macosx/10529>

1. Open ZTerm program on your MAC - this will scan for the appropriate COM port and connect with the Elite. If this fails check all the connections and make sure any necessary drivers have been downloaded.
2. On Elite select Firmware Update menu and confirm upgrade by pressing the green check mark – the unit will display “Perform Update”.
3. ZTerm Local screen will display “pooooo...”
4. Settings – Connection - change to:
DATA RATE: 57600
DATA BITS: 8
PARITY: NONE
STOP BITS: 1
FLOW CONTROL: Xon/Xoff
Click OK
5. ZTerm Local screen will display “CCCCC...”
6. Go to “File”- “Transfer Covert” and select “Binary Data”
7. File – Send Files – Xmodem-1K
8. Browse and select the unzipped fud file – open
9. Xmodem Send menu will show the update progression
10. Update complete close program.
11. Cycle Elite HD power OFF then ON for update to take effect

Update Firmware Menu (continued)

DVR MASTER

Software is PC compatible with Windows XP, VISTA & Windows 7

1. Open the DVR Master program on your PC – this will scan for the appropriate COM port and connect with the Elite. If this fails check all the connections and make sure any necessary drivers have been downloaded.
2. Optional - Microsoft .NET Framework error message – just click CONTINUE.
3. On Elite select Firmware Update menu and confirm upgrade by pressing the green check mark – the unit will display “Perform Update”.
4. DVR Master will open – click on REV located in the lower right corner.
5. This will display the firmware and boot firmware rev dates – click UPDATE.
6. Browse and select the unzipped fud file.
7. The progression line will show firmware update %.
8. Update complete close program.
9. Cycle Elite HD power OFF then ON for update to take effect.

DVR Master BVW-75 Setting Changes

1. Open the DVR Master program on your PC – this will scan for the appropriate COM port and connect with the Elite. If this fails check all the connections and make sure any necessary drivers have been downloaded.
2. Optional - Microsoft .NET Framework error message – just click CONTINUE.
3. DVR Master will open
4. Click the SETTINGS tab
5. Under Personality select BVW-75
6. Close out of DVR master program

DVR Master Setting Clock

1. Open the DVR Master program on your PC – this will scan for the appropriate COM port and connect with the Elite. If this fails check all the connections and make sure any necessary drivers have been downloaded.
2. Optional - Microsoft .NET Framework error message – just click CONTINUE.
3. DVR Master will open
4. Go to SETTINGS tab and set clock by PC or manually - click the SET CLOCK button.
5. Close out of DVR master program

Lock Keypad Next Menu

Allows you to lock the operational buttons during the next Record or Playback.

1. From the LIVE Mode, press the STOP (✓) button to enter the Main Menu.
2. Press any arrow button to quickly scroll to **LOCK KEYPAD**.
3. Press the STOP (✓) button to select that menu choice.
4. Press the STOP (✓) button to confirm the Lock and return to the Main Menu.
5. Press the REC (X) button to exit the Main menu.

Unlock Keypad

Allows you to unlock the operational buttons to access operations again.

To unlock the keypad buttons during RECORD or PLAYBACK:

1. Press and hold the STOP(✓) button then press the REC(X) button to unlock the keypad buttons.
2. Press the STOP(✓) button again to stop recording and return to **LIVE** mode or to stop playback and display **STOP** on the LCD.

Default Config.

This menu will send you back to factory settings.

1. From the LIVE Mode, press the STOP (✓) button to enter the Main Menu.
2. Press any arrow button to quickly scroll to Default Config.
3. Press the STOP (✓) button to select that menu choice.
4. Press the STOP (✓) button to confirm Default Config and return to the Main Menu.
5. Press the REC (X) button to exit the Main menu.

Personality: Native File Format: Quick Time Video Std: 1080i/59.94
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Post Production

Please note the Elite HD produces a MOV file that is compatible with a MAC or PC used in conjunction with QuickTime supported programs.

Another option is to ingest the video footage directly into any non-supported MOV programs. We recommend ingesting the footage uncompressed to get the maximum image quality.

Recommended System Requirements:

Windows	MAC OS
2GHz or faster processor for DV; 3.4GHz for HDV; dual 2.8GHz for HD*	Multicore Intel® processor
Microsoft® Windows® XP with Service Pack 2 (Service Pack 3 recommended) or Windows Vista® Home Premium, Business, Ultimate, or Enterprise with Service Pack 1 (certified for 32-bit Windows XP and 32-bit and 64-bit Windows Vista)	Mac OS X v10.4.11–10.5.4
2GB of RAM	
10GB of available hard-disk space for installation; additional free space required during installation (cannot install on flash-based storage devices)	10GB of available hard-disk space for installation; additional hard-disk space required during installation (cannot install on a volume that uses a case-sensitive file system or on flash-based storage devices)
1,280x900 display with OpenGL 2.0–compatible graphics card	1,280x900 display with OpenGL 2.0–compatible graphics card
Dedicated 7200 RPM hard drive for DV and HDV editing; striped disk array storage (RAID 0) for HD; SCSI disk subsystem preferred	Dedicated 7200 RPM hard drive for DV and HDV editing; striped disk array storage (RAID 0) for HD; SCSI disk subsystem preferred
QuickTime 7.4.5 software required to use QuickTime features	QuickTime 7.4.5 software required to use QuickTime features

Post Production (continued)

Installation of FFV's JPEG 2000 Support Components

Before you can view the JPEG 2000 mov file you must install one of the below components. Just extract them from their archives and copy to their proper location (see below). Please note if you are updating from a previous component version you will need to delete the older component before installing. If you are unable to delete please log off and log back into your computer which will unlock the component from your system.

QuickTime Component for Windows

QuickTime_Win_DATE.zip

Extract and copy it to the QuickTime system directory - "C:\Program Files\QuickTime\QTSystem".

QuickTime Component for OS X

QuickTime_MAC_DATE.zip

Extract and copy it to the QuickTime system directory - "/Library/QuickTime".

Moving Clips to NLE System

1. Connect drive enclosure to computer using a USB cable. Please note to efficiently move the clips use the USB located on the hard drive tower.
2. Once your computer recognizes the drive - open the drive and a list of 2GB clips will be displayed in the appropriate order. Please note all drives must be formatted in FAT32. Helpful Hint - another sorting method would be to set-up the internal clock (see Setting Clock instructions).
3. Move the selected clips to your computer. Please note it is more efficient to edit clips from your computer than directly from the drive.
4. Place clips within NLE system and edit accordingly.

Please Note: NLE systems do not support native rendering using JPEG2000; until they do, rendering must be done using one of the native codecs.

Specifications

VIDEO INPUT

Digital Input:	HD-SDI
Standards:	SMPTE 274M (1080i) SMPTE 296M (720p) SMPTE 334M-1 (closed caption) SMPTE 334M-2 (closed caption) SMPTE RP188 (ancillary time code)
Supported Resolutions:	1080i / 60 / 59.94 / 50 / 24 psf 1920 x 1080i / 60 / 59.94 / 50 / 2:1 Interlace 1080s / 23.98 / 24.00 720p / 60 / 59.94 / 50 1280 x 720 / 60 / 59.94 / 50 / Progressive 720p / 23.98 / 24.00 NTSC (720x486/59.94/2:1 Interlace) PAL (720x576/50/2:1 Interlace) Supports 4:3 or 16:9 aspect ratio
Connections:	BNC 75 ohms

AUDIO INPUT / OUTPUT

Digital Input/Output:	8 Channels embedded HD-SDI
Connections:	BNC connectors unbalanced

AUDIO SPECIFICATIONS

Resolution:	24 bits
Audio Channels:	HD embedded 8 in / 8 out
Sampling Rate:	48 KHz

TRIGGER

3.5mm stereo audio jack

COMMUNICATIONS INTERFACE

RS-232:	Software update connection
RS-422 (optional):	Machine control (replaces RS-232)
USB Port:	2.0 (drive enclosure)

HARD DRIVE

Maximum Hard Drive:	1 Removable
Supported Hard Drive:	2.5" SATA Drive
Enclosure:	Supports 9.5mm drive height
Preferred SATA HDD Drive:	Hitachi Cinema Star 2.5" 5K320 (120GB)
SSD Drive:	Super Talent and RiData
Record Time:	1 minute per GB

TIME CODE

SMPTE/EBU:	Longitudinal (LTC)
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VIDEO COMPRESSION

Method:	Motion JPEG 2000
File Format:	QuickTime or Native
Bit Rate:	HD: 100 Mbit/s SD: 50 Mbit/s

WARRANTY

1 year

GENERAL

Physical Dimensions:	4.625"H x 8" W x 2" D
Weight:	2.6 lbs
Power Consumption:	10.8W
Operating Temperature:	0c to 50c
Humidity:	90% relative humidity (with no visible condensation)
Power Connection:	XLR-4M

*Specifications subject to change without notice

Limited Warranty

Warranty

12 – MONTH LIMITED WARRANTY

Fast Forward Video, Inc. warrants to the original purchaser that the product (Hardware and components) shall be free from defects in material and workmanship for a period of 1 year from the date of purchase. If a defect covered by this warranty occurs during this 1 year period, Fast Forward Video, Inc. will repair or replace the defective product or component, at its option, free of charge.

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THIS WARRANTY SHALL NOT APPLY IF THIS PRODUCT: (a) IS DAMAGED BY NEGLIGENCE, ACCIDENT, MISUSE, OR BY OTHER CAUSES UNRELATED TO DEFECTIVE MATERIALS OR WORKMANSHIP; OR (b) HAS HAD THE SERIAL NUMBER ALTERED, DEFACED, OR REMOVED.

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