

Sony HDV Workflows

in Thomson EDIUS Pro

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6 – Capturing HDV
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1 - Introduction

This document explains how to work with HDV™ format (MPEG2, Long GOP) based media utilizing Grass Valley EDIUS. Three acquisition formats will be covered:

- CompactFlash® media (via the Sony HVR-MRC1K Memory Recording Unit)
- Sony HVR-DR60 Hard Disk Recording Unit
- Videotape

The Sony HVR-MRC1K Memory Recording Unit is an optional product for Sony's professional HDV or DVCAM™ camcorders. It comes standard with the HVR-Z7U and HVR-S270U camcorders. The HVR-MRC1K utilizes the widely-available standard CompactFlash card for HDV, DVCAM, and DV file recording.

The HVR-DR60 is an optional hard disk recording unit for Sony's professional HDV and DVCAM camcorders. Via an i.LINK®* cable connection, the HVR-DR60 can record HDV, DVCAM, or DV streams from the camcorder and store them as video files. The internal hard disk drive (HDD) offers a capacity of 60 GB, which translates into a recording time of approximately 4.5 hours (270 minutes) for HDV, DVCAM, and DV formats.

These non-tape recording products offers "Hybrid recording" which records video on both tape and non-tape media simultaneously. This Hybrid recording operation allows users to have tape for archiving and files for NLE work at one time.

For HDV recordings, both the HVR-MRC1K and the HVR-DR60 record MPEG-2 files with the extension ".M2T". The file conforms to the HDV1080i specification in which MPEG-2 MP@H-14 is used for its video codec and either MPEG-1 Audio Layer2 (for 2 ch) or MPEG-2 Audio Layer2 (for 4 ch) is used for the audio codec.

The HVR-MRC1K and HVR-DR60 both use FAT32 for their file system, which allows a Windows or Macintosh computer to recognize the recording media as an external drive without the need for additional driver software. As FAT32 has a maximum file size of 4 GB (approximately 20 minutes), recordings that exceed this capacity are automatically recorded as separate new files.

In the Memory Recording Unit, all files are stored in a single folder. Each file is named in line with the format: **xx_nnnn_YYYY-MM-DD_HHMMSS.extension**, as follows:

xx

A two-digit number (00 - 99) useful for numbering CompactFlash cards when more than 1 is used.

nnnn

A sequential clip number, incremented by one as each new recording begins.

*i.LINK is a trademark of Sony used only to designate that a product contains IEEE 1394 connector. All products with an i.LINK connector may not communicate with each other. Please refer to the documentation that comes with any device having an i.LINK connector for information on compatibility, operating conditions and proper connection.

YYYY_MM_DD_HHMMSS

The date and time of the recording (which are derived from the date and time data settings of the camcorder). Recordings separated due to FAT32 limitations will have new time data, but retain the same clip number.

The HVR-DR60 folder structure differs from CompactFlash media in that the Memory Recording Unit creates a new folder with an associated movie file each time a recording begins. For long clips that exceed the FAT32 file size specification, subsequent files are stored in the same folder.

For ingest into EDIUS, the **Sony Recording Unit Utility** software (available as a free download from the Sony Website) provides streamlined transfer of files from a CompactFlash card or HVR-DR60. The software will also connect M2T files that were divided by FAT32 back together, and will also rename HVR-DR60 files to the same style as those from a CompactFlash card during the transfer.

Please note that the workflows outlined here represent just a few examples of how to work with the HDV format, and that workflows can vary based on the project and/or installation.

For more detailed information on any of the software or hardware mentioned in this document, please refer to the manufacturer-supplied Operations Guide for the associated product.

2 – Workflow Overview

CompactFlash Media & HVR-DR60

- 1– Import MPEG2 (or DV) files from CompactFlash media, or HVR-DR60 Hard Disk Recording Unit into EDIUS over **i.LINK cable** or **USB 2.0**.
- 2– Edit
- 3– Export to HDV videotape over **i.LINK cable**.



HDV Videotape

- 1– Capture HDV videotape-based media into EDIUS over **i.LINK cable**.
- 2– Edit
- 3– Export to HDV videotape over **i.LINK cable**.



Note: It is also possible to import DV data from the CompactFlash card, HVR-DR60, or videotape with same workflow.

Key Workflow Features and Restrictions

- Support for 1080 50/60i, 24/25/30p
- Streamlined import of media from CompactFlash card and HVR-DR60

System Requirements

- Windows XP® SP 2, Windows Vista® SP 1
- Grass Valley EDIUS Pro™ 5.0+
- Sony Recording Unit Utility software
- CompactFlash card reader or Memory Recording Unit from the camera, mounted in an i.LINK Cradle (such as the Sony HVR-MRC1K/HVRA-CR1)
- Sony HVR-DR60 Hard Disk Recording Unit
- Sony HVR-M35U or equivalent HDV recorder

Connections

- When using CompactFlash media, connect the CompactFlash reader via a USB 2.0 cable or connect the memory recording unit cradle via an i.LINK (Firewire) cable.
- When using the Sony HVR-DR60, connect via an i.LINK (Firewire) cable.
- When using HDV videotape, connect the camcorder or deck via an i.LINK (Firewire) cable.

3 – Creating an EDIUS Project

1– Launch EDIUS.

2– When the **Project Selection** window appears, do one of the following:

- Select a Recent Project.
- Create a new project by selecting a **New Project** preset, or by creating a new preset.

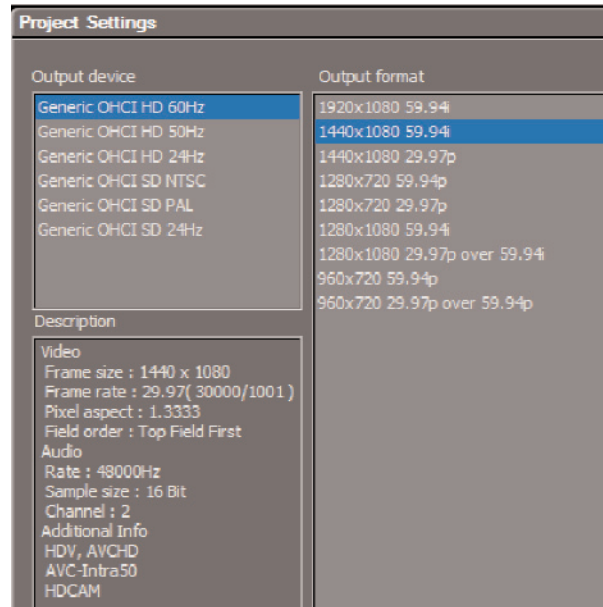


In the example above, there is one HDV New Project preset.

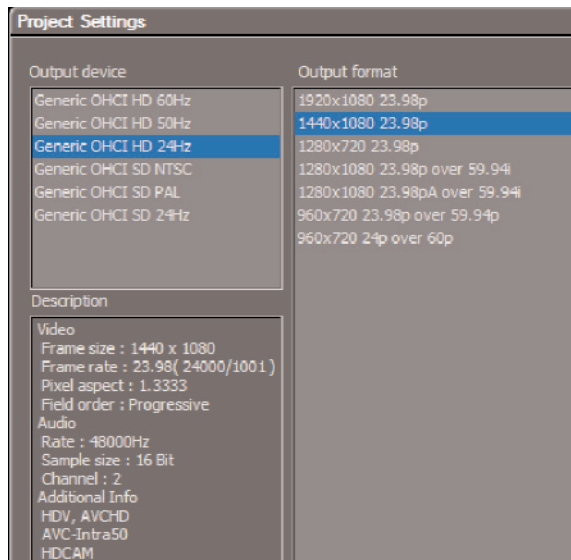
- If desired, click on New Preset to open the **Project Settings** Window.

- 3 – Choose a format that closely matches the majority of your material.
A few examples are given below:

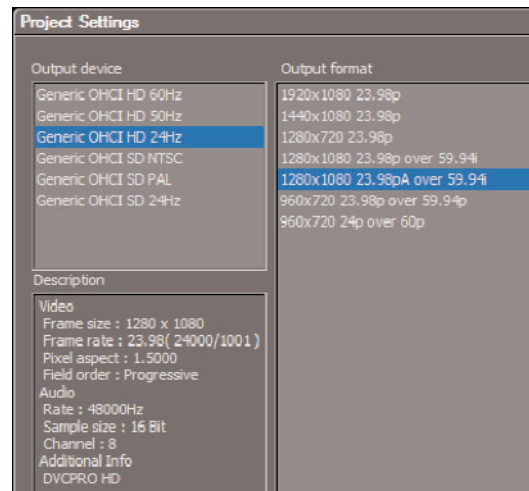
For HDV 1080i/60



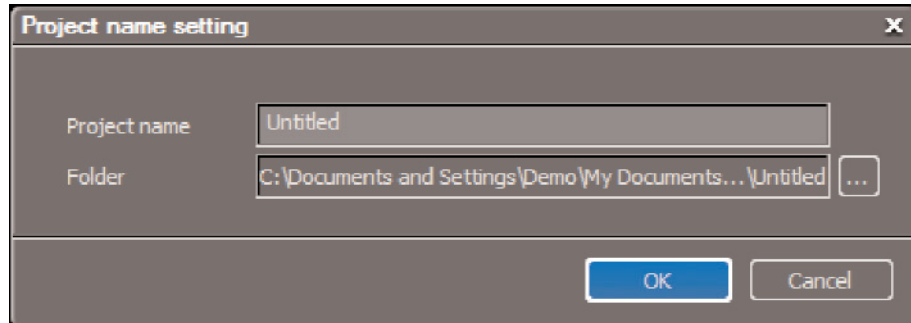
For HDV 1080p/24p Native footage



For HDV 1080p/24A footage



- 4– Select **OK**. This will return you to the Project Selection window.
- 5– Double-click on the desired Preset. The **Project Name Setting** window will appear. Enter a Project name and Folder location.



- 6– Select **OK** to load the project.

4 – Transferring Media to Local Hard Drive(s)

Although EDIUS supports Direct Edit from CompactFlash media and HVR-DR60, the recommended ingest workflow is to first transfer the media to local hard drive(s) using the **Sony Recording Unit Utility** (optional for the HVR-DR60, as explained below).

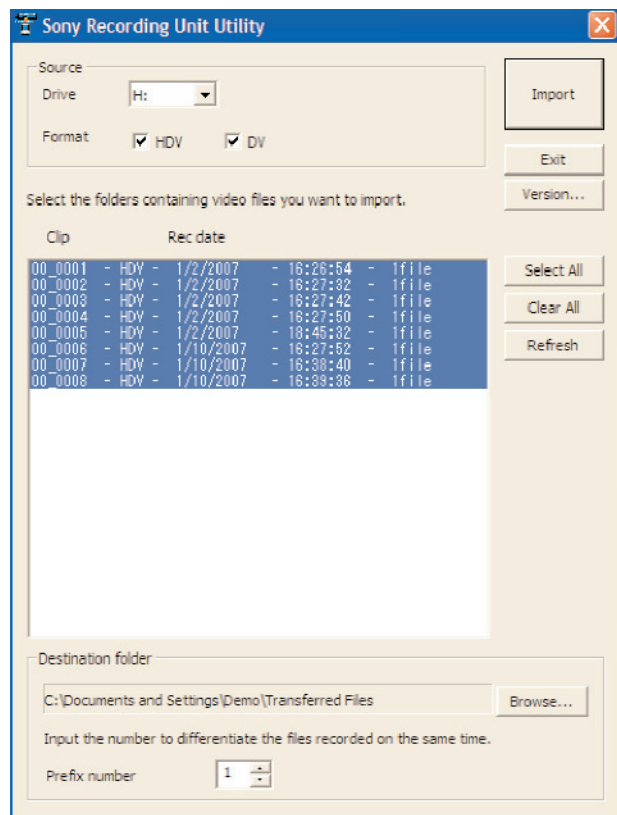
In the case of the HVR-DR60, a folder (e.g., “100HDVF”) is created when recording begins, and the recorded video is stored in that folder as a movie file (e.g., “HDV10001.M2T”). When a new recording is made, a new folder (e.g., “101HDVF”) is created and a new file (e.g., “10101.M2T”) is stored within it. The **Sony Recording Unit Utility** transfers all of these decentralized files to one specified folder on the HDD of the PC, eliminating the need to open each folder to import the movie files to the NLE project.

Also, for HVR-DR60 files, the utility automatically changes the name of the transferred file, according to the following format: “xx_nnnn_YYYY-MM-DD_HHMMSS”, as described in the Introduction to this document.

Finally, the utility also connects divided .M2T files together during transfer so they can be edited precisely in the NLE as a single file without any pauses (in the case of DV files, no join is necessary).

To transfer files, do the following:

- 1– Launch the Recording Unit Utility.
- 2– Select the connected CompactFlash card drive or HVR-DR60.
- 3– Select the file types (HDV and/or DV) to be transferred.
- 4– Select the folders containing the files to be transferred.
- 5– Specify a destination folder.
- 6– Set the prefix number of the file name. (This number is useful when importing files from several HVR-DR60 units).
- 7– Select the **Import** button to begin the file transfer. Any files divided by the FAT32 specification will be merged automatically during the transfer.



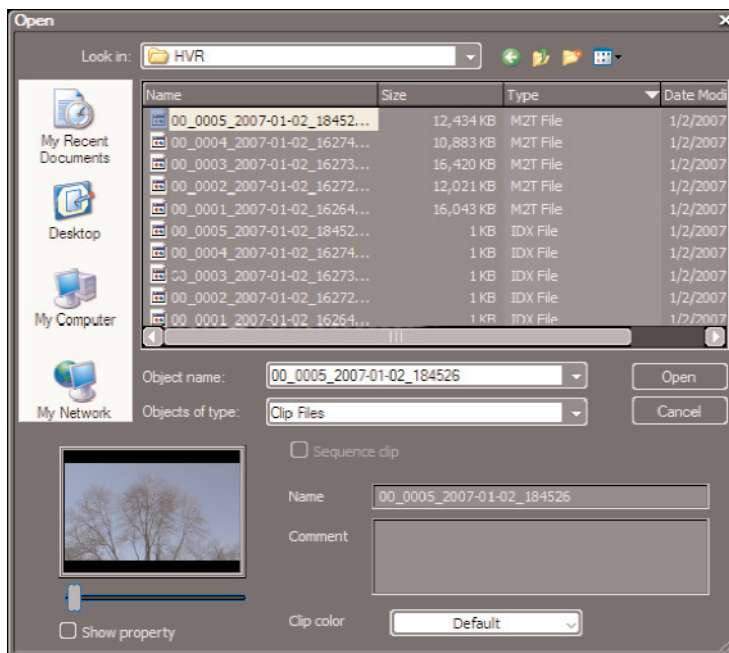
5 – Importing Media Files

Method 1: Importing From Local Hard Drive(s)

- 1– Use the Sony Recording Unit Utility to import to Local Hard Drive(s)
 - a. Utilize the **Sony Recording Unit Utility** to transfer the media to the local hard drive(s) before importing the files into EDIUS.
Then import them in the following way:

- 2– Select a Bin

- 3– Click on the **Add File** icon.

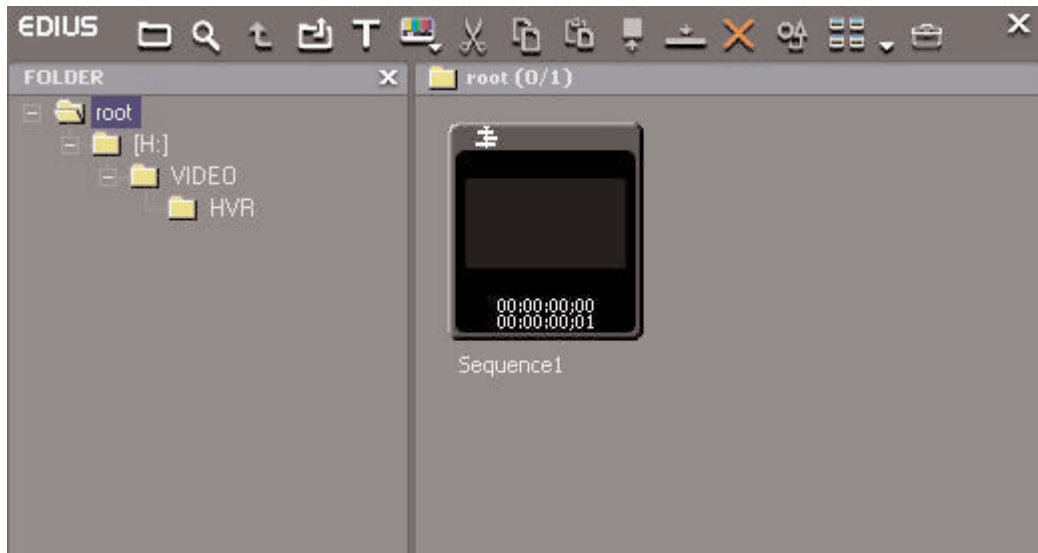


- 4– Navigate to the folder where the transferred files are stored, and do one of the following:
 - To import all media, select all of the **M2T** files.
 - Selectively import files by highlighting specific clips.

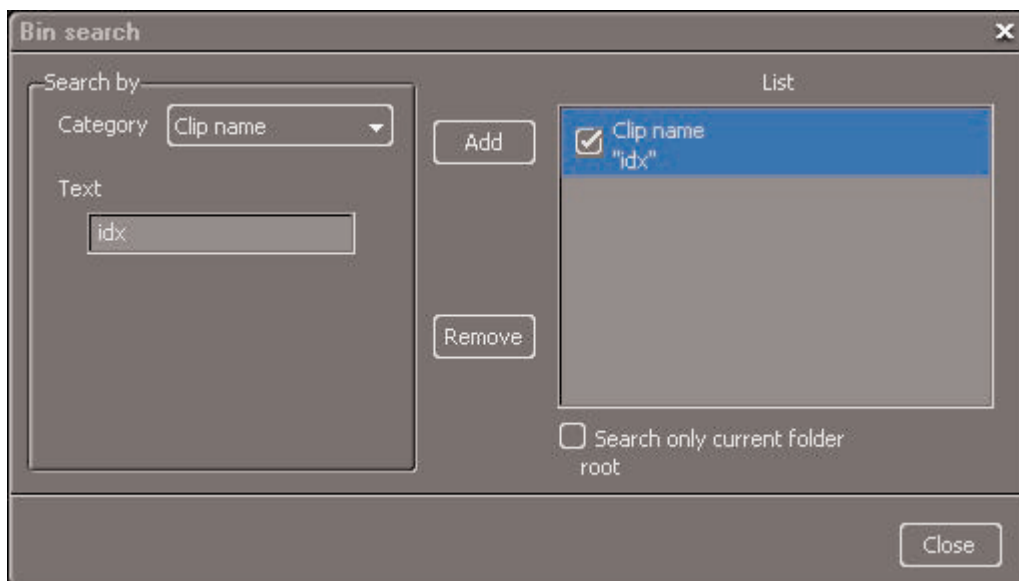
- 5– Select **Open**.

Method 2: Importing Directly From CompactFlash Media or HVR-DR60

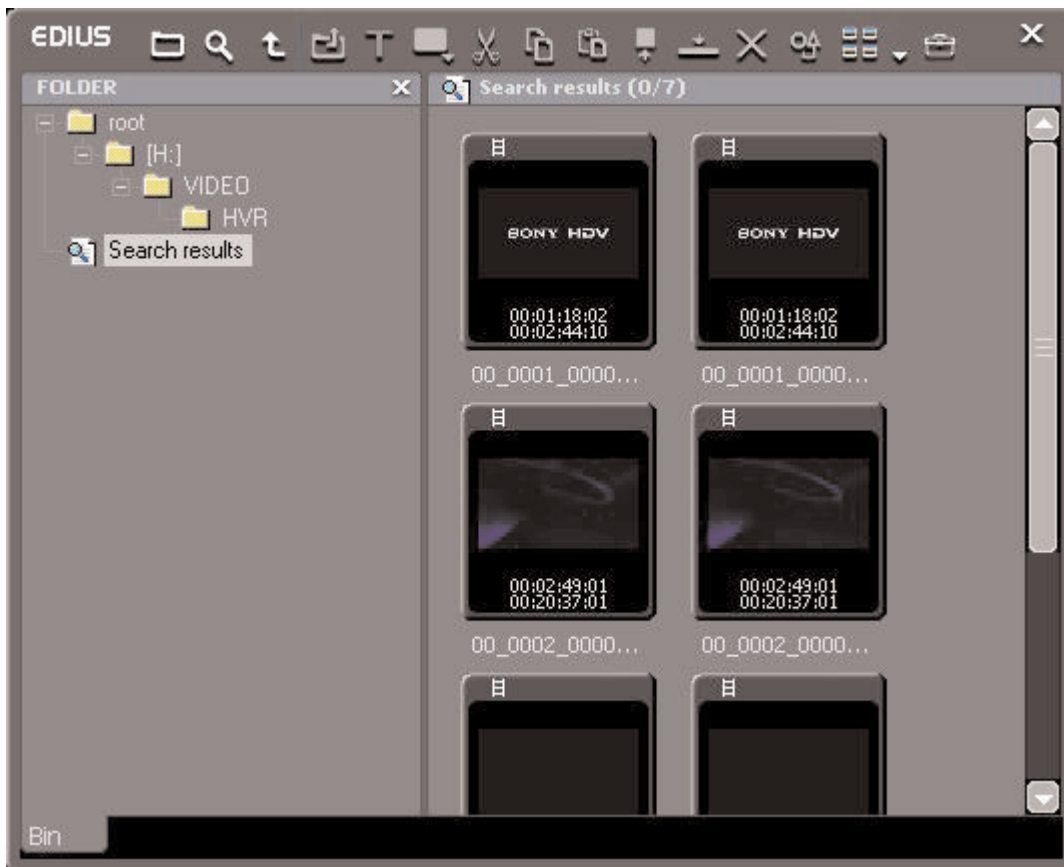
- 1- Select the CompactFlash card or HVR-DR60 drive in the Bin window



- 2- Click on the **Search** icon 
 - a. Change the **search item** to **FileName**
 - b. Input search word "idx" (file extension of clip metadata)
 - c. Select **Add**
 - d. Select **Close**



- 3– Select the files to be imported
 - a. To import all media, select all of the **clips**.
 - b. Selectively import files by highlighting specific clips.



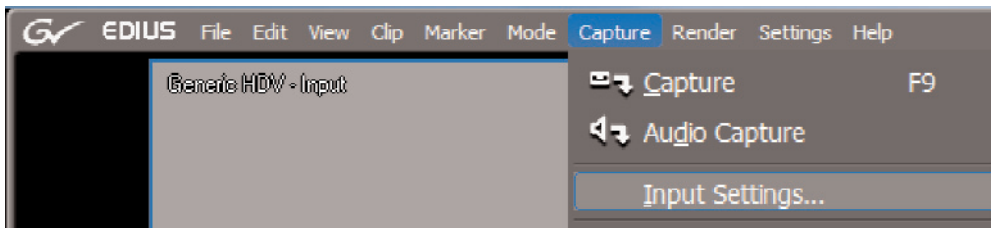
*Although EDIUS supports Direct Edit from CompactFlash media and HVR-DR60 as in “Method 2”, the video materials remain on the CompactFlash and HVR-DR60. The recommended ingest workflow is to first transfer the media to local hard drive(s) using the **Sony Recording Unit Utility** as in “Method 1”. For “Method 2”, it is possible to copy the files to a local PC by using the HQ codec conversion function which can be called up by right-clicking in the Bin window.

6 - Capturing HDV Video From Tape

Settings

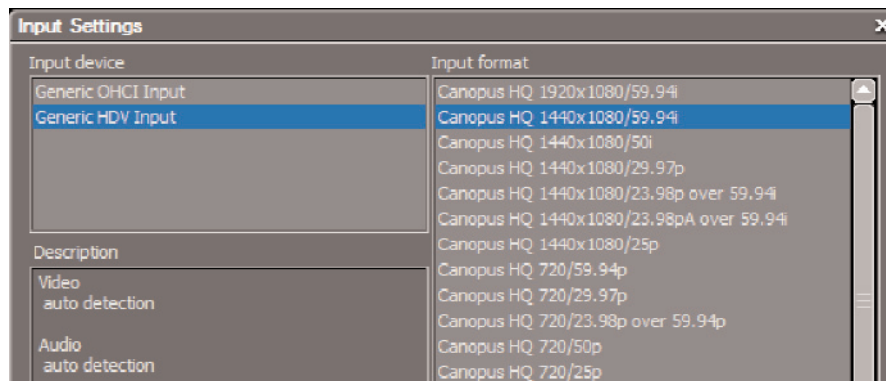
Before attempting to capture video, the following settings should be verified:

- 1- Select **Capture > Input Settings**.

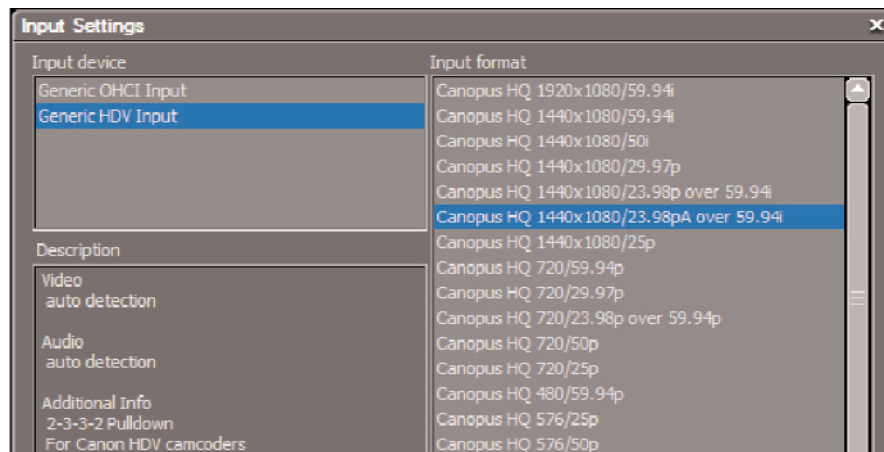


- 2- Select the setting that matches the format of the media. A few examples are given below:

For HDV 1080i60 footage



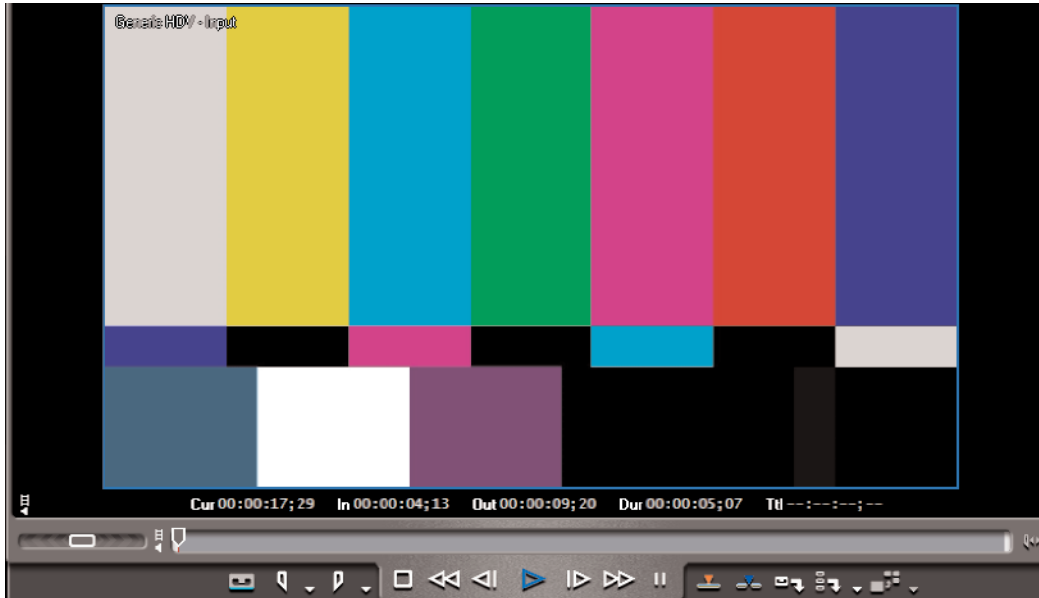
For HDV 1080p/24A footage



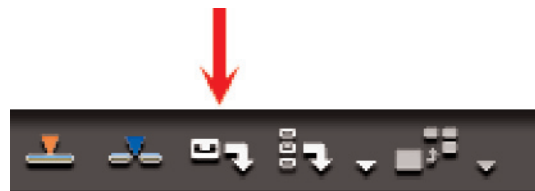
- 3- Select **OK**.

Capturing

- 1- In the Capture Window, navigate the tape using the on-screen transport controls (or the keyboard J, K, L keys), and set In and Out points.



- 2- Select the **Capture** button.



The clip will be captured and registered to the EDIUS Bin.

For more detailed information, please consult the EDIUS User Manual

7 – Adding Clips to the Timeline

To add a clip to a Sequence without trimming, simply drag the clip from the Bin to the Timeline.

To trim a clip prior to adding it to the Sequence, do one of the following to open it in the EDIUS Source Window:

- Double-click on the clip icon in the Bin.
- Drag the clip to the Premiere Source Window

Navigate the clip in the Source Window, set In and Out points, then do one of the following:

- Drag the image in the Source Window to a location in the Timeline.
- Drag the image in the Source Window to the Program window.

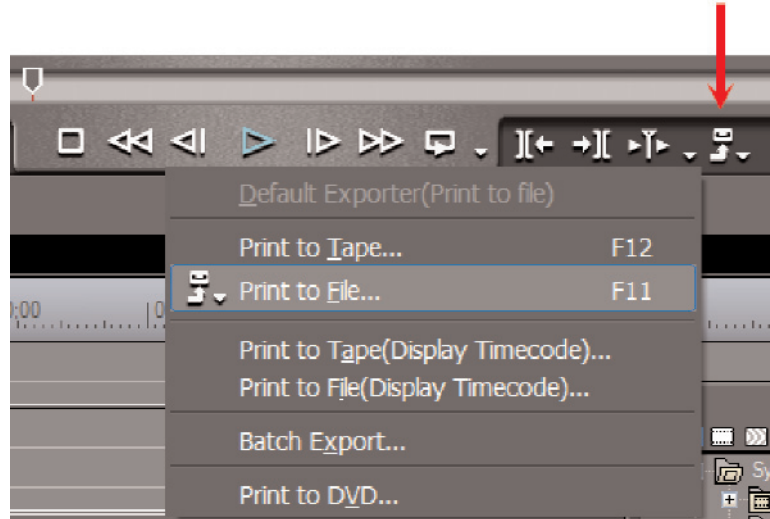
Tips: It is possible to record HDV on tape and DV on CompactFlash media/HVR-DR60 simultaneously by using the built-in downconverter of a camcorder.

The DV file has uncompressed L-PCM audio data unlike HDV using compressed audio. This means that you can use the DV file as a high-quality audio material if needed.

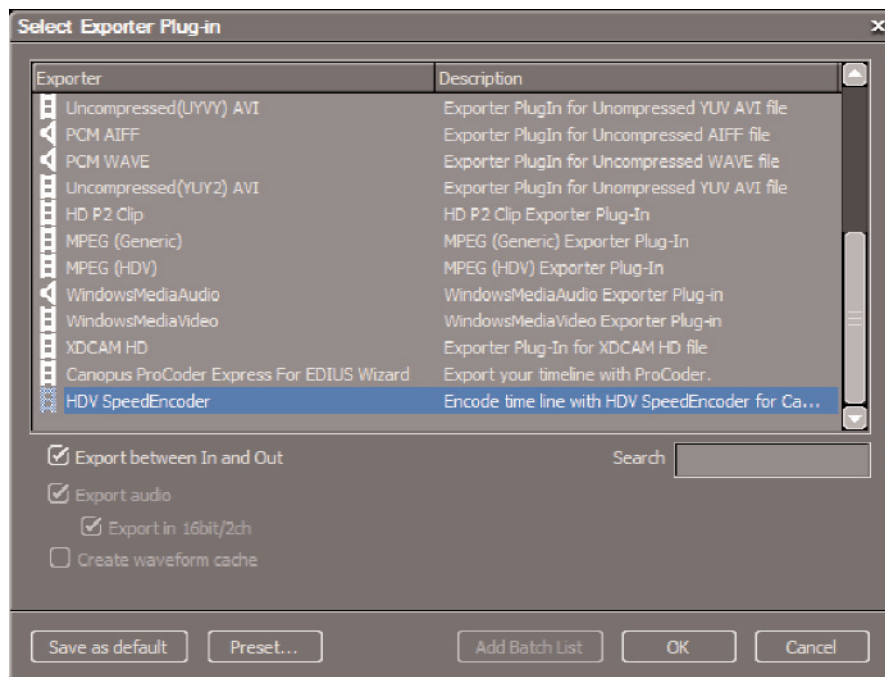
For more detailed information, please consult the EDIUS User Manual

8 – Output to HDV Tape

1– Below the **Recorder Window**, click on the **Export** button and select **Print to File**.

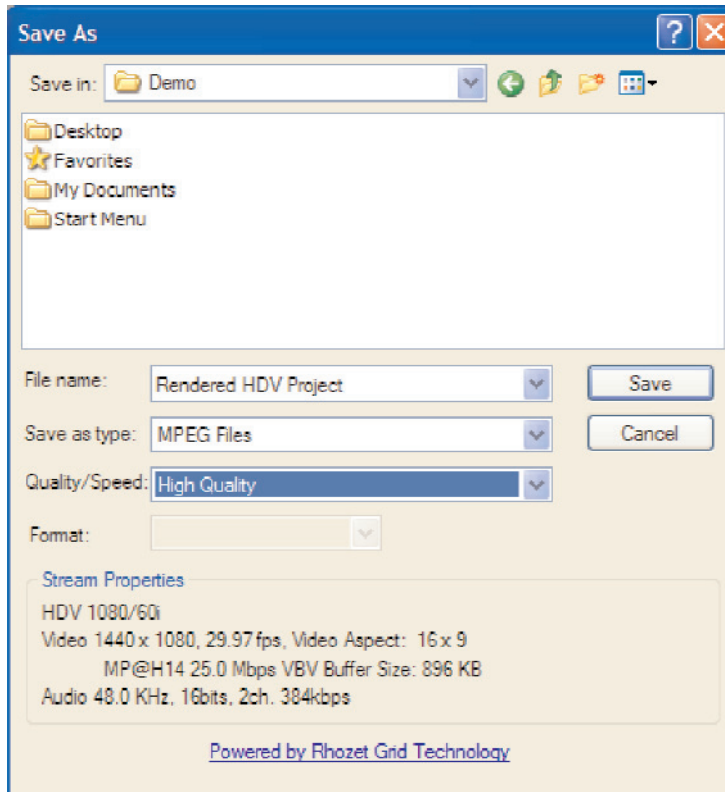


2– In the **Select Exporter Plug-in** window, select **HDV Speed Encoder**.

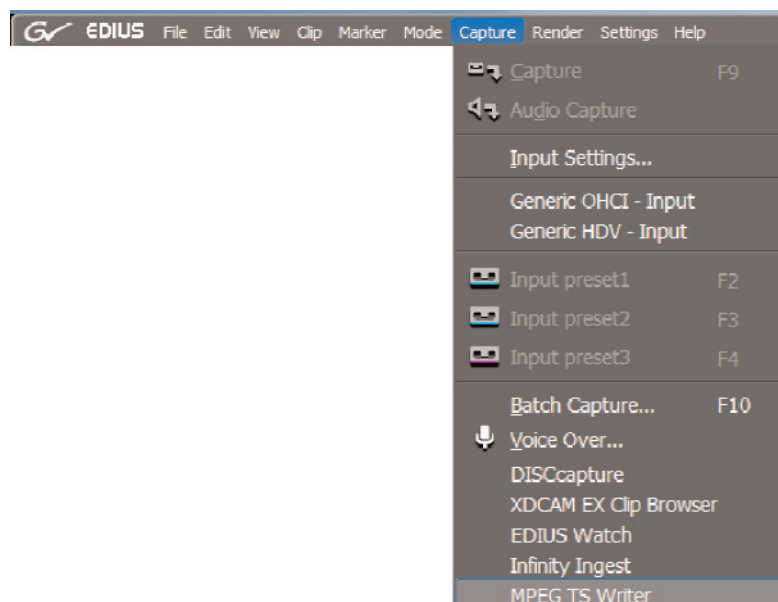


3– Select **OK**.

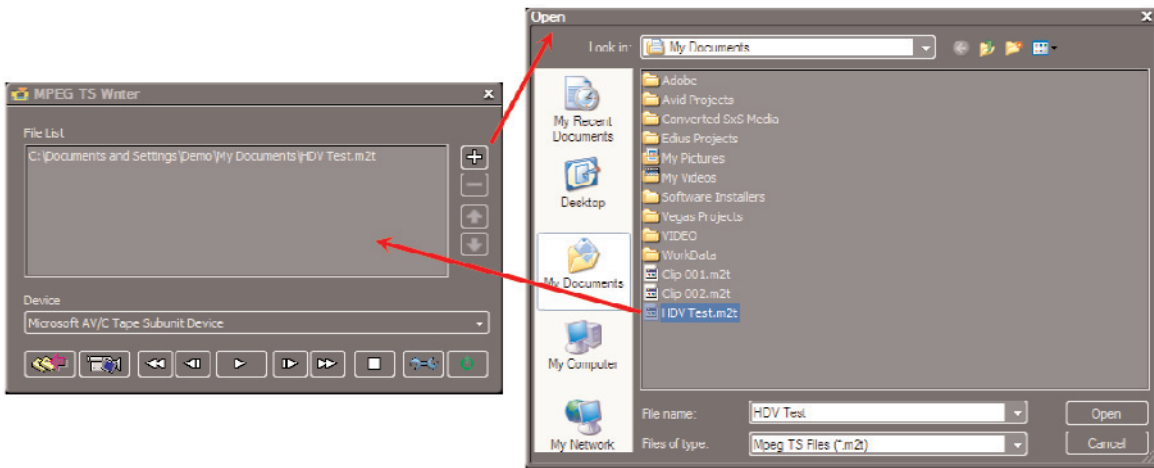
- 4- Select a filename, location, and quality level for the rendered sequence.



- 5- Select **Save** (or press **Enter**).
- 6- After the sequence is rendered, select **Capture > MPEG TS Writer**.



7– In **MPEG TS Writer**, click on the **+** button to select the rendered file.



8– If necessary, select the appropriate HDV device from the **Device** list. If only a single recorder is attached, this setting should be set by EDIUS automatically.

9– Use the transport controls to navigate to a location on the tape for the recording.

10– Select the **Write** button . The file will be output to tape.

For more detailed information, please consult the EDIUS User Manual

9 – Notes

- When archiving files from CompactFlash media or the HVR-DR60, maintain the original folder structure.
- Perform a software “Eject” of the HVR-DR60 media prior to powering-down or disconnecting the i.LINK cable.
- Perform a software “Eject” of the CompactFlash card prior to removing the card from the reader.