

# Sony HDV Workflows

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in Avid Media Composer

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# 1 - Introduction

This document explains how to work with HDV™ format (MPEG2, Long GOP) based media utilizing Avid Media Composer. Three acquisition media 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 HVR-MRC1K Memory Recording Unit, all files are stored in a single folder. Each file is named according to 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. This number can be changed via the menu of the HVR-MRC1K.

## **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 Media Composer, 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 reconnect M2T files that were divided by FAT32, and will also rename HVR-DR60 files in the same style as those from a CompactFlash card during the transfer.

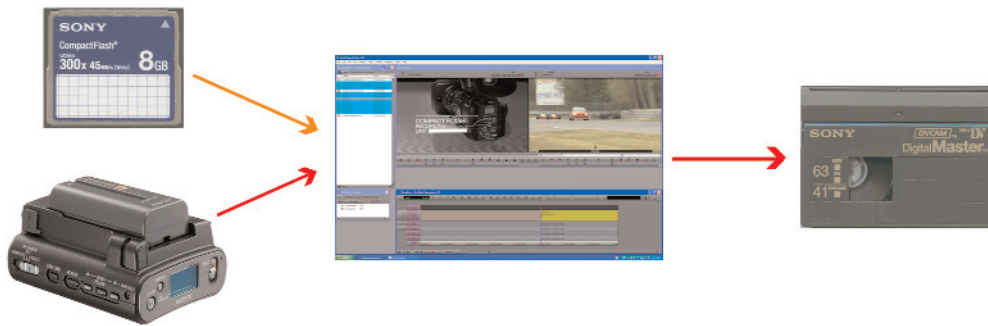
Please note that the workflows outlined here represent just a few examples of how to work with the HDV format, and that workflows can vary based on the project and/or installation.

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

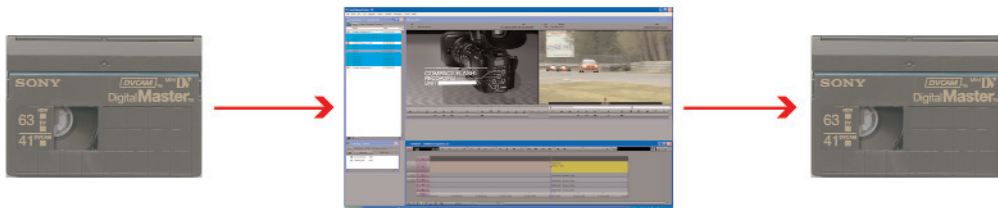
### CompactFlash Media & HVR-DR60

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



### HDV Videotape

- 1- Capture HDV videotape-based media into Media Composer over **i.LINK cable**.
- 2- Edit
- 3- Output 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 the same workflow.

## Key Workflow Features and Restrictions

- Support for 1080 50/60i
- Workflow for Media Composer, Newscutter and Xpress Pro HD are identical

## System Requirements

- Windows XP® SP 2+ / Windows Vista™ Business SP1
- Avid Media Composer
- 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.

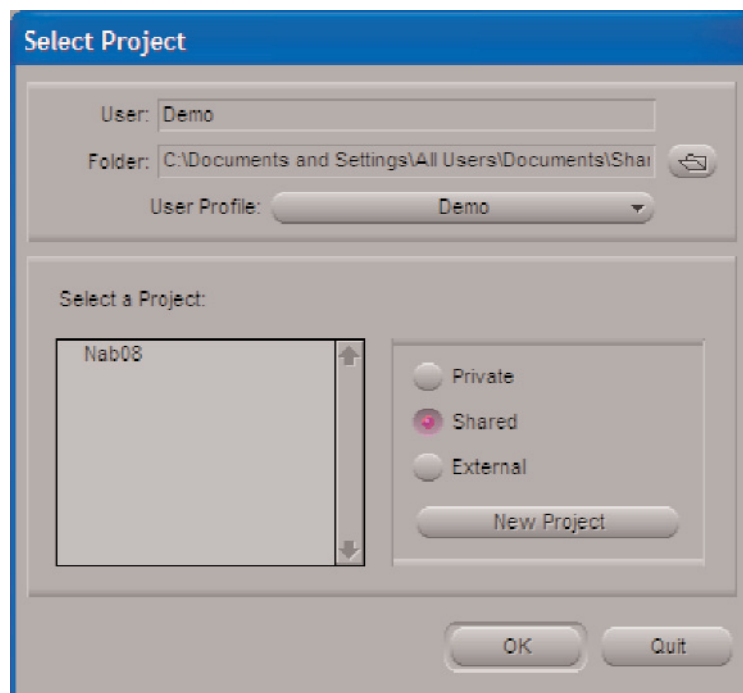
## 3 - Creating a Media Composer Project

### Project Selection

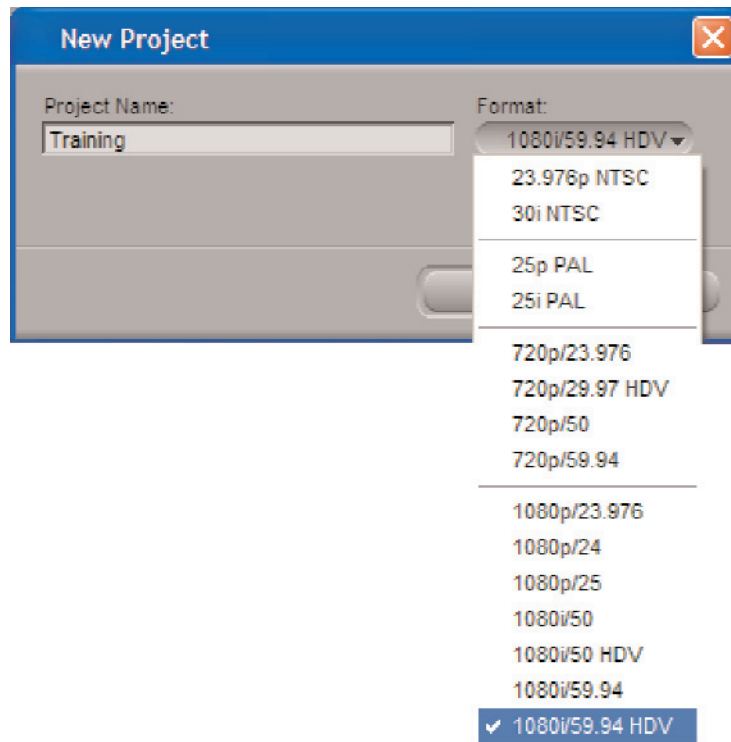
1– Launch Avid Media Composer.

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

- Select an existing project from the list
- Create a new project by pressing and holding the ALT key while selecting **New Project**.



- 3– Choose a format that closely matches the majority of your material.  
For native HDV projects, ensure that one of the HDV presets is selected.



- 4– Enter a name for the project (in this example: "Training").
- 5– Select **OK**.
- 6– Back in the **Select Project** window, click **OK** to load the project.

## 4 – Transferring Media to Local Hard Drive(s)

The recommended ingest workflow from CompactFlash and/or HVR-DR60 is to first transfer the media to local hard drive(s) using the **Sony Recording Unit Utility**.

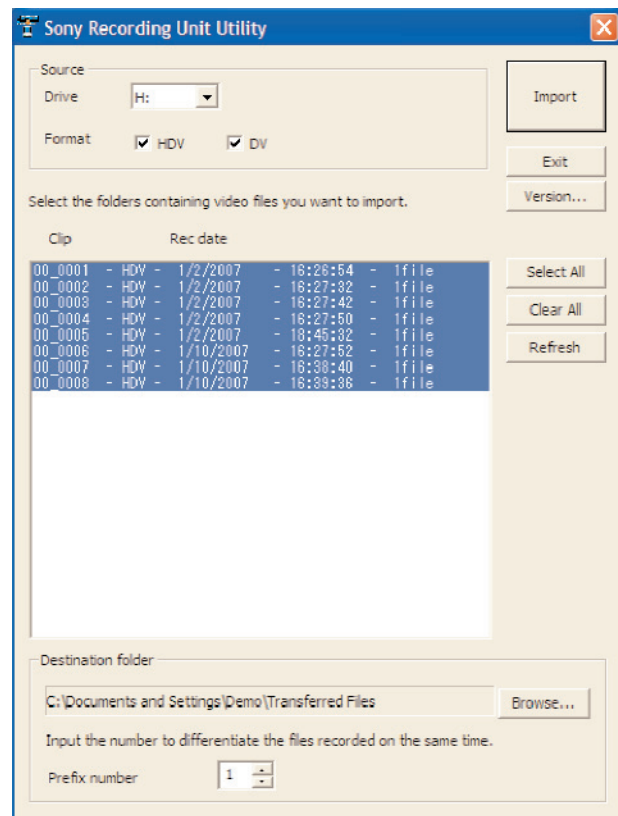
In the case of the HVR-DR60, a folder (e.g., "100HDVF") is created when recording begins, and the recorded video is stored in that folder as a movie file (e.g., "HDV10001.M2T"). When a new recording is made, a new folder (e.g., "101HDVF") is created and a new file (e.g., "10101.M2T") is stored within 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.

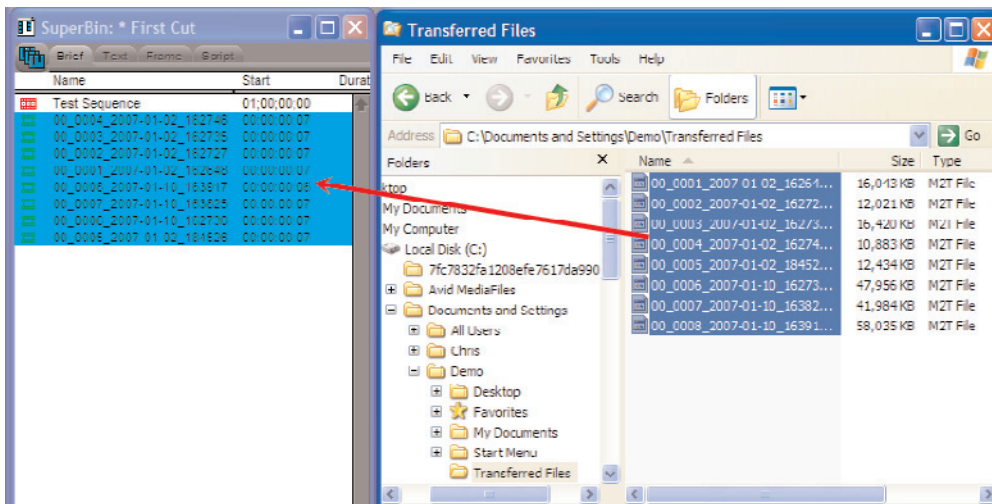


## 5 – Importing Media Files

Media Composer provides two methods of importing media files:

### Method 1: Dragging to a Media Composer Bin

- 1– Use Windows Explorer® to navigate to the location of the copied files.
- 2– Select the file(s) to import to the Media Composer project.
- 3– Drag the files to the Media Composer Bin.

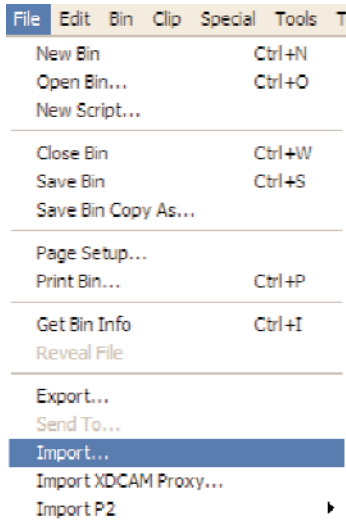


**Note:** Thumbnail View is not supported for M2T files.

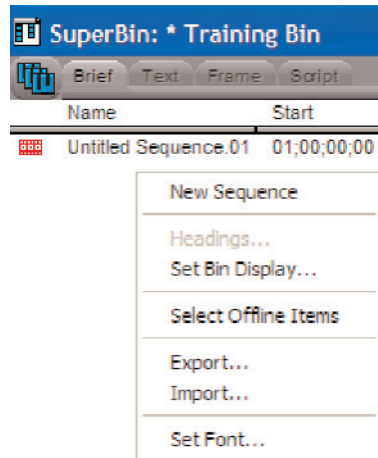
## Method 2: Using Media Composer Import

1- Do one of the following:

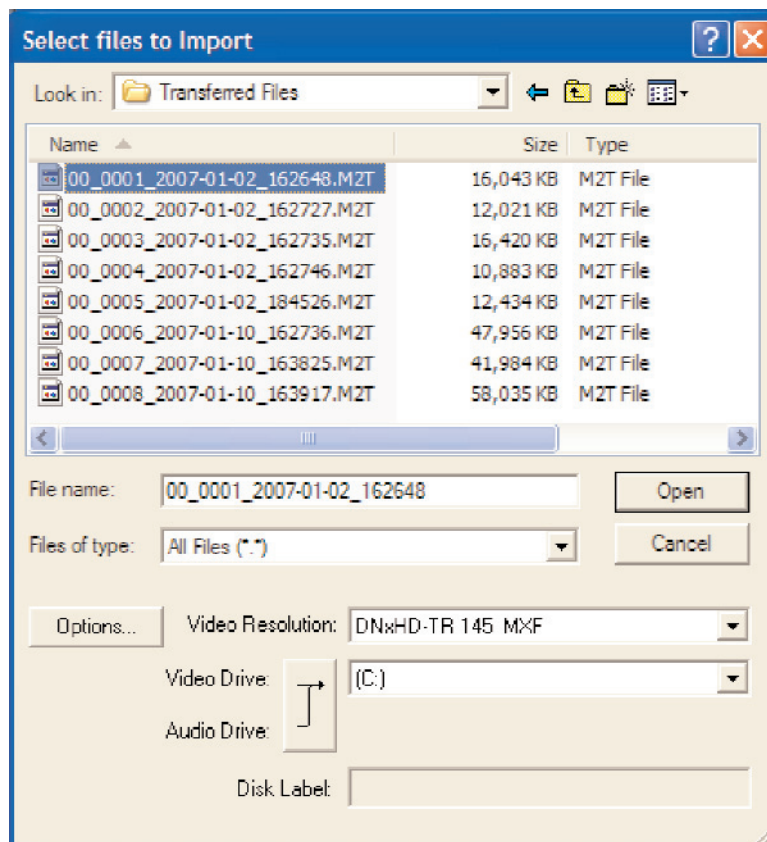
- Select **File > Import**.
- Right click in a Bin and select **Import**.



OR



2- Navigate to the location of the transferred files.



**3**– Do one of the following:

- To import all clips, select all of the **M2T** files.
- Selectively import files by highlighting specific clips.

**4**– Select **Open** (or press **Enter**).

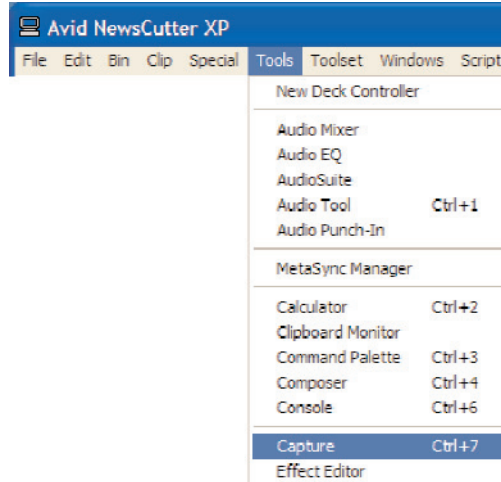
**Note:** The setting for Video Resolution is ignored.

**Note:** Thumbnail View is not supported for M2T files.

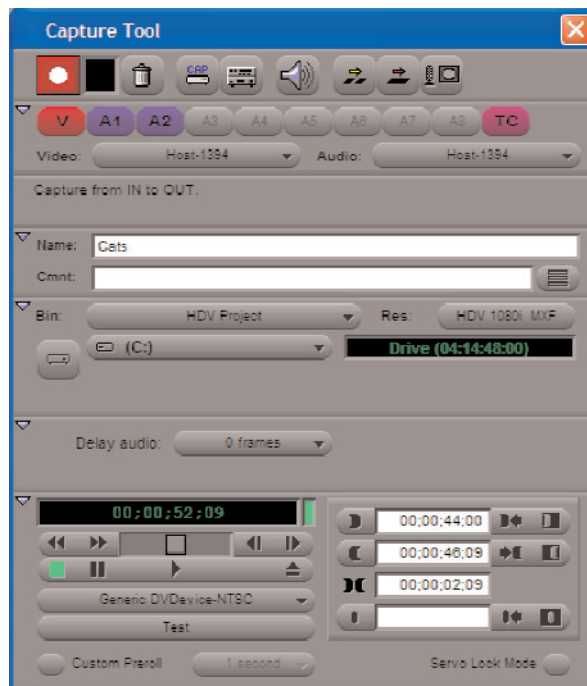
**Note:** Importing speed of DV files may be slower than that of HDV files.

## 6 – Capturing HDV Video From Tape

1– Select **Tools > Capture** (or press **CTRL + 7**).



2– Using the transport controls, navigate the tape, set In and Out points, and enter logging information.



3– Select the **Capture** button  to capture the clip.

For more detailed information, please consult the Media Composer User Manual.

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## 7 – Adding Media to a Sequence

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 the clip in the Media Composer Source window:

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

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

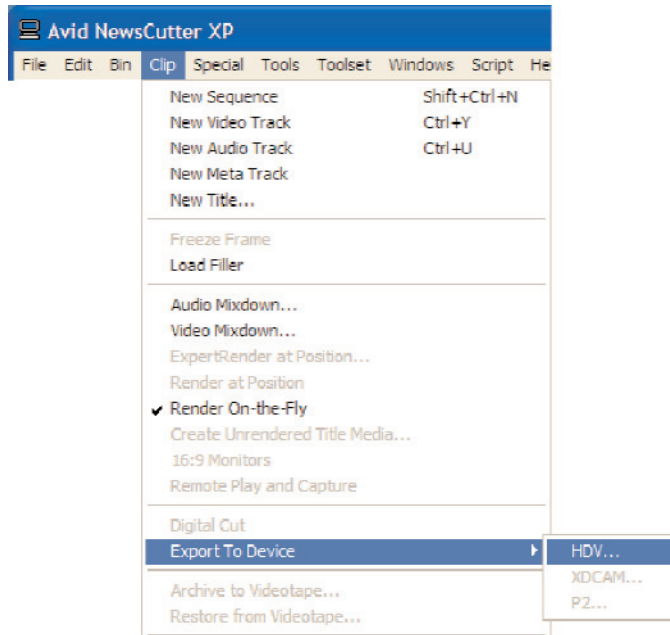
- Drag the image in the Source Window to the Timeline.
- Select Insert or Overwrite, as required.

**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 high quality audio from DV combined with HDV video.

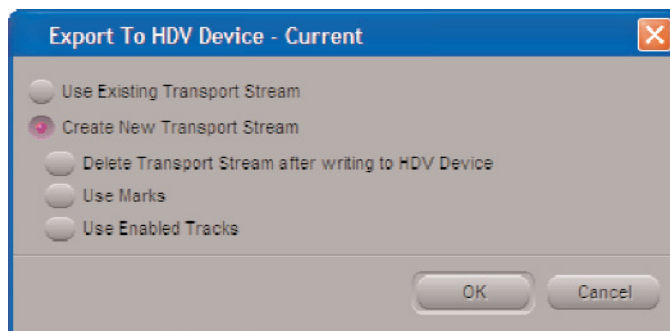
Refer to the Media Composer User Guide for more detailed editing information.

## 8 – Output to HDV Tape

- 1– In the Timeline, set In and Out points for the range to export.
- 2– Cue the HDV tape to a location suitable for recording.
- 3– Select **Clip > Export To Device > HDV**.

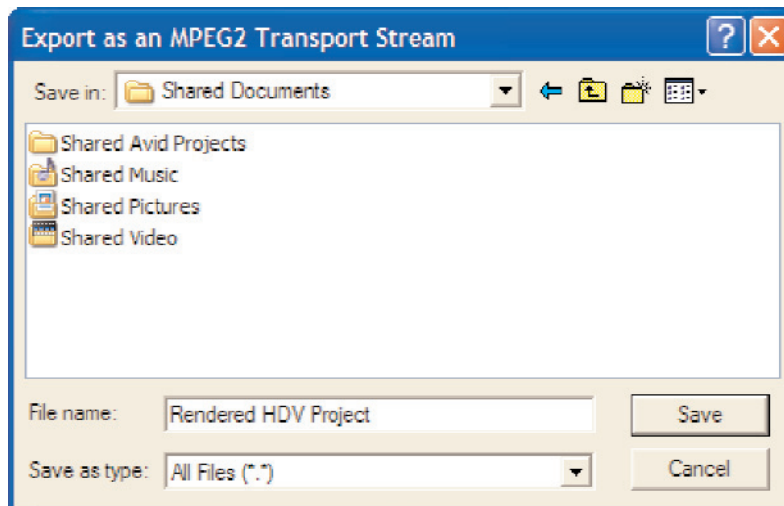


- 4– Set parameters to suit individual and project preferences.



- 5– Select **OK** (or press **Enter**).

6– Select a location for the rendered MPEG2 stream.



7– Select **Save** (or press **Enter**).

The sequence will render and then be automatically output to tape.

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## 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.