



# AVID® EDITING SYSTEMS & **PANASONIC P2** **FILE BASED** **WORKFLOW**

Features in Media Composer® 4 and later, Symphony™ 4 and later,  
and NewsCutter® 8 and later



[www.avid.com/ama](http://www.avid.com/ama)

# Avid Editing Systems and Panasonic P2 File Based Workflows

Features in Media Composer 4.0 and later, Symphony 4.0 and later, NewsCutter 8.0 and later.

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## CORRECTIONS AND SUGGESTIONS

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**Be sure to visit [www.avid.com/p2](http://www.avid.com/p2) and [www.avid.com/ama](http://www.avid.com/ama)**

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# CONTENTS

INTRODUCTION .....	4
AVID P2 SUPPORT .....	5
P2 MEDIA .....	6
P2 Codecs .....	6
P2 Frame Rates.....	7
Changing P2 Frame Rates .....	8
Avid Editing System Codec Support.....	9
WHATS ON YOUR P2 CARD .....	11
Spanned Clips .....	13
P2 Text Memos and Voice Memos.....	13
P2 PROXIES .....	14
Avid P2 Off-line Workflow .....	15
PREPARING FOR THE EDIT .....	17
Installing P2 Support for your Avid Editing System .....	18
Backing Up Your Media .....	19
Editing from P2 Cards .....	20
Choosing an Avid Project Format.....	21
Project Type Table.....	23
AMA METHOD FOR EDITING P2 MEDIA .....	24
Avid Media Access on a Standalone System .....	25
Using Avid Storage .....	30
Using Virtual Volumes .....	32
Using RELINK with Avid Media Access.....	35
Avid Media Access on Interplay® .....	36
NON-AMA METHOD FOR EDITING P2 MEDIA.....	37
Copying P2 Media onto Avid Storage.....	40
OUTPUTING A P2 SEQUENCE .....	43

## INTRODUCTION

To answer every new user's first question immediately - the Panasonic® P2 cards can go into any slot of the P2 card reader, and it doesn't matter in what order they're inserted. This is the most frequent and basic question that I get when talking with people about P2. But read on – there is lots more to discover about Avid editing systems and P2!

This document has been written for people beginning to work with the P2 format for the first time. It describes how to work with P2 within the Avid editing environment using the new and preferred “AMA” method as well as the original “non-AMA” method.

It is strongly recommended if you are working with file based workflows, as with P2, that you upgrade to the latest version of Avid editing software. Changes in these workflows occur regularly, and up-to-date functionality is available in the latest versions. As an example, Media Composer 4.0 / Symphony 4.0 and NewsCutter 8.0 add support for mixed frame rates in the same project and sequence – a feature quite useful given the flexibility of P2 cameras and formats. A feature also useful for dealing with footage accidentally shot at the wrong frame rate!

Within this guide you will learn how to screen, link, import, edit and output programs starting with P2 recordings. The features described are based on the following versions of Avid products:

- Media Composer 4.0
- Symphony 4.0
- NewsCutter 8.0

Please check the ReadMe or Help for your version of the Avid editing application for the most complete and up to date information. You can also check this page on the Avid web site for upgrade information:

<http://www.avid.com/support/downloadcenter/upgradeOptions.asp>

### Who Am I?

I am an Avid user, an Avid Certified Instructor (ACI) and Avid Certified Support Representative (ACSR). I regularly perform training on Avid products. I visit a lot of different sites, and have an opportunity to see many different ways of working.

Paul Sampson  
October, 2009

## AVID P2 SUPPORT

Avid has been supporting the file-based P2 format for many years. It has a well-established, well-integrated workflow that has changed and become easier over the years. Even if you're an experienced P2 user there may be some new material here for you. For example just this year, Avid added a feature called **Avid Media Access (AMA)** which adds new capabilities to Avid file based support.

Avid has always offered *native* P2 support. This means that the files recorded on the P2 cards can be read directly by Media Composer. You could insert a P2 card into an Avid editing system, and begin editing with its contents immediately. For some workflows, such as News, there may be no need to actually copy the files onto an Avid storage device - you can edit directly off the P2 card.

This document covers what are termed "AMA" and "non-AMA" workflows with P2. While they will be described in detail over the next forty or so pages, a short description is in order at this point to make it easier to follow some of the upcoming discussions. AMA was introduced with version 3.5 of the Avid video editing systems.

AMA mode is a newer method of accessing and editing with removable media. Not just P2 but Sony XDCAM / XDCAM-EX and Ikegami GFCam as well. This method is faster and transfers more metadata with the clips than was previously possible.

Non-AMA method is the traditional method of accessing and editing with P2. There is more work for the operator in mounting P2 cards, and a very limited amount of metadata is supported, certainly no custom user metadata.

## P2 MEDIA

P2 offers a variety of formats to choose from (DVCPro 25, 50 and HD, AVC-Intra 50 and AVC-Intra 100) differing in bit depth (8 or 10 bits); scanning mode (Progressive or Interlaced) and also frame rate. Your Avid Editing System supports many combinations of these formats, so we begin with a survey of the Panasonic® P2 format options.

## P2 Codecs

### Bit Rates

The more information you preserve as you record each frame, at least in theory the better that frame looks. Bit rates are often considered to be an indication of the quality of your recordings. The higher the bit rate, the more information about the original frame is preserved. A codec like AVC-Intra-100 stores approximately twice as much information about each frame as compared to AVC-Intra-50. The number after the name of the codec actually indicates the bit rate of the codec, in megabits per second (Mb/sec). The lower bit rates are often achieved by recording a smaller frame size and applying higher compression.

### Bit Depth

Video is often described as being an 8 or 10 bit recording. This number indicates the range of tones each pixel can reproduce. Simply speaking, an 8 bit image allows each pixel to have 256 different brightness levels (for each of the three colors). A 10 bit image allows a pixel to have 1024 different brightness levels. A 10 bit image has more detail and more fidelity in its color recording. For chroma keying and color correction in particular, I prefer 10 bit codecs which perform better under demanding circumstances. Your Avid editing application is capable of processing 10 bit video from P2 and preserves this extra quality.

## P2 Frame Rates

Your Avid editing application supports all the standard P2 frame rates, both interlaced and progressive:

**23.98; 25i; 25p; 29.97p; 29.97i; 50; 50p; 59.94i; 59.94p**

With such a wide range of options it's tempting to experiment with different frame rates. However, while the current Avid editing system handles mixed frame rates, Avid editing systems prior to Media Composer 4.0, Symphony 4.0 and NewsCutter 8.0 cannot *mix* different frame rates in the same project or in the same sequence.

For example, it's not possible to mix PAL (25 fps) and NTSC (29.97) on an Avid Media Composer 3.5 editing system, although it is possible with Media Composer 4.0.

To accommodate those wanting the "film look," it's possible to record at 23.98 frames per second, and in North America have the camera insert extra fields to create a true 29.97 recording. You are doing with the camera what you used to do at the film transfer stage - inserting 2:3 pulldown. In this case it might seem like you are mixing 23.98 and 29.97 frame content, but strictly speaking you are not.

### **Panasonic Native Frame Rate support**

If you want a true 24 frames per second file you can use the Panasonic "pN" (progressive Native), or simply called NATIVE formats. These record only the original frames and do not repeat portions of the frames (insert pulldown) to make the recordings compatible with standard frame rate equipment.

As a result, the recordings take much less card space – and consequently you can get more material on a P2 card. However, the recording is incompatible with standard (Broadcast) equipment.

24pN may contain only the 24 frames, but the actual frame rate is a more standard 23.98 frames per second in North America. We would use this media in a Media Composer 23.976 format project. There are no special "pN" projects, you just select a compatible frame size and frame rate project.

### **Interlace / Progressive**

Media Composer supports the Panasonic interlaced and progressive formats. With motion pictures interlaced video is less sharp, but offers smoother motion than progressive recordings. Interlaced video has better temporal (time) resolution with its higher field rate, and Progressive has better spatial detail (sharpness) due to its lack of fields and full frame nature. The "film look" is more closely associated with progressive recordings.

In Media Composer, it is possible to mix interlace and progressive content in the same sequence, which itself can be either Progressive or Interlaced.

## Variable Frame Rate (VFR) Recordings

Some of the Panasonic P2 cameras can record at frame rates other than “normal.” When this happens, it can be said that the camera was *overcranked* or *undercranked* at the time of recording.

Your Avid editing application plays back the recorded file at its “normal” speed. For example, in North America if you overcrank and record at 60 frames per second (nominal) the Avid editing system plays the file back at the 30 frames per second – resulting in playback of the file taking twice as long, and the on screen image running at half speed.

**Overcranking** Recording *higher* than normal frames per second, resulting in slow motion playback of the final recording.

**Undercranking** Recording *lower* than normal frames per second, resulting in fast motion or a time lapse look when playing back the recording.

Your Avid editing system plays back and edits this video, and displays it as a standard video file running at the projects frame rate.

## Changing P2 Frame Rates

Virtually no workflow plan calls for shooting in the “wrong” frame rate, but with so many different frame rates available mistakes can be made, or a project with one frame rate may need to incorporate footage with a different frame rate.

Avid Media Composer 4.0, Avid NewsCutter 8.0, and Avid Symphony 4.0 can mix footage of different frame rates in the same project and in the same sequence. Avid editing applications before this version cannot mix frame rates in the same sequence.

If you do not upgrade to the latest Avid editing software and you want to mix frame rates you have several options:

- If you have a multi-frame rate deck, you can record your footage as video to this deck, change the deck settings, and re-ingest the footage at the desired frame rate. This allows the deck to do the frame rate conversion.
- Use conversion software: *Raylight MXFX* from DVFilm ([www.DVFilm.com](http://www.DVFilm.com)). This is a P2 file converter. It converts frame size, adds or removes pulldown, converts PAL to NTSC, and offers grain reduction during the process. This software takes between 2 and 4 times real time to correct your footage. The 1.8 version of MXFX only supports DVCProHD, no SD no AVC-Intra. The 2.0 version will support AVC-Intra and SD.
- Use a third party transcoding service offered by a facility.

Bob Russo of Avid Technology has an excellent video tutorial which demonstrates how to use this tool. To learn more about the DVFilm *Raylight MXFX* software go to <http://community.avid.com/> and search for “Russo DVFilm”.

## AVID Editing System Codec Support

Avid Media Composer 4.0, Avid Symphony 4.0, and Avid NewsCutter 8.0 support all Panasonic video recording codecs. You can import and edit any of the available codecs even within the same sequence.

Depending on the software version of your editing system, you will have slight variations in what you can do in your editing system with the various codecs. For example, in Avid editing software versions 3.5 / 7.5 you can playback and edit AVC-Intra-100, but cannot render or mixdown in this format. Avid editing software versions 4.0 and 8.0 allow you to render and mixdown using this codec.

### Cautions

P2 is very flexible. You can mix any combination of frame rate, frame size and codec on a single P2 card in the camera. This could be dangerous. Unless you have a specific reason, it is not recommended to be too creative in mixing formats on your cards.

Experiment before you start a project in which you intend to mix frame rates. Always test any postproduction process you intend to use if you shoot with a frame rate that is not your distribution frame rate. For example test your workflow if you shoot true (Panasonic calls it NATIVE) 24 frame content to be incorporated in a broadcast (for example 29.97 fps) program.

Generally, choose a production format and stick to that single format.

The AVC-Intra codecs are very demanding on your computer's processor. If you find your Avid editing system does not operate with the same level of performance as with Avid codecs (such as Avid DNxHD®), you may need a more powerful computer, or convert the AVC-Intra codec video into an Avid DNxHD codec.

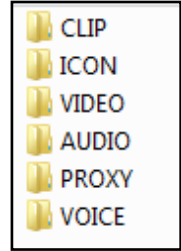
## P2 Codec Summary

<b>CODEC</b>	<b>CODEC DETAILS</b>	<b>RECORD TIME (approx)</b>	<b>Bit Depth</b>	<b>Raster (frame sizes)</b>
AVC-INTRA 100	100 Mb	1 minute / Gig	10	1920 x 1080 1280 x 720
DVCPRO HD	100 Mb	1.2 minute / Gig	8	1280 x 1080 960 x 720
AVC-INTRA 50	50 Mb	2 min / Gig	10	1440 x 1080 960 x 720
DVCPRO 50	50 Mb	2.5 min / Gig	8	720 x 480 (NTSC) 720 x 576 (PAL)
DV	25Mb	4 minutes / Gig	8	720 x 480 (NTSC) 720 x 576 (PAL)

## WHATS ON YOUR P2 CARD

If you look at the contents of the P2 card, the system displays two items: a single folder labeled `CONTENTS` and a text file named `LASTCLIP.txt`. The text file contains the name of the last clip recorded on the P2 card.

The `contents` folder is quite a bit more interesting. There is no need for you to interact directly with the P2 card or the contents of this folder, but as the following table shows the `CONTENTS` folder does have some interesting possibilities. Here is a description of what you will find in each directory of the `contents` folder:



FOLDER	CONTENTS
<b>CLIP</b>	<p>This folder contains XML files which contain basic text. There is one XML file for each recorded piece of video. These files contain detailed information about the recording. Frame rate, frame size, aspect Ratio, audio details, shoot date and other information is included.</p> <p>If you have an unknown recording, look at one of these files to determine what the recording format of the clips on the P2 card are. Open the XML files in a text reader or drag and drop it into most web browsers.</p>
<b>ICON</b>	<p>A collection of BMP files which are thumbnail representations for each of the recorded clips. These are small - 60 x 80 pixels in size. They can provide a way for you to see visually what is recorded on the card.</p> <p>There may be more thumbnails than there are clips - this is because a clip, if it's a very long recording, will be made of several P2 files, each with its own thumbnail.</p>
<b>VIDEO</b>	<p>Here you will find the high resolution MXF video files.</p>
<b>AUDIO</b>	<p>This folder contains the high resolution audio for your clips. There is a separate audio file for each audio track you recorded, so you can expect to see many more audio than video files.</p>
<b>PROXY</b>	<p>If you've purchased the optional AJ-YAX800G proxy recording card, you may find proxies for each of your video files in this directory. These are MPEG-4 files, and they will be standard definition regardless of your record format. We will discuss proxies shortly.</p>
<b>VOICE</b>	<p>A user can add voice annotations to the recordings using the Panasonic <i>P2 Viewer</i> and the <i>P2CMS</i> software, as well as with some cameras. If these recorded voice annotations are present, they will be found in this folder.</p>

## P2 File Names

The clip names you find on the P2 card may appear arbitrary at first sight. If you look closer, you will see there is logic. The first four digits are simply increasing numeric values. Here we see a P2 card which contains one clip labeled 0004. It also has appended at the end two seemingly random characters. These help make the file name unique.

Name	Size
0004CG.MXF	1,614,876 KB

VIDEO File directory

Name	Size
0004CG00.MXF	10,809 KB
0004CG01.MXF	10,809 KB
0004CG02.MXF	10,809 KB
0004CG03.MXF	10,809 KB

AUDIO file directory

Each recording can have up to eight audio files. If you look in the audio directory the file names follow the same convention with the addition of two extra characters at the end of the file name which identify which audio track the file represents.

With some Panasonic cameras it is possible to add human readable file names that contain a plain text beginning followed by a numeric prefix. For example, if you would rather your filenames read "Dubai 0001" or "Space Centre 0007" then you can use the Panasonic User Clip Name. Since this feature is not available on all models and firmware versions of Panasonic cameras, check your documentation to see if it's available.

To set up a User Clip Name, you will create a plain text file with the desired user clip name and load it into the camera. This procedure does not cause the filenames to be different than described above. They will still be created with their semi-cryptic names. Your new *User Clip Name* will become part of the matching XML file for the clip. When you import your P2 clips into your Avid editing system it reads the file name from the clips matching XML file and ignores the P2 file name.

## Spanned Clips

When you install multiple P2 cards in a camera, you are not limited to recording to the length of the free space on a single P2 card. A spanned clip is a clip which has been recorded over more than one P2 card.

Spanned clips are made of several files, at a minimum one set of files per card. If you mount only a single card in a spanned set, the clip will appear with *part* of its media OFFLINE. If you mount all the cards needed by the spanned clip, you will see a complete clip.

For best results place all the cards into single folder and mount them at the same time using the AMA method.

## P2 Text Memos and Voice Memos

A **Text Memo** on a P2 card is a text note present in the metadata of a P2 clip. A text note contains helpful information you add. For example you could add the name of the guest, their title, or any other type of written note. Text Memos are imported into your Avid editing system as locators, complete with the accompanying text. This data is text searchable in your editing system on a clip by clip basis.

Text Memos can be created, edited and deleted in the Panasonic *P2 Viewer* and *P2CMS* software. You can also create blank Text Memos on the camera (which serve as markers and can have text added to them later). You must assign the TEXT MEMO feature to the User Button on the camera, and press this button during recording.

A **Voice Memo** is a .wav file placed in a separate directory on the P2 card. This is not recognized (or supported) by your Avid editing system, but can be created, deleted and played in the Panasonic *P2 Viewer* and *P2CMS* software packages.



A **Text Memo** made in the Panasonic P2 Viewer as it appears when the clip is imported to an Avid Editing System

## P2 PROXIES

Proxy or low resolution video can be recorded simultaneously with high resolution video in some of the Panasonic cameras. Avid editing systems *do not* support Panasonic Proxy video directly, but the Proxy video can still be useful for screening and possibly logging in some workflows.

Proxy recording is an option, and requires the installation of the AJ-YAX800 option card into a compatible camera. While the option card is the same form factor as the typical P2 memory card, they are totally different. Do not place a memory card into the special Proxy slot, which is at the top of the cameras.



Proxies are recorded as MPEG-4 video at a frame size of 320 x 240 pixels for both HD and SD recordings. They can be recorded onto your P2 card or to a separate SD memory card, which can be inserted directly into the encoder card on the top of the camera. A 4 GB memory card can record between 6 - 36 hours' worth of proxy video, depending on the quality recorded. Proxy files can be used many different ways. For example the MPEG-4 files can be transferred through iTunes to an iPod to allow for screening of the video on a portable device.

Proxies can be recorded at one of three data rates: 192, 768 or 1500 kb per second. To help in identifying the original recording, the MPEG movies may contain a timecode burn-in. There is no actual timecode track added to the MPEG file.

While this proxy timecode matches the timecode on the high resolution clip, it is only *visually burned-in* to the MPEG proxy file. There is no way to use it in an off-line workflow to automatically trace back to the original recording. This timecode "window burn" allows you to read and write down timecode numbers if you want to find particular shots again.

As useful as the proxies are, since they contain no real timecode or media identifiers (UMID), no typical off-line or on-line workflow is possible using the standard Panasonic proxies.

## Avid P2 Off-line Workflow

Throughout the following discussion “Off-line” does *not* refer to the “Media Offline” error message. Rather, I am referring to a standard industry practice of editing with lower resolution media and then conforming the final product to high resolution media.

This well established “Off-line to On-line” process has no relation to the Avid “Media Offline” error message. I have even hyphenated the term Off-line to try and keep this distinction clear.

Also, in some cases full resolution SD media may be referred to as off-line quality media. This is quite possible in an HD production where the lower resolution media might be an SD copy of an HD original clip. One editor’s on-line is another editor’s off-line.....

### Why an Off-line workflow?

There are still many situations which may require an off-line workflow with P2, even though the P2 proxies (if even available) cannot be used in this way. There may be a well-established production process which is built around editing SD footage. As the move is being made to high definition production, rather than changing some equipment and altering the workflow, it might be better to have SD copies of the footage available to put into the existing process.

Media Composer does support off-line workflows with P2 media, which will be slightly different for AMA (Avid Media Access) compared to the non-AMA method.

### NON- AMA Off-line Workflow

A Non- AMA off-line workflow involves making copies of your high-resolution media at lower quality (using Avid Transcode) and editing with these lower resolution duplicates. When you're done, you relink to the original P2 media and consolidate to a final storage area. This process is almost identical to the AMA process, detailed next, except you use `FILE > IMPORT P2` rather than AMA to access the clips for Transcoding.

In a standalone editing environment this can be done using the Transcode command on an Avid editing system. In an Avid Unity™ / Avid Interplay shared storage environment larger volumes of transcodes can be done as a background process using the Avid Transcode service if it is installed on those systems.

### AMA Off-line Workflow

An AMA off-line workflow would include the following steps:

#### PREPARING FOR THE EDIT

- Copy your P2 card contents into a storage area. This could be to standalone hard drives, or a workspace on an Avid Unity or Avid Interplay server. Ensure the folder names are unique and not arbitrary to make it easier to manage your media.
- Using AMA, mount your P2 cards so each link into separate bins. Ensure the bin names match the folder names which contain your P2 cards.

- Set your FORMAT tab (in the Project window) to the format of your offline media – SD or HD. Go to each Avid bin and transcode its contents into your off-line resolution. Create new bins for these off-line clips, name these new Bins appropriately, and move the off-line clips into these bins.
- Edit using the off-line video.

### **PERFORMING THE REZ UP**

- Depending on your version, you may need to set your format tab (in the Project window) to HD
- Mount your high-resolution AMA volumes
- Relink your sequence to this high-resolution media using either the Relink tool, or in an Avid Interplay environment the MultiRez feature.

Adhering to some standard organizational guidelines and naming conventions is going to be essential to keep your footage organized and available during the edit and after.

## PREPARING FOR THE EDIT

One of the advantages of file-based media is the low cost of the “screening machine.” Using free software available from Panasonic you can screen your files on your own computer. You can screen the P2 cards if you have a card reader attached to your computer, or you can screen copies of the cards which have been made on another type of storage media, such as an external hard drive.

The following software is available for download at:

<http://www.panasonic.com/business/provideo/support/resource-center/software-downloads.asp>

### P2 Viewer Software

This is a simple player for screening your P2 content. It can screen from the original cards, or from copies of your cards on removable media. These are mounted as “Virtual P2” cards.

P2 Viewer supports the DVCPro codecs, both SD and HD. You must download and install additional codecs for AVC-Intra and MPEG-4 (Proxy video) if you want to play these file formats.

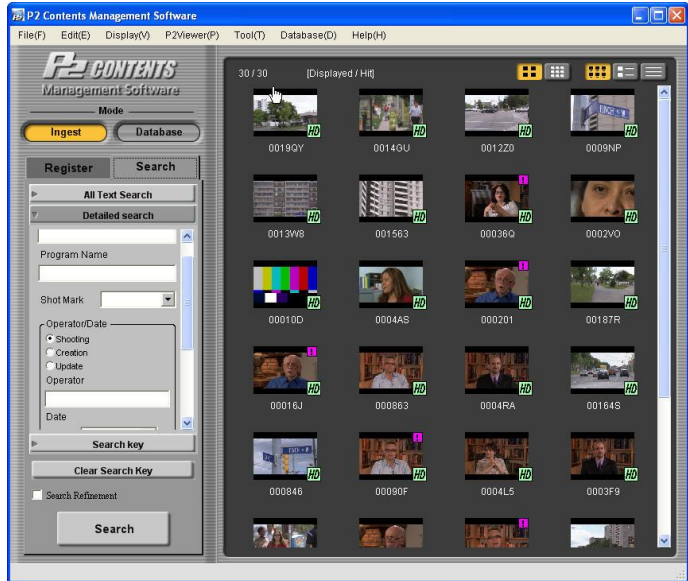
With this software you can view, add and modify the metadata of your files. You may also add annotations in the form of voice or text memos, and copy the contents of P2 cards to your hard drive.



## P2CMS Software

CMS stands for **C**ontents **M**anagement **S**oftware. This application ingests P2 cards to a computer and manages the content. This includes creating an index of the P2 card information (the database) that can be searched to quickly access information. It can also restore backup copies, change Metadata, export video, and add annotations.

P2CMS includes its own copy of P2 Viewer, so it can be used to screen P2 card contents. As with the Viewer, you need to do a separate install of the codecs for AVC-Intra and MPEG-4 (proxy) if you want to screen these files.



## Installing P2 Support for your Avid Editing System

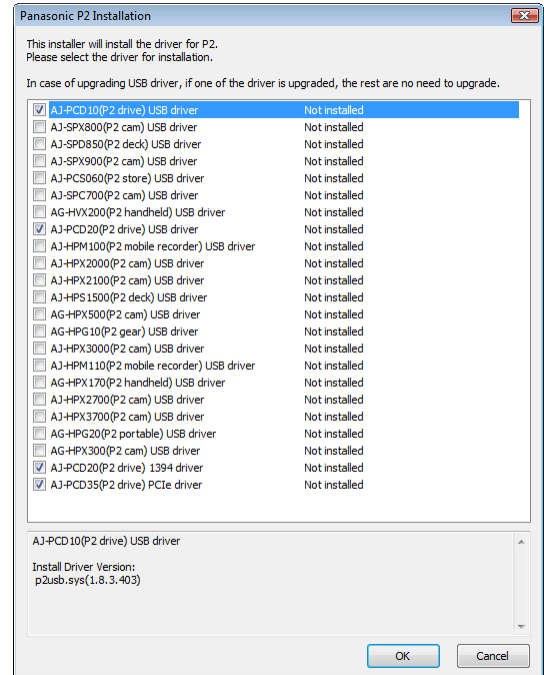
Media Composer supports P2 video formats natively, so there is nothing to install on the Avid editing system to add P2 codec support. You will need to install a P2 driver to access the particular Panasonic device you are connecting. This software allows your computer to see the P2 hardware connected to your computer. If you copy P2 cards to removable media and bring that to your Avid editing system, then the driver is not required.

Driver software is included with all Panasonic P2 products, and the latest versions are available on the Panasonic web site:

<https://eww.pavc.panasonic.co.jp/pro-av/support/desk/e/download.htm>.

This is quite a well organized site with all the software you will need for PC and MAC support. Drivers are available for 32-bit and 64-bit PC systems. The driver varies by product. When you run the installer, you get to choose all the product drivers you want to install at once.

Some of the other software, such as the Content Management Software (CMS) is not available in a 64-bit version at this time.



## Backing Up Your Media

P2 cards are relatively expensive, and they're not usually placed on the shelf for storage. Since there is always pressure to reuse a P2 card it's very common to make a copy of its contents. This copy can be made to almost any computer type media. You can copy your P2 cards to other hard drives, Blu-Ray discs, or even a network server. Your Avid editing system works with copies of your P2 media no matter where you place it.

### ***Copying P2 Cards Before going to the Edit Suite***

Before you enter the edit suite, you can make copies of your P2 cards at the operating system level of your computer. This essentially involves making a file copy of the P2 card contents onto the media that you're going to store them on. The Panasonic *P2 Viewer* and *P2CMS* software contain tools to copy cards, or you can make copies manually from the desktop of your computer.

Place the contents of each P2 card in a separate folder. Copy the entire cards contents into this folder. All of the editing methods I will describe will be able to access the files wherever they are as long as they reside on a mounted drive on your computer system.

### ***Copying P2 Cards In the Edit Suite***

If you're in the edit suite, you can use the Avid editing systems `CONSOLIDATE` feature to copy the contents of the P2 card onto Avid storage. During this copy you can convert them into another format, such as Avid DNxHD if you need to. This is called `TRANSCODE`.

### **Editing with P2 Cards directly**

Editing from the P2 card directly saves time because you don't have to capture the media from the card into the Avid system. Performance is good depending on the nature of the connection between the card reader and the editing computer. Currently the fastest connection available is through PCIe direct connection (using an AJPCD35 card reader) to the host motherboard, or a PCMCIA slot in the computer. USB and Firewire (400 and 800) connections are also available. Choose a connection that matches your workflow, for example, USB may be sufficient for news editing, but could prove inadequate if more production level editing is needed.

Editing directly from P2 cards works best for transient productions, like news and quick turnaround event programming. You are limited to directly editing with only the number of cards you can fit in the connected card reader(s). For larger projects you could certainly have more cards than card reader slots. Performance may be limited by the speed of the card reader connection, especially with USB connections.

### **Working with Copies of your P2 Cards**

When working with large volumes of content or longer production cycles, you will want to copy the contents of the P2 cards into some type of secondary storage.

P2 cards themselves were never intended to be long term storage. In many instances the production plans for the time and cost of having the contents of the cards copied onto one or more external storage devices. It is possible for the Avid editing system to access the recordings while they are on this external storage, again without having to copy the files into Avid storage.

## Choosing an Avid Project Format

The Format of the project you select in the Avid editing system is determined by three factors:

- Frame size
- Scan method: interlaced or progressive
- Frame rate

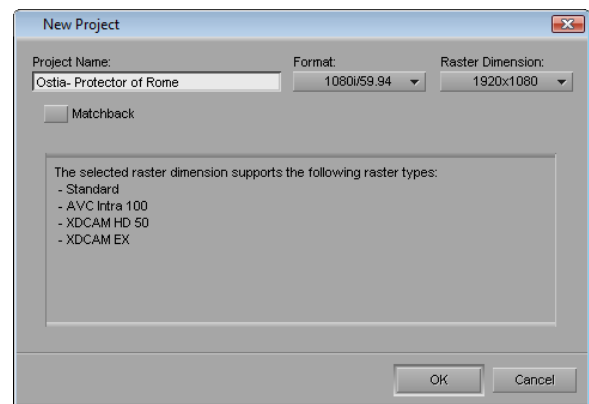
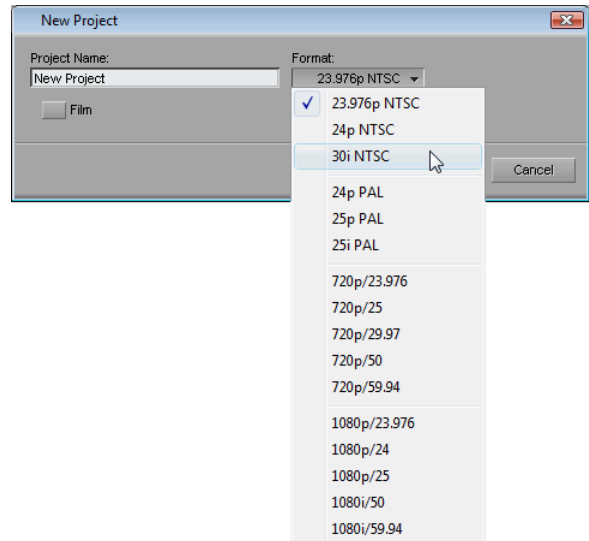
**Frame size** - Choose the project with the frame size which matches the majority of your media. You can add media of other frame sizes, but the output will be at the frame size you choose for your project.

**Scan method** - Choose the scan method-interlaced or progressive-that you wish to use when you output your project. Within a Media Composer project you can mix both progressive and interlaced within the same sequence.

**Frame rate** – This is usually straightforward but it can be confusing. There are many different quoted frame rates, and sometimes the numbers are misleading. Use the manufacturer's information to determine the actual frame rate, or refer to the upcoming table of Avid project types.

You can mix *frame sizes* within the same project, such as standard definition with high-definition of various sizes. You can mix *progressive and interlaced* footage within the same project. In Avid editing systems, v4.0/v8.0, you can mix *frame rates* in the same project.

In the New Project dialog box, select the **FORMAT** of your project from the menu. This displays a list of frame size and frame rate combinations that can be used as the base for your project. Choose the format which matches the most common media in your project. In this example, I have selected North American HD Broadcast format 1080i/59.94.



The RASTER DIMENSION only appears if you select an HD frame size. It sets up the Avid hardware to perform processing at the chosen frame size. Select the native size of the media being edited so the hardware works at this size as its default, making the processing of matching media faster. You may still add media of another frame size although it will require more processing, and the system performance may not be as fast.

For P2, make your HD raster size selection as follows:

<b>1080</b>		<b>720</b>	
AVC-Intra 100	1920 x 1080	AVC-Intra-100	1280 x 720
AVC-Intra 50	1440 x 1080	AVC-Intra-50	960 x 720
DVC-PROHD	1280 x 1080	DVC-PROHD	960 x 720

The New Project dialog box contains information which advises you what raster size to select for your chosen Panasonic format.

## Project Type Table

It's very important to create a project with the correct frame rate for your media. Usually it's very straightforward to choose a project format but in case you need some more help, the following table lists which Panasonic frame rates coincide with which Avid project frame types:

Panasonic Recording Format	AVID Project Type
480i / 24p	23.976p NTSC
480i / 24pN	23.976p NTSC
480i / 60	30i NTSC
720 / 24p	720p / 59.94
720 / 24pN	720p 23.976
720 / 30p	720p / 59.94
720 / 30pN	720p 29.97
720 / 60p	720p 59.94
1080i / 24p	1080i / 59.94
1080i / 24pA	1080i / 59.94
1080i / 30p	1080i / 59.94
1080i / 60i	1080i 59.94

## AMA METHOD FOR EDITING P2 MEDIA

P2 support has been built into the Avid editing systems for quite a period of time, and the way we work with P2 has evolved. As a result today we have two different ways of working with P2 media, the "AMA method" and the traditional or "Non-AMA Method."

AMA stands for **Avid Media Access**. This is the preferred method of working with P2, and represents the future in media access within the Avid video editing environment. Its advantages over the non-AMA method include:

- Clips load much faster with AMA
- In certain cases merely connecting the external storage device can cause the clips to automatically appear in the bin without the having to do anything which is very fast and efficient.
- AMA loads more metadata than the non-AMA (Classic) method. For example Text Memo's and user metadata appears as custom columns in your bins.
- Since the project remembers the path (UNC Path) to the clips, they will be available automatically each time you start this project – you don't need to continually relink the clips (assuming they are in the same location each time)

This feature was added to Avid editing products (Media Composer and Symphony 3.5, Newscutter 7.5) and is how Avid recommends you work with P2 material.

The AMA option is on by default.

### What Is AMA?

AMA is a feature which uses plug-ins to support various media formats directly. Currently P2, XDCAM, XDCAM-EX and GFCam media is supported, but other formats may be added over time.

These plug-ins are supplied by the format owners after Avid has added support for the codec to the editing system. The current ones are designed by Panasonic, Sony and Ikegami. To see the formats currently supported by AMA and installed on your system, go to the console and type in `AMA ListPlugins`. A report like the one below lists the installed plugins:

```
AMA_ListPlugins
```

```
-----  
PLUGIN NAME                VENDOR NAME                VERSION  
-----  
MSP_IkegamiGFCamMXF        Avid Technology, Inc.      Version 1.0  
MSP_PanasonicP2MXF         Avid Technology, Inc.      Version 1.0  
MSP_SonyXDCAM               Avid Technology, Inc.      Version 1.2  
MSP_SonyXDCAMEXMP4         Sony Corporation            Version 1.1003  
MVP_IkegamiGFCam           Avid Technology, Inc.      Version 1.0  
MVP_PanasonicP2            Avid Technology, Inc.      Version 1.0  
MVP_SonyXDCAM              Avid Technology, Inc.      Version 1.0  
MVP_SonyXDCAMEX            Sony Corporation            Version 1.1003
```

Every time you connect a storage device to your Avid editing system, it is scanned to see if it contains media (at the root directory of the device) supported by one of these plug-ins. If it does, and if AMA is active and your settings allow it, a new bin is created automatically and the bin populates with clips that link to the original high resolution media on your media device. You can view, edit and consolidate immediately.

### **Virtual Volumes**

AMA also supports the concept of a “virtual volume.” A virtual volume is a copy of your P2 card stored in a directory on a hard drive. If you have a virtual volume, you can have Avid Media Access (AMA) recognize that copy of your media as if it were the original P2 card. You will be able to access this media, edit with it and perform any other functions with the media that you are able to do with the original P2 card.

## **Avid Media Access on a Standalone System**

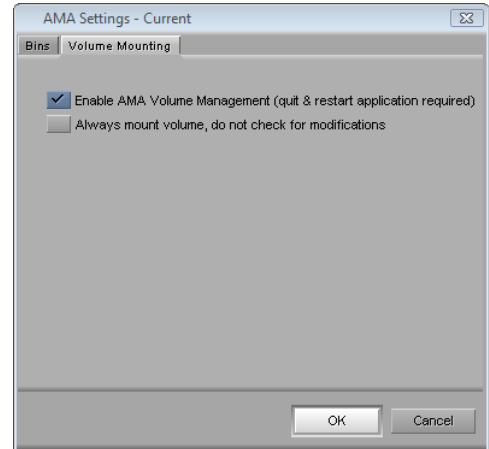
### **AMA Is ON by Default**

The new versions of Avid editing software ship with Avid Media Access (AMA) turned on. This means you have access to the new AMA features automatically. It also means some things will be different from your previous versions.

When AMA is turned on, the system automatically recognizes your removable media devices, so the previous menu items related to importing P2 are not available. Specifically, the FILE menu will not have the `IMPORT P2` options visible. If you are not expecting this, it can be quite a surprise.

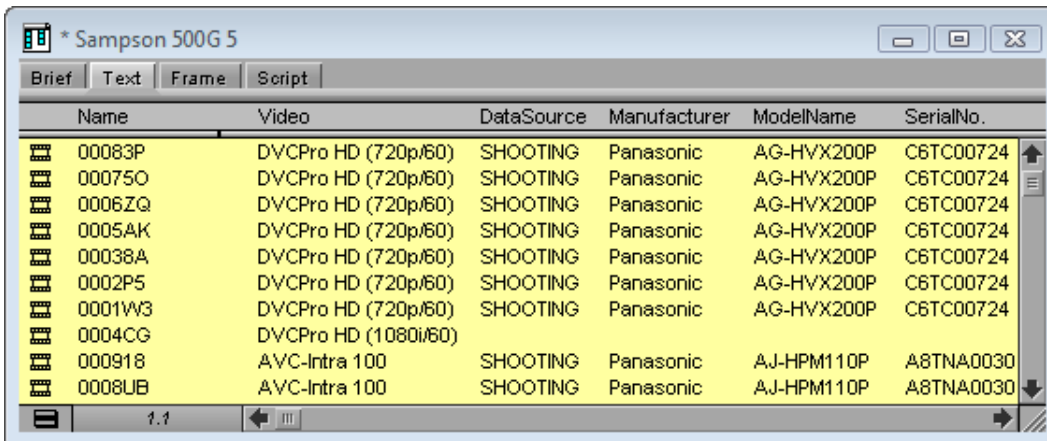
## Turning AMA ON and OFF

There is a setting for controlling Avid Media Access. Open the AMA settings, and choose the second tab, Volume Mounting. Select or deselect the check mark beside “Enable AMA Volume Management.” You must then close and re-launch the Avid application for your changes to take effect.



## Using Avid Media Access

When AMA is active, connect a compatible external P2 media), and place media in the device. For example, connect a Panasonic AJ-PCD35 and place P2 cards in the reader. The Avid system senses the new volume as they mount in the operating system, and opens and populates a bin with the high resolution clips representing the media on that device.



The clips in the bin will look different – they will be highlight yellow to indicate they reference media on removable storage. They will also be different in that they will contain more metadata than previous versions.

You can work with these clips as you would normally. If you're working directly off the media device, you may find the speed is slower than if you were working from Avid storage.

## What Is the New Bin Named?

When Avid Media Access scans a P2 card it may automatically create a new bin. This bin will be named according to your current AMA settings, shown here. In this first tab (right) you can see the options for bin naming.

The top option (`Use active bin`) lets you scan AMA clips into the currently selected bin. The bottom option (`Create a new bin`) scans media into a new bin with one of three naming options.

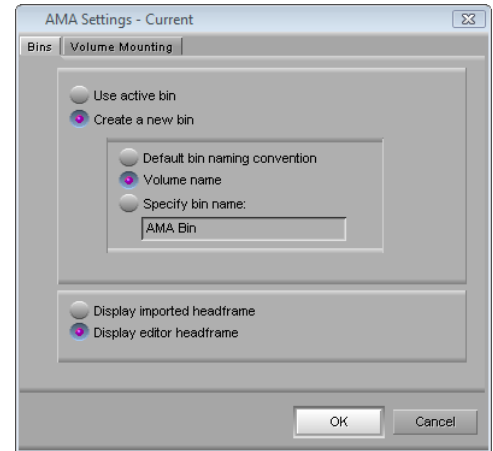
If you choose to scan AMA clips into a new bin your choices are:

**Default Bin Name:** The bin receives the name of your project with a number appended to it. This is the same convention for default bin naming that is used when you create a new bin manually.

**Volume Name:** The name stored on the P2 card is used as the bin name, or the name of the containing drive is used as the bin name for a copy of a single P2 card or virtual volume. (Opening multiple virtual volumes at once presents a different dialog which allows bins to be named for the containing folder). If you don't name your P2 cards, you could end up with a lot of bins named with no useful names.

**Specify Bin Name:** Enter (ahead of time) the name of your target bin. If a bin with this name does not exist, it will be created for you. If a bin with this name does exist, the new AMA clips are placed into that existing bin. Even if the bin is closed, the bin opens and the new AMA clips are placed in there.

For most, the “`Create a new bin`” option with “`Volume name`” selected is a good choice. This conveniently places the contents of each P2 card in its own bin with the name of the P2 card (assuming it has been given a name) as the bin name. This makes it easy to find and reinsert the P2 card again, if required. If you are working with virtual volumes (copies of your P2 recordings on hard drives) you may find value in placing the contents of several virtual volumes which are together on the hard disk into a single bin. We discuss Virtual Volumes later.



### **Can I Rename the Bin?**

Your bin can be renamed, and AMA still finds and re-links to the clips when you insert the original media. With certain AMA settings however, if you re-insert that P2 card it will not be able to find a bin with the name of the P2 card, and so it creates a new bin which could be a duplicate of a renamed bin you already have.

You may rename the clips without causing any problems.

### **What Happens When I Remove My P2 Card?**

When the P2 card is removed, your clips go offline. In your bin, the drive column may still indicate the original AMA drive letter, but the clip is not available to play.

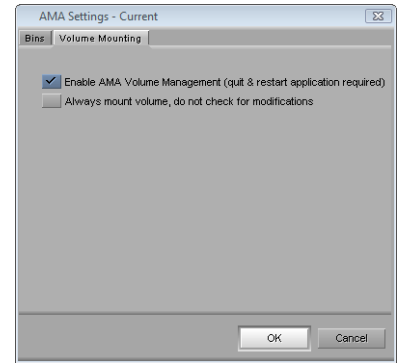
If you have copied any media from P2 to an Avid storage device, you can re-link or in an Interplay environment use MultiRez if necessary to use the copies on the Avid drives.

## What Happens When I Reinsert My P2 Card?

That depends on an AMA setting named "Always mount volume, do not check for modifications".

**Setting Deselected:** If "Always Mount Volume..." is deselected, the modification date of the card is checked, and if it has changed since the last time the card was used in this project the card is scanned again. If the modification date has not changed, the card is not scanned again but the clips on the card are linked to any existing AMA clips which are present in the project.

**Setting Selected:** If "Always Mount Volume..." is selected, the re-inserted card is re-scanned. What happens next depends on your choice for Bin Names in the AMA settings.



**Bin Named with Default Naming Convention:** A new bin is created each time the card is inserted, and given the next available default bin name.

**Bin Named after Volume:** If there is a bin with the same name as the P2 card, the bin is opened. The contents of the P2 card are compared with this bin. If the card contents have changed, the bin is updated. New clips are added to the bin. If there is no bin with the same name as the card (either the card or the bin have been renamed) then a new bin is created.

**Bin Name Specified:** If there is a bin with the user specified bin name, this bin opens. The contents of the P2 card are compared with this bin. If the cards contents has changed the bin is updated. Newly recorded clips are added to the bin. If there is no bin with the user specified bin name (the bin has been renamed), then a new bin is created.

Renaming a bin or a P2 card after the initial AMA scan has consequences. When that P2 card is inserted, it may not be able to find the originally named AMA bin containing its clips, and so the system creates a new bin and places new copies of the AMA clips again.

When re-inserting a P2 card, wait for the system to scan the card. It may take a few seconds for it to be read and to re-link to the AMA clips in your bins. If you move too quickly your clips may still report offline media.

### What Is Avid Storage?

I am referring to hard drives which you would normally digitize video and audio. These could be internal SATA drives on your workstation, or external SCSI or SAS drives. In an Avid Interplay environment, this would be the Avid Unity™ ISIS® or MediaNetwork storage.



In all cases, Avid storage is both fast and managed by the Avid editing application. Standalone systems access Media Tool, and Interplay accesses Interplay Window and Access. All the media is grouped in one location – the `Avid MediaFiles` folder (or folders).

Compared to playing directly from your P2 media device, this storage may offer faster access to more media, more streams of video and centralized management.

### Why Would I Copy My P2 Media onto an Avid Storage device?

There are still many good reasons to copy media onto Avid storage.

- You have one P2 device, and many cards. To access more than one P2 card at a time you need to copy media to common storage. Avid storage allows the consolidation of media from many sources into a single location.
- Avid storage is likely to be faster than accessing clips off a P2 device connected via Firewire or USB cables.
- While you copy P2 media onto an Avid storage device, the media can be transcoded into an Avid codec (Avid DNxHD for example) which may perform better than some Native codecs, or may be required by some Avid AirSpeed® playback servers.
- Avid storage is centrally managed (Media Tool or Interplay Window / Access).

## How Do I Copy My P2 Footage to Avid Storage?

There are three methods you can use:

- File Copy
- Consolidate
- Transcode

### File Copy

As we shall see later, if AMA mode is turned OFF then media can be transferred from the P2 Cards to a storage device using the menu item `FILE > P2 > MEDIA TO BIN`. This may be used to transfer media in its original P2 format onto an Avid storage device.

When your system is in AMA mode, this menu item is not available, and you need to use consolidate or transcode instead.

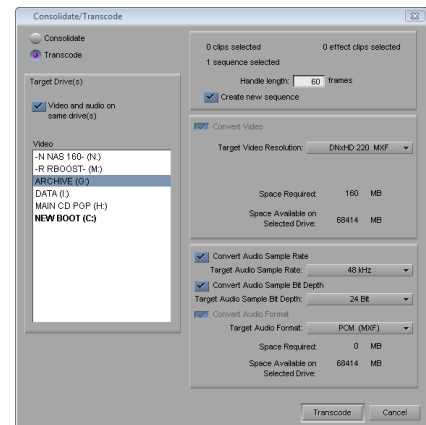
### Consolidate

Consolidate is the Avid copy command, and it transfers clips from the P2 cards to an Avid storage device. For example, you could use AMA to pre-screen the P2 card contents and create a sequence (called Selects Reel in this example) containing the media you wish to transfer to Avid storage. Consolidate transfers only the media present in the sequence into Avid Storage from the original P2 card. To transfer entire clips, select the individual clips from the card and consolidate.

### Transcode

Transcode is similar to Consolidate – it is a copy command. The difference is it changes the format of the media during the transfer. You could change the sample rate or bit depth of the audio, or the codec used for the video.

Transcode also has value for copying your P2 clips into a *lower* quality, so you can use an Off-Line workflow (not to be confused with Media Offline) of editing in low resolution, then re-linking to higher resolution original clips when done.



## Using Virtual Volumes

An AMA Virtual Volume is a copy of your P2 media placed on a hard drive and accessed directly or over a network. Specifically, you can take a P2 card and copy it to a hard drive and access it from there. You can mount that virtual volume as if it was the original P2 card, and you can view and edit with it.

This means you can copy the card contents to a folder on a hard drive and re-use the card, knowing you can edit with the 'image' of the original card now copied to your hard drive.

### How Do I Create a Virtual Volume?

Simply copy the contents of your card or disc into a folder. Copy the entire contents of the P2 card onto a folder, although some files or folders may not necessarily be required. The folder can be located anywhere on a drive – at the root of the drive, or as a subfolder one or more levels down from the root of the drive. You can name the folder anything you like.

When a scan occurs of the virtual volume, clips appear in one or more bins, just as if you had mounted the original P2 card.

You should eject the P2 cards after copying them onto a virtual volume to avoid confusion, such as accidentally relinking to the P2 cards rather than the copied media.

### How Do I Use a Virtual Volume?

You point to or 'mount' each Virtual Volume as you need it. This is done with a menu item. Select `FILE > LINK TO AMA VOLUME` and navigate to the folder you created which contains the copy of your media.

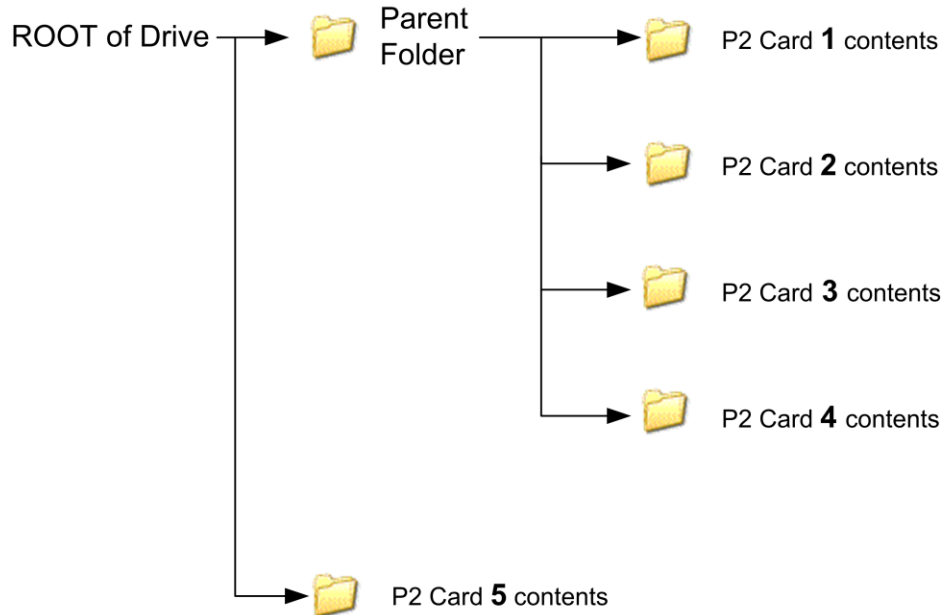
The virtual volume is treated as if it were the original P2 card. It creates a bin (if necessary) and populates it with AMA (yellow) clips.

You can view and edit, presumably faster than if you were working off a slower P2 device. You can access multiple virtual volumes.

There is no specific number of virtual volumes you can have, it is a function of system memory.

## Can I Quickly Mount Multiple Virtual Volumes?

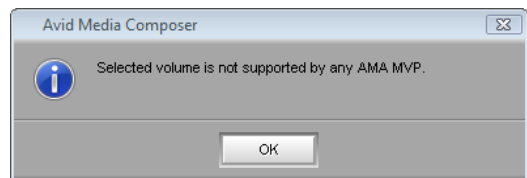
If you wish to access media spread across multiple P2 Cards at the same time then place all the card copies in subfolders within the same folder. Then choose `FILE > LINK TO AMA VOLUME` and indicate the parent folder, all the P2 cards in that folder appear as bins automatically. The diagram below might help clarify this.



Each folder represents a location to which an image of a P2 card has been copied. When you choose `FILE > LINK TO AMA VOLUME`, the following occurs:

- If you access “P2 Card 1 contents,” only P2 Card1 contents appears.
- If you access “Parent Folder,” then all four P2 cards –1 to 4 – contents appears.
- If you access “P2 Card 5,” only P2 Card 5 contents appears
- If you access the “Root of Drive,” only P2 Card 5 contents appears

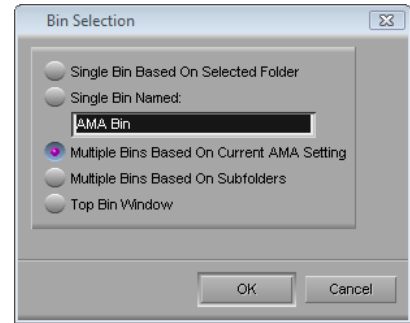
If you attempt to scan a folder which does not contains a P2 card image from a P2 Card, this dialog box appears. This is more a notification than an error – it just means no P2 card images were found. The message indicates that your Avid editing system can't find any files supported by an Avid Media Volume Plug-in (MVP).



## Scanning Multiple Folders

When you scan one or multiple folders of P2 content using **FILE > LINK TO AMA VOLUME**, this dialog box appears, asking where you want to place the contents of this folder within the bin structure of your project.

As you look at this dialog, keep in mind you can bring multiple P2 card images in at once, and the available options would allow you to bring them all in to one bin, or separate bins based on the individual folders of the P2 content.



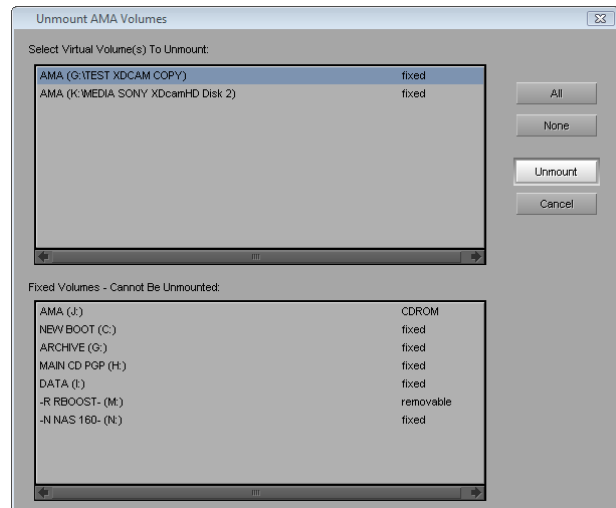
The name of the bin(s) created depends on your selection in this dialog. While most choices are obvious, it is worth noting “Multiple Bins Based On Subfolders” names the bin the same as you named the subfolder you copied the P2 media into. This could be useful to track content in your projects.

## Can I See What Drives I Am Using?

If you select **FILE > UNMOUNT** in the Avid video editing application this dialog appears. You can use it to see which virtual volumes are mounted as AMA bins, and then select and unmount any AMA virtual volumes you no longer require. If you unmount a virtual volume, its bin is still present, but the media is offline.

Only virtual volumes can be unmounted. Directly connected P2 devices appear at the bottom of the dialog with the rest of the system drives, none of which can be unmounted from here.

You should eject P2 cards after copying them onto a virtual volume to avoid confusion, such as accidentally relinking to the P2 cards rather than the copied media.



## Audio Waveforms Removed on AMA Clips

When screening an AMA clip in the Source monitor or in a Timeline, there will be no waveform display available for those clips. The time to draw the waveform on a long clip would be excessive, so it has been disabled.

## Using RELINK with Avid Media Access

You can RELINK a yellow AMA clip to media which has been copied to Avid storage. This includes media imported via `P2 > MEDIA TO BIN` or media consolidated or transcoded from the original AMA clip. After you successfully re-link, the clip no longer highlights yellow. In addition, the drive text column in your bin now displays the new media drive “D:,” rather than the original AMA drive “AMA (J:),” for example.

If you try to re-link to an AMA device, it does not appear as a drive letter in the Re-link dialog. However, if you re-link to “All Available Drives” it will re-link to a mounted AMA volume, *even if the media is on a local drive*. To force a re-link to media in Avid storage, you must explicitly link to the drive containing that media.

## Avid Media Access on Interplay

AMA connected devices are local storage. Like all local storage, this media is not visible or accessible to other Avid Interplay or Avid Unity users while it resides on the original P2 cards or discs. Still, you can edit in AMA mode, and then consolidate or transcode (as appropriate) your completed sequence (or selected clips) to Interplay.

### Using Shared Storage to Hold AMA Content

You may wish to use your Avid Interplay or Avid Unity storage to hold virtual volumes of P2 media which could be shared by several edit suites.

For example, camera or ingest operators could copy images of P2 cards to a folder on Interplay in preparation for the edit. The Editor would access this copied material as virtual volumes in AMA. You could edit, and then consolidate or transcode the final product to Interplay managed storage.

The P2 virtual volumes must be on an Interplay workspace or in an Interplay folder that is *not* monitored by the Media Indexer. Native P2 files in a `CONTENTS` folder cannot be indexed and shared in the same manner as OP-ATOM (Avid format) files can be.

## NON-AMA METHOD FOR EDITING P2 MEDIA

The AMA Method just described is the preferred method of working with P2 cards. This traditional method (Non-AMA) of working with P2 uses a menu item to import the clips and media into an Avid bin. It is often more work and less flexible than the AMA method, but still applies if you are using older versions of Avid editing software.

- You can edit using the cards directly, saving time by not having to copy the cards contents onto Avid storage.
- You can move the media from the cards onto Avid storage and edit from there.
- You can edit with copies of the P2 cards made to an external hard drive, called virtual volumes.

### Editing Directly from your P2 Volumes

If you work with the P2 cards directly, begin by connecting a P2 reader to your computer. This could be a specific Panasonic card reader, or often the camera itself. If you work with copies of P2 cards then ensure the drive or drives containing the media are visible on your system.

1. If you use a card reader, place up to five cards in the reader. It doesn't matter what slots the cards go into. Each card appears as a separate volume on your computer. Make sure that each volume has mounted before you proceed.
2. Start the Avid editing application. Choose `FILE > MOUNT ALL` to make these new volumes visible inside the editing application.
3. Create and select a bin for the first volume you want to access
4. Choose `FILE > IMPORT P2 > CLIPS TO BIN`. If AMA is turned on, this option will be greyed out in your menu.
5. A browse dialog box appears. Navigate to the parent folder which contains your P2 media. This is the folder which contains another folder named `CONTENTS`, not the `CONTENTS` folder itself. Click OK
6. Clips appear in the bin, which you can begin to edit with.

The media for these clips plays directly off of the P2 card. No media has been copied to any of your Avid storage devices. You are able to access and begin editing with this (limited) amount of P2 media immediately.

These clips are part of your Avid project. They can be renamed and rearranged as any normal clip. These clips display media off-line when the P2 cards are not inserted.

If you were to re-load these P2 clips on another system, or even on the same system into a different bin the changes you made to the clips would not be present. Since we do not write back name changes and custom metadata to the P2 cards themselves, this information is available only in the bins in which it was added.

If you're using a P2 card reader it doesn't matter what slots the cards are placed into, or what order they're inserted. Each card is going to mount as a different volume, and like regular Avid media drives it doesn't matter what volume the media is on as long as it can be accessed.

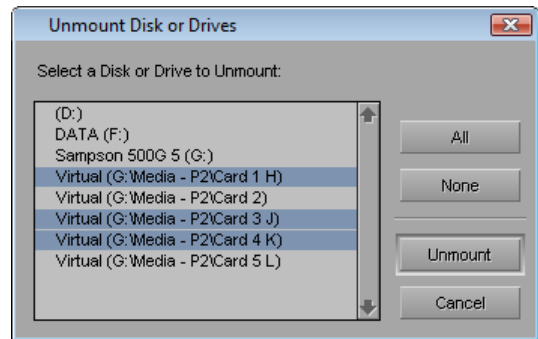
The Panasonic card readers drive letters are assigned to the card slot starting with the next available drive letter. Drive letters do not change as you add and remove cards, letters are assigned specifically to each hardware slot.



### Removing a P2 Card in non-AMA mode

If you remove a P2 card, its media goes OFFLINE. You would only remove the card when the edit is complete, or after you have copied the media you need from your Avid storage drives. To remove the P2 card:

1. From within the Avid editing application, choose **FILE > UNMOUNT**.
2. In the Unmount Disk or Drive dialog box, select the volumes you would like to remove. Hold the **SHIFT** key while you click to select multiple volumes.
3. Click the **UNMOUNT** button.



The media contained in those volumes goes off-line. If they represented portable drives, you can eject them from the operating system. Remove the P2 cards from the card reader.

### Getting Clips back

Your P2 clips go offline sometimes if you are working directly with the P2 cards. As an example, when you change cards, previous media will no longer be accessible.

Media will also go offline if you restart your editing system. This is one major advantage of the AMA method, it remembers linked media as long as the drive mounting is the same, and a restart does not require the extra work of re-linking.

If at some point your clips are offline, it's easy to get the media back. Simply remount the P2 volumes as described previously, and the media reappears.

If you use the **FILE > IMPORT P2 > CLIPS TO BIN** command to import clips several times into the same bin, it does not create duplicate clips. It re-links the media to the clips which are already there. Since this is the case, it may make sense to name your bins in a way that relates to the original P2 cards or card sets so you can re-link them to the existing clips when needed, instead of constantly creating new ones.

## **Deleting P2 Media on P2 Cards**

You cannot delete media on a P2 card from within the Avid editing application. If you select the clip and choose delete, you'll be given the opportunity to delete the clip in your bin, but not the P2 media on the card. While you could go directly to the card and delete files, it is difficult to manage deletion when you must find similarly named files in multiple directories on the card – at a minimum there are things to be deleted for each clip in four directories - `AUDIO`, `CLIP`, `ICON` and `VIDEO`. P2 media on a P2 card should be managed by Panasonic products and software.

## Copying P2 Media onto Avid Storage

The previous procedure allowed you to access your media on the P2 cards using the non-AMA method almost immediately. But if you have a lot of P2 cards, or if you need the media in another format then you might like to copy the card contents to your Avid media storage drives. For larger projects, this is going to be essential.

The best way to accomplish this is to use the Avid editing system's `CONSOLIDATE` command. This copies the media into an Avid storage device. If you want to change the format of the media, for example to an Avid DNxHD codec, then you would follow a similar procedure and choose `TRANSCODE` instead of `CONSOLIDATE`.

The following procedures can be performed on clips, subclips or sequences. If you wish, you can `CONSOLIDATE` or `TRANSCODE` the entire contents of your P2 cards onto your Avid storage device. At other times, you may want to just `CONSOLIDATE` or `TRANSCODE` the completed sequence.

### Copying P2 onto Avid Storage drives

There are two ways to copy P2 media onto your Avid storage device. If it's whole clips you want to transfer you can use a special option in the `FILE` menu. If you wish to transfer parts of the clips on the card you can create a sub clip or a sequence, and then use the Avid `CONSOLIDATE` command.

### Moving whole Clips into Avid storage

Set which drive you would like the P2 media to be sent to:

1. From the Project window > Settings tab, open the Media Creation settings
2. Choose the `IMPORT` tab
3. Choose the target drive for the P2 clips which you are about to import

Now you can import the media for the clips you choose:

1. Select all the clips in the bin whose media you would like to import
2. Go to the file menu and choose `FILE > IMPORT P2 > MEDIA`

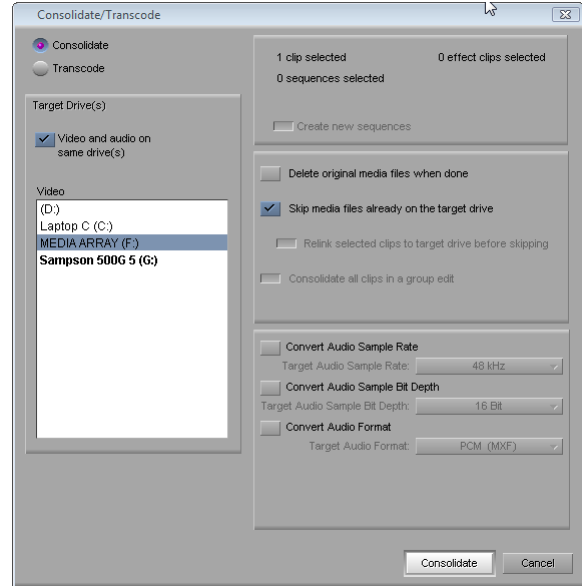
The media for the clips you've selected import into your Avid storage device. If the media is already there for that clip, it is not ingested a second time. The media is also transferred in its original P2 format.

Note that the regular `IMPORT` command is not being used. It will not work with the files of the P2 card.

## Moving PARTS of Clips onto Avid Storage

If you want to be more selective about what you transfer into your Avid editing system storage, then you can use the Consolidate command with a sequence or subclip:

1. Create subclips or sequences which contain the media you would like to copy onto your Avid storage
2. Select these subclips or sequences in your bin. You may also select whole clips.
3. From the menus choose **CLIP > CONSOLIDATE / TRANSCODE**
4. Select the appropriate options. In most cases all you really need to choose is the target drive for this copy.
5. Click the **CONSOLIDATE** button at the bottom of the dialog.

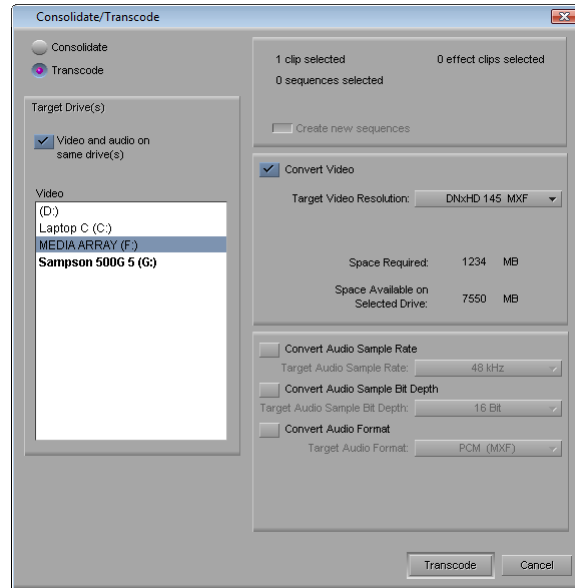


## TRANSCODING P2 Media onto Avid Storage drives

If you need your P2 media in a different format, then **TRANSCODE** will do exactly the same thing as **consolidate** but change the format of the media during the copy.

You would use **TRANSCODE** with clips, subclips or sequences to transfer P2 media onto Avid storage devices as another format. You might be converting to Avid DNxHD codec for post production flexibility, or to a lower quality format to support an Off-Line workflow.

1. In your bin, select the clips, subclips or sequences which contain the media you would like to transcode and copy into your Avid storage.
2. From the menus choose **CLIP > CONSOLIDATE / TRANSCODE**.
3. Click on the **TRANSCODE** button in the upper left of the dialogue box.
4. Fill out the simple form supplied. In most cases all you need to choose is the target drive for this copy and the Video resolution.
5. Click the **TRANSCODE** button at the bottom of the dialog



## OUTPUTING A P2 SEQUENCE

You can output your final P2 sequence as a digital cut to tape, as a file export, or as a P2 device transfer back to a P2 card.

### Digital Cut

This is a transfer to tape using the DigitalCut menu item. Digital cut varies slightly between Avid editing hardware configurations.

- The current Nitris DX hardware will allow you to output a P2 timeline without any further preparation. Both the Avid Mojo® DX and Nitris® DX can play up to 5 streams of DVCProHD in full quality.
- An Adrenaline editing system will require you to Transcode the completed sequence into Avid DNxHD before doing your digital cut.
- A Symphony Nitris Classis will require a transcode like the Adrenaline for a digital cut.

Avid DNxHD is the only codec a Nitris (Classic) or Adrenaline can officially play in full quality. In practice, the later version of the Nitris (Classic) performs well with DVCProHD and can play a single stream at least in full quality.

### File Export

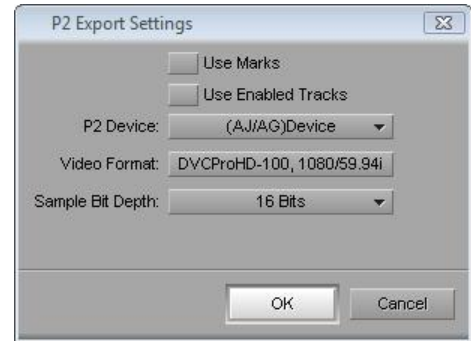
P2 media can be exported using the Avid `FILE > EXPORT` option. It can be converted to a number of formats during export. QuickTime reference export is possible but may require the purchase of a separate Codec for playback outside the Avid editing application.

For a regular QuickTime export you must check the 'use Avid DV' box. This doesn't turn it to the DV 25 codec but tags the QT to use the DV100 codec. On export, there is no AVC-Intra QT codec.

## Export to a P2 Card

Exporting to a P2 card is supported with all the P2 codecs except the AVC-Intra codecs.

You export to a P2 card through a menu item. First, make sure you have a P2 device connected to your computer. If you have more than one device, or if you have a P2 card reader with many cards in it you will have no control over where the exported media is going. Make sure that only one device and one card is available when you perform this operation so you know exactly where the media has gone.



1. Select the Sequence or Clip in the bin.
2. Choose `OUTPUT > EXPORT TO DEVICE > P2`.
3. Select the appropriate options in the P2 Export Settings dialog box.
4. Click OK.

The options in the P2 Export Settings dialog box include:

*USE MARKS*: select this to only export the material between your `mark in` and `mark out`

*USE ENABLED TRACKS*: select this to only export the material on the tracks which are turned on

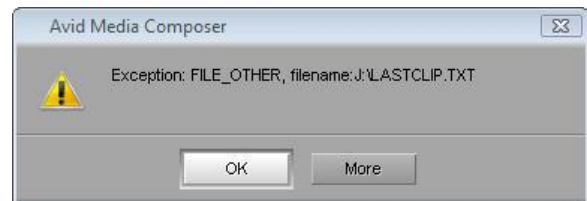
*VIDEO FORMAT*: select the appropriate video format

*SAMPLE BIT DEPTH*: when this is available, select the appropriate sample bit depth

The resulting file is placed on your P2 card or cards. The time code on this clip will begin at zero. The file will receive a Panasonic filename, the sequence name does not transfer with the clip.

## Export To Device Error Message

A very common P2 export error is usually caused by the destination device having its write protect tab turned on. If you get this error, check your P2 card to see if the write tab is enabled.



For suggested updates or to offer advice feel free to contact:

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