

Avid® MetaSync™

Setup and User's Guide

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Using This Guide

Welcome to the Avid® MetaSync™ system. MetaSync technology extends the capabilities of the Avid editing system Timeline by giving editors the tools to synchronize metadata with traditional video and audio content.

Who Should Use This Guide

This guide is designed for editors who are familiar with Avid editing systems. Editors do not need special training in ITV or other applications to use MetaSync.

This guide is also designed for users of applications that create enhancements for MetaSync input or use MetaSync output.

Unless noted otherwise, the material in this document applies to the Windows XP and Mac OS X operating systems. The majority of screen shots in this document were captured on a Windows XP system, but the information applies to both Windows XP and Mac OS X systems. Where differences exist, both Windows XP and Mac OS X screen shots are shown.

About This Guide




This guide provides information about installing and using the three MetaSync components: MetaSync Manager, MetaSync features in Avid editing systems, and MetaSync Publisher.



This guide describes the features and hardware of all models. Therefore, your system might not contain certain features and hardware that are covered in the documentation.

Symbols and Conventions

Avid documentation uses the following symbols and conventions:

Symbol or Convention	Meaning or Action
	A note provides important related information, reminders, recommendations, and strong suggestions.
	A caution means that a specific action you take could cause harm to your computer or cause you to lose data.
	A warning describes an action that could cause you physical harm. Follow the guidelines in this document or on the unit itself when handling electrical equipment.
>	This symbol indicates menu commands (and subcommands) in the order you select them. For example, File > Import means to open the File menu and then select the Import command.
▶	This symbol indicates a single-step procedure. Multiple arrows in a list indicate that you perform one of the actions listed.
⌘	This symbol represents the Apple or Command key. Press and hold the Command key and another key to perform a keyboard shortcut.
Margin tips	In the margin, you will find tips that help you perform tasks more easily and efficiently.
(Windows), (Windows only), (Macintosh), or (Macintosh only)	This text indicates that the information applies only to the specified operating system, either Windows XP or Macintosh OS X.
<i>Italic font</i>	Italic font is used to emphasize certain words and to indicate variables.
Courier Bold font	Courier Bold font identifies text that you type.
Ctrl+key or mouse action ⌘+key or mouse action	Press and hold the first key while you press the last key or perform the mouse action. For example, ⌘+Option+C or Ctrl+drag.

If You Need Help

If you are having trouble using this Avid editing application:

1. Retry the action, carefully following the instructions given for that task in this guide. It is especially important to check each step of your workflow.
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To access the tutorial and online library from the Tutorial and Online Library CD-ROM:

1. Insert the Tutorial and Online Library DVD or CD-ROM into the drive.
2. Double-click the Mainmenu file.

To access the tutorial and the online library from the Help:

1. Insert the Tutorial and Online Library DVD or CD-ROM into the drive.
2. In your Avid application, select Help > Online Library.

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Chapter 1

MetaSync Overview and Installation

This chapter introduces MetaSync technology, describes its components and how to install them, and presents typical workflows. It includes the following topics:

- [Introducing MetaSync](#)
- [MetaSync Workflows](#)
- [Installing the Components](#)

Introducing MetaSync

Avid MetaSync gives editors the tools to synchronize metadata with traditional video and audio content. With MetaSync, you can insert pointers to metadata directly into the Avid editing system Timeline and easily modify the timing and duration of the enhanced material. The metadata, in turn, points to additional content, such as files from a scriptwriting program, HTML files, database records, or remote commands. This additional content can then be processed by other applications for final production and distribution.

MetaSync streamlines a variety of existing processes such as closed captioning and subtitle insertion, and lets facilities address new opportunities for content creation in the emerging areas of ITV (interactive television), DVD, broadband, and converging media.

Any processes that you can control through code, you can control through the Avid editing system Timeline. For example, you can synchronize signals for GPI (general-purpose-interface) devices with a video or audio sequence.

Another example is the synchronization of commands with video produced for motion rides — MetaSync lets you add directions for when and how to turn the viewers’ seats.

Understanding Enhancements

A MetaSync *enhancement* contains information that adds content to picture, sound, and graphics. This information is called *metadata* because it is data that points to other data (the content). For example, an enhancement could include the path for a file that contains all dialog spoken by a character in a film. Another type of enhancement could include a URL for a Web page to be used for ITV (this type of enhancement is similar to an ITV trigger).

Enhancements are processed in all MetaSync components, but they take different forms, depending on the component (see “[MetaSync Components](#)” on page 18).

MetaSync supports two types of enhancements:

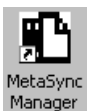
- **ITV:** An enhancement for interactive or enhanced broadcast. For this release, MetaSync supports only enhancements that conform to SMPTE standard 363M (based on the ATVEF Enhanced Content Specification). Support for other standards are planned for future releases.
- **Opaque:** For this release, any enhancement other than ITV SMPTE-363M.

MetaSync Components

MetaSync consists of three major components:

- [MetaSync Manager](#)
- [MetaSync Features in Avid Editing Systems](#)
- [MetaSync Publisher](#)

MetaSync Manager



MetaSync Manager is an application that generates descriptions of enhancements. MetaSync Manager formats these enhancements for easy import into the Avid editing application.

MetaSync Manager tags each generated enhancement with a unique ID. This ID allows for a parallel workflow: an editor can edit the video and audio at the same time as a Web designer revises HTML pages. The unique ID keeps the link between an enhancement and the master clip that represents the enhancement in the Avid application's bin.

MetaSync Manager combines multiple enhancements into an *enhancements file*, which you can import into your Avid editing application. The file name extension for this type of file is .aio (Avid Enhancement Object).

MetaSync Features in Avid Editing Systems



Avid editing systems include the following MetaSync features:

- *MetaSync tracks* (or *Meta tracks*) extend the existing editing workflow by providing a way to add metadata to the Timeline. Meta tracks allow you to synchronize enhancements with video and audio tracks in a sequence.
- *Meta clips* (or *enhancement clips*) are master clips that represent enhancements in a bin. You can work with Meta clips in the same way that you work with other bin objects, such as video clips, audio clips, and graphics. You can use the AutoSync™ feature to link Meta clips with audio and video clips. The Avid system's database manages Meta clips through unique IDs created by MetaSync Manager.
- You can *refresh* enhancements to immediately update both the metadata contained in the enhancements and the content that the enhancements point to.
- (Windows only) If a graphic artist updates an HTML file, you can refresh the enhancement and signal the Avid editing system to create a new graphic for the file.
- You can start an application from an enhancement, either in a bin or in the Timeline. For example, if you are working with a file from a scriptwriting program, you can open the scriptwriting program from an enhancement that points to the file.

For more information on MetaSync features, see [Chapter 3](#).

MetaSync Publisher



MetaSync Publisher is a desktop application that processes the metadata and its relationship to the Timeline, and then outputs the information in XML format. The output file contains information about the timing of enhancements

and their synchronization with audio and video tracks, but it does not include complete information about the sequence or the media for the sequence. See [Chapter 3](#).

Understanding MetaSync Files

A MetaSync workflow uses XML and DTD files.

XML and DTD Files

The acronym XML stands for eXtensible Markup Language. You might be familiar with other markup languages, such as HTML (HyperText Markup Language). HTML uses tags to specify how a document — or in most cases, a Web page — is displayed. You use tags such as `<p>` for “start a new paragraph” and `` for “put this text in boldface.”

XML is not a true markup language; it’s a language that lets you define tags for a markup language. Usually these tags refer to the *content* of the information, rather than its appearance. For example, a MetaSync XML file uses the tag `<name>` to mark the name of the enhancement and `<locator>` to mark its file location. When you import the XML file into another application, the application can read the XML file and find the name and location of the enhancement.

XML tags are defined in a special file called a document type definition, or DTD. MetaSync uses DTD files to define tags and to share information with other applications. For example, MetaSync DTD files define the tag `<name>` as META Name, the name of the enhancement as it is listed in MetaSync Manager. When an application sees information marked by the tag `<name>`, it uses that information to name the enhancement. Similarly, the DTD file defines the tag `<locator>` as File Location.

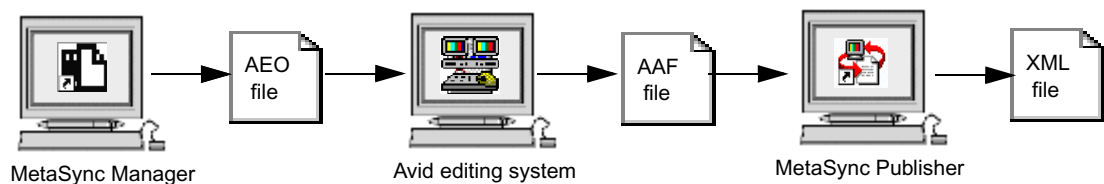
All MetaSync components use DTD files to make sure XML files match Avid specifications. For a table describing MetaSync DTD files, see [Appendix B](#).

XML Information and the MetaSync Workflow

MetaSync uses XML information throughout the workflow to represent your project's enhancements:

1. MetaSync Manager outputs XML information to a file with the file name extension .aio (enhancements file or AEO file). You can also import an XML file from another application into MetaSync Manager. This file must conform to MetaSync DTD files. For information on how MetaSync works with other applications, visit the Avid Web site at www.avid.com and search for the Avid MetaSync Partner Program.
2. The Avid editing system imports the AEO file, reads (parses) the XML information, and uses it to create Meta clips in a bin.
3. After you have edited your sequence, the Avid editing application exports information about the sequence in an AAF file. AAF (Advanced Authoring Format) files use an industry-standard format. In this case, the AAF file includes MetaSync enhancements.
4. MetaSync Publisher imports the AAF file, extracts the MetaSync enhancements, and creates an XML file. You import this XML file into another application to create the final product. The XML file contains all the information contained in the original AEO file as well as the timing of the enhancements.

The following figure shows this process.



MetaSync Workflows

You can use MetaSync components in many different ways, so your workflow varies depending on the project. The basic MetaSync workflow follows these steps:

1. Create the content. This content might be the output of a scriptwriting application or HTML files for an ITV program. Save the content in a set of files.
2. In MetaSync Manager, create a set of enhancements. Each enhancement points to a content file. You can also import an XML file that conforms to the MetaSync import DTD file.
3. Export the enhancements as an AEO file from MetaSync Manager.
4. In the Avid editing application, import the AEO file. The application creates a Meta clip for each enhancement.
5. Edit the enhancements into the Timeline. The enhancements add timing information that is synchronized with the timecode of the sequence.
6. Export the finished sequence from the Avid editing application. The application creates an AAF file that contains the enhancements and their timing information.
7. Open the AAF file in MetaSync Publisher. MetaSync Publisher extracts the necessary XML information and creates an XML file.
8. Transfer the XML file to the application that creates the final product: for example, closed captioning or an interactive television program.

1. In a scriptwriting application, output files containing dialog for each character. Save the files on a server.

2. In MetaSync Manager, create and export an AEO file that points to the dialog files. Each enhancement points to the dialog file for each character. MetaSync Manager verifies the locations.

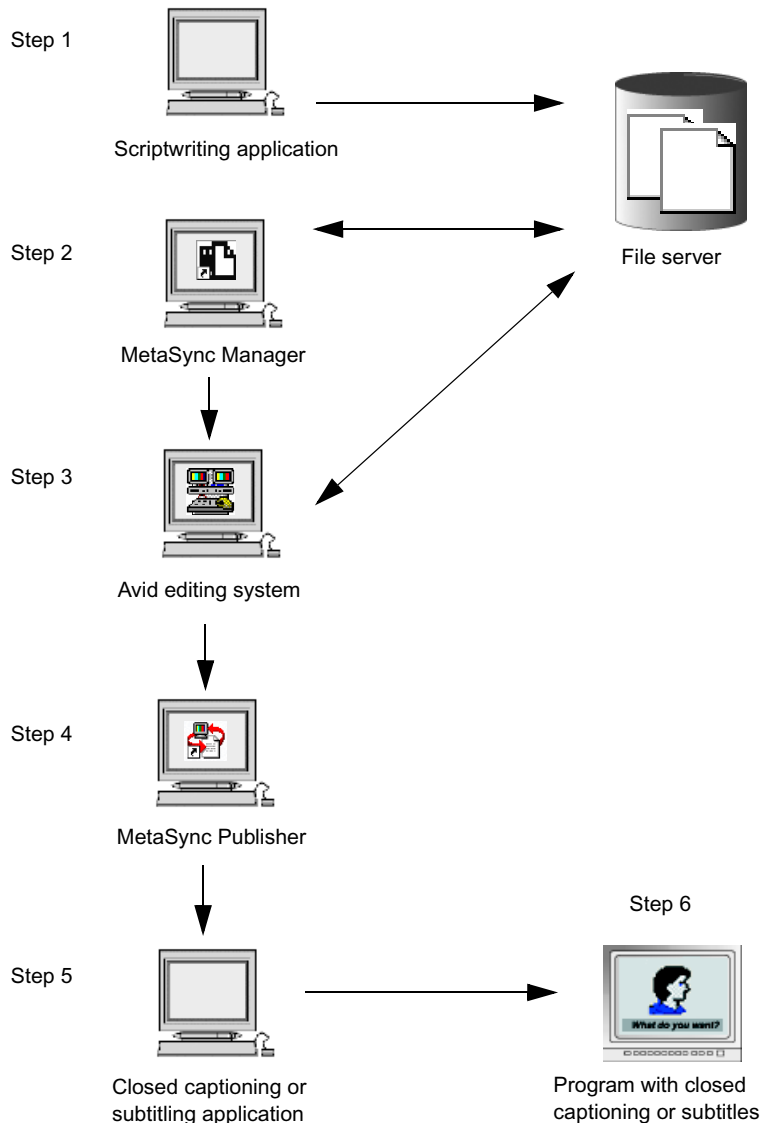
3. On the Avid editing system, import the AEO file. Mark a range of dialog for each character and edit the character's enhancement into the Timeline. Start the native application. Cut and paste dialog as a clip comment. Export as an AAF file.

4. Drag the AAF file to MetaSync Publisher. MetaSync Publisher outputs an XML file with timing information and dialog (who speaks when, for how long).

5. Import the XML file into the application that creates the closed captioning or subtitles.

6. The application creates the master encoding files.

The following figure shows a possible workflow for the production of closed captioning or subtitles.



Chapter 1 MetaSync Overview and Installation

1. Create HTML files with an HTML-creation application. Save the files on a server.

2. In MetaSync Manager, create and export an AEO file that points to the HTML files. MetaSync Manager verifies the location of the HTML files.

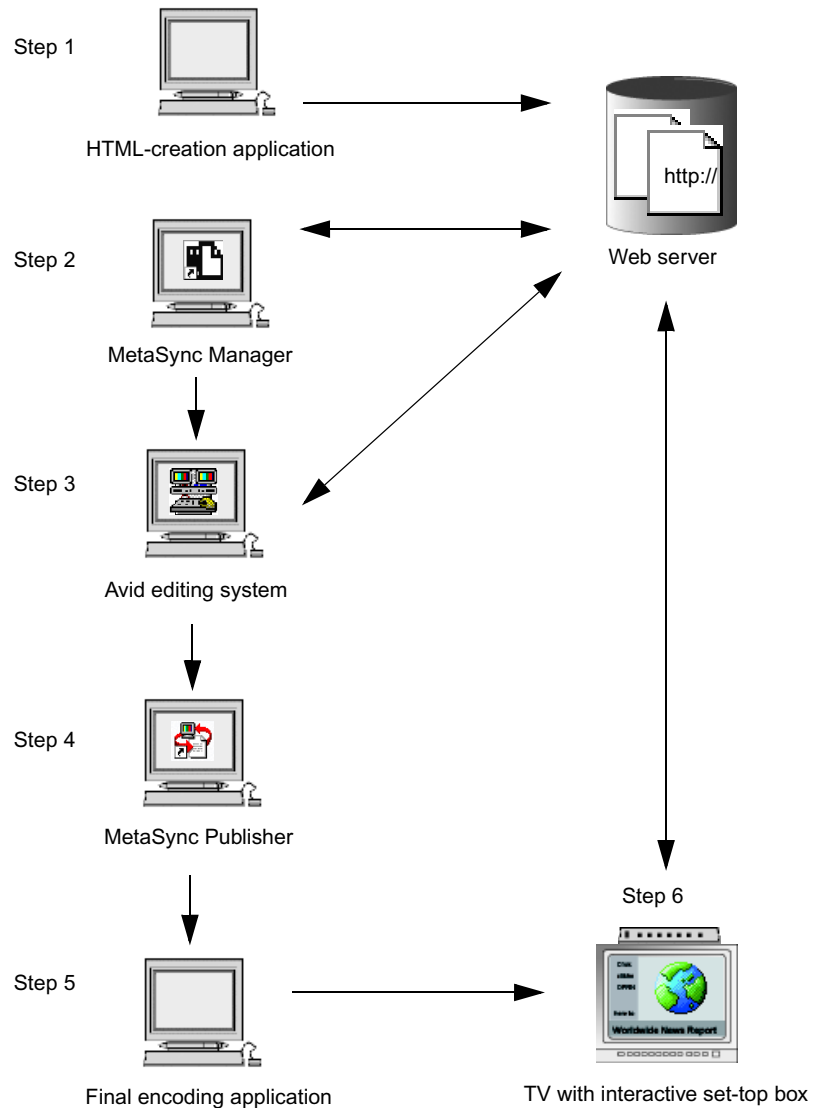
3. On the Avid editing system, import the AEO file and edit the enhancements into a sequence. The editing system creates graphics of the HTML files for reference. Refresh the enhancements to keep the links and graphics updated. Export the sequence as an AAF file.

4. Drag the AAF file to MetaSync Publisher. MetaSync Publisher outputs an XML file with pointers and timing information.

5. Import the XML file into the application that creates the final product: for example, a TV show with interactive elements.

6. Broadcast the show to a television equipped for interactive TV.

The following figure shows a possible workflow for an ITV project that adds HTML pages to an interactive program.



Installing the Components

You install MetaSync Manager and MetaSync Publisher from the same installation program.

- **MetaSync Manager:** Install on any computer running Windows 2000 or on any Macintosh running Mac OS X.
- **MetaSync Publisher:** Install on any computer running Windows 2000 or Mac OS X, but it is most convenient if you install it on the same system as the Avid editing application.

MetaSync features for Avid editing systems are installed as part of the Avid editing system installation.

To install MetaSync Manager and MetaSync Publisher:

1. Insert the Avid MetaSync CD-ROM into the CD-ROM drive.
2. If the installation program does not start automatically:
 - a. (Windows only) Double-click the My Computer icon.
 - b. Double-click the CD-ROM icon.
 - c. Double-click the Launch icon.

The Main Menu window of the installation program opens.

3. Click the Install Products button.

The Install Products window opens.
4. Click the Install MetaSync Manager button.
5. Follow the instructions on the screen.
6. When you see a message that MetaSync Manager has been installed, click Finish.

The Install Products window opens again.
7. Click the Install MetaSync Publisher button.
8. Follow the instructions on the screen.
9. When you see a message that MetaSync Publisher has been installed, click Finish.

The Install Products window opens again.

10. Click Exit.

Chapter 2

Using MetaSync Manager

This chapter describes how to use MetaSync Manager. It includes the following topics:

- [Opening and Closing MetaSync Manager](#)
- [Using Help](#)
- [Exploring the MetaSync Manager Window](#)
- [Creating, Saving, and Closing an Enhancements File](#)
- [Opening an Enhancements File](#)
- [Creating an Enhancement](#)
- [Editing an Enhancements File](#)
- [Importing an Enhancements File](#)
- [Displaying ITV SMPTE-363M Enhancements](#)
- [Creating Enhancements File Templates](#)
- [Setting Default Options for Enhancements](#)
- [Printing an Enhancements File](#)

For an overview of MetaSync Manager, see “[MetaSync Manager](#)” on page 18.

Opening and Closing MetaSync Manager

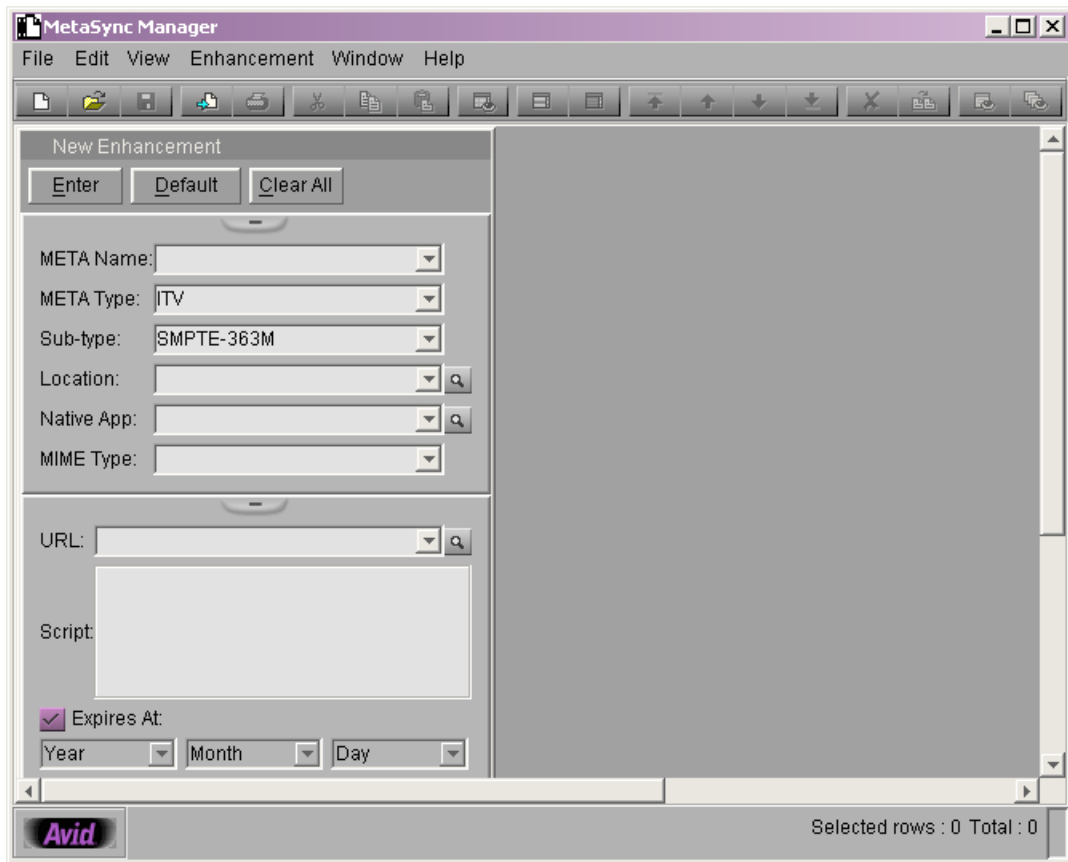
To open MetaSync Manager, do one of the following:

- ▶ (Windows) Click the Start button, and select Programs > Avid > MetaSync Manager.



- ▶ (Macintosh) Navigate to Macintosh HD/Applications, and then double-click MetaSync Manager.
- ▶ (Windows only) Double-click the MetaSync Manager icon on the desktop. The icon is created by the MetaSync Manager installation program.
- ▶ In your Avid editing system, select Tools > MetaSync Manager.

The MetaSync Manager window opens and displays a New Enhancement pane.



(Windows only) A Java™ command-line window remains open in the background when MetaSync Manager is running.

The New Enhancement pane displays the values specified in the first enhancement of the selected template (see [“Creating Enhancements File Templates” on page 46](#)).

The right side of the MetaSync Manager window remains blank until you enter a new enhancement. After you enter the enhancement, a spreadsheet window opens with the enhancement as the first entry. For more information, see [“Creating an Enhancement” on page 34](#).

To close MetaSync Manager:

- ▶ Select File > Exit.
- ▶ Click the Close button in the MetaSync Manager window.

Using Help

The MetaSync Manager Help system includes complete information about MetaSync Manager and the other MetaSync components.

To open MetaSync Manager Help, do one of the following:

- ▶ Select Help > Help Index. Then use the Contents, the Index, or the Search feature to find the information you need.
- ▶ Press F1 (Windows) or the Help key (Macintosh) to get Help when you are working in the New Enhancement pane, the Edit Enhancement pane, the Custom Sift dialog box, or the Options dialog box.

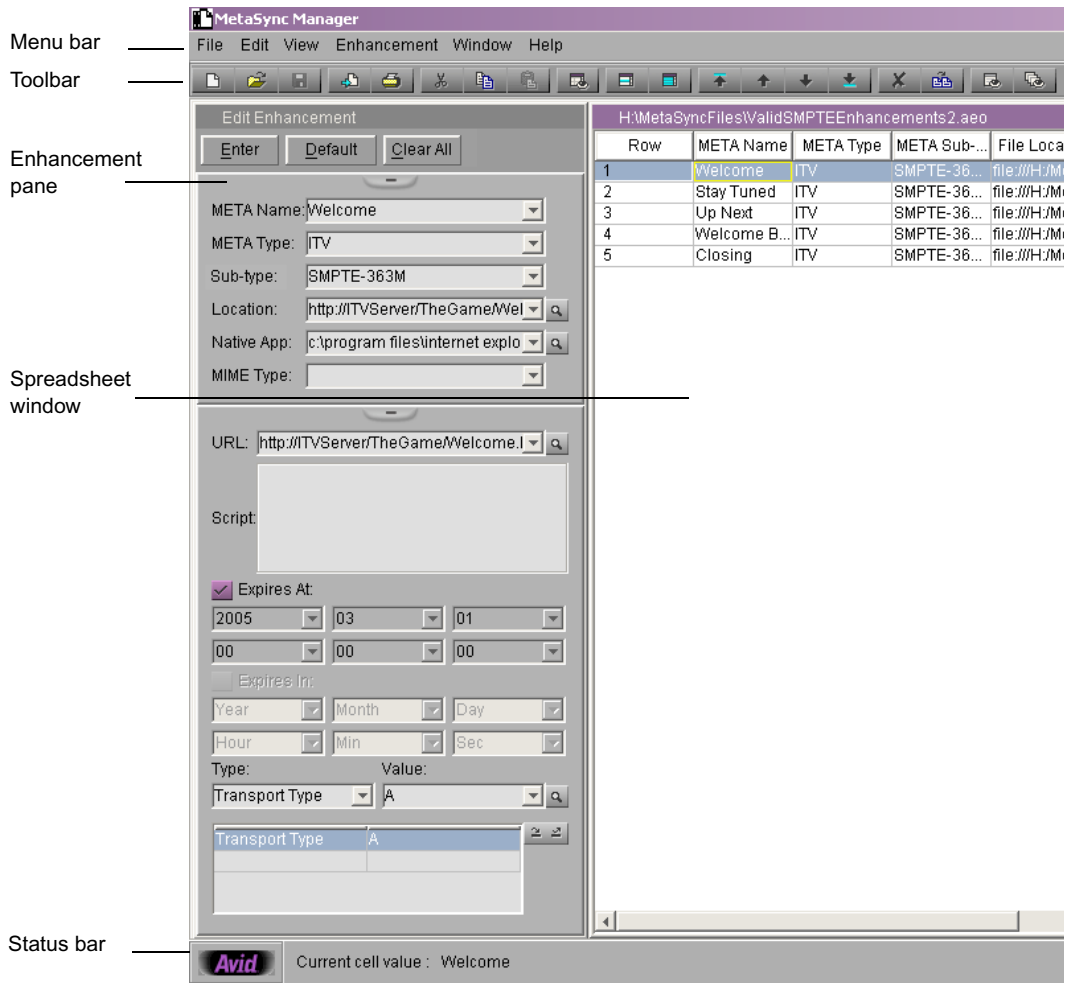
For information on using Help, click Using Help in the Help window.

Exploring the MetaSync Manager Window

The MetaSync Manager window includes a pane for creating and editing enhancements and a window that lists the enhancements as a spreadsheet. The MetaSync Manager window also includes the following:

- The **menu bar** displays headings for menus of commands. You can view Help for MetaSync Manager by clicking the Help button.
- The **toolbar** displays buttons that carry out commands. To view the name of a button, place the pointer on the button for 1 second or more.

- The **status bar** displays information about the spreadsheet, such as the full value of the selected spreadsheet cell.



The following sections describe the major parts of the window:

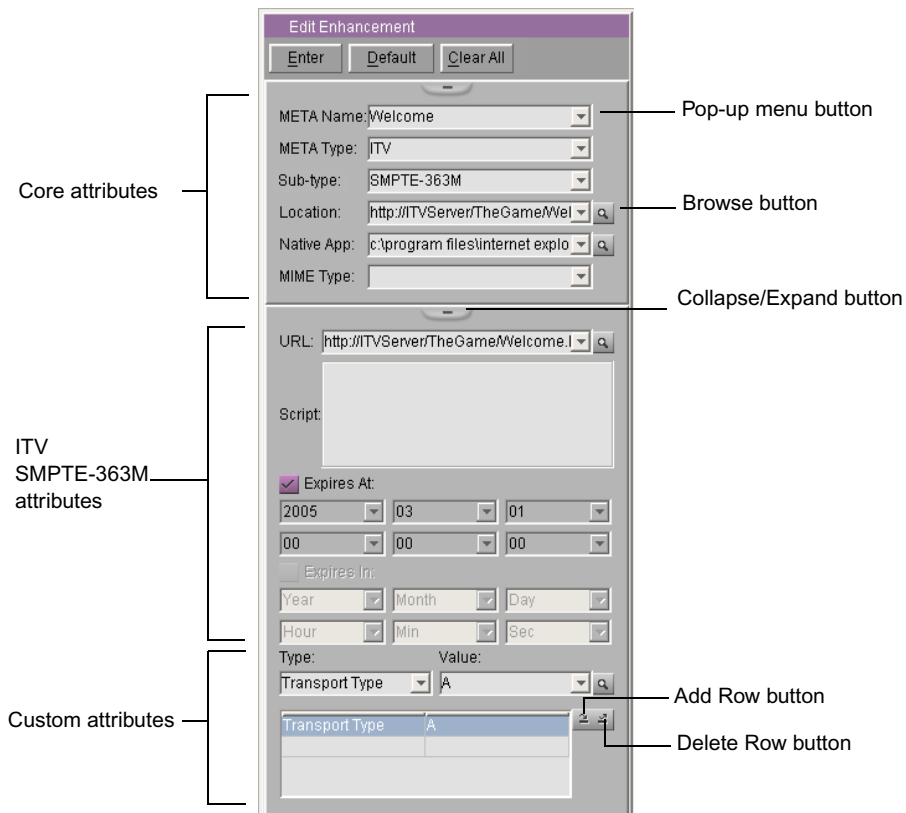
- [MetaSync Manager Enhancement Panes](#)
- [MetaSync Manager Spreadsheet Window](#)

MetaSync Manager Enhancement Panes

MetaSync Manager displays one of the following panes:

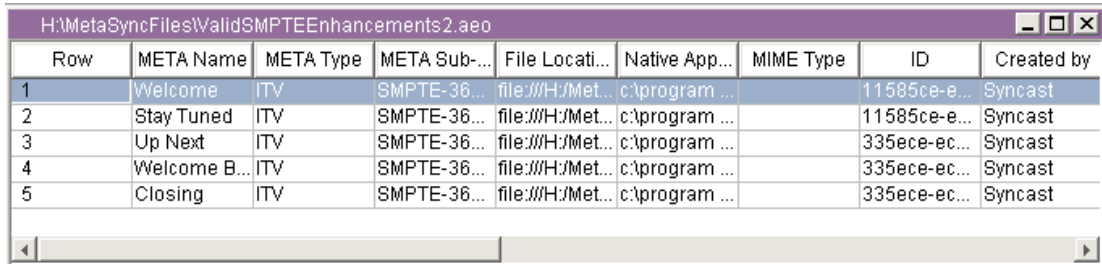
- **New Enhancement pane**, which is displayed when you first open MetaSync Manager, when you open a new enhancements file, and when you select Enhancement > New Enhancement.
- **Edit Enhancement pane**, which is displayed when you select an enhancement in a spreadsheet

Both panes share the same controls and attributes. *Core attributes* are listed in the top section of the pane. *ITV SMPTE-363M attributes* and *custom attributes* are listed in the bottom section. For a description of each attribute, see [“Opaque Enhancement Attributes” on page 35](#) or [“ITV SMPTE-363M Enhancement Attributes” on page 37](#).



MetaSync Manager Spreadsheet Window

The spreadsheet window displays all enhancements that are included in an enhancements file. Each value in the enhancement is displayed in a column, along with information derived from the file system (see [“Additional Attributes” on page 39](#)).



Row	META Name	META Type	META Sub-...	File Locati...	Native App...	MIME Type	ID	Created by
1	Welcome	ITV	SMPTE-36...	file:///H:/Met...	c:\program ...		11585ce-e...	Syncast
2	Stay Tuned	ITV	SMPTE-36...	file:///H:/Met...	c:\program ...		11585ce-e...	Syncast
3	Up Next	ITV	SMPTE-36...	file:///H:/Met...	c:\program ...		335ece-ec...	Syncast
4	Welcome B...	ITV	SMPTE-36...	file:///H:/Met...	c:\program ...		335ece-ec...	Syncast
5	Closing	ITV	SMPTE-36...	file:///H:/Met...	c:\program ...		335ece-ec...	Syncast

The spreadsheet window includes standard controls such as the Minimize button, the Maximize (Windows) or Zoom (Macintosh) button, the Close button, and scroll bars. You can resize the spreadsheet window or drag it anywhere within the MetaSync Manager window. You can resize the columns by clicking the border and dragging it between the column headings. You can also rearrange the columns by clicking a column heading and dragging it to a new location.

Creating, Saving, and Closing an Enhancements File

To create an enhancements file:

- Do one of the following:
 - ▶ Select File > New.
 - ▶ Click the New button.



A new file opens. The New Enhancement pane displays the values specified in the first enhancement of the selected template (see [“Creating Enhancements File Templates” on page 46](#)). The spreadsheet does not appear until you enter an enhancement.

2. Create and enter enhancements (see “[Creating an Enhancement](#)” on [page 34](#)).

To save an enhancements file, do one of the following:



The first time you save a file, MetaSync Manager opens the Save dialog box. Type the file name and location, and click Save.



- ▶ Select File > Save.
- ▶ Click the Save button.
- ▶ Select File > Save As.

MetaSync Manager opens the Save dialog box. Type a file name and location, and click Save.

The file is saved with the file name extension .aio (Avid Enhancement Object).

To close an enhancements file:

- ▶ Select File > Close.
- ▶ Click the Close button.

Opening an Enhancements File

To open an enhancements file:

1. Do one of the following:

- ▶ Select File > Open.
- ▶ Click the Open button.



The Open dialog box opens.

2. Select the file you want to open.

The Open dialog box lists only .aio files.

3. Click Open.

The enhancements file opens and displays its enhancements in a spreadsheet window.



You can also open an enhancements file by locating and double-clicking the file.

To open a recently saved file:

- ▶ Select File > Recent Files > *file name*.



You can have more than one enhancements file open at the same time.

To cycle among open enhancements files:

- ▶ Select Window > *file name*.

Creating an Enhancement

To create a new enhancement:

1. Select Enhancement > New.

The New Enhancement pane displays the values specified in the first enhancement of the selected template (see [“Creating Enhancements File Templates” on page 46](#)).

2. Supply values for the attributes, as described in the following sections:
 - [“Opaque Enhancement Attributes” on page 35](#)
 - [“ITV SMPTE-363M Enhancement Attributes” on page 37](#)

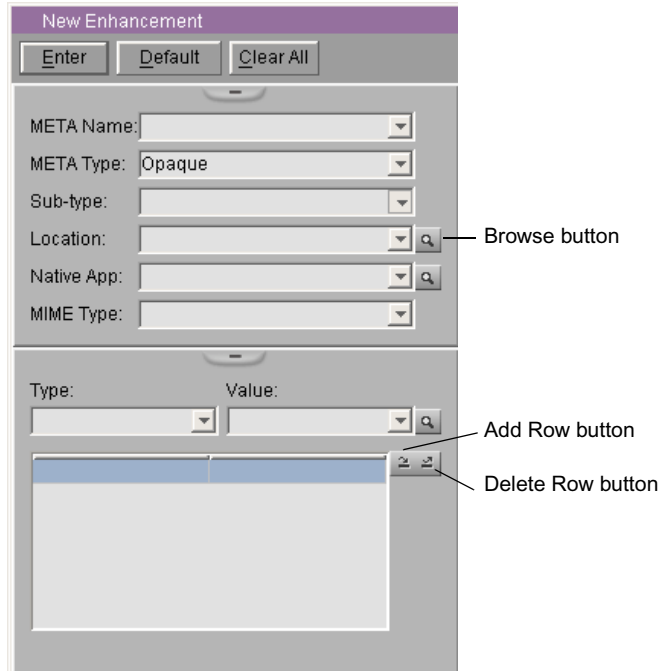
Type a value or select it from the pop-up menu located next to the text box. Values that are included in the template and the open file are listed in the pop-up menu. If you type the first letter of a value that is listed in the menu, MetaSync Manager displays values beginning with that letter in the pop-up menu. This display is case sensitive: the first letter of the values displayed match the case (uppercase or lowercase) of the letter that you typed.

3. (Option) Click the Clear All button in the New Enhancement pane to delete information from all fields except Meta Type.
4. (Option) Click the Default button to display the values set in the User Profile tab of the Options dialog box (see [“Setting Default Options for Enhancements” on page 47](#)).
5. Click Enter to add the enhancement to the enhancements file.

The enhancement and its attributes, including a unique ID number, appear in the spreadsheet.

Opaque Enhancement Attributes

The following figure shows a New Enhancement pane for opaque enhancements.



An ITV enhancement other than SMPTE-363M has the same characteristics as an opaque enhancement after you import it into the Avid application.

To create an opaque enhancement (any enhancement other than ITV SMPTE-363M):

- ▶ Supply values for the attributes shown in the following tables.

Opaque Enhancement Core Attributes

Field	Description
META Name	The name of the enhancement as you want it to appear in the Avid application's bin.

Opaque Enhancement Core Attributes (Continued)

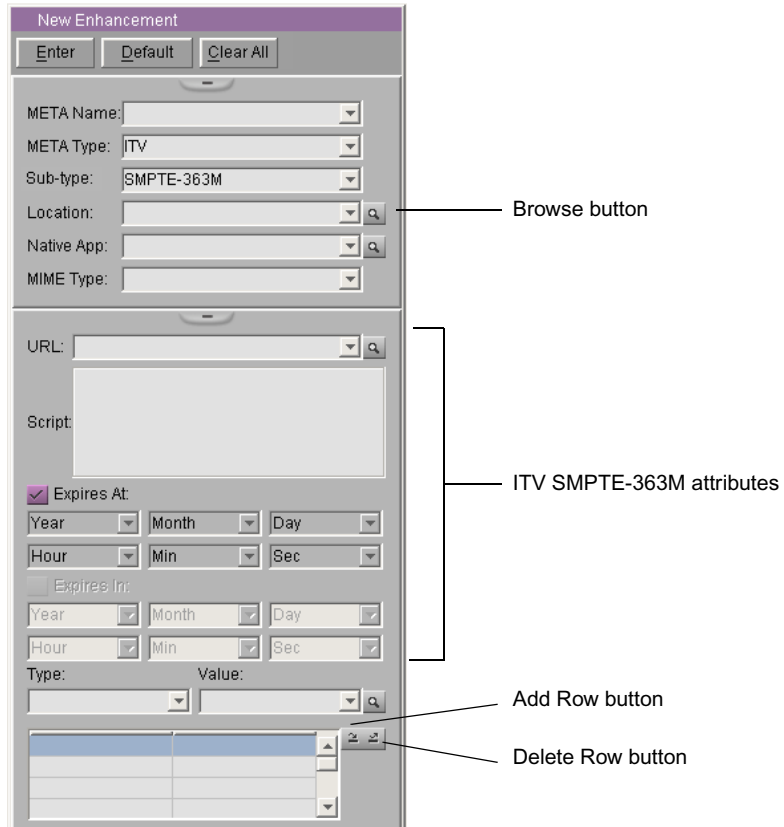
Field	Description
META Type	The type of enhancement. Opaque and ITV are supplied, however, you can type a different name.
Sub-type	The type of opaque enhancement.
Location	The path of a file referenced by the enhancement, such as an HTML file or data file. If the file is on a local or network drive, you can click the Browse button to navigate to the file. If the file is on a Web server, type (or copy and paste) the URL. You can validate the location after you create the enhancement, as described in “Verifying Enhancement Paths” on page 40 .
Native App	The path of the application you use to open the file referenced by the enhancement. This field is required if you want to open the native application when you are working on an Avid editing system (see “Opening the Native Application” on page 71). Use the path of the application as it exists on the Avid editing system. For example, if you have specified an HTML file as the value of the Location attribute, you can specify the path of the Internet Explorer program. If the application is on a local or network drive, you can click the Browse button to navigate to the application.
MIME Type	The multipurpose Internet mail extensions (MIME) type required to process a particular enhancement. MIME types are predefined file types that enable the transport and display of specified media, for example, text/html and video/mpeg.

Opaque Enhancement Custom Attributes

Field	Description
Type	The name of the attribute you are creating. For example, the Type attribute for a motion ride enhancement could be “Movement” and the value could be Left, Right, and so on.
Value	A value for the custom attribute. To create a new, blank row at the end of the table: <ul style="list-style-type: none"> ▶ Click the Add Row button. To delete a selected row: <ul style="list-style-type: none"> ▶ Click the Delete Row button.

ITV SMPTE-363M Enhancement Attributes

The following figure shows a New Enhancement pane for ITV enhancements that conform to SMPTE specification 363M.



An ITV enhancement other than SMPTE-363M has the same characteristics as an opaque enhancement after you import it into the Avid application.

To create an ITV SMPTE-363M enhancement:

- ▶ Supply values for the attributes in the following tables.

ITV SMPTE-363M Enhancement Core Attributes

Field	Description
META Name	The name of the enhancement as you want it to appear in the Avid application's bin.
META Type	ITV.
Sub-type	SMPTE-363M. You must type this exactly as written or select it from the pop-up menu. When you click another field, fields specific to ITV SMPTE-363M appear in the lower part of the pane.
Location	<p>The path of a file referenced by the enhancement. For SMPTE-363M enhancements, you must use the URL field in the lower part of the pane to reference an HTML file. Use this optional field to reference the HTML file or an additional data file.</p> <p>If the file is on a local or network drive, you can click the Browse button to navigate to the file. If the file is on a Web server, type (or copy and paste) the URL.</p> <p>You can validate the location after you create the enhancement, as described in “Verifying Enhancement Paths” on page 40.</p>
Native App	<p>The path of the application you use to open the file referenced by the enhancement. This field is required if you want to open the native application when you are working on an Avid editing system (see “Opening the Native Application” on page 71). Use the path of the application as it exists on the Avid editing system.</p> <p>For example, if you have specified an HTML file as the value of the Location attribute, you can specify the path of the Internet Explorer program. If the application is on a local or network drive, you can click the Browse button to navigate to the application.</p>
MIME Type	The MIME type required to process a particular enhancement. MIME types are predefined file types that enable the transport and display of specified media, for example, text/html and video/mpeg.

ITV SMPTE-363M Enhancement Attributes

Field	Description
URL	Uniform Resource Locator. The path of a Web page referenced by this enhancement. You must type the URL.
Script	Additional coding for the enhancement, such as a JavaScript™ program.

ITV SMPTE-363M Enhancement Attributes (Continued)

Field	Description
Expires At Expires In	These fields let you specify when an enhancement expires. Type either a particular date and time (Expires At) or a duration (Expires In). You set which attributes are editable, as described in “Setting Default Options for Enhancements” on page 47 .

ITV SMPTE-363M Enhancement Custom Attributes

Field	Description
Type	The name of the attribute you are creating. For example, the Type attribute for an ITV enhancement could be “Transport Type” and the value could be A or B.
Value	A value for the custom attribute. To create a new, blank row at the end of the table: ▶ Click the Add Row button. To delete a selected row ▶ Click the Delete Row button.

Additional Attributes

When you add an enhancement to an enhancements file, MetaSync Manager adds attributes to the spreadsheet that are not included in the New Enhancement pane, as described in the following table.

Additional Enhancement Attributes

Column Heading	Description
ID	A unique identifier created by the Avid application during the import process
Created by	The user logged in when the enhancement was created
Created on	The creation date established by MetaSync Manager
Modified by	The user logged in when the enhancement was modified
Modified on	The modification date established by MetaSync Manager
Modified from	The application that created the enhancement

Verifying Enhancement Paths

To verify the paths for all enhancements in an enhancements file:



- ▶ Select Enhancement > Check Links.
- ▶ Click the Check Links button.

A progress indicator appears.

In a few seconds, the MetaSync Manager marks all enhancements in the spreadsheet with either a red icon (can't verify path) or a green icon (path verified). For each enhancement, the application checks both the Location path and, for ITV SMPTE-363M enhancements, the URL path. It also places a check mark in front of the Check Links menu item to show that the paths have been checked.

Path Verified icon —————

Can't Verify Path icon —————

H:\MetaSyncFiles\ValidSMPTEEnhancements2.aeo				
Row	META Name	META Type	META Sub-...	File Locati...
✓ 1	Welcome	ITV	SMPTE-36...	file:///H:/Met..
✓ 2	Stay Tuned	ITV	SMPTE-36...	file:///H:/Met..
✗ 3	Up Next	ITV	SMPTE-36...	file:///H:/Met..
✓ 4	Welcome B...	ITV	SMPTE-36...	file:///H:/Met..
✓ 5	Closing	ITV	SMPTE-36...	file:///H:/Met..

To get information about an enhancement whose paths could not be verified:

- ▶ Double-click the enhancement row.

A message explains why the paths could not be verified.

If you add an enhancement or edit an enhancement, you need to verify the paths again.

To verify the paths:

1. Select Enhancement > Check Links.

All icons are cleared from the spreadsheet. Also, the check mark is cleared from the Check Links menu item.

2. Select Enhancement > Check Links again.

The application checks the Location path and URL path (if applicable) for all enhancements and marks them with the appropriate icons. It also places a check mark in front of the Check Links menu item.

Editing an Enhancements File

After you have created enhancements in an enhancements file, you can edit the file as described in the following topics:

- [Editing Enhancements](#)
- [Duplicating Enhancements](#)
- [Cutting, Copying, and Pasting Enhancements](#)
- [Deleting Enhancements](#)
- [Sorting Enhancements](#)
- [Sifting Enhancements](#)

Editing Enhancements

You can edit enhancements to change their values.

To edit enhancements:

Shift+click and drag to select contiguous enhancements or Ctrl+click to select noncontiguous enhancements.

1. In a MetaSync Manager spreadsheet, select the enhancement or enhancements you want to edit.

The Edit Enhancement pane displays the values for the enhancement. If you select multiple enhancements, the pane shows only those values that are common to the selected enhancements. You can edit only these values.

2. Edit the necessary fields. For information about the fields, see [“Opaque Enhancement Attributes” on page 35](#) or [“ITV SMPTE-363M Enhancement Attributes” on page 37](#).
3. (Option) Click the Clear All button in the New Enhancement pane to delete information from all fields except Meta Type.
4. (Option) Click the Default button to display the values set in the User Profile tab of the Options dialog box (see [“Setting Default Options for Enhancements” on page 47](#)).
5. Click the Enter button.

Duplicating Enhancements

You can duplicate enhancements and then edit their values.

To duplicate enhancements:

1. In a MetaSync Manager spreadsheet, select the enhancement or enhancements you want to duplicate.
2. Do one of the following:
 - ▶ Select Edit > Duplicate.
 - ▶ Click the Duplicate button.



Duplicated enhancements appear at the bottom of the list. MetaSync Manager duplicates all values except for the ID. It creates a new ID for the new enhancement.

3. Edit the duplicated enhancements, as described in [“Editing Enhancements”](#) on page 41.

Cutting, Copying, and Pasting Enhancements

You can cut, copy, and paste enhancements within an enhancements file or from one enhancements file to another.

To cut, copy, or paste enhancements:

1. In a MetaSync Manager spreadsheet, select one or more enhancements.
2. Do one of the following:
 - ▶ Select Edit > Cut.
 - ▶ Click the Cut button.
 - ▶ Select Edit > Copy.
 - ▶ Click the Copy button.
3. If you want to paste the enhancements you cut or copied, do one of the following:
 - ▶ Select Edit > Paste.
 - ▶ Click the Paste button.



The enhancements are added to the bottom of the spreadsheet.

Deleting Enhancements

To delete enhancements:

1. In a MetaSync Manager spreadsheet, select one or more enhancements.
2. Do one of the following:
 - ▶ Select Enhancement > Delete.
 - ▶ Click the Delete button.



A message asks you to confirm the deletion.

3. Click Yes.

Sorting Enhancements

You can sort the contents of a spreadsheet in ascending or descending order, based on the order of the values in a column you select.

To sort enhancements based on the order of values in a column:

1. Double-click the heading for the column that you want to use as the key attribute for sorting.

META Name ▲

MetaSync Manager sorts the enhancements in ascending order (alphabetically from “A” or numerically from “1”), with capital letters listed first. The column heading displays a small upward pointing arrow.

2. Double-click the column heading again.

META Name ▼

MetaSync Manager sorts the enhancements in descending order, and the arrow in the column heading points downward.

To sort enhancements in non-case-sensitive order:

- ▶ Ctrl+double-click the column heading.

Sifting Enhancements

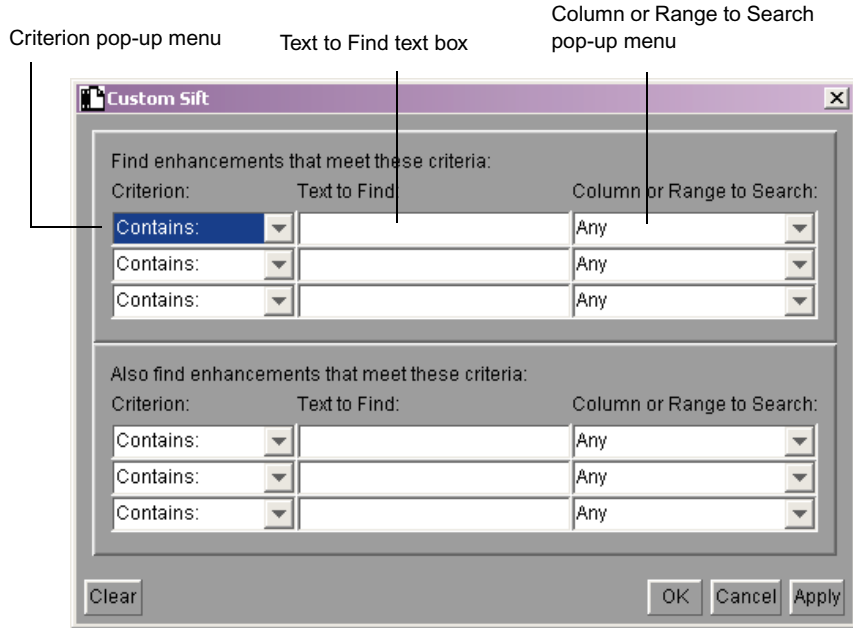
You can choose to display only those enhancements that meet a specific set of criteria. The Custom Sift dialog box provides six levels of criteria.

To perform a custom sift of an enhancements file:

1. Do one of the following:
 - ▶ Select View > Custom Sift.



- ▶ Click the Custom Sift button.
The Custom Sift dialog box opens.



2. Click the Criterion pop-up menu, and select one of the sifting options.
3. Click the first Text to Find text box, and type the text that you want to use as a sift criterion.
4. Click the Column or Range to Search pop-up menu, and select a column heading to which you want to apply the criterion.
5. Type additional sift criteria, and make additional column selections as necessary.
6. Click the Clear button to remove the values from all text boxes.
7. Do one of the following:
 - ▶ Click Apply to apply the criteria and keep the dialog box open.
 - ▶ Click OK to apply the criteria and close the dialog box.

Enhancements that fit the criteria are displayed in the spreadsheet. The Custom Sift icon appears in the lower right corner of the status bar. If no enhancements fit the criteria, a message appears.

To display all enhancements:

- ▶ Select View > View All.
- ▶ Click the View All button.

The View All icon appears in the lower right corner of the status bar.

Importing an Enhancements File

Other applications can create XML files that conform to Avid requirements. These files do not require the file name extension .aео, but they must conform to Avid specifications, as listed in the MetaSync DTD files (see [Appendix B](#)). You need to import these files into MetaSync Manager so that MetaSync Manager can validate the files and generate a unique ID.

To import an enhancements file created by another application:

1. Do one of the following:
 - ▶ Select File > Import.
 - ▶ Click the Import button.
2. Select the file you want to import.
3. Click Open.



The enhancements file is verified. If it conforms to the DTD file, the enhancements file is converted to MetaSync Manager format. MetaSync Manager creates a file with the same name in the same folder as the original file, with the file name extension .aео. The file opens in the spreadsheet window with a unique ID automatically assigned to each enhancement.

Displaying ITV SMPTE-363M Enhancements

You can display HTML files referenced by ITV SMPTE-363M enhancements in Internet Explorer. When you are displaying multiple files, a new image is displayed every 5 seconds, each in its own browser window. You can change the display time in the Options dialog box (see [“Setting Default Options for Enhancements” on page 47](#)). You need to close the browser windows manually.

To display HTML files referenced by ITV SMPTE-363M enhancements:

1. In a MetaSync Manager spreadsheet, select one or more ITV SMPTE-363M enhancements.
2. Click the Show ITV button.



Internet Explorer opens and displays the HTML files that are referenced by the selected enhancements.

To display all files referenced by ITV SMPTE-363M enhancements:

- ▶ Click the Show All ITV button.



Creating Enhancements File Templates

MetaSync Manager uses templates to provide information when you create enhancements. This information appears in the pop-up menus in the New Enhancement pane or Edit Enhancement pane, which lets you enter standard information more quickly. MetaSync Manager ships with a default template that includes the following values:

- META Types ITV and Opaque
- Sub-type SMPTE-363M

You can also create your own custom templates.

To create an enhancements file template:

1. Create an enhancements file that includes the information you want in the template. See [“Creating an Enhancement” on page 34](#).

The values of the first enhancement in the spreadsheet become the default values for any new enhancement created using the new template. The values of this enhancement and all other enhancements are listed in the pop-up menus.

2. Select File > Save As.

The Save As dialog box opens.

3. Click the Look in pop-up menu, and specify a location.

The default template is located in the following folder, depending on your installation:

(Windows) *drive:*\Program Files\Avid\MetaSync Manager\template

(Macintosh) Macintosh HD/Applications/MetaSync Manager.app/Contents/MetaSyncMgrSupportFiles/template

Consider saving additional templates in this folder.

4. Type a template name in the File Name (Windows) or the Name (Macintosh) text box.
5. Click the Files of type (Windows) or Format (Macintosh) pop-up menu, and select Avid Template Object (.atp).
6. Click Save.

Setting Default Options for Enhancements

You can specify a new default template and other default information, including ITV SMPTE-363M settings, in the Options dialog box. These settings are linked to the account that you used to log in.

To set default options:

1. Select Enhancement > Options.

The Options dialog box opens.

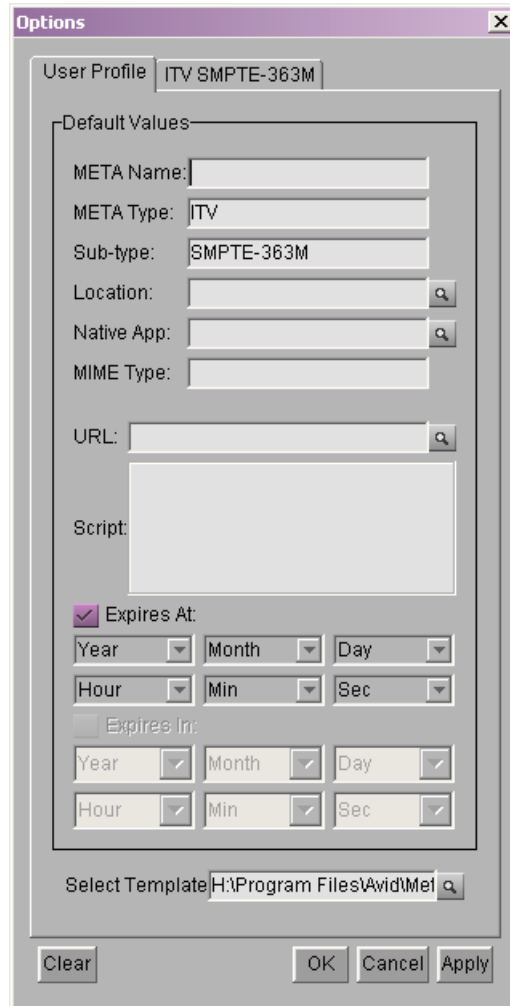
2. Click the User Profile tab and specify the following information:

- (Option) **Default Values:** These values are displayed when you click the Default button in the New Enhancement pane or Edit Enhancement pane.

If you type ITV in the META Type text box and SMPTE-363M in the Sub-type text box and then click in another text box or click Enter, the ITV SMPTE-363M attributes appear.

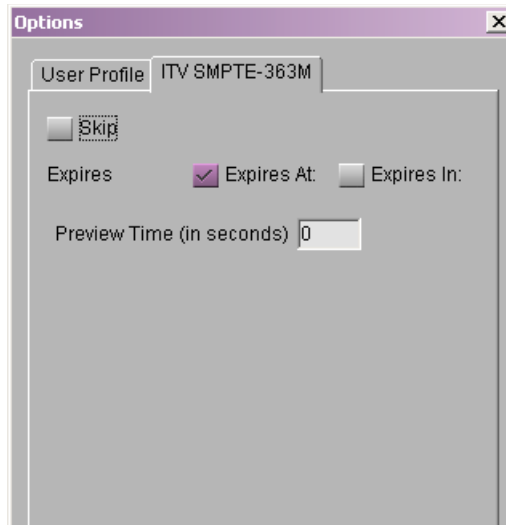
For information about opaque attributes, see [“Opaque Enhancement Attributes” on page 35](#). For information about ITV SMPTE-363M attributes, see [“ITV SMPTE-363M Enhancement Attributes” on page 37](#).

- **Select Template:** Select a template for creating new enhancements. The values of the first enhancement in the template are the default values for a new enhancement. For more information, see [“Creating Enhancements File Templates”](#) on page 46.



3. Click the ITV-SMPTE tab and specify the following information:
 - **Skip:** Do not allow values for expiration time or duration.
 - **Expires:** Select Expires At to allow an expiration time (a fixed date and time) or select Expires In to allow an expiration duration.

- **Preview Time:** Specify the time, in seconds, that you want ITV SMPTE-363M enhancements to be displayed (see “[Displaying ITV SMPTE-363M Enhancements](#)” on page 45).



If you change the Expires option from the option set in an existing enhancements file, MetaSync Manager calculates the equivalent measurement, based on the computer's current Date and Time. If the Expires At time has expired and you have selected to display the Expires In format, MetaSync Manager displays the default labels (Year, Month, Day, and so on) in the Edit Enhancement pane.

4. Do one of the following:
 - ▶ Click Apply to set the new values and keep the dialog box open.
 - ▶ Click OK to save the new values and close the dialog box.

Printing an Enhancements File

You can print the contents of an enhancements file, as displayed in the spreadsheet window.

To print an enhancements file:

1. In the MetaSync Manager window, click the spreadsheet that you want to print.
2. Do one of the following:
 - ▶ Select File > Print.
 - ▶ Click the Print button.



The Page Setup dialog box opens.

3. Select formatting options.



Landscape orientation usually works best for printing a MetaSync Manager spreadsheet.

4. Click OK.

The spreadsheet is printed on the default system printer.

Chapter 3

Using MetaSync with Avid Editing Systems

MetaSync technology lets you add enhancements to a video or an audio stream in an Avid editing application by using special tracks called Meta tracks. MetaSync features that are included in your Avid editing system are described in the following topics:

- [Importing Enhancements Files](#)
- [Viewing Enhancements in a Bin](#)
- [Understanding ITV Modes](#)
- [Viewing Enhancements in a Source Pop-Up Monitor](#)
[Editing Enhancements into the Timeline](#)
- [Editing with Overlay Mode \(Windows Only\)](#)
- [Previewing Enhancements in the Timeline \(Windows Only\)](#)
- [Using AutoSync with Enhancements](#)
- [Modify Enhancement Dialog Box](#)
- [Updating Enhancements](#)
- [Changing the Size and Position of the Video Image \(Windows Only\)](#)
- [Opening the Native Application](#)
- [Exporting a Sequence with Meta Tracks](#)

Importing Enhancements Files

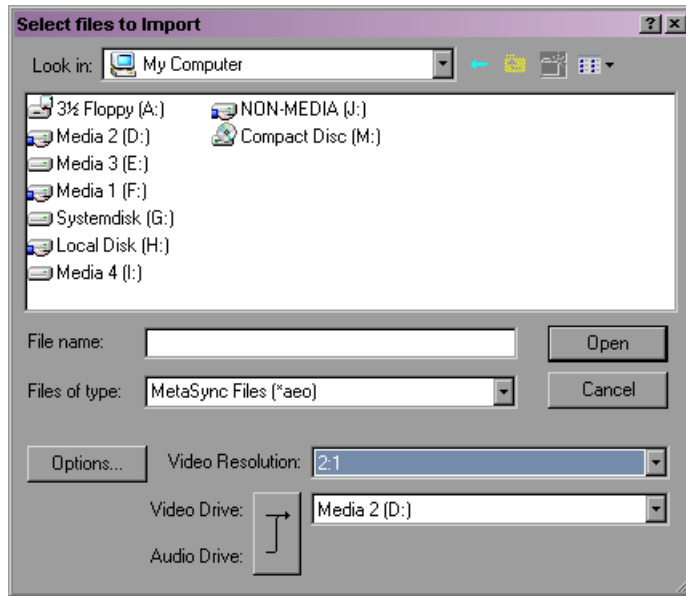
To create enhancements that you can edit into the Timeline, you need to import an enhancements file. This enhancements file must be processed through MetaSync Manager to verify that it conforms to Avid specifications and to create a unique ID for each enhancement.

The Avid editing system performs the following actions during the import process:

- Validates the information in the AEO file against Avid specifications. If the file does not conform, an error message is displayed.
- Creates objects and adds them to the selected bin and the media database. These objects, called Meta clips or enhancement clips, share the characteristics of other master clips.
- (Windows only) (ITV SMPTE-363M enhancements only) Creates either a graphic of the HTML file or a matte key, depending on the contents of the HTML file.
- Creates bin columns that correspond to the attributes of the enhancements (META Name, META Type, and so on) contained in the enhancements file.

To import an enhancements file:

1. Open and activate the bin into which you want to import the enhancements file.
2. Select File > Import.
The Select files to import dialog box opens.
3. Click the Files of type pop-up menu (Windows) or the Show pop-up menu (Macintosh), and select MetaSync Files (*.aeo) to view only Avid enhancements files.



The figures used in this chapter might not match exactly the model of your Avid editing system.

4. Select the file or files you want to import.
5. (Windows only) If the enhancements file includes enhancements that use Overlay mode:
 - Select a video resolution compatible with the resolution used in the sequence.
 - Select a video drive for storing the matte media.

For information about Overlay mode, see [“Understanding ITV Modes” on page 58](#).

The Avid editing system imports the enhancements file and creates enhancements in the bin.

Viewing Enhancements in a Bin

The Avid editing system uses icons to distinguish between two types of enhancements:



- ITV enhancements that conform to SMPTE standard 363M



- Opaque and other ITV enhancements

(Windows only) In addition, if an ITV SMPTE-363M file uses Overlay mode, a matte key is created for the enhancement. For more information, see [“Editing with Overlay Mode \(Windows Only\)” on page 64](#).

Opaque enhancement

(Windows only) ITV
SMPTE enhancement
with matte key

ITV SMPTE enhancement

Name	META Name	META Type	META Sub-type
enh1	enh1	Opaque	demo
enh2	enh2	Opaque	demo
Matte Key: overlay1 (With Alpha)			
overlay1	overlay1	ITV	SMPTE-363M
Stay Tuned	Stay Tuned	ITV	SMPTE-363M

Deleting Non-Overlay-Mode Enhancements

To delete enhancements that do not use Overlay mode:

1. Select one or more enhancements from a bin.
2. Press the Delete key.

The Delete dialog box opens. The option “Delete *n* enhancement(s)” is selected, with *n* indicating the number of enhancements selected.



3. Click OK.

The enhancement is deleted from the bin.

(Windows only) If the enhancement points to an HTML file, the corresponding graphics file is not deleted. These graphics files are stored in the Avid editing system's temporary folder, which you set in the General Settings dialog box. For information about accessing the General Settings dialog box, see the Help or the printed documentation for your Avid editing system.

Deleting Overlay-Mode Enhancements (Windows Only)

To delete an ITV SMPTE-363M enhancement that uses Overlay mode and its associated matte key:



For information about Overlay mode, see “Understanding ITV Modes” on page 58.

1. Select one or more enhancements and their associated matte keys.
2. Press the Delete key.

The Delete dialog box opens.

- The option “Delete n enhancement(s)” is selected, with n indicating the number of enhancements selected.

- The option “Delete n effect clip(s)” is selected, with n indicating the number of objects selected. If you want to delete the associated media, select the suboption “delete n associated media file(s).”

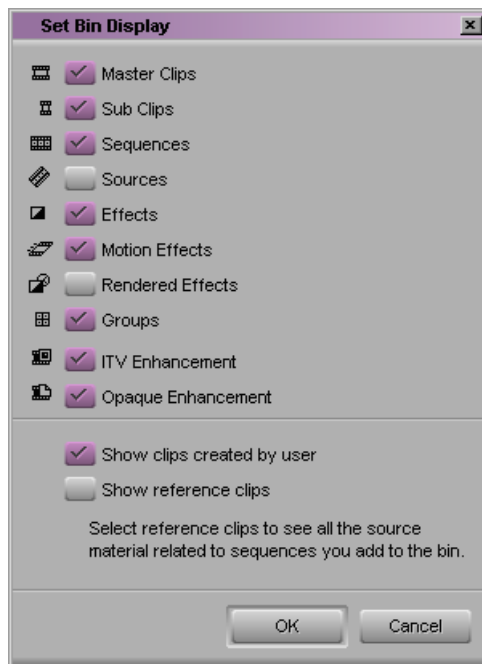
3. Click OK.



If you delete an enhancement that has an associated matte key, both the enhancement and the matte key effect are deleted from the bin, but the matte key media remains on the media drive.

Setting the Bin Display for Enhancements

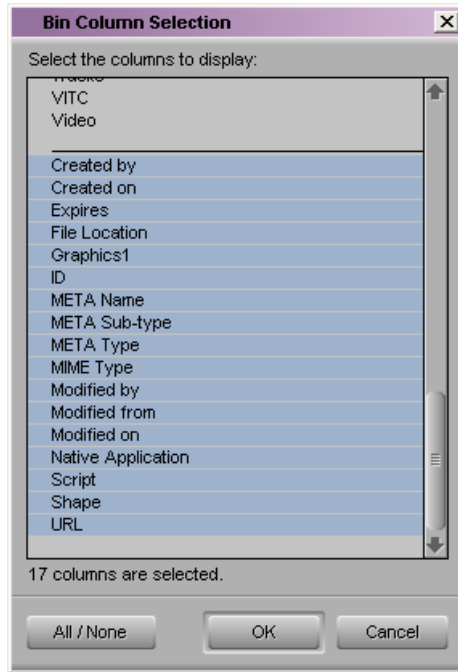
By default, a bin displays all MetaSync enhancements and media objects. You can choose which media objects to display in a bin by selecting Bin > Set Bin Display.



For complete information on setting the bin display, see the Help or the printed documentation for your Avid editing system.

Modifying Bin Columns for Enhancements

You can change which bin columns are displayed by selecting Bin > Headings. You can also create custom columns specific to your project.



For complete information on managing bins, see the Help or the printed documentation for your Avid editing system.

Moving and Duplicating Enhancements

You can move or duplicate enhancements, but you cannot copy enhancements.

To move an enhancement between bins:

- ▶ Click the enhancement and drag it from one bin to another.

To duplicate an enhancement in a bin:

- ▶ Select the enhancement and select Clip > Duplicate.

(Windows only) If you duplicate an enhancement that uses Overlay mode, the associated matte key is not duplicated. To create another matte key, you must refresh the enhancement. See [“Updating Enhancements” on page 67](#).

Understanding ITV Modes

ITV SMPTE-363M enhancements include a URL that points to an HTML file. The HTML file must include information about where the video is displayed in the final output. This information is indicated by the following code:

```
tv:
```

This code can be used to create one of two interactive TV modes: PIP (Picture-in-Picture) mode or Overlay mode.

(Windows only) When you import an enhancement that uses PIP mode, the Avid editing system creates a graphic image (PICT file) of the referenced HTML file. The Avid system stores this graphic in its temporary folder, which you set in the General Settings dialog box. For information about the General Settings dialog box, see the Help or the printed documentation for your Avid editing system.

(Windows only) When you import an enhancement that uses Overlay mode, the Avid editing system creates a matte key for the referenced HTML file. The Avid system stores the media for the matte key on the media drive that you set in the Media Creation dialog box. For information about the Media Creation dialog box, see the Help or the printed documentation for your Avid editing system.

PIP Mode (Windows Only)

PIP mode lets you create a video image that is scaled to fit a specific area. The HTML file includes code that specifies the size and location of the TV object. The following example shows the size of the TV object:

```
IMG SRC="tv:" WIDTH="413" HEIGHT="321"
```

This code creates a video image as displayed in the following figure. The video has been edited onto the top video track in the sequence and is scaled to the dimensions specified in the HTML file.



You can modify this position in the Avid editing system, as described in “Changing the Size and Position of the Video Image (Windows Only)” on page 69.

Overlay Mode (Windows Only)

Overlay mode lets you create a video image that remains full size, with an HTML file superimposed over it. The HTML file includes the following code:

```
background=tv:
```

This code creates a video image similar to one displayed in the following figure. Compare this figure to the previous one. The video has not been sized, and the HTML file is overlaid on it.



HTML Page Dimensions

The HTML file includes dimensions for the content of the HTML page.

The standard dimensions for HTML pages designed for ITV broadcast are 560 pixels by 420 pixels. If the dimensions specified in a referenced HTML file are larger, the Avid system crops the image to the standard size, starting with the upper left corner.



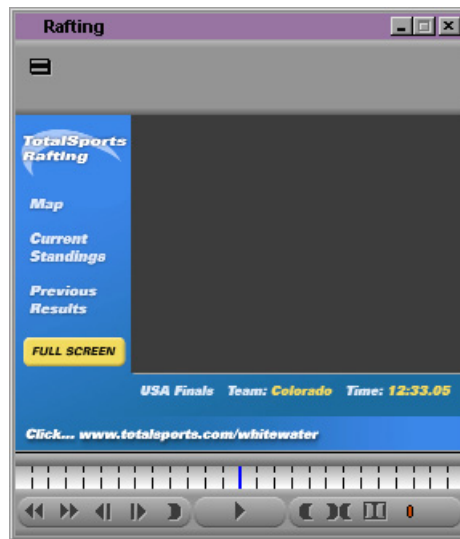
The Avid editing system scales the HTML graphic to fit the dimensions of the Avid editing application's Source and Record monitors. This rescaling creates an approximate representation of how the HTML page appears when it is broadcast.

Viewing Enhancements in a Source Pop-Up Monitor

Opaque enhancements display black in the Source pop-up monitor. However, you can view the associated file through an application that can display the file (see [“Opening the Native Application” on page 71](#)).

(Windows only) You can view an image of the HTML file specified in an ITV SMPTE-363M enhancement.

(Windows only) For files that use PIP mode, you can view the image in a Source pop-up monitor by double-clicking the enhancement in the bin, which is the same way that you view any master clip or subclip.



(Windows only) For files that use Overlay mode, double-click the matte key in the bin. If you double-click the associated enhancement, the image in the Source pop-up monitor is black. Although the image is black, you should edit this clip into the Timeline (see [“Editing with Overlay Mode \(Windows Only\)” on page 64](#)).

Editing Enhancements into the Timeline

You edit enhancements into the Timeline in much the same way that you edit other clips. For complete information on editing, see the Help or the printed documentation for your Avid editing system.

To edit enhancements into the Timeline:

1. Create a sequence.
2. Create a Meta track by selecting Clip > New Meta Track.
The first track you create is labeled M1. You can create multiple tracks, which are labeled M2, M3, and so on.
3. Double-click the enhancement in a bin to open it in a Source pop-up monitor. What you see in the Source pop-up monitor depends on the type of enhancement (see [“Viewing Enhancements in a Source Pop-Up Monitor” on page 61](#)). (Windows only) If you are editing an enhancement that uses Overlay mode, you should use the enhancement, rather than the matte key (see [“Editing with Overlay Mode \(Windows Only\)” on page 64](#)).

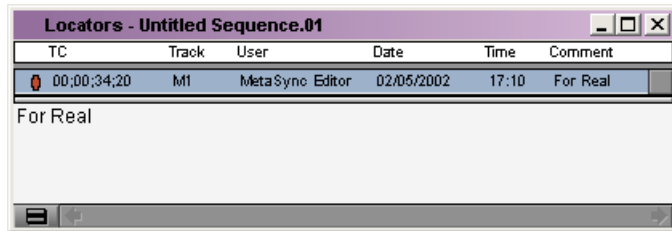
4. Edit the enhancement into the Timeline in one of the following ways:

- ▶ **As a clip:** Mark IN and OUT points and drag the enhancement to the Meta track or click an edit button (Splice or Overwrite).

The default (maximum) duration of a clip is 4 hours. Dragging a clip without IN or OUT points creates a 4-hour clip in the Timeline. This length allows an enhancement to be active for a long-form production.

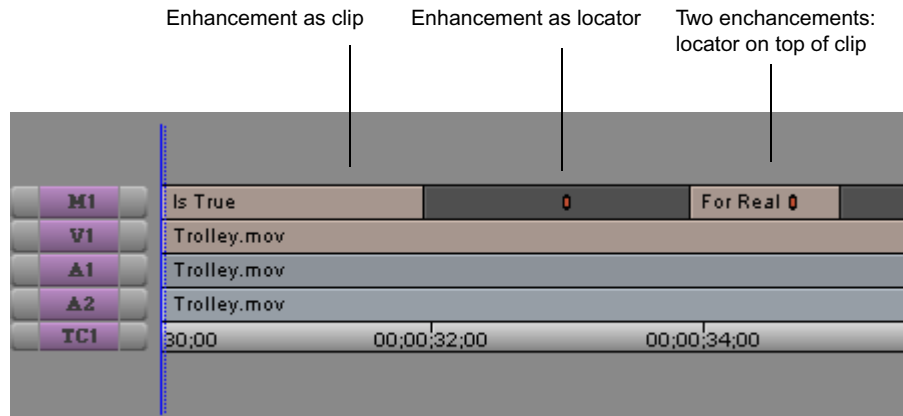
- ▶ **As a locator:** Place the position indicator in the Timeline, and Alt+double-click (Windows) or Option+double-click (Macintosh) the enhancement in the bin.

A locator appears in the Timeline. To view information about all locators in a sequence, open the Locators window by selecting Tools > Locators. For more information, see the Help or the printed documentation for your Avid editing system.



In the final broadcast, if the locator represents an HTML file (such as an ITV SMPTE-363M enhancement), the HTML file is shown until the next enhancement appears. If the locator represents an opaque enhancement (such as a command), the locator sends the command at the point where the locator is marked in the sequence.

An advantage to editing the enhancement as a locator is that you can edit a locator onto an enhancement clip without creating an additional Meta track.



5. You can then edit the enhancement in the same way you edit other locators or clips (trimming, using edit marks, and so on).

Editing with Overlay Mode (Windows Only)

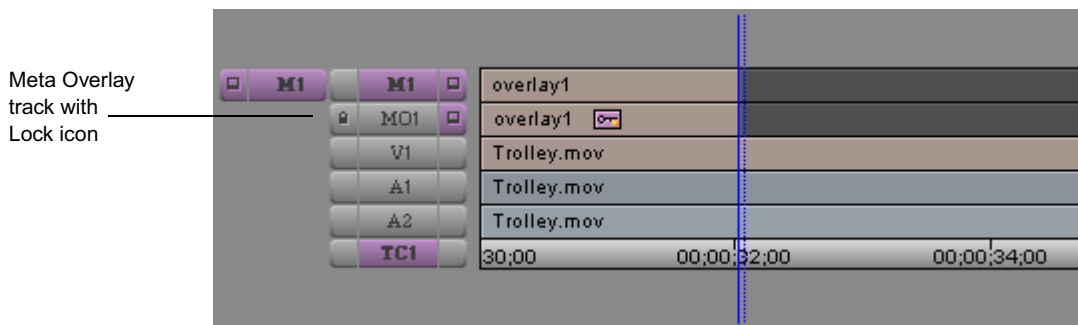
For information about Overlay mode, see “Understanding ITV Modes” on page 58.

If you import enhancements that reference HTML files with Overlay mode, the Avid editing system creates two objects in a bin: an enhancement (marked by an ITV icon) and a corresponding matte key (marked by a Matte Key icon). This matte key overlays the video, thus creating a transparent “window” that lets the video show through.

When you edit this kind of enhancement, you should edit the enhancement, not the matte key. The matte key is linked to the enhancement, so that if you edit, delete, or otherwise modify the clip in the Timeline, the matte key is also modified.

When you monitor an enhancement that uses Overlay mode in the Timeline, a special track, labeled MO (Meta Overlay), is displayed for the matte key. Note that this track displays a Lock icon, which indicates that you cannot edit it directly. You need to edit the enhancement.

You can monitor only one Meta track and its corresponding Meta Overlay track at a time.



Do not render the matte key, because any edit causes the Avid editing application to delete and re-create the Meta Overlay track, thus losing the render. If you need to render effects for real-time play, deselect the Meta Overlay track and render effects on tracks below it.



The ExpertRender™ feature does not work correctly with sequences that use Meta Overlay tracks. Use the Render In/Out feature instead.

Previewing Enhancements in the Timeline (Windows Only)

For information about PIP and Overlay modes, see [“Understanding ITV Modes” on page 58](#).

How you preview enhancements in the Timeline depends on the mode of the enhancement: PIP or Overlay. The preview displays graphic images or “snapshots” of the HTML files referenced by enhancements. You cannot click links or otherwise use the HTML image the way you would use an HTML page in a browser. This preview represents how the enhanced program appears when it is broadcast.

PIP Mode

To preview the sequence with its enhancements, you need to “step through” the sequence by clicking a Step (Jog) button (such as Step Forward One Frame). The snapshot images are not displayed if you click the Play button.

The video image is displayed inside the HTML background based on the size and location of the `tv:` code. You can modify the size and position of the video. See [“Changing the Size and Position of the Video Image \(Windows Only\)” on page 69](#).

Overlay Mode

Because Overlay mode uses a matte key, you can preview the sequence by clicking either a Step (Jog) button or the Play button.

Using AutoSync with Enhancements

You can use the AutoSync feature to sync an enhancement with a video clip and an audio clip in the same way that you sync a video clip and an audio clip. AutoSync creates a new subclip that combines the video clip, audio clip, and enhancement.

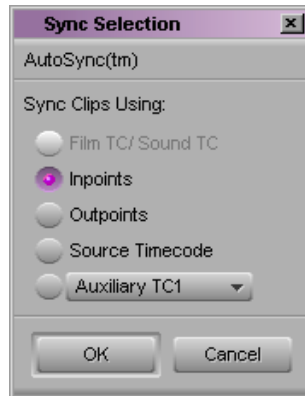
For example, if you want to link an enhancement that references an HTML file to a video clip, use AutoSync and you can edit both together in a single subclip.

For complete information, see the Help or the printed documentation for your Avid editing system.

To create an autosynced subclip:

1. Select the clips you want to sync in the bin.
(Windows only) For enhancements that use Overlay mode, select the enhancement clip, not the matte key.
2. Click the Bin Fast Menu button, and select AutoSync.

The Sync Selection dialog box opens.



3. Select an option:



Depending on your system configuration, you might see only some of the options on this list.

- **Film TC/Sound TC**, if you are syncing clips with matching film and sound timecode recorded in the field.
- **Inpoints**, if you are syncing according to IN points set in both clips.
- **Outpoints**, if you are syncing according to OUT points set in both clips.
- **Source Timecode**, if the two clips have matching timecode.
- **Auxiliary TC1–TC5**, if the two clips have matching timecode in the same Auxiliary Timecode column. Select an Auxiliary TC, 1 to 5, from the pop-up menu.

4. Click OK.

The subclip is created. By default the subclip uses the name of the video clip with the file name extension `.sync.n`, where *n* is the incremental number of subclips created with the same name.

Updating Enhancements

You can update (refresh) enhancements in a bin or in the Timeline. Refreshing an enhancement updates the data in the bin to match the latest data in the AEO file. For example, if you edit an enhancement in an AEO file to point to a different HTML file, refreshing the enhancement changes the pointer in the bin.

(Windows only) The system creates a new image of the HTML file. If the pointer is still correct but the HTML file has changed, refreshing the enhancement creates a new image of the HTML file.

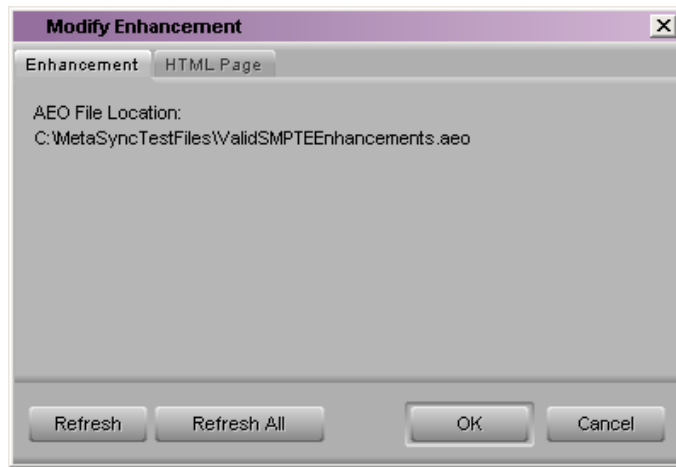
When you refresh an enhancement, make sure the edited enhancements file keeps its name and location. Do not reimport the file into the Avid editing application.

Bin Refresh

To refresh an enhancement in a bin:

1. (Option) Edit the original AEO file, keeping its name and location.
2. Select an enhancement in a bin.
3. Select Clip > Modify Enhancement.

The Modify Enhancement dialog box opens.



(Windows only) The HTML Page tab appears only for enhancements that use PIP mode.

4. Click the Enhancement tab.

The tab displays the AEO file location for the selected enhancement.

5. Click the Refresh button to update the enhancement.

Refreshing a clip in a bin automatically updates all enhancement clips and locators in the Timeline that originated from the clip.

(Windows only) The HTML images are also updated.

6. Click Refresh All to update all enhancements in the bin that originated from the same AEO file as the selected enhancement.



You cannot refresh enhancements unless the Timeline contains a sequence.

Timeline Refresh

To refresh an enhancement in the Timeline:

1. (Option) Edit the original AEO file, keeping its name and location.
2. Right-click (Windows) or Ctrl+Shift+click (Macintosh) an enhancement clip or locator in the Timeline, and select Refresh.

Refreshing a clip automatically updates the enhancement in the bin and all clips and locators in the Timeline that originated from the enhancement.

(Windows only) The HTML images are also refreshed.

Refreshing a locator updates only the locator itself, not the enhancement in the bin.



When you refresh enhancements in the Timeline, the Avid editing application enters Segment mode. To exit Segment mode, click one of the Segment Mode buttons.

To update all enhancement clips and locators in the sequence:

- ▶ Right-click (Windows) or Ctrl+Shift+click (Macintosh) an enhancement or locator in the sequence, and select Refresh All.

Modify Enhancement Dialog Box

You can use this dialog box for two tasks:

- Updating information that has changed in a MetaSync enhancement. See [Updating Enhancements](#).
- (Windows only) Changing the size and position of the video without changing the enhancement itself. See [Changing the Size and Position of the Video Image \(Windows Only\)](#).



For SMPTE-363M enhancements that use PIP mode, two tabs appear: Enhancement and HTML Page. For other enhancements, only the Enhancement tab appears.

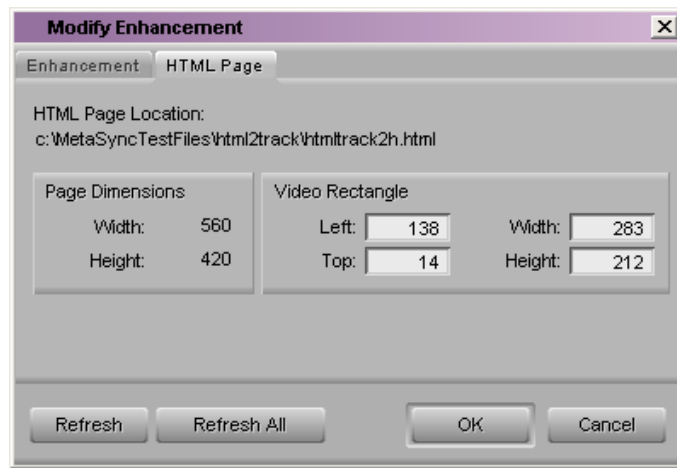
Changing the Size and Position of the Video Image (Windows Only)

For ITV SMPTE-363M enhancements that use PIP mode, the HTML file specified in the enhancement includes information for the size and position of the video image (see [“Understanding ITV Modes” on page 58](#)). For preview purposes, you can edit the size and position of the video image. This edit does not change the information in the original AEO file or the source HTML file.

To change the size and position of the video image:

1. Select the enhancement in a bin.
2. Do one of the following:
 - ▶ Select Clip > Modify Enhancement.
 - ▶ Select an enhancement in the Timeline, right-click (Windows) or Ctrl+Shift+click (Macintosh) the mouse button, and select Modify Enhancement.

The Modify Enhancement dialog box opens.



The HTML Page tab appears only for enhancements that use PIP mode.

3. Click the HTML Page tab.

The name of the image file is displayed as the HTML Page Location. The size and position of the video image specified in that HTML page is displayed, in pixels, in the Video Rectangle area of the dialog box.

4. Edit the size and position of the video image.
5. Click OK.

The video is displayed in the new location.



If you click Refresh to update an enhancement for which you edited the Video Rectangle values, the original values as specified in the HTML file are reimposed.

Opening the Native Application

Each enhancement can include a value for the attribute Native Application (see “[Opaque Enhancement Attributes](#)” on page 35 or “[ITV SMPTE-363M Enhancement Attributes](#)” on page 37). This value is the path for an application that can display the file specified by the enhancement. You specify a path for the file as the value for the Location attribute.

If you can access the application and the file from your Avid editing system, you can open the application from the enhancement. The enhancement must specify a path that you can use from your Avid editing system.

For example, if your enhancements point to information from an Excel spreadsheet, specify Excel as the native application and you can open the program from one of the enhancements. You can open the program from an enhancement in a bin or from an enhancement that has been edited into the Timeline. If the enhancements point to HTML files, you can use Internet Explorer or an HTML creation program as the native application. Any program you can open from your Avid editing system, you can open from an enhancement.



You can also open the native application from a video clip or an audio clip that has been linked to an enhancement with the AutoSync feature. For more information, see “[Using AutoSync with Enhancements](#)” on page 65.

To open an application from an enhancement, do one of the following:

- ▶ In a bin, select the enhancement and select Bin > Launch in Native Application.
- ▶ In a bin, right-click (Windows) or Ctrl+Shift+click (Macintosh) the enhancement, and select Launch in Native Application.
- ▶ In the Timeline, right-click (Windows) or Ctrl+Shift+click (Macintosh) an enhancement clip or locator, and select Launch in Native Application.

The application starts on your Avid editing system and opens the file that was specified as the value for the Location attribute in the enhancement.



When you start an application from the Timeline, the Avid editing application enters Segment mode. To exit Segment mode, click one of the Segment Mode buttons.

Exporting a Sequence with Meta Tracks

When you have completed work on a sequence, you can export the sequence to create an AAF file. The AAF file serves as a wrapper for information about the sequence, with links to the media in the sequence.



For complete information about the export process, see the Help or the printed documentation for your Avid editing system.

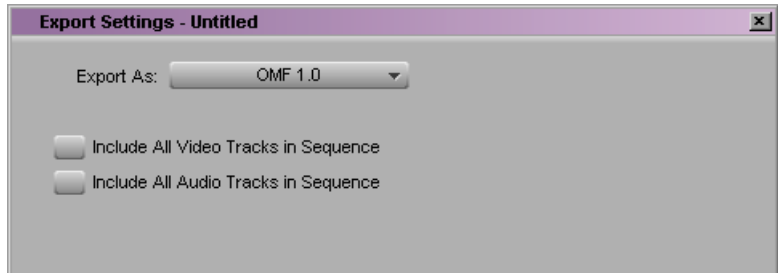
To export a sequence with Meta tracks:

1. Select the sequence you want to export.
2. Select File > Export.

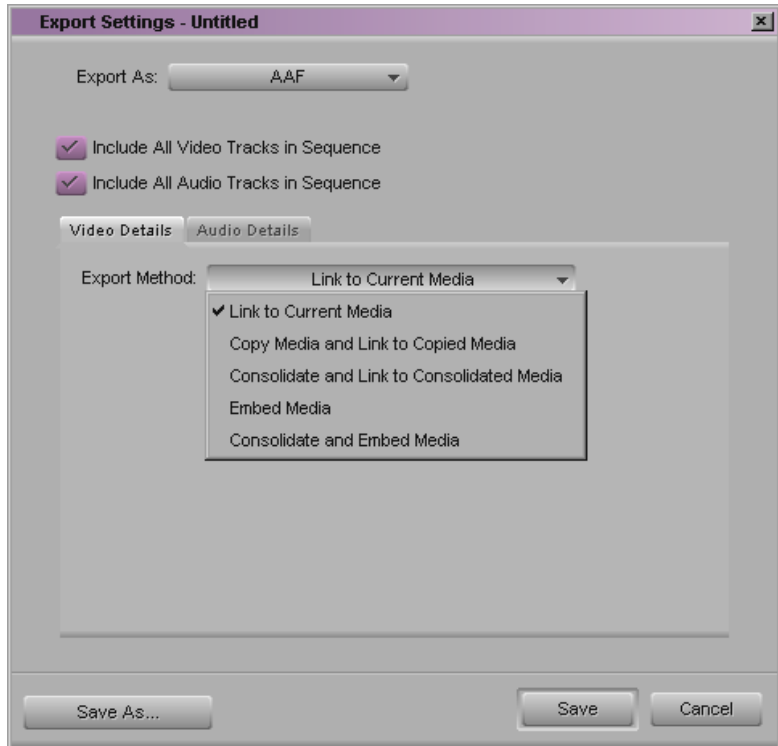
The Export As dialog box opens.



3. Click the Export Setting pop-up menu, and select a setting.
If you want to create a new setting, select Untitled.
4. Click the Options button.
The Export Settings dialog box opens.



5. Click the Export As pop-up menu, and select AAF.
6. Select “Include All Video Tracks in Sequence,” “Include All Audio Tracks in Sequence,” or both.



- If you are including video tracks, click the Video Details tab. Click the Export Method pop-up menu, and select Link to Current Media.
- If you are including audio tracks, click the Audio Details tab. Click the Export Method pop-up menu, and select Link to Current Media.

7. (Option) Save the settings in one of the following ways:
 - ▶ To save your settings in the existing settings file, click Save.
The Export As dialog box opens again.
 - ▶ To create a new settings file, click Save As.
The Save Export Setting dialog box opens.



Type a name for the setting in the Setting Name text box, and click OK.

The Export As dialog box opens again.

8. Check the file name in the File Name text box (Windows) or the Name text box (Macintosh). The file name extension should be .aaf.
9. Click the Save In pop-up menu (Windows) or the Where pop-up menu (Macintosh), and select the destination folder for the file.
10. Click Save.
The file is exported and appears at the selected destination.

Chapter 4

Using MetaSync Publisher

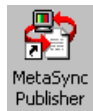
MetaSync Publisher extracts the timing and other information from the exported AAF file and creates an XML file for further processing in another application. The following sections describe two methods for creating an XML file:

- [Using the MetaSync Publisher Window to Create XML Files](#)
- [Creating an XML File by Dragging an AAF File \(Windows Only\)](#)

You can also use the command line to process the files. See [“Using the Command-Line Interface \(Windows Only\)”](#) on page 79.

For an overview of MetaSync Publisher, see [“MetaSync Publisher”](#) on page 19.

Using the MetaSync Publisher Window to Create XML Files

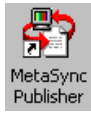


MetaSync Publisher icon

To use the MetaSync Publisher window to create XML files:

1. Open the MetaSync Publisher window by doing one of the following:
 - ▶ (Windows) Click the Start button, and select Programs > Avid > MetaSync Publisher.

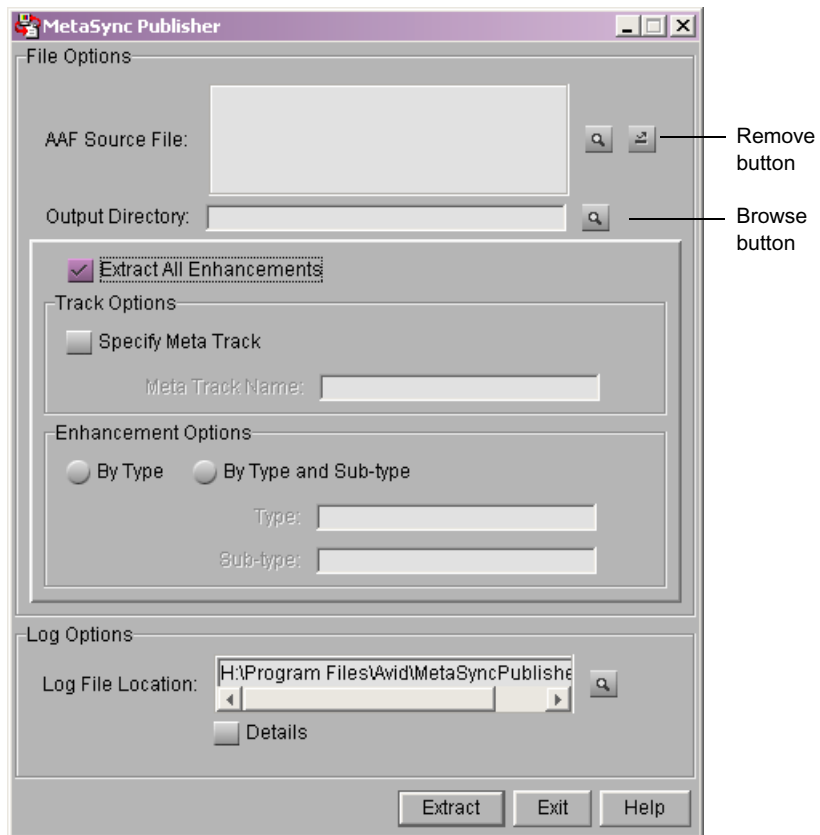
- ▶ (Macintosh) Navigate to Macintosh HD/Applications, and then double-click MetaSync Publisher.
- ▶ (Windows only) Double-click the MetaSync Publisher icon on the desktop. The icon is created by the MetaSync Publisher installation program.



The MetaSync Publisher window opens.



(Windows only) A Java command-line window remains open in the background when MetaSync Publisher is running.



2. Specify the information in the following table:

XML File Options

Option	Description
File Options	
AAF Source File	The file or files that were exported from the Avid editing application. Click the Browse button to locate the files you want to process. Click the Remove button to delete one or more selected files.
Output Directory	The folder in which you want to save the XML files. Click the Browse button to locate the folder or to create a new folder. If you do not specify an output folder, MetaSync Publisher creates an XML file in the folder that contains the source file.
Extract All Enhancements	(Default) Select this option to extract enhancements from all Meta tracks.
Track Options	
Specify Meta Track	Select this option to specify one Meta track from which to extract enhancements. Type the name of the Meta track as it appears in sequence's Timeline.
Enhancement Options	
By Type	Select this option to specify the Type of enhancement to extract: ITV, Opaque, or another Type that is specified in the enhancement.
By Type and Sub-type	Select this option to specify both the Type and Sub-type. For Sub-type, specify SMPTE-363M, Opaque, or another Sub-type that is specified in the enhancement.
Log Options	
Log File Location	Displays the default location for the log file. Click the Browse button to specify a new location.
Details	Select this option to include complete information in the log file.

3. Click the Extract button.

MetaSync Publisher extracts the necessary information and creates an XML file in the folder that is specified in the Output Directory field. The file keeps the same name as the AAF file but uses the file name extension .xml. You can then transfer this file to another application for further processing.

If you have not specified an output directory, MetaSync Publisher creates the XML file in the folder that contains the source file.

MetaSync Publisher displays a message box that reports either an XML file was created or an error has occurred. Click the View Log button to view the log file, or click OK.



To view Help information for MetaSync Publisher, click in the MetaSync Publisher window and press the F1 key (Windows) or the Help key (Macintosh).

Creating an XML File by Dragging an AAF File (Windows Only)

You can create an XML file by dragging an AAF file to the MetaSync Publisher icon. The icon is created on the desktop by the MetaSync Publisher installation program.

To create an XML file by dragging an AAF file:

1. Locate and select the AAF file or files that you exported from the Avid editing application.
2. Drag the file or files to the MetaSync Publisher icon.



MetaSync Publisher extracts the necessary information and creates an XML file in the folder that contains the source file. The file keeps the same name as the AAF file but uses the file name extension .xml. You can then transfer this file to another application for further processing.

MetaSync Publisher opens a message box that reports either an XML file was created or an error has occurred. Click the View Log button to view the log file, or click OK.



Using the drag-and-drop method to export a file, you can create an XML file by dragging a sequence directly from an Avid editing application to the MetaSync Publisher icon. For more information, see the Help or the printed documentation for your Avid editing system.

Appendix A

Using the Command-Line Interface (Windows Only)

This appendix includes the following sections:

- [MetaSync Manager Command-Line Options \(Windows Only\)](#)
- [MetaSync Publisher Command-Line Options \(Windows Only\)](#)

MetaSync Manager Command-Line Options (Windows Only)

You can run MetaSync Manager from the command line. This is useful for automating the import and validation of third-party files.

The basic syntax for the MetaSync Manager command is:

```
MetaSyncManager [-options] [file]
```

The following table lists the options.

MetaSync Manager Command Options

Option	Description
-valid	Validates the specified file.
-import	Imports the specified third-party file.

MetaSync Manager Command Options (Continued)

Option	Description
-log	Creates a log file.
-verbose	Displays messages in the Java console window.
-help	Displays Help for the MetaSyncManager command.

To run MetaSync Manager from the command line:

1. Click Start and click Run.
A Windows Command box appears.
2. Type `cmd`, and click OK.
A command-line window opens.
3. Navigate to the folder that contains the MetaSync Manager application.
For example, type:

```
cd: C:\Program Files\Avid\MetaSyncManager [Enter]
```

4. Type the commands you want. For example, to create a log file when importing the file `enhancements.aeo`, type:

```
MetaSyncManager -import enhancements.aeo -log logfile.txt  
[Enter]
```

You can substitute any file name for *logfile.txt*.

MetaSync Publisher Command-Line Options (Windows Only)

You can run MetaSync Publisher from the command line. This is useful for automating the extraction process.

The basic syntax for the MetaSync Publisher command is:

```
MetaSyncPublisher [-options]
```


The following table lists the options.

MetaSync Publisher Command Options

Option	Description
-in < <i>file 1, file 2...</i> >	Specifies the AAF files to be extracted. Use the .aaf extension.
-out < <i>directory</i> >	Specifies the directory for output XML files.
-extract_all	Extracts all enhancements from the AAF composition.
-extract_meta < <i>track name</i> >	Extracts all enhancements from the specified Meta track.
-extract_type < <i>enhancement Type</i> >	Extracts all enhancements of the specified type.
-extract_subtype < <i>enhancement Sub-type</i> >	Extracts all enhancements of the specified Sub-type.
-log < <i>log file location</i> >	Specified the location for the log file. Use the .txt extension.
-verbose	Includes detailed information in the log file.

To run MetaSync Publisher from the command line:

1. Click Start and click Run.
A Windows Command box opens.
2. Type **cmd**, and click OK.
A command-line window opens.
3. Navigate to the folder that contains MetaSync Publisher application. For example, type:

```
cd: C:\Program Files\Avid\MetaSyncPublisher [Enter]
```

4. Type the commands you want. For example, to extract all tracks from an AAF file and create an XML file, type:

```
MetaSyncPublisher -in file.aaf -out c:\xml_folder -  
extract_all [Enter]
```

You can substitute any file name for *file.aaf*, but you must keep the .aaf extension. For *c:\xml_folder*, substitute the path for the folder in which you want to store the XML file.

Appendix B

MetaSync DTD Files

MetaSync uses three DTD files to exchange information with other applications, as described in the following table.

MetaSync DTD Files

DTD File	Description	Folder Location
Enhancements_Import_1_0.dtd	Used to define the structure and schema of XML files that are imported into MetaSync Manager	<ul style="list-style-type: none">(Windows) drive:\Program Files\Avid\MetaSync Manager\dt(Macintosh) Macintosh HD/Applications/MetaSync Manager/dtd

MetaSync DTD Files (Continued)

DTD File	Description	Folder Location
Enhancements_1_0.dtd	Used to define the structure and schema of XML files that are exported from MetaSync Manager, imported into an Avid editing system, and exported as part of an AAF file from the Avid editing system	<p>On the MetaSync Manager system:</p> <ul style="list-style-type: none"> • (Windows) drive:\Program Files\Avid\MetaSync Manager\dtd • (Macintosh) Macintosh HD/Applications/MetaSync Manager/dtd <p>On the Avid editing system:</p> <ul style="list-style-type: none"> • (Windows) drive:\Program Files\Avid\Avid editing application \SupportingFiles\MetaSync • (Macintosh) Macintosh HD/Applications/Avid editing application/ SupportingFiles/MetaSync
dpw_1_0.dtd	Used to define the structure and schema of XML files that are extracted by MetaSync Publisher	<ul style="list-style-type: none"> • (Windows) drive:\Program Files\Avid\MetaSync Publisher\dtd • (Macintosh) Macintosh HD/Applications/MetaSync Manager/dtd



MetaSync Manager uses another DTD file, named `Template_1_0.dtd`, to create and validate template files.



DTD file names refer to files shipped with the current release of MetaSync.

For a description of the relationship between XML files and DTD files, see [“Understanding MetaSync Files”](#) on page 20.

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