Avid Xpress® DV

Effects Guide

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Using This Guide

This guide is your introduction to the wealth of effects and design options available for use in your projects. Along with the standard editing features included with this latest release of the Avid Xpress® DV system, you have at your fingertips all the sophisticated effects capabilities of a high-end postproduction suite, combined with the versatility of a digital nonlinear system.

You can use the tools and techniques described in this guide to create and incorporate into your sequence titles and effects with a wide variety of attributes. This guide also describes how to apply third-party plug-in effect filters for stunning effects formerly available only on high-end graphics workstations.

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

Who Should Use This Guide

This guide is intended for all Avid Xpress DV users, from beginning to advanced.

About This Guide

This guide is designed to keep pace with current advances in the Avid Xpress DV effects capabilities by consolidating in one comprehensive resource all the information you will need to take advantage of the many options available. This guide leads you through even the most complex procedures with task-oriented instructions. The information provided here builds on editing procedures described in the getting started guide and the user's guide for Avid Xpress DV, while adding a complete explanation of all the tools and techniques required to create, apply, and adjust various effects and graphics, including useful tips, shortcuts, and custom options.

Consider keeping the Avid Xpress DV User's Guide *and the* Avid Xpress DV Quick Reference *available during each session.*

The Contents lists all topics included in the book. They cover the following general areas:

- *Effects editing:* Chapters 1 through 6 of this book describe various beginning and advanced techniques for incorporating literally hundreds of digital video effects (DVEs), third-party effect filters, complex motion effects, keys, and layering options.
- *Creating and editing titles and graphic objects:* Chapter 7 and Chapter 8 cover titling and use of the tools to create and control the attributes of on-screen text, backgrounds, lines, boxes, ovals, and other graphics objects. You can create multiple titles without exiting the Title tool, and apply shadows, color, transparency, layers, and alignment to both objects and text.
- *2D effects reference:* Chapter 9 provides quick access to specific information about the 2D effects and parameters available with Avid Xpress DV.
- The Index helps you locate specific topics.

Symbols and Conventions

Unless noted otherwise, the material in this document applies to the Windows® XP and Mac® OS X operating systems. When the text applies to a specific operating system, it is marked as follows:

- (Windows) or (Windows only) means the information applies to the Windows XP operating system.
- (Macintosh) or (Macintosh only) means the information applies to the Mac OS X operating system.

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.

The Avid Xpress DV documentation uses the following special symbols and conventions:

1. Numbered lists, when the order of the items is important.
    a. Alphabetical lists, when the order of secondary items is important.
- Bulleted lists, when the order of the items is unimportant.
    - Indented dashed lists, when the order of secondary items is unimportant.
- ▶ One arrow indicates a single-step procedure. Multiple arrows in a list indicate that you perform one of the actions listed.

The ⌘ symbol refers to the Apple® or Command key. Press and hold the Command key and another key to perform a keyboard shortcut.

In this document, the term “user’s guide” refers to the *Avid Xpress DV User’s Guide.* The term “getting started guide” refers to the *Avid Xpress DV Getting Started Guide*. The term “online publications CD-ROM” refers to the *Avid Xpress DV Online Publications* CD-ROM.

`Courier Bold` font identifies text that you type.

Look here in the margin for tips.

In the margin, you will find tips that help you perform tasks more easily and efficiently.

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.

If You Need Help

If you're having trouble using Avid Xpress DV:

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.
2. Check the release notes supplied with your Avid application for the latest information that might have become available *after* the hardcopy documentation was printed.
3. Check the documentation that came with your Avid application or your hardware for maintenance or hardware-related issues.
4. Visit the online Knowledge Center at www.avid.com/support. Online services are available 24 hours per day, 7 days per week. Search this online Knowledge Center to find answers, to view error messages, to access troubleshooting tips, to download updates, and to read/join online message-board discussions.
5. For Technical Support, please call 800-800-AVID (800-800-2843).

   For Broadcast On-Air Sites and Call Letter Stations, call 800-NEWSDNG (800-639-7364).

Related Information

The following documents provide more information about the Avid Xpress DV product:

- *Avid Xpress DV Release Notes for the Windows XP Operating System*
- *Avid Xpress DV Release Notes for Mac OS X*
- *Avid Xpress DV Getting Started Guide*
- *Avid Xpress DV Quick Reference for the Windows XP Operating System*
- *Avid Xpress DV Quick Reference for Mac OS X*
- *Avid Xpress DV User's Guide*
- *Avid Xpress DV User's Guide Supplement* (available on the *Avid Xpress DV Online Publications* CD-ROM in PDF format)
- *Avid Color Correction User's Guide*
- *Avid Xpress DV Online Publications* CD-ROM

  This online collection provides electronic versions of most documents listed in this section, as well as documents for related Avid applications. You can view these documents with Adobe® Acrobat® Reader®, which you can install from the CD-ROM.

- Avid Xpress DV Help

  The Help system provides all the information included in the *Avid Xpress DV User's Guide,* the *Avid Xpress DV Effects Guide*, and the *Avid Color Correction User's Guide* supplied with your system. It also includes supplemental information not in the manuals. The Help operates in a Web browser. To open the Help, choose Avid Xpress DV Help from the Help menu in the Avid Xpress DV application. For information on using Help, click the Using Help button in the Help system.

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Chapter 1

Preparing to Work with Effects

Avid Xpress DV offers many effects that you can apply to your sequences. This chapter describes concepts you should understand before you begin creating and editing effects into sequences.

- Effect Types
- Effects Creation Tools
- Understanding Effect Playback Capabilities
- Using the Effect Palette
- Using Third-Party Plug-in Effects

Effect Types

Much overlapping occurs between the various types of effects you can create, as well as the methods used to create them. Your system offers four basic effect types.

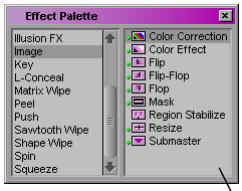
- **Transition effects** (dissolves, wipes, and so forth) are applied at the cut point between two video clips that are on the same video track (that is, the same video layer). For more information on creating transition effects, see Chapter 2, "Basics of Effects Editing" and Chapter 3, "Customizing Effects."
- **Segment effects** are applied to an entire clip or group of clips. There are two types of segment effects:
  - A **single-layer segment effect**, such as the Mask effect, is applied to a segment on one video track. Single-layer segment effects use one stream of video. For more information on creating single-layer segment effects, see Chapter 2, "Basics of Effects Editing" and Chapter 3, "Customizing Effects."
  - A **multilayer segment effect**, such as the Picture-in-Picture effect, is applied to the top layer or a middle layer of segments that contain two or more video tracks that will be played simultaneously. For more information on techniques for creating multilayer effects, see Chapter 6, "Creating Layered and Nested Effects."
- **Title effects** are created with the Title tool and edited onto their own layers in a sequence. For more information on techniques for creating and editing title effects, see Chapter 7, "Creating Titles and Graphic Objects" and Chapter 8, "Editing with Titles."
- **Motion effects** (freeze frame, variable speed, and strobe) are created by manipulating the playback characteristics of a clip of footage. For more information on techniques for creating motion effects, see Chapter 5, "Creating Motion Effects."

Effects Creation Tools

The following chart presents the basic tools used to create effects.

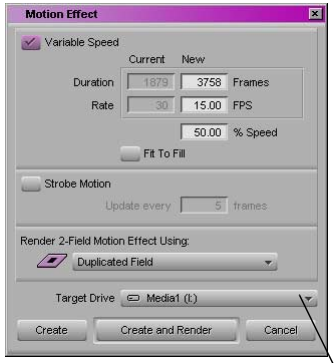
Sources of effects:

Effect Palette

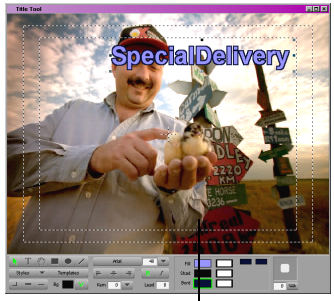


Apply transition and segment effects directly to tracks.

Motion Effect dialog box

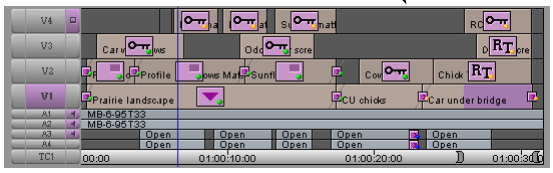


Title tool

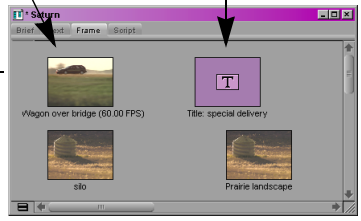


Title and motion effects appear first as clips in the bin.

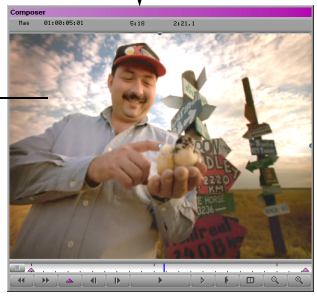
Effects editing in default editing mode:



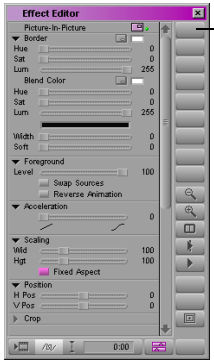
Edit effect clips into the Timeline.



Effects adjustment in Effect mode:



Effect Preview monitor: Allows you to preview an effect, manipulate keyframes, and manipulate wire-frame representations of the effect.



Effect Editor: Allows you to adjust effect parameters.

Understanding Effect Playback Capabilities

When you apply an effect to video in Avid Xpress DV, you change the look of that video, for example by altering its color values or by blending frames from one clip with frames from another. In some circumstances, your system is able to calculate these changes and display them in *real time*. In other circumstances, your system is unable to do this, so you must *render* the effect to play it at full speed. When you render an effect, the system calculates the changes made to each frame of the effect and stores them in a file, known as a *precomputed master clip* (or simply a *precompute*), which it can then use to play back the effect.

It is important to understand when you can use real-time effect playback to keep your effect editing work fast and flexible, and when you must render effects. The following paragraphs provide a brief introduction to the main alternatives available. For complete information on effect playback and rendering, see Chapter 4.

Most effects in Avid Xpress DV can be played in real time within the system while your work is still in progress. This allows you to preview the look of effects and make adjustments to them without having to render the effects. Your system cannot play motion effects or some third-party plug-in effects in real time; these effects must always be rendered before you can see how they look when playing at full speed.

Avid Xpress DV's ability to preview effects in real time is dependent on the complexity of the effects in your sequence and on system factors such as processor speed and available memory. For more information on real-time preview of effects, see "Real-Time Preview of Video Effects" on page 159.

If you want to preview effects that your system cannot play in real time without rendering them, you can use the Render On-the-Fly option to preview them frame by frame. For more information, see "Previewing Effect Frames with Render On-the-Fly" on page 158.

When you are ready to output a sequence that includes effects, you must render the majority of those effects. The exact number of effects that you must render for output depends on the following factors:

- Whether your output will be analog or DV
- How complex your sequence is, and especially how your effects are layered on multiple video tracks.

For more information, see “Rendering Effects” on page 167.

Using the Effect Palette

The Effect Palette is a window that lists all the effects available on your Avid Xpress DV system. The complete set of effects available on your system includes all standard Avid effects for your model as well as any additional third-party plug-ins you might have installed. You select transition and segment effects from the Effect Palette.

Understanding the Effect Palette

The left side of the Effect Palette displays a scrollable list of effect categories that includes the following standard categories as well as categories for any third-party plug-ins you have installed.

- Blend
- Box Wipe
- Conceal
- Edge Wipe
- Film
- IllusionFX™
- Image
- Key
- L-Conceal
- Matrix Wipe

- Peel
- Push
- Sawtooth Wipe
- Shape Wipe
- Spin
- Squeeze

If you have effect templates saved in an open bin, or if you have third-party plug-in effects installed on your system, additional effect categories appear in the Effect Palette.

The IllusionFX category appears in the Effect Palette and contains the IllusionFX Pack plug-ins that are standard with your Avid system. For information on IllusionFX Pack effects, see the Help or the documentation in the Goodies folder on the application CD-ROM: Goodies\IllusionFXPack\IllusionFXPack.pdf.

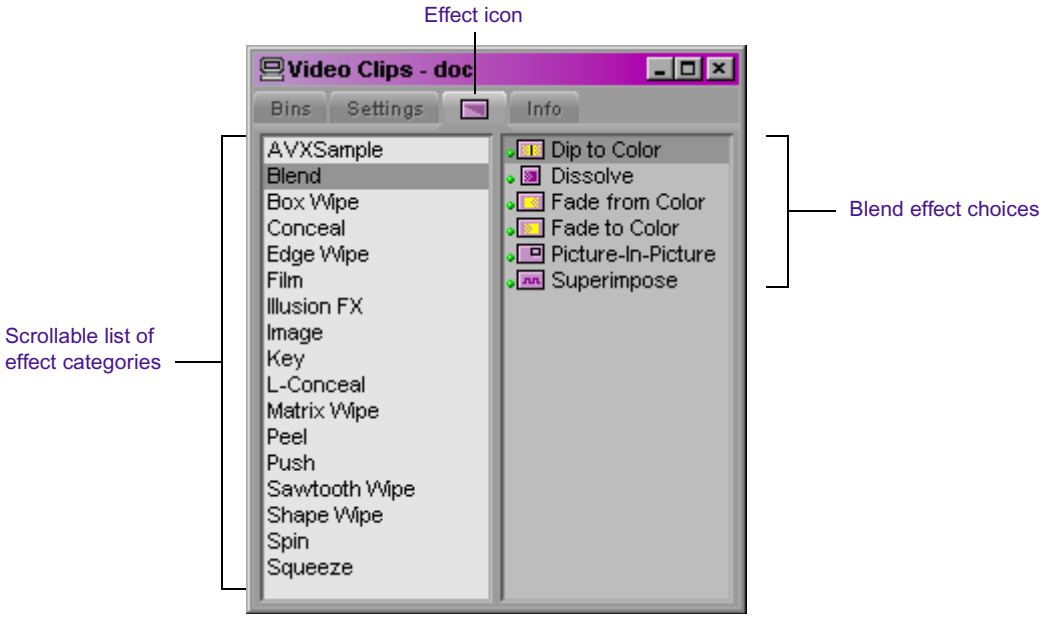
The right side of the Effect Palette shows a list of the individual effects available for the currently selected effect category. Each effect has its own effect icon. Effects that are or might be playable in real time appear with a color-coded dot. For more information, see "Enabling Real-Time Effects" on page 161.

Displaying the Effect Palette

You can display the Effect Palette within the Project window or as a standalone window.

To display the Effect Palette within the Project window:

1. In the Project window, click the Effects tab, which displays the Effect icon.

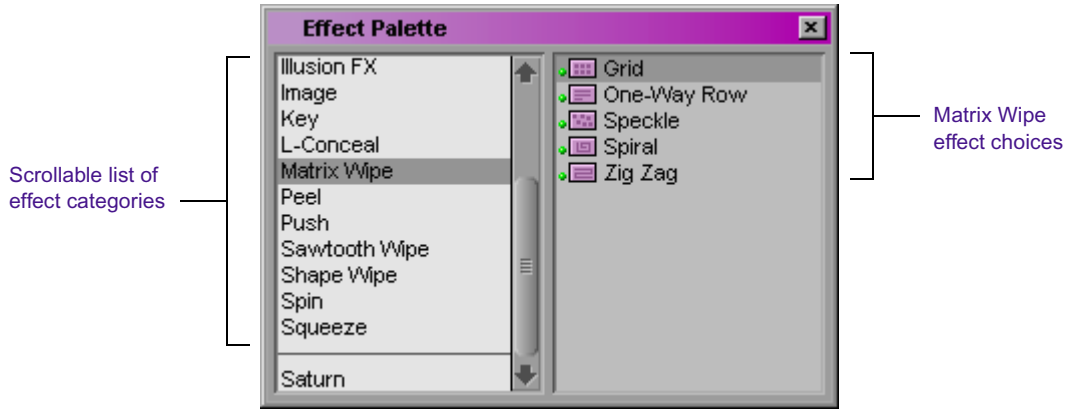


2. Click an effect category in the left side of the Effect Palette to select it and display effects in that category in the right side.

To display the Effect Palette as a standalone window:

1. Do one of the following:
   - From the Tools menu, choose Effect Palette.
   - Press Ctrl+8 (Windows) or ⌘+8 (Macintosh).

   The Effect Palette opens.



2. Click an effect category in the left side of the Effect Palette to select it and display effects in that category in the right side.

Resizing the Effect Palette

You can resize the Effect Palette to display more effects when a particular category includes a long list of icons.

To resize the Effect Palette:

- Click the lower right corner of the standalone palette or of the Project window, drag the palette to the size you want, and then release the mouse button.

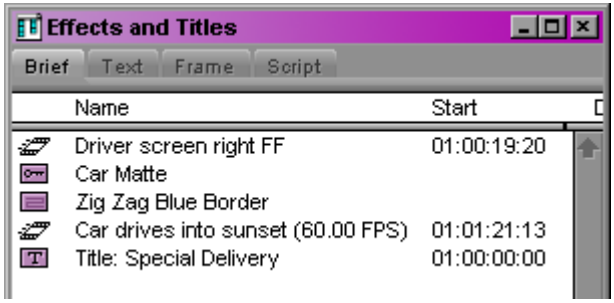
Displaying Effect Templates

Effect templates allow you to save the parameters of an effect to a bin and use them again to create or modify other effects. To learn more about applying templates, see “Using an Effect Template” on page 150.

In addition to displaying all the standard effects, the Effect Palette allows you to view and access effect templates stored in open bins. The names of open bins containing effects appear in a list below the effect categories.

To view effect templates:

1. Open the bin containing the effect templates.



2. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.

   The Effect Palette opens.
3. Click the bin name below the effect category list to view the effect templates in the bin.

For example, in the preceding illustration, the bin named Effects and Titles contains effect templates using the Zig-Zag Matrix and Matte Key effects.

The Effect Palette also displays other effect files, such as matte key clips.

Whenever you open or close a bin and whenever you drop an effect into a bin, Avid Xpress DV automatically updates both lists. Once a template appears in the right side of the Effect Palette, you can apply it as you would any other effect.

Using Third-Party Plug-in Effects

You can use third-party plug-in effects to add new effects to your Avid Xpress DV system or to update existing effects.

Understanding AVX Plug-Ins

Third-party plug-in effects are compatible with the Avid Visual Extensions (AVX™) standard. AVX is a cross-platform software architecture designed to allow software effect modules to be dynamically linked with a host application such as an Avid editing system.

If you are transferring from another system a project that includes sequences with AVX plug-in effects, you must install matching AVX plug-ins to see the effects.

You can purchase these plug-ins directly from a third-party vendor. Two of the current AVX plug-in vendors are:

- Ultimatte Corporation (Ultimatte®)

  www.ultimatte.com

- Artel Software (Boris FX™)

  www.borisfx.com

For a complete, up-to-date list of AVX plug-in vendors and other information on AVX, see the AVX Web site:

www.avid.com/partners/avx/index.html

After you install third-party plug-ins, the effects appear in the Effect Palette in their own category (usually the name of the plug-in vendor). Individual effects all have a plug effect icon. The plug icon also appears in the Timeline when you apply a third-party plug-in effect. After you create an effect, you can save it as an effect template and reapply the template to other transitions or segments in your sequence. Effect templates also appear in a special section at the bottom of the Effect Palette.

Your Avid Xpress DV system also supports Digidesign® AudioSuite™ plug-ins. These plug-ins apply only to audio clips and do not appear in the Effect Palette. For more information, see the chapter "Working with Audio" in the user's guide.

IllusionFX Pack Plug-Ins

The IllusionFX category in the Effect Palette contains a number of AVX plug-ins that are standard on your Avid system. For information on these effects, see the Help for your system or the documentation in the following folder on the application CD-ROM:

Goodies\IllusionFXPack\IllusionFXPack.pdf

Installing AVX Plug-Ins

AVX plug-ins usually come complete with any necessary documentation. This section describes how to install the plug-ins and how to access them from your Avid Xpress DV system.

Most AVX plug-ins have their own installation program. This program locates the AVX_Plug-Ins folder and installs the plug-ins automatically when you follow the installation instructions.

If an AVX plug-in has an installation program, you should always use the program to install the plug-ins. For more information, see the documentation for the plug-in.

Some AVX plug-ins do not have an installation program and must be installed manually.

To install AVX plug-ins manually:

1. Quit the Avid Xpress DV application.

Do not add or remove plug-ins while Avid Xpress DV is running.

2. Copy the plug-in files from the software vendor's folder to the AVX_Plug-Ins folder located on your Avid Xpress DV system.

   The default location for the AVX_Plug-Ins folder is:

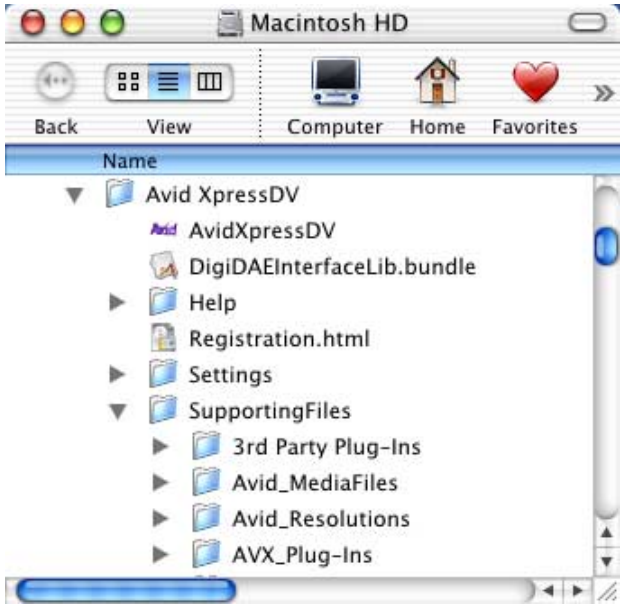
   C:\Program Files\Avid\AVX_Plug-Ins (Windows)

   Avid:Avid Xpress:SupportingFiles:AVX_Plug-Ins (Macintosh)

   However, the AVX_Plug-Ins folder might be in a different location on your system.

(Windows only) If the AVX_Plug-Ins folder does not appear in the default location and you don't know its location, you can locate the folder by using the Regedit application. For more information, see *"Locating the AVX Plug-Ins Folder (Windows Only)" on page 40.*

The following illustration shows the location of the AVX_Plug-Ins folder within the Avid file structure on a Macintosh system.



3. Restart the Avid Xpress DV application, and open the Effect Palette. The AVX plug-in effects appear in the Effect Palette, usually in their own category under the name of the vendor.

You must place the plug-ins directly in the AVX_Plug-Ins folder. They cannot be inside another folder within this folder or elsewhere on your Avid Xpress DV system. If they are, Avid Xpress DV will not recognize them.

If the plug-in effects do not appear in the Effect Palette after installation, see "Troubleshooting AVX Plug-Ins" on page 44.

Locating the AVX Plug-Ins Folder (Windows Only)

When the Avid Xpress DV application is first installed, the installation program asks the administrator to choose a location for the AVX_Plug-Ins folder. The default path is:

C:\Program Files\Avid\AVX_Plug-Ins

If the administrator accepts the default location for the AVX_Plug-Ins folder, you can install AVX plug-ins here.

If the AVX_Plug-Ins folder is not in the default location, or if the effects are not appearing in the Effect Palette after you install them, you can use the Regedit application that comes with your Windows system to identify the location of the AVX_Plug-Ins folder.

Use the following procedure only to obtain information on the location of the AVX_Plug-Ins folder. Do not change any of the information in the Windows Registry. Changing values in the Windows Registry might affect the performance of your system.

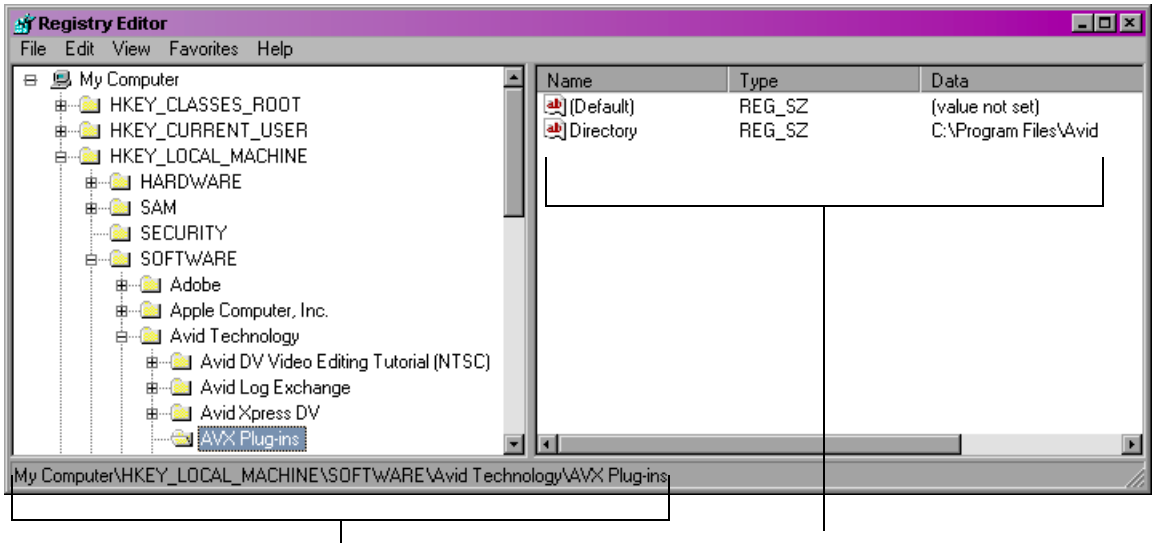
To locate the AVX_Plug-Ins folder by using Regedit:

1. Click the Start button, and then click Run.
2. Type **`regedit`** in the command line, and click OK.

   The Registry Editor window opens.
3. In the left pane of the window, navigate to the following path:

   HKEY_LOCAL_MACHINE\SOFTWARE\Avid Technology\AVX Plug-Ins
4. Click the AVX Plug-Ins folder in the left pane, and then check the entry for “Directory” in the right pane.

   The value of this entry is the path that contains the AVX_Plug-Ins folder. For example, if the AVX_Plug-Ins folder is in its default location, the Directory entry will be “C:\Program Files\Avid.” If you navigate to C:\Program Files\Avid by using My Computer or Windows Explorer, you will find the AVX_Plug-Ins folder in that location.



Remember that AVX plug-ins must be installed in the AVX_Plug-Ins folder itself, not elsewhere in the path that contains that folder.

Upgrading AVX Plug-ins and Effects

You can upgrade an AVX plug-in simply by uninstalling the old version of the plug-in and installing the new version in your AVX_Plug-Ins folder.

Once you have installed a new version of an AVX plug-in, Avid Xpress DV upgrades older effects in sequences to be compatible with the new version. The parameter values previously set by the user for an effect appear in the Effect Editor or in the plug-in's own user interface.

If the new version of the plug-in has new or redesigned parameter controls, Avid Xpress DV sets these controls to their default settings when upgrading existing effects. Controls that are unchanged from the older version of the plug-in retain the values previously set by the user when Avid Xpress DV upgrades existing effects.

After you upgrade a plug-in effect or transition, you should not reinstall the older version of the plug-in. Avid Xpress DV cannot use an older version of a plug-in to process effects that have been created with a newer version. Similarly, if you transfer projects between systems, an effect created with a newer version of a plug-in will not work on a system that has an older version installed.

Assigning Multiple Tracks in Plug-in Effects

Some plug-in effects can take an arbitrary number of tracks as input. Your system allows you to choose the number of video inputs from the AVX Optional Inputs dialog box.

For more information on the multiple-track capabilities of a plug-in, see the documentation for that plug-in.

To assign multiple tracks to a plug-in effect by using the AVX Optional Inputs dialog box:

1. Drag the plug-in icon to the Timeline.
2. When the AVX Optional Inputs dialog box appears, select the number of video inputs you want from the Number of Tracks pop-up menu, and then click OK.

For more information on nested effects, see “Nesting Effects” on page 224.

Using AVX Plug-in Controls

AVX plug-ins use a variety of different interfaces that give you control over the effects. Some plug-ins use custom interfaces that appear in their own dialog boxes. Others use some combination of controls that appear within the Effect Editor. These controls might include standard Avid controls familiar from Avid effects, custom controls designed by Avid for use by plug-in vendors, and custom controls designed by the plug-in vendors themselves.

Accessing an AVX Custom Interface

If an AVX plug-in has a custom interface, you access that interface from the Effect Editor.

To access an AVX plug-in's custom interface:

- Click the Other Options button in the Effect Editor.

The AVX plug-in's custom interface appears.

Dialog boxes that appear as part of an AVX plug-in's custom interface are modal dialog boxes. If you move one of these dialog boxes, the screen behind the dialog box will not redraw. To restore your screen, close the dialog box.

Custom AVX Controls in the Effect Editor

This section introduces some of the custom controls that might appear in the Effect Editor for an AVX plug-in effect. For more information on using these controls, and other controls specific to individual effects, see the documentation for the plug-in.

Some plug-in effects allow you to adjust an image by using controls that appear as overlays, such as handles and wire frames, in the Effect Preview monitor. You access these overlays by clicking the Outline/Path button at the bottom of the Effect Editor. In some cases, you can then access additional controls by clicking buttons on the right side of the Effect Editor.

The following Effect Editor parameters, which are not available in standard Avid effects, are available to some AVX plug-in effects:

- The Thumbwheel is a slider that provides a window on a wide range of values and allows precise control over increments.

- The Angle parameter category allows you to manipulate an effect's angle or direction by dragging within a graphic representation of a circle to alter the angle or direction value. Values can be positive or negative and are not limited to a single 360° rotation.

Troubleshooting AVX Plug-Ins

This section describes problems that you might encounter with AVX plug-ins and makes suggestions for possible solutions or sources for more information.

If a plug-in does not work as expected and the following suggestions do not solve the problem, contact the plug-in vendor.

Plug-in Does Not Appear in the Effect Palette

AVX plug-ins have a plug icon in the Effect Palette and in the Timeline. If the plug icon does not appear in the Effect Palette after installation, the plug-in might be in the wrong folder. For information on locating the AVX_Plug-Ins folder on a Windows system, see "Locating the AVX Plug-Ins Folder (Windows Only)" on page 40.

Plug-in Does Not Load

AVX plug-ins might not load correctly for a variety of reasons. In particular, even though it is installed correctly in the AVX_Plug-Ins folder, a plug-in might require supporting files (for example, .dll files) that are missing from your system or are installed in the wrong location.

If a correctly located plug-in does not load, check the plug-in documentation for information on required supporting files.

Avid Xpress DV Cannot Render the Plug-In

If Avid Xpress DV cannot render the plug-in, possible causes include the following:

- The plug-in has expired.
- The plug-in's application key is missing or damaged.

Some plug-ins write more information about the failure to the Console window. Also, some plug-ins might report the problem in a message box.

Blank Effect Icons in the Timeline

AVX plug-ins have a plug icon in the Effect Palette and in the Timeline. If the effect icon in the Timeline is blank, Avid Xpress DV could not find the plug-in.

To identify a plug-in that is missing or misplaced:

- Open the Console window (choose Console from the Tools menu), and look for the message "Can't find effect."

  The message identifies the plug-in that Avid Xpress DV cannot locate. You can then reinstall the plug-in in your AVX_Plug-Ins folder and restart Avid Xpress DV.

Missing Effect Categories in the Effect Palette

If you cannot see the plug-in categories in the Effect Palette, you might have an incorrect version of the AVXLibrary or the plug-ins might not have been installed correctly. In this case, check the Console window for a message that states that AVX is disabled. If it is not disabled, quit the Avid Xpress DV application, reinstall the plug-ins, and restart the application.

If the message in the Console window states that AVX is disabled, call Avid Customer Support to determine whether you need a new version of the AVXLibrary.

Chapter 2

Basics of Effects Editing

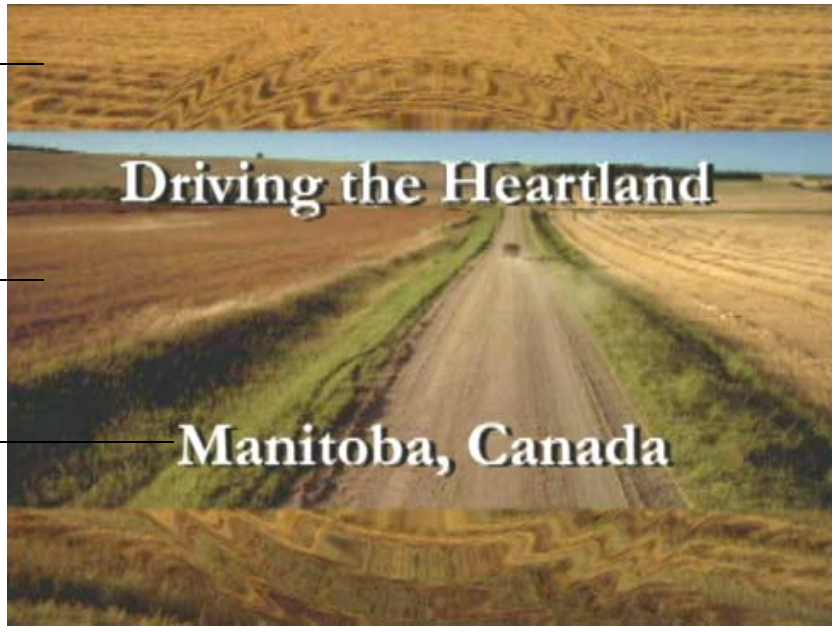
This chapter explains how to create basic transition and single-layer segment effects.

- Deconstructing Effects
- Applying Effects to a Sequence
- Deleting Effects in a Sequence
- Using the Fade Effect Button
- Working with Transition Effects

Deconstructing Effects

Breaking down existing effects into their basic elements provides one good way to understand how Avid Xpress DV builds effects. By learning how the various pieces fit together, and how Avid Xpress DV allows you to manipulate them, you can begin to construct new effects from these building blocks.

The sequence depicted in the following Timeline contains a series of effects that cover all the basic techniques — from simple dissolves to nested layers.



The sequence includes both transition and segment effects applied horizontally, vertically, and nested within video tracks. The callouts summarize deconstructed elements and list the sections of this guide that describe them in more detail.

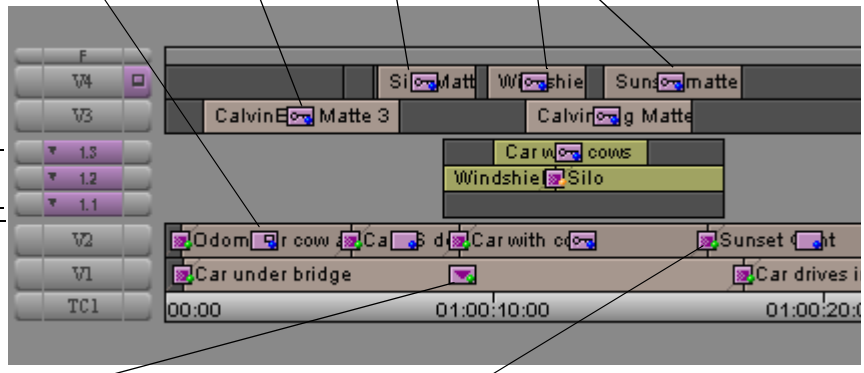
Deconstructing an Effects Sequence

Imported graphic used as a wipe: See "Working with Imported Graphics and Animation" on page 221.

Title graphics imported as Matte Key effects: See "Working with Imported Graphics and Animation" on page 221.

Effect template applied repeatedly to crop and position foreground images on V2: See "Applying an Effect Template" on page 152.

Keyed titles are faded in and out: See "Using the Fade Effect Button" on page 58.



Nested segments add more layers to the foreground track: See "Nesting Effects" on page 224.

Submaster segment, created from collapsed layers, forms the background on V1: See "Submaster Editing" on page 231.

Dissolve sequence forms the foreground on V2: See "Applying an Effect to Multiple Transitions" on page 53 and "Working with Transition Effects" on page 59.

Various effect parameters are adjusted throughout to soften, distort, or position images: See "Using the Effect Editor" on page 86.

Applying Effects to a Sequence

This section explains how to apply an effect to a sequence in the Timeline. You can apply an effect to:

- One transition or segment on a single video layer
- Multiple transitions or segments

The effect type (transition or segment) determines where you can place the effect in the sequence. For an explanation of the effect types, see "Effect Types" on page 28. For information on individual effects, see "2D Effects" on page 349.

After you apply an effect, the next step is to adjust the effect's parameters. To understand how to adjust the effect parameters, see "Understanding Effect Parameters" on page 91.

Applying an Effect to a Single Transition or Segment

This section describes how to add a single transition or segment effect to a single video layer by dragging an effect from the Effect Palette or by double-clicking a segment or transition.

You can also apply several of the most common transition effects, such as the Dissolve effect, by clicking the Quick Transition button. For more information, see "Using the Quick Transition Button" on page 63.

Dragging an Effect from the Effect Palette

To apply an effect to a single transition or segment:

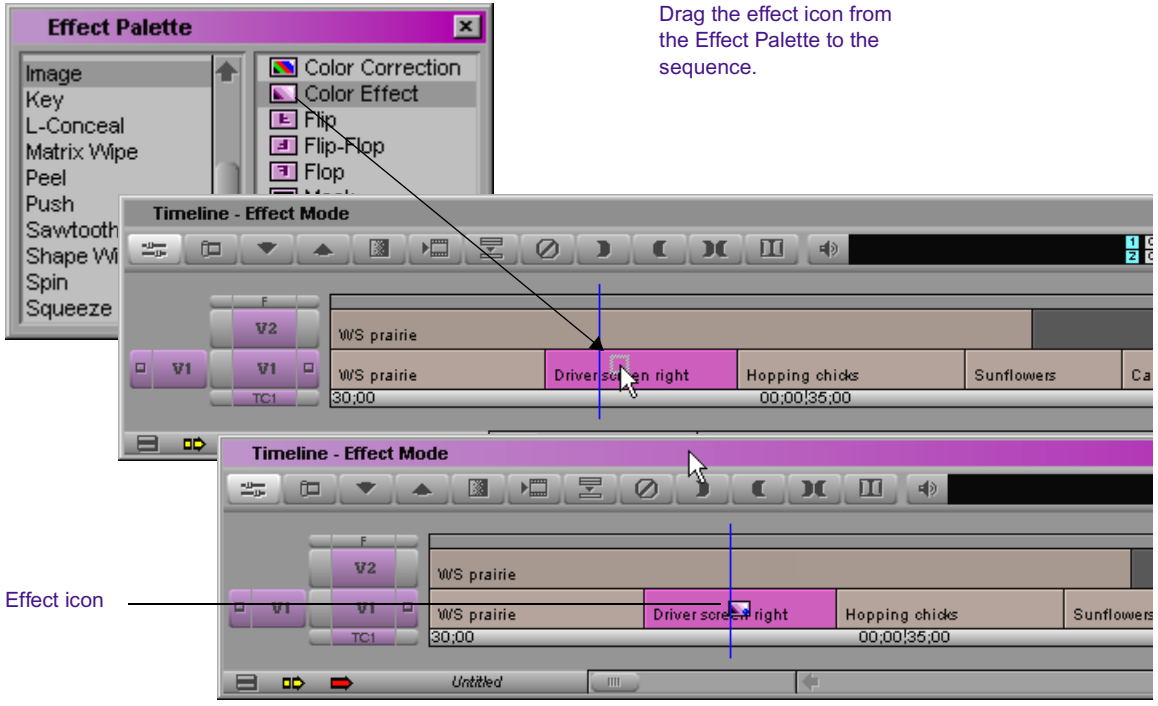
1. Create a sequence in the Composer monitor, using standard Avid editing procedures.

   For information about editing a sequence, see the chapter "First Edits" in your user's guide.

2. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.

   For an explanation of the Effect Palette, see "Using the Effect Palette" on page 31.
3. Click the effect icon in the Effect Palette, drag it to the segment or transition in the Timeline, and release the mouse button.

   The effect icon appears in the Timeline as shown in the following example.



If the effect is a transition effect and the sequence does not have enough incoming or outgoing media to apply that effect, a dialog box appears. For more information, see "Sizing the Effect to Fit the Media" on page 74.

If the effect is a segment effect, one segment at a time is highlighted as you drag the effect within the Timeline. If the effect is a transition effect, one transition at a time is highlighted as you drag the effect within the Timeline. Some effects are both transition and segment effects; when you drag such an effect within the Timeline, both transitions and segments are highlighted.

Double-Clicking an Effect Icon in the Effect Palette

To apply an effect to a single segment:

1. Create a sequence in the Composer monitor, using standard Avid editing procedures.

   For information about editing a sequence, see the chapter "First Edits" in your user's guide.

2. Open the Effect Palette by doing one of the following:

   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.

3. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline.
4. Click the segment to which you want to add the effect.
5. Double-click the effect icon in the Effect Palette.

   The effect icon appears in the Timeline.

If the effect is a transition effect and the sequence does not have enough incoming or outgoing media to apply that effect, a dialog box appears. For more information, see "Sizing the Effect to Fit the Media" on page 74.

To apply an effect to a single transition in Trim mode:

1. Create a sequence in the Composer monitor, using standard Avid editing procedures.
2. Open the Effect Palette by doing one of the following:

   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.

3. Click the transition where you want to add the effect.
4. Double-click the effect icon in the Effect Palette.

   The effect icon appears in the Timeline.

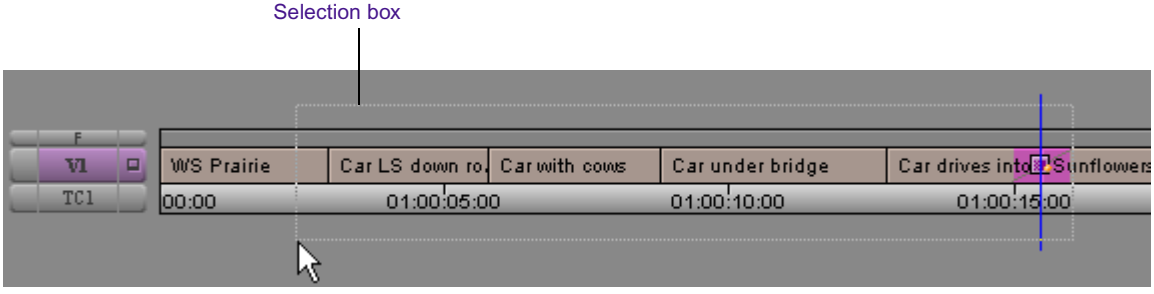
If the effect is a transition effect and the sequence does not have enough incoming or outgoing media to apply that effect, a dialog box appears. For more information, see "Sizing the Effect to Fit the Media" on page 74.

This procedure for adding a transition effect works only in Trim mode. See "Creating a Dissolve in Trim Mode" on page 61.

Applying an Effect to Multiple Transitions

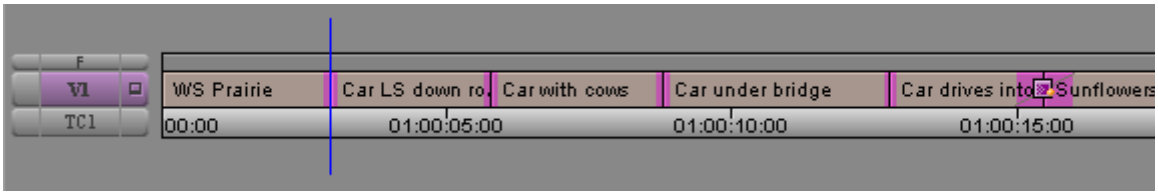
To apply an effect to multiple transitions:

1. If there is not already an effect on one of the transitions, add a transition effect. Avid Xpress DV allows you to perform this procedure only if one of the transitions already has an effect on it.
2. Choose Effect Editor from the Tools menu.
3. Click the transition effect described in step 1.
4. If the Effect Editor is blank, click the Effect Editor to display the information for the transition effect.
5. Click *above* the Timeline, and begin dragging to activate a selection box. Continue to drag down and either to the left or right to include additional transitions in the selection.



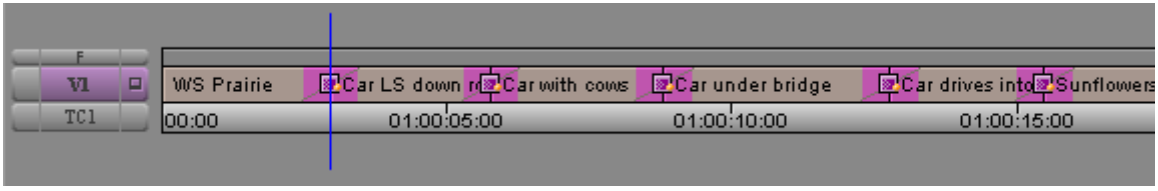
6. Release the mouse button when you have lassoed all the transitions you want.

   The transitions that you selected are highlighted, and the position indicator moves to the first transition.



7. If the transitions where you want to apply the effect are not contiguous, Shift+click any transition to deselect it.
8. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.
9. Double-click the icon for the effect that you want to apply to the transitions.

   The effect appears on the highlighted transitions in the Timeline.



If the sequence does not have enough incoming or outgoing media to apply the transition effect, a dialog box appears. For more information, see *"Sizing the Effect to Fit the Media" on page 74.*

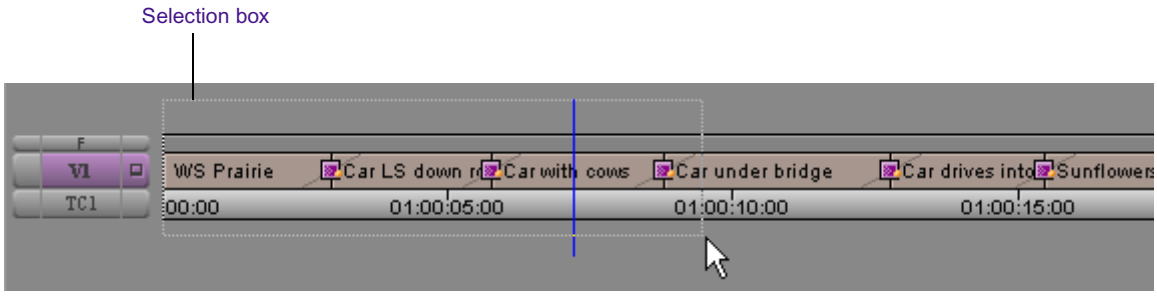
Applying an Effect to Multiple Segments

You can apply an effect to multiple segments on the same video layer or on multiple video layers in a single step. The following procedure describes selecting multiple segments in the same video layer. You can also use this procedure to select segments on multiple layers.

You cannot apply effects to multiple segments while in Trim mode.

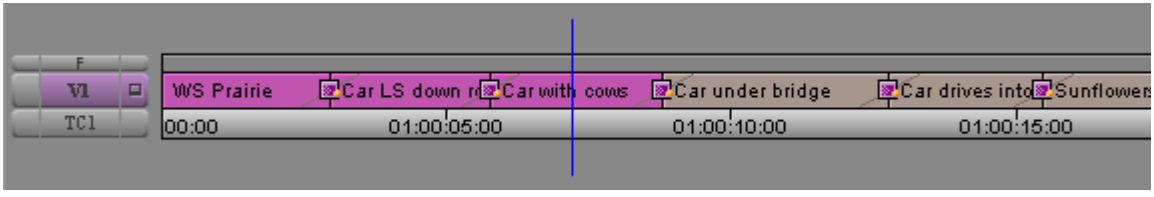
To apply an effect to multiple segments on the same video layer:

1. Click *above* the Timeline and to the left of the leftmost segment that you want to select, and begin dragging to the *right* and *down* to activate a selection box.
2. Continue to drag the selection box to the right until you lasso the rightmost segment that you want to select.



3. Release the mouse button.

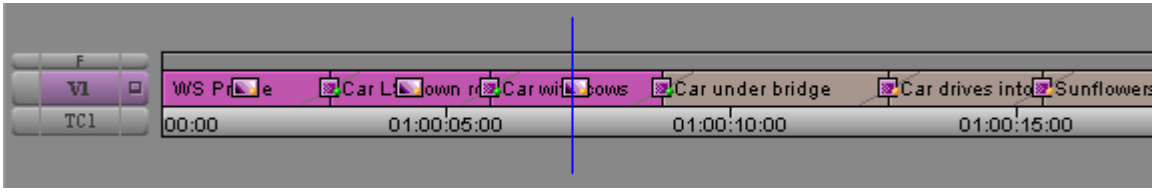
   Avid Xpress DV highlights the segments you selected.



4. If the segments where you want to apply the effect are not contiguous, Shift+click a segment to deselect it. You can also Shift+click to add one or more segments.

5. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.
6. Double-click the effect's icon that you want to apply to the segments.

   Avid Xpress DV applies the effect to the highlighted segments in the Timeline.



Deleting Effects in a Sequence

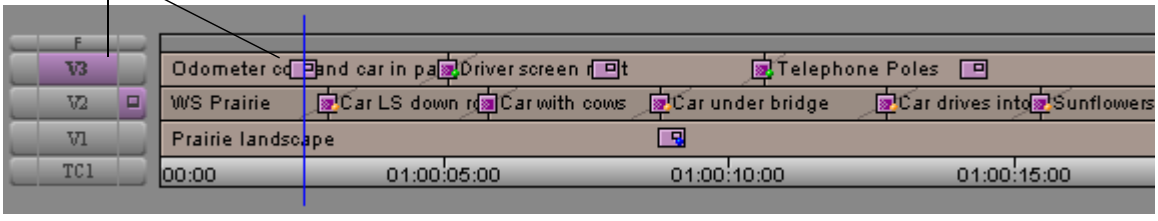
You can delete transition effects from a sequence in the Timeline at any time. You can delete segment effects from a sequence in the Timeline at any time except when you are in Trim mode. Use the following procedures to either delete a single effect from a sequence or delete effects in multiple segments.

Deleting a Single Effect

To delete a single effect:

1. Move the position indicator to the Timeline segment containing the effect's icon.

The track containing the effect is selected.



2. If multiple tracks contain effects at the same position in the Timeline, select only the track where the effect to be deleted resides.

   In this example, only track V3 is selected.

If you delete a segment effect and the segment contains a transition effect, the transition effect will be deleted as well, because the transition effect resides "on top of" the segment effect. If necessary, you will have to reapply the transition effect.

3. Delete the effect by doing one of the following:

   - If the Effect Editor is not active, click the Remove Effect button in the Tool palette.

     For information on opening the Tool palette, see "Using the Tool Palette" in the chapter "Viewing and Marking Footage" in the user's guide.

   - When the Effect Editor is active, select the effect and press the Delete key.

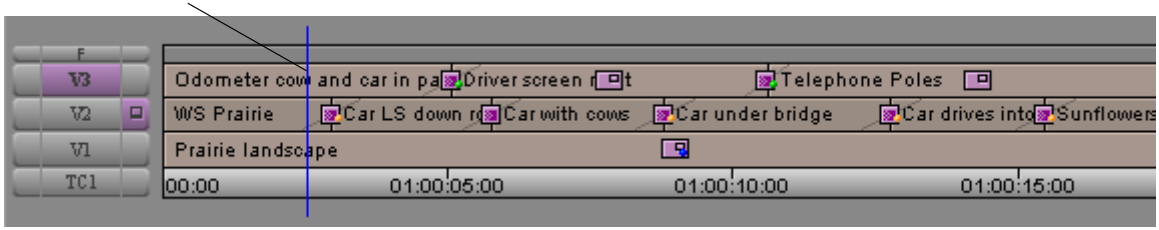
     To open the Effect Editor, choose Effect Editor from the Tools menu.

   - In Trim mode (for transition effects only), either press the Delete key or click the Remove Effect button.

     For information on entering Trim mode, see "Entering Trim Mode" in the chapter "Working in Trim Mode" in the user's guide.

When you delete an effect from a sequence, Avid Xpress DV does not *delete the associated media file. To delete the effect's media file, you must manually remove it from the drive. Avid Xpress DV operates this way so that you will be able to undo the deletion of an effect or undo the change you made to an effect. To delete an effect's media file, see* *"Managing Effect Media Files" on page 188.*

The effect is removed.



Deleting Multiple Transition Effects

To delete multiple transition effects:

1. Shift+click each transition effect you want to delete.
2. Click the Remove Effect button, or press the Delete key.

Deleting Multiple Segment Effects

To delete multiple segment effects:

1. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline.
2. Shift+click each segment that contains a segment effect you want to delete.
3. Click the Remove Effect button, or press the Delete key.

Using the Fade Effect Button

You can use the Fade Effect button to fade segment effects quickly and easily. A dialog box appears that allows you to enter the number of frames to fade up and fade down.

The Fade Effect feature automatically creates keyframes for the effect. You can access the keyframes in the Effect Editor.

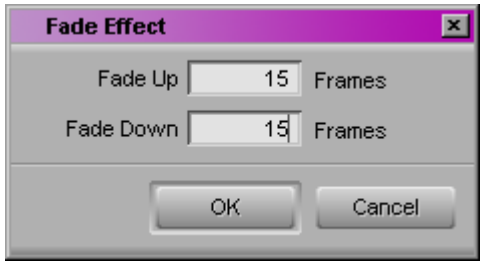
To fade one or more segment effects in a sequence:

1. Make a selection in the Timeline by doing one of the following:
   - To fade a single segment effect, move the position indicator to the segment.
   - To fade multiple segment effects, click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline; then Shift+click the segments.

2. Click the Fade Effect button in the Tool palette.

   For information on opening the Tool palette, see “Using the Tool Palette” in the chapter “Viewing and Marking Footage” in the user’s guide.

   The Fade Effect dialog box appears.



3. In the Fade Effect dialog box, type the number of frames to fade up and fade down, and click OK.

   You can immediately view the Fade effect by playing the segment or segments.

Working with Transition Effects

You apply a transition effect to the cut point between two clips on the same video track. You can adjust the alignment and duration of a transition effect. Depending on the specific effect, other effect parameters might also be available.

Transition effects are included in all effect categories in the Effect Palette, except the Image effect category. For an explanation of the transition effects in each effect category, see Chapter 9.

Applying a Dissolve Effect

One of the most common transition effects is a dissolve. Avid Xpress DV has four methods you can use to apply the Dissolve effect:

- Select the Dissolve effect from the Effect Palette.

  For more information, see "Using the Effect Palette to Create a Dissolve Effect" on page 60.

- In Trim mode, use the Transition parameters to create a dissolve.

  For more information, see "Creating a Dissolve in Trim Mode" on page 61.

- Use the Head Fade or Tail Fade button.

  For more information, see "Adding Dissolves with the Head Fade and Tail Fade Buttons" on page 62.

- Click the Quick Transition button in the Tool palette.

  You can also use the Quick Transition button as a fast method for creating and adjusting several other common transition effects. For more information, see "Using the Quick Transition Button" on page 63.

Using the Effect Palette to Create a Dissolve Effect

To apply a Dissolve effect using the Effect Palette:

1. Create a sequence in the Composer monitor using standard editing procedures. For information about editing a sequence, see the chapter "First Edits" in the user's guide.
2. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.
3. Click the Blend category.

4. Drag the Dissolve Effect icon to the transition in the Timeline, and release the mouse button.

   The Dissolve Effect icon appears in the Timeline.

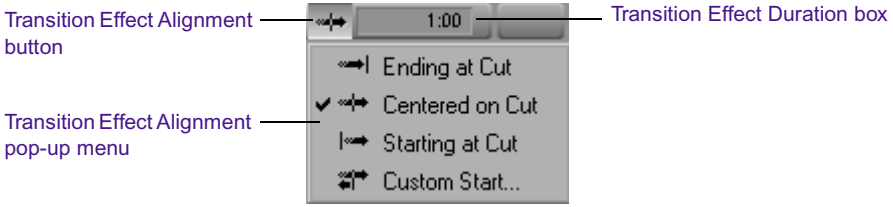
If the sequence does not have enough incoming or outgoing media to apply a transition effect, a dialog box appears. See "Sizing the Effect to Fit the Media" on page 74.

Creating a Dissolve in Trim Mode

You can create a Dissolve effect in Trim mode using the Transition parameters displayed in the Effect Editor and in the Composer monitor.

To create a Dissolve effect using the Transition parameters:

1. Click a transition in the Timeline while in Trim mode.
2. In the Transition Effect Duration box in the Effect Editor or in the Composer monitor, type the dissolve's duration.



   This adds the Dissolve effect at the transition and a Dissolve effect in the Timeline.

The Duration setting determines the duration format above the Composer monitor, for example, seconds:frames. For more information, see the chapter "Working in Trim Mode" in the user's guide.

3. Click the Transition Effect Alignment button, and select the effect's position relative to the cut point from the pop-up menu.

   For an explanation of the Transition Effect Alignment pop-up menu selections, see "Transition Parameters" on page 348.

Adding Dissolves with the Head Fade and Tail Fade Buttons

You can use the Head Fade button and Tail Fade button to add dissolves on one or more video tracks (or fades on one or more audio tracks).

You can map the Head Fade button and Tail Fade button from the Command palette to a key on your keyboard or to an existing button location such as the Tool palette. For more information, see "Mapping User-Selectable Buttons" in the chapter "Using Basic Tools" in the user's guide.

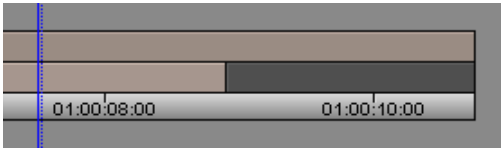
To add dissolves using the Head Fade and Tail Fade buttons:

1. Move the position indicator to a clip where you want the dissolve to end or begin.

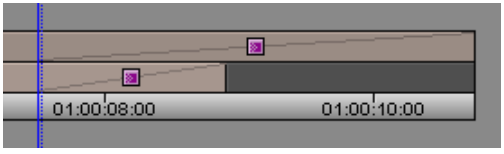
   For example, if you move the position indicator ten frames after the beginning of the clip and then use the Head Fade button, the system creates a ten-frame dissolve that lasts from the beginning of the clip to the location of the position indicator.

2. Select the tracks on which you want to create dissolves.

   If you choose more than one track, the system creates dissolves of appropriate lengths for each track, as shown in the following illustration.



Before



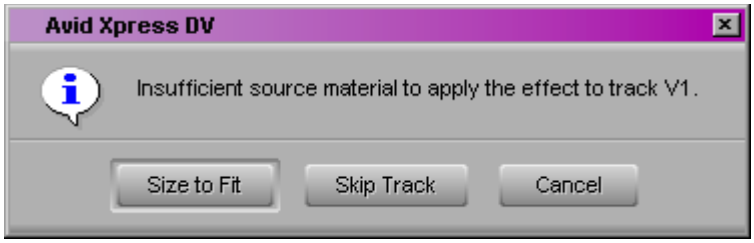
After — Two dissolves of different lengths are created on the two tracks.

3. Choose Command Palette from the Tools menu.
4. Click the FX tab, and then click Active Palette.

5. Click the Head Fade or the Tail Fade button.

   The dissolves appear in the Timeline. If a dissolve begins or ends at the edit point between two clips, the dissolve crosses between the two clips. Otherwise the dissolve is a fade from or to black.

6. (Option) If, for any selected track, there is insufficient source media to create a dissolve of the length you specified with the position indicator, a message box appears.



Do one of the following:

- Click Size to Fit.

  The system creates the longest dissolve possible. For more information on sizing effects to fit available media, see "Sizing the Effect to Fit the Media" on page 74.

- Click Skip Track.

  The system does not create a dissolve on the track with insufficient source material but does create dissolves on any other selected tracks with sufficient source material.

- Click Cancel.

  The system does not create any dissolves.

Using the Quick Transition Button

You can create common transition effects by clicking the Quick Transition button.

This button allows you to apply the following transition effects without using the Effect Palette:

- Dissolve
- Fade to Color
- Fade from Color
- Dip to Color

You can choose to add the same transition effect to multiple transitions at the same time by marking IN and OUT points in your sequence that select all the transitions to which you want to apply the effect. When you click the Quick Transition button, the Quick Transition dialog box will contain a check box for Apply to All Transitions (IN -> OUT). For more information, see "Applying Effects to Multiple Transitions Using the Quick Transition Button" on page 67.

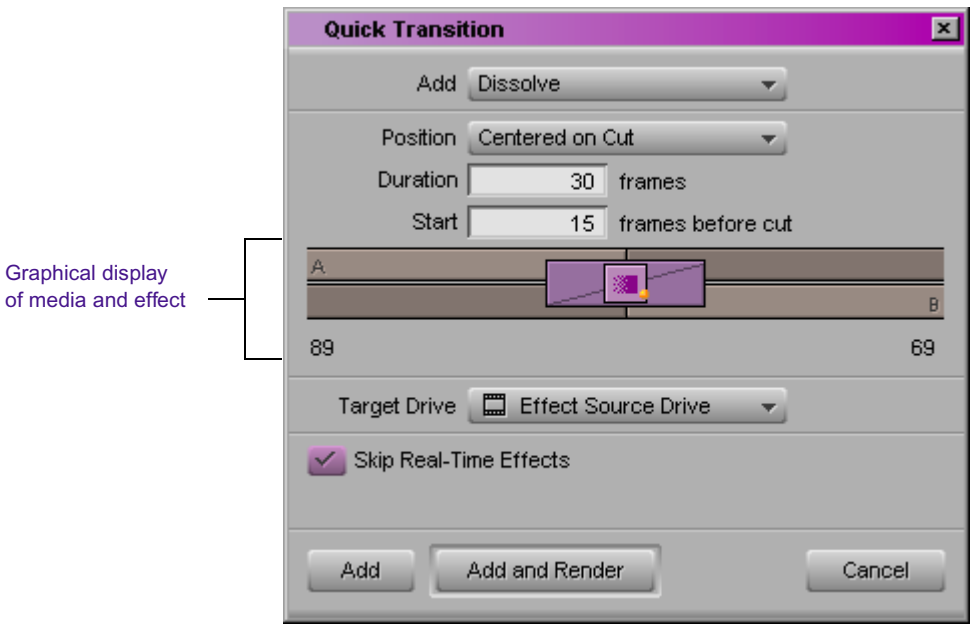
Creating an Effect Using the Quick Transition Button

To create an effect using the Quick Transition button:

1. Move the position indicator to the transition in the Timeline.
2. Click the Quick Transition button in the Tool palette.

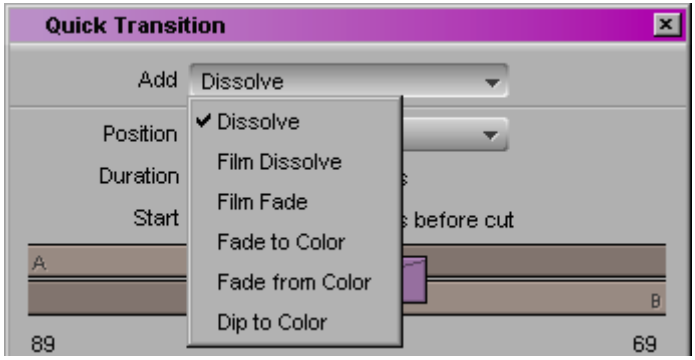
   For information on opening the Tool palette, see "Using the Tool Palette" in the chapter "Viewing and Marking Footage" in the user's guide.

   The Quick Transition dialog box appears.



The dialog box includes a graphical display of the outgoing media and incoming media, with the effect icon applied to the transition. For more information, see "Understanding the Graphical Display in the Quick Transition Dialog Box" on page 70.

3. Choose a transition effect from the Add pop-up menu.



For an explanation of individual effects shown in the menu, see "Blend Effects" on page 350.

When you save a Dissolve effect template into a bin named Quick Transitions, the effect template appears in the Add pop-up menu. See "Using an Effect Template" on page 150.

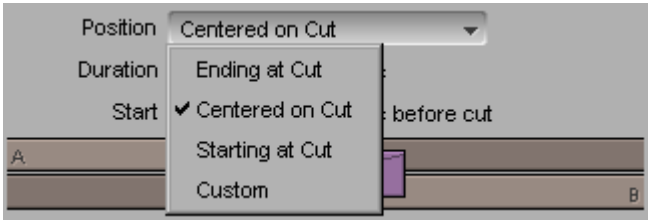
When you choose a color transition with Quick Transition, the default color is black. You must enter Effect mode to choose another color. For more information, see "Using the Effect Editor" on page 86.

4. Select the transition duration by doing one of the following:
   - Type the duration in frames in the Duration text box.
   - Click either the left or right edge of the Dissolve Effect icon, and drag it to change the duration. For more information, see "Understanding the Graphical Display in the Quick Transition Dialog Box" on page 70.

The graphical display changes — the size of the effect icon gets smaller or larger, and the numbers in the Duration and Start text boxes change — to reflect the new duration.

5. Adjust the effect's alignment relative to the cut point in one of the following ways:

   - Choose an alignment from the Position pop-up menu to have the effect end at the cut point, center on the cut point, or start at the cut point.



   - Choose Custom from the Position pop-up menu, and then type a number in the Start text box to specify how many frames before the cut point you want the effect to begin.

Avid Xpress DV automatically selects the Custom option in the Position pop-up menu when you click in the graphical display.

   - Click inside the effect in the graphical display, and drag it to position the effect with respect to the cut point.
   - Click one of the alignment buttons below the graphical display.

     For more information on the graphical display options, see "Understanding the Graphical Display in the Quick Transition Dialog Box" on page 70.

   Avid Xpress DV positions the effect, updates the graphical display to show the new position of the effect, and updates the value in the Start text box.

If you select an alignment for which there is not enough media, Avid Xpress DV comes as close as it can to the alignment you requested.

6. Click Target Drive, and from the pop-up menu choose a drive on which to store the effect if you choose to render it.

   The *Effect Source Drive* is the drive where the media on the outgoing shot of a transition resides.

7. (Option) If you have IN and OUT points marked in your sequence, the Quick Transition dialog box contains a check box for Apply to All Transitions (IN -> OUT). Select this option to apply the same effect to all transitions between the IN and OUT points. Deselect this option to apply the effect only to the transition to which you have moved the position indicator.
8. Do one of the following:
   - To add the effect without rendering it, click Add.
   - To add the effect and render it, click Add and Render.

   Avid Xpress DV adds the effect to the selected transition in the sequence, or, if you selected Apply to All Transitions (IN -> OUT), Avid Xpress DV adds the effect to all transitions between the IN and OUT points.

Applying Effects to Multiple Transitions Using the Quick Transition Button

You can select multiple transitions by marking IN and OUT points and then apply an effect from the Quick Transition dialog box to all the selected transitions at once.

To apply an effect to multiple transitions using the Quick Transition button:

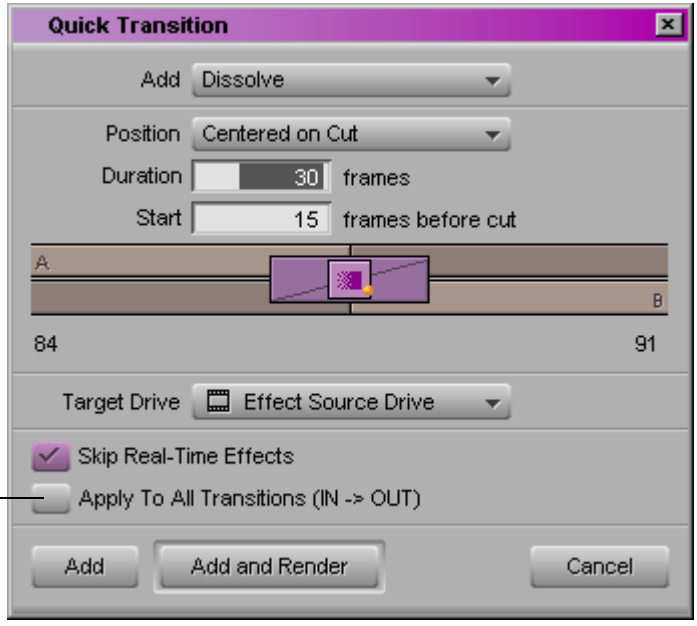
1. Mark IN and OUT points around the transitions to which you want to add the effect.
2. Make sure that the Record Track buttons in the Track Selector panel are selected for the tracks to which you want to add the effect.
3. (Option) If you want to see a particular transition in the graphical display of the Quick Transition dialog box, move the position indicator to that transition.

The graphical display in the Quick Transition dialog box always shows the transition closest to the position indicator. When you define an effect to apply to multiple transitions, the positioning details of any one transition might not be useful since you need to create an effect that will fit all the transitions. However, you might want to choose one transition as a model.

For example, you might use the transition with the least amount of handle as a model. If your effect fits that transition, it should fit all the others you have selected.

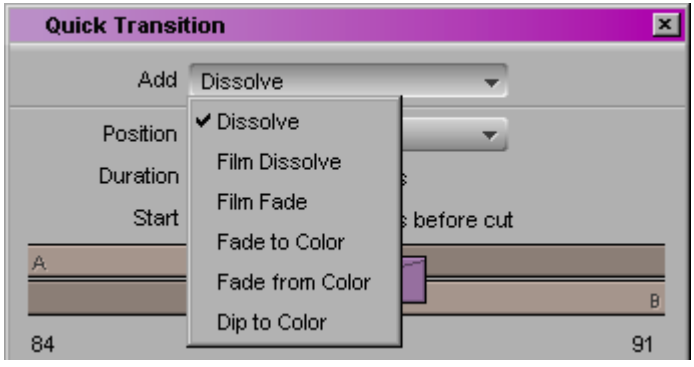
4. Click the Quick Transition button.

   The Quick Transition dialog box appears.



Apply to All Transitions check box

5. Choose a transition effect from the Add pop-up menu.



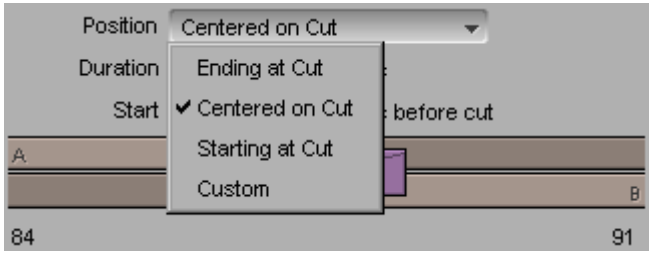
For an explanation of individual effects shown in the menu, see "Blend Effects" on page 350.

When you save a Dissolve effect template into a bin named Quick Transitions, the effect template appears in the Add pop-up menu. See "Using an Effect Template" on page 150.

When you choose a color transition with Quick Transition, the default color is black. You must enter Effect mode to choose another color. For more information, see "Using the Effect Editor" on page 86.

6. Select the transition duration by doing one of the following:
   - Type the duration in frames in the Duration text box.
   - Click either the left or right edge of the Dissolve Effect icon and drag it to change the duration. For more information, see "Understanding the Graphical Display in the Quick Transition Dialog Box" on page 70.

   The graphical display changes — the size of the effect icon gets smaller or larger, and the numbers in the Duration and Start text boxes change — to reflect the new duration.
7. Adjust the effect's position relative to the cut point in one of the following ways:
   - Choose an option from the Position pop-up menu to have the effect end at the cut point, center on the cut point, or start at the cut point.



   - Choose Custom from the Position pop-up menu, and then type a number in the Start text box to specify how many frames before the cut point you want the effect to begin.

Avid Xpress DV automatically selects the Custom option in the Position pop-up menu when you click in the graphical display.

- Click inside the effect in the graphical display, and drag it to position the effect with respect to the cut point.
- Click one of the alignment buttons below the graphical display.

  For more information on the graphical display options, see "Understanding the Graphical Display in the Quick Transition Dialog Box" on page 70.

Avid Xpress DV positions the effect, updates the graphical display to show the new position of the effect, and updates the value in the Start text box.

8. Click Target Drive, and from the pop-menu choose a drive on which to store the effect if you choose to render it.

   The *Effect Source Drive* is the drive where the media on the outgoing shot of a transition resides.

9. Select Apply to All Transitions (IN -> OUT).
10. Do one of the following:

    - To add the effect without rendering it, click Add.
    - To add the effect and render it, click Add and Render.

    Avid Xpress DV adds the selected effect to all the transitions between the marked IN and OUT points on the selected tracks in the sequence.

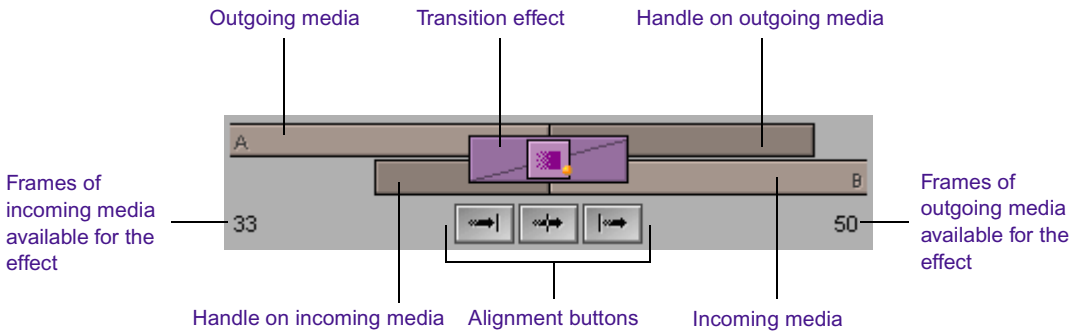
If there is not enough incoming or outgoing media material to apply the effect to a transition, a dialog box appears. For more information, see "Sizing the Effect to Fit the Media" on page 74.

Understanding the Graphical Display in the Quick Transition Dialog Box

The graphical display of the transition effect that appears in the Quick Transition dialog box allows you to control the length and position of the effect with frame accuracy simply by dragging. Using the three alignment buttons, you can also quickly reset the position of the effect.

Features of the Graphical Display

The following illustration shows the graphical display in the Quick Transition dialog box.



The graphical display shows the following:

- The outgoing (A) and incoming (B) media for the transition to which you are applying the effect. The amount of handle that is available for each piece of media is clearly indicated both as a darker area on the graphic itself and as a number of frames.
- The transition effect that you are applying. The display shows the effect icon and indicates the length and position of the effect in relation to the media.
- Three alignment buttons. These buttons appear when you choose Custom from the Position pop-up menu or click in the graphical display. They allow you to quickly reposition the effect so that it either ends at the cut point, is centered on the cut point, or starts at the cut point.

Avid Xpress DV draws and scales the graphical display so that it represents the relative size and position of the transition effect in relation to the media. For example, in the illustration above, the effect is 30 frames long while the incoming handle is 33 frames long. The effect is therefore shown slightly shorter than the incoming handle.

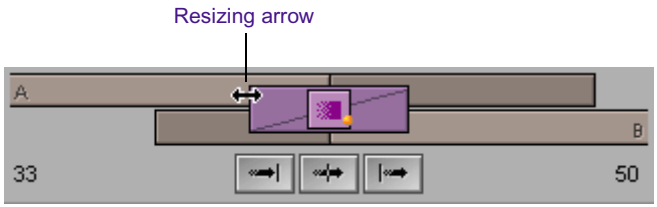
Adjusting the Effect by Dragging

You can control the length or position of the transition effect by dragging in the graphical display.

To adjust the length of the effect:

1. Do one of the following:
   - To adjust the length of the effect without changing its start point, move the pointer over the right edge of the effect.
   - To adjust the length of the effect without changing its end point, move the pointer over the left edge of the effect.

   The pointer changes to a resizing arrow.



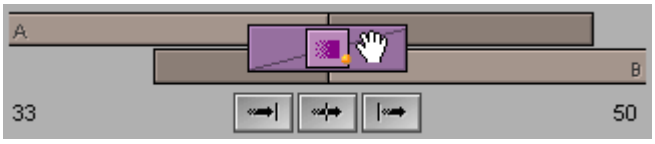
2. Do one of the following:
   - Drag away from the effect icon in the center to lengthen the effect.
   - Drag toward the effect icon in the center to shorten the effect.

   The graphical display and the Duration text box update to reflect your adjustment. If you are dragging the left edge of the effect, the Start text box also updates to reflect the changed start point.

To adjust the position of the effect:

1. Move the pointer inside the effect.

   The pointer changes to a hand.



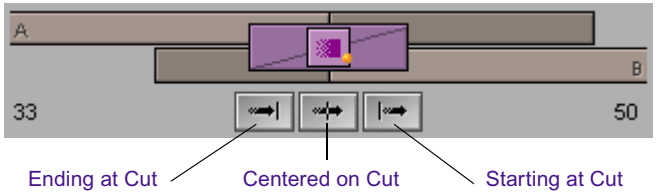
2. Drag the effect to adjust its position with respect to the cut point.

   The graphical display updates to show the new effect position, and the Start text box updates to show the new number of frames before the cut point.

You cannot drag an effect beyond the ends of the handles on the media because Avid Xpress DV cannot create a transition unless both incoming and outgoing media are available for every frame of the transition. You also cannot drag an effect beyond the cut point.

Repositioning the Effect with the Alignment Buttons

You can use the alignment buttons to quickly reposition the effect so that it either ends at the cut, is centered on the cut, or starts at the cut. The buttons have the same effect as the Ending at Cut, Centered on Cut, and Starting at Cut commands in the Position pop-up menu.



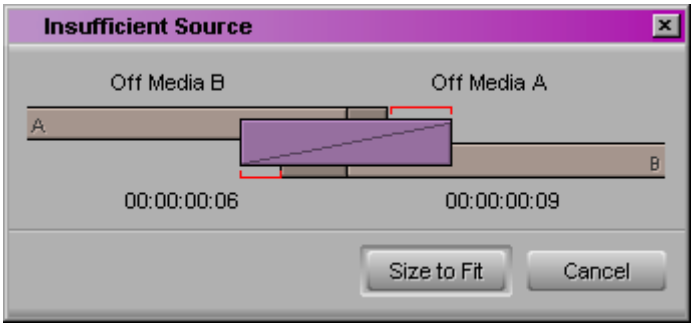
To reposition the effect with an alignment button:

- Click one of the following buttons:

  - Ending at Cut, to have the effect end at the cut point
  - Centered on Cut, to center the effect on the cut point
  - Starting at Cut, to have the effect begin at the cut point

Sizing the Effect to Fit the Media

When you select a transition effect from the Effect Palette and not enough source media exists to apply the effect, the Insufficient Source dialog box appears.



The dialog box shows a graphical display that indicates whether the source that has insufficient material is Media A (outgoing footage), Media B (incoming footage), or both.

To automatically size the effect to fit the media:

- Click Size to Fit.

Avid Xpress DV sets the duration of the effect to fit the available media. If you have selected an alignment, Avid Xpress DV attempts to preserve it.

To change the alignment or duration of the transition effect, see "Creating a Dissolve in Trim Mode" on page 61.

Although the graphical display in the Insufficient Source dialog box is similar to the graphical display in the Quick Transition dialog box, you cannot adjust an effect by dragging in the Insufficient Source dialog box.

Trimming a Transition Effect

Avid Xpress DV lets you do the following:

- Trim a transition effect, using the standard transition trim procedures. For more information, see the chapter “Working in Trim Mode” in the user’s guide.
- Customize a transition effect, such as changing the fade color. For a description of how to change effect parameters, see Chapter 3.

Chapter 3

Customizing Effects

After you have created an effect and have applied it to a transition or segment in your sequence, you can adjust its appearance and operation in a variety of ways. This chapter explains how to customize effects by using the Effect Editor and the Effect Preview monitor.

- Opening the Effect Editor
- Customizing the Effect Display
- Changing Position in an Effect
- Replacing an Effect in Effect Mode
- Using the Effect Editor
- Understanding Keyframes
- Using Standard Keyframes
- Working with Advanced Keyframes
- Manipulating Effects Directly
- Using an Effect Template

Opening the Effect Editor

After you add an effect to a sequence, you must open the Effect Editor to change the parameters of the effect. When you open the Effect Editor, the Composer monitor becomes the Effect Preview monitor.

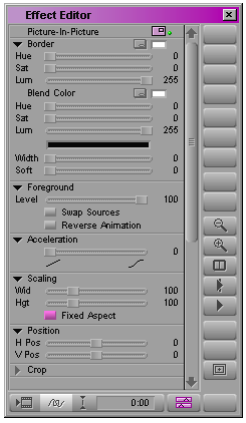
To open the Effect Editor:

1. Move the position indicator to the effect's icon in the Timeline.
2. Do one of the following:
   - Choose Effect Editor from the Tools menu.
   - Choose Effects Editing from the Toolset menu.
   - Click the Effect Mode button in the Timeline toolbar.

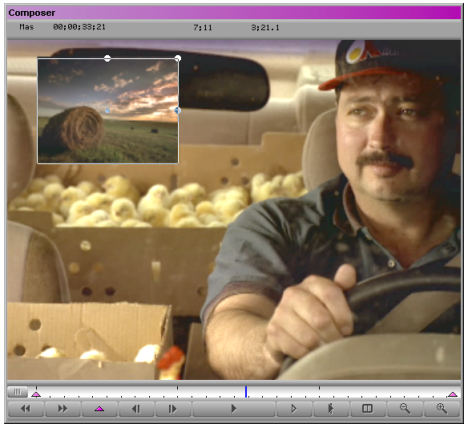
   The Effect Editor opens and displays the values for the current effect in the window. At the same time, the Composer monitor becomes the Effect Preview monitor.

   Both the Effect Editor and the Effect Preview Monitor toolbar display buttons for controlling and adjusting the effect. For more information, see "Effect Editor Controls" on page 86 and "Understanding the Effect Preview Monitor" on page 79.

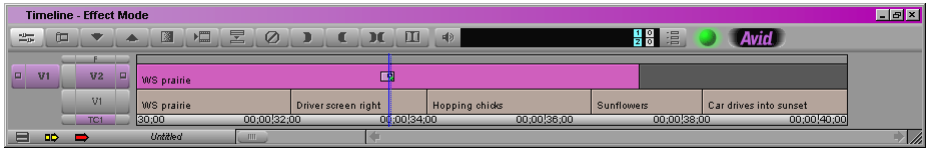
Effect Editor



Effect Preview monitor



Timeline



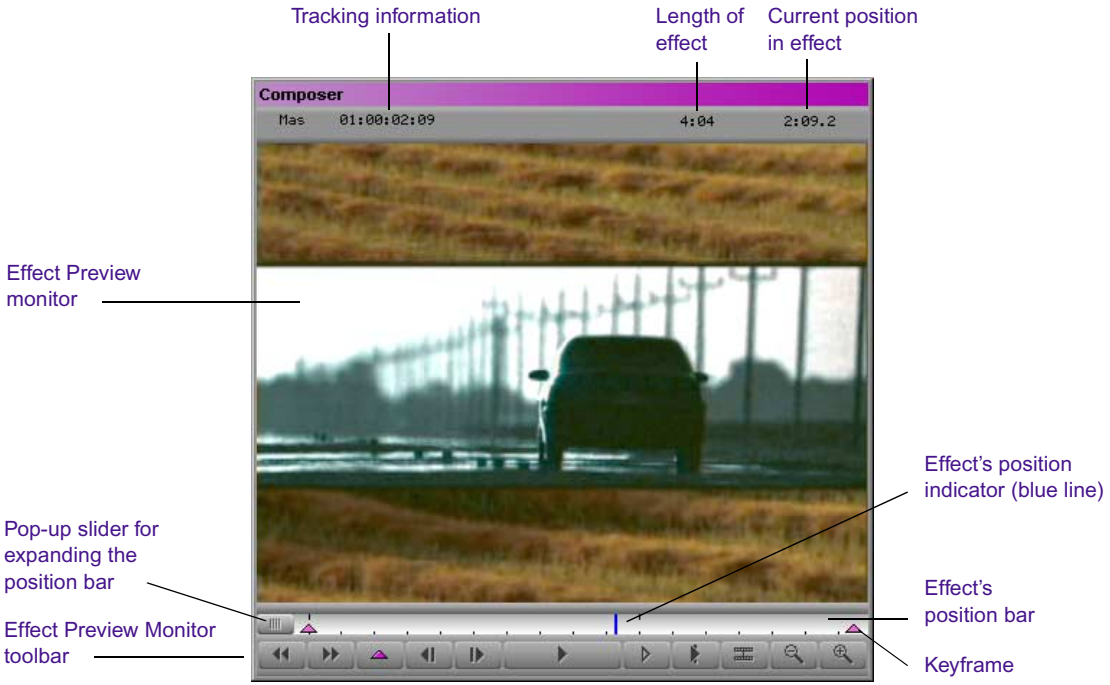
If the Effect Editor is blank, click an effect icon in the Timeline and then click in the Effect Editor.

Customizing the Effect Display

You can adjust the appearance and function of various aspects of the Effect display by resizing windows and images, by displaying tracking information, or by displaying guidelines for the placement of effects and titles, as described in this section.

Understanding the Effect Preview Monitor

The Effect Preview monitor displays the selected effect in the sequence where the position indicator is located in the Timeline. The effect's position bar, located directly below the Effect Preview monitor, represents only the selected effect, not the entire sequence.



If the effect you expect does not appear in the Effect Preview monitor, make sure that you have selected the Record Track Monitor button in the Track Selector panel. If a black frame appears in the Effect Preview monitor, the position indicator might be at a location in the Timeline where an effect has not been applied to the sequence.

Effect Preview Monitor Toolbar Buttons

The Effect Preview Monitor toolbar has buttons for controlling effect position and adjustment. Table 1 describes the buttons in the toolbar that you use to play and adjust the effect.

Table 1 Effect Preview Monitor Toolbar Buttons

Button	Description
Rewind	Places the position indicator at the first frame of the effect.
Fast Forward	Places the position indicator at the last frame of the effect.
Add Keyframe	Creates a keyframe at the current position of the position indicator in the effect's position bar. Alt+click (Windows) or Option+click (Macintosh) to delete the selected keyframe.
Step Backward	Moves the position indicator one frame backward.
Step Forward	Moves the position indicator one frame forward.
Play	Plays the effect from the current position in the effect's position bar. Click again or press the space bar to stop play. Rendered effects play at full speed. Most unrendered effects play at full speed when Real-Time Effects is enabled. Effects play at single-frame rate in other circumstances. For more information, see "Real-Time Preview of Video Effects" on page 159.

Table 1 Effect Preview Monitor Toolbar Buttons (Continued)

Button		Description
Play Preview		Plays back a wire-frame preview of an unrendered effect.
Play Loop		Plays back the current effect repeatedly in a loop. Click again or press the space bar to stop play. Rendered effects play at full speed. Most unrendered effects play at full speed when Real-Time Effects is enabled. Effects play at single-frame rate in other circumstances. For more information, see "Real-Time Preview of Video Effects" on page 159.
Reduce		Reduces the size of the image in the Effect Preview monitor.
Enlarge		Enlarges the size of the image in the Effect Preview monitor.

Understanding the Tracking Information

The two boxes above the Effect Preview monitor display the length of the effect in seconds and frames and the current position in the effect's position bar. If you are working with two-field media, the current position display indicates the field that appears in the monitor. The current position display ends with .1 for the first field of a frame and with .2 for the second field. These boxes replace the name of the sequence that appears in this position in the Composer monitor.

Displaying the Safe Title and Safe Action Guidelines

Many effects can utilize the outer edges of the viewing screen area. If you are editing material that will be viewed on screens with more limited viewing areas, such as standard televisions, you can use the Safe Title and Safe Action options to provide visual guidelines in the Effect Preview monitor that replicate the actual viewable area on a standard television screen.

For example, you can use the Safe Title option as a template for the area in which you want the effect to operate. In this way, you can avoid the appearance of the effect floating off into a nonviewable area of a standard television screen.

To display the Safe Title/Action guidelines in the Effect Preview monitor, do one of the following:

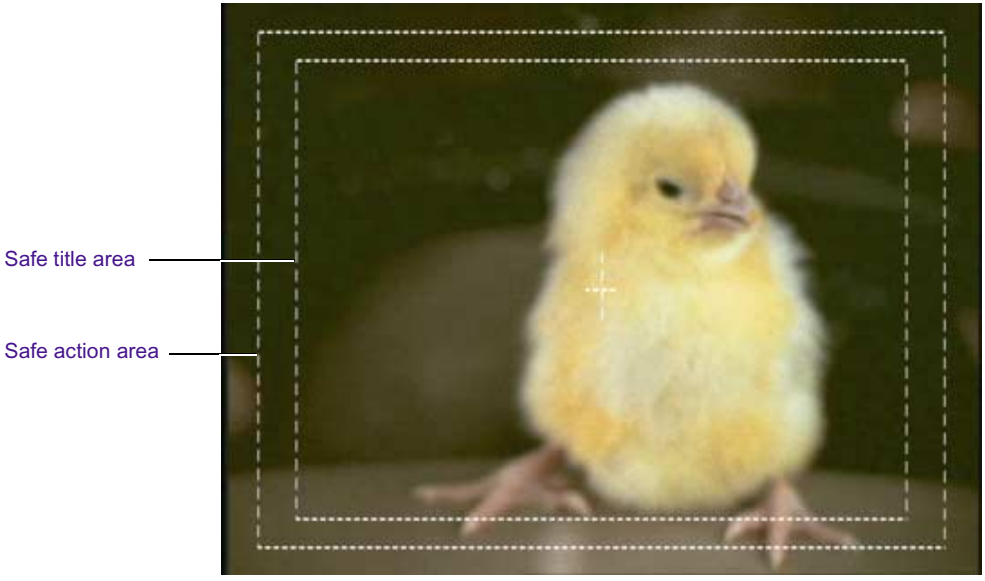
- Click the Grid button in the Tool palette.

  For information on opening the Tool palette, see “Using the Tool Palette” in the chapter “Viewing and Marking Footage” in the user’s guide.

- Click the Grid button in the Effect Editor.

  To open the Effect Editor, choose Effect Editor from the Tools menu.

Two outlined boxes appear in the Effect Preview monitor. The inner box is the safe title area. All text and objects should remain within the inner box. The outer box is the safe action area for video display.



To display the safe title and safe action areas in the Source pop-up monitor:

- Click the Grid button in the Tool palette of the Source pop-up monitor.

You can also display Safe Title/Action guidelines in the Title tool. For more information, see "Displaying Safe Title or Safe Action Guidelines" on page 247.

Moving an Enlarged Image in the Effect Preview Monitor

You can use the Enlarge and Reduce buttons in the Effect Preview Monitor toolbar to zoom in or out on an image in the Effect Preview monitor.

This allows you to view parts of an image in detail or to view parts of effects and effect controls that extend beyond the limits of the standard-size image. For more information, see "Understanding the Effect Preview Monitor" on page 79.

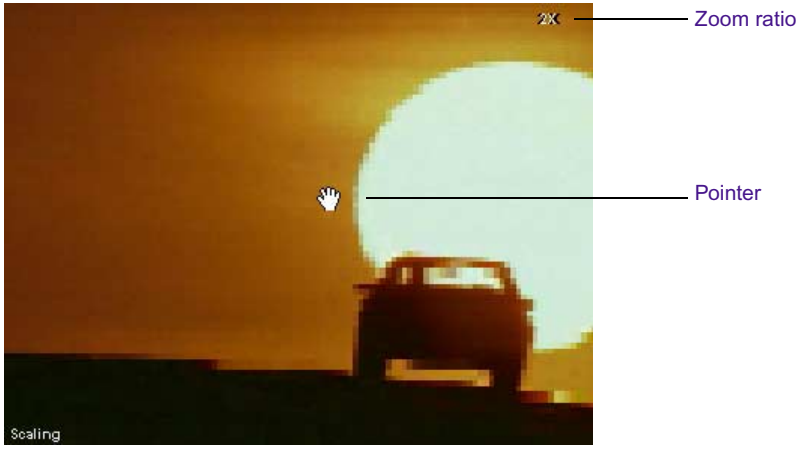
When you use the Enlarge button to increase the size of the image in the Effect Preview monitor, you cannot view the entire frame all at once. When you are creating an effect that requires great detail, you can reposition the enlarged frame in the monitor to view the sections that need your attention.

This feature applies only to an enlarged image in the Effect Preview monitor, not to a standard-size or reduced image.

To move an enlarged image within the Effect Preview monitor:

1. Click within the boundaries of the Effect Preview monitor.
2. Press and hold Ctrl+Alt (Windows) or ⌘+Option (Macintosh).

   The pointer changes to a hand.



3. Drag the hand in any direction to reposition the image within the Effect Preview monitor.

Changing Position in an Effect

To change your position in an effect, do one of the following:

- Drag the position indicator in the effect's position bar.
- Type the timecode in the same way you do when you are editing a sequence. For more information, see the chapter "Viewing and Marking Footage" in the user's guide.

The type of timecode you enter (master timecode or absolute timecode) depends on the tracking information you are displaying. The position information boxes above the Effect Preview monitor update as you change position.

Replacing an Effect in Effect Mode

While in Effect mode, you can replace an existing effect.

To replace an effect:

1. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.

   The Effect Palette opens.
2. Click an effect category in the left side of the Effect Palette.
3. Do one of the following:
   - Click the icon for the new effect in the right side of the Effect Palette, and drag the icon to the Timeline. To replace an existing effect, move the new effect's icon on top of the existing effect's icon.
   - Click the icon for the new effect in the right side of the Effect Palette, and drag the icon to the Effect Preview monitor.
   - Select the effect in the Timeline, and double-click the new effect's icon in the Effect Palette.
4. Set the applicable effect parameters in the Effect Editor.

Some effects cannot replace other effects. For example, some segment effects, such as the Mask effect, cannot replace transition effects. In addition, two-layer effects, such as wipes, cannot replace three-layer effects, such as matte keys.

Using the Effect Editor

The Effect Editor contains buttons that provide controls for effect adjustment and parameter controls that allow you to set values to define the appearance of an effect. The following sections explain how to use Effect Editor buttons and parameter controls.

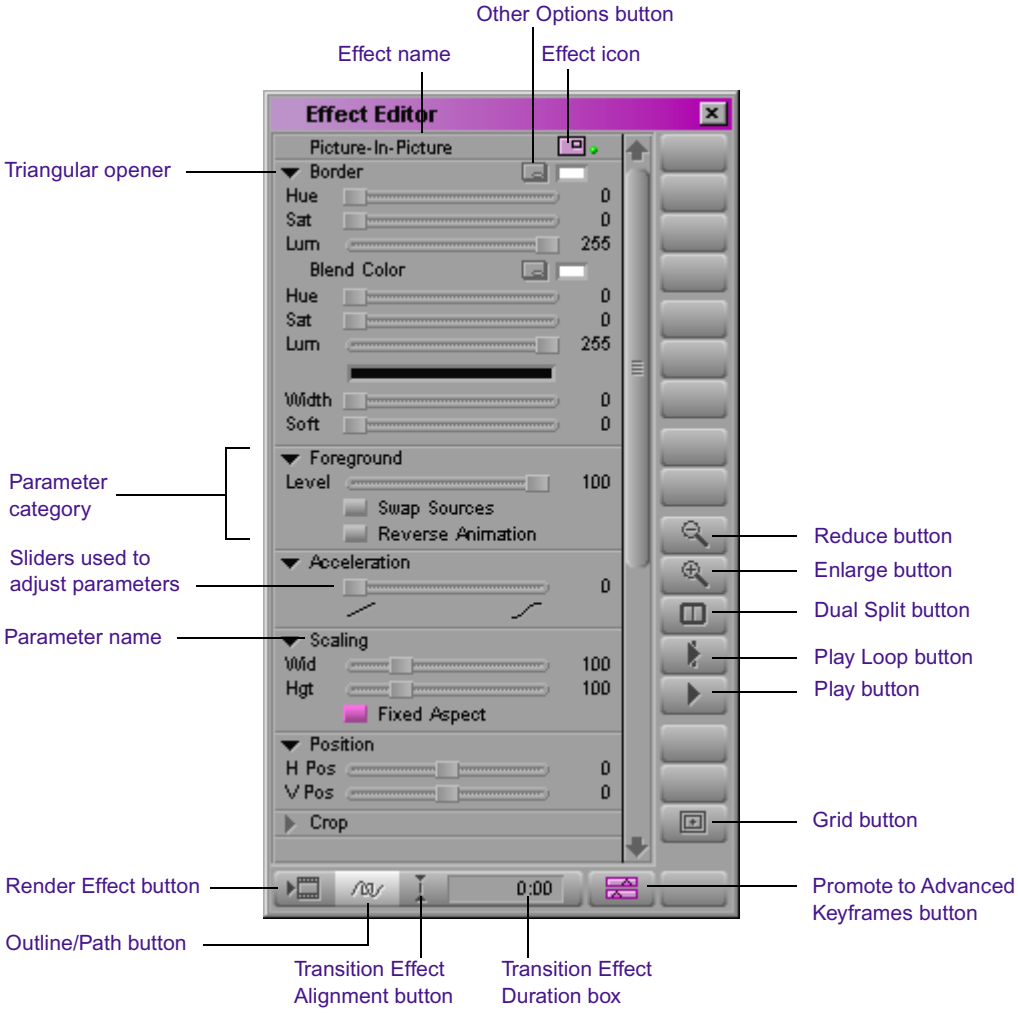
The Effect Preview Monitor toolbar also contains buttons that you use to adjust and preview effects. For more information, see “Effect Preview Monitor Toolbar Buttons” on page 80.

When you are working with the Picture-in-Picture effect you can expand the Effect Editor to display keyframe graphs. You can then create and adjust independent keyframes for each keyframeable effect parameter. For more information, see “Working with Advanced Keyframes” on page 102.

Effect Editor Controls

This section describes the controls in the Effect Editor. Not all controls apply to each effect. If a control is not applicable, it does not appear in the Effect Editor for that effect.

The following illustration shows the location of controls within the Effect Editor. Table 2 describes each button in detail.



Additional buttons appear in the bottom toolbar of the Effect Editor when you are working with keyframe graphs. For more information, see “Effect Editor Controls for Advanced Keyframes” on page 105.

Table 2 Effect Editor Controls

Button	Location	Description
Triangular opener	Left side of Effect Editor	Click to display or hide the parameter category. A downward-pointing triangle displays the parameter category; a right-pointing triangle displays only the parameter name.
Other Options	Inside some parameter categories	Click to access additional parameters for some effects, including access to the Macintosh Color Picker or the Windows Color dialog box for color selection. For more information, see "Using the Other Options Button to Access Parameters" on page 94.
Render Effect	Bottom of Effect Editor	Click to render the current effect.
Outline/Path	Bottom of Effect Editor	Click to display a wire-frame path to illustrate the movement of an effect from the first keyframe through the last keyframe.
Transition Effect Alignment	Bottom of Effect Editor	Click to open a pop-up menu with options for selecting the alignment of a transition effect relative to the cut point.
Transition Effect Duration box	Bottom of Effect Editor	Click in this box to type a duration for the transition effect other than the duration displayed.
Promote to Advanced Keyframes button	Bottom of Effect Editor	Promotes a Picture-in-Picture effect to advanced keyframes. Not available for other effects. For more information, see "Promoting Effects to Advanced Keyframes" on page 103.
Reduce	Right side of Effect Editor	Reduces the size of the image in the Effect Preview monitor.

Table 2 Effect Editor Controls (Continued)

Button		Location	Description
Enlarge		Right side of Effect Editor	Enlarges the size of the image in the Effect Preview monitor.
Dual Split		Right side of Effect Editor	Click to divide the Effect Preview monitor in half, showing the image with and without the effect applied. Click again to remove.
Play Loop		Right side of Effect Editor	Plays back the current effect repeatedly in a loop. Click again or press the space bar to stop play. Rendered effects play at full speed. Most unrendered effects play at full speed when Real-Time Effects is enabled. Effects play at single-frame rate in other circumstances. For more information, see "Real-Time Preview of Video Effects" on page 159.
Play		Right side of Effect Editor	Plays the effect from the current position in the effect's position bar. Click again or press the space bar to stop play. Rendered effects play at full speed. Most unrendered effects play at full speed when Real-Time Effects is enabled. Effects play at single-frame rate in other circumstances. For more information, see "Real-Time Preview of Video Effects" on page 159.
Grid		Right side of Effect Editor	Click to display the Safe Title and Safe Action guidelines.

The Effect Preview Monitor toolbar also contains buttons that you use to adjust and preview effects. For more information, see "Understanding the Effect Preview Monitor" on page 79.

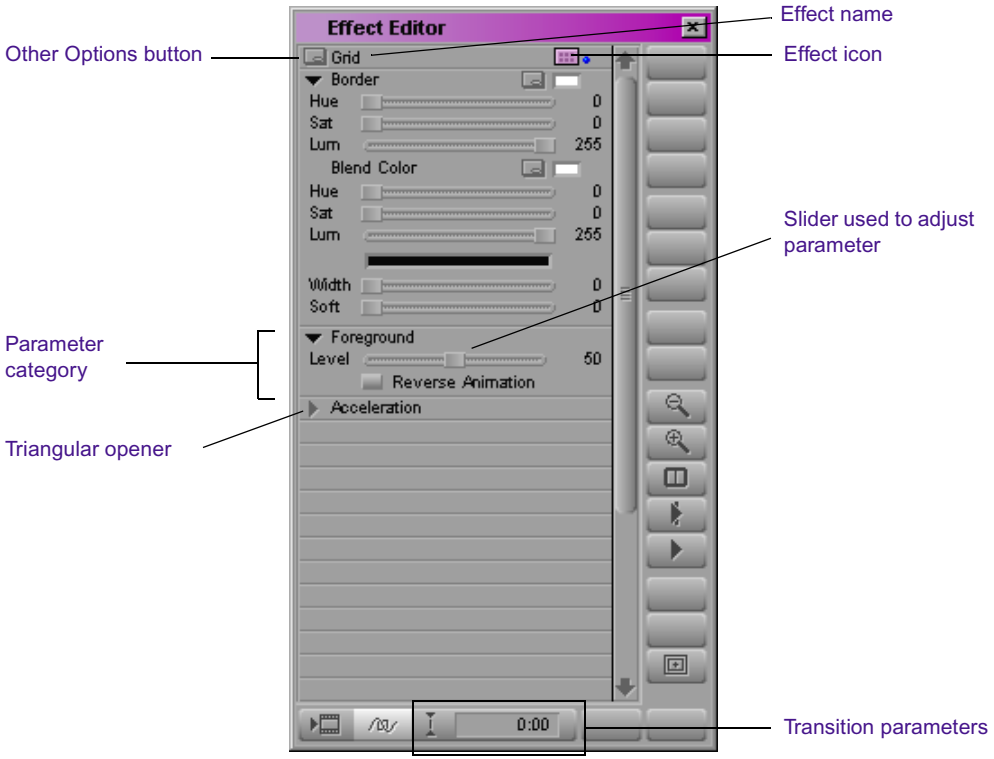
Displaying an Effect's Parameters in the Effect Editor

To display an effect's parameters in the Effect Editor:

1. Move the position indicator to the effect's icon in the Timeline.
2. Make sure that the Record Track button for the track that contains the effect is selected in the Track Selector panel.
3. (Option) If you are not already in Effect mode, choose Effect Editor from the Tools menu.

   The Effect Editor opens.

   The name of the effect and its icon appear at the top of the Effect Editor and the parameters that pertain to the effect appear in the Effect Editor.



This example shows the Grid effect parameters.

Understanding Effect Parameters

Effect parameters are values that define the appearance of an effect. For example, you can set parameters that control the size and position of a Picture-in-Picture effect.

Not all effect parameters apply to all effects. Parameters that do not apply to an effect do not appear in the Effect Editor for that effect. To determine which parameters pertain to an effect, refer to the effect's description in "2D Effects" on page 349.

If the position indicator is not on an effect's icon in the Timeline, or if the track that contains the effect is not selected, then the Effect Editor is blank.

Effect parameters are either *global* or *keyframeable.* You adjust a global parameter once for the entire effect; its values cannot change over time. You can adjust keyframeable parameters once for the entire effect, or you can use the Effect Editor along with keyframes to adjust the parameter multiple times and change its value over time. For more information, see "Global and Keyframeable Parameters" on page 319.

For most effects, a keyframe applies to every keyframeable effect parameter in the effect. If you are working with the Picture-in-Picture effect or 3D PIP effect, however, you can use keyframe graphs to create independent keyframes for each keyframeable effect parameter. This greatly increases your control of how the effect changes over time. For more information, see "Working with Advanced Keyframes" on page 102.

Parameter controls are grouped in parameter categories within the Effect Editor. For example, the Border parameter category includes all the controls that you can use to define the color and appearance of an effect border.

Several types of parameter controls might appear for a particular effect:

- Parameter sliders
- Parameter Enable buttons
- Parameter options that you select from Fast menus

- Additional parameters that you access with the Other Options button
- Color parameters that you can select using the eyedropper, the Windows Color dialog box, or the Macintosh Color Picker as well as by using sliders

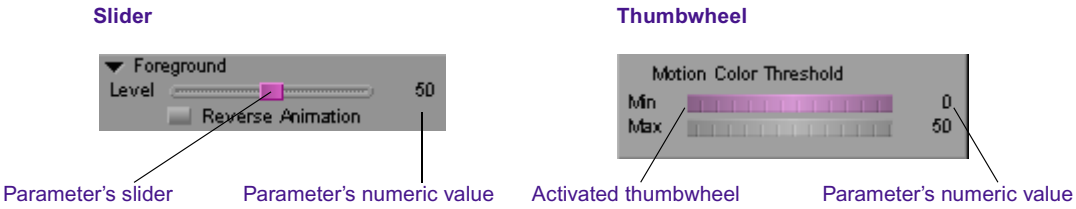
For reference information on all effect parameters, see "2D Effects Parameters" on page 318.

Using Parameter Sliders

Parameter sliders allow you to adjust effect parameters that have a range of possible values. For example, use the Level slider in the Foreground parameter category to adjust the degree of opacity of the foreground material on a scale from 0 to 100.

The thumbwheel is a specialized slider that provides a window on a wide range of values and allows precise control over increments.

The parameter's numeric value changes as you move the slider.



To activate a parameter that has a slider:

- Click the slider.

  When you activate a slider, it changes to pink.

To move from one slider to the next slider:

- Press the Tab key.

To change the value of a parameter that has a slider, do one or more of the following:

- Move the slider with the mouse.
- Type a new value using the numeric keypad, and, if you entered fewer than three digits, press Enter (Windows) or Return (Macintosh).
- Use the Left Arrow or Right Arrow key to change the value by –1 or +1.
- Press the Shift key and use the Left Arrow or Right Arrow key to change the value by –10 or +10.

Using Parameter Enable Buttons

Some parameter categories contain parameter Enable buttons. These buttons control parameters that can either be active or inactive but cannot be adjusted over a range of values. For example, the Fixed Aspect parameter Enable button controls whether the aspect ratio of an image is maintained when you adjust one of its dimensions.

To turn a parameter on or off by using a parameter Enable button:

- Click the Enable button.

  Parameter Enable buttons are pink when the parameter is active and gray when the parameter is inactive.

Using Fast Menu Parameters

Some effects have additional parameters that you select from the current parameter's Fast menu.

To select an additional parameter:

- Click the Fast Menu button in the parameter, and then choose an option.

Using the Other Options Button to Access Parameters

Some effects have additional parameters that control their operation. For example, the Grid effect has additional parameters in which you set the number of columns and rows in the wipe. When an effect has additional parameters, the Other Options button appears next to the effect name or in a parameter category.

To use an effect's additional parameters:

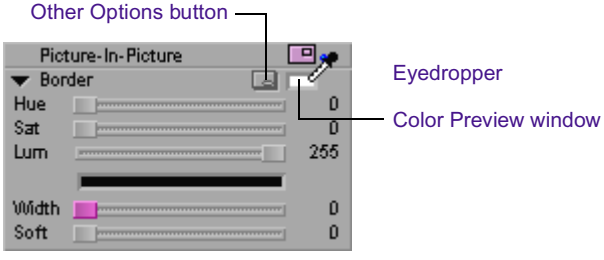
- Click the Other Options button next to the effect name or in a parameter category.

  A dialog box appears in which you set the additional parameters.

You also use the Other Options button to use the parameters for third-party plug-in effects, for the Windows Color dialog box or Macintosh Color Picker, to open a title edited into a sequence in the Title tool (when you want to revise that title), and for other effects that allow you to change color parameters.

Adjusting a Color Parameter

You can change a color parameter or select a key color by using the eyedropper or the Windows Color dialog box or Macintosh Color Picker instead of the Hue, Sat (saturation), and Lum (luminance) sliders.



Using the Eyedropper

To select a color using the eyedropper:

1. Position the pointer over the Color Preview window to activate the eyedropper.
2. Click the eyedropper, drag it into the Effect Preview monitor, and release the mouse button on the color you want to select from the video image.

   Avid Xpress DV updates the parameter's numeric values, and the selected color appears in the Color Preview window.

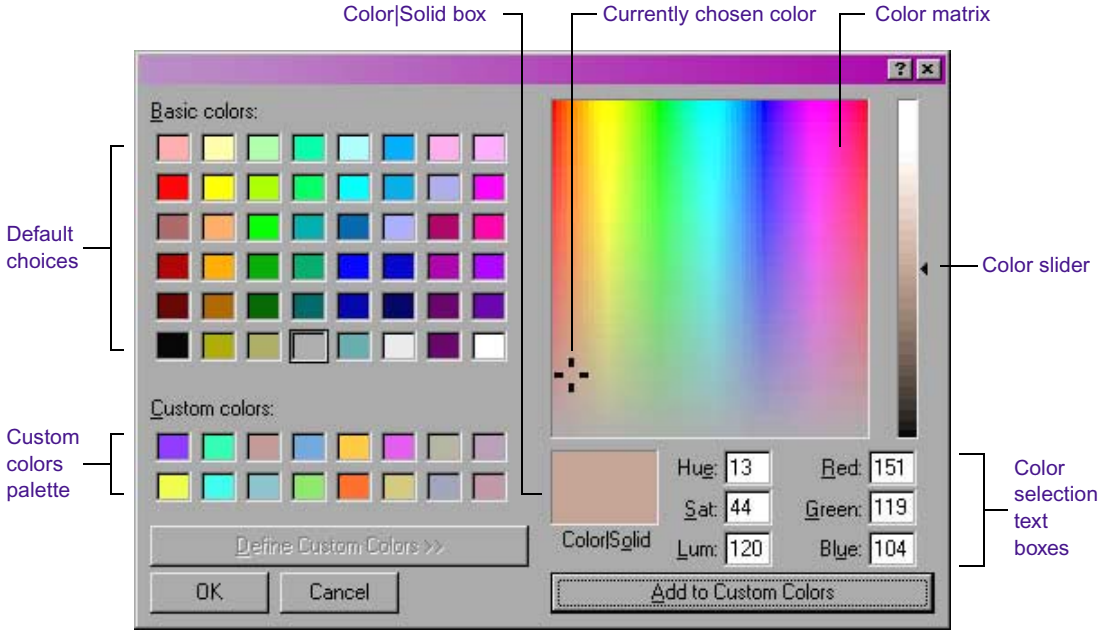
Using the Windows Color Dialog Box

The Windows Color dialog box is a standard application that ships with the Windows operating system.

To open the Windows Color dialog box:

- Click the Other Options button in a color parameter pane.

  The Windows Color dialog box appears.



To use the Windows Color dialog box:

1. To choose a color from the Basic colors palette, click the color you want.
2. To specify a custom color, do one of the following:
   - Click in the color matrix to choose a color, and then drag the color slider to adjust the amount of white and black in the color.
   - Type numerical values for each color component in the color selection text boxes.

   The new color is displayed on the left side of the Color|Solid box. The right side of this box displays the solid color closest to the color you have specified. You can choose the displayed solid color by double-clicking the right side of the box.
3. When you are satisfied with the color, click Add to Custom Colors to add it to the Custom colors palette.
4. To choose a custom color from the Windows Color dialog box, click the color you want.
5. Click OK.

   The Windows Color dialog box closes, and the color is applied to the parameter in the Effect Editor.

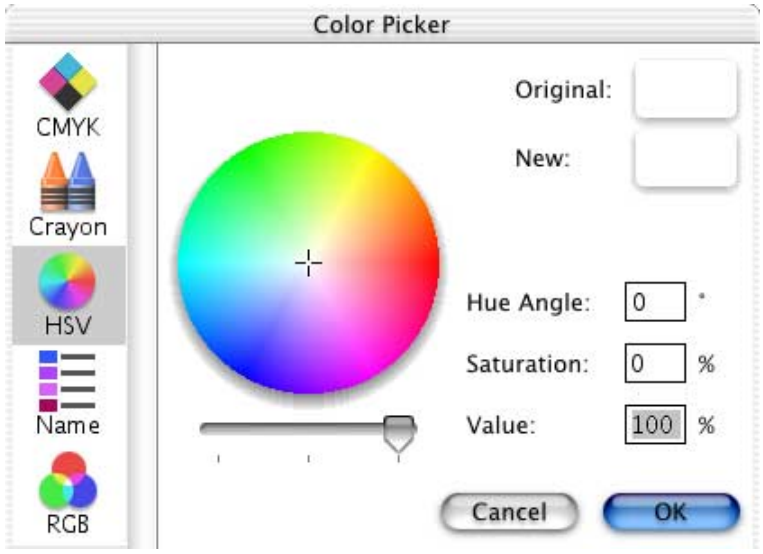
Using the Macintosh Color Picker

The Macintosh® Color Picker is a standard application that ships with Macintosh systems. Its appearance varies, depending on the current release of the Macintosh operating system.

To open the Macintosh Color Picker:

- Click the Other Options button in a color parameter pane.

  The Macintosh Color Picker dialog box appears.



The Macintosh Color Picker provides several methods for specifying colors. Select the appropriate icon on the left side of the Color Picker dialog box to display the method you want. The preceding illustration shows the HSV (Hue, Saturation, Value) display. The following procedures explain how to use the HSV display. For information on how to use the other Macintosh Color Picker interfaces, see the documentation that ships with your Macintosh system.

To use the HSV color wheel:

1. Drag the crosshair color selector in the wheel to select a color.

   Hue values change as you move in a circle around the wheel. Saturation values change as you move from the center of the wheel (minimum saturation) to the edge of the wheel (maximum saturation).

2. Drag the Value slider below the wheel to make colors brighter or darker.

To pick a color using the color selection text boxes:

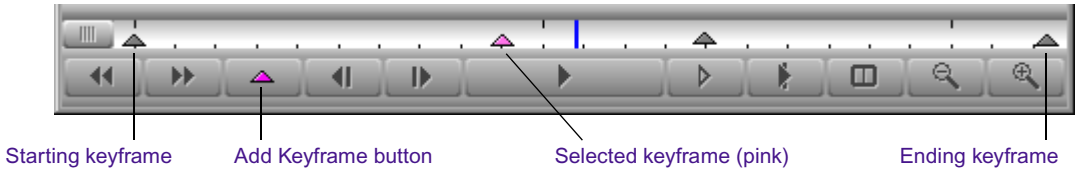
- Type the values you want to use for Hue Angle, Saturation, and Value in the text boxes on the right side of the dialog box.

  The color selector automatically changes position in the color wheel as you change values.

Understanding Keyframes

You use *keyframes* to change the appearance and behavior of an effect over time. A keyframe is a point in the effect at which you can set parameters. Modifying an effect's parameters at various points causes the effect's appearance to vary as it plays. For example, you can add keyframes to a Picture-in-Picture effect and change the position parameters for each keyframe to add movement to the effect.

Keyframe indicators appear as triangles in the position bar of the Effect Preview monitor when you select an effect and the Effect Editor is active. You adjust keyframe parameters by using the Effect Editor.



For the Picture-in-Picture effect, you can increase your control of the way effect parameters change over time by using *advanced keyframes*. With this capability, each keyframeable effect parameter has a separate Timeline track — a keyframe track that opens to display a keyframe graph — where you set and customize keyframes that are independent of other parameters' keyframes. For more information, see "Working with Advanced Keyframes" on page 102.

You can still select standard keyframes, in which each keyframe affects all parameters. You can also use advanced keyframes as if they were standard keyframes.

Using Standard Keyframes

With standard keyframes, Avid Xpress DV always provides the starting and ending keyframes of an effect. These keyframes are selected by default, and thus any parameter changes are constant throughout the effect. By using techniques for adding, deleting, moving, selecting, and deselecting keyframes, you can begin to change the appearance and operation of the effect over time by applying parameter changes to specific keyframes.

Adding a Standard Keyframe

You can create a standard keyframe at any point in the effect's position bar.

To create a standard keyframe:

1. Click in the position bar below the Effect Preview monitor at the point in the effect where you want to add the keyframe.

   The position indicator moves to that frame.

2. Do one of the following to add a keyframe:

   - Click the Add Keyframe button either in the Effect Preview Monitor toolbar or in the Tool palette.

     For information on opening the Tool palette, see "Using the Tool Palette" in the chapter "Viewing and Marking Footage" in the user's guide.

   - Manually adjust a parameter in the Effect Preview monitor (segment effects only). For example, when you click a handle on an effect outline and drag to resize or reposition it, the system automatically creates a new keyframe.

Selecting a Standard Keyframe

You can select a single standard keyframe or multiple standard keyframes at the same time. A keyframe indicator changes to pink when selected.

To select one keyframe:

- Click the keyframe indicator in the position bar below the Effect Preview monitor.

To select multiple keyframes:

- Shift+click the keyframe indicators that you want in the effect's position bar.

To select all keyframes in the effect's position bar, do one of the following:

- Press Ctrl+A (Windows) or ⌘+A (Macintosh).
- Press and hold Ctrl+Alt (Windows) or the ⌘ key (Macintosh), and click one keyframe indicator.

For a quick way to jump to the next or previous keyframe indicator, use the Fast Forward and Rewind buttons on the Effect Preview Monitor toolbar.

Moving a Standard Keyframe

After you have created a standard keyframe, you can move it to another position in the position bar below the Effect Preview monitor.

With standard keyframes, you cannot move the starting and ending keyframes.

To move a standard keyframe, do one of the following:

- Alt+click (Windows) or Option+click (Macintosh) the keyframe indicator, and drag it to its new position.
- Select a keyframe indicator, and click the Trim Left 1 Frame or Trim Right 1 Frame button or the Trim Left 10 Frames or Trim Right 10 Frames button.

Changing a Standard Keyframe's Parameters

When you work with standard keyframes, with certain parameter categories, such as Acceleration, you adjust parameters globally (over all keyframes in the effect). You can also change many parameters for individual standard keyframes. For information on the scope of adjustments (global or keyframeable) for each parameter category, see "2D Effects Parameters" on page 318.

To change a standard keyframe's parameters:

1. Click the keyframe indicator in the position bar below the Effect Preview monitor.

   The keyframe indicator changes to pink when selected.

2. Adjust any of the applicable parameters in the Effect Editor.

Copying and Pasting Standard Keyframe Parameters

You can copy and paste parameters from one standard keyframe and apply them to another standard keyframe. You can also copy keyframe parameters from one effect to another effect.

To copy and paste standard keyframe parameters:

1. Click one keyframe indicator in the position bar below the Effect Preview monitor whose parameters you want to copy.
2. Choose Copy from the Edit menu.
3. Select one or more standard keyframes:
   - To copy the parameters to one keyframe, click the keyframe indicator.
   - To copy the parameters to multiple keyframes, Ctrl+click (Windows) or Shift+click (Macintosh) multiple keyframe indicators.
   - To copy the parameters to all keyframes, choose Select All from the Edit menu.

4. Choose Paste from the Edit menu.

   The parameters that you copied from one standard keyframe are pasted to the keyframe, or frames, you selected.

Deleting a Standard Keyframe

You can delete any standard keyframe you create. You cannot delete the starting and ending keyframes Avid Xpress DV creates.

To delete a standard keyframe:

1. Click the keyframe indicator in the position bar below the Effect Preview monitor.

   The keyframe indicator changes to pink when selected.

2. Do one of the following:

   - Press the Delete key.
   - Alt+click (Windows) or Option+click (Macintosh) the Add Keyframe button.

Working with Advanced Keyframes

With standard keyframes, every keyframe affects every parameter. This section describes how to use advanced keyframes, where a separate Timeline track — a *keyframe track* — appears in the Effect Editor for each keyframeable parameter in an effect.

The keyframe track opens to display a *keyframe graph*. When you work with effects that have advanced keyframes, you customize a parameter's actions using keyframes in the keyframe track, and each parameter's keyframes are independent of any other parameter's keyframes.

In Avid Xpress DV, advanced keyframes are available for the Picture-in-Picture (PIP) effect.

You do not have to use advanced keyframes in the Effect Editor. You can work using standard keyframes, in which each keyframe affects all parameters. In addition, advanced keyframe functions are available even when a keyframe graph is closed to show only the keyframe track.

Using advanced keyframes, you can change the order of nested effects by manipulating the Nesting Priority icons that appear in the Effect Editor. See “Changing the Order of Nested Effects” on page 228.

The following sections describe using advanced keyframes.

Promoting Effects to Advanced Keyframes

You can promote a Picture-in-Picture effect to advanced keyframes.

You can choose whether or not a newly promoted effect first appears with no keyframes or with two keyframes, one at the start and one at the end of each parameter. You set this option in the Effect Editor entry of the Settings scroll list. For more information, see “Options for Using Advanced Keyframes” on page 143.

Once you promote an effect to advanced keyframes, the Acceleration parameter category no longer appears. You manipulate acceleration (ease-in and ease-out) of the effect by using the spline or Bézier interpolation options, which give you more control than the standard Acceleration parameter category. See “Parameter Changes at Keyframes” on page 124.

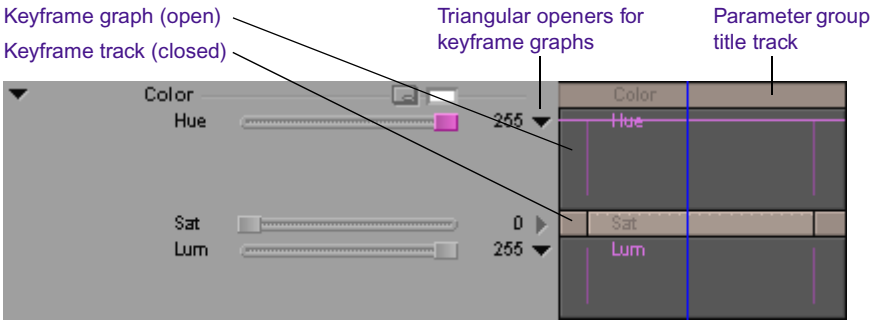
To promote a Picture-in-Picture effect to advanced keyframes:

- Click the Promote to Advanced Keyframes button on the Effect Editor toolbar.

  The Effect Editor displays the effect with keyframe graphs as a Picture-in-Picture v2 effect.

Opening Keyframe Tracks

Effects using advanced keyframes appear with keyframe tracks at the right side of the Effect Editor. Next to each keyframe track is a triangular opener. The parameter group name appears in a title track at the top of the keyframe tracks.



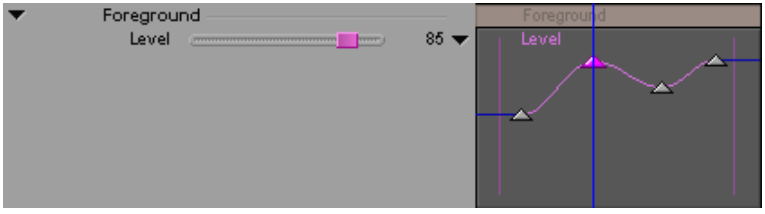
You do not have to open a keyframe track to set and manipulate keyframes. You can add and delete keyframes, customize keyframe interpolation options, and use the standard controls for each parameter to set the values for its keyframes, while a keyframe track is closed.

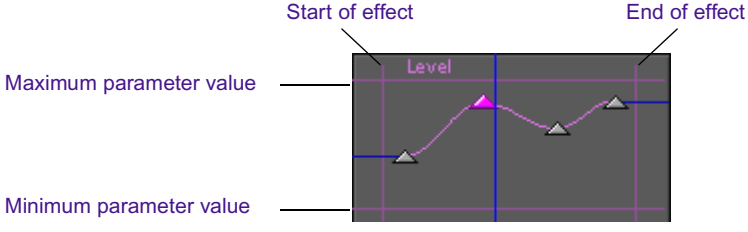
To open a keyframe track and display the keyframe graph:

- Click the triangular opener.

  The keyframe track opens into a keyframe graph.

Keyframe graph open





Depending on how you have the keyframe graph zoomed and scaled, the lines representing the keyframe graph boundaries — start and end of effect, maximum and minimum parameter values — might not be visible. See “Adjusting the View in Keyframe Graphs” on page 139.

Effect Editor Controls for Advanced Keyframes

You use the Effect Editor toolbar and the keyframe graph shortcut menu to create, delete, and customize advanced keyframes.

Table 3 describes the components of the Effect Editor toolbar for advanced keyframes.

Table 3 Effect Editor Toolbar for Advanced Keyframes

Control	Description
Rewind	Moves the position indicator one keyframe to the left and activates the keyframe. If there is no keyframe to the left, the position indicator does not move.
Fast Forward	Moves the position indicator one keyframe to the right and activates the keyframe. If there is no keyframe to the right, the position indicator does not move.
Add Keyframe	Creates a keyframe at the current position. Alt+click (Windows) or Option+click (Macintosh) this button to delete a keyframe. When you add or delete a keyframe, a pop-up menu gives you additional selections. See “Adding and Deleting Keyframes in Keyframe Graphs” on page 107.
	Use the zoom slider in the scale bar, and the adjacent scroll thumbwheel, to zoom and scroll the view in the keyframe graph. See “Adjusting the View in Keyframe Graphs” on page 139.

In addition to the controls in Table 3, a Nesting Priority icon appears in line with the effect name at the top of the Effect Editor. For more information, see "Changing the Order of Nested Effects" on page 228.

Other controls appear in a pop-up menu when you click the Add Keyframe button, and in the shortcut menu that appears when you right-click (Windows) or Ctrl+Shift+click (Macintosh) a keyframe graph or keyframe track. The following sections describe the menu selections.

Shortcut Menus for Advanced Keyframes

Advanced keyframes use two shortcut menus. You invoke the keyframe graph shortcut menu from the area of the Effect Editor that displays keyframe graphs. You invoke the Effect Editor shortcut menu from the part of the Effect Editor that does not display the keyframe graphs. For more information, see "Options for Using Advanced Keyframes" on page 143.

To display the shortcut menu for a keyframe graph:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) a keyframe graph or keyframe track.

Table 4 describes the options available with the keyframe graph shortcut menu.

Table 4 Keyframe Graph Shortcut Menu Options

Option	Description
Add Keyframe	Adds a keyframe at the position indicator. See "Adding and Deleting Keyframes in Keyframe Graphs" on page 107.
Delete Keyframe	Deletes the selected keyframe. See "Adding and Deleting Keyframes in Keyframe Graphs" on page 107.
Select All Keyframes	Selects all keyframes in the section of the editor where you click to bring up the shortcut menu. See "Selecting and Deselecting Advanced Keyframes" on page 120.

Table 4 Keyframe Graph Shortcut Menu Options (Continued)

Option	Description
Align Keyframes	Moves the selected keyframe in one or more keyframe graphs to the position indicator, depending on which keyframes you select and on where you click to bring up the shortcut menu. See “Align Keyframes and Slip Keyframes” on page 131.
Slip Keyframes	Moves all the keyframes of the parameter so the active keyframe aligns with the position indicator, and the rest of the keyframes maintain their relative location. See “Align Keyframes and Slip Keyframes” on page 131.
Shelf Linear Spline Bézier	The keyframe interpolation options set the way parameter changes occur at keyframes. See “Parameter Changes at Keyframes” on page 124.
Fixed Keyframes Elastic Keyframes	Sets how the system moves keyframes when an effect is trimmed in or trimmed out. Elastic keyframes change the time at which they occur when you trim an effect, in proportion to the new effect length. Fixed keyframes do not change. See “Elastic Keyframes and Fixed Keyframes” on page 122.
Extrapolate Hold	Determines how the system sets parameter values before the first keyframe and after the last keyframe. See “Extrapolate and Hold” on page 136.
Reset Graph View	Vertically recenters the graph view. See “Resetting Keyframe Graph Views” on page 143.

Adding and Deleting Keyframes in Keyframe Graphs

You can add a keyframe using the Add Keyframe button on the Effect Editor toolbar, or you can use the keyframe graph shortcut menu. The first panel of the shortcut menu has commands for adding and deleting keyframes.

To add a keyframe to the active parameter:

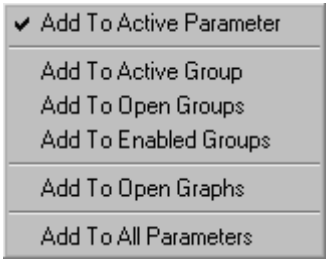
1. Move the position indicator to the point where you want to add a keyframe.
2. Right-click (Windows) or Ctrl+Shift+click (Macintosh) the keyframe graph or keyframe track, and choose Add Keyframe from the shortcut menu.

   An active keyframe indicator appears at the position indicator.

To add a keyframe to a keyframe graph using the Add Keyframe button:

1. Move the position indicator to the point where you want to add a keyframe.
2. Click the Add Keyframe button on the Effect Editor toolbar.

   The Add Keyframe Mode menu appears.



If the Add Keyframe Mode menu does not appear, it is deselected on the Effect Editor shortcut menu. For more information, see "Options for Using Advanced Keyframes" on page 143.

For more information on the command selections, see "Using the Add Keyframe Mode Menu and the Delete Keyframe Mode Menu" on page 110.

3. Click the Add Keyframe button a second time to choose the command that has a check mark next to it, or choose another command from the Add Keyframe Mode menu.

   An active keyframe indicator appears at the position indicator. If you chose a command that results in multiple keyframes, other keyframe indicators appear at the proper places.

   If you changed the command, the Delete Keyframe mode also changes.

You can set a default command using the Effect Editor shortcut menu. For more information, see "Options for Using Advanced Keyframes" on page 143.

To delete a keyframe from a keyframe graph:

1. Click a keyframe indicator to activate it.
2. Do one of the following:
   - Press the Delete key.
   - Right-click (Windows) or Ctrl+Shift+click (Macintosh) the keyframe graph or keyframe track, and choose Delete Keyframe from the keyframe graph shortcut menu.
   - Alt+click (Windows) or Option+click (Macintosh) the Add Keyframe button on the Effect Editor toolbar.

     The Delete Keyframe Mode menu appears. For more information on the commands, see "Using the Add Keyframe Mode Menu and the Delete Keyframe Mode Menu" on page 110.

     If you select a new command from the Delete Keyframe Mode menu, the Add Keyframe mode also changes.

If the Delete Keyframe Mode menu does not appear, Show Add Keyframe Mode Menu is deselected on the Effect Editor shortcut menu. For more information, see "Options for Using Advanced Keyframes" on page 143.

Using the Add Keyframe Mode Menu and the Delete Keyframe Mode Menu

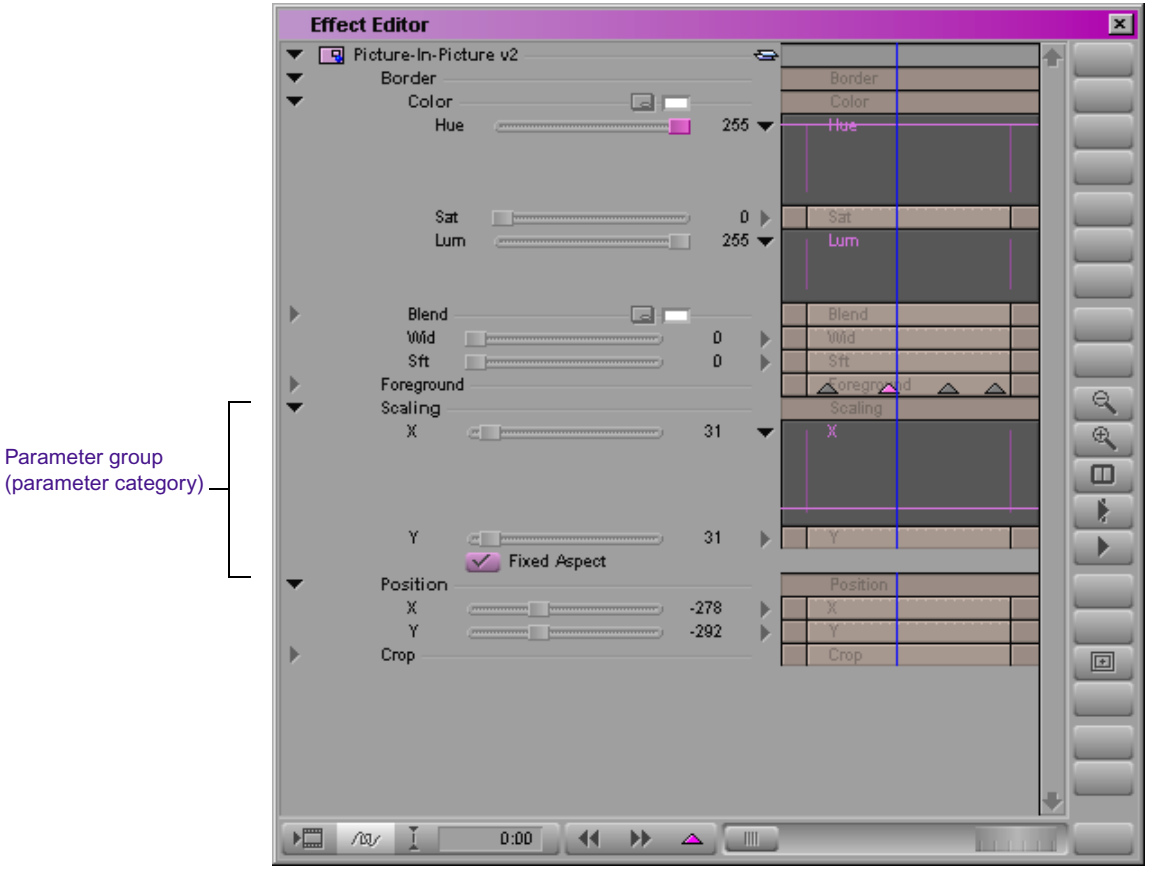
Before you begin adding keyframes, it is important to understand the terms your Avid system uses to refer to parameters and parameter groups. These terms are on the menu that appears when you add or delete a keyframe using the Add Keyframe button on the Effect Editor toolbar.

If the Add Keyframe Mode menu or the Delete Keyframe Mode menu does not appear, it is deselected on the Effect Editor shortcut menu. For more information, see "Options for Using Advanced Keyframes" on page 143.

You can set a default command using the Effect Editor shortcut menu. For more information, see "Options for Using Advanced Keyframes" on page 143.

The selection you make for the Add Keyframe mode is mirrored in the Delete Keyframe Mode menu, and vice versa. That is, when you change one, you change both.

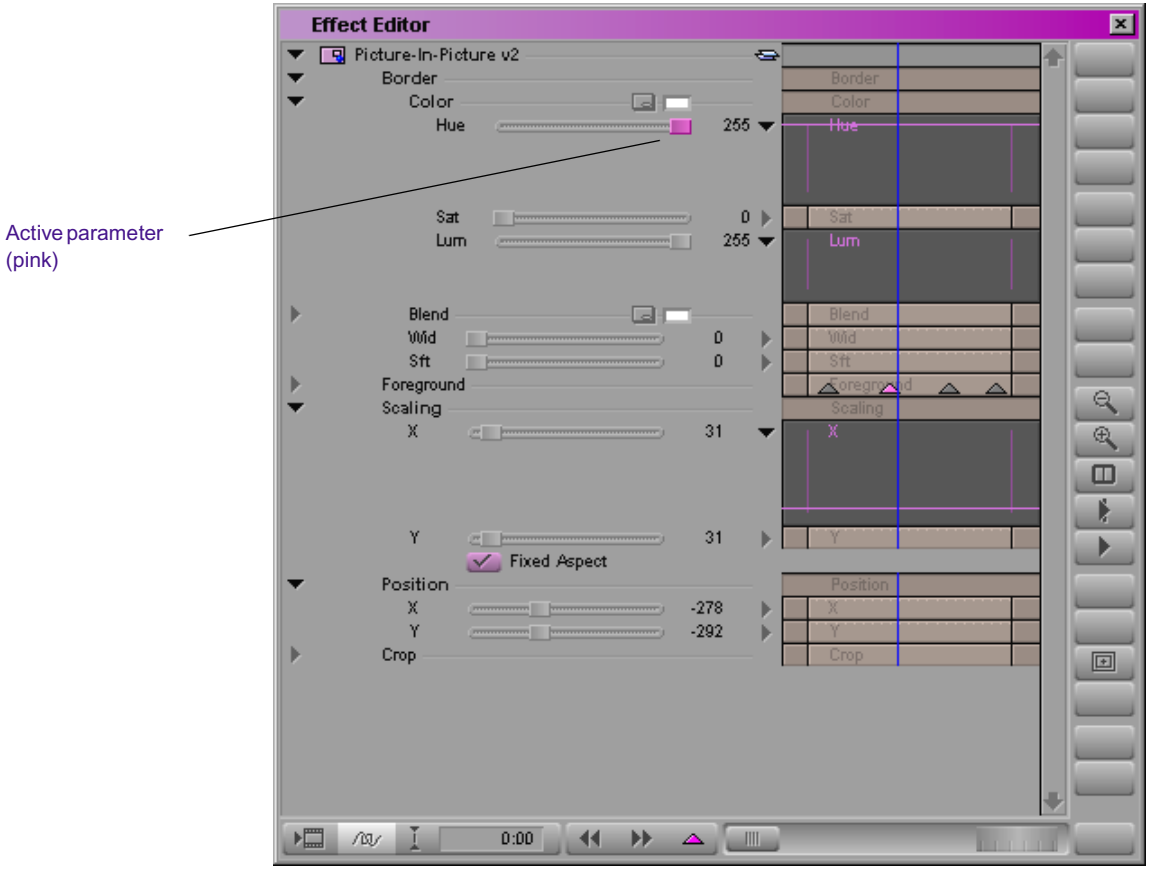
In the following descriptions, *group* refers to the parameter category. Each description first defines the term that appears in the Add Keyframe Mode menu and the Delete Keyframe Mode menu and then illustrates the result of using that command when adding or deleting a keyframe.



- *Active Parameter* — The parameter that is currently active. For example, a slider that you clicked is pink.

  Add To Active Parameter — The keyframe appears in the keyframe track or keyframe graph for the active parameter only.

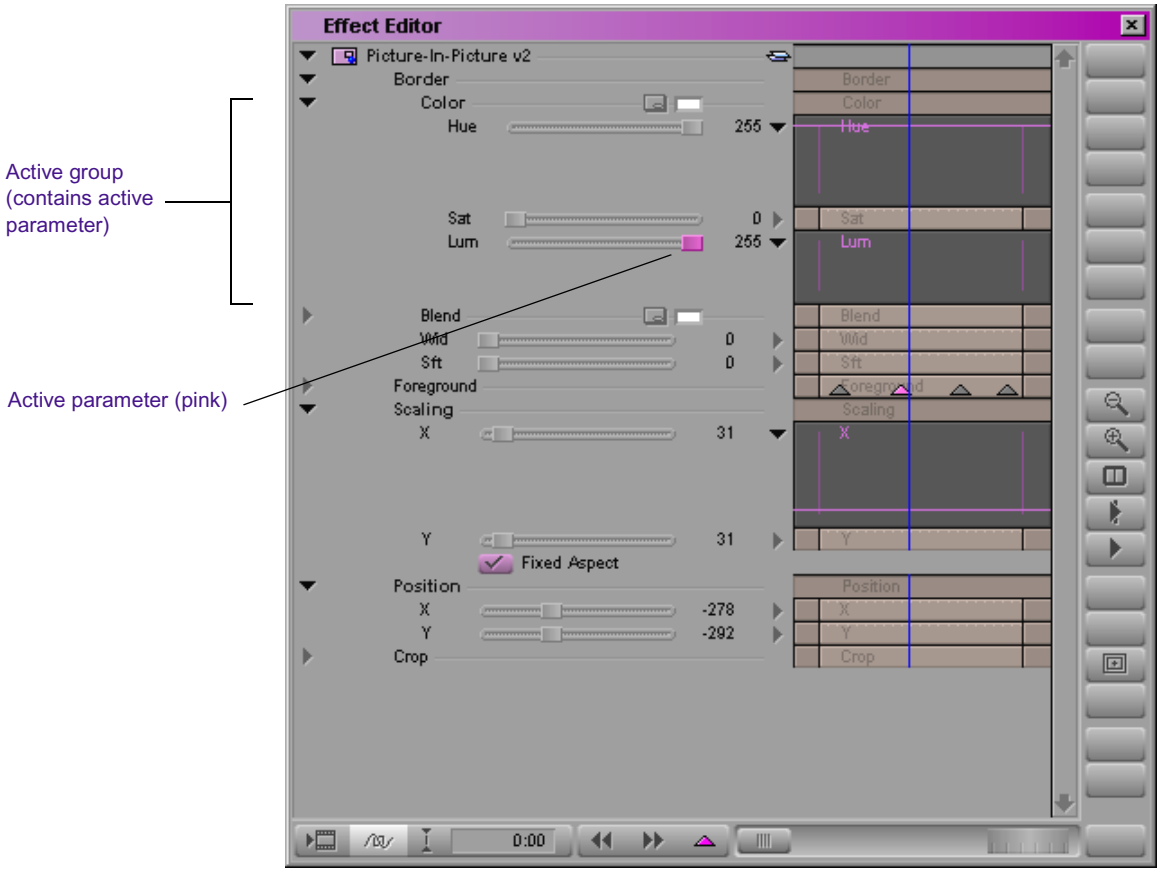
  Delete From Active Parameter — The system removes selected keyframes in the keyframe track or keyframe graph for the active parameter only.



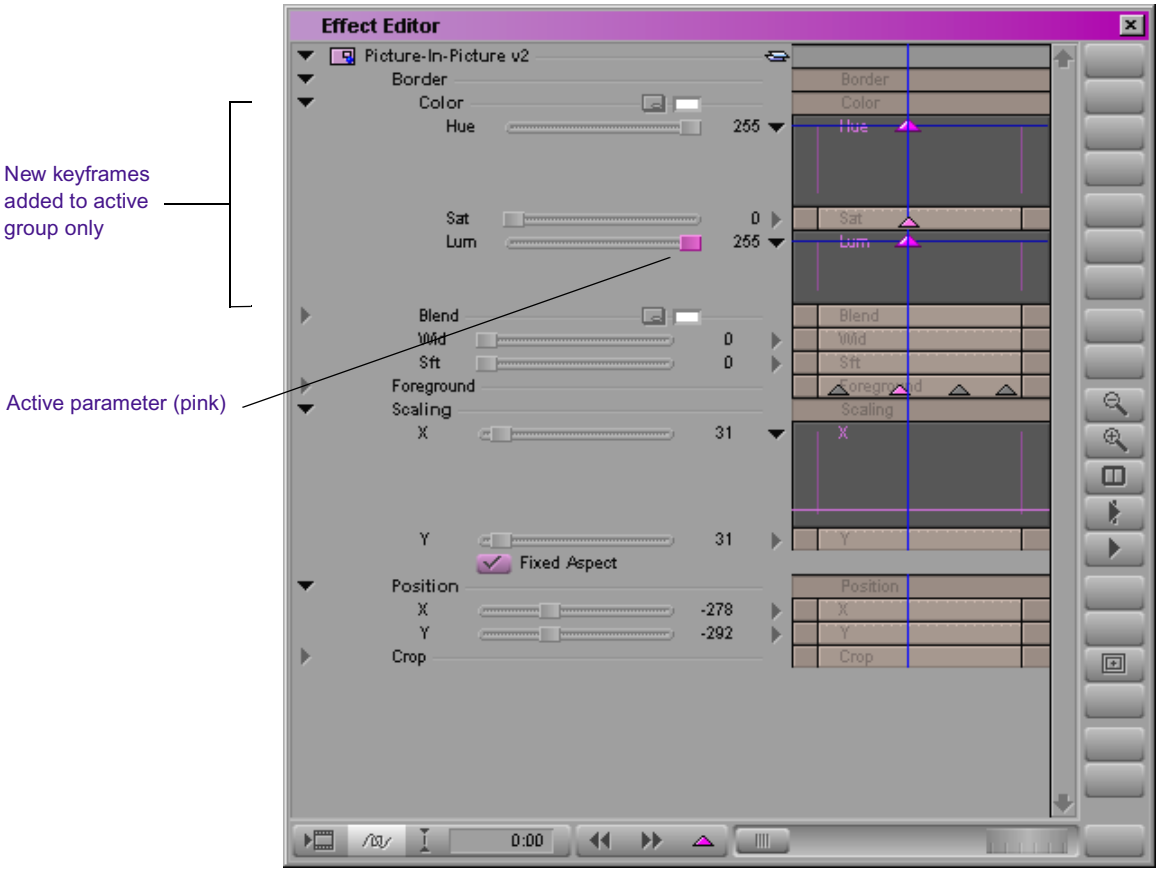
- *Active Group* — The group to which the active parameter belongs.

  Add To Active Group — Keyframes appear in the keyframe tracks or keyframe graphs of all parameters that are in the same group as the active parameter. If the active group is part of a larger group (for example, Color is a subgroup or subcategory of Border), keyframes appear only in the active group and not in the larger group.

  Delete From Active Group — The system deletes selected keyframes from the keyframe tracks or keyframe graphs of all parameters that are in the same group as the active parameter.



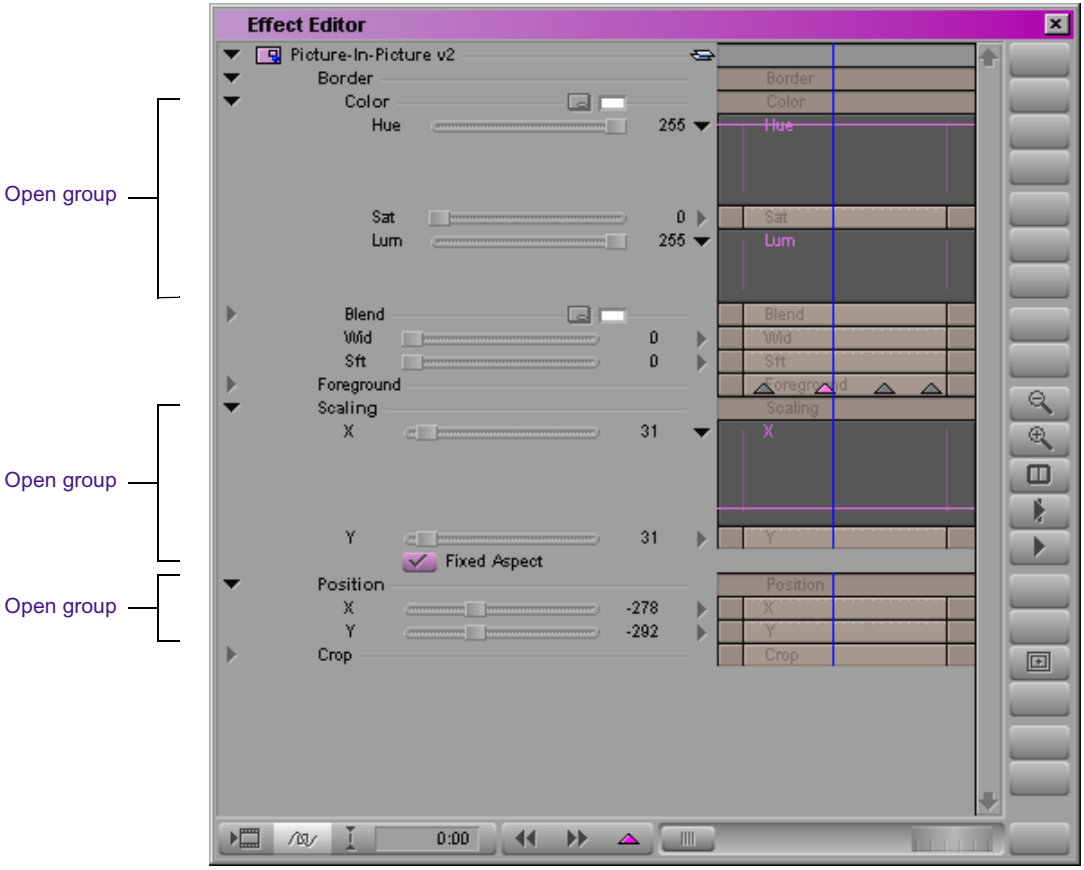
The following illustration is an example of selecting Add To Active Group.



- *Open Groups* — Groups that you opened by clicking the triangular opener next to the group name.

  Add To Open Groups — Keyframes appear in the keyframe tracks or keyframe graphs of all parameters in groups that are currently open.

  Delete From Open Groups — The system deletes selected keyframes from keyframe tracks or keyframe graphs of all parameters in groups that are currently open.



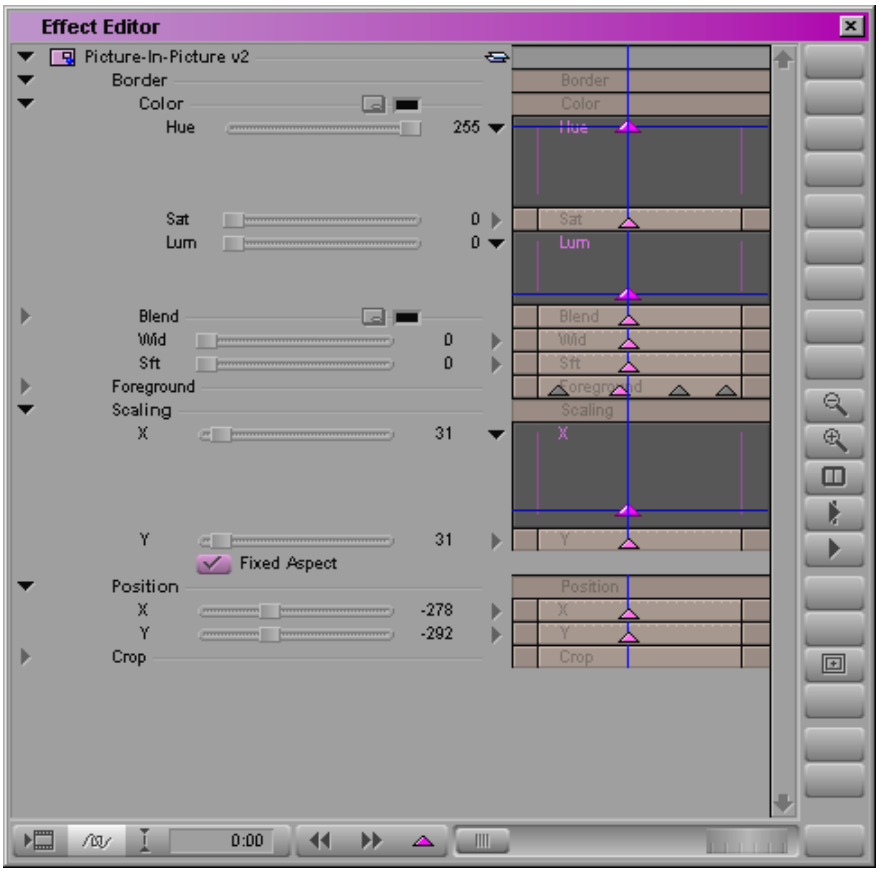
The following illustration is an example of selecting Add To Open Groups.

Add To Open Groups: New keyframes added to all open groups, even if the keyframe tracks are closed.

Open group

Open group

Open group



- *Enabled Groups* — Avid Xpress DV does not use enabled groups. The system treats all groups as enabled at all times.

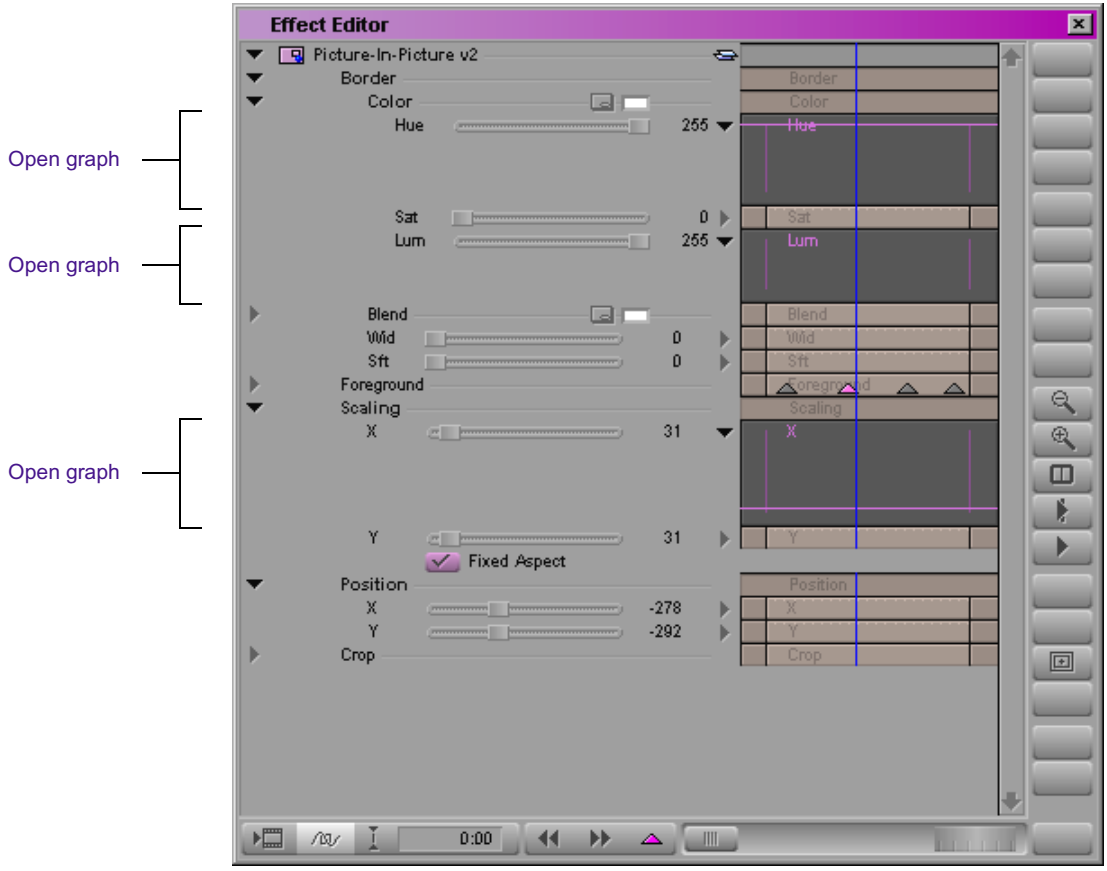
  Add To Enabled Groups — Keyframes appear in all keyframe tracks. This is the same as Add To All Parameters.

  Delete From Enabled Groups — The system deletes selected keyframes from all keyframe tracks. This is the same as Delete From All Parameters.

- *Open Graphs* — Keyframe tracks that you opened by clicking the triangular opener next to the keyframe track.

  Add To Open Graphs — Keyframes appear in the keyframe graphs of all parameters with open graphs.

  Delete From Open Graphs — The system deletes selected keyframes from the keyframe graphs of all parameters with open graphs.



- *All Parameters* — Every parameter represented in the Effect Editor that has a keyframe track and is therefore keyframeable.

  Add To All Parameters — Keyframes appear in all keyframe tracks.

  Delete From All Parameters — The system deletes selected keyframes from all keyframe tracks.

Moving Keyframes in Keyframe Graphs

Once you create an advanced keyframe, you can move it to another location in the keyframe graph. The methods described here use the mouse to move a keyframe. You can also use commands on the keyframe graph shortcut menu. For more information, see "Align Keyframes and Slip Keyframes" on page 131.

To move a keyframe vertically, changing its value:

- With the keyframe graph open, click the keyframe indicator, and drag it to its new position.

  The time at which the keyframe occurs does not change.

To move a keyframe horizontally, changing its time, do one of the following:

- With the keyframe graph open, Alt+Shift+click (Windows) or Option+Shift+click (Macintosh) the keyframe indicator, and drag it to its new position.

  When you move a keyframe with the keyframe graph open, the Shift key constrains the movement to the horizontal (time) axis.

- With the keyframe graph closed, Alt+click (Windows) or Option+click (Macintosh) the keyframe indicator, and drag it to its new position.

Alternatively, you can select keyframes and click the Trim Left 1 Frame and Trim Right 1 Frame buttons or the Trim Left 10 Frames and Trim Right 10 Frames buttons.

  The keyframe's value does not change.

To move a keyframe in any direction:

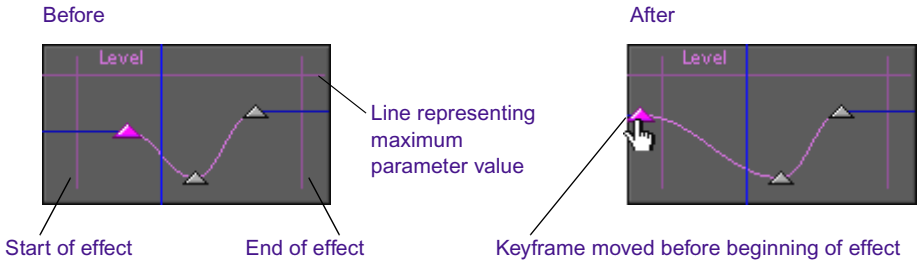
- With the keyframe graph open, Alt+click (Windows) or Option+click (Macintosh) the keyframe indicator, and drag it to its new position.

  You can change both the keyframe's value and the time at which the keyframe occurs.

You cannot move a keyframe past another keyframe. That is, keyframe movement is bounded by neighboring keyframes.

You can use these methods to move a keyframe outside the time boundaries of the keyframe graph. That is, you can make the effect behave as if parameter values are changing before the beginning or after the end of the effect. This works only for the time at which a keyframe occurs. You cannot set a keyframe value outside the maximum or minimum value for the parameter.

The following illustration shows an example of moving a keyframe before the beginning of an effect.



You can also move keyframes outside the time boundaries using Align Keyframes and Slip Keyframes. See “Align Keyframes and Slip Keyframes” on page 131.

Copying and Pasting Advanced Keyframe Parameters

You can copy and paste parameters from one advanced keyframe and apply them to another advanced keyframe. You can also copy advanced keyframe parameters from one effect to another effect.

To copy and paste advanced keyframe parameters:

1. Click one keyframe indicator in the parameter’s keyframe graph whose parameters you want to copy.
2. Choose Copy from the Edit menu.

3. Select one or more keyframes:
   - To copy the parameters to one keyframe, click the keyframe indicator.
   - To copy the parameters to multiple frames, Ctrl+click (Windows) or Shift+click (Macintosh) multiple keyframe indicators.
   - To copy the parameters to all keyframes, choose Select All from the Edit menu.
4. Choose Paste from the Edit menu.

   The parameters that you copied from one keyframe are pasted to the keyframes you selected.

Selecting and Deselecting Advanced Keyframes

A keyframe graph does not have to be open when you select a keyframe. You can select keyframes in closed keyframe graphs.

To select a keyframe:

- Click the keyframe indicator.

  The keyframe indicator changes to pink (activated).

When you select more than one keyframe in a single keyframe track, the system uses the most recently selected one as the reference keyframe for aligning and slipping keyframes. In addition, there are special considerations when you align keyframes in a track with both selected keyframes and deselected keyframes. See “Aligning Keyframes” on page 132.

To select more than one keyframe in a keyframe track:

1. Click the first keyframe indicator that you want to select.

   The keyframe indicator changes to pink (activated).
2. Press and hold the Shift key, and click each additional keyframe indicator.

   Each keyframe changes to pink (activated).

To select keyframes in more than one keyframe track:

1. Click the first keyframe indicator that you want to select.

   The keyframe indicator changes to pink (activated).

2. In each keyframe track that you want to add to your selection, click the keyframe indicator.

3. (Option) If you want to select multiple keyframes in a keyframe track, Shift+click each additional keyframe indicator.

To select all keyframes in a keyframe track:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) a keyframe track, and choose Select All Keyframes from the shortcut menu.

To select all keyframes in a parameter group:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the parameter group title track, and choose Select All Keyframes from the shortcut menu.

To select all keyframes in the effect:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the effect title track, and choose Select All Keyframes from the shortcut menu.

To deselect a keyframe:

- Shift+click the keyframe indicator.

Occasionally, you might want to deselect all but one keyframe in a keyframe graph.

To deselect all keyframes but one in a track:

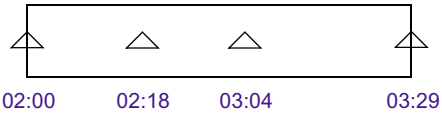
- Click the keyframe indicator of the keyframe you want to remain selected.

  The keyframe indicator changes to pink (activated). All other keyframes in the track appear gray and are deselected.

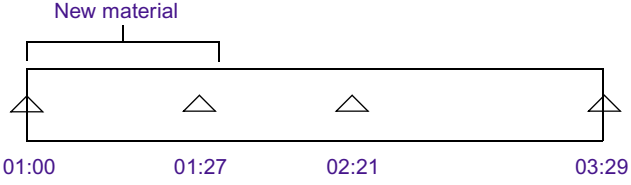
Elastic Keyframes and Fixed Keyframes

With standard keyframes, all keyframes are elastic. When you trim an effect, the Avid system scales the keyframes to fit the new duration. For example, suppose you want to have a PIP effect appear, be visible for 16 frames, and then pop off the screen. If the original clip is 2 seconds long and you trim out the clip to 3 seconds, each event takes proportionally longer. After the trim, the PIP effect remains visible for 24 frames.

2-second clip with elastic keyframes



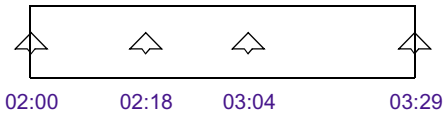
Same clip trimmed out to add 1 second at the head:
time between keyframes stretches.



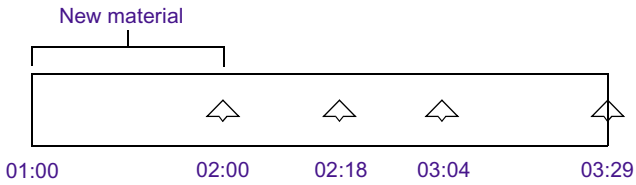
Source Timecode Before Trim	Event	Source Timecode After Trim
02:00	Start of clip	01:00
02:18	PIP effect on	01:27
3:04	PIP effect off	2:21
3:29	End of clip	3:29

With fixed keyframes, when you trim out a clip, your Avid system extends the first or last keyframe by duplicating parameters in the trimmed-out area. When you trim out a clip, the keyframes remain fixed at their original timecodes. Fixed keyframes allow you to “pin” a parameter change to a particular timecode. Using the previous example, if before the trim the PIP appears for 16 frames at 02:18, after the trim the PIP appears for 16 frames at 02:18.

2-second clip with fixed keyframes



Same clip trimmed out to add 1 second at the head:
timing of events does not change.



Source Timecode Before Trim	Event	Source Timecode After Trim
02:00	Start of clip	01:00
02:18	PIP effect on	02:18
3:04	PIP effect off	3:04
3:29	End of clip	3:29

Effect parameters default to elastic keyframes. You choose elastic keyframes or fixed keyframes from the shortcut menu for a parameter.

You can select elastic keyframes or fixed keyframes for each parameter of an effect. That is, some parameters can have elastic keyframes and other parameters can have fixed keyframes.

All keyframes for a parameter are either elastic or fixed. You cannot mix elastic keyframes and fixed keyframes within a single parameter.

To choose elastic keyframes or fixed keyframes for a parameter:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the keyframe graph or keyframe track for the parameter with which you are working, and choose Fixed or Elastic from the shortcut menu.

  The keyframes for the parameter change to the selected keyframe type and the keyframe indicators for the parameter display the selected keyframe type.

  All subsequent keyframes you add to this parameter appear as the selected keyframe type.

To choose elastic keyframes or fixed keyframes for a parameter group:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the parameter group title track, and choose Fixed or Elastic from the shortcut menu.

  The keyframes for all parameters in the parameter group change to the selected keyframe type. The keyframe indicators display the selected keyframe type.

  All subsequent keyframes you add to this parameter group appear as the selected keyframe type.

Parameter Changes at Keyframes

How an effect parameter changes at a keyframe is governed by which keyframe interpolation option you select. Interpolation refers to the method your system uses to calculate the rate of change and the relative smoothness of change.

To select an interpolation option:

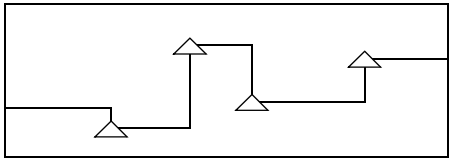
- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the keyframe graph or keyframe track for the parameter with which you are working, and choose one of the following from the shortcut menu:
  - Shelf
  - Linear
  - Spline
  - Bézier

  Each option is described in the following section.

Options for Controlling Parameter Changes at Keyframes

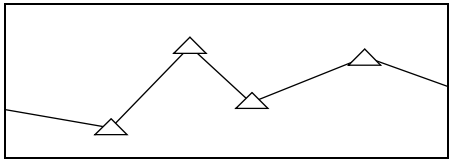
You can select from the following options for controlling parameter changes at keyframes:

- **Shelf** — The parameter value does not change between keyframes and then changes abruptly to the new value. Some applications call this *Hold*.



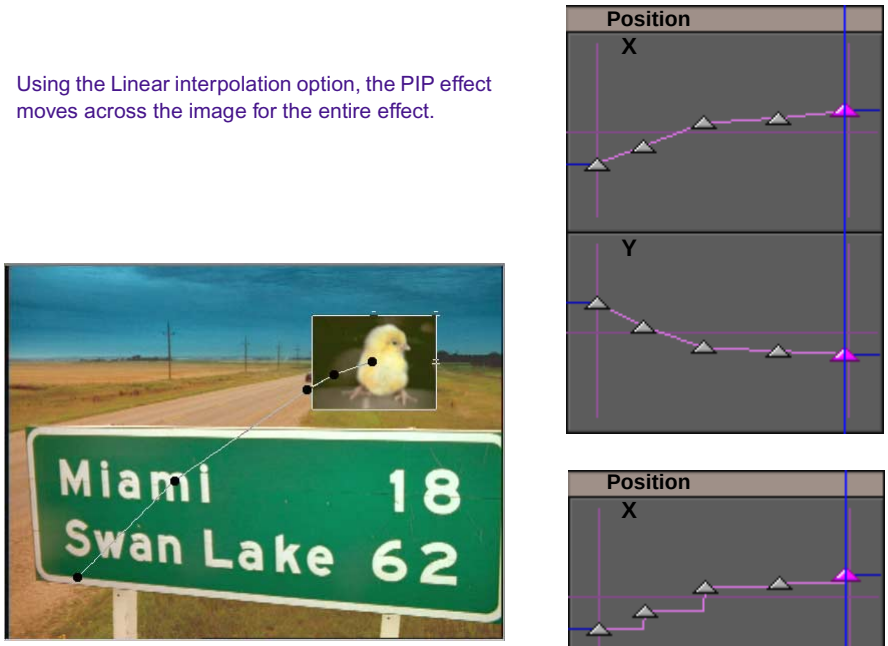
  Use Shelf to hold a parameter value for a fixed length of time. For example, you can use Shelf with the Position parameters to create a PIP that appears to “pop” to a new location at each keyframe.

- **Linear** — The parameter value ramps smoothly between keyframes but then changes abruptly at each keyframe. The change in parameter value at a keyframe happens with no ease-in or ease-out.

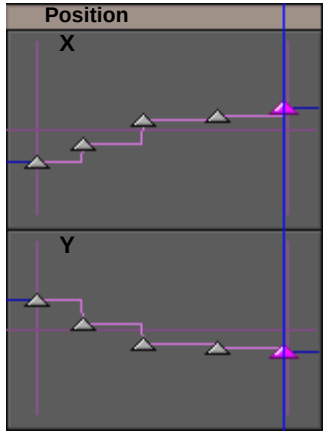


Effects with standard keyframes make linear parameter changes (with the exception of Spline for motion paths and Acceleration for other parameters). With advanced keyframes, you can use the Linear interpolation option for some parameters and not for others, depending on the effect you want to achieve.

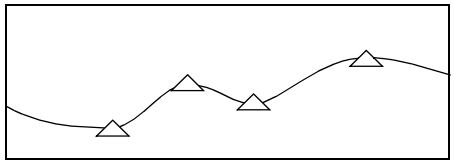
Using the Linear interpolation option, the PIP effect moves across the image for the entire effect.



Using the Shelf interpolation option, the PIP effect "pops" to a new location at each keyframe.



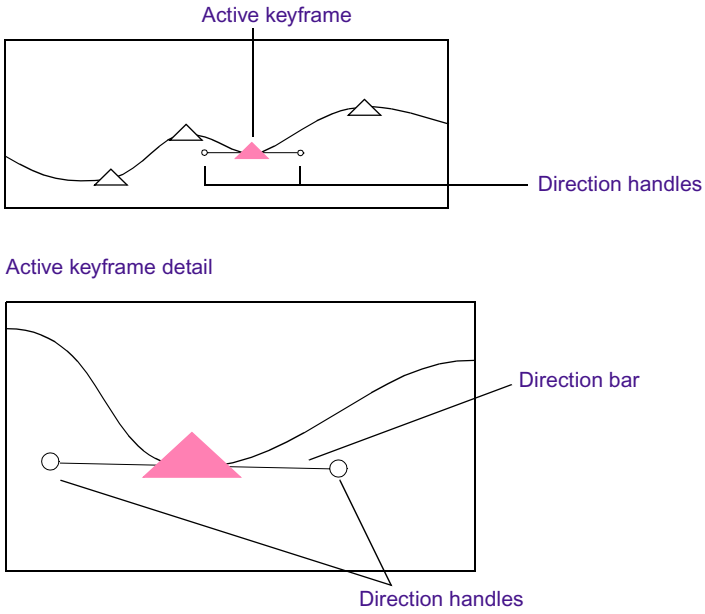
- **Spline** — The parameter value changes smoothly at each keyframe, creating a simple ease-in or ease-out effect. Spline is sometimes called *Natural Spline* or *Cardinal Spline* because the line representing the parameter value always goes precisely through each keyframe.



With two keyframes, the system changes the parameter value slowly at the beginning of the effect, speeds up the rate of change, and then slows down to come to rest gently at the end of the effect. Use three keyframes to create an arc.

Use the Spline interpolation option (or the Bézier interpolation option) for any parameter for which you want to avoid abrupt changes, such as Scaling or Border width.

- **Bézier** — The Bézier interpolation option is similar to the Spline interpolation option, in that the parameter value changes smoothly at each keyframe. In addition, the Bézier interpolation option provides direction handles at each keyframe. You adjust the rate at which the parameter value changes by manipulating the direction handles.



When you click a direction handle and drag it, you change the height and angle of the curve. The curve responds as if you were gently tugging it like a piece of string. The curve remains anchored to the keyframes on either side of the active keyframe.

Use the Bézier interpolation option (or the Spline interpolation option) for any parameter for which you want to avoid abrupt changes.

You can use the Bézier interpolation option to create abrupt changes. "Break" the direction handles using modifier keys and adjust each side of the curve independently. For more information, see "Adjusting Parameter Values with the Bézier Interpolation Option" on page 128.

You can adjust Bézier curves in three distinct ways, as described in the following section.

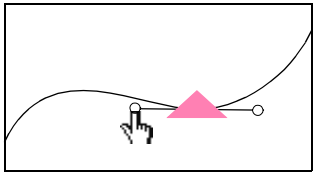
Adjusting Parameter Values with the Bézier Interpolation Option

You can adjust Bézier curves in the following ways:

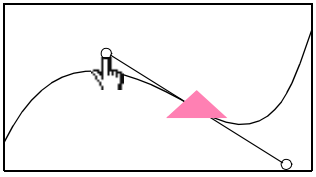
- **Symmetrically** — Dragging a direction handle changes the length and rotation of both direction handles symmetrically.

Adjusting Bézier curves symmetrically

Before



After

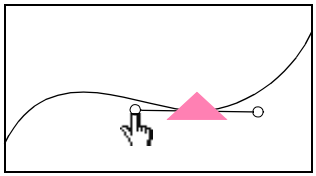


Dragging the left handle up and to the left causes both sides to rotate and increase in length.

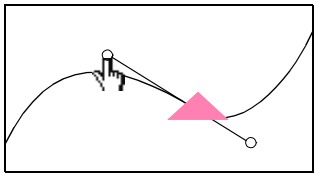
- **Asymmetrically** — Dragging a direction handle changes the length of the selected handle, but not the opposite handle. The rotation of both handles changes as you drag the selected handle.

Adjusting Bézier curves asymmetrically

Before



After

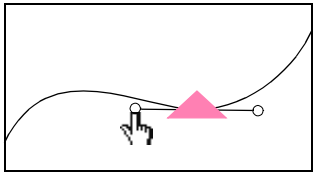


Dragging the left handle up and to the left causes the left side to rotate and increase in length. The right side rotates but does not change in length.

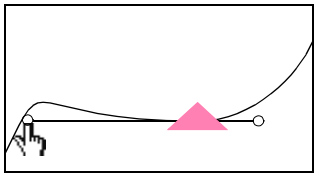
- **Independently** — Dragging a direction handle changes both the length and rotation of the selected handle. The opposite handle does not change. You do this by “breaking” the handle.

Adjusting Bézier curves independently

Before

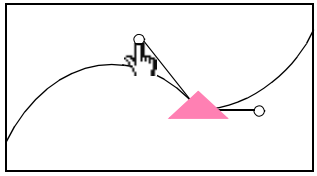


After dragging (no rotation)



Dragging the left handle to the left causes only the left side to increase in length. The right side does not change.

After dragging and rotating



Dragging the left handle up and to the left causes only the left side to rotate and increase in length. The right side does not change.

The default adjustment method is symmetrical. You change the adjustment method using the Alt key (Windows) or Option key (Macintosh).

To use the Bézier interpolation option for adjusting a parameter value:

1. Select the Bézier interpolation option.

   For more information, see "Parameter Changes at Keyframes" on page 124.

2. Click a keyframe indicator to activate it.

   The keyframe indicator changes to pink, and a direction bar with direction handles appears.

3. Position the pointer over one of the direction handles.

   The pointer changes to a hand pointer.

4. (Option) Alt+click (Windows) or Option+click (Macintosh) the direction handle to select an adjustment method.

   Each time you do, the adjustment method cycles to the next adjustment method: symmetrical, asymmetrical, or independent.

5. Drag the mouse to move the direction handle.

   The direction bar and the curve change to show the new interpolation motion.

6. Continue adjusting the direction handles to achieve the effect you want.

When you make an adjustment to a direction handle, the system remembers which adjustment method you used. If you do not want to change the adjustment method, do not Alt+click (Windows) or Option+click (Macintosh) the direction handle before making another adjustment to the same handle. Instead, just click the direction handle, and drag it to its new location.

Changing the Adjustment Method for the Bézier Interpolation Option

To change the adjustment method for the Bézier interpolation option:

- Alt+click (Windows) or Option+click (Macintosh) the direction handle.

  Each time you do, the adjustment method cycles to the next adjustment method: symmetrical, asymmetrical, and independent.

For example, suppose you make an adjustment using independent direction handles, and then move the cursor away from the keyframe. To continue using independent direction handles, click the direction handle and make further adjustments. To change the adjustment method from independent to symmetrical, Alt+click (Windows) or Option+click (Macintosh) the direction handle.

Align Keyframes and Slip Keyframes

Align Keyframes and Slip Keyframes give you another way to adjust the position of advanced keyframes.

- Align Keyframes moves the selected keyframe to the position indicator. The other keyframes in the keyframe track do not move.
- Slip Keyframes moves all the keyframes of the parameter so the active keyframe aligns with the position indicator, and the rest of the keyframes maintain their relative location.

You do not have to select a keyframe from an open keyframe graph to use Align Keyframes and Slip Keyframes. You can select keyframes in any keyframe track.

Disabling Set Position To Keyframe can make it easier for you to use Align Keyframes and Slip Keyframes. See "Options for Using Advanced Keyframes" on page 143.

You can use Align Keyframes and Slip Keyframes within a single keyframe track, by selecting a single active keyframe. You can also use Align Keyframes and Slip Keyframes to bring several parameters into alignment, by selecting an active keyframe in more than one parameter and then choosing where you invoke the shortcut menu. See "Selecting and Deselecting Advanced Keyframes" on page 120.

When you select more than one keyframe in a single keyframe track, the system uses the most recently selected one as the reference keyframe for aligning and slipping keyframes. In addition, there are special considerations when you align keyframes in a track with both selected keyframes and deselected keyframes. See "Aligning Keyframes" on page 132.

Both Align Keyframes and Slip Keyframes can move keyframes outside the time boundaries of the keyframe graph. That is, you can make the effect behave as if parameter values are changing before the beginning or after the end of the effect.

Aligning Keyframes

In each of the procedures below, the *reference keyframe* of any keyframe graph is the keyframe you activated most recently in that keyframe graph.

To align the reference keyframe to the position indicator, in one keyframe track:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) a keyframe track, and choose Align Keyframes from the shortcut menu.

To align the reference keyframes to the position indicator, in one parameter group:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the parameter group title track, and choose Align Keyframes from the shortcut menu.

  The reference keyframes move to the position indicator.

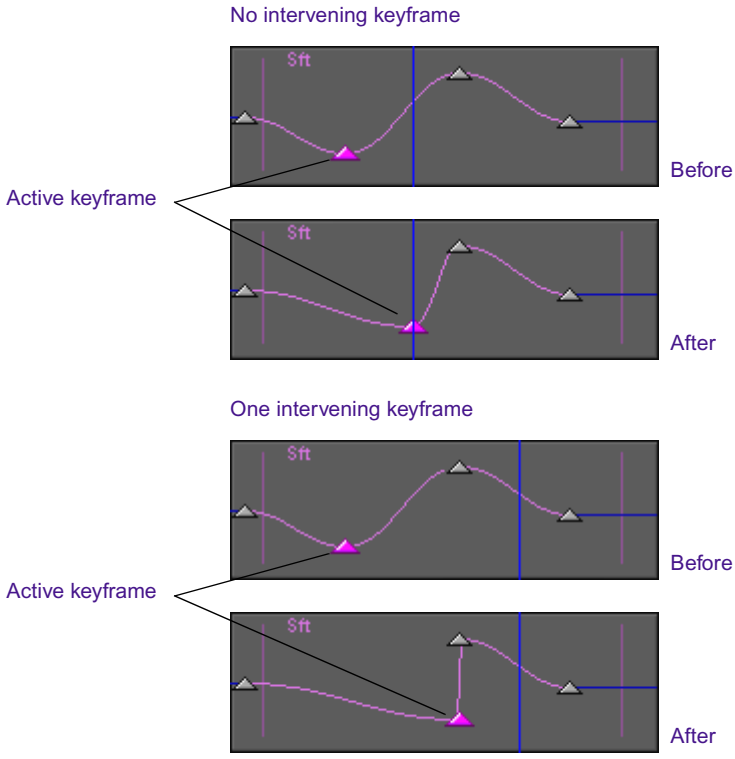
To align the reference keyframes to the position indicator, in the entire effect:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the effect's title track, and choose Align Keyframes from the shortcut menu.

  The reference keyframes of the entire effect move to the position indicator.

In each keyframe track, Align Keyframes will not move the reference keyframe beyond an intervening keyframe*; that is, a keyframe between the reference keyframe and the position indicator. If there is an intervening keyframe, the reference keyframe moves to within one frame or field of it.*

Align Keyframes

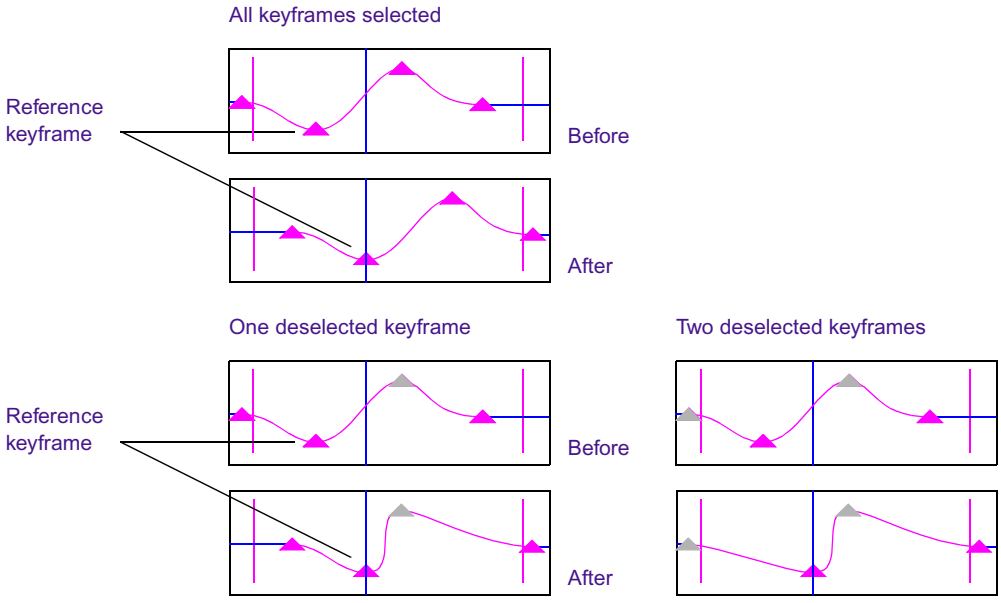


Align Keyframes exhibits more complex behavior when you have multiple keyframes selected in one keyframe graph.

If you select all keyframes in one keyframe graph, Align Keyframes is equivalent to Slip Keyframes. The reference keyframe moves to the position indicator, and all other keyframes maintain their position relative to the reference keyframe.

Deselected (gray) keyframes do not move. All selected keyframes do move, as close to the target position as possible, unless a deselected keyframe intervenes. The following illustration shows several examples.

Align Keyframes — multiple keyframe examples



Slipping Keyframes

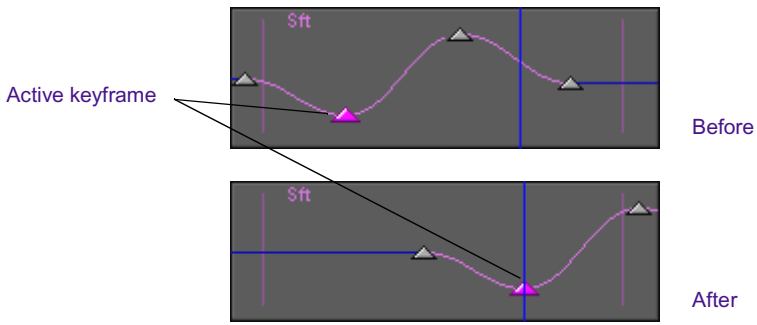
In each of the procedures below, the *reference keyframe* of any keyframe graph is the keyframe you activated most recently in that keyframe graph.

To slip keyframes to the position indicator, in one keyframe track:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the keyframe track, and choose Slip Keyframes from the shortcut menu.

  All the keyframes move so that the reference keyframe aligns with the position indicator, and the other keyframes maintain their position relative to the reference keyframe.

Slip Keyframes



To slip keyframes to the position indicator, in one parameter group:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the parameter group title track, and choose Slip Keyframes from the shortcut menu.

  In the parameter category, in each keyframe track with a reference keyframe, all the keyframes move so that the reference keyframe aligns with the position indicator, and the other keyframes maintain their position relative to the reference keyframe.

  If a keyframe track has no selected keyframes, no keyframes move.

To slip keyframes to the position indicator, in the entire effect:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the effect's title track, and choose Slip Keyframes from the shortcut menu.

  In the effect, in all keyframe tracks with a reference keyframe, all the keyframes move so that the reference keyframe aligns with the position indicator, and the other keyframes maintain their position relative to the reference keyframe.

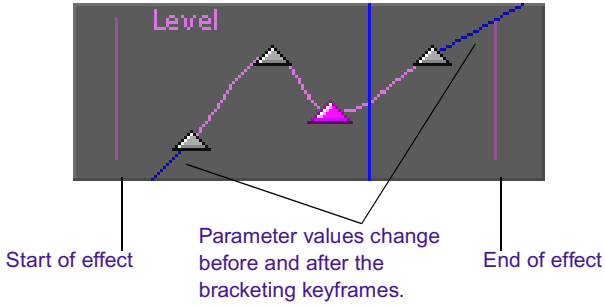
Extrapolate and Hold

When you use standard keyframes, you always have a starting keyframe and an ending keyframe that are fixed at the start of the effect and the end of the effect. You cannot move or delete the starting keyframe and the ending keyframe. With advanced keyframes, you do not need to set a starting keyframe or an ending keyframe, and you can move or delete them if you want to.

To keep your Avid system from creating starting and ending keyframes when you promote an effect, deselect Automatic Start and End Keyframes in the Effect Editor entry in the Settings scroll list.

In a keyframe graph, the first keyframe and the last keyframe are the *bracketing keyframes* for the parameter. Your Avid system determines parameter values beyond the bracketing keyframes using either Extrapolate or Hold.

With Extrapolate enabled, your system extrapolates — that is, estimates more values for — the parameter values at the start and end of an effect using the values at the bracketing keyframes. Parameter values continue to change over time. The system calculates new values using the interpolation option in effect for that parameter.

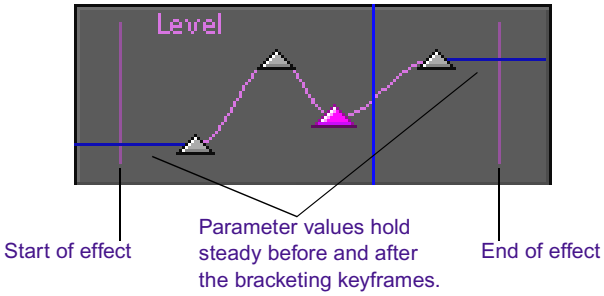


In the previous illustration, the blue lines represent the parameter value before and after the bracketing keyframes and show the extrapolation of the parameter value.

If you are reading a hardcopy version of this document, you might find it useful to view the color images in the Help or in the online version of this document on the online publications CD-ROM.

For example, if the parameter value between the last two keyframes increases as the end of the effect approaches, the parameter value continues to increase until the end of the effect. Similarly, if the first keyframe is not at the very beginning of the clip, the system extrapolates the parameter value from the start of the effect up to the first keyframe.

With Hold enabled, your system uses only the parameter values at the bracketing keyframes to set values at the start and end of the effect. The parameter values hold steady — that is, are the same — from the start of the effect to the first keyframe, and again from the last keyframe to the end of the effect.



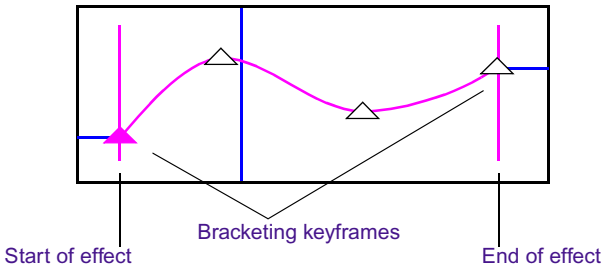
In the previous illustration, the horizontal blue lines indicate the parameter value before the first keyframe and after the last keyframe.

Extrapolate and Hold are useful any time you slip keyframes or align keyframes in such a way that a bracketing keyframe falls within the effect, or if you are using fixed keyframes for a parameter and you trim in or trim out the effect so that a bracketing keyframe falls within the effect.

The Extrapolate or Hold setting remains in effect if you trim in or trim out the effect.

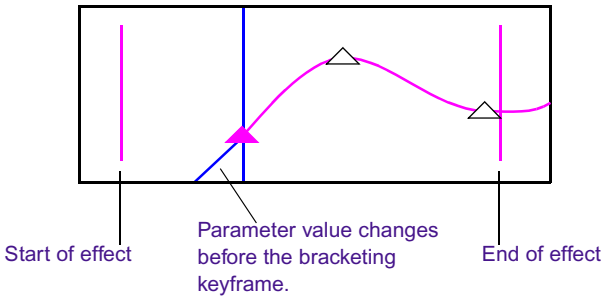
In either case, you do not have an explicitly defined value outside the bracketing keyframes. Extrapolate and Hold can save you the trouble of individually setting new values for each parameter whenever you make changes to the position of keyframes or the length of the effect.

Keyframe graph before Slip Keyframes



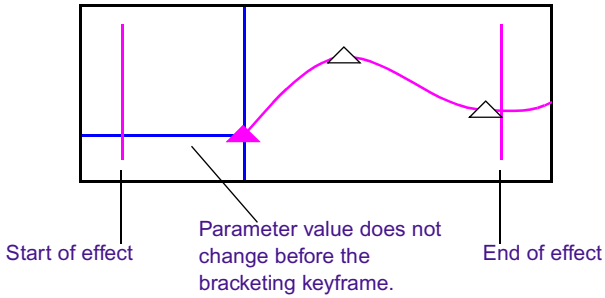
When you select Extrapolate, your Avid system estimates more values for the parameter before and after the bracketing keyframes using the values at the bracketing keyframes. Parameter values continue to change over time. The system calculates new values using the interpolation option in effect for that parameter.

Keyframe graph after Slip Keyframes:
Extrapolate example



When you select Hold, your Avid system uses only the parameter values at the bracketing keyframes to set values before and after the bracketing keyframes. The parameter values are the same from the start of the effect to the first keyframe, and again from the last keyframe to the end of the effect.

Keyframe graph after Slip Keyframes:
Hold example



As a result of slipping the keyframes in the previous examples, the last keyframe indicator has moved out of the keyframe graph view but is still present and is still the bracketing keyframe. The keyframe indicator visible at the right edge of the keyframe graph (the third keyframe indicator) is not a bracketing keyframe. Therefore, the parameter values in effect from the third keyframe to the end of the effect are calculated along the curve between the third keyframe and the last (bracketing) keyframe.

You set Extrapolate and Hold independently for each parameter in an effect. The default condition is Hold.

To set Extrapolate or Hold for a parameter:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the keyframe track, and choose Extrapolate or Hold from the shortcut menu.

  The display changes to reflect the new setting.

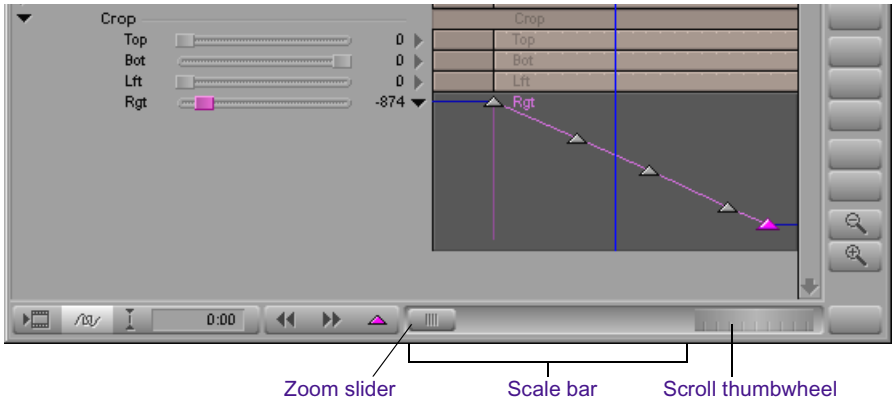
Adjusting the View in Keyframe Graphs

You adjust the view in a keyframe graph in the following ways:

- Zoom and scroll the view in a keyframe graph using the zoom slider and the scroll thumbwheel at the bottom of the Effect Editor.
- Resize a keyframe graph by manipulating the size of the Effect Editor and by expanding or contracting the vertical size of the keyframe graph.
- Scroll the view vertically in a keyframe graph by dragging the view.

Zooming and Scrolling Keyframe Graphs

You zoom and scroll the view in a keyframe graph using the zoom slider and the scroll thumbwheel at the bottom of the Effect Editor.

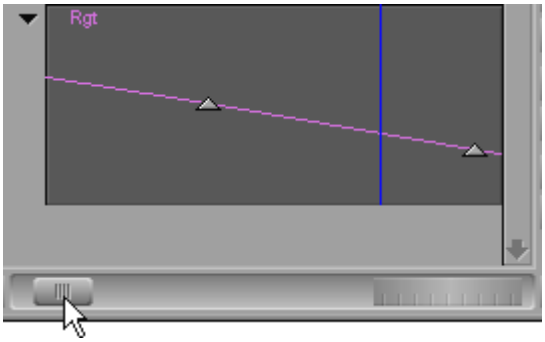


The zoom slider in the scale bar stretches and contracts the view in a keyframe graph centered around the position indicator. This allows you to either zoom in to focus on a specific area of your keyframe graph or zoom out to display the entire keyframe graph.

To zoom in on a section of a keyframe graph at the position indicator and then zoom out:

1. Click the zoom slider, and drag it to the right.

   The view in the keyframe graph expands horizontally and shows more detail.



2. Click the zoom slider, and drag it to the left.

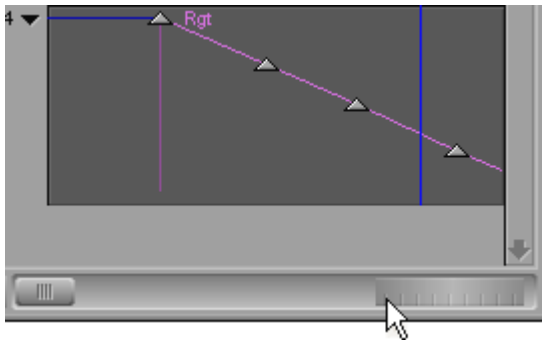
   The view in the keyframe graph shrinks to its original size.

The scroll thumbwheel scrolls the view in a keyframe graph left or right.

To scroll the view in a keyframe graph left or right:

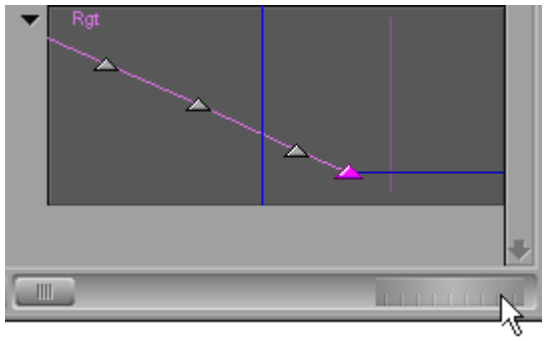
1. Click the scroll thumbwheel, and drag it to the left.

   The view in the keyframe graph scrolls to the right; that is, as part of the view disappears on the right, more comes into view on the left.



2. Click the scroll thumbwheel, and drag it to the right.

   The view in the keyframe graph scrolls to the left; that is, as part of the view disappears on the left, more comes into view on the right.



Resizing Keyframe Graphs

Resize the keyframe graph by manipulating the size of the Effect Editor and by expanding or contracting the vertical size of the keyframe graph.

To change the width of a keyframe graph:

- Click a corner of the Effect Editor, and drag it to resize the window.

To change the height of a keyframe graph:

1. Position the pointer over the lower edge of the keyframe graph that you want to change.

   The pointer changes to a vertical resizing pointer.

2. Click the edge of the graph, and drag it up or down.

   The height of the keyframe graph gets smaller or larger.

Moving Keyframe Graph Views Up or Down

Scroll the view in a keyframe graph up or down by dragging the view.

Use the scroll thumbwheel to move the view left or right.

To scroll the view in a keyframe graph up or down:

1. Alt+click (Windows) or Option+click (Macintosh) the keyframe graph.

   The pointer changes to a hand.

2. Drag the hand up or down to reposition the view within the keyframe graph.

Resetting Keyframe Graph Views

If you move the view in a keyframe graph so that you can no longer see the keyframes, you can use the shortcut menu to vertically recenter the keyframes in the keyframe graph.

To reset the view in a keyframe graph:

- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the keyframe graph, and choose Reset Graph View from the shortcut menu.

  The keyframes appear centered in the keyframe graph.

Depending on how you have scaled and zoomed your keyframe graph, you might not see any keyframes. Try scrolling the keyframe graph left or right, or zoom out until keyframes appear.

Options for Using Advanced Keyframes

The Effect Editor shortcut menu gives you options for adjusting the Effect Editor display, for controlling the playback of effects with advanced keyframes, and for setting a default command for the Add Keyframe button.

The Effect Editor shortcut menu appears only in effects with advanced keyframes.

To display the Effect Editor shortcut menu:

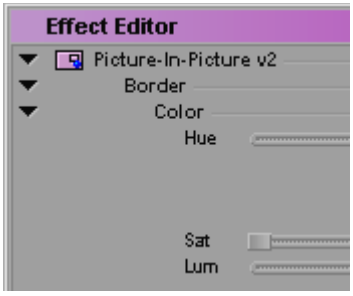
- Right-click (Windows) or Ctrl+Shift+click (Macintosh) the Effect Editor *outside* the keyframe track area.

  The Effect Editor shortcut menu appears.

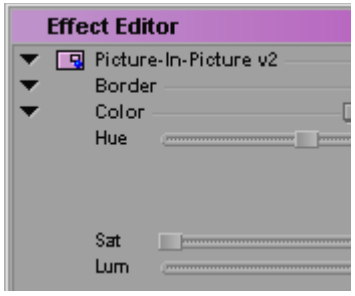
Table 5 describes the shortcut menu options for the Effect Editor.

Table 5 Effect Editor Options

Option	Description
Indent Rows	When this option is selected, parameter rows are indented from the parameter category row, and any parameter subgroups are indented again. When deselected, the left edges of parameter rows line up with the parameter category row.

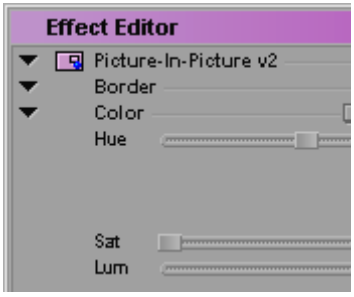


Indented parameter rows

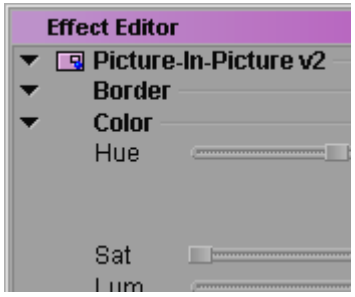


Non-indented parameter rows

Large Text	When this option is selected, text in the Effect Editor appears in 12-point size. When deselected, text in the Effect Editor appears in the default size, 10 points (Windows) or 9 points (Macintosh).



Normal text size



Large text

Table 5 Effect Editor Options (Continued)

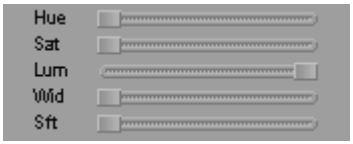
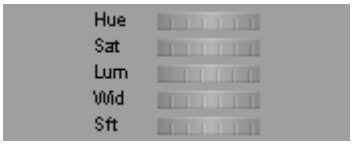
Option	Description
Thumbwheels	When this option is deselected, variable controls in the Effect Editor appear as the default slider control. When selected, variable controls appear as thumbwheels. For information on using thumbwheels, see "Using Parameter Sliders" on page 92.  Sliders  Thumbwheels
Real-Time Update	When this option is selected, your system updates the rendered effect image in real time. Because the update can be slow for complex effects, you have the option to deselect updating in real time.
Set Position To Keyframe	With Set Position To Keyframe selected, when you click a keyframe, your system moves the position indicator to the keyframe. With Set Position To Keyframe deselected, when you click a keyframe, the position indicator does not move. Deselecting Set Position To Keyframe allows you to align a keyframe to the position indicator. See "Align Keyframes and Slip Keyframes" on page 131.
Update Position While Playing	When this option is selected, the position indicator in the Effect Editor moves while you play the effect. Because using Update Position While Playing can cause video underrun problems in complex real-time effects, the option is deselected by default.

Table 5 Effect Editor Options (Continued)

Option	Description
Show Add Keyframe Mode Menu	When this option is selected, the Add Keyframe Mode menu (or the Delete Keyframe Mode menu) appears when you use the Add Keyframe button to add (or delete) keyframes. See "Using the Add Keyframe Mode Menu and the Delete Keyframe Mode Menu" on page 110. With Show Add Keyframe Mode Menu deselected, using the Add Keyframe button performs the default command from the list below (Add Keyframe button options), without displaying the Add Keyframe Mode menu or the Delete Keyframe Mode menu.
Add Keyframe button options: • Add Keyframe To Active Parameter • Add Keyframes To Active Group • Add Keyframes To Open Groups • Add Keyframes To Enabled Groups • Add Keyframes To Open Graphs • Add Keyframes To All Parameters	Select one as the default command for the Add Keyframe button. • When you deselect Show Add Keyframe Mode Menu, clicking the Add Keyframe button once performs the default command. • When you select Show Add Keyframe Mode Menu, clicking the Add Keyframe button twice performs the default command. (The first click displays the Add Keyframe Mode menu, at which point you can select another command.) *The selection you make for the Add Keyframe mode is mirrored in the Delete Keyframe Mode menu, and vice versa. For example, when you change your selection to Add Keyframe To Enabled Groups, the Delete Keyframe mode changes to Delete Keyframe From Enabled Groups.* For a description of each command, see "Using the Add Keyframe Mode Menu and the Delete Keyframe Mode Menu" on page 110.

Manipulating Effects Directly

In addition to defining effects by using parameter controls, you can make some adjustments to effects by manipulating them directly in the Effect Preview monitor. These adjustments use handles and wire-frame outlines that you can display in the monitor.

You can create a motion path that defines how the foreground image moves across the background video. You can also resize a foreground image such as a picture-in-picture.

Defining Motion Paths

You can define how the foreground image of a multilayer effect moves across the background video by building a *motion path*, or string of keyframes.

You can define a motion path on multilayer video effects, such as Picture-in-Picture effects. Use the wire-frame preview feature when you want to see the path an image takes on the screen.

When you are creating a motion path that moves beyond the viewing screen, you can use the Reduce button to view an outline of the image at a reduced scale. The reduced scale view shows the area outside the background image and allows you to extend the motion path into that area. The Enlarge button returns the screen to full view.

To define a motion path for the foreground image, do one of the following:

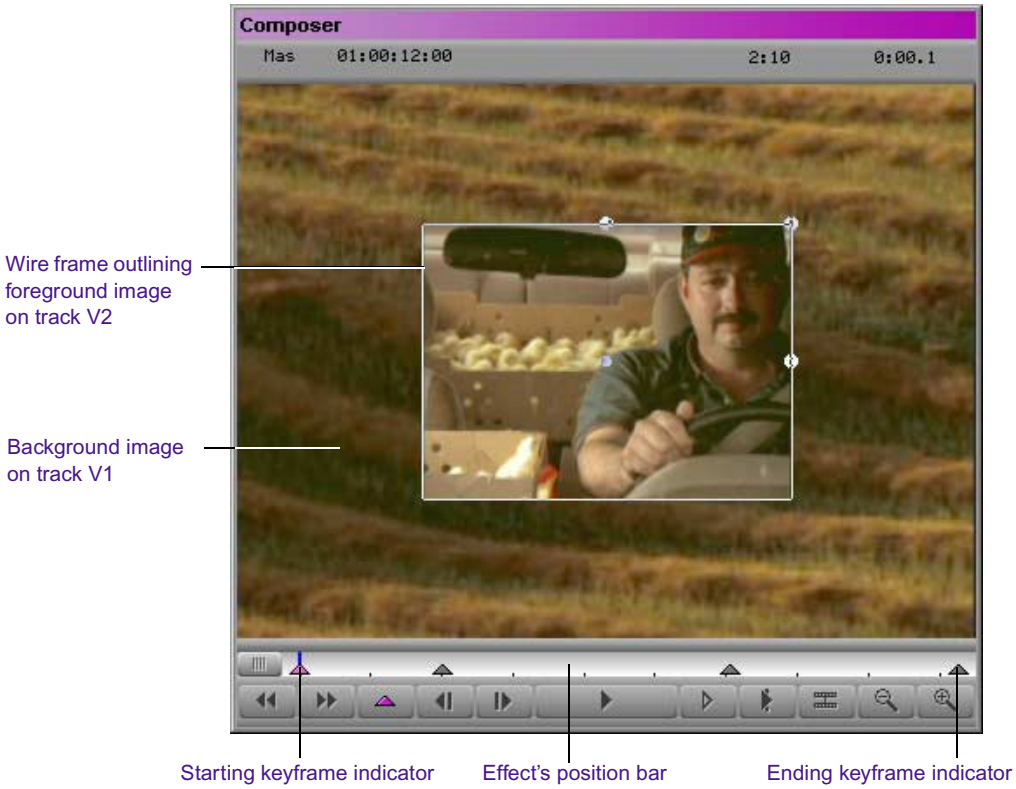
- Move the image directly and automatically add keyframes. For more information, see “Moving the Image Directly” on page 148.
- Add keyframes and adjust the parameter sliders. For more information, see “Understanding Keyframes” on page 98.

Moving the Image Directly

To add a motion path to the foreground image by moving the image directly:

1. Create a sequence with two video layers (foreground video on track V2, background video on track V1). For information about creating a sequence, see the chapter “First Edits” in the user’s guide.
2. Apply a multilayer effect to the foreground segment on track V2.
3. Select the foreground effect segment on track V2.
4. Choose Effect Editor from the Tools menu.

   The Effect Editor opens, and the Composer monitor becomes the Effect Preview monitor. The foreground image is outlined, and both the starting and ending keyframe indicators are highlighted (pink) in the effect’s position bar.



By default, the wire frame is active in the Effect Preview monitor. If the wire frame is not displayed, click the Outline/Path button in the Effect Editor to activate the wire frame.

5. Drag the wire frame to the start point of the motion path you are creating. The starting keyframe indicator represents the start point.
6. Click the ending keyframe indicator to select it. Make sure the ending keyframe indicator is the only indicator selected (pink).
7. Drag the wire frame to the end point of the motion path.

   A path line from the center of the starting position to the center of the ending position appears.
8. Drag the position indicator in the position bar below the Effect Preview monitor to a new location.

   The wire frame moves with the position indicator; notice the path line does not change.
9. Click inside the wire frame, and drag or stretch the wire frame to add a keyframe at the new location.

   A handle appears in the center of the wire frame, indicating the path position of the new keyframe.
10. Drag the wire frame to change the effect's path.
11. Repeat steps 8, 9, and 10 to add more variation to the path.

Resizing a Foreground Image by Dragging Handles

To resize the foreground image by dragging wire-frame handles:

1. Create a sequence with two video layers (foreground video on track V2, background video on track V1). For information about creating a sequence, see the chapter "First Edits" in the user's guide.
2. Apply a multilayer effect to the foreground segment on track V2.
3. Select the foreground effect segment on track V2.
4. Choose Effect Editor from the Tools menu.

   The Effect Editor opens, and the Composer monitor becomes the Effect Preview monitor. By default, the wire frame is active in the Effect Preview monitor.

If the wire frame is not displayed, click the Outline/Path button in the Effect Editor to activate the wire frame.

5. Drag one of the handles to resize the image:
   - Drag the top center handle to adjust the image's height.
   - Drag the right center handle to adjust the image's width.
   - Drag the top right corner handle to equally change the image's height and width. This option maintains the aspect ratio while resizing the image.

Using an Effect Template

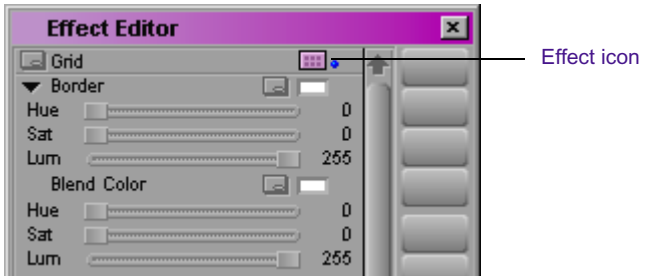
The complete set of parameter values for an effect is called the effect template. You can reuse an effect template in multiple places in a sequence by saving the template in a bin and later applying the template to other effects or video clips in the sequence.

Saving an Effect Template

You can save the parameters from an effect in the Effect Editor and reuse them for another effect. You can also save a segment effect with its source media, which is useful when you want to save an imported PICT file or Matte Key clip for future editing into a sequence.

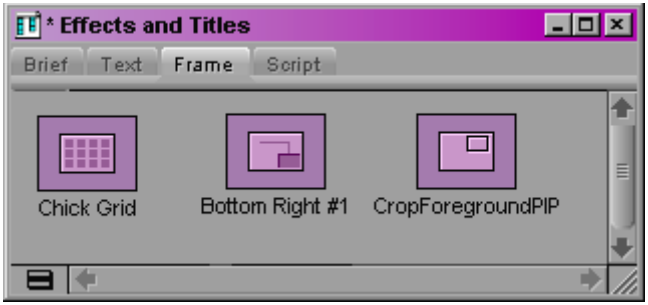
To save the parameters from an effect as an effect template:

1. Drag the effect icon from the Effect Editor to a bin.



Effect icons for open bins are also displayed in the Effect Palette.

This creates a new effect template in the bin, containing the parameter setting information for the effect. The new effect template is identified in the bin by its effect icon.



2. To rename the template, click the template name and type a new name.

To save a segment effect with its source media:

1. Press and hold the Alt key (Windows) or Option key (Macintosh), and then drag the effect icon from the Effect Editor to a bin.
2. To rename the template, click the template name and type a new name.

Avid Xpress DV saves title effects with source by default. If you press and hold the Alt key (Windows) or Option key (Macintosh) while dragging the icon, you will get a keyframe-only template. This template retains the movement of the title without the source.

Applying an Effect Template

You can take an effect template that has been saved in a bin and apply the template and its parameters to other transitions or segments in your sequence. Effect templates saved in open bins appear in the Effect Palette as well as in the bin itself.

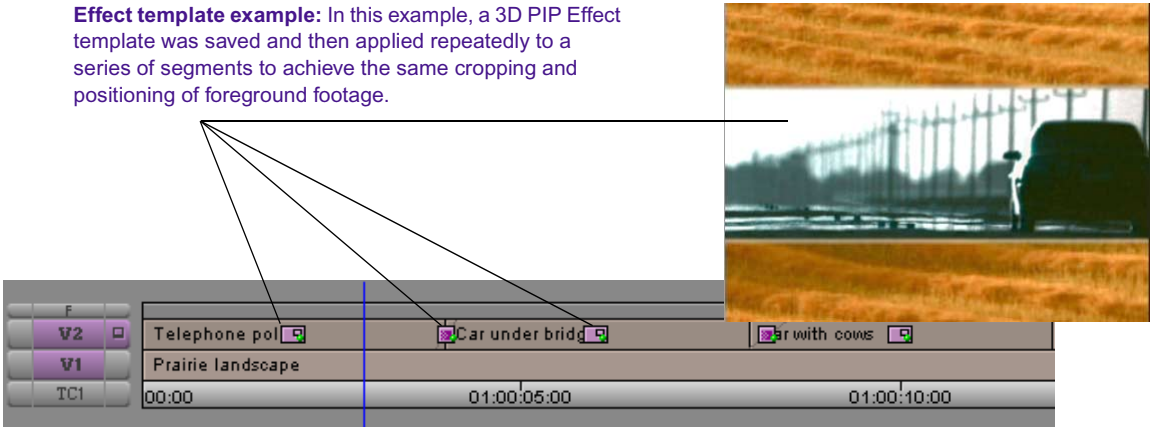
You can also apply specific parameters from the template.

Do not drag an effect template through the Timeline because this deselects the effect.

To apply an effect template with all its parameters directly to a segment or transition:

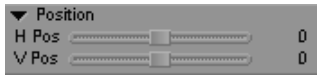
- Drag the effect template icon from the bin or from the Effect Palette, and drop it on the segment or transition in the Timeline.

Effect template example: In this example, a 3D PIP Effect template was saved and then applied repeatedly to a series of segments to achieve the same cropping and positioning of foreground footage.



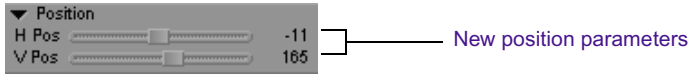
To apply a specific parameter from an effect template:

1. Select an effect transition or segment in the Timeline.
2. Choose Effect Editor from the Tools menu.
3. Open the parameter category you want to change. For example, the following illustration shows the Position parameter category.



4. Click the effect template icon in the bin or in the Effect Palette, and drag it to the specific parameter category in the Effect Editor.

   The effect template is applied only to the effect parameter category you selected.



Chapter 4

Playing, Previewing, and Rendering Effects

This chapter explains how to play, preview, and render effects. It also describes how to manage media effect files on your system.

- Playing an Effect
- Real-Time Preview of Video Effects
- Rendering Effects
- Managing Effect Media Files

Playing an Effect

You can play an individual effect in a variety of ways while the Effect Editor is open, as described in this section. Depending on the capabilities of your system and the complexity of your sequences, various effects might require rendering before you can play them back in real time. For more information, see "Real-Time Preview of Video Effects" on page 159 and "Rendering Effects" on page 167.

You can preview effects before rendering them. See "Playing a Preview of an Effect" on page 157.

Basic Playback

You can play all or part of an individual effect while the Effect Editor is open by using the Play button.

To play an effect:

1. Move the position indicator in the Timeline to the effect you want to play.
2. Click the Play button in the Effect Editor or in the Effect Preview Monitor toolbar.

To stop playing an effect, do one of the following:

- Click the Play button.
- Press the space bar.

Playing an Effect in a Continuous Loop

You can play an effect repeatedly in a continuous loop while the Effect Editor is open by using the Play Loop button.

To play the effect in a continuous loop while the Effect Editor is open:

1. Move the position indicator in the Timeline to the effect you want to play.
2. Click the Play Loop button in the Effect Editor or in the Effect Preview Monitor toolbar.

To stop playing an effect, do one of the following:

- Click the Play Loop button.
- Press the space bar.

Playing a Preview of an Effect

You might want to play an outline version of an effect to check its appearance and operation. An effect's *outline* is a wire-frame representation of the effect's position, scale, and path of motion.

To play an effect's outline:

- Click the Play Preview button in the Effect Editor.

  The effect's outline plays from the current position.

To stop playing the effect preview, do one of the following:

- Click the mouse button.
- Press the space bar.
- Click the Play Preview button.

Previewing Effect Frames with Render On-the-Fly

When you want to preview effects in a sequence, you can use the Render On-the-Fly feature to control how your system displays a monitored frame to which one or more effects have been applied. When Render On-the-Fly is selected, you can step through your sequence and preview any frame to check the look of the effects applied to it, regardless of the type or number of those effects.

When Render On-the-Fly is selected, whenever you change the frame you are monitoring, the system updates to show the image that results from any effects applied to that frame. Depending on the number and complexity of effects, there might be a perceptible delay before the image updates in the Composer monitor.

When Render On-the-Fly is deselected, the system shows the monitored frame as if no effects had been applied to it. You can deselect Render On-the-Fly to avoid delays in image updating when you are not concerned about the look of effects.

Render On-the-Fly controls how your system displays a frame only when the position indicator is stationary at that frame. During playback (that is, while the position indicator is in motion), the system's ability to display effects depends on whether Real-time Effects is enabled and on other associated factors. For more information, see "Real-Time Preview of Video Effects" on page 159.

To display effects immediately during effects editing:

- Choose Render On-the-Fly from the Clip menu.

Interrupting Render On-the-Fly

Using Render On-the-Fly can slow down your editing of a sequence. If you are compositing and then change the frame you are monitoring, you must wait for the system to render the single frame.

Instead of waiting for rendering to finish, you can interrupt Render On-the-Fly. Interrupting Render On-the-Fly interrupts only the rendering of non-real-time effects.

To interrupt Render On-the-Fly, do one of the following:

- Drag the position indicator in the Timeline.

  While you are dragging, the sequence appears in the Composer monitor as it would if Render On-the-Fly were not selected from the Clip menu.

- If you click in the Timeline and the system begins to render, quickly move to another location in the Timeline. This interrupts the rendering process until you release the mouse button.

Real-Time Preview of Video Effects

You can preview video effects available in Avid Xpress DV in real time. This allows you to play back sequences to which you have applied effects and to review the appearance of those effects. Real-time preview of video effects is available for all effects except motion effects.

Real-time effects preview has no effect on the methods you use when you apply and modify the effects themselves.

Understanding Real-Time Effects Processing

To display a frame from a sequence that has a video effect applied, your system must calculate the result of the effect at that frame. For example, to display the midpoint frame from a dissolve between two clips, the system must calculate, for each pixel in the frame, a 50 percent blend between the color and luminance values in the outgoing clip and those in the incoming clip. To display frames in real time, your system must be able to perform enough of these effect calculations per second to maintain the appropriate display rate for your project, for example 30 frames per second (fps) for NTSC video.

Because your computer's processor and memory capabilities are finite, your system's ability to play back effects in real time is limited. Effect calculations are more complex for some effects than for others, and still more complex when many effect options have been adjusted or when

multiple effects apply to the same frame in a sequence. Even the fastest and most powerful system might eventually reach a point where it can no longer maintain real-time playback.

When Avid Xpress DV is unable to maintain real-time playback, it continues to play at the correct rate but does not display frames that it cannot process quickly enough. If the system is having only a small amount of difficulty with the complexity of the sequence, you will probably perceive a short stutter in the video playback, but you might still be able to get a useful sense of how your effects will look once they are rendered. If the system is having more difficulty, it is less likely that you will be able to judge the look of the effects.

You have a number of options for controlling how real-time effects preview operates, including the ability to selectively render effects when the system is having difficulties previewing in real time and the ability to switch between a High Quality mode that emphasizes image quality over effect processing capability and a High Performance mode that reduces image quality in order to process more complex effects successfully. For more information, see "Controlling Real-Time Effects Playback" on page 165.

Understanding Monitor Options for Real-Time Effects Preview

You can play back video effects in real time in the following monitors:

- The Composer monitor within Avid Xpress DV, while you are not outputting a DV signal.
- A Client monitor, if the monitor receives its video signal directly from analog output hardware in your computer such as can be found on some graphics boards.

If your analog output hardware is not capable of resizing the video image, you cannot use the "High Performance (more simultaneous effects)" option in the Video Display Settings dialog box. The system automatically switches to the "High Quality (fewer simultaneous effects)" option. This might result in the system being less able to play back complex effect sequences successfully. For more information, see "Using Video Display Settings for Real-Time Effects Preview" on page 166.

Your system is not able to sustain DV output and real-time playback of video effects at the same time. You can enable or disable real-time effects as necessary for the current stage of your workflow, instructing the system to channel its processing resources either to DV output or to real-time effects processing. For more information, see “Enabling Real-Time Effects” on page 161.

Because real-time effects preview and DV output cannot take place at the same time, it is not possible to preview effects in real time for the following monitors and situations:

- The Composer monitor within Avid Xpress DV, if you are also outputting a DV signal.
- A Client monitor, if the monitor receives its video signal from a DV device, for example, a camera or digital deck that is connected to your computer by means of a FireWire connection.

For more information on the Client monitor options for your system, see “Playing Video to the Client Monitor” in the chapter “Viewing and Marking Footage” in the user’s guide.

It is not possible to output effects in real time, for example, when you perform a digital cut to DV tape. You must always render effects to include them in final output. Depending on the nature and complexity of the material you want to output, you might not need to render every effect. You can use the ExpertRender™ feature to determine which effects you need to render for successful output. For more information, see “ExpertRender” on page 177.

Enabling Real-Time Effects

By default, your system is set to generate DV output, and real-time effects are disabled. Since your system cannot sustain DV output and real-time effects playback at the same time, you must enable real-time effects if you want to preview effects at full speed.

When real-time effects are disabled, effect icons have no colored dot in the Effect Palette and display a blue dot in the Timeline, indicating that they must be rendered before they will play in real time. When real-time effects

are enabled, most effect icons have a green dot in both the Effect Palette and in the Timeline, indicating that they might play in real time, depending on the complexity of the effects and the sequence.

Blend effect category in the Effect Palette when real-time effects are disabled. No dots indicates that the effects will not preview in real time.

Blend effect category in the Effect Palette when real-time effects are enabled. Green dots indicate that the effects might preview in real time.

Effect icons in the Timeline when real-time effects are disabled. Blue dots indicate that the effects will not preview in real time.

Effect icons in the Timeline when real-time effects are enabled. Green dots indicate that the effects might preview in real time.

To enable real-time effects:

- In the upper right corner of the Timeline, click the Real-Time Effects button.

To disable real-time effects:

- In the upper right corner of the Timeline, click the Real-Time Effects button again.

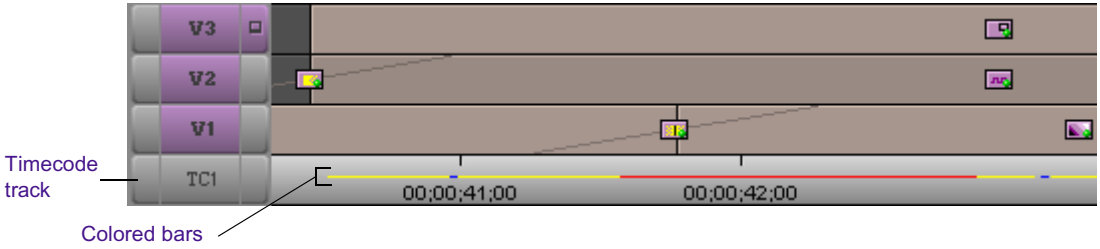
The following illustration shows the two button states.

When the Real-Time Effects button is green, real-time effects are enabled.

When the Real-Time Effects button is blue, real-time effects are disabled.

Understanding Real-Time Playback Information in the Timeline

When your system is unable to maintain real-time playback of an effects sequence, colored bars appear in the timecode track of the Timeline when playback ends. The following illustration shows a typical set of colored bars.



These bars provide you with information about the difficulties the system had during playback. You can use this information to help you render only those parts of the sequence necessary to achieve real-time playback.

- **Red bars** mark the ranges where the system was unable to display frames.
- **Yellow bars** mark the ranges that caused difficulty for the system during playback.

  The ranges marked by yellow bars are ranges that the system recommends for rendering to achieve successful real-time playback. If you mark IN and OUT points around these ranges, use the ExpertRender In/Out command, and then render the recommended ranges, the system will be able to preview your material successfully in real time. For more information, see “ExpertRender” on page 177.

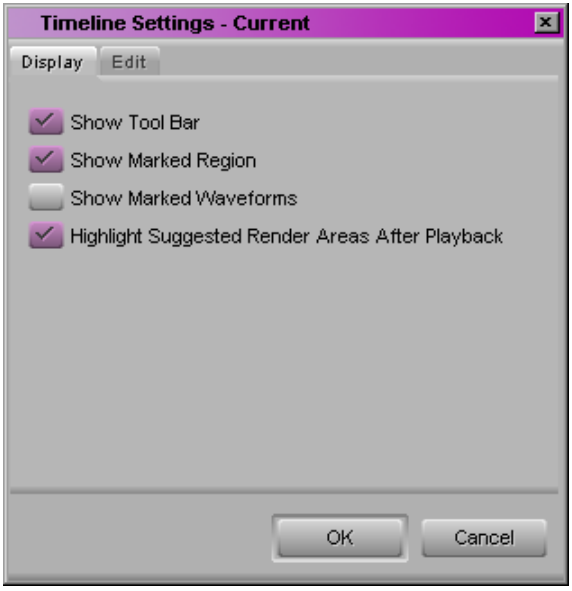
- **Blue bars** mark the location of frames that caused difficulty for the system because of disk speed limitations.

  If you find that your playback information often includes blue bars, it is likely that replacing your media disks with faster drives will improve your system's ability to play back effects in real time.

You can control whether real-time playback information bars appear in the Timeline from the Timeline Settings dialog box.

To turn real-time playback information bars on or off:

1. In the Settings scroll list of the Project window, double-click Timeline.
2. If it is not already highlighted, click the Display tab.



3. Select or deselect Highlight Suggested Render Areas After Playback.

   Real-time playback information bars appear when this option is selected. This option is selected by default.

Controlling Real-Time Effects Playback

When your system is unable to maintain real-time playback of an effects sequence, there are a number of ways you can attempt to ensure that the sequence plays back successfully in real time.

- If possible, start playback earlier in the sequence, before the effects that are causing difficulties begin.

  This allows the system to begin processing some of the effects frames before it must display them, decreasing the chance of difficulties with playback.

- In the Video Display Settings dialog box, increase the number of seconds of video to prefill.

  For more information, see “Using Video Display Settings for Real-Time Effects Preview” on page 166.

- Use the Expert Render command on those parts of the sequence where the system had difficulties during playback.

  The system marks these parts of the sequence in the Timeline. For more information, see “Understanding Real-Time Playback Information in the Timeline” on page 163 and “ExpertRender” on page 177.

- Select the “High Performance (more simultaneous effects)” option in the Video Display Settings dialog box.

  This increases the system’s ability to process effects at the expense of reducing image quality. For more information, see “Using Video Display Settings for Real-Time Effects Preview” on page 166.

Using Video Display Settings for Real-Time Effects Preview

You can use settings in the Video Display Settings dialog box to control some aspects of the performance of real-time effects preview. You can:

- Select either the “High Quality (fewer simultaneous effects)” or the “High Performance (more simultaneous effects)” option for real-time effects.

  The “High Quality (fewer simultaneous effects)” option uses full image resolution but can handle only relatively limited effect complexity before the system begins to have difficulties with real-time playback. The “High Performance (more simultaneous effects)” option reduces image resolution and can handle greater effect complexity.

- Specify a number of seconds of video to prefill.

  This setting instructs the system to delay the beginning of playback by the number of seconds you specify. During this time, the system processes frames in advance and stores them in memory. When playback begins, the system starts to display the preprocessed frames while it continues to process new ones. The system will continue to play back the sequence successfully in real time unless it exhausts its supply of preprocessed frames. By accepting a delay at the beginning of playback, you increase the likelihood that the system will play the material successfully. The maximum delay you can specify is 10 seconds.

If the amount of memory available is limited, the system might not be able to prefill the full number of seconds that you specify. As a result, the delay you experience before playback begins might be less than the number of seconds you specify. It cannot be more than that number.

To modify Video Display settings:

1. Click the Settings tab in the Project window.

   The Settings scroll list appears.

2. Double-click Video Display.

   The Video Display Settings dialog box appears.

3. Select the options you want, and then click OK.

Rendering Effects

You can play back most Avid Xpress DV effects in real time within your system to preview how they will look when rendered, but you must render effects before you can output a finished sequence. You can use the ExpertRender feature to determine which effects need to be rendered. For more information on real-time preview of effects, see “Real-Time Preview of Video Effects” on page 159. For more information on the ExpertRender feature, see “ExpertRender” on page 177.

In the Timeline, effect icons have a blue dot or a green dot before rendering. Rendering removes the dot.

When Avid Xpress DV renders an effect, it stores the effect and its media file as a precomputed master clip (often referred to as a precompute). Avid Xpress DV uses the precompute the next time to play the effect at its normal speed.

You can render a single effect after you have created it, or you can choose to render a group of effects at the same time. You can also interrupt a render in progress and choose to save or discard the completed portion. You can finish the render later by resubmitting the effect for rendering.

The key to rendering quickly is to render only those effects that require it. With vertical and nested effects, for example, you do not have to render every layer to play the effect in real time. If the top track covers the entire duration of the tracks below, Avid Xpress DV renders the composite result of all tracks into the top track.

One useful way to minimize rendering time is to use the Submaster effect by applying it to a track above layered effects and rendering only the Submaster effect. The Submaster effect icon has a green dot, both in the Effect Palette and in the Timeline before rendering. If you have applied the Submaster effect over other effects, it must be rendered before Avid Xpress DV can play it in real time. For more information, see "Submaster Editing" on page 231.

Creating and Using Render Settings

You can create one or more sets of render parameters and save them as a custom Render setting. You can then activate the setting that you need at each stage of your project.

Creating a New Render Setting

To create a new Render setting:

1. Click the Settings tab in the Project window.

   The Settings scroll list appears.

2. Click Render.

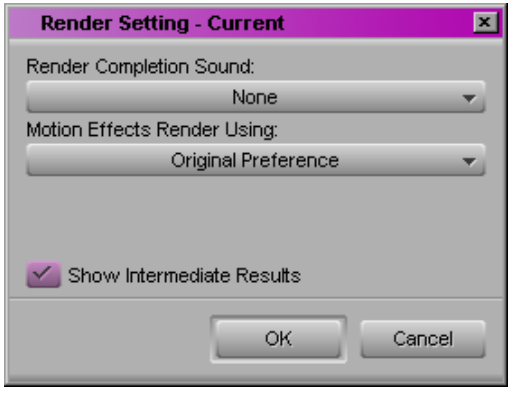
3. Choose Duplicate from the Edit menu.
4. Name the setting:
   a. Click the custom name column (in between the setting name and the setting type identifier).
   b. Type a name.
   c. Press Enter (Windows) or Return (Macintosh).
5. Adjust the options for the setting as described in the following procedure.

Adjusting Render Settings Options

To adjust the options in the Render Setting dialog box:

1. Double-click a Render setting in the Settings scroll list of the Project window.

   The Render Setting dialog box appears.



2. Select the appropriate options, based on the descriptions in Table 6, and then click OK.

Table 6 Render Settings Options

Option	Suboption	Description
Render Completion Sound		Sets a sound for Avid Xpress DV to activate once the rendering process is complete. This is useful when you are rendering multiple effects.
	None	Disables the rendering completion sound. This is the default.
	Render Sound	Sets the rendering completion sound to a customized sound.
	System Beep	Sets the rendering completion sound to match the sound set for your operating system.
Motion Effects Render Using		Determines the processing method when existing motion effects are rendered or rerendered.
	Original Preference	Causes effects to be rendered as whatever type they were when originally created.
	Duplicated Field	Displays a single field in the effect. For two-field media, this reduces the information stored by half because it drops one field of the image, resulting in a lower quality image. For single-field media, this is usually the best choice because of its speed (the other options do not improve effect quality for single-field media). The effects render in the shortest amount of time when you use this option.
	Both Fields	Displays both fields in the effect. For example, the first two frames of a half-speed (50%) slow-motion effect repeat the original Frame 1 (both fields) twice. This option is good for shots without inter-field motion, NTSC or PAL film-to-tape transfers, and still shots. With footage that includes inter-field motion, this method might result in minor shifting or bumping of the image because it disturbs the original order of fields: a Field 1 will appear both before *and* after the corresponding Field 2. The effect renders relatively quickly. For best results, you should use evenly divisible frame rates with this option.

Table 6 Render Settings Options (Continued)

Option	Suboption	Description
	VTR-Style	Creates a second field for the effect by shifting selected video fields of the original media by a full scan line. This technique is similar to that used by high-quality professional video decks when playing footage at less than normal speed. This option also creates the motion effect at the field level rather than the frame level; however, because pixels are not filtered, the final image is sharper than that created by the Interpolated Field option. The image might display some slight jitter at certain speeds. The time needed to render effects created with this option is longer than the time for effects created using either Duplicated Field or Both Fields but similar to the time needed for Interpolated Field.
	Interpolated Field	Creates a second field for the effect by combining scan line pairs from the first field in the original media. This option calculates the motion effect at the field level rather than the frame level. Because Avid Xpress DV considers all fields and does not disturb the original order of fields, the smoothest effect results. Effects created using this option take the longest amount of time to render.

Activating a Render Setting

To activate a Render setting:

- Click in the column to the left of the setting name in the Settings scroll list of the Project window.

  A check mark appears beside the setting that is currently active.

Partial Render

If you interrupt a render that is not complete, Avid Xpress DV allows you to save the completed portion of the render.

You can finish the render later by resubmitting the effect for rendering. Avid Xpress DV then renders only the part of the effect that has not been rendered previously and will save that part as a separate precompute.

This feature is especially useful if you have to interrupt a long render of a single effect, such as a Submaster effect.

You can also use the Render Ranges command in the Timeline Fast menu to customize the Timeline so that it indicates which parts of an effect Avid Xpress DV has rendered.

Interrupting a Render

To interrupt a render:

1. Press Ctrl+period (Windows) or ⌘+period (Macintosh) to interrupt the render.

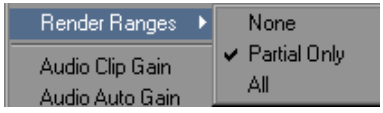
   A message box appears.

2. Do one of the following:
   - Click Keep to save the material already rendered.
   - Click Discard to end the render without saving the material already rendered.

Customizing Render Ranges Display

To customize the display of render ranges in the Timeline:

1. In the Timeline Fast menu, click and point to Render Ranges.



2. Choose one of the following from the submenu:
   - None — Turns off the display of render ranges.
   - Partial Only — Displays a red line on the portion of any partially rendered effect that is currently unrendered (but does not mark completely unrendered effects). This is the default option.
   - All — Displays a red line on the portion of any partially rendered effect that is currently unrendered and on all completely unrendered effects.

Render Ranges indicator lines do not display if Show Effect Contents is selected in the Timeline Settings dialog box.

The All option of the Render Ranges display provides a simple visual indication of which effects are unrendered. It is not an indication of which effects might need to be rendered to achieve successful playback.

The playback behavior of a partially rendered effect depends on the frame at which playback begins. If playback begins at a rendered frame, Avid Xpress DV attempts to play the entire effect in real time. You see the rendered portion in real time but cannot see the unrendered portion. If playback begins at a non-rendered frame, Avid Xpress DV plays the entire effect using Render On-the-Fly.

Rendering a Single Effect

After you have adjusted an effect's parameters, you can render the effect.

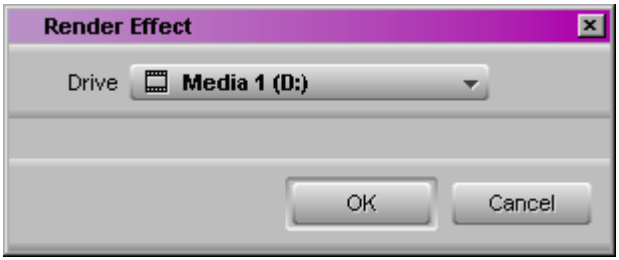
To render a single effect:

1. Move the position indicator to the effect in the Timeline.

   Make sure the track containing the effect is selected.

2. Click the Render Effect button in the Tool palette, Effect Editor, or Effect Preview Monitor toolbar, or choose Render at Position from the Clip menu.

The Render Effect dialog box appears.



To prevent this dialog box from appearing, press and hold the Alt key (Windows) or Option key (Macintosh) when you click the Render Effect button. Avid Xpress DV will use the last drive selected.

3. Select a drive for the rendered media from the pop-up menu.

   The *Effect Source Drive* is the drive where the media on the outgoing shot of a transition resides.

4. Click OK.

   If there is not enough room on the drive, Avid Xpress DV displays a message box that gives you the following choices:

   - Stop — Stop the rendering process and return to the Render Effect dialog box, and then choose another drive before continuing.
   - Continue — Attempt to render the effect anyway, in case there might be enough room on the drive.

   The effect is rendered, and a precompute master clip is stored on the drive you selected.

To display the estimated render time during rendering, press the T key on the keyboard. Press the T key again to clear the display. Press the P key to view percent rendered.

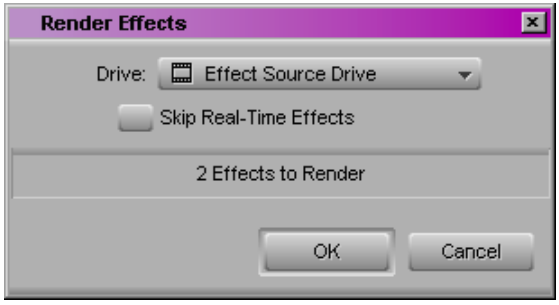
Rendering Effects at Position

When you have more than one effect at a particular point in the Timeline (for example, effects on several stacked video tracks), you can render them as a group.

To render multiple effects at position:

1. Move the position indicator to the effects in the Timeline.
2. Select all tracks that contain effects you want to render.
3. Choose Render at Position from the Clip menu.

   The Render Effects dialog box appears.



4. Select a drive from the pop-up menu on which to store the rendered effects.

   The *Effect Source Drive* is the drive where the media on the outgoing shot of a transition resides.

5. If you do not want to render the real-time effects in the selected group of effects, select Skip Real-Time Effects.
6. Click OK.

   If there is not enough room on the drive, Avid Xpress DV displays a message box that gives you the following choices:

   - Stop — Stop the rendering process and return to the Render Effects dialog box, and then choose another drive before continuing.

- Continue — Attempt to render the effects anyway, in case there might be enough room on the drive.

Avid Xpress DV renders all effects at the position in the Timeline.

To display the estimated render time during rendering, press the T key on the keyboard. Press the T key again to clear the display. Press the P key to view percent rendered.

Rendering Effects Between IN and OUT Points

When you have multiple effects to render for a whole sequence or a portion of a sequence, you can render them as a group by marking IN and OUT points.

Save your sequence before you use this feature. Depending on the number, type, and complexity of the effects, the batch process can take a long time.

To render multiple effects by using IN and OUT points:

1. Select all tracks that contain effects you want to render.
2. Mark an IN point before the start of the first effect to be rendered in your sequence; mark an OUT point after the last effect to be rendered.
3. Choose Render In/Out from the Clip menu.

   The Render Effects dialog box appears.
4. Select a drive from the pop-up menu on which to store the rendered effect.

   The *Effect Source Drive* is the drive where the media on the outgoing shot of a transition resides.
5. If you do not want to render the real-time effects in the selected group of effects, select Skip Real-Time Effects.
6. Click OK.

   Avid Xpress DV renders all effects between the IN and OUT points.

If the drive is near capacity, a message box appears and warns you that there might not be enough space to store the rendered effect. You can click Stop to stop the rendering process and return to the Render Effects dialog box, and then choose another drive before continuing. Alternatively, you can click Continue to attempt to render the effects anyway, in case there might be enough space on the drive.

To display the estimated render time during rendering, press the T key on the keyboard. Press the T key again to clear the display. Press the P key to view percent rendered.

Another way to speed up rendering is to use the Submaster effect. See *"Submaster Editing" on page 231*.

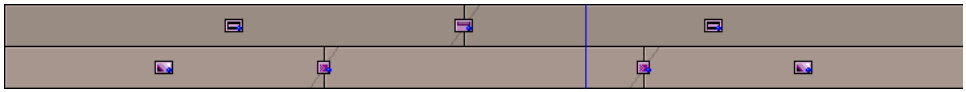
ExpertRender

Avid Xpress DV systems include the ExpertRender feature. ExpertRender determines which effects need to be rendered to achieve successful playback of a sequence.

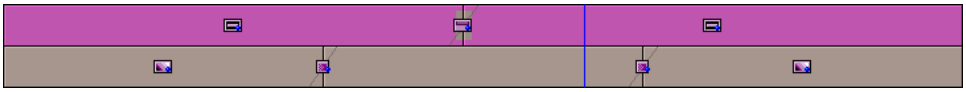
Understanding ExpertRender

When you render effects by using the Render at Position or Render In/Out command, the system renders *all* effects in the selected material — all effects on the enabled tracks at the position or all effects on the enabled tracks between the marked IN and OUT points. In most cases, the system renders some effects that do not require rendering for successful playback, increasing the time to render and creating more precomputes than necessary.

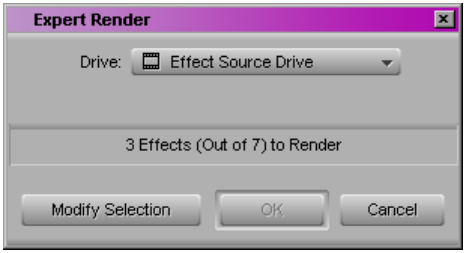
For example, the following sequence includes seven effects on two tracks. If you use the Render In/Out command on this material, you render all seven effects. If you use the ExpertRender In/Out command on the material, the ExpertRender analysis recommends rendering only the three effects on the top track.



Sequence with seven effects.



Results of an ExpertRender analysis of this sequence. Only the three effects on the top track are highlighted, and these are the only effects that must be rendered for successful output.



The ExpertRender option available for Avid Xpress DV helps to solve the problem of unnecessary rendering by analyzing all the effects in selected material and by determining which effects need to be rendered to achieve successful playback. You can then choose to render the effects identified by ExpertRender or to modify the selections before submitting them for rendering.

ExpertRender attempts to generate a minimum set of effects to render for successful playback. If you render the effects recommended by ExpertRender, your material will usually play successfully in real time.

ExpertRender is particularly useful in the following circumstances:

- If you have attempted to preview a sequence with effects and the system has not been able to maintain real-time playback, you can use ExpertRender to help you render the minimum amount of material necessary to achieve successful playback for previewing. ExpertRender includes an option that allows you to render effects only in the regions recommended by the system for rendering after a playback attempt. These are the regions marked by yellow bars in the timecode track of the Timeline. For more information, see "Understanding Real-Time Playback Information in the Timeline" on page 163.

- If you are ready to output your sequence, for example, by performing a digital cut to tape, you can use the ExpertRender In/Out command to determine which effects need to be rendered for successful output. In particular, when there are overlapping effects on multiple tracks, ExpertRender can calculate when the rendering of an effect on an upper track will incorporate picture information from lower tracks. In this situation, effects on the lower tracks do not need to be rendered separately. Depending on the complexity of your sequence, ExpertRender might save you both time and storage space by eliminating unnecessary rendering and precomputes.

  If you have already rendered recommended ranges in a sequence to achieve successful real-time preview, you can usually achieve *analog* output of that sequence without further rendering. For *DV* output, however, you should always use the ExpertRender In/Out command across the entire sequence since you will usually need to render some additional effects beyond those rendered in recommended ranges.

In most circumstances, ExpertRender enables you to render material quickly, easily, and with a high degree of storage efficiency. However, experienced Avid users might achieve an even quicker render of a complex sequence than that offered by ExpertRender — for example, by using Submaster editing. For more information, see "Considerations When Using ExpertRender" on page 187 and "Submaster Editing" on page 231.

Using ExpertRender to Render Effects

You can use the ExpertRender feature in the same way that you use the standard Render commands. You can use the ExpertRender at Position command or you can mark IN and OUT points and then use the ExpertRender In/Out command.

If your system has had difficulty previewing effects in real time and has displayed colored bar information in the timecode track of the Timeline, the steps you take when you use the ExpertRender In/Out command are somewhat different from the steps you take when you use one of the ExpertRender commands in other circumstances.

Using the ExpertRender Command

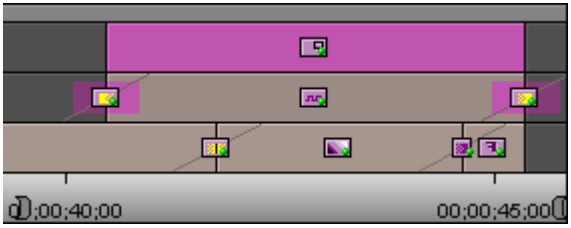
Use the following procedure when there are no colored real-time playback information bars displayed in the timecode track of the Timeline. You generally use this method to render a sequence so that it will play back successfully for output.

For information on using the ExpertRender command when colored real-time playback information bars appear in the Timeline following a real-time playback attempt, see "Using the ExpertRender Command After a Real-Time Playback Attempt" on page 182.

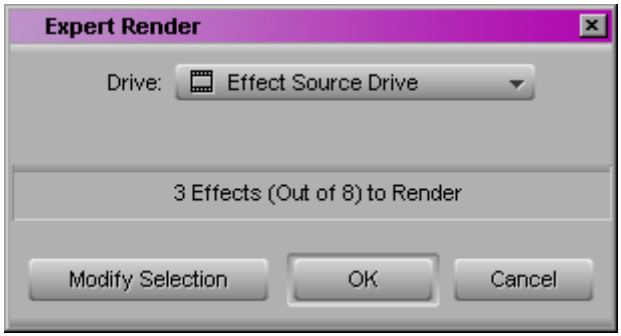
To render effects by using the ExpertRender command:

1. Select all tracks in the Timeline that contain effects you want ExpertRender to analyze.
2. Do one of the following:
   - To render at position, move the position indicator to the effects in the Timeline.
   - To render between IN and OUT points, mark IN and OUT points around the effects.
3. Choose ExpertRender at Position or ExpertRender In/Out from the Clip menu.

   ExpertRender analyzes the selected effects and highlights the effects that require rendering in the Timeline.



   The Expert Render dialog box appears and indicates how many of the effects submitted to ExpertRender require rendering.



4. Choose a drive on which to store the rendered effects from the Drive pop-up menu.

   The *Effect Source Drive* is the drive where the media for the outgoing shot of the first transition resides.

5. Do one of the following:

   - Click Cancel.

     The system removes all ExpertRender highlighting and cancels the ExpertRender process without rendering any effects.

   - Click Modify Selection.

     The effects identified for rendering remain highlighted, and you can modify the set of effects to render. For more information, see "Modifying ExpertRender Results" on page 185.

   - Click OK.

     The system renders the highlighted effects.

If the drive is near capacity, a message box appears and warns you that there might not be enough space to store the rendered effect. You can click Stop to stop the rendering process and return to the Expert Render dialog box, and then choose another drive before continuing. Alternatively, you can click Continue to attempt to render the effects anyway, in case there might be enough space on the drive.

To display the estimated processing time during rendering, press the T key on the keyboard. Press the T key again to clear the display. Press the P key to view percent rendered.

Using the ExpertRender Command After a Real-Time Playback Attempt

Use the following steps when the system has had difficulty with real-time preview of effects and has displayed information bars in the timecode track of the Timeline.

When you render recommended ranges in material by following this procedure, you can usually achieve analog output of the same material without further rendering. For DV output, however, you should use the ExpertRender command again for the duration of the material since you usually need to render additional effects.

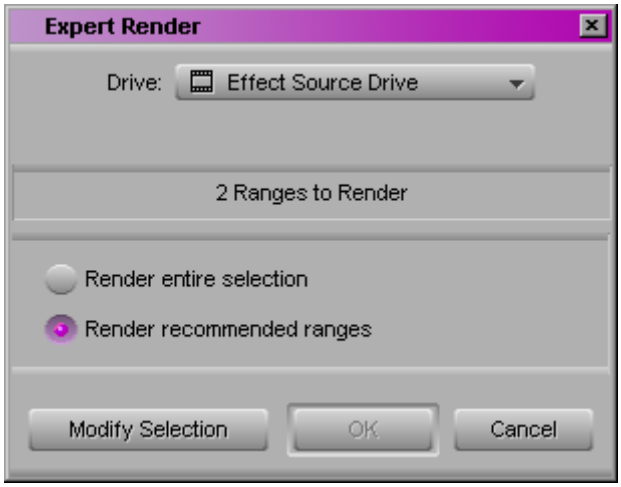
For information on using the ExpertRender command under other circumstances, see "Using the ExpertRender Command" on page 180.

To render effects after a real-time playback attempt by using ExpertRender:

1. Select all tracks in the Timeline that contain effects you want ExpertRender to analyze.
2. Mark IN and OUT points around the material you want ExpertRender to analyze.

   The IN and OUT points you mark should include parts of the Timeline marked by yellow bars in the timecode track. For more information, see "Understanding Real-Time Playback Information in the Timeline" on page 163.
3. Choose ExpertRender In/Out from the Clip menu.

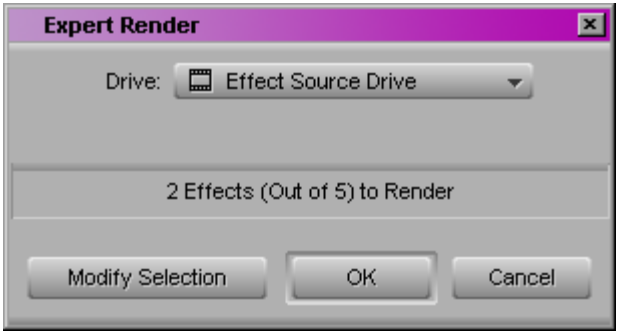
   The Expert Render dialog box appears and indicates the number of yellow bar ranges that need to be rendered to achieve real-time preview of effects.



4. Do one of the following:

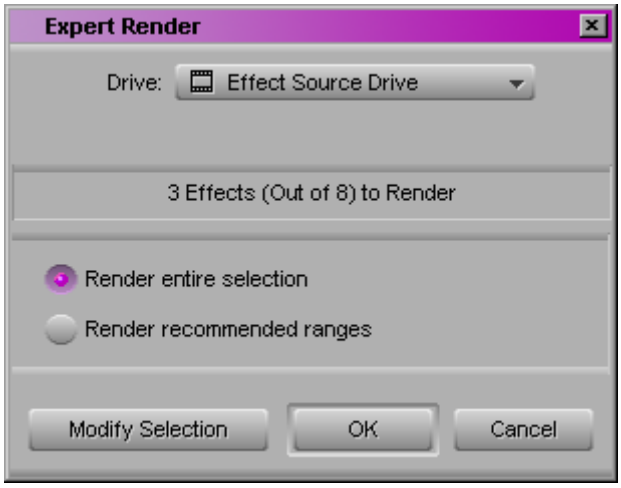
   - To render only the effects necessary to achieve successful real-time effects preview, select “Render recommended ranges,” and then click OK.

     The Expert Render dialog box updates to indicate the number of effects that ExpertRender has identified for rendering within the recommended ranges.



   - To render all the effects that ExpertRender has identified for rendering within your marked selection, select “Render entire selection.”

The message in the Expert Render dialog box changes to indicate the number of effects that ExpertRender has identified for rendering across the entire selection. Using this option renders all the effects necessary for successful output of the marked region of the Timeline.



5. Choose a drive on which to store the rendered effects from the Drive pop-up menu.

   The *Effect Source Drive* is the drive where the media for the outgoing shot of the first transition resides.

6. Do one of the following:

   - Click Cancel.

     The system removes all ExpertRender highlighting and cancels the ExpertRender process without rendering any effects.

   - Click Modify Selection.

     The effects identified for rendering remain highlighted, and you can modify the set of effects to render. For more information, see "Modifying ExpertRender Results" on page 185.

   - Click OK.

     The system renders the highlighted effects.

If the drive is near capacity, a message box appears and warns you that there might not be enough space to store the rendered effect. You can click Stop to stop the rendering process and return to the Expert Render dialog box, and then choose another drive before continuing. Alternatively, you can click Continue to attempt to render the effects anyway, in case there might be enough space on the drive.

To display the estimated processing time during rendering, press the T key on the keyboard. Press the T key again to clear the display. Press the P key to view percent rendered.

Modifying ExpertRender Results

You can modify the results of an ExpertRender analysis, removing effects that you do not want to render and adding others that you do want to render.

In most cases, the results of an ExpertRender analysis will offer the fastest rendering necessary for successful playback. You should modify the results of an ExpertRender analysis only if you are confident that your modifications are useful. For examples of situations where you might want to modify the results of an ExpertRender analysis, see “Considerations When Using ExpertRender” on page 187.

If you render the results of an ExpertRender analysis without making any modifications, the material you submitted to ExpertRender will usually play back successfully in real time. If you render recommended ranges, the material will play back successfully for preview purposes; if you render the entire selection, the material will play back successfully for output.

To modify the results of an ExpertRender analysis:

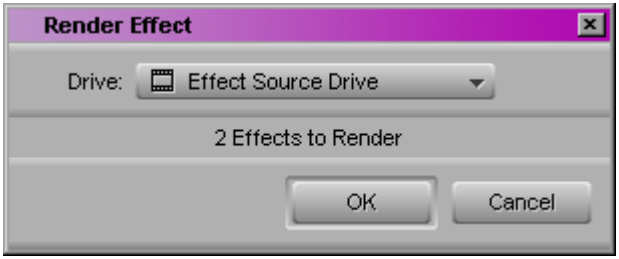
1. Perform an ExpertRender by following steps 1 through 3 in “Using ExpertRender to Render Effects” on page 179.
2. In the Expert Render dialog box, click Modify Selection.
3. Shift+click effects in the Timeline to add them or remove them from the set of effects to render.

   Effects currently selected are highlighted.

4. When you are satisfied with your selections, click the Render Effect button in the Effect Editor or in the Tool palette.

   For information on opening the Tool palette, see “Using the Tool Palette” in the chapter “Viewing and Marking Footage” in the user’s guide.

   The Render Effect dialog box appears.



To prevent this dialog box from appearing, press and hold the Alt key (Windows) or Option key (Macintosh) when you click the Render Effect button. The system will use the last drive selected.

5. Select a drive for the rendered media from the pop-up menu.

   The *Effect Source Drive* is the drive where the media on the outgoing shot of a transition resides.

6. Click OK.

   Avid Xpress DV renders the highlighted effects.

If the drive is near capacity, a message box appears and warns you that there might not be enough space to store the rendered effect. You can click Stop to stop the rendering process and return to the Render Effect dialog box, and then choose another drive before continuing. Alternatively, you can click Continue to attempt to render the effects anyway, in case there might be enough space on the drive.

To display the estimated render time during rendering, press the T key on the keyboard. Press the T key again to clear the display. Press the P key to view percent rendered.

To cancel ExpertRender during the modification process, do one of the following:

- Click in the timecode track to move the position indicator.
- Double-click one of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline.
- Choose an ExpertRender command from the Clip menu, and then click Cancel in the Expert Render dialog box.

  ExpertRender removes all its highlighting and cancels the ExpertRender process without rendering any effects.

Considerations When Using ExpertRender

When you work with ExpertRender, you should be aware of the following aspects of its operation:

- ExpertRender operates on all selected tracks in the Timeline, including any enabled tracks that might be above the currently monitored track. To view the material that you are submitting to ExpertRender accurately in the Composer monitor, make sure that you are monitoring the topmost selected track in the sequence.
- ExpertRender takes account of *all* tracks at or below the topmost selected track when determining what to render on the *selected* tracks to achieve successful playback. For example, if you have a sequence with tracks V1 to V4, and select tracks V3 and V4 when using ExpertRender, the system considers tracks V1 and V2 when determining playback possibilities but highlights effects to render only from tracks V3 and V4.
- If the material you submit to ExpertRender includes an effect in a segment that also contains nested effects, ExpertRender always renders the effect on the top (outside) track rather than the effect inside the nest. In certain circumstances, this might limit your workflow flexibility. For example, you might anticipate the need to readjust the parameters of the effect outside the nest and the effect would then require rerendering. You can use the procedure described in "Modifying ExpertRender Results" on page 185 to select the effect within the nest for rendering and deselect the effect outside the nest.

- In some circumstances where segment effects and transition effects are adjacent in a sequence, ExpertRender might recommend the segment effects for rendering when rendering the transition effects might be quicker or more convenient and still allow for successful playback. You can use the procedure described in "Modifying ExpertRender Results" on page 185 to modify the combination of effects for rendering.

Managing Effect Media Files

Avid Xpress DV allows you to view effect media files and select them for deletion. You can quickly find or delete an effect media file from a bin, or you can use the Media tool to view all the files that relate to your project and select those you want to delete.

When you render an effect, Avid Xpress DV creates two elements: a rendered effect clip (also known as a precompute clip) and an associated media file. When you create a title or an imported matte key clip, Avid Xpress DV creates several elements: an effect clip, a precompute clip, and associated media files.

Your system overwrites or automatically deletes a media file from your drive only if you:

- Render an effect two or more times with the Render Effect button.
- Close the project before either an Auto Save or a manual save occurs.

In this case, Avid Xpress DV automatically saves the last-rendered effect and deletes the earlier, unreferenced versions. This autodeletion applies only to effects rendered since the last save or project close.

This prevents you from deleting media that might be necessary to play other versions of the sequence. If you want to remove media files from your drive to save space, you have to manually delete the files.

For complete information on Avid Xpress DV media management features and on the use of the Media tool, see the chapter "Managing Media Files" in the user's guide.

Revealing Effect Media Files

You can reveal the media files associated with effect clips (titles and matte keys), rendered effect clips (precompute clips), and motion effects so that they are visible in their folders on the desktop. You can then verify information about the media files, delete them directly from the folder, or perform other standard file management operations.

To reveal effect clip, rendered effect clip, or motion effect media (Windows):

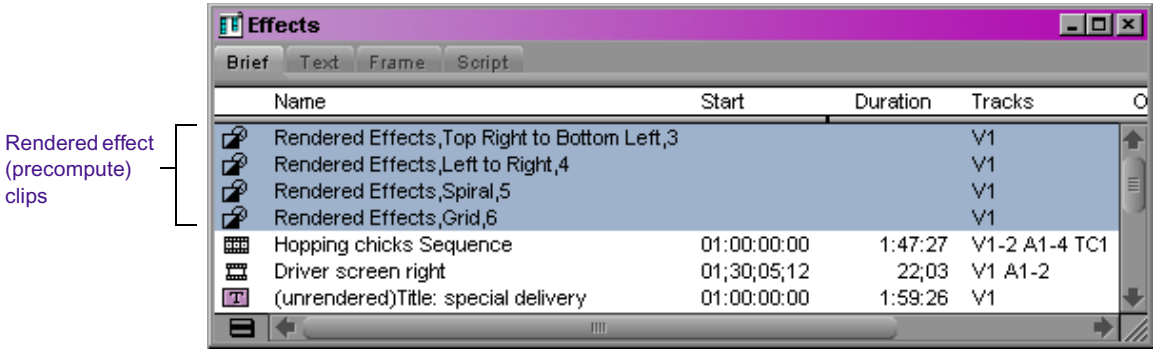
1. (Option) If you want to reveal effect media for rendered effect clips (precompute clips), display those clips in the bin by doing the following:

   a. Choose Set Bin Display from the Bin menu.

   The Set Bin Display dialog box appears.

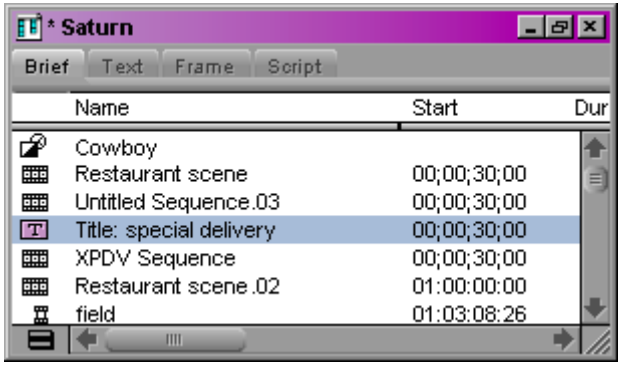
   b. Select Rendered Effects and "Show reference clips," and then click OK.

   Any rendered effect clips appear in the bin.



2. Select an effect item in the bin.

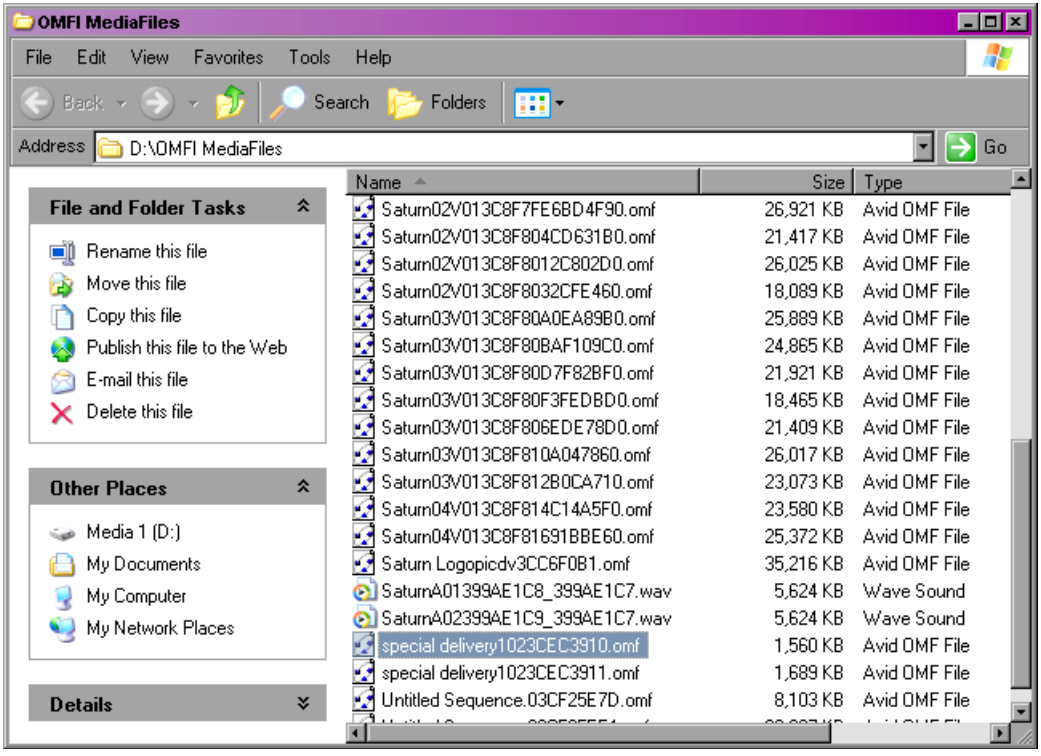
   In this example, a Title Effect clip is selected.



You can reveal media files for only one item in a bin at a time.

3. Choose Reveal File from the File menu.

   Avid Xpress DV searches all available drives, opens the folder in Windows Explorer, and highlights a related media file.



4. (Option) If more than one media file is associated with the clip, Avid Xpress DV displays a message box prompting you to reveal the next file. Do one of the following:

   - Click OK to reveal the next file.

     If the Explorer window disappears from view, bring it forward by pressing and holding the Alt key and pressing the Tab key until you select the Explorer window containing the OMFI MediaFiles folder information.

   - Click Cancel to end the Reveal File operation.

To reveal effect clip, rendered effect clip, or motion effect media (Macintosh):

1. (Option) If you want to reveal effect media for rendered effect clips (precompute clips), display those clips in the bin by doing the following:

   a. Choose Set Bin Display from the Bin menu.

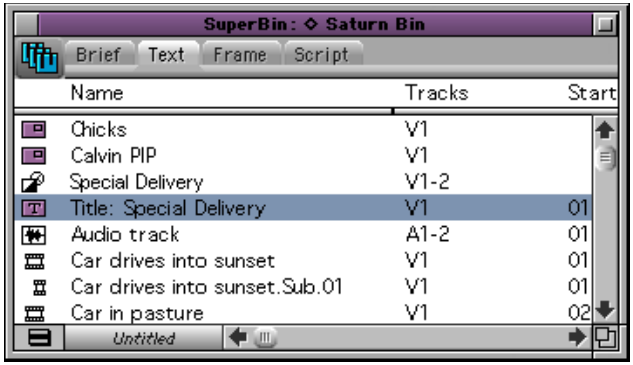
      The Set Bin Display dialog box appears.

   b. Select Rendered Effects and "Show reference clips," and then click OK.

      Any rendered effect clips appear in the bin.

2. Select an effect item in the bin.

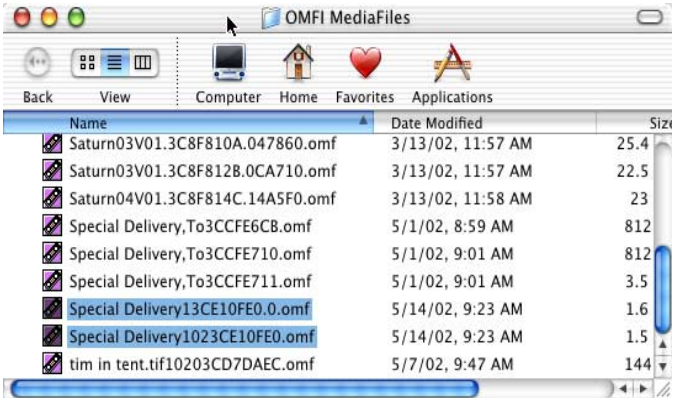
   In this example, a Title Effect clip is selected.



You can reveal media files for only one item in a bin at a time.

3. Choose Reveal File from the File menu.

   Avid Xpress DV searches all available drives, opens the folder, and highlights related media files.



Deleting Effect Media Files from a Bin

You can delete effect media files (for titles, matte key clips, and rendered effects) and motion effect media from a bin by using the Delete dialog box.

To delete effect media files and motion effect media:

1. (Option) If you want to delete effect media for rendered effect clips (precompute clips), display those clips in the bin by doing the following:

   a. Choose Set Bin Display from the Bin menu.

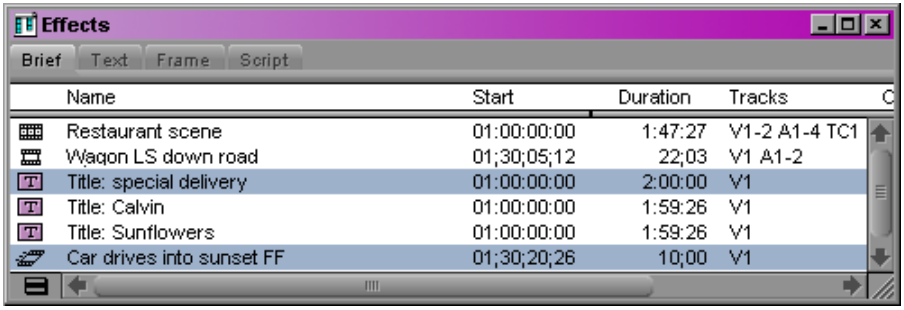
      The Set Bin Display dialog box appears.

   b. Select Rendered Effects and “Show reference clips,” and then click OK.

      Any rendered effect clips appear in the bin.

2. In the bin, select the clip or clips whose media you want to delete.

   In this example, two items are selected: a title and a motion effect.



3. Press the Delete key.

   The Delete dialog box appears.

4. Select the appropriate check boxes for the material you want to delete, and then click OK.

   For example, to delete only effect media files, select “delete *n* associated media file(s)” beneath each of the appropriate effect clip types and deselect all other check boxes. Make sure that you select only those file types you want to delete.

Chapter 5

Creating Motion Effects

This chapter describes how to create and customize effects that alter motion in a clip either by changing the speed at which the video plays or by creating a strobe motion effect. It also describes how to stabilize a clip that exhibits unwanted motion, such as motion from an unstable camera.

- Understanding Motion Effects
- Creating Motion Effects
- Stabilizing an Image

Understanding Motion Effects

You create motion effects by generating a new clip with specific motion characteristics from an original clip that you open in the Source pop-up monitor. You then edit the Motion Effect clip into your sequence.

The three main types of motion effects are:

- **Freeze Frame —** Creates a clip that repeats a single frame from the original clip.
- **Variable Speed —** Changes the speed at which movement takes place in the clip. For example, if you begin with a 3-second clip and create a Variable Speed motion effect from that clip with the speed set to 50%, the result is a new 6-second clip in which movement takes place at half the speed of the original clip.
- **Strobe Motion —** Creates a stuttering effect in the playback of the clip by repeating certain frames from the original clip several times.

You can also combine Variable Speed and Strobe Motion effects in a single clip.

Creating Motion Effects

A motion effect, applied to a clip in the Source pop-up monitor, allows you to alter the playback characteristics of the clip.

Avid Xpress DV creates a motion effect by creating a new clip in a bin. You then edit the clip into your sequence using standard editing techniques.

Rendering Considerations When Creating Motion Effects

Avid Xpress DV creates motion effects using one of four different *types* — Duplicated Field, Both Fields, Interpolated Field, and VTR-Style. You choose motion effect types based on the quality you need for the final motion effect, the rendering time that each type requires, and the media with which you are working (some types are useful only when you are working with two-field media).

Motion effect clips must be rendered before they can be played.

Information about the type and render status of motion effects appears in the Timeline in the same form as that used for other effects. Each motion effect type has a distinct effect icon, as shown in the following illustration.

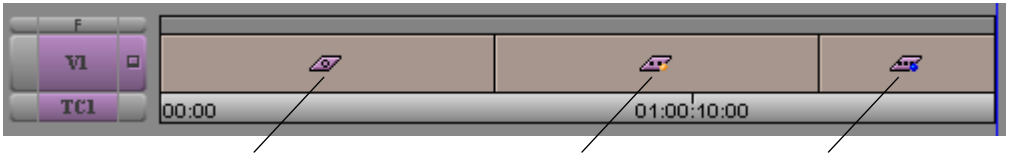
Duplicated Field Motion Effect icon

Both Fields Motion Effect icon

Interpolated Field Motion Effect icon

VTR-Style Motion Effect icon

The following illustration shows typical examples of Motion Effect icons in the Timeline.



Rendered VTR-Style motion effect (no dot)

Unrendered Both Fields motion effect (orange dot — plays in real time)

Unrendered Interpolated Field motion effect (blue dot — plays as a Duplicated Field motion effect until rendered)

In the Timeline, Motion Effect icons have a blue dot before rendering. Rendering removes the dot.

When you render motion effects, Avid Xpress DV checks the Motion Effects Render Using option in the active Render setting. If the Motion Effects Render Using option is set to Original Preference (the default setting), Avid Xpress DV makes no change to the type of motion effects when it renders them. If the Motion Effects Render Using option is set to a specific motion effect type, Avid Xpress DV changes all motion effects to that type when it renders them. This option is particularly important for controlling the look of motion effects when you are working with two-field media.

Whenever Avid Xpress DV changes the motion effect type during a rendering operation, a message appears in the Console window, providing information about the change. For more information, see "Creating and Using Render Settings" on page 168 and "Displaying Information About Motion Effect Type Changes" on page 198.

You need to render any motion effect if you did not render that effect at the time you created it.

Displaying Information About Motion Effect Type Changes

Whenever motion effects in the Timeline are rendered or rerendered, Avid Xpress DV uses the Motion Effects Render Using option in the active Render setting to define the motion effect type for the new versions of the motion effects. For example, you might start a project using single-field media and the Duplicated Field type for motion effects. Later, you might rerecord the media at a two-field resolution, set the Motion Effects Render Using option in the active Render setting to VTR-Style, and submit the whole sequence for rendering. By doing this, you create new motion effects that are higher quality and that can play with the two-field media.

Changes to motion effect types are permanent changes to both the Motion Effect clip and its associated media. You can return to the old motion effect type only by rerendering. To avoid unnecessary rerendering, make sure that the Motion Effects Render Using option in the active Render setting is set to the motion effect type you need.

Avid Xpress DV writes a message in the Console window whenever it changes the type of motion effect during rendering. You can check these messages to verify the changes that Avid Xpress DV has made to your motion effects. Motion Effect icons in the Timeline also change to reflect the new motion effect type.

To display information about motion effect type changes in the Console:

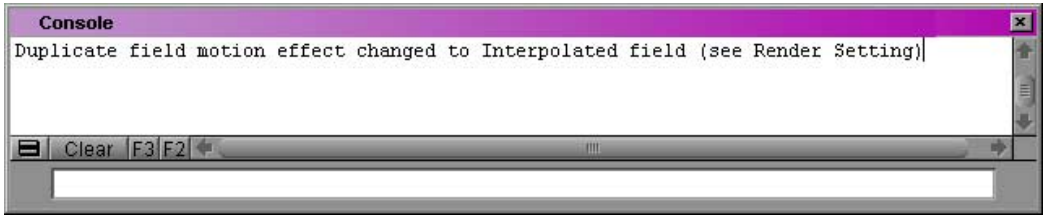
1. Choose Console from the Tools menu.

   The Console window opens.

2. Render one or more motion effects by using one of the procedures described in "Rendering Effects" on page 167.

   For each motion effect whose type is changed by rendering, a message appears in the Console window.

   The following illustration shows a typical message. In this example, the Motion Effects Render Using option in the active Render settings is set to Interpolated Field.



3. (Option) If the new motion effect type is not the one you want, change the Motion Effects Render Using option in the active Render settings, and then rerender the motion effects.

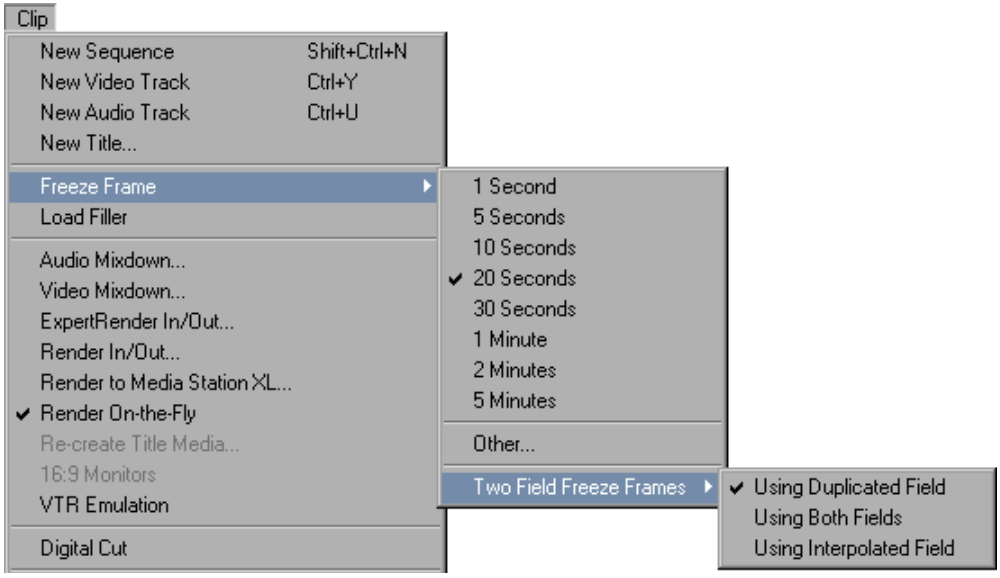
Freeze Frame Effects

A Freeze Frame effect is a still image, based on a chosen frame from a clip, that continues to display for the duration that you choose. When combined with the original clip, the footage plays and then "freezes" and holds on the frame that you specified.

Creating a Freeze Frame

To create a Freeze Frame effect:

1. Open a clip in the Source pop-up monitor.
2. Cue the clip to the frame that you want to freeze.
3. Choose Freeze Frame from the Clip menu.



4. Choose Two Field Freeze Frames, and then choose one of the following:
   - **Using Duplicated Field** — Avid Xpress DV creates the effect using a single field. While this reduces the vertical resolution of the image by one-half, it is often the best option if the source footage contains rapid motion.
   - **Using Both Fields** — Avid Xpress DV uses both fields to create the effect. This option is especially useful when there is little or no motion in the footage since it preserves all vertical resolution.
   - **Using Interpolated Field** — Avid Xpress DV creates a second field for the effect by combining scan line pairs from the first field in the original media. This might result in a slightly softer look to the freeze frame.

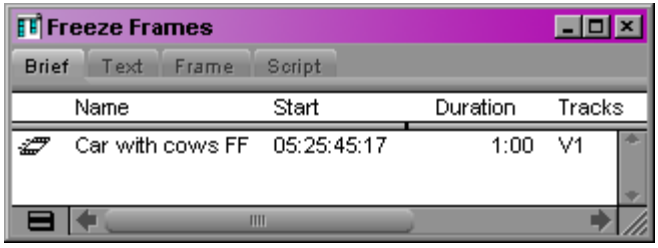
For more information on these options, see "Motion Effect Parameters" on page 338.

The chosen option becomes the default until you choose another option.

5. If you made a Two Field Freeze Frames choice in step 4, choose Freeze Frame from the Clip menu again.
6. Do one of the following:
   - Choose a preconfigured duration.
   - Choose Other and type a custom duration in the dialog box; then click OK to enter the new duration.

   A dialog box appears, prompting you to choose a target drive for the freeze frame media.
7. Choose a drive from the pop-up menu, and click OK.

   A new clip appears in the Source pop-up monitor and in the current bin preceded by a Motion Effect icon. The new clip has the original clip name followed by the letters FF.



Controlling a Freeze Frame with a Single Button or Key

You can map the Freeze Frame command to a button or key. Avid Xpress DV remembers the duration of the freeze frame and the option for two-field media if appropriate. After you have mapped the command, you can create a freeze frame of the same type and duration simply by clicking the button or pressing the key.

To map the Freeze Frame command to a button or key:

1. Choose Freeze Frame from the Clip menu, choose Two Field Freeze Frames, and then choose one of the following:
   - **Using Duplicated Field** — Avid Xpress DV creates the effect using a single field. While this reduces the vertical resolution of the image by one-half, it is often the best option if the source footage contains rapid motion.
   - **Using Both Fields** — Avid Xpress DV uses both fields to create the effect. This option is especially useful when there is little or no motion in the footage since it preserves all vertical resolution.
   - **Using Interpolated Field** — Avid Xpress DV creates a second field for the effect by combining scan line pairs from the first field in the original media. This might result in a slightly softer look to the freeze frame.

For more information on these options, see "Motion Effect Parameters" on page 338.

2. Do one of the following:
   - To map to a button, open the Tool palette.

     For information on opening the Tool palette, see "Using the Tool Palette" in the chapter "Viewing and Marking Footage" in the user's guide.
   - To map to a key, open the Keyboard palette by double-clicking Keyboard in the Settings scroll list of the Project window.
3. Choose Command Palette from the Tools menu.

   The Command palette opens.
4. Select Menu to Button Reassignment.
5. Do one of the following:
   - To map to a button, click a blank button in the Tool palette.
   - To map to a key, click a blank key in the Keyboard palette.
6. Choose Freeze Frame from the Clip menu.

7. Do one of the following:
   - Choose a preconfigured duration.
   - If you want to type a custom duration when you create a freeze frame using the button or key, choose Other.

   Avid Xpress DV maps the Freeze Frame menu command to the button or key.
8. Close the Command palette.

Creating a Rolling Clip That Freezes

One common use for freeze frames is to create a segment that plays normally and then freezes, either to superimpose text information or to add emphasis to the end of a sequence before fading.

To create a rolling clip that freezes:

1. Edit the clip into the sequence.
2. Mark an IN point in the sequence at the frame where you want the freeze frame to occur.
3. Create the Freeze Frame effect from the source footage as described in “Creating a Freeze Frame” on page 200.
4.
   Click either the Splice-in button or the Overwrite button in the Tool palette to edit the freeze frame into the sequence at the previously marked IN point.

   For information on opening the Tool palette, see “Using the Tool Palette” in the chapter “Viewing and Marking Footage” in the user’s guide.

When you play the sequence, the footage plays full-motion and then freezes at the chosen frame.

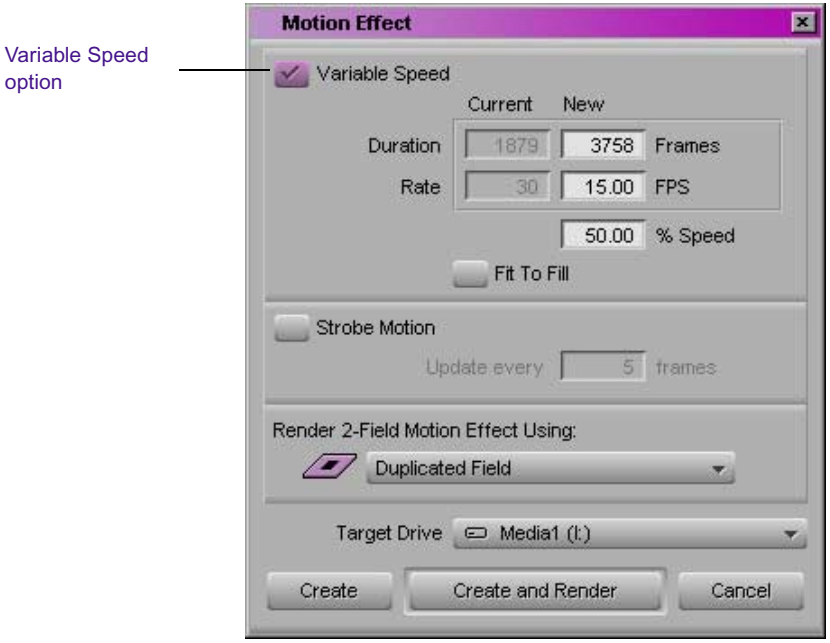
Creating a Variable Speed Effect

Variable Speed effects involve changing the rate of playback to achieve fast-motion or slow-motion effects. Avid Xpress DV creates slow-motion effects by duplicating frames in the original media. It creates fast-motion effects by eliminating frames from the original media.

To create a Variable Speed effect:

1. (Option) If you require a fixed duration for the clip based on a segment in the sequence, mark the segment in the Timeline with IN and OUT points.
2. (Option) If you want to use only part of the source clip for the motion effect, mark IN and OUT points in the Source pop-up monitor.
3. Click the Motion Effect button in the Source pop-up monitor.

   The Motion Effect dialog box appears.

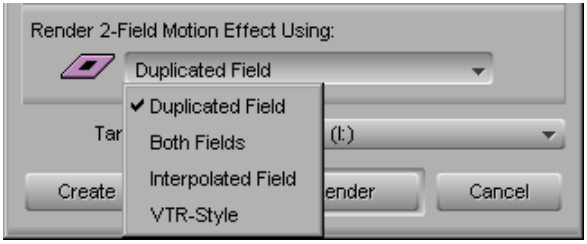


4. Select the Variable Speed option.
5. Specify the play speed for the Variable Speed motion effect by doing one of the following:
   - Type a number of frames in the Frames text box.
   - Type a frame rate in the FPS text box. To indicate reverse motion, enter a negative number for the play rate.
   - Type a percentage of the current play rate in the % Speed text box. To indicate reverse motion, enter a negative number for the percentage.
   - Select Fit To Fill to automatically set the Variable Speed parameters so that the duration of the motion effect will match the IN to OUT duration marked in the Composer monitor.

   When you set one of these, all values change to reflect the specified play rate.
6. (Option) If Original Preference is set as the Motion Effects Render Using option in the active Render setting, select one of the following four available options:
   - **Duplicated Field** — Avid Xpress DV creates the effect using one field.
   - **Both Fields** — Avid Xpress DV creates the effect using both fields.
   - **Interpolated Field** — Avid Xpress DV creates a second field for the effect by combining scan line pairs from the first field in the original media.
   - **VTR-Style** — Avid Xpress DV creates a second field for the effect by shifting selected video fields of the original media by a full scan line. This technique is similar to that used by high-quality professional video decks when playing footage at less than normal speed.

For more information on these options, see "Motion Effect Parameters" on page 338.

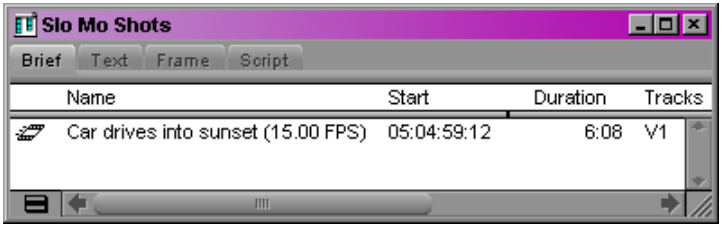
7. (Option) If a specific motion effect type is set as the Motion Effects Render Using option in the active Render setting, Avid Xpress DV automatically selects that type in the Motion Effect dialog box, makes all other types unavailable, and displays the Ignore Render Setting check box. If you want to override the Render setting, click the Ignore Render Setting check box, and then select one of the four options described in step 6.



8. Complete the effect by doing one of the following:

   - Click Create to create the new clip and close the dialog box. Another dialog box asks you to choose the bin for the effect.
   - Click Create and Render to render the clip — creating new media files — and close the dialog box. Another dialog box asks you to choose the bin for the effect.

   A new clip appears in the Source pop-up monitor and in the current bin. The clip has the original clip name followed by the frame rate in parentheses. You can then edit this clip into your sequence as you would any other clip.



Using the Fit to Fill Button

You can create a Variable Speed effect that is automatically sized to fit a marked IN to OUT duration in a sequence by clicking the Fit to Fill button.

The Fit to Fill button is located on the Edit tab of the Command palette. This button performs an overwrite edit and uses a motion effect to fill the marked record duration. When you click the Fit to Fill button, the system automatically selects variable-speed parameters so that the duration of the motion effect matches the IN to OUT duration marked in the Composer monitor. The system then overwrites the motion effect into the sequence.

The motion effect you create with the Fit to Fill button uses the parameters you set in the Render Settings and Media Creation dialog boxes. If the Render preference is set to Original Preference, the new motion effect is rendered with duplicated fields.

To create an unrendered motion effect, press the Alt key (Windows) or the Option key (Macintosh) when you click the Fit to Fill button.

Creating a Strobe Motion Effect

Strobe motion results in a stuttering effect during playback of a clip. You determine the degree of the “stutter” when you create the effect.

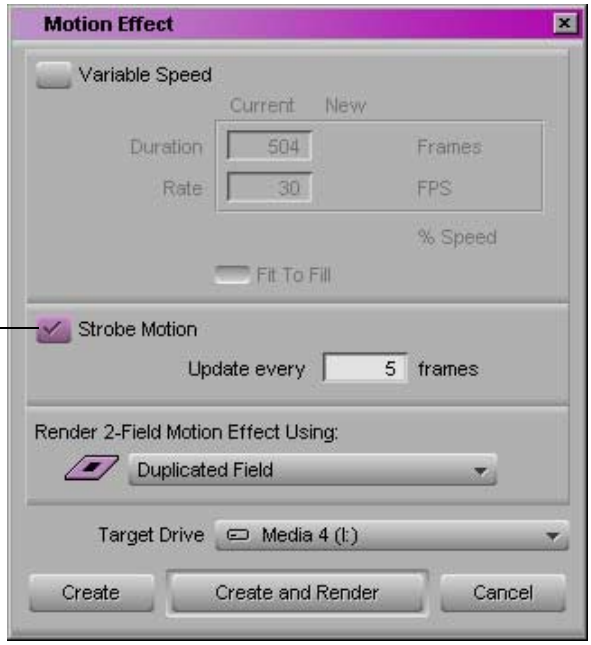
You can also combine the Strobe Motion effect with the Variable Speed effect. For more information on the Variable Speed effect, see “Creating a Variable Speed Effect” on page 204.

To create a Strobe Motion effect:

1. (Option) If you want to use only part of the source clip for the effect, mark IN and OUT points in the Source pop-up monitor.

2. Click the Motion Effect button in the Source pop-up monitor.

   The Motion Effect dialog box appears.



3. Select the Strobe Motion option.
4. Specify the update rate in frames for the Strobe Motion effect. For example, a rate of 5 causes every fifth frame to be held for five frames before updating in the Strobe Motion effect.
5. (Option) If Original Preference is set as the Motion Effects Render Using option in the active Render setting, select one of the following four available options:
   - **Duplicated Field** — Avid Xpress DV creates the effect using one field.
   - **Both Fields** — Avid Xpress DV creates the effect using both fields.
   - **Interpolated Field** — Avid Xpress DV creates a second field for the effect by combining scan line pairs from the first field in the original media.

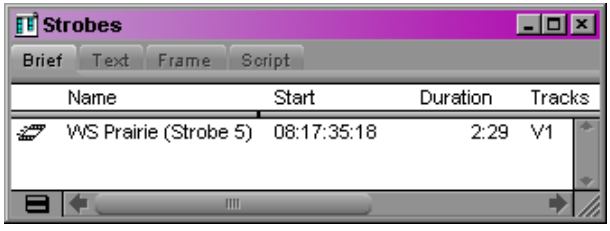
- **VTR-Style** — Avid Xpress DV creates a second field for the effect by shifting selected video fields of the original media by a full scan line. This technique is similar to that used by high-quality professional video decks when playing footage at less than normal speed.

For more information on these options, see "Motion Effect Parameters" on page 338.

6. (Option) If a specific motion effect type is set as the Motion Effects Render Using option in the active Render setting, Avid Xpress DV automatically selects that type in the Motion Effect dialog box, makes all other types unavailable, and displays the Ignore Render Setting check box. If you want to override the Render setting, click the Ignore Render Setting check box, and then select one of the four options described in step 5.
7. Complete the effect by doing one of the following:
   - Click Create to create the new clip and close the dialog box. Another dialog box asks you to choose the bin for the effect.
   - Click Create and Render to render the clip — creating new media files — and close the dialog box. Another dialog box asks you to choose the bin for the effect.

If you do not render a Strobe Motion effect when you first create it, the effect will play back as filler until you render it.

A new clip appears in the Source pop-up monitor and in the current bin preceded by a Motion Effect icon. The new clip has the original clip name followed by the word Strobe and the number of update frames in parentheses.



Stabilizing an Image

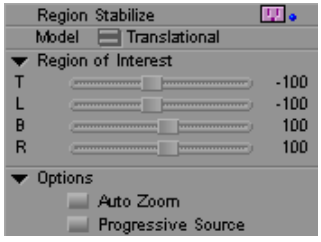
The Region Stabilize effect eliminates unwanted motion in a video clip, such as motion from an unstable camera.

The Region Stabilize effect is available as part of the Avid Xpress DV PowerPack and installs from the PowerPack CD-ROM. For more information on this installation, see the Avid Xpress DV Getting Started Guide.

Region Stabilize allows you to select an area of the image that you want to remain stationary and then uses the information to reposition each frame in the clip to keep the region steady.

Stabilization exposes black around the edges of the repositioned frames. You can resize (and, if necessary, reposition) the rendered clip to remove the exposed edges. Auto Zoom, in the Options parameter category, does this automatically.

The following illustration shows the Region Stabilize parameters.

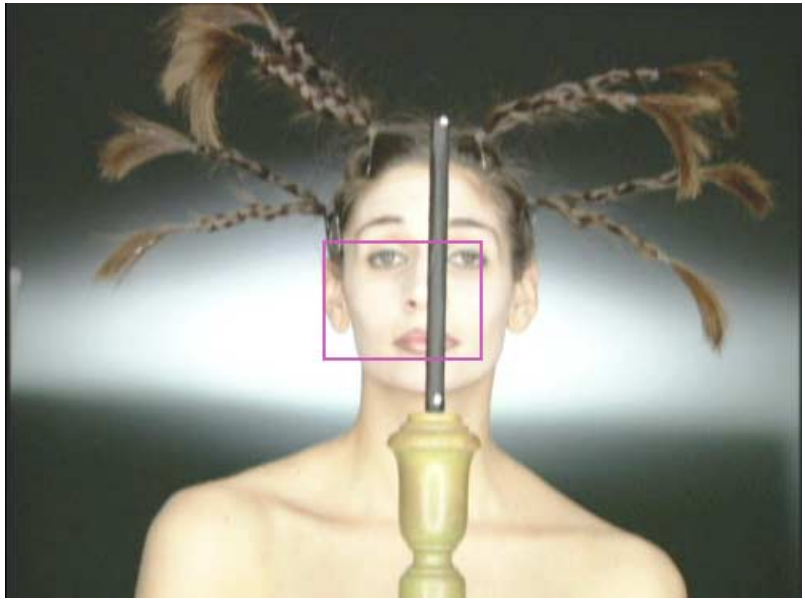


To stabilize a segment:

1. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.
2. Click the Image category.

3. Drag the Region Stabilize Effect icon to the segment you want to stabilize.
4. Choose Effect Editor from the Tools menu.

   A wire frame appears in the Effect Preview monitor to indicate the region of interest. This is the area you want to use in stabilizing the image.



5. Reposition and resize the wire frame by doing one of the following:
   - Use the sliders in the Region of Interest parameter category.
   - Click the wire frame, and drag it in the Effect Preview monitor.

   Select a region that contains one or more features that do not change much from frame to frame, for example, objects such as buildings or rocks. Another approach is to shoot the scene with stabilization in mind: include an object, such as a reflective sticker, that you intend to use as your region of interest.

6. Select the type of stabilization from the Model Fast menu:
   - **Translational** keeps the region of interest steady along both the horizontal and the vertical axis.
   - **Horizontal** constrains horizontal motion in the region of interest. Features in the region of interest can move vertically but not horizontally.
   - **Vertical** constrains vertical motion in the region of interest. Features in the region of interest can move horizontally but not vertically.
7. (Option) To turn on Auto Zoom, open the Options parameter category and click the Auto Zoom button.

   Stabilization exposes black around the edges of the repositioned frames. Auto Zoom compensates by resizing and, if necessary, repositioning the clip to remove the exposed edges.
8. (Option) If your footage was captured or converted to progressive footage (is not interlaced), open the Options parameter category and click the Progressive Source button.

   If your sources are progressive, enabling this button produces smoother results.
9. Render and review the effect.

   If the rendered clip does not perform as expected, see "Making Adjustments to the Region of Interest" on page 213.
10. (Option) Add keyframes to further refine the motion of the stabilized clip.

    For more information, see "Understanding Keyframes" on page 98.
11. Continue to review and refine the effect until you achieve the results you want.
12. (Option) Resize and, if necessary, reposition the clip to eliminate black edges.

Making Adjustments to the Region of Interest

If the Region Stabilize effect does not perform as expected, it might be due to one of the following:

- **Large motion.** If an object in your region of interest moves too far away from the region from one frame to the next, the rendered clip might display unexpected results.
- **Extraneous motion.** Something in your region of interest might move over the course of the clip in a way that unpredictably affects the stabilization.
- **Insufficient texture.** The region of interest might not have enough features to allow Region Stabilize to track it effectively.

When you encounter unexpected results in a rendered Region Stabilize effect clip, experiment with the following adjustments:

- Increase the size of the region of interest, or reposition it, to encompass large motion.
- Decrease the size of the region of interest to eliminate extraneous motion that is affecting the stabilization.
- Choose a new region of interest.
- Add keyframes to reestablish or refine the region of interest over the course of the clip.

Chapter 6

Creating Layered and Nested Effects

This chapter describes how to apply multilayer effects to your sequence. Layered effects consist of two or more layers of video built up vertically in the Timeline that play back simultaneously with effects such as Picture-in-Picture, Superimpose, or Submaster applied to the tracks. Nested effects consist of one or more effect layers that are contained within another effect on the *same* video layer.

The methods and concepts for creating multilayer effects — described in the following sections — build on the procedures for creating single-layer effects described in Chapter 2.

- Creating Key Effects
- Working with Imported Graphics and Animation
- Nesting Effects
- Submaster Editing
- Performing a Video Mixdown

Creating Key Effects

Avid Xpress DV supports the following key effects:

- **Chroma Key** — Replaces one part of the video image with another video image based on color
- **Luma Key** — Replaces one part of the video image with another video image based on luminance (brightness)
- **Matte Key** — Replaces one part of the video image with another video image or graphic based on the location of a high-contrast image known as a matte

Creating a Chroma Key Effect

The Chroma Key effect is used most frequently with a foreground image shot in front of a highly saturated color screen that is keyed against a background image. The following sections describe the process of creating these effects.

The Chroma Key effect includes several standard digital video effect (DVE) parameters such as scaling, position, and crop in addition to key parameters.

Chroma Key Effect Example

Before

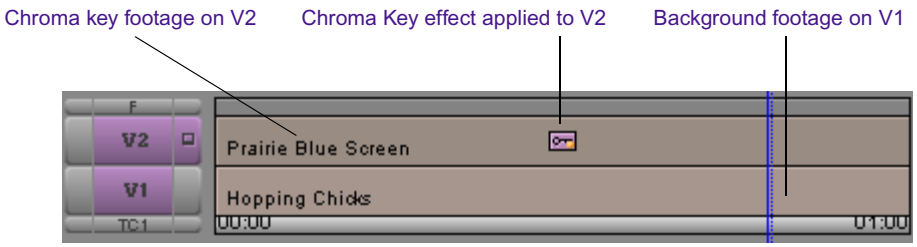
After

To create a Chroma Key effect:

1. Create a sequence with two video layers.

   For information on creating and editing a sequence, see the chapters “First Edits” and “Using the Timeline” in the user’s guide.

2. Edit the background image onto track V1.
3. Edit the foreground image onto track V2.
4. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.
5. Click the Key category.
6. Drag the Chroma Key Effect icon from the Effect Palette to the clip on track V2.



   Avid Xpress DV adds the Chroma Key effect. Ultimatte blue is the default key color.

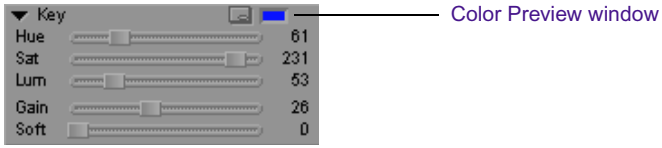
7. Move the position indicator to the segment containing the effect in the Timeline, and choose Effect Editor from the Tools menu.

   The Effect Editor opens and displays parameters for adjusting the chroma key.

8. Open the Key parameter category.

   Ultimatte blue is the default chroma key color. To match the key color more closely to the color of the background screen used in the footage, proceed with the following step.

9. (Option) Click the Color Preview window in the Key parameter category to display the eyedropper icon, and then drag the eyedropper to a representative region of the background screen in the Composer monitor.



   Avid Xpress DV keys off the primary key color, and the key takes effect.

10. Fine-tune the key by enabling additional parameter categories and adjusting sliders as necessary.

    For more information, including descriptions of Secondary Key and Spill Suppression parameters, see "Key Parameters" on page 334.

Creating a Luma Key Effect

Use a Luma Key effect to replace portions of the foreground video with the background video based on brightness or luminance.

To create a Luma Key effect:

1. Create a sequence with two video layers.

   For information on creating and editing a sequence, see the chapters "First Edits" and "Using the Timeline" of the user's guide.

2. Edit the background image onto track V1.
3. Edit the foreground image onto track V2.
4. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.
5. Click the Key category.
6. Drag the Luma Key Effect icon from the Effect Palette to the segment on track V2.

7. Use the eyedropper or the Luma Key sliders to select a brightness value in the foreground video.

   Avid Xpress DV replaces the corresponding portions of the foreground video with background video. For an example, see "Luma Key" on page 402.

Creating a Matte Key Effect

The Matte Key effect uses three layers of video to create the effect. The bottom layer is the background image, the middle layer is the foreground image, and the top layer contains the matte or alpha channel.

To create a Matte Key effect:

1. Create a sequence with three video layers.

   For information on creating and editing a sequence, see the chapters "First Edits" and "Using the Timeline" in the user's guide.

2. Edit the background image onto track V1.
3. Edit the foreground image onto track V2.
4. Load a high-contrast image into the Source pop-up monitor, and edit it onto track V3. The high-contrast image can be an imported graphic or a clip that you adjust within Avid Xpress DV.

If the image does not have an alpha channel for keying the graphic over video, use the procedure described in "Editing with Imported Master Clips" on page 223 to edit the image onto track V3.

If the image is not high enough in contrast, you can adjust the contrast by applying the Color Effect and adjusting its parameters in Effect mode. For more information, see "Using the Color Effect to Prepare a High-Contrast Image" on page 220.

5. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.
6. Click the Key category.

7. Apply the Matte Key effect as follows:
   - If your high-contrast image was created with the Color Effect, press and hold the Alt key (Windows) or Option key (Macintosh) and drag the Matte Key Effect icon from the Effect Palette onto the segment on track V3 to nest the Color Effect within the Matte Key effect.
   - If your high-contrast image on track V3 does not include a Color Effect, drag the Matte Key Effect icon from the Effect Palette onto the segment on track V3.
8. Click the Record Track Monitor button for track V3 in the Track Selector panel. You should see tracks V2 and V1 through the high-contrast image on track V3.
9. Move the position indicator to the Matte Key effect, and render the effect.

For an example of a Matte Key effect, see "Matte Key" on page 403.

Using the Color Effect to Prepare a High-Contrast Image

This section describes how to enhance high-contrast images for use in creating Matte Key effects.

To create a high-contrast image from available footage:

1. Apply the Color Effect to the clip, and open the Effect Editor.

   The Color Effect is in the Image category in the Effect Palette.
2. Drag the Clip slider under Luma Adjust to 255.
3. Drag the Sat (saturation) slider under Chroma Adjust to –100 to remove all color saturation from the image.
4. Adjust the Cont (contrast) and Bright (brightness) sliders under Luma Adjust until you achieve the right degree of contrast.

   The high-contrast image can now be used as a matte for the key effect, as described in "Creating a Matte Key Effect" on page 219.

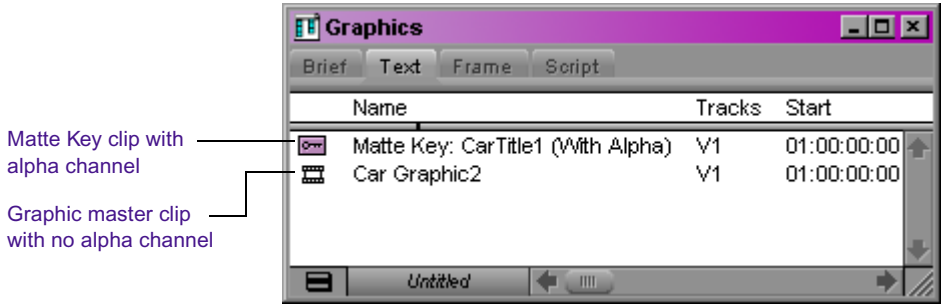
Black portions of the high-contrast image will be transparent, and white portions will be opaque. To switch the order, click Invert Key in the Foreground parameter category of the Matte Key effect. For more information, see "Foreground" on page 332.

You can also import a graphic image with an alpha channel and use it as a Matte Key effect. See "Editing with Imported Matte Key Clips" on page 222.

Working with Imported Graphics and Animation

This section describes two different approaches to editing with imported graphic images, depending upon whether:

- The image was imported as a Matte Key clip with an alpha channel (a keyable graphic element for video overlay).
- The image was imported as a master clip with no alpha channel (an opaque graphic element).



These alternatives apply to both single-frame graphic images and animation. In addition, you can edit imported images into sequences by using standard Avid Xpress DV effects.

(Windows only) AVI files cannot be imported with an alpha channel. To import animation with an alpha channel, you must use another supported format. For more information on importing graphic and animation clips, see the chapter "Importing Files" in the user's guide.

Editing with Imported Matte Key Clips

When an imported clip includes an alpha channel for keying the graphic over video, it appears in the bin with a key effect icon.

Both single-frame graphic images (such as a single JPEG file) and multiple-frame animation sequences (such as a JPEG file sequence) appear in the bin in the same form after import, and you use the same editing techniques for both. You can edit this type of clip into a sequence as a standard matte key overlay.

To edit a Matte Key clip into the sequence:

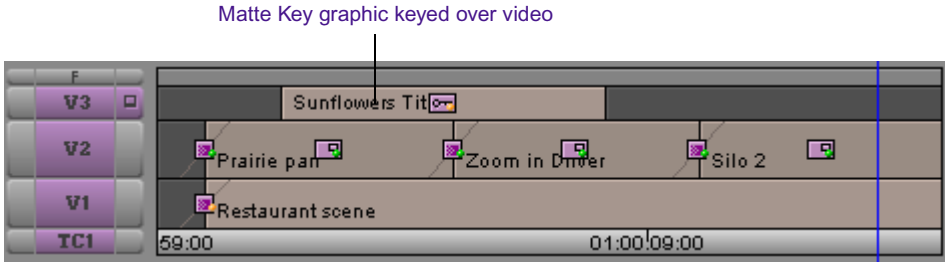
1. Edit the main video sequence.
2. Add a new track above the tracks in the sequence by choosing New Video Track from the Clip menu.

You must edit Matte Key clips onto an upper track to achieve the keying effect. If you edit a Matte Key clip onto track V1, for example, the image is keyed over black unless track V1 contains nested tracks.

3. Play the sequence, and mark an IN point and an OUT point where you want to overlay the graphic.
4. Load a Matte Key clip into the Source pop-up monitor. Mark an IN point toward the center of the clip if it is a still.
5. Drag the Matte Key clip from the Source pop-up monitor onto the upper track (V3 in this example).

   Avid Xpress DV keys the graphic over the video on the lower tracks.

   In the following example, the graphic appears on track V3 above the main video sequence edited onto tracks V1 and V2.



6. Adjust effect parameters in the Effect Editor, if necessary, using procedures described in "Using the Effect Editor" on page 86.

If the keyed portions of the images are the reverse of the intended effect, click Invert Key in the Foreground parameter category. For more information, see "Foreground" on page 332.

7. Use the standard effect editing procedures to preview, render, or play the Matte Key clip.

Make sure the Record Track Monitor button for the topmost track is selected in the Track Selector panel to see the complete effect.

Editing with Imported Master Clips

When an imported clip does not include an alpha channel for keying the graphic over video, its icon is the standard master clip icon. This is true for both single-image graphics and animation sequences. You can edit this type of clip into a sequence as an opaque image or animation (in other words, as a single layer) by using basic editing techniques described in this section.

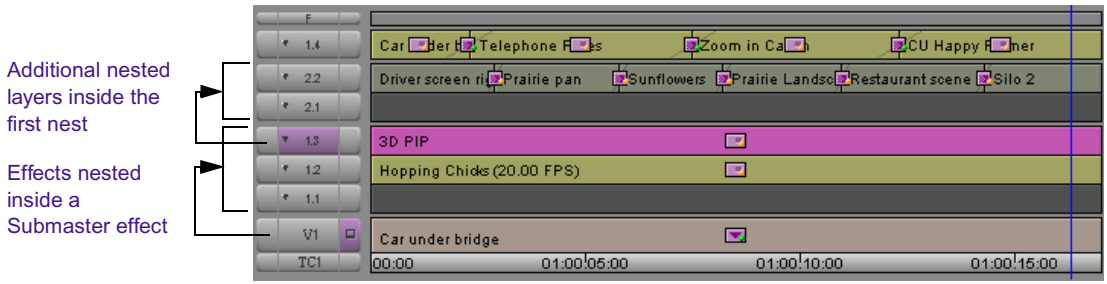
To edit an imported master clip into the sequence:

1. Double-click the graphic clip icon to open a Source pop-up monitor.
2. Create a sequence in the Timeline.
3. In the Source pop-up monitor, mark an IN point at the start of the clip and mark an OUT point to specify the duration of the graphic.
4. In the Composer monitor, mark an IN point where you want to edit the graphic clip into the sequence.
5. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline.
6. Drag the clip to the Timeline to add the opaque graphic to the sequence.

   The opaque image appears in the sequence. In the Timeline, the graphic looks like a standard video clip edited into the sequence.
7. Play the clip, using the standard playback procedures.

Nesting Effects

You can use Avid Xpress DV to place effect tracks inside one another to better combine multiple images and digital video effects (DVEs). This involves a process known as *nesting*, which allows you to use the Timeline to *step into* a track, perform a series of editing operations, and then *step out* to view and render the effect as one segment on the track.



You can edit up to four video track layers. Into each layer of video, you can nest (stack inside) up to four additional video tracks. You can also step into each video track indefinitely, constrained only by your system's memory.

Nested effects must be rendered in order to play back correctly.

You can use nesting when you want to create layered effects. In this case, the nested layers are treated as one element during the transition. Since transition effects, such as dissolves, fades, and wipes, are not multilayered, nesting is not applicable to these types of effects; nor are nesting effects applicable to audio tracks.

Some effects do not work well with each other when nesting. For example, the Box Wipe effect and Edge Wipe effect cannot be used together in a nested segment because the two effects are competing to establish the shape of the wipe.

Another use of nesting is to constrain one effect using another effect. For example, you can use the Circle Wipe effect to constrain an image posterization inside a region.

Expanding Nested Effects in the Timeline

You can expand an existing nested effect for editing within the Timeline. You can then add new tracks, edit source material into the tracks, apply effects, and adjust effects on the nested tracks. Any segment with a segment effect applied can be expanded in this way.

To expand a nested effect, do one of the following:

- Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline, and then double-click the nested effect to expand the effect within the Timeline.
- With the Effect Editor open, double-click the nested effect.

The nested tracks appear in the Timeline above the track you double-clicked. Editing and patching features are available for changing the content of the track's effect.

To step out of the nested effect

- Double-click the effect's icon in the Timeline.

Stepping Into and Out of Nested Effects

You can step into an existing nested effect for editing. When you step into the effect, Avid Xpress DV replaces the full sequence in the Timeline with just the tracks that make up the nested effect. You can then add new tracks, monitor individual tracks, edit source material into the tracks, apply effects, and adjust effects on the nested tracks. You can step into any segment effect in this way.

You can also expand nested effects while leaving the rest of the sequence visible in the Timeline. See *"Expanding Nested Effects in the Timeline" on page 225.*

To step into a nested effect:

- Click the Step In button.

To step out of a nested effect:

- Click the Step Out button.

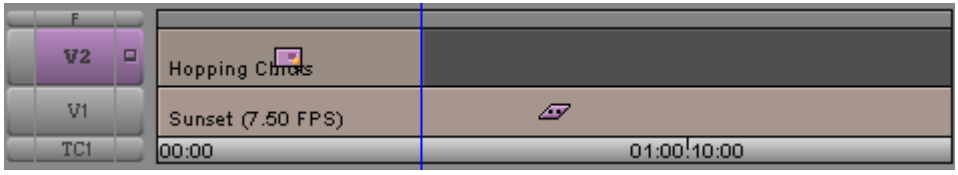
The Step In and Step Out buttons appear by default in the Timeline toolbar, and are also available in the Command palette. For more information, see "Customizing Timeline Views" in the chapter "Using the Timeline" and "Using the Command Palette" in the chapter "Using Basic Tools" in the user's guide.

Creating a Simple Nested Effect

This example involves nesting a sequence of clips with dissolves inside another segment effect.

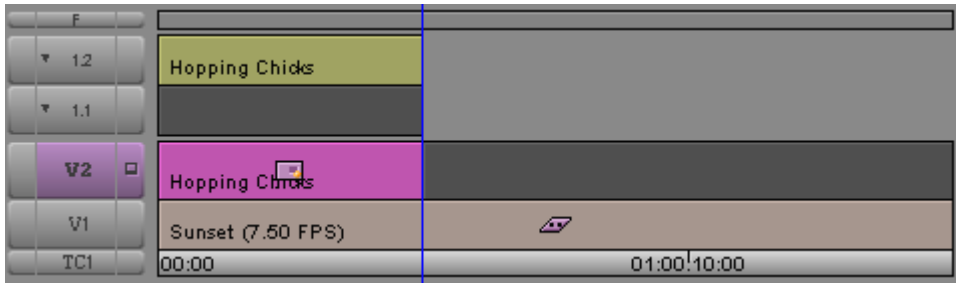
To create the nest:

1. Create a sequence, and add a segment effect.



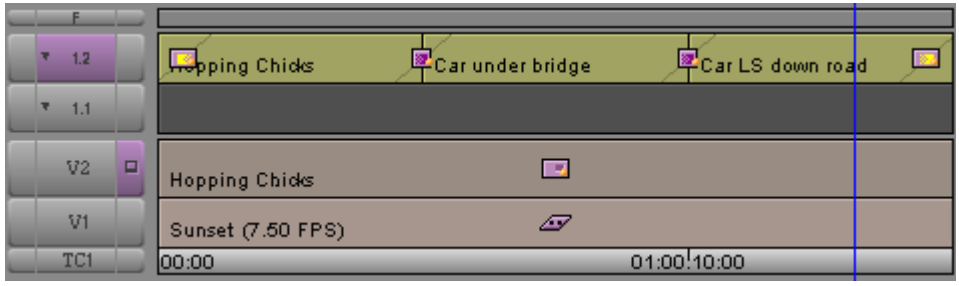
2. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline, and then double-click the segment.

   The segment opens to reveal the nested tracks.

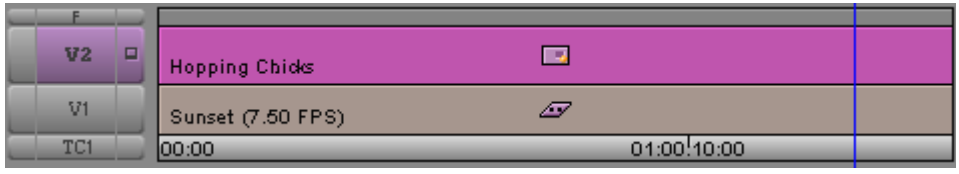


3. Edit new footage into the nested tracks, and apply additional effects as necessary.

   In this example, a series of clips is edited onto nested track 1.2, with dissolves applied between the shots. The Picture-in-Picture effect applies to the entire nested dissolve sequence.



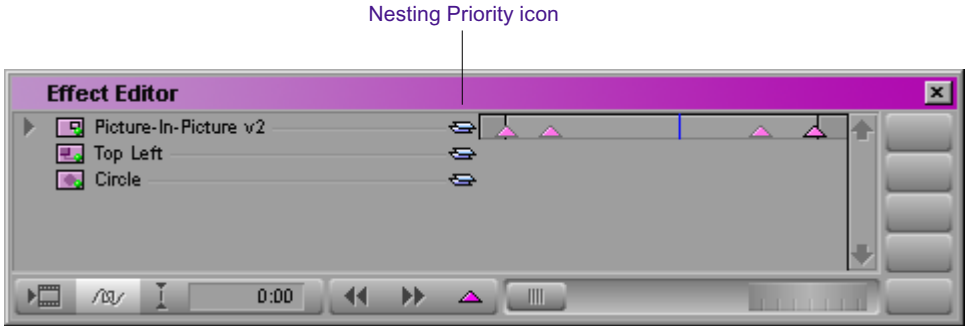
4. Double-click the main track for the nested effect (V2 in this example) to close the nested tracks again.



Changing the Order of Nested Effects

When you use advanced keyframes with nested effects, you can change the order of nested effects by manipulating the Nesting Priority icons that appear in the Effect Editor.

If the effect you are editing has nested tracks, the effect icon and name of each nested effect appears in the Effect Editor. A Nesting Priority icon appears in line with each effect name. Click this icon, and drag it to a new position to reorder the effects.



To change the order of nested effects:

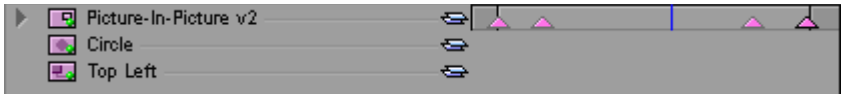
1. Click the Nesting Priority icon of the effect you want to move.

   The pointer changes to a hand, and a white outline appears around the selected effect.

2. Drag the outline above the effect you want to have nested inside the selected effect, or below the effect inside which you want the selected effect to nest.

3. Release the mouse button.

   The effects move to their new locations, and the Effect Editor display changes to reflect the new nesting.



Note the following considerations about the display and manipulation of nested effects:

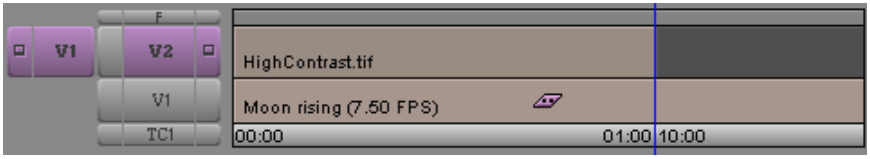
- You can change the nesting order only when the nested effects have the same number of internal tracks.
- The Effect Editor does not display layered components of a nested effect.
- If there is no effect on the foreground track (V1.2, for example), then the Effect Editor looks for a nested effect on the next track stepping in (V1.3, V1.4, and so forth). The Effect Editor identifies the first track with an effect as the foreground track. Effects on subsequent tracks are identified as part of the nested effect.
- The Effect Editor does not display nested effects when the foreground track has an add edit.

Nesting a Matte Key Effect

A Matte Key effect uses three layers of video to create the effect.

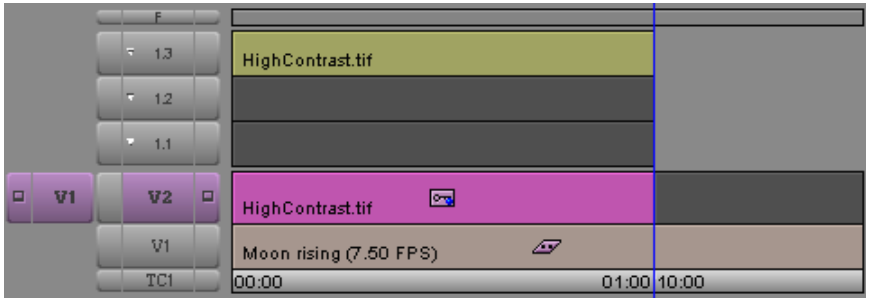
To nest a Matte Key effect:

1. Create a sequence with the background video on track V1.
2. Load a high-contrast image into the Source pop-up monitor, and edit it onto track V2 as described in “Editing with Imported Master Clips” on page 223. For an example of a high-contrast image, see “Matte Key” on page 403.



3. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.
4. Click the Key category.
5. Drag the Matte Key Effect icon from the Effect Palette to the segment on track V2.
6. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline.
7. Double-click the Matte Key Effect icon in the segment.

   The Timeline expands to display three nested tracks (1.1, 1.2, and 1.3).



   By default, nested track 1.3 contains the same image segment as track V2. Nested track 1.2 is empty (foreground filler track). Nested track 1.1 (background video) is also empty.

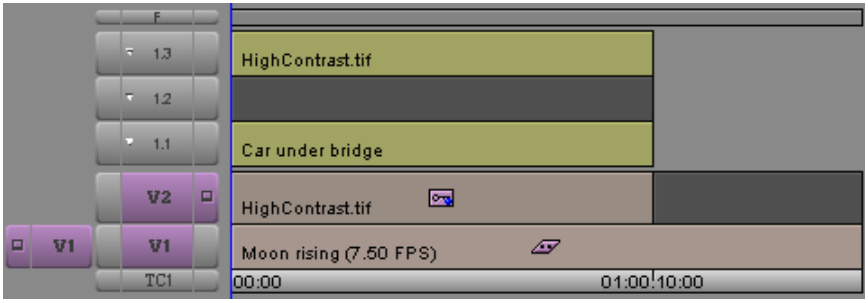
8. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) again to leave Segment mode.

   You can now edit the nested tracks.

9. Edit the foreground image onto nested track 1.1.

10. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline, and then double-click track V2 to collapse the nested tracks.
11. Click the Record Track Monitor button for track V2 in the Track Selector panel.

    You should see tracks V1 and nested track 1.1 through the high-contrast image on track 1.3.



For an example of a Matte Key effect, see “Matte Key” on page 403.

Submaster Editing

The Submaster effect is in the Image category of the Effect Palette. When you render this effect, Avid Xpress DV creates a single media file from several clips or effects in a sequence.

Rendering a Submaster effect saves the new Submaster clip to the drive as a single media file. However, Avid Xpress DV leaves untouched each element that makes up the composite, so you can still manipulate any element.

The Submaster effect is useful when you want to play back bandwidth-limited sequences, such as sequences composed of several seconds of single-frame clips. It is much faster to use the Submaster effect than to use methods such as applying a graphic, Picture-in-Picture, Mask, or Resize effect. Normally, Submaster effects render at about the same rate as motion effects.

You can nest up to four tracks inside a Submaster effect.

An edit decision list (EDL) for a sequence that contains a Submaster effect represents the contents of the Submaster as a single cut. To work around this, you can create a new sequence with the contents of the Submaster and generate a separate EDL for that sequence.

Applying the Submaster Effect to a Multilayered Sequence

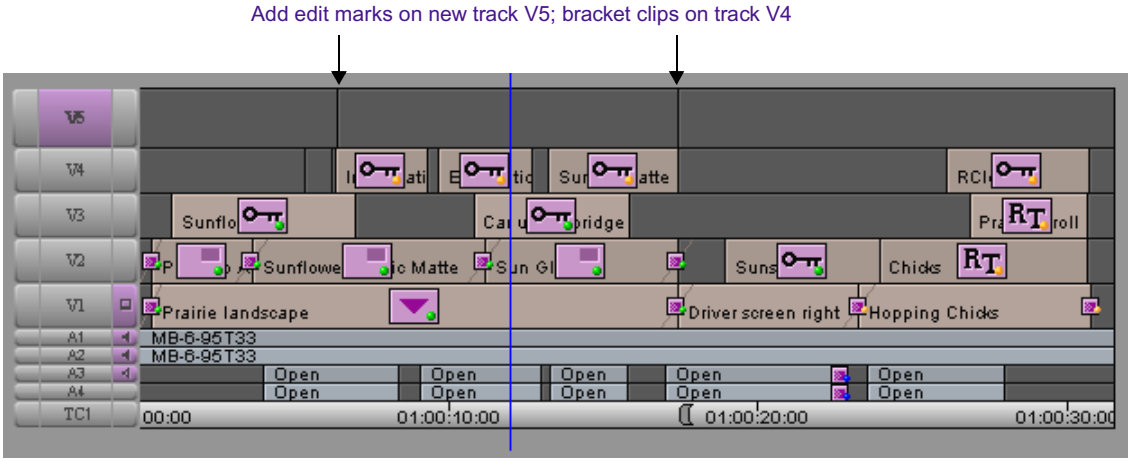
You can use the Submaster effect to speed the rendering process by applying it to a track above layered or nested effects and then rendering only the Submaster. Avid Xpress DV renders the composite result of all tracks into the top track.

The Submaster effect maintains links to the original media files, so you should not delete the original media files. If you want to combine tracks to create a sequence that is independent from the original media files, perform a video mixdown.

The Submaster effect does not render each track separately, so you cannot play each track individually, and the blue dot remains in the effect icon. In addition, you cannot delete or modify a track below a Submaster effect or it becomes unrendered.

To apply the Submaster effect to a multilayered sequence:

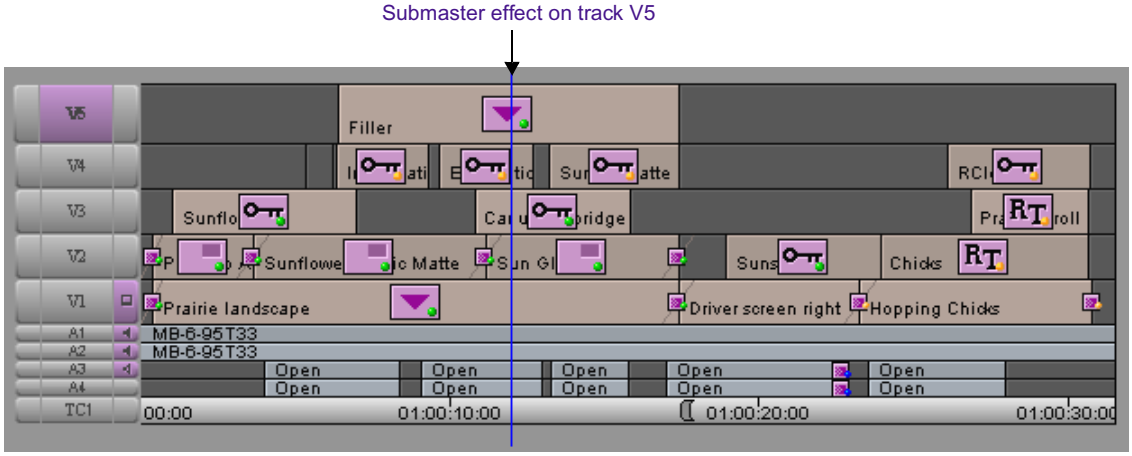
1. Choose New Video Track from the Clip menu.
2. On the new video track (V5 in this example), use the Add Edit button in the Tool palette to create one add edit before and another after the group of clips to be submastered.



For information on opening the Tool palette, see “Using the Tool Palette” in the chapter “Viewing and Marking Footage” in the user’s guide.

3. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.
4. Click the Image category.
5. Drag the Submaster Effect icon to the space between the add edits you added on the new track (V5 in this example).

   Avid Xpress DV applies the effect above the layers.



6. Render the Submaster effect, as described in "Rendering Effects" on page 167.

Using the Submaster Effect with a Series of Short Clips

The Submaster effect is useful when you want to play back bandwidth-limited sequences, such as a sequence composed of a series of short clips (a few frames each). You can apply and render the Submaster effect above the clips to improve playback.

To apply the Submaster effect to multiple clips:

1. Choose New Video Track from the Clip menu.
2. On the new video track, use the Add Edit button in the Tool palette to create one add edit before and another after the group of clips.

   For information on opening the Tool palette, see "Using the Tool Palette" in the chapter "Viewing and Marking Footage" in the user's guide.
3. Open the Effect Palette by doing one of the following:
   - In the Project window, click the Effects tab.
   - From the Tools menu, choose Effect Palette.

4. Click the Image category.
5. Drag the Submaster Effect icon to the space between the add edits you added on the new track.
6. Render the Submaster effect, as described in "Rendering Effects" on page 167.

If you alter or move either the Submaster segment or the clips below it, the effect becomes unrendered. You must render it again.

Collapsing Layers into One Submaster Effect

You can use the Collapse feature to build a multilayer effect and then nest the effect within a single Submaster effect in one step.

The Collapse feature allows you to build your effect at the topmost level and, when you are finished, collapse the layers automatically into one Submaster effect. This feature is useful for simplifying a sequence with complex compositing. Once you have collapsed a complex composite, you can easily add transition effects to the start and end of the newly created Submaster composite effect.

You can also use the Collapse feature to simplify the deletion of multilayer segment effects. After collapsing the effects, you can select the resulting segment and press the Delete key twice to delete the effect and all the layers.

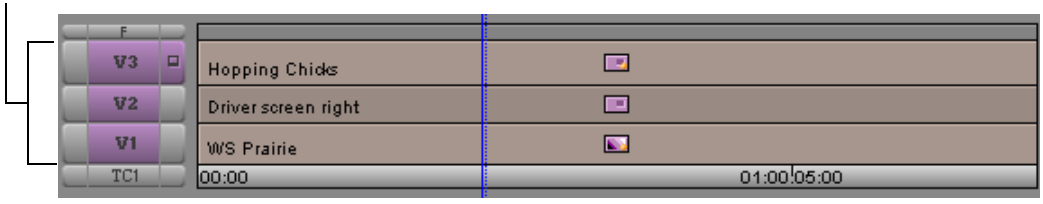
After the tracks are collapsed into a Submaster effect, Avid Xpress DV recognizes a Submaster effect as a multilayer effect instead of a single-layer effect. This allows you to add chroma keys and other multilayer effects to the nested tracks within a Submaster effect.

You can drag "two-channel" effects (such as chroma key) onto Submaster effects if the Submaster segment contains two or more nested tracks. This is useful after performing a Collapse operation to composite the newly created Submaster over another background.

To collapse multiple layers into one Submaster effect:

1. Select all the tracks you want to collapse. The tracks must be adjacent.

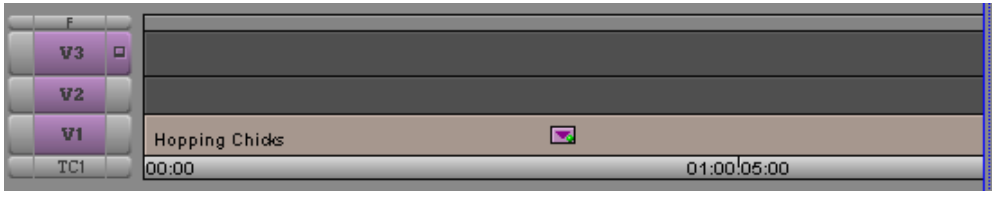
Selected tracks



2. Mark an IN point and an OUT point around the area to be collapsed.
3. Click the Collapse button in the Tool palette.

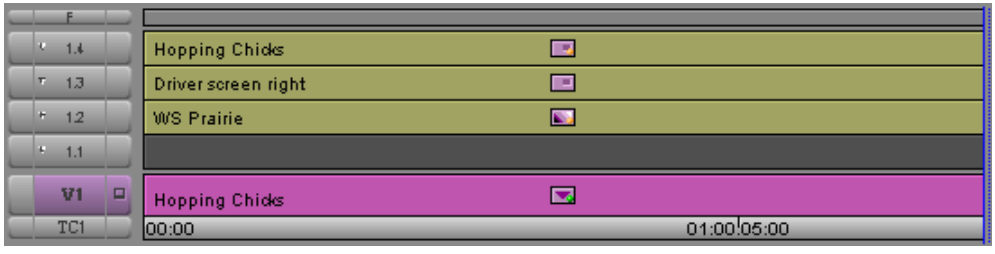
   For information on opening the Tool palette, see “Using the Tool Palette” in the chapter “Viewing and Marking Footage” in the user’s guide.

   Avid Xpress DV collapses the tracks into a Submaster effect on a single track.



To open the nested tracks again:

1. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline.
2. Double-click the Submaster effect.



To collapse a sequence (alternative procedure):

1. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline.
2. Select the segments you want to collapse.
3. Click the Collapse button.

Performing a Video Mixdown

Video mixdown allows you to combine several tracks into a new master clip.

You can use video mixdown after you have finished building your sequence and want to make it into one piece (for example, a standard opening to a program). It can be useful for a complex sequence you need to use repeatedly or if you want to add a motion effect to an entire sequence.

Video mixdown is similar to the Collapse feature; the difference is the end result.

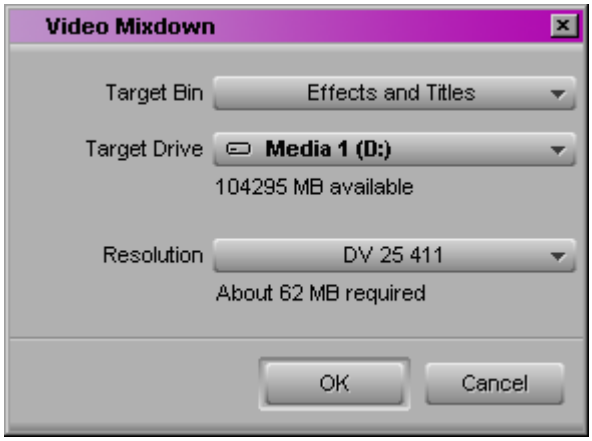
- With the Collapse feature, you collapse the tracks into a Submaster effect. After you collapse the tracks, you are still able to step in to the Submaster and work on the individual elements.
- With video mixdown, your end result is a new master clip made up of all the tracks you built on different layers. Those tracks become one clip; you cannot step into the sequence or separate the tracks to work on them.

To perform a video mixdown:

1. Select the Record Track Monitor button in the Track Selector panel for the highest track you want to include in the video mixdown.
2. Mark an IN point and an OUT point around the area to mix down.

3. Choose Video Mixdown from the Clip menu.

   The Video Mixdown dialog box appears.



4. Choose a target bin and a target drive for storing the new master clip, and then click OK.

   A progress indicator appears, showing the progress of the video mixdown. When the video mixdown is completed, a new clip appears in the bin along with the sequence, and a new media file is created on the target drive.

Chapter 7

Creating Titles and Graphic Objects

The Title tool enables you to create titles that incorporate text, graphic objects, imported graphics, and video. This chapter explains how to create titles, including graphic objects. Throughout this chapter, the term “title” refers to both text and graphics.

- Workflow for Creating Titles
- Opening the Title Tool
- Understanding the Title Tool
- Using the Selection Tool
- Setting Up the Drawing Environment
- Working with Text
- Creating Graphic Objects
- Selecting Colors and Setting Transparency
- Working with Shadows
- Manipulating Objects
- Saving Titles, Title Styles, and Title Templates
- Exporting a Title as a Graphics File

Workflow for Creating Titles

The following is an overview of the tasks you perform to create a title:

- **Set up the drawing environment.** After you open the Title tool, you choose whether to display a color background or a frame of video from your sequence. You can also use safe colors or safe title and action guidelines or apply a grid for the placement of objects.
- **Create a new title with the Title tool.** You create the title by working with text and graphic objects and then applying and adjusting borders, colors, transparency, and shadows.
- **Save the title and exit the Title tool.** When you save a new title, you select a target drive and a target bin for the title media. You can also save just the styles for the title for future use. When you close the Title tool, the new title appears in the bin and in the Source pop-up monitor, ready for editing.

These basic procedures are described throughout this chapter. For information on editing a title into a sequence, see Chapter 8.

Opening the Title Tool

To open the Title tool:

1. In the Composer monitor, move the position indicator to the video frame that you want to use as a reference.

   If you are not using video as the background, you can skip this step. For more information, see "Selecting a Background" on page 248.

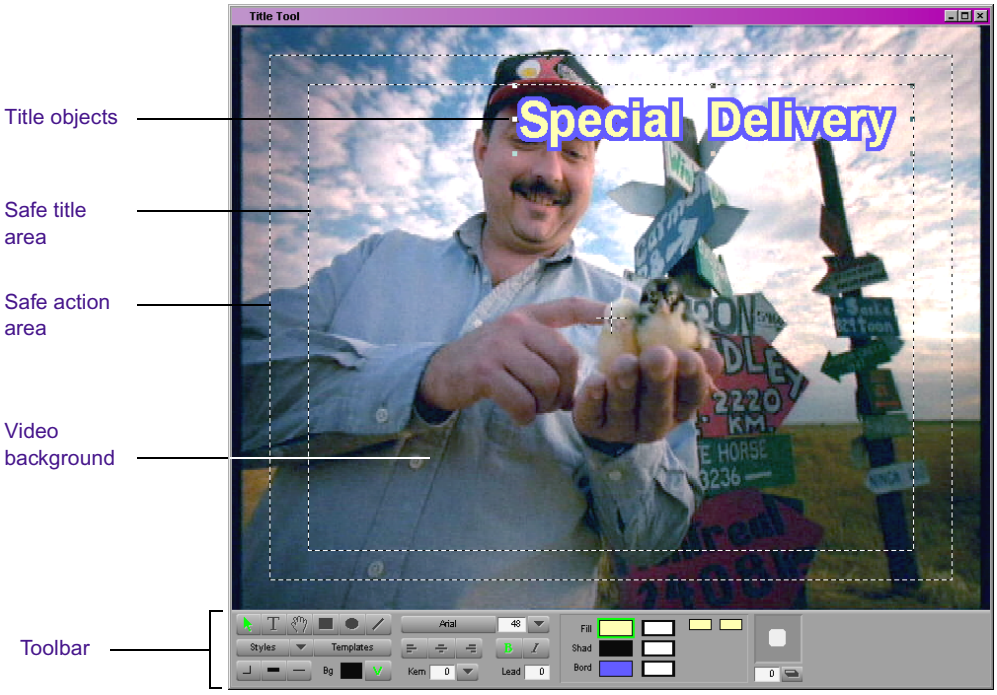
2. Do one of the following:

   - Choose New Title from the Clip menu
   - Choose Title Tool from the Tools menu.

   The Title tool opens. The Text tool is automatically selected, and the pointer becomes an I-beam, ready for entering text.

Understanding the Title Tool

The following illustration shows a title over a video background.



The Title tool has several major components:

- A video background based on a sequence or a color background that you create. For more information, see “Selecting a Background” on page 248.
- The title or graphic in the foreground that you create. For more information, see “Working with Text” on page 251 and “Creating Graphic Objects” on page 261.
- The safe title and safe action area guidelines. For more information, see “Displaying Safe Title or Safe Action Guidelines” on page 247.
- The toolbar at the bottom of the screen. For more information, see “Understanding the Toolbar” on page 242.

- In addition, title-related menu items are on the File, Edit, Object, and Alignment menus. These menu items are described throughout this chapter.

Understanding the Toolbar

At the bottom of the Title tool are tools and pop-up menus you can use for creating and editing text and objects. They work much like similar tools in other draw and paint programs.

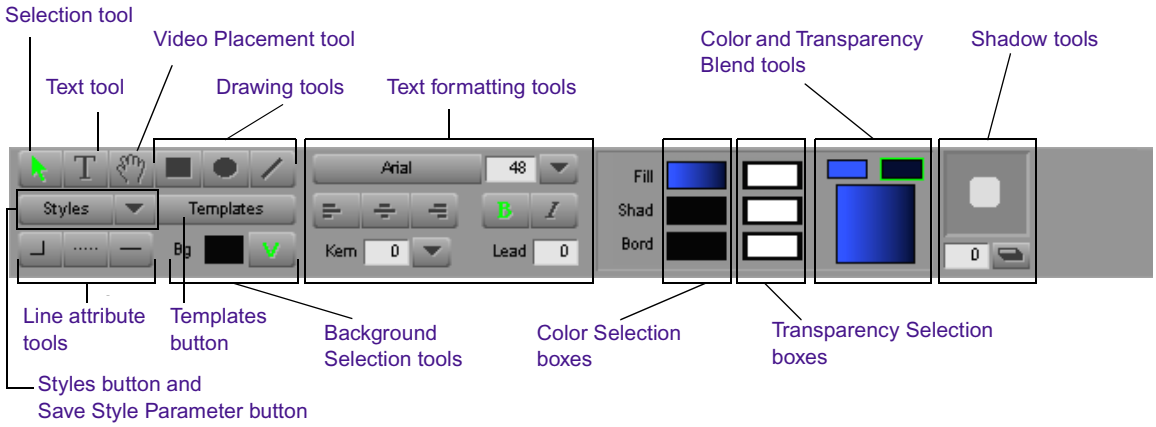


Table 7 briefly describes each section of the toolbar.

Table 7 Title Toolbar Elements

Tool	Description
Selection tool	Changes the pointer to an arrow and allows you to select text or objects for operations. See "Using the Selection Tool" on page 244.
Text tool	Changes the pointer to an I-beam and allows you to enter text. See "Working with Text" on page 251.
Video Placement tool	Changes the pointer to a hand and allows you to pan around the entire video clip within the Title tool.

Table 7 Title Toolbar Elements (Continued)

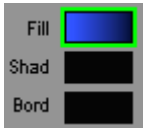
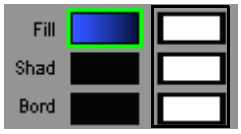
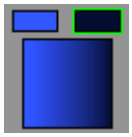
Tool		Description
Drawing tools		Allow you to draw boxes, circles, ovals, and lines. See "Creating Graphic Objects" on page 261.
Styles button		Displays examples of the styles you defined and allows you to select one. See "Recalling a Title Style" on page 291.
Save Style Parameter button		Displays examples of the styles you defined and allows you to select one. See "Saving a Title Style" on page 290.
Templates button		Allows you to create a standard format for text and graphics that you use regularly. The template prevents you from changing the position, colors, shadows, or graphics, which ensures consistency. See "Creating and Using Title Templates" on page 294.
Line attribute tools		Allow you to change the corners of boxes, line and border thickness, and arrowhead styles. See "Selecting Line Attributes" on page 263.
Background Selection tools		Allow you to switch between a video and opaque background and change the color of opaque backgrounds. See "Selecting a Background" on page 248.
Text formatting tools		Allow you to set various text attributes such as font, font size, kerning, and leading. See "Formatting the Text" on page 254.
Color Selection boxes		Allow you to change the color of text and objects. See "Selecting Colors and Setting Transparency" on page 267.
Transparency Level boxes		Allow you to change the transparency levels of text and objects. See "Adjusting the Transparency" on page 271.

Table 7 Title Toolbar Elements (Continued)

Tool		Description
Color and Transparency Blend tools		Allow you to create a blend between two colors or two transparency values. See "Blending Two Colors in an Object" on page 268.
Shadow tools		Allow you to create drop shadows and depth shadows for text and objects and to preview the degree of softness set for shadows. See "Working with Shadows" on page 273.

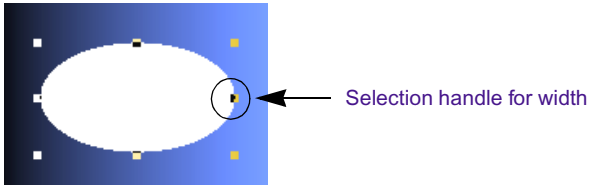
Using the Selection Tool

The Selection tool is one of the most frequently used tools. You use the Selection tool when performing certain operations on objects you create, such as moving, formatting, resizing, or applying color.

To select an object:

- Click the Selection tool, and click an object.

  Selection handles appear around the object.



To select multiple objects, do one of the following:

- Shift+click with the Selection tool.
- Click outside the objects, and drag to surround the objects with a lasso.

To switch between the Selection tool and the Text tool:

- Alt+click (Windows) or Option+click (Macintosh) anywhere in the Title tool.

After you use a tool in the toolbar, Avid Xpress DV reverts to the Selection tool, and the pointer becomes an arrow. To prevent a tool from automatically reverting to the Selection tool, double-click the tool's icon.

Setting Up the Drawing Environment

This section describes some aspects of the Title tool that you can use to set up your titling or drawing session.

You can set or change these features at any time during your work on a title. These settings are stored with User settings and will appear each time a particular user opens the Title tool.

Installing Fonts

You can apply any font that is installed on your system when creating titles in the Title tool. For more information on installing fonts, see your system documentation.

When installing and using fonts, consider the following:

- If you want to apply a special font that is not currently on your Avid Xpress DV system, you must install the font first before creating titles.
- If you are bringing a project from another system, check to make sure you have installed any fonts used in titles contained in the project. These fonts must match exactly (you cannot use variations of the font in the same font family). If your system does not recognize a font contained in a title, the Font Replacement dialog box appears to enable you to substitute an alternate font. For more information on font replacement, see the *Avid Products Collaboration Guide*.

- If you are bringing a project from a system on one platform (Windows or Macintosh) to another on a different platform, you might need to substitute a new font for an existing font in the project. Windows and Macintosh fonts sometimes differ even when they have the same name. If your system does not recognize a font contained in a title, the Font Replacement dialog box appears to enable you to substitute an alternate font. For more information on font replacement, see the *Avid Products Collaboration Guide*.
- If you intend to create titles with font sizes of 128 points or larger, use TrueType® fonts. Some non-TrueType fonts cannot display consistently at sizes of 128 points or higher.

Previewing Titles

Avid Xpress DV uses anti-aliasing with an 8-bit alpha channel to create text and objects in titles. Anti-aliasing ensures that text, lines, and object edges appear smooth, regardless of size.

You can preview a title to see the title drawn with anti-aliasing, just as Avid Xpress DV would save it. Titles are always saved in anti-aliased format.

The display behavior for title objects in Preview mode is as follows:

- You can alter the graphics characteristics of title objects (including colors, shadows, borders, and transparency) without losing the anti-aliased preview.
- You can select text objects and apply text styles from the Styles pop-up menu without losing the anti-aliased preview.
- When you click a text object for editing with the Text tool, the text displays without anti-aliasing. When you finish editing the text and click outside the object to deselect it, the anti-aliased preview is restored.

To display anti-aliased titles:

- Choose Preview from the Object menu.

  When you choose Preview, a check mark appears next to the Preview command and titles appear with anti-aliasing. When you deselect Preview, no check mark appears next to the Preview command and titles appear without anti-aliasing.

Displaying Safe Title or Safe Action Guidelines

By default, Avid Xpress DV displays two outlined boxes in the Title tool to use as guidelines (see the illustration at the beginning of "Understanding the Title Tool" on page 241). The inner box is the safe title area. All text for television broadcast should remain within this inner box. The outer box is the safe action area for video display. These guidelines are self-adjusting for PAL and NTSC projects.

To display the safe title area or safe action area guidelines:

- Choose Safe Title Area/Global Grid from the Object menu.

Using Safe Colors

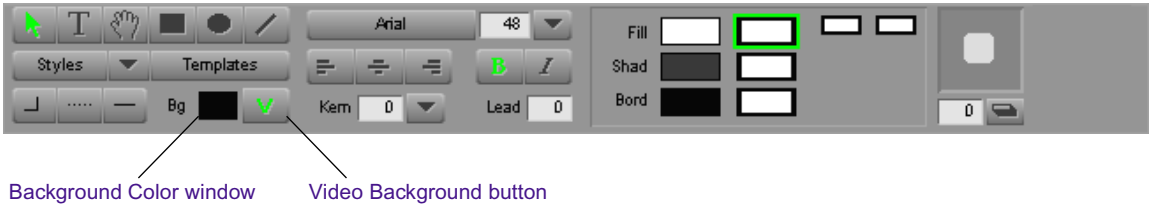
If you plan to use your title for television broadcast, you can choose the Safe Colors command from the Object menu. This command displays only low saturation colors for use in text, objects, and background. Colors with low saturation look best when combined with video. By default, Safe Colors is on.

To display only safe colors:

- Choose Safe Colors from the Object menu.

Selecting a Background

Use the Video Background button to switch between a video background and an opaque color background.



Switching Between Video and Color Backgrounds

If you have a sequence in the Composer monitor, the Title tool opens with a video background. The location of the position indicator in the Timeline at the time you open the Title tool determines the initial video frame that displays. If you have no sequence in the Composer monitor, the Title tool opens with no video showing (the background appears black).

The Video Background button is green while you create a title for display over a video background.

Use the background video frame as a reference. It does not become part of the title you create. You can edit the title anywhere else in the current sequence or in another sequence.

To switch between a video background and an opaque color background:

- Click the Video Background button.

  The **V** on the button appears green when video background is selected and black when an opaque color background is selected.

Updating the Video Background

You can update the video background at any time while creating titles within the Title tool.

To update the video background:

1. Click the Video Background (**V**) button to activate the video background if you have not already done so.

   The Video Background button changes to green.

2. Move the position indicator in the Timeline or Composer monitor to display the new frame.

3. Click again in the Title tool video background to select it.

   Avid Xpress DV updates the background to reflect the current contents of the Composer monitor.

Creating a Color Background

To create a title that appears over an opaque color background:

1. Click the Video Background (**V**) button to switch off the video background if it is on.

   The Video Background button changes to black.

2. Click and hold on the Background Color (Bg) window.

   The Title Tool Color Picker opens.

3. Use the Title Tool Color Picker, the eyedropper, the Windows Color dialog box, or the Macintosh Color Picker to select a color. For more information, see "Selecting Colors and Setting Transparency" on page 267. The default background color is black.

When you create a title with a color background, it is opaque and it cannot be used to key over video.

Using the Alignment and Snap Grids

You can display an alignment grid to help you position text and objects. The visible grid is not part of the title, and Avid Xpress DV does not store it when you save the title.

You can also snap text and objects to the snap grid. The snap grid is an invisible grid that helps position and connect objects. The snap grid has four lines for each line in the visible grid. Each square in the grid is subdivided by four invisible vertical and horizontal grid lines. Text and objects can snap to these lines.

To display a grid:

- Choose Show Alignment Grid from the Alignment menu.

To snap to a grid:

- Choose Align to Grid from the Alignment menu.

  When you create or drag an object in the Title tool, the object snaps to the nearest grid line.

Bringing the Title Tool to the Foreground

If the Title tool becomes obscured by another window, you can instruct Avid Xpress DV to redisplay the tool.

To bring the Title tool to the foreground:

- Choose Title Tool from the Windows menu.

Working with Text

The Text tool is active when you open the Title tool, and you can begin entering text as soon as you click in the Title tool.

To use the Text tool at any other time:

- Click the Text tool, click anywhere within the text object, and begin typing.

  An I-beam pointer indicates your position within the text. The Text tool remains selected until you select another tool.

To switch between the Selection tool and the Text tool:

- Alt+click (Windows) or Option+click (Macintosh) anywhere in the Title tool.

For information on previewing smooth text, see "Previewing Titles" on page 246.

Creating Text

To create text:

1. Click the Text tool.

   The pointer changes to an I-beam.

2. Click the position in the frame where you want to add text.

   An insertion point appears.

3. Type the text. To insert a line return, press Enter (Windows) or Return (Macintosh).

Text is word-wrapped automatically as you type. You can adjust the wrapping by changing the width of the text object. For more information, see "Resizing Text Objects" on page 253.

4. When you have finished typing, click the Selection tool to deselect the text object.

By default, text is left-justified. To change text justification, see "Justifying the Text" on page 258.

After you create a new text object, it may have unused space to the right of the text (or to the left, if the text is right-justified). You may want to eliminate the unused space, especially if you want to use the Alignment menu commands.

To eliminate unused space in a text object:

- Click the middle selection handle on the right side of the text box, and drag it to the left until it is closer to the text.

  (If the text is right-justified and there is unused space to the left of the text, click the middle selection handle on the left side of the text box and drag it to the right.)

Copying and Pasting Text

You can copy and paste text into the Title tool directly from a word processing or text editing application.

Avid Xpress DV limits the size of text objects you can create in the Title tool. Avoid pasting large blocks of text (numerous pages in a word processor) into the Title tool. Instead, consider pasting smaller blocks of text into separate text objects.

To copy and paste text into the Title tool:

1. Click the Text tool.

   The pointer changes to an I-beam.

2. Click the position in the frame where you want to add text.

   An insertion point appears.

3. Open the text file in a word processor or text editor.

4. Select the text in the word processor or text editor, and then choose Copy from the Edit menu or press Ctrl+C (Windows) or ⌘+C (Macintosh).

5. Click the Title tool again to activate it.
6. Press Ctrl+V (Windows) or ⌘+V (Macintosh) to paste the text into place at the insertion point.

   The pasted text takes on the attributes currently set in the Title tool toolbar.

Resizing Text Objects

When you resize a text object, the text remains the same size but rewraps to fill the reshaped area.

To resize a text object:

1. Click the Selection tool, and click the text object.
2. Click one of the object selection handles for width, and drag to resize.

You can resize only the width of a text object. The height of a text object is automatically determined by the number of words and the size of text.

Repositioning Text Objects

To reposition a text object:

1. Click the Selection tool, and click the text object.
2. Move the text by doing one or more of the following:
   - Click in the middle of the object, and drag it to a new position.
   - Use the arrow keys to move the object one pixel at a time.
   - Use commands in the Alignment menu to position the text. For more information, see “Aligning Objects” on page 281.

Editing a Text String

To edit an existing text string:

1. Click the Text tool.
2. Click anywhere in the text.
3. Perform one or more of the following editing tasks as necessary:
   - Use the arrow keys to move around within the text string.
   - Type additional characters.
   - Press Enter (Windows) or Return (Macintosh) to insert a line return.
   - Drag to select characters.
   - Use the Cut, Copy, and Paste commands from the Edit menu.
   - Use the Delete key.
   - Change the formatting of the selected text, as described in "Formatting the Text" on page 254.

Formatting the Text

The text formatting tools control the appearance of text.

Text formatting tools

You can modify the following text attributes for either a text object or a selected text string:

- Current font
- Point size
- Bold and italic

- Kerning
- Leading

You can modify the following attributes for an entire text object only:

- Color (see "Adjusting the Color" on page 268)
- Transparency (see "Adjusting the Transparency" on page 271)
- Drop and depth shadows (see "Working with Shadows" on page 273)
- Outlined text (see "Selecting a Line or Border Width" on page 264)
- Justification (see "Justifying the Text" on page 258)

While you type text, only the text color is apparent. Shadows, outlines, and other color attributes appear when you finish typing the text and click the Selection tool.

If you want to create text elements in the title with different appearances, create a separate text object for each set of attributes.

Selecting Text for Formatting

To select all the text within a text object:

- Click the Selection tool, and click the text object.

To select a string of text within a text object to format individual characters or words:

- Click the Text tool, and then drag across the text you want to highlight.

Setting the Default Text Attributes

When you start the application and open the Title tool, Avid Xpress DV uses default text attributes. You can change the defaults at any time. Changes you make to the default text attributes apply until you quit the application.

To change the default text attributes:

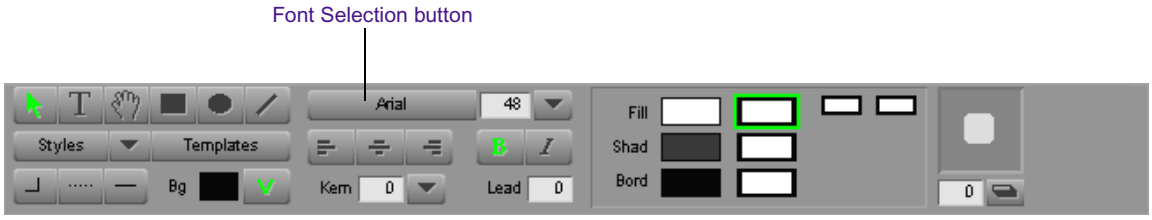
1. Click the Selection tool.
2. Click in the Title tool but do not select any text.
3. Change any of the text attributes.

Now whenever you start typing a new text string, Avid Xpress DV uses your new defaults.

Changing the Font

The Font Selection menu shows the current font for a text selection and allows you to change the font.

When you first open the Title tool, the font listed is the preferred system font. If you select an existing text object, the Font Selection menu displays the font of the text object.



The Font Selection menu displays all fonts currently installed on your system.

To change the font:

- Click the Font Selection button, and choose a font from the menu.

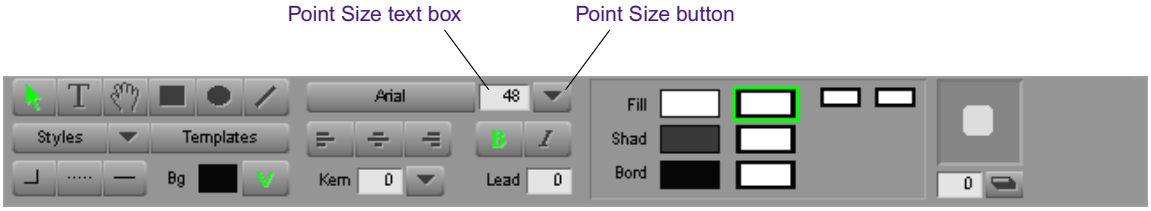
  The system displays the name in the Font Selection menu and uses this font for text until you change it during the editing session.

When you select a text object, the Font Selection menu displays the font of the text object.

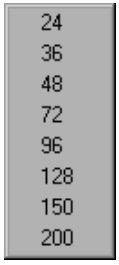
Changing the Point Size

The point size controls the size of the selected text. A *point* is a typographical unit of measure. There are 12 points to the pica and 72 points to the inch.

You can enter a point size either before or after you type text.



Point size pop-up menu

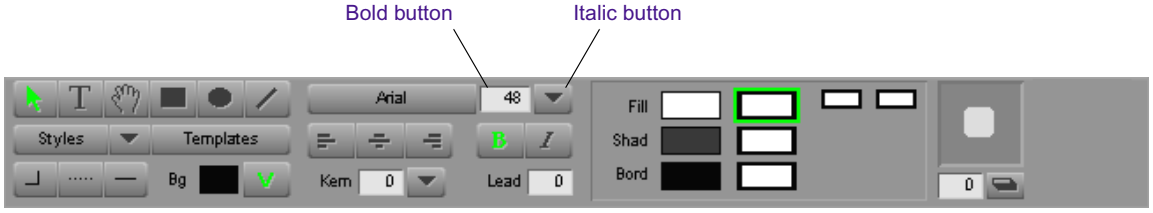


To change the point size, do one of the following:

- Click the Point Size button, and choose a standard point size from the pop-up menu.
- Double-click in the Point Size text box, and type a point size between 5 and 999; then press Enter (Windows) or Return (Macintosh).
- Click in the text box, and use the Up Arrow and Down Arrow keys to change the value incrementally.

Making Text Bold or Italic

The Bold and Italic buttons are located under the Point Size text box.



In addition, the Object menu contains commands for bold and italic.

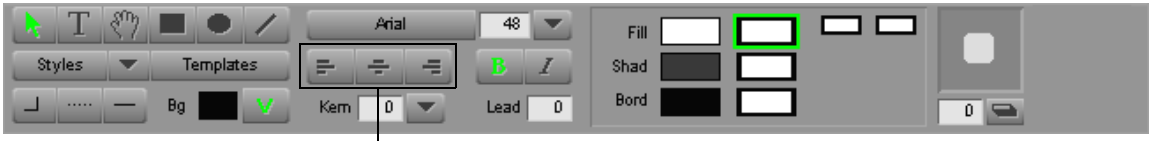
To change the text style:

- Select the text you want to change and click the Bold button or the Italic button, or choose the appropriate command from the Object menu.

  You can work with Bold and Italic turned on at the same time to make text both bold and italic.

Justifying the Text

Below the Font Selection menu are the buttons for text justification. *Text justification* controls the alignment of text in an existing text object and also when you type text in a new text object.



Text justification buttons

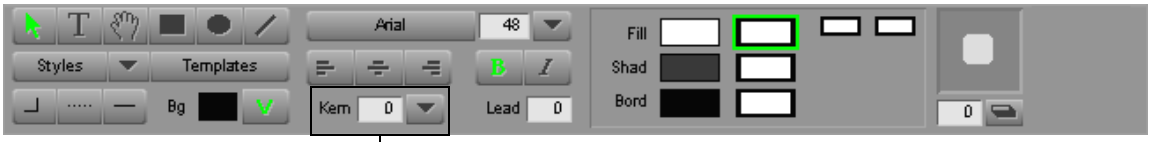
To justify the text, do one of the following:

- Click the left button to left justify the text.
- Click the center button to center the text.
- Click the right button to right justify the text.

Adjusting Text Kerning

Kerning improves the appearance of titles by controlling the amount of space between characters. You can expand or condense the character spacing to make text more readable or to create special effects, such as dramatically expanded spacing in a title.

The text kerning controls are located beneath the text justification buttons.



Kerning text box and Kerning selection button

You can kern the text for an entire text object, or you can manually kern individual character pairs or character strings. For example, if you mix italic and plain versions of a font in a title, you might want to adjust the spacing between characters.

You can adjust kerning for individual characters or selected groups of characters by using the arrow keys only.

Loose kerning

Normal kerning

Tight kerning

You can use the menu options to select predefined kerning options or specify your own custom kerning value. Positive numbers increase the spacing; negative numbers decrease the spacing. You can also use the arrow keys to make incremental adjustments.

Adjusting Kerning Manually

To adjust kerning manually with the arrow keys:

1. Click the Text tool.
2. Click between a character pair, or select a group of characters to be kerned.

3. Press and hold the Alt key (Windows) or Option key (Macintosh), and use the Left Arrow or Right Arrow key to increase or decrease the kerning.

Using the Predefined Kerning Sizes

To adjust kerning with the predefined sizes in the menu:

You can choose the kerning value before you type text.

1. Select the text.
2. (Option) Click the Kerning selection button, and choose Pair Kerning to eliminate excessive space between some character pairs. Note that pair kerning works only on fonts that support kerning tables (for example, Palatino).

3. Choose a kerning option from the Kerning pop-up menu:
   - **Loose** adds space between letters.
   - **Normal** leaves spacing unchanged.
   - **Tight** closes up the spacing between letters.

   Avid Xpress DV applies the kerning to the entire text object.

Using the Kerning Text Box

To adjust kerning with the text box, do one of the following:

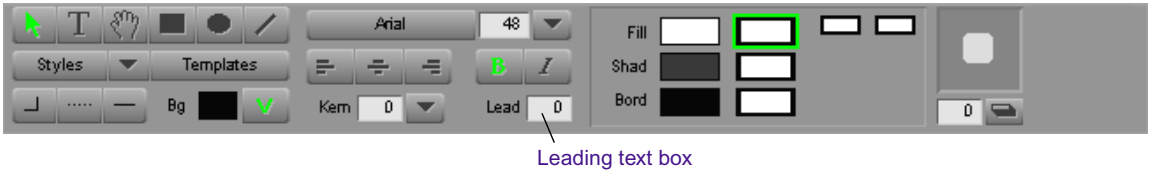
- Click in the Kerning text box, and type a positive or negative numerical value. Values are a percentage of the point size.
- Click in the Kerning text box, and use the Up Arrow and Down Arrow keys to change the value incrementally.

  Avid Xpress DV applies the kerning to the entire text object.

Adjusting Leading

Use *leading* to adjust the line spacing between lines in a title object.

Leading is measured in points, from baseline to baseline of the lines of text. The Title tool uses the leading that is built into the font as the default. Positive leading values add space; negative values decrease space. You might want to add leading for sans serif, tall, or boldface fonts, and for fonts with a strong vertical emphasis.



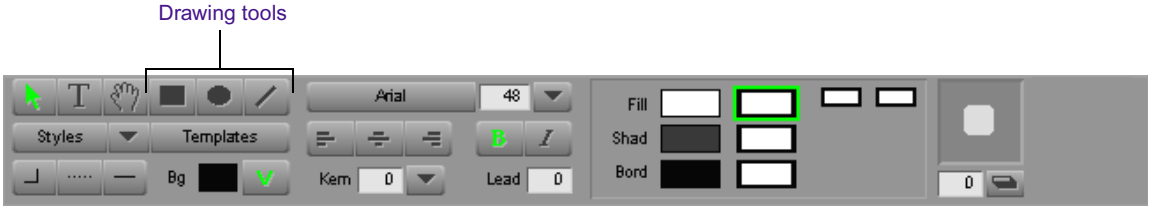
To set leading:

1. Click in the Leading text box.
2. Type the number of points by which to increase (positive) or decrease (negative) the font's default leading.

   Avid Xpress DV adjusts leading immediately.

Creating Graphic Objects

The drawing tools enable you to draw graphic objects such as squares, rectangles, circles, ovals, and lines. To use the drawing tools, select one of these shapes.



After creating graphic objects, you can change the following attributes:

- To round the corners of a box, adjust the width of lines and text borders, or add arrowheads to lines, see "Selecting Line Attributes" on page 263.
- To change or blend colors in a graphic object, see "Adjusting the Color" on page 268.
- To apply a drop or depth shadow, see "Working with Shadows" on page 273.
- To add transparency to an object or an object's shadow, see "Adjusting the Transparency" on page 271.

By default, when you use a drawing tool and deselect the created object, the pointer reverts to the Selection tool. To avoid this, double-click the drawing tool when you select it in the Title tool toolbar.

Drawing a Square or Rectangle

To draw a square or a rectangle:

1. Click the Square and Rectangle tool.

   The pointer changes to a crosshair pointer.

2. Click in the Title tool, and drag to create an object.

Pressing the Shift key while you drag constrains the Square and Rectangle tool to create a square.

Drawing a Circle or Oval

To draw a circle or an oval:

1. Click the Oval tool.

   The pointer becomes a crosshair pointer.

2. Click in the Title tool, and drag to create an object.

Pressing the Shift key while you drag constrains the Oval tool to create a circle.

Drawing a Line

To draw a line:

1. Click the Line tool.

   The pointer changes to a crosshair pointer.

2. Click in the Title tool, and drag to create a line.

Pressing the Shift key while you drag constrains the Line tool to create a horizontal or vertical line.

Selecting Line Attributes

Line attribute tools

Use the line attribute tools to round the corners of a box, select the width of lines and borders, and add arrowheads to line endpoints.

You can also change the following drawing attributes:

- Color (see “Adjusting the Color” on page 268)
- Transparency (see “Adjusting the Transparency” on page 271)
- Drop and depth shadows (see “Working with Shadows” on page 273)

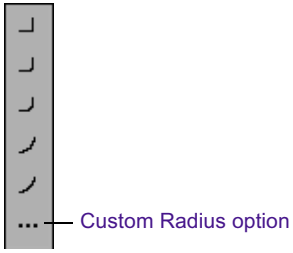
If you do not select an object and you choose a line attribute, Avid Xpress DV makes that the default for any new objects that you create.

Rounding Corners

To round box corners:

1. Select a box.
2. Click the Box Corner tool (the button on the left).

   The Corner Selection pop-up menu appears.



3. Choose a rounding option from the pop-up menu, or choose the custom radius option to open a dialog box and enter a custom radius.
4. If you choose the Custom Radius option, in the dialog box type a whole number (in pixels) to specify a custom corner radius and click OK. The maximum radius is 200.

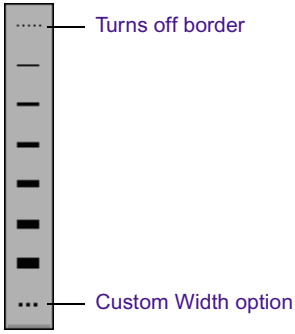
Selecting a Line or Border Width

You can use the Border Width tool to change the width of lines created with the drawing tools or to apply a border outline to text or graphic objects.

To select a line or border width:

1. Select an object (such as a line, shape, or text object).
2. Click the Border Width tool (the middle button).

   The Border Width Selection pop-up menu appears.



3. Choose from the standard width selections, or choose the Custom Width option to open a dialog box and enter a custom width.
4. If you choose the Custom Width option, in the dialog box type a whole number (in pixels) to specify a custom width and click OK. Use a width of 1 or greater for lines and 0 or greater for object outlines. The maximum width is 200.

If you selected a line for modification, the width of the line changes. If you selected an object for modification, the width of the outline changes.

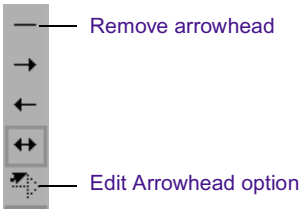
Text with border

Adding Arrowheads

To add arrowheads to a line:

1. Select a line.
2. Click the Arrowhead tool (the button on the right).

   The Arrowhead Selection pop-up menu appears.



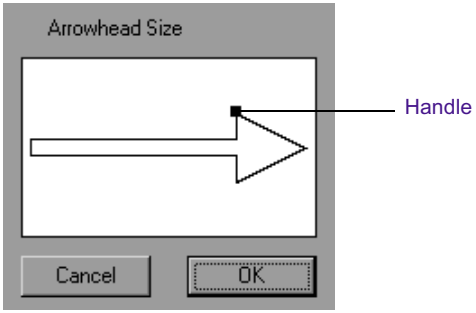
3. Choose an arrowhead style from the pop-up menu, or choose the Edit Arrowhead option as described in the following section.

Changing Arrowhead Size

To change the arrowhead size:

1. Select a line.
2. Click the Arrowhead tool.
3. Choose the Edit Arrowhead option from the pop-up menu.

   The Arrowhead Size dialog box appears.



4. Click the handle on the arrowhead, and drag it vertically or horizontally to resize and reshape it.

The shape of the arrowhead is in scale with the line width.

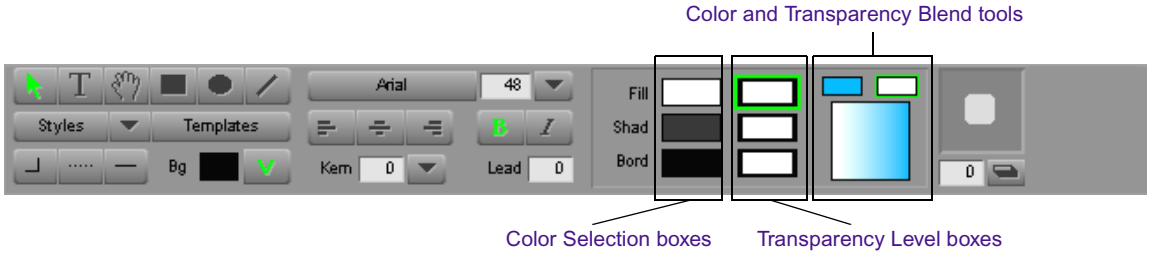
5. Click OK.

   The line changes to show the arrowhead.

Selecting Colors and Setting Transparency

You can select the color and transparency for text and graphic objects, their shadows and borders.

The following illustration shows the boxes associated with color and transparency.



- The Color Selection boxes control fill (Fill), shadow (Shad), and border (Bord) color, respectively.
- The Transparency Level boxes control fill, shadow, and border transparency, respectively.
- The Color and Transparency Blend tools appear when you select a Fill or Border Color Selection box or Transparency Level box.

If you select a Color Selection box, the top boxes show the two colors that are used to create the blend. The bottom box shows the blended color and allows you to control the direction of the blend or transparency.

If you select a Transparency Level box, the top boxes show the two transparency values that are used to create the blend. The bottom box allows you to control the direction of the transparency blend.

Adjusting the Color

You can select a color to fill text or a graphic object, a color for the shadow of an object, or a color for the border of an object.

To select a color:

1. Click the Selection tool, and click a text or graphic object. If you do not select an object, the color will be applied to the next object you create.
2. Click and hold one of the Color Selection boxes in the toolbar:
   - Fill (Fill) applies the color to the selected object.
   - Shadow (Shad) applies the color to the selected object's shadow.
   - Border (Bord) applies the color to the selected object's outline or border.

   The Title Tool Color Picker opens.
3. Choose a color by using one of the controls in the Title Tool Color Picker. For more information, see "Using the Title Tool Color Picker" on page 270.

Blending Two Colors in an Object

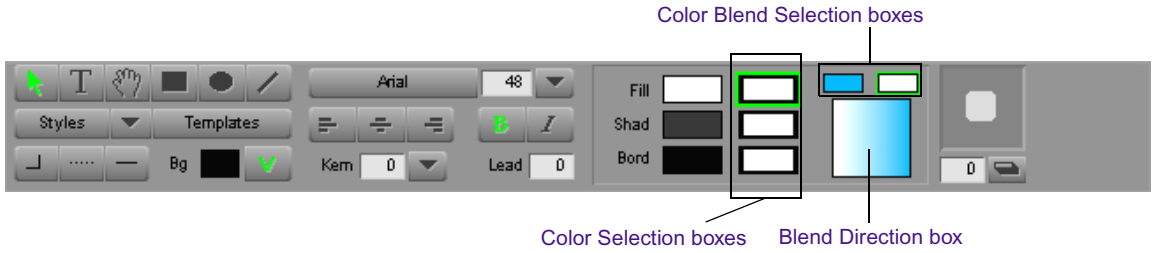
Avid Xpress DV lets you blend two colors in a text or graphic object or in a border. You can also specify the direction of the blend.

You can blend the fill and border, but you cannot blend a shadow.

To blend two colors:

1. Select text or another object.
2. Click the Color Selection box for either fill or border.

   The Color Blend Selection boxes appear.



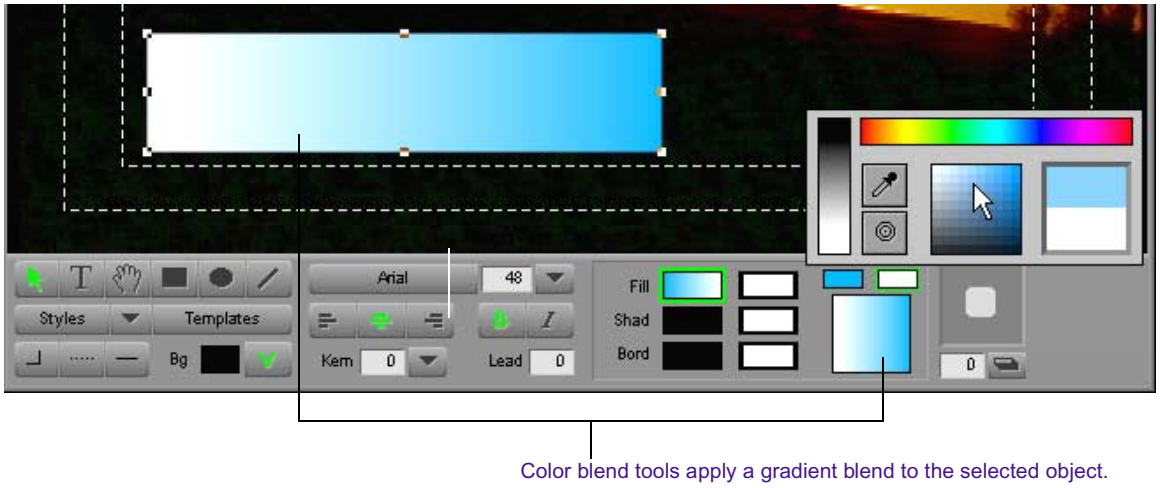
3. Click and hold one of the Color Blend Selection boxes.

   The Title Tool Color Picker opens.

4. Choose a color by using one of the controls in the Title Tool Color Picker. For more information, see “Using the Title Tool Color Picker” on page 270.

   The Blend Direction box appears. This box displays the blend and allows you to specify the direction of the blend (for example, left to right).

5. Click the other Color Blend Selection box, and choose the second color for your blend.



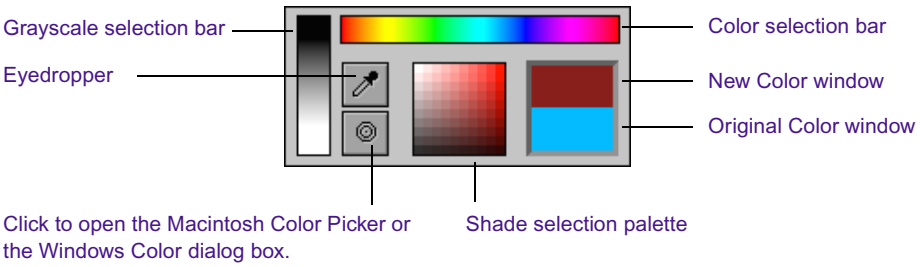
6. Click the Blend Direction box, and drag clockwise or counterclockwise to define the blend direction that you want.

   As you rotate the pointer, the position of the two colors rotates. Release the mouse button to apply the blend to your selection.

Using the Title Tool Color Picker

The Title Tool Color Picker opens when you click one of the Color Selection boxes or Color Blend Selection boxes. You can choose a color by using controls in the Title Tool Color Picker or you can use it to access a color selection eyedropper or the Windows Color dialog box or Macintosh Color Picker.

You can drag the Color Picker from the toolbar to create a floating palette.



To choose a grayscale value, click in the grayscale selection bar.

To choose from the Title Tool Color Picker:

1. Drag the pointer along the color selection bar to the color you want.
2. While continuing to press and hold the mouse button, move the pointer down into the shade selection palette to choose a shade.
3. Release the mouse button to apply the color.

To use the eyedropper:

1. Drag the pointer to the eyedropper icon, and release the mouse button.

   The pointer changes to the eyedropper.

2. Move the eyedropper to the color you want anywhere in the window, and then click the mouse button to apply the color to the selected object.

To use the Windows Color dialog box or Macintosh Color Picker:

- Drag the pointer to the round button icon under the eyedropper, and release the mouse button.

  The Windows Color dialog box or Macintosh Color Picker appears. For more information, see "Using the Windows Color Dialog Box" on page 95 and "Using the Macintosh Color Picker" on page 96.

Adjusting the Transparency

After you select a color, you can select the color transparency.

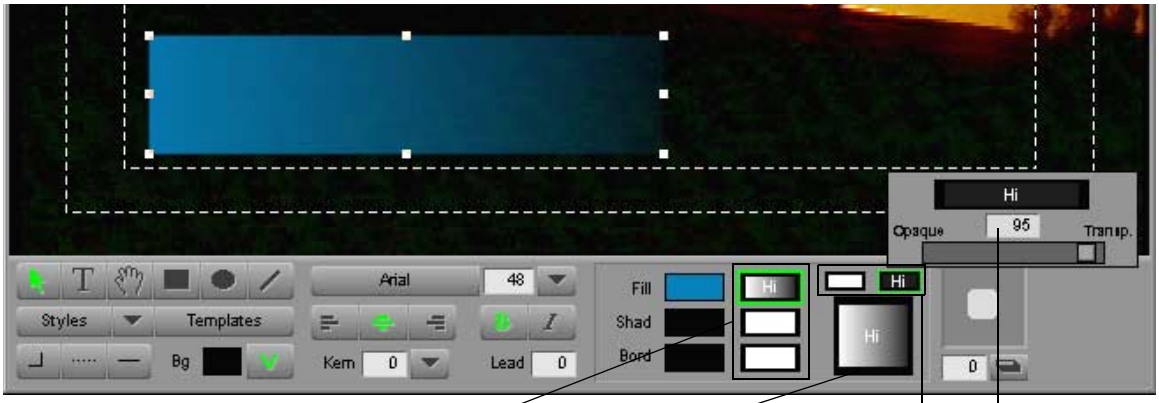
To select the color transparency:

1. Click and hold the appropriate Transparency Level box, depending on whether the transparency will apply to the fill color of an object (Fill) or will adjust a shadow (Shad) or border (Bord) around the selected object.

2. In the pop-up control that appears, drag the slider to change the transparency value.

   The number in the Transparency Value box updates as you drag. Values range from 0 (fully opaque) to 100 (fully transparent).

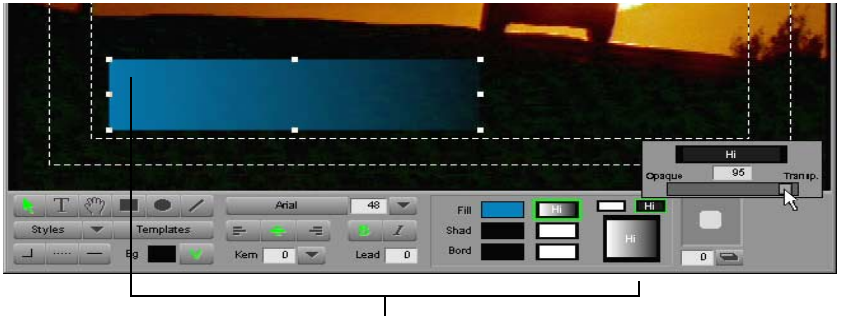
   The Transparency Level box and the pop-up control both display the text "Hi" with a background that changes from black to white. This allows you to see the effect of your transparency adjustments as you work. A completely white background represents a fully transparent object or portion of an object. The following illustration shows an example.



You might find it useful to turn off the shadow and shadow softness for an object while experimenting with transparency. Set the shadow value to 0 in the Shadow Depth text box and the softness value to 0 in the Soft Shadow dialog box, as described in "Working with Shadows" on page 273.

Blending Transparency

You can blend the transparency of fills and borders by using a technique similar to blending colors. Use the Transparency Blend Selection boxes to set the blend values. Use the Blend Direction box to set the direction of the blend.



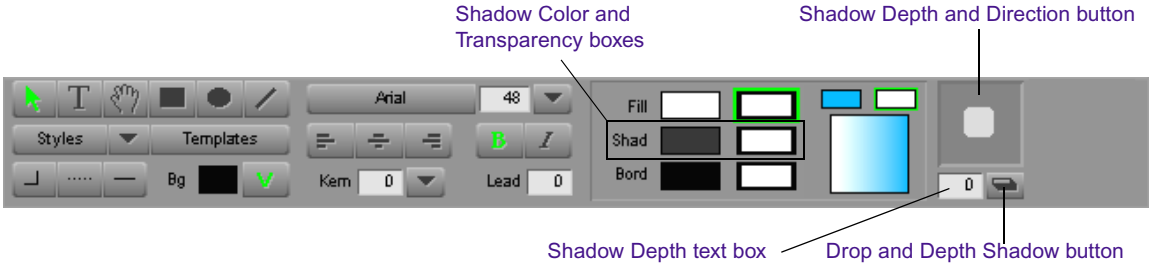
For more information on creating a blend, see "Blending Two Colors in an Object" on page 268.

Working with Shadows

You can add a drop shadow or depth shadow to text and objects.

A drop shadow is offset from the title itself, as though cast by a light source. A depth shadow extends from the edges of the title, as though the title were three-dimensional. The following illustration shows an example of drop and depth shadows.

You can select the color, width, direction, and transparency for the shadow. You can also soften (blur) shadows or create a glow effect behind title text. You can place the shadow anywhere within the title without restriction. The following illustration shows the tools used to create and modify shadows.



Applying Shadows

To apply shadows to objects:

1. Select text or an object.
2. Click the Drop and Depth Shadow button to switch between a drop or depth shadow.
3. Adjust the depth or direction of the shadow as follows:
   - Click the Shadow Depth and Direction button, and drag the shadow displayed to any position.
   - Press the Shift key; then click the shadow in the Shadow Depth and Direction button and drag to restrict shadow placement to 45-degree angles around the title.
   - Press the Shift key, and use the arrow keys to move the shadow to any position around the title.
   - Type a value in the Shadow Depth text box to change the shadow depth by increments.

Avid Xpress DV automatically orients the shadow to the selected object. You can continue to follow these procedures to adjust the shadow until you achieve the effect you want.

Adjusting Shadow Color and Transparency

You can adjust the color and transparency properties of a shadow by using the procedures described in "Selecting Colors and Setting Transparency" on page 267.

Setting Shadow Softness

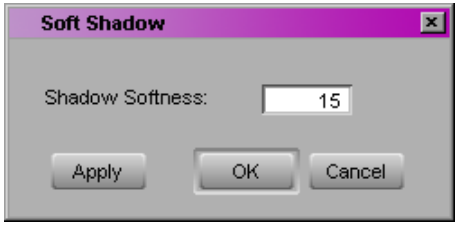
You can set a value for the degree of softening or blurring that applies to the shadows you create in the Title tool. The value that you set applies immediately to any selected title. Avid Xpress DV saves the value as the new default setting and applies it to any new title objects you create. To change the degree of softening that applies to objects in the Title tool, you must set a new value.

The following illustration shows a title shadow with a Shadow Softness setting of 15.

To set a degree of softening or blurring for shadows:

1. Choose Soften Shadow from the Object menu.

   The Soft Shadow dialog box appears.



2. Type a number in the Shadow Softness text box to represent the degree of softening you want.

   Shadow softness values must fall between 4 and 40. The higher the value, the more blurred the shadows will be. If you set the value to zero, shadows on title objects will have no softening (hard edges).

3. Click OK to close the Soft Shadow dialog box.

Adjusting Shadow Softness On-the-Fly

You can adjust the shadow softness value of a title object on-the-fly either by entering different values in the Soft Shadow dialog box or by using the Up Arrow and Down Arrow keys.

To adjust shadow softness on-the-fly by using the Soft Shadow dialog box:

1. Select one or more objects in the Title tool.
2. Choose Soften Shadow from the Object menu.

3. Type a number in the Shadow Softness text box to represent a degree of softening.
4. Click Apply.

   Avid Xpress DV applies the softness value to the selected title object.
5. Repeat steps 3 and 4 until you are satisfied with the effect.
6. Click OK.

To adjust shadow softness on-the-fly by using the Up Arrow and Down Arrow keys:

1. Select one or more objects in the Title tool.
2. While pressing and holding the Shift and Alt keys (Windows) or Shift and Option keys (Macintosh), press the Up Arrow and Down Arrow keys to adjust the softness value incrementally until you are satisfied with the effect.

   Each press of the Up Arrow key adds 1 to the shadow softness value. Each press of the Down Arrow key subtracts 1 from the shadow softness value.

Viewing Shadow Softness

The current degree of softness is always represented visually on the shadow display of the Shadow Depth and Direction button. The following illustration shows this representation for a Shadow Softness setting of 10.

To confirm the numerical value you have currently set for shadow softness:

- Choose Soften Shadow from the Object menu, and check the number in the text box.

Creating a Glow Effect

You can use the shadow tools to create a glow or halo effect around a title object.

To create a glow or halo around a title object:

1. Set Shadow Depth for the object to zero in the Title tool.
2. Set Shadow Softness for the object to a non-zero value.

   The higher the Shadow Softness value, the softer the glow effect. In the following illustration, Shadow Softness is set to 10.

To create titles that do not have either softened shadows or glows, you must set the Shadow Softness to zero.

Manipulating Objects

This section describes how to manipulate objects after you have created them. For a description of how to select objects, see "Using the Selection Tool" on page 244.

Basic Manipulation Operations

You can use commands from the Edit menu to manipulate objects.

To perform basic operations:

1. Click the Selection tool, and click an object.
2. Do one of the following:
   - Choose Cut from the Edit menu to cut an object and move it to the Clipboard.
   - Choose Copy from the Edit menu to copy an object to the Clipboard.

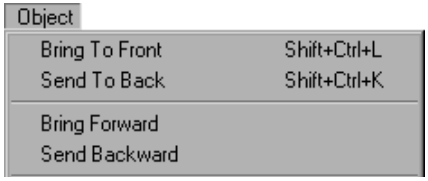
- Choose Paste from the Edit menu to paste an object from the Clipboard.
- Choose Select All from the Edit menu to select all objects.
- Choose Delete from the Edit menu to delete selected objects.

You cannot delete locked objects. Unlock objects you want to delete.

- Choose Duplicate from the Edit menu to duplicate an object.

Layering Text and Objects

You can use commands on the upper portion of the Object menu to layer text and objects to create complex graphics.



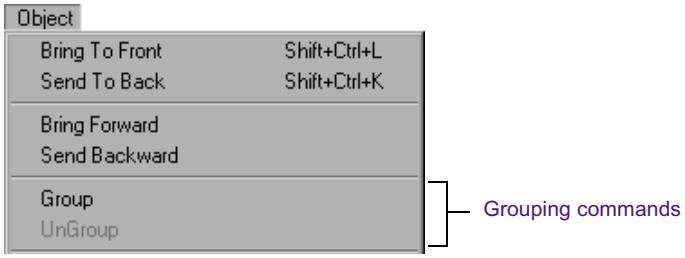
The last object created occupies the top layer, but you can move objects forward or backward within the screen area.

To adjust the layering of objects in a title:

1. Click the Selection tool, and click an object.
2. Choose one of the following commands from the Object menu:
   - Choose Bring to Front to bring an object to the top layer.
   - Choose Send to Back to send an object to the bottom layer.
   - Choose Bring Forward to move an object forward one layer.
   - Choose Send Backward to move an object back one layer.

Grouping and Ungrouping Objects

After creating a number of text and graphic objects, you can use commands on the Object menu to group the objects and treat them as a single object.



Combining the objects into a group means that actions, such as moving or applying color, affect all objects in the group.

To group objects:

1. Click the Selection tool, and Shift+click multiple objects.
2. Choose Group from the Object menu.

   The selected objects are grouped together. Changes to any individual object in the group affect all objects in the group.

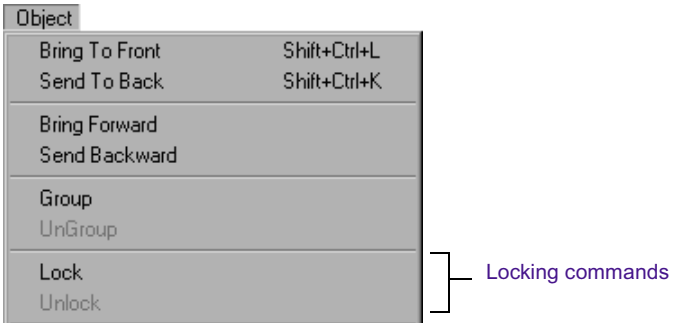
To ungroup objects:

1. Click the Selection tool, and click a grouped object.
2. Choose UnGroup from the Object menu.

   Everything in the group becomes an individual object that you can move or change separately.

Locking and Unlocking Objects

You can lock objects by using commands on the Object menu so that changes to default settings, such as the font setting or object position, do not affect the locked objects.



You might also want to lock objects so that you do not inadvertently change them while working on other objects. You can lock an individual object or multiple objects.

To lock objects:

1. Click the Selection tool, and click an object.
2. Choose Lock from the Object menu.

   The system locks the object, and you cannot change it until you unlock it. When you select a locked object, hollow selection handles indicate that it is locked.

Locked object with hollow selection handles

To unlock objects:

1. Click the Selection tool, and click a locked object.
2. Choose Unlock from the Object menu.

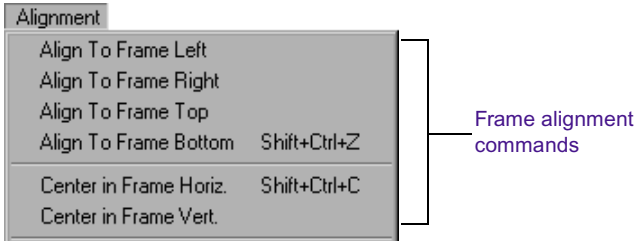
   The system unlocks the object, and you can change it.

Aligning Objects

You can use the Alignment menu commands to align text and objects to each other and to the frame. Aligning to the frame refers to the safe title area. For information about the safe title area, see "Saving Titles, Title Styles, and Title Templates" on page 283.

To align objects to the frame:

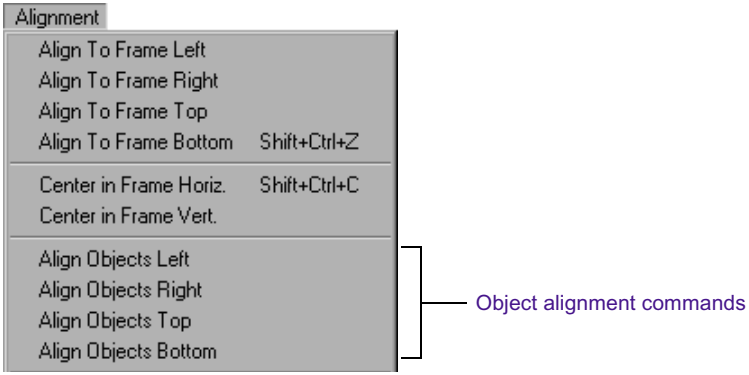
1. Click the Selection tool, and click an object or Shift+click multiple objects.
2. Choose a frame alignment direction from the upper portion of the Alignment menu.



The system aligns the objects within the safe title area.

To align objects to each other:

1. Click the Selection tool, and Shift+click or lasso multiple objects.
2. Choose an object alignment direction from the Alignment menu.



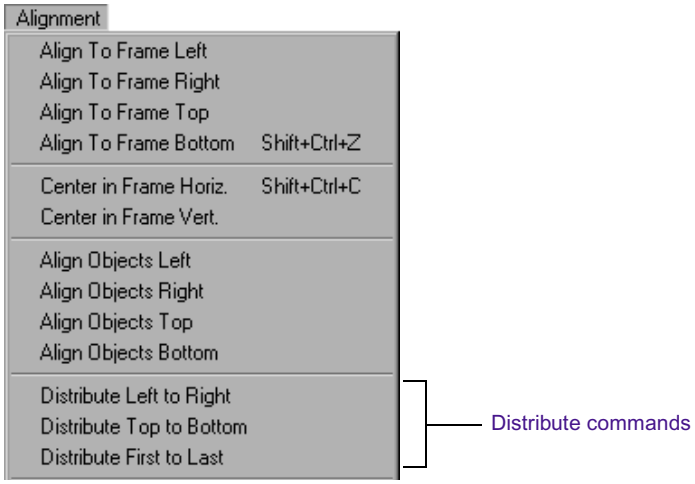
For information on aligning objects to a grid, see "Using the Alignment and Snap Grids" on page 250.

Distributing Objects

You can use Alignment menu commands to distribute text and graphic objects evenly across the safe title area. For information about the safe title area, see "Displaying Safe Title or Safe Action Guidelines" on page 247.

To distribute objects:

1. Click the Selection tool, and Shift+click at least three objects.
2. Choose a distribute command from the Alignment menu:
   - Choose Distribute Left to Right to distribute the objects evenly from left to right across the safe title area.
   - Choose Distribute Top to Bottom to distribute the objects evenly from top to bottom across the safe title area.
   - Choose Distribute First to Last to distribute the objects evenly between the position of the first object selected and the position of the last object selected. This option is especially useful for aligning objects diagonally or for roughly positioning a group of objects and then lining them up without spreading them out to the edges of the safe title area.



Saving Titles, Title Styles, and Title Templates

After creating a new title, save your work in one of the following ways:

- Save the title and exit the Title tool.
- Save the title and continue creating additional titles.
- Save a title style that you can apply to additional titles you create.
- Save a title as a template that you can use to quickly create additional titles with the same attributes and behavior.

You can also reopen in the Title tool a previously saved title and make further changes, as described in this section.

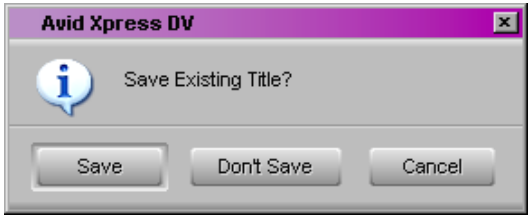
After editing a title into a sequence and adjusting effect parameters, you can also save a Title Effect template that contains only the effect information (without title media) for applying to other previously created titles. For more information, see "Saving an Effect Template" on page 151.

Saving a Title and Exiting the Title Tool

To save the title and exit the Title tool:

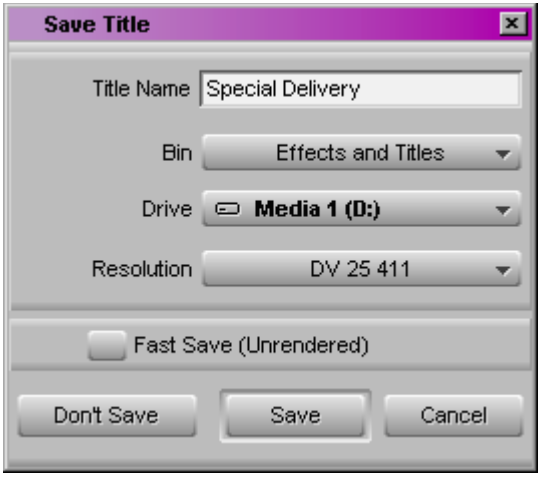
1. Choose Close from the File menu.

   If the contents of the title have changed since the last time you saved it, a message box appears, asking if you want to save the existing title.



2. Click Save.

   The Save Title dialog box appears.



3. Type a name to identify the title in the bin. Then choose a bin and a drive from the pop-up menus.
4. Select or deselect Fast Save, depending on your needs. For more information, see "Using the Fast Save Option" on page 286.

5. Click Save.

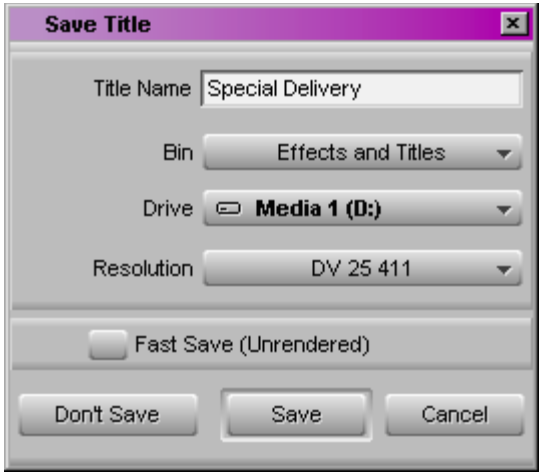
   The Title tool closes, and the new title loads into the Source pop-up monitor. A 2-minute Title Effect clip that corresponds to the new title appears in the bin.

Saving Multiple Titles in a Session

To save multiple titles:

1. Choose Save Title from the File menu.

   The Save Title dialog box appears.



2. Type a name to identify the title in the bin. Then choose a bin and a drive from the pop-up menus.
3. Select or deselect Fast Save, depending on your needs. For more information, see “Using the Fast Save Option” on page 286.
4. Click Save.

   The new Title Effect clip appears in the bin.

5. Create another title.
6. Choose Save Title as from the File menu, and repeat steps 2 through 4 for each subsequent title that you create.

When you close the Title tool, Avid Xpress DV loads the last title created into the Source pop-up monitor.

If you keep the same name for the title when you choose Save Title as, Avid Xpress DV retains the first clip and creates a new one with the same name plus a two-digit extension that adds incremental numbering for each revised title.

Using the Fast Save Option

You can use the Fast Save option to work more quickly when creating and saving multiple titles in a Title tool session.

Fast Save skips the steps that create anti-aliased images from title objects. Instead, it saves just the raw title objects (text and graphics) in the bin, with the prefix "unrendered."

You can edit with the titles and then batch-render them at a more convenient time. Fast Save is ideal for working with titles with complex styles and shading.

Fast-saved titles appear as black in the Source pop-up monitor or Composer monitor and are labeled as "media offline" during editing.

Always render fast-saved titles before exporting a sequence as an OMFI file and before creating an EDL from the sequence.

Saving a Title with Fast Save

To use the Fast Save option:

- Select Fast Save (Unrendered) in the Save Title dialog box when saving the title.

  For complete procedures for saving titles, see "Saving a Title and Exiting the Title Tool" on page 284 or "Saving Multiple Titles in a Session" on page 285.

Fast Save remains in effect until you either deselect it, load a title that was saved without Fast Save selected, or exit the Title tool.

Viewing Fast-Saved Titles in a Bin

To quickly locate the unrendered fast-saved titles:

1. Open the bin containing the unrendered fast-saved titles.
2. Choose Select Unrendered Titles from the Bin menu.

   The fast-saved titles are highlighted in the bin.

Rendering Fast-Saved Titles

To render fast-saved titles:

1. Open the bin containing the unrendered fast-saved titles.
2. Choose Select Unrendered Titles from the Bin menu to select only the unrendered titles, or press Ctrl+A (Windows) or ⌘+A (Macintosh) to select all items in the bin.
3. Choose Create Unrendered Title Media from the Clip menu to create media for the unrendered Title effects only. (Avid Xpress DV ignores any clips in the selection that do not need rendering.)

   The Create Unrendered Title Media dialog box appears.

4. Choose a drive on which to store the title media.
5. Click OK.

   After generating the title media, Avid Xpress DV deletes the unrendered versions from the bin and replaces them with the newly rendered titles.

Revising a Title in a Bin

If you want to revise a title that has not been edited into a sequence, you can reopen the title in the Title tool directly from the bin.

For information on revising a title that has been edited into a sequence, see "Revising a Title in a Sequence" on page 310.

To revise a Title effect in a bin:

1. Press the Ctrl key (Windows) or the ⌘ key (Macintosh), and double-click the Title Effect icon in the bin.

   The title opens in the Title tool.

If the Title tool is already open, you can drag a Title Effect clip from the bin directly into the Title tool.

2. Edit the title, using techniques described in Chapter 8.
3. Save the title, using one of the following options:

   - **Save Title:** To save the title with the same name and media parameters (bin and drive), choose Save Title from the File menu.

     The revised Title Effect clip replaces the previous clip in the bin.

     The Title tool remains open. You can continue creating additional titles, or choose Close from the File menu.

   - **Save Title as:** To rename the title or change any of the media parameters (bin and drive):

   a. Choose Save Title as from the File menu.

      The Save Title dialog box appears.

   b. Rename the title or choose other options from the Bin and Drive pop-up menus.

If you keep the same name for the title when you choose Save Title as, the system retains the first clip and creates a new one with the same name plus a two-digit extension that adds incremental numbering for each revised title.

c. Select or deselect Fast Save, depending on your needs. For more information, see "Using the Fast Save Option" on page 286.

d. Click Save to save the title and exit the Title tool.

Using a Keyboard Shortcut to Save a Title

You can use a keyboard shortcut that is equivalent to choosing "Save Title as" from the File menu. You can now quickly save the latest version of your title without replacing the original.

To save a title by using a keyboard shortcut:

1. Press Ctrl+Shift+S (Windows) or ⌘+Shift+S (Macintosh).

   The Save Title dialog box appears.

2. Type a name for the new version of your title.
3. If you want to change the bin or drive settings for the new version of the title, choose new settings from the pop-up menus.
4. Click Save.

Saving and Recalling Title Styles

As you begin to work with a title, you can set up some basic title parameters you will use again for other titles. You can then save these parameters in the form of a *title style*.

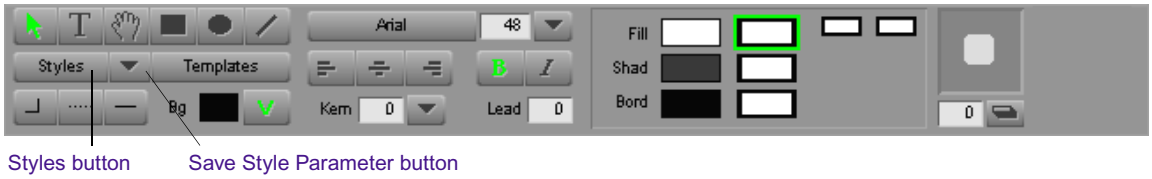
You can save the following parameters as part of a title style.

- Font, style, size, justification, kerning, and leading
- Fill color and transparency
- Shadow color, transparency, depth, direction, softness, and type
- Border color, transparency, and width

You can also assign a title style to one of the function keys on your keyboard. You can then recall that style simply by pressing the appropriate function key.

Title styles save only the parameters that control the appearance of text or graphic objects in the Title tool. If you want to save the entire contents and layout of a title, including specific title objects themselves, use a title template. For more information, see "Creating and Using Title Templates" on page 294.

The following illustration shows the location of the two buttons that allow you to choose and define title styles.



Saving a Title Style

To save title parameters to a style sheet:

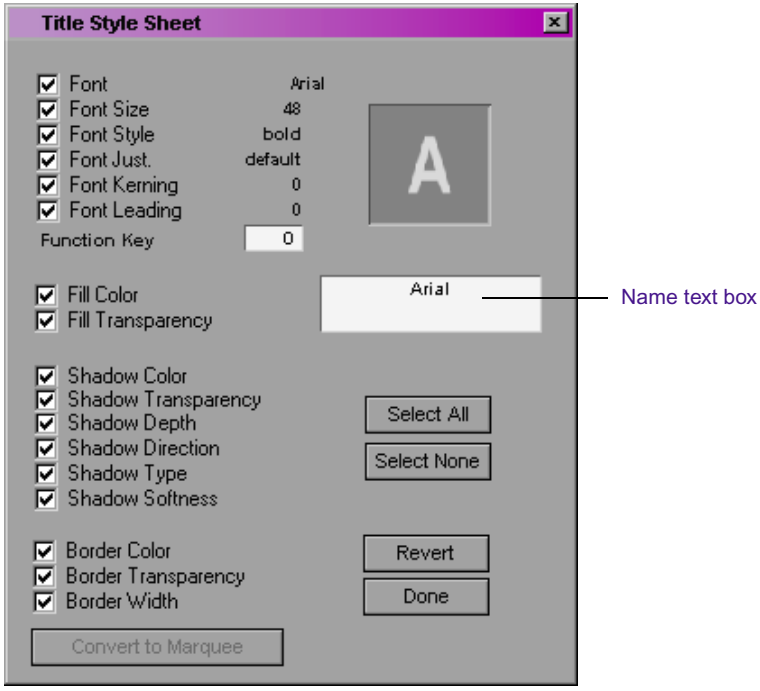
1. Click the Selection tool, and click the object that you want to use as a basis for the title style.

2. Click the Save Style Parameter button.

   A menu appears that allows you to choose either an existing title style name or Save As.

3. Choose Save As.

   The Title Style Sheet dialog box appears. The following illustration shows an example.



4. Select the parameters that you want to include in the style.
   Avid Xpress DV uses the values from the currently selected object or from the current defaults if no object is selected.
5. (Option) Type a function key number in the Function Key text box to assign the style to a function key.

   For example, typing 5 assigns the style to the F5 function key.
6. Type a name in the Name text box, and click Done when you are ready to exit the dialog box and save the values.

Recalling a Title Style

After you have saved your title style, you can recall the style and use the attributes as the defaults in subsequent Title tool sessions. You can recall a title style by using the Title Styles tear-off menu or, if you have assigned the style to a function key, by pressing the appropriate key.

To recall title style attributes by using the Title Styles tear-off menu:

1. Click the Styles button to display the Title Styles tear-off menu.

Arrows on the right and left allow you to scroll back and forth.

   The menu contains a scaled visual representation of each style.

2. Drag the pointer to the chosen style, and release the mouse button.

   The style attributes appear in the Title tool toolbar.

To recall a title style attribute by using a function key:

- Press the appropriate function key.

  The style attributes appear in the Title tool toolbar.

Confirming Function Key Mapping of Title Styles

To verify which function key is assigned to a particular title style, do one of the following:

- Open the Title Style Sheet dialog box for the style from the Settings scroll list in the Project window, and then check the function key number in the Function Key text box.
- In the Title tool, click the Styles button to display the Title Styles tear-off menu, and then position the pointer over the style.

  The ToolTip that appears indicates the function key assignment along with the name of the style.

Applying Title Styles to Text Objects

To apply a title style directly to text objects:

1. Click the Selection tool, and click one or more text objects.
2. Do one of the following:
   - Click the Styles button to display the Title Styles tear-off menu, and then choose a title style.
   - If the style is assigned to a function key, press the appropriate function key.

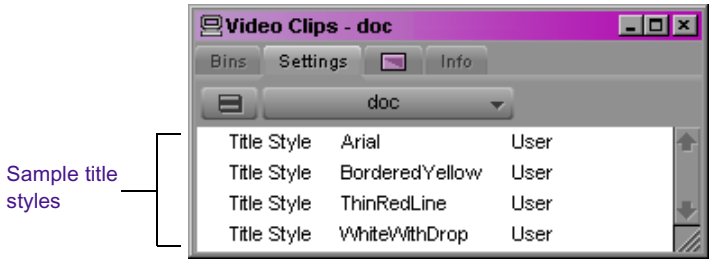
Managing Title Styles

Avid Xpress DV lists the available title styles in the Project window.

To manage title styles in the Project window:

1. Click the Settings tab in the Project window.

   The Settings scroll list appears.



2. Delete, duplicate, or rename styles as follows:
   - To delete a style, select the style in the Project window and press the Delete key or choose Delete from the Edit menu.
   - To copy a style, select the style in the Project window and choose Duplicate from the Edit menu.
   - To rename a style, either change the name in the Project window or perform a Save As operation as described in "Saving and Recalling Title Styles" on page 289 and change the name in the Style Sheet text box.

Creating and Using Title Templates

Title templates let you create a standard format for text and graphics that you use regularly. After you have set up your template, open the template, edit the text, and save the new title. The template prevents you from changing the position, colors, shadows, or graphics, which ensures consistency.

You can also use title styles to save and recall only the parameters that control the appearance of title objects. For more information, see "Saving and Recalling Title Styles" on page 289.

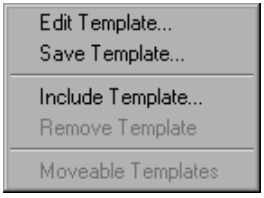
Creating Title Templates

To create a title template:

1. Do one of the following:
   - Choose New Title from the Clip menu.
   - Choose Title Tool from the Tools menu.

   The Title tool opens.
2. In the Title tool, create the text and graphic elements to include in the template.
3. Click the Templates button.

   The Templates pop-up menu appears.



4. Choose Save Template.

   The Save Template dialog box appears.

5. Type a name for the template.
6. Click Save.

   The default folder is the Title_Templates folder, but you can save it elsewhere if you prefer.
7. Close the Title tool, and click Don't Save in the dialog box.

Using Title Templates

To use a title template:

1. Do one of the following:
   - Choose New Title from the Clip menu.
   - Choose Title Tool from the Tools menu.

   The Title tool opens.
2. Click the Templates button.

   The Templates pop-up menu appears.
3. Choose Include Template.

   The Open dialog box appears.
4. Select the template you want to use, and click Open.

   The Title template opens.
5. Make any edits you want to the text.
6. Close the Title tool, and click Save in the dialog box.

   The Save Title dialog box appears.
7. Type a name for your title, and click Save.

   The named title appears in the bin you specify. Now you can edit the title into the sequence. For more information, see Chapter 8.

Exporting a Title as a Graphics File

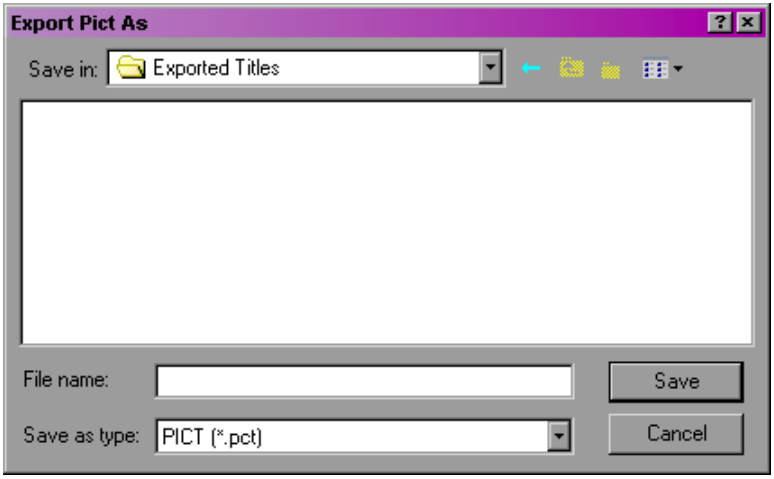
To export a title as a PICT graphics file:

1. With the Title tool open, choose Export Title from the File menu.

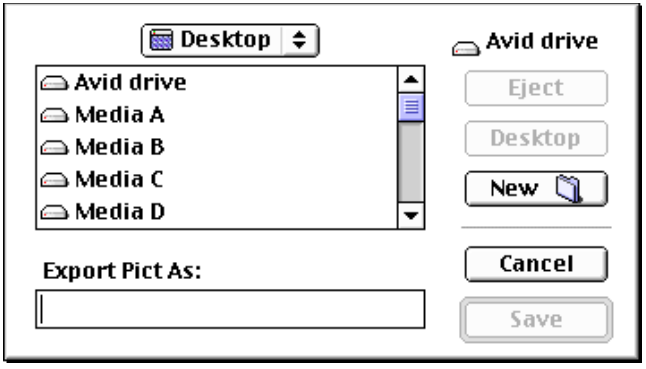
   The Export Pict As dialog box appears.

2. Navigate to the location where you want to export the file.

Windows



Macintosh



3. Type a name for the file in the “File name” text box (Windows) or the Export Pict As text box (Macintosh), and click Save.

   The system saves the title.

For more information on exporting from Avid Xpress DV, see the chapter “Exporting and Exchanging Material” in the user’s guide.

Chapter 8

Editing with Titles

Editing with titles involves placing title clips in a sequence and then adjusting parameters or revising the title in the Title tool. The following sections provide guidelines for editing with title media.

- Workflow for Editing with Titles
- Restrictions on Title Playback
- Displaying Title Frames in the Bin
- Editing a Title into a Sequence
- Removing Titles
- Replacing Titles
- Fading a Title
- Adjusting Title Effect Parameters
- Revising a Title in a Sequence
- Replacing Fill Tracks
- Rendering Titles
- Re-creating Title Media

Workflow for Editing with Titles

The following is an overview of the tasks you perform to edit a title into a sequence:

- **Edit the title into the sequence.** You can load a title into the Source pop-up monitor or drag the Title Effect icon from the bin to a segment in the Timeline. See "Editing a Title into a Sequence" on page 303.
- **Adjust the title's parameters.** With a title edited into a sequence, you can use the Effect Editor to alter the appearance or position of the title. You can also open the title again in the Title tool at any time to revise the title elements. See "Adjusting Title Effect Parameters" on page 308.
- **Revise the title.** After editing the title and adjusting parameters, you can revise elements of the title in the Title tool or replace fill tracks to create various effects.

These basic procedures are described throughout this chapter. For information on creating titles, see Chapter 7.

Restrictions on Title Playback

Depending on the complexity of the title and the video over which you key it, not all titles can be played in real time.

When you attempt to play too complex a title, the following conditions might occur:

- Background video might jitter.
- Title might flash.
- Title might display a gray slide.
- Video might shift left or right.
- Video might display a gray slide.
- Video underrun error might occur.
- Audio underrun error might occur.

If you encounter any of these conditions, try one or both of the following:

- Render the title or underlying effects.

  For more information, see "Rendering Effects" on page 167.

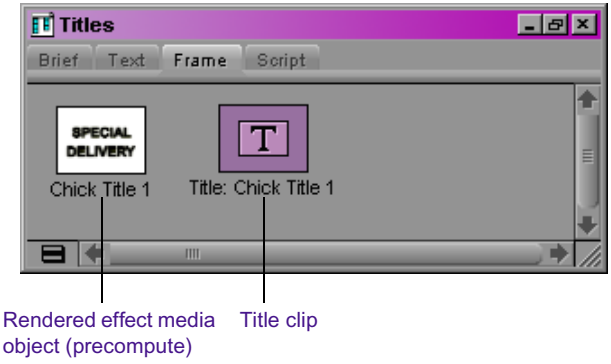
- Simplify the title by removing text or drop shadows or by selecting different colors.

It is possible for you to create a title and background video so complex that you can neither play it in real time nor render it.

Understanding Title Clips

When you save a title, Avid Xpress DV creates a title clip and saves it in the selected bin. One media object, referred to as a *precompute*, has references to the RGB and alpha channel information. Every time you make a change, Avid Xpress DV creates two additional media files. The original media files are left unchanged.

Bin – Frame view



By default, the bin display does not show rendered effects. You can view rendered effects in the bin by choosing Set Bin Display from the Bin menu and by selecting Rendered Effects and "Show reference clips" in the dialog box.

Bin – Text view

For more information, see “Managing Effect Media Files” on page 188.

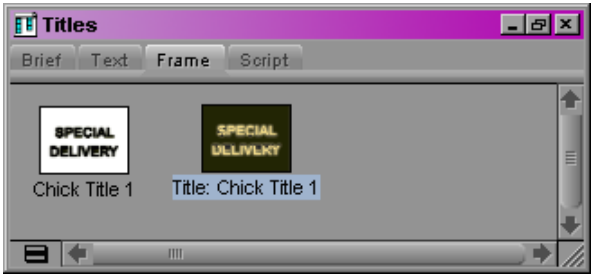
Displaying Title Frames in the Bin

With your bin in Frame view, you can display a frame from the title itself rather than the Title Effect icon for the clip. This is especially useful if you have many titles in the bin and want a quick visual reference.

To display a frame from the title:

- Select one or more title clips, and then press the Home key on the keyboard.

Bin – Frame view showing sample frame



Editing a Title into a Sequence

After preparing the sequence with a second track for the title, use one of the following methods for editing the title into place:

- **Edit the title into the sequence, using standard editing methods.** Mark edit points in the sequence and in the title clip, and then splice or overwrite the title into place. See "Splicing or Overwriting a Title into a Sequence" on page 303.
- **Drag a marked title clip directly into the sequence from a bin.** Mark IN and OUT points in the title clip, and then drag the clip directly into the sequence. See "Dragging a Marked Title into a Sequence" on page 305.
- **Drag an unmarked title clip directly into the sequence from a bin.** Drag the title clip directly from the bin to the location of the position indicator. See "Dragging an Unmarked Title into a Sequence" on page 306.

Splicing or Overwriting a Title into a Sequence

To splice or overwrite a title into a sequence:

1. Load the sequence into the Composer monitor.

Titles must be placed a track above the video that forms the background. If an upper track already exists with an open region for the title, you can skip step 2.

2. (Option) Choose New Video Track from the Clip menu.

   Avid Xpress DV adds the next video track for the sequence to the Timeline. For example, if the sequence includes only V1, the system adds V2.

3. Double-click the Title Effect icon for the clip in the bin to load the title into the Source pop-up monitor.

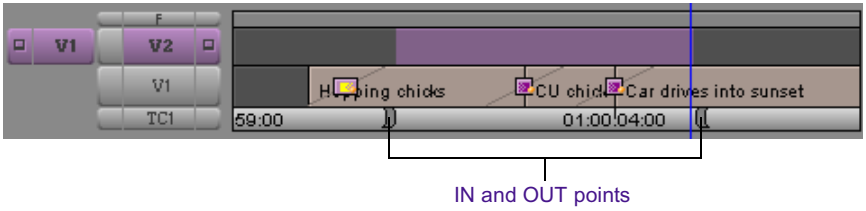
4. Patch the title source to the video track in the sequence by clicking the V1 Source Track button in the Track Selector panel and dragging it to the V2 Record Track button.

You can use any three-point editing method to edit a title into a sequence. The following steps are just one editing method. For other methods, see the chapters "First Edits" and "Working in the Timeline" in the user's guide.

5. In the Source pop-up monitor, mark an IN point.

   Mark the IN point toward the middle of a still title clip so you can trim the title, if necessary.

6. In the Composer monitor, mark IN and OUT points.



7. Make sure all other Record Track buttons are deselected in the Track Selector panel.

8. Click either the Splice-in button or the Overwrite button in the Tool palette to edit the title into the sequence.

   Avid Xpress DV adds the title segment to the top video track.

Dragging a Marked Title into a Sequence

To mark a portion of a title clip and then drag the marked clip directly into the Timeline:

1. Load the sequence into the Composer monitor.

Titles must be placed a track above the video that forms the background. If an upper track already exists with an open region for the title, you can skip step 2.

2. (Option) Choose New Video Track from the Clip menu.

   The system adds the next video track for the sequence to the Timeline. For example, if the sequence includes only V1, the system adds V2.

3. Double-click the Title Effect icon for the clip in the bin to load the title into the Source pop-up monitor.

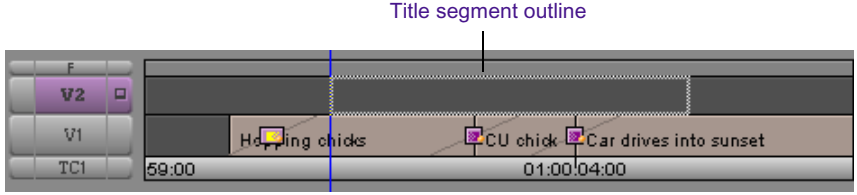
4. In the Source pop-up monitor, mark an IN point and an OUT point to establish the duration that you want for the title.

   Mark the IN point toward the middle of a still title clip so you can trim the title, if necessary.

5. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline, depending upon how you want to insert the title).

6. Drag the title from the Source pop-up monitor to the Timeline.

   As you drag the title in the Timeline, a white outline of the clip indicates its location in the sequence.



7. When you find the right position for the title on the correct track, release the mouse button.

   The title appears in place in the sequence.

Dragging an Unmarked Title into a Sequence

If you are not concerned about the OUT point for your title, or if you plan on trimming the title later, you can quickly drag the unmarked title directly into the Timeline.

To add a title to a sequence without adding marks:

1. Load the sequence into the Composer monitor.

Titles must be placed a track above the video that forms the background. If an upper track already exists with an open region for the title, you can skip step 2.

2. (Option) Choose New Video Track from the Clip menu.

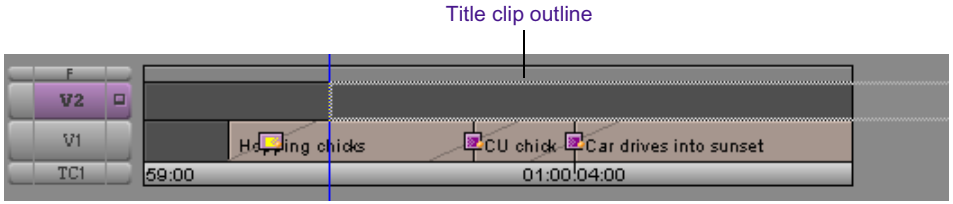
   The system adds the next video track for the sequence to the Timeline. For example, if the sequence includes only V1, the system adds V2.

3. Move the position indicator to the location where you want the title to begin.

4. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline, depending upon how you want to insert the title).

5. Drag the Title Effect icon for the clip from the bin to the Timeline.

   As you drag the title clip in the Timeline, a white outline of the clip indicates its location in the sequence.



6. When you find the right position for the title on the correct track, release the mouse button.

   The title appears in place in the sequence.

Removing Titles

To remove a title segment:

1. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline.
2. Select the title segment, and press the Delete key once to delete the title.
3. Select the title segment again, and press the Delete key to delete its alpha channel media file.

To remove only the title:

1. Click the Record Track button in the Track Selector panel for the track on which the title appears.
2. Move the position indicator to the title in the Timeline.

3. Click the Remove Effect button in the Tool palette.

   Avid Xpress DV removes the title from the segment. The alpha channel media file remains.

The title remains in the bin. To remove the title from the bin, click the Title Effect icon for the clip in the bin and press the Delete key.

Replacing Titles

To replace a title in a sequence:

1. Click the Lift/Overwrite Segment Mode button below the Timeline.
2. Click the title segment currently in the sequence to select it.

3. Click the Mark Clip button to mark an IN point at the beginning of the title segment and an OUT point at the end of the segment.
4. Drag the new title clip from the bin to the marked segment.

   The new title replaces the old title.

Fading a Title

You can use the Fade Effect button to fade a title. A dialog box appears that allows you to enter the number of frames to fade up and fade down without opening the Effect Editor.

Rather than adding Dissolve effects that require rendering, you can use the Fade Effect button to quickly create keyframes in the title with the proper level settings for playback in real time. You can change the keyframes in the Effect Editor. For more information, see “Using the Fade Effect Button” on page 58.

Adjusting Title Effect Parameters

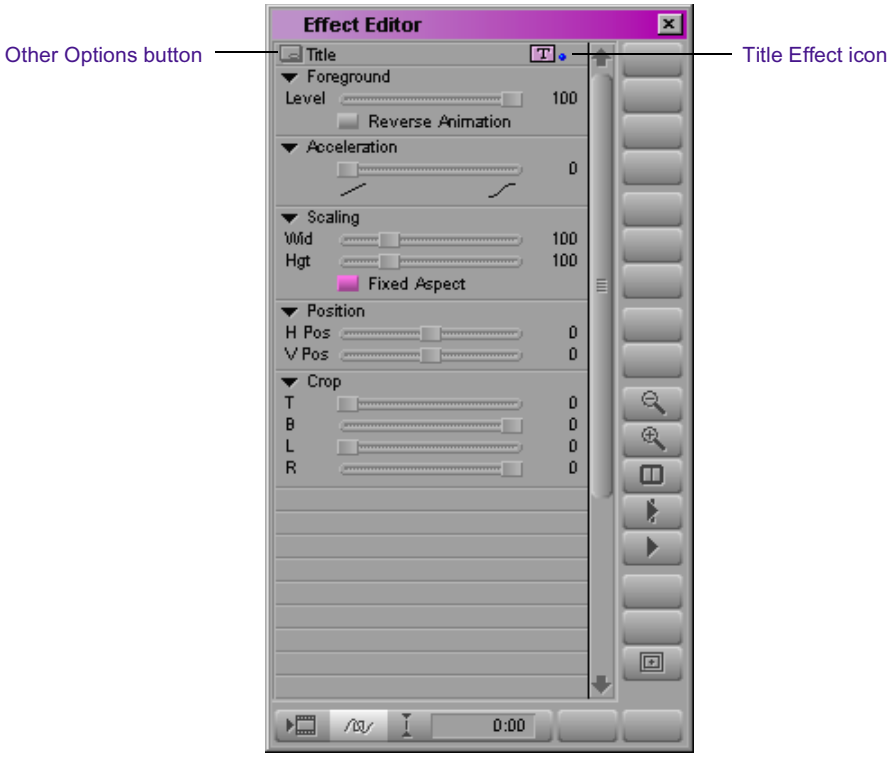
After editing a title into a sequence, you can open the Effect Editor and refine the title with keyframe control over effect parameters.

To display the effect parameters for a title:

1. Choose Effect Editor from the Tools menu.

   The Effect Editor opens.
2. Click the title segment in the sequence to select it.

   The Effect Editor displays the parameter controls.



To work with the Title effect parameters:

- Adjust Title effect parameters by using basic techniques described in "Using the Effect Editor" on page 86.
- Use multiple keyframes to gradually change keyframeable parameters over time. For more information, see "Understanding Keyframes" on page 98.
- Save effect templates of Title effect parameter adjustments to a bin for use in other sequences or projects as described in "Using an Effect Template" on page 150.

For information on specific Title effect parameters, see "2D Effects Parameters" on page 318.

Revising a Title in a Sequence

If you want to revise a title after you have edited it into a sequence and have adjusted parameters with the Effect Editor, you can reopen the title in the Title tool directly from the sequence.

If you have already edited a title into a sequence or have made adjustments to the effect parameters for that title, you must revise the title in the sequence (not the title clip in the bin).

To change a title in a sequence:

1. Choose Effect Editor from the Tools menu.

   The Effect Editor opens.

2. Click the title segment in the sequence to select it.

3. Click the Other Options button in the Effect Editor.

   The Title tool opens.

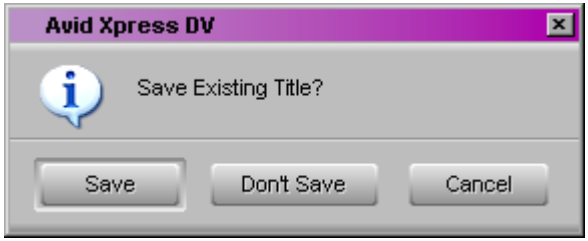
4. Revise the title, using techniques described in Chapter 7.

5. Save the title, using one of the following options:

   - **Save Title:** To save the title with the same name (numbered incrementally) and media parameters (bin and drive):

   a. Choose Save Title from the File menu.

   A message box appears.



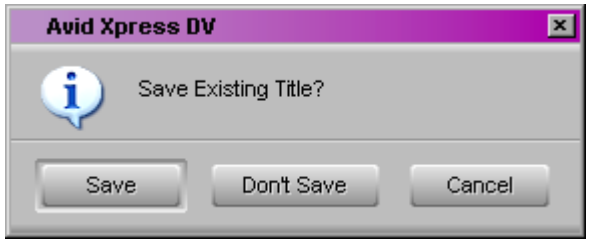
b. Click Save.

The Title tool closes, and the revised title clip replaces the previous clip in the sequence. The new clip also appears in the bin and the Source pop-up monitor, with the name of the previous clip plus a two-digit extension that adds incremental numbering for each revised title. The previous title clip remains unchanged in the bin.

- **Save Title as:** To rename the title or change any of the media parameters (bin and drive):

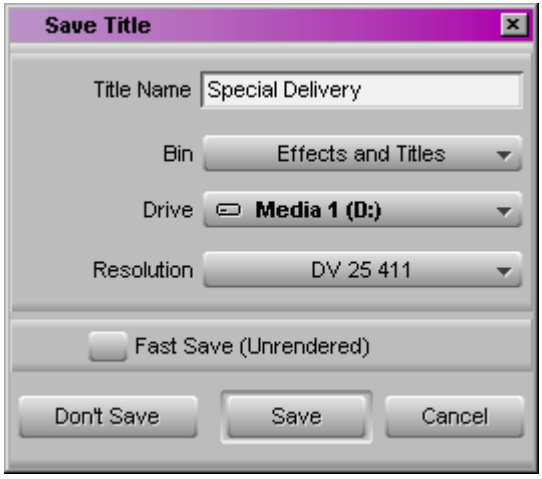
a. Choose Save Title as from the File menu.

A message box appears.



b. Click Save.

The Save Title dialog box appears.



c. Rename the title, or choose other options from the Bin and Drive pop-up menus.

d. Click Save to save the title and exit the Title tool.

   The Title tool closes, and the revised title clip replaces the previous clip in the sequence. The new clip also appears in the bin and the Source pop-up monitor with the new name. The previous title clip remains unchanged in the bin.

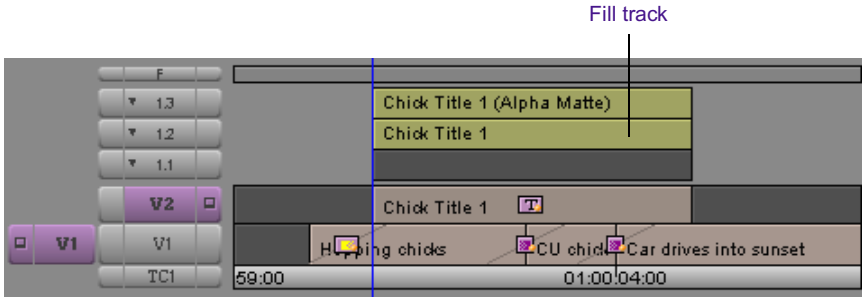
You cannot select Fast Save when revising a title in a sequence.

Replacing Fill Tracks

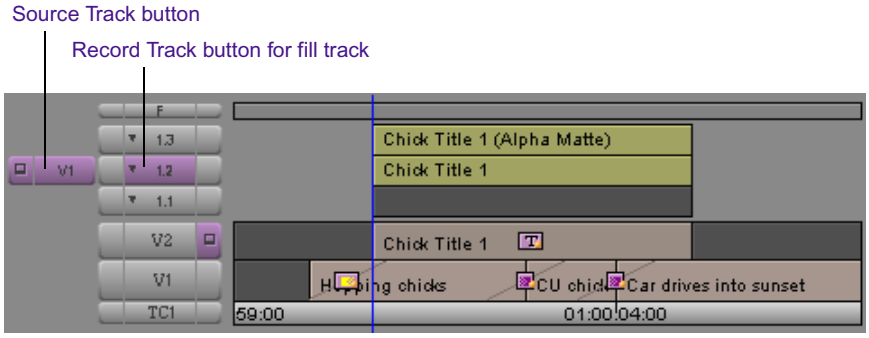
You can replace the fill track of titles with video or graphics. The video or graphic effect then appears inside the title itself, keyed over the background.

To replace the fill track:

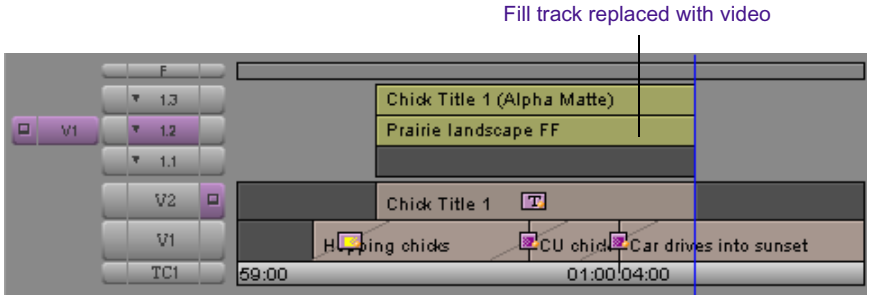
1. Click either of the Segment Mode buttons (Extract/Splice-in or Lift/Overwrite) below the Timeline, and then double-click the title segment to step into the effect.



2. Load the video you want to use as replacement filler into the Source pop-up monitor.
3. Drag the Source Track button to the Record Track button in the Track Selector panel to patch the new source video to the title fill track.



4. Using standard editing methods, edit the video from the Source pop-up monitor onto the fill track.



Rendering Titles

If you play a complex layered effect and encounter a message about audio or video underrun, you need to render any included titles. For more information on rendering Title effects, see “Rendering Effects” on page 167.

Re-creating Title Media

You can use the Re-create Title Media command to regenerate offline media.

The Re-create Title Media command removes any nested edits made inside a title, replacing the edits with the new title’s graphic and alpha tracks.

To re-create title media:

1. Load the sequence containing the titles into the Composer monitor.
2. Mark the IN and OUT points in the sequence surrounding all the titles that you want to re-create.
3. Select the tracks where the title or titles are located.

4. Choose Re-create Title Media from the Clip menu.

   The Re-create Title Media dialog box appears.

If you are re-creating title media that uses fonts not recognized by your system, a dialog box appears that allows you to substitute the font in the title for one that is installed on your system. This might happen when you transfer titles between systems, especially when moving between Macintosh-based and Windows-based systems. For more information on font replacement, see the Avid Products Collaboration Guide.

5. Choose a drive for the re-created title media.
6. Click OK to continue regenerating the title media files.

   The title media file is regenerated, and a precompute master clip appears in the bin.

Chapter 9

2D Effects Reference

This chapter describes all 2D effects parameters and then summarizes all 2D effects in alphabetical order within each effect category. For information on effects editing, see Chapter 2.

- 2D Effects Parameters
- 2D Effects
- Comparison of Similar Effects

2D Effects Parameters

This section provides a general description of all 2D parameters, in alphabetical order. Some parameters apply to a wide range of effects; others are specific to a small group of effects, such as keys or motion effects.

Effect parameters are grouped in the following categories:

- Acceleration
- Background
- Border
- Color Effect Parameters
- Crop
- Foreground
- Key Parameters
- Matrix Parameters
- Motion Effect Parameters
- Plug-in Effect Parameters
- Position
- Region Stabilize Parameters
- Scaling
- Transition Parameters

For an explanation of how to change a parameter, see “Understanding Effect Parameters” on page 91.

Global and Keyframeable Parameters

The effects parameters are divided into two logical groups:

- **Global parameters:** Changes apply to all keyframes. When you change a global parameter, the Avid Xpress DV system automatically sets the value for all keyframes in the effect.
- **Keyframeable parameters:** Changes can be applied to individual keyframes. You can use keyframe parameters to alter an effect over time.

This distinction is noted throughout this section for each parameter.

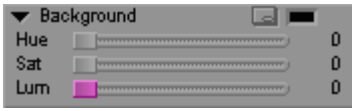
Acceleration

Parameter Type Global

Description Adjusts the effect's speed over time by having the effect ease in and ease out of every keyframe. This gives the effect a more natural appearance. The overall speed of an effect is determined by the duration of the effect, which is determined by the length of the clip in the sequence. If you want to slow down or speed up the movement of an effect, you will need to change the length of your effect or use add edits to limit the portion of the clip affected by the effect.

Use of Control Drag the slider to control ease in and ease out motion. When the slider is to the left (value of 0), there is no ease in and ease out motion. The effect maintains a constant speed throughout its path. As the slider moves to the right (toward a maximum value of 100), ease in and ease out motion increases.

Background



Parameter Type Global

Description Sets the color for the background in effects that display a background. For example, the background parameters determine the color to be used in a Fade to Color, Fade from Color, or Dip to Color effect.

Use of Controls

Other Options button Opens the Windows Color dialog box or Macintosh Color Picker for precise color selection. For more information, see "Using the Windows Color Dialog Box" on page 95 and "Using the Macintosh Color Picker" on page 96.

Hue Identifies the background color. The Hue parameter is measured as values on a color wheel ranging from 0 to 255. The start (0) and ending (255) values are both red.

Sat (saturation) Specifies the amount or intensity of the color. Values range from 0 to 255, where 0 is no chrominance and 255 is a fully saturated color.

Lum (luminance) Specifies the brightness of the color. Values range from 0 to 255, where 0 is black and 255 is full brightness or white.

Border

Parameter Type Keyframeable

Description Allows you to place a border on the inner or incoming picture in many effects. The Border parameters allow you to specify the color, softness, and width of the border. Some effects also include Blend Color parameters for blending border color.

Use of Controls

Other Options button Opens the Windows Color dialog box or Macintosh Color Picker for precise color selection. For more information, see "Using the Windows Color Dialog Box" on page 95 and "Using the Macintosh Color Picker" on page 96.

Hue Identifies the border or blend color. The Hue parameter is measured as values on a color wheel ranging from 0 to 255. The start (0) and ending (255) values are both red.

Sat (saturation) Specifies the intensity of the color. Values range from 0 to 255, where 0 is no chrominance and 255 is a fully saturated color.

Lum (luminance) Specifies the brightness of the color. Values range from 0 to 255, where 0 is black and 255 is full brightness or white.

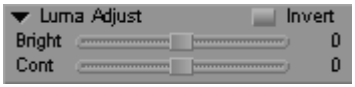
Width Specifies the width of the border. Values range from 0 (no border) to 63 (widest border).

Soft (softness) Blends the border with the background image. Values range from 0 (no softness) to 63 (maximum softness).

Color Effect Parameters

The Color Effect parameters, which apply to the Color Effect only, allow you to perform color correction or to create certain colorization effects such as posterization or solarization.

Luma Adjust



Parameter Type Global

Description Allows you to adjust the luminance characteristics of the image.

Use of Controls

Bright (brightness)	Changes the brightness of the image. The parameter ranges from –100 to +100, where a value of 0 indicates no change. A value of –100 darkens the image; a value of +100 brightens the image.
Cont (contrast)	Controls the contrast of light and dark areas in the image. Values range from –100 to +100, where a value of 0 indicates the image is unchanged. A negative value is less contrast; a positive value is more contrast.
Invert	Reverses the image's brightness, such that the brightest parts become the darkest and the darkest parts become the lightest.

Brightness Example

Original – Brightness 0

Brightness –50

Brightness +50

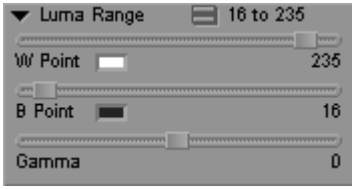
Contrast Example

Original – Contrast 0

Contrast –50

Contrast +50

Luma Range



Parameter Type Global

Description Allows you to adjust the range of brightness of the image.

Use of Controls

Fast menu: 16 to 235 The default for video images.

Fast menu: 0 to 255 Allows you to map normal video to alpha ranges. This is useful if you have a high-contrast image that you want to expand to the full dynamic range. For example, use this value when you want to convert video to alpha for Matte Key effects.

When you change the Luma Range to 0 to 255, the system attempts to go from 0 to 255 but will be clipped by the Low Clip and High Clip values in the Luma Clip parameter category. If it is your intent to "open up" the image to the full dynamic range, you need to change the Low Clip and High Clip values to 0 and 255, respectively.

W Point (white point) Allows you to set the white point in the image. All pixels with that value become white, and all pixels with higher values are also clipped to white. The default is 235 (the broadcast value for white).

Raising the black point and lowering the white point values increase the contrast by reducing the number of shades of gray in an image. The number of shades is reduced because you map some to extreme black and others to extreme white.

B Point (black point)

Allows you to set the black point in the image. All pixels with that value become black, and all pixels with lower values are also clipped to black.

For example, you could use the eyedropper to select a shadow on the floor and change it from gray to black, clipping everything below that shade to black. The default is 16 (the broadcast value for black).

Raising the black point and lowering the white point values increase the contrast by reducing the number of shades of gray in an image. The number of shades is reduced because you map some to extreme black and others to extreme white.

Black point control does not change the Black setup level. To adjust the Black setup level, use the Video Output tool. For more information, see the chapter "Output Options" in the user's guide.

Gamma

Allows you to adjust the midtones in an image without affecting the extreme white or black values. Lowering the value darkens midtones and brings the image closer to black. Raising the value lightens the midtones and brings the image closer to white.

For example, a person shot in front of a window in daylight may be very dark, almost in silhouette. You can use gamma correction to increase the midtones without changing the blacks or whites. Values range from –100 to +100 with 0 being no change.

The W Point, B Point, and Luma Clip sliders determine the number of shades of gray. The Gamma point allows you to move the distribution of the shades closer to black or closer to white. Negative values move the distribution closer to black. Positive values move the distribution closer to white.

Luma Clip

Parameter Type Global

Description Allows you to determine the levels at which Avid Xpress DV limits the brightness or darkness in the picture.

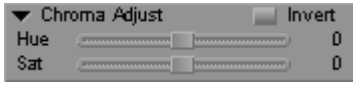
Use of Controls

High Provides a simple clip function for brightness values. When you specify a value for High, no pixel in the image can be brighter than that value. The default is 235 (the broadcast value for white).

Low Provides a simple clip function for darkness values. When you specify a value for Low, no pixel in the image can be darker than that value. The default is 16 (the broadcast value for black).

When preparing video for broadcast, normally you do not adjust these values. They allow you to adjust the brightness and contrast (using other controls in the Color Effect) while still maintaining legal broadcast values for black and white.

Chroma Adjust



Parameter Type Global

Description Allows you to adjust the chrominance characteristics of the entire image.

Use of Controls

Invert Invert reverses the colors in both Hue and Saturation such that all colors display as their complement.

Hue Hue varies the tint of all colors in the image. The Hue parameter is measured as degrees on a color wheel from –180 to +180, where 0 does not change the hue. Changing the value of the Hue causes all colors in the image to rotate around the color spectrum. For example, a Hue setting of –20 causes skin tones to look more red, while a Hue setting of +20 causes skin tones to look more green.

Sat (saturation) Saturation varies the amount of all colors in the image. The Saturation parameter has a value of –100 to +100. Zero is the default. A value of –100 displays as gray tones. Positive values display all colors with more saturation.

Color Style

Parameter Type Global

Description Allows you to create effects by limiting or inverting the color values of the image.

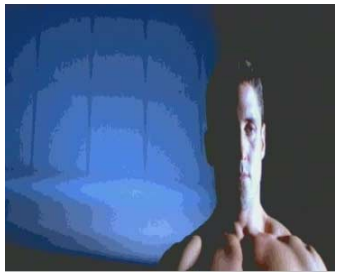
Use of Controls

Post (posterization) Posterization allows you to limit the number of colors in the image by controlling the number of luminance steps that are displayed. This gives the image a graphic appearance. The range of values is 0 to 25, where 0 displays all colors and 25 displays the least number of colors.

Solar (solarization) Solarization allows you to make the lightest points in the image dark to achieve a partial inversion of the luminance. Values above the threshold set for the parameter will be inverted. Solarization can have a value of 0 to 255, where 0 is normal luminance and 255 inverts all luminance values in the picture. Values of 0 to 127 display the lightest points in the image as dark. Values of 128 to 255 display both the lightest points as dark and the darkest points as light, which gives the appearance of a film negative.

Posterization Example

Original image



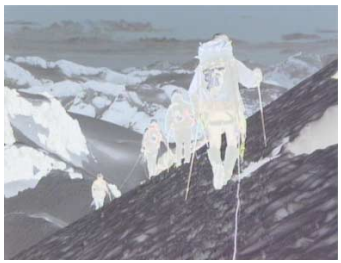
Posterization 10

Posterization 20

Solarization Example

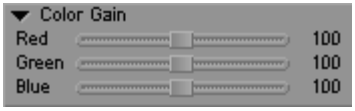
Original image

Solarization 100



Solarization 200

Color Gain



Parameter Type Global

Description Allows individual control of the Color Gain for each of the three color components: red, green, and blue.

Use of Controls

Red Changes the amount of red in the whole image. The parameter value is a percentage of the range from 0 to 200, where a value of 100 indicates that the color is unchanged.

Green Changes the amount of green in the whole image. The parameter value is a percentage of the range from 0 to 200, where a value of 100 indicates that the color is unchanged.

Blue Changes the amount of blue in the whole image. The parameter value is a percentage of the range from 0 to 200, where a value of 100 indicates that the color is unchanged.

Crop

Parameter Type Keyframeable

Description Removes material from the top, bottom, left, and right edges of the video.

Use of Controls

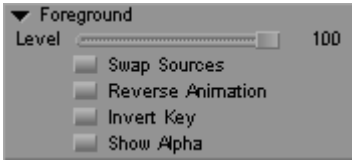
T (top) Removes video from the top of the inner or incoming video. Values range from 0 to 999; 0 is the top of the screen, 500 is the middle of the screen, and 999 is the bottom of the screen.

B (bottom) Removes video from the bottom of the inner or incoming video. Values range from –999 to 0; 0 is the bottom of the screen, –500 is the middle of the screen, and –999 is the top of the screen.

L (left) Removes video from the left side of the inner or incoming video. Values range from 0 to 999; 0 is the left side of the screen, 500 is the middle of the screen, and 999 is the right side of the screen.

R (right) Removes video from the right side of the inner or incoming video. Values range from –999 to 0; 0 is the right side of the screen, –500 is the middle of the screen, and –999 is the left side of the screen.

Foreground



Parameter Type Keyframeable

Description Used, together with keyframes, to set the relative amount of the effect to be displayed over time. The additional options included with the Level slider vary, depending on the effect.

Use of Controls

Level Controls the opacity of the foreground image. A Level of 0 is 0 percent opacity (the foreground is transparent), a Level of 50 is 50 percent opacity, and a Level of 100 is 100 percent opacity (no transparency).

Swap Sources This option applies to key effects (such as Chroma Key or Luma Key) and the PIP (Picture-in-Picture) effect only.

Click Swap Sources to swap the image source for the foreground and background layers of the effect.

Reverse Animation This option is available for all effects.

Click the Reverse Animation button to cause the entire effect to be reversed, including the direction of movement as well as the incoming and outgoing sources.

This maintains the shot continuity while reversing the movement. For example, instead of the outgoing shot peeling off from the top left corner, the incoming shot peels on from the bottom right corner. This option effectively creates a mirror image of the sequence of keyframes for the effect as they appear in the Effect Preview monitor's position bar.

Invert Key

This option applies to key effects only (such as Chroma Key or Luma Key). Select Invert Key to reverse the key.

In the case of a Chroma Key effect, inverting the key displays the key color regions while showing the background image source through the foreground image area.

In the case of a Luma Key effect, inverting the key displays the background image source through the darker areas rather than the lighter areas of the foreground image source.

In the case of a Matte Key effect, inverting the key effectively reverses the black and white areas of the alpha channel so that foreground and background are reversed.

Show Alpha

This option applies to key effects only (such as Chroma Key or Luma Key).

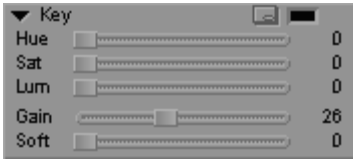
Displays the grayscale alpha channel used to apply the key effect to the foreground and background source. This allows you to examine the problem areas of the key while making adjustments.

Key Parameters

Key parameters appear only in the Chroma Key and Luma Key effects. These parameters control the key color and allow you to fine-tune the edges of key effects and the appearance of the foreground elements.

For information on the workflow for applying key effects, see "Creating Key Effects" on page 216.

Key



Parameter Type Global

Description Selects the primary key color to be replaced by video. Available in both Chroma Key and Luma Key.

Use of Controls

Other Options button Opens the Windows Color dialog box or Macintosh Color Picker for precise color selection. For more information, see "Using the Windows Color Dialog Box" on page 95 and "Using the Macintosh Color Picker" on page 96.

Hue Identifies the key color. The Hue parameter is measured as values on a color wheel ranging from 0 to 255. The start (0) and ending (255) values are both red.

Sat (saturation) Specifies the amount or intensity of the color. Values range from 0 to 255, where 0 is no chrominance and 255 is a fully saturated color.

Lum (luminance) Specifies the brightness of the color. Values range from 0 to 255, where 0 is black and 255 is full brightness or white.

Gain Specifies how much of the foreground and the background video will be displayed. Values range from 0 to 63. A Gain of 0 shows only the foreground. A Gain of 63 replaces all the foreground video with the background video.

Soft (softness) Determines how the bordering colors along the edge of the key are processed in the effect. Colors that border the luminance or chroma specified for the key are displayed as a blend of the foreground and the background video. Values range from 0 to 63. The higher the Softness value, the more of the background video will be blended in the border colors. Use the Soft slider to improve the appearance of the edges of the keyed areas.

Secondary Key

Parameter Type Global

Description Selects a secondary background color to key out. For example, the floor in a bluescreen or greenscreen shot might be a slightly different shade from the background. You can choose the floor color as your secondary color and key it out. Available for the Chroma Key effect only.

Use of Controls See “Key” on page 334.

Spill Suppression

Parameter Type Global

Description Neutralizes the selected color for the Chroma Key effect without affecting the luminance. Avid Xpress DV changes the spill color to a grayscale, allowing it to blend more easily with the foreground image.

Use the Spill Suppression key color to fix the following problems:

- Remove background color spill from the foreground image. Color spill occurs when the background color is present in the foreground image due to backdrop reflection.
- If the foreground object retains an outline of the chroma key color, you can use Spill Suppression to reduce the color effect in the outline.

Use of Controls See “Key” on page 334.

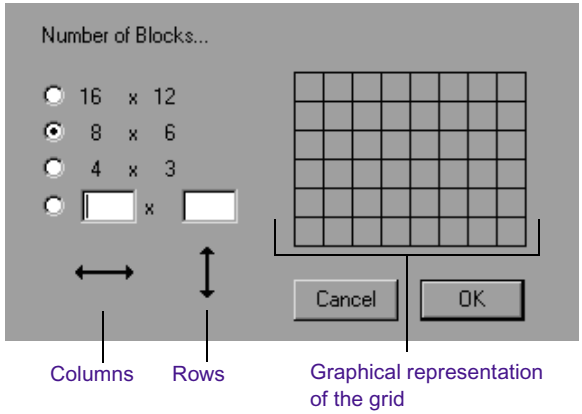
Matrix Parameters

Parameter Type Global

Description Allows you to customize the grid used to define the position or progress of the Matrix effect over time. For example, the grid defines the number of squares used for the Grid and Speckle effects, or the number of horizontal bars used for the One-Way Row effect. Available for Matrix Wipe effects, Sawtooth Wipe effects, and some Shape Wipe effects.

Use of Controls

Other Options button Click to open the Matrix Effect dialog box.

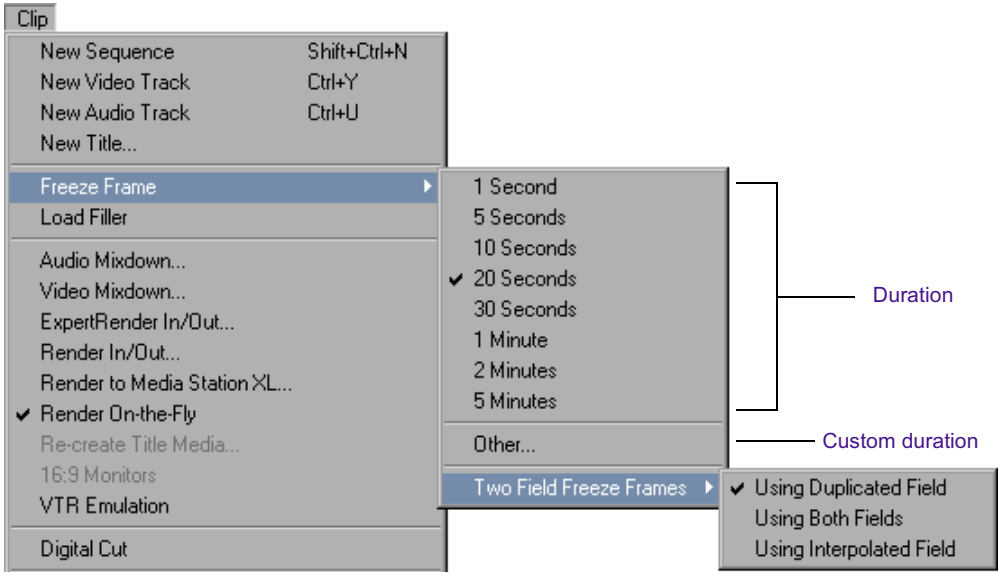


Select a standard grid size or enter a custom number of rows and columns, and then click OK. The minimum number of rows and columns is 2 x 2. A graphical representation of the grid you select appears on the right side of the dialog box.

Motion Effect Parameters

Motion effect parameters apply to Freeze Frame, Variable Speed, and Strobe Motion effects. For information about applying and editing various motion effects, see "Creating Motion Effects" on page 196.

Freeze Frame Parameters



Parameter Type Global

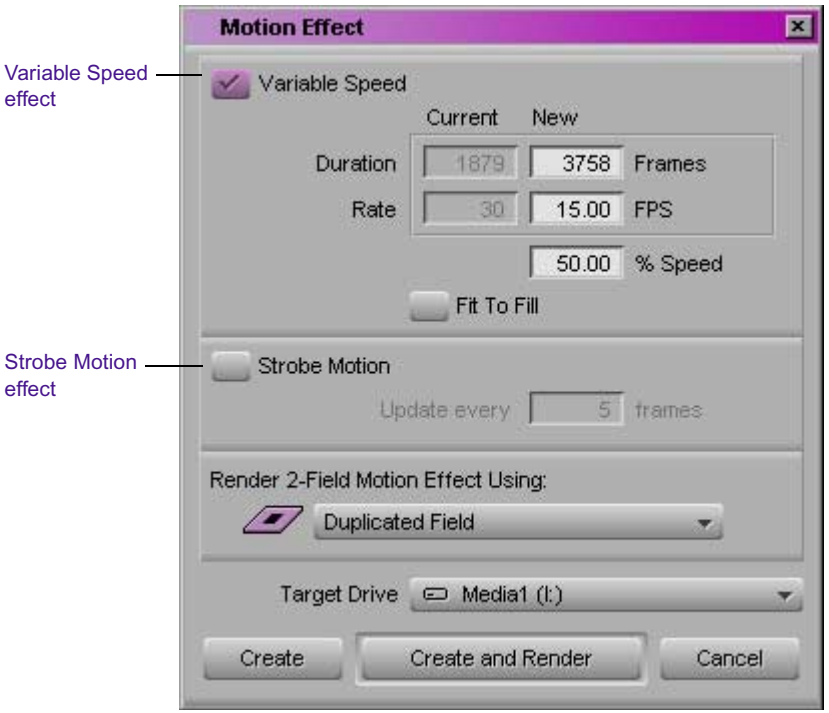
Description Allows you to create and customize a freeze frame clip based on the image currently displayed in the Source pop-up monitor.

Use of Menu Commands Freeze frame parameters are menu commands in the Clip menu. To create a freeze frame and access freeze frame parameters, choose Freeze Frame from the Clip menu, and then choose the appropriate submenu commands.

Duration commands (in seconds or minutes) Specifies the length of the freeze frame clip that Avid Xpress DV creates in the Source pop-up monitor. You can either select a duration from the Freeze Frame pop-up menu or select Other to enter a custom duration.

Other	Opens a dialog box that allows you to specify a custom duration for the freeze frame clip.
Two Field Freeze Frames	Opens a submenu with commands that allow you to determine how the system creates and displays the effect media when working with two fields.
Using Duplicated Field	The system uses a single field to create the effect. This option reduces the vertical resolution of the image by one-half, resulting in a lower quality image.
Using Both Fields	The system uses both fields to create the effect. This option is especially useful when there is motion in the footage.
Using Interpolated Field	The system creates a second field for the effect by combining scan line pairs from the first field in the original media. This might result in a slightly softer look to the freeze frame.

Variable Speed and Strobe Motion Parameters



Parameter Type Global

Description Allows you to create and customize variable speed or strobe motion clips based on all or part of the clip currently displayed in the Source pop-up monitor.

Use of Controls Variable Speed and Strobe Motion parameters are available in the Motion Effect dialog box. To open the Motion Effect dialog box, click the Motion Effect button in the Source pop-up monitor.

Variable Speed

Duration The duration of the effect in frames. Doubling the number of frames causes the frame rate to be half the current rate.

Rate The rate of speed in frames per second (fps) at which the video will be played. Normal speed is 30 fps for NTSC video, 25 fps for PAL video.

	% Speed	The percent of speed at which the video will be played. Normal speed is 100%.
	Fit To Fill	Sets the Variable Speed parameters, so the duration of the motion effect will match the IN to OUT duration marked in the sequence.
Strobe Motion	**Update every *n* frames**	Specifies the update rate in frames for the Strobe Motion effect. For example, entering a rate of 5 causes every fifth frame to be displayed in the Strobe Motion effect.
Render 2-field Motion Effect Using	**Duplicated Field** 	Avid Xpress DV uses a single field to create the effect. For two-field media, this reduces the information stored by half because it drops one field of the image, resulting in a lower quality image. For single-field media, this is usually the best choice because of its speed (the other options do not improve effect quality for single-field media). Effects render in the shortest amount of time using this option.
	Both Fields 	Avid Xpress DV uses both fields to create the effect. For example, the first two frames of a half-speed (50%) slow-motion effect repeat the original Frame 1 (both fields) twice. This option is good for shots without inter-field motion and still shots. With footage that includes inter-field motion, this method might result in minor shifting or bumping of the image because it disturbs the original order of fields: a Field 1 will appear both before *and* after the corresponding Field 2. Effects render relatively quickly. For best results, use evenly divisible frame rates with this option.

Interpolated Field

Avid Xpress DV creates a second field for the effect by combining scan line pairs from the first field in the original media.

This option calculates the motion effect at the field level rather than the frame level. Because Avid Xpress DV considers all fields and does not disturb the original order of fields, the smoothest effect results.

Effects created using this option take the longest amount of time to render.

VTR-Style

Avid Xpress DV creates a second field for the effect by shifting selected video fields of the original media by a full scan line. This technique is similar to that used by high-quality professional video decks when playing footage at less than normal speed.

This option also creates the motion effect at the field level rather than the frame level; however, because pixels are not filtered, the final image is sharper than that created by the Interpolated Field option. The image might display some slight jitter at certain speeds.

The time needed to render effects created with this option is longer than the time for effects created using either Duplicated Field or Both Fields but similar to the time needed for Interpolated Field.

Ignore Render Setting

If a specific motion effect type is set in the Motion Effects Render Using option of the active Render setting, Avid Xpress DV automatically selects that motion effect type, makes all other motion effect type options unavailable, and displays the Ignore Render Setting check box. Click the Ignore Render Setting check box to temporarily override the active Render setting and make all four motion effect types available.

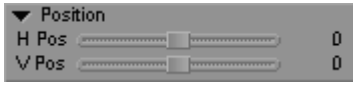
If a Strobe Motion effect becomes unrendered because it has been trimmed to a longer duration, the effect will not play and must be rendered again.

To indicate reverse motion at full play rate, slow or fast, enter a negative play rate or a percent.

Plug-in Effect Parameters

If you install third-party Photoshop-compatible (Macintosh only) or AVX (Avid Visual Extensions) plug-in effects, these effects usually come with their own documentation. For information on installing and using third-party plug-in effects, see “Using Third-Party Plug-in Effects” on page 36.

Position



Parameter Type Keyframeable

Description Sets the horizontal and vertical position of the effect.

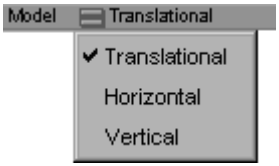
Use of Controls

H Pos (horizontal position)	Moves the video from side to side. Values range from –999 to +999. Negative values move the image to the left. Positive values move the image to the right.
V Pos (vertical position)	Moves the video up and down. Values range from –999 to +999. Negative values move the image to the top. Positive values move the image to the bottom.

Region Stabilize Parameters

Region Stabilize parameters appear only in the Region Stabilize effect. They allow you to establish the type of stabilization and the area of the image that is to remain stationary. For more information, see "Stabilizing an Image" on page 210.

Model



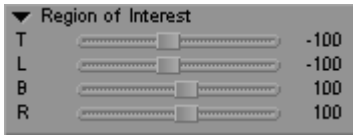
Parameter Type Global

Description Selects the type of stabilization. Available for the Region Stabilize effect only. For more information, see "Stabilizing an Image" on page 210.

Options

Translational	Keeps the region of interest steady along both the horizontal and the vertical axis.
Horizontal	Constrains horizontal motion in the region of interest. Objects in the region of interest can move vertically but not horizontally.
Vertical	Constrains vertical motion in the region of interest. Objects in the region of interest can move horizontally but not vertically.

Region of Interest



Parameter Type Keyframeable

Description Defines the area of the image that is to remain stationary. Available for the Region Stabilize effect only. For more information, see "Stabilizing an Image" on page 210.

Use of Controls

T (top)

L (left)

B (bottom)

R (right)

Sets the corners of the region of interest. Values are relative to the center of the screen.

You can also change the size and position of the Region of Interest by dragging the wire frame in the Effect Preview monitor. For more information, see "Manipulating Effects Directly" on page 147.

Auto Zoom

Parameter Type Global

Description Stabilization exposes black around the edges of the repositioned frames. Auto Zoom compensates by resizing and, if necessary, repositioning the clip to remove the exposed edges. Available for the Region Stabilize effect only. For more information, see “Stabilizing an Image” on page 210.

Progressive Source

Parameter Type Global

Description Produces smoother results for the effect when your footage was captured or converted to progressive footage (not interlaced).

Scaling

Parameter Type Keyframeable

Description Resizes the effect by adjusting height and width.

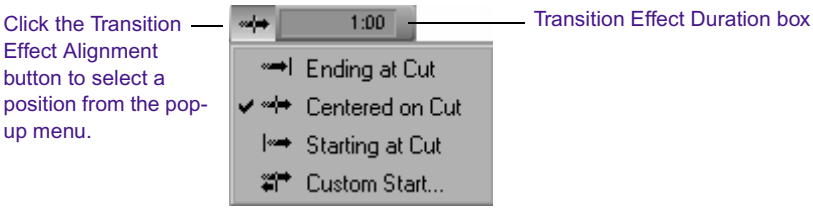
Use of Controls

Wid (width) Controls the width of the image when the Fixed Aspect parameter is disabled. Values range from 0 to 400.

Hgt (height) Controls the height of the image when the Fixed Aspect parameter is disabled. Values range from 0 to 400.

Fixed Aspect Determines which position and size parameters are displayed. When the Fixed Aspect parameter is enabled, the aspect ratio of the picture cannot be changed. The Wid and Hgt sliders are ganged and move together.

Transition Parameters



Parameter Type Global

Description Transition parameters allow you to specify the starting point of a transition relative to the cut point and the length of a transition. Transition parameters appear at the bottom of the Effect Editor. For more information about using transition effects, see "Working with Transition Effects" on page 59.

Use of Controls

Transition Effect Alignment button

Click the Transition Effect Alignment button to open a pop-up menu, and then select a position option.

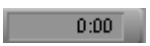
Ending at Cut — The transition effect will start a number of frames before the cut defined by the duration, such that the effect completes at the cut point in the video.

Centered on Cut — The transition will be centered on the cut so that half the effect will occur before the cut point and half will occur after the cut point in the sequence.

Starting at Cut — The transition effect will start immediately after the last frame of the outgoing video is displayed.

Custom Start — Allows you to specify the number of frames before and after the cut to be included in the effect.

Transition Effect Duration box



Click in the box, and type a value to specify the length of time that the effect will span the transition. The Transition Effect Duration format that the Avid Xpress DV system displays (for example, 1:00 is 1 second and 0 frames) is determined by the Transition Effect Duration setting you selected at the top of the Effect Preview monitor.

2D Effects

This section summarizes each 2D effect in alphabetical order within each effect category listed below. Parameters for each effect are listed here and are described in “2D Effects Parameters” on page 318.

- Blend Effects
- Box Wipe Effects
- Conceal Effects
- Edge Wipe Effects
- Film Effects
- Image Effects
- Key Effects
- L-Conceal Effects
- Matrix Wipe Effects
- Motion Effects
- Peel Effects
- Push Effects
- Sawtooth Wipe Effects
- Shape Wipe Effects
- Spin Effects
- Squeeze Effects
- Title Effects

Blend Effects

Blend effects are general two-channel effects used for transitions or multilayer segments. Blend effects include:

- Dip to Color
- Dissolve
- Fade from Color
- Fade to Color
- Picture-in-Picture
- Superimpose

Dip to Color

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Blend

Apply to Transitions

Parameters Foreground – level, reverse animation

Background – hue, saturation, luminance

Acceleration

Transition Parameters – transition effect alignment and duration

Description Fades from the outgoing video to black, white, or any color and then fades up to the incoming video.

Dissolve

Outgoing footage

Middle of effect

Incoming footage

Effect Icon	
Effect Category	Blend
Apply to	Transitions
Parameters	Foreground – level, reverse animation Acceleration Transition Parameters – transition effect alignment and duration
Description	Blends images from the outgoing video with the incoming video over time.

Fade from Color

Beginning color

Middle of effect

Incoming footage

Effect Icon

Effect Category Blend

Apply to Transitions

Parameters Foreground – level, reverse animation

Background – hue, saturation, luminance

Acceleration

Transition Parameters – transition effect alignment and duration

Description Fades from any color to the incoming video.

Fade to Color

Outgoing footage

Middle of effect

Final color

Effect Icon

Effect Category Blend

Apply to Transitions

Parameters

Foreground – level, reverse animation

Background – hue, saturation, luminance

Acceleration

Transition Parameters – transition effect alignment and duration

Description Fades from the outgoing video to any color.

Picture-in-Picture

Bottom track

PIP as a segment effect

Top track

Effect Icon

Effect Category Blend

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, swap sources, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Scaling – height, width, fixed aspect

Position – horizontal position, vertical position

Crop – top, bottom, left, right

Description Creates a picture within a picture. Video from the higher layer, where the effect is applied, is displayed inside the video on the lower layer. When used on a transition, the incoming video appears inside the outgoing video.

Superimpose

Bottom track

Superimpose effect

Top track

Effect Icon

Effect Category Blend

Apply to Multilayer segments

Parameters Foreground – level, reverse animation

Acceleration

Description Blends the image from the upper video track (where the effect is applied) with the image from the lower video track over time. Level set at 100 percent shows only the video image from the upper track where the effect is applied. Level set at 0 percent shows only the video image from the lower video track.

Box Wipe Effects

Box Wipe effects reveal one video channel on top of another video channel, using predefined growing rectangular shapes. Box Wipes include:

- Bottom Box
- Bottom Left to Top Right
- Bottom Right to Top Left
- Left Box
- Right Box
- Top Box
- Top Left to Bottom Right
- Top Right to Bottom Left

For examples of similar effects, see "Comparison of Similar Effects" on page 466.

Bottom Box

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Box Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a box in the center of the bottom edge of the screen and wipes out the outgoing video as the box expands to fill the screen.

Bottom Left to Top Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Box Wipe

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a box in the bottom left corner of the screen and wipes out the outgoing video as the box expands to fill the screen.

Bottom Right to Top Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Box Wipe

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a box in the bottom right corner of the screen and wipes out the outgoing video as the box expands to fill the screen.

Left Box

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Box Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a box in the center of the left edge of the screen and wipes out the outgoing video as the box expands to fill the screen.

Right Box

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Box Wipe

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a box in the center of the right edge of the screen and wipes out the outgoing video as the box expands to fill the screen.

Top Box

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Box Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a box in the center of the top edge of the screen and wipes out the outgoing video as the box expands to fill the screen.

Top Left to Bottom Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Box Wipe

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a box in the top left corner of the screen and wipes out the outgoing video as the box expands to fill the screen.

Top Right to Bottom Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Box Wipe

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a box in the top right corner of the screen and wipes out the outgoing video as the box expands to fill the screen.

Conceal Effects

Conceal effects overlap one video channel over another video channel, using a predefined path. Conceal effects include:

- Bottom Left to Top Right
- Bottom Right to Top Left
- Bottom to Top
- Left to Right
- Right to Left
- Top Left to Bottom Right
- Top Right to Bottom Left
- Top to Bottom

For examples of similar effects, see "Comparison of Similar Effects" on page 466.

Bottom Left to Top Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Conceal

Apply to Transitions, single-layer and multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides on top of the outgoing video from the bottom left to the top right of the screen.

Bottom Right to Top Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Conceal

Apply to Transitions, single-layer and multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides on top of the outgoing video from the bottom right to the top left of the screen.

Bottom to Top

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Conceal

Apply to Transitions, single-layer and multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides on top of the outgoing video from the bottom to the top of the screen.

Left to Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Conceal

Apply to Transitions, single-layer and multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides on top of the outgoing video from the left edge to the right edge of the screen.

Right to Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Conceal

Apply to Transitions, single-layer and multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides on top of the outgoing video from the right edge to the left edge of the screen.

Top Left to Bottom Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Conceal

Apply to Transitions, single-layer and multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides on top of the outgoing video from the top left to the bottom right of the screen.

Top Right to Bottom Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Conceal

Apply to Transitions, single-layer and multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides on top of the outgoing video from the top right to the bottom left of the screen.

Top to Bottom

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Conceal

Apply to Transitions, single-layer and multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides on top of the outgoing video from the top to the bottom of the screen.

Edge Wipe Effects

Edge Wipe effects reveal one video channel on top of another video channel by wiping an edge across the screen. Edge Wipes include:

- Horizontal
- Horizontal Open
- Lower Left Diagonal
- Lower Right Diagonal
- Upper Left Diagonal
- Upper Right Diagonal
- Vertical
- Vertical Open

Horizontal

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Edge Wipe

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins at the left edge of the screen and moves to the right edge, wiping out the outgoing video.

Horizontal Open

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Edge Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a vertical band in the center of the screen. This band expands to the left and right edges of the screen, wiping out the outgoing video.

Lower Left Diagonal

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Edge Wipe

Apply to Transitions, multilayer segments

Parameters Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins in the bottom left corner of the screen and wipes out the outgoing video as a diagonal line moves from the bottom left corner to the top right corner of the screen.

Lower Right Diagonal

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Edge Wipe

Apply to Transitions, multilayer segments

Parameters Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins in the bottom right corner of the screen and wipes out the outgoing video as a diagonal line moves from the bottom right corner to the top left corner of the screen.

Upper Left Diagonal

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Edge Wipe

Apply to Transitions, multilayer segments

Parameters Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins in the top left corner of the screen and wipes out the outgoing video as a diagonal line moves from the top left corner to the bottom right corner of the screen.

Upper Right Diagonal

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Edge Wipe

Apply to Transitions, multilayer segments

Parameters Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins in the top right corner of the screen and wipes out the outgoing video as a diagonal line moves from the top right corner to the bottom left corner of the screen.

Vertical

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Edge Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins at the top edge of the screen and expands downward to fill the screen.

Vertical Open

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Edge Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a horizontal band in the center of the screen. This band expands up and down to fill the screen.

Film Effects

Film effects, an option on some systems, emulate many of the effects an optical house can produce. Film effects include:

- 1.66 Mask
- 1.85 Mask
- 16:9 Mask
- Anamorphic Mask
- Blowup
- Film Dissolve
- Film Fade
- Mask

1.66 Mask

Original image

1:1.66 Mask effect

Effect Icon

Effect Category Film

Apply to Single-layer segments

Parameters Background – hue, saturation, luminance

Scaling – height, width, fixed aspect

Position – horizontal position, vertical position

Description Masks out any area of the image that is not inside a centered rectangle. The centered rectangle is 1.66 times wider than it is tall. The area surrounding the rectangle is masked by a black background.

1.85 Mask

Effect Icon	
Effect Category	Film
Apply to	Single-layer segments
Parameters	Background – hue, saturation, luminance Scaling – height, width, fixed aspect Position – horizontal position, vertical position
Description	Masks out any area of the image that is not inside a centered rectangle. The centered rectangle is 1.85 times wider than it is tall. The area surrounding the rectangle is masked by a black background.

16:9 Mask

Effect Icon	
Effect Category	Film
Apply to	Single-layer segments
Parameters	Background – hue, saturation, luminance Scaling – height, width, fixed aspect Position – horizontal position, vertical position
Description	Masks out any area of the image that is not inside a centered rectangle. The centered rectangle is 16 units wide by 9 units high. The area surrounding the rectangle is masked by a black background.

Anamorphic Mask

Effect Icon	
Effect Category	Film
Apply to	Single-layer segments
Parameters	Background – hue, saturation, luminance Scaling – height, width, fixed aspect Position – horizontal position, vertical position
Description	Masks out any area of the image that is not inside a centered rectangle. The centered rectangle is 2.35 times wider than it is tall. The area surrounding the rectangle is masked by a black background.

Blowup

Original image

Blowup effect

Effect Icon	
Effect Category	Film
Apply to	Single-layer segments
Parameters	Background – hue, saturation, luminance Scaling – height, width, fixed aspect Position – horizontal position, vertical position Crop – top, bottom, left, right
Description	Blowup modifies the size and portion of the picture that is displayed.

Film Dissolve

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Film

Apply to Transitions

Parameters Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Blends the outgoing frame to the incoming frame over time. The Level parameter has been preset according to Kodak™ specifications. Avid does not recommend adjusting the Level parameter on this effect.

The Level set at 0% shows all of the outgoing frame. The Level set at 100% shows all of the incoming frame.

This dissolve has preset parameters that emulate film's response to light when dissolving to another (nonblack) picture.

Film Fade

Effect Icon	
Effect Category	Film
Apply to	Transitions
Parameters	Foreground – level, reverse animation Acceleration
Description	Blends the outgoing pictures to the incoming pictures over time. The Level parameter has been preset according to Kodak specifications. Avid does not recommend adjusting the Level parameter on this effect. The Level set at 0% shows all of the outgoing frame. The Level set at 100% shows all of the incoming frame. This dissolve has preset parameters that emulate film's response to black material. Use this effect for fade ins and fade outs.

Mask

Effect Icon	
Effect Category	Film
Apply to	Single-layer segments
Parameters	Background – hue, saturation, luminance Scaling – height, width, fixed aspect Position – horizontal position, vertical position
Description	Masks out any area of the image that is not inside a rectangle defined by the Scaling, Fixed Aspect, and Position parameters of the effect. The effect's background color masks the area surrounding the rectangle.

Image Effects

Image effects are general effects that apply to a single stream of video. Image effects include:

- Color Effect
- Flip
- Flip-Flop
- Flop
- Mask
- Region Stabilize
- Resize
- Submaster

Color Effect

Effect Icon	
Effect Category	Image
Apply to	Single-layer segments
Parameters	Luma Adjust – brightness, contrast, invert Luma Range – luma range Fast menu, white point, black point, gamma Luma Clip – high, low Chroma Adjust – hue, saturation, invert Color Style – posterization, solarization Color Gain – red, green, blue
Description	The Color Effect modifies the luminance, chroma, style (posterized or solarized), and color gain of the segment.

For examples of the Color Effect, see "Color Effect Parameters" on page 322.

Flip

Original image

Flip effect applied

Effect Icon	
Effect Category	Image
Apply to	Single-layer segments
Parameters	None
Description	Video image is flipped vertically.

Flip-Flop

Original image

Flip-Flop effect applied

Effect Icon	
Effect Category	Image
Apply to	Single-layer segments
Parameters	None
Description	Video image is flipped both horizontally and vertically.

Flop

Original image

Flop effect applied

Effect Icon	
Effect Category	Image
Apply to	Single-layer segments
Parameters	None
Description	Video image is flipped horizontally, which reverses the camera angle.

Mask

Effect Icon	
Effect Category	Image
Apply to	Single-layer segments
Parameters	Background – hue, saturation, luminance Scaling – height, width, fixed aspect Position – horizontal position, vertical position
Description	Masks out any area of the image that is not inside a rectangle defined by the Scaling, Fixed Aspect, and Position parameters of the effect. The effect's background color masks the area surrounding the rectangle.

Region Stabilize

Effect Icon

Effect Category Image

Apply to Single-layer segments

Parameters Region Stabilize Parameters – Model, Region of Interest, Auto Zoom

Description The Region Stabilize effect defines and tracks an area of an image to eliminate unwanted motion in a clip, such as motion from an unstable camera. For more information, see "Stabilizing an Image" on page 210 and "Region Stabilize Parameters" on page 344.

The Region Stabilize effect is available as part of the Avid Xpress DV PowerPack and installs from the PowerPack CD-ROM. For more information on this installation, see the Avid Xpress DV Getting Started Guide.

Resize

Original image

Resize effect – reduced image

Resize effect – enlarged image

Effect Icon

Effect Category Image

Apply to Single-layer segments

Parameters

Background – hue, saturation, luminance

Scaling – height, width, fixed aspect

Position – horizontal position, vertical position

Crop – top, bottom, left, right

Description Resize modifies the size and position of the video. The background color displays where no video is present. Use the H Pos, V Pos, and Size sliders to specify the size and position of the video. Use the Crop parameters to remove the edges of the picture.

Submaster

Effect Icon	
Effect Category	Image
Apply to	The top video track under which are the video tracks that will be included in the Submaster effect
Parameters	None
Description	When rendered, the Submaster effect creates a single media file for all the video on the layers below the Submaster effect. This allows you to group several effects that reside on different video layers and render them as one effect; this is quicker than rendering each effect separately.

The Submaster effect does not render each track separately; you cannot play each track separately after rendering.

Key Effects

Key effects combine two streams of video by using components from one of the streams. Key effects include:

- Chroma Key
- Luma Key
- Matte Key

Chroma Key

Background – video layer 1

Key image – video layer 2

Chroma Key effect

Effect Icon

Effect Category Key

Apply to Transitions, multilayer segments

Parameters

Key – hue, saturation, luminance, gain, softness

Secondary Key – hue, saturation, luminance, gain, softness

Spill Suppression – hue, saturation, luminance, gain, softness

Foreground – level, swap sources, reverse animation, invert key, show alpha

Acceleration

Scaling – height, width, fixed aspect

Position – horizontal position, vertical position

Crop – top, bottom, left, right

Transition Parameters – transition effect alignment and duration

Description Replaces one part of the video image with another video image based on color. The key color in the video on the higher track is replaced with the video from the lower track number. Chroma Key is used most frequently with a foreground image shot in front of a highly saturated color screen.

Luma Key

Key image

Background image

Luma Key effect

Effect Icon

Effect Category Key

Apply to Transitions, multilayer segments

Parameters

Key – hue, saturation, luminance, gain, softness

Foreground – level, swap sources, reverse animation, invert key, show alpha

Acceleration

Scaling – height, width, fixed aspect

Position – horizontal position, vertical position

Crop – top, bottom, left, right

Transition Parameters – transition effect alignment and duration

Description Replaces one part of the video image with another video image based on luminance.

Matte Key

Video layer 1 — background

Video layer 2 — foreground

Video layer 3 — high-contrast matte image

Matte Key effect

Effect Icon	
Effect Category	Key
Apply to	Multilayer segments
Parameters	Foreground – level, swap sources, reverse animation, invert key, show alpha Acceleration Scaling – height, width, fixed aspect Position – horizontal position, vertical position Crop – top, bottom, left, right Transition Parameters – transition effect alignment and duration
Description	A three-layer track effect. The bottom layer is the background image, the middle layer is the foreground image, and the top layer contains the grayscale matte or alpha channel.

L-Conceal Effects

L-Conceal effects overlap one video channel over another using a predefined L-shaped path. L-Conceal effects include:

- Bottom Left
- Bottom Right
- Top Left
- Top Right

Bottom Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category L-Conceal

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides up the left half of the screen from bottom to top and then fills the screen from left to right.

Bottom Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category L-Conceal

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides up the right half of the screen from bottom to top and then fills the screen from right to left.

Top Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category L-Conceal

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides down the left half of the screen from top to bottom and then fills the screen from left to right.

Top Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category L-Conceal

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video slides down the right half of the screen from top to bottom and then fills the screen from right to left.

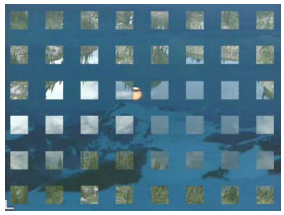
Matrix Wipe Effects

Matrix Wipes reveal one video channel on top of another video channel, using blocks or bands that appear in a predefined position or path. Matrix Wipes include:

- Grid
- One-Way Row
- Speckle
- Spiral
- Zig-Zag

Grid

Outgoing footage



Middle of effect

Incoming footage

Effect Icon

Effect Category Matrix Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Matrix Parameters (access through Other Options button) – matrix columns and rows

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as blocks in a grid pattern that wipe out the outgoing video as the blocks expand to fill the screen. Change the size of the grid by clicking the Other Options button.

One-Way Row

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Matrix Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Matrix Parameters (access through Other Options button) – matrix columns and rows

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a block in the top left corner of the screen that wipes out the outgoing video as the band expands horizontally across the screen from left to right. When the first horizontal band reaches the right edge of the screen, a second band appears on the left edge of the screen, just below the first band, and repeats the process until the incoming video has wiped out all the outgoing video.

Speckle

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Matrix Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Matrix Parameters (access through Other Options button) – matrix columns and rows

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video appears in a random series of blocks that wipe out the outgoing video until the blocks have filled the screen.

Spiral

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Matrix Wipe

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Matrix Parameters (access through Other Options button) – matrix columns and rows

Foreground – level, reverse animation

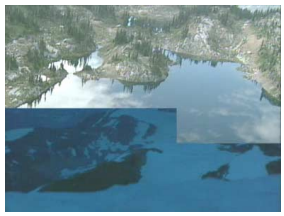
Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video spirals over and wipes out the outgoing video by using blocks of screen space, starting in the bottom left corner of the screen, spiraling inward in a counterclockwise movement.

Zig-Zag

Outgoing footage



Middle of effect

Incoming footage

Effect Icon

Effect Category Matrix Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Matrix Parameters (access through Other Options button) – matrix columns and rows

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a single block in the top left corner of the screen that wipes out the outgoing video as the band expands horizontally across the screen from left to right. When the first horizontal band reaches the right edge of the screen, a second band appears and expands horizontally across the screen from right to left. Succeeding bands repeat the process until the wipe is completed.

Motion Effects

A motion effect is applied to a clip in the Source pop-up monitor and controls the rate at which the video channel is played. Motion effects include:

- Freeze Frame
- Variable Speed and Strobe Motion

Freeze Frame

Effect Category	Motion
Apply to	Current frame in the Source pop-up monitor
Parameters	Motion Effect Parameters – duration, two-field media
Description	This effect repeats the current frame in the Source pop-up monitor for the specified duration.

Variable Speed and Strobe Motion

Effect Category	Motion
Apply to	The clip marked by the IN and OUT points in the Source pop-up monitor
Parameters	Motion Effect Parameters – variable speed, strobe motion, two-field media
Description	Variable Speed creates slow motion, fast motion, or reverse motion. Strobe Motion creates a stuttering effect. The Strobe Motion effect can be used in combination with the Variable Speed effect.

Peel Effects

Peel effects treat one video channel as though it were a sheet of paper being peeled from the other video channel. Peel effects include:

- Bottom Left Corner
- Bottom Right Corner
- Bottom to Top
- Left to Right
- Right to Left
- Top Left Corner
- Top Right Corner
- Top to Bottom

Bottom Left Corner

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Peel

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Outgoing video is peeled from the incoming video from the bottom left corner to the top right corner of the screen.

Bottom Right Corner

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Peel

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Outgoing video is peeled from the incoming video from the bottom right corner to the top left corner of the screen.

Bottom to Top

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Peel

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Outgoing video is peeled from the incoming video from the bottom edge to the top edge of the screen.

Left to Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Peel

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Outgoing video is peeled from the incoming video from the left edge to the right edge of the screen.

Right to Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Peel

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Outgoing video is peeled from the incoming video from the right edge to the left edge of the screen.

Top Left Corner

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Peel

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Outgoing video is peeled from the incoming video from the top left corner to the bottom right corner of the screen.

Top Right Corner

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Peel

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Outgoing video is peeled from the incoming video from the top right corner to the bottom left corner of the screen.

Top to Bottom

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Peel

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video is peeled from the outgoing video from the top to the bottom of the screen.

Push Effects

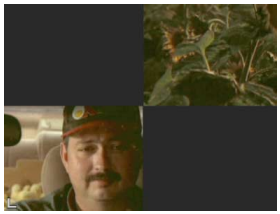
Push effects move one video channel to fill the screen while the other video channel is pushed out of the screen. Push effects include:

- Bottom Left to Top Right
- Bottom Right to Top Left
- Bottom to Top
- Left to Right
- Right to Left
- Top Left to Bottom Right
- Top Right to Bottom Left
- Top to Bottom

For examples of similar effects, see "Comparison of Similar Effects" on page 466.

Bottom Left to Top Right

Outgoing footage



Middle of effect

Incoming footage

Effect Icon

Effect Category Push

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video pushes out the outgoing video from the bottom left corner to the top right corner of the screen. Border is on the incoming video.

Bottom Right to Top Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Push

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video pushes out the outgoing video from the bottom right corner to the top left corner of the screen. Border is on the incoming video.

Bottom to Top

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Push

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video pushes out the outgoing video from the bottom to the top of the screen. Border is on the incoming video.

Left to Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Push

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video pushes out the outgoing video from the left edge to the right edge of the screen. Border is on the incoming video.

Right to Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Push

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

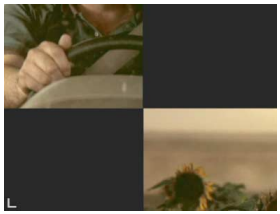
Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video pushes out the outgoing video from the right edge to the left edge of the screen. Border is on the incoming video.

Top Left to Bottom Right

Outgoing footage



Middle of effect

Incoming footage

Effect Icon

Effect Category Push

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

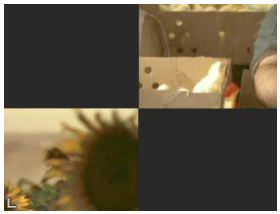
Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video pushes out the outgoing video from the top left corner to the bottom right corner of screen. Border is on the incoming video.

Top Right to Bottom Left

Outgoing footage



Middle of effect

Incoming footage

Effect Icon

Effect Category Push

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video pushes out the outgoing video from the top right corner to the bottom left corner of the screen. Border is on the incoming video.

Top to Bottom

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Push

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video pushes out the outgoing video from the top to the bottom of the screen. Border is on the incoming video.

Sawtooth Wipe Effects

Sawtooth Wipes are described in this section. Sawtooth Wipes include:

- Horizontal Sawtooth
- Horizontal Open Sawtooth
- Vertical Open Sawtooth
- Vertical Sawtooth

Horizontal Sawtooth

Outgoing footage

Middle of effect

Incoming footage

Effect Icon	
Effect Category	Sawtooth Wipe
Apply to	Transitions, multilayer segments
Parameters	Foreground – level, reverse animation Matrix Parameters (access through Other Options button) – matrix columns and rows Acceleration Transition Parameters – transition effect alignment and duration
Description	Incoming video appears with a sawtooth on the left edge of the screen. The sawtooth edge moves to the right edge of the screen, revealing the incoming video.

Horizontal Open Sawtooth

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Sawtooth Wipe

Apply to Transitions, multilayer segments

Parameters Foreground – level, reverse animation

Matrix Parameters (access through Other Options button) – matrix columns and rows

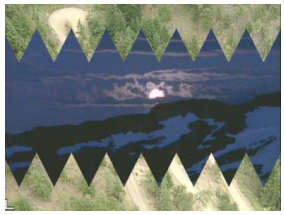
Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a vertical sawtooth in the center of the screen. The sawtooth then expands outward to the left and right edges of the screen to display the incoming video in the center while covering the outgoing video.

Vertical Open Sawtooth

Outgoing footage


Middle of effect

Incoming footage

Effect Icon

Effect Category Sawtooth Wipe

Apply to Transitions, multilayer segments

Parameters Foreground – level, reverse animation

Matrix Parameters (access through Other Options button) – matrix columns and rows

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a horizontal sawtooth in the center of the screen. The sawtooth expands up and down, revealing the incoming video.

Vertical Sawtooth

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Sawtooth Wipe

Apply to Transitions, multilayer segments

Parameters Foreground – level, reverse animation

Matrix Parameters (access through Other Options button) – matrix columns and rows

Acceleration

Transition Parameters – transition effect alignment and duration

Description The sawtooth edge moves from the top of the screen down, covering the outgoing video and displaying the incoming video above the sawtooth.

Shape Wipe Effects

Shape Wipes reveal one video channel on top of another video channel, using a growing or moving geometric shape. Shape Wipes include:

- 4 Corners
- Center Box
- Circle
- Clock
- Diamond
- Ellipse
- Horizontal Bands
- Horizontal Blinds
- Vertical Blinds

4 Corners

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Shape Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as blocks in four corners of the screen and wipes out the outgoing video as the blocks expand to fill the screen.

Center Box

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Shape Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Scaling – height, width, fixed aspect

Position – horizontal position, vertical position

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a small box in the center of the screen and wipes out the outgoing video as it expands to fill the screen.

Circle

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Shape Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Foreground – level, reverse animation

Acceleration

Scaling – height, width, fixed aspect

Position – horizontal position, vertical position

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a small circle in the center of the screen and wipes out the outgoing video as it expands to fill the screen.

Clock

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Shape Wipe

Apply to Transitions, multilayer segments

Parameters Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and durations

Description Incoming video appears as a vertical line from the center of the screen to the top edge. The incoming video replaces the outgoing video in a clockwise motion as if it were the hand on a clock.

Diamond

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Shape Wipe

Apply to Transitions, multilayer segments

Parameters

Foreground – level, reverse animation

Acceleration

Scaling – height, width, fixed aspect

Position – horizontal position, vertical position

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as a small diamond in the center of the screen and wipes out the outgoing video as it expands to fill the screen.

Ellipse

Outgoing footage

Middle of effect

Incoming footage

Effect Icon	
Effect Category	Shape Wipe
Apply to	Transitions, multilayer segments
Parameters	Border – hue, saturation, luminance, width, and softness Foreground – level, reverse animation Acceleration Scaling – height, width, fixed aspect Position – horizontal position, vertical position Transition Parameters – transition effect alignment and duration
Description	Incoming video begins as a small ellipse in the center of the screen and wipes out the outgoing video as it expands to fill the screen.

Horizontal Bands

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Shape Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Matrix Parameters (access through Other Options button) – matrix columns and rows

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Reversible Yes

Description Horizontal bands expand toward the center of the screen to reveal the incoming video between alternate shrinking bands of the outgoing video.

Horizontal Blinds

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Shape Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Matrix Parameters (access through Other Options button) – matrix columns and rows

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as horizontal bands on the screen that wipe out the outgoing video as the incoming bands expand vertically to fill the screen.

Vertical Blinds

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Shape Wipe

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Matrix Parameters (access through Other Options button) – matrix columns and rows

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video begins as vertical bands on the screen that wipe out the outgoing video as the incoming bands expand horizontally to fill the screen.

Spin Effects

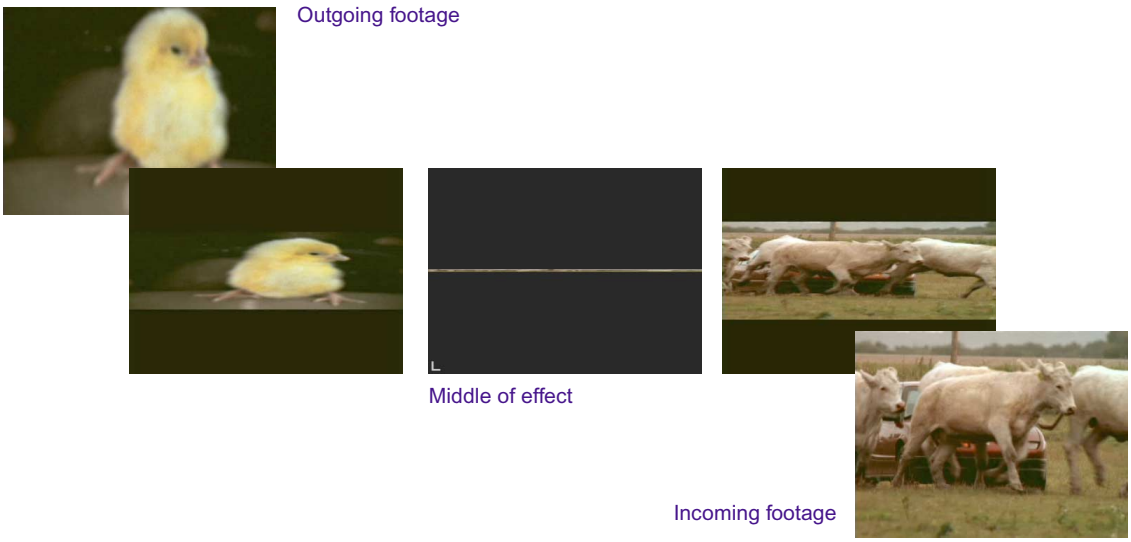
Spin effects rotate one or more video channels. Spin effects include:

- X Spin
- Y Spin

X Spin

Effect Icon	
Effect Category	Spin
Apply to	Transitions
Parameters	Border – hue, saturation, luminance, width, softness Blend Color – hue, saturation, luminance Foreground – level, reverse animation Acceleration Transition Parameters – transition effect alignment and duration
Description	Outgoing video is squeezed until it appears as a vertical line. The incoming video then expands from that vertical line until it fills the screen. Border appears only on the incoming video.

Y Spin



Effect Icon	
Effect Category	Spin
Apply to	Transitions, multilayer segments
Parameters	Border – hue, saturation, luminance, width, softness Blend Color – hue, saturation, luminance Foreground – level, reverse animation Acceleration Transition Parameters – transition effect alignment and duration
Description	Outgoing video is squeezed until it appears as a horizontal line. The incoming video then expands from that horizontal line until it fills the screen.

Squeeze Effects

Squeeze effects expand a video channel from a single point or line until it fills the screen, obscuring the second video channel. Squeeze effects include:

- Bottom Centered
- Bottom Left
- Bottom Right
- Bottom to Top
- Centered Zoom
- Horizontal Centered
- Left Centered
- Left to Right
- Right Centered
- Right to Left
- Top Centered
- Top Left
- Top Right
- Top to Bottom
- Vertical Centered

For examples of similar effects, see "Comparison of Similar Effects" on page 466.

Bottom Centered

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning as a rectangle in the center bottom of the screen and expanding to fill the screen.

Bottom Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning as a rectangle in the bottom left corner of the screen and expanding to fill the screen.

Bottom Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning as a rectangle in the bottom right corner of the screen and expanding to fill the screen.

Bottom to Top

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning at the bottom of the screen and filling to the top of the screen.

Centered Zoom

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

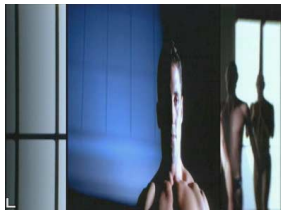
Acceleration

Transition Parameters – transition effect alignment

Description Incoming video starts as a rectangle in the center of the screen and zooms to fill the screen.

Horizontal Centered

Outgoing footage


Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video starts as a vertical band squeezed in the center of the screen and expands horizontally to fill the screen.

Left Centered

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

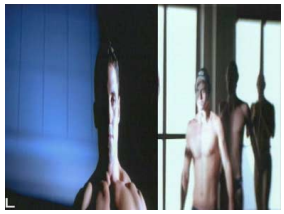
Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning as a rectangle in the center left edge of the screen and expanding to fill the screen.

Left to Right

Outgoing footage



Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning at the left edge of the screen and filling to the right edge of the screen.

Right Centered

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning as a rectangle in the center right edge of the screen and expanding to fill the screen.

Right to Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning at the right edge of the screen and filling to the left edge of screen.

Top Centered

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning as a rectangle in the center top edge of the screen and expanding to fill the screen.

Top Left

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning as a rectangle in the top left corner of the screen and expanding to fill the screen.

Top Right

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning as a rectangle in the top right corner of the screen and expanding to fill the screen.

Top to Bottom

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video squeezes over the outgoing video, beginning at the top edge of the screen and filling to the bottom edge of the screen.

Vertical Centered

Outgoing footage

Middle of effect

Incoming footage

Effect Icon

Effect Category Squeeze

Apply to Transitions, multilayer segments

Parameters

Border – hue, saturation, luminance, width, softness

Blend Color – hue, saturation, luminance

Foreground – level, reverse animation

Acceleration

Transition Parameters – transition effect alignment and duration

Description Incoming video starts as a horizontal band squeezed in the center of the screen and expands vertically to fill the screen.

Title Effects

Effect Icon	
Effect Category	Title effects
Apply to	Multilayer segments
Static Title Parameters	Foreground – level, reverse animation Acceleration
Description	Title effects are created in the Title tool and can incorporate text, graphic objects, imported graphics, and video. Similar to Matte Key effects, Title effects are placed on segments in one video layer and then keyed over background video on the underlying video layers.

Comparison of Similar Effects

Four effect categories have similar results: Box Wipe, Conceal, Push, and Squeeze. Examples of these effects are shown here to assist you in using these effects.

Box Wipe – Top Left to Bottom Right

Conceal – Top Left to Bottom Right

Push – Top Left to Bottom Right

Squeeze – Top Left

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