Welcome to Dragon 1.1

Welcome

Dragon is a stop-motion solution created by professional animators—for professional animators. It's designed to complement how the pros animate. We hope this manual helps you get up to speed with Dragon quickly.

The sections that follow give you all the information you need to know to get proficient with Dragon:

- "New Features for this Version" on page 5 lists the features added for this release, and links to the sections explaining each feature in depth.
- "Getting to Know Dragon" on page 11 gives a quick introduction to Dragon's windows, menus, and features. It also links to sections explaining each feature in more depth.
- "Setting up Video and Capture Sources" on page 36 helps you understand how to connect your cameras to Dragon.
- "Managing Your Project and Files" on page 42 explains how to create new scenes and takes, then walks you through Dragon's file organization.
- "Setting Up Your Shot" on page 57 explains how to use the Cinematography window to take test shots, and adjust exposure and camera settings.
- "Capturing, Navigating, and Deleting Frames" on page 67 gets you started capturing frames.
- "Adjusting the View in the View Pane" helps you use features like mirror, rotate, or pan.
- "Controlling Playback" on page 82 introduces you to Dragon's various playback features, including reverse, toggle, and memory management.
- "Working with Multiple Layers" on page 88 explains some advanced features, including drawing on the View pane, Onionskin, Chroma Key, and Roto Layers.
- "Using the X-Sheet" on page 119 helps you set up and manage the Dragon's exposure sheets.

- "Adding and Editing Audio Clips" on page 97 explains Dragon's audio editing features.
- "Adding Exposures Per Frame" on page 107 helps you create multiple passes for your scene.
- "Adding Hand-Cranked Camera Moves" on page 113 helps you take advantage of Dragon's hand-cranked camera move capability.
- "Settings" on page 125 gives an overview of the Preferences dialog.
- "Troubleshooting" on page 130 addresses some problems you may run into when using Dragon.

New Features for this Version

We're always striving to improve Dragon's features and add capabilities that make it more useful. We invite your suggestions; email us at support@dragonstopmotion.com.

For this release, we're pleased to introduce the following improvements:

- The Cinematography window increases the power of version 1.0's Capture Check window. Not only can you view your full-res frames, you can take test shots, adjust camera settings, use a digital densitometer, and set up exposures with their own camera settings. See page 57.
- Import QuickTime as line-up layer (roto-scoping). See page 92.
- Memory management helps Dragon create seamless playback of your frames—even if your scene is very long or your computer is running low on RAM. See page 86.
- Capture-only shooting allows you to use Dragon without a video source. See page 69.
- Shoot on twos allow you to set up your scene to only capture odd-numbered frames. See page 121.
- Scene settings import allows you to import important camera, animation and sound settings from other scenes. See page 48.
- Improved QuickTime export. See page 50.
- Time-lapse sequences. See page 71.
- A mask push in protects extra margins for post-production work. See page 80.
- Multiple dialogue tracks for greater control over dialogue. See page 104.
- Access to automatic downloads of Dragon updates. See page 127.
- Improved warnings and alerts help you troubleshoot Dragon. See page 131.

Table of Contents

Maps

Getting to Know Dragon

Dragon's windows, tools, and shortcuts have been designed with you in mind. We've not only taken our team's experience with animation, but also solicited the advice of top animators for their feedback. We hope the result is a usable and beautiful interface.

The sections that follow give you a quick overview of Dragon's user interface and link you to more information about how to use Dragon's features in your projects.

- "Getting Acquainted with the Animation Window" on page 11 gives an overview of Dragon's main window.
- "Getting Acquainted with the Cinematography Window" on page 22 introduces you to the Cinematography window.
- "Getting Acquainted with the X-Sheet Window" on page 24 introduces you to Dragon's Exposure Sheet.
- "Learning Dragon's Keypad Shortcuts" on page 27 explains which features you can control with your keyboard.
- "Understanding Dragon's Menus" on page 29 gives an overview of Dragon's menus.

Getting Acquainted with the Animation Window

The Animation window is the central location for all your animation features and tools.

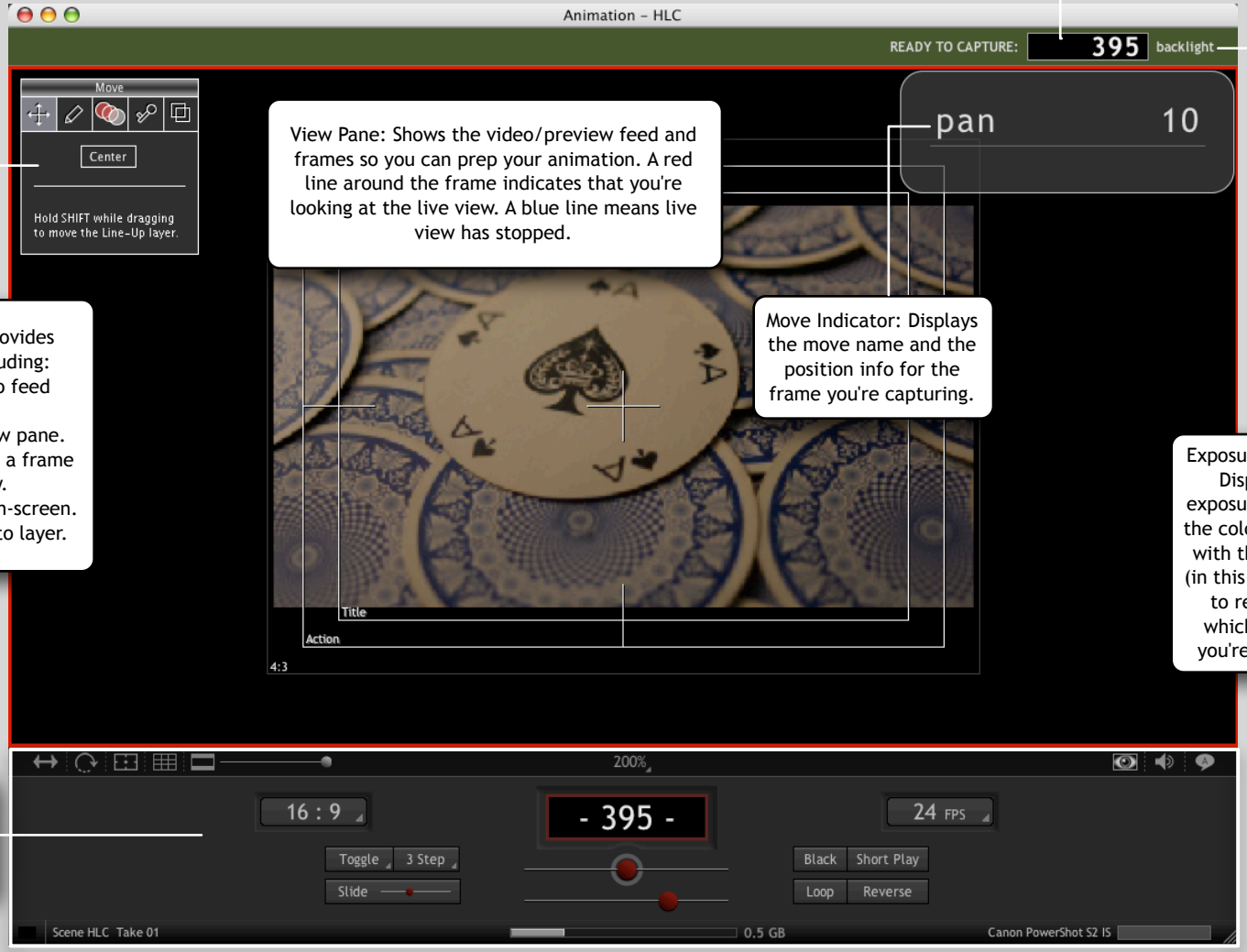
The window:

- Displays the Live View from your video source. For more information about setting up a video source, see "Choosing a Video Source" on page 39.

- Contains indicators, such as a frame counter, move information, and exposure information, which help you capture high-res stills efficiently.
- Helps you animate with onionskins and opacity tools.
- Allows you to control the Live View, rotating it or adding an aspect ratio mask.
- Contains playback tools that allow you to reverse playback, play back short segments of your scene, or loop playback.
- Gives you a palette of tools to draw on the Live View, use Chroma Key capabilities, or add other layers to the animation.
- Contains memory management tools that help you play back scenes, even if they're too large to be stored in RAM.

The next page gives an overview of each part of the Animation window.

Animation Window



Frame Indicator: Shows you which full-res frame you're ready to capture.

View Pane: Shows the video/preview feed and frames so you can prep your animation. A red line around the frame indicates that you're looking at the live view. A blue line means live view has stopped.

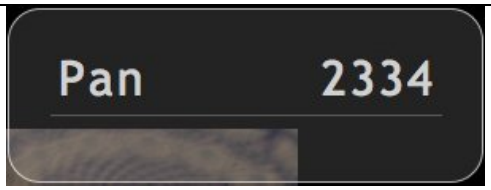
Move Indicator: Displays the move name and the position info for the frame you're capturing.

Animation Palette: Provides additional tools, including:
Move: Move the video feed images.
Draw: Draw on the View pane.
Onionskin: Superimpose a frame on the Live View.
Chroma Key: Use a green-screen.
Lineup Layer: Add a roto layer.

Exposure Indicator: Displays the exposure name and the color associated with the exposure (in this case, green) to remind you which exposure you're capturing.

Animation Tools: These control the View Pane image and playback.

The table that follows gives a bit more information about each screen element, and links to further information.

This part of the Animation Window:	Does this:	And is explained in more detail on page:
	Shows you which high-res frame you're ready to capture.	15
	Shows you which exposure you're ready to capture for the current frame. In this case, Dragon is ready to capture the exposure named **X1**.	107
	Contains a variety of Animation tools.	16
	Shows you the hand-cranked camera move position information for the next frame.	113
	Gives you access to additional tools, such as drawing, Chroma key, and roto layers.	21
	Helps you to play back very large scenes.	86

Why Are There Two Counters in the Animation Window?

At first glance, the two counters in the Animation window might be a little confusing. Why might you need two boxes giving you exactly the same information?

The answer: they don't show the same information—and, in fact, they exist because Dragon brings together two sets of information into one interface—which means you need two counters to keep track of it all.

The counters help you track two sources of information:

- the full-res stills you're capturing with your capture source, and
- the preview, low-res images you're capturing with your video source.

As you use Dragon, other features will correspond to either the **Capture Source** or the **Video Source.** Keeping the two straight will help you use Dragon.

The Capture Counter

The counter at the top of the window, marked **READY TO CAPTURE,** is the Capture counter. It shows the frame you are about to capture. The frame in this counter will match the information in the X-Sheet. For example, if the

X-Sheet shows that you've captured 20 full-res stills, the Capture counter will read **21.**

NOTE: For more information about setting up your capture source, see "Choosing a Capture Source" on page 38. For more information on the X-Sheet, see "Using the X-Sheet" on page 119.

The Frame Counter

The frame counter displays the frame number for the image currently in the animation window. As you step though or play your animation, this counter tracks with the corresponding images.

When you step forward onto the live view frame, the frame counter will display the frame number for this yet-to-be-captured image. At that point, the Frame Counter's number will match the number in the Capture Counter.

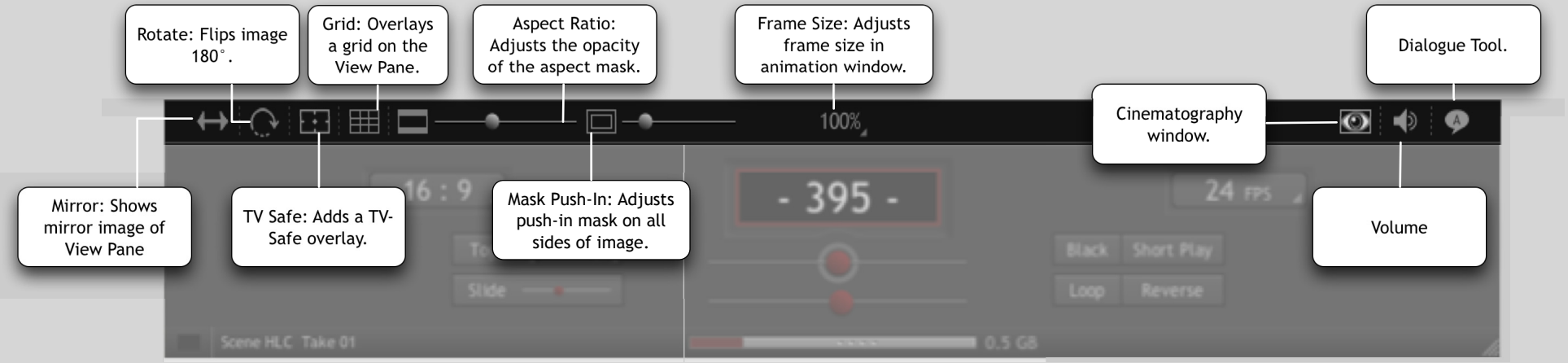
NOTE: For more information on choosing a video source, see "Choosing a Video Source" on page 39.

- When you're viewing the Live View, white dashes appear on either side of the frame number.
- When you're viewing a frame you've already captured, the number is white.
- When you've moved past the Live View, the number is gray. The options for stepping past the Live View are in the Preferences. See "Configuring General Preferences" on page 126 for more information about setting up Dragon's Preferences.

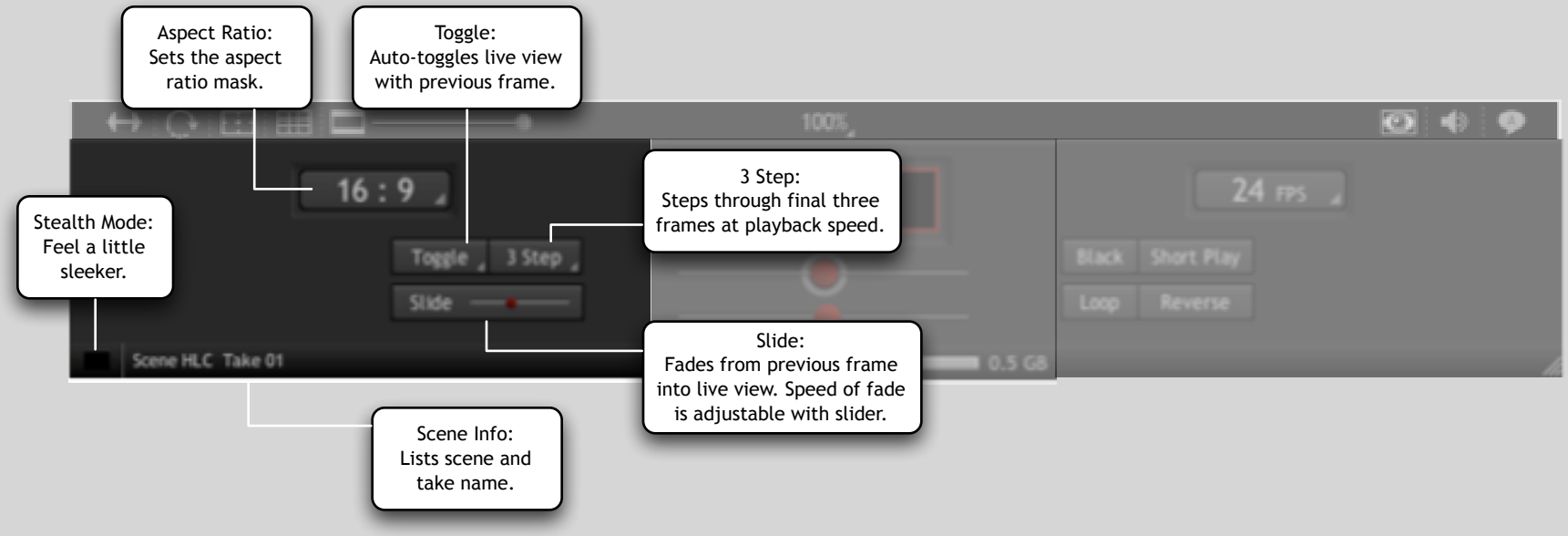
The Animation Tools

The tools at the bottom of the Animation window help you animate, help you control your image, and allow you to manage playback. The next few pages give a quick overview of the tools.

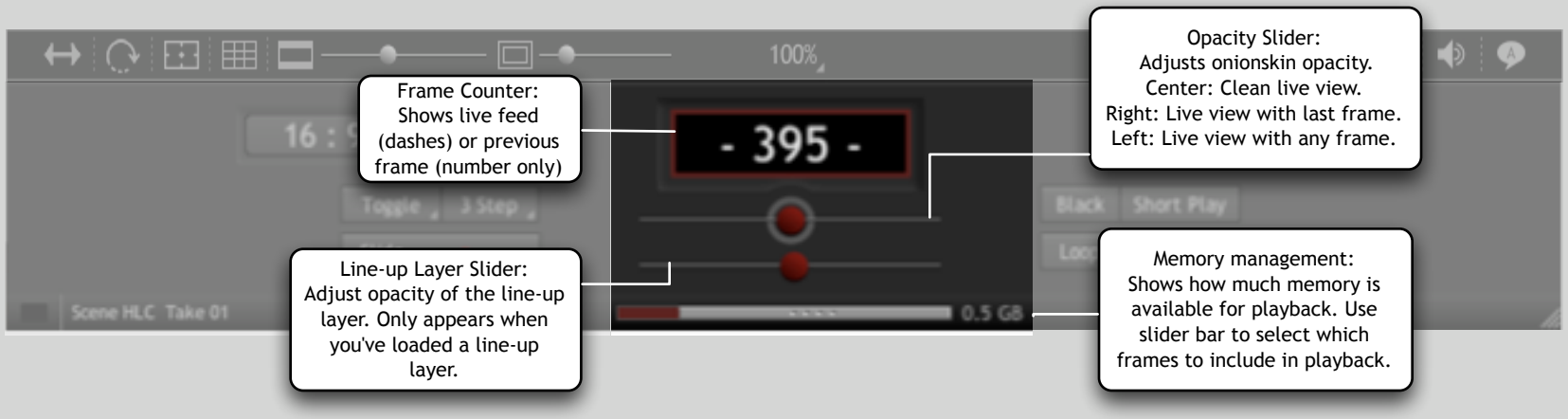
Animation Tools: Top



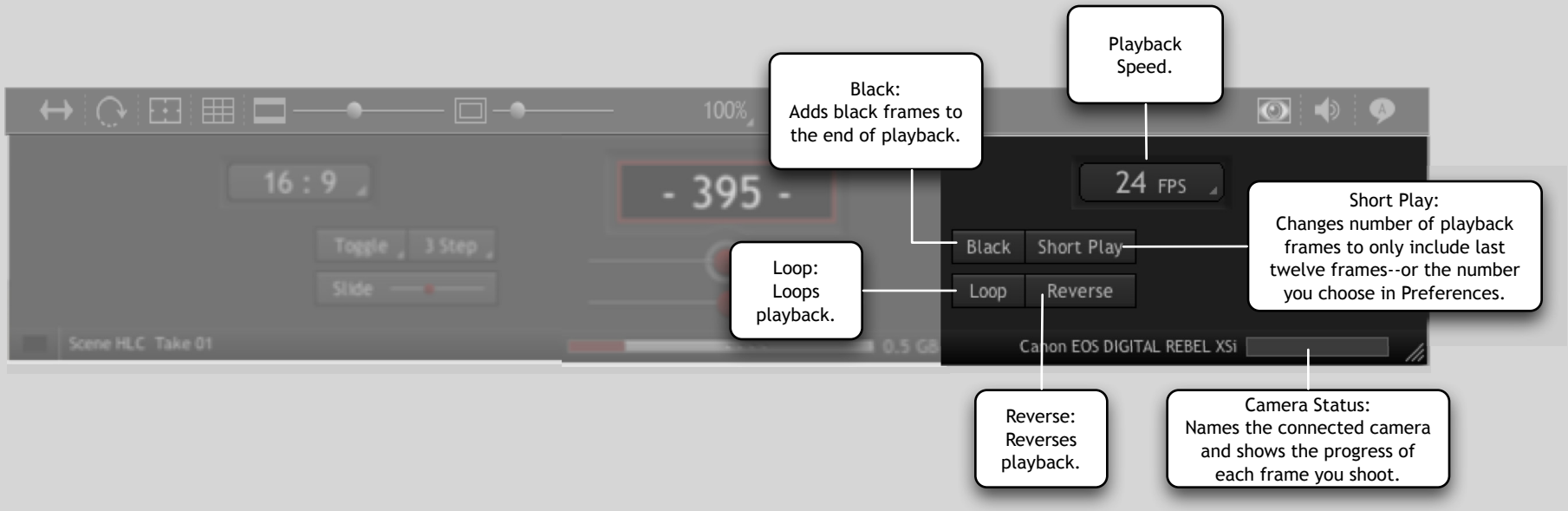
Animation Tools: Left



Animation Tools: Middle



Animation Tools: Right



These sections explain the more complex tools in depth:

This feature:	Is explained on page:
Aspect Ratio	78
Toggle	83
3-Step	85
Slide	85
Onionskin Opacity Slider	89
Frame Counter	16
Line-up Layer Slider	92
Black	83
Short Play	83
Dialogue Tool	97

The Animation Palette

The Animation Palette appears any time you move the mouse over the View pane, and disappears again when you move it over the rest of your computer screen. It contains five tools: Pan, Draw, Onionskin, Chroma Key, and Line-Up Layer.

Click and drag the title bar to move the Animation Palette anywhere in the View pane.

The sections referenced below give more information about each of the tools in the Animation Palette.

This feature:	Is explained on page:
Move	81
Draw	77
Onionskin	89
Chroma Key	95
Line-Up Layer	92

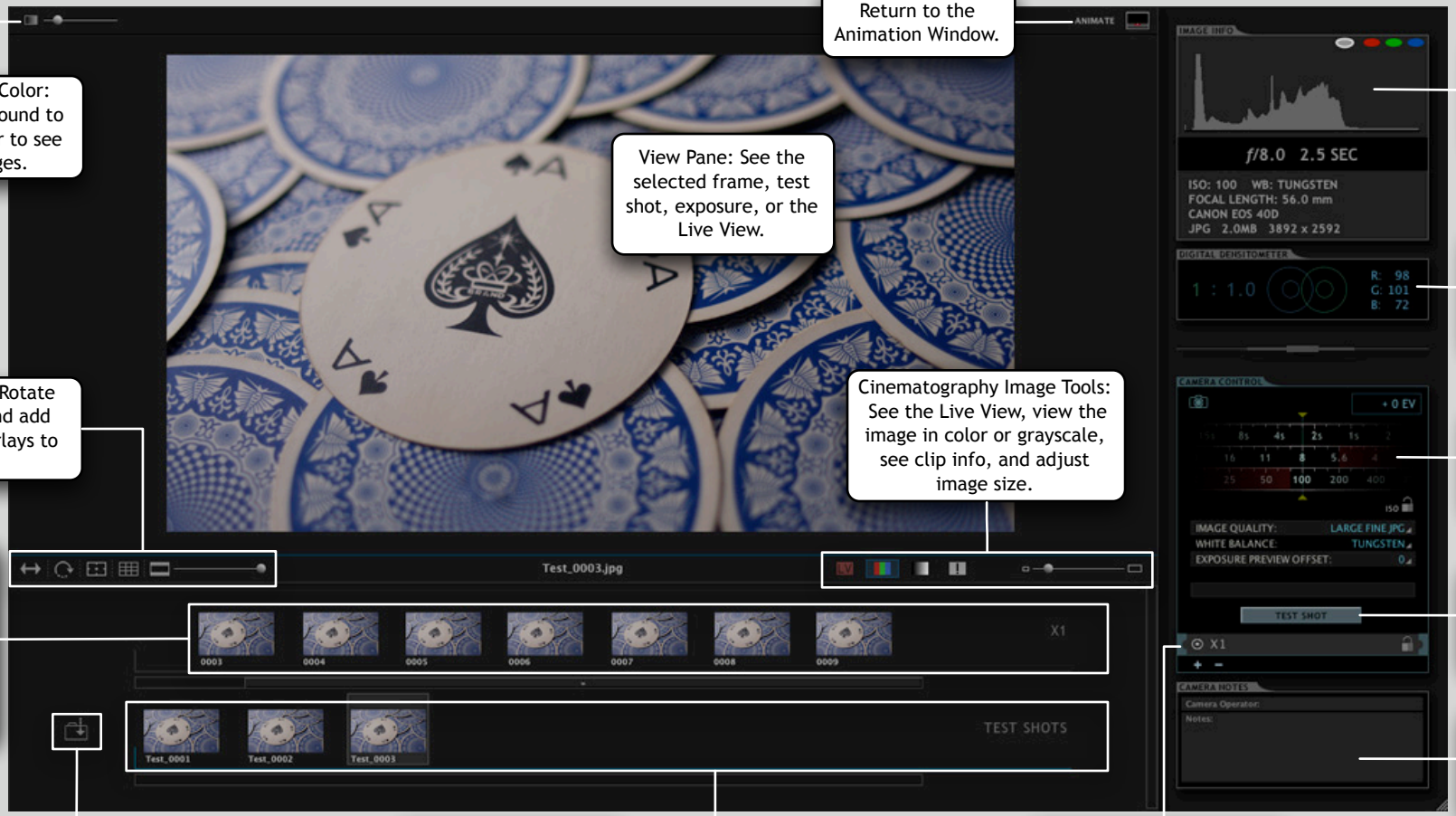
Getting Acquainted with the Cinematography Window

The Cinematography window allows you a place to set up the composition and exposure of your scene. Use the Cinematography window to adjust camera settings, take test shots, set up exposures with different camera settings, or test lighting.

The Cinematography window should be your first stop before animating. From there make sure your lighting, camera settings, and image quality are right. Once you start shooting, return to the Cinematography window during the shoot to make sure the scene's composition stays consistent.

The next page gives a visual overview of the Cinematography window's features:

Cinematography Window



Return to the Animation Window.

Background Color: Adjust background to make it easier to see image edges.

View Pane: See the selected frame, test shot, exposure, or the Live View.

RGB values and image information.

Digital Densitometer: View relative light values.

Image Tools: Rotate the image and add masks or overlays to it.

Cinematography Image Tools: See the Live View, view the image in color or grayscale, see clip info, and adjust image size.

Camera Control: Adjust and lock camera settings.

Exposure Images Tray: View the images from the exposure, in this case, X1. Click a thumbnail to view the image in the View Pane.

Test Shot: Take test shots with current camera settings.

Camera Notes: Add notes about the current setup.

Import Test Shots: Import any image into the Test Shot Tray.

Test Shot Tray: View test shots. Click a thumbnail to view the image in the View Pane.

Exposures: Add exposures and adjust and lock camera settings for each exposure.

The table that follows explains each of the features again, and links to where you can find more information about them:

Use this feature:	To:	For more info, see page:
View Pane	View full-res test shots, frames, or the lower-res Live View. Also, adjust the View Pane background and activate the Animation window.	58
Image tools	Use various tools, including clip, grayscale, orientation, masks, and image resizing.	58
Image thumbnails	Select the exposures or test shots to view, or import a test shot from another scene or source.	58
Image Info	View RGB values, as well as camera and image information	59
Digital Densitometer	Compare relative light values from areas within your chosen image.	59
Camera Control	Adjust and lock camera/exposure settings, take test shots, and work with exposures.	61
Camera Notes	Specify a camera operator and any relevant notes for the scene.	64

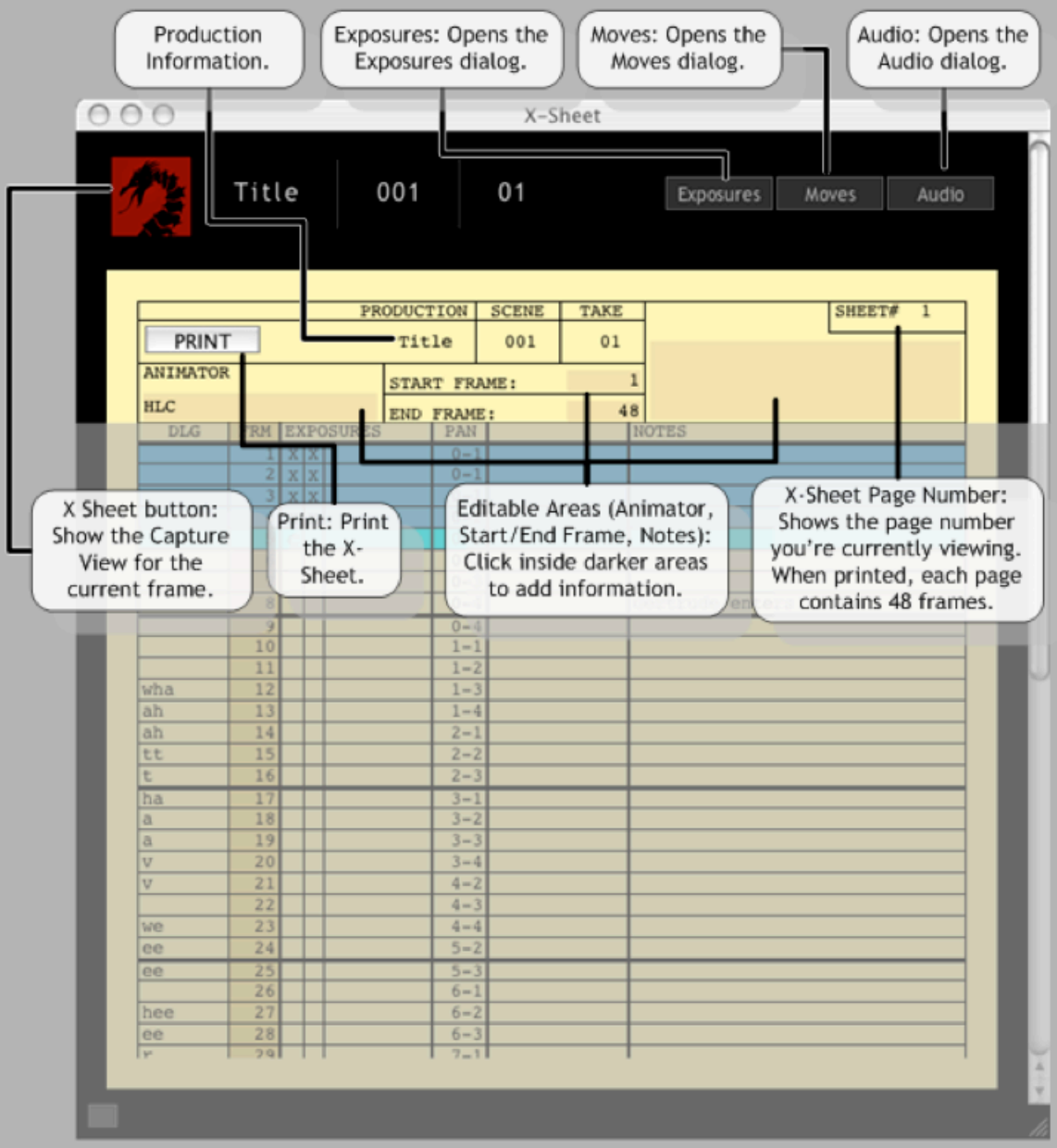
Getting Acquainted with the X-Sheet Window

The X-Sheet window shows an editable exposure sheet based on the production information for your scene. As you create your scene, adding audio cues, camera moves, and exposures for multiple passes, Dragon updates the X-Sheet. In addition, you can open the X-Sheet and edit it, changing the scene length, and adding reminders for a particular frame. You can also print a copy of your X-Sheet for a hard copy of your work.

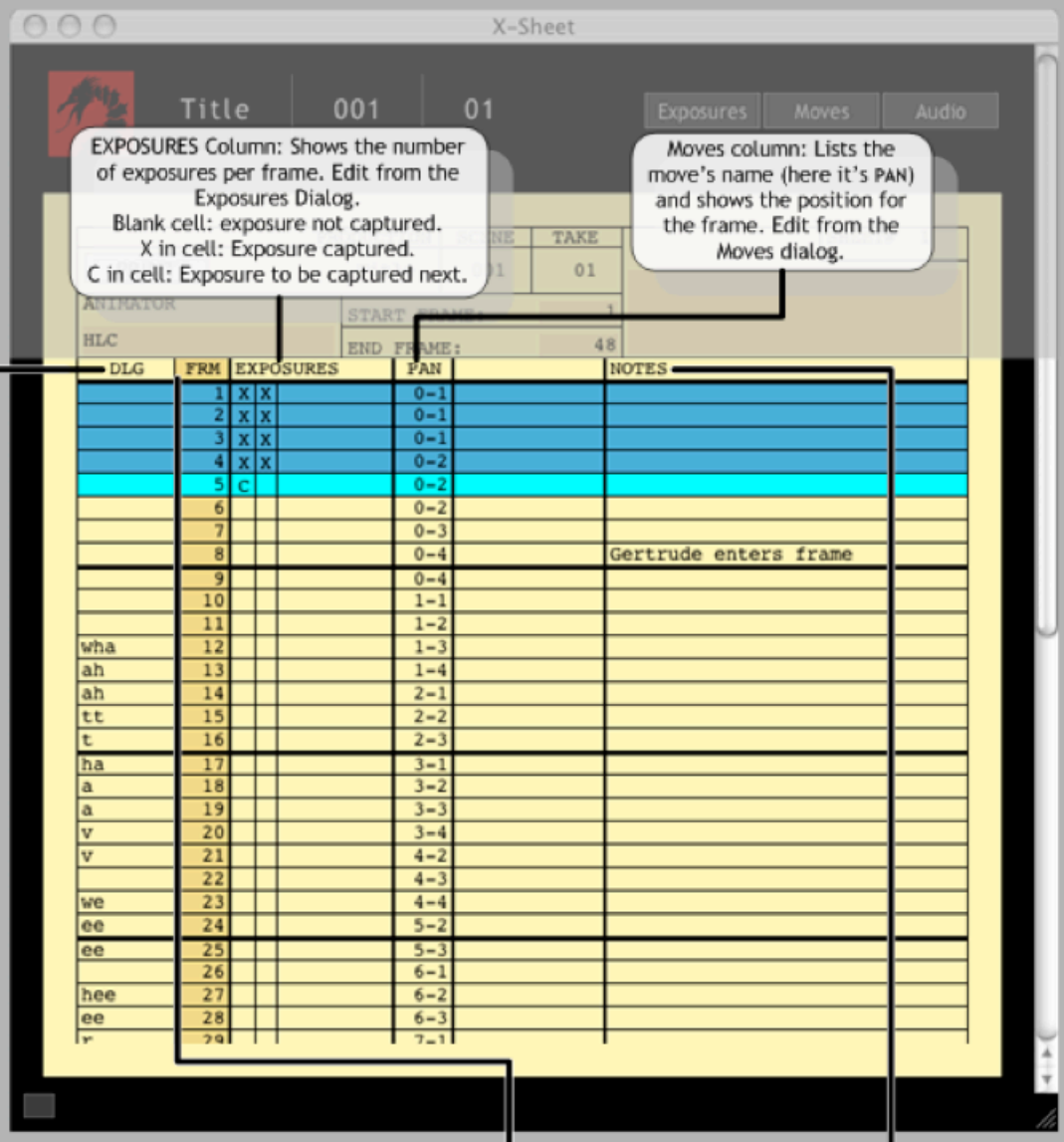
NOTE: See "Using the X-Sheet" on page 119 for more information on editing the X-Sheet.

The next two pages give a quick overview of the X-Sheet's features.

X Sheet: Header



X Sheet: Columns



Learning Dragon's Keypad Shortcuts

Use your computer's keyboard—especially its keypad-- to work with Dragon more efficiently. With the touch of a button, you can control Animation tools and your camera.

Click **WINDOW | OPEN KEYPAD** to open the Keypad window. This window helps you get acquainted with the keyboard shortcuts built into Dragon. From there, you can print a copy of the keypad to help learn its key presses.

Press:	To:	For more info, see page:
1	Step back through the frames.	N/A
2	Step forward through the frames.	N/A
3	Go to the Live View.	N/A
4	Play back the last two frames and the Live View.	85
5	Play back only some frames.	83
6	Toggle back and forth between the Live View and the last frame.	83
7	Place one second of black frames after the last frame.	N/A
8	Loop playback.	77
9	Cut back to the frame number you select. You can also delete any frames between the frame you're navigating from and the frame you're navigating to.	76
0	Play the scene.	77
ENTER	Shoot a frame.	N/A
=	Mute sound.	N/A
*****	Delete the frame you just captured.	73
.	Add a "slide" transition between the last frame and the Live View.	85

NOTE: Configure keyboard shortcuts ("hotkeys") from the Preferences dialog. See "Programming Hot Keys" on page 127 for more information.

The diagram on the next page gives a visual of how the keypad controls.

Keypad


200%
16 : 9
- 395 -
24 FPS
Toggle
3 Step
Slide
Black
Short Play
Loop
Reverse
Scene HLC Take 01
0.5 GB
Canon PowerShot S2 IS


Keypad
PRACTICE USING THE ACTUAL KEYPAD
clear
=
MUTE
/
*
DELETE
7
BLACK
8
LOOP
9
CUT BACK
-
ONION
4
3 STEP
5
SHORT PLAY
6
TOGGLE
+
ONION
1
STEP
2
STEP
3
LIVE
0
PLAY
.
ZOOM SLIDE IN
SHOOT
enter
PRINT THIS KEYPAD GUIDE

Understanding Dragon's Menus

Dragon's menus contain access to some of the tools you see in the Animation window, as well as to other Dragon features, such as the Exposure dialog, the Audio window, and the Preferences dialog. The next few pages give an overview of the menus, with links to more information.

The Dragon Menu

The Dragon menu gives you control over the program, including managing the preferences for your whole project.

Select this menu item:	To:	See this page for more information:
ABOUT DRAGON	View dialog with version information.	N/A
PREFERENCES…	Open the Preferences dialog. In Preferences, you can adjust settings for your entire project.	125
SERVICES >	Access Mac OS services.	N/A
HIDE DRAGON	Minimize the program.	N/A
HIDE OTHERS	Minimize any other programs' windows.	N/A
SHOW ALL	Show any other programs' windows.	N/A
QUIT DRAGON	Close the program.	N/A

The File Menu

The File menu allows you to create new scenes and takes, or open old ones. It also gives you access to roto-tools.

Select this menu item:	To:	See this page for more information:
NEW SCENE…	Open the New Scene dialog.	43
NEW TAKE…	Open the New Take dialog.	47
OPEN SCENE…	Open the Open Scene dialog.	46

Select this menu item:	To:	See this page for more information:
SWITCH TAKE >	View a drop-down list of takes associated with the scene you're working on.	48
CLOSE SCENE	Close the scene you're working on.	N/A
LOAD LINE-UP IMAGE…	Load a still image into the current scene.	92
LOAD LINE-UP MOVIE…	Load a Dragon scene or a QuickTime movie as a roto-layer.	92
IMPORT >	Import dialogue cues, camera moves, exposures, or drawings from another scene into the current scene. Or, import the phonetics from scrubbed audio.	48
EXPORT TO QUICKTIME…	Open a Create QuickTime dialog.	50
PRINT…	Print a copy of the X-Sheet.	124

The Edit Menu

The Edit menu allows you to undo actions.

Select this menu item:	To:	See this page for more information:
UNDO	Undo actions: capturing a frame, deleting a frame, cutting back (with or without deleting frames), or editing an audio clip.	N/A
REDO	Cancel any action you just undid.	N/A

The View Menu

The View menu gives you access to image tools.

Select this menu item:	To:	See this page for more information:
SIZE >	Select from a drop-down list of image sizes, such as **100%**, **50%**, etc.	N/A
ORIENTATION >	Select from a drop-down list of orientations, such as **MIRROR** and **ROTATE 180°**.	N/A
ASPECT RATIO MASK >	Select from a drop-down list of Aspect Ratios.	78
TV SAFE OVERLAY >	Select from a drop-down list of overlays and overlay options.	79
GRID	Overlay a grid on the View pane.	N/A
MASK PUSH-IN	Push in on the entire image to provide a margin for post-production work.	80

The Scene Menu

The scene menu gives you quick access to exposure and camera move setup, as well as the settings for the scene.

Select this menu item:	To:	See this page for more information:
EXPOSURES…	Open the Exposure dialog and to create multiple camera passes.	107
CAMERA MOVES…	Create hand-cranked camera moves.	113
SETTINGS…	Adjust settings for the scene you're working on.	128

The Capture Menu

The source menu helps you select a new video or capture source or control other aspects of your cameras.

Select this menu item:	To:	See this page for more information:
SHOOT SINGLE FRAME	Shoot a frame using your capture source.	67
SHOOT MULTIPLE /TIME-LAPSE…	Shoot more than one frame using your capture source. Or, set up and capture a time-lapse sequence.	Shoot multiple frames: page 68. Time-lapse: page 71.
SHOOT 2 FRAMES	Shoot two frames using your capture source.	68
SHOOT 3 FRAMES	Shoot three frames using your capture source.	68
SHOOT 4 FRAMES	Shoot four frames using your capture source.	68
SHOOT PREVIEW IMAGE	Use Dragon without a video source. Rather than seeing a live view to pencil test, you'll use a preview image.	69
CUT BACK…	Jump to a frame and delete the intervening frames, if desired.	76
VIDEO SOURCE >	Select from a drop-down list of video sources.	41
CAPTURE SOURCE >	Select from a drop-down list of capture sources.	41
CAPTURE PREFERENCES…	Within the Settings dialog, open the Capture tab.	41
PAUSE CAMERA	Pause your camera's Live View to avoid overheating.	131
RESET CONNECTIONS	Reset connections to cameras. If you manually disconnect then reconnect a camera, this is a quick way to have Dragon automatically detect it.	N/A

Select this menu item:	To:	See this page for more information:
LOCK/UNLOCK FOCUS	Lock the camera's focus (Canon PowerShot only).	65
ZOOM IN	Zooms in on the image (Canon PowerShot only).	65
ZOOM OUT	Zooms out from the image (Canon PowerShot only).	65

The Playback Menu

The Playback menu gives you access to various tools for playing back your scene.

Select this menu item:	To:	See this page for more information:
FPS >	Open a drop-down list of frame rates.	N/A
PLAY TO BLACK	Add black frames at the end of playback	83
LOOP	Loop playback.	N/A
SHORT PLAY	Only play some of the frames in the sequence back.	83
REVERSE	Play the sequence backwards.	N/A
TOGGLE >	Toggle the last frame and the Live View.	83
THREE STEP >	Play back the last two frames shot and the Live View.	85

The Window Menu

The window menu allows you to open, close, minimize, or maximize Dragon's three main windows.

Select this menu item:	To:	See this page for more information:
MINIMIZE ALL	Minimize all Dragon's windows.	N/A

Select this menu item:	To:	See this page for more information:
SHOW/HIDE CINEMATOGRAPHY	Open the Cinematography window, or close it if it's already open.	22
SHOW/HIDE X-SHEET	Open the X-Sheet window, or close it if it's already open.	119
SHOW/HIDE KEYPAD	Open the practice keypad, or hide it if it's already open.	27
SHOW/HIDE PLAY BACK SECTION	Open the Play Back Section window, or hide it if it's already open.	83
ANIMATION – [PROJECT NAME]	Open or close the Animation window.	11

The Help Menu

The Help menu links to various tools for getting help with your questions about Dragon.

Select this menu item:	To:	See this page for more information:
USER MANUAL	Open the current version of this manual.	N/A
WEB SITE SUPPORT	Open an Internet browser and link to Dragon's support website.	N/A
REQUEST SUPPORT	Open an Internet browser and access Dragon's Help Ticket site. There you can open a "ticket"—a description of a bug or problem. The Dragon team resolves or addresses each ticket and posts updates on the Help Ticket site. Every ticket is assigned a number, allowing you to track the resolution of your ticket.	N/A

Select this menu item:	To:	See this page for more information:
ENTER LICENSE	Enter a license key if you've just switched from a trial version of Dragon to the full version.	N/A

Setting up Video and Capture Sources

Dragon generally uses two image sources while shooting.

The first, a live video source, allows you to step to the live view from the captured frames, and gives you access to a variety of Dragon's animation tools.

The second is a digital still camera shooting in sync with the video. These frames make up your final animation.

You don't *have* to use both image sources to use Dragon. For example, you might want to use Dragon as a feed-only frame grabber: using a digital video camera to preview your animation, but a film camera to capture your full-res images. Or, you might work without a video source, using the still images captured from your cameras to preview frames.

> **NOTE:** If you choose to work without a video source, the way that you preview your animation is different then if you use a live view. See "Capturing Images and Navigating Through Your Frames without a Video Source" on page 69 to learn how to work without a video source.

The sections that follow explain how to choose your video and/or capture sources and switch sources in the middle of a shoot.

- "Using Dragon with Your Gear" on page 37 gives a broad overview of how Dragon will work with your equipment.
- "Choosing a Capture Source" on page 38 explains how to choose cameras that work with Dragon to capture production-quality frames.

- "Choosing a Video Source" on page 39 explains how to choose cameras that work with Dragon to provide a live feed.
- "Controlling Your Camera with Dragon" on page 40 explains how to control frame captures with Dragon.
- "Switching Video or Capture Sources Midstream" on page 41 explains how to change which video or capture source you're using in the middle of a scene.

Using Dragon with Your Gear

The sections that follow give specific tips for different camera configurations you might use with Dragon. It also explains how each configuration works with Dragon.

NOTE: See http://www.dragonstopmotion.com/camera.html for a current list of supported cameras, along with setup tips, and links to manufacturer product pages.

DSLR with Live View

This is the optimum configuration for Dragon. Both the video feed frames for previewing animation and the high-res capture frames (which can include RAW) are pulled from the same camera. When you connect your camera to your computer, Dragon will automatically detect that you have a DSLR with Live View and set up the sources accordingly.

Video Only

If you are shooting with video only, Dragon will extract feed frames and capture frames from the same video signal. When you shoot, Dragon grabs a low-res preview image for frame flipping. It also generates a high quality still from the video stream and saves it in the captured frames folder. See "Finding Your Source Files" on page 53 for more information about finding your still frames.

DSLR without Live View and a Separate Video Source

Many people set up their preview frames from a separate DV or HD camera while shooting high-res frames from a DSLR. Some people set up spy cams that look through the DSLR's viewfinder. Or, you can set up a DV camera close to your DLSR. Check your animation with the video preview frames; Dragon grabs the high-res frames from the DSLR.

Motion Picture Film and a Video Source

Dragon works very well for film. Set up Dragon with a video signal from the film camera's video assist. You will need to convert the analogue signal to DV.

If you do not have video assist, set up a DV camera alongside the film camera.

Whether you use video assist or not, you will need to trigger the film frames from a separate control.

Digital Camera without Live View and without Live Video

If you're unable to work with a video feed for some reason (your camera doesn't support Live View, and you don't have a digital video camera, you can use Dragon to shoot "preview" frames that substitute for a Live View. See "Capturing Images and Navigating Through Your Frames without a Video Source" on page 69 for more information about working without a video feed.

Choosing a Capture Source

If you're not sure what type of gear you'll use with Dragon, the next two sections will help you select your equipment.

The capture source is the camera you use to capture full-res images—the individual frames of your animation feature. You can use a variety of capture sources with Dragon:

- **A supported digital still camera.** Dragon detects your camera's images automatically, allows you to control the camera from your computer's keypad, and saves the full-res images for you using a built-in file hierarchy. The file used depends on your camera, and the settings you choose (for example, JPEG or RAW).

  NOTE: For most cameras, select the file type for your stills from the Cinematography window.

- **A supported digital video camera.** Dragon detects the video feed automatically, allows you to capture stills automatically using your computer's keypad, and saves the images for you as uncompressed TIFF files using a built-in file hierarchy.

- **A film camera.** You can't control the camera with Dragon, and you must keep track of the film yourself. However, you can use Dragon's Live View capabilities to test your animation to prepare it for capture. See "Choosing a Video Source" on page 39 for more information about finding a Live View.
- **An unsupported digital still camera.** You can't control the camera with Dragon, and your files will not save automatically. However, you can use Dragon's Live View capabilities to test your animation to prepare it for capture. See "Choosing a Video Source" on page 39 for more information about using Live View.

NOTE: See http://www.dragonstopmotion.com/camera.html for a current list of supported cameras.

Choosing a Video Source

Most animators will also use a video source while animating. The video source gives you a live image of your set so you can fine-tune it before capturing full-res images.

NOTE: You can use Dragon without a video source. However, the way that you preview your animation is different then if you use a live view. See "Capturing Images and Navigating Through Your Frames without a Video Source" on page 69 to learn how to work without a video source.

There are a number of cameras you could use to capture a live feed:

If you're using this type of camera for your capture source:	You could use this for your video source:
A camera (still or video) with a live feed.	The Live View on the camera. This could include: • The live feed accessible through a USB cable. For example, the Canon 40D. • A live analog feed, such as NTSC or PAL feed connected to your computer through an analog-to-digital converter.

If you're using this type of camera for your capture source:	You could use this for your video source:
A camera without a live feed.	• A digital video camera. • A lipstick camera or spy cam set up through your capture camera's viewfinder. • An analog video source connected to your computer through an AV/DV bridge.

NOTE: See http://www.dragonstopmotion.com/camera.html for a current list of supported cameras.

Once you choose the video source for your project, connect it to your computer according to the manufacturer's directions. When you open Dragon, the program will automatically detect the video source. The Live View appears in the View pane.

NOTE: If you open Dragon without first connecting to a video source, the View pane will be black, and will read **NO VIDEO SOURCE.** Connect to a video source, then select it in the Preferences window. See "Switching Video or Capture Sources Midstream" on page 41 to learn how to select a video source.

Controlling Your Camera with Dragon

If you have a supported digital camera, you can use Dragon to control it.

- To shoot stills, press **ENTER**.
- To shoot multiple frames at once, press and hold **ENTER.** The Shoot Multiple Frames dialog appears.
  Enter the number of frames you want to shoot and click **OK**. Dragon shoots the number of frames you specified.

NOTE: See **HTTP://WWW.DRAGONSTOPMOTION.COM/CAMERA.HTML** for a current list of supported cameras.

NOTE: Dragon may also be able to adjust some of your camera settings. However, this will vary, depending on the camera. If settings are available, you can adjust them from the Cinematography window. See "Working with Exposures and Camera Settings" on page 61 for more information.

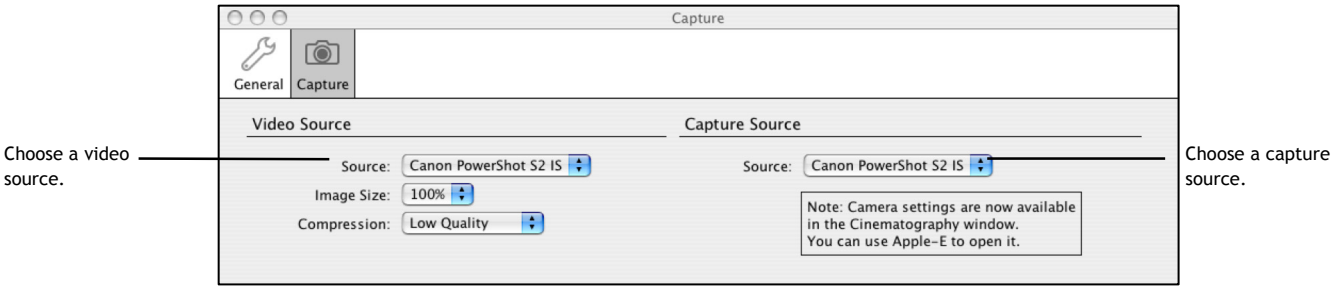
Switching Video or Capture Sources Midstream

If you decide to change the camera you're using to capture full-res stills, or you forgot to connect your video camera to your computer before opening Dragon, you can select a new source.

To select a video or capture source:

- Press **COMMAND R** to reset the connections to any cameras you've connected to your computer.
- Select **CAPTURE | VIDEO SOURCE |** your video source's name.
- Select **CAPTURE | CAPTURE SOURCE |** your camera's name.
- Or use the Scene Settings dialog:

1. From the Scene menu, click **SETTINGS**. The Scene Settings window appears:



2. Select the new video source or the capture source from the appropriate drop-down list.

   NOTE: Dragon detects video sources and cameras automatically. If the source doesn't appear in the drop-down list, there is either a problem with its connection to your computer, or Dragon does not support it.

   See **HTTP://WWW.DRAGONSTOPMOTION.COM/CAMERA.HTML** for a current list of supported cameras.

The settings for the source appear.

3. Adjust the settings if you wish, and close the Preferences window.

   NOTE The other settings that appear for your video or capture source are associated with your camera, and may vary. Consult your camera's manual for more information about its settings.

Managing Your Project and Files

Dragon organizes your files for you as you create new projects. When you open Dragon for the first time, it will prompt you to create a Dragon scene file. Dragon then organizes your project for you, keeping your frames, exposures, takes, and scenes in order.

The sections that follow explain how to create new scenes or takes, as well as how to open already-created ones. Finally, it gives an overview of Dragon's file organization, so you can easily find your files.

- "Creating a New Scene" on page 43 explains how to get a new project started when you open Dragon for the first time.
- "Opening a Previously-Shot Scene" on page 46 explains how to open projects you've already worked on.
- "Creating a New Take" on page 47 explains how to start a new take for a scene.
- "Switching Takes" on page 48 explains how to switch to a different take for a scene.
- "Importing Scene Settings" on page 48 explains how to import move, exposure, or audio settings from a different scene into a new scene.
- "Creating a QuickTime Movie of Your Scene" on page 50 explains how to export a QuickTime of the scene you're working on.
- "How Do I Export My Final Frames into After Effects or Final Cut Pro" on page 53 explains how to access your full-res frames for post-production.
- "Finding Your Source Files" on page 53 explains how Dragon organizes your files.

Creating a New Scene

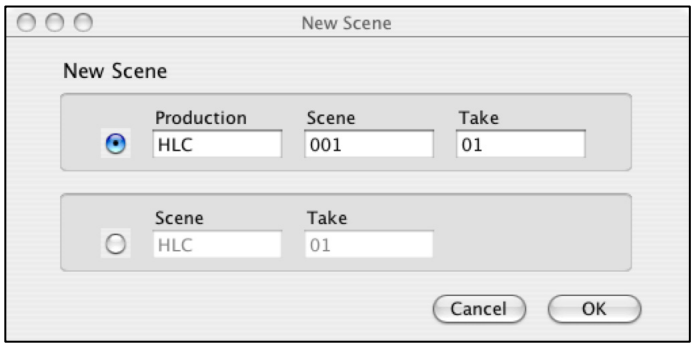
When you open Dragon, you're prompted to set up the naming convention you'll use for your project. Doing so at the beginning of your project makes it easier to keep your project organized. Dragon's naming conventions are based on the classic Hollywood clapboard: production, scene, and take. When you start a new project, you have the choice of two naming conventions:

- Production, Scene and Take. This is the default preference for Dragon. Using all three levels of organization makes it possible to work on more than one project at once without confusing scene names.
- Scene and Take. This is a quicker, easier option, but may be harder to use if you work on multiple projects that overlap.

When you open Dragon, the splash screen appears.

1. Click **NEW SCENE**.

The New Scene dialog appears.

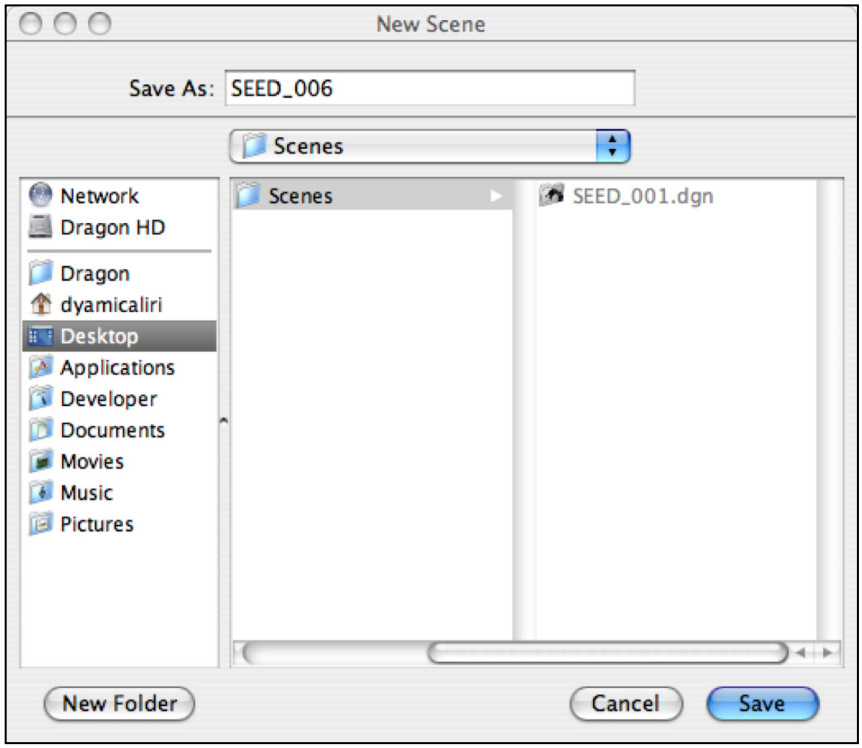


2. (Optional) Click the Scene and Take radio button to choose that naming convention.
3. (If applicable) Enter a production name or number, up to five characters.
4. Enter a scene name or number, up to three characters.
5. Enter a take name or number, up to two characters.

   NOTE: Change the length of the production, scene and take names from the Advanced Preferences dialog. See "Configuring Advanced Preferences" on page 128 for more information.

6. Click **OK**.

The New Scene dialog opens.



The filename of your project will depend on which naming convention you chose.

- If you chose the Production/Scene/Take convention, the project will be saved with the file convention **PRODUCTION NAME_SCENE NAME.DGN**. For example, the name could be Seed_001.dgn
- If you chose the Scene/Take convention, the project will be saved with the file convention **SCENE.DGN**. For example, the name could be Seed01.dgn.

NOTE: Even though the project has a file extension (.dgn), it is a *folder*, not a single file. All the files that make up your project (such as capture frames) will be stored within that top folder. That means that:

- You can't open a .dgn file by double-clicking it.
- You can't drag and drop a .dgn file onto Dragon's icon to open the file.

Storing your files this way makes it easier to work with post-production software like After Effects or Final Cut Pro.

For more information about how Dragon organizes your files, see "Finding Your Source Files" on page 53.

7. Navigate to the folder on your hard drive where you'd like to save Dragon projects.
8. Click **SAVE**.

The Animation window opens.

NOTE: The first time you open Dragon, the Keypad window opens. Use it to learn Dragon's default keyboard shortcuts. See "Learning Dragon's Keypad Shortcuts" on page 27 for more information.

If you have a supported video source connected, the feed will open in the View pane automatically. If no supported camera is connected, the window will read **NO VIDEO SOURCE**.

NOTE: See "Setting up Video and Capture Sources" on page 36 for more information on connecting cameras to Dragon.

Opening a Previously-Shot Scene

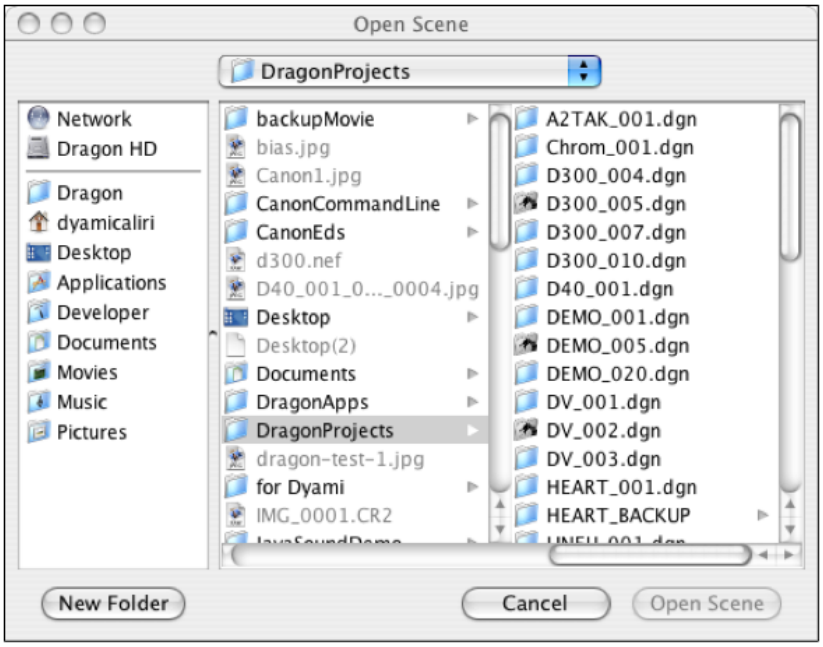
Once you've created a scene, you can always open it back up to continue work. When you open an old scene, Dragon will also prompt you to open a take you've already worked on, or start a new take.

NOTE: To learn how Dragon organizes your files, see "Finding Your Source Files" on page 53.

To open a scene:

1. Click **FILE | OPEN SCENE.**

The Open Scene dialog opens.



2. Navigate to the folder where you store your scene files, and select the scene you want to open. Dragon displays a preview image of the scene to help you make sure that you're opening the correct scene. Use the slider button to scroll through the frames, if you wish.

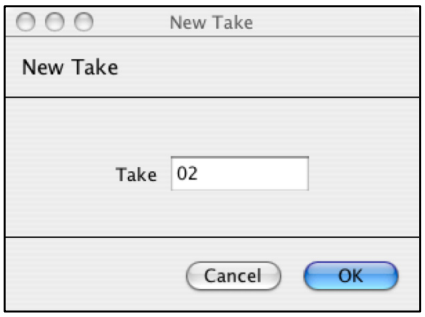
3. Click **OK.**

The Open Take dialog opens, along with a preview image of the highlighted take Use the slider button to scroll through the frames, if you wish.

4. Select a take:

   - Select a take that you've already created. Dragon opens the Animation window and loads the frames you've already shot.
   - OR, click **NEW TAKE**.

Dragon opens the New Take dialog:



Enter the take number, or take name (such as **CP** for clean pass) and click **OK**. Dragon opens the Animation window with the scene you selected.

NOTE: Change the length of the production, scene and take names from the Advanced Preferences dialog. See "Configuring Advanced Preferences" on page 128 for more information.

Creating a New Take

You can create a new take of a scene at any time. For example, if you need to do a clean pass for post-production, create a new take for the scene.

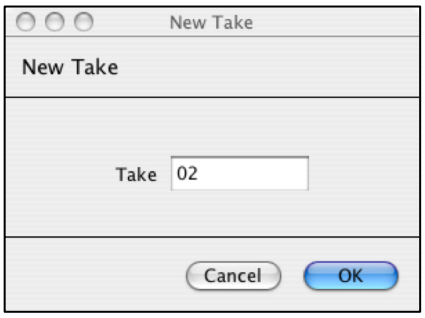
Dragon will store those files with other takes from the same scene. To learn how Dragon organizes takes, see "Finding Your Source Files" on page 53.

NOTE: The take allows you do a second pass of an entire sequence of frames. If you want to do multiple exposures of each frame in its turn, (to create a front light-/backlight-style sequence, for example) use the Exposure feature. See "Adding an Exposure to Your Scene" on page 108.

To create a new take:

1. Select **FILE | NEW TAKE.**

The New Take dialog opens.



2. Enter the take number, or take name (such as **CP** for clean pass).

   NOTE: Change the length of the production, scene and take names from the Advanced Preferences dialog. See "Configuring Advanced Preferences" on page 128 for more information.

3. Click **OK**. Dragon creates a new take within the Scene folder and opens the Animation window. Since you're starting a new take of the same scene, the Capture and Frame Counters will indicate that you're ready to capture the first frame.

Switching Takes

To revert to a different take of the scene you're shooting, click **FILE | SWITCH TAKES** and select the take.

Dragon closes the take you were working on and loads the frames from the take you select.

Importing Scene Settings

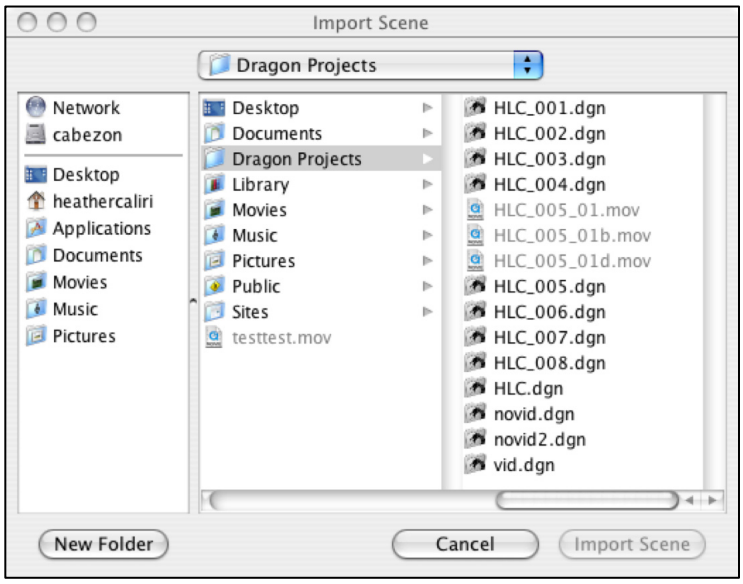
You can import exposures, camera moves, dialogue cues, or the drawing layer from other scenes into the scene your working on. For example, if you set up a backlight exposure in one scene, you can import those settings into every scene for your project to save time.

NOTE: By default, each new take you create has the same settings as the scene it was created within.

To import settings:

1. Click **FILE | IMPORT> | SCENE SETTINGS**.

Dragon opens the Import Scene dialog:

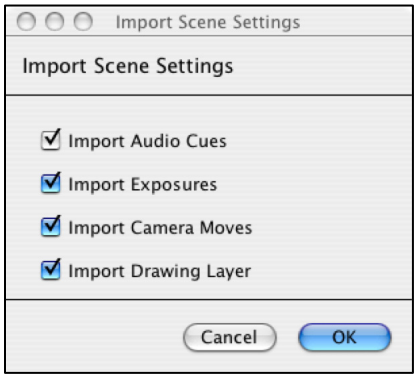


NOTE: When you select a scene, Dragon opens a preview image of the first frame of that scene. Use the scroll button at the bottom of the image to scroll through all the frames in the scene.

2. Select the scene you want to import settings from. Click **IMPORT SCENE**. Dragon opens the Open Take dialog:

NOTE: When you select a take, Dragon opens a preview image of the first frame of that take. Use the scroll button at the bottom of the image to scroll through all the frames in the take.

3. Select the take you want to use and click **OPEN TAKE.** Dragon opens the Import Scene Settings dialog. By default, all the settings for the scene are selected:



4. (Optional) Uncheck the settings that you do not want to import.
5. Click **OK** to import the settings.

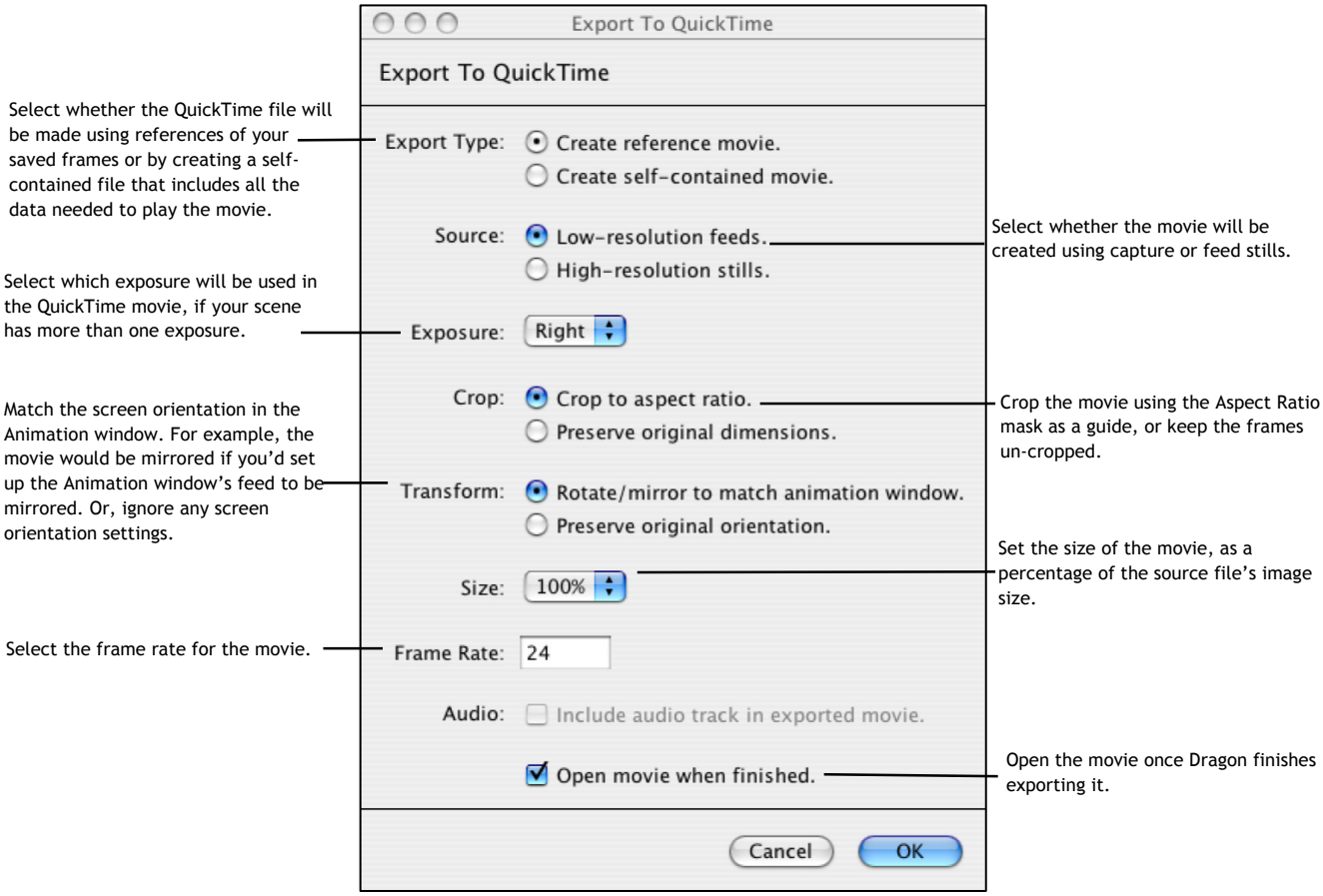
Creating a QuickTime Movie of Your Scene

Export the frames in the scene you're working as a QuickTime movie. That way, you can get a quick preview of your scene, or have a simple way of producing your project.

To export a QuickTime Movie:

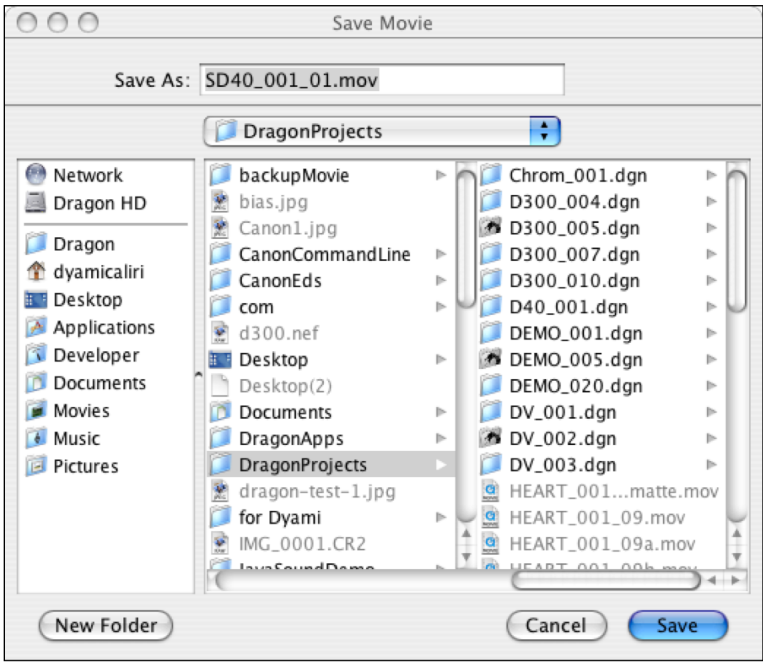
1. Click **FILE | EXPORT TO QUICKTIME**.

The Export to QuickTime dialog appears:



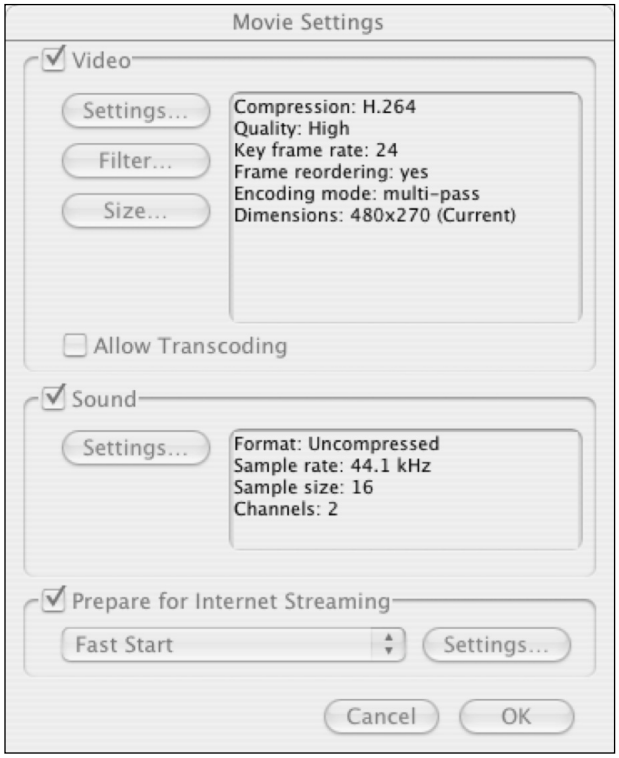
2. (Optional) Change any settings necessary.
3. Click **OK**.

Dragon opens the Save Movie dialog:



4. Navigate to where you want to save the movie and click **SAVE**.

Dragon opens the Movie Settings dialog:



5. Adjust any settings necessary. Go to QuickTime support for more information about these settings. Click **OK**.

Dragon exports the movie. If you've selected to view the movie after the export is complete, it will appear in its own QuickTime window.

How Do I Export My Final Frames into After Effects or Final Cut Pro?

Dragon gives you direct access to all your source files. You can use those frame sequences directly in AfterEffects. Rather than having to export your files into post-production software, just open the source files. See "Finding Your Source Files," below, for more information on how Dragon organizes your files.

With Final Cut Pro, you must export a QuickTime movie or QuickTime reference movie from Dragon. FCP will then recognize the movie and you can work with your files. See "Creating a QuickTime Movie of Your Scene" on page 50 for more information.

Finding Your Source Files

To keep your files organized, Dragon creates a file hierarchy automatically as you create new scenes and takes. The capture files and the feed files are always stored in the same place within the hierarchy. Learning Dragon's organizational system will allow you to get access to those files anytime.

The next page gives an overview of the main folders that make up Dragon's color-coded file hierarchy.

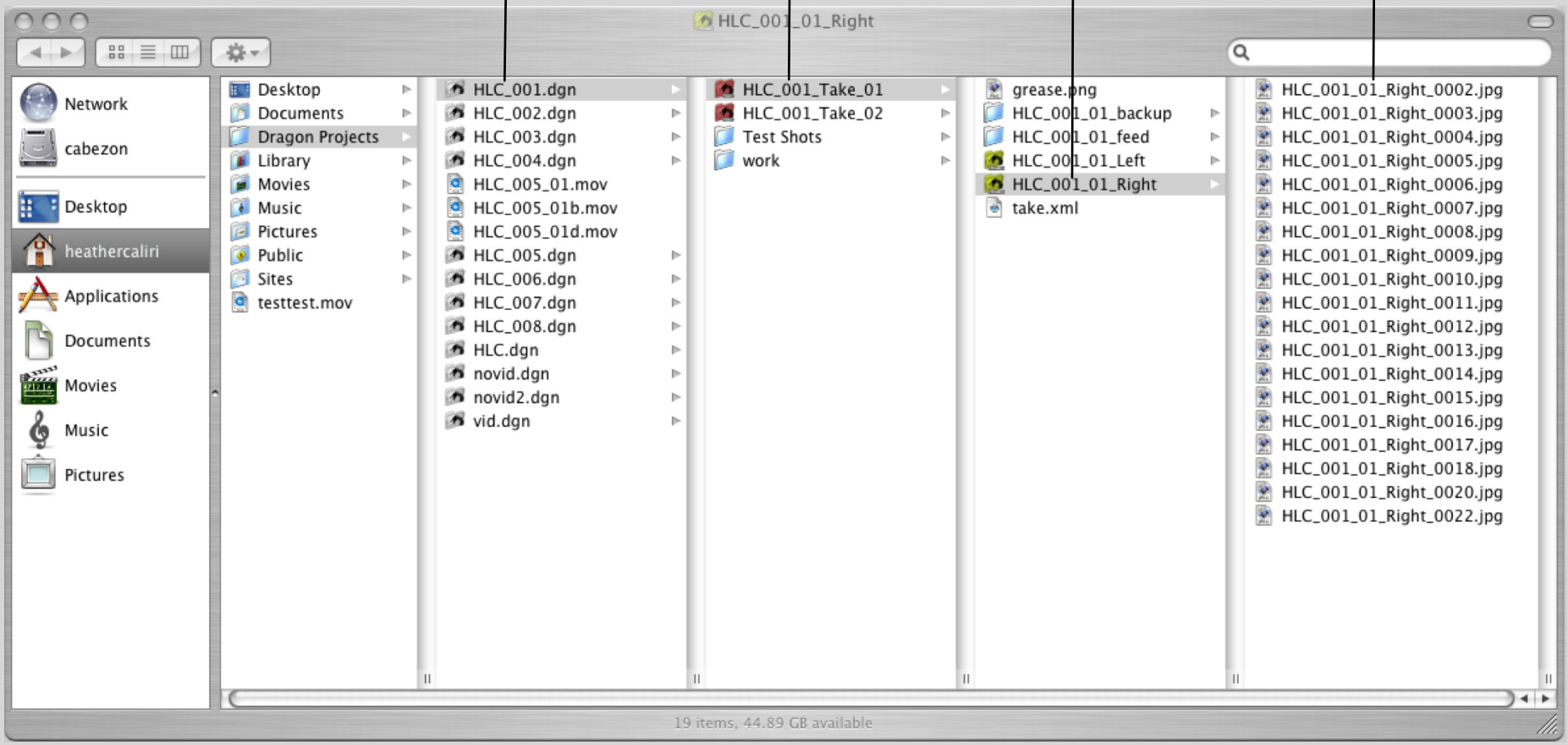
File Hierarchy: Standard

Scene Folder:
Production_Scene.dgn

Take Folder:
Prod_Scene_Take_##

Exposure Folder:
Prod_Sc_Tk#_Exposure

Capture Images:
Prod_Sc_Tk#_Ex_Frame#.jpg
(OR other file extension)



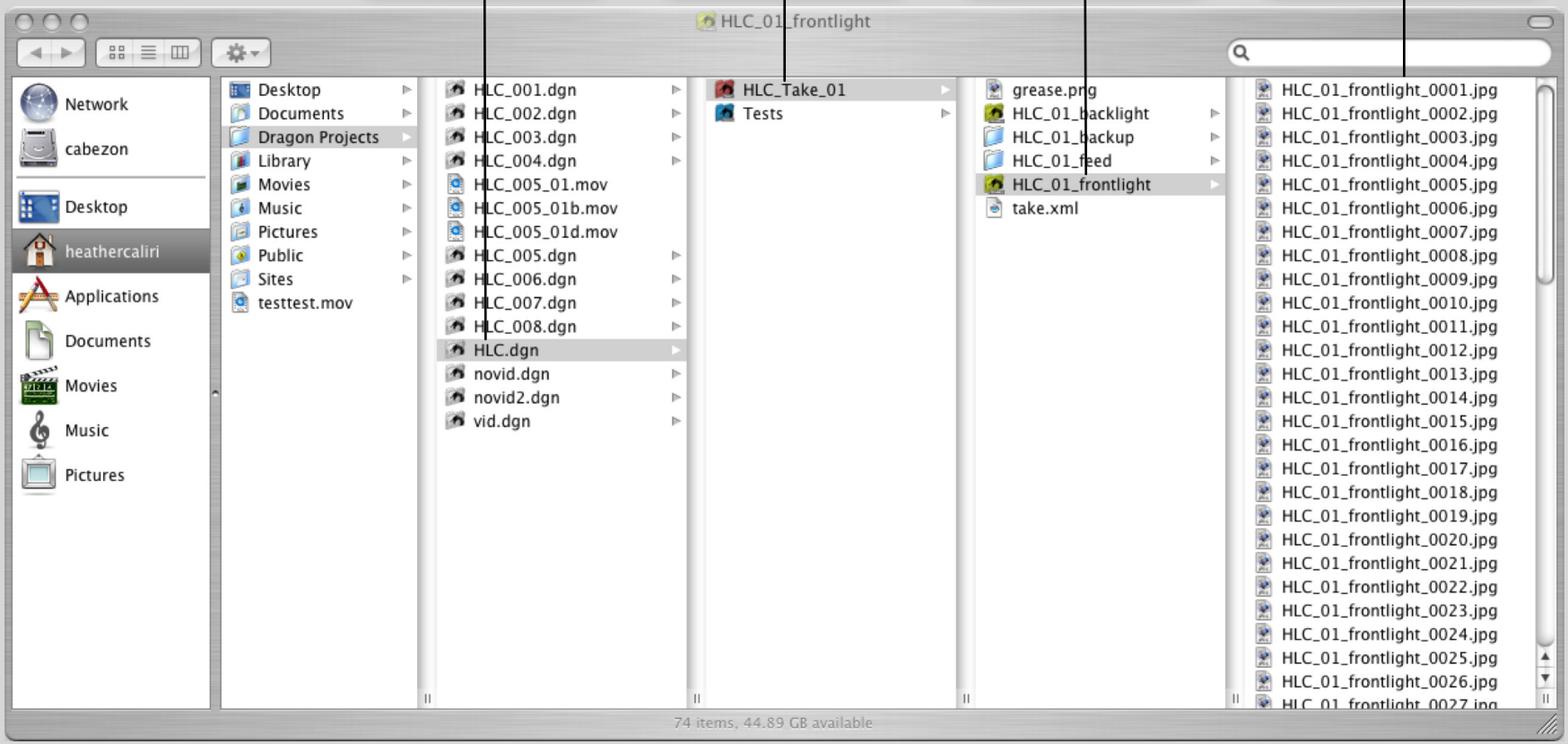
File Hierarchy: Short

Scene Folder:
Production.dgn

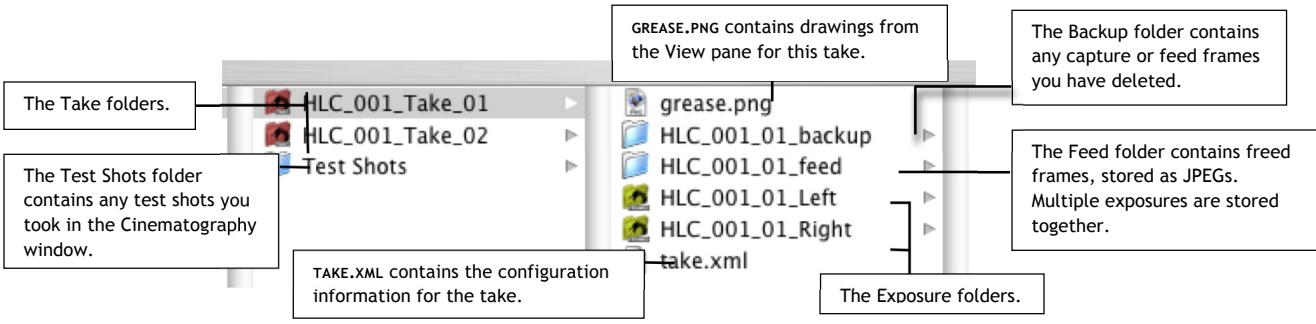
Take Folder:
Scene_Take_##

Exposure Folder:
Sc_Tk#_Exposure

Capture Images:
Sc_Tk#_Ex_Frame#.jpg
(OR other file extension)



Besides holding the Exposure folders, the red Take folder also contains folders that hold your feed frames, any backups, and other program information, as shown below.



NOTE: Your captured images, stored in the green Exposure folder, will be saved in whatever file format your camera uses (such as JPEG or RAW). Change the file convention your camera uses from the Cinematography window. See "Working with Exposures and Camera Settings" on page 61 for more information about adjusting camera settings.

Setting Up Your Shot

As you prepare to start shooting frames, Dragon allows you to fine-tune camera settings, work with exposures, and capture test shots from the Cinematography window. The Cinematography window also allows you to look at full-resolution images—your test shots, previously shot frames, other images you import, or even the full-res view. All of these tools help you to get your scene dialed in and perfect *before* you start shooting anything; and help you maintain the quality of your scene throughout the shoot.

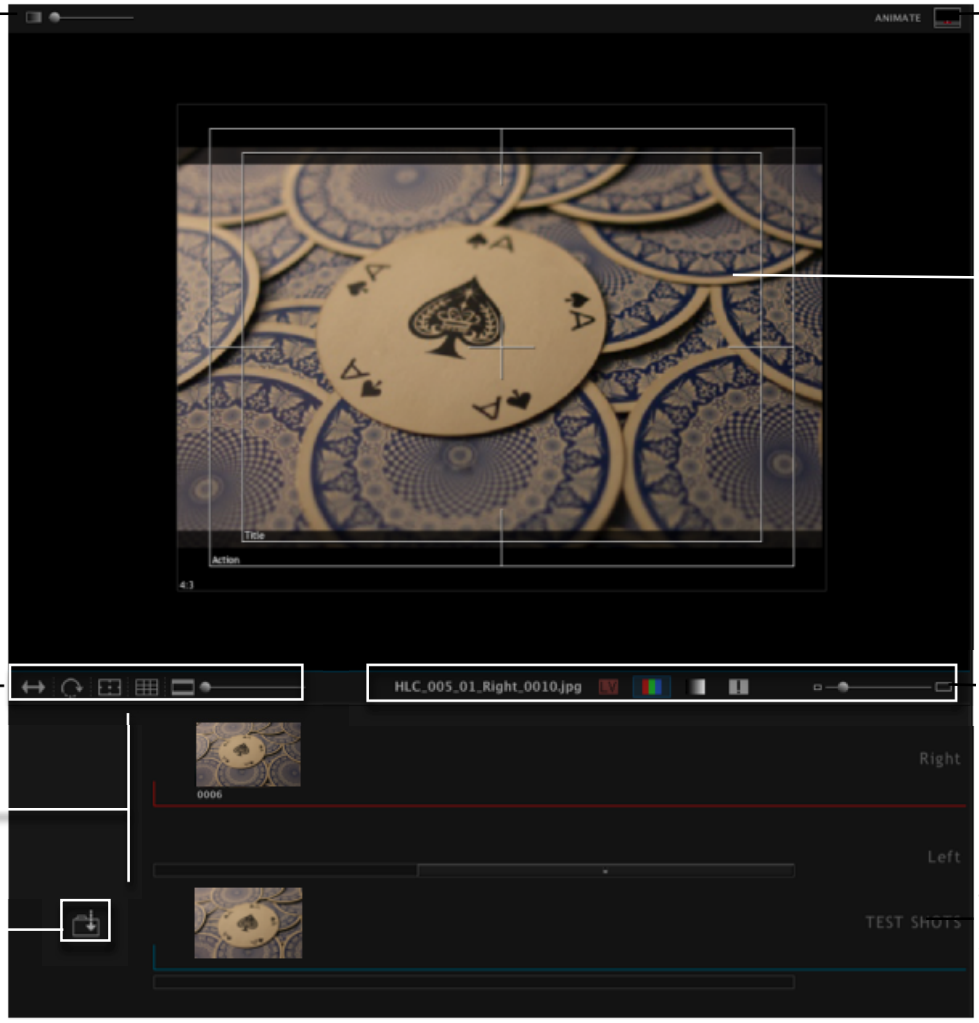
The sections that follow explain all of the Cinematography window's capabilities:

- "Working with Test Shots, Full-res Images, and the Live View" on page 58 explains how to navigate through text images, exposures, and the Live View, as well as use the Cinematography image tools.
- "Viewing Image Information" on page 59 explains how to use the histogram.
- "Reading Light Values with the Digital Densitometer" on page 59 explains how to compare light values of different areas in a test shot or frame.
- "Working with Exposures and Camera Settings" on page 61 describes how to adjust settings like ISO and shutter speed, as well as how to add multiple passes (exposures) with their own camera settings.
- "Adding Camera Notes" on page 64 for more information about adding notes to the Cinematography window for your scene.
- "Adjusting Focus and Zoom with the Canon PowerShot Camera" on page 65 describes how to work with the PowerShot's auto-focus.

Working with Test Shots, Full-res Images, and the Live View

The left side of the Cinematography window allows you to view test shots, exposures or the live view. Once you view images, you can use tools (like grayscale, clip, and image resizing) to help you set up your next shot and evaluate frames.

The image below gives more information about the left side of the Cinematography window:



View Pane Background Slider: Adjust the color of the background.

Animate: Click to return to the Animation window.

View Pane: View the selected test shot, frame (exposure) or the Live View.

Image Tools: These tools appear in both the Cinematography and Animation Windows. See page 63 for more information about using these tools in either window.

Exposures: Any exposures you've created appear in their own row. Click any thumbnail to view the full-res image in the View Pane. See page 57 to learn how to work with multiple exposures.

Import Image: Import a test shot (or any image) from outside the scene so you can compare it with the current scene's frames.

Cinematography Image Tools: Resize the image, switch to Live View, and other options. See the next section for more detail.

Test Shots: View any test shots you've taken or imported.

Working with the Cinematography Image Tools

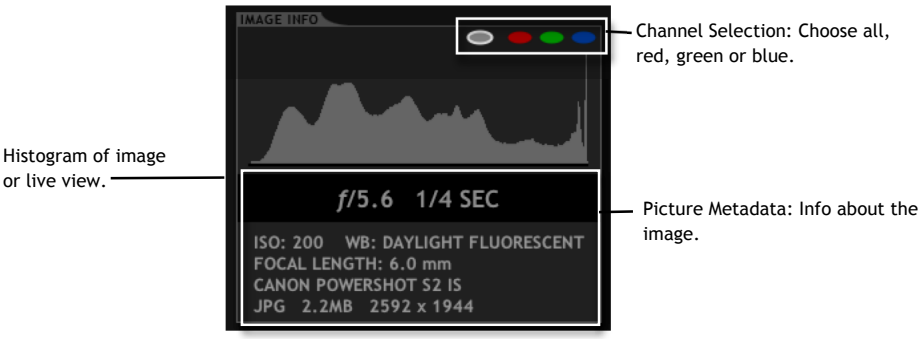
Besides the tools the Cinematography window shares with the Animation window (flip, aspect ratio mask, grid, etc), there are special cinematography image tools that help you evaluate your images, adjust camera settings, and

set up your shots. The table that follows gives more information about each tool.

Use this tool:	To:
	See the Live View in the View Pane of the Cinematography window. The Live View will appear in the View pane until you: • Shoot a new frame or test shot. • Select an existing image thumbnail. • Activate the Animation window.
	View the current image in color.
	View the current image in grayscale.
	View where you will lose (clip) color information because it exceeds the limits of the RGB color space. When you select **CLIP**, pixels clipped on the low end of the RGB channel turn blue, and pixels clipped on the high end of the RGB channel turn red.
	Resize the image or the live view. When the slider is all the way to the right, the image will be at 100%.

Viewing Image Information

The image info pane in the Cinematography window contains a histogram of the selected image or Live View, as well as other details about the image.



Reading Light Values with the Digital Densitometer

You can compare the values of light and dark areas in any image using the digital densitometer. The densitometer shows you relative light values of two

sample areas. The scale we use is reminiscent of the Ansel Adams zone system, but should not be confused with light readings—the values represent final image densities. The densitometer also gives you a ratio of the two areas.

To compare two sample areas using the densitometer:

1. Select an image to use with the densitometer.

2. Click the Digital Densitometer to activate it:

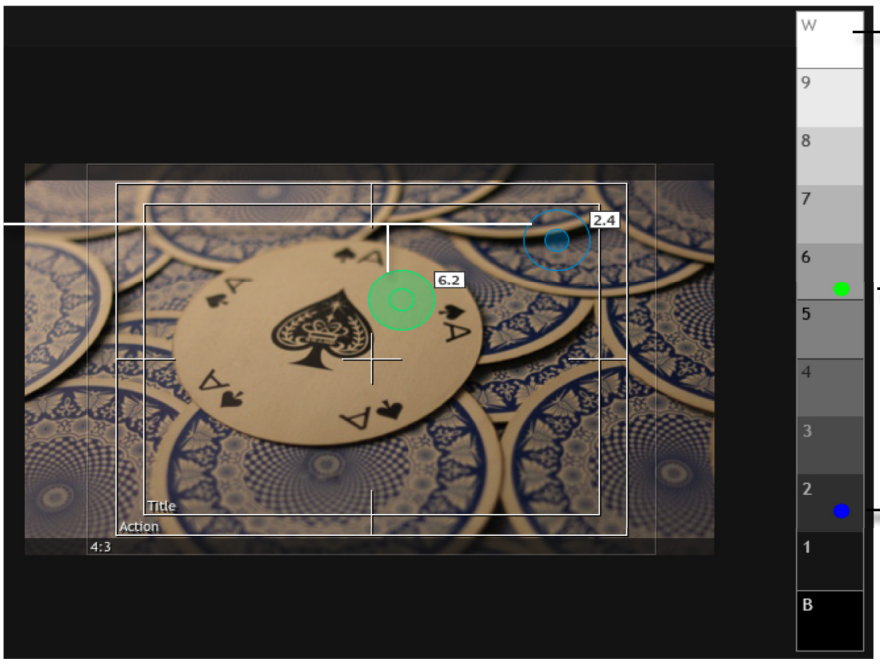
In the View pane, two sample circles appear, along with a scale of grey values.

By default, W represents 248-255 in the RGB color value and B reps 0-7 in the RGB color value.

Set these pure white and pure black reference points in Preferences, based on a final viewing gamma.

See page 112 learn how to set Preferences.

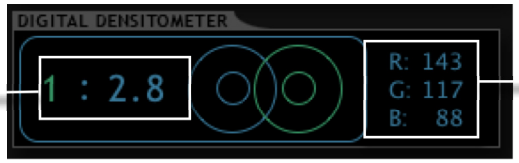
Move the blue and green circles into two different areas on the test shot to compare the light values. Click the center of the circle to only sample the values from the center (as has been done with the blue circle).



Two dots appear on the scale alongside the image. The green dot corresponds with the light value for the green circle, and the blue dot for the blue circle.

As you move and adjust the sampling circles, the information in the Densitometer changes:

Records the ratio of the darker light value to the lighter light value. In this case, it compares the green circle to the blue circle.



Shows the RGB values of the pixel currently selected by the cursor when you place it in the image.

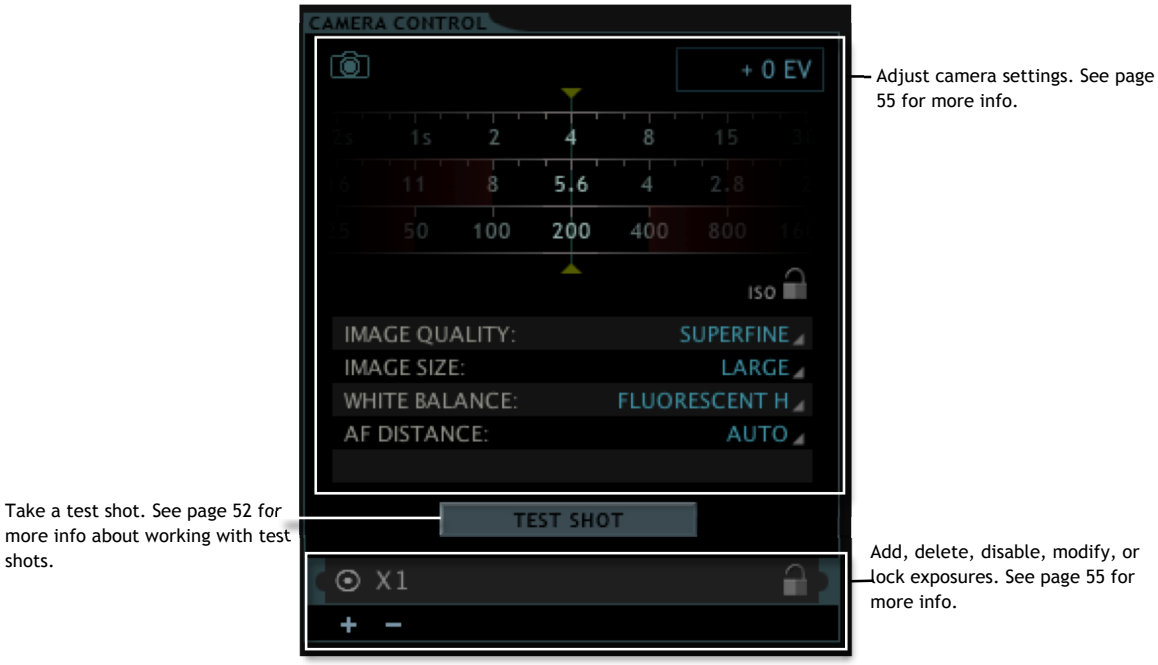
3. Adjust your lighting and camera settings as needed.

Working with Exposures and Camera Settings

The Camera Control pane within the Cinematography window gives you access to your camera's settings, such as ISO, shutter speed, and aperture. Adjust settings for the scene, then lock them once they're fine-tuned. Or, if you need to work with multiple exposures per frame, you can add the exposures, then adjust and lock camera settings for each exposure.

NOTE: For an overview of exposures, see "Adding an Exposure to Your Scene" on page 108.

The image below gives an overview of the features of the camera control window:



The next two sections give an overview of the Camera Control Pane:

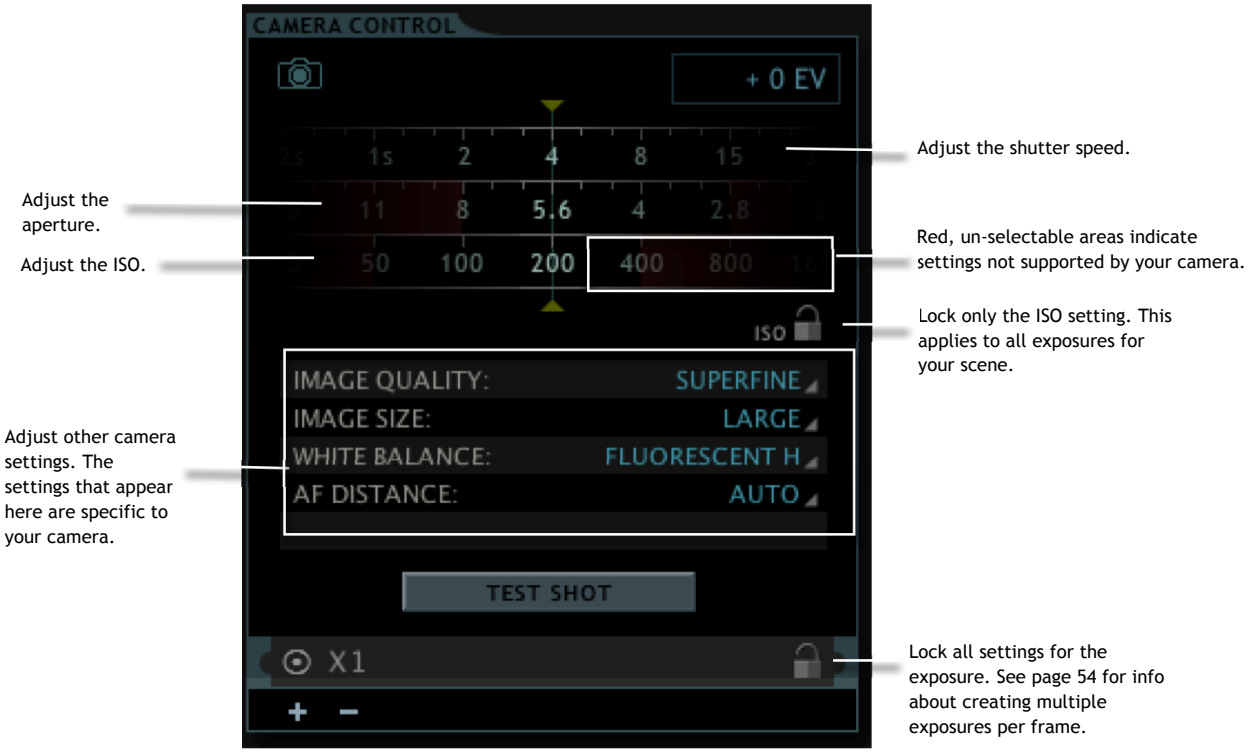
- "Adjusting and Locking Camera Settings for One Exposure" on page 62 describes how to adjust camera settings for scenes that only use one pass.
- "Creating Multiple Exposures Per Frame within the Cinematography Window" on page 63 explains how to create multiple exposures and customize or lock the settings for each one.

Adjusting and Locking Camera Settings for One Exposure

As you take test shots, you can refine and adjust camera settings. Once they're fine-tuned, lock them so they don't accidentally get moved while you're shooting your scene.

To adjust camera settings for one exposure, adjust the camera settings from the Camera Control pane.

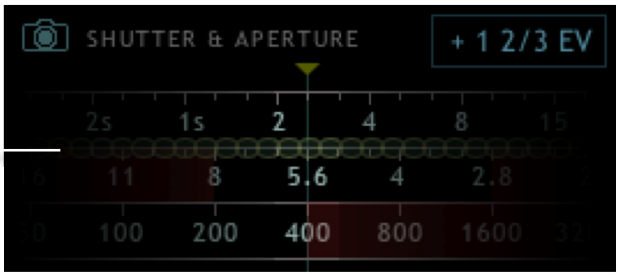
The Camera control is a visual interface directly controlling your digital still camera.



NOTE: If you're using an HD camera or DV camera, these camera control settings won't appear. Adjust these settings directly on your camera.

An additional feature of the camera control, the DF slider, allows you to adjust depth of field while keeping the same exposure value. When you move the two rings with the slider, their values move in opposition. In other words, the shutter speed increases while the aperture decreases, and vice versa. That way, the DF slider keeps the exposure value steady while depth of field changes.

Click the line between the aperture and shutter speed to activate the DF slider. The line changes to green circles to indicate that the two settings are moving together:



Creating Multiple Exposures Per Frame within the Cinematography Window

If you're filming multiple passes for your scene (for example, one pass with a front light and the other with a backlight), you can have camera settings associated with each pass. For example, if you want to have the first exposure with a higher shutter speed than the second, set the desired shutter speed for each pass. Then, as you're filming, Dragon will automatically adjust the shutter speed as it takes each exposure.

> **NOTE:** There are a few different places in Dragon where you can create exposures. See "Adding Exposures Per Frame" on page 107 for more information about exposures.

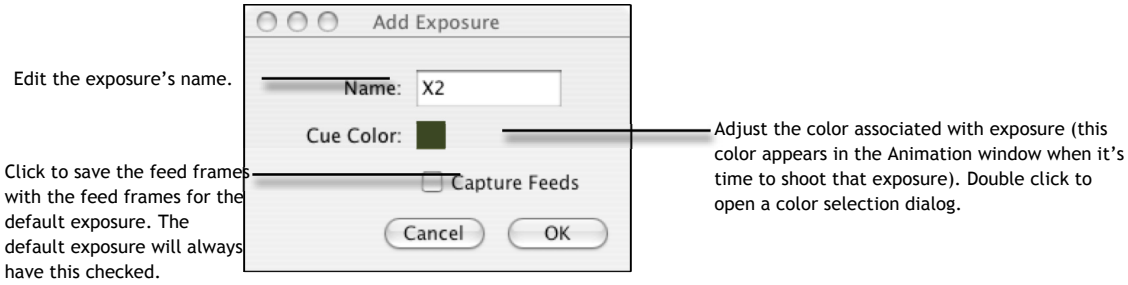
To create multiple exposures with customized camera settings:

1. Set up your exposure and lock it with Camera Control. See page 62 to learn about Camera Control's features.

2. (Optional) Lock the ISO settings. Doing so locks ISO across all exposures, allowing you to adjust other settings without worrying about accidentally changing ISO.

3. Click **+ (ADD EXPOSURE).**

The Edit Exposure dialog opens. By default, it will be named **x2**. It will also inherit any camera settings from the scene's default exposure (in this case, **x1**):

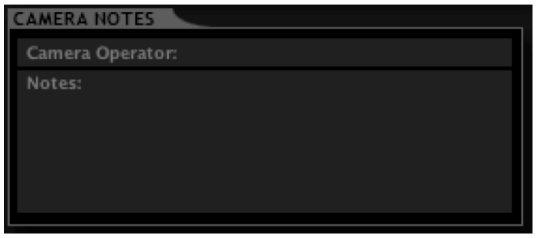


4. Adjust any camera settings for the new exposure that you want to differ from the default exposure.
5. (Optional) Click  to lock the camera settings for the new exposure.
6. (Optional) Create any additional exposures needed. Any new exposures always inherit the camera settings of the default exposure.

NOTE: Double-click the exposure's name in the Cinematography window at any time to edit an exposure's name, cue color, or whether Dragon saves its feed frames.

Adding Camera Notes

The camera notes pane allows you to record who the camera operator for a particular scene is, as well as any notes about the scene's cinematography.



- Click on the Camera Operator field to open the Camera Operator dialog. Enter the name of the camera operator, then click **OK**.
- Click on the Notes field to open the Camera Notes dialog. Enter any relevant notes for the scene, then click **OK**.

Adding a Capture Delay

You may want to add a few seconds' delay before each capture to give you time to turn off work lights or clear the set. Use the Capture Delay feature of Dragon to do so. When Capture Delay is turned on, Dragon shoots the video feed frame immediately, then adds the delay before shooting the high-res capture.

1. Click **COMMAND,** to open the Preferences.
2. Click **ADVANCED**.
3. Select the number of seconds you want to delay each shot when you press **ENTER**. See page 128 for more information about the Preferences window.

Preventing Light from the Computer Screen From Interfering with Your Shot

If the light your computer screen is affecting the lighting for your shot, you can have Dragon black out the screen during a capture. To black out the screen:

1. Press **COMMAND,** to open the Preferences dialog.
2. Click **ADVANCED**.
3. Check the box labeled **BLACK OUT SCREEN DURING CAPTURE**. When the box is checked, the screen will momentarily go black when you capture a frame.

Adjusting Focus and Zoom with the Canon PowerShot Camera

The Canon PowerShot is a relatively inexpensive, powerful tool that can allow you to animate. However, because it doesn't have a detachable lens, it has some limitations. We've added a few features to Dragon to help overcome these issues:

- The camera includes an auto-focus feature that can hinder animation. Because the camera automatically focuses before each shot—and cannot be controlled manually—it could prevent you from focusing the way you need to for your scene.
  Press **COMMAND L** or select **CAPTURE | LOCK FOCUS** to disable the auto-

focus feature. The PowerShot will use the auto-focus feature once for the first shot, but will not auto-focus for subsequent shots.

- While the PowerShot is connected to Dragon, you can't zoom in or out from your shot using the camera's manual controls.
  Select **CAPTURE | ZOOM IN** or **CAPTURE | ZOOM OUT** to use Dragon to control the camera's zoom feature.

Capturing, Navigating, and Deleting Frames

Once you've created a project, scene, and take, you're ready to start animating. You'll use Dragon's Animation window, which gives you the basic tools to capture frames, move forward and backward through captured frames, and delete frames.

This chapter covers the following topics:

- "Capturing Images and Navigating Through Your Frames" on page 67 lists Dragon's basic functions.
- "Deleting the Frame You Just Captured " on page 73 explains the quick way to delete a frame.
- "Reshooting Frames from Earlier in an Animation Sequence" on page 73 explains how to delete frames from earlier in your scene.
- "Jumping Back to an Earlier Frame" on page 76 explains how to jump to an earlier frame, and delete the intervening frames if you wish.

Capturing Images and Navigating Through Your Frames Using a Video Source

If you're working with a video source (a digital still camera that includes a Live View, or a digital video camera), you'll be able to pencil test your animation with that video feed. This section describes how to work with both a capture and a video feed to capture your frames.

Capture a frame—or multiple frames—with the touch of a button. Or, move through the frames you've already shot. Other keyboard shortcuts also allow you to jump to a particular frame or return to the Live View.

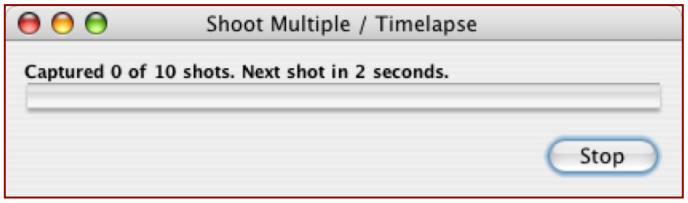
To:	Press:
Capture a frame	**ENTER**
Capture multiple frames at once	and hold **ENTER**. See "Capturing Multiple Frames at Once," below, for more information.
Move forward one frame.	→
Move back one frame.	←
Cut back to a particular frame.	**9.** See page 76 for more information.
Return to the Live View.	**3**
Undo an action (such as capturing a frame, deleting a frame, or deleting multiple frames using **CUTBACK**)	**COMMAND Z**. Or, click **EDIT	UNDO**.

NOTE: Key presses are configurable from the preferences. See "Programming Hot Keys" on page 127 for more information.

Capturing Multiple Frames at Once

You can shoot multiple frames at once with the Shoot Multiple Frames dialog. For example, you might use this feature if you're shooting a test of your scene, and need to shoot "filler" frames to quickly move through sections.

- To capture two, three or four frames press **COMMAND 2, COMMAND 3, OR COMMAND 4**. Dragon opens the Shoot Multiple/Time-lapse dialog and begins capturing the frames:



Dragon automatically captures the shots you set up, and shows the progress you've made in the dialog. Click **STOP** if you want to stop the sequence.

- To capture more than four multiple frames:

  1. Press and hold **ENTER**. The Shoot Multiple/Time-lapse dialog appears.

2. Enter the number of frames you want to shoot and click **OK**. Dragon shoots the number of frames you specified.

Capturing Images and Navigating Through Your Frames without a Video Source

Dragon will still work without a video feed, using stills as preview images. Using Dragon this way, however, means that you won't get automatic "updates" when you change something in your shot as you would with a video feed.

To work without a video source:

1. Connect your still camera to your computer.

   NOTE: To use Dragon without a video source, your camera *cannot* include live view (video feed). If it does, you must use Dragon the conventional way, with both feed and capture sources. See "Setting up Video and Capture Sources" on page 36 for more information.

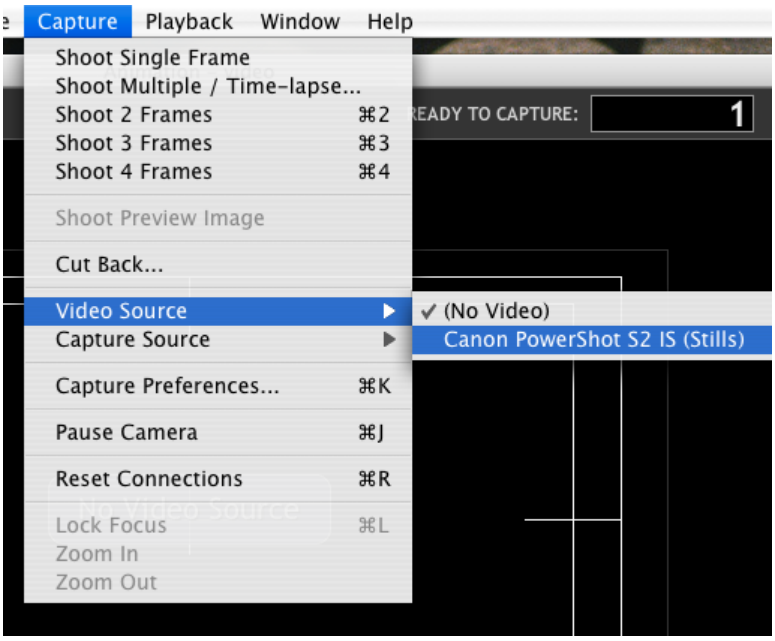
2. Close any associated programs that open with your camera (for example, iPhoto).

   NOTE: You may be able to configure your computer's Preferences to not open photo software automatically when you connect a camera.

3. Open Dragon. Create a new scene, or open one you've already worked on. For more information about creating new scenes, see "Creating a New Scene" on page 43. For more information about opening scenes, see "Opening a Previously-Shot Scene" on page 46.

The Animation window opens.

4. Select **CAPTURE | VIDEO SOURCE | [YOUR CAMERA NAME] (STILLS)**:



Dragon configures itself to work with only a capture camera, and displays this message:

5. Click **OK** to close the message.
6. Set up your first shot. When you're ready, click **C** to capture a preview image.

Dragon displays the preview image in the View Pane:

CAUTION: The preview images (pencil tests) you capture with the **C** key are *not* frames—they are tests *only*. For that reason, you can capture six pencil tests (pressing **C** 6 times) and not advance the frame counter past **1**. Pencil tests also do not appear in the Cinematography window. To capture frames, you must press **ENTER**.

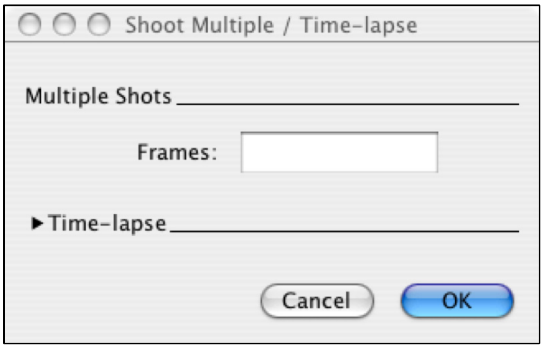
7. Adjust your scene as needed, capturing more pencil tests if desired.
8. When you're ready to capture a frame, press **ENTER**. Dragon captures the frame, and advances the frame counter forward. The frame you capture is available in the Cinematography window.
9. Repeat steps 6–8 for the rest of your scene.

Capturing a Time-lapse Sequence

You can use Dragon to set up and capture a time-lapse sequence. To set up a time-lapse:

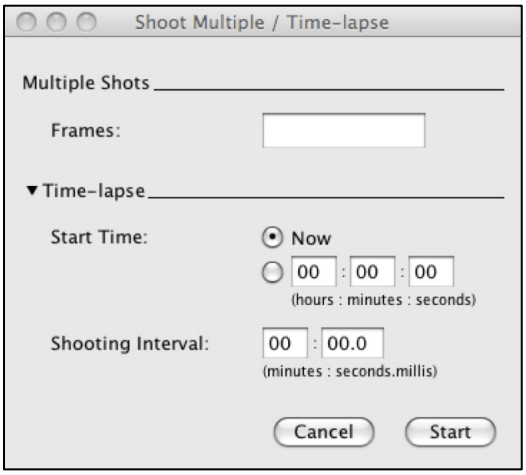
1. Press and hold **ENTER**.

The Shoot Multiple Frames dialog appears.



2. Enter the total number of frames you want to capture. For example, if you were doing a time-lapse over an hour, and wanted to capture one shot per minute, enter **60**.
3. Click ▼**TIME-LAPSE**.

The time-lapse settings appear:

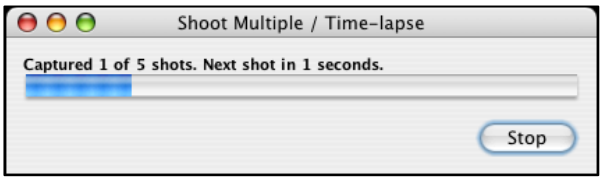


4. Set up when the time-lapse will start:
   - By default, time-lapse will start immediately.
   - Or, click the **AT TIME** radio button to have the time-lapse start at a particular time. Enter the minutes and seconds in the field. For example, if you want the time-lapse to start at 9 pm, enter 21:00:00.
5. Enter the interval for the time-lapse. For example, if you want the time-lapse to shoot every 90 seconds, enter **01:30.0.**

NOTE: The time-lapse interval must be greater than the time it takes for your camera to shoot a frame. For example, if you camera takes three seconds to shoot a picture, don't

set the interval to one second—your camera can't capture the frames quickly enough.

6. Click **OK**. The Shoot Multiple/Time-lapse dialog appears.



Dragon automatically captures the shots you set up, and shows the progress you've made in the dialog. Click **STOP** if you want to stop the time-lapse sequence.

Deleting the Frame You Just Captured

Dragon allows you to quickly delete a frame with the touch of a button. This only works for a frame you've just captured, however. For example, if you just shot frame 20, you can delete it.

NOTE: There are two other ways to delete frames. See "Reshooting Frames from Earlier in an Animation Sequence" on page 73 to learn how to reshoot frames. See "Jumping Back to an Earlier Frame" on page 76 to learn how to delete a section of your scene.

NOTE: Dragon moves any files you delete or reshoot into the Backup folder. For more information about how to find files in the backup folder, see "Finding Your Source Files" on page 53.

To delete a frame, double-tap ***** (asterisk/delete) on the keypad. Dragon places the deleted files in the backup folder, and resets the program. You can now re-capture the frame you deleted.

Reshooting Frames from Earlier in an Animation Sequence

If you realize you need to replace a frame you shot earlier in a sequence, you must modify the X-Sheet.

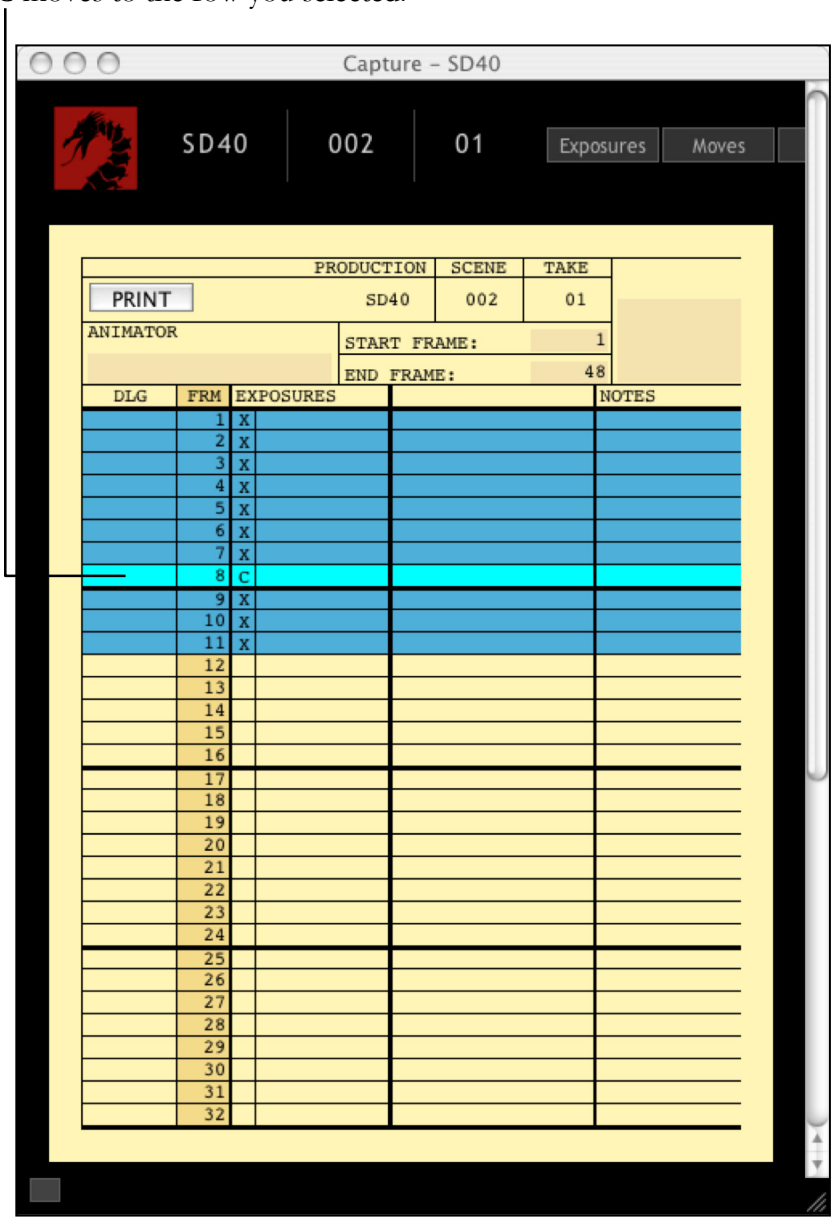
NOTE: There are two other ways to delete frames. See To learn how to delete frames you've just finished capturing. See

"Deleting the Frame You Just Captured" on page 73. See "Jumping Back to an Earlier Frame" on page 76 to learn how to delete a section of your scene.

To replace a frame from earlier in a sequence:

1. Select **WINDOW | SHOW X-SHEET**. In the Exposure column, a **C** marks the frame to be captured next.
2. Double-click the row of the frame you want to re-shoot.

The **C** moves to the row you selected:



3. Press **ENTER** on the keypad when you're ready to reshoot. The **C** moves to the next frame (in the X-Sheet shown above, frame 9).

From here, you can either choose to re-shoot the remaining frames, or return to the frame you were originally set to capture (in the X-Sheet shown above, frame 12).

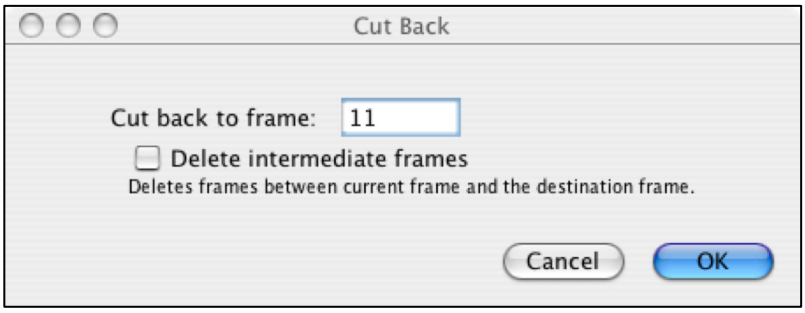
- If you want to reshoot the remaining frames, just continue shooting as you normally would. Dragon will automatically replace the rest of the frames.
- If you want to return to the last frame captured, double-click in that row. Dragon moves the **C** to the row you're ready to capture.

Jumping Back to an Earlier Frame

You can jump to any frame in your scene. As you do so, you can also delete any frames in-between.

To cut back to an earlier frame:

1. Press **9**. Dragon opens the Cut Back dialog:



2. Enter the number of the frame you want to jump to.
3. (Optional) Check **DELETE INTERMEDIATE FRAMES.**
4. Click **OK**. Dragon jumps to the frame you specified, and, if selected, deletes the intermediate frames.

Adjusting the View in the View Pane

The viewing control features allow you to rotate, mirror, or move the image in the View pane. In addition, you can overlay a TV-safe guide, grid or aspect ratio mask on the View pane.

NOTE: None of the viewing control features permanently affect your final images.

- See "Adding an Aspect Ratio" on page 78 to learn how to add an aspect ratio mask over the viewing pane, and adjust its opacity.
- See "Adding a TV-Safe Overlay" on page 79 for information about the overlay.
- See "Adding a Grid Overlay" on page 79 for information about adding a grid.
- See "Pushing In the TV-Safe Overlay and Aspect Ratio " on page 80 for more information about zooming in the TV-safe overlay.
- See "Moving Around the Image" on page 81 to learn how to move the image around in the View pane.

The rest of the image control tools are fairly straightforward. The table that follows gives an overview of them.

Click:	To:
	View the mirror image of the frame in the View pane.
	Rotate the frame in the View pane 180°.
	Open a drop-down list of available image sizes. Select one to adjust the size of the image in the View pane.

NOTE: You can use all of the image control tools (with the exception of Move) from both the Animation window and the Cinematography window. For an overview of the Animation window, see "Getting Acquainted with the Animation Window" on page 11. For more information about the Cinematography window, see "Getting Acquainted with the Cinematography Window" on page 22

Adding an Aspect Ratio Mask

The Aspect Ratio button places different masks over the Live View in the Animation window to help you see how an image might look cropped. By default, the Live View has no mask selected.

NOTE: The Aspect Ratio Mask does *not* crop your images. If you have an Aspect Ratio Mask set up, you can choose to crop the images you export to QuickTime. However, to crop your full-res stills, you must use post-production software. See "Creating a QuickTime Movie of Your Scene" on page 50 for more information about exporting your frames to QuickTime.

To use the Aspect Ratio cropping aid:

1. Click **NO MASK** to view the drop-down list of options for the mask.

2. Select the aspect ratio mask you need. Dragon places a mask over the areas that are not within the selected aspect ratio.

An opacity slider appears above the aspect ratio button, on the right side of the Animation tools:

3. (Optional) Adjust the opacity of the mask.

Adding a TV-Safe Overlay

The TV Safe overlay button ( ) adds an overlay to the View pane. Use it in tandem with the Aspect Ratio Mask to make sure the images you're shooting will correctly include titles or action.

Show or hide the overlay from the Animation window, or select **VIEW | TV SAFE OVERLAY** to adjust the type of overlay, and its size.

Select:	To:
SHOW/HIDE OVERLAY	View or remove the overlay.
STANDARD (4:3) – ACTION & TITLE SAFE	Add an overlay for standard TV that's safe for titles and action.
STANDARD (4:3) – ACTION SAFE	Add an overlay for standard TV that's safe for action.
HD (16:9) – ACTION & TITLE SAFE	Add an overlay for HDTV that's safe for titles and action.
HD (16:9) – ACTION SAFE	Add an overlay for HDTV that's safe for action.
SIZE TO FEED	Size the TV Safe overlay to fit the image size.
SIZE TO ASPECT MASK	Size the TV Safe overlay to fit the Aspect Ratio Mask's size.

Adding a Grid Overlay

You can add a grid over the View Pane, and customize its size in various ways.

To add a grid:

1. Enable the grid from one of two places:

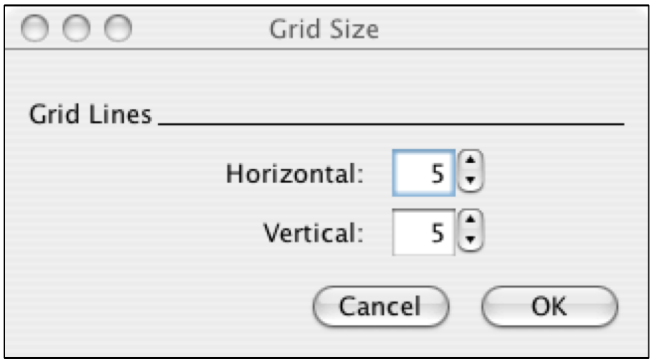
   - Click in the Animation tools.
   - Click **VIEW | GRID | SHOW GRID.**

By default, the grid is sized to the image.

2. (Optional) Click **VIEW | GRID | SIZE TO ASPECT MASK** to size the image to the aspect ratio mask you've selected.

3. (Optional) To change the number of horizontal and vertical lines in the grid, click **VIEW | GRID SIZE ….**

The Grid Size dialog appears:



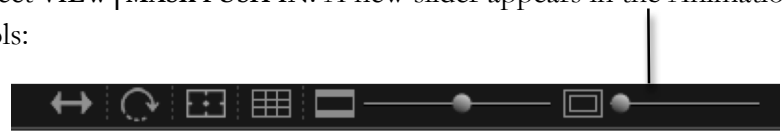
4. (Optional) Change the number of horizontal or vertical lines that appear in the grid, then click **OK**.

Pushing In the TV-Safe Overlay and Aspect Ratio Mask

The mask push-in allows you to protect a margin around your shot for post-production work.

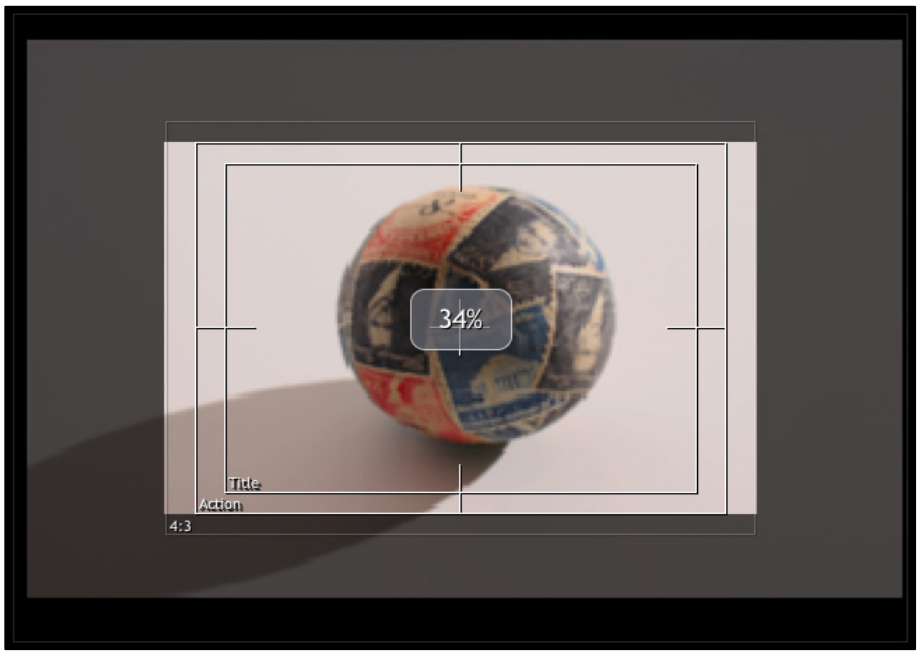
To push in the overlay:

1. Select **VIEW | MASK PUSH IN**. A new slider appears in the Animation tools:



2. Move the slider to the right to push in the overlay.

A percentage briefly appears over the View Pane to let you know how much smaller you've made the overlay:



Moving Around the Image

The Move tool in the Animation Palette allows you to move the image in the View pane. For example, if you are animating an object in the corner of View pane, you could use the Move feature to move it to an easier-to-see location.

- Once you select the Move button in the Animation Palette, the cursor turns into the Move tool. Move your image as desired.
- To move the image back to the center of the View pane, click **CENTER.**
- Press **CTRL**, then click and drag the image to move the line-up layer instead of the main image.

NOTE: See "Adding a Line-Up Layer (Roto Movie or Still)" on page 92 to learn more about the line-up layer.

Controlling Playback

The playback controls help you adjust the speed and length of playback. Another tool gives you the option of adding black frames to the end of playback. The toggle and three-step features play back only the last few frames of your sequence, helping you set up your next shot.

Finally, the memory management feature of Dragon ensures that you can seamlessly play back your scene, even if the file sizes prevent the whole scene from being available in RAM.

The table that follows gives an overview of the Playback tools.

To:	Press:	Or Click:	For more information about this feature, see page:
Play/Pause,	**0**	N/A	N/A
Play a loop of the sequence,	**8**	**LOOP**	N/A
Adjust playback speed,	N/A	**24 FPS,** then select a speed from the drop-down list.	N/A
Add one second of black frames to the end of the sequence,	**7**	**BLACK**	N/A
Only play back a few frames,	**5**	**SHORT PLAY**	83
Toggle between the last frame and the	**6**	**TOGGLE**	83

To:	Press:	Or Click:	For more information about this feature, see page:
Live View,			
Play back the last two frames and the Live View,	**4**	**3-STEP**	85
Step through several frames, then fade into the Live View,	. (period)	**SLIDE**	85
Play back very long or full-resolution scenes,	N/A	N/A	86

Using a Short Playback

To play back only some of the frames you've shot, press **SHORT PLAY**. By default, Dragon will play only the last twelve frames.

NOTE: Set the number of frames to be played with **SHORT PLAY** from the Preferences dialog. See "Configuring Playback Preferences" on page 126 for more information.

Playing a Section of Your Scene

You can play any segment of your scene using the Play Section feature.

To play a section of your scene:

1. Select **WINDOW | SHOW PLAY SECTION**.

The Play Section window appears:

2. Enter the number of the frame where you want to start playback.
3. Enter the number of the frame where you want to stop playback.

- Click  to start playback.
- Click  to stop playback.

Toggling Frames

Clicking **TOGGLE** switches between:

- The last frame shot and the current Live View, or
- Between a frame you select and the Live View.

Toggling allows you to evaluate whether the movement you've made for the frame you're about to shoot is correct.

There are two toggling modes:

- Default: This mode switches back and forth between the two frames, over and over, until you turn toggle off.
- Jump-style: This mode switches to the other frame only when you're pressing **6** on the keypad. When you let go of the key, the view jumps back to the default frame. To make this mode the default, select **JUMP STYLE** in the General Preferences. See "Configuring General Preferences" on page 126 for more information about configuring preferences.

There are a few different ways of controlling the toggle feature. They differ depending on whether you're using the default mode or the jump-style mode.

If you're using the default mode:

To:	Press:	Or:
Toggle at a fast speed,	**6** once,	Select **TOGGLE.**
Toggle at a slow speed,	**6** twice,	**CTRL-**click **TOGGLE** to open the contextual menu, then select **SLOW**.
Turn toggle off,	**6** three times,	De-select **TOGGLE**.
Toggle between the last frame shot and the Live View,	← or → to navigate to the Live View. Then press **6**.	← or → to navigate to the Live View. Then click **TOGGLE**.
Toggle between a frame you choose and the Live View,	← or → to navigate to the frame you choose. Then press **6.**	← or → to navigate to the frame you choose. Then click **TOGGLE**.

If you're using the jump-style mode,

To:	Press:	Or:
"Jump" toggle,	**6**.	N/A
Switch to default mode toggling (where the two frames jump back and forth automatically),	and hold **6.** Press **6** one more time to turn off default toggle and return to jump-style.	Click **TOGGLE.** Deselect **TOGGLE** to turn it off.
Toggle between the last frame shot and the Live View,	← or → to navigate to the Live View. Then press **6**.	N/A
Toggle between a frame you choose and the Live View,	← or → to navigate to the frame you choose. Then press **6.**	N/A

Using 3-Step

The 3-Step feature loops the last two frames shot and the current Live View. This gives you a little more context for the movement you're trying to achieve than the Toggle button does. By default, playback for 3-Step is at the playback speed you've set.

NOTE: Adjust playback speed using button on the right side of the screen. See "Adjusting the View in the View Pane" on page 77 for more information about that feature.

- Press **4** on the keypad or click **3-STEP** to begin three-step playback.
- Press **4** multiple times to toggle through the speeds available for three step: **FULL, HALF, QUARTER** or **EIGHTH SPEED**.
  Or, click and hold your mouse over the 3 Step button in the Animation tools to open a drop-down list of speeds.

NOTE: Adjust the speeds available for 3 Step from the Preferences dialog. See "Configuring General Preferences" on page 126 for more information.

Using Slide

The Slide tool adds a fade-in from the last frame to the Live View, giving you another way of evaluating how the transition is working. For example, if you step

through several frames, then to the Live View, Dragon will automatically fade into the Live View on the last step. You can also adjust the speed of the fade.

- Click **.** (period) on the keypad to turn Slide on. Or, click **SLIDE** in the Animation tools.
- To increase the speed of the transition, move the Slide slider to the right.
- To decrease the speed of the transition, move the Slide slider to the left.

Playing Back Very Large Scenes

If you're using a camera with a very high resolution, or if you're creating a very long scene, your computer may not have enough memory available to keep all of the frames for your scene available in RAM. Only frames available in RAM can be played back in Dragon.

However, Dragon includes a memory management feature that allows you to compensate for your computer's limitations and continue to control playback.

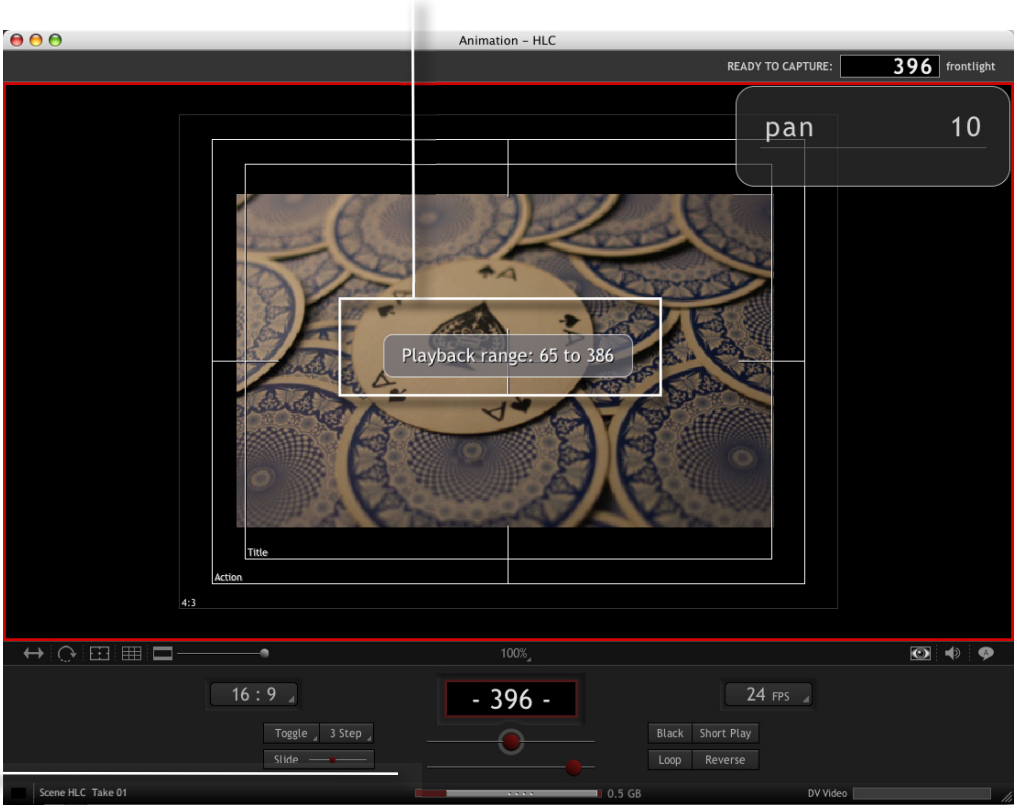
At the bottom of the animation window, a status bar shows you how much RAM is available to Dragon for your scene. In the following image, the .5 GB of RAM available is almost full:

If you shoot more frames, RAM will become full, and the status bar will look like this:

The red area indicates how much of your scene cannot be played back because it's not in RAM. In this case, the first quarter of the frames is unavailable for playback.

When RAM is full, the grey area turns into a slider bar. That allows you to select which part of your scene you want to play back.

If part of your scene is unavailable for playback, you can use the slider bar to choose which part of the scene to keep in RAM. That way, you can still play back the section that's most important to you. When you move the slider bar, Dragon notes which frames will appear when you play back the scene:



Here, the memory management slider is moved to the beginning of the scene, so the middle of the scene (frames 65-386) will appear when you play back the scene. Frames 1-64 and 386-396 are stored to disk, as indicated by the red area in the status bar.

Working with Multiple Layers

The View pane always shows the feed frames or the Live View—but you can also add additional layers, such as:

- "Grease pencil" drawings or lines,
- Roto-movies or stills,
- Other frames over the Live View (onionskin),
- Chroma Key (green-screen).

These additional tools give you the capability to fine-tune animation or add special effects. The sections that follow explain each of these tools in more detail:

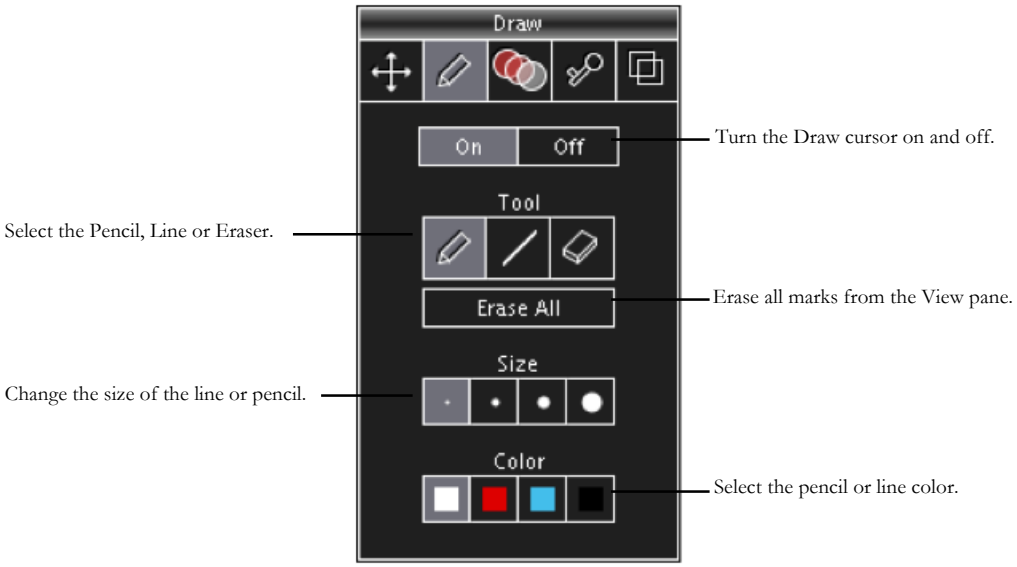
- "Drawing on the View Pane" on page 88 explains how to use a "grease pencil" on the View pane.
- "Layering an Onion-Skinned Frame over the Live View" on page 89 explains how to layer one or more frames over the Live View, helping you line up the next shot.
- "Adding a Line-Up Layer (Roto Movie or Still)" on page 92 explains how to add another layer to the View pane so you could, for example, layer multiple takes over one another.
- "Using Chroma Key" on page 95 explains Dragon's green screen feature.

Drawing on the View Pane

Move the mouse over the View pane for access to the Animation Palette's Draw tool. The Draw tool gives you three different cursors for drawing on the View pane—Pencil, Line and Eraser. You can also select the color of the drawing and the line weight.

NOTE: You can import any drawings you make into other scenes. See "Importing Scene Settings" on page 48 for more information.

The image below gives a bit more information about the tools available from the drawing tool.



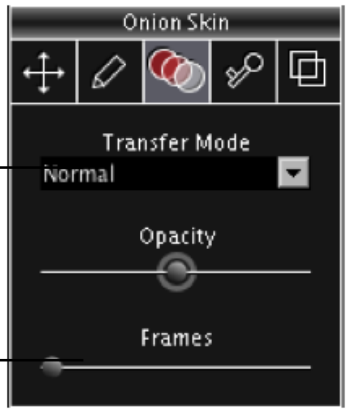
Layering an Onion-Skinned Frame over the Live View

If you need to overlay frames within the same scene over each other, use the Onionskin Opacity tools. The Onionskin Opacity slider allows you to add an onionskin layer of a previous frame over the Live View, and adjust how translucent that layer appears. It also allows you to select which frame you choose to layer:

Step to any frame, then move the slider left to onionskin that frame over the Live View. See page 59 for more info.

Move the slider right to onionskin the last frame over the Live View. See page 59 for more info.

There's also an Onionskin tool that gives you additional control over Onionskin opacity:



Transfer Mode: Highlight various properties of the onion-skinned layer. See page 60 for more info.

Opacity Slider: Works in the same way as the Opacity slider in the Animation tools. See the picture above for more information.

Frame Slider: Move the slider right to onionskin more than one frame at once. See page 59 for more information.

Using the Onionskin slider and the Animation Palette, you can:

- View the last frame onion-skinned over the Live View. See page 90 for more information.
- View any previous frame onion-skinned over the Live View. See page 90 for more information.
- View multiple frames at once onion-skinned over the Live View. See page 91 for more information.
- Highlight special characteristics of the onion-skinned layer as compared to the live layer. See page 91 for more information.

Onionskin the Last Frame and the Live View

To view the last frame onion-skinned over the Live View:

1. Press **3** on the keypad to move to the live shot. This feature of Onionskin Opacity only works when you're looking at the live shot.

2. Click and drag the opacity slider to the right. Or, press **+** on the keypad to move the slider in small increments. As the slider moves to the right, the previous frame appears in increasing clarity. When the slider is all the way to the right, you will only see the previous frame--the Live View will be obscured.

Onionskin Any Frame and the Live View

To onionskin any frame over the Live View:

1. Press → or ← to move through the frames until you find the frame you want to layer with the Live View.

2. Click and drag the opacity slider to the left. Or, press – on the keypad to move the slider in small increments.

As the slider moves to the left, the frame you've selected appears with increasing clarity, while the Live View fades. When the slider is all the way to the left, you will only see the frame you've selected—the Live View will be obscured.

Onionskin More than One Frame Over the Live View

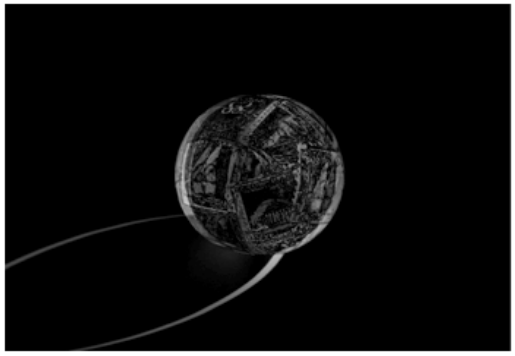
To onionskin multiple frames over the Live View:

1. Press **3** on the keypad to move to the live shot.
2. Select the Onionskin tool in the Animation Palette.
3. Click and drag the opacity slider (in the Animation Palette, or in the Animation tools) to the right. Or, press **+** on the keypad to move the slider in small increments.
4. Click and drag the Frames slider in the Animation Palette to the right. When it's all the way to the right, it will layer five frames over the Live View.

Highlight Darks, Lights, or Differences in the Onion-skinned Frame(s)

If you want to make some features in the onionskin layer easier to see, use the Transfer modes in the Onionskin tool.

This mode:	Highlights this information:
DARKS PROMINENT	The dark values in the image. This would be useful if you were animating a black line drawing on a white piece of paper. Instead of seeing the white of the paper equally prominent as the black lines, making **DARKS PROMINENT** would draw more attention to the black lines you were animating.
LIGHTS PROMINENT	The light values in the image. This might be useful if you were animating a white line drawing on a black piece of paper. Rather than viewing the background of black and the white lines as equally prominent, **LIGHTS PROMINENT** would draw more attention to the white lines you were animating.

This mode:	Highlights this information:
DIFFERENCE	What has changed between the frame you're viewing and the Live View. Any changes will appear as white in a black background. For example, imagine your last frame looked like the picture below:  If you then moved the ball slightly to the right, you could see how much it had changed using Onionskin. With the Onionskin on, layering the last frame over the live view, and with Difference selected, you'd see:  You can see white anywhere the ball had moved, allowing you greater precision when lining up your next shot.

Adding a Line-Up Layer (Roto Movie or Still)

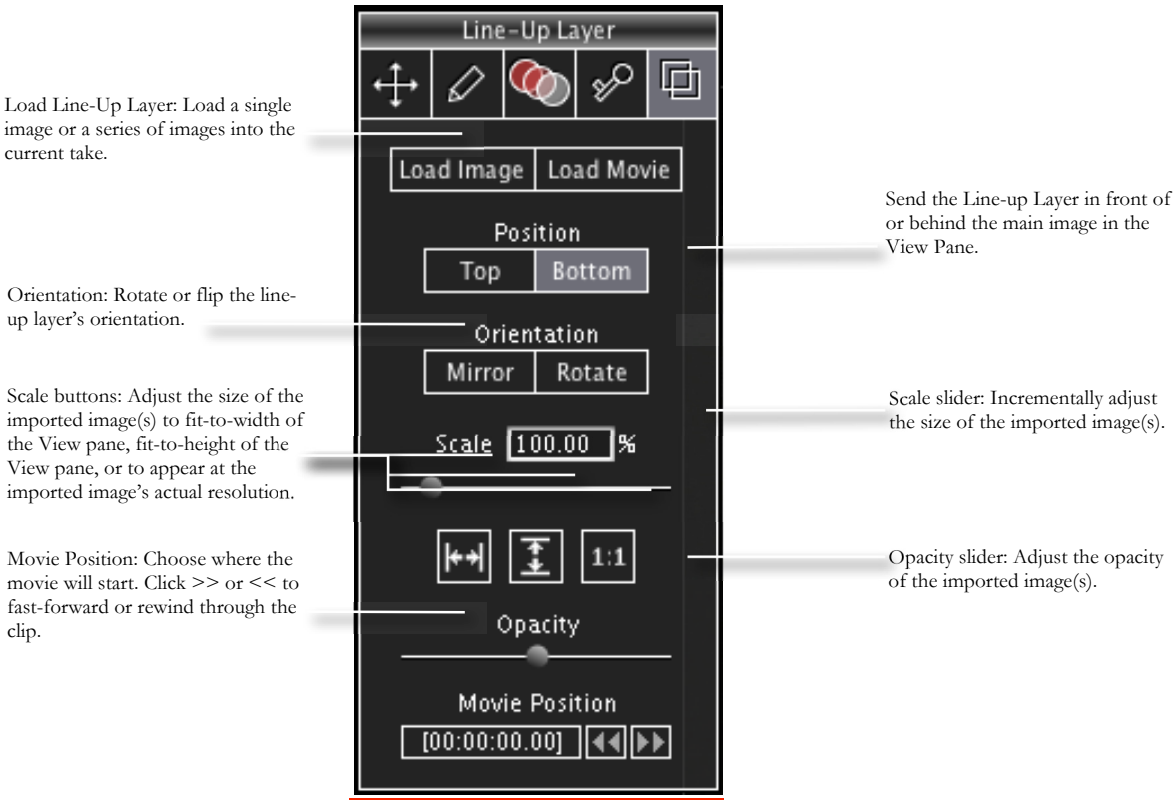
The Line-Up layer tool allows you to load an image, a QuickTime movie, or an entire Dragon scene as a layer in your project. For example, to animate one scene's action in several takes, use the Line-Up Layer tool make sure each take lines up with the other takes from the scene. The Line-Up Layer tool is available from the Animation Palette.

NOTE: A Chroma Key feature is also available to make working with multiple layers easier. See "Using Chroma Key" on page 95 for more information about that feature.

NOTE: The Line-Up Layer tool is only designed as an animation tool—it's not a post-production tool. Line-Up Layer

only layers images in your feed frames. It does *not* produce composite images or layer images in your final, full-res capture images. Open your Dragon images in post-production software to create composite images. See "How Do I Export My Final Frames into After Effects or Final Cut Pro?" on page 53 for more information about working with Dragon's scenes in post-production software. See "Setting up Video and Capture Sources" on page 36 for more information about the difference between capture images and feed images.

The image below points out the key features of the Line-Up Layer tool:



NOTE: In addition to the Line-Up layer tool, an additional Opacity slider appears with the Animation tools any time you add a Line-Up Layer:

To load a line-up layer into the frame or series of frames you're working on:

1. Select the Line-up Layer tool from the Animation Palette.

2. Select what type of file you want to load:

   - To load a single image, click **LOAD IMAGE.** Dragon opens the Open dialog.
     Navigate to the image you want to load, and click **OK**. Dragon loads the image into the top layer of every frame in your scene.
   - To load an entire take of a scene into the take you're working on, click **LOAD MOVIE**. Dragon opens the Open dialog.
     Navigate to the Dragon take you want to load, and click **OK**. Dragon loads the frames from the take you selected into the current take as Line-Up Layers.
     For example, say you load Take A, containing 20 frames, into Take B, which has not been shot yet. As you prepare to shoot the first frame of Take B, the first frame of Take A will appear as a Line-Up Layer. When you prepare to shoot Frame 2, you will see the second frame of Take A as a Line-Up Layer, and so forth. If you were to shoot the twenty-first frame of Take B, there would be no Line-Up Layer.
   - To load a QuickTime movie, click **LOAD MOVIE.** Dragon opens the Open dialog.
     Navigate to the QuickTime movie you want to load, and click **OK**. Dragon samples the movie according to the frame rate you set up for your scene.

3. (Optional) Select whether you want the Line-Up Layer to float above or below the main image in the View pane. By default, it floats over the main image.

   - To send the Line-Up Layer below the main image, click **BOTTOM**.
   - To send the Line-Up Layer above the main image, click **TOP.**

4. (Optional) Adjust the scale of the image(s) you've imported. By default, Dragon loads the image to fit to the current width of the View pane.

   - Use the Scale slider to incrementally adjust the scale of the imported image(s).
   - Use the Scale buttons to automatically adjust the scale of the imported image(s).

5. (Optional) Adjust the opacity of the Line Up Layer with the Opacity slider in the Animation Palette or in the Animation tools.

NOTE: You can also move the Line Up Layer using the Move tool. See "Moving Around the Image" on page 81 for more information.

Using Chroma Key

The Chroma Key tool in the Animation Palette allows you to use a "green-screen" to achieve special effects in your scene. It works in tandem with the Line-Up Layer to help you animate a scene in multiple passes/takes. Once you load a Line-Up Layer that was shot in front of a green screen, use Chroma Key to "remove" the green-screen color around the objects you're animating.

NOTE: The Chroma Key tool is only designed as an animation tool—it's not a post-production tool. Chroma Key only removes green-screen from your feed images. It does *not* produce composite images or remove green-screen colors from final, full-res capture images. Open your Dragon images in post-production software to create composite images. See "How Do I Export My Final Frames into After Effects or Final Cut Pro?" on page 53 for more information about moving Dragon's scenes into post-production software. See "Setting up Video and Capture Sources" on page 36 for more information about the difference between capture images and feed images.

To use Chroma Key:

1. Load a Line-Up Layer that has been shot using a green-screen. See "Adding a Line-Up Layer (Roto Movie or Still)" on page 92 for more information about Line-Up Layers.

2. Select Chroma Key from the Animation Palette. Dragon changes your cursor to the Chroma Key tool.

3. Move your cursor anywhere over the green-screen portion of the image. The key color in the Animation Palette matches the color of the image as you move the cursor around the image:

4. When the Key Color your cursor is selecting looks correct, click to select it. Dragon will use that key color to make the pixels that match it "disappear". The green screen in the image will become transparent,

allowing you to see the take you're about to animate behind the Line-Up Layer.

5. (Optional) Adjust the tolerance with the Tolerance slider. The Chroma Key tolerance determines how "picky" Dragon will be when matching the key color.
   - To increase the tolerance, move the slider to the right. Dragon will select colors in the image that are not very close to the key color and make them transparent.
   - To decrease the tolerance, move the slider to the left. In the green-screen image, Dragon will only make exact matches of the key color transparent.

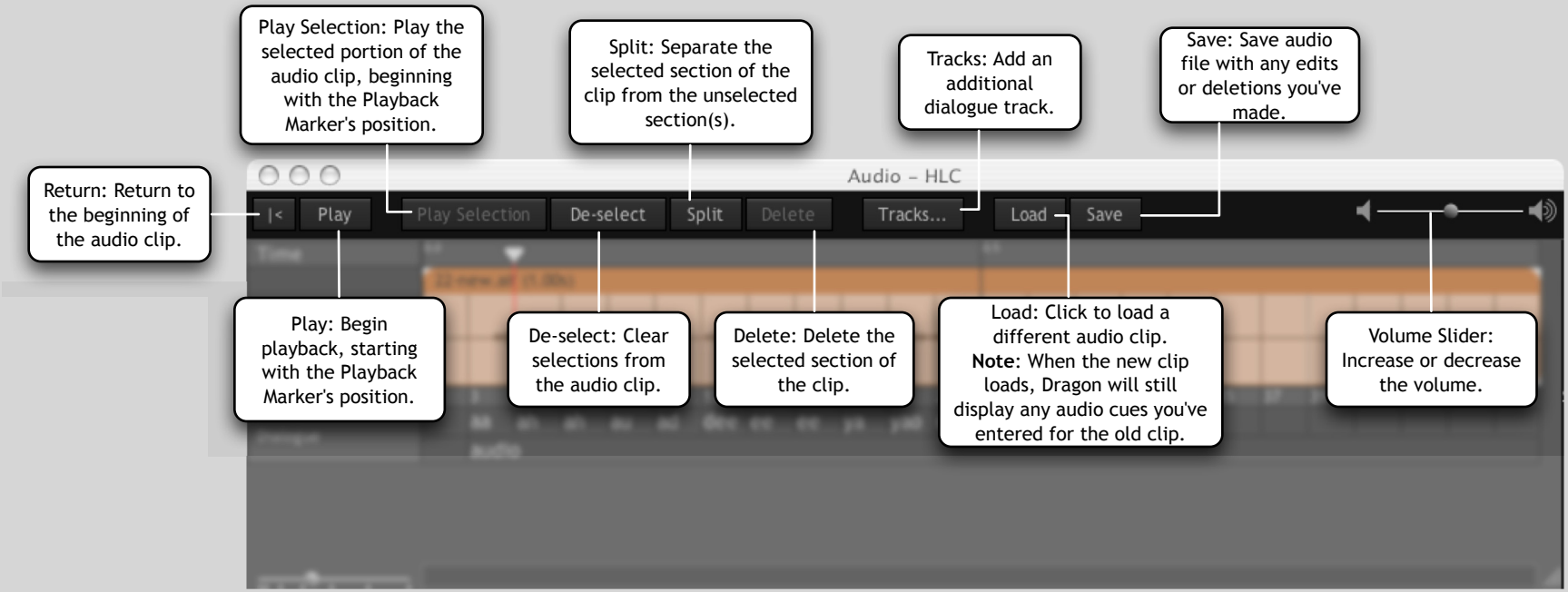
Adding and Editing Audio Clips

Dragon provides you with a tool to load audio clips, scrub them, and do basic edits. Step through the audio file and add audio cues that are viewable in the Animation window. You can also select a portion of an audio clip and discard the parts you don't need—or change where the clip starts or ends.

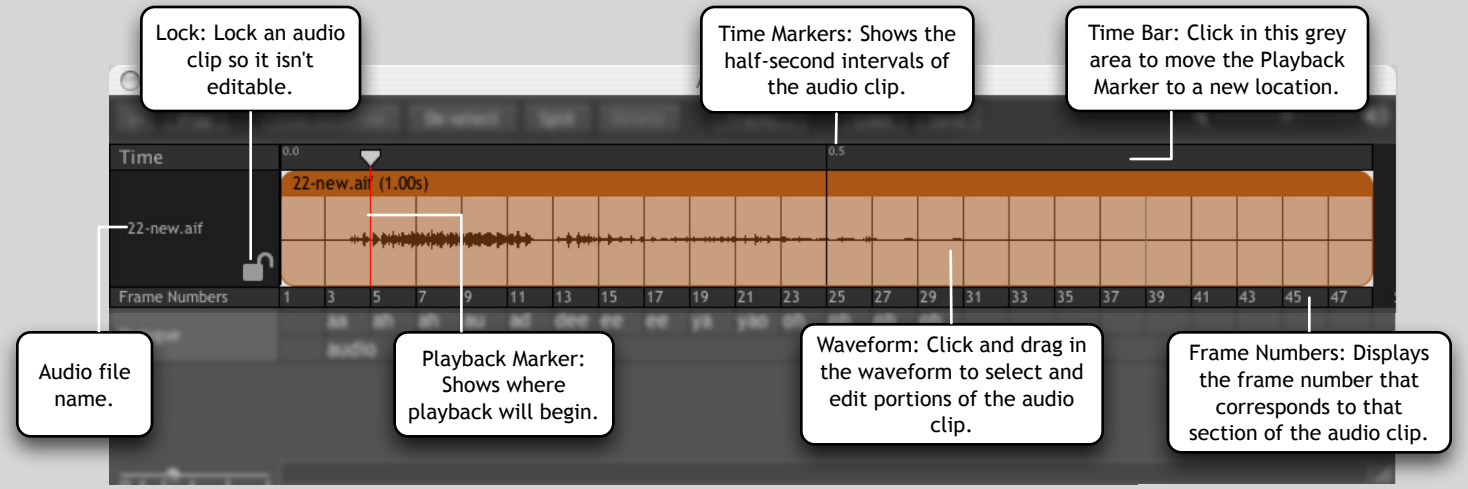
The next three pages give an overview of the Audio window's features, while the sections that follow explain how to use the dialog:

- "Loading Audio Files" on page 101 explains how to load clips into Dragon.
- "Moving Through an Audio Clip" on page 102 explains how to step through the clip frame-by-frame.
- "Adding Dialogue Cues" on page 102 explains how to add audio cues into the Audio window.

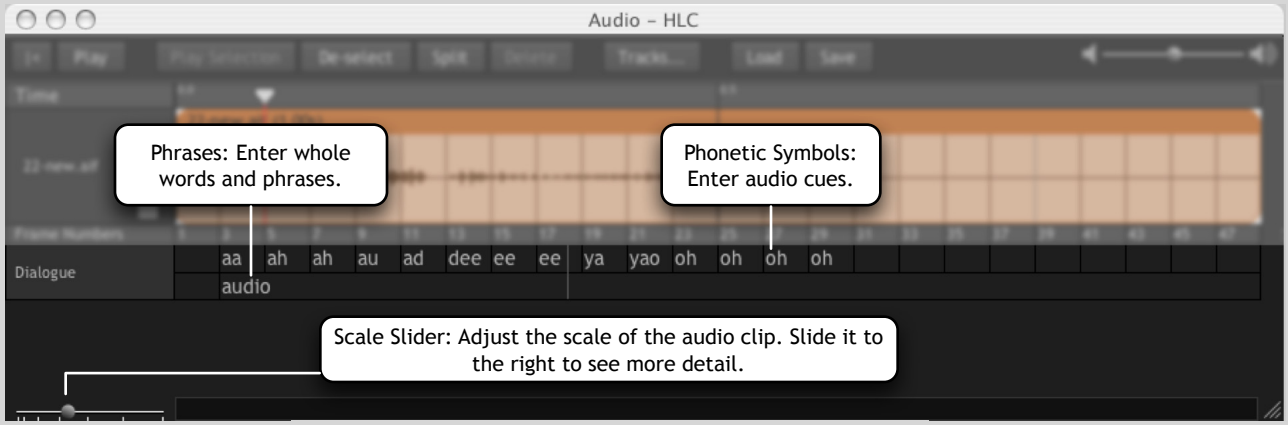
Audio: Buttons



Audio: Waveform



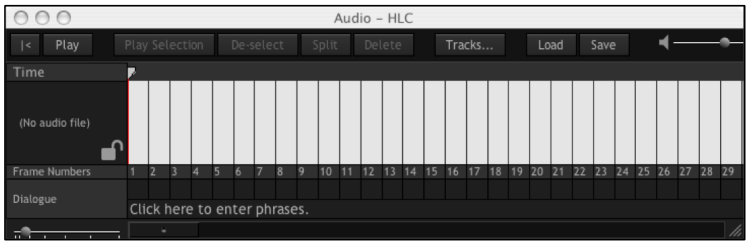
Audio: Dialogue Cues



Loading Audio Files

Add a new audio clip to your scene from the Audio window.

1. Click **SCENE | AUDIO**. The Audio window opens.

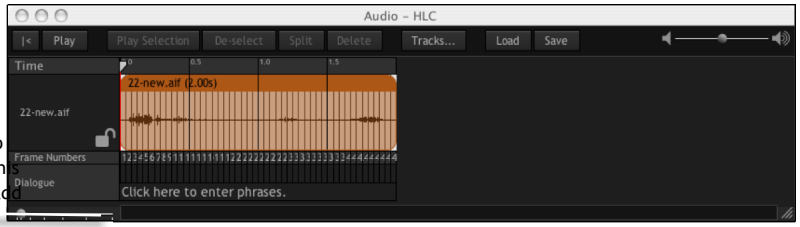


2. Click **LOAD**.

The Open dialog appears.

3. Navigate to where you've stored your audio file, and select it. Click **OPEN.**

Dragon loads the audio file in the Audio window.



Adjust the scale of the audio clip using the scale slider. This makes it easier to edit and add phonetic symbols.

NOTE: If the audio clip you load is longer than the scene you've set up in the X-Sheet, a dialog appears:

Click **YES** to clip the audio. See "Setting Scene Length and Starting Frame" on page 120 for more information about adjusting the scene length in the X-Sheet.

Moving Through an Audio Clip

Once the audio clip is loaded, you can play the clip, pause it, or move through the clip frame-by-frame using your keypad.

To:	Press:
Play or pause the clip.	The spacebar.
Step forward frame-by-frame.	⇨
Step back frame-by-frame.	⇦
Mute the clip.	**-** (minus sign)
Undo an audio edit.	**COMMAND Z.** Or, click **EDIT	UNDO.**

Adding Dialogue Cues and Viewing Them While Animating

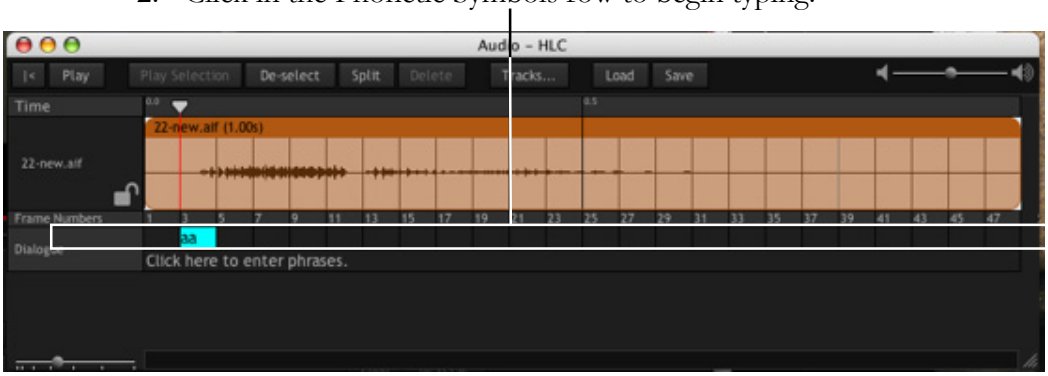
Adding dialogue cues to the animation is as easy as typing.

NOTE: You can export any dialogue cues you create to other scenes. See "Importing Scene Settings" on page 48 for more information about importing settings.

To add cues:

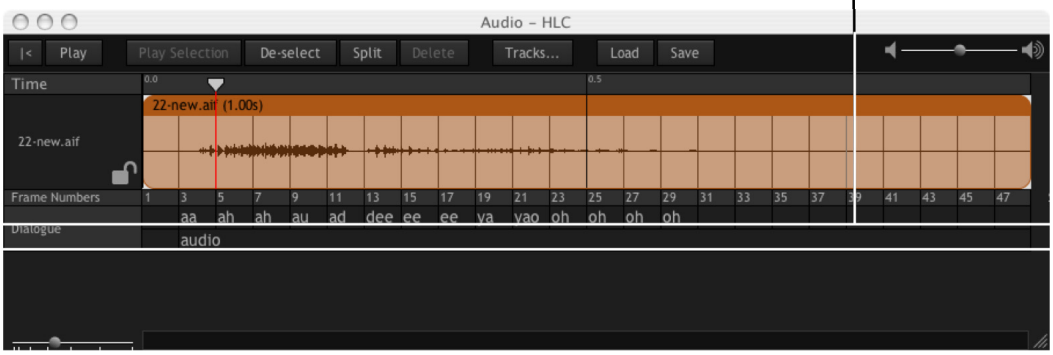
1. Press ⇦ or ⇨ to scrub the audio.

2. Click in the Phonetic Symbols row to begin typing.



You can enter up to four characters per frame. As you press the arrows, your cursor will automatically move from frame to frame. Dragon will also play that frame's portion of the audio clip.

3. Click in the Phrases row, then type the entire phrase that you'll animate.

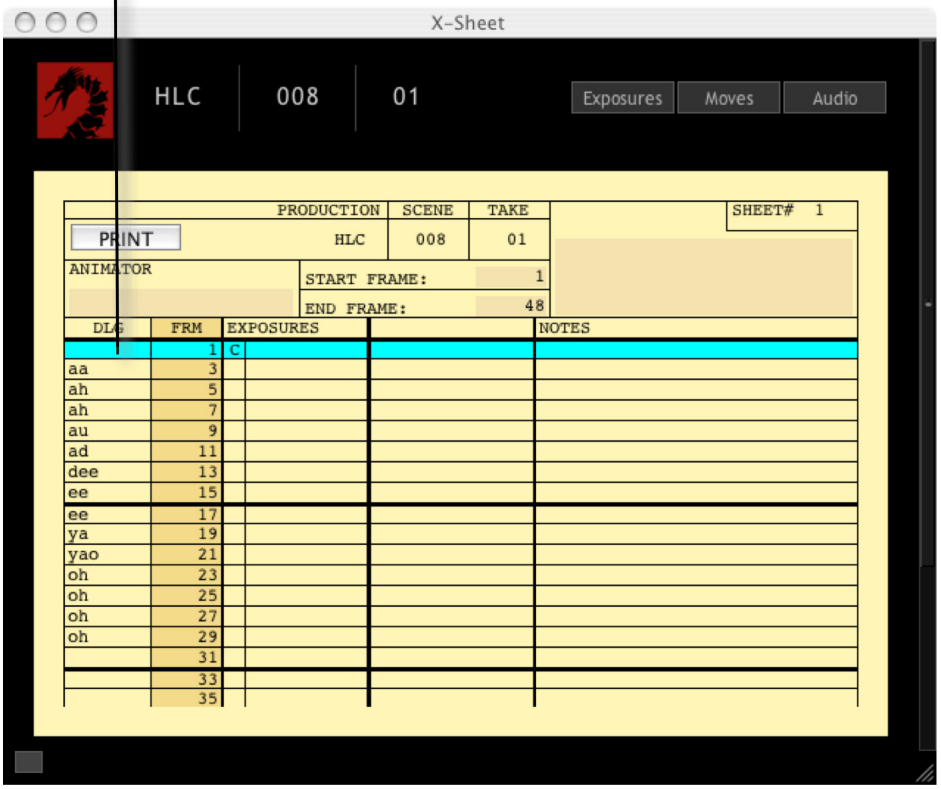


Dragon automatically places each word into its own cell, and lines each word up under the first few frames.

4. Click and drag the cell borders to move the words to the appropriate frames.

NOTE: If you make a mistake, click **COMMAND Z** to undo the edit.

The dialogue cues you added appear in the Dialogue (DLG) column of your X-Sheet.



They also appear in the Dialogue tool in the Animation window. Click  to display the Dialogue tool:

The phrases also appear in the audio tool in the bottom row. The phrase you're currently animating appears in white, while the next phrase appears in grey.

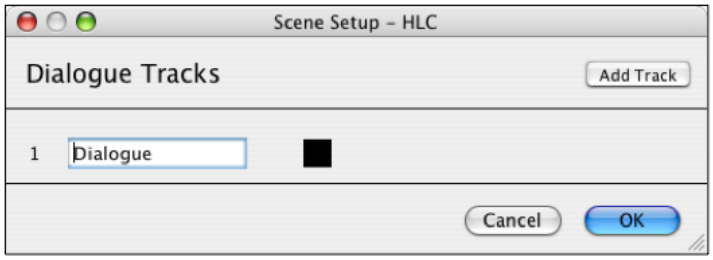
NOTE: If you need more functionality than what's available in the Dialogue tool, keep the Audio window open while you animate.

Adding Additional Dialogue Tracks

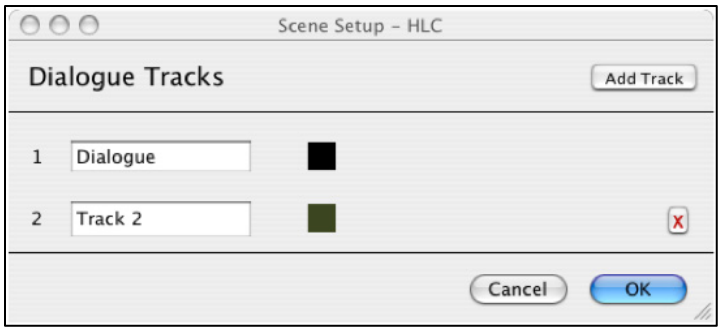
The audio for your scene may involve more than one character speaking. Use additional dialogue tracks to manage the dialogue. By default, each scene has one dialogue track.

To add additional tracks:

1. Select **SCENE | DIALOGUE TRACKS**. The Dialogue Tracks dialog appears:



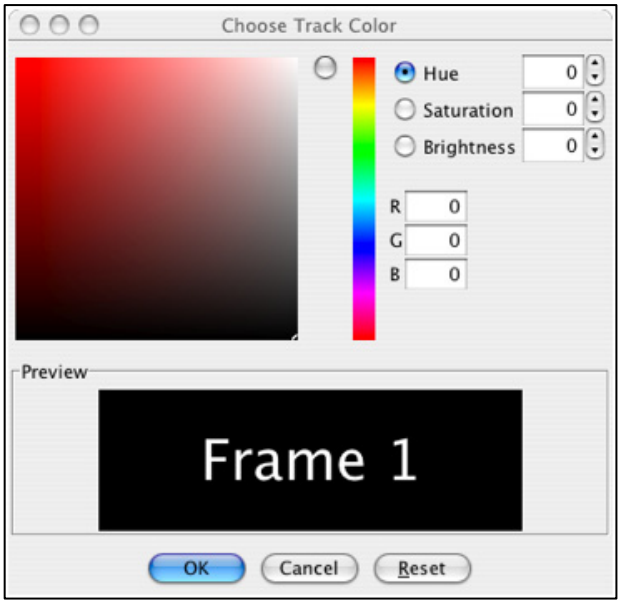
2. Click **ADD TRACK**. A new track appears:



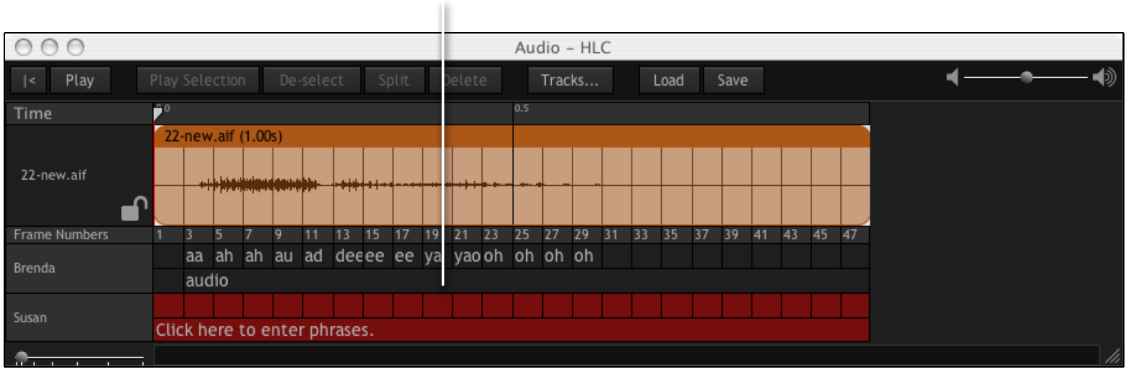
Delete a track by clicking the red **X**. You can't delete the first (default) audio track.

3. (Optional) Edit the name of the tracks. For example, you could name it after the character that's speaking.

4. (Optional) Change the color associated with the track By default, the track's color is dark green.
   Click the color box. Dragon opens a color selection dialog:



Select the color you want associated with the track. This color will appear where you'll enter the phrases for that character's dialogue. For example, in the screen shot below, "Susan's" track color is red.



5. Click **OK**.

6. In the Dialogue Tracks dialog, click **OK** once you've made all the changes for the tracks. Dragon saves your changes.

Adding Exposures Per Frame

Adding multiple exposures to a frame does not make a composite image as the term might suggest. Instead, the Exposures dialog allows you to shoot multiple passes for each frame. That gives you the capability for effects like 3D/stereo or a front light/backlight sequence.

Again, adding multiple exposures to a frame does *not* expose the same piece of "film"; instead, it allows you to create two (or more) images for each frame. For example, if you wanted to create a front light/backlight sequence, you might set up a **BLITE** exposure in addition to the default exposure, **X1**. When you shoot a particular frame, Dragon would prompt you to shoot the exposure **X1**, then the **BLITE** exposure, before moving on to the next frame.

NOTE: If you want to create a second pass of an entire sequence of frames, (for example, a clean pass to create mattes) create a new take. To learn more about creating new takes, see "Creating a New Take" on page 47.

NOTE: You can export any exposure settings you create to other scenes. See "Importing Scene Settings" on page 48 for more information about importing settings.

The sections that follow give an overview of the Exposures feature:

- "Adding an Exposure to Your Scene" on page 108 explains how to create a multiple-pass setup for your scene.
- "Understanding Dragon's Exposure Cues" on page 110 explains how Dragon helps you keep track of the exposures in your scene.
- "Deleting an Exposure" on page 111 explains how to get rid of exposures you've created.

- "Disabling an Exposure" on page 112 describes how to stop capturing an exposure once you've started shooting a scene.

Adding an Exposure to Your Scene

You can create exposures from three different places within Dragon. You can create exposures from:

- The Camera Control pane within the Cinematography window.
- The X-Sheet.
- Dragon's menus (click **SCENE | EXPOSURES).**

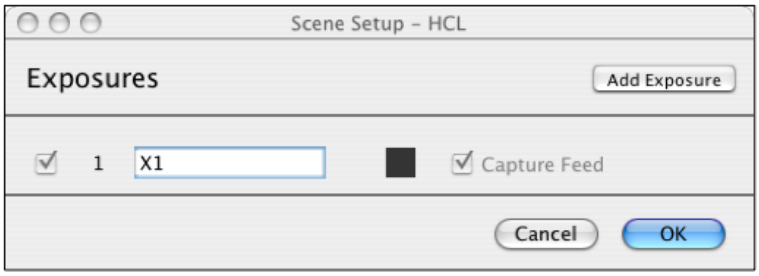
NOTE: Because creating exposures from the Cinematography window is slightly different than doing so from the X-Sheet or menu, it's explained on it's own in "Working with Exposures and Camera Settings" on page 61.

To create a new exposure from the menu or from the X-Sheet:

1. Open the Exposure dialog

   - From the X-Sheet, click **EXPOSURES**. Or,
   - Select **SCENE | EXPOSURES…**

The Exposures dialog opens.

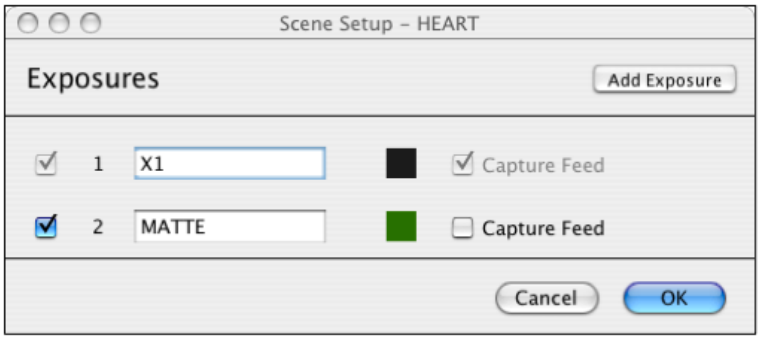


The dialog already shows one exposure, **X1**, since every scene uses at least one exposure. The **CAPTURE FEED** box for the exposure is checked by default (and cannot be unchecked) because Dragon always saves the feed frames for each scene's default exposure.

NOTE: See "Setting up Video and Capture Sources" on page 36 for more information about feed vs. capture frames.

2. (Optional) Modify the name for the default exposure.

3. Click **ADD EXPOSURE**. The dialog adds a second exposure.

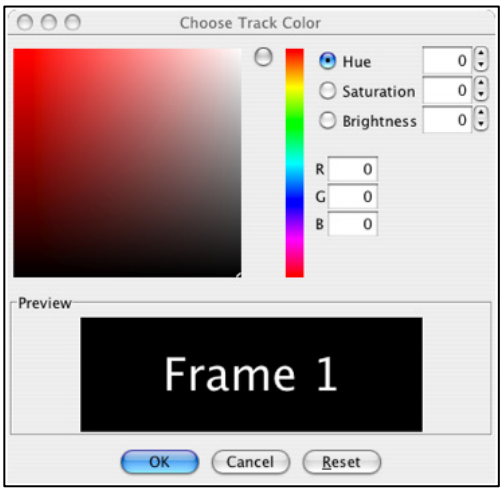


4. (Optional) Check **CAPTURE FEED** to have Dragon save the feed frames with the feed frames for the default exposure.

   NOTE: See "Finding Your Source Files" on page 53 to learn more about how Dragon saves feed frames.

5. (Optional) Modify the name for the exposure. In this case, the name is **MATTE**.

6. (Optional) Change the color associated with the exposure. Click the color box. Dragon opens a color selection dialog:



   Select the color you want associated with the exposure. This color will appear at the top of the Animation window when it's time to capture that exposure.

   Click **OK**.

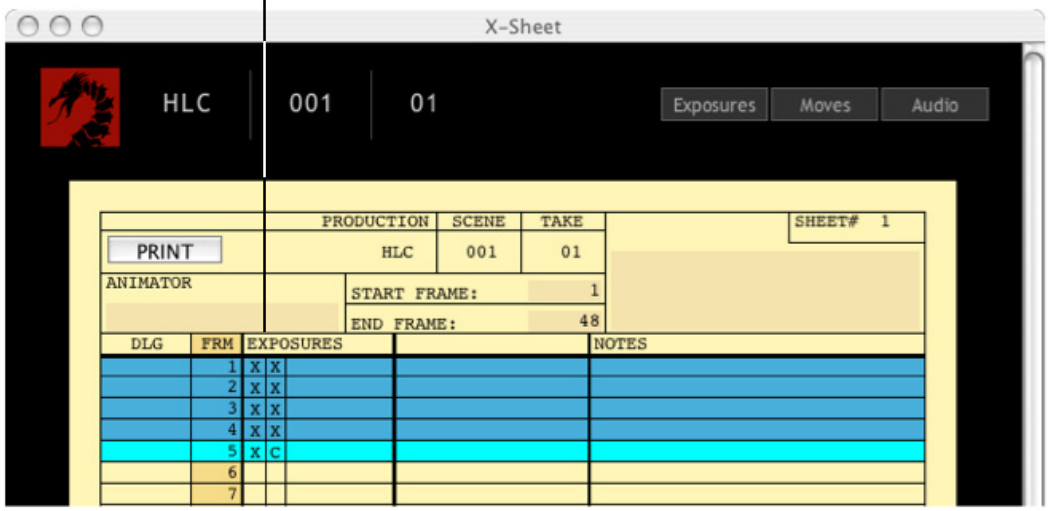
7. In the Exposure dialog, click **OK** once you've made all the changes for the exposures. Dragon saves your changes.

Understanding Dragon's Exposure Cues

Dragon uses a few cues in the X-Sheet and Animation window to help you keep track of the exposures in your scene.

Dragon adds information for the exposure to the X-Sheet for your scene. To view the X-Sheet, click **WINDOW | SHOW X-SHEET.**

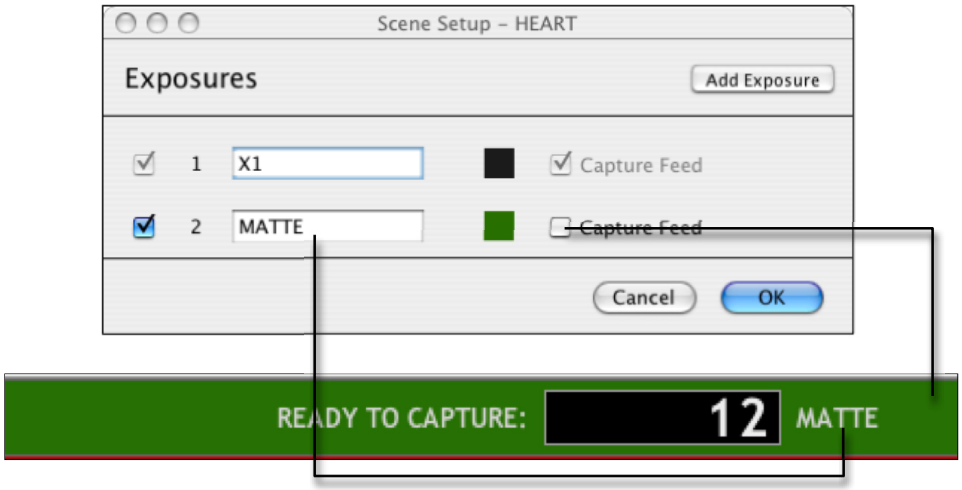
When you have more than one exposure, each one gets its own column in the X-Sheet:



When you're animating, the Animation window helps you keep track of your exposures. By default, each scene has one exposure. If your scene only has one exposure, the Capture counter is dark grey:

NOTE: You can change the color of the default exposure from the Exposure dialog. In that case, the Capture counter would match the color you chose. See page 108 for more information about the Exposure dialog.

If you add another exposure, however, the Capture counter turns the color of the exposure you're about to shoot, and displays the name of the exposure to the right of the counter.

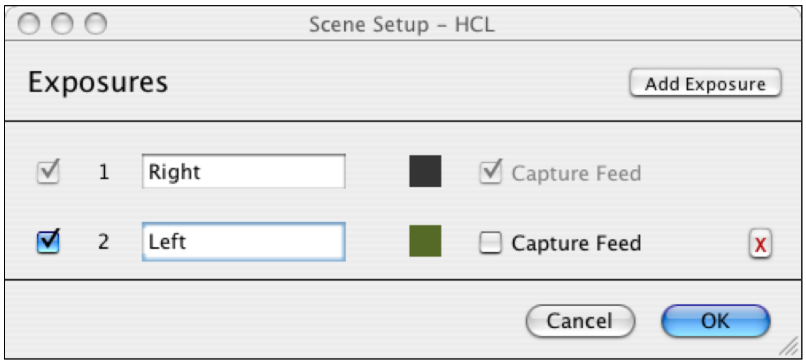


Deleting an Exposure Before You Start Shooting

Delete exposures from the Exposure dialog.

NOTE: Once you start shooting a scene that has multiple exposures set up, you cannot delete any exposures. You can disable them, however. See page 112 for more information.

1. Click **SCENE | EXPOSURES**. The Exposure dialog opens.



2. Click the red **X** next to the exposure you want to delete, then click **OK.**

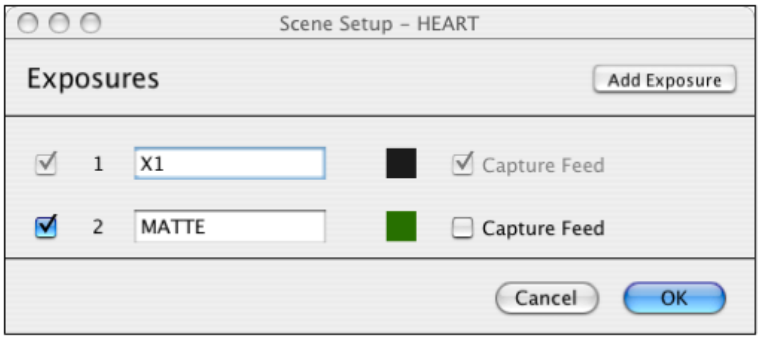
NOTE: You can't delete the default exposure (Exposure X1) for a scene, since every scene must use at least one exposure.

Disabling an Exposure

You can temporarily disable an exposure while you're shooting a scene. For example, you might only need a second exposure during the first half of your scene. When you are finished shooting an exposure, disable it so you don't continue capturing multiple shots for each frame.

To disable an exposure:

1. Click **SCENE | EXPOSURES**. The Exposure dialog opens.



2. Uncheck the box of the exposure you want to disable, and click **OK.**

NOTE: You can't disable the default exposure for the scene.

Adding Hand-Cranked Camera Moves

Dragon works with camera rigs to help you plan and execute camera moves. When you set up a camera move, Dragon gives you position information for each frame.

> **NOTE:** You can export any moves you create to other scenes. See "Importing Scene Settings" on page 48 for more information about importing settings.

The sections that follow help you set up camera moves:

- "What Gear Do I Need to Use the Move Feature?" on page 113 gives an overview of what equipment Dragon's move feature will work with.
- "Programming a Basic Move" on page 114 explains how to set up a simple move.
- "Printing a Hard Copy of the Move" on page 118 explains how to get a hard copy of the move information for each frame.

What Gear Do I Need to Use the Move Feature?

Dragon works with manually controlled camera rigs. You can use one of three types:

- A rig using a dial. Print a tape showing evenly spaced increments and tape it on the dial. Your dial must start on 1 (not 0) to work with Dragon.
- A rig using a counter that keeps track of increments.
- A millimeter ruler. Your camera should have a pointer on it that can align with the millimeters.

Programming a Basic Move

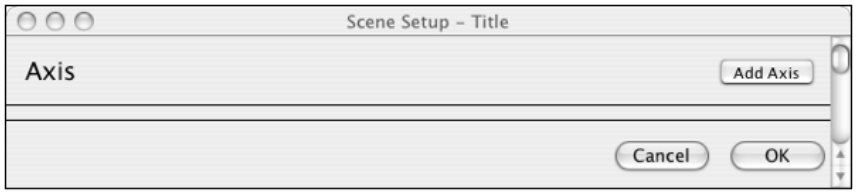
1. On your rig, note your start and end position.

   - For a rig with a dial, use the numbers on the dial tape.
   - For a rig with a counter, use the rotations position method.
   - For a ruler, note the first and last millimeter you'll use.

2. For a rig with a dial, note the total number of increments on the dial tape.

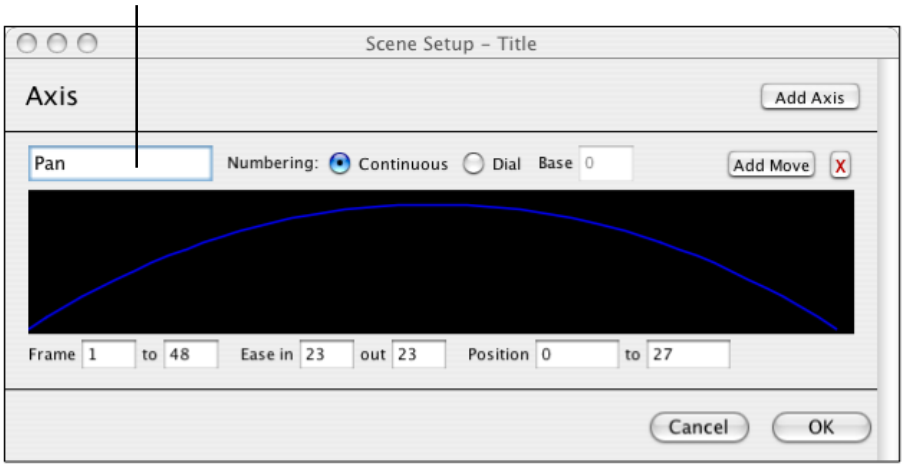
From Dragon:

3. Open the X-Sheet and click **MOVES.** The Moves dialog opens.



4. Click **ADD AXIS.** A new axis appears.

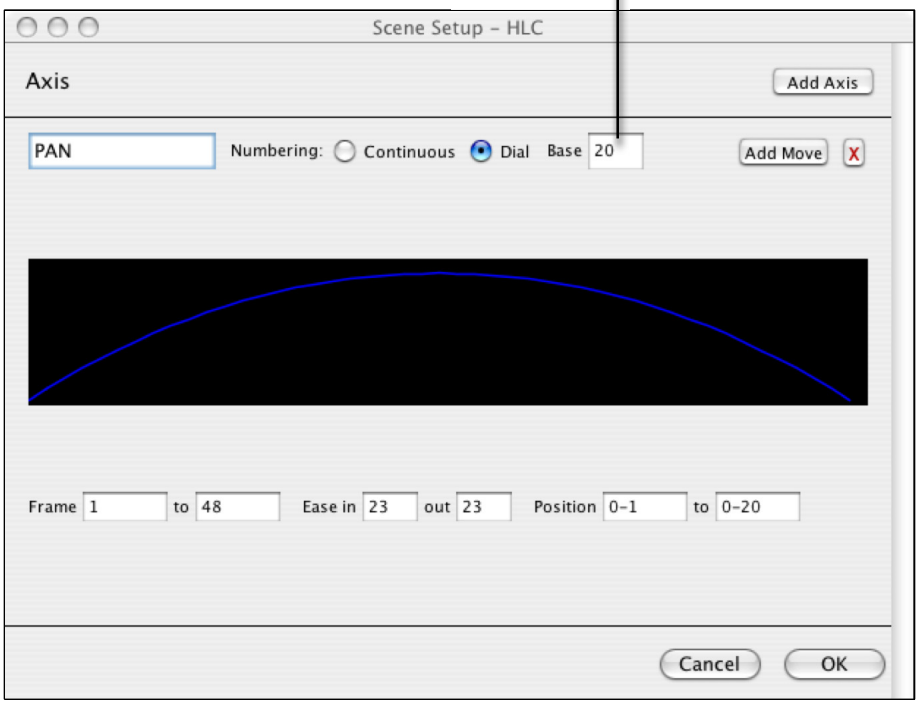
5. Enter a name for the axis. In this case, the name is **PAN**.



6. Choose the type of numbering your rig uses:

   - If you're using a counter or a millimeter ruler, use the default setting, **CONTINUOUS.**

- If you're using a dial, click **DIAL**.
  Then enter the total number of increments from the dial tape that you found in step 2 in the **BASE** field. In the picture below, the number of increments was **20**:



7. Enter the beginning and end frame number for the move in the **FRAME** ___ **TO** ___ fields. This determines the time length of the move.

8. Enter the **EASE IN** and **EASE OUT** values—the number of frames the move will take to ease in and ease out.

   - For linear moves, enter **0** for both **EASE IN** and **EASE OUT**.

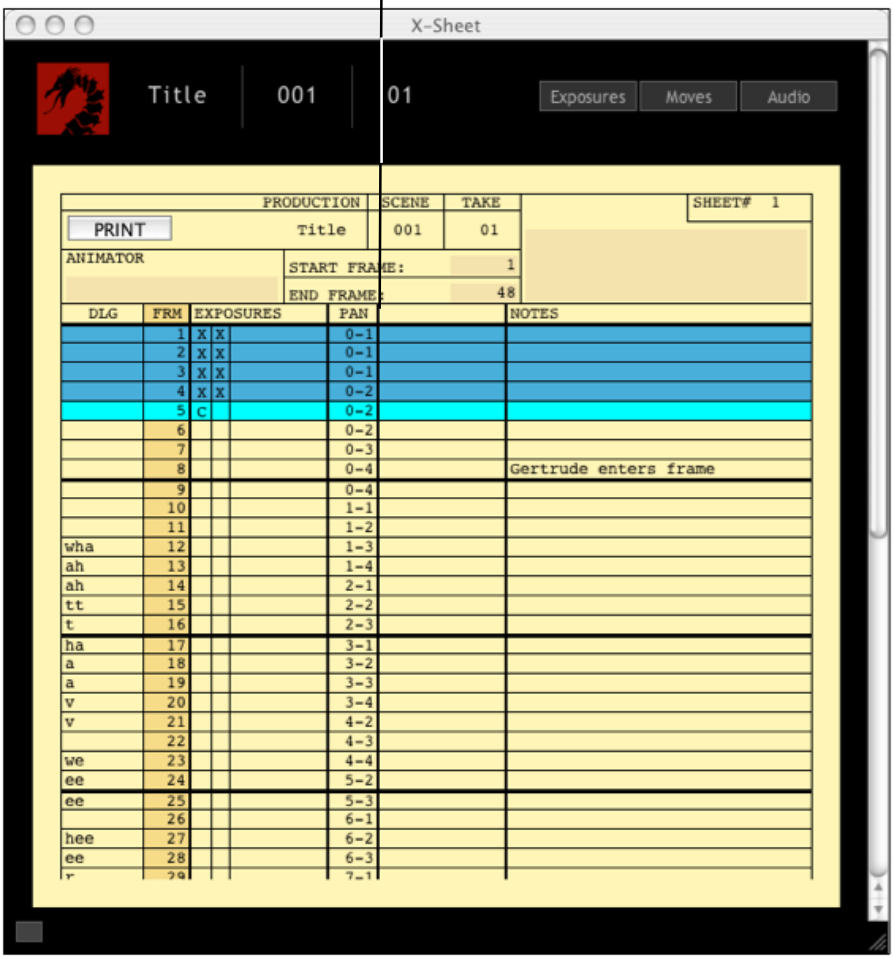
   NOTE: The sum of the ease in and ease out values cannot be greater than the number of frames in the move.

9. Enter the stop and end position data for the rig that you found in step 1 in the **POSITION** ___ **TO** ___ fields.

   - If you are using a dial, you'll need to enter the position data in the format: **TOTAL # OF ROTATIONS – INCREMENT**.
     The **TOTAL # OF ROTATIONS** is the number of rotations that the dial makes in the course of the shot.
     The **INCREMENT** is the number of increments on your tape (the base,, here set to 20)
     For example, if your dial with 20 increments would go around 5 times in the course of your shot, then enter **POSITION 0-1 TO 5-20** .
     See "Understanding the Position Information for a Dial," below, for more information.

10. Click **OK**.

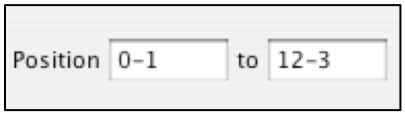
Dragon loads the move, and puts the moves for each frame in the X-Sheet:



Once you set up a move, you can always modify it by opening the Moves dialog and adjusting the settings.

Understanding the Position Information for a Dial

The dial system uses a rotation and position system. When you set up the move in Dragon, you enter values in the Position fields:



In this screenshot, the first number is a typical way a dial rig starts: the dial reads **1** and you have not rotated yet.

The second field is a possible ending position for a 20-increment dial: the dial has rotated twelve times, and it rests at position 3.

Once you set up the move, Dragon will give you position and rotation information to let you know where to move your rig. For example, a position of **1-5** would mean that you move the dial 1 revolution and rest it at position 5. If the dial will moves more than one full revolution from one move to the next, Dragon also puts an asterisk next to the position.

Pan
0-1
0-1
0-3
1-1
1-3
2-3
3-3
4-3
5-4 *
7-2 *
8-4 *
10-3 *
12-2 *
14-1 *
16-1 *
18-2 **

NOTE: The more increments your dial is broken into, the more flexibility you will have for short moves or longer eases.

For example, if you're using a dial with base four, the move column for your X-Sheet might look like the image to the right:

The table below gives a further explanation of what those positions mean.

This position:	Means:
0-1	Set the dial to the first increment on the dial.
1-1	You've turned the dial a total of one revolution since the beginning of the scene. Set the dial to the first increment.
4-3	You've turned the dial a total of four revolutions since the beginning of the scene. Set the dial to the third increment.
5-4 *	You've turned the dial a total of five revolutions since the beginning of the scene. Set the dial to the fourth increment. Since the last position was 4-3, the move requires a complete turn, plus one increment. Dragon adds the asterisk to highlight that.
7-2 *	You've turned the dial a total of seven revolutions since the beginning of the scene. Set the dial to the second increment. Since the last position was 5-4, the move requires a complete turn plus two increments. Dragon adds the asterisk to highlight that.

Printing a Hard Copy of the Move

To print the move, print a copy of your scene's X-Sheet. It contains the moves for each frame.

1. Click **WINDOW | SHOW X-SHEET** to open the X-Sheet.
2. Click **PRINT** to print a hard copy.

Using the X-Sheet

The X-Sheet window gives an overview of your scene, with camera moves, exposures, and audio cues, and any reminders you've set for yourself. As you update your scene, the X-Sheet updates automatically as well. You can also print a hard copy of the sheet for easier reference while you're animating.

NOTE: The main information that appears in the X-Sheet relates to audio cues, exposures, and camera moves. See "Adding and Editing Audio Clips," on page 97, "Adding Exposures Per Frame" on page 107, and "Adding Hand-Cranked Camera Moves" on page 113 for more information about those features.

The sections that follow explain how to edit a few areas of the X-Sheet.

- "Adding Production Information to the X-Sheet" on page 119 explains how to edit the X-Sheet's header.
- "Setting Scene Length" on page 120 explains how to change how many frames your scene includes.
- "Leaving Reminder Notes in the X-Sheet" on page 121 explains how to add a pop-up note to a frame.
- "Shooting on Twos" on page 121 describes how to shoot only odd-numbered frames to speed production.
- "Printing the X-Sheet" on page 124 explains how to print a hard copy of the exposure sheet.

Adding Production Information to the X-Sheet

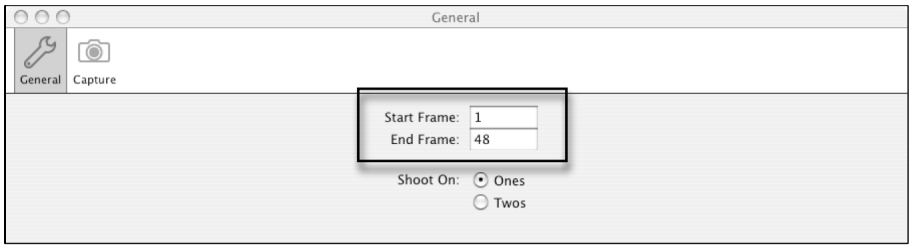
The information for your scene and take appear in the X-Sheet automatically when you create a new scene.

Some of the areas in the X-Sheet header are editable. Those areas are darker beige. Click inside the header to add your animator's name, a note about the scene, or the scene length.

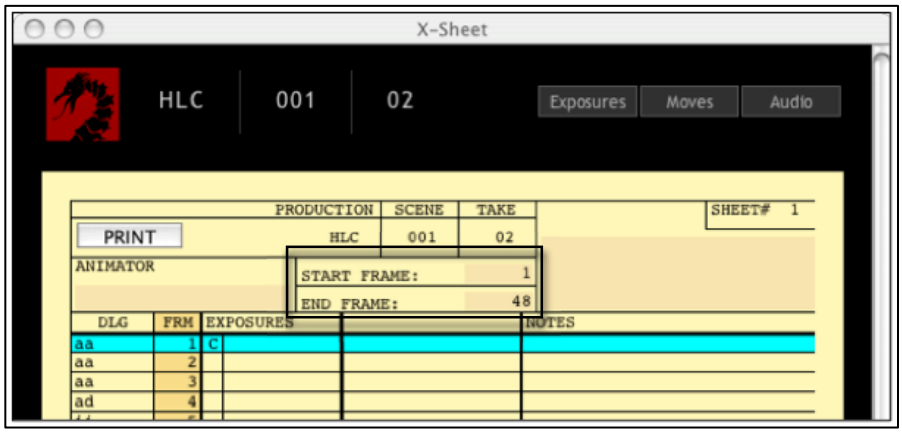
Setting Scene Length and Starting Frame

By default, your scene contains 48 frames. Change the length of the scene from one of two places in Dragon:

- Click **SCENE | SETTINGS**. The Settings dialog opens:



- Open the X-Sheet and look for **START FRAME/END FRAME** in the header:



From either the Settings dialog or the X-Sheet, change the length of the scene by entering values in the **START FRAME** or **END FRAME** fields.

> **NOTE:** You can set your scene to start at a frame other than **1**.

Close either window. The X-Sheet updates automatically to reflect your changes.

Leaving Reminder Notes in the X-Sheet

If you'd like to remind yourself of something before you shoot a particular frame, you can set a reminder note. The note will pop up in a separate window when you're about to shoot the frame.

To set a reminder note:

3. Click in the Notes column in the X-Sheet, in the row of the relevant frame.
4. Type the note you want to pop up when you shoot that frame.

When the Capture counter displays the frame you've added a note for, Dragon opens the note:

Shooting on Twos

You may wish to speed up sections of your scene by shooting on twos. Shooting on twos means that if you shoot your scene at 24 fps, you'd only capture 12 unique frames—the other frames would be duplicates.

To shoot on twos, press **COMMAND 2**. Dragon automatically captures two frames. Shooting this way means that you can also shoot on twos for part of your scene, and shoot on ones for key parts that you want to be especially smooth.

NOTE: Unfortunately, shoot on twos does not work if you have multiple exposures set up. With multiple exposures, pressing **COMMAND 2** will shoot the first exposure, then the second exposure, *not* two shots of *each* exposure. If you wish to speed production when using multiple exposures, use the frame numbering on twos feature, explained below.

Frame Numbering on Twos

Dragon has an alternative to the normal shoot on twos method of capturing two shots of every frame (described above). Frame numbering on twos changes your exposure sheet to only capture odd-numbered frames. Just as with shooting on twos, you will only produce 12 unique images for every 24 FPS—but you'll only capture every other frame. Once you export the files to post-production software, you can double the images.

Using the frame numbering method has a few advantages:

- When you step-to-live or use other animation tools in the Animation window, you can view only unique frames, not the doubled images. This makes it easier to step through the frames that actually have unique information in them.
- You can use this method with multiple exposures. Dragon automatically adjusts your X-Sheet—it does the numbering for you, so you don't make a mistake.

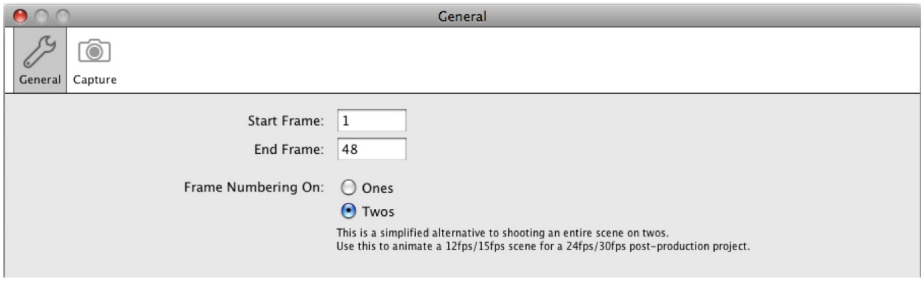
However, the frame numbering on twos feature does lock you into shooting your whole scene on twos. You can't switch back and forth once you've made the modifications to your X-Sheet.

To shoot on twos:

1. Create a new scene. See "Creating a New Scene" on page 43 for more information.

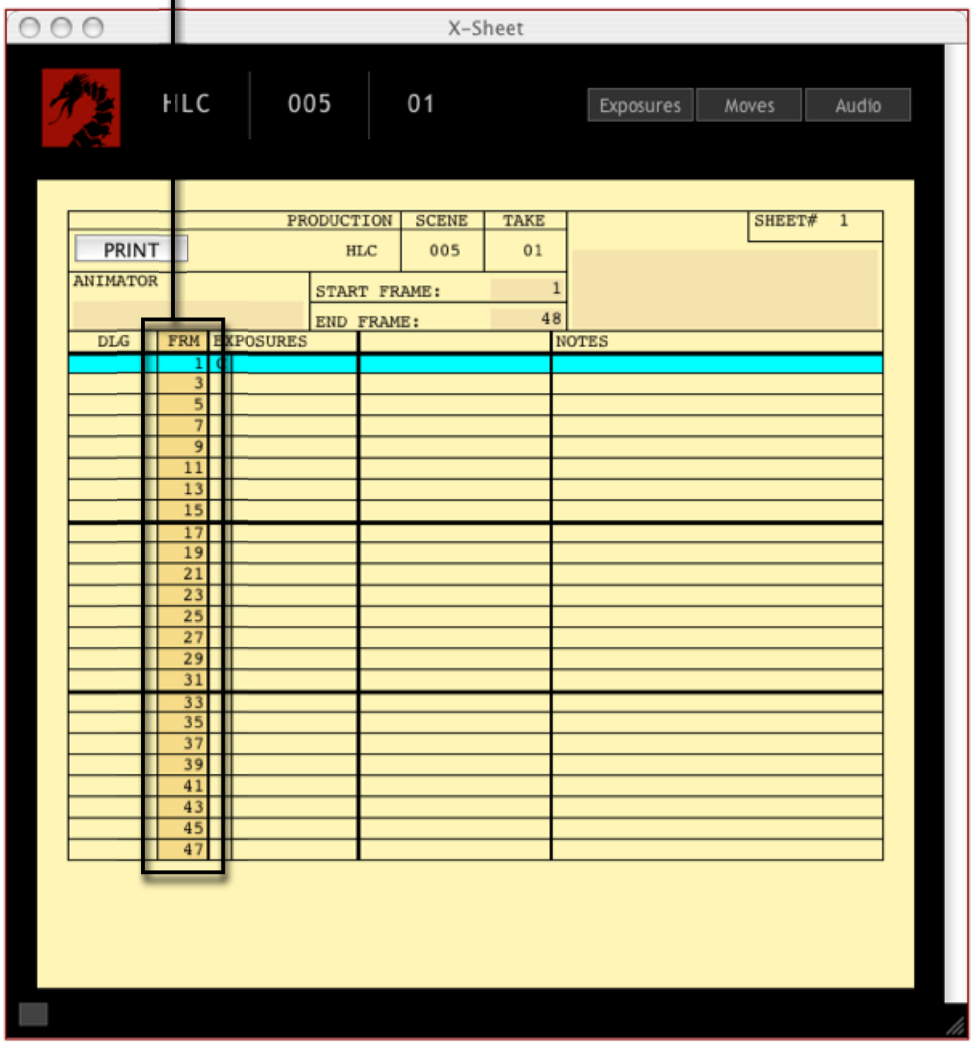
   CAUTION: Set up your scene to shoot on twos **before** you start capturing frames. If you change to shooting on twos after you've already shot frames, you will lose any even-numbered frames you've already shot.

2. Click **SCENE | SETTINGS**. The scene Settings dialog opens:



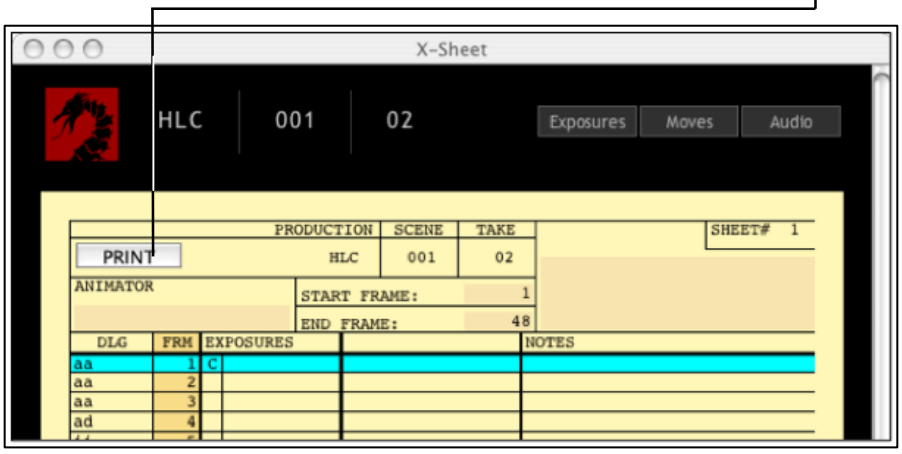
3. Click the **TWOS** radio buttons. Close the window.

Dragon adjusts the frame numbers in the X-Sheet to reflect the change. Open the X-Sheet (click **WINDOW | SHOW X-SHEET**) to view the changes:



Printing the X-Sheet

To print a hard copy of the X-Sheet, click **FILE | PRINT**, or click **PRINT** in the X-Sheet window.



Settings

Dragon contains a number of ways to customize your user experience. The Preferences dialog gives you advanced control over settings for your whole project, while the Settings dialog allows you to adjust setting for a particular scene. Configure custom Hot Keys, adjust auto-shut off for Live View on your camera, or add a delay before shooting a frame. The next few sections give an overview of the options available in both dialogs.

- "Configuring the Settings for Dragon" on page 125 explains how to use the Preferences dialog.
- "Configuring the Settings for a Dragon Scene" on page 128 explains how to use the Settings dialog.

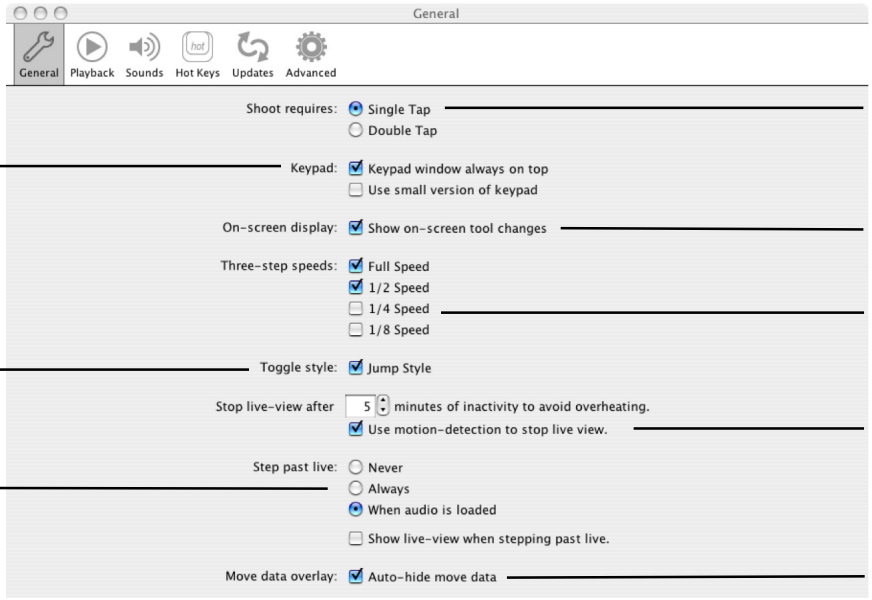
Configuring the Settings for Dragon

- "Configuring General Preferences" on page 126 explains general preferences, including auto shut-off, 3-step speeds, and changing the key presses needed to shoot a frame.
- "Configuring Playback Preferences" on page 126 reviews options available to customize Dragon's playback features.
- "Configuring Dragon's Sounds" on page 126 explains how to add audio alerts to some Dragon features.
- "Programming Hot Keys" on page 127 describes how to set up custom key presses to control some Dragon features.
- "Configuring Update Preferences" on page 127 describes how to enable Dragon to check for updates automatically.
- "Configuring Advanced Preferences" 128 describes how to adjust various settings, including setting file naming conventions, adding a capture blackout screen, and adding a delay before your camera captures a frame.

Configuring General Preferences

The General Preferences dialog allows you to modify a variety of Dragon's functions. Any changes you make will apply to your whole project.

Select **COMMAND ,** to open the Preferences dialog.



Adjust whether you must press the **SHOOT** key once or twice to shoot a frame.

Adjust whether the keypad window floats above the Animation window, and how big the window is.

Show or hide notes that flash in the View pane when you activate tools like Toggle or 3 Step with the keypad.

When you press 4, 3-Step toggles through different speeds—up to four by default. This Preference allows you to select which speeds to toggle through.

Change the way the Toggle button functions. See page 73 for more information.

Adjust whether you can step past the Live View into black 'to-be-shot' frames. This is often useful when you've loaded an audio clip, for example.
Check **SHOW LIVE VIEW WHEN STEPPING PAST LIVE** to keep seeing the live view while scrubbing past the current frame.

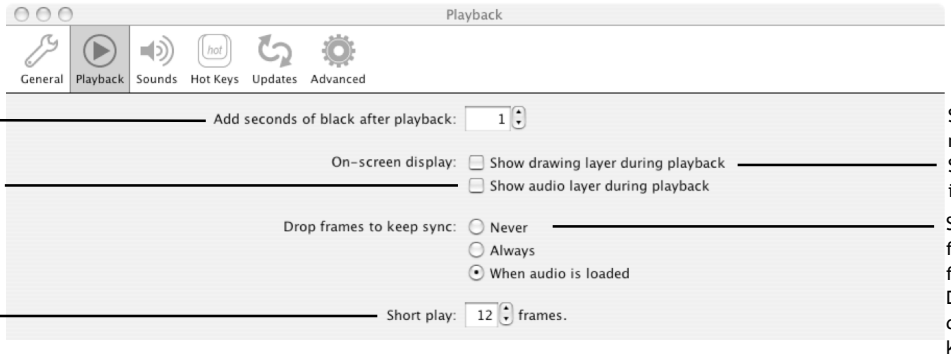
DSLRs with Live View can overheat if the Live View is left on. This option configures how long auto-shutoff takes, and whether Dragon will determine inactivity using its built-in motion-detection feature.

By default, Dragon displays any camera moves you've programmed in the upper right side of the Animation window. Check this box to make the move data disappear when you step through your scene.

Any preferences you change will be saved when you close the window.

Configuring Playback Preferences

Modify Dragon's playback features using the Playback Preferences dialog. Any changes you make will apply to your whole project. Click **COMMAND ,** to open the Preferences dialog, then click **PLAYBACK**.



Adjust the number of seconds of black frames added for the **BLACK** feature. See page 54 for more information.

Show or hide any marks you made using the Draw tool. See page 57 for more information.

Show or hide the audio tools in the Animation Window. See page 69 for more information.

Select when Dragon will drop frames to keep up with the frame rate. For example, if Dragon is running slowly during playback, and can't keep up with the frame rate, it will drop frames to keep in sync with the audio if **WHEN AUDIO IS LOADED** is selected.

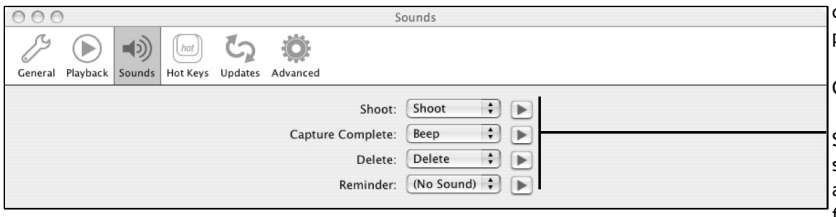
Adjust how many frames are included when you use **SHORT PLAY**. See page 54 for more information.

Any preferences you change will be saved when you close the window.

Configuring Dragon's Sounds

Add custom sounds to Dragon features to alert you when certain operations take place. Any changes you make will apply to your whole project.

To modify sounds, click **COMMAND ,** to open the Preferences dialog, then click **SOUNDS**.



Select sounds to associate with shooting a frame, completing a capture, deleting a frame, and a pop-up reminder note.

Click > to play the sound.

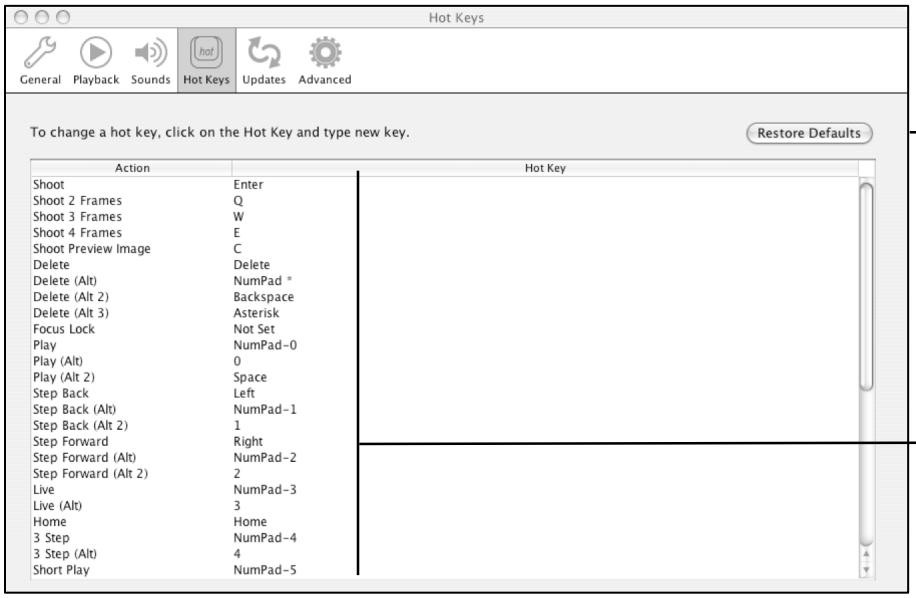
See page 44 for information about shooting frames, page 46 for info about deleting frames, and page 66 for info about pop-up notes.

Any preferences you change will be saved when you close the window.

Programming Hot Keys

Dragon comes with a variety of pre-programmed keyboard controls that help you animate without using your mouse. You can change the default settings from the Preferences dialog. Any changes you make will apply to your whole project.

To program custom Hot Keys, click **COMMAND ,** to open the Preferences dialog, then select **HOT KEYS**:



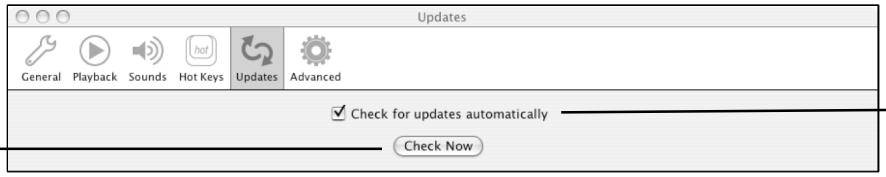
Revert to Dragon's default Hot Keys, and discard your changes.

Click next to the action you want to re-program in the Hot Key column. Then press the key(s) you want to use as the new Hot Key. For example, to re-program **3-STEP** to use 3 as its Hot Key, click the key currently associated with it (in this case, **NUMPAD-4**). A cursor appears in the row. Press 4. Dragon notes the new Hot Key in the row. Close the Preferences dialog to save changes.

Any preferences you change will be saved when you close the window.

Configuring Update Preferences

Dragon automatically looks for software updates to make sure you're using the best, most recent version. Use the Preferences dialog to change the settings for the updates.



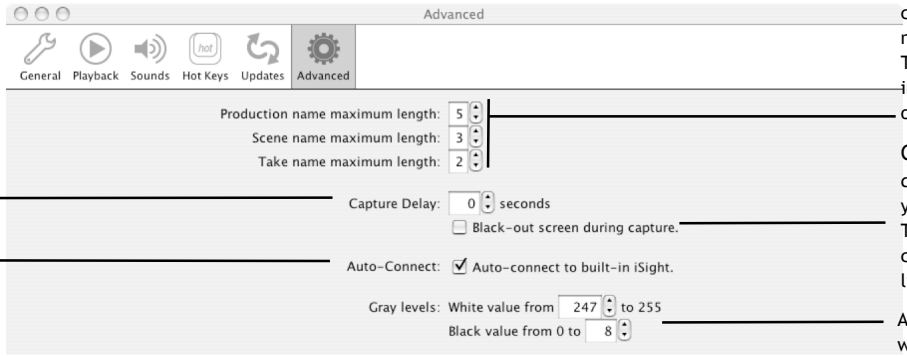
Click CHECK NOW to immediately check for updates to Dragon.

Check the box to have Dragon automatically look for updates to the program and notify you when new updates are found.

Configuring Advanced Preferences

The Advanced Preferences allow you to adjust how long Production names, Scene names, and Take names are, as well as allowing you to add a delay before your camera shoots a frame.

To modify Advanced Preferences, select **COMMAND ,** to open the Preferences dialog, then click **ADVANCED**.



Add a delay before Dragon prompts your camera to shoot. This gives you time to turn off a light you might be using to increase lighting for Live View, for example.

Uncheck the box to prevent your computer from auto-connecting to its iSight camera.

Adjust the number of characters you can use when naming Productions, Scenes, or Takes. See page 40 for more information about how Dragon organizes your files.

Check BLACK-OUT SCREEN to display a black screen when your camera shoots a frame. This avoids glare from the computer interfering with your lighting.

Adjust how Dragon defines pure white and pure black for the digital densitometer. See page 54 for more information about the grey level scale this tool uses.

Any preferences you change will be saved when you close the window.

Configuring the Settings for a Dragon Scene

The Settings dialog gives you control over your scene's settings, such as the camera you have selected, or the number of frames in your scene.

- "Configuring General Settings" on page 128 describes how to adjust scene length and whether you shoot on ones or twos.
- "Configuring Capture " on page 129 describes capture and feed preferences.

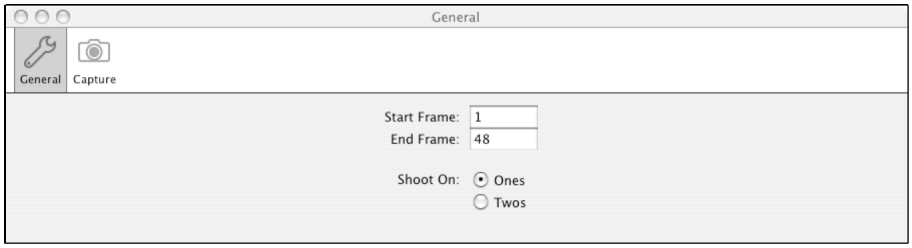
Configuring General Settings

The General settings tab gives you access to two aspects of your scene: shooting on twos and scene length. When you adjust either setting, you change the way your scene's X-Sheet is set up.

- For more information about the X-Sheet, see "Using the X-Sheet" on page 119.

- For more information about changing your scene's length, see "Setting Scene Length and Starting Frame", on page 120.
- For more information about shooting on twos, see "Shooting on Twos" on page 121.

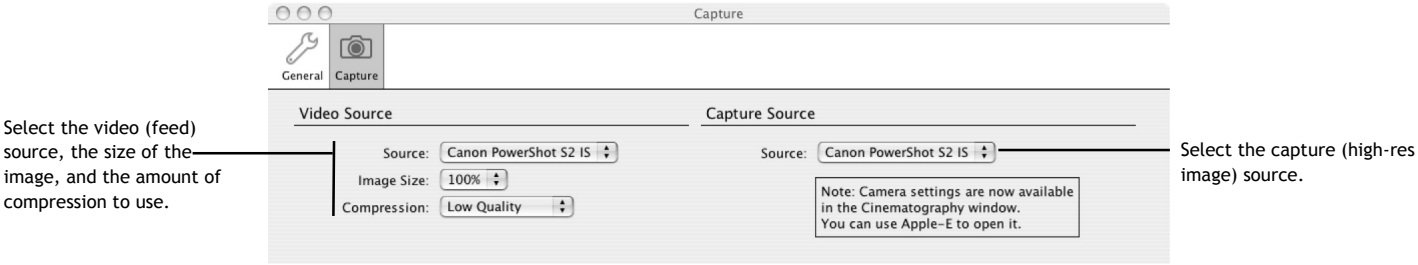
When you select **SCENE | SETTINGS…**, the scene window opens:



Configuring Capture Settings

The Capture Settings dialog allows you to select a video and capture source, as well as adjust some camera settings. See "Switching Video or Capture Sources Midstream" on page 41 for more information about using the dialog.

Click **COMMAND ,** to open the Preferences dialog, then click **CAPTURE.**



Any preferences you change will be saved when you close the window.

NOTE You can fine-tune other camera settings, like ISO and shutter speed from the Cinematography window. Click **COMMAND E** to open it.

Troubleshooting

We want your experience with Dragon to be trouble-free, but if you do run into a snag, we've created a few resources to help you.

- This troubleshooting guide addresses some hurdles people encounter when working with Dragon.
- The FAQs on Dragon's website (http://www.dragonstopmotion.com/faq.php)
- The Dragon discussion board. Here our team moderates discussions with users. (http://www.dragonstopmotion.com/forum)

I'm having trouble connecting my camera.

- **Is the camera connected to the computer correctly?** Double check your camera's connections, then press **COMMAND R** to reset connections. Dragon will check for new connected devices and automatically connect to your camera.
- **Is the camera on?** Turn on power, set the camera to the **CAPTURE** (not **PLAY**) mode, and remove the lens cap.
- **Is the camera battery charged?** Check the battery power. If it's low, that can prevent Dragon from working properly.

  NOTE: We recommend that you hook your camera up to A/C power when using Dragon. It's also a good idea to remove your camera's battery.

- **Are other software programs connected to your camera?** Make sure any peripheral camera software (such as iPhoto) is closed. Often, these programs automatically open when you connect a camera, and that software can interfere with Dragon's connection to your camera.
- **Is Dragon connecting to the right device?** Occasionally, Dragon will mistakenly connect to the wrong device (the iSight camera on a laptop,

or a scanner, for example). Select **CAPTURE | CAPTURE SOURCE** and/or **CAPTURE | VIDEO SOURCE** and check that Dragon has selected the right device. See "Dragon keeps connecting to my laptop's iSight camera, but I don't want it to.", below, for more information about preventing this from happening.

- **Is your video source QuickTime compatible?** Any standard DV source (with a Firewire or USB connection) should work (except for HDV cameras—see the next bullet). If iMovie detects your camera as a video source, then Dragon will see it as well.
- **Is it an HDV camera?** You need an HDMI conversion card from Blackmagic Design (http://www.blackmagic-design.com/products/intensity/).

Dragon keeps connecting to my laptop's iSight camera, but I don't want it to.

Because the iSight is built into many Macs, Dragon will, by default, detect it as a possible camera source. This can get annoying if it's making it harder to connect to your preferred camera.

To disable auto-connect for the iSight:

1. Click **COMMAND ,** to open the Preferences dialog.
2. Click the **ADVANCED** tab.
3. Uncheck **"AUTO-CONNECT TO BUILT-IN ISIGHT."**

Why did I get a warning message?

Dragon displays a few different warning messages if there's a problem with the setup of the program. Here's a list of the warning messages you might see, and how to resolve the problem they're warning you about.

NOTE: If you want to ignore any warning message, press **ESC**. Dragon clears the message.

This warning:	Means:	To solve the problem:
WARNING: FAILED TO CONNECT TO PREVIOUSLY USED CAMERA(S).	Dragon remembers what camera you use to shoot your scenes to ensure that the frames have a consistent look and feel within a scene. When you get this warning,	Re-connect the camera you were using the last time you shot the scene. Press command **R** to reset connections. Dragon recognizes the new camera and

This warning:	Means:	To solve the problem:
	it means that the camera you used to shoot the scene you just opened is not connected to your computer. That means that: • If there is no camera connected, you can't shoot frames, OR • If there is a camera connected, when you continue shooting, thee frames will not look the same as the rest of the frames in the scene.	the warning disappears.
LIVE VIEW STOPPED.	The DSLRs with Live View (such as the Canon 40D and Nikon D300) may overheat if left in Live View indefinitely. To protect your camera, Dragon disables the live-view after a period of inactivity. Change the auto shut-off feature in the Preferences dialog. See "Configuring General Preferences" on page 126 for more information.	To restart the Live View, press **3**, or press ← to step from the live frame and → to step back to it.
NO CAPTURE SOURCE IS SELECTED.	You are only working with a video source. Dragon is not capturing any full-res stills.	• You may want to work with only a video source. Press **ESC** to clear the warning. • Your capture source may not be connected correctly. See "I'm having trouble connecting my camera." on page 130 for more information about trouble-shooting your camera connection. See "Setting up Video and Capture Sources" on page 36 for more information about working with video and capture sources.

This warning:	Means:	To solve the problem:
STILL IMAGE WAS NOT CAPTURED.	You have been taking still images, but for some reason, your camera did not successfully capture the last frame.	• Check your capture camera's connection. You may have accidentally disconnected it. • Check your camera and make sure it's working properly. Something prevented it from capturing the frame.
FPS!	Dragon does not have enough memory to play back the scene at the frame rate you chose.	• Adjust the size of the live view. Select **100%** from the image size drop down list (right below the View Pane, in the animation tools). That is the fastest playback size. • Eliminate unnecessary effects. If you have a line-up layer or Chroma Key open, consider closing it. • Close any unnecessary programs on your computer.
YOUR CAMERA DOES NOT HAVE LIVE VIEW. **YOU MAY CAPTURE PREVIEW IMAGES USING THE 'C' KEY.**	You have connected a still camera that does not have Live View, and you haven't connected any video source.	• You intend to shoot using only a capture source. Press **ESC** to clear the warning. See "Capturing Images and Navigating Through Your Frames without a Video Source" on page 69 for more information on shooting without a video source. • Connect a digital camera, spy cam or other video source. See "Choosing a Video Source" on page 39 for more information about selecting video sources.

How do I optimize my camera to work with Dragon?

Though Dragon will automatically connect to your camera, there are a few things you can do to make sure it works seamlessly once you start shooting.

- Set the camera to manual mode.
- Turn off auto-focus.

NOTE: We have more detailed camera setting suggestions for the Canon 40D on the Dragon website at http://dragonstopmotion.com/camera.php. As we're able to work with other cameras and discover optimal settings for them, we will add additional directions.

The Live View on my DSLR is too dark to help me animate.

If your scene uses low light, you may not be able to see the image in your DSLR's live view very well. The Capture Delay feature in Dragon is designed to work around this issue. When you use the Capture Delay, Dragon shoots the video feed frame immediately, then delays before shooting the high-res capture.

To animate]with a dark set:

1. Click **COMMAND,** to open the Preferences.
2. Click **ADVANCED**.
3. Select the number of seconds you want to delay each shot when you press **ENTER**. See page 128 for more information about the Preferences window.
4. Add a work light to your scene to help make the set bright enough to animate.
5. Each time you take a shot, turn off the work light during the capture delay. That way, you have enough light to animate with, but you can keep your scene lighted the way you want.

When I double-clicked my project file, nothing happened.

Even though the project has a file extension (.dgn), it is a *folder*, not a single file. All the files that make up your project (such as capture frames) will be stored within that top folder. That means that:

- You can't open a .dgn file by double-clicking it.
- You can't drag and drop a .dgn file onto Dragon's icon to open the file.

Storing your files this way makes it easier to work with post-production software like After Effects or Final Cut Pro. For more information about how Dragon organizes your files, see "Finding Your Source Files" on page 53.

Why doesn't the audio play when I play back my movie?

Have you changed the frame rate in the Animation window after scrubbing the audio? Doing so puts the audio on hold—since the audio and the dialogue cues don't match the number of frames in your scene. Reset the frame rate from the Animation window and the audio will play back normally.

A tool palette over my video feed won't go away. How do I get rid of it?

The Animation Palette appears when the mouse is within the video area, and disappears when you move the mouse away. If the Animation window is maximized, move the mouse down into the Animation tools area.

Why do my move calculations include asterisks?

Dragon uses asterisks to represent multiple turns of a dial. See "Understanding the Position Information for a Dial" on page 116 for more information about position information.

Why is Chroma Key disabled?

Chroma Key works in tandem with the Line-Up Layer tool, and is disabled when there's no Line-Up Layer. Load a Line-Up Layer to use Chroma Key. See "Adding a Line-Up Layer (Roto Movie or Still)" on page 92 and "Using Chroma Key" on page 95 for more information about these features.