

portfolio*

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The following pages are taken from one of the chapters I wrote for our user's guides. This excerpt does not contain screen shots as the most recent version of this chapter uses images taken from an unreleased version of the software.

Summary

Paint is a high-performance painting system used to create original images and to retouch clips. Use the anti-aliased brushes to apply colours, filters, and Special Effects media to the image. Create your own custom brushes for special applications.

The following sections teach you how to use Paint to create images and apply effects to your images. Use a matte to protect areas of the front clip during painting. Record, animate, and apply a series of brush strokes to a clip. Use the Graphic and Cut/Paste tools to create rotoscoped sequences and shape animations.

This section contains the following chapters:

- “Paint: Painting on the Canvas” describes how to paint with brushes and geometry tools.
- “Paint: Setting Brush Attributes and Modes” describes how to set the attributes and modes that determine how paint is applied to the image.
- “Paint: Using Filters and Special Effects Media” describes how to apply filters and special effects to the image.
- “Paint: Using Wipe, Fill, and Autopaint” describes how to use the Wipe, Fill, and AutoPaint commands.
- “Paint: Using Mattes” describes how to create and use mattes in Paint.

- “Paint: Using Graphics” describes the graphic tools used to add and edit objects on the image.
- “Paint: Cut and Paste” describes the cut and paste commands, and how to add drop shadows or embossing effects to the cutouts.
- “Paint: Creating, Loading and Saving Setups” describes how to load and save setups in Paint, create custom brushes and brush sets, and apply colour correction setups to the clips.

Loading the Clips

To open the Paint menu, click the Paint button in the Effects menu and select the clips that you want to use from the work reels. Any of the following combinations of clips can be used in Paint:

- A front clip only
- A front clip and a back clip
- A front clip and a matte clip
- A front clip, a back clip, and a matte clip
- None (a blank canvas)

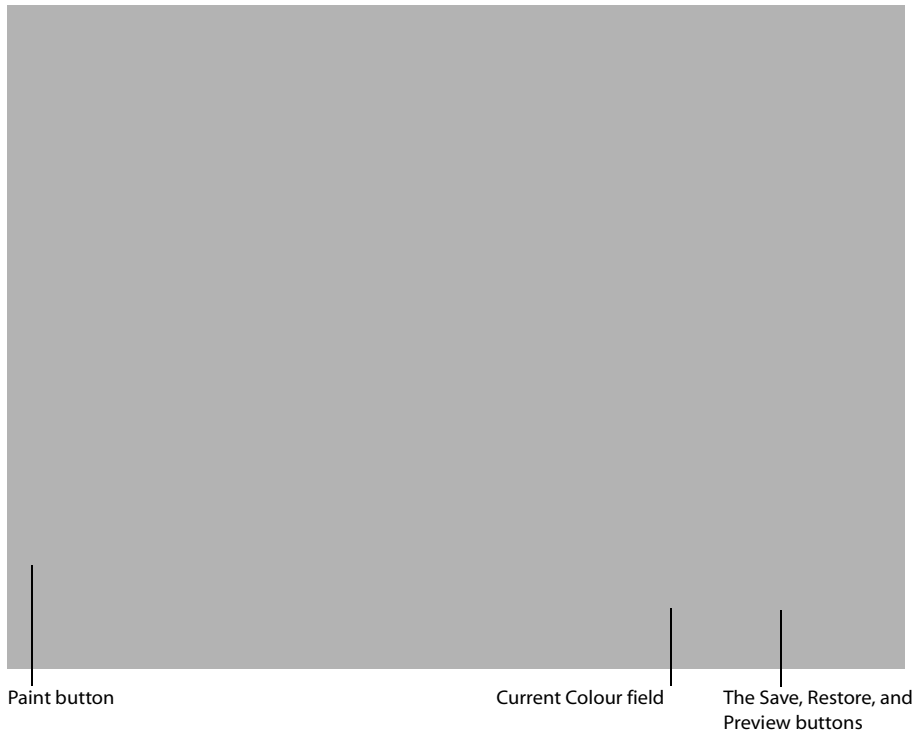
The front clip appears on the Paint canvas, where you apply colours and effects to it. The matte clip delimits the area of the front clip that is affected by painting. The back clip can be revealed for rotoscoping or brushed through onto the front clip. The colour of the blank canvas is defined by the wipe colour.

NOTE: The image window in Paint is referred to as the Canvas in the following sections.

To load the clips into Paint:

1. Click the Paint button in the Effects menu.
The Input Mode box appears.
2. Press on the box and select one of the Input Modes.
3. Select the source clips.
4. Select the destination reel.
The Paint Main menu appears.

The Paint Interface



Click:	To:
Paint	Use the brushes or geometric shapes to paint on the canvas, record and apply strokes to the canvas, fill areas of the image with a reference colour or image, and move the image on the canvas.
Graphics	Create, edit, and animate shapes and apply them to the canvas.
Cut/Paste	Create and add effects to cutouts and apply them to the canvas.
Library	Save and load your own colour palettes, mattes, pictures, cutouts, geometry, paint strokes, custom brushes, and stamps.
Setup	Set preferences, rendering options, grid guides, and colour correction options.

Paint Basics

The following section covers topics relevant to all Paint modules:

- Using the mouse

- Using Reference Images
- Using the Colour Palette and Selecting Colours
- Using Grids and Guides
- Saving and Restoring
- Exiting and processing

Using the Mouse

If you want to use the mouse instead of the tablet and stylus, press **SHIFT M** and **INSERT**. Press and hold on the right mouse button to apply paint at 80% pressure, the middle button to paint at 40% pressure, and the left button to paint at 20% pressure.

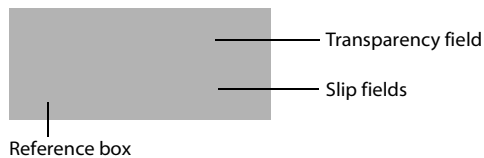
The tablet and stylus are capable of a far greater variety of pressure settings. To switch back to the tablet and stylus, press **SHIFT T** and **INSERT**.

Displaying a Reference Image

You can display a reference image in the background of the result image to use as a guide for rotoscoping.

To display the reference image:

1. Click the Show button.



The reference image appears by default at 50% transparency.

2. Select the reference image you want to display from the Reference box.
3. Set the transparency for the reference image in the Transparency field.
4. Set the Slip field value to show different images from the reference clip.

This option only works if the reference image you selected is from a clip with more than one frame.

NOTE: The slip field does not appear when you select Matte or Saved from the Reference box.

Selecting Colours

In Paint, you select colours using the Colour Picker, Colour Palette, and Colour Gradient. You store your own colours in the Colour Palette, mix or try out colours on the Scratch Pad, and create colour or grey scale gradients using the Colour Gradient.

Click the Current Colour field to use the Colour Picker. For more information, see Chapter 1, “Fundamentals”.

Using the Current Colour

The current colour is the colour used when you paint. The current colour is also used to set the colour for the wipe function and the matte colour. Select the current colour from the Colour Palette, Scratch pad, or Colour Gradient.

Using the Colour Palette

The Colour Palette appears in the Paint, Graphics and Cut/Paste menu. It contains the Scratch Pad and Colour Gradient. To display the Colour Palette, swipe the cursor across the grey swipe bars at the bottom of the screen. To hide it, swipe the cursor across the swipe bars a second time.



Using the Colour Palette

A series of colours are stored in the Colour Palette in colour pots. To set the current colour in the Colour Palette, click one of the colour pots.



Build your own Colour Palette by storing the current colour in the Colour pots. You can also save and load colour palettes. For more information, see “Paint: Creating, Loading and Saving Setups”.

To store a colour in the Colour Palette:

1. Click the Pal (Palette) button if the Scratch Pad is displayed.
The Colour Palette appears.
2. Set the current colour.
3. Click on a colour pot in the Colour Palette and hold the mouse button down momentarily.
The colour is saved in the colour pots.

Using the Scratch Pad

Use the Scratch Pad to mix colours selected from the image or colour pots and to test the selected brush type. You can also paste cutouts into the scratch pad to use when mixing colours.



To mix colours on the Scratch Pad:

1. Click the Pot button.

The Scratch Pad appears.

2. Paint on the Scratch Pad.
3. Change the current colour and paint over the previous brush strokes.
The colours are mixed.

You can also use the Wash, Shade, Smear, Drag, Warp, Recursive Clone, and Stamp Special Effects media in the Scratch Pad.

To use one of the media types in the Scratch Pad:

1. Select the Special Effects medium you want to use.

For more information, see “Paint: Using Filters and Special Effects Media”.

2. Click and hold the M button.

3. Use the brush cursor to apply the medium in the Scratch Pad.

(there is no M button in editing products...must see what the alternative is)

To set the current colour using the Scratch Pad:

1. Click the Current Colour field.
2. Use the Colour Picker to select the mixed colour within the Scratch Pad.
3. Click the Current Colour field to use the selected colour.

Using the Colour Gradient Bar

The Colour Gradient bar is used to set the gradients for graphics you create in the Graphics menu. For more information, see “Paint: Using Graphics”. You can also set the current colour by selecting a colour on the gradient using the Colour Picker.

To set the gradient:

1. Set the current colour.
2. Click either the upper or lower colour pot on the gradient bar.

NOTE: You must hold the cursor down for a moment to set the Gradient colour pot.

To set the current colour using the Colour Gradient Bar:

1. Drag the cursor across the gradient bar.
2. The selected colour appears in the Current Colour field.
3. Select a colour.

The selected colour becomes the current colour.

Lisa note: rewrite that last bit to xref within UG.

Use the field guides to provide reference points when painting, and the grid to help you accurately place strokes on the image. Neither the field guides nor the grids appear on the processed clip.

To display a field guide:

1. Click the Setup button.
2. Click the Grid/Guides button.

The Grid/Guides Setup menu appears.



3. Enable the Field Guide buttons.

Enable:	To display:
Safe Title	The region in which you want to contain all of your text
Center	A small cross at the centre of the canvas
Safe Action	The region in which you want to contain all of your animation
Long Center	A cross at the centre of the canvas. Its arms extend to infinity

NOTE: You can enable any sequence of Field Guide buttons.

To change the colour of the field guides:

1. Click on the Field Guides colour pot.

The Colour Picker appears.

2. Select a colour.

For more information about the Colour Picker, see Chapter 1, “Fundamentals.”

3. Click on the Field Guides colour pot.

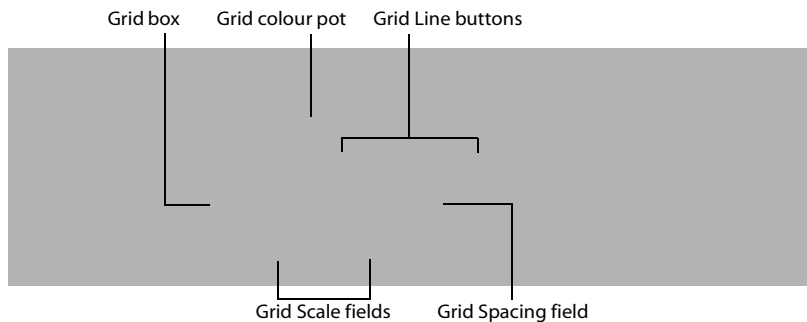
The selected colour appears in the Field Guides colour pot.

To use the grid:

1. Click the Setup button.

2. Click the Grid/Guides button.

The Grid/Guides Setup menu appears.



3. Click the Enabled button to enable the grid.

4. Select the grid style from the Grid box.

Select:

To:

View	Use grid without having paint strokes snapping or locking to a point or line
Snap To Point	Have a stroke snap to a point when nearby
Snap To Line	Have a stroke snap to either a horizontal or a vertical grid line when nearby
Lock To Point	Have the stroke snap to the nearest point

5. Enable a Grid Line button.

These buttons determine the appearance of the lines that form the grid.

6. If you have selected either the dotted or dashed Grid Line button, use the Spacing field to set the distance between the points that form the grid lines.

7. Use the Grid Scale fields to set the scale for the grid.

To change the colour of the grid:

1. Click on the Grid colour pot.

The Colour Picker appears.

2. Select a colour.

For more information on using the Colour Picker, see Chapter 1, “Fundamentals.”

3. Click on the Grid colour pot.

The selected colour appears in the Grid colour pot.

Lisa note- all of this has to be changed as Grids/Guides are no longer in the setup menus. Just make an xref to Wanda’s section of the UG so that the info doesn’t get redundant.

The Flipbook

Use the Flipbook command to preview an animation by playing a sequence of either five or nine frames.

To use the Flipbook command:

1. Click the Setup button.

The Setup menu appears.

2. Click the Flipbook button.

The Flipbook menu appears.

3. Select an animation mode from the Flipbook field.



Select:

Flip About Current

Flip From Current

Flip To Current

To:

Play two (or four) frames before the current frame and two (or four) after the current frame. This is the default setting.

Play five (or nine) frames beginning at the current frame.

Play five (or nine) frames ending at the current frame.

4. Enter the frame rate in the Frame Rate field.

NOTE: If the system is running at high resolution, it may not be able to achieve a flip rate of 30 frames per second.

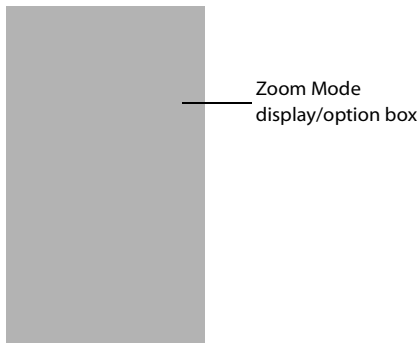
5. Press the **F** key to play five frames, or press **SHIFT F** to play nine frames.

If you select Flip About Current, pressing the **F** key plays two frames before and after the current frame. Pressing **SHIFT F** plays four frames before and after the current frame.

Painting on Full-Resolution Film Images

Use the Zoom Mode option box to paint on a film resolution image at full-resolution (1:1) from a zoomed out perspective. With this feature, you can perform complex operations like full-frame rotoscoping in Paint without having to constantly zoom in and out from the image on which you are painting.

In the Paint menu, the Zoom Mode display/option box shows the Zoom mode in which you are working. This mode is set automatically by xxxx* however, you can also manually select either of these modes in cases where you wish to override the default mode. If you zoom out from the image, the Zoom mode will automatically switch from Raster to Tiled. This allows you to paint on the image from a zoomed out perspective.



NOTE: If you manually switch the Zoom mode to Raster while zoomed-out from the image, you will not be able to paint on it.

There are several advantages to manually switching this mode: In Raster mode, if you apply paint to the edge of the image while zoomed-in, the paint will be applied in an abruptly sharp straight edge along the border of the canvas; the brush stroke is not completed on the image. In Tiled mode, if you attempt the same operation, the paint will be applied from the full diameter of the brush you are using to the area of the image which is not visible on the canvas.

Saving and Restoring the Image

You can save the current frame on the canvas. If you want to reverse a paint application, you can restore the image without having to recreate it.

The Save Button

Click the Save button to save the image that currently appears on the canvas. A single frame is stored in the Save buffer. The next time you click the Save button the current frame replaces the frame stored in the Save buffer.

The Restore Command

Click the Restore button to replace the current image on the canvas with the contents of the Save buffer.

The Preview Command

Select the Saved option in the Source box and click and hold the Preview button to view the contents of the Save buffer.

Quitting Paint

When you quit Paint, you may keep or discard the changes you have made to the front clip. Click the Exit button and select an exit option.

Select:	To:
Exit	Keep the changes you have made to the front clip. The modified front clip appears on the destination reel.
Keep One	Keep only the current frame of the front clip. The current frame appears on the destination reel.
Cancel	Quit Paint without saving changes to the front clip. When this option is selected, a Confirm button appears to the right of the canvas. Click Confirm to quit without saving your changes, or click elsewhere to cancel.

notes

Writing Sample #2

Release Notes

This document was created for an alpha release of one of our products. I expanded it from a Word document of bulleted points written by one of the developers. These release notes were produced within a few hours to

accommodate an extremely tight deadline. The following pages are an excerpt from the 17 pages total.

Introduction

xxxx* x.x alpha introduces several new features:

- Batch nodes
- Colour Warper
- functions in Action
- Logical Ops
- Real-time playback with audio/scrubbing in modules
- customizable working area
- Grids and Guides
- fire* audio features in Player
- JL Cooper support

- bold font support in the UI
- keyboard option can be switched on or off

and improvements to:

- display and monitor calibration
- Batch nodes
- Garbage Mask and Tracer
- Action
- desktop reels
- tablet pressure gauge and jitter filter
- Colour Corrector
- Player UI

Additionally, features planned for future releases of xxxx* x.x are described in this document.

Display and Monitor Calibration

Click System and Monitor to specify monitor settings.

Calib

Calibrate the monitor with the Xrite device or OptiSense.

Basic

Load a custom LUT or use film S-curves that simulate what specific print stocks (vision and premier) look like projected. When using filmlook, use the printer lights controls (from -1 to +1 fstop) to modify exposure.

Adjust

You can modify the display by making manual adjustments to Gamma, Gain and Offset. Expert mode provides three or nine control points on the curves to make fine adjustments on specific regions of the curve in addition to Gamma, Gain and Offset.

New Batch Nodes

- LUT node
- Interlace
- Deinterlace
- Film Compress
- Film Expand
- Optics
- Gmask
- Export
- Motion
- Colour Warper
- Modular Keyer

Improvements

- Node caching
- Add clip from reel/library/import
- Node bypassing
- Queue manager
- Multiple Keyer outputs
- Execute scripts on output
- Render Log option
- Command line Batch
- Auto-parent/move/unparent

Functionality

LUT Node

NOTE: The LUT node is also found in the Modular Keyer.

Apply gamma correction, lin-log conversion, and log-lin conversion.

Gestural UI

- Click on the curve to change Gamma values
- Click on one of the vertical lines to modify Black or White points
- Click on one of the horizontal lines to modify Black or White levels
- **CTRL-CLICK** on the shoulder area of the curve to modify softclipping
- Parameter control UI

Export

- Export result images to disk without having to save to framestore first
- Includes all export image functions

Motion

- Motion Estimation to create sharp timewarps
- Analyze movement in sequence
- Vectors display the movement of pixels
- Enter a number of source frames (length of clip)
- Enter a number of frames for the final clip

Node Caching

- Option to store intermediate result frames on the framestore
- Avoid reprocessing the same nodes when navigating the timeline
- View the space available on the framestore from Batch/Remove cached clips

To automatically remove cached clips when upstream changes are made:

1. Click the small circle in the bottom right corner of nodes to enable caching.
When caching is enabled for a specific node, the circle is a brighter yellow colour.
2. Click the cache indicator to toggle between read and write (yellow) mode to read only (amber circle).
3. **ALT-CLICK** to turn off the cache and remove cached frames.

The Cache submenu shows how many frames are cached for the selected node, the number of frames available on the framestore, and allows you to clear the cache of the selected node or all cached frames.

When enabled, a `_Cache_` library is created where cached clips are stored. Reels inside the library correspond to setups. These reels are named according to setup name and project name.

An option for enabling and disabling node caching for all nodes is in the Setup menu.

Adding Clips

Add clips by clicking Reel, Library and Import menu:

- quicker access to material when accessing library
- wire transfers from remote libraries (one frame at a time) on demand
- avoid material duplication, so it is not necessary to save to local framestore
- import from system disk, including the same features as Import Image
- drag a specific node (Reels, Library or Import) on the schematic to automatically bring you to the corresponding source of frames

Node Bypassing

Improves workflow and speed by deactivating nodes while working.

The Result button is now accompanied by a selection popup. For any given node, you can choose to pass the front, back or matte through instead of the result, effectively bypassing the process. An option for enabling and disabling bypassing for all nodes is in the Setup menu.

Queue Manager

- Control priority of output and export processes
- Add scripts to output and export nodes
- Name output and export nodes
- Control Start and End frame for output and export nodes

Multiple Keyer Outputs

- Output matte and result simultaneously

Scripts

- Shell scripts are launched once an output node finished rendering

Batch Log

- For every processed frame, a text or HTML log is created

- Check render status from remote station through and HTML browser
- You can choose the output path of the log file

Command Line Batch

- Launch batch from a command line
- Starts xxxx*, renders Batch setup, and exits xxxx*
- A valid user name and project name must be given:

```
Inferno -b batchsetup -U user - J project
```

Garbage Mask/Tracer

Batch/Modular Keyer

Functionality

- Improved animation: shape channel replaced by explicit XYZ for vertices
- Track Garbage Mask vertices and animate tangents independently
- Add vertices between animated vertices to preserve proper shape animation. For example, when two vertices of a Garbage Mask are keyframed, spline animation is preserved when adding a vertex between the two, as opposed to having the new vertex locked in its initial position for all subsequent keyframes

Tracer

- Lock pickers on reference frames to save time and avoid matte flicker
- Instead of having pickers sample every frame of a clip to create a matte, you can choose which frames get sampled using Sample On/Off. When sampling is disabled, the picker boxes are stippled.
- Channel editor filtering to show only selected, expand selected, and so on under Setup.

Colour Warper

The Colour Warper is available in Batch and the Modular Keyer to perform:

- Master correction
- Fine tuning

- Colour matching
- Selective correction
- Subsetups

Functionality

Master

- Control shadows, midtones and highlights balances with luma preservation
- Define the midtone range to be affected
- Control black & white level, hue, and saturation

To sample shadows in the image using Plot:

1. The plot mark appears in the vectorscope to show the position of the colour in RGB space. Using the trackball for shadows, move the colour to the center of the vectorscope to ensure it is truly black.
2. Additionally, you can move the trackball until the shadows are the desired colour.
3. The 2D histogram displays a plot mark for the intensity of the sampled blacks. Adjust black level to the desired level.

Whites can be sampled using the same steps.

Once the shadows and highlights are properly balanced, you can modify the midtones by using the midtones trackball to give a specific tint (while still preserving luma) to the overall appearance of the image. Optionally, use Hue Shift and Saturation. Notice that when using the midtones trackball, the RGB curves on the 2D histogram reflect the changes you make. To preserve luma, when you increase green content, blue and red content are automatically decreased. By default, the midtones trackball affects all ranges except white and black in varying degrees, as shown by the curves. To change the luminance range, use the two triangles below the histogram to restrict the regions affected by the midtones trackball. You can modify the range as many times as you like.

NOTE: The only way to affect the RGB curves is by using the midtones trackball.

Processing

Processing in the Colour Warper is very efficient and preserves original data. The order in which you process your clips does not effect the final result. Steps you take are concentrated into one single matrix: shadows control/level, highlights control/level, hue shift, saturation,

matching and fine tuning are part of the same calculation. Midtones control has its own channel.

The use of a single matrix provides faster processing and preserves image quality. For example, each step is independent of the others, so when clipping colours using white level, it is still possible to retrieve highlights that are clamped by using midtones or fine tuning. Numeric values for fields such as black level or saturation have no meaning of their own and are reset to their initial value once released. Also, there are two shape channels: one for midtones and another for other master operations and fine tuning. All operations can be animated, such as midtones, RGB curves, Master and Gamma curves.

If you want to change your result, you can use multiple undo and redo, and the C (clear) buttons for each manipulation of the master menu. If there is no specific channel editor curve for shadows control, you can selectively reset it by clicking the C button beside the control. If there is no keyframe on the matrix curve, use the C buttons to automatically set a keyframe at the current frame.

Fine Tuning

- Select a specific colour to change
- Apply balance and luminance changes

You can pick a colour from your image and “warp” colour space in a localized area around that colour. For example, you can do fine adjustments after a colour correction has been done or in a bluescreen key if skintones at the edges become magenta. Select a colour and use the trackball to change a colour. If the image becomes altered too much, select a colour again and adjust it. This process can be repeated as many times as necessary.

Also found in the Fine Tuning menu are Gamma controls and curves. You can change gamma for R, G and B, and use 3 or 9 control points to make fine adjustments to the curves.

NOTE: Fine tuning may need to be performed a few times before achieving the desired result.

Colour Matching

- Select a range of colours to be changed
- Select a range of colours to change with
- Usually a three-step process (match black, white and overall)
- Multiple iterations supported

The underlying algorithms of the Match button are quite powerful. Match manipulates the matrix by taking appropriate steps such as Black Control and Level, White Control and Level, and so on.

To use Match:

1. Click Match. Drag a box around the range of colours to be changed.
2. Click Match and select a range of colours to match to.

NOTE: It is recommended to match whites with whites, blacks with blacks, and to select a broad range of colours on both images to match overall saturation. Trying to match completely different colours will produce unpredictable results.

3. Repeat these steps as often as necessary to obtain the best possible match between colours.

Selective Correction

- Define up to three colour ranges to be affected using softness and tolerance
- View matte, selected region, or result
- Apply color correction to a region using Master and Fine tuning

Selective correction is used to colour correct specific colours as opposed to specific luma ranges (primaries). For example, you can use selective colour correction to change the reds in an image.

To use Selective correction:

1. Select Selective 1 from the Work On option box.

The range is the area defined through which the colour correction should be applied for secondary 1.

You can view the defined area in various ways: matte, selection, invmatte or result.

- Matte: shows the matte through which the secondary correction will be done
- InvMatte: shows the inverse of the matte
- Selection: will turn the whole image to greyscale and reveal the original colours of the image through the Range
- Result: will show the actual resulting colour correction

By default, if you switch to Selective, the image turns to greyscale (View Selection) if no selective range has been defined.

install

Writing Sample #3

Installation Guide Chapter

This is an excerpt from one of the chapters in the installation guide. At release time, I produce an 80-page install guide for each different product that is released. I write, edit, and create pdf versions of approximately six different installation guides in the span of a few weeks shortly after I have

finished writing for the user's guides. I am the sole writer of the installation guides.

Summary

Use the configuration files to enable your hardware and to set up xxxx* parameters on your system.

This appendix describes how to:

- locate configuration files
- edit configuration files
- and set up project configuration files.

During the automatic installation of xxxx*, a number of configuration files are installed.

This directory	Contains these configuration files
~/cfg	720x486.cfg 720x576.cfg default.cfg init.cfg <u>xthd.cfg</u> (you must create this file. See “Creating the <u>xthd.cfg File</u> ” on page 27)
~/cfg/sample	default_ntsc.cfg default_pal.cfg <u>default_hdtv.cfg</u> <u>default_film.cfg</u> <u>init_film.cfg</u> init_ntsc.cfg init_pal.cfg <u>init_hdtv.cfg</u>

This directory	Contains these configuration files
~/cfg/template	film.cfg 1920x1080 SDTI.cfg <i>pal.cfg</i> <i>ntsc.cfg</i> 24p.cfg 24p ntsc.cfg 24p 1920x1080@5994i ntscsync.cfg film 1600SW.cfg 1280x720@5994p free.cfg 1280x720@5994p hdtvsync.cfg 1280x720@5994p ntscsync.cfg 1280x720@6000p free.cfg 1280x720@6000p hdtvsync.cfg 1920x1080@5994i free.cfg 1920x1080@5994i hdtvsync.cfg 1920x1080@5994i ntscsync.cfg 1920x1080@6000i free.cfg 1920x1080@6000i hdtvsync.cfg

Creating the xthd.cfg File

If you will be working with projects using the XTHD board, you need to use the xthd.cfg file when you create the project. This configuration file is not included with xxxx*, you must create it:

To create the xthd.cfg file:

1. Go to the cfg directory.

2. Type:

```
cp ~/cfg/sample/init hdtv.cfg ~/cfg/xthd.cfg
```

You can now select the xthd file when you start the software.

NOTE: ~ represents the home directory for the software installation.

The *init.cfg* file is shared by all projects. It contains configuration lines that affect the entire system setup. You can modify the *init.cfg* file at any time using a text editor such as *jot*. Modifications to this file take effect the next time that you start the application.

The configuration files in the *sample* directory are template files you can use to create other *init.cfg* files. The sample configuration files are never used during startup.

The configuration files in the *template* directory are used as templates for setting up your project configuration files. For example, each time you create a new project, you must select a sample configuration file (such as *ntsc.cfg*, or *pal.cfg*, or *film.cfg*). A new project configuration file is created based on the template file you selected. Modifications to a project's unique configuration file only affect that particular project. In most cases, there should be no need to manually edit the project configuration files.

If you want to sync your system to an HDTV tri-level sync, use one of the project configuration file templates that ends in *hdtvsync.cfg*. If you want to sync your system to NTSC blackburst, use one of the project configuration file templates that ends in *ntscsync.cfg*. If there is no external sync source connected to the system, use one of the project configuration file templates that ends in *free.cfg*.

NOTE: If you specify an hdtv sync template, the HDTV broadcast monitor must be connected to Channel 0 and the SGI monitor must be connected to Channel 1.

Project configuration files are only created when you create a new project and are located in:

`/usr/discreet/project/effecstseediting/<projectname>/cfg`

where `<projectname>` is the name of the project you created.

This appendix describes the keywords in the *init.cfg* file, and in the *project.cfg* files.

The configuration file contains a list of device parameters, resource directory pathnames, and image file extensions which you need to run `xxxx*`.

The sample configuration file (Film, PAL, or NTSC) you select during the automatic installation of `xxxx*` becomes your *default.cfg* file.

You can modify the *default.cfg* file at any time using a text editor such as *jot*.

Editing Guidelines

To avoid difficulties during startup or while running `xxxx*`, it is important that you edit lines in the configuration file correctly. The following points are some guidelines you should consider before setting up configuration files.

- Number signs (#) at the beginning of a line indicate an inactive comment. To have xxxx* read a line, you must remove the number sign so that it is “uncommented”.
- Use commas carefully. If you delete a comma or add a comma that is not required for a specific line, xxxx* cannot read the configuration file.
- Exact spacing is not essential. You can substitute a single space whenever you see one or more tabs in the configuration lines.

Device Keywords

This section describes the device keywords (parameter lines) in the *default.cfg* file. Edit the keywords to tell xxxx* which devices are connected.

Init Configuration File

The following device keywords (parameter lines) are located in the *init.cfg* file. Edit the keywords and uncomment lines to indicate which devices are connected to your system.

Standard

Sets all frame rate parameters to the defined standard.

Syntax

Standard <type>

Where	Is
<type>	Standard used in this configuration. Either NTSC or PAL.

Example

Standard NTSC

Hires

Specifies the refresh rate for the SGI monitor.

Syntax

Hires <refresh rate>

Example

For	Keyword Line
NTSC	Hires 60Hz
PAL	Hires 50Hz

FrameStore

Defines the framestore and partition to be used for storing clips.

Syntax

Framestore <device path> [,"", <file size>]

Where	Is
<device path>	See example below.

Example

For	Keyword Line
Discreet Filesystem	FrameStore stonefs
System disk, 200 MB	FrameStore /usr/tmp/inferno.fs, "", 200
Discreet Storage	FrameStore /dev/swr00
XLV Logical Volume (Onyx IR only)	FrameStore /dev/rxlv/xlv0
External Disk	FrameStore /dev/rdsk/dks1d3s7
XLV Logical volume (O2 only)	FrameStore /dev/rdsk/xlv/xlv0, 4

Video

Initializes the video device and specifies the type of video input.

SyntaxVideo <video device>, <type of video input>

Where	Is
<video device>	OctaneVideo
<type of video input>	Serial1, Serial2, Serial1and2, or SerialDual

Where	Is
<video device>	O2Video
<type of video input>	Serial1

Example for O2Video

Video O2Video, Serial1

Examples for OctaneVideoVideo OctaneVideo, Serial1Video OctaneVideo, Serial1AND2xxxx* on Onyx2 supports the following video input types:• Serial• Serial Dualxxxx* on Onyx/Sirius supports the following video input types:

- | | |
|-----------------|---------------|
| • Composite | • Betacam |
| • RGB | • SMPTE YUV |
| • MII | • Parallel 2 |
| • Parallel 1 | • Serial 1 |
| • Parallel Dual | • Serial Dual |
| • Serial 2 | |

SyntaxVideo <video device>, <type of video input>, [<optional board

number>]

Where	Is
<video device>	DIVO or XTHD for Onyx2, Sirius for Onyx IR
<type>	Video input type
[<optional board number>]	Onyx2/DIVO only: board number for multi board systems

Example for Onyx IR

Video Sirius, Parallell

Example for Onyx2

Video Divo, Serial

Example for HD using the XTHD board

Video XTHD, Serial, 0

xxxx* on O2 with the AV1 video card supports the following video input types:

- Composite
- SVideo

xxxx* on O2 with the AV1 video card and an external digital video conversion adapter plugged into the camera port supports the following video input types:

- Serial1
- Serial2
- Composite
- SVideo

xxxx* on O2 with the AV2 digital video adapter supports the following video input types:

- Serial1
- Serial2

Syntax

Video <video device>, <video format>, [<output cache size>]

Where	Is
<video device>	O2Video for O2, Impact for Indigo2.
<video format>	Video input type.
[<output cache size>]	Specifies the number of frames reserved as a cache for outputting video to a VTR. Determines the longest possible output burst length. Default value is 1000 frames. O2 only.

Example

Video O2Video, Serial1

Sync

Identifies the sync source for the video frame buffer if you are using OctaneVideo. If you are using Input Clip or Output Clip, the sync specified in the VTR line is used.

Identifies the sync source for the video frame buffer if you are using DIVO, Sirius or XTHD. This sync is used when playing clips on a broadcast monitor. If you are using Input Clip or Output Clip, the sync specified in the VTR keyword line is used.

xxxx* on Onyx2 supports House, Digital, and Free.

xxxx* on OCTANE supports the House, Digital1, Digital2 and Free sync sources.

xxxx* on Onyx/Sirius supports:

• Free	• House
• Digital1	• Digital2
• YC	• Composite
• Component	• Green

Identifies the sync source for the video frame buffer if you are using O2Video.

xxxx* on O2 supports the Free, House, and Digital1 sync sources.

Syntax

`Sync <source>`

Example

`Sync House`

TabletDriver

Identifies the tablet driver location and serial port. It is not necessary to specify the tablet type, only the serial port to which the tablet is connected.

Syntax

`TabletDriver dlwacom, ttyd<serial port number>`

Where	Is
<code><serial port number></code>	Serial port to which the tablet is connected.

Example

`TabletDriver dlwacom, ttyd2`

Security

Identifies the serial port to which the security dongle is connected.

Syntax

`Security /dev/ttyd<serial port number>`

Where	Is
<code><serial port number></code>	Serial port to which the dongle is connected.

Example

`Security /dev/ttyd3`

VTR

Identifies the video tape recorder (VTR) that is used to record or load clips. The VTR is accessed using the Input Clip or Output Clip options in the Library menu.

Syntax

```
Vtr <protocol>, <name>, <input format>, <input sync>,
<output format>, <output sync>,
/dev/ttyc4d<serial port#vtr control cable>,
<timecode type>, <record delay>, <play delay>, <pre-roll>,
<post-roll>, <audio play delay>, <audio record delay>,,
<video precision (8 or 10 bits)>, <cue mode>,
<get location delay>, <edit on delay>, <edit off delay>
<vtr command delay>
```

Where	Is
<protocol>	VTR control protocol (Sony D1, Digital Betacam, Betacam SP, BTS D1, Panasonic D5, Panasonic DVCPRO, <u>using the serial inputs and outputs on the XTHD board, Sony HDCAM, Tascam, BVW50, Live Video and None</u>).
<name>	VTR name as it appears in the Input and Output Clip menus.
<input format>	Serial or SerialDual for DIVO. Serial1, Serial2, SerialDual, Parallel1, Parallel2, ParallelDual for Sirius. See “Video” on page 30.
<input sync>	House, DIGITAL1, DIGITAL2 or Free. See “Sync” on page 33.
<output format>	Serial or SerialDual for DIVO. Serial1, Serial2, SerialDual, Parallel1, Parallel2, ParallelDual for Sirius. See “Video” on page 30.
<output sync>	House, Digital1, or Free for DIVO. House, Digital1, or Free for Sirius. See “Sync” on page 33.
<serial port>	Serial port to which the VTR is connected; <u>usually /dev/tty4d4 for Onyx IR; /dev/ttyc4 for Onyx 2.</u>
<timecode type>	Auto, LTC, or VITC.
<record delay>	Record delay in frames.
<play delay>	Play delay in frames.
<pre-roll>	Pre-roll in frames or seconds (if you enter a value with a decimal point).
<post-roll>	Post-roll in frames or seconds (if you enter a value with a decimal point).

Where	Is
<audio record delay>	Specifies the input offset value in 1/100 of frames to have audio in sync with video. The delay varies depending on which VTR you are using.
<audio play delay>	Specifies the output offset value in 1/100 of frames to have audio in sync with video. The delay varies depending on which VTR you are using.
<video precision>	Specifies the precision of the digital video signal (8 or 10 bits). <u>Applies only to Onyx2.</u>
<cue mode>	Optional. Use "vtrcueing" to let the VTR cue itself. Otherwise, this function will be controlled by the software.
<get location delay>	Optional. Delay in milliseconds before querying VTR location.
<edit on delay> <edit off delay>	Optional. Specifies how many frames before the edit sync point to send the command. Applies only to BVW50 <u>on the Onyx2.</u>
<vtr command delay>	Optional. Specifies how many milliseconds xxxx* pauses before sending certain commands to the VTR. Useful for older VTRs such as the BTS.

Example

The following examples use serial inputs and outputs on the DIVO board:

For	Keyword Line
Sony D1 deck	Vtr sony, DI, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -4, 0, 5.00, 1.00, 0.00, 0.00, 8, vtrcueing
Digital Betacam	Vtr sony, DigBeta, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -2, -1, 5.00, 1.00, 0.60, -1.55, 10, vtrcueing, 0, 0, 0
Betacam SP	Vtr sony, Betacam, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -4, 0, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing

For	Keyword Line
BTS D1 deck	Vtr BTS, D1 BTS, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -3, 0, 5.00, 1.00, 0.00, 0.00, 8, 10, vtrcueing
Panasonic D5 deck	Vtr sony, D5, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -4, 0, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
Panasonic DVCPRO	Vtr sony, DVCPRO, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -3, 0, 5.00, 1.00, 0.00, 0.00, 8, vtrcueing
D1 BTS	Vtr BTS, D1 BTS, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -3, 0, 5.00, 1.00, 0.00, 0.00, 8, vtrcueing
Panasonic D5	Vtr sony, D5, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -4, 0, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
BVW50	Vtr BVW50, Profile, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -3, 0, 5.00, 1.00, 0.00, 0.00, 8, vtrcueing, 2, -4, -4
Live video	Vtr none, Live video, SERIAL, House, Serial, house, /dev/ttyc4, AUTO, -3, 0, 0.50, 1.00, 0.00, 0.00, 8, vtrcueing
HDCAM	Vtr, sony, HDCAM, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -3, -1, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
Tascam	Vtr, Tascam, Tascam, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, 0, 0, 5.00, 1.00, 0.00, 0.00, 8, vtrcueing
HD D5	Vtr, sony, HD D5, SERIAL, House, Serial, House, /dev/ttyc4, AUTO, -2, -1, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
HDCAM 2398	Vtr, sony, HDCAM2398, SERIAL, TL_1920x1080_2398SF, Serial, TL_1920x1080_2398SF, /dev/ttyc4, AUTO, -2, -1, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
HDCAM 24SF	Vtr, sony, HDCAM24, SERIAL, TL_1920x1080_24SF, Serial, TL_1920x1080_24SF, /dev/ttyc4, AUTO, -2, -1, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
HDCAM 25SF	Vtr, sony, HDCAM25, SERIAL, TL_1920x1080_25SF, Serial, TL_1920x1080_25SF, /dev/ttyc4, AUTO, -2, -1, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing

For	Keyword Line
Voodo 24P	Vtr, sony, Voodo24P, SERIAL, TL_1920x1080_24P, Serial, TL_1920x1080_24P, /dev/ttyc4, AUTO, -2, -1, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
Voodo 2398P	Vtr, sony, Voodo2398P, SERIAL, TL_1920x1080_2398P, Serial, TL_1920x1080_2398P, /dev/ttyc4, AUTO, -2, -1, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
Voodo 25P	Vtr, sony, Voodo25, SERIAL, TL_1920x1080_25P, Serial, TL_1920x1080_25P, /dev/ttyc4, AUTO, -2, -1, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing jerK note: these were removed on Dec. 2nd 1999 as per Roberto's review comments.

Example

The following examples use the serial inputs and outputs on an OctaneVideo and Q2Video board:

For	Keyword Line
Sony D1 deck	Vtr sony, D1, SERIAL1, House, Serial1, House, /dev/tty4d1, AUTO, -3, 0, 5.00, 1.00, 0.00, 0.00, 8, vtrcueing
Digital Betacam	Vtr sony, DigBeta, SERIAL1, House, Serial1, House, /dev/tty4d1, AUTO, -4, -1, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
Betacam SP	Vtr sony, Betacam, SERIAL1, House, Serial1, House, /dev/tty4d1, AUTO, -4, 0, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
BTS D1 deck	Vtr BTS, D1 BTS, SERIAL1, House, Serial1, House, /dev/tty4d1, AUTO, -4, -1, 5.00, 1.00, 0.00, 0.00, 8, vtrcueing, 2, -4, -4, 40
Panasonic D5 deck	Vtr sony, D5, SERIAL1, House, Serial1, House, /dev/tty4d1, AUTO, -3, 0, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
Panasonic DVCPRO	Vtr sony, DVCPRO, SERIAL1, House, Serial1, House, /dev/tty4d1, AUTO, -3, 0, 5.00, 1.00, 0.00, 0.00, 8, vtrcueing

For	Keyword Line
BVW50	Vtr BVW50, Profile, SERIAL1, House, Serial1, House, /dev/tty4d1, AUTO, -3, 0, 5.00, 1.00, 0.00, 0.00, 8, vtrcueing, 2, -4, -4
Tascam	Vtr Tascam, Tascam, SERIAL1, House, Serial1, House, /dev/tty4d1, AUTO, 0, 0, 5.00, 1.00, 0.00, 0.00, 8, vtrcueing,
HDCAM	Vtr, sony, HDCAM STDI, SERIAL1, House, Serial1, House, /dev/tty4d1, AUTO, -3, -1, 5.00, 1.00, 0.00, 0.00, 10, vtrcueing
Live video	Vtr none, Live video, SERIAL1, House, Serial1, House, /dev/tty4d1, AUTO, -3, 0, 0.50, 1.00, 0.00, 0.00, 8, vtrcueing

For	Keyword Line
Sony D1 deck	Vtr, sony, D1, SERIAL1, DIGITAL1, SERIAL1, DIGITAL1, /dev/ttyd1, AUTO, -1, -1, 5.00, 1.00, 0.00, 0.00
Digital Betacam	Vtr, sony, DigBeta, SERIAL1, DIGITAL1, SERIAL1, DIGITAL1, /dev/ttyd1, AUTO, -1, 0, 5.00, 1.00, 0.00, 0.00
Betacam SP	Vtr, sony, Betacam, SERIAL1, DIGITAL1, SERIAL1, DIGITAL1, /dev/ttyd1, AUTO, -1, 0, 5.00, 1.00, 0.00, 0.00
BTS D1 deck	Vtr, BTS, D1 BTS, SERIAL1, DIGITAL1, SERIAL1, DIGITAL1, /dev/ttyd1, AUTO, -1, 0, 5.00, 1.00, 0.00, 0.00
Panasonic D5 deck	Vtr, sony, D5, SERIAL1, DIGITAL1, SERIAL1, DIGITAL1, /dev/ttyd1, AUTO, -1, 0, 5.00, 1.00, 0.00, 0.00
Panasonic DVCPRO	Vtr, sony, DVCPRO, SERIAL1, DIGITAL1, SERIAL1, DIGITAL1, /dev/ttyd1, AUTO, 0, 0, 5.00, 1.00, 0.00, 0.00
Live video	Vtr, none, Live video, SERIAL1, FREE, SERIAL1, FREE, /dev/ttyd1, AUTO, -1, 0, 0.30, 1.00, 0.00, 0.00

AudioDevice

Initializes the specified audio device; specifies the length of the audio track that can be loaded in seconds and the default sampling rate. For SGI audio devices, you need to specify the length (in seconds) of the audio track that can be loaded and the default sampling rate. For Discreet Audio, you do not need to pre-define these parameters.

Memory requirements for SGI audio depend on the sampling rate. Typically, a sampling rate of 44 kHz is used to record from CD, and a sampling rate of 48 kHz is used to record from AudioDAT or a digital VTR.

You get better sound quality if you use a higher sample rate, but more memory will be required for the audio file. For example:

• at a sampling rate of 48 kHz, 192 K of memory are required per second of stereo audio; 5.5 MB are required for 30 seconds of audio.

• at a sampling rate of 44.1 kHz, 172 K are required per second of stereo audio; 5.1 MB are required for 30 seconds of audio.

Remember to take this memory requirement into consideration when calculating the basic memory requirements for xxxx*.

NOTE: Stream (Discreet Audio) does not require you to pre-allocate memory.