

Luma

User's Guide

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Luma User's Guide

Luma Studio Software V1.7

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1. Introduction

Congratulations on purchasing a Luma! You now possess the finest digital camera back available today. The Luma is easy to learn and intuitive to operate. The very best way to familiarize yourself with the Luma is to sit down with your Macintosh and this User's Guide and start at the beginning.

After a short section on setting up your camera, you will find a Quick Start guide that will have you up and shooting pictures in just a couple of minutes. This is followed by a series of short sections that will help you learn the Luma's features in an easy, hands-on manner.

What You Need

Following are the hardware requirements for the operation of the Luma:

- Macintosh G3, G4 or better (desktop or portable) with built-in FireWire capability
- OS 9 or newer (Note: Luma Studio does not yet work under OS X)
- 256 MB of RAM minimum
- Hard drive of 1GB or larger recommended

2. Setting Up

Inside the Case

The Luma comes packed as follows:

- Luma camera back
- Personality plate
- FireWire cable
- IR filter
- Shutter release cable (green tag)
- Camera interface cable (red tag)
- Video cable (RCA plugs on each end)
- Macbeth™ ColorChecker® card

Putting It Together

The Luma attaches to a medium or large format camera using a personality plate in a similar latch-and-hook method as a standard film magazine.

Attaching the Luma

- Attach the personality plate that matches your camera body to the camera.
- Attach the Luma to the personality plate:
 1. Hold the latch on the left side of the personality plate open.
 2. Place the Luma against the personality plate, first hooking the right edge of the Luma inside the right edge of the personality plate.
 3. Release the latch, and the Luma should lock into place.

Installing the Luma Studio Software

The Luma Studio application software handles the processing of the photographs taken with your Luma. This software includes all of the tools you will need to develop, correct, enhance, and export your images. The CD included with your Luma is used for installation. To install the

application program, double-click the Luma Studio Installer and follow the instructions on your screen.

Note: You will have to reboot your Macintosh after installing the software.

Note: Make sure your monitor's color depth is set to "Millions" using the Monitors control panel.

Setting up the Cables

- Attach one end of the camera interface cable (red tag) to the Luma and the other end to the matching connector on the camera body.
- The FireWire cable connects the Luma to the Macintosh via FireWire jacks on each end. This is a "hot pluggable" cable, so the computer's power can be on when you attach this cable. (If your Macintosh is on when you plug in the Luma, the light on the back of the unit will briefly flash red, then blue, then turn solid blue. If you start up the Luma Studio software the light will turn green, indicating that the Luma is connected to the software and ready for use.)
- (Optional) Attach the shutter release cable (green tag) to the matching connector on the Luma.

IR Filter

Mount the IR filter on your camera lens. (An infrared [IR] rejection filter is required for all CCD image sensors in order to render colors correctly. You may use the Luma without the IR filter for special effects, or with an IR transmitting filter for IR imaging.)

Now that your Luma is connected, you're ready to try taking your first shot, so let's move on to the Quick Start section.

3. Quick Start

Double-click the Luma Studio icon to launch the software. If this is the first time you've run the software, you will be asked to perform a calibration. You will learn more about the types of calibration for the Luma later. For now, just click OK, and the software and the camera will set themselves up.

You'll see three windows on your screen. The large Image window will display a full resolution view of the images that you shoot. The window below it is the Contact Sheet window, which will contain thumbnail representations of your images. You'll use it to manage your different images. The window on the right side of the screen is the Tools window, where you can control your Luma and many of the other powerful functions of the Luma Studio software.

If your Luma is connected and its light is green, you're ready to shoot. Set the camera's controls just as you would when shooting with film. (If you are using a Fuji GX 680 camera, set the mode selector switch to "MULTI".)

To take a shot, either press the button on the shutter release cable or click the Take Shot button in the camera pane of the Tools window. Try it now.

After a second, a thumbnail of your image should appear in the Contact Sheet window. You'll see a progress bar in the thumbnail as the image Develops (more on Developing later.) When it finishes, your new image will appear in the Image window in full resolution. It's that easy!

The color in this shot may not look quite right, because we haven't created a Color Calibration file yet. We'll do that next when we take a more detailed look at the Luma Studio software.

4. About Luma Studio

The key to photographing with Luma is to use the same techniques you would use when you photographed using film. Your lighting and positioning are as critical to successful shooting as they have always been.

Digital Images

When you take a picture with Luma, the first thing that happens is that the image data is transferred from the camera back to the computer. Almost immediately, a preview (or “thumbnail”) of the image is displayed in the Contact Sheet window. However, the transferred image data needs to be processed before it can be displayed in high resolution on the screen. This processing is called Developing.

The undeveloped digital image is a lot like a film negative. It contains all of the information to make the image, but it can’t be viewed fully until it is developed. This image is often referred to as a high dynamic range (HDR) image, which refers to the fact that it contains a full 16 bits of information for every pixel.

Developing a digital image is a lot like developing a film image. You end up with a “print”, a file of the original image that can be viewed on screen, manipulated, edited, saved, and printed. If you ever lose this “print” or want to make another copy, you can go back to the original negative – the undeveloped HDR file – and develop it again to make another print.

Developing an image takes a small amount of time, and the results take up more memory in your computer than the undeveloped image did. The Luma Studio software gives you control over whether developing occurs automatically as you take pictures, or manually, at a later time, under your control. When you choose to defer developing, you’ll be able to shoot more pictures faster; when you choose automatic developing, you’ll shoot more slowly, but you won’t have to manually develop each image.

When you Save an image with Luma Studio, you're really saving the undeveloped image. To save developed images you need to Export them, which will allow you use them in other applications, like Adobe Photoshop™.

Developing

The Luma Studio software lets you choose from three different developing methods. (Remember, you can develop an image file as many times as you like, and you can choose a different developing method each time if you wish.)

Proof is the fastest method and is intended mainly for proofing purposes. The idea here is to get your full image up on the screen as quickly as possible.

Normal gives the best results for general purpose shooting, as it gives the most evenly balanced, high quality image.

Enhanced is intended for subjects which exhibit color artifacts (such as moiré), and enables sophisticated processing to minimize these artifacts. Generally, you should choose this option only if “Normal” gives unsatisfactory results.


Maximum uses a higher level of artifact suppression than Enhanced. Use this method if Enhanced doesn't do an adequate job of color artifact removal.

Often, you will want to develop with Proof at first to get a quick look at your image for color and composition, and then, when you've got the shots you want, you can redevelop them in Normal or Enhanced mode for the very best results.

Dark Calibration

Dark calibration plays an important role in digital photography. A dark calibration file creates a record of an individual camera's exact performance under specific exposure conditions. Since this varies with

each camera back for each exposure time, you must create a dark calibration file for each exposure setting you wish to use.

When you first work with your Luma, it will perform initial dark calibrations for the most common exposure timings. If you wish to use an exposure time for which there is no dark calibration file, a  small warning will appear in the Camera pane of the Tools window.

To create a dark calibration file, set the Exposure slider to the desired setting and choose Create Dark Calibration from the Camera menu.

Color Calibration


Color Calibration files are profiles that are customized to each camera and lighting condition. You'll want to create a new color calibration file whenever you shoot under different unique lighting conditions: tungsten, fluorescent, etc. The Luma Studio software lets you save and select multiple calibrations, so it's easy to keep different files for different lighting conditions.

Here is the process:

- Have a clean, unmarked Macbeth™ ColorChecker® card (shipped with your Luma) ready as your target, and set up your lighting prior to beginning the calibration. The gray patches on the Macbeth card should be on the bottom and the photo area should be evenly lit. Take a well-exposed image of the target.

Tip: In a well-exposed image, the spot meter values in the white patch should read between 200 and 240 using the *Factory* tone curve.

Tip: Be careful to insure that the Macbeth card is not tilted significantly, and that it occupies approximately 25% of the image area.

- Develop the image.
- Select the Color Calibration Tool  and click once on the white patch in the lower left-hand corner of the chart.

- Calibration measurements and processing will take place automatically and a dialog box will appear prompting you to name the calibration file.
Tip: Choose a name that will help indicate the type of lighting conditions under which you performed the calibration.
- When the calibration is complete, your image will redevelop automatically using the new color calibration.

Pull down the camera menu and look at the submenu under Color Calibration. The calibration you just created will be listed there, with a check mark indicating that it is now the active calibration. Any new images you shoot will be developed using the calibration indicated in this list unless you specify otherwise.

5. Using Luma Studio



This chapter is composed of a series of short sections, each designed to teach you about a specific aspect of the Luma Studio software.

Image Window

The Image window is very simple to use, but there are a few tricks which make working with your images easier. Start out by either taking a shot with your Luma, or by loading an image that you've already saved. Develop it so that the full resolution image appears in the Image window.

To Develop an image:



- Click on its thumbnail in the Contact Sheet window to select it.
Tip: The thumbnail background will turn a darker color when it is selected.
- Click on the Develop button or select Develop from the Image menu. You'll see a progress bar appear on the thumbnail as the image develops.

Select the Zoom tool , and click on the image in the Image window a few of times to zoom in. Now press and hold the spacebar while watching the cursor. See how it changes to the Hand tool ? While you're still holding down the spacebar, click and drag to move to different parts of the image. This is a handy way to navigate around the image.

As you move the mouse around the window, the values in the lower left corner change to reflect the pixel that is currently under the cursor.



Tip: You can use the small popup menus next to the coordinates and pixel values to change their units.

Tip: You can also click on the small  and  icons in the top right corner of the window to zoom in and out without having to switch to the Zoom tool.

Contact Sheet Window

The Contact Sheet window provides an easy place to control all of the images you are working with during a particular session.



In the example above, the bullet (•) next to the name “Ryan Silk” indicates that the image has not been saved since it was last changed. If you see a diamond (◊) next to the title, this indicates that the image has been developed.

Try shooting or loading at least two images in Luma Studio. Click on one of the image thumbnails in the Contact Sheet window. It will turn beige to indicate that it is selected. Now hold down the Shift key and click on the second image. Now both images are selected. Click the Develop button to develop both images.

If you look closely, you’ll see that one of the two selected thumbnails is slightly darker than the other. This is the image that you selected most recently, and is referred to as the Current image. The Current image shows in the Image window when it is developed.

Try holding the cursor over the image name in one of your thumbnails. A small popup window will appear with information about that image. The pane in the top right corner of the Contact Sheet window also shows information about the Current image. You can choose what information is displayed here by selecting from the popup menu to the right of the pane. You can also click on the pane itself to quickly cycle from one field to another.

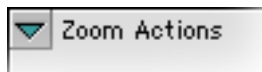
If your images are all saved, let's clear them out the thumbnails. Choose Select All from the Edit menu and click the Remove button.

Tip: If you try to Remove an image that hasn't been saved yet or has been altered since it was last saved, Luma Studio will prompt you to save your changes. If you are in a hurry and are *sure* you don't want to save the images you are removing, hold down the Option key before selecting Remove. You'll see the title change to Remove!, and the software will discard the image(s) without prompting.

Tools Window

The Tools window provides you with various tools to both control your Luma and also edit the images that you shoot. These tools are separated by function into different panes. If you aren't using a particular pane, you can save screen space by collapsing it with the small control in the top left corner.


Expanded Pane



Collapsed Pane

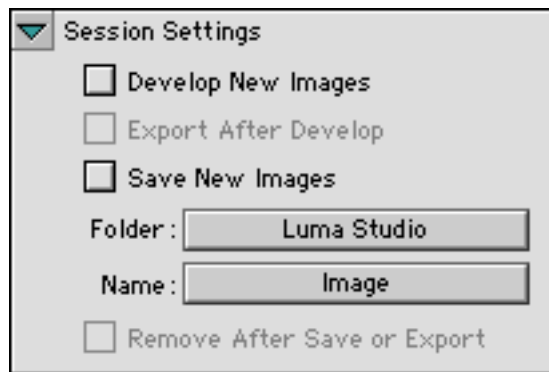


Tip: If you hold down the Option key while expanding or collapsing a pane, *all* of the panes will follow.

You can also drag the panes into any order you prefer. To drag a pane, move the cursor over its title. When the cursor changes to the hand cursor  , click and drag the pane to the desired position.

Session Settings Pane

The Session Settings pane is a very powerful means of streamlining your shooting with the Luma. You can choose from a number of different actions that will be performed automatically whenever you shoot a new image.



If you know you want to see each image right away in its full resolution, select **Develop New Images**. If you're sure you want to keep each image you shoot, you can select **Save New Images** to keep the HDR file and/or select **Export After Develop** to export a TIFF file of the image.

Tip: When you automatically export an image, Luma Studio will export an 8-bit TIFF.

If you're going to be shooting a lot of images, choosing **Remove After Save or Export** is a handy way to preserve memory and prevent the Contact Sheet window from becoming too cluttered with images.

Let's play with the Session Settings now. Set up your Luma to shoot some new images. Click on the Name button in the Session Settings pane and

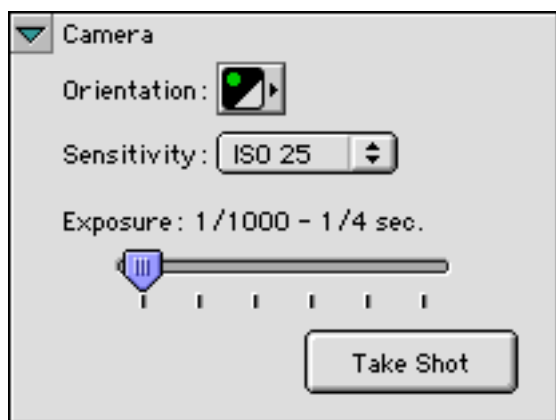
the Default File Name dialog will appear. This dialog allows you to select a file name that will be applied to new images as you shoot them. Luma Studio will add either the date and time to the file name or an index which simply counts the shots you take. You can change this default file name whenever you want.

Click on the Folder button and select a folder where you want your new images to go. You can also create a new folder if you want. *Note:* Images are only saved into this folder automatically if you have selected Save New Images or Export After Develop.

Make sure Save New Images is selected and try shooting a few images. Now go take a look in the folder you created. You will see the HDR files of each shot you took, automatically saved for your convenience.

Camera Pane

The camera pane lets you control your Luma directly from the Macintosh.



Orientation

The orientation popup allows you to match the image orientation to the Luma's orientation. Match the location of the green LED on the popup menu with the location of the green LED on your Luma, and your images will be captured exactly as you see them through the viewfinder.

Sensitivity

Set the sensitivity as you would with regular film. The choices are ISO 25, 50, 100, and 200. Just like with film, you'll get best results using the lowest ISO settings.

Exposure

Set the Exposure slider to reflect the current shutter speed of your camera.

- If the shutter speed is faster than 1/4 second, set the Exposure slider to "1/1000 – 1/4 second" (this would be the normal setting for strobe photography.)
- For longer exposures, set the Exposure slider to the value that most closely matches the camera's shutter speed.
- For "bulb" exposures, the Exposure slider setting will control the speed of the camera's shutter.

Take Shot

Click this button to take a shot with your Luma.

Live Video Pane

The Luma's live video feature is very useful for shot composition. You can view live video on either your computer's monitor or on an auxiliary monitor with video input (NTSC or PAL), which you connect to the Luma using the video cable provided. You should set the shutter speed on your camera to B. Select the desired video outlet from the popup menu, check the Video On checkbox, and the image will appear on your screen.

Tools

The Luma Studio tools perform various functions, from improving the color of your images to aiding scene composition, to simply getting a closer look at the pixels in the image. Let's go through them one by one to learn their different features and tips.

Hand

The hand tool is very basic. Just click and drag on the image in the Image window to move it around.

Tip: When another tool is active you can temporarily switch to the hand tool by holding down the Space bar.

Zoom

The Zoom tool lets you magnify or reduce your view. To zoom in, click on the area you want to magnify. Each click will increase the magnification of the image. To zoom out, hold down the Option key. You will see the center of the cursor change from + to -. Now, clicking on the image will reduce its magnification.

Tips:

Zoom to Fit: If you hold down the F key while clicking the zoom tool, the view will change to a size that fits the whole image in the window.

Show 100%: If you hold down the 1 key while clicking the zoom tool, the magnification will change to exactly 100%.

Zoom Actions: The buttons in the Zoom Actions section allow you to quickly fit the image to the window, zoom to 100%, go to Full screen view mode, or match all zooms.

The *Match all zooms* button sets the magnification level and location to the same exact point for all images. This is very helpful when you want to compare a specific area on two or more similar images.

Crop

The Crop tool allows you to trim unwanted areas from your images. To use it, drag a rectangle onto your image and select the Crop command from either the Image menu or from the Crop Settings section of the Tools window. When you crop, all of the areas outside of your crop rectangle will be permanently removed from your image.

There are a number of different ways you can define your crop rectangle. They are available in the Crop Settings section:

- **Fixed Size:** This feature is helpful when you want the final image to be a specific size. Enter values for the width and height in the edit fields provided. Now, when you click on the image to place your crop rectangle, it will remain the specified size.
- **Fixed Ratio:** This feature works similarly to Fixed Size, except that the ratio of the width to the height is constrained, rather than the actual size of the crop.
- **Color:** If the crop rectangle is hard to see against the background of your image, you can choose a different color.
- **Crop Settings:** If you have defined a specific crop rectangle and want to use it with other images, you can choose to Save it here in the crop settings popup. Any saved crops appear in this popup list and can be activated for an image by simply selecting them from the popup menu.
- **Clear:** Click here when you want to remove your crop rectangle from the image.
- **Crop:** Click this button when your crop rectangle is exactly where you want it, and your image will be cropped.

Tape Measure

This tool can be used to measure images and to resize them. To use it, click and drag on a portion of your image. You'll see a tape measure line appear on your image. When you release the mouse, the size of the line you measured will appear in the Tape Measure Results section.

If you wish to resize your image, you can then click the Resize button. A dialog will appear that allows you to enter a new size. The image will be resized at the same resolution so that the distance you measured on the image matches the new distance you entered in the Resize dialog. *Note:* You can only resize an image to a smaller size.

Tip: For a perfectly straight horizontal or vertical measure, hold down the Shift key while you are dragging out the tape.

Grid

You can utilize this tool to display an imaginary grid over your image. This can be helpful when composing a shot or aligning different elements of an image. Just click on the Grid tool and the guides will appear on your image.

The Grid Settings allow you to show or hide the grid, specify its size and color, and even save it so that you can recall it quickly for other images.

Use as default: This button allows you to specify the current grid as the default grid for all new images. (This will not apply to images that have already been saved.)

Tip: If you hold down the Option key while you click and drag your grid, you can alter its spacing directly on the image.

Tip: If you prefer just ONE horizontal and/or vertical line to use as a crosshair, set the grid spacing to a large value and save it. Whenever you need a crosshair, just select this item from the Grid Settings popup.

Gray Balance

The Gray Balance Tool allows you to compensate for slight color casts in the tones of your image. For example, if an object should be gray but appears to be slightly tinted, you can click on it with the gray balance tool. This will change the color balance of the entire image so that the spot you clicked appears gray.

Tip: If you want to use more than one point to define a gray balance for your image, hold down the Shift key while you click on the image. Each Shift-click will add a point to those being used to balance the image.

Gray Balance Settings

The popup menu gives you three choices for the gray balance for your image:

- None: Don't balance the image at all.
- Default: Use the default saved gray balance. (This item is only available if you have saved a default gray balance.)
- Custom: Use the custom gray balance defined for this image. (This item is only available if you have defined a gray balance for this image.)

Use as default: Pressing this button will save the current gray balance as your default. This gray balance will be applied automatically to all new images.

Loupe

You can use the loupe tool to quickly examine sections of your image at a 1:1 ratio. Just select the tool and click on an area of interest on the image. You can move the loupe view around on the image by clicking and dragging it. To hide it, click the X in the top left corner of the loupe view itself, or click the Hide Loupe button in the Loupe Settings section.

Spot Meter

This tool gives you the ability to mark a single location on the image and view the color values for that spot. If you click on the image with the spot meter, you will see a small red rectangle appear on the image. The Image Info pane will display the pixel information for the spot you selected. You will also see the red, green and blue points marked on the tone curve display.

Spot Meter Settings

You can choose different sample sizes by choosing from the spot size popup.

Use the *Clear Spot Meter* button to clear the spot meter from the image.

Color Calibration

Use this tool when you are ready to start a color calibration. See Chapter 4 for a detailed explanation of the color calibration process.

Toning

About Toning

An important aspect of imaging with Luma is the concept of Toning. The tone curve controls the appearance of the picture by adjusting the relationship among shadows, midtones, and highlights. (Tone curves are also referred to as process curves, transfer curves, and color curves.) The toning panel of the tools window displays the tone curve, along with a histogram, which depicts the relative frequency of pixel lightness values in the image.

The tone curve transforms every input (or capture) pixel value to an output (or export) pixel value. Input pixel values are what the Luma sees. Output pixel values are what the Luma Studio software shows you on your monitor. Input values are measured in f-stops, from 0 (white) to negative infinity (black). Output pixel values are in units between 0 (black) and 255 (white).

A tone curve is quite similar to a photographic D log-E curve. The difference is, with Luma, you can change it however you wish.

Pushing the Tone Curve

Pushing the tone curve means moving the entire curve left or right by a small amount. This push has the effect of changing overall brightness. Pushes are measured in f-stops. A push of +1, for example, has the same brightness effect as opening up the camera's aperture by one f-stop. You can push the curve by clicking on the arrows in the push control. Single clicks adjust the push by 1/2 f-stop. Holding down the Shift key while clicking changes the increment to a full f-stop. Holding down the Option key while clicking reduces the increment to 0.1 f-stops.

Pushing is helpful in compensating for small deficiencies in lighting, but not for large ones. You'll get the best results when you light your subject just as you would with film.

Selecting a Tone Curve

Tone curves can be named and saved, and can be recalled for use by selecting them from the Curves pop-up menu. There is always at least one named curve: the *Factory* curve. This is the curve that comes with your Luma; you cannot alter it or delete it. Otherwise, any curve that you edit, name, and save appears in the menu.

Tone Range Highlighting

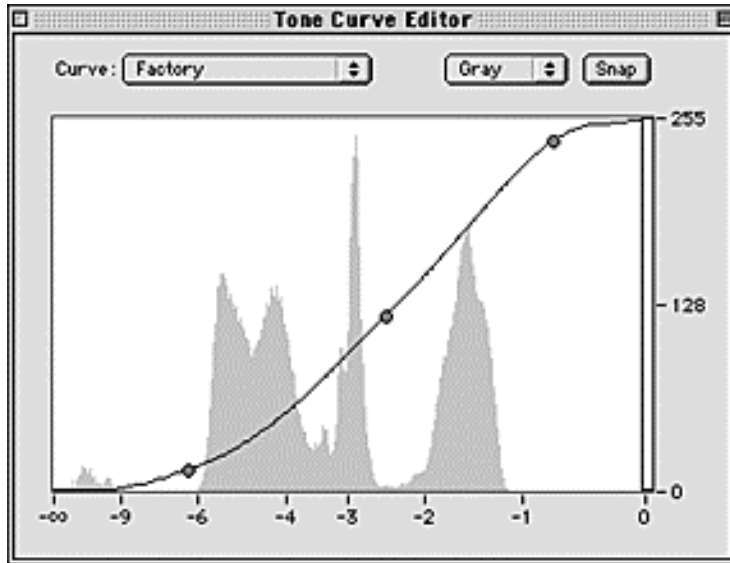
You can use tone range highlighting to better understand the how a histogram relates to your image, and to determine whether certain areas of the image are underexposed or overexposed.

Dragging across an area of the histogram will cause that area to be highlighted with a highlight color. As you do, all the pixels in the Image window that contain input pixel values in that histogram range will be highlighted with that color. You can drag multiple ranges using the Shift key.

Tip: You can personalize the highlight colors by double-clicking on any highlighted range in the histogram.

Editing a Curve

To edit a tone curve, click the Edit button to bring up the Tone Curve Editor window.



- The horizontal (X) axis represents the 16-bit values for brightness stated as relative f-stops ranging from 0 (white) to -infinity (black). These are called capture values.
- The vertical (Y) axis represents the 8-bit values ranging from 0 (black) to 255 (white), called export values.
- The curve has three movable points that control critical tonal regions of the image: the shadows, midtones, and highlights. If you click on one of the points you will see the specific locations for its X and Y values.
- The shadow point controls the conversion of dark pixel values. An example would be a 16-bit capture value of -5 f-stops to an export value of 15. Below this point, an image will usually have limited shadow detail or texture.
- The midpoint point charts the midrange values. An example of this would be a capture value of -2.5 f-stops to an export of 128, which is

the center of the 8-bit range. The position of the midpoint control point is where an 18% gray card would appear in the histogram.

- The highlight point charts the brighter pixel values. An example would be a capture value of -1 f-stop to an export value of 240. Tones above 240 have limited color, texture, and detail.
- You can click and drag any of the control points. You will see the effect immediately in the Image Window. If you move a control point up or left, this will brighten the portion of the image affected by the particular control point. If you move a control point down or right, this will result in a darkening of that area.
- If you want to adjust the brightness of the curve, hold down the Option key while dragging a point. To adjust the contrast, hold down the Command key.
- If you don't like the result of a tone curve change, you can remove it by selecting Undo Tone Curve Change from the Edit menu. Redo is also available. You can Undo and Redo repeatedly if you wish.

Saving and Deleting Curves

You can save the current tone curve by selecting Save Tone Curve from the Curve popup menu. To delete a saved curve, choose Delete Tone Curve.

Using Saved Curves

To activate a saved curve, choose the name of the desired curve from the popup menu. It will be immediately applied to your image. Note: If you don't like the result, choose Undo Tone Curve Change from the Edit menu.

Creating Multiple Exposure Images

Selecting this command allows you to produce a multiple exposure image using two existing images. You must have two images of identical size and orientation open and selected to use this feature. In the Contact Sheet window, select the two images you wish to combine. Select the Multiple Exposure menu command.

You can choose between four different multiple exposure effects in the Effect popup menu. An explanation of each one will appear in the text below the menu. Click OK to go ahead and create a multiple exposure image.

Note: Your original images will not be affected when you create a multiple exposure image. An entirely new image is created.

Scaling Images

If you wish to scale an image in Luma Studio, select the image and choose Scale Image from the Image menu.

A dialog will appear which allows you to specify a new size for the image.

Note: You can only scale your images to a size that is smaller than the current image.

Full Screen View Mode

Full Screen View is a valuable feature when you want to concentrate on your images and forget about all the tools and windows normally associated with working with a computer. To try it out, shoot or load an image, and develop it. Select Full Screen View from the Window menu.

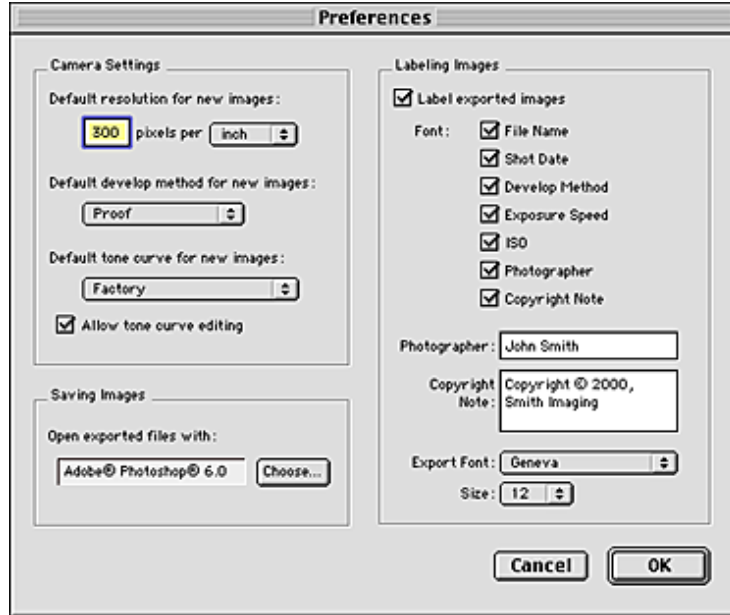
All of the distracting windows will go away and your image will fill the screen. This is a very handy time to remember your keyboard shortcuts (Appendix B). Press Z to select the Zoom tool. Hold down the 1 key and click on your image. This Zoom tool shortcut zooms your image to 100% view. Now hold down the space bar to temporarily switch to the Hand tool

and click and drag your image. To zoom back out, hold down the Option key while clicking with the Zoom tool.

To exit Full Screen View, press F or the Escape key.

Preferences

The preferences dialog lets you control various settings for new Luma images and how images are exported.



Default resolution for new images

Use the edit field and popup menu to set the pixel resolution for your new images.

Default develop method for new images

Sets the default develop method for new images that you shoot. See chapter 4 for more information on Developing.

Default tone curve for new images

This popup menu allows you to choose which tone curve is automatically applied to your new images. There is a standard *Factory* tone curve included with the Luma Studio software, but if you have saved your own tone curves in Luma Studio, you can select them here as your preferred default.

Dynamic: This is a special setting for expert users. If you select Dynamic, whichever tone curve was last used on any image will be applied to your new image. This allows an expert user who is taking a series of similar shots to easily tweak the curve as the shots progress until the desired curve is found.

Allow tone curve editing

Disabling this option allows you to “lock out” manual tone curve editing. When tone curve editing is disabled, the user cannot access the Tone Curve Editing window. (They can still select different saved tone curves in the Toning pane of the Tools window, and can change the brightness of the curve using the Push buttons. See the Toning section of the Tools window for more details.) This can be useful in a professional studio setting, for example, where specific tone curves have been saved and defined for use by the studio, but manual editing of curves by individual users is not desired.

Open exported files with

This feature allows you to choose which application that will be used to open your exported files. This is the application that will launch automatically if you double-click a TIFF file that has been exported from Luma Studio.

Labeling Images

This feature allows you include a label on images that you export from Luma Studio. This can be handy when creating proofs to make it easier to track the images you shoot. You can select what specific information is included by checking the desired items.

Tip: You may want to fill in the fields for Photographer and Copyright Note. These fields are saved with each Luma image as well as appearing as labels on Exported images.

A. Menu Reference

File Menu

Open

This command allows you to open an existing image file. You can select the types of images available for viewing and can preview an image before it is opened. You can also choose how you wish the image to be loaded. Normally, when you load an image, it will be loaded into memory but not developed. If you check Develop after opening, the image will be loaded and then developed automatically.

Close

Selecting this option will close the front-most open window.

Save and Save As

These are standard Macintosh commands that allow you to save a new image and name it for storage on your hard drive. Save As allows you to save an existing image under a new name or in a new location.

Export as TIFF

When you select this command, you can save an image as a TIFF (Tagged Image Format File) for export to another application. It is suggested that you export using the 8-bit TIFF option, as this is the most widely used format.

Export Proof Web Site...

This command allows you to create a quick web site with proof-sized previews of all of your images. The files for the site are saved to your local hard drive where they can be easily copied to the internet or written to a CD for easy distribution.

Revert

You can select Revert to reload the last saved version of the currently selected image. Any changes you have made to the image since it was last saved will be discarded.

Print

Print the currently selected image.

Print Selected

Print all selected images.

Print Contact Sheet

You can print out the contents of the Contact Sheet window at any time by selecting this command.

Quit

Select this command to exit the Luma Studio application.

Edit Menu**Undo / Redo**

These are standard Macintosh menu commands that usually undo or redo the last action performed by the user. In Luma Studio, they are used to undo or redo corrections applied to the Tone Curve. *Tip:* You can select Undo and Redo multiple times to remove or replace as many Tone Curve corrections as you wish.

Cut, Copy, Paste and Clear

These are standard Macintosh menu commands that often apply to text editing. They work on text within Luma Studio as they do with most text-editing applications.

Select All

When you are working in the Contact Sheet window, this command allows you to select all of your images. This can be helpful when you wish to perform the same action on each image.

For example, let's say you are taking shots rapidly and, to save time, want to wait to develop them until you have finished shooting. When you are finished with the series of shots and are ready to develop them, choose Select All and then select Develop. All of your shots will develop sequentially. You can also use Select All followed by Remove to clear all of the images from the Contact Sheet to make room for more. *Tip:* If all of the images are already selected, Select All will deselect all of the images.

Preferences

Brings up the preferences dialog. See Chapter 5 for detailed information about the various preferences.

Image Menu

Develop

Use this command to Develop images that you have selected in the Contact Sheet window.

Develop With...

This command allows you to use a *different* Develop Method or Color Calibration file to develop an image (or images). *Note:* Although you can always redevelop an image with any Develop Method, when you develop an image with a new color calibration, the color calibration that was associated with the image is discarded.

Remove

This command will remove the selected image (or images) from the Contact Sheet. If you have made any changes to the image, you will be prompted to save them before it is closed.

Tip: If you hold down the Option key, the command will change to Remove! This command works exactly the same way, but will remove the images without prompting you to save changes. Use care when employing this option.

Crop

The Crop command is available when you have drawn a crop rectangle on your image using the crop tool. Selecting this command will crop the image to the rectangle you have drawn.

Scale Image

Selecting this command will bring up the Scale Image dialog, which allows you to specify a new size for the image. Note: In this release of the Luma Studio software, you can only scale your images to a size that is smaller than the current image.

Set Export Resolution

Selecting this command will bring up the Scale Image dialog, which allows you

Clear Crop, Clear Gray Balance, and Clear Spot Meter

Selecting any of these options will clear the current selection for that tool in the Image window. For example, if you have a spot meter defined and choose Clear Spot Meter, the spot meter will be removed from the image window.

Show/Hide Grid

This command allows you to show or hide a grid on the image in the image window. The various grid options are controlled using the Grid tool and the Grid Settings in the Tools window.

Hide Loupe

This command allows you hide the Loupe view if it is being used in the Image window.

Show/Hide Tone Range Highlights

Both the Toning pane in the Tools window and the Tone Curve Editor window allow you to select different portions of the histogram and see the corresponding pixels highlighted in the Image window. This command allows you to temporarily hide the highlighted pixels without having to clear the tone range. This feature is explained more fully in the Tools section.

Multiple Exposure

Selecting this command allows you to produce a multiple exposure image using two existing images. Remember: you must have two images of identical size and orientation open and selected to use this feature. For more information on the Multiple Exposure feature, see Chapter 5.

Camera Menu

Take Shot

Select the Take Shot command to capture an image with Luma.

Special Shots

Retake Shot

When you are setting up a scene, you will often take and discard a number of shots before everything is set to your liking. Retake Shot will replace your last shot with a new one, preventing the need to constantly remove unwanted images.

Read Last Shot

You can read the last image you shot from the Luma with this command. This can be useful if you accidentally discarded the image from the Contact Sheet, or wish to have two copies of the same image.

Add Pop to Previous Shot

Choosing this option will add a shot to the last one taken. This makes “building up a shot” much easier.

Take Multiple Pop Shot...

This feature works similarly, but you can specify ahead of time how many shots to add together, and what time interval elapses between shots.

Timed Shots...

The Timed Shots feature allows you to automate shooting a series of images. You specify how many shots to take and how long to wait between each shot.

Color Calibration

This submenu allows you to choose from among the different available color calibrations. The current calibration, which will be applied to any new images you shoot with the Luma, is checked.

Creating Color Calibrations...

If you need a reminder on how to perform the new Luma Studio color calibration, select this item for step-by-step instructions.

Delete Color Calibrations...

Allows you to easily delete color calibrations that you no longer need.

Color Management Settings...

Allows you to turn on the ICC color management environment and specify parameters such as color spaces and rendering intents. For more details, see Color Management Options in Appendix B.

Create Dark Calibration

If you want to create a dark calibration for a particular exposure speed, select the desired exposure and choose Create Dark Calibration. The Luma will perform the calibration and you will see a message indicating the calibration is complete. You will need to perform a dark calibration for each custom shutter speed you use.

Window Menu

Zoom In / Zoom Out

Select these commands to increase or decrease the current magnification of the image.

Channels

You can use the Channels sub-menu to display the individual red, green, and blue channels of your image. The normal mode is RGB, which displays all three channels.

Full Screen View

This command can be useful when you have a shot displayed in the Image window and you want a full view of your image with no other distractions. When you select Full Screen View, you'll see the screen go black and your image will fill the screen. To exit Full Screen View, simply press F or the Escape key.

Tip: You can use all of the usual tools in Full Screen mode. It can be helpful to know the keyboard shortcuts here: See Appendix B.

Image Window, Contact Sheet Window, Tools Window, Live Video Window

Selecting any of these commands will open the specified window if it is closed, or bring it to the front if it is hidden.

Clean Up Windows

This command will move the three main windows to their original default positions.

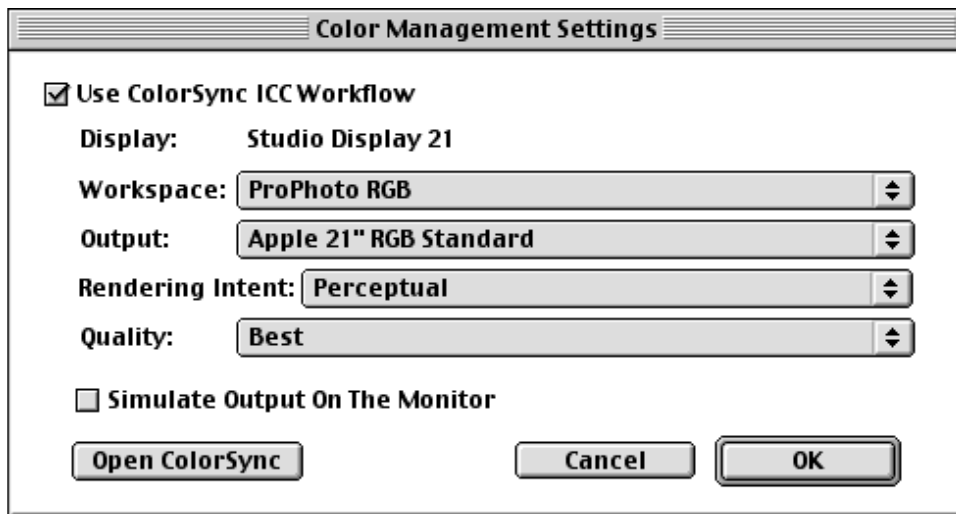
B. Color Management Options

Using ICC color management

Luma Studio 1.7 allows you to use ICC color management, which may improve your ability to get consistent color with the Luma, especially when you are working with applications other than Luma Studio.

When you use ICC color management, you should make sure that your computer monitor is accurately calibrated and profiled. That way, Luma Studio will be able to display colors accurately to match either the original scene or, optionally, printed output.

To turn on ICC color management, select the Color Management Settings command in the Camera menu, which will bring up the Color Management dialog.



Check the “Use ColorSync ICC Workflow” option, and then configure the additional options for color spaces, rendering intent, and quality.

Color Management Options

Workspace	Specifies the color space that is used internally for Luma images and for certain exports.	Choose a wide-gamut color space, such as “Adobe RGB (1998)”
Output	Specifies the color space that will be used for final (printed) output, and for certain exports.	Choose the color space that corresponds to your desired output device.
Rendering Intent	Specifies the way in which out-of-gamut colors are mapped into the Workspace or Output color spaces.	Refer to ColorSync documentation for advice.
Quality	Specifies the quality level of color space transformations.	Use “best” for best results. Use other settings for faster performance.
Simulate Output On The Monitor	Controls “soft-proof” functionality.	Check to enable “soft-proofing”, which allows you to see an simulation on the monitor of what the final printed output will be. Note that proper monitor calibration and profile selection is critical for this feature to work well.

Exporting Using ICC Workflow

If you have ICC Workflow enabled, you will have extra options when you export pictures. As always, you can choose between 8-bit and 16-bit TIFF exports:

- With a 16-bit TIFF export, you can choose the color space for the export among Workspace, Output, and Raw. You will usually want to choose either Workspace or Output. Choosing Workspace generally gives the best results, because it uses a high-gamut color space.
- With 8-bit TIFF export, you are limited to Output. (Both Workspace and Raw color spaces require 16-bit pixel sizes.)

Important Notes

After you make changes to the Color management Settings, you will need to re-Develop images in the Contact Sheet. Until the images are re-Developed, they may not appear correctly.

Developing images takes longer when you have ICC Workflow turned on.

Using ICC Workflow restricts your ability to apply Toning adjustments to your images. With ICC Workflow enabled, the Tone Curve changes to “Factory (ColorSync)”, and Editing the curve is disabled. (You will be able to “push” the curve, but you will not be able to adjust contrast.) This restriction assures that color matching works as well as possible.

C. Keyboard Shortcuts

Tool Selectors:

Hand	H
Zoom	Z
Crop	C
Tape Measure	T
Grid	G
Gray Balance	B
Loupe	L
Spot Meter	S
Color Calibration	X

Command Keys:

Open	⌘ O	Remove	⌘ R
Close	⌘ W	Remove! (No warning)	⌘⇧ R
Save	⌘ S	Clear Crop	⌘ K
Save As	⇧⌘ S	Clear Gray Balance	⌘ B
Export as TIFF	⌘ E	Tone Range	⌘ ‘
		Highlights	
Quit	⌘ Q	Zoom In	⌘ =
Take Shot	⌘ T	Zoom Out	⌘ -
Clear Spot Meter	⌘ M	Channel – RGB	⌘ ‘
Show/Hide Grids	⌘ K	Channel – Red	⌘ 1
Hide Loupe	⌘ L	Channel – Green	⌘ 2
Undo	⌘ Z	Channel – Blue	⌘ 3
Redo	⇧⌘ Z	Full Screen View	⌘ F
Select All	⌘ A	Image Window	⌘ N
Preferences	⌘ ;	Clean Up Windows	⌘ /
Develop	⌘ D		
Develop With	⇧⌘ D		

