

631-845-2000

www.chyron.com

sales@chyron.com

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5 Hub Drive Melville, NY 11747

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I. Introduction

Thank you for your purchase of the RGB Tools Plug-in for Lyric®. RGB Tools is an easy-to-use, application for quickly modifying and applying effects to graphic elements on the Lyric or Lyric PRO canvas. Information on getting started using RGB Tools begins on Page 13.

Please register on the Chyron web site to gain access to valuable resources for our products, including software updates, drivers, user guides, tutorials, the knowledge base and more. Basic and advanced training courses are available for a wide range of Chyron products, both in house and on site. For additional information, please contact Customer Service at +1 631 845 2133.

Please note the following before performing the installation:

- There are two versions of RGB Tools on this installation disk:
 - If you are using Lyric 7.0 or later, then you will need to install the "RGB Tools Installer for Lyric 7.0 and later" to commence the installation.
 - If you are using Lyric 6.5 or earlier, then you will need to install the "RGB Tools Installer for Lyric 6.5 and Earlier" to commence the installation.
- If you have more than one version of Lyric on your system, then the appropriate version of RGB Tools must be installed for each version of Lyric.

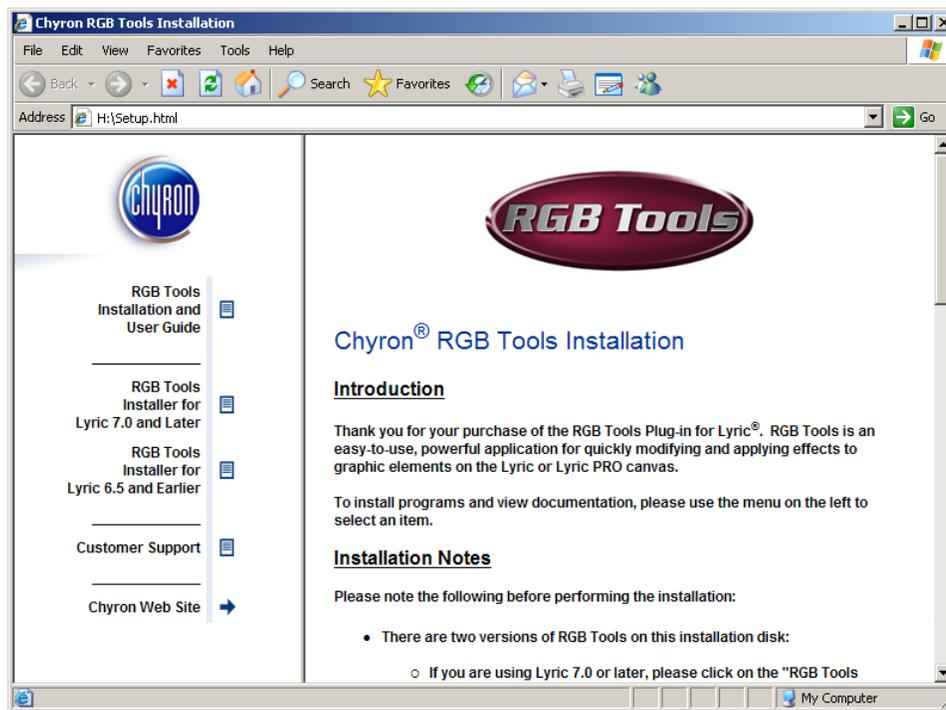
During installation, a prompt requests a license code. Please call Chyron Customer Service at 631-845-2132, as described below in the standard installation procedure, to procure the license code. Once the license code is entered, and the remainder of the installation is performed, *that license code is added to the text within the **lservrc file** which resides within the Lyric installation directory.* Use of the license code and its presence in the lservrc file is discussed later in this document.

II. Standard Licensing and Installation Procedure

Your experience with the licensing and installation procedure may vary with the particulars of your system. If you have difficulty, then see Page 11 following this description of a basic installation.

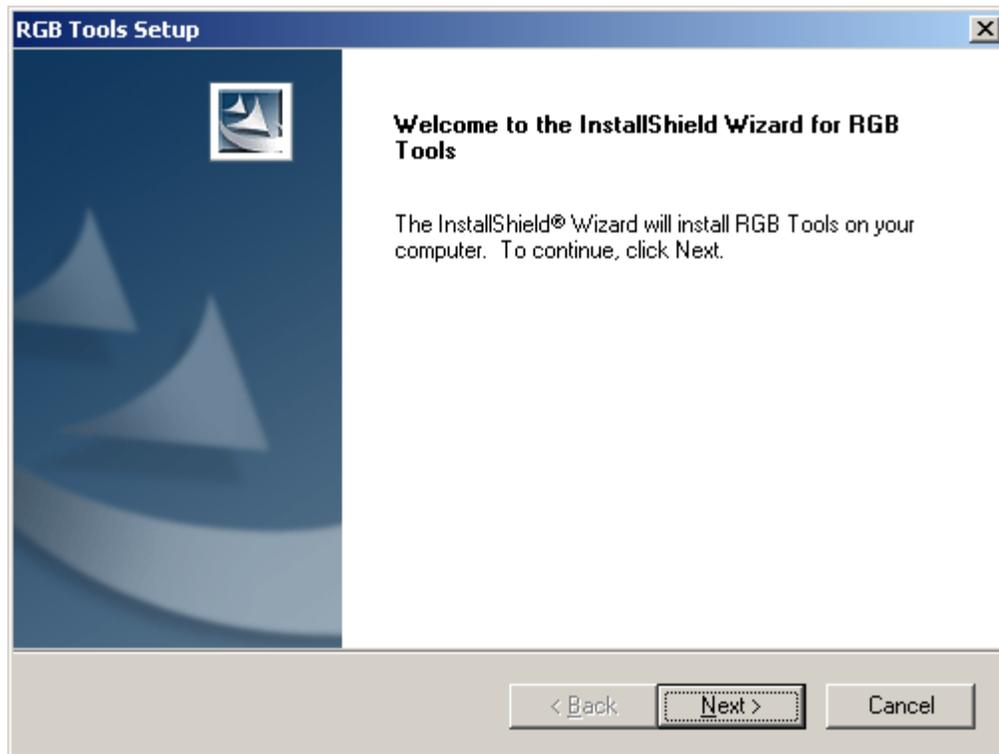
1. Make sure that no other programs are currently running on your system. Load the RGB Tools Plugin CD. If your system's "auto-run" feature is enabled, then the disc will open and the **RGB Tools Installation** window will be displayed.

If auto-run does not occur, then open the disc, using "My Computer" or the Windows® "Explore" function, and double-click **Setup.html**. As above, the **RGB Tools Installation** window will be displayed.



2. The display includes links to a variety of customer resources and documentation, in addition to installation tools. In the left hand pane, click on the RGB Tools installer appropriate to your version of Lyric.

The RGB Welcome dialog is displayed.



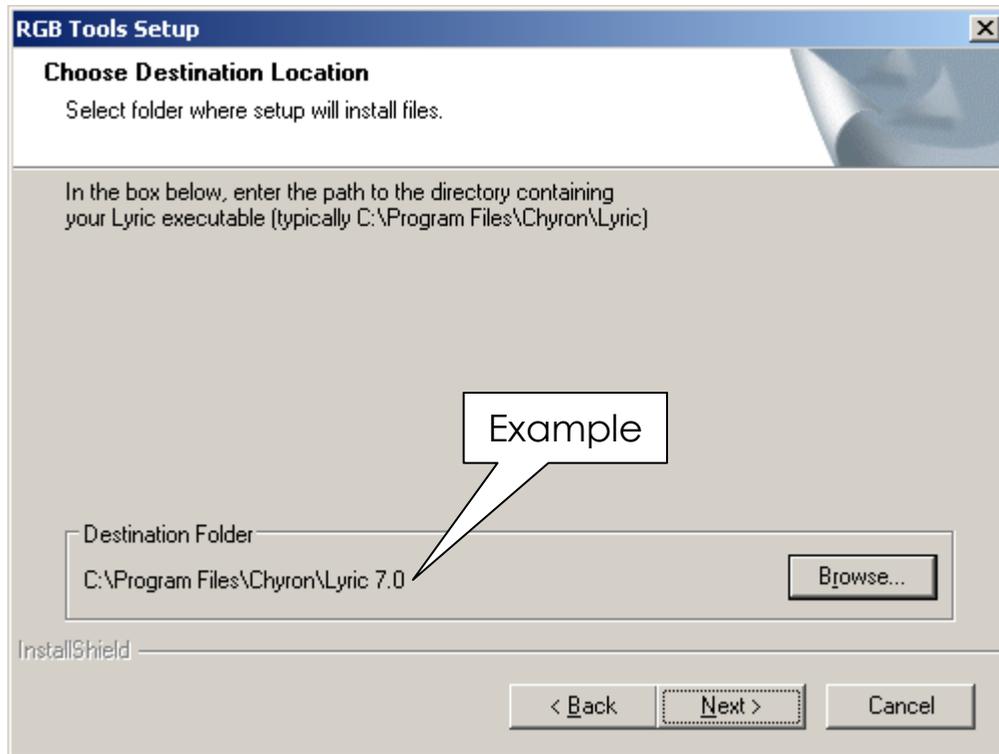
Review the Welcome screen, and then click **Next**.

3. The Software License Agreement dialog is displayed.

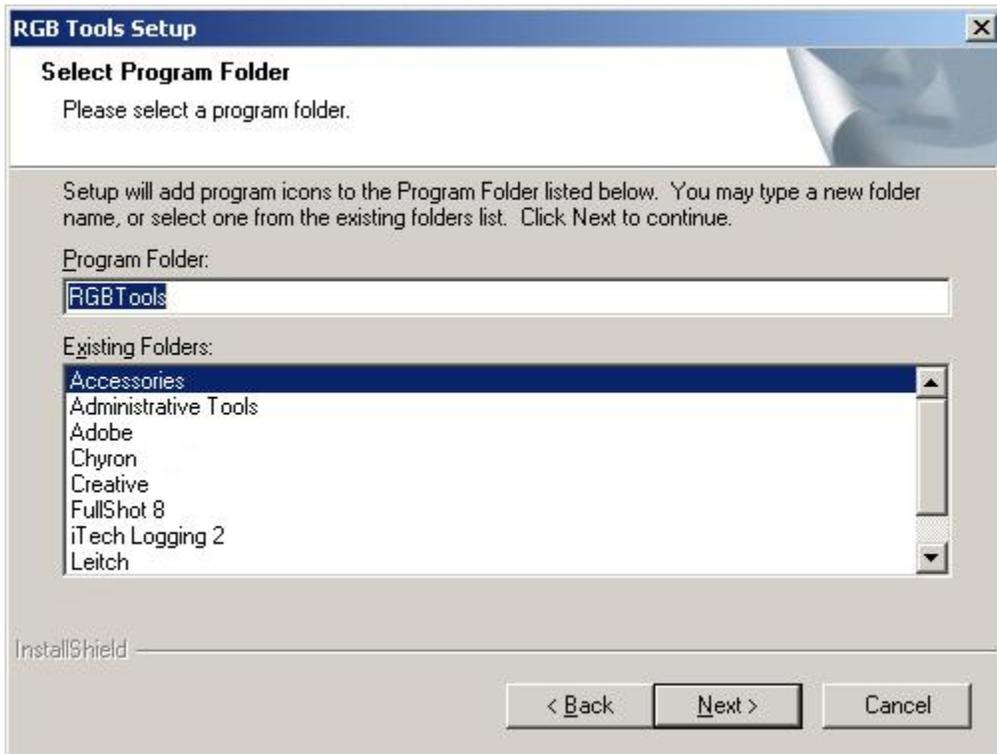
Please review the agreement and then click the **Yes** button to proceed.



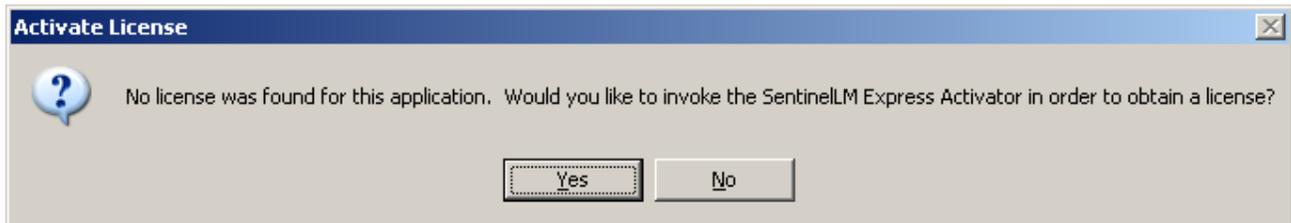
4. In the following dialog, you are selecting the location of the Chyron Lyric software. The RGB Tools Plugin will be installed in a sub-folder under this version of Lyric. At this time, the installation process may “aim” the RGB Tools installation at a default destination corresponding to an older version of Lyric than most that are currently in use. If need be, use the Browse button to ensure installation to the desired directory.



5. The Select Program Folder dialog appears. It is recommended that you accept the default, and then click **Next**.



A progress display appears. After it reaches 100%, the following dialog is displayed.



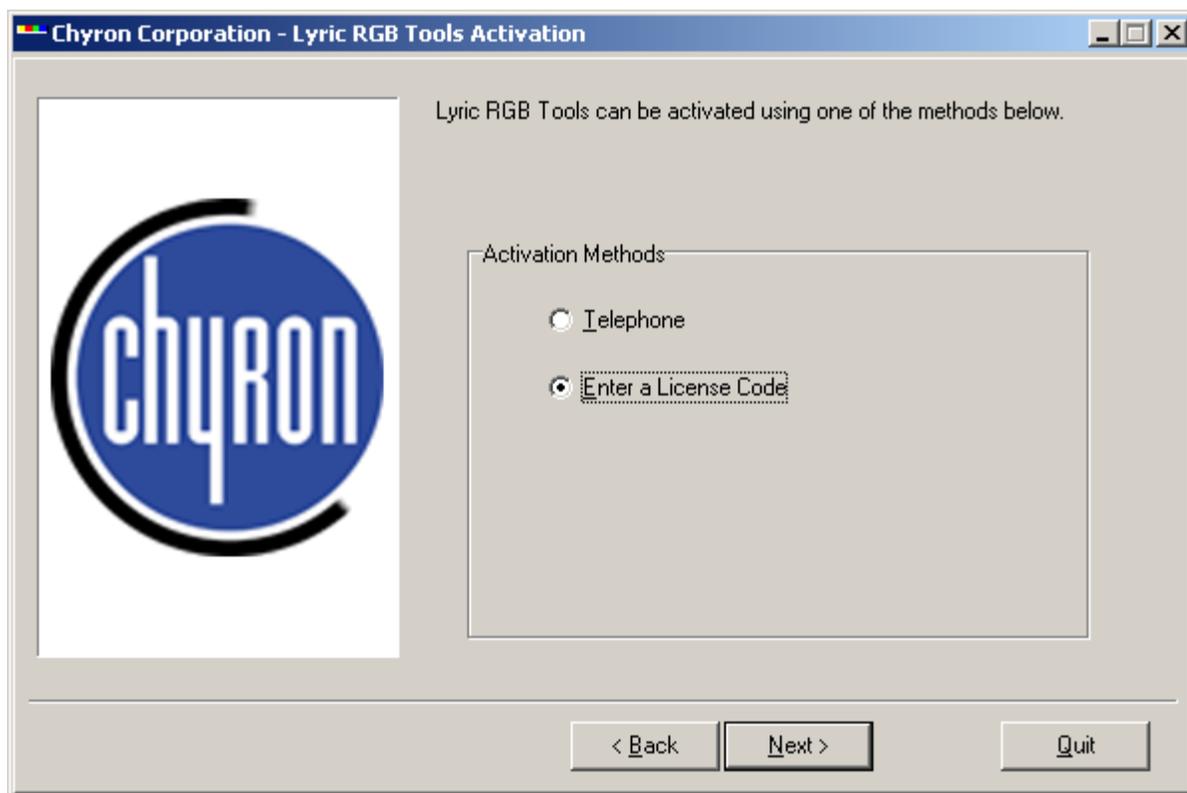
6. Click **Yes**.

A Lyric splash screen with no buttons or controls may appear briefly, and then the following dialog is displayed.



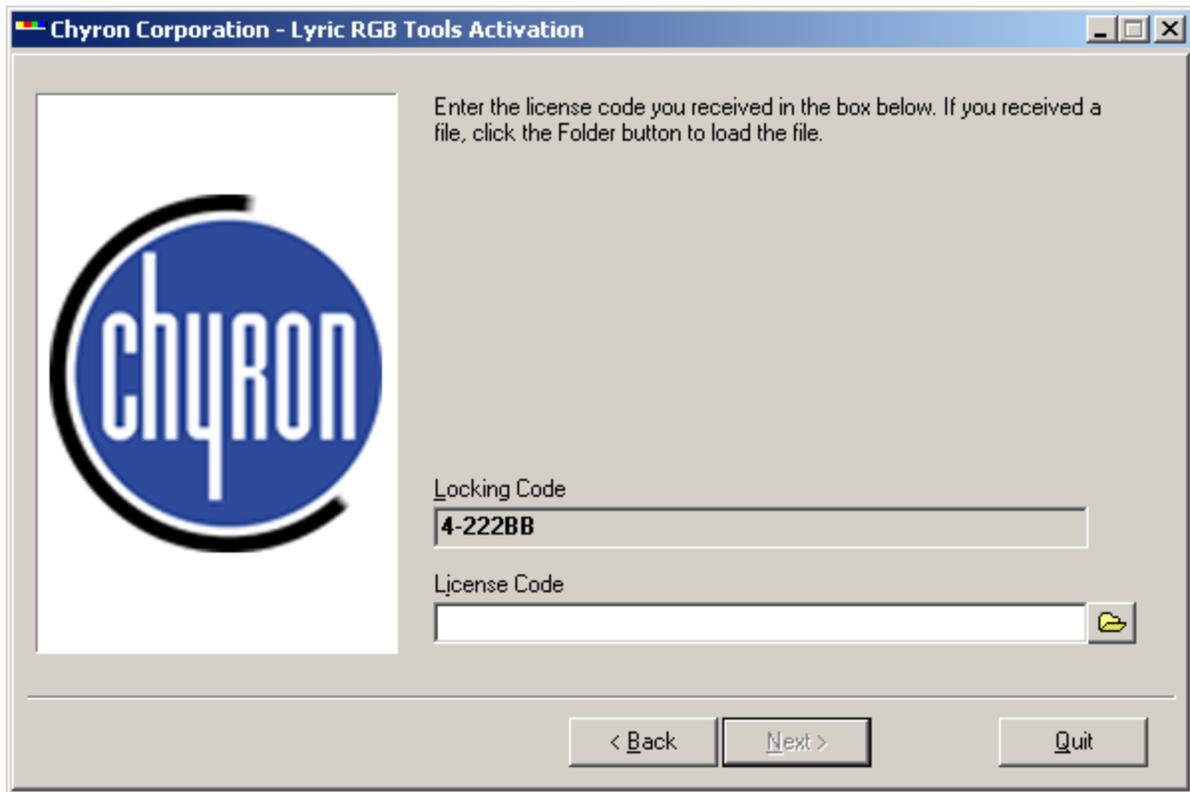
7. Click the **Buy Now** button.

The **Activation** options appear.



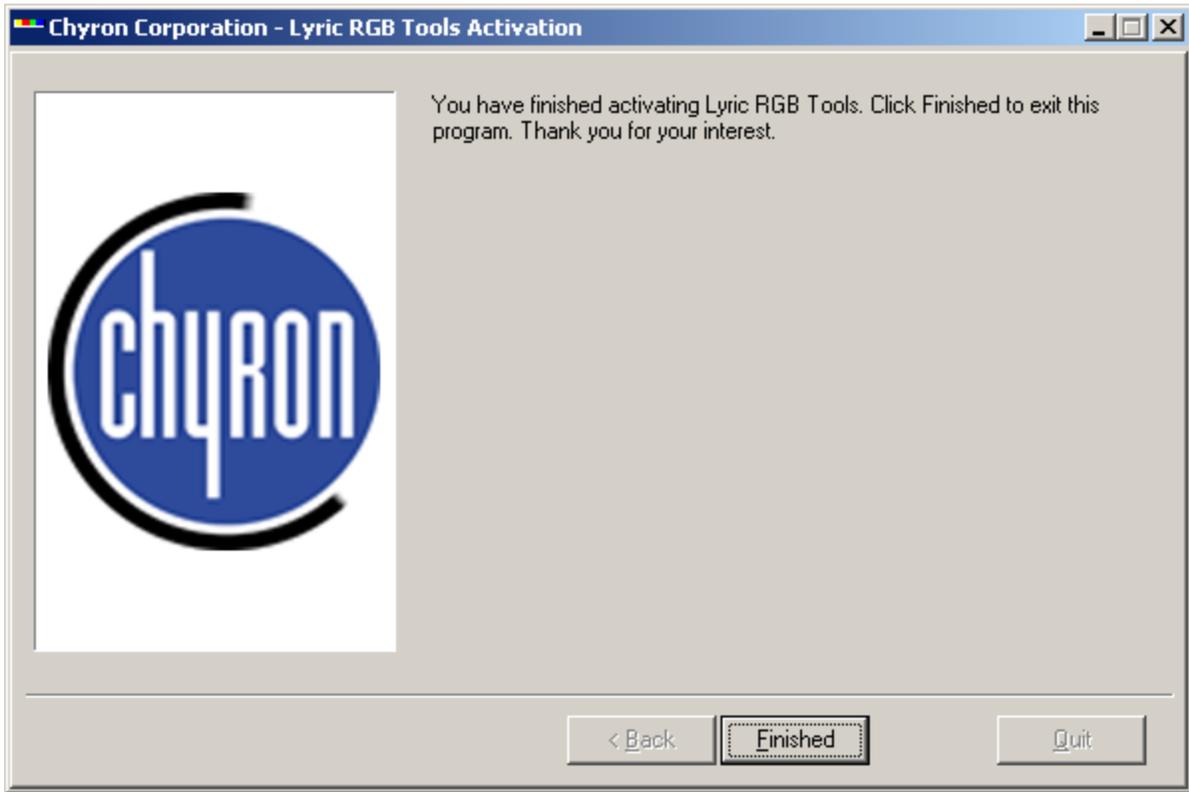
8. Click the **Enter A License Code** radio button, and then click **Next**.

The Lyric RGB Tools Activation dialog appears:



9. If you do not have a license code for RGB Tools, please call Chyron Customer Service at 631-845-2132 and have the **Locking Code** available.
10. Chyron Customer Service will email a file with the extension **.lic** or **.txt**. **Save the file** in an easy-to-find location. There are two ways in which the license code can be entered.
 - Use the **Open File**  icon to navigate to the **.lic** or **.txt** file. Double-click on the **.lic** or **.txt** file to automatically populate the **License Code** field. Cursor to the end of the **License Code** field. The last word in the field should be the word **exclusive**. If there is any text following the word **exclusive**, delete it. Continue to Step 11.
 - From outside the RGB Tools installation application, Navigate to the **.lic** or **.txt** file that you have received, and open it with Windows® Notepad. In Windows Notepad, copy all of the text in the file up to and including the word **exclusive**. There may or may not be additional text following the word **exclusive**. If so, do not include this text in the copy operation. Paste the copied text into the **License Code** field.
11. In the Lyric RGB Tools Activation dialog, click **Next**.

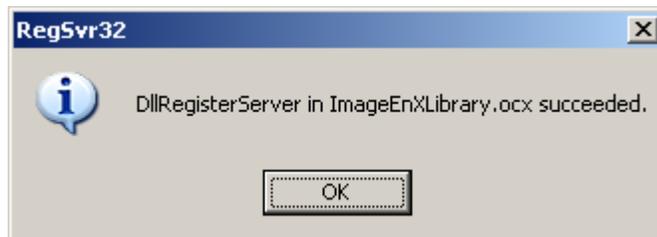
The following dialog indicates successful installation and activation.



- 12. Click the **Finish** button. The following dialog is displayed:



- 13. Click **OK**. The Chyron Lyric RGB Tools Plug-in is now installed. The following dialog may be displayed, indicating successful installation of an **OCX** file. Click **OK** to close the dialog.

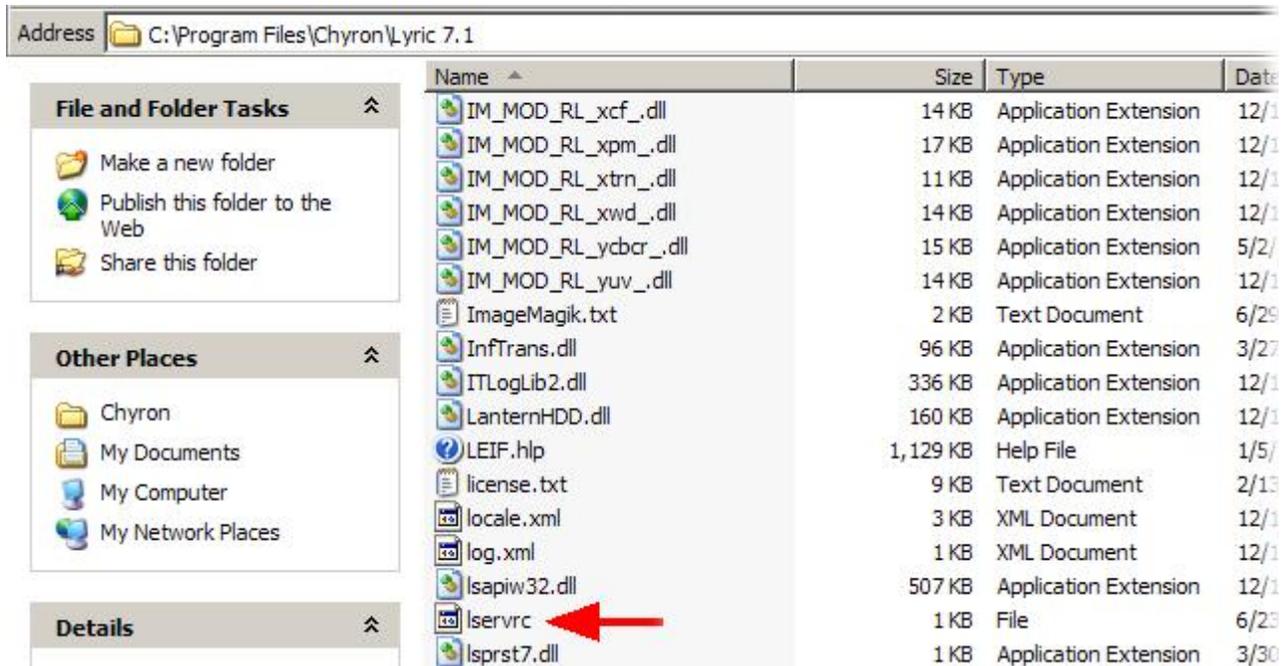


III.Licensing Multiple RGB Tools Installations

Users with multiple versions of Lyric installed on a single system may use RGB Tools in each version's installation *with the purchase of one RGB Tools license*; however, a separate installation must be carried out for each version of Lyric with which RGB Tools is to be used. *Remember to use the appropriate installer, as seen on Page **Error! Bookmark not defined.*** With all instances of Lyric closed, run the installer from the RGB Tools installation disk, and change the installation's Destination Folder as appropriate. **Use the same license code for all installations.**

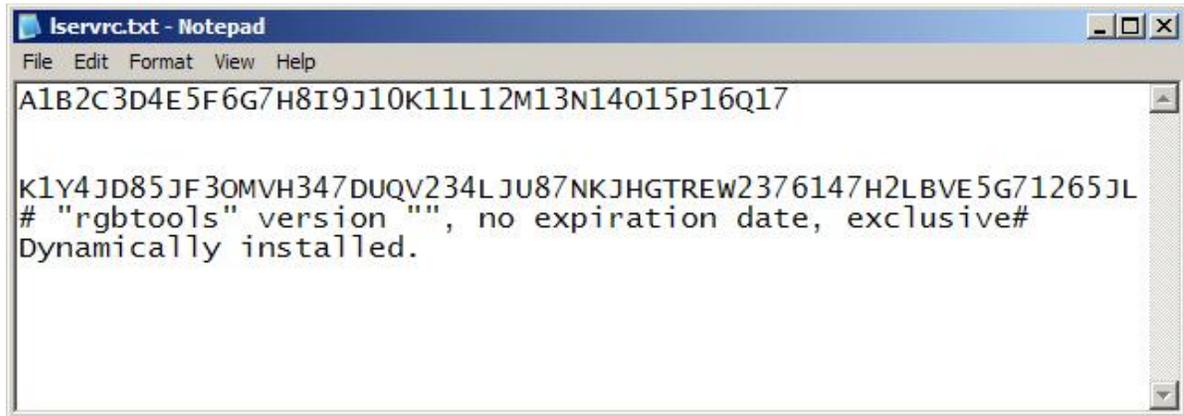
IV. Enabling RGB Tools without the License Code File

If you do not have access to the license code as emailed to you by Chyron Customer Service, then the required code string may be retrieved from the **Iservrc** file of a different Lyric installation in which RGB tools has already been installed and enabled. The **Iservrc** file is located in the main installation directory of any Lyric installation.



In the following procedure, remember that the **lserverc** file pictured is part of the Lyric installation in which RGB Tools was **initially** installed.

1. Open the **lserverc** file in any text editor; Windows Notepad is recommended for simplicity's sake.
2. Licensing codes from other plugins will likely already be present, so it is important to be able to distinguish the RGB Tools licensing code from other contents of the **lserverc** file. The **lserverc** file pictured below contains sample codes.



In the above example, the text string at the beginning of the file pertains to another plugin. The second group is the RGB Tools license code. In all instances, an RGB Tools license code will contain these characters: **# "rgbtools" version "", no expiration date, exclusive**

The characters **# Dynamically installed.** are generated by the installation process and are not part of the license code with which you will need to work.

3. Copy the code which **begins** two or three blank lines below the previous string, contains **"rgbtools"** and ends with the word **exclusive**, immediately before the characters **# Dynamically installed.** **Do not delete or change this or any other license code from this lserverc file!!!**

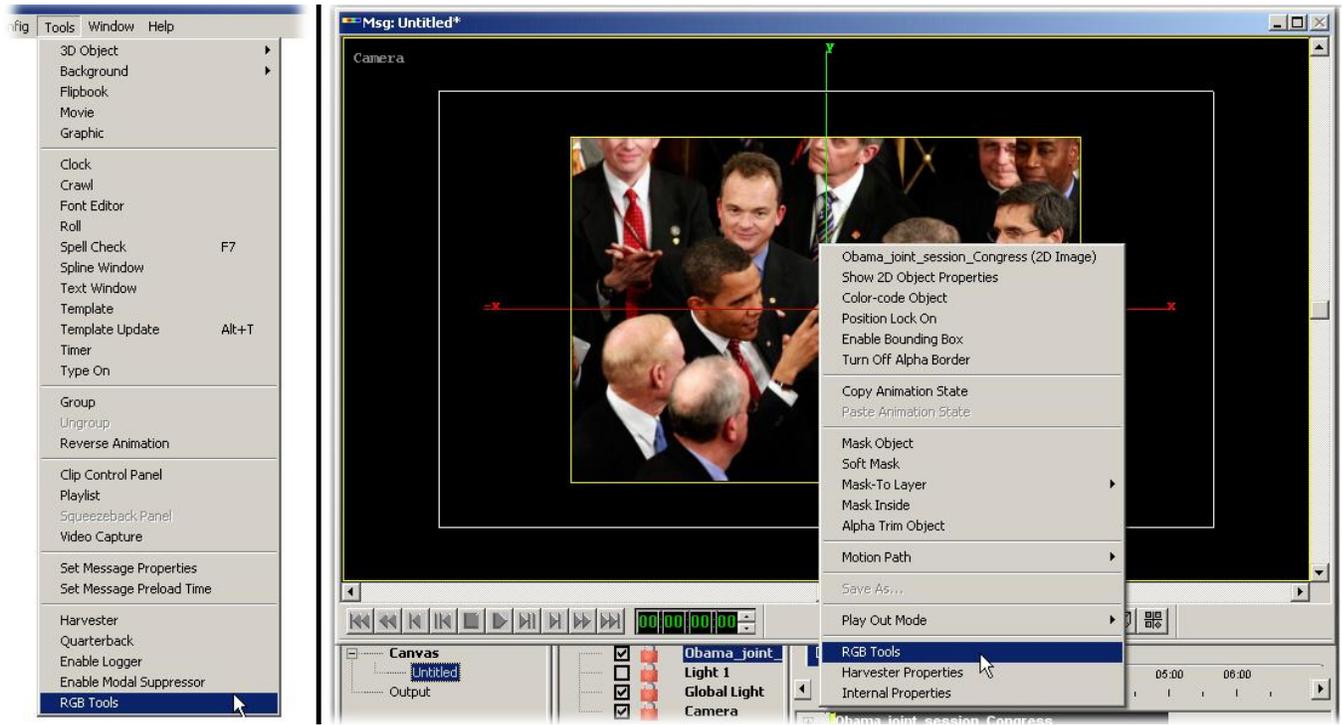
You may wish to minimize the Notepad window containing the **lserverc** file, rather than closing it, so as keep the required text handy.

4. Make sure there are no instances of Lyric running. Load the installation disc, and *locate the RGB Tools installer that is appropriate to the version of Lyric you are now upgrading with RGB Tools.*
5. Run the installation procedure that is described beginning on Page 1. When you reach the **RGB Tools Activation** dialogs discussed in Steps 11 & 12 of the previous installation process, paste the text string you have copied into the **License Code** field, and then click **Next**. The activation process concludes.

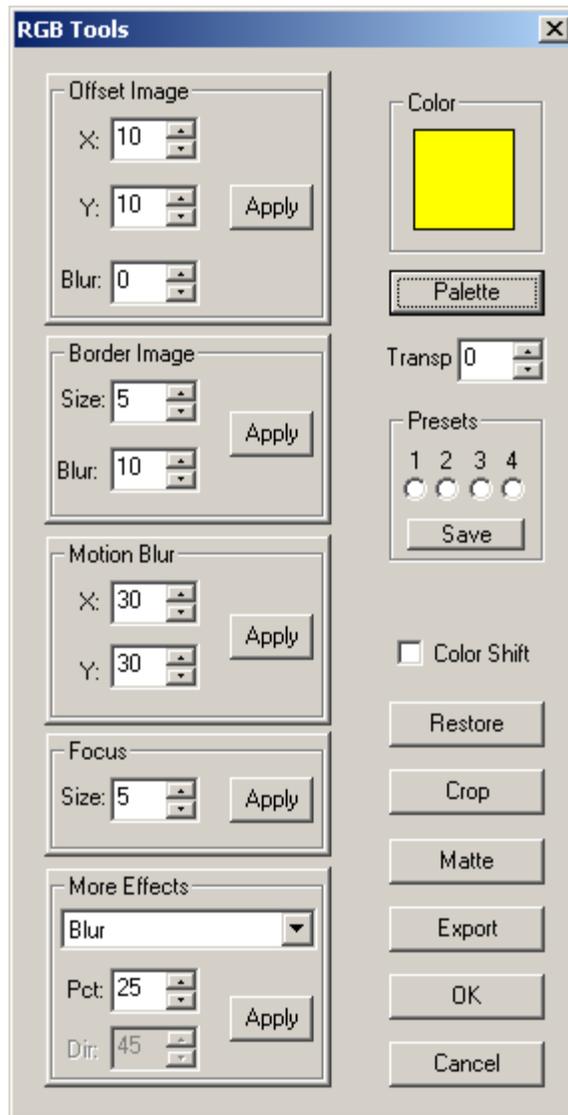
V. Getting Started with RGB Tools

Opening the RGB Tools Application

Select a graphic element from the Lyric scene and then select **RGB Tools** from either the right-click menu or the Lyric Tools menu.



The **RGB Tools** dialog is displayed:



Position the **RGB Tools** dialog to the side of the Lyric canvas, so that modifications to the image can be viewed.

Effect parameters are set in the **RGB Tools** dialog. To apply the effect:

- Clicking the **Apply** button.

As effects are applied, the modifications are reflected in the image on the Lyric canvas. Note the following:

- Effects are additive. For example, if a border has been applied by clicking the Apply button, then applying an offset creates a border around the original image and the offset. Creative results can be achieved by combining multiple effects.

To restore the graphic to the same state it was in when opening RGB Tools:

- Click the **Restore** button.

Although there is a **Restore** function which returns the graphics to its original state when the **RGB Tools** dialog was opened, there is no undo for an individual effect.

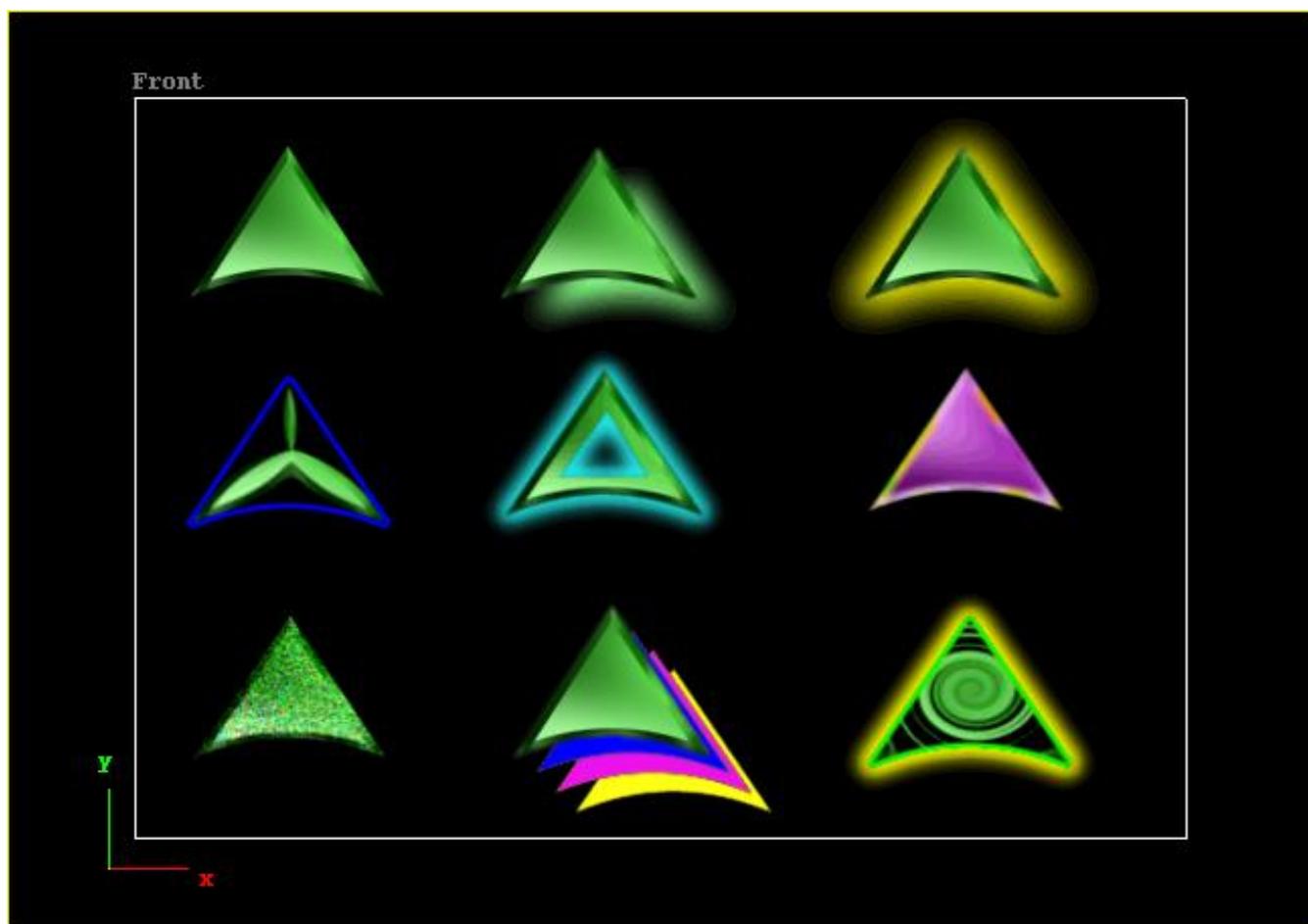
To finalize the effect(s):

- Click the **OK** button.

Once an effect has been finalized, the graphic on the canvas is irreversibly modified. Note that the original graphic referenced in the Lyric browser is not modified and is still available in its original form. If necessary, the modified graphic can be modified further in RGB Tools. ***It is highly recommended that the image is exported (saved) to a .tga at various stages of the image modification in order to preserve desired versions of the image.*** Images saved as .tga files can be saved to the Lyric browser. Please refer to the section regarding Export later in this document.

EXAMPLES:

The following figure shows examples of RGB Tools effects applied to a graphic on the Lyric canvas.



| Row | Effect Applied Column 1 | Effect Applied Column 2 | Effect Applied Column 3 |
|--------|---------------------------------------|----------------------------------|--|
| First | None | Blurred Offset | Blurred Border |
| Second | Implode with Thin, Non-Blurred Border | Inverse Crop with Blurred Border | Solarized with Blur |
| Third | Noise | Multiple Offsets with No Blur | Multiple Swirls with Thin, Non-Blurred Border and Outer Blurred Border |

Offset Image

Adds an offset to the selected graphic. Specify the XY offset in pixels and the desired blur.

- **Offset** ranges of both X and Y are -100 through +100.
 - In Lyric 7 PRO, Lyric 7, Lyric 6.5 PRO and Lyric 6.5 and Lyric 5.x, a positive value of X positions the offsets to the right; a negative X value offsets to the left.
 - In Lyric PRO 7, Lyric 7, Lyric PRO 6.5 and Lyric 6.5, a positive value of Y positions the offsets down; a negative Y value offsets up.
 - In Lyric 5.x, a positive value of Y positions the offsets up; a negative Y value offsets down.

Border Image

Adds a border to the selected graphic. Specify the size of the border in pixels and the desired blur.

- **Border Size** range is 0 through 100.
- **Border Blur** range is from 0 through 100.

Motion Blur

Adds motion blur to the selected graphic. Specify the blur magnitude in pixels.

- **Motion Blur** ranges of both X and Y are 0 through 100.

Focus

Defocuses the selected graphic.

- **Focus** range is from 0 through 50

More Effects

- **Add Noise:** Adds random pixel noise to the graphic.
- **Bevel:** Adds a bevel to the graphic.
 - **Percent** specifies size of the bevel. Range is from 0 through 20.
 - **Direction** specifies direction of light in degrees. Range is from 0 through 359.
 - In Lyric PRO 7, Lyric 7, Lyric PRO 6.5 and Lyric 6.5, 0 is the positive X axis, and increasing the **Direction** value moves the light in the counter-clockwise direction.
 - In Lyric 5.x, 0 is the positive X axis, and increasing the **Direction** value moves the light in the clockwise direction.
- **Blur:** Blurs graphic by specified percentage.
 - **Percent** specifies the degree of the **Blur**. Range is from 0 through 100.
- **Charcoal:** Adds charcoal sketch effect.
 - **Percent** specifies the degree of the effect. Range is 0 through 100.
- **Colorize:** Colorizes image with color selected in palette.
 - **Percent** specifies saturation of the color. Range is from 0 through 100.
- **Contrast:** Increases the contrast of the graphic.
 - **Percent** specifies the degree of the effect. Range is 0 through 100.

- **Emboss:** Adds an embossed effect to the graphic.
 - **Percent** specifies the degree of the effect. Range is from 0 through 20.
 - **Direction** specifies the direction of light in degrees. Range is from 0 through 359.
 - In Lyric PRO 7, Lyric 7, Lyric 6.5 PRO and Lyric 6.5, 0 is the positive X axis, and increasing the **Direction** value moves the light in the counter-clockwise direction.
 - In Lyric 5.x, 0 is the positive X axis, and increasing the **Direction** value moves the light in the clockwise direction.
- **Gamma:** Gamma corrects in red, green, and blue channels.
 - **Percent** specifies the degree of the effect. Range is from 1 through 100.
- **Grayscale:** Modifies the image to grayscale.
- **Implode:** Creates the appearance of a concave region at the center of the graphic.
 - **Percent** specifies the degree of the effect. Range is from 0 through 100.
- **Jitter:** Adds random movement to pixels in graphic.
 - **Percent** specifies the degree of the effect. Range is from 0 through 100.
- **Reduce Noise:** Reduces pixel noise in graphic using noise peak elimination filter.
- **Sharpen:** Sharpens pixels in graphic.
 - **Percent** specifies the degree of the effect. Range is from 0 through 100.
- **Solarize:** Blends a negative and positive image.
 - **Percent** specifies the degree of the effect. Range is from 0 through 100.
- **Swirl:** Swirls the graphic.
 - **Percent** specifies the degree of the effect. Range is from 0 through 100.
 - In Lyric PRO 7, Lyric 6.5, Lyric PRO 6.5 and Lyric 6.5, the graphic is swirled clockwise.
 - In Lyric 5.x, the graphic is swirled counter-clockwise.

Color/Palette/Transparency

Adjusts the color and alpha value of effects applied with the **Border Image** controls.

Presets

Allows the operator to save as many as four sets of user-defined settings. Click the **Save** button and then designate one of the four available presets. The saved preset values can then be recalled by clicking the corresponding radio buttons.

Color Shift

This option swaps reds and blues in the image.

Restore

Clears all effects that have been applied to the image. Note that clicking the **OK** button saves any effects that have been imposed on the image, regardless of the Lyric message's Save status. Once the **OK** button has been clicked, the RGB Tools dialog closes, and the image can no longer be restored to an earlier state. It is, however, possible to continue editing the image by reopening the RGB Tools dialog.

Crop

Use this function to remove portions of the graphic, using a variety of selection tools. Cropping removes the areas on the image outside of the selection area. The **Invert** setting, as described below, removes the area of the graphic inside of the selection area. To set up and execute a crop, click the **Crop** button. The **RGB Tools - Crop Image** dialog opens.



NOTE:

- In Lyric PRO 7, Lyric PRO and Lyric 5.x, the image to be edited appears right-side up in the RGB Tools – Crop Image dialog. The edited image is rendered correctly on the Lyric Canvas.
- In Lyric PRO 6.5 and Lyric 6.5, the image to be edited appears upside-down in the RGB Tools - Crop Image window. The edited image is rendered correctly on the Lyric Canvas.

Coordinates of the crop area are displayed to the right of the **Reset** button. After crop parameters have been set, clicking the **Crop** button executes the crop.

- Executing a crop deletes the portion of the image outside of the defined region, leaving the portion of the image inside of the crop region.
- The **Invert** function can be used to delete the content within the region, leaving the surrounding content.

The following crop parameters can be set:

Zoom

Magnifies the user's view of the image.

Selection

- **About the Cursors:** There are two cursors used across all of the crop area creation tools in the **RGB Tools - Crop Image** dialog.



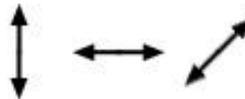
Selection Cursor



Repositioning Cursor

The **Selection Cursor** is used to create the crop areas as described below. *Be sure that before attempting to move a crop area that the **Repositioning Cursor** is displayed.* If the **Selection Cursor** is still displayed after the crop area has been created, then clicking when the **Selection Cursor** is displayed will clear the crop area. It is recommended that the crop area be saved before attempting to reposition it. *Please refer to the section regarding **Save/Recall** later in this document for details.*

- **Rectangle:** Drag the selection cursor to draw a rectangular crop region. In addition to the cursors shown above, Resizing Cursors can be used to adjust the height, width and scale of a rectangular area.



Resizing Cursors

The rectangular crop area can also be repositioned using the cursor keys.

- **Polygon:** Creates a closed shape which can be used to crop an image.
 - To create straight-sided shape, click points to define the shape, and then double-click at the final point to close the shape that will define the crop region.
 - To draw a selection free-hand, click and drag to draw the shape. Double-click to close the shape that will define the crop region.
- **Magic Wand:** Use this tool to create a selection based on colors similar to the image content at the point where the cursor is clicked. Click on the desired area to perform the selection. The slider adjusts the range of variation in the color of the selected area.
- **Clear:** Discards the current selection borders.
- **Invert:** The **Invert** tool is used to change the selection area to be cropped from outside of the shape outline to inside of the shape outline. This provides the ability to cut a hole in the image.
- **Softness:** Feathers the edges of a selected region and applies a corresponding blur effect to the content left by the crop operation.

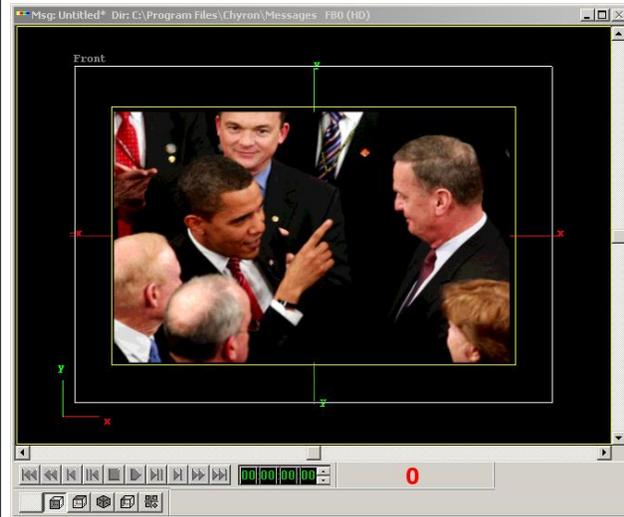
Crop

Executes the cropping operation. When a crop is executed, the background of the **RGB Tools - Crop Image** dialog turns black, and the crop operation is reflected in the image on the Lyric canvas. The image in the **RGB Tools - Crop Image** dialog does not reflect the crop. After the image is cropped as desired, then click the **OK** button to exit the **RGB Tools - Crop Image** dialog.

The following figure shows the crop area set and the resulting cropped image in Lyric.



Crop Area Set



Resulting Cropped Image

Save/Recall

Saves the user-defined crop selection settings for later recall. These saved selections are given the file extension **.sel**.

Matte

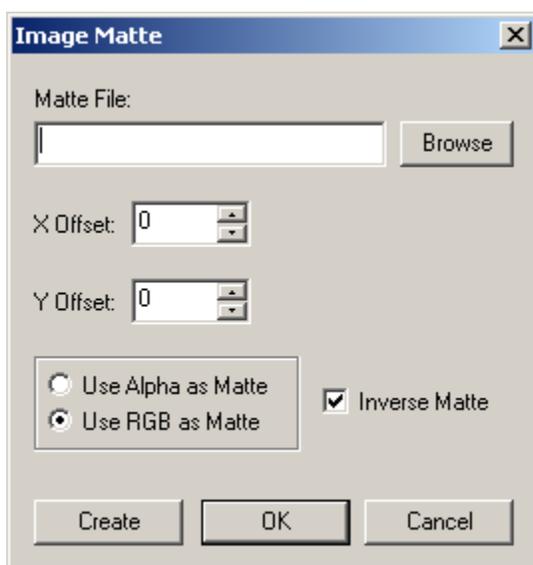
This function is used to combine the alpha or RGB from a separate matte file with the current graphic.

NOTE:

- When using Lyric 5.x, the matte file is applied right-side up.
- When using Lyric PRO 6.5, Lyric PRO 7, Lyric 7, Lyric PRO 6.5 and Lyric 6.5, the matte file is flipped upside-down when applied. Before using a matte file within RGB Tools in Lyric PRO, create a vertically flipped version of the file to be used as the matte file.

To apply a matte file:

1. In Lyric, right-click on the graphic to which the file is to be applied.
2. Select RGB Tools. The RGB Tools dialog is displayed. Move the dialog so that the Lyric canvas is visible.
3. Click the Matte button. The Image Matte dialog is displayed. Move the dialog so that the Lyric canvas is visible.



4. Either enter a file path of the file to be used as the matte file, or click the browse button and navigate the file to be used as the matte file.
5. There are manners in which the matte file can be applied:
 - **Use RGB as Matte:** This is the default setting. An RGB file with or without alpha can be used as the matte file. The RGB data is used as alpha.
 - **Use RGB as Matte with Inverse Matte:** An RGB file with or without alpha can be used as the matte file. The RGB data is used as alpha and is inverted.
 - **Use Alpha as Matte:** The alpha component of a file is used as the matte.
 - **Use Alpha as Matte with Inverse:** The alpha component of a file is used as the matte and is inverted.

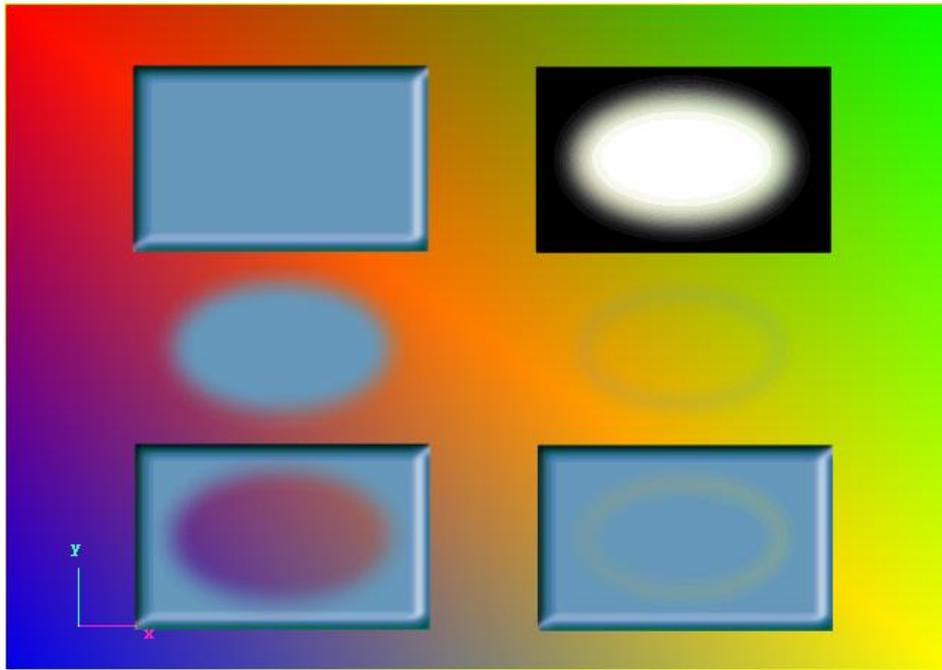
Click the appropriate radio button to select **RGB as Matte** or **Alpha as Matte**. If desired, select the **Inverse Matte** check box.

6. Click Create. This applies the matte file to the graphic as specified and is reflected in the graphic on the canvas. This is not a permanent change. You can experiment with different settings or files. Click the **Create** button each time to see the results.

7. If desired, the matte file can be repositioned. The **X Offset** moves the matte file to the left; the **Y Offset** moves the matte file down. Again, you can adjust the offset and check it by clicking the **Create** button.
8. Once the matte file is applied as desired, then click the OK button. This closes the **Image Matte** dialog and returns to the **RGB Tools** dialog. You can continue modifying the graphic, or can exit the **RGB Tools** dialog.

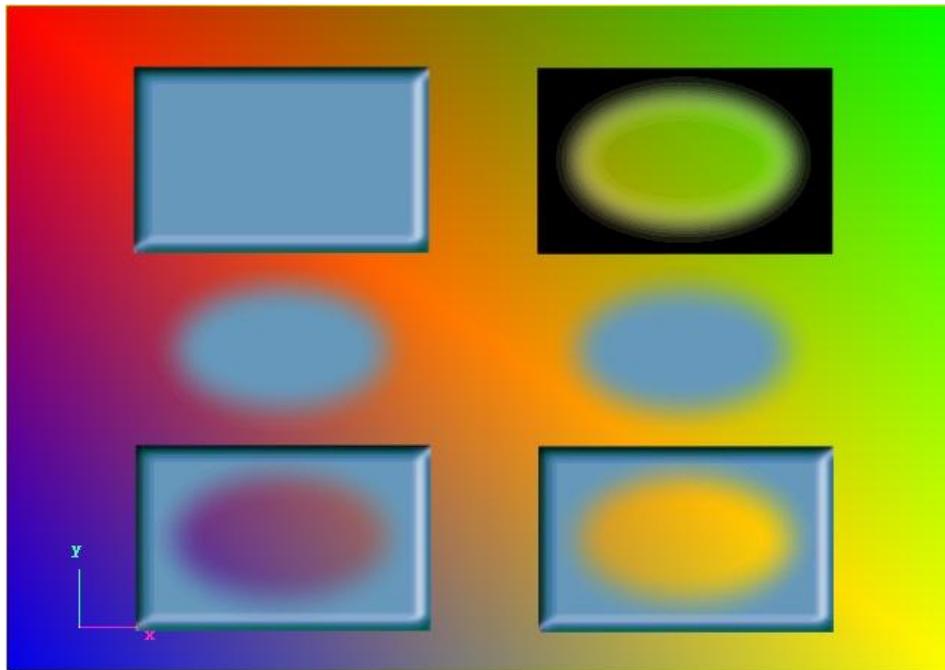
EXAMPLES:

The figure below shows a blue graphic in the top left corner and the graphic that is applied to it in the top right corner. The graphics below them demonstrate the manners in which the matte file can be applied.



| Row | Effect Applied Column 1 | Effect Applied Column 2 |
|--------|---|---|
| First | None: Original blue graphic. | None: Graphic to be applied to the blue graphic as the matte. Note that there is a soft transition with alpha between the solid black and solid white areas. |
| Second | RGB as Matte: The center of the blue graphic is revealed. Note that if using RGB as Matte , it is not necessary for the matte graphic to have an alpha channel. The solid graphic is applied as if it is an alpha channel. | Alpha as Matte: The alpha channel is used as the matte. Since the only area that has transparency in this graphic is at the transition between black and white, all that is revealed of the blue graphic is the transition area. Note that if there is no alpha channel in the matte file, then none of the blue graphic would be visible. |
| Third | RGB as Matte, with Inverse enabled: The center of the blue graphic is cut out. Note that if using RGB as Matte , it is not necessary for the matte graphic to have an alpha channel. The solid graphic is applied as if it is an alpha channel. | Alpha as Matte, with Inverse enabled: The alpha channel is used as the matte. Since the only area that has transparency in this graphic is the transition area, all that is cut out of the blue graphic is the transition area, revealing a bit of the background. Note that if there is no alpha channel in the matte file, then the blue graphic would be completely revealed. |

Below shows the same a similar graphic applied to the blue graphic. The difference is that the center, rather than being solid, is instead transparent.



| Row | Effect Applied Column 1 | Effect Applied Column 2 |
|--------|---|--|
| First | None: Original blue graphic. | None: Graphic to be applied to the blue graphic as the matte. Note that there is a soft transition with alpha to the cutout. The background shows through. |
| Second | RGB as Matte: The center of the blue graphic is revealed. | Alpha as Matte: The alpha channel is used as the matte. Since the entire center of the matte file is transparent, the center of the blue graphic is revealed. |
| Third | RGB as Matte, with Inverse enabled: The center of the blue graphic is cut out. | Alpha as Matte, with Inverse enabled: The alpha channel is used as the matte. Since the entire center of the matte file is transparent, the center of the blue graphic is cut out when the matte with inverse is applied. |

Export

A graphic edited with RGB Tools may be exported as a **.tga** file, and saved to any desired location. Note that this action differs from Lyric's **File > Save As** function, which allows export of an entire Lyric canvas in various formats.

The edited graphic cannot be saved to the browser; however, it can be exported as a **.tga** file, and then imported into Lyric and then saved to the browser. Note that depending on the version of Lyric, it may save upside-down to a **.tga**. This can be remedied by creating a version of the file that is right-side up.

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5 Hub Drive

Melville, New York 11747

631-245-2000 General

631-845-2132 Customer Service

sales@chyron.com

www.chyron.com, www.axisgraphics.tv, www.chytv.com