

Chapter Fourteen: Character Generator



Chapter Fourteen:

Character Generator

A picture may be worth a thousand words, but sometimes you need words and graphics to explain who someone is, where an event occurs, or to demonstrate a concept. You use the Character Generator (CG) to create text and graphics in a flexible work environment where you can design with still or moving video in the background. There is no guesswork when you place text or graphic elements.

This chapter introduces you to the CG interface. You will learn the options for building text and shapes, and how to add color, outlines, and shading. You also learn the different kinds of CG pages and how to work with the layout of those pages.

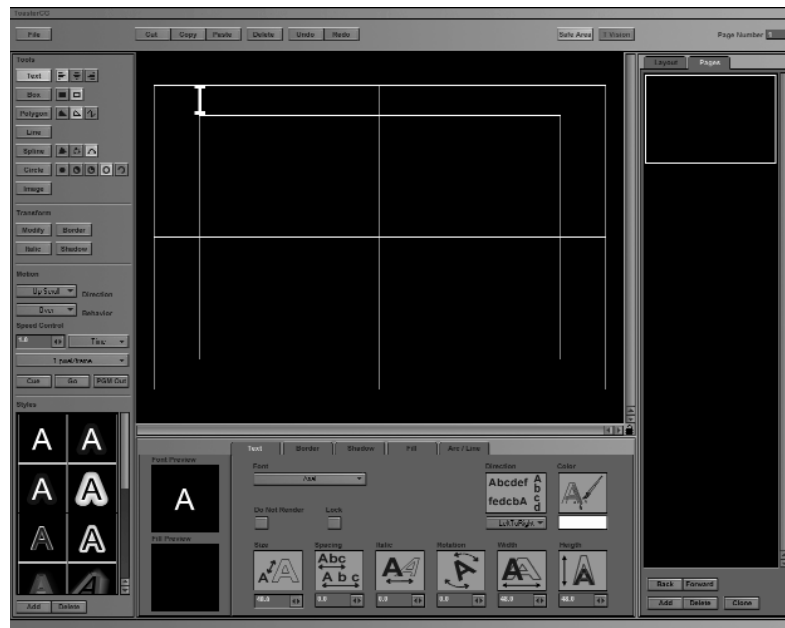


Figure I4.1. The Character Generator

INTERFACE

When you open the CG panel, the work area shows a blank grid. The edges of the grid represent the safe video area, discussed next. The CG opens in text mode by default. An I-beam sits at the upper left corner; this is your cursor and the insert point for your CG entries. You can move the I-beam anywhere on the display by clicking on it with your mouse and dragging it around. Entering text on your screen is just a matter of typing what you want from the keyboard.

SAFE AREA FOR CG

The safe area (Figure 14.2) gives you a guideline for placing action or text so that it appears properly on a television monitor. The inner box represents the safe title area where you should place text. The outer box indicates the edge of active video, which includes overscan. Halfway between the safe title and active video is the safe action area. The region outside active video is a paste board where you can place objects, but they will not appear on output.

You want to be sure that viewers can easily read the text and graphics that you create; areas within the safe area will appear on the television screen, while areas outside of the safe area may be cropped out. You can toggle off the safe area by clicking on the **Safe Area** button at the top right of the panel.

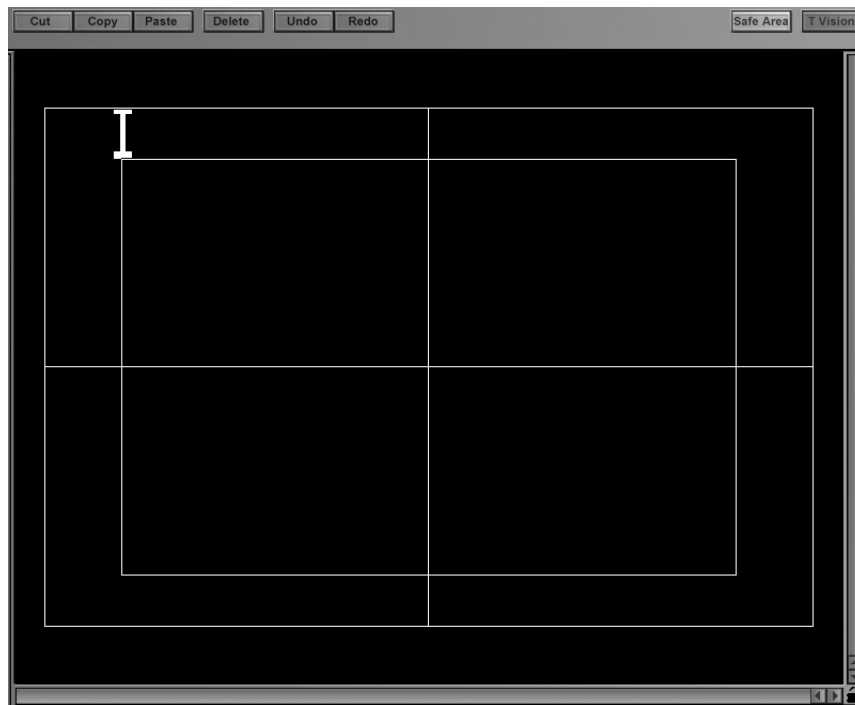


Figure 14.2. The Safe Areas: the inner area is Safe Title and the outer area is Safe Action



TIDBIT

Not all televisions display the same; they use different tubes and different frames at the edge of the screen. Because of this variation from set to set, video professionals must rely on a dual-bordered safe area. The inner boundary is the safe title area where on-screen text should remain, so it won't be cut off the edge of the screen. The outer boundary delimits active video, and the safe action area falls half way between the two boundaries.

TVISION AND CG

When you click on the TVision button, the CG loads the current image or video showing in ToasterVision. Thus if you want to see the source on the Preview bus of the Switcher, you must choose **Prev** on ToasterVision and then click **TVision** in the CG. When you click on TVision again, the source from ToasterVision is removed from the CG display area and replaced with the default background.

TVision updates automatically when you change the source for Main or Preview in the Switcher. If you change the channel for your Main input in the Switcher, that change is reflected in ToasterVision. Therefore it is also reflected in TVision on the CG.

GENERAL BUTTONS ON THE CG

General editing buttons sit across the top of the panel. **Cut**, **Copy**, **Paste**, **Delete**, **Undo**, and **Redo** work on your selected item.



Figure I4.3. Common buttons for Cut, Copy, Paste and so on.

- **Cut** removes the item from the display and places it in clipboard memory until you paste it again.
- **Copy** retains a copy in the display and places a copy in memory.
- **Paste** places the item that you cut or copied.
- **Undo** will undo your last action, and Toaster CG supports unlimited levels of undo.
- **Redo** will redo any actions that you just undid.

You can also use familiar editing shortcuts like CTRL + X to cut, CTRL + C to copy, and CTRL + V to paste.

SAVING AND EXITING THE CG

At the top left of your panel is the **File** button. Here you have options to create new CG pages, open, add files, and save pages, images, or projects. CG pages are saved as *.cg files, and when you choose **Save Project** you save all pages in the CG. When you choose **Add Files**, you can add a saved CG page or project to your current project. When you choose **Save Current Page**, then you save only the active page in the CG.

You can save the current page in an image format as well (gif, tga, jpg, tif, bmp) by choosing **Save Image File**. The elements on the page become one image and you can no longer edit them separately when you load the image file.

When you save CG as an image, Video Toaster saves the entire page. That means that if you save a scroll page (discussed later) as an image, the CG creates a long image to encompass every element on the page. When you load this oversized image in the work area, it is initially squashed. But when you edit the image from the edit panel, the original dimensions of the image are restored.

You exit the CG from the **File** button, by choosing **Exit**, or you can click on the small X in the top right corner of the panel.

TOOLS FOR CG

The CG tools are the column of buttons on the left side of the CG panel; you select from these buttons to create CG elements. Beside the tool buttons are variations that you can apply when you create your objects. We will discuss how to change the color and other attributes of these objects later in the chapter.

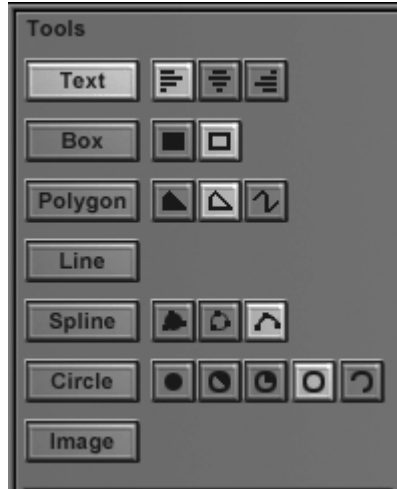


Figure 14.4. The Tools for creating text and objects

TEXT IN CG

The **Text** button lets you create words and sentences, which are commonly referred to as titles in the world of video. Beside the **Text** button are options for justifying your text (left, center, or right). These justifications are similar to those you encounter in word processing.





Figure 14.5. Top: Text tool button. Bottom: Right-aligned text coming from the I-beam cursor

When you choose a justification option and begin typing, the text justifies around the origin of the cursor. Left justifies the first letter of every line of text as though the cursor is a left margin. Right justifies the first letter of every line as a right margin. The center option centers every line of text around the position of the cursor.

To create text

- 1 Choose the **Text** button.
- 2 Choose the alignment for your text.
- 3 Click once on the I-beam and type the text from your keyboard.

The text appears in the display, following the I-beam cursor.

Text and the Keyboard

Note that when you create CG titles, a line of text remains one object. When you hit the ENTER key to move to a new line, that new line is a separate object. Any text—whether it is a single letter, a single word, or an entire line—will be a separate object once you hit the ENTER key. However, the alignment you choose applies to the objects as a single entity.

You can use the END and HOME keys on your keypad to navigate to the beginning and end of text lines. The arrow keys on the keypad let you move one character or one line at a time. The DELETE key lets you delete lines or characters.

Importing Text

You can import text from word processing software, such as Microsoft Word, and use it for scrolls or crawls. Choose File > Open and the CG will load the text.

BOXES IN CG

The **Box** button lets you create squares and rectangles. You can create boxes as outlines, or as solids. They can serve as layering elements for your titles, or as decorative elements on their own.



Figure 14.6. Top: Box tool button. Bottom: An outline box and a solid box.

To create a box

- 1 Click on the **Box** button.
- 2 Choose the icon for outline or solid.
- 3 Place your mouse cursor in the display where you want the element to begin.
- 4 Drag your mouse out to the size that you want. The Character Generator creates your shape in real-time.

To adjust a box after you create it

- 1 After you create the box, click in the work area. Then hold the **SHIFT** key. You see anchor points appear at the corners of the box.
- 2 Still holding the **SHIFT** key, place your mouse cursor in an anchor point.
- 3 Drag in any direction to change your shape.

POLYGONS AND SPLINES IN CG

With the **Polygon** option, you can create a polygon outline, a polygon solid, or you can build an open path.



Figure 14.7. Top: Polygon tool button. Bottom: An outline polygon and a solid polygon.

To use the Polygon tool

- 1 Click on the **Polygon** button and choose one of the polygon variations.
- 2 Click in the display wherever you want the shape to begin.
- 3 Click around the display to build your shape.
- 4 When you make the shape you want, double-click to end the polygon.

To adjust a Polygon after you create it

- 1 After you create the shape, click in the work area. Press and hold the **SHIFT** key. You see anchor points appear at the corners of the polygon.
- 2 Still holding the **SHIFT** key, place your mouse cursor in an anchor point.
- 3 Drag in any direction to change your shape.

The **Spline** option works like the **Polygon** option, except you create curved objects.

LINES IN CG

The **Line** element has no variations. To modify attributes for the line element (and the text and shape elements as well), you must go to the Edit panel, discussed later in the chapter. You often see lines used as decorative or emphatic elements with titles.

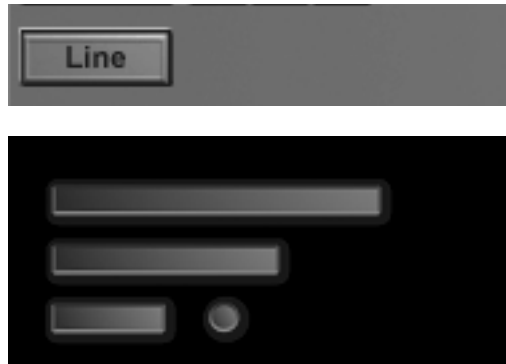


Figure 14.8. Top: Line tool button. Bottom: Lines and a dot.

To create a line

- 1 Choose the **Line** button.
- 2 Click in the display where you want the line to begin.
- 3 Drag out the line to your desired length.

You can make vertical, horizontal, or diagonal lines. You can also adjust the line after you create it by clicking in the work area, then holding the **SHIFT** key and dragging on the anchor point. If you click once with the **Line** tool, you create a dot.

CIRCLES, PIES, AND ARCS IN CG

The **Circle** button lets you create circles and ovals, and it lets you make partial circles and slices. You can build these elements as outlines, or as solids.



Figure 14.9. Top: Circle tool button. Bottom: A solid circle and an outline circle.



To create a circle

- 1 Click on the **Circle** button.
- 2 Choose the icon for outline or solid.
- 3 Place your mouse cursor in the display where you want the element to begin.
- 4 Drag your mouse out to the size that you want. The Character Generator creates your shape in real-time.

To adjust a circle after you create it

- 1 After you create the box, click in the work area. Press and hold the SHIFT key. You see anchor points appear at the curves of the circle.
- 2 Still holding the SHIFT key, place your mouse cursor in an anchor point.
- 3 Drag in any direction to change your shape.

To create a partial circle

- 1 Click on the **Circle** button.
- 2 Choose the icon for a partial circle.
 - The first icon  cuts from the radius of the circle.
 - The second icon  cuts from the perimeter of the circle.
- 3 Place your mouse cursor in the display where you want the element to begin.
- 4 Drag your mouse out to the size that you want. The Character Generator creates your shape in real-time.
- 5 A vector line appears after you drag out the shape.
 - Drag clockwise to cut away from a full circle.
 - Drag counterclockwise to build a partial circle.

You can adjust the arc on the Arc/Line tab, described later in the chapter.

IMAGES IN CG

The **Image** button lets you load a frame, or still image, into the CG as a bitmap. Any logo or other graphic element can easily be incorporated into your CG pages as a bitmap with a transparent matte. (If you want to place video in the background of your CG work area, you use the TVision button, discussed earlier.)



Figure 14.10. Top: Image tool button. Bottom: An image loaded in the CG.

To load an image

- 1 Click on the **Image** button; this launches the File Bin.
- 2 From the File Bin, browse to the directory that contains your image file and click the **Open** button. The image is loaded in the CG work area.

You can load images that are stored in the following formats: bmp, gif, jpg, png, tga, and tif.

If you created the image with an alpha channel, the CG maintains your alpha information. If you want to make a solid background transparent, you can do this by using the Chroma Keyer or Cross Keyer (discussed in the Chapter 16: Keying), but it may be easier to change the background in the paint program in which you first created it.

The image is an independent element, so you can select it with your mouse and move it around the CG work area. Because it is an element that you can select, you can **Cut**, **Copy**, and **Paste** an image. From the Transform region, you can rotate and scale an image as well. (Though you should be careful because scaling affects the detail and quality of an image.)

To remove the image from the work area, select its bounding box and choose the **Delete** button at the top of the panel.

TRANSFORMING CG ELEMENTS

Once you've created a CG element, you may need to move it or scale it a little. You choose the **Modify** button to make any of these changes.

MOVE, SCALE, AND ROTATE WITH MODIFY

With the **Modify** button active, you can move, scale and rotate your CG objects. The default actions when you click on the **Modify** button are move or scale.



Figure 14.11. Transform buttons and text sample

To move an item

- 1 Click on the **Modify** button and select the object you want to adjust. A bounding box appears around the item.
- 2 Place the mouse cursor on the item, not on the edges of the bounding box. Drag the item with your mouse in the direction that you want to move.

To scale an item

- 1 Click on the **Modify** button and select the object. A bounding box with handles appears around the item.
- 2 Place the mouse cursor at the edge or corner of the bounding box.
- 3 Drag the edge or corner to the size that you want.



Figure 14.12. The scale option used on the left top corner of text

Pulling a corner scales the item up, and pushing a corner scales it down. If you drag an item only from the top or bottom, you scale the item vertically. If you drag an item from only the left or right side, you scale horizontally. You can also make a mirror image of an object by scaling past the opposite side.

To rotate an item

- 1 Click on the **Modify** button and select your object. A bounding box with handles appears around the item.
- 2 Hold the **SHIFT** key, grab a corner of the item and rotate by dragging in the direction that you want to rotate. (The arrows will change from up/down arrows to curved arrows.)

An item rotates around its center, regardless of where you grab it. If you select more than one object, you rotate all objects around the center of the last one selected.

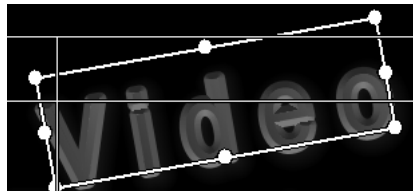


Figure 14.13. Rotate text



NOTE

When Lock is activated (on the Text tab), the CG restricts the mouse to the safe area when you modify objects.

ITALICS FOR CG TEXT

The **Italic** option lets you apply a slant to text.

To adjust italics

- Click on the **Italics** button. Grab the text's bounding box by a corner and drag in the direction that you want to apply the slant.



Figure 14.15. Italics on text

BORDERS AND SHADOWS IN CG

The **Border** and **Shadow** options apply an outline or a drop-shadow to your text or object, respectively. These properties can be controlled precisely on the edit tabs at the bottom of the panel, which will be discussed later in the chapter.

To adjust the border

- Click on the object then drag out the border's thickness. (More attributes are discussed later.)

To adjust the Shadow

- Click on the object then drag out the shadow's position. (More attributes are discussed later.)

As stated earlier, you can use editing shortcuts when you **Modify**. Also notice that you can grab all objects by clicking your mouse in an empty area of the display and dragging out a bounding box around the items. Then you can apply global changes, like Rotate, to the entire group. To unselect an item, or your group, click in an empty area of the display again.

MOTION FOR CG

Scrolling text is often used for credits at the end of a program, while crawling text is often used for alerts and similar attention-grabbers. When your text scrolls, you see the words move vertically from the top of the screen to the bottom (or vice versa), and when your text crawls, the words move horizontally across screen.

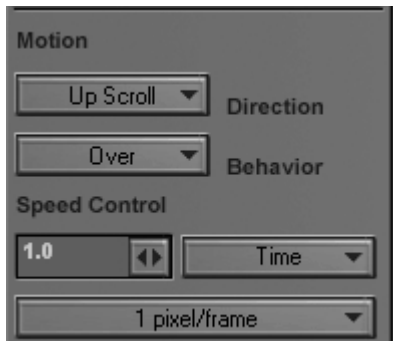
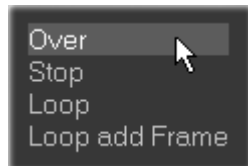


Figure 14.16. The Motion options

In the Video Toaster [2] CG, you create your text and then assign a moving page by choosing either scroll or crawl. When you click on either button, you see a preview of the scrolling or crawling action. You can stop the preview by clicking the button again.

DIRECTION**Figure 14.17.** The Behavior menu

- **Up Scroll** moves text vertically up the page.
- **Down Scroll** moves text vertically down the page.
- **Left Crawl** moves text horizontally across the page from left to right.
- **Right Crawl** moves text horizontally across the page from right to left.

BEHAVIOR**Figure 14.18.** The Behavior menu

- The **Over** option tells the CG to scroll or crawl the page once, then stop when the page has left the screen.
- The **Stop** option tells the CG to scroll or crawl the page once and then to hold on the last line of text.
- The **Loop** option tells the CG to loop the page continuously.
- The **Loop add Frame** option tells the CG to loop the page continuously and to place a blank frame between each loop iteration.

**NOTE**

When **Lock** is activated (on the Text tab), the CG locks the editing window so that active video does not scroll or crawl as you type text.

**HINT**

Type “End” or another indicator at the end of your scroll so that you can verify when the scroll leaves the screen. You can make the “End” text invisible by activating the **Do Not Render** option in the Text tab.

SPEED CONTROL FOR CG

Beneath the motion options, you have speed controls for your moving pages. The drop menu gives you ten default speeds to choose, from 1 pixel/frame up to 50 pixel/frame. These speeds are variations of slow, medium, and fast.

To precisely control your page speed, use the Time/Speed drop-menu. Choose the **Time** option to define speed in seconds. Use the **Speed** option to define speed in frames. You enter a value from your keyboard into the field adjacent to the menu, or you can use the mini-slider to scrub to a speed.

OUTPUT FOR CG

The buttons below the speed controls give you options for sending your CG creations as output. You can wait for a **Cue**, which is a signal from the Switcher, you can **Go** to the Switcher's Main bus, or you can send the CG straight to **Program Out** and bypass the Switcher altogether.



Figure 14.19. Options for sending CG to output

CUEING CG FOR THE SWITCHER

Cue sends the CG to the Switcher, where it turns on the DSK and activates Program Out. Cue also sets the CG in an available Switcher channel. However, the CG will not do anything until you hit **Go**.

Go

Go launches or pauses your CG motion on the Switcher—it is the button you select when you want CG action to start and end immediately. When you complete your CG text or graphics, you can click on **Go** and by default, the CG action runs in the DSK. If you want CG to run from a channel in the Switcher, you must activate the Main bus for that channel.

PROGRAM OUT

Program Out is the button that you select when you want to bypass the Switcher and send the CG directly to output. Again, you make your adjustments, then, click on **Program Out**. You see the CG appear on any output monitors that you have attached, and if you are recording, the CG is sent to the recording device.

PAGES AND LAYOUT IN CG

Layout gives you a diagram view of how your elements are positioned and the Pages are thumbnails of your available CG pages. Alright, so mucking about with diagrams and pages is dull work, but it's necessary. You need a good foundation to support your inventive ideas.

LAYOUT TAB

By moving elements in the diagram, you change their layering on the CG screen. For example, you may have a bunch of lines of text (which you remember are separate elements, of course) and you want to reorder them. Rather than messing with selecting them in the work area, you can move your elements in this diagram view.

Think of this diagram as layers in a paint program. If you choose the bottom row of text and move it to the top, then you place the text in the background. The last item in your list on the Layout tab is the foremost item in terms of layering.

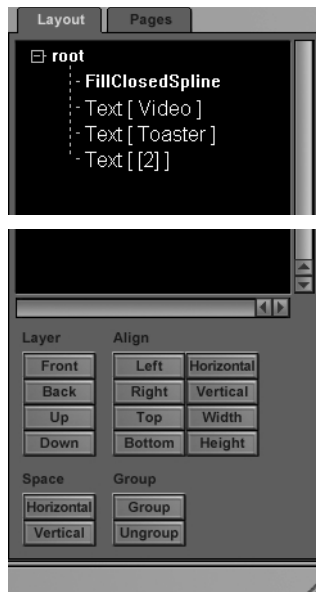


Figure 14.20. The Layout tab with the schematic view of CG objects.

CG Layout Diagram

The diagram shows the name and type of object (e.g., text, box, etc.). You select the object name and it is highlighted in blue. When you move the object, a line appears at your new insertion point. The layout diagram helps you select an object, especially if you have a lot of overlapping objects, and move it to the depth you want.

Layout Layers

Layer options give you control over the depth of your objects in relation to each other.

- The **Front** button places the selected object in the *foreground* of the screen, so that it covers all other items. For example, if you used text in a box, you'd place the text on the front layer so it sat over the box.
- The **Back** button places the selected object in the *background* of all objects in the CG work area.
- The **Up** and **Down** buttons move objects one level front or back. For example if you had a four shapes, and you wanted to move the third in front of the second, you choose **Up**.

Layout Alignment and Spacing

The Align buttons let you align a group together when you choose multiple objects; all objects will align based on the position of the last selected object.



NOTE

Do not confuse alignment with justification. Alignment positions objects with a selected object, not with the margins of the page or the safe area.

- **Left** and **Right** align your objects with the left or right edge of the last selected item.
- The **Top** and **Bottom** buttons align your objects with the top or bottom edge of the last selected item.
- The **Horizontal** and **Vertical** options center the objects to the center of the last selected item's anchor on the X axis or the Y axis, respectively.
- The **Width** and **Height** options apply only to text—they let you set the text spacing along the X axis or the Y axis of a previously selected area.

Space buttons let you adjust the amount of space placed horizontally or vertically between each entry.

- Use **Horizontal** space for objects that crawl across the screen
- Use **Vertical** space for items that scroll up or down the screen.

Groups in Layout

The **Group** option lets you group CG elements so that you can adjust them together. With this option on you can define a group, and change the color, size, or position, and so on, globally for every item in the group. You would group items if you need to make identical changes to all of the items, such as moving or scaling.

PAGES TAB

A screen full of text is referred to as a page. Whether a page is completely filled with text, contains only one person's name at the bottom, scrolls, or remains static, it is considered a complete page.

CG Pages

A series of pages is often displayed in sequence, one after another, at the beginning of a program. For example, the first page shows the title of the program; the next page may include the sponsor's logo; and the following pages may give the names of the show's hosts. Each of these individually displayed graphic elements is considered a page.

If the page contains text that scrolls up the screen or across the bottom of the screen, it is still a single element, a single page. The page is the method employed to display video graphics—whether those graphics are static or moving. Therefore, if you have to create one graphic for a title, another for a station ID, and another of scrolling credits, you would create each of the items on a different page. You would have three separate pages of graphic elements.

The **Pages** tab is the area where you add, delete, and clone your pages. When you choose this tab, you see a thumbnail view of the pages you have created or loaded.

I 4.20 VIDEO TOASTER [2]

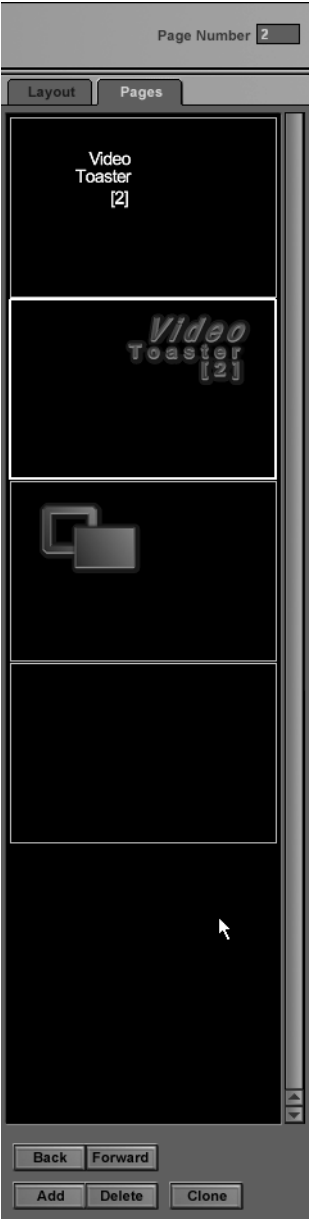


Figure 14.21. The Pages tab with thumbnails of CG pages.

Add, Delete, and Clone CG Pages

You add pages by clicking in the open work area, or by clicking the **Add** button. You delete pages by selecting a page and choosing **Delete**. You clone, or copy, a page by selecting a page and choosing **Clone**. You can also cycle through your pages by using the **Back** and **Forward** buttons.

Navigate and Save CG Pages

When you work on a page in CG and you want to switch to a different page, you click the **Pages** tab. Then you select the page that you want to work on. Use the **Back** and **Forward** buttons to navigate through your pages. Above the Pages tab, you see a **Page Number** field that tells you which page you have selected. Enter a number in the **Page Number** field to jump to a specific page. The CG work area immediately displays the page you choose.

Remember that when you choose **Save Project**, you save all of the pages in the CG project. You can, of course, save a separate page by itself by choosing **Save Current page** from the **File** menu.

CG PROPERTIES

In this tour of the CG panel, you may have noticed that you've created elements that are always white. By now you probably want to add some style to your titles and graphics and change the color and attributes. The options for beautifying your CG elements reside in the properties tabs at the bottom of the panel.

CG supports TrueType fonts and you can apply effects like borders, shadowing, variable transparency, and gradients on text and shapes. You can also adjust your text graphically with real-time sizing, kerning, and rotation.

PREVIEWS OF CG STYLES

The preview area to the left of the properties tabs lets you see your changes in real-time.

TEXT PROPERTIES

You can change the font for your text and you can change the text's many attributes, like size, spacing, and rotation. When you work on selected text, you see your changes in real-time in the CG work area and the preview area. If you haven't created any text, you see your changes in the preview area and the next string of text that you enter will use your new attributes.

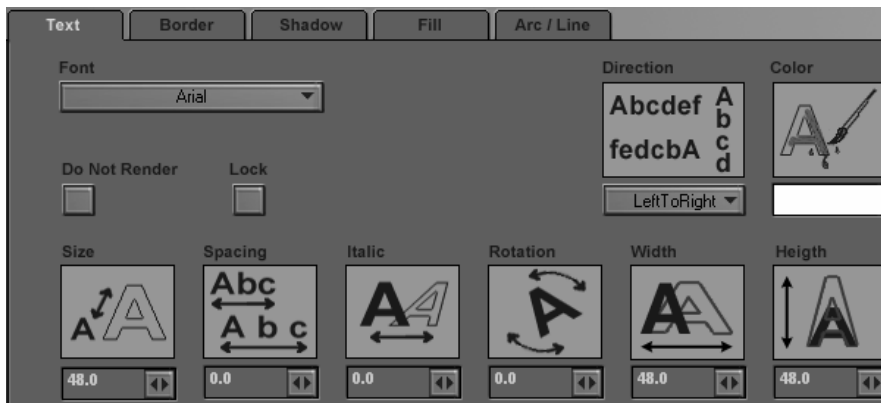


Figure 14.22. The Text tab with options for changing the appearance of CG text

Text Direction

Direction places characters in a certain order, so that you can set text to read it in the following ways:

- horizontally from **Left to Right** (English and European);
- horizontally from **Right to Left** (Arabic or Hebrew);
- vertically **Up to Down** (Japanese, Korean, or Chinese);
- **Do not render** makes an object invisible at output.

Font and Size of Text

Change the **Font** by choosing a font name from the drop menu. To change font size, you enter a point size in the **Size** field, or you can use the mini-slider to adjust the size. When you enter a size in the **Size** field, you constrain the text proportions, so you change both the horizontal and vertical size. The **Spacing** field lets you adjust the amount of space between the letters in your words.

Italics and Rotation of Text

You can create faux italics by entering a skew value in the **Italics** field. Watch the font preview to see the degree of slant you apply. Rotating text is just a matter of entering or dragging a value in the **Rotation** field.

Width and Height of Text

The **Width** and **Height** fields let you stretch your text along the X or Y axis. Enter a number in the **X** field to stretch text horizontally; enter a number in the **Y** field to stretch vertically. Remember that you can graphically adjust any of the preceding settings, from **Size** to **Height**, in the main interface by using the **Modify** button.

Text Color

Change the color of the text you entered by clicking on the button below the **Color** icon. This launches a Color Picker panel where you can choose a color; the text updates immediately. Other **Fill** settings override any Color settings.

Lock

The **Lock** option will lock the editing window to a single page so that the active video does not scroll or crawl as you type text. When the **Lock** is activated, the CG also restricts the mouse to the safe area when you modify objects.

BORDER PROPERTIES

The **Border** refers to inner and outer borders that surround your text.

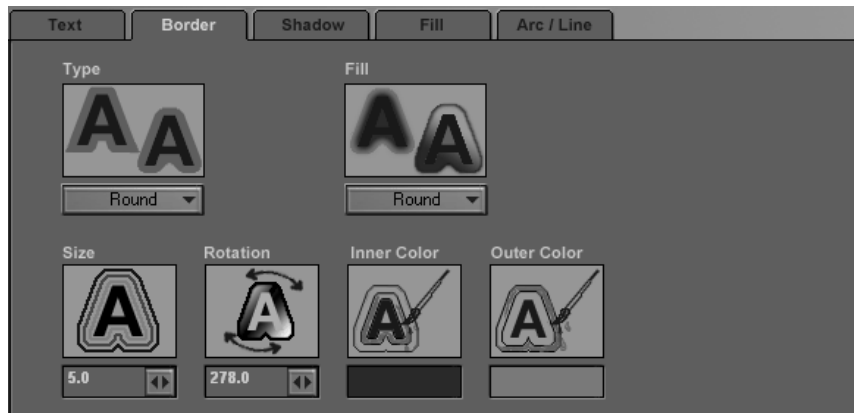


Figure 14.23. The Border tab with options for changing the appearance of CG borders

Border Type

The **Type** option lets you define the kind of edges to apply to the border.

- **Off** completely removes the Border effect from your text, so you can have text with no border or outline at all.
- **Round** gives you rounded edges.

- **Miter** gives you square edges.
- **Bevel** shears the corners from your letters by 45 degrees.
- **Size** increases or decreases the edge around your text—that is, you make the edge thicker with a high value or thinner with a low value.

Border Fill

The **Fill** setting gives you gradient options if you choose different colors for **Inner Color** and **Outer Color**.

- **Round** makes a linear gradient, like a color wheel.
- **Ling** makes a radial gradient, like a bull's eye.

Rotation lets you enter a value to rotate the angle of the **Round** fill. So, if you use a **Round** Fill and you set **Rotation** to 90, you get a gradient that moves from the **Inner Color** at the bottom to the **Outer Color** at the top.

SHADOW PROPERTIES

The **Shadow** tab provides several choices for shadow effects.

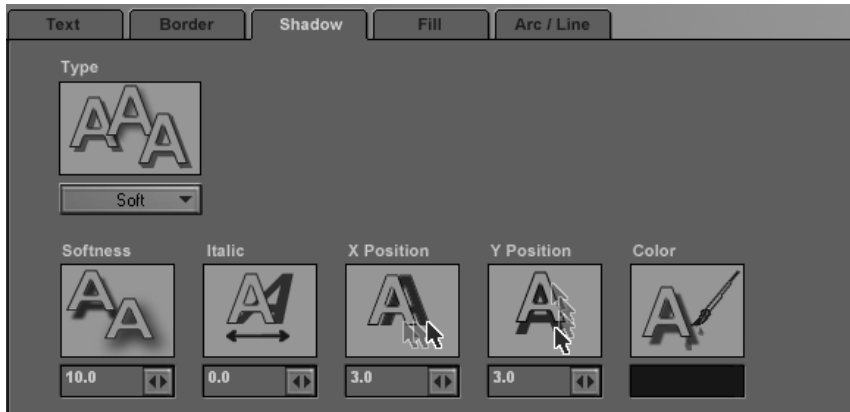


Figure 14.24. The Shadow tab with options for changing the shadows on CG objects

Shadow Type

The **Type** option lets you define the kind of shadow:

- **Off** sets no shadow. If you don't want to apply a shadow to your text or object, choose **Off**.
- **Drop** applies a hard drop shadow behind your text, which is a duplicate of the text offset from the original.

- **Soft** is similar to Drop except the shadow color is blended with the background and the edges are blurred.
- **Cast** creates a hard shadow that originates from the base of the original text, like a shadow cast on an object by the sun.

Softness lets you apply a blur amount to a **Soft** shadow for a softer edge. Use higher values to get softer shadows with more blur. **Italic** gives you independent italics for the shadow, which is separate from the object's italics.

Shadow Offset

You can adjust the offset of the shadow by using **X** and **Y Position**. These fields let you enter a numerical value to move the shadow. The **X Position** moves the shadow horizontally and the **Y Position** moves the shadow vertically.

You can also adjust the shadow offset graphically in the CG interface. From the Transform region, click on **Shadow**. The CG sets a bounding box around the Shadow element, and you can grab it and move it around.

FILL PROPERTIES

The **Fill** tab offers a choice of gradients and textures that you can apply to your text or object.

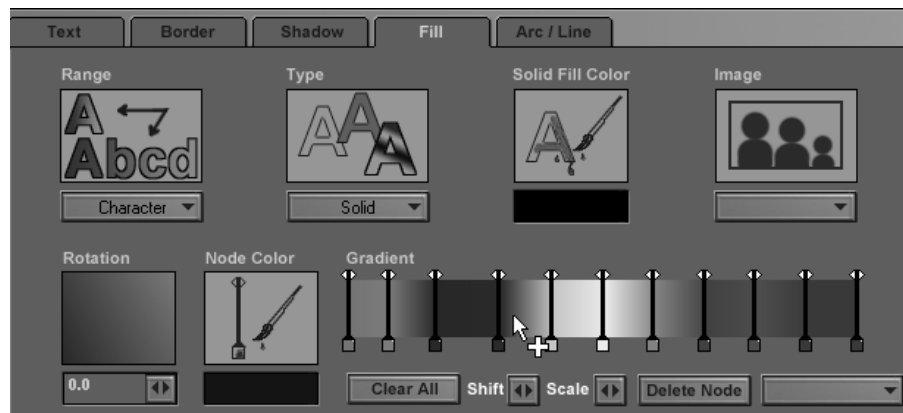


Figure 14.25. The Fill tab with options for changing the fill in CG objects

Fill Range

The **Range** field specifies how you want the fill applied to the text:

- **Character** applies the fill separately to each character in your text
- **String** applies the fill across the entire word or sentence as a unit.

Fill Type

When you choose a **Type**, you see a preview in the **Gradient** display at the bottom of the panel. You can choose the following types of Fills:

- **Solid** is one solid color.
- **Rainbow** is the entire spectrum as a linear gradient.
- **FourCorner** is a gradient with different colors in each corner that blend toward the center.
- **Round** is a gradient that radiates around the center in a clockwise direction, like a color wheel.
- **Ling** is a gradient that radiates from the center to the perimeter in a series of concentric circles, like a bull's eye.
- **Texture** uses a loaded image as a fill.

Fill and Gradient

You can tweak the **Fill** gradient to suit your needs or create a new one. The different Node buttons below the preview refer to the nodes within the gradient. The controls available let you **Delete**, **Scale**, **Shift** and **Clear All** nodes.

When you **Clear All**, the gradient returns to the default Rainbow. The **Shift** option shifts selected nodes together to the left or right. **Scale** compresses or expands selected nodes.

The default mode for the node is Add, so if you click around in the preview without selecting a control, you will add nodes. When you click in the preview, you add a node, and the Color Picker panel pops up for you to choose the color that you want to insert. You can change the color of an existing node by clicking on the swatch in the base of the node. This action launches the Color Picker where you choose the new color.

The **Rotation** setting lets you change the angle of the **FourCorner** gradient. You can see where the new value falls in the preview to the left.

The **Solid Fill Color** option lets you change the color applied with the solid fill.

Beside the Delete Node button there is a button with an arrow, which is the Gradients menu. You can choose gradient presets from this menu. Add your own gradients to this menu by choosing the **Add** option at the top of the menu. The CG creates a thumbnail version of your gradient and places it in the list.

Texture and Images as Fill

Use the **Texture** option in the **Fill** drop-menu when you want to load an image as the **Fill**. Click on the **Image** button to load an image from your hard drive or a disk.

The image file must be stored in one of these formats: bmp, png, tga, tif, gif, or jpg. When you load an image, a thumbnail preview appears in the display window at the left of the Edit panel. You can rotate and size your image in that thumbnail image. You can use **Range** to apply the image separately to each character (**Character**) or to apply the whole image across the string of text (**String**).

ARC/LINE PROPERTIES

The **Arc/Line** tab provides several choices for adjusting the structure of objects that you create with the geometric tools: Box, Polygon, Line, Spline, and Circle.

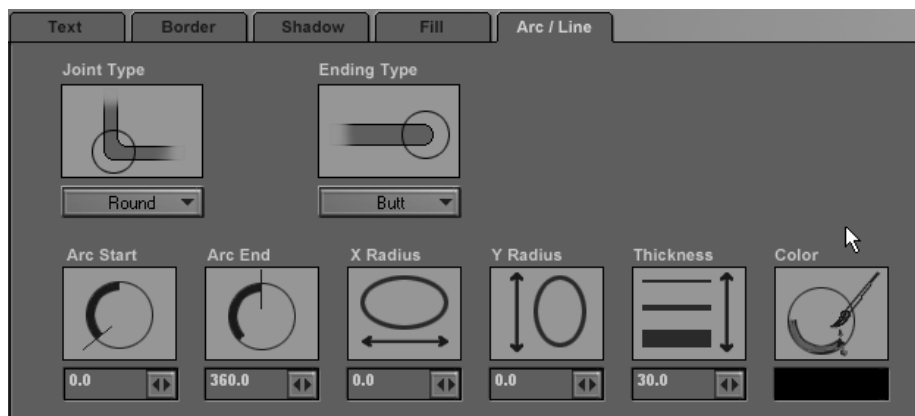


Figure 14.26. The Arc/Line tab with options for adjusting lines and circles

Joint Type

Joint Type applies only to the borders of Boxes, Polygons and Lines:

- **Round** gives you rounded joints.
- **Miter** gives you square joints.
- **Bevel** shears the corners of the joints at 45 degrees.
- **Size** increases or decreases the edge of the object—you make the edge thicker with a high value or thinner with a low value.

Ending Type

Ending Type creates the style for the ends of your lines and splines:

- **Butt** gives you square ends.
- **Round** gives you rounded ends.
- **Projecting** gives you sharp ends.

Arc Start and End

Arc Start and **Arc End** let you adjust arcs and circles by entering numeric values. **Arc Start** is the angle where you want the Arc to Start and **Arc End** is where you want it to end. The value you enter must be between 0 and 360 degrees.

For example if you wanted to enter a precise value for a half-circle, you create your circle or half-circle first and then you enter the value 0 in Arc Start and 180 in Arc end.

Circle Width and Height

The **Width** and **Height** fields let you adjust the area of the arc and circle elements, so that you can make them into oval shapes.

Line and Border Thickness

The **Thickness** setting applies to all geometric objects. Increase the value of this setting to make a line or spline thicker, or to give the borders of unfilled objects thicker lines.

CG PLAYER

The CG Player gives you an alternative and smaller CG interface where you can load and play CG files, and change a few options. You load files by clicking on the **File** button and choosing **Load** or **Add Files**. You can save changes to the files by choosing **Save Project** or Save **Current Page**.

Remember that when you save a CG file, you save all pages in the project. So when you load a CG file into the CG Player, you load, and therefore play all pages in the file.

Sending CG to the Switcher from the CG Player uses some of the same buttons as the CG. You are limited to **Cue** and **Go**. You can place the CG Player on the Preview bus and use **Cue** to add the signal to the Switcher, then hit the **Go** button to play immediately.

You can jump to any page by typing the page number in the text box at the bottom-right of the panel.

The options on the CG Player are limited to **Direction**, **Behavior**, and **Speed**. So you can choose whether your file scrolls up or down, crawls left or right, and how fast these actions happen. These three options are also saved with your CG pages. To affect any other aspect of the CG, such as its overall appearance, you must work in the main Character Generator. You can find more information about Direction, Behavior, and Speed earlier in this chapter.

TASK: CHARACTER GENERATOR

Developed by Billy Pecora

CREATE A TITLE PAGE

The Title Page is a CG page that presents the title of your program or introduces different sections of your program.

Use a loaded image

In this tutorial you will add a still image and place three lines of text over it. Each line of text has its own style.

- 1 Start a new project by choosing **File > New**. This starts a new session without saving anything you were working on.
- 2 Click the **Image** button and load the CG_2PALMSINSHILOUETTE.JPG from the CONTENT\VTIMAGES directory.



NOTE

Usually, you size your image in a paint application before you load it into CG. You can size an image within the CG, but the CG is more efficient if it doesn't have to resize the image every time the page is loaded. Larger pictures will take more CPU time to move and edit.

- 3 Drag the image to the inside of the safe area: set it to fill the left side of the screen.



- 4 Add some text; click on the **Text** button and select the center alignment option.



I 4.32 VIDEO TOASTER [2]

- 5 Click on the I-beam cursor and drag it to the top right half of the Safe Area. Drag the cursor until the top aligns with the top of the trees and it is centered in the safe area.

Type 'NewTek' and hit ENTER;

Type 'Video Toaster' and hit ENTER;

Finally type '[2]' and hit ENTER.



- 6 Group the text together so you can move the entire group as a unit. Go to the Layout Tab and select all lines: click on the first line of text, hold the SHIFT key, and click on the last line of text. Then click on the **Group** button at the bottom of the Layout tab.



I 4.34 VIDEO TOASTER [2]

- 7 Select the first line of text in the Layout Tab, then click on the **Modify** button. Though you grouped the text, you can still select individual objects. CTRL-click to select the Video Toaster line also.

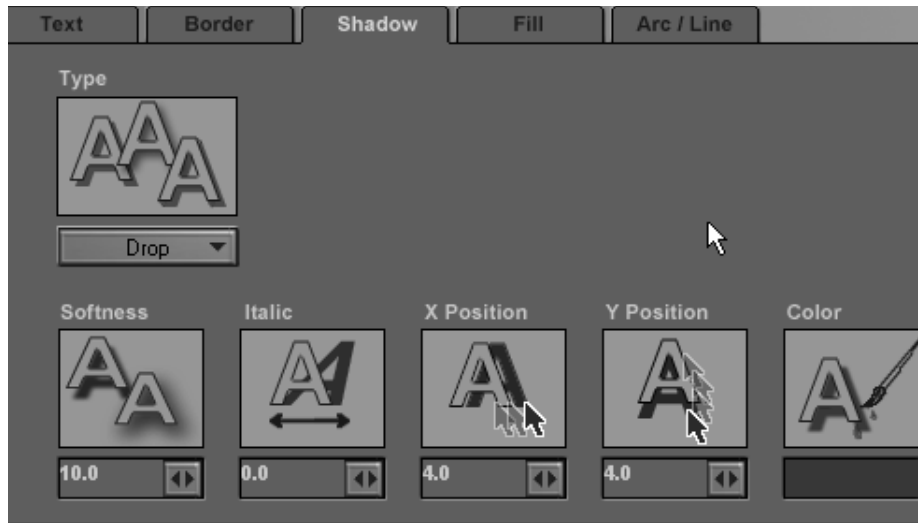


- 8 Choose a style from the Styles bin: click on the white text with blue border. The text automatically updates in the work area. On the **Text** tab, set the **Size** to 60.



- 9 Adjust the Style a bit. On the **Border** tab, reduce **Size** to 3.

On the **Shadow** tab choose **Drop**, set both **X** and **Y Position** to 4. For **Color**, choose a dark gray.



- 10 Add this alteration to the Styles bin for future use. Click on the **Add** button below the Styles.
- 11 Select the last line '[2]' and choose the style with black text and the small white to light blue border. Set the **Size** to 96 in the **Text** tab.

I 4.36 VIDEO TOASTER [2]

- 12** Center everything with the **Align** function on the Layout tab. Select the text lines—choose the 'VideoToaster' line last. VideoToaster's bounding box should be the brightest, so the Align function is based on this line of text. Click on the **Horizontal** button and all text centers with the 'VideoToaster' line.



- 13** Select only the [2] and use the down arrow key to nudge it down until it no longer overlaps the line above it.
- 14** Select the group by clicking on the word **Group** in the Layout tab. Then click the Modify button and move the group into the upper right quad of the screen.
- 15** Now is a good time to save your masterpiece. **File > Save.**

CREATE A LOWER THIRD

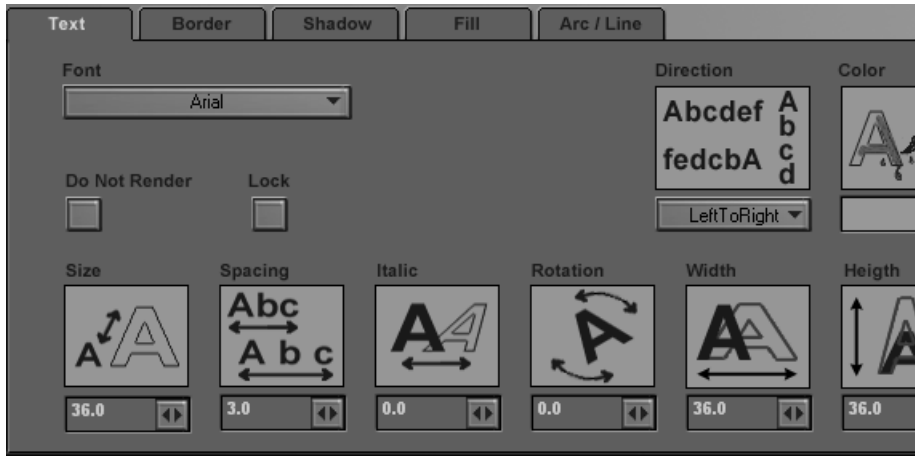
The Lower Third usually places the name of a person or location at the bottom of the screen. This is also where most crawls occur when the National Weather Bureau issues a severe weather advisory.

- 1 Create a new Page by clicking under the current page in the **Page** tab.
- 2 Create two lines of Text: “Video Toaster [2]” and “www.newtek.com.” Left-justify the text and set the size to 48, if it isn’t already.



I 4.38 VIDEO TOASTER [2]

- 3 Choose **Modify** and apply the blue fill with yellow border to “Video Toaster [2].” Then apply the plain text style to “www.newtek.com.” and change the **Color** to a pastel purple, change **Size** to 36, and change **Spacing** to 3.0.



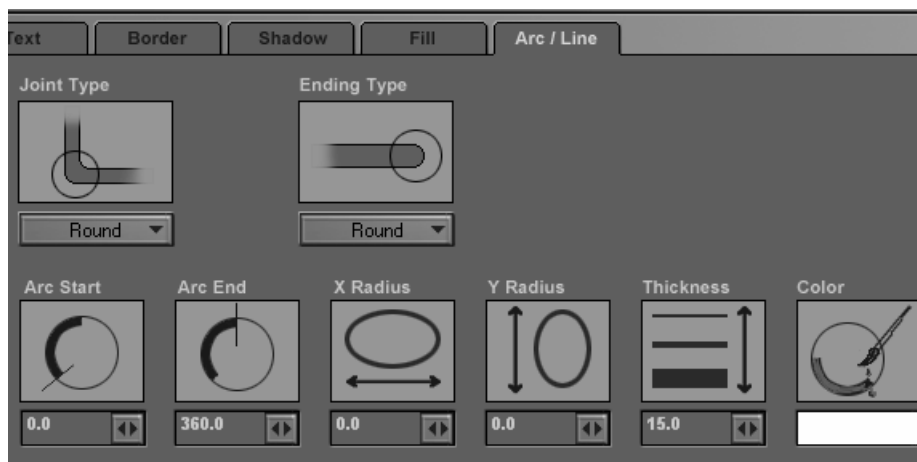
- 4 Move the “www.newtek.com” and “Video Toaster [2]” to the bottom of the safe area so that the “www.newtek.com” rests on the bottom edge. Leave a bit of space between it and “Video Toaster [2].” Move “Video Toaster [2]” to the left edge of the safe area.



- 5 Create a background bar for “Video Toaster [2].” Select the **Line** tool and draw a line under “Video Toaster [2]” that stretches from the left edge of the safe area to the vertical divider.



- 6 Click on **Modify** and apply the plain text style from the Styles bin.
- 7 Under the **Arc Line** tab, set the line's **Thickness** to 15 and its **Ending Type** to **Round**.



- 8 In the **Fill** tab, set the type to FourCorner and delete all but the first three nodes and the last node in the gradient window.

- 9 You will change the colors of the gradient. Select the middle-right node to launch a Color Picker: click on a nice burnt orange or orange brown. The node updates with the new color. Click on the right node, and find a nice orange; do the same for the first node. Click on the last node to apply the same orange. You should now have a gradient that changes from orange to a darker browner orange then back to orange. Choose the middle nodes again and set the Alpha to 123 so the brown becomes semi-transparent as the bar travels from orange through brown.
- 10 Back in the **Fill** tab, set the **Rotation** to -220.



- 11 Scale the line by pulling the right edge until it goes past “[2].” Then on the **Layer** tab, choose **Back** to put the line behind the text.

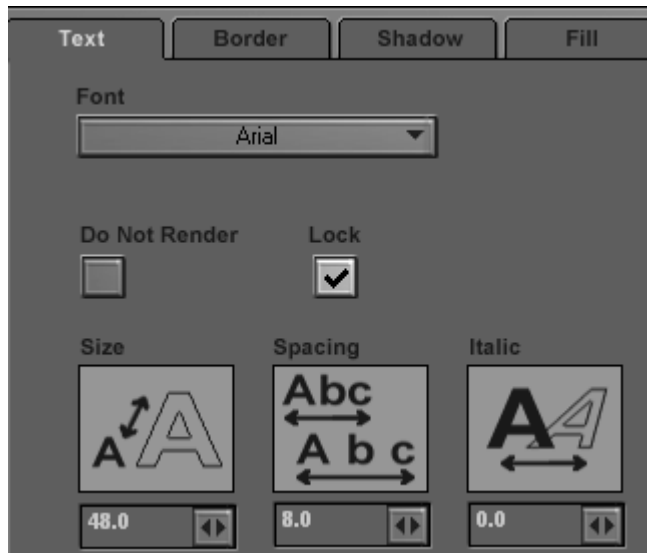


- 12 Save it! I think I hear a black out coming!

CRAWLING THE LOWER THIRD ON SCREEN

Use the motion settings to move ‘www.newtek.com’ across the screen.

- 1 Continue from the previous task.
- 2 Select “Video Toaster [2]” and the gradient bar. Under the **Text** tab, activate **Lock** to keep the selected items stationary.



I 4.42 VIDEO TOASTER [2]

- 3 Set the motion **Direction** to **Left Crawl** and set the motion **Behavior** to **Stop**. The text will enter the screen from the right and stops when it gets into position.



- 4 Click the **GO** button to test the motion.
- 5 Adjust the speed controls to make the Text enter quickly.
- 6 Save your creation.

CREATE A SCROLL

Scrolls are used most often to roll the credits at the end of a program.

- 1 Create a new Page by clicking under the current page in the Page tab.
- 2 Select the plain style from the Styles Bin.
- 3 Select the **Text** tool and set the alignment to Right Justify.

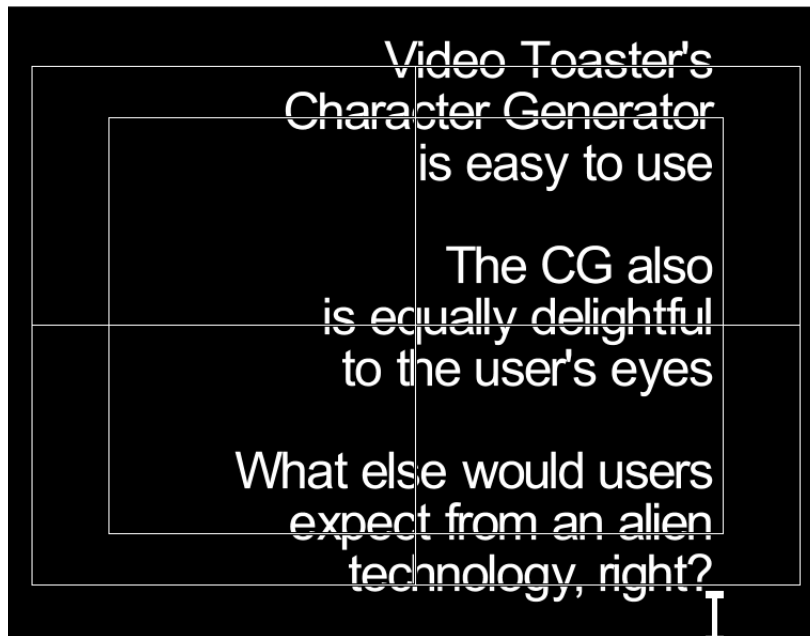


- 4 Position the I-beam cursor on the right edge of the safe area and type in text. The edit window will automatically scroll down as you type.

Video Toaster's
Character Generator
is easy to use

The CG also
is equally delightful
to the user's eyes.

What else would users
expect from an alien
technology, right?



- 5 Group the lines together on the Layout tab.
- 6 In the Layout tab, select all text, then click on the longest line to make it the anchor. Click on **Left** under the Align group. Click on the **Group** in the hierarchy window to grab the lines as one unit. Choose **Modify** and move the group to the center line.

I 4.44 VIDEO TOASTER [2]

- 7 Let's say your client now wants the text centered in the middle of the page. No problem, you can edit the text very much like editing in a word processor. Choose the **Text** tool and click on the first line of text.
- Use the **END** and **HOME** keys on your keypad to navigate to the beginning and end of a line.
 - Use the arrow keys on the keypad to move one character or one line at a time.
 - Use the **DELETE** key, you guessed it, to delete.

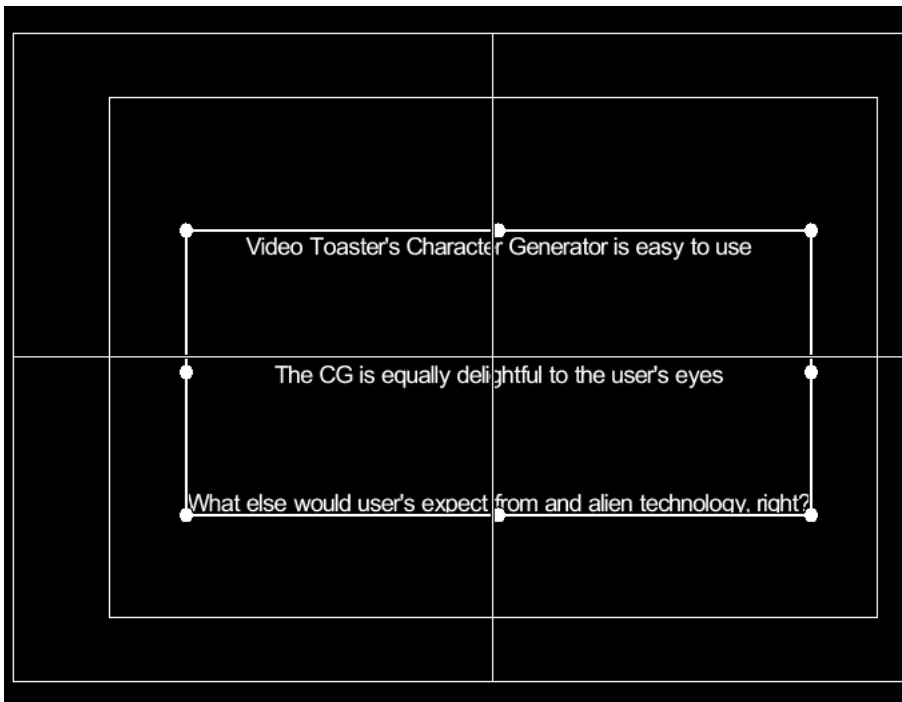
Let's remove the **ENTER** and make our text lines longer. Make your text look like the text below:

Video Toaster's Character Generator is easy to use

The CG also is equally delightful to the user's eyes.

What else would users expect from an alien technology, right?

- 8 After you edit the text, select all lines and use the **Horizontal** Align on the **Layout** tab to center them. Then on the **Text** tab, change **Size** to 18.
- 9 Back on the **Layout** tab, choose **Group** and then in the Transform area at the left of the panel, choose **Modify**. Position the group in the center of the screen.



- 9 Set the motion for your text: for **Direction** choose **Up Scroll**, and for **Behavior** select **Stop**. Set **Time** to 15.



- 10 Test the motion by clicking the **Go** button.
- 11 Now you can use the scroll with the Switcher: Press **Cue** to make the scroll available and click **Go** when you are ready.

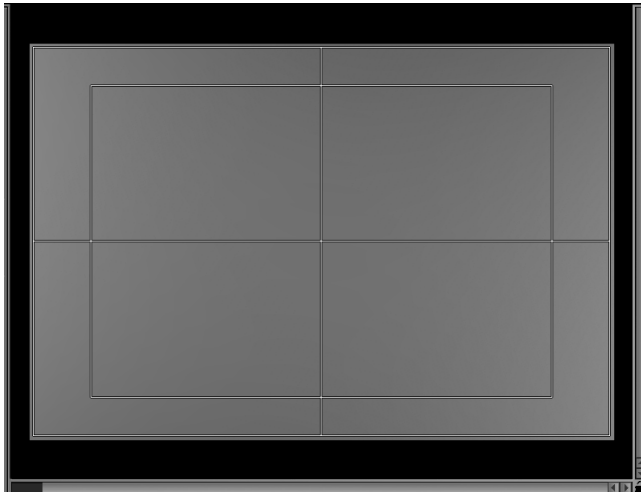
CREATE A PAGE BUILD

Page builds are often used for corporate presentations; a session of bullet points are seemingly added to each page. You accomplish this effect by creating a series of CG pages that add bullets to each consecutive page.

- I Create the first page. You will make a gradient fill box in the background and a title bar in the upper right hand corner of the safe area.
Cover the safe area with a filled box and use the following **Fill** properties:

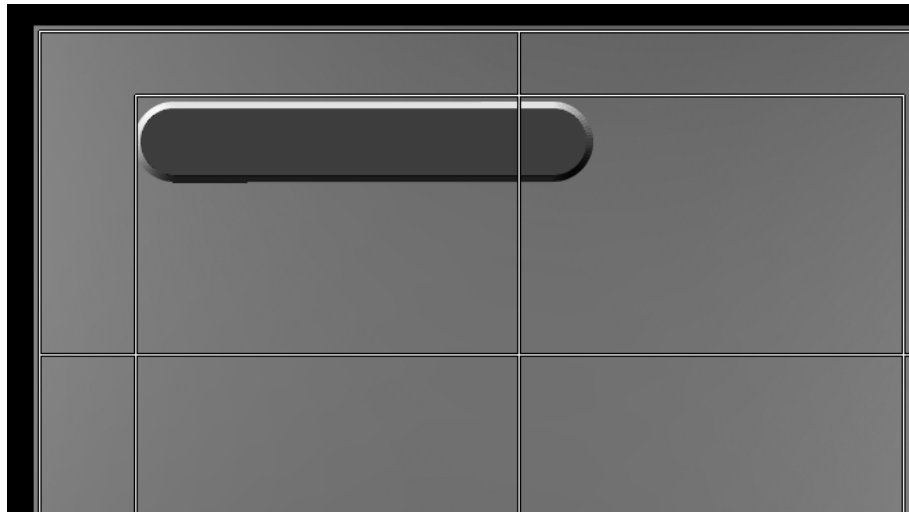
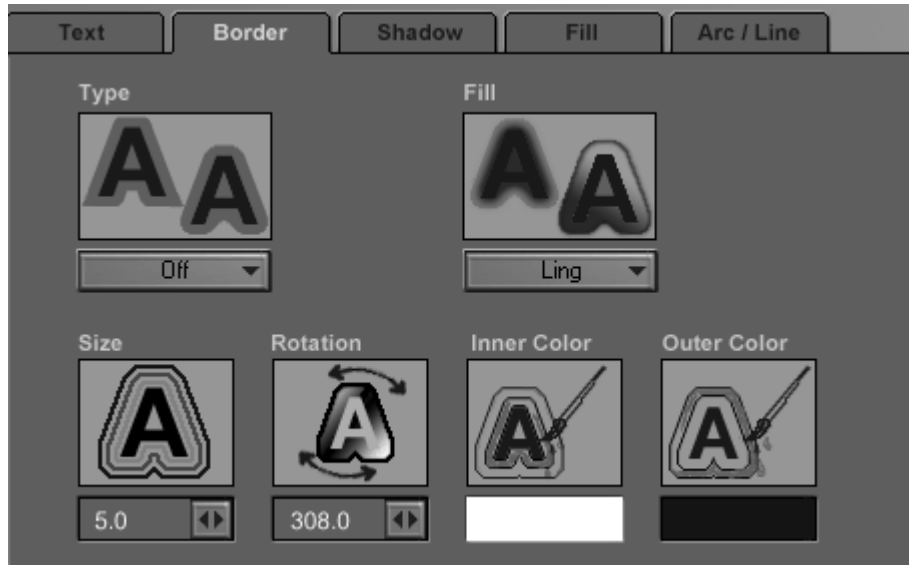
I 4.46 VIDEO TOASTER [2]

Type: FourCorner; **Rotation:** -145; Color the first four nodes: light purple, dark blue, light purple, and green. You should get a nice teal to lavender background. You may need to delete extra nodes and use the Shift option to move others.



- 2 Next, add the title bar. Draw a line that fills the top left quad of the safe area. Choose **Modify** and give your line the following properties:

Ending Type: Round; **Thickness:** 50, **Color:** medium blue; **Fill Type:** Solid;
Shadow: Off; **Border Type:** Round; **Fill Type:** Round; **Border Size:** 5;
Border Rotation: 308; **Inner Color:** white; and **Outer Color** = dark blue.



- 3 Select the **Text** button and add the title text. Choose a font and type "VT [2] Points." Select **Modify** and size the text to fit in the title bar. Give the text the following properties:

Font color: White; **Border Type:** Round; **Border fill:** Ling; **Border size:** 3; **Inner Color:** black; **Outer Color:** medium gray; no shadow.

- 4 With **Modify** still active, center the text over the title bar.



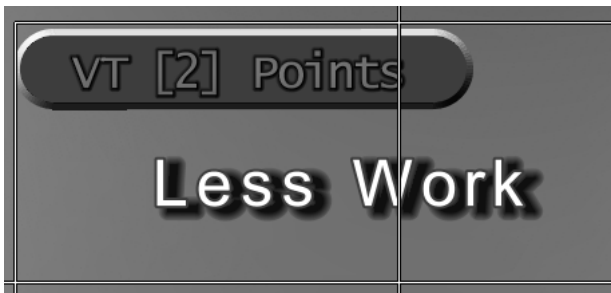
These elements create the back plate for your page.



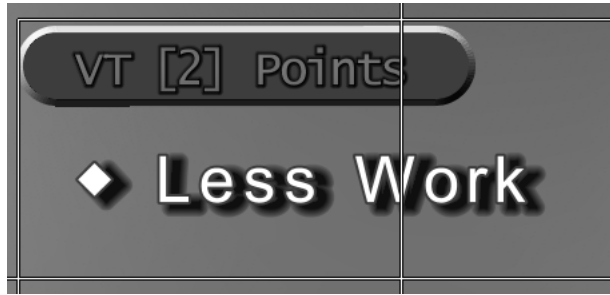
NOTE

If you have more bullet points than will physically fit on one page, clone the first page before you add the first bullet point and use the clone for additional points.

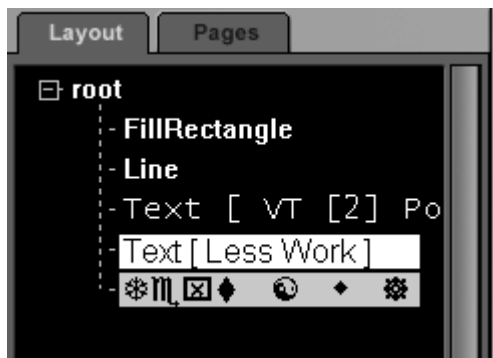
- 5 Select the **Text** button and type "Less Work," for your first bullet point. Left-justify this text to the vertical center line. Choose **Modify** and size up the text a bit to take up more space on the screen. Choose the style with white text, red border and blue shadow. Change the Shadow **Softness** to 5.0.



- 6 Something is missing . . . ah, yes, the BULLET. Choose the **Text** tool and click in front of “Less Work.” On the **Text** tab, choose the Wingdings font and hit the W key to get a diamond bullet.



- 7 Align the bullet by selecting both the bullet and the text line in the Layout tab. Click on **Vertical** under Align and the bullet should move to the vertical center of the text.



- 8 Now that you have the first bullet point, you should clone this page to create the next. Under the Page tab, click on the **Clone** button to duplicate the current page, then click on the newly cloned page to select it.

I 4.50 VIDEO TOASTER [2]

- 9 Choose the **Text** button again, click on “Less Work,” press the END key to jump to the end of the text. Press ENTER to start a new line. Type “More MONEY” for your second bullet.
- 10 Select the bullet on the first line. Click **Copy** and then click **Paste**. The new bullet is created over the old one. Your original bullet is still selected, so move it down to the second line.
- 11 As you did before, select the line of text beside the bullet and choose **Vertical** align. Then select ONLY the two bullets—the top bullet should brightest—and choose **Horizontal** align.
- 12 Repeat steps 8 and 11 to make bullet points for "More Toys" and "More FUN."



- I3** After you create your four bullet point pages, you can use them in a project.
- a. With the Switcher: Choose CG on the DSK. You can then fade up the first page and when you click on each page in the CG, the pages are displayed on output. Each new bullet point will snap on screen when you click on the page.
 - b. To transition between these pages with the Switcher, save each page separately. Add the saved pages to two DDRs or to two CG Players, alternating their order. Then you can transition between the two DDRs or CG Players to add effects.
 - c. With ToasterEdit: save each page out individually, add it to your project and use effects to transition to each additional page.

