LiveText™

OPERATOR'S MANUAL

NewTek

www.newtek.com

Revised – May 04, 2016

VERSION 2.81

.

TABLE OF CONTENTS

1 INTRODUCTION

Installed on a 'satellite' workstation (or laptop), LiveText greatly extends the live production environment, providing a new level of creativity, confidence, and professionalism!

Users of compatible live production systems are the primary beneficiaries. LiveText multiplies creative opportunities and brings new depth to production capabilities.

The LiveText system operator directly controls titling options for full pages, lower thirds, scrolls and crawls 'on the fly' -- without intruding into the live broadcast controlled by the live production system operator. LiveText output can be previewed for director approval, or immediately displayed 'on air. '

LiveText offloads the creative and logistical burdens of titling *during* a live production to a dedicated operator. The director is free to concentrate on the video production (with improved title accuracy as a side benefit.) LiveText 2 also provides integrated DataLink™ support (allowing direct realtime links to many popular third-part sports game clock systems), as well as great new LiveTime™ clock/timer features. In addition, LiveText allows export of various title pages file types for direct use in various NewTek live production systems.

1.1.1 MANUAL ORGANIZATION

While powerful, LiveText is quite intuitive. If you have some basic familiarity with graphics applications, much of it will come naturally. Or, if you're familiar with the similar titling capabilities as a result of experience with other NewTek products, you'll feel right at home.

Chapter 2 (Getting Started) will help you install LiveText and connect to your live production network. Next, in Chapter 3 (Titling Tools) you'll explore LiveText's title page creation and management tools. Chapter 4 covers DataLink™ and LiveTime™, and Chapter 5 explains how to use LiveText titles in your live production environment (as well as other applications.) Appendices providing information on keyboard shortcuts and networking are followed by a keyword index.

2 GETTING STARTED

This chapter will help you install, register and establish a network connection between LiveText™ and your (compatible) live production system.

We will review recommended system specifications, installation and registration, networking procedures and connection troubleshooting.

2.1 SYSTEM REQUIREMENTS

LiveText requires (as a minimum):

- A CPU which supports the SSE2 instruction set (typically an Intel® Core2® or better)
- A graphics display card (PCI-E recommended) with Microsoft® DirectX® 9™ (or better) compatibility
- A monitor capable of displaying a minimum resolution of 1280x800 pixels
- 2GB RAM (4GB or more preferred)
- Gigabit network recommended for network transmission to supported live systems

2.2 INSTALLING LIVETEXT™

Open a file window to locate and run the installer application by double-clicking its icon.

On launch, the installer presents various dialogs to ask you to accept the end user license agreement, confirm or modify various defaults (such as the program installation path) , and so on as it proceed..

After installation the Registration dialog is presented, providing an opportunity to register your copy of LiveText and obtain the permanent unlock code required to operate it beyond the 14 day grace period.

2.2.1 STEP 1

Read the **End User License Agreement**, and click to accept (or decline) before proceeding.

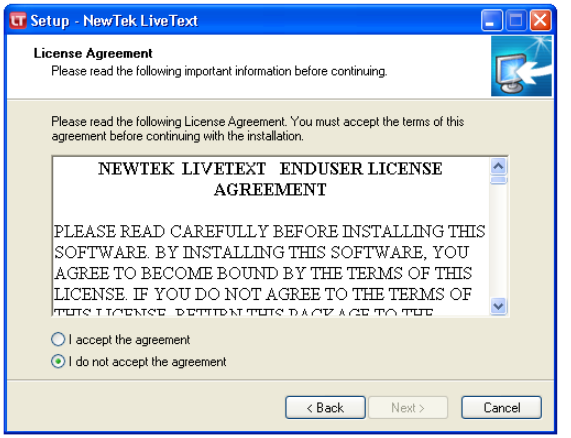


Figure 1

2.2.2 STEP 2

Click Next to accept the default installation location, or using the Browse button to modify the path where you wish LiveText's program files to be installed on your system.

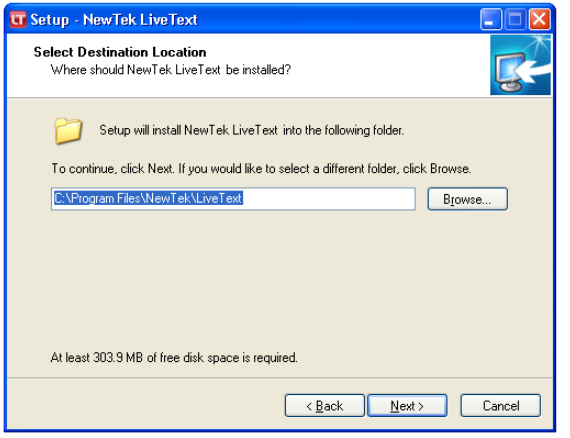


Figure 2

2.2.3 STEP 3

If you wish to have a convenient Desktop or Quick Launch icon to launch LiveText, click the appropriate switches and click Next.

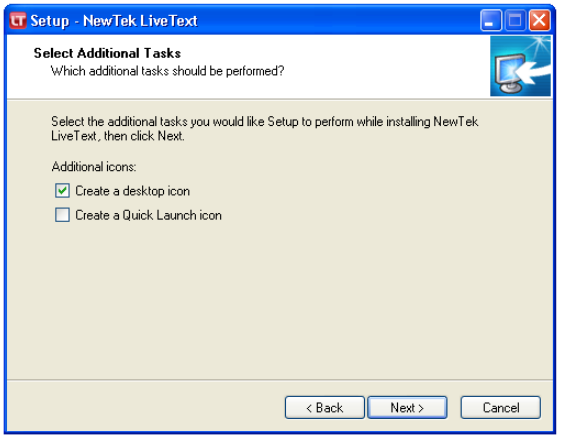


Figure 3

2.2.4 STEP 4

Review your previous selection, and then press **Install**.

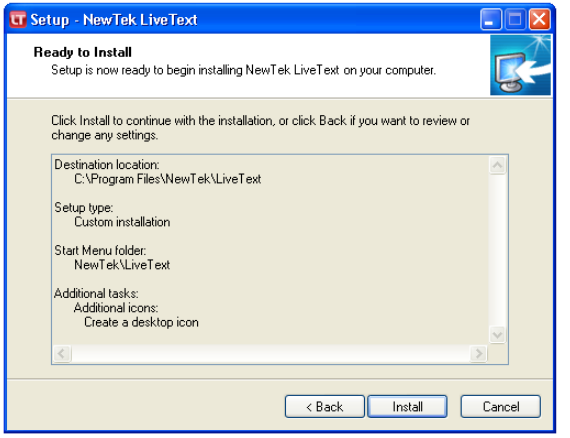


Figure 4

2.2.5 STEP 5

With Launch **NewTek LiveText** check-marked, click **Finish** to proceed to the Registration pane.

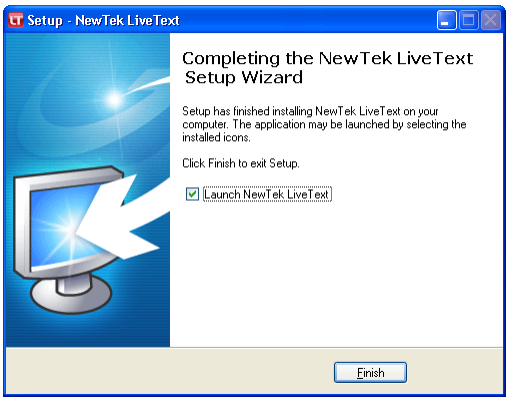


Figure 5

2.2.6 STEP 6

If your LiveText system is connected to Internet, you can click the “Click here” button to perform your LiveText registration online.

Otherwise, note the Product ID shown in this panel and visit the registration web page as shown to register your software and receive your unlock code.

At this point, you can begin to work with LiveText!

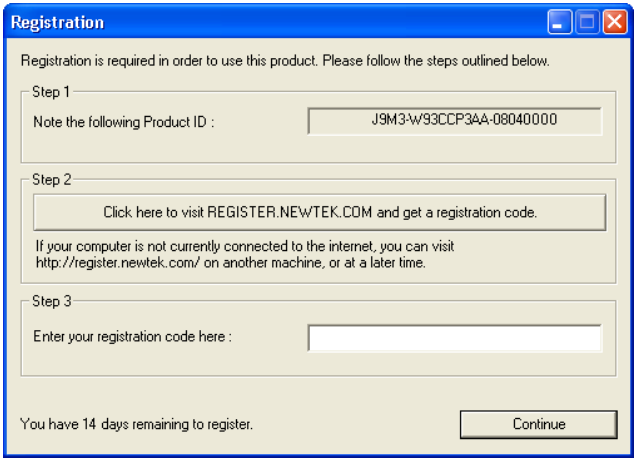


Figure 6

2.3 MAKING THE CONNECTION

LiveText is designed to play an important role as an integral component in a live production suite. In this configuration, the LiveText workstation is connected to the live switching across a network.

A peer-to-peer network connection can be established between the two units using a crossover cable. Often though, the LiveText workstation will be a client on a larger LAN (local area network), which network also includes the live production system. (In this configuration, displays from *additional* networked systems may also be available to the live production system as video sources via NewTek's iVGA utility.)

Naturally, the existence of the network connection is critical if you wish to use LiveText in a 'direct-to-air' application. A 'hard-wired' Ethernet connection is preferred – and 'the faster the better' (Gigabit networking is strongly recommended, especially for more demanding use such as long animated scrolls or crawls. For HD sessions, it should be considered mandatory.)

Note that the LiveText host and networked live production system must be on the same local subnet. Also, if your LiveText host is protected by a firewall, you will need to either disable the firewall, or configure it to allow LiveText access to the network.

> *Network throughput can be quite variable in some environments (such as a corporate or tradeshow network.) To the extent you can ensure non-essential network traffic does not interfere with LiveText operation during live production, you will enjoy more peace of mind.*

In most cases, at this point your network connection is correctly established and you are 'good to go.' (If you should happen to run into a connection issue, see Appendix C – Networking Notes for information on diagnosing network problems).

Otherwise, you can skip right to the next chapter – Titling Tools.

> ***Performance Note**: Realtime playback depends on several factors. For example, previewing a scroll in the edit window could cause another scroll playing Live to skip on some systems. To be safe, it's always wise to test prior to important live events.*

2.4 A SIMPLE EXAMPLE

Let's try creating a simple title page:

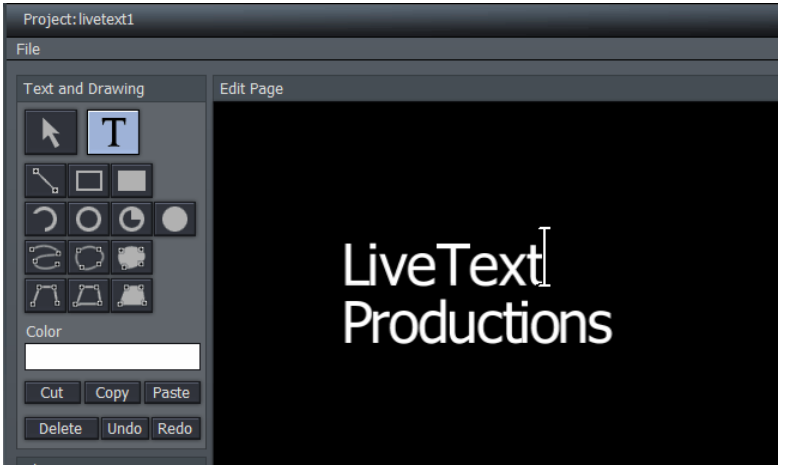


Figure 7

1. Click the **T in Text and Drawing**, then click in the **Canvas** to set the insertion point

2. Type "LiveText", press Enter, then type "Productions"

Figure 8

3. Click the **Arrow** (Select) button, and drag out a box (marquee) to surround both lines of text on the **Canvas**, selecting them (Figure 8).

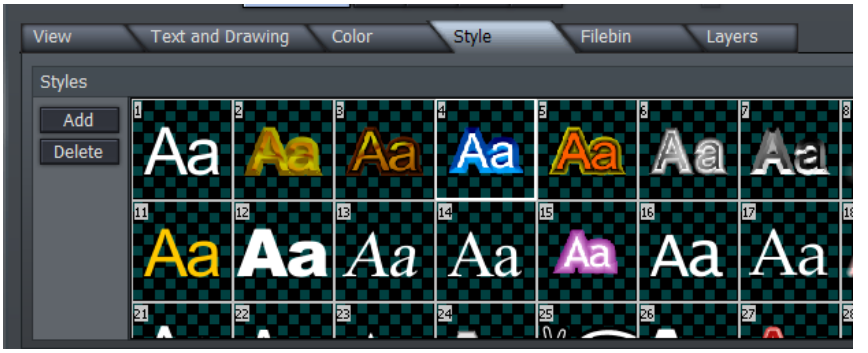


Figure 9

4. Click the **Style** tab (below the **Canvas**), and then click thumbnail number 4 in the Styles bin area. This will immediately add color and beveling to the (selected) text you entered previously.

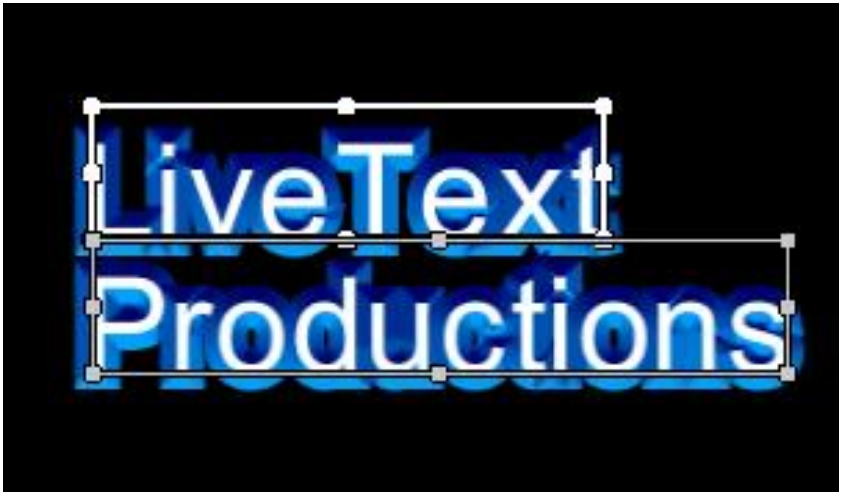


Figure 10

5. Click the **View** tab, and turn on **Safe Area**, to help compose your page

Figure 11

6. Next, click both the **Vertical** and **Horizontal Center** buttons in the **Alignment** section of the **Tool Panel**, centering the text on the **Canvas**.

Figure 12

7. With both lines of text still selected, click **Group** (in the Alignment section) to link them together

8. Then drag a corner point of the grouped text to make it larger (use your judgment, using the Safe Area overlay as a guide – the inner rectangle denotes the traditional 'text safe' margin.)

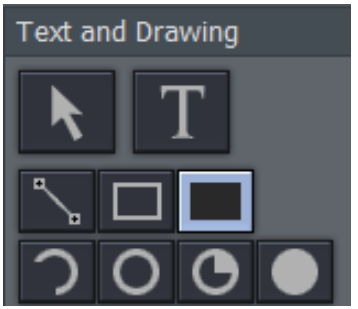


Figure 13

9. Click the **Filled Rectangle** button in **Text and Drawing**

10. Click thumbnail number 6 in the **Styles** tab, and drag out a rectangle in the Canvas that completely covers your text.

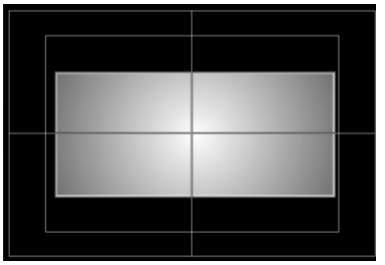


Figure 14

11. Select the rectangle (using the **Arrow** tool), and click **Send Backward** in the Alignment section

Figure 15

Figure 16

Go on to adjust **Tracking, Leading** in the tabbed **Text and Drawing** controls beneath the Canvas, and finish up by adding a **Shadow** to your text.

2.5 USING PAGE TEMPLATES

A large number of gorgeous and very useful Page Templates are included with LiveText, to speed you on your way. You can easily modify these to suit your own production designs.

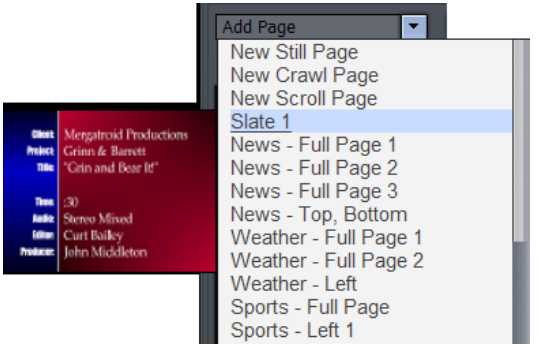


Figure 17

1. Select **Add Page** from the drop-down menu in the **Pages** panel at right (Figure 17).

2. As you slide your mouse down the list, notice that a thumbnail fly-out keeps pace showing a preview for each template.

3. Select Slate 1, loading that template into the Canvas for modifications

Figure 18

4. Click the **T** button (Text) in the **Text and Drawing** control panel at upper-left, and slide you mouse around over the text fields in the **Canvas**

5. Notice that a black outline surrounds each text line in turn. Select the text inside one of these outlines, and change it to suit your need.

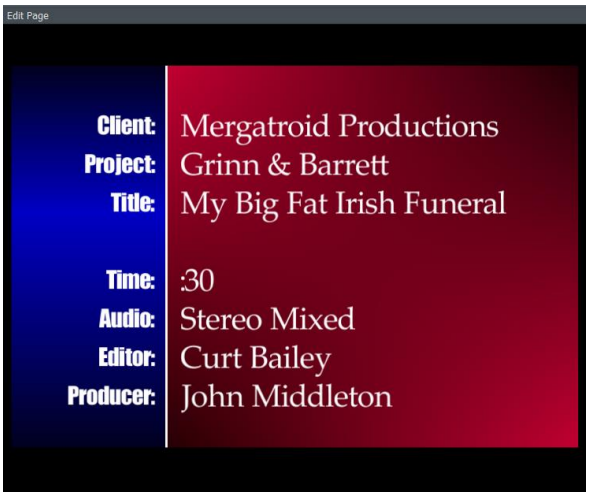


Figure 19

Congratulations, with LiveText you're a CG artist. Could it be *any* easier? ☺

3 TITLING TOOLS

Designing and managing great looking still and animated text and graphics for your productions is easy with LiveText. It's deep professional character generation tools will provide a clean, professional looking result you'll be proud to broadcast!

3.1 LIVETEXT OVERVIEW

The main panel is dominated by the large cental **Canvas**, which provides an interactive display of the current project page.

The column at left is a **Tool Panel** for creating and editing visual elements, including text. LiveText's **File** menu is above this column.

The **Motion Panel is** located just below the Canvas. It permits you to create animated scrolls or crawls.

Right beneath the Motion Panel is the tabbed **Control Panel**, which gives you control over attributes of text and graphic objects.

Figure 20

Finally, a column on right of the Canvas provides multi-page management (the **Pages** panel) of your project, file **Load**, **Save** and **Export** functions, and at the top – the all important **Live Preview** pane.

3.2 OUTPUT ASPECT (4:3 OR 16:9?)

You may be wondering whether you need to consider the image aspect of your LiveText projects.

LiveText 2.0 projects are effectively aspect independent. The LiveText **Canvas** where you prepare your title pages is *always* 16:9. When connected to a compatible live broadcast system over a network, the current LiveText output aspect is updated as required (from 4:3 to 16:9 or vice versa) to conform to the aspect of the live production system connected. The current network output format is shown at upper-right in LiveText's titlebar.

When exporting title pages as bitmap (image) files for external use, you choose the resolution and image aspect from the export dialog. When you opt for a 4:3 export only the corresponding center region of 16:9 title pages is exported. (The **Safe Area** overlay has 4:3 page edge and text safe lines to make this easy to visualize.)

3.3 PROJECT PAGE MANAGEMENT

LiveText projects consist of one or more *pages*. If you want one main introductory title, another title for a station ID, an animated list of scrolling credits for the end, and so on – each of these is created as a separate page within the whole project.

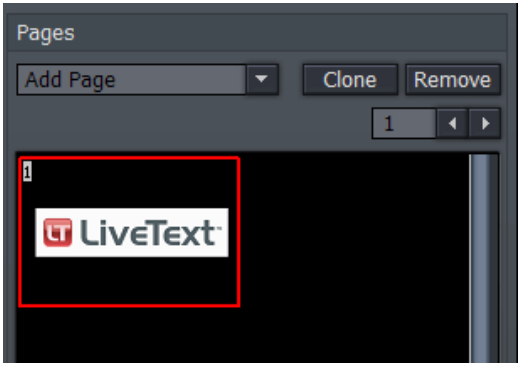


Figure 21

Completed pages may be exported (using **Export Current Page** or **Export All Pages** in the **File** menu) for use in other programs supporting (including VT[5] and SpeedEDIT) as image (.PNG) or animation (.avi) files, or as Title Pages (.cgxml) compatible with current NewTek live production systems.

Entire projects can also be saved and re-loaded later, allowing you to work with one design for one production while a completely different look for another is only a few clicks away.

Note: Project and page files (.cg files) created with earlier versions of LiveText came in 4:3 and 16:9 formats. If you load one of these older files into LiveText 2.0, you will be asked whether you wish to load it as 4:3 (centered on the page), or as 16:9 (filling the screen).

3.3.1 THE PAGES PANEL

The **Pages** panel at the right of the **Canvas** displays a thumbnail image of each page in the current project, and provides page management tools. A new project will show one (empty) page. When a project has multiple pages, the thumbnail for the one currently selected for editing in the Canvas is surrounded by a white border.

*A (red border) indicates the page currently assigned as LiveText's **Live** output (if any).*

Jump to a specific page in your project by entering the page number in the **Page** field. Or you can cycle up or down through the pages by clicking on the neighboring arrow buttons. Click a page thumbnail in the **Pages** panel to edit it (displaying it in the **Canvas**,) or double-click it to send it out **Live**.

CLONE AND REMOVE

Clicking the **Clone** button copies the currently highlighted page, inserting the copy below that page.

Hint: Clone permits you to quickly and easily ensure pages conform to a particular graphic theme or format – just Clone an adequate number for you needs, then modify them individually.

Clicking **Remove** deletes the currently selected page from the project (careful, there is no Undo for this action.)

ADD PAGE

You click the small arrow button beside **Add** P**age** to insert another page into your project. New pages are added under the current page (and of course, they are not sent out as Live until you want them to be).

The drop-down menu reveals a number of types of pages you can add. The uppermost choices represent new blank pages of various types.

> *Hint: You can also quickly add blank pages simply by clicking repeatedly in an empty black area of the thumbnail column – each click adds one empty page.*

This drop-down menu is home to a long list of professionally designed templates, ready and waiting for your modifications. As you scroll over the entries, a fly out thumbnail representation appears to make choosing something just right for your needs easy.

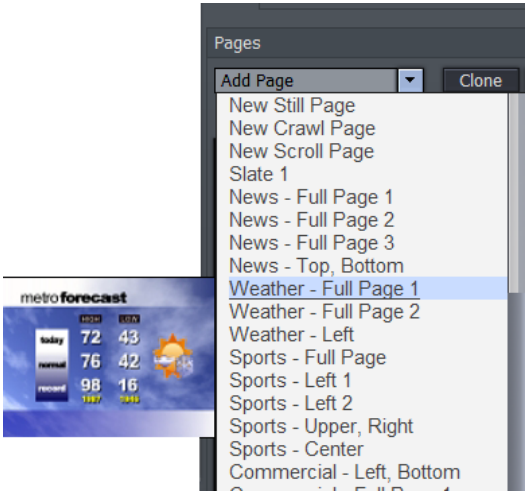


Figure 22

> *Hint: Another selection in the **Add Pages** menu permits you to "**Add Page to Templates List**." This lets you store the currently highlighted pages as LiveText templates, for quick access and consistent styling using templates of your own design.*

3.4 FILE MENU

The **File menu** is in the upper-left corner of the LiveText desktop, and contains project and page file management tools. These functions are considered in Chapter 5, Live Production and File Management.

3.5 THE TOOL PANEL

The Tool Panel situated left of the Canvas provides the basic tools to create the text and graphic elements of your title page compositions, establish their relationships to one another if any, and set their primary attributes.

3.5.1 TEXT AND DRAWING

T (Text)

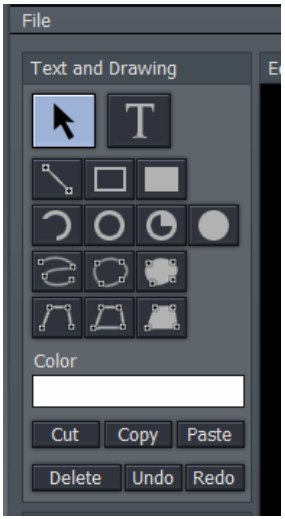


Figure 23

Click on the T (Text) button to activate the text function. Before you enter text, this button must be highlighted. Click in the Canvas and an I-beam icon starts blinking. This is your Canvas cursor. When you type, the I-beam is the insert point for the text. You can move the I-beam anywhere on the Canvas by clicking it with your mouse and dragging it around or just clicking your mouse on another spot in the Canvas.

To edit the characters of any existing text, click your cursor anywhere on the line of text, and drag your mouse to select letters or whole words (selected character will be highlighted.)

> *Hint: Use the **End** and **Home** keys on your keyboard to navigate to the beginning and end of text lines. If you mistyped, you can use the **Backspace** key to erase or the keyboard **arrow** keys to go back or forth on the line or up and down between lines.*

Arrow (Selection)

Clicking on the **Arrow** button activates the Selection tool (and switches off the Text tool). This selects the whole line, not just parts of it. If you have just typed something in, clicking the Arrow will create a box around what you typed. Select the line by clicking anywhere on it.

When you roll your mouse over the box, the cursor changes form. When it becomes a two-headed arrow, you can click to grab an edge of the box and drag it in or out to resize the text. When the cursor sprouts four arrowheads, you can click and grab the whole box to move it

around the Canvas. Hold down the **Shift** key over a corner of a selected object and a curved arrow cursor indicates you may now drag to rotate it.

GRAPHIC SHAPE TOOLS

The area immediately below the Arrow and T(Text) buttons is home to a number of tools used to create shapes. Each shape is initially a separate graphic object.

The tools are very easy to use, and just as easy to edit at any time after their creation, whether simply to adjust their position, or to add or modify much more elaborate treatments.

Figure 24

For the most part, shapes are easily created by clicking one of the buttons, and dragging the cursor in the Canvas. The shape responds interactively to your movements, and is created when you release the mouse button.

Line
To make a straight line, you simply click in the Canvas where you want the line to begin and then drag the mouse to where you want the line to end.

Rectangle
The Rectangle button creates outlines of four-sided objects.

Filled Rectangle
This tool works just like the Rectangle tool except it fills in shape with the same color as the outline.

Arc
The second row contains variations of ellipses. With the first, you can create segments of arcs. Click the mouse in the Canvas and drag to establish the radius of the arc, releasing the button when you are happy. Then click and drag again to define the extent of the arc. Release the button to complete it.

Oval
The Oval works just like the Rectangle tool. Click and drag in the Canvas to draw out your shape.

Filled Arc
The Filled Arc operation is the same as the Arc tool (see above). The only difference is that the arc created is filled in. Think of the Filled Arc as the pie chart tool.

Filled Oval
This tool works like the Filled Rectangle.

Spline
This tool and its siblings create freeform spline curve shapes. Click in the Canvas and release the mouse to establish the starting point. Move to another spot on the screen and click again to establish a second node though which the spline will pass. Continue to add nodes until you are satisfied, then double-click to end the curve.

Closed Spline
The technique for the Closed Spline is similar to the Spline: click in the Canvas, release the mouse, move to the next spot and click again, etc... With this tool though, nodes are automatically connected to the first (anchor) point to create an enclosed object. When you're finished, simply double-click.

Closed Filled Spline
This tool works just like the Closed Spline tool except it fills in shape with the same color as the outline.

Polygonal Line
This tool functions like the Spline except it doesn't create a curve between the nodes. You click in the Canvas to establish your anchor point, release the mouse and move to your next spot, and click to create a node. A straight line will connect the two points. Move and click again and a line will connect this point with the previous one. With this tool, a sharp angle is maintained at the intersection of the lines. You double-click at the last point to finish.

Polygon
This tool works like the Polygonal Line, except as soon as you create the first node, it's connected to the anchor point, automatically creating an enclosed object.

Filled Polygon
This tool works just like the **Polygon** tool except it fills in shape with the same color as the outline.

Figure 25

Color - The large color well below the drawing tools permits you to set a base color for the objects you create using the tools. Left click it to open the Color Picker panel, or right click and drag to use an eye dropper cursor to pick a color from the screen.

> *Note: Extensive control over color is provided in the **Color** section of the tabbed **Control Panel** discussed a bit further on in this chapter.*

OBJECT MANAGEMENT

Completing this section are essential basic editing tools: **Cut**, **Copy**, **Paste**, **Delete**, **Undo**, and **Redo**. The traditional Windows keyboard shortcuts also work:

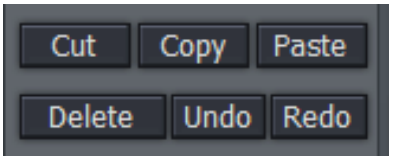


Figure 26

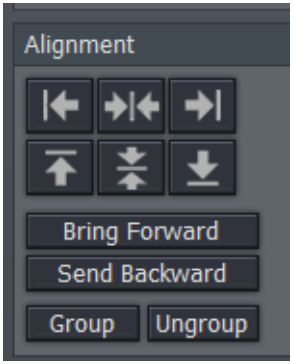
- Cut — **Ctrl + x**
- Copy — **Ctrl + c**
- Paste — **Ctrl + v**
- Delete — **Delete** key
- Undo — **Ctrl + z**
- Redo — **Ctrl + y**

3.5.2 ALIGNMENT

The alignment panel permits quick and easy positioning and re-ordering of objects on the Canvas.

HORIZONTAL JUSTIFICATION

The top row of buttons in this section control horizontal justification buttons, aligning text as are commonly found in word processing programs.



Left Justify - aligns your text to begin just inside the left edge of the Text Safe Area

Center - aligns the center of the line(s) with the center of the Text Safe Area**.**

Right Justify - aligns your text so the end of the line(s) is just inside the right edge of the Text Safe Area.

Figure 27

VERTICAL JUSTIFICATION

Each of the buttons in the next row justifies your text within the vertical Safe Text area of the screen.

Top - aligns your text just below the upper limit of the Text Safe Area.

Center - centers your text vertically in the Text Safe Area.

Bottom - aligns your text just above the lower limit of the Text Safe Area.

DEPTH CONTROL

Text and objects in the Canvas which occupy the same space are normally displayed in the order created – first items to the rear, as it were, with newer object in front. The depth controls in this section permit you to modify this order. Select an object (or line of text) and click once to move one step relative to other objects.

Bring Forward – move the selected item forward

Send Backward – move the selected item back

*Note: The **Layers** section of the tabbed **Control Panel** (discussed in Section3.7.6) provides an alternative (and often more convenient method) of re-ordering objects and text.*

GROUP/UNGROUP

Even though each line of text and graphic object is really a separate entity, you can select multiple lines and **Group** them together to respond to modifications in unison.

The **UnGroup** button undoes the union. Hold down the Ctrl key while clicking multiple items or lines of text and press the Group button. The bounding boxes are now replaced by a single bounding box. Hit UnGroup again, and the lines become separate entities once more.

3.6 THE MOTION PANEL

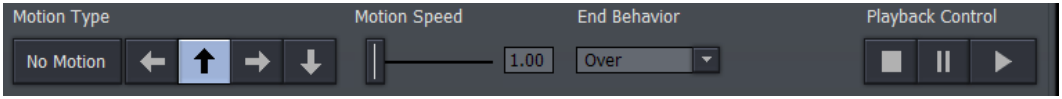


Figure 28

The **Motion Panel** contains the tools to create both scrolls and crawls. This is where you control the direction, speed and behaviors of your crawls and scrolls.

The **No Motion** button and **Direction arrows** are self-explanatory. If you want a text **crawl** from left to right, pick the right pointing arrow. For a **scroll** moving up, choose the up arrow, etc.

3.6.1 SPEED CONTROL

In the **Motion Speed** field, choose a specific rate of motion in units of 'pixels per frame.'

> *Fun with math: For a text crawl across an NTSC format screen, knowing that the screen is 720 pixels and there are roughly 30 frames per second, you can readily work out a suitable value. To have an object or text item crawl from one side to the other in four seconds, 720 divided by 120 (30 frames per each of the 4 seconds) equals 6.*

If motion pages move too quickly, motion may not appear smooth. A common preference is for a line of text to take about seven seconds to travel from the bottom of the screen to the top. You may wish to test the speed out on a TV monitor to see if it suits you.

3.6.2 END BEHAVIOR

The **End Behavior** setting in the **Motion Panel** determines what happens when an animated page runs its full course.

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

3.7 CONTROL PANEL TABS

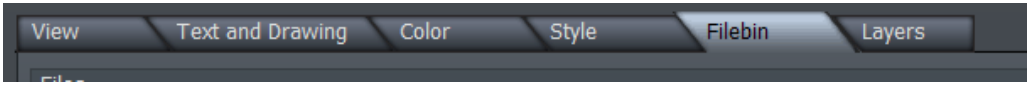


Figure 29

Near the bottom of the screen (beneath the Motion Panel) is the multi-tab **Control Panel**. The individual panels provide precise command of countless text and graphic object attributes, organization, and management.

3.7.1 VIEW

Figure 30

The View tab reveals three sections, **Grid**, **Guides** and **Display**. These all add one or another type of overlay to the **Canvas** above, as an aid to composing your graphic and text pages on. As you would expect, none of the overlay elements appear in the final output.

GRID

Define a grid to help you align objects on the Canvas in specific arrangements.

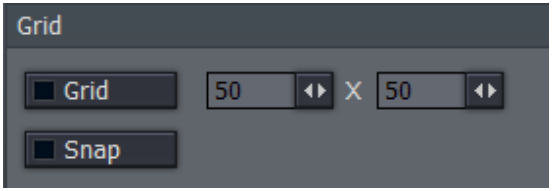
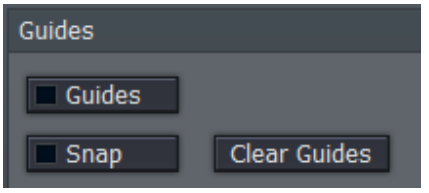


Figure 31

The two numeric entry fields with associated mini-sliders adjust the width and height of cells in the grid.

The **Grid** switch toggles the grid overlay on/off. Enabling **Snap** effectively makes the lines of the grid *somewhat* magnetic - you are not restricted to placing items exclusively along the grid lines, but the cursor is drawn toward them, making it easy to do so if you wish.

GUIDES

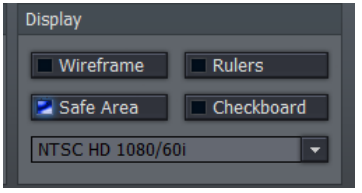


This feature is somewhat similar, in that it offers overlaid lines and a similar Snap feature. However, rather than displaying a full grid, you define where the lines will go – add just one guide line, or as many as you like.

Figure 32

To add a Guide, **Rulers** must be enabled in the Display section. Click in the calibrated ruler display, (horizontal or vertical), and drag the cursor across the Canvas. Release the mouse button when the new Guide is positioned where you want it to go. If you hover the cursor above a Guide, it becomes a double-headed arrow that you can drag change the Guide's position. Use **Clear Guides** to remove all existing Guides from the screen.

DISPLAY



Traditional television displays crop the image area of video somewhat. For this reason, it's customary to allow a certain amount of 'safe area' on the margins of the screen – to make sure that important text displays or action are not inadvertently cut off for viewers.

Figure 33

The **Safe Area** switch in the **Display** pane enables an overlay on the **Canvas**. The lines make it easy for you to create your title pages with these *overscan* limitations in mind. Inner rectangles mark the 4:3 **Text Safe** area and outer boundaries, while the outermost lines show the edge of the entire 16:9 page.

For very complex pages, it can be useful to enable the **Wireframe** switch. While enabled, this removes opaque color from objects on the Canvas window, leaving only an outline through which other items can be seen.

Checkerboard replaces the default black **Canvas** background with two-tone checks (these do not appear in exported title pages, of course). Finally, the **Rulers** option provides another level of precision when preparing your title pages by adding calibrated scales to the display. (And, as noted a moment ago, you add Guides to the Canvas using the Rulers.)

Using the drop-down menu shown in Figure 33 the network output video format can be set by selecting from the list.

3.7.2 TEXT AND DRAWING

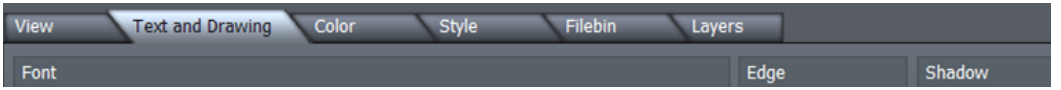


Figure 34

This tab provides primary control over all text and graphic object attributes.

FONT AND ORIENTATION

FONT

The drop-down **Font** menu allows you to choose from your installed typefaces**. Bold**, **Italic**, and **Underline** buttons are to its right, along with another *basic* face color well.

The **Width** and **Height** controls are locked proportionally when the neighboring **Lock Aspect Ratio** control is lit up. **Rotate** adjusts the exact degree of rotation (on the Z axis.)

Tracking adjusts the amount of space between neighboring pairs of letters.

Hint: You can also adjust tracking interactively in the Canvas. Place the cursor between letters and hold down the Alt key while using the arrow keys to add or reduce spacing.

Leading adjusts the amount of vertical space between text lines. Multi-select the lines you wish to adjust using CTRL + click (or by dragging a rectangle around them in the preview window), and raise or lower the Leading value to suit your need.

ORIENTATION

Rotate changes the orientation of text and drawing objects. **Hold During Motion**, when enabled, ensures that the selected object does not move as an element within **Scroll** or **Crawl** pages.

ARC/LINE

The **Joint** menu options affect way corners of a drawn CG object are created – choose from **Round**, **Bevel**, or **Square**. Similarly, the **End** menu selection determines whether the ends of a line object terminate in a **Square**, **Round**, or **Point**.

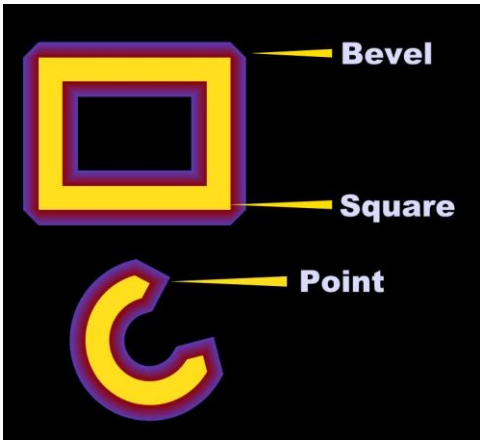


Figure 35

Arc Start and **End** values permit great precision for **Arc** and **Filled Arc** objects, and the **Thickness** value is pretty much self-explanatory.

EDGE

Edge refers to a two-tone border that conforms to character or object shape. The way corners are painted is controlled by the drop-down menu – options are **Round**, **Square**, or **Bevel**.

The two boxes to the right of the menu are where you choose the colors for the inside and outside edges of the border applied around your objects. Inside color is the box on the left, outside color is on the right.

Click in the box to bring up the **Color Picker** panel, or right-click it to activate the Eyedropper tool to choose a color from the Canvas.

SHADOW

Shadow options include **Cast**, **Drop**, and **Soft (**the numeric **Soft** setting is only relevant to the latter.) The **Italic** setting permits you to shear the Shadow independent of the 'shadow-casting' object, and the **X** and **Y** fields control the amount of offset for the shadow.

NOTE: Images with Shadow option enabled cannot serve as 'stand-in images' (see Section 1.3).

3.7.3 THE COLOR TAB

The **Color** tab provides the control over characteristics for coloring and texturing objects, including text.

Figure 36

COLOR DESCRIPTION

Use the **Edit** menu to specify which aspect of a text line or graphic object you intend to modify.

There are three choices: **Fill** controls colors used in the body of the font or object. Choosing **Edge** or **Shadow** restricts modifications one of those characteristics.

Type permits you to choose between six different types of color (or image-based texture):

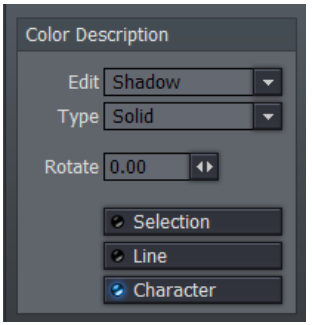


Figure 37

Choosing **Solid** for Type applies a single color to the surface (the one in the neighboring **Solid Color** pane). When you pick one of the middle four instead (**Linear**, **Corners**, **Angle**, or **Radial**), the current **Gradient** colors are applied.

Linear (Type) applies the Gradient in a straight left-to-right pattern. **Corners** will apply the gradient color starting at the upper left corner diagonally, sweeping around to the bottom right. **Angle** applies the **Gradient** starting at 3 o'clock and rotating counterclockwise.

Radial applies the gradient starting at the center of the surface and emanating to the edge. **Texture** applies an image map (specified using the **Image** drop-down menu in the **Solid Color** Pane at right) to the surface. Adjusting the **Rotate** value changes the application angle for the gradient or texture, when active.

SELECTION, LINE & CHARACTER

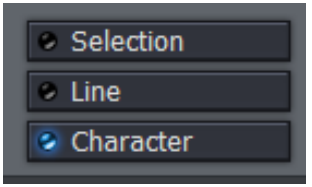


Figure 38

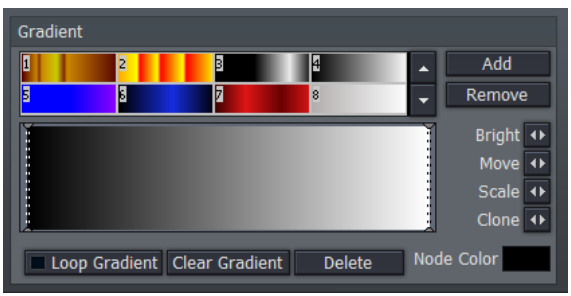
If you have multiple lines of text on a page, you can choose how the color, gradient, or texture will be applied. **Selection** fits your settings to selected characters or objects (including multiple selections.) **Line** applies them independently to each line of text, while **Character** applies the texture independently to each character.

Note: In reality, each text line is always a separate object. If you select just part of a text line (in the Canvas while in T(Text) mode (whether by dragging the mouse or using Shift with the arrows keys), and apply different settings, the line will split into two objects to accommodate your wishes. You may want to use the Group function to continue treating the line as a single object.

THE GRADIENT PANEL

The gradient panel provides awesome color control, allowing you to create and apply many beautiful effects.

GRADIENT PRESETS



The upper section of the Gradient Panel contains a goodly number of presets, represented visually. Scroll up and down through the selections using the arrow buttons at right, and simply click a gradient you like to activate it (replacing the content of the edit pane below.)

Figure 39

Use **Add** to send the current gradient to the presets list, or **Remove** to clear a preset.

The dotted vertical lines in the gradient preview pane mark the nodes of specific color values that define the gradient. You can drag these left or right interactively, or select one by clicking directly on it, and **Move** it using the mini-slider control at right. The display updates immediately to show the results of the changes you make.

Add a new node by double-clicking in the gradient preview. Delete a selected node using the **Delete** button, and set its color using the **Node Color** well. You can also separately adjust the **Bright(**ness) of nodes using the mini-slider at right.

To multi-select nodes for certain operations, you can click them one at a time with the Ctrl key depressed or drag out a marquee around them right in the editor (a shaded box shows the selection zone in this case.) With one or more nodes selected, each time you drag the **Clone** slider, another set of duplicate nodes is created. You can also clone one or more nodes by holding down Ctrl and dragging left or right in the gradient preview pane. **Scale** expands or contracts the distance between multi-selected nodes.

Clear Gradient lets you start fresh, while **Loop Gradient** allows the gradient to repeat itself, so that the color at one end loops seamlessly to the opposite end (this control has no effect when nodes exist at each end of the gradient.)

3.7.4 THE STYLE TAB

Figure 40

The **Style** tab allows you to add gorgeous and complex treatments to your text and graphic objects with a single click. It is also a great way to ensure consistency for the title slates you use in your productions!

To apply a Style preset, simply select a line of text or an object in the Canvas, and then click a representative thumbnail in the Styles pane. Create your own custom look, and add it to the Styles list using **Add**, and of course, remove those you don't care for using **Delete**.

3.7.5 THE FILEBIN

You can drag image, .cg or .TXT file icons right onto the **Canvas** directly from this **Filebin**. (Loading a .CG file in this manner replaces the current project.)

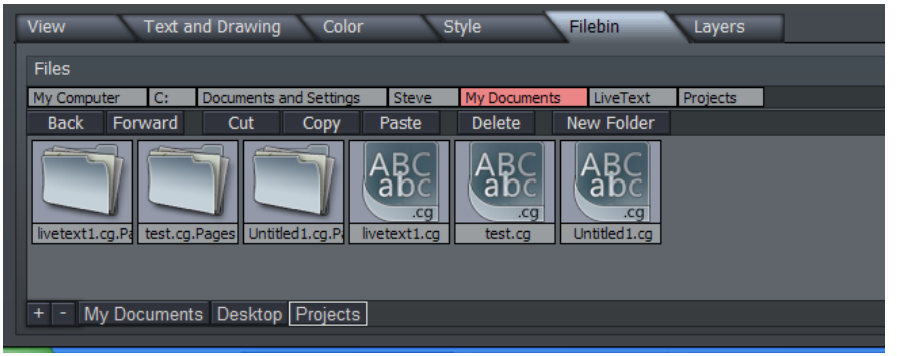


Figure 41

Above the file window is a menu with navigation and file management buttons at left, and a file icon preference menu at right. More detail on the various features of the Filebin can be found in Chapter 5, Live Production and File Management.

3.7.6 THE LAYERS TAB

The **Layers** tab provides a convenient way to modify the depth of various text and CG objects on the **Canvas**, as well align objects relative to one another.

Figure 42

At times the **Canvas** can become rather cluttered, making it tricky to select text lines or objects directly by clicking. The final tab provides a convenient alternative. Each item in your current page is represented by an individual line in the Layers panel.

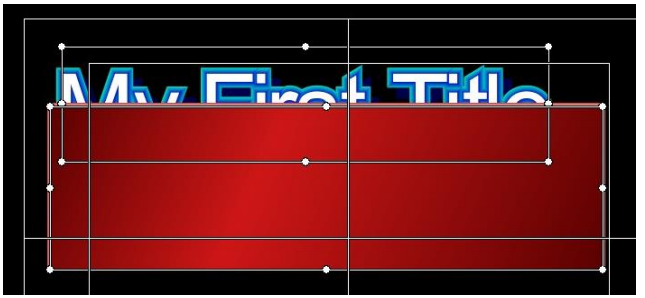


Figure 43

Consider the situation above, which shows a line of text that is, unfortunately, occluded by a rectangle object. Re-ordering layers is a simple matter in the **Layers** panel.

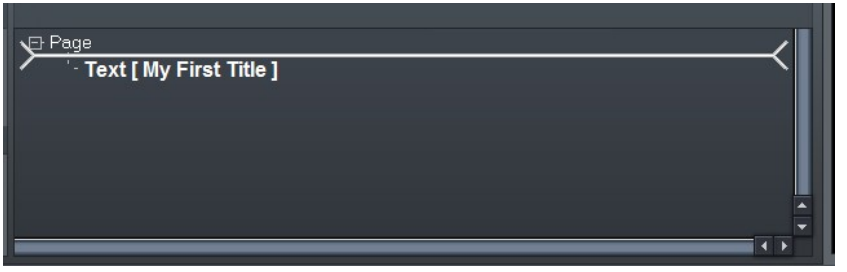


Figure 44

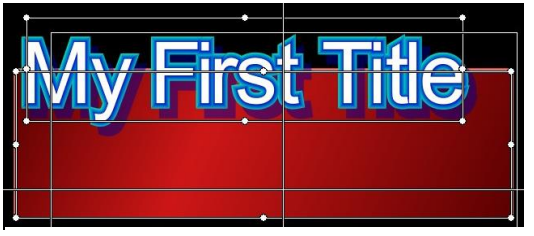


Figure 45

Simply drag the line for the rectangle above the text line with the mouse. The insertion point where the current selection will be dropped when you release the mouse is shown by a thick white line.

Objects nearest the top of the list will appear further back in the result – appearing behind objects that appear lower down in the Layers list.

Multi-select objects by dragging a box around them in the **Canvas** window; then just click a button in the **Align** section to line them up.

> *The last object selected will be brightly highlighted in the Layer panel, and will be the one that other objects align to.*

TAGGING LAYERS

The NewTek Developer Library provides tools that permit third-party developers to extend integrated titling capabilities in powerful ways.

For example, a custom external application might be prepared that could update specific text lines and images on a title page, then display it. Text lines or images in title pages may be targeted using their object indices, but a friendlier method of identifying objects is to use 'tags'.

Tags are custom nicknames given to individual items on the title page to make it easy to identify and address them. Though not visible in the interface (apart from within the LiveText application), tags can thus be very useful.

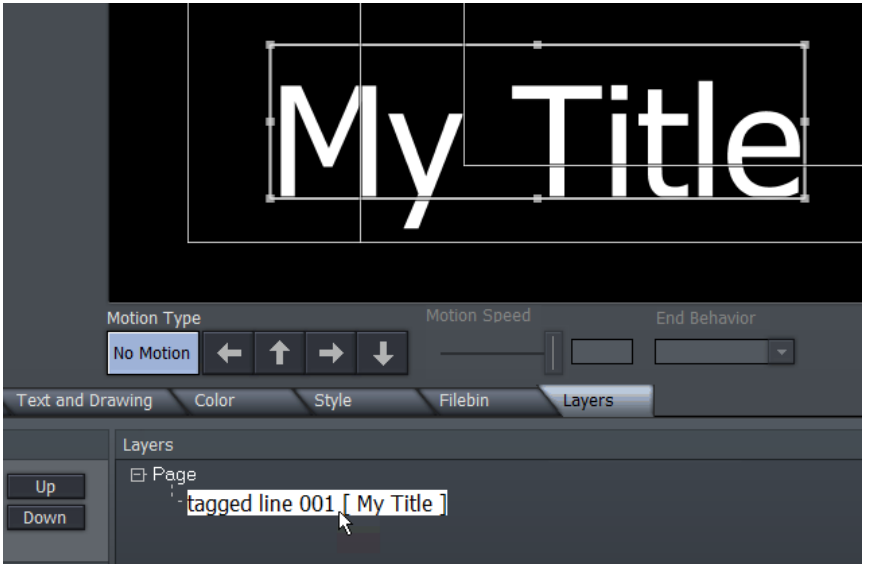


Figure 46

To add custom tags to objects on a title page, use the **Layer** tab. Simply double click on an entry in the Layer tab and type in the tag (**Figure 46**).

3.8 OPTIONS AND KEYBOARD CONTROL

An extensive list of **Keyboard Shortcuts** is available (for example, pressing Alt + s toggles the Safe Area overlay in the Canvas on and off.) Press F1 to view shortcuts (please see also Appendix A – Keyboard Shortcuts).

4 DATALINK™ AND LIVETIME™

DataLink™ provides users of NewTek's live video production systems the ability to display dynamically updated data from a variety of external sources.

Supported data sources include various third-party sports scoreboard systems, RSS feeds from the Internet, plus two common file types – standard ASCII text files and SQL database files. In addition, LiveText's native LiveTime™ allows users to embed realtime clock and date displays in title pages.

Together, the combined features of **DataLink** and **LiveTime** allow you to prepare and display title pages that containing score, time or various other data types (including images) from both internal and external sources, and update these in realtime.

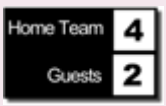
Figure 47

Several different **DataLink** modules continually monitor data from their respective sources as follows:

- The **TXT Linker** draws values from specified ASCII text files.
- The **Database Linker** provides allows the use of MySQL database functions, and even supports data accessed across a network.

- The **Network Linker** keeps an eye on user-defined RSS (Really Simple Syndication) feeds from Internet sources, and updates values embedded in title pages as appropriate.
- The **Serial Linker** monitors a data feed from external hardware controllers (commonly associated with game clocks, and typically connected by serial cable).

In addition, **LiveTime** brings more capabilities, using the LiveText host's internal system clock to supply time displays embedded in title pages.



Sections of this chapter displaying the scoreboard icon (seen at left) are of special interest to users who plan to connect their LiveText system to a supported external hardware scoreboard controller.

4.1 DATALINK OVERVIEW

4.1.1 KEY NAMES AND TITLE PAGES

DataLink dynamically updates special **key name** entries in your *title page*. When the page is displayed on output, information drawn from external data sources is substituted for the key name. (The external data is formatted with the attributes you assigned to the key name entry when creating the title page).

You could think of **DataLink** this way: the *Data* portion of the name refers to external information (data) expressed as a 'key-value pair'.

The data is thus formatted as follows:

(*key name*) = (*value assigned*)

Here is a typical key-value pair:

current temp = 75° F

The *Link* part of **DataLink** reflects the fact that key entries in your title pages are linked to matching data from the key-value pairs. DataLink dynamically updates the information displayed, quietly operating in the background to monitor data sources for changes.

4.1.2 THE DATALINK PROFILE

As mentioned earlier, special **DataLink** components monitor specific external sources. These are the **TXT**, **Serial**, **Network** and **Database Linkers**. The specific combination and configuration of data sources available in a given LiveText session is determined by the active **DataLink profile** at launch. DataLink profiles are created and managed using the **DataLink Configuration** utility.

Let's consider the Linker modules individually in more depth now.

4.1.3 TXT LINKER

This module keeps an eye on its namesake file type, the ubiquitous ASCII text file (.txt). The linker refreshes the title page display whenever the text file is updated, serving many handy and creative purposes.

> *Note: TXT Linker monitors files (.txt) you place in the folder Text Input, and can reference key-value pairs from multiple files at that location.*

For example, a simple ASCII text file (.txt) containing a list of names (prepared as key-value pairs) could be used to automatically update a credits slate, or perhaps to populate the name fields in a series of individual lower thirds for a weekly production (Section 4.2.1 explains the details of this example).

The **TXT Linker** continuously watches for changes in the values assigned to keys. If a value changes in the file, the display is immediately updated. Thus, third-party programs may be designed for various applications that continuously update the onscreen text display by simply changing values assigned to keys in the text file.

4.1.4 DATABASE LINKER

The **Database Linker** provides even more powerful possibilities. It allows the use of supported MySQL database queries to derive replacement values for DataLink keys on the title page – even accessing the data across a network.

4.1.5 NETWORK LINKER

Today, a nearly endless supply of information is available from both free and commercial sources via Internet RSS feeds. The **Network Linker** allows you to access these sources to supply information to your title pages, and update it as changes occur.

4.1.6 SERIAL LINKER

This **Linker** receives data from a number of popular external hardware scoreboard controllers. The external system provides information to **DataLink** by a physical **COM port** connection. (Section 4.3, Connecting External Devices, explains how to connect these devices so they can communicate with DataLink.)

DataLink supports popular external devices from several different manufacturers. The **Serial Linker** monitors the incoming data stream, and assigns specific values to unique DataLink key names. These values are then substituted for the corresponding key name entries in title pages. These special key names are listed by brand in Section 0.

> *Note: As the data supplied by various external systems differs, DataLink uses unique key names for each supported brand.*

4.2 WORKING WITH KEYS AND VALUES

In this section we'll get into the details of working with DataLink for your live productions. We'll explain how to add DataLink **key names** to your title pages, and how these may be used in various ways. The quickest way to become familiar with DataLink is to dive right in and try it out.

4.2.1 TXT LINKER

As discussed back in Section 4.1, DataLink's **TXT Linker** pulls data from ASCII text files (.txt) residing in a specific (constantly monitored) folder. As this is arguably the simplest source available to DataLink, let's use it to demonstrate a few basics before continuing.

This monitored folder location varies depending on your operating system. The simplest way to find it is to use a shortcut in the Windows™ **Start menu**. Click **Start**, then the **Programs** link, and locate the NewTek>LiveText>DataLink folder. Click the folder *icon* inside that labeled **Open File Observer Folder**.

By default, this folder contains just a file named *example.txt*.

1. Double-click the text file icon to open it in your default text editor.

To supply usable values for **DataLink**, text files should contain nothing other than *key-value pairs*, arranged in the following format:

[key] = [value]

Key names from the file(s) will be available as **DataLink** entries in your **LiveText** title pages. The value you enter beside the key name in the text file is the actual information that will be shown when the page is displayed on output.

The sample file currently contains just two key-value pairs, as follows:

city = San Antonio
temperature = 98°

Note: Keys and values may contain punctuation and spaces.

2. Launch LiveText, if it's not already running. Note that you can move back and forth between the text editor (with the sample file loaded) and the **LiveText** window by pressing **Alt + Tab** on your keyboard.

3. Click the **Text** [T] tool button, click somewhere on the empty **Canvas**, and type "The current temperature is:"

4. Left-click outside that text object (to complete it), then move over to the right a bit and press the right mouse button. This will open a drop-down menu.

5. Select **temperature** from the list, and release the mouse button.

6. A new object is created containing the text % **temperature** %. This is how a DataLink key appears on the canvas in Text Edit mode (bracketed between percentage signs).

The keyword "temperature" was listed in the menu because it has been defined in *example.txt*, as we noted previously. Likewise, a value is assigned to "temperature" in that ASCII text file. Let's see how LiveText displays that value.

Figure 48

7. Click the **Select** (Arrow) button in LiveText's tool panel. The "temperature" key is immediately replaced by "98°", the value currently assigned to that key in the text file.

8. Press **Alt + Tab** on your keyboard to switch back to the text editor. (If necessary, move it a bit to one side on the screen so you can see"2.0"on the LiveText canvas.)

9. Change the value assigned to "temperature" in the text file to "75°", then pull down the **File** menu (in the text editor) and select **Save**.

As soon as you save the change to the text file, **LiveText** refreshes its display as well.

10. On a new line (below the "temperature = 75°" line in the text file), type:

    business = NewTek

11. Re-save the text file.

12. Now, click the **Text** [T] tool in **LiveText**. Right-click on the canvas, and notice that a new item appears in the drop-down menu options – "business".

Let's try something slightly different.

13. Press **Alt + Tab** to bring the text editor forward again, and delete all of the text in the file (don't save the file, though).

14. Enter a new line of text as follows (enter your personal name for *your name*):
    My Name = *your name*

15. Select **Save As** from the **File** menu, and save the file using the file name *Names.txt*, then right-click on the canvas again – notice that "My Name" appears in the menu option list, even though it's in a different text file. **TXT Linker** watches for changes in *all* suitable files located in the observed folder.

Experiment with **TXT Linker** a bit more:

- Try applying a **Style** to DataLink key objects.

- Click the **Layers** tab, and double-click on a **DataLink** object name. Notice that this allows you to type in a custom name for the object. Press **Enter** on the keyboard to complete

the operation; naming the layer does not modify the object on the canvas.

- Type a sentence in a new text object, then right-click *between* words in the sentence to *insert* a DataLink key into it – right in the middle of another text object (or select the characters of a word, and repeat the exercise to *replace* them with a DataLink key.

Let's briefly consider one (slightly more elaborate example) using the **TXT Linker:**

Suppose you regularly produce a half-time show featuring interviews with 8 to 10 different guests. You *could* create a **LiveText** project with 10 pages, and manually modify each page before every episode.

Or, you could prepare the pages *once*, and let **DataLink** update them all for you automatically every time! To do that, you could proceed as follows:

1. Prepare a simple text file similar to this one:

   guest1 = Bill E. Bob

   guest2 = Sam Houston
   guest3 = Dorothy Lamour
   … etc.

2. Go to the **Add Pages** drop-down menu in **LiveText**, and select a nice-looking lower third template (or make your own if you prefer).

3. Where the guest's name should appear, place the **DataLink** key "%guest1%".

   Note: You may find it faster at times to directly type the key name on the canvas (between percentage signs) rather than using the drop-down menu. Either method will work just fine.

4. Clone the page as many times as necessary

5. Click the *second* thumbnail (no need to edit the first one) in the **Pages** column at right to select it for modification, and click the **[T]** button (to activate text entry).

6. Click in the DataLink key field on the **canvas**, and replace %guest1% with %guest2% Note that

7. Click the next page, and change the key to %guest3%, and so-on, until all done.

That's all you need to do. Before each episode, have your production assistant take a few moments to update the *guest.txt* file content, and the hard part is done. Afterward, simply load the **LiveText** project you created – each successive page automatically displays the correct name in sequence when displayed.

The other **DataLink** modules (**Serial Linker, Database Linker and Network Linker**) reference different data sources, but the process of creating title pages with DataLink key names is exactly the same as we have reviewed above.

Let's go on to consider the **Serial Linker**. Unlike the other two modules, **DataLink** depends on an external hardware connection to supply values for these keys. In the next section, we'll explain how to connect these external devices.

4.3 CONNECTING EXTERNAL DEVICES

THE STEPS IN THIS SECTION ARE MANDATORY IF YOUR INSTALLATION REQUIRES DATA FROM AN EXTERNAL HARDWARE SCOREBOARD CONTROLLER.

Naturally, for **DataLink** to communicate with an external data source, that equipment must be connected to the **LiveText** host system and powered up. As well, DataLink must be configured to find and use the connection. We'll discuss how to make and configure connections under this heading.

4.3.1 USB-SERIAL ADAPTERS

The diversity of supported external systems, cable connectors, and available ports on the host system means this connection may require an adapter.

Newer external devices may use USB connections, but others use older RS-232 (25-pin) connectors, or occasionally (slightly more recent) 9-pin style connectors.

Unless the external system is supplied with a USB connection, a USB-Serial adapter is likely required to connect it to a host systems with newer motherboards).

To connect using a USB-Serial adapter, follow these steps:

1. Connect the scoreboard controller's output cable connector to the USB-Serial adapter.
   a. Plug the adapter into the **LiveText** host system.

b. Install drivers for your USB-Serial adapter on the host system. Drivers for the adapter are generally supplied on a Compact Disk (CD) packaged with the adapter by the manufacturer.

Unless these drivers are correctly installed, DataLink cannot receive data from the external controller. (Carefully follow the instructions provided by the manufacturer of the adapter you purchased).

Note: Certain Daktronics controllers (including Allsport 3000 and 5000 models) require an AllSport CG unit to convert the propriety Daktronics feed to serial data for use in LiveText. Please contact your Daktronics representative for more information.

4.3.2 FIND THE COM PORT

The next step involves determining *which* **COM port** has bee assigned to the new connection by the operating system. This information is required to configure **DataLink**.

2. Right-click the **My Computer** icon on the Windows Desktop, and select **Manage** from the menu **(**to open the **Computer Management** panel).

3. Open the **Device Manager** (Figure 49) by clicking that entry in the left pane of this window.

4. Click the + sign next to **Ports (COM and LPT)** in the right-hand pane to disclose available communication ports.

5. Locate the entry for your scoreboard controller – take note of *which* COM port number is assigned to it (such as COM 1 or COM2).

Note: You should see your new connection listed. If it doesn't appear at first, try removing and re-inserting the USB cable connector – or you can use the "Scan for hardware changes" item in the Device Manager's Action menu.

(If it does appear but shows a ***!*** *icon appears next to the entry, this may indicate a problem with either the USB connection or your adapter driver installation – try re-installing the adapter driver, following the directions supplied with it.)*

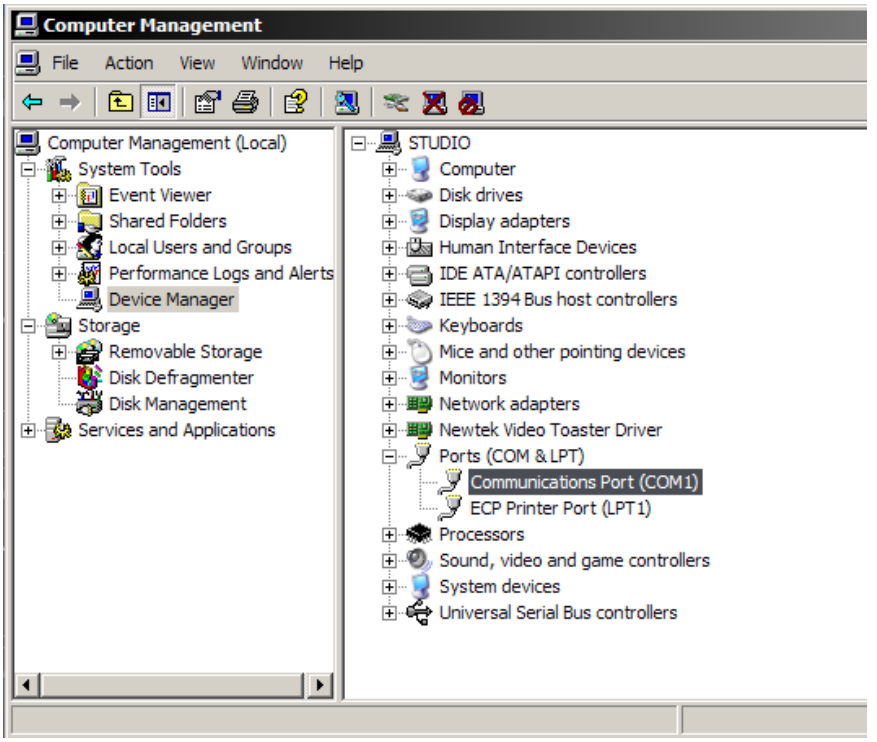


Figure 49

6. Close the **Device Manager**.

Again, the port number you noted above is required to enable **DataLink** to recognize the external device. Section 4.4.4 explains how to configure DataLink to access this source and the stream of information it provides.

***Important Note**: In some environments, Windows may arbitrarily reassign the external device to a different COM port following a reboot. If this happens, you could simply update the COM port entry in the affected configuration profile. However, you may prefer instead to lock the connected device to a specific COM port, using the Windows Device Manager.*

To do this, please locate the current port entry for your scoreboard controller. Right-click the entry name, and select Properties in the drop-down menu. Next, click the Port Settings tab at the top of the Properties panel, and click the button labeled "Advanced".

Use the Com Port Number drop-down menu to choose an unused port number, and click the OK button. OK the Properties panel too, then close the Device Manager. The Port Number you assigned should now be retained on subsequent reboots.

4.4 CONFIGURING DATALINK

The easiest way to configure LiveText is to use the **DataLink Configuration** utility, a standalone application provided to let you create and manage convenient LiveText configurations for different purposes, and select which one to use when LiveText runs.

Figure 50

The **DataLink Configuration** utility lets you select which data sources DataLink refers to when a particular profile (configuration settings file) is chosen, and even supports multiple data source types at one time.

The **Data Profile Manager** is launched from the Windows™ Start Menu**:**

1. Click the Start menu icon, and navigate to Programs.
2. Locate **NewTek>LiveText**, and select the **DataLink** entry to launch the utility.

4.4.1 CREATING A DATALINK PROFILE

3. Click **New** in the **Profile** section of the **DataLink Configuration** utility.

Hint: the Live Settings pane (at right) shows which profile is currently active for LiveText use, while the Profile section shows which one you are creating or modifying right now.

4. Enter a name for the profile in the name field (left of the **New** button). (The **Save** button lights, to remind you to save changes before ending.)

5. Checkmark the data source types – **Network** (for RSS feed), **Database** or **Serial** – you wish to have access to in the new profile,

Note: DataLink's ASCII (.TXT) file support is always active, and requires no setup.

At this point, we can proceed to set up the individual sources for the DataLink profile.

4.4.2 NETWORK FEED (RSS) SETTINGS

1. Having already added a checkmark beside **Network**, click the configure button (gear) at right. This opens the **Network Feed Settings** pane (Figure 51).
2. Begin by clicking **New**, then enter a name to identify this specific RSS feed.
3. Checkmark the **Enable Feed** button (you can temporarily disable individual RSS feeds within a profile without having to re-enter the relevant data later).

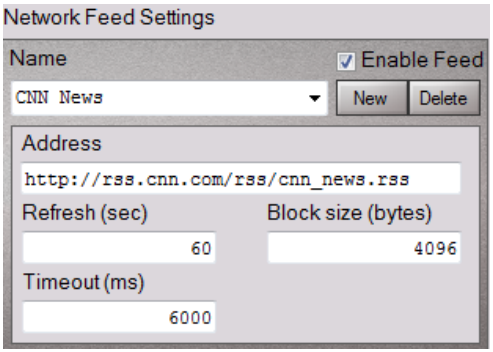


Figure 51

4. In the **Address** field, enter the URL to the RSS site.
5. Continue to complete the entry fields below, as shown in Figure 51.
6. Click **Save** to lock in your changes, then **Done**.

Hint: Key names for RSS feed elements are automatically generated.

4.4.3 DATABASE SETUP

The **Database Linker** monitors database files for keys (and changes to the corresponding values). This allows users to take use supported MySQL database query functions to derive values that are then used to update the fields displayed on the text page.

Hint: If you plan to use this feature, you (or someone helping you) will need a measure of familiarity with database addressing and queries.

DataLink finds files to monitor by keeping an eye on (.xml format) definition files located in a folder named *Database Input*, inside the **Stats Plugins** folder. You can find this location using the NewTek>LiveText>DataLink section of the Windows **Start menu**). The file content provides the information that **DataLink** needs in order to access the external database values.

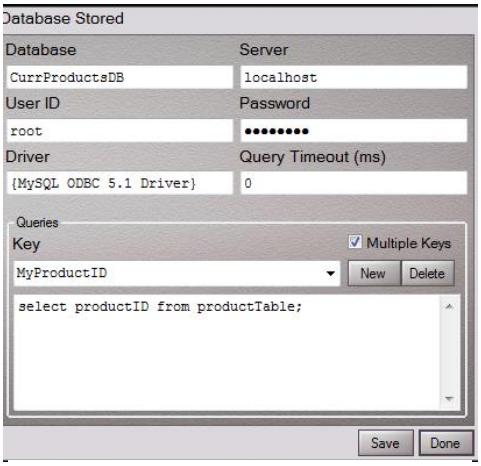


Figure 52

Just as the **DataLink Configuration** utility provides tools to set up **Network** feeds, you can use it to configure queries to be run against database files too.

1. Click the configuration button (gear) next to **Database** to open a database setup pane.

2. Enter a representative name in the **Database** field (this is simply to help you identify the data source; it need not be an actual file name).

3. Enter a qualified **User ID** and **Password** for the database in the fields provided.

4. Specify the driver used for SQL queries in the **Driver** field.

5. In the **Queries** section of the panel, click **New**, and then provide a **Key** name beneath to identify the **value** you expect to result from the named query.

6. Enter the query string you wish to associate with this **Key** into the large, empty pane below.

7. Enable **the Multiple Keys** switch when more than one match to the SQL query is acceptable. In this case, DataLink creates a key/value pair for each qualified result.

   For example, a keyword “author” could produce an array of matches, which DataLink would arrange as follows:

%author% -> "Voltaire"

%author.1% -> "James Joyce"

%author.2% -> "Herman Melville"

8. Click **Save** to record your entries.
9. Click **New** again, and continue to add more keys and queries as required.
10. Click **Save**, and then **Done** (to close the panel.

4.4.4 SERIAL (SCOREBOARD) SETUP

As must be clear by now, this **DataLink** component receives data from compatible external scoreboard hardware controllers. We explained how to connect these external devices to the host system in Section 4.3, Connecting External Devices.

Figure 53

You can now proceed to use the **DataLink Configuration** utility to prepare a DataLink profile. This effectively notifies LiveText which system you are using, what data it should expect to receive, and where the source is connected.

1. Use the **Board** menu to choose the device brand/model you have connected from the list of supported devices.

2. Choose the **Sport** in the same manner. The rest of the settings for serial devices auto-fill based on your Board and Sport selections, with one exception as described next.

3. Select the **Port** using the information from Section 4.3.2.

4. Click **Done** to conclude (**Serial Settings** does not have a Save button.)

Once you have a supported device successfully connected and configured, the drop-down key insertion menu in LiveText's canvas will list valid key names for that device.

KEY NAME LIST

Appendix B – Key List by Device, enumerates the actual key available for use with DataLink and the different brands of external equipment it supports.

4.4.5 APPLYING A DATALINK PROFILE

Having created a DataLink profile (or several of them), select it in the **Profiles** panel of the **DataLink Configuration** utility. Then simply press the **Update** button, making it the active configuration that **DataLink** will refer to the next time you launch **LiveText**.

4.5 CONTROL KEYS

LiveText's **DataLink** tools provide still further possibilities. Several special keys called *control keys* effectively permit you to *drive* LiveText output externally (beyond merely altering the value of a text string).

4.5.1 PAGE CONTROL KEYS

For example, control keys permit you to replace a photo embedded in a title page (even while it is displayed live), or change the title page currently displayed, and additionally (if it is an animated scroll or crawl) play or stop it. The principal control keys are **LiveText_PageNo** and **LiveText_Play**.

As you would expect, simply changing the numeric value assigned to the key **LiveText_PageNo** causes the corresponding page in LiveText's **Pages** list to be sent to **Live** output. The control key **LiveText_Play** accepts either of two different values – 1 or 0. Assigning the first causes an animated page to play, whereas assigning 0 (zero) to LiveText_Play stops playback.

4.5.2 IMAGE CONTROL KEYS

Custom control keys governing image file references in title pages can also be created. These keys and corresponding values are defined in either ascii files or by a database query (see sections 4.2.1 and 4.4.2).

This works as follows:

- Assign a custom control key name and value that can be detected by either the **TXT Linker** or **Database Linker**, as discussed earlier – let's say you that a key named *mytitlepic01* is given the value *D:\PlayerPics\Joe Gamestar.jpg*. In this case, as you can see, the value is the full file path for a specific image.

- In LiveText, add an image to the current page (in the canvas pane), right-click it, and select the key "mytitlepic01" from the drop-down menu – just as you would assign any DataLink key to an object.

That's all that's required to configure the page for realtime image updates. Afterward, whenever the **Database Linker** module returns a new value for mytitlepic01, the image displayed in the title page will automatically be updated. For example, if the value for mytitlepic01 is changed to *D:\PlayerPics\Suzy Q. Champion.jpg*, that new file will immediately replace *Joe Gamestar.jpg.*

Many of the default title page templates pages supplied with LiveText have stand-in (or 'placeholder') images all ready for you to replace with imagery of your own. These too can have image keys assigned to them.

If you look at the entry for a stand-in image in LiveText's **Layers** tab, you can determine which of the several default files is used in a given title page.

You may find it useful to note the resolution for those images (to prepare images that will fit perfectly). The file resolutions for the common placeholder images in LiveText 2 are as follows:

- PLandscape_placeholder.png (936x586)
- PLargePortrait_placeholder.png (521x578)
- Portrait_placeholder.png (406x441)

4.6 LIVETIME™

Whether or not you have an external scoreboard system connected (and regardless of whether you are using **TXT Linker** or **Database Linker** or not), a number of time-related options appear in LiveText's key insertion drop-down menu. Examples of these key names are **Time**, **Date**, and variants on these – such as **Date (YYYY)**. These keys are courtesy of **LiveTime** which allows you to place clock and date objects that are updated in realtime on your title pages. When LiveTime keys are displayed, the corresponding values are derived from the LiveText host's **system clock**. This provides many useful and creative possibilities.

5 LIVE PRODUCTION AND FILE MANAGEMENT

Title pages and projects created in LiveText can be utilized in a surprising number of ways. Going 'direct to air' in a live production is amazing enough, but there are also many other benefits to LiveText, too!

This chapter explores the options available, whether in connection with immediate live display or for other purposes. As well, it explains the many convenient and useful features available in LiveText's file windows.

LiveText output is immediately available for display in live productions using network-connected live production systems. Individual LiveText pages can be exported as image or animations files, and used in various ways.

5.1 LIVE DISPLAY

Figure 54

Once a network connection exists between the LiveText workstation and live production system (see Section 2.3, Making the Connection) 'going live' is a simple matter.

Click the large red **Live** button (beside the Live Output display in the upper-right corner) outputs the currently selected title page to the network as a source.

The person controlling the connected live production system then selects the LiveText entry from the list of available sources.

Once assigned as the currently active **External** source, the LiveText page can be displayed as part of the live production by selecting LiveText as a source from the remote production system.

You can use **Add Page** or edit other title pages in the **Canvas** even when a LiveText page is displayed on the networked live broadcast system. The **Live Output** is normally only updated when you click Live again. There is *another* way to select the **Live Output** page, though:

Double-clicking a thumbnail image in the **Pages** panel sends it immediately to **Live Output**. (When you do this, the designated page is added to both the Canvas and the Live Output preview.)

Hint: The thumbnail icon for the Live Output page is outlined in red, and the thumbnail for the page you are editing is outlined in white.

If the current page is animated – i.e., a (vertical) **Scroll** or (horizontal) **Crawl** - the transport controls beneath the preview pane are activated.

Click the right-most (>) button to commence **Play**, the center button (||) to **Pause** (or resume play when already paused), and the first button (|<) to go to the beginning of the animated page.

Hint: Conveniently, LiveText automatically begins scroll and crawl animation on a blank frame.

Figure 55

The number of the current Live Output page is shown in a field to the right of the **Play** button. You can use the nearby arrow buttons to move backward and forward through the list of pages, or jump to a specific page by entering its number and pressing the Enter key.

Note: The forward/backward buttons and direct numeric entry controls are disabled if an animated page is either playing or paused.

5.2 FILE EXPORTS

LiveText pages exported as bitmap format files (.png, .avi) can be used creatively in the **DDR** and **Picture** modules of compatible live broadcast systems.

LiveText also exports **Title Page** files (.cgxml) for use in the **Media Players** (DDR, Stills, Titles) found in the **Live Desktop** of current NewTek live production suites.

Image and animated pages (both bitmap and .cg formats) exported from LiveText can also be used in connection with SpeedEDIT 2 video editing projects.

***CGXML Title Page Notes**: NewTek's live Title Page format (.cgxml) presently supports almost every attribute that LiveText offers – but there are a few exceptions.*

For example, multiple font properties on one text line are not supported, which means in turn that different words on a single line cannot be different colors, or use different typefaces. Of course you can achieve the same effect by using additional text objects as necessary.

For similar reasons, text entered as paragraphs is automatically split into multiple lines in .cgxml Title Page files. (Supplemental support for paragraph text is provided in current LiveText versions for use with current NewTek live production suites. This allows long text strings, and even multiple paragraphs, to wrap correctly inside the bounding box defined by your text entry on the LiveText canvas.)

5.2.1 FILE MENU

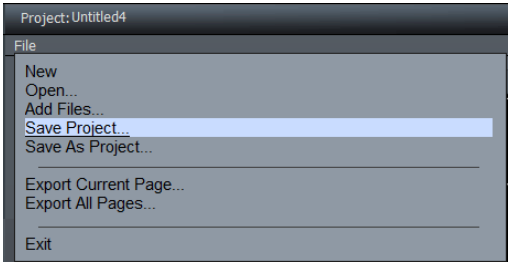


Figure 56

The **File menu** is in the upper left corner of the LiveText desktop. It contains project and page file management tools. Projects and (editable pages) are stored as *.cg files.

Choosing **New** clears the current project, and opens a new blank one. (LiveText's custom file explorer is discussed in detail shortly, in Section 5.3).

Open also clears the current project, replacing it with another a .cg file (a LiveText project) you have previously created and saved (see the note in Section 3.3 re: legacy LiveText projects).

ADD FILES (IMPORTING)

Add Files can be used to add an image or even a text file (see below) to the current LiveText page. Alternatively, you can change the file suffix in the file requester to show files ending in ".txt".

This permits you to import long lists of textual data prepared in standard ASCII text format and saved as a .txt file. This feature will be discussed a bit later, in Section 0.

> *Note: You may find it preferable to add files using the Layers tab (discussed next) to drag files onto the Canvas.*

PROJECT (SAVE AS)

Save the current project with all of its component pages as a LiveText project file (.cg). Saved files may be reloaded later of course, and may also be compatible with selected CG applications in the NewTek family.

This latter option opens up possibilities similar to those discussed next under **Export Current Page**.

EXPORT CURRENT PAGE

Export Current Page can export a single **CG Page** (.cg is LiveText's project file format), convert the highlighted page into a **Still Image** file format (.png file format), or a **Title Page** file (.cgxml) for use in NewTek live production systems. If the current page is a motion page (a Scroll or Crawl) the options in the File Type are **CG Page** and **Video for Windows** (.avi) file format.

You can choose common NTSC or PAL video resolutions when saving either still or animated files using the **Resolution** menu options.

Exported page types (other than .cg) can be added to the playlist of a **DDR** module (or **Picture** module) on selected live production systems, and applied via the **Overlay** module; or you may use them in non-linear editing applications. If the page(s) contain transparent areas, the transparency will be retained.

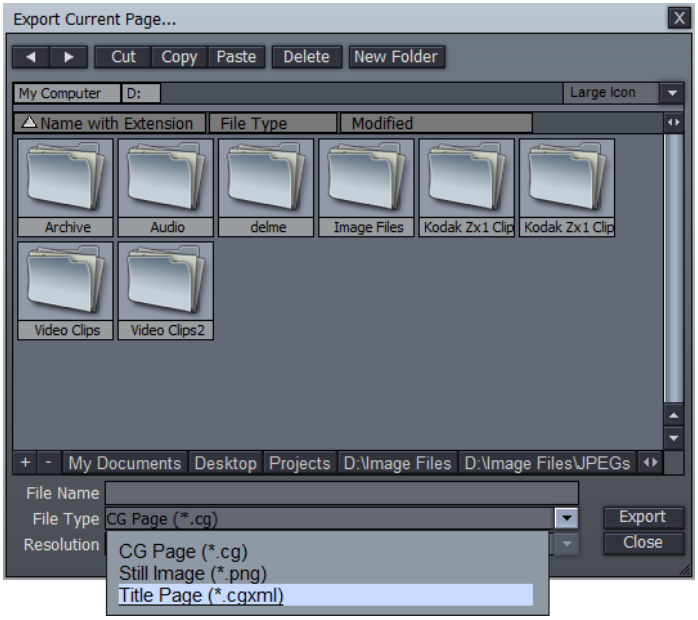


Figure 57

Project files (.cg) can be imported into LiveText 2 compatible software, or re-loaded into LiveText.

EXPORT ALL PAGES

This export feature works much like **Export Current Page**. The primary difference is that all pages comprising the current project are exported.

The **Title Page** (.cgxml) file export type does not support motion pages – hence if you choose that alternative, LiveText will automatically prepare .avi clips for any motion pages encountered as it exports the project pages.

If the current page when you select **Export Current Page** is a still, the **File Type** menu offers export as Still Image (*.png). Nevertheless, LiveText will again automatically prepare .avi clips for any motion pages encountered as it exports the project pages.

5.3 FILEBIN FEATURES

LiveText features custom file browsing features used in connection with loading and saving various file types. Two file browsers are provided – the one used in connection with File menu selections, and the main Filebin - a tabbed panel underneath LiveText's Canvas and Motion Control pane.

Figure 58

For the most part, although the layout of the two file panes varies slightly, the features are quite similar, and you should quickly become comfortable with them.

VIEW OPTIONS

The largest part of either file browser is the file list window. In the default view (and several of the optional ones) you will see a large thumbnail image icon to represent any image file.

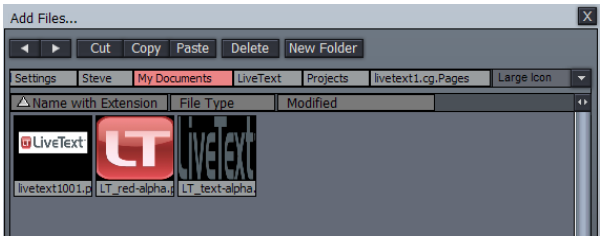


Figure 59

This view can be personalized to suit your need or taste in several ways.

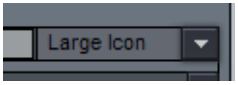


Figure 60

A drop-down menu in the upper-right corner of the pane controls the appearance of items in the file list window. By default this menu is set to **Large Icon**. You can use this menu to radically alter the appearance and features of the panel. Try the different view options out, and you'll quickly see how they affect the display.

The only view option that requires a little longer explanation is the **Details** view (**Details Only** is similar, but minus the file icon.) The Details view gives you a lot of in-depth information about your files.

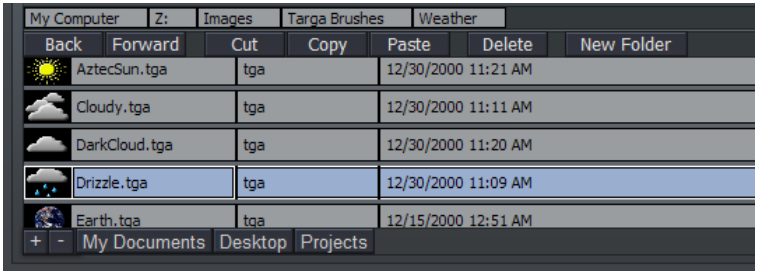


Figure 61 – Filebin tab, Details View

NAVIGATION

In standard fashion, double-click a folder or drive shown in the file list window to enter it, displaying its content.

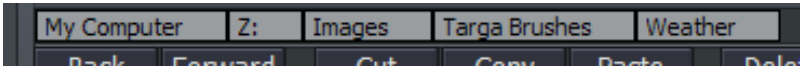


Figure 62

Above the file list pane, a row of rectangular text boxes appears (Figure 62) as you navigate down into your directory structure. These text boxes show the directory path of the current view. Click directly on a text box to jump back to that drive or folder location.

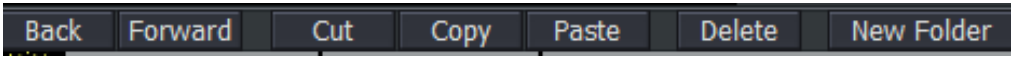


Figure 63

Nearby you will find buttons labeled **Back** and **Forward** (or triangular forward and back gadgets.) These work just like the similar features found in an internet web browser.

THE HOTLIST

If you have a folder you frequently access, you can add it to the **Hotlist** at the bottom of file windows. Navigate to the folder you want to add, and press the plus sign at the left corner (click the minus sign to remove the current Hotlist button.)

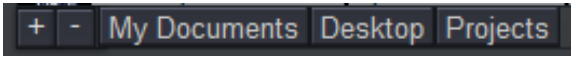


Figure 64

When you right-click directly on a **Hotlist** button, a two-item menu pops up. You can **Remove** the selected entry, or **Rename** it. The Rename option creates a 'nickname' for the current folder, and refreshes the Hotlist to display it. (If your list is wider than the bin, there is a scroll gadget lower right.)

CUT, COPY, PASTE, DELETE

Cut, Copy, Paste and **Delete** buttons are also located here. These operate on the currently selected items in the file list window.

> *Of course, the common keystroke shortcuts also work in the usual manner (CTR+c for Copy, CTRL+v for Paste, CTRL+x for Cut, and the DEL key to Delete a file.)*

The **New Folder** button creates a new directory at the current level, and pops up a small dialog allowing you to change its name on creation. Alternatively, you can create a New Folder from the menu that appears when you right-click in an empty spot in the file list window.

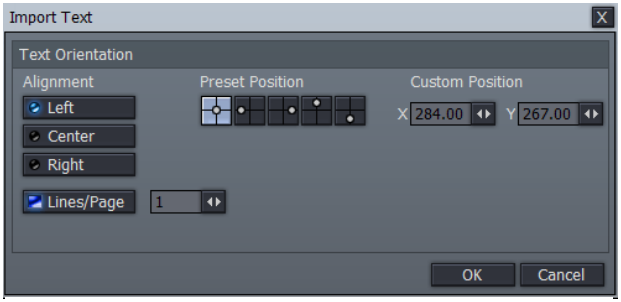
FILE SELECTION

As you'd expect, simply clicking a file in the file list window selects it. If you click one file and then hold Shift down when you click another, you can select all the files in between. Or, click multiple files (in any order) while holding down the CTRL key to select a number of files which are not next to each other in the file list.

FILEBIN OPERATIONS

The tabbed **Filebin** panel (under the **Canvas**) is unique in that it has no 'add' or 'save' (etc.) buttons. Really, *this* Filebin is intended for quick and convenient interactive use. Simply drag a file onto the Canvas to load or import it. When the file is a .cg file, the current LiveText project will be completely replaced by the import. On the other hand, if you drag an image file into the Canvas, it is added to the current page. Text files (in standard ASCII .txt format) are a special case. Dragging a text file onto the Canvas (or importing one using the File menu) triggers a powerful feature, described next.

IMPORT TEXT



If you drag an (ASCII) file onto the Canvas from the tabbed Filebin, the **Import Text** panel pops up.

This panel offers numerous controls over the manner in which the lines of text in the file are treated on import, and how multiple pages will be generated as necessary for them.

Figure 65

You can create a new page for each line of text, or form a single long page containing multiple lines. As well, you can control placement of the text on the newly created page(s) using the **Alignment**, **Preset** or **Custom Position** buttons.

5.4 STAND-IN IMAGES

Among other things, the **Title Editor** in live production suite's **Media Players** (DDR, Stills and Titles) allows you to substitute a different image for stand-in (or "placeholder") images in Title Pages (.cgxml) exported from LiveText. Details of how to replace stand-in images are found in the live production suite manual.

When creating title pages for this purpose in LiveText, you may find it saves you time to add the string "_placeholder" somewhere in the filename of images you prepare for this purpose. For example, you might name an image "headshot_placeholder.png", or "_PLACEHOLDER_crest.jpg".

Images named in this manner will automatically appear as stand-in images (unlocked) in the Title Pages you export to live production suite using the **Send to Live** options in LiveText's **File** menu**.**

NOTE: Images with Shadow or Edge options enabled cannot serve as 'stand-in images'. Also, image-mapped (textured) objects cannot serve stand-ins. (Drag the placeholder image onto the canvas from the File bin rather than texturing and object).

6 APPENDIX A – KEYBOARD SHORTCUTS

Show Keyboard Shortcuts	F1

FONT

Font Name (next/previous)	F5 (Shift +)
Font Size	F6 (Shift +)
Font Rotation	F7 (Shift +)
Font Tracking (Spacing)	F8 (Shift +)

TEXT

Increase/decrease Width by 5 pixels	Alt w (Shift +)
Increase/decrease Height by 5 pixel	Alt h (Shift +)
Increase/decrease Edge by 1 pixel	Alt k (Shift +)
Increase/decrease Italic by 1 pixel	Alt i (Shift +)
Increase/decrease Tracking by 1 pixel	Alt space (Shift +)
Next/Previous Font	Alt f (Shift +)

CLIPBOARD

Select All	Ctrl a
Deselect All	Ctrl d
Cut	Ctrl x
Copy	Ctrl c
Paste	Ctrl v
Delete	Del
Redo	Ctrl y
Undo	Ctrl z

TEXT TOOL

Select One character	Shift + L/R Arrow
Move curser to beginning	Home
Move curser to end	End
Select to the beginning	Shift + Home

Select to the end	Shift + End
Delete entire trailing word	Ctrl + Delete
Select entire line	Shift + Up/Down Arrow
Kerning by letter	Alt + L/R Arrow
Move and scale	LMB (Left Mouse Button)

MODIFY TOOL

Rotate and Spacing	LMB + Shift
Multi-Select by area	LMB + Drag
Multi-Select Individual Objects	LMB + Ctrl
Nudge Up 1 pixel	Up Arrow
Nudge Down 1 pixel	Down Arrow
Nudge Left 1 pixel	Left Arrow
Nudge Right 1 pixel	Right Arrow
Nudge Up 10 pixels	Shift + Up Arrow

Nudge Down 10 pixels	Shift + Down Arrow
Nudge Left 10 pixels	Shift + Left Arrow
Nudge Right 10 pixels	Shift + Right Arrow

ALIGNMENT

Left Safety	Alt l
Center Safety Alignment	Alt c
Right Safety	Alt r
Bottom Safety Alignment	Alt b

LAYOUT

Align Left	Alt Shift l
Align	Alt Shift r
Align Top	Alt Shift t
Align Bottom	Alt Shift b
Align Horizontal Center	Alt Shift c

Align Vertical Center	Alt Shift v

PAGE

Add a new page	Ctrl Insert
Delete Current Page	Ctrl Shift Delete
Clone Current Page	Ctrl Shift Insert
Move up the Page list	PageUp
Move down the Page list	PageDown
Move to top of Page list	Ctrl PageUp
Move to bottom of Page list	Ctrl PageDown

SHADOW

Add (Sub) 1 to Shadow Offset X	Alt x (Shift +)
Add (Sub) 1 to Shadow Offset y	Alt y (Shift +)
Shadow Type (up/down)	Alt F5 (Shift +)
Shadow Size (raise/lower)	Alt F6 (Shift +)

Shadow Angle (raise/lower)	Alt F7 (Shift +)
Shadow Softness (raise/lower)	Alt F8 (Shift +)

EDGE

Edge Type (up/down)	Ctrl F5 (Shift +)
Edge Size (raise/lower)	Ctrl F6 (Shift +)

VIEW

Toggle Safe Area on and off	Alt s

FILES/FILEBIN…

Open	Ctrl + O
Save	Ctrl + S
Save As	Ctrl + Shift + S
Add Files	Alt + Insert
Back	Backspace
Forward	Shift + Backspace

Selection…	
Select All	Ctrl + A
Deselect All	Ctrl + Shift + A
First Item	Home
Last Item	End
Previous Item	Left/Up Arrow
Next Item	Right/Down Arrow
Previous Item and Keep Current Selection	Ctrl + Left/Up
Next Item and Keep Current Selection	Ctrl + Right/Down
First Item and Keep Current Selection	Ctrl + Home
Last Item and Keep Current Selection	Ctrl + End
Select All Previous Items	Shift + Home
Select All Previous and Keep Current Selection	Ctrl + Shift + Home
Select All Following Items	Shift + End
Select All Following and Keep Current Selection	Ctrl + Shift + End

LIVE

Send current page to live	F9
Play current live motion page (toggles play and pause)	F10
Pause current live motion page	F11
Stop current live motion page	F12
Next Page to Live	Alt + PageDown
Previous Page to Live	Alt + PageUp

7 APPENDIX B – KEY LIST BY DEVICE

This section lists the actual key names that are available for use with DataLink for the different brands of external equipment it supports.

Mostly, the key names are self-explanatory, but we've added slightly more descriptive notes anyway. Here's the complete current list, grouped by manufacturer.

Note: the* key names *listed are shown inserted between percent (%) signs as a reminder, since this is how you will enter them onto your pages.

7.1 DAKTRONICS

7.1.1 BASEBALL

%DakClock%	-	Game Clock Time – "MM:SS.T"
%DakClockStatus%	-	Game Clock Status
%DakHomeHits%	-	Home Team Hits
%DakGuestScore%	-	Guest Team Score
%DakInning%	-	Current inning
%DakHhr%	-	Hour (from Clock Time)
%DakMin%	-	Minutes (from Clock Time)
%DakSec%	-	Seconds (from Clock Time)
%DakTen%	-	Tenths (secs/10 from Clock Time)

7.1.2 BASKETBALL

%DakClock%	-	Game Clock Time – "MM:SS.T"
%DakClockStatus%	-	Game Clock Status
%DakShotClock%	-	Shot Clock Time – "SS"

%DakHomeScore%	-	Home Team Score
%DakGuestScore%	-	Guest Team Score
%DakHomeFouls%	-	Home Team Fouls
%DakGuestFouls%	-	Guest Team Fouls
%DakHomeTOFull%	-	Home Time Outs Left – Full
%DakHomeTOPart%	-	Home Time Outs Left – Partial
%DakHomeTOTotal%	-	Home Time Outs Left – Total
%DakGuestTOFull%	-	Guest Time Outs Left – Full
%DakGuestTOPart%	-	Guest Time Outs Left – Partial
%DakGuestTOTotal%	-	Guest Time Outs Left – Total
%DakPeriod%	-	Current period
%DakHhr%	-	Hour (from Clock Time)
%DakMin%	-	Minutes (from Clock Time)
%DakSec%	-	Seconds (from Clock Time)
%DakTen%	-	Tenths (secs/10 from Clock Time)

7.1.3 FOOTBALL

%DakClock%	-	Game Clock Time – “MM:SS.T”
%DakClockStatus%	-	Game Clock Status
%DakPlayClock%%	-	Play Clock Time – “SS“
%DakHomeScore%	-	Home Team Score
%DakGuestScore%	-	Guest Team Score

%DakHomeTOFull%	-	Home Time Outs Left – Full
%DakHomeTOPart%	-	Home Time Outs Left – Partial
%DakHomeTOTotal%	-	Home Time Outs Left – Total
%DakGuestTOFull%	-	Guest Time Outs Left – Full
%DakGuestTOPart%	-	Guest Time Outs Left – Partial
%DakGuestTOTotal%	-	Guest Time Outs Left – Total
%DakQuarter%	-	Current quarter
%DakMin%	-	Minutes (from Clock Time)
%DakSec%	-	Seconds (from Clock Time)
%DakTen%	-	Tenths (secs/10 from Clock Time)

7.1.4 HOCKEY

%DakClock%	-	Game Clock Time – “MM:SS.T”
%DakClockStatus%	-	Game Clock Status
%DakShotClock%%	-	Shot Clock Time – “SS“
%DakHomeScore%	-	Home Team Score
%DakGuestScore%	-	Guest Team Score
%DakHomeTOFull%	-	Home Time Outs Left – Full
%DakHomeTOTotal%	-	Home Time Outs Left – Total
%DakGuestTOFull%	-	Guest Time Outs Left – Full
%DakGuestTOTotal%	-	Guest Time Outs Left – Total
%DakPeriod%	-	Current period

%DakMin%	-	Minutes (from Clock Time)
%DakSec%	-	Seconds (from Clock Time)
%DakTen%	-	Tenths (secs/10 from Clock Time)

7.1.5 SOCCER

%DakClock%	-	Game Clock Time – “MM:SS.T”
%DakClockStatus%	-	Game Clock Status
%DakShotClock%%	-	Shot Clock Time – “SS“
%DakHomeScore%	-	Home Team Score
%DakGuestScore%	-	Guest Team Score
%DakHomeTOFull%	-	Home Time Outs Left – Full
%DakGuestTOFull%	-	Guest Time Outs Left – Full
%DakGuestTOTotal%	-	Guest Time Outs Left – Total
%DakHalf%	-	Current half
%DakMin%	-	Minutes (from Clock Time)
%DakSec%	-	Seconds (from Clock Time)
%DakTen%	-	Tenths (secs/10 from Clock Time)

7.1.6 VOLLEYBALL

%DakClock%	-	Game Clock Time – “MM:SS.T”
%DakClockStatus%	-	Game Clock Status
%DakHomeServiceIndicator%%		
%DakHomeScore%	-	Home Team Score

%DakGuestScore%	-	Guest Team Score
%DakHomeTOFull%	-	Home Time Outs Left – Full
%DakHomeTOTotal%	-	Home Time Outs Left – Total
%DakGuestTOFull%	-	Guest Time Outs Left – Full
%DakGuestTOTotal%	-	Guest Time Outs Left – Total
%DakGameNumber%	-	Current game number
%DakMin%	-	Minutes (from Clock Time)
%DakSec%	-	Seconds (from Clock Time)
%DakTen%	-	Tenths (secs/10 from Clock Time)

7.2 DSI KEYS:

Basketball

%DSIClock%	-	Game Clock Time – “MM:SS.T”
%DSIShotClock%	-	Shot Clock Time – “SS“
%DSIMin%	-	Minutes (from Clock Time)
%DSISec%	-	Seconds (from Clock Time)
%DSITen%	-	Tenths (secs/10 from Clock Time)

7.3 DAKTRONICS CG

Baseball

%CGDakHomeScore%	-	Home Team Score
%CGDakGuestScore%	-	Guest Team Score
%CGDakInning%	-	Current inning

%CGDakInningText%	-	Current inning (text)
%CGDakInningDescription%	-	Inning Description (text)
%CGDakHomeAtBat%	-	Home At -bat indicator (0 or 1).
%CGDakGuestAtBat%	-	Guest At-bat indicator (0 or 1).
%CGDakHomeHits%	-	Home Team Hits
%CGDakHomeErrors%	-	Home Team Errors
%CGDakHomeLeftOnBase%	-	Home Team Left-on-base
%CGDakGuestHits%	-	Guest Team Hits
%CGDakGuestErrors%	-	Guest Team Errors
%CGDakGuestLeftOnBase%	-	Guest Team Left-on-base
%CGDakBatterNumber%	-	At-bat Player Number
%CGDakBatterAverage%	-	At-bat Player Average
%CGDakBall%	-	Ball count
%CGDakStrike%	-	Strike count
%CGDakOut%	-	Outs
%CGDakHit%	-	Hits
%CGDakError%	-	Errors
%CGDakHitErrorText%	-	Error (text)
%CGDakErrorPosition%	-	Error Position
%CGDakInningLabel1%	-	First Inning label
%CGDakInningLabel2%	-	etc.
%CGDakInningLabel3%		
%CGDakInningLabel4%		
%CGDakInningLabel5%		

%CGDakInningLabel6%

%CGDakInningLabel7%

%CGDakInningLabel8%

%CGDakInningLabel9%

%CGDakInningLabel10%

%CGDakInningLabel11%

%CGDakInningLabel12%

%CGDakHomeInningScore1% - Home Score, First Inning

%CGDakHomeInningScore2% - etc.

%CGDakHomeInningScore3%

%CGDakHomeInningScore4%

%CGDakHomeInningScore5%

%CGDakHomeInningScore6%

%CGDakHomeInningScore7%

%CGDakHomeInningScore8%

%CGDakHomeInningScore9%

%CGDakHomeInningScore10%

%CGDakHomeInningScore11%

%CGDakHomeInningScore12%

%CGDakGuestInningScore1% - Guest Score, First Inning

%CGDakGuestInningScore2% - etc.

%CGDakGuestInningScore3%

%CGDakGuestInningScore4%

%CGDakGuestInningScore5%

%CGDakGuestInningScore6%

%CGDakGuestInningScore7%

%CGDakGuestInningScore8%

%CGDakGuestInningScore9%

%CGDakGuestInningScore10%

%CGDakGuestInningScore11%

%CGDakGuestInningScore12%

%CGDakHomePitcherNum%	-	Home Pitcher Player Number
%CGDakHomePitchesBalls%	-	Home Pitches, Balls
%CGDakHomePitchesStrikes%	-	Home Pitches, Strikes
%CGDakHomePitchesFoulBall%	-	Home Pitches, Foul Balls
%CGDakHomePitchesInPlay%	-	Home Pitches In Play
%CGDakHomePitchesTotal%	-	Total Home Pitches
%CGDakGuestPitcherNum%	-	Guest Pitcher Player Number
%CGDakGuestPitchesBalls%	-	Guest Pitches, Balls
%CGDakGuestPitchesStrikes%	-	Guest Pitches, Strikes
%CGDakGuestPitchesFoulBall%	-	Guest Pitches, Foul Balls
%CGDakGuestPitchesInPlay%	-	Guest Pitches In Play
%CGDakGuestPitchesTotal%	-	Total Guest Pitches

7.3.1 BASKETBALL

%CGDakClock%	-	Game Clock Time – “MM:SS.T”
%CGDakClockStatus%	-	Game Clock Status
%CGDakShotClock%	-	Shot Clock Time – “SS“

%CGDakHomeScore%	-	Home Team Score
%CGDakGuestScore%	-	Guest Team Score
%CGDakHomeFouls%	-	Home Team Fouls
%CGDakGuestFouls%	-	Guest Team Fouls
%CGDakHomeTOFull%	-	Home Time Outs Left – Full
%CGDakHomeTOPart%%	-	Home Time Outs Left – Partial
%CGDakHomeTOTotal%	-	Home Time Outs Total
%CGDakGuestTOFull%	-	Guest Time Outs Left – Full
%CGDakGuestTOPart%	-	Guest Time Outs Left – Partial
%CGDakGuestTOTotal%	-	Guest Time Outs Left – Total
%CGDakPeriod%	-	Current period
%CGDakMin%	-	Minutes (from Clock Time)
%CGDakSec%	-	Seconds (from Clock Time)
%CGDakTen%	-	Tenths (secs/10 from Clock Time)

7.3.2 FOOTBALL

%CGDakClock%	-	Game Clock Time – “MM:SS.T”
%CGDakHomeTeamName%	-	Home Team Name
%CGDakGuestTeamName%	-	Guest Team Name
%CGDakHomeScore%	-	Home Team Score
%CGDakGuestScore%	-	Guest Team Name
%CGDakQuarter%	-	Current quarter
%CGDakBallOn%	-	Current ball position

%CGDakDown%	-	Current down
%CGDakToGo%	-	Yards to go
%CGDakHomePossess%	-	Possession indicator (0 or 1).
%CGDakGuestPossess%	-	Possession indicator (0 or 1).
%CGDakPlayClock%	-	Play Clock Time – “SS“
%CGDakHomeTO%	-	Home Time Outs
%CGDakGuestTO%	-	Guest Time Outs
%CGDakMin%	-	Minutes (from Clock Time)
%CGDakSec%	-	Seconds (from Clock Time)
%CGDakTen%	-	Tenths (secs/10 from Clock Time)

7.3.3 HOCKEY

%CGDakClock%	-	Game Clock Time – “MM:SS.T”
%CGDakClockStatus%	-	Game Clock running status indicator
%CGDakHomeScore%	-	Home Team Score
%CGDakGuestScore%	-	Guest Team Score
%CGDakHomeTO%	-	Home Time Outs
%CGDakGuestTO%%	-	Guest Time Outs
%CGDakHomeShotsOnGoal%	-	Home Shots on Goal
%CGDakGuestShotsOnGoal%	-	Guest Shots on Goal
%CGDakPeriod%	-	Current period
%CGDakHomePenalty1_PlayerNum%	-	Home Penalty, player number
%CGDakHomePenalty1_PenaltyTime%	-	Home Penalty, time left
%CGDakGuestPenalty1_PlayerNum%	-	Guest Penalty, player number

%CGDakGuestPenalty1_PenaltyTime%	-	Guest Penalty, time left
%CGDakHomePenalty2_PlayerNum%	-	Home Penalty, player number
%CGDakHomePenalty2_PenaltyTime%	-	Home Penalty, time left
%CGDakGuestPenalty2_PlayerNum%	-	Guest Penalty, player number
%CGDakGuestPenalty2_PenaltyTime%	-	Guest Penalty, time left
%CGDakMin%	-	Minutes (from Clock Time)
%CGDakSec%	-	Seconds (from Clock Time)
%CGDakTen%	-	Tenths (secs/10 from Clock Time)

7.3.4 SOCCER

%CGDakClock%	-	Game Clock Time – “HH:MM:SS.T”
%CGDakHomeTeamName%	-	Home Team Name
%CGDakGuestTeamName%	-	Guest Team Name
%CGDakHomeScore%	-	Home Team Score
%CGDakGuestScore%	-	Guest Team Score
%CGDakHalf%	-	Current half
%CGDakHomeShotsOnGoal%	-	Home Shots on Goal
%CGDakHomeSaves%	-	Home Saves
%CGDakHomeCornerKicks%	-	Home Corner Kicks
%CGDakGuestShotsOnGoal%	-	Guest Shots on Goal
%CGDakGuestSaves%	-	Guest Saves
%CGDakGuestCornerKicks%	-	Guest Corner Kicks
%CGDakHomeFouls%	-	Home Fouls
%CGDakGuestFouls%	-	Guest Fouls

%CGDakHhr%	-	Hours (from Clock Time)
%CGDakMin%	-	Minutes (from Clock Time)
%CGDakSec%	-	Seconds (from Clock Time)
%CGDakTen%	-	Tenths (secs/10 from Clock Time)

7.3.5 VOLLEYBALL

%CGDakClock%	-	Game Clock Time – "MM:SS.T"
%CGDakClockStatus%	-	Game clock running status indicator
%CGDakHomeGameScore%	-	Home Team Score
%CGDakGuestGameScore%	-	Guest Team Score
%CGDakHomeTO%	-	Home Time Out
%CGDakGuestTO%	-	Guest Time Out
%CGDakHomeServiceIndicator%	-	Home Service indicator (0 or 1)
%CGDakGuestServiceIndicator%	-	Guest Service indicator (0 or 1)
%CGDakHomeGamesWon%	-	Home Games Won
%CGDakGuestGamesWon%	-	Guest Games Won
%CGDakGameNumber%	-	Current Game Number
%CGDakHomeGameScore1%	-	Home Score, First Game
%CGDakHomeGameScore2%	-	Home Score, Second Game
%CGDakHomeGameScore3%	-	Home Score, Third Game
%CGDakHomeGameScore4%	-	Home Score, Fourth Game
%CGDakGuestGameScore1%	-	Guest Score, First Game
%CGDakGuestGameScore2%	-	Guest Score, Second Game
%CGDakGuestGameScore3%	-	Guest Score, Third Game

%CGDakGuestGameScore4%	-	Guest Score, Fourth Game
%CGDakMin%	-	Minutes (from Clock Time)
%CGDakSec%	-	Seconds (from Clock Time)
%CGDakTen%	-	Tenths (from Clock Time)

7.4 OES

7.4.1 BASKETBALL

%OESClock%	-	Game Clock Time – “MM:SS.T”
%OESShotClock%	-	Shot Clock Time
%OESAwayScore%	-	Guest Team Score
%OESHomeScore%	-	Home Team Score
%OESHomeFouls%	-	Home Team Fouls
%OESAwayFouls%	-	Guest Team Fouls
%OESHomeTOFull%	-	Home Team Time Out - Full
%OESHomeTOPart%	-	Home Team Time Out - Partial
%OESAwayTOFull%	-	Guest Team Time Out - Full
%OESAwayTOPart%	-	Guest Team Time Out - Partial
%OESPeriod%	-	Current period
%OESMin%	-	Minutes (from Clock Time)
%OESSec%	-	Seconds (from Clock Time)
%OESTen%	-	Tenths (secs/10 from Clock Time)

7.5 TRANSLUX FAIRPLAY

7.5.1 FOOTBALL

%TLFPClock%	-	Game Clock Time – “MM:SS.T”
%TLFPQuarter%	-	Current quarter
%TLFPHomeScore%	-	Home Team Score
%TLFPVisitorScore%	-	Visiting Team Score
%TLFPDown%	-	Current down
%TLFPToGo%	-	To go (yards
%TLFPBallOn%	-	Ball on (yard line)
%TLFPFieldTimer%	-	Current field timer (SS)
%TLFPMin%	-	Minutes (from Clock Time)
%TLFPSec%	-	Seconds (from Clock Time)
%TLFPTen%	-	Tenths (secs/10 from Clock Time)

7.6 WHITEWAY

7.6.1 BASKETBALL

%WWPeriod%	-	Current period
%WWClock%	-	Game Clock Time – “MM:SS.T”
%WWAwayScore%	-	Guest Team Score
%WWHomeScore%	-	Home Team Score

%WWShotClock%	-	Shot Clock Time
%WWMin%	-	Minutes (from Clock Time)
%WWSec%	-	Seconds (from Clock Time)
%WWTen%	-	Tenths (secs/10 from Clock Time)

7.7 WHITEWAY RAINBOW

7.7.1 BASKETBALL

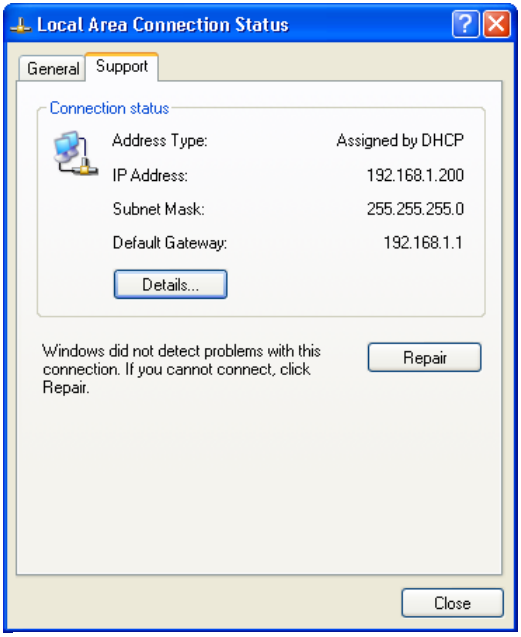
%WWRSportNum%	-	Sport Number
%WWRPeriod%	-	Current period
%WWRShotClock%	-	Shot Clock Time
%WWRAwayScore%	-	Guest Team Score
%WWRHomeScore%	-	Home Team Score
%WWRMinutes%	-	Minutes (from Clock Time)
%WWRSeconds%	-	Seconds (from Clock Time)
%WWRTenths%	-	Tenths (from Clock Time)

8 APPENDIX C – NETWORKING NOTES

Clearly, a reliable and competent network connection must exist for your LiveText workstation's output to be displayed live using a compatible live production system. Any issue that impedes a good connection will likewise impede or even preclude the use of LiveText along with a live production system.

Reading this section will not turn you into a network guru, but it *will* assist you to diagnose some simple issues.

8.1 PING IS YOUR FRIEND



More complex problems may require you to turn to the system administrator for help -- but you may be able to resolve simpler issues by borrowing one of the IT Departments secret weapons!

Ping is a humble but effective (and free!) tool to confirm that the requisite connection exists. A standard inclusion in operating systems, Ping may help you diagnose LiveText connection issues.

Figure 66

Ping sends a small set of data packets to the target host (IP number), then 'listens' for an echo response in return. It estimates the round-trip time in milliseconds, records any data losses, and

displays a summary when finished. Bottom line, if you can't ping your target, your connection has problems (the problem might be as simple as a bad cable connection.)

Finding the target IP number:
To issue a ping, you need know the IP number of the target computer.

On a Windows XP® system, you can find this number by:

(On your live production suite, click the [x] button in the upper-right corner of the screen, and select **Admin** to get to the Windows Desktop.)

Next, select **Network Connections** from the Windows **Start Menu** (look in the **Settings** sub-menu if it is not listed at the top level.)

Inside the **Network Connections** panel, right-click on the icon for your **LAN** (local Area Network) and select **Status**. The **IP Address** for the system is shown on the **Support** tab.

Issuing a Ping
Ping is a command line program, and must be run from a command shell on the issuing computer. To open a command shell and send a ping, follow the procedure below that applies.

Windows

- On your live production suite, click the [x] button in the upper-right corner of the screen, and select **Admin** to get to the Windows Desktop.
- For all Windows XP® systems select the Windows Start Menu command **Run**
- Type "**CMD**" (without quotation marks) into the **Run** dialog panel
- Press your **Enter** key a command shell window will open.)
- Type "Ping" (without quotes) followed by a space and the target IP number, as in the image below – then press **Enter**.

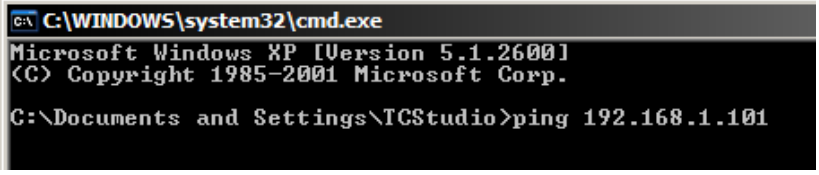


Figure 67

- Ping will go to work, and in a moment or two begin reporting results. A ping *failure* (indicating a network problem) will look like Figure 68.

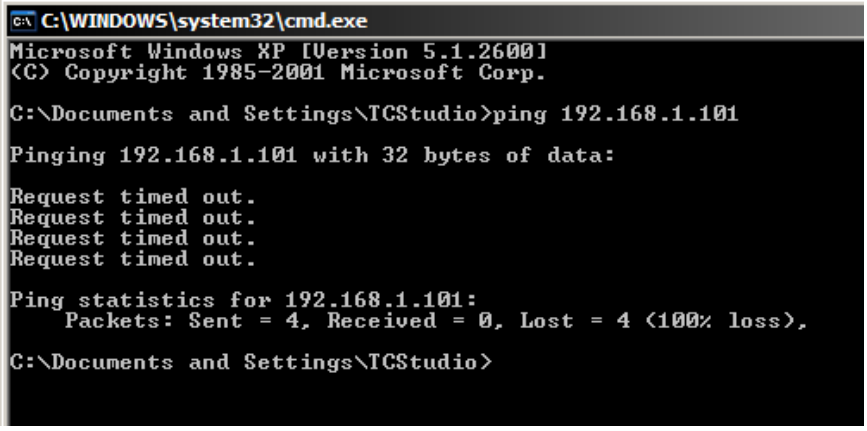


Figure 68

- A successful ping will display a report like Figure 69.

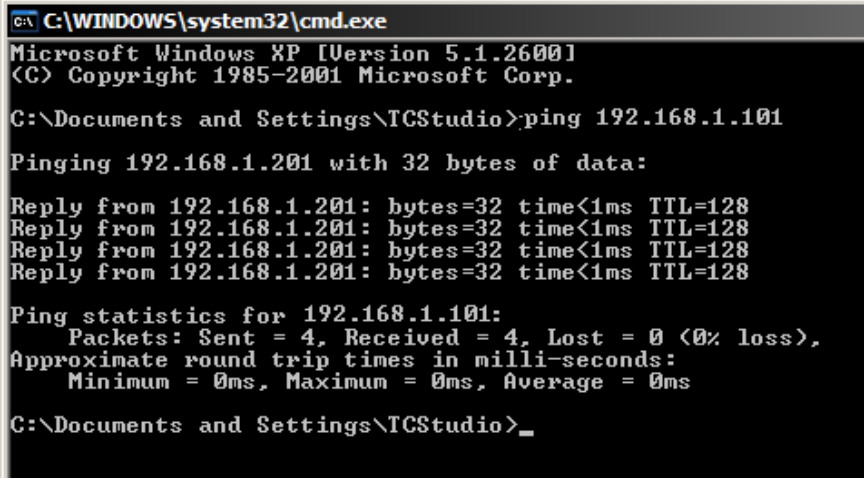


Figure 69

9 INDEX

R

S

T

V

W

10 CREDITS

Acknowledgments: Tim Jenison, Jim Plant

Engineering: Andrew Cross, Alvaro Suarez, Brian Brice, Cary Tetrick, Charles Steinkuehler, Dan Fletcher, Gil Triana, Greg Heine, Jagannadh Malla, James Killian, Jan Uribe, Jarrod Davis, Jeremy Brosius, Jeremy Wiseman, John Perkins, Karen Zipper, Kevin Rouviere, Kirk Morger, Mahdi Mohajer, Masaaki Konno, Menghua Wang, Michael Joiner, Michael Watkins, Mike Murphy, Nathan Kovner, Naveen Jayakumar, Ryan Hansberger, Shawn Wisniewski, Steve Bowie, Todd Bryant, Troy Stevenson

Additional thanks to: NewTek Marketing, Sales, Business Development, Customer Support,Training and Development, and Operations

Contributors and Friends (Past and Present):

Eugene Kosarovich, Joe de Max, John Powell, Kevin Nations, Kris Gurrad, Wendell 'Wink' Friesen, Zack Lounsbury