



Animation Store Creator™ Advanced Edition

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Chapter 1: INTRODUCTION

Various NewTek systems feature *Animation Store* transitions, providing full color overlays embedded in each transition, per-pixel A/B source selection at each point, realtime cloth dynamic effects, and slow-motion interpolation so the transition (and overlay) can be run at any speed and still look fabulous.

The included *Animation Store Creator* allows talented artists to easily author custom *Animation Store* transitions, using their own preferred graphics software tools to prepare the animation sequences displayed during the transition.

Some video systems provide a number of ‘animation stores’ to supply animated color overlays during transitions. Configuration can be a cumbersome multi-step operation. As well, since only a few effects are loaded at any time, users must juggle between these for different switcher effects. Conveniently, NewTek’s *Animation Store* transitions support provides an effectively unlimited number of effects for every effects channel (including DSKs, Overlay channels, and the main Background Transition).

Newtek’s *Animation Store* implementation makes setup almost unnecessary and switching less bothersome. In addition, *Animation Store* transitions support not just one but two embedded sound samples: one heard when flying on, and the other when flying off. But how do you create your own animation store transitions?

The included *Animation Store Creator* application allows you to easily author custom *Animation Store* transitions. You can use your preferred graphics software tools to prepare the animation sequence displayed during the transition, and then bring sounds and color together in a single easily applied transition using this tool.

SECTION 1.1 OVERVIEW

The *Animation Store Creator* is the transition authoring application, and is attractive, simple, and user friendly. In simplest terms, it accepts one or two image sequences as inputs:

- The first image sequence supplies the full color overlay.
- A second sequence can be supplied to define the transition itself. This one is optional, since it is possible to create a transition without it by specifying a *Cut Frame* instead.

In addition, two optional sound files can be supplied, as mentioned previously, and you can also designate an icon for the new transition. On completion, transitions automatically appear in the correct location for convenient live use.

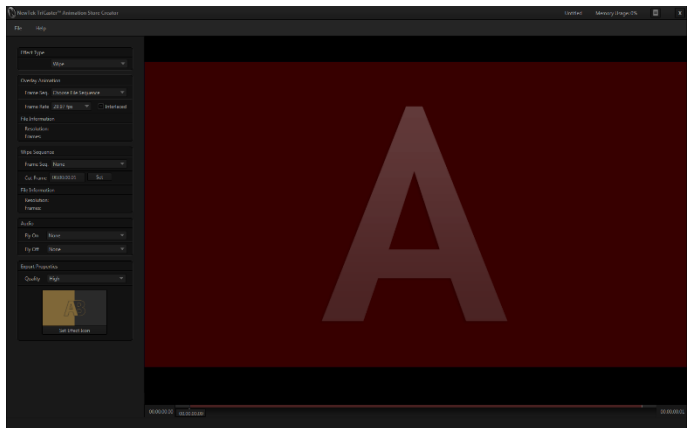


FIGURE 1

1.1.1 LAUNCHING THE APPLICATION

The application is available from the *Home* page of the *Startup* screen on your NewTek system, or a desktop icon for standalone installations .

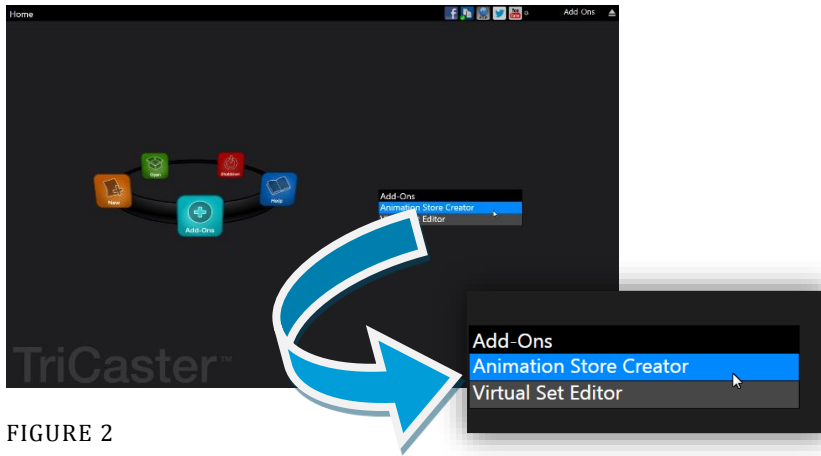


FIGURE 2

For example, in the live video production suite, click the *Add-Ons* button on the icon ring and select the *Animation Store Creator* link shown at right.

STANDALONE LAUNCH

Launch *Animation Store Creator* from the Windows® Desktop Start menu after installation.

1.1.2 SCREEN LAYOUT

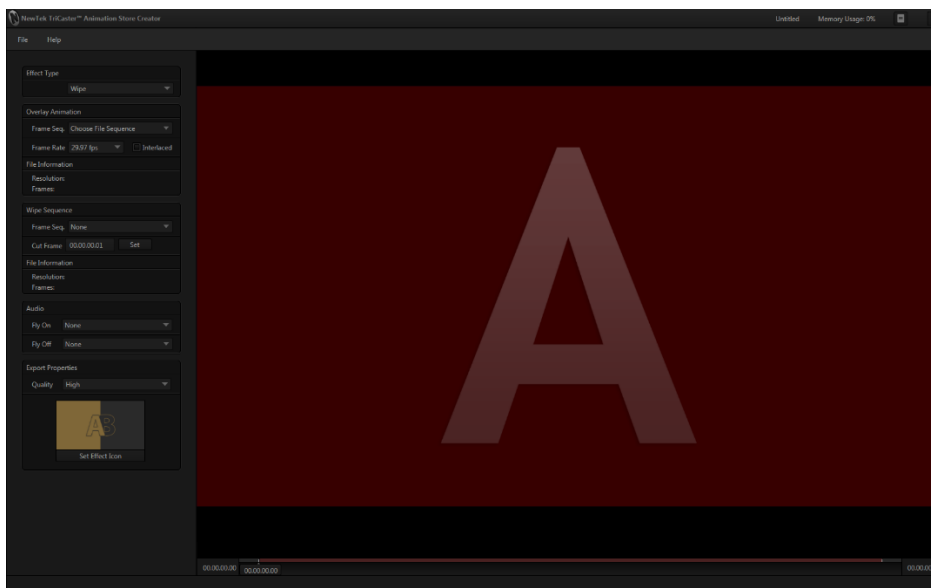


FIGURE 3

The largest area of the screen is the *canvas*; this displays the result of your efforts. A scrub bar beneath the canvas (Figure 4) lets you preview the effect as it will appear any point in time.

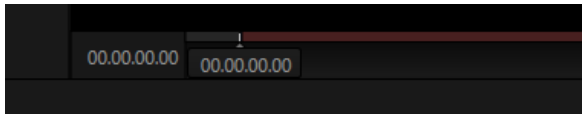


FIGURE 4

The titlebar also shows *Memory Usage* at right. Unnecessarily large or long sequences can waste *Effects Memory* during live operations (less is more in this context).

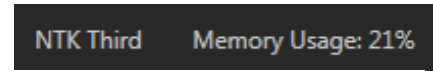



FIGURE 5

Running down the left side of the canvas, you'll see a stack of controls with standard menus shown at the top. The control groups in this section are briefly described in the table below.

<i>Menus</i>	File Help	
<i>Effect Type Settings</i>	Effect Type Wipe	The <i>menus</i> allow you to save your project, export the finished transition (including exporting as an executable installer file), or view <i>Help</i> information.
<i>Overlay Controls</i>	Overlay Animation Frame Seq. Choose File Sequence Frame Rate 29.97 fps <input type="checkbox"/> Interlaced File Information Resolution: Frames:	The Effect type menu governs the manner in which the transition proceeds.
<i>Transition Controls</i>	Wipe Sequence Frame Seq. None Cut Frame 00.00.00.01 Set File Information Resolution: Frames:	<i>Overlay, Transition</i> and <i>Audio Control</i> groups allow import of files sequences defining the effect.
<i>Audio Controls</i>	Audio Fly On None Fly Off None	Finally, <i>Export Controls</i> allow you to choose the most 'economical' (in terms of memory) quality for your transition, and assign a thumbnail icon image to appear in the Live Desktop's <i>Transition Bin</i> .
<i>Export Controls</i>	Export Properties Quality High  Set Effect Icon	

Chapter 2: GETTING STARTED

In this section we'll talk about the transition creation process. We'll discuss the Animation Store Creator workflow, and the nature and purpose of the image sequences and audio files it uses.

We'll also look at the File menu output options, and project management.

SECTION 2.1 TRANSITION DESIGN

Let's spend a moment considering the purpose of transitions as this relates to design and the order of operations in the *Animation Store Creator* software.

Setting aside all other aspects, a properly prepared transition accomplishes one of two things:

- a) Applied to the live production suite's *Background* video layer, it will ultimately swap the displays from the current *Program* and *Preview* row sources
- b) Or, applied to an *Overlay* and *DSK* channel, it will introduce another source (commonly a title or graphic, but not limited to those options) to appear 'above' (or 'in front of') the *Background* video layer ... and remove it from view if the transition is run in reverse.

In both cases above, the transition manipulates two sources of imagery, which we can refer to as *source A* and *source B*:

- At the beginning of a transition, only *source A* is displayed.
- *Source B* is introduced as the transition progresses, either replacing *source A* (when the transition is applied in the *Background* channel) or appearing superimposed above it (when applied to a *DSK/Overlay* channel).
- An *Overlay Animation* constitutes an added source displayed above both *source A* and *B* during the course of the transition, being completely removed from view when the transition ends.

In all cases, the manner in which *source B* is introduced is governed by the controls and animation content (if any) you supply in the *Wipe/Warp Sequence* control group, discussed a bit later in Section 2.4, and also by the *Effect Type* menu setting – discussed next.

SECTION 2.2 EFFECT TYPE

The first step in creating a new *Animation Store Transition* is choosing the *Effect Type*, using the menu provided at the top of the *Control Stack*. We'll consider the first three here, and discuss a fourth *Effect Type* (*Frame Buffer Animation*) separately, in Section 2.7.

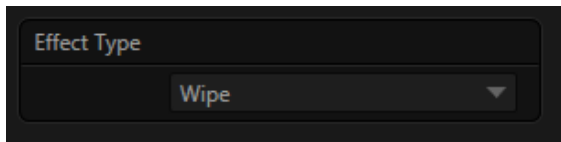


FIGURE 6

2.2.1 WIPE

Consider a simple transition. *Overlay Animations* (0) generally either begin with a fully transparent frame, gradually dissolving onto the screen; or it comes into view from an off-screen location. In both cases, the overlay is removed from view by the end of the effect in one manner or another, fully revealing the newly introduced source.

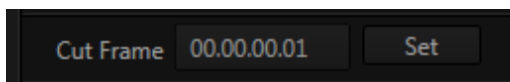


FIGURE 7

Often, the *Overlay Animation* is designed to completely fill the screen at some point, allowing the actual transition to occur as a cut *behind* the animation. In this case, there is no need for a separate animation sequence to define the transition. This is why the *Wipe Sequence* controls allow you to simply specify (or *Set* the frame you are currently previewing as) the *Cut Frame*.

Hint: The title of the Wipe/Warp Sequence control group varies depending on the Effect Type selection.

Otherwise, you can supply a simple black and white animation to define a transition as an animated blend of source *A* and *B*. The “*Wipe*” *Effect Type* supports both of these types of transitions. (Details about animation sequences for *Wipe* transitions are provided in Section 2.4.)

2.2.2 WARP A/B

The two *Warp* options in the *Effect Type* menu unleash some of *Animation Store Creator*’s most powerful capabilities. Using either of these options, the corresponding *source* (*A* or *B*) is completely governed by the animation you supply. The designated source can be moved, rotated, and distorted in endless ways:

Select *Warp A* to:

- Fly *source A* off the screen, revealing *source B* ‘behind’ it.
- Or roll *source A* into a ball and roll it off the screen.

Select *Warp B* to animate source *B*:

- Fade it up with a ripple to hide *source A*
- Or unroll source *B* like a scroll over top of *source A*

Note: Transitions prepared using the Warp A option are unsuitable for use in an Overlay or DSK channel.

Information on preparing warp animations is provided in Section 2.5.

2.2.3 WARP A AND B

The *Warp A* and *B* option in the *Effect Type* menu allows both sources to be completely governed by the animation you supply. This is achieved by adding blue to the warp gradient of the *B* source.

Note: Be sure to supply an Overlay Animation when using this Effect Type.

SECTION 2.3 OVERLAY ANIMATION SEQUENCE

The next step when creating a new *Animation Store Transition* is to load an *Overlay Animation*.

The *Overlay Animation* supplies the full color overlay imagery that appears on top of all *Switcher* video layer content (i.e., both sources – *A* and *B*) as they are displayed or removed when the effect is applied in the *Live Desktop*.

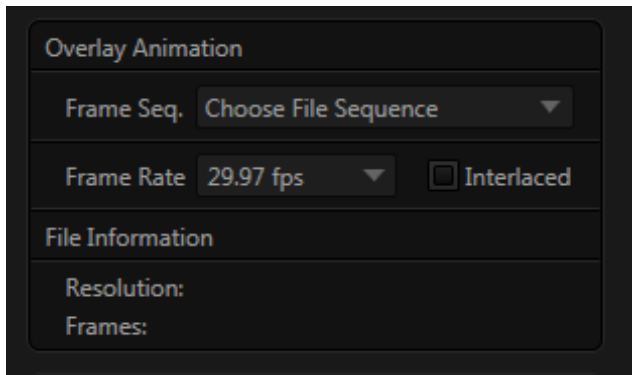


FIGURE 8

2.3.1 FILE SEQUENCES

You will likely supply the *Overlay Animation* to the *Animation Store Editor* as an incrementally numbered file sequence. Typical animation and effects programs are capable of outputting suitable file sequences. File naming conventions for sequences often takes the form ‘filename0001.png, filename0002.png’, etc. (or perhaps ‘filename.0001.png’, or ‘filename_0001.png’).

The files should be prepared in a 32bit format (i.e., with embedded alpha channel) of course, so the underlying *Switcher* sources is visible behind the overlay. Most common 32bit file formats are supported, including PNG, TIFF, TARGA, and (flattened) PSD.

Hint: If your graphics application of choice does not automatically export 32bit files in ‘straight’ or ‘non-premultiplied’ format, you should choose that option.

As an alternative to file sequences, the most common 32 bit animation file formats are also supported.

FRAME COUNT

The number of images in the file sequence will depend on your specific need. Typically, this sort of transition effect is not very long, often just one or two seconds. A two second transition intended to be

played at normal speed (Medium, or [M] in the *Transitions group* on the *Live Desktop*) would look great with a sequence of 60 frames for NTSC, or 50 for PAL.

If you expect the transition will primarily be applied with a shorter duration you could use less frames, say just fifteen. (Using the lesser frame count when possible has the benefit of reducing demands for *Effects Memory* in the *Switcher*.)

Taking it Slow:

If necessary, the live production suite automatically performs smooth slow motion interpolation on Animation Store Transitions to accommodate longer than normal duration settings (or manual T-Bar use).

However, there is another approach. Suppose an effect designed for two seconds will sometimes be run with a four second long duration. You can optionally double the sequence length, to ensure silky smooth transitions at the longer runtime (e.g., a two second PAL animation can be created using 100 frames, instead of 50).

Adjust the *Frame Rate* control, discussed in Section x, to preserve accurate timing for the effect. Note that this approach is not normally necessary, as the slow motion interpolation is quite good. Keep in mind, too, that this alternative consumes much more of the *Switcher's* available *Effects Memory*.

THE MEDIA BROWSER

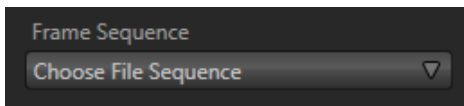


FIGURE 9

Click the drop-down menu labeled *Frame Sequence* (Figure 9) and select *Browse* to open NewTek’s custom *Media Browser* (Figure 10). The features and usage of the *Media Browser* are discussed at length in the live production suites manual, so we won’t repeat the details here. Note, however, that if you organize the files you intend to use for your transition creation process in a logical way, the *Media Browser's Add Media Location* feature can be very convenient.

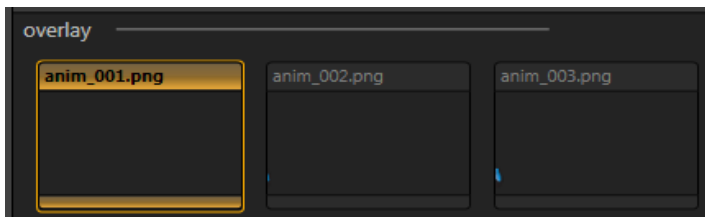


FIGURE 10

This folder contains sub-directories holding the overlay file sequence (this folder is named “overlay”), the transition file sequence (“transition”) and sound files (“sounds”),

When the new User Location is selected at left, the two files sequences appear grouped under conveniently named headers in the file pane at right (Figure 10), making file preview and selection easy.

Hint: Alternatively, you can click the Browse button in the Media Browser to use a standard system file explorer to locate your files.

FRAME RATE & INTERLACE

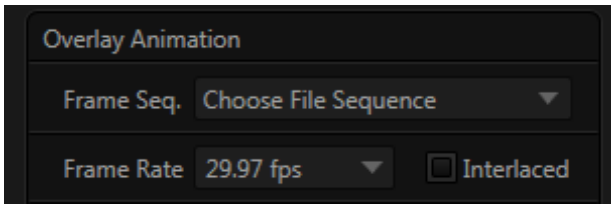


FIGURE 11

The *Frame Rate* control allows you to choose appropriate settings for your target session format (PAL, or NTSC). As mentioned earlier (in Section 2.3.1), you can choose a double-rate setting when you think it might be necessary to do so, but normally you should avoid this option, to minimize unnecessary use of *Effects Memory*.

Checkmark the *Interlace* switch when the animation sequence is fielded to ensure smooth motion.

Hint: Interlace support assumes 'upper field first order'. NTSC SD D1 format frames (720x486 resolution, lower-field-first) are converted to this format if detected.

SECTION 2.4 WIPE SEQUENCE

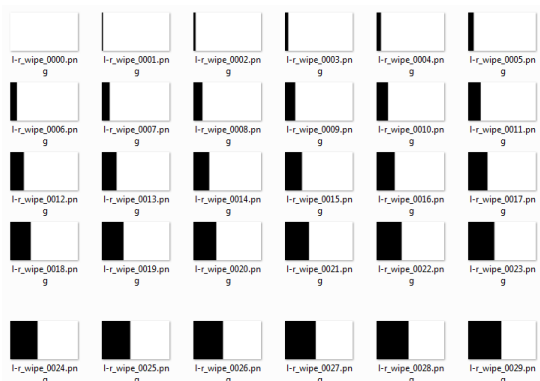
The details of the animation sequence used to define the transition itself are fairly similar to the material we just discussed, with a few important distinctions.

Note: This step is optional. If your overlay animation sequence completely fills the screen at any point, you can simply use the Cut Frame control to designate the frame where the change occurs. No transition sequence is required in this case.

The transition file sequence serves a different purpose than the overlay sequence does. It tells the *Animation Store Creator* what content will appear in each pixel of the screen at any given time during the effect.

At this point, you can supply either a black and white transition animation for simple pixel-blending effects, or a UV-map gradient animation for more elaborate effects that move and warp the video source (a suitable texture for use in warping animations is supplied in the folder at C:\...\Effects\Animation Stores\Samples).

2.4.1 SIMPLE TRANSITIONS



A very basic transition created with black and white imagery behaves as follows: White pixels in a given frame define the static background layer. *Source B* will appear wherever black pixels exist in the current frame. Pixels partway in between black and white will result in overlay transparency.

Let's consider an example: In Figure 12, we see thumbnail icons for a black and white image sequence prepared to define a simple transition. As you can see, the first frame is white.

The black section of each frame ‘grows’ from left to right as the sequence progresses.

FIGURE 12

For this sort of effect, the *Effect Type* option is set to *Wipe*.

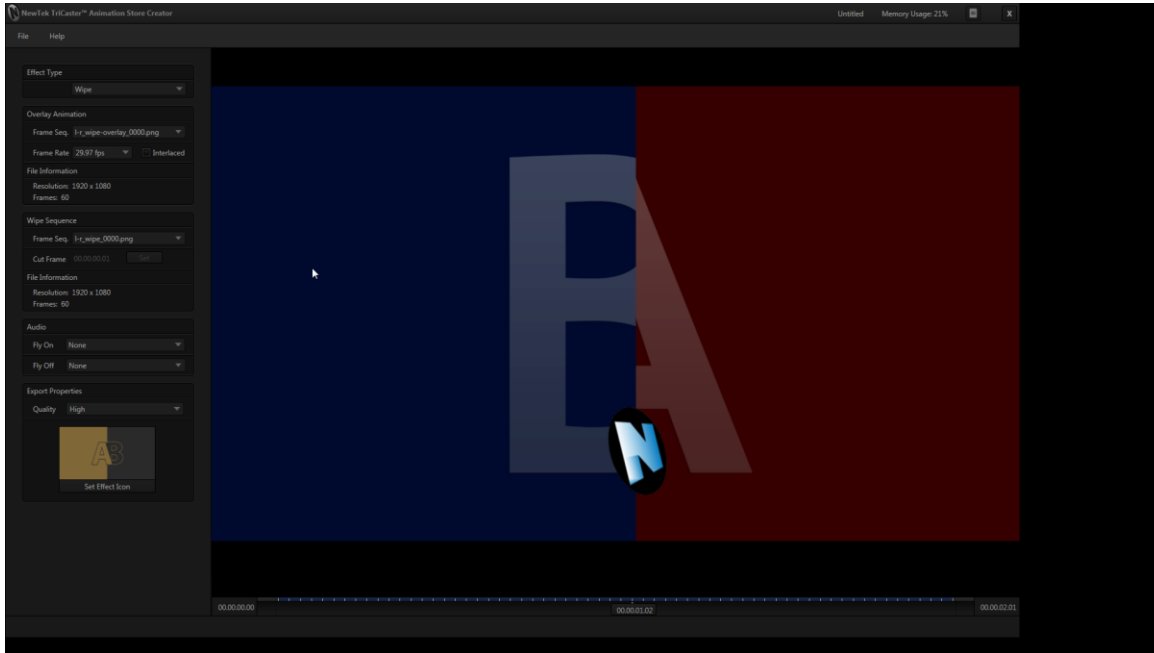


FIGURE 13

In Figure 13, the canvas shows a frame about halfway through a transition. This shows the outcome at that frame as the transition sequence wipes the incoming *source B* over *source A*, which is already on the screen as the transition begins.

In the assigned *Overlay Animation*, a full color overlay (the NewTek “N” logo) has traveled from left-to-right, travelling along with the leading edge of the wipe. Applied to a *DSK* or *Overlay* channel, this simple *Animation Store* can be used to reveal a lower third type title, or as a full screen wipe.

SECTION 2.5 WARP SEQUENCE



FIGURE 14

As mentioned earlier, much more elaborate and complex transitions can be prepared using UV gradient animations (you can find a sample UV texture map to get you started in the folder at C:\Program Files\NewTek\...\Effects\Animation Stores\Samples).

Using suitable graphics software to distort and translate the supplied texture, you can create dynamic cloth effects to reveal your video and graphic sources.

Animations can be designed that move the gradient texture into or out of the frame. Depending on whether the animation is assigned to *source A* or *B* (using the *Warp A* or *Warp B* options in the *Effect Type* menu),

the animation can remove the current source, introduce a new one in its place, or reveal an incoming overlay.

You'll find example file sequences in the content supplied with your Animation Store Creator, whether in the folder at C:\...\Effects\Animation Stores\Samples for an integrated NewTek live production suite version of ASC, or installation, or for standalone versions, in a NewTek Content folder installed in the shared Libraries\Documents directory (by default).

Examine these files to gain a good understanding of the relationship of the overlay and transition animation sequences and how the Wipe, Warp A and Warp B options affect the resulting effect.

Note: The live production suite does not permit you to load transitions created using the 'Warp A' option into the transition bin for an Overlay or DSK channel, as the effect would not produce a useful result.

SECTION 2.6 AUDIO TRACK

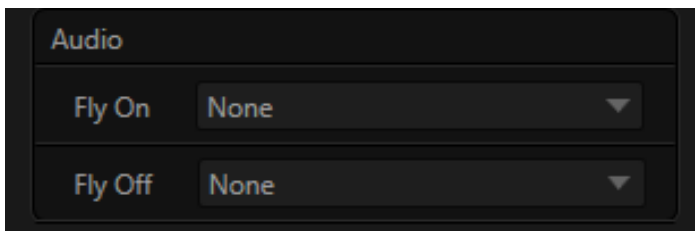


FIGURE 15

You can optionally select sound files for your transition using file menus labeled *Fly On* and *Fly Off* in the *Audio Track* control group.

Files should be a suitable length, naturally. Most common audio file formats are compatible (including .WAV and .MP3).

Audio can be extracted from video file formats. This allows you to use the same video file as both

the frame sequence and audio source (under their respective menus).

Hint: Audio levels for transitions can be controlled in the live production suite's Audio Mixer.

SECTION 2.7 FRAME BUFFER ANIMATION

A more recent addition to the *Effect Type* menu is *Frame Buffer Animation*.

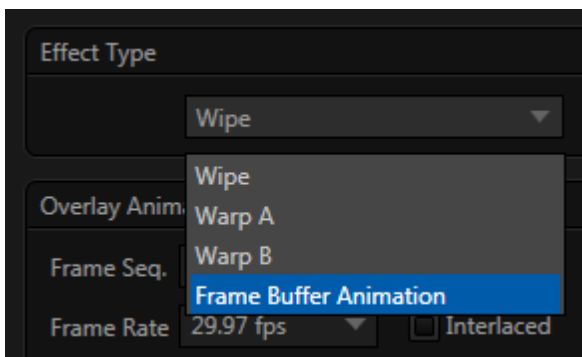


FIGURE 16

Frame Buffer Animations (supported in live production suite version 2 models only) provide powerful animation effects that can be used independently of Media Players, effectively allowing you to inject

animation freely all throughout your productions. They serve particularly well in DSKs and M/E Key layers, but can also provide useful elements for M/E compositions, and more.

Selecting this *Effect Type* option updates *the Control Stack* to display relevant options and settings in the area below (Figure 17).

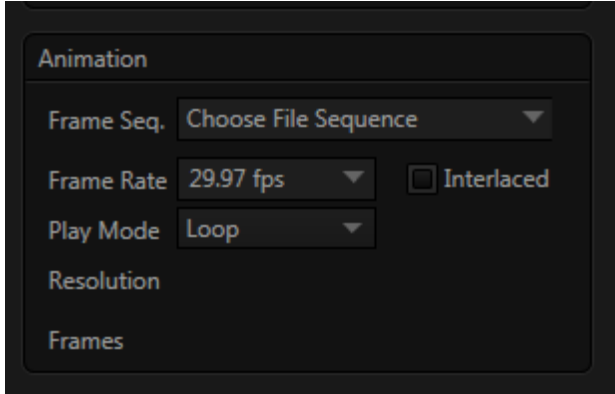


FIGURE 17

The *Frame Seq.* selector (*Animation* control group) lets you choose a file sequence (or animation clip in common formats, including those with embedded alpha channel). The *Resolution* and *Frames* display fields update after loading the file(s).

PLAY MODE

The video production suite's *Buffer* system supports three types of animated effects. Select *Loop*, *Single*, or *Ping Pong* using the *Play Mode* menu, according to the type of effect you require.

SECTION 2.8 EXPORT PROPERTIES

The last control group is labeled *Export Properties*. The *Quality* drop-down menu has three optional settings. Generally, the *Normal* or *High* setting will do. Consider using *Ultra* only for situations involving highly detailed imagery in the overlay channel, and especially slow transition speeds.

Hint: Again, using unnecessarily high settings without a good reason simply wastes valuable Effects Memory.

To select an icon for the new transition to be generated, drag the scrub bar beneath the canvas to a suitable frame, and click the Set button in the *Export Properties* group.

SECTION 2.9 THE MENUS

Two primary menus sit at upper left, just beneath the application titlebar. Let's consider the features found in the *File* and *Help* menus.

2.9.1 THE FILE MENU

The file menu permits you to save and re-open transition projects, and export your results.

1. *New* – open a new ‘blank’ project
2. *Open* – open a previously stored transition project to continue working with it
3. *Recent* – shows a list of recently active transition projects
4. *Save* – store the current project
5. *Save As* – save a copy of the current project with a new name
6. *Export to* – compile the finished transition, and store it in the correct location for live use. Note that the optional targets for export purposes will include the host system when appropriate, along with other suitable live production suites detected on the local network (target systems must be in ‘Live’ mode).
7. *Create Installer* – create a standalone installer (.exe) file that you can share with another NewTek live production suite user
8. *Exit*.

CREATE INSTALLER

Select the *File* menu point *Create Installer* to open the dialog panel shown in Figure 18.

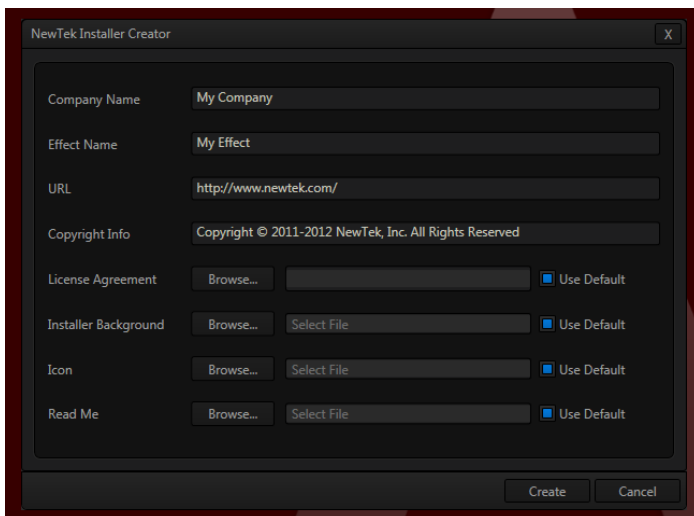


FIGURE 18

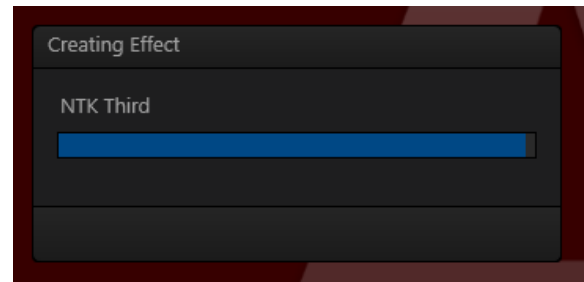


FIGURE 19

Enter information for the different fields listed, and select either *Browse* (to locate a custom file you have prepared) for the file entries listed below, or select *Use Default*.

Once you have completed these steps, press the *Create* button at the bottom of the panel. After you supply a filename, a progress gauge will be shown as the standalone installer file (.exe) is prepared – Figure 19.



FIGURE 20

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- NewTek Business Development

This product uses the following libraries, licensed under the LGPL license (see link below). For the source, and the ability to change and recompile these components, please visit the links provided:

- FreeImage library <http://freeimage.sourceforge.net/>
- LAME library <http://lame.sourceforge.net/>
- FFMPEG library <http://ffmpeg.org/>

For a copy of the LGPL licence, please look in the folder c:\TriCaster\LGPL\

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