NewTek

TriCaster

8000 CS
AVID® Artist Mix
850 CS | 450 CS
40 CS
850 TW | TW-42
LC-11

USER GUIDE

Revised – Jan. 4, 2013

www.newtek.com

TriCaster 8000 CS
AVID® Artist Mix
TriCaster 450/850 CS
TimeWarp 850 TW
TriCaster 40 CS
TimeWarp TW-42
LiveControl LC-11

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1 ABOUT THIS MANUAL

Estimates are that between 60 and 97% of the human race hate reading manuals. Most prefer to jump right in, maybe asking a friend for occasional help … and who can blame them?

This manual attempts to tell you what you need to know in a friendly, concise way, and also provides a comprehensive reference section you can turn to when you need finer detail.

1.1 MANUAL ORGANIZATION

Even if you hate reading, please take a moment to peruse this section, which explains the manual's organization. You may find you can escape with a minimum of reading (or, if you are a devout reader, you can be the hero others turn to for expert advice).

The manual is structured as follows:

❖ **Part I – Getting Started**: Part 1 provides an introduction to TriCaster™ Control Surfaces – a brisk jog through fundamentals including an overview of control surface categories and models, and their installation.

❖ **Part II – The Control Surfaces**

     o **TriCaster™ 8000 CS**: A striking new control surface designed specifically to provide primary control of the revolutionary TriCaster™ 8000 model live production system.

     o **TriCaster™ 450 & 850 CS**: This section will familiarize you with two very similar control surfaces designed specifically to provide primary control of TriCaster™ 455 and 855 model live production systems.

o **TimeWarp**

  ▪ **TriCaster™ 850 TW**: Turn here for everything you need to know about this powerful instant replay control surface designed exclusively for TriCaster™.

  ▪ **TimeWarp™ TW-42**: This section includes coverage of the original NewTek TimeWarp™ instant replay controller.

o **TriCaster™ LC-11**: A discussion of the primary control surface designed for use with the standard definition model TriCaster Studio™ and TriCaster Broadcast™ live production systems.

> *Note: The original TriCaster™ RS-8 (or TriCaster™ VM) control surface is no longer in production and is not covered.*

A.1 A CONTROL SURFACE FOR EVERY NEED

This User Guide discusses *multiple* TriCaster™ control surfaces, including TriCaster™ 8000 CS, 450 and 850 CS, TriCaster™ 850 TW, and several others.

Two of these (TriCaster™ 450 and 850 CS) are virtually identical as respects operations and control layouts, and we will consider them together in Part II. Others sections cover various CS models in turn. We're very confident you'll find one or more of these devices to be just excellent for your live production needs.

2 WELCOME AND SETUP

This chapter introduces the different control surfaces offered by NewTek®, helping you to see how they complement your TriCaster™ and bring added ability to your production setup.

The section also includes brief notes on connecting TriCaster™ control surfaces for use with your live production system.

2.1 WELCOME

NewTek TriCaster™ systems provide unrivalled live production power. With a TriCaster™ control surface in front of you, all of that power is right at your fingertips. These sleek yet rugged control surfaces deliver precise control over the video layers constituting your program. Quickly and confidently perform your switching operations. Advanced TriCaster control surfaces manage transitions on a per layer basis, govern the background composition, overlay and overlay transitions, multi-layer virtual input configuration and zoom, control multiple Media Players, record, stream and grab features, Auxiliary output, and even more.

2.2 SOMETHING FOR EVERYONE

TriCaster control surfaces can be grouped into two categories offering either primary switcher control or instant replay functionality.

2.2.1 PRIMARY CONTROL

At the time of writing, three devices fall into this category, as follows:

> ➢ TriCaster 8000 CS: A full-function control surface matched to the TriCaster 8000 live production system.

- ➢ TriCaster 850 CS: A full-function control surface designed to complement TriCaster 855, along with TriCaster 850 and 850 ꓱꓘꓔꓣꓱꓟꓱ™.

- ➢ TriCaster 450 CS: Similar to the above but, slightly more compact, being designed for use with TriCaster 455, 450 and 450 ꓱꓘꓔꓣꓱꓟꓱ™ (which have less inputs).

- ➢ TriCaster LC-11: This control surface was designed for use the standard definition TriCaster Studio and TriCaster Broadcast models.

2.2.2   INSTANT REPLAY

NewTek provides potent instant replay solutions in the form of its dedicated 3Play™ systems, but for less demanding installations many have found their TriCaster-based TimeWarp™ control surfaces (which take advantage of TriCaster's integrated recording and playback capabilities) quite valuable.

- ➢ TriCaster 850 TW: The perfect complement to either TriCaster 850 CS or TriCaster 450 CS, this instant replay controller is equally capable of performing as a solo act alongside any high definition TriCaster live production system.

- ➢ TriCaster™ TW-42: This is NewTek's original TimeWarp™ device. While originally supplied for use with the standard definition TriCaster lineup, it also provides workmanlike instant replay functionality with high definition TriCaster models.

2.3   INSTALLATION

2.3.1   MAKING THE CONNECTION

Simply connect the TriCaster control surface unit to your NewTek TriCaster using the USB cable supplied. There is no need to install drivers, or configure the software. Recognition of the control surface is automatic.

POWER CONSIDERATIONS

The power requirements of TriCaster control surfaces vary, but generally speaking are not inconsequential. TriCaster 8000CS alone utilizes a standard AC power connection, in addition to

its USB control connection. All other control surfaces are powered by their USB cable. In the latter case, connecting the unit using a USB cable longer than the one originally supplied can diminish available power to the point where problems could ensue, including connection recognition failure or operational problems.

To avoid problems, we strongly recommend that the control surface be connected to a powered USB hub using a short USB cable, in turn connecting the USB hub to a USB port on the TriCaster. (See also Section 5.2.1.)

Important Note: So-called USB extenders are not recommended, having proven less reliable than long USB cables (with powered hub, as discussed above). This is because each added connector in the circuit introduces 'reflections' that can degrade the signal. In this configuration, the control surface may seem reliable for some time, but then fail unexpectedly. (If this should happen, disconnecting and reconnecting the control surface may temporarily restore functionality).

3   TRICASTER™ 8000 CS

This spectacular and innovative control surface is the perfect complement to your TriCaster 8000.

The discussion that follows provides a quick hands-on tour of its major components and functions, followed by more detailed information.

Figure 1

TriCaster 8000's unparalleled integration of advanced live production technologies offers many exciting new creative possibilities. Fittingly, an incredibly powerful and innovative control surface is included with the system. TriCaster™ 8000 CS provides more than just control; it goes well beyond the norm in providing useful feedback. You'll quickly find yourself at home with its features and functions.

3.1   WALKTHROUGH

We discussed connecting your control surface to TriCaster™ back in Section 2.3. (Please take time to review this information if your installation requires use of a longer USB cable than the one supplied with your control surface.)

Please open a TriCaster session, and let's proceed to gain some hands-on experience.

3.1.1 SWITCHER ROWS

Figure 2 – TriCaster 450 CS

Let us focus our attention on the main *Switcher* rows first. You'll notice that these correspond exactly to their user interface representations on the *Live Desktop*, with both *PGM* (Program) and PVW (Preview) rows. Just above there is a third row labeled *DSK*. We'll make selections in all three rows momentarily.

1. Press the control surface button for *Camera 1* on the *PGM* row (if you don't have live sources connected at the moment, it will be fine to substitute a *Media Player* with a suitable video clip cued up for this exercise).

2. Select *Camera 2* (or a different *Media Player*) on the *PVW* row.

3. In the *Live Desktop*, add a title page to the *GFX 1* (Graphics) *Media Player* – choose something like a lower third (anything that does not completely obscure the screen will do for now).

4. Add a similar title page to *GFX 2*.

5. Back on the control surface, press *DSK 1* in the *MAIN DSK DELEGATE* control group.

6. Press the *GFX 1 button i*n the *DSK row*. This assigns that *Media Player* module to the *DSK 1* channel.

7. Now press *DSK 2* in the *MAIN DSK DELEGATE* control group.

8. Press the *GFX 2* button on the *DSK row* to assign to *DSK 2*.

3.1.2 MAIN TRANSITION CONTROLS

Now we're ready now to test the *Main Transition* controls, located to the right of the *Switcher* rows and *Main DSK Delegates*. The *Transition* controls on TriCaster 8000 CS are slightly simplified as compared to the same controls in the user interface.
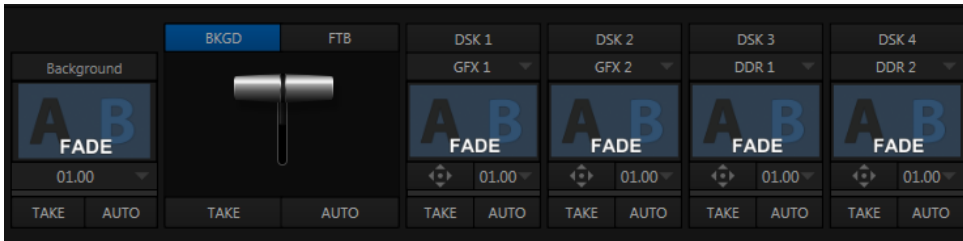
Figure 3
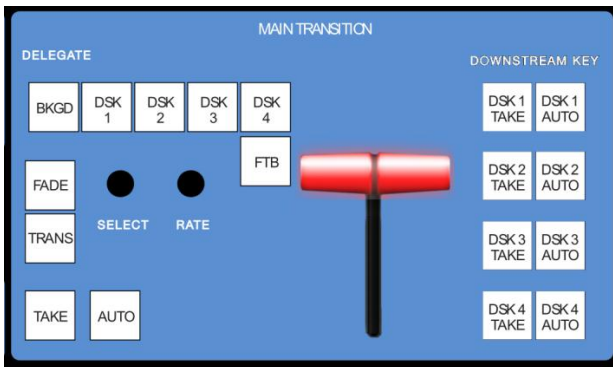
Figure 4

Let's begin our exploration of switching with the *Downstream Key* video channel controls.

Click the *DSK 1 AUTO* button, observing *Program* output as you do so. Not surprisingly (since the *GFX 1* player is assigned to *DSK 1*) the currently selected item in the *GFX 1* playlist transitions in, now to appear above the *BKGD* video layer.

Note that while the *Live Desktop* shows transition bins for the four *DSK* video layers, the control surface does not. Even so, you can adjust individual *DSK* transition settings in various ways as follows.

9. Click the *BKGD delegate* button in the *MAIN TRANSITION> DELEGATE* control group*.

10. Twist the *Select* knob below (next to *Fade*) to cycle through the current entries in the *BKGD Transition Bin*.

11. Click the *DSK 1* button in the *MAIN TRANSITION> DELEGATE* control group*.

12. Again, twist the *Select* knob, and choose a different transition for *DSK 1* – choose one that is in a different numeric place in the bin than the *BKGD* selection below.

13. Now press the *BKGD* and *DSK 1 delegate* buttons together, multi-selecting them.

14. Twist *Select* again, slowly, click by click – the selections advance together.

15. Rotate the nearby *Rate* knob (just above the main Auto button), and keep an eye on the *Transition Duration* time displays in the *Live Desktop*. Observe that the transition duration for both delegates changes as you do so.

16. Now push the *Rate* knob a few times (as though it was a button). As you do so, watch the *Transition speed* of both selected *delegates* in the user interface. The settings will cycle through the presets (in the *Speed* menu) each time you press *Rate*.

17. In the user interface, open the *Duration* menu for the *BKGD* layer so you can see the state of the *Reverse* option for the transition.

18. Push the *Select* knob (as though it was a button). Doing so toggles the *Reverse* transition mode for this transition; you'll be able to see this in the menu you opened*.

19. Open the *Transition Speed* menu for the BKGD layer on the *Live Desktop*.

20. Locate the *SHIFT*, *CTRL* and *ALT* buttons, to the left of the MAIN TRANSITION control group. Press *ALT* and continue to hold it down, and the watch the *menu* as you push *Select* several times in succession. You should see the *Ping Pong* switch for the current *BKGD* transition toggle on or off each time you push *Select*.

> *Note: DSK Transitions <u>always</u> Ping Pong. Hence their duration menus have no Reverse or Ping Pong switches.*

21. If necessary, adjust the Live Desktop *Workspace* options to show the *Preview monitor* (next to *Program*).

22. On the control surface, press the *BKGD* button in the *MAINTRANSITION>DELEGATE* group, resulting in it alone being selected.

23. Press the main *Auto* button **(**below the *Select* knob on the control surface), or operate the *T-bar* to perform a *BKGD* transition.

24. Earlier, we displayed *DSK 1*, using the dedicated *DSK 1 Auto* button. The *BKGD* transition we just performed did not affect it, so it should still be displayed (if you removed it from view while experimenting, please restore it before continuing).

25. Press the *BKGD***,** *DSK 1* and *DSK 2* delegate buttons all together, multi-selecting them.

Take a look at the progress gauge beneath the *Delegate* button for *DSK 1* in the user interface. It currently indicates that *DSK 1* is fully displayed. In contrast, the (empty) progress gauge beneath *DSK 2* tells us that video layer is hidden.

Figure 5

Now cast your eyes over the *Preview* and *Program monitors* (Figure 53), and consider how these displays relate to your current *Transition Delegate* selections:

- The *Program monitor* shows *DSK 1* (which has *GFX 1* assigned to it) over the current *BKGD* layer.

- The *Preview monitor* shows *DSK 2* (which has *GFX 2* assigned to it) over the current *Preview row* selection.

The *Look Ahead Preview monitor* (or simply, *Preview*) is showing us the composition that will result if we perform a *Take* or *Auto* operation right now.

26. Press the *DSK 1 and DSK 2 buttons* in *MAIN TRANSITION>DELEGATE* (so that *BKGD* is no longer selected).

Note that, when you do this, the *Preview monitor* no longer shows the Switcher's *Preview row* selection. Why not?

Having de-selected the *BKGD* delegate, only the *DSK 1* and *DSK 2* buttons remain lit. Thus only those two video layers will be affected by a (*Main) Take* or *Auto*. The end result of either of those operations will be as follows:

- *DSK 1*, currently seen on *Program* will be removed from view (but will re-appear on *Preview*).

- *DSK 2* will be displayed on *Program* instead.

- The *BKGD* layer will not change; that's why the *Preview* correctly predicts no change to that video layer, instead showing the same *BKGD* in both the *Preview* and *Program* monitors.

The MAIN *TRANSITION>DELEGATE* feature provides flexible and convenient video layer management, providing complete control over your ultimate *Program output* composition.

One more little detail to note, before we leave the *Transition group – FTB*, although located below its MAIN *TRANSITION > DELEGATE* siblings on the control surface, is nevertheless a *delegate* button, just like them.
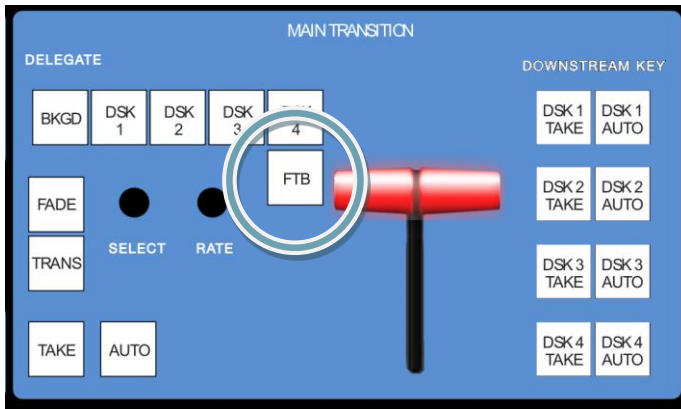
Figure 6

27. Press *FTB* – note that when you do:

    a. The other *Transition delegate* buttons are de-selected.

    b. The *Preview monitor* goes completely black.

28. Press the main *Auto* button, or operate the *T-bar*.

Observe that pressing *FTB* did not actually perform a *Fade to Black* operation – rather it *delegated* the main *Take*, *Auto* and *T-bar* controls to control the *FTB* video layer.

Hint – Press Shift + FTB to actually perform an FTB operation without being required to press Auto, Take or the T-Bar.

29. Press the main *Take* button again, clearing the *FTB* video layer from *Program out*.

3.1.3   MEDIA PLAYERS

Let's take a brief look at the *MEDIA PLAYERS* control group.
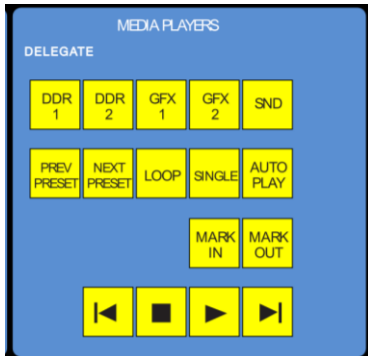
Figure 7

30. By way of preparation:

    a. Select *DDR 1* on the *Program row*, and select a video or animation clip.

    b. Press *DDR 2* on the *Preview row*, and select another video or animation clip.

    c. Press *BKGD* in the *Main Transition>Delegate* group (de-selecting everything else).

    d. If necessary, clear any *DSK* layer displayed on *Program*, using the local *DSK>Take* buttons.

31. Press the *DDR 1* button in the *MEDIA PLAYERS > DELEGATE* group on the control surface.

32. If *LOOP* for *DDR 1* is not enabled (i.e., its button is not brightly lit on the control surface), press the *LOOP* button once.

33. Press the *DDR 2* button in the *DELEGATE* group.

34. If *LOOP* for *DDR 2* is enabled (its button is brightly lit on the control surface) press the *LOOP* button once to turn it off.

35. Press the *DDR 1* button again – note that the *LOOP* button illuminates, correctly showing the current state for *DDR 1*.

36. Multi-select the *DDR 1* & *DDR 2 delegate* buttons. The Loop button light goes out, because the two DDR's are in different states.

37. Press *LOOP*. *LOOP* is turned on for both of the delegated *Media Players*.

38. Press the *LOOP button yet* again. *LOOP* is disabled for both delegated *Media Players*.

39. Repeat this exercise using the *AUTOPLAY* or *SINGLE* buttons (or both together).

Until this point, we've not done anything to the Media Players that couldn't have been done without the control surface, so try the following simple but powerful step:

40. Press *Play*. <u>Both *Media Players* begin to run simultaneously</u>. Press *Stop*.

3.1.4 POSITIONER

Let's kick it up a notch now, using the *control surface* to perform multiple simultaneous operations.

41. Enable *AUTOPLAY, SINGLE* and *LOOP* for both *DDRs*.

42. Select different video sources on the Switcher's *PGM* and *PVW rows*.

43. Use the *DSK row* to assign *DDR 1* to *DSK 1.*

44. Likewise, assign *DDR 2* to *DSK 2*.

45. Select both *DSK 1* and *DSK 2* delegate buttons in the *Positioner* group on the control surface.

46. Press the POS/SCALE button to the left of the joystick (this button group controls the *Joystick* function mode).

47. Twist the *joystick* counter-clockwise (as viewed from above) to *Scale* both DSK overlays down at once. Reduce them to 15-20% of the screen size. (Notice that the *Preview monitor* temporarily shows the results of your operation as you do so).

48. Push the *DSK 1* button in the *Positioner DELEGATE* group, and use the joystick to reposition *DSK 1* to the upper-left quadrant of the screen, again using *Preview* to guide you.

(Push forward or back to move the delegated source vertically in the frame, and left or right for lateral movement.)

49. Push the *DSK 2* button in the *Positioner DELEGATE* group, and repeat the step above, positioning *DSK 2* in the lower right quadrant of the screen.

50. Select the *BKGD* button in the *MAIN TRANSITION>DELEGATE* group, and press *Rate* as many times necessary to set the transition speed for the *BKGD* video layer to 00.15.

51. Multi-select *DSK 1*and *DSK 2* in the *MAIN TRANSITION>DELEGATE* group, press *RATE* until both *DSK* video layer transitions is set to 01.00.

52. Multi-select *BKGD*, *DSK 1*and *DSK 2* in the *TRANSITION DELEGATE* group.

Figure 8

At this point, the display on the *Preview* monitor should look something like Figure 56.

53. Push the main *Auto* button. The following will occur:

   a. The *BKGD* transition is performed, swapping the *Program* and *Preview* row sources.

   b. Both *DSKs* transition in above the *BKGD* layer.

   c. And the two *DDRs* automatically begin to play.

54. Let this all run for a moment or two to take it all in, then press *Auto* again.

All of the above resulted from your pressing a single button. You can see that the *control surface* allows you to quickly configure complex compositions, and display them with flair.

Multi-selecting delegates provides a great deal of convenience, as we've seen. Consider too that it becomes a simple matter to ensure matching positioning (etc.) for a series of sources, such as title overlays, picture-in-picture setups, and so on. Let's look at an example using M/Es.

3.1.5   M/ES

We'll perform a very simple exercise, but it will quickly impart everything you need to know.

- Turn off both *DSK*s, and press the *BKGD* button in the *MAIN TRANSITION>DELEGATE* group.

> The *Preview monitor* will now show the Switcher's *Preview row* selection (only); and the *Program monitor* will display the current *Program row* selection – this will let you see how subsequent steps affect delegated Virtual Inputs.

- In the onscreen user interface (*Live Desktop*), click the tab labeled *M/E 1 (*if necessary, press the m key to toggle the *M/E pane* open first).

- In the tabbed pane that appears, click the *Effect* button over the thumbnail icon in the center.

- If necessary, click the *name label* for the effect (below the thumbnail icon) and, using the *Media Browser* that opens, select *Default (2 Layer)* from the *Default* effect group*.

- Repeat these two steps for *M/E 2*.

(We're going to create two matching *M/E* setups. We could just as easily use different effects, but our current purposes don't require that, so we'll opt for simplicity.)

- Select *M/E 1* on *PGM*, and *M/E 2* on *PVW*, so you can follow the action to come.
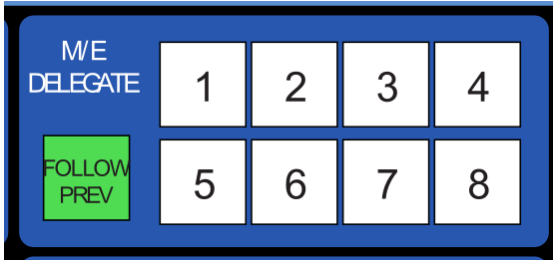
Figure 9

- Multi-select the *M/E 1* and *M/E 2* buttons in the *M/E DELEGATE* button group.
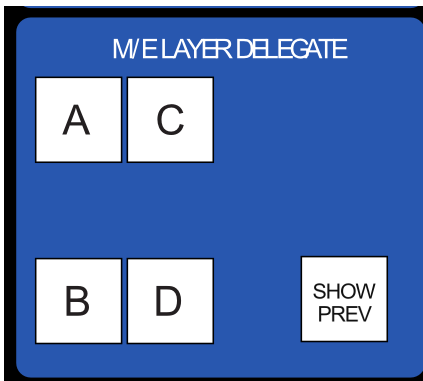
- Push the *A* button in the *M/E Layer Delegate* group, assigning the *A/C* source row at left to govern the source for input *A* in all currently delegated M/Es (in this instance then, for both *M/E 1* and *2*).

- Push the *DDR 1* button on the row labeled "A".

- Push the *B* button in the *M/E Layer Delegate* group, and then push the *DDR 2* button on the row labeled *B/D* at left.

- Now push *Key 1* in the *M/E KEY DELEGATE* group.

- Push the *GFX 2* button in the *KEY row* (above the A/C row). Make sure that the *Key 1 Take* button at far right is *off* for the moment.

- In the *POSITIONER* group, press the delegate button for layer *A*. This delegates the *Joystick* to control the attributes of the *A* layer of all currently delegated M/Es – in this case, *M/E 1* and *2* will both be affected.

Figure 10

- Press the *POS/SCALE* button in the *POSITIONER* mode group. Watch the monitors as you *Scale* and position the source assigned to *Input A* to approximate Figure 59.

> Hint: If Positioner settings have been applied to Inputs A or B previously in either M/E 1 or 2, you can simply press Reset with M/E 1, M/E 2 and POS/SCALE selected to clear them all to the defaults in one operation.

- Let's do it again – press the *Key 1 Take* button beside the *Overlay row.*

Figure 11

- Press the *KEY 1* delegate button in the POSITIONER group, and adjust the title page assigned to *Key 1* to a suitable size and position (Figure 60).

In like fashion, you can easily manipulate the elements of any composition to match perfectly. (You may find this particularly useful, for example, to make sure that station ID 'bugs' or lower thirds title overlays appear in exactly the same place for multiple *Virtual Inputs*.)

By this point, the fundamental principles of your TriCaster control surface should be clear; with a little bit of practice you'll be able to control your TriCaster with unparalleled ease and confidence. This concludes our walkthrough. If you like, please continue reading for the complete details of every feature.

3.2   FEATURES AND CONTROLS

Figure 12

The TriCaster 8000 CS control layout closely conforms to the user interface, the principle exception being that singular *M/E* and *Position* control groups governed by delegate buttons serve the purpose of multiple controls in the UI.

Controls are comprised of grouped sets including the following hardware types:

- Backlit push buttons
- Twist knobs
- T-bars
- 3-axis joystick

3.2.1   CONNECTING TO TRICASTER

It is recommended that you connect *control surface* to TriCaster using the cable it comes with, or a similar length one of good quality. <u>Please be advised that so-called USB extenders are not recommended</u>. This is because each added connector introduces 'reflections', degrading the signal. Your TriCaster CS may seem reliable for some time in this configuration, and then unexpectedly fail. (If this should happen, disconnecting and reconnecting the control surface may serve as an temporarily measure to restore functionality).

3.2.2   DELEGATES AND SYNCHRONIZATION

Both TriCaster's *Live Desktop* and the control surface supply *delegate* button groups to govern other controls. This is extends the capability of controls and also supports multi-selections, thus permitting simultaneous operations.

When initially selecting multiple delegates, the settings and states of the individual members selected will often vary. For example, when you delegate several *M/Es* at once, the transition *Rate* for various channels in the multi-selection could very well be different. Generally, wherever it makes sense to do so, as you make adjustments to settings for multi-delegated groups, the settings will be progressively synchronized.

3.2.3   SWITCHER CONTROLS

Figure 13

DSK, PROGRAM AND PREVIEW

The DSK, PROGRAM and PREVIEW rows each present the following source selection buttons:

1. *1 – 8*, Camera inputs
2. *NET 1* and *NET 2*
3. *Media Players:*
   a. *DDR 1* and *DDR 2*
   b. *GFX 1*and *GFX 2*
   c. *FRM BFR (Frame Buffer)*
   d. *M/E 1 - 8*
   e. *BLACK*

Switcher row buttons are mutually exclusive, and the active selection button remains lit. The subordinate role of the DSK row is subtly reinforced by the use of slightly smaller buttons.

Hint: Hold down CTRL when clicking a button on the PREVIEW row to toggle LiveMatte on/off for that source. Likewise, hold ALT while pushing a PREVIEW row button to toggle its Proc Amp. Note that the source need not be actually selected on the PREVIEW row to do this, and multi-selections are supported.

MAIN DSK DELEGATE

Figure 14

MAIN DSK DELEGATE button selections govern which *DSK* layer(s) the *row* is currently controlling; or – from another perspective – which video layers the selected source is assigned to.

Note: When possible, all related button selections (and illumination state) are updated to show their current states when new delegate selections are first made. This is true for all delegate groups.

3.2.4 MAIN TRANSITION GROUP

The controls in this group are analogous to those in the corresponding area on the *Live Desktop*, performing the same functions in much the same manner.

(In one deviation, switcher layer positioning is provided by a single, shared set of *Positioner* tools, discussed later.)

Figure 15

DELEGATE

As on the *Live Desktop*, active *delegate* buttons remain lit. Multiple selections can be performed by pressing one or more buttons at the same time.

DELEGATE buttons determine what *video layers* the main *Take*, *Auto*, and *T-Bar* affect, and the scope of the *Select* and *Rate* knobs.

FTB

Note that *FTB* (Fade to Black), although not located beside the other delegates as it is in the user interface, is a delegate button – <u>not</u> an action button – and works exactly the same manner as its *Live Desktop* twin. Note that *FTB* has no dedicated transition controls; its fade in/out duration is derived from the *BKGD* transition setting.

Hint: When FTB is displayed on Program Out, it obscures all other Switcher activity. To alert you to this important fact, the FTB button flashes for several seconds if you should make a new TRANSITION DELEGATE selection that does not include FTB.

TRANSITION BIN CONTROL

The control surface does not have *Transition Bins* for the different video layers as such, but can nevertheless control the transitions (and their attributes) for delegated video layers.

SELECT

When a single layer, such as *BKGD*, is selected in the *MAIN TRANSITION > DELEGATE* group on the control surface, rotating the *SELECT* knob cycles the current transitions in the *Transition Bin* for that layer.

When multiple video layers have been delegated, turning *SELECT* affects the transitions for all layers as follows:

- When all delegated layers are currently on the same transition bin 'slot', the selection in the corresponding transition bins simply cycles left or right synchronously.

- Otherwise (when the *Transition Bin* slots for multi-delegated layers are *not* harmonized), rotating the knob moves the selection layer by layer as the knob turns until the selected slots *are* aligned. From that point, continuing to twist *SELECT* moves the transition selection in lock step.

The *SELECT* knob also acts as a push button:

- Push *SELECT* to toggle the *Reverse* setting for the *BKGD* transition.
- Push *ALT + SELECT* to toggle the *Ping Pong* switch for the *BKGD* transition.

RATE

The *RATE* knob operates in similar fashion to *SELECT*. Rotate the knob to modify the transition Rate for delegated layers. Or press the knob to cycle through the standard Slow, Medium and Fast presets.

Multi-delegate selections are handled the same as for *Select* (for both twist and push operations).

FADE & TRANS

These two buttons provide a quick way to control the *Transition Bin* selection for the delegated switcher layer(s).

The FADE and TRANS (Transition) buttons are mutually exclusive; selecting either one cancels the other, and only the currently active button remains lit.

Pushing *FADE* offers a quick and convenient way to select the Crossfade transition. Push the TRANS button to activate the last-used transition icons for a video layer (or layers. For new sessions, TRANS jumps to the first transition in the bin.

Figure 16

PERFORMING TRANSITIONS

Just as in the user interface, the TriCaster control surface provides both local and main transition controls.

MAIN T-BAR, TAKE AND AUTO

These controls correspond exactly to their *Live Desktop* counterparts, and affect all currently delegated video layers (*BKGD*, *DSK 1-4*, or *FTB*) at the same time.

LOCAL TAKE & AUTO

Local *Take* and *Auto* buttons are provided for *DSK 1 - DSK 4*, but not *FTB*. These perform a cut or transition respectively, affecting only the corresponding switcher layer.

Hint: When a DSK layer is fully displayed on Program out, its local Take button (on the Live Desktop as well as the control surface) remains lit.

3.2.5 M/E CONTROLS

This section of the control surface corresponds to the tabbed *M/E* pane on the *Live Desktop*. The *M/E DELEGATE* button group determines which *M/E* (from the eight available) is being controlled.
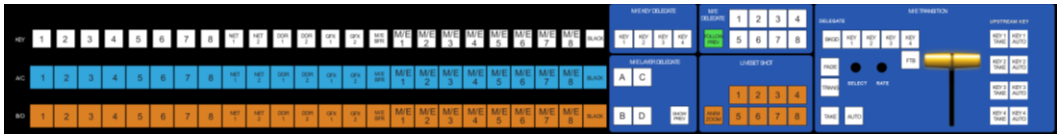
Figure 17

M/E DELEGATE
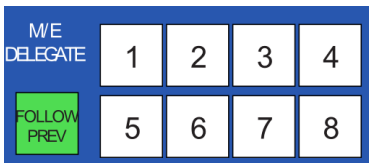
Figure 18

As you'd expect, the eight buttons in the M/E DELEGATE group (Figure 18) let you select (or multi-select) which M/E(s) are being configured and controlled.

FOLLOW PVW

Figure 19
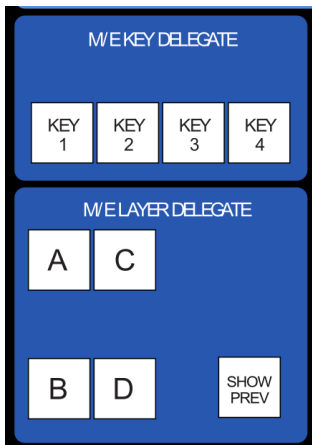
Enabling the FOLLOW PREV button forces the *DELEGATE* selection to track the Switcher's *PVW row* selection. This can be very valuable, as it automatically ensures that adjustments you make to settings will affect the M/E that you plan to display next.

The M/E control section actually employs three additional sets of delegate controls to provide full control over all aspects of your M/E composition.

The first two of these are discussed next (M/E TRANSITION DELEGATES are in M/E TRANSITION group discussed a bit layer).

M/E LAYER AND KEY DELEGATE

These two delegate button groups control the functionality of the source selection rows at left, allowing you to specify sources for any or all of the video layers of all currently delegated M/E(s). Naturally, the M/E KEY DELEGATE selection(s) govern the KEY row buttons at left

Just beneath the KEY row you will notice two identical rows labeled A/C and B/D. The result of selections in the A/C source row is controlled by the M/E LAYER DELEGATE buttons labeled A and C. Likewise, B and D buttons in the M/E LAYER DELEGATE group govern the B/D row.

SHOW PREV

This buttons toggles the *Tabs Follow All Delegates* option in TriCaster, which in turn causes *M/E Preview* monitor panes to update when a new *M/E Delegate* selection is made.

INPUT ROWS
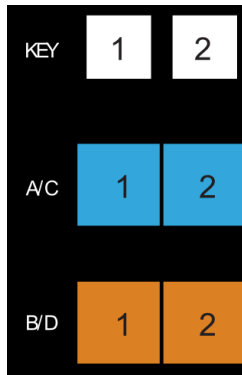
All three input, or 'source selector' row rows provide buttons for all camera inputs, *Net 1*, *Net 2*, *Frame Buffer*, *Media Players* (excluding *Sound*), and *Black*.

Hint: Each M/E has its own dedicated Frame Buffer. As you'd expect, selecting this button invokes the appropriate Frame Buffer for each delegated M/E, even for multi-delegate selections. If you wish to specify a different Frame Buffer instead of the default one for a given M/E, you can do so using the menus in the user interface.

Figure 20

M/E TRANSITION CONTROLS
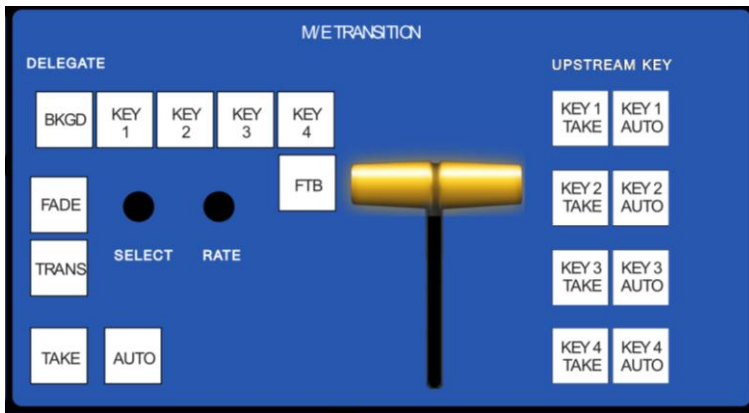
The final set of *M/E delegates* referred to earlier is located in the M/E TRANSITION control group.

A cursory glance at this control group reveals that is for all intents a twin of the MAIN TRANSITION group, discussed back in Section 3.2.4. Using these controls, you can manage all layers of a composite effect, or even produce a complete secondary switch for output.

LIVESET SHOT

The LIVESET SHOT group buttons labeled 1-8 select the active Zoom Preset for the currently delegated Virtual Inputs. The ANIM ZOOM button corresponds to the *Animate Zoom* switch for *M/E*s on the *Live Desktop.* When *ANIM ZOOM* is enabled, pressing an unselected *zoom preset button* initiates a smooth zoom from the current level to the new level.

Figure 22

Otherwise, preset selections apply directly to all delegated *M/Es*. If you push a *zoom preset button* a second time at any point, the animated zoom will ease-out and stop. Press it again to re-commence the zoom and complete it.

M/E PRESET

Four of the buttons in the LIVESET SHOT groups have secondary functions. Press CTRL + (1-4) in this group to select the active M/E preset for currently delegated M/Es.

3.2.6   POSITIONER GROUP
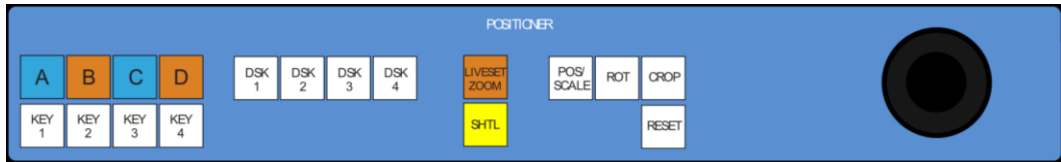
DELEGATES

The *Positioner* section allows you to adjust position attributes for any video layer in the *Switcher* or any M/E effect using the *Joystick*. Positioner delegates are in two groups at left.

The first *Positioner delegate* group consists of eight buttons, one for each of the primary *M/E* input layers (A-D) and KEY layers. These delegate *Joystick* operations to the corresponding layers in the M/Es currently selected M/Es in the M/E DELEGATE group.

The second *Positioner* delegate group relates to the four *DSK* layers of the main *Switcher*.
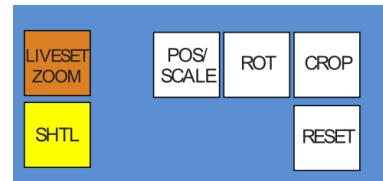
Hint: Multi-delegate selections can span both groups listed above.

JOYSTICK MODES

The type of operation applied to delegated video layers is further modified by button selections in other sections of the control surface.

Two joystick mode buttons are placed separately at left. LiveSet Zoom and SHTL (Shuttle) modes are special in that they dedicate the joystick to operations that are not strictly speaking 'position-related'.

Hint: The buttons in the other joystick mode group (such as POS/SCALE, discussed shortly) cannot be multi-selected with either LIVESET ZOOM or SHTL.

LIVESET ZOOM

Selecting LIVESET ZOOM assigns the joystick to control the zoom level and pan position of the currently delegated *M/E(s)*.

Use the *joystick* to control zoom and pan as follows:

- To zoom in/out :
  - Rotate the joystick clockwise/counter-clockwise (as viewed from above)
- To pan:
  - Title the joystick backward, forward, left or right.

SHTL (SHUTTLE)

Push SHTL (Shuttle) to delegate the *joystick* to shuttle the *Media Player(s)* currently selected in the MEDIA PLAYERS > DELEGATE group. (Again, the other joystick mode buttons cannot be multi-selected with SHTL.)

- To *shuttle* delegated *Media Players*, move the joystick horizontally (as viewed from above).

Note: You can zoom multiple LiveSets simultaneously when these are delegated together, just as you can also shuttle several delegated Media Players.

Let's turn now to the members of the second joystick mode delegate group.

POS/SCALE

- Move the *joystick* horizontally, vertically or diagonally (as viewed from above) to move delegated video source(s) on its X and Y axes.

- Twist the *joystick* clockwise to scale delegated source(s) up, or counter-clockwise to scale down.

> *Hint: When multi-delegate selections are active for the Positioner, adjustments are generally relative to the current state for individual delegates, as opposed to absolute.*

ROT (ROTATE)

- Move the joystick horizontally (as viewed from above) to rotate delegated sources on the Y axis.
- Move the joystick vertically to rotate delegated sources on the X axis.
- Twist the joystick clockwise/counter-clockwise to rotate delegated sources on the Z axis.

CROP

- Twist the *joystick* clockwise (as viewed from above) to crop delegated sources inward on all four edges, maintaining the original aspect ratio.
- Twist the *joystick* counter-clockwise to reduce cropping of delegated sources on all 4 edges.
- Move the *joystick* horizontally to crop only the left edge of delegated sources.
- Move the *joystick* horizontally with the *joystick button* pressed to crop only the right edge of delegated sources.
- Move the *joystick* vertically to crop only the top edge of delegated sources.
- Move the *joystick* vertically with the *joystick button* pressed to crop only the bottom edge of delegated sources.

RESET

Despite its location, RESET is really an action button (not a Joystick mode). Press it to restore all position settings for currently delegated source(s) to their defaults. (This is also why RESET does not stay selected when pressed, nor does it change the current *Joystick mode*. The two special delegate selections also work differently with RESET*:*

- When VIRTUAL ZOOM is delegated, the *LiveSet preset* for delegated *Virtual Inputs*) is reset to the #1 preset.

- When SHUTTLE is delegated, selected *Media Players* are reset to the starting point of the current item (or playlist).

MONITORING

While using the joystick in most POSITIONER DELEGATE modes, many adjustments are temporarily shown on the Live Desktop's *Preview monitor*. The *Preview monitor* reverts to its default display a few moments after releasing the joystick to its at-rest position, just as occurs when using *Positioner* tools on the *Live Desktop*.

3.2.7   MEDIA PLAYERS GROUP

MEDIA PLAYER > DELEGATE
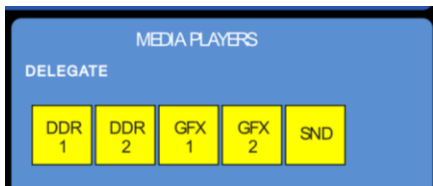
Figure 25

The MEDIA PLAYERS > DELEGATE group contains buttons for TriCaster's DDR1, DDR2, GFX1, GFX2, and SND (Sound) modules. This selection determines which Media Player is being controlled at the moment. (Support for multi-selection allows you to do things like start and stop both DDRs at the identical moment.)

PREV/NEXT PRESET
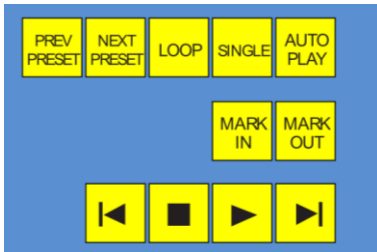
These two buttons let you to cycle backwards or forwards respectively through existing presets for the delegated *Media Player*.

MARK IN/OUT

Click these buttons to set the in point or out point for the current playlist item in delegated players to the current frame. Press SHIFT with the button to reset the end point to its full limit.

TRANSPORT CONTROL

- |◀ (Previous Item) – Press this button to go to the previous playlist entry in delegated *Media Players*. (The selection cycles to the last playlist entry when necessary.)

- ■ (Stop) – Push once to end playback for delegated *Media Players*; push a second time to return to the start position (this operation respects the *Single* setting for individual *Media Players*

- ▶ (Play) – Push to initiate playback for delegated *Media Players*.

- ▶| (Next Item) – Push this button to go to the next playlist entry in delegated *Media Players*. (The selection cycles to the first playlist entry when necessary.)

MEDIA PLAYER OPTIONS

LOOP, SINGLE, and AUTOPLAY are mode buttons, and toggle the respective settings for all delegated *Media Players* as appropriate (for example, *the Sound player* has no *Autoplay* feature, so logically AUTOPLAY does not affect it).

3.2.8 RECORD GROUP

Three buttons labeled REC, STRM, and GRAB are located in the RECORD group.

- REC – Pressing this button enables TriCaster's *Record* feature. As a safety measure, pressing the REC button when recording is underway does <u>not</u> stop recording.   Instead, the CTRL button flashes to reminds you that you must hold the CTRL button down while pushing REC to end recording.

- STREAM – Push to enable or disable TriCaster's live streaming feature.

- GRAB – Push to store a snapshot of Program output using TriCaster's *Grab* feature.
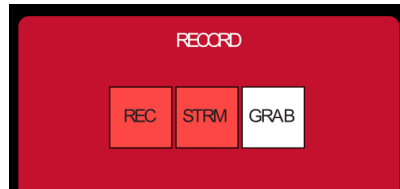
3.3   SPECIAL BUTTONS

The SHIFT, CTRL and ALT buttons provided on the control surface support extended features and future expansion.

To the extent that these buttons are currently assigned to any feature, they have been described in context earlier.
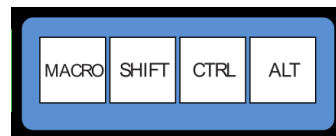
3.3.1   MACRO

The last button we will discuss offers spectacular convenience. TriCaster's powerful macro system is fully addressable from 8000CS. A macro can be assigned to any button on the control

surface in much the same manner as it can be assigned to a keyboard button. The steps are as follows:

1. On TriCaster's *Live Desktop*, open the *Macro Configuration Editor*.
2. Select the macro you wish to assign in the onscreen lister.
3. Click the mouse in the *Listen* field at bottom left.
4. Hold down the MACRO button and press a suitable button on the control surface.

That's it – you can close the Macro configuration Panel and test the result. To play back the macro at any time, press the MACRO button along with the assigned key.

3.4   T-BAR ILLUMINATION

TriCaster 8000CS uses colorful illumination to provide feedback and status updates your control surface selections and operations. The lighting schemes for both the M/E and MAIN TRANSITION T-Bars reinforce the traditional button illumination in a way that soon becomes instinctive and which provides unparalleled confidence in use.

The following tables provide a color code for your convenience.

3.4.1   M/E TRANSITION – LIGHTING

For an M/E in *Mix* mode, control surface T-Bar illumination conforms to the color scheme of the *M/E tabs* on the *Live Desktop*.

M/E 1	M/E 2	M/E 3	M/E 4	M/E 5	M/E 6	M/E 7	M/E 8
Turquoise	Green	Peach	Gold	Sky Blue	Lt. Pink	Chartreuse	Hot Pink

1. If *BKGD* is delegated alone, the T-Bar color is as shown in the table above, identifying which *M/E* is delegated in the M/E DELEGATE group. (When multiple *M/Es* are delegated, the first selected delegate determines the color.)

2. This color is at its brightest when the *A* source (effectively the *Program* row for a *Mix* effect) is fully displayed. As the T-Bar is moved (or AUTO is pressed) to begin a transition, the color gradually dims until the effect is complete. At that point, it pops back to full brightness, just as the onscreen T-Bar returns to the top of its stroke.

3. In a mixed delegate situation (BKGD along with one or more KEY layers) the T-Bar is lit it medium blue, and conforms to the BKGD behavior described above.

4. If one or more KEY layers are delegated *without* BKGD, the T-Bar color is purple. When the KEY layer (or, for multi-KEY selections, the *first* KEY layer) is fully displayed, T-Bar lighting is at its brightest. Removing the layer dims the illumination.

5. The T-bar is always lit in orange for M/E's in Effect mode.

3.4.2 MAIN TRANSITION

1. Just as you would expect, the illumination of this T-Bar uses red-green coloration, standard color coding for *Program* and *Preview* rows.

2. As for M/Es, described earlier, DSK-*only* delegate operations result in the T-Bar being lit in purple.

3. Mixed mode (BKGD plus DSK delegates) likewise result in blue illumination after the fashion of the M/E T-Bar behavior previously described.

4 AVID® ARTIST MIX

TriCaster's support for the AVID® Artist Mix hardware surface brings a highly desirable level of convenience and creative control to a critical aspect of almost every video production –audio.

This chapter explains how to connect and use this powerful third party device.

The AVID(R) Artist Mix hardware surface provides great convenience, delivering hands-on external audio control to TriCaster 8000 operators. Adjust audio levels, panning and balance, equalization, select change mixer presets, and more. The compact Artist Mix console provides excellent visual feedback, and delivers control beyond what can possibly be provided with the mouse and keyboard alone. All adjustments are bi-directional – adjusting the control surface updates the user interface controls, and vice versa.

Artist Mix communicates with TriCaster using a popular open control communication protocol named EUCON™ (Extended User Control); the control surface acts and feels like a physical extension of your software. Let's begin by discussing installation and setup.

4.1   INSTALLING AVID® ARTIST MIX SOFTWARE

AVID(R) provides a utility called EuControl for use with the Artist Mix control surface. This software runs in the background, and is required for TriCaster to recognize and respond to the control surface.

1. From the TriCaster Startup screen, click the *Shutdown* icon, and choose *Administrator Mode*.

2. Select *Exit to Windows* to leave the TriCaster environment.

3. Obtain the EuControl installer by using one of the following two methods:

    a. With TriCaster connected to the Internet, download the most recent installer for the Windows(R) 64bit operating system from the webpage below: www.avid.com/artistsupport (Requires Avid website account.)

    b. Otherwise, download the installer as above to a different computer, and transfer it to TriCaster's hard drive across a network or by USB flash drive (etc.)

4. Double-click the icon for the installer application (Install_EuControl.exe).

5. Follow the instructions displayed to complete the installation.

4.2   CONNECTING ARTIST MIX

After the software installation is complete, shut down TriCaster, and connect the AVID(R) Artist Mix panel to TriCaster as follows:

1. Plug one end of the AC power cord into the power adapter and the other into an electrical outlet (push the AC power connector firmly into the adapter).

2. Connect the DC output cable from the power adapter to the DC input on the left rear side of the control surface.

3. Connect the control surface to TriCaster using the crossover cable supplied with the Artist Mix, or – as will often be true, in cases where TriCaster network connectivity is a requirement – to the same network subnet your TriCaster is connected to using a

suitable Ethernet cable. In most cases you will wish to use a switch or router rather than a direct connection between the two devices, so TriCaster can also connect to the Internet, etc.

4. Power up TriCaster, and wait for the Start screen to appear; then press the POWER button on the control surface.

AVID symbols briefly appear on the OLED display above each fader at this point. When EuControl recognizes the control surface, the display shows rectangles in place of the logo icons to tell you the control surface is in a 'ready' state.

Connectivity Notes: If the control surface OLED display continues to show the AVID symbols, this indicates it has not been detected by EuControl. You can try simply turning the Artist Control power switch off and then on again. If this does not help, power Artist Mix off, restart TriCaster, and turn the surface on again. If Artist Mix is still not recognized at this point, double check your connections. Also, when more than one TriCaster is connected to the network make sure each one has a unique system name.

If this fails (or for complex installations, such as when multiple TriCasters or Artist Mix devices are on the same network) you may need to Exit to Windows and use the configuration tools the EuControl application provides in its interface. Right-click the EuControl icon (E) shown in the Notification Area of the Windows taskbar to access these controls, and then select EuControl Settings. Refer to the AVID® documentation for further details.

5. Launch a TriCaster session. The OLED rectangle icons are replaced by custom TriCaster audio control labels and displays.

4.3   GETTING STARTED

When you first connect it to your TriCaster and open a TriCaster session, Artist Mix is automatically configured to TriCaster's default *Audio Mixer* setup. The OLED information display will look like Figure 29.
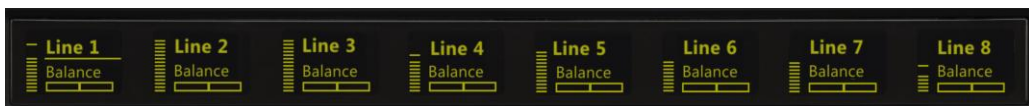
Figure 29

Let's note in passing that this initial layout may not match the *Audio Mixer* setup in your TriCaster session just at the moment. We'll discuss how to customize this default configuration a bit later, but for now let's consider basic navigation.

4.3.1 PANEL LAYOUT

Figure 30 illustrates the control surface layout.
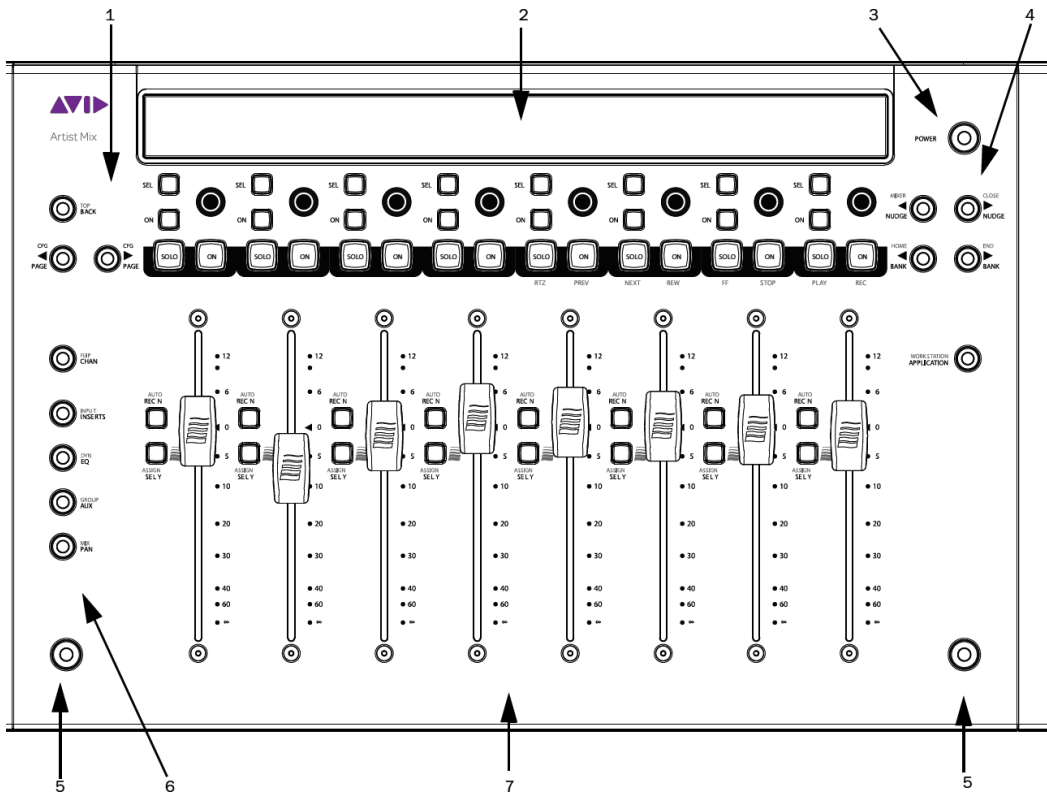
Figure 30

1. *Soft Key* navigation buttons
2. OLED *Display*
3. *Power* button
4. *Fader Navigation* buttons
5. *SHIFT* keys
6. *Knob Set* selectors
7. *Fader* strips

Of course, Artist Mix can be used with a variety of systems and software applications apart from TriCaster. You may already be familiar with its use for certain other purposes. The Artist Mix User Guide provides details regarding each control. In this manual, we'll focus on the controls as they apply to TriCaster 8000 only.

4.3.2 NUDGE

At any one time, Artist Mix can display controls for as many as eight of TriCaster's audio inputs, internal sources, and outputs. To access the other audio controls, use the navigation buttons located at right on the control surface, just beneath the **POWER** button (Figure 31).

Two **NUDGE** buttons in this group move the entire control group currently displayed one slot left or right from the current position.

Thus, from the default Input 1-8 view, pressing ▶ **NUDGE** updates the controls and display to govern TriCaster's *Audio Inputs 2-7* along with *Net 1*. (Push ◀ **NUDGE** to restore *Input 1* to the left-most slot.)

4.3.3 BANK

Below the two **NUDGE** buttons are two similar buttons labeled **BANK**. Pushing either of these buttons normally replaces the entire set of controls with their eight nearest neighbors.

So, for example, if you are currently viewing/controlling *Inputs 1-8*, pushing the ▶ **BANK** button swaps out those controls and replaces them with the next set of eight sources to the right, starting with *NET 1* at left and continuing to *AUX* in the eighth slot.

A number of buttons on the Artist Mix control surface have two labels. For example, the ▶ **BANK** button (Figure 32) has a secondary **END** label above. The upper label denotes alternative functions for the button that are invoked when you hold down one of the two **Shift** buttons on the surface at the same time.
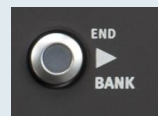
Figure 32

Note that the ▶ **BANK** buttons each have alternate functions when pressed with **Shift**, specifically **HOME** and **END**. These combinations jump past all other configured control groups to display the first and last entries respectively.

4.3.4 LEVEL CONTROL

As you would expect, adjusting the position of a given fader modifies the volume level of the corresponding control in TriCaster's *Audio Mixer*. For example, pushing the control surface fader labeled *Line 1* raises the volume for *Line 1* in TriCaster's *Audio Mixer*.

Note: An Input set to the Mic source type in TriCaster's Audio Mixer shows two faders, rather than just one. We'll discuss how to insert an additional fader on Artist Mix a bit later to provide control over the second Mic channel. (Otherwise, the corresponding Line fader on the control surface will only govern the first of the two channels for that input).

4.3.5 KNOB SET SELECTORS

A set of *Knob Set* selectors (Figure 34) runs vertically down the left side of Artist mix (left of the first fader). Essentially, these are mode buttons that select which audio attributes are governed by the eight 'knob sets' – that being one OLED display group and the knob immediately beneath it, along with the two buttons to the left of the knob (**SEL** and **ON**) in that set (see Figure 35).

Note: The **FLIP/CHAN** *button in this group is a special case, and can be selected even when another mode is active. Generally speaking, you will very likely find it best to leave this button off except for certain operations – notably for EQ and Mic Trim adjustments. We'll discuss these exceptions in context as we go along.*

The default *Knob Set* mode is **PAN**. For the most common production operations, this is the mode you will choose. In fact, at the simplest level, once you have configured the Artist Mix channels to take any *Mic* sources into account, you could

Figure 34

likely be forgiven for never using another *Knob Set* mode.

Generally speaking, the alternative *Knob Set* modes provide access to deeper audio configuration options and settings.   We'll provide the details of their use in context as we go along.

4.3.6   BALANCE/PAN CONTROL

Several controls are nested above each fader, along with the matching OLED display group for that audio input or source. Looking at Figure 35 you'll notice that in the default operating mode (**PAN**; See the previous section) the *Line 1* display shows a *VU meter* at left, and a *Balance* graph below the input label.

Rotate the knob below the balance graph display to adjust *Balance* for this source (or, for audio sources set to *Mic* input types in TriCaster's *Audio Mixer*, to adjust the *Pan* setting for the corresponding channel).

4.3.7   MONO/TALK

In **PAN** mode, push the small **ON** button to the left of the knob to turn on the *Mono* switch for the associated TriCaster audio source. Push it again to disable *Mono,* or – for *Mic* sources – the *Talk* (Talk Over) feature.

4.3.8   SOLO & MUTE

Two larger buttons labeled **SOLO** and **ON** (*Mute*) are positioned below the knob; that is, above each of the eight faders (Figure 36).
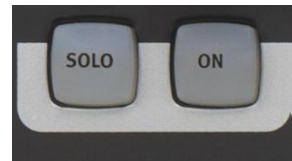
These two buttons are outside the *Knob Set* group, and thus independent of the mode established by the of *Knob Set* selectors. That's just a wordy way of explaining how it is that the **SOLO** buttons always toggle the *Solo* feature for their respective sources; and likewise the **ON** (*Mute*) buttons always mute or un-mute them – even when you might be in a different mode.

4.3.9   FOLLOW

Two other small buttons sit just to the left of each fader strip. These are labeled **AUTO/REC *N*** and **ASSIGN/SEL *Y*.** The latter is not normally relevant in (the default) **PAN** mode, but we are interested in the first – **AUTO/REC *N*.**

This button (with the earlier caveat about **SHIFT LOCK** in mind) toggles the *Follow* feature on and off for the designated TriCaster audio source.

Having covered the basic control functions and settings, let's advance to consider the tools available in different *Knob Set* modes.

Figure 37

4.4   AUDIO GROUPS

Press the *Knob Set* selector labeled **GROUP**. (Note that although this label is shown on Artist Mix as the 'shifted' state, you do not need to press **SHIFT** at the same time, since TriCaster does not utilize the un-shifted **AUX** mode.)

The Artist Mix OLED display updates to show the current *Group* (color) assignment for the current source. In this mode, rotating the knob changes the *Group* assignment for the source, rather than affecting *Pan* or *Balance* as it would have done had the **PAN** *Knob Set* button been active.

4.5   EQ CONTROL

Figure 38

TriCaster provides independent 7-band equalization along with *Compressor/Limiter* features for each source. And Artist Mix lets you access the controls without ever touching the TriCaster user interface.

To display EQ controls, it will probably come as no surprise by this point that you need to push the EQ button in the *Knob Set* control group (Figure 33).

The OLED display will now appear as seen in Figure 39. Normally, all 7 bands for a single input are shown in this manner. In this mode, the knobs below the graph in each group control the setting for a single EQ band, shown above.

Note that the label for one input is highlighted in the OLED display. (For example, Figure 40 shows a highlight behind the *Line 1* label; *Line 2* is not highlighted.)
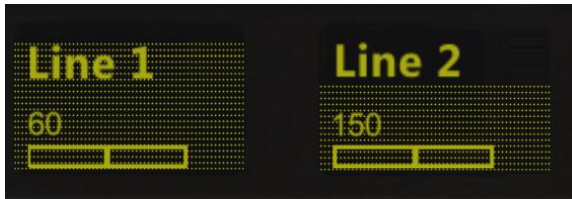
This highlight identifies the currently selected source. Any adjustments made in this state affect the EQ settings for the selected source only. In this fashion, you can easily adjust all settings for one source.

To select a particular source (such as *Input 1* or *2*) for adjustment, press the button labeled **SEL** to the left of the fader in the control surface slot with the corresponding label above. The highlight in the OLED display updates to show the newly selected source.

4.6   COMPRESSOR/LIMITER

To access TriCaster's *Compressor/Limiter* controls for the currently selected source, simply hold down a Shift key on the control surface and press the **EQ** button again (the label for the 'shifted' state of this button is **DYN**).

Again, the labels above the little graphs in each control surface slot update to show *Compressor/Limiter* settings – *Threshold, Ratio, Attack, Release,* and also *Mic Gain*. And

naturally, the knobs beneath are delegated to control the corresponding attribute for the currently selected source.
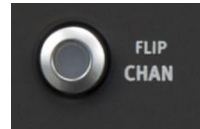
Figure 42

4.7   CHAN MODE

CHAN is short for "Channel". By default, this button is unlit, and Artist Mix operates in 'standard' mode.

Standard mode (**CHAN** off) is the default operating mode for the **PAN** *Knob Set* mode that you will use for most 'non-configuration' *Audio Mixer* activity. It imposes one-to-one relationship between control groups and individual audio sources – each group governs one source exclusively.

Pushing the **CHAN** button changes this relationship. In channel mode, all of the knobs and faders are assigned to a single TriCaster audio source (or 'channel', from the Artist Mix viewpoint). The **SEL** switch, introduced in section 4.5, determines which source has 'focus', and the various adjustable settings for that source are expanded across the entire control surface, with one Artist Mix 'slot' assigned to each.

We've seen how this works in **EQ** mode, where it expands the different equalizer bands for a single (selected) audio source across multiple knobs. In fact **CHAN** mode is so appropriate in this case that it is automatically activated whenever you press the **EQ** *Knob Set* selector. (In **CHAN** mode, a 'grid' background is displayed in the OLED - see Figure 43. And as we saw before, the label for the selected source is highlighted in the same manner).

Figure 43

You will probably find that standard mode works best for most operations apart from EQ, however.

4.8   FLIP MODE

The shifted state of the **CHAN** button is labeled **FLIP**. Like the former, **FLIP** also affects the mapping of the Artist Mix controls. In this case, the roles of the fader and the rotary knob are swapped.

For example – in the default **PAN** *Knob Set* mode, the faders normally controls source levels, while the rotary knob adjusts *Balance* or *Pan*. When **FLIP** is active, it's the other way around.

While not particularly useful for most operations, **FLIP** comes into its own in **EQ** mode, allowing you to use the much larger faders to provide convenient control over the rather similar sliders in TriCaster's equalizer. In fact, this is such a natural fit that **FLIP** is automatically activated when you press the **EQ** button (don't forget to turn flip off when you switch back to normal **PAN** mode, though).

4.9   INSERT (MIC)

Earlier, we promised to explain how to configure Artist Mix to cope in cases when one or more of TriCaster's audio inputs are set to a *Mic* connection type (Figure 44).

This situation calls for the control surface to display an additional control group in order to provide control over both microphones for a single input).

Figure 45

To insert additional controls for what is effectively a new input, make sure **FLIP** and **CHAN** are both off, then press the **INSERTS** button in the *Knob Set* group.
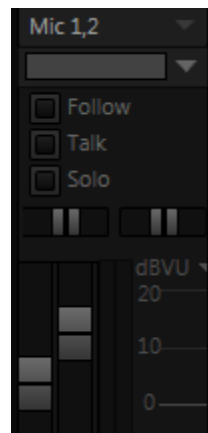
Figure 44

Let's consider an example. To configure the *Artist Mix* control groups to provide control for TriCaster with *Input 1* set to *Mic 1, 2* mode proceed as follows:
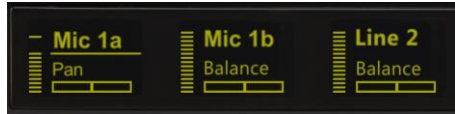
1. Make sure **FLIP** and **CHAN** are both turned off, and then press the **INSERTS** button in the *Knob Set* group.

2. If necessary, navigate (using **NUDGE** or **BANK** buttons) so that *Input 1* appears in the OLED display.

3. Rotate the knob for Input one clockwise, cycling through optional settings until the label above the knob says *Insert*.

   At this point, the small **SEL** button just left of the rotary knob begins to flash, to indicate that if you wish to confirm your selection you must press it (otherwise – if you don't press SEL – the selection will revert to its original state).

4. Press the **SEL** button to execute the insert operation.

   This action will insert a new, unassigned control group in the current Artist Mix slot, pushing the existing *Input 1* control group to the right to make room for the addition.

5. Slowly rotate the same knob again – this time, choose the *Mic 1a* option, and then press **SEL** once more to lock the input to TriCaster's *Input 1a* (left) input channel.

Note: It is not necessary for Artist Mix to provide Quad, AES and SDI source type selections. Just use the normal Line style controls for these TriCaster input types.

To finish up, we need to re-assign the original *Input 1* control group, which was moved into the second slot on Artist Mix by the insertion operation.

6. Rotate the *Input 1* knob (located to the right of *Mic 1a*) to select Mic 1b – then press **SEL** again.

The result of our configuration efforts should look just like Figure 46.

Don't forget that the *Mic Trim* setting for your microphone sources can be adjusted as follows:

     I.   Press the **SEL Y** button to the left of the fader track for *Mic 1a* or *1b* (in this example),
    II.   Then turn the knob under the *Mic Trim* label.
   III.   Repeat this operation for the second mic channel in the same input group.

Hint: Normally, if you insert a source that already appears elsewhere in the layout, the inserted control group is kept and the original is removed.

4.10 LOCKING CHANNELS

By default, Artist Mix presents control groups for each TriCaster audio source in their natural order from left to right. It can be very desirable however, to lock one or more sources in a fixed position, thus keeping it in view on the control surface at all times despite any use of the navigation buttons.

For example, you may well wish to consider locking the *Master* audio controls to the eighth slot, so that this all important fader will always be available. To do so, follow these steps.

1.   Navigate (using **NUDGE** or **BANK** buttons) to position *Master* in the furthest right control slot on Artist Mix.

2.   (With **FLIP** and **CHA**N both off), press the **INSERTS** *Knob Set* button.

3.   Press the small **ON** button located to the left of the *Master* knob (Figure 47).

4.   Press the **PAN** button in the *Knob Set* selector group (to exit **INSERT** mode).

Figure 47

A small padlock icon appears in the OLED, indicating that *Master* is now locked in its current place on the control surface. If you use the navigation buttons to move left or right, *Master* stays right where you want it.

Note: Locking sources has one slightly annoying side effect. You will see a clone of locked sources elsewhere in the Artist Mix layout. This does not pose a real issue, since the duplicate is fully synced with the locked one, and will operate as expected if you do use it.

Unlocking a previously locked source restores it to its normal position.

4.11 AUDIO PRESETS

Artist Mix implementation provides full access to TriCaster's *Audio Mixer* preset system. Keep in mind that these can be a very convenient way to store and recall different source layouts for Artist Mix, too. You can choose a preset or create a new one using either the user interface or Artist mix. To select a preset, proceed as follows:

- Press *Shift* + **INSERTS** (**INPUT**) to display the list of existing mixer presets left to right across the slots in the OLED display.

- Press the **SEL** button below the PLED label of the reset you want to select.

Hint: Rotate the knob below a preset on the OLED display to access copy and paste (preset) functions.

One of these two control surfaces is the perfect complement to your TriCaster 855 or TriCaster 455.

This chapter provides a quick hands-on tour of the major components and functions of your TriCaster™ control surface, followed by more detailed information. In a very short time, you will be a master of all aspects of its use.

The principle difference between these two proud members of the TriCaster family of control surfaces is the number of channels supported by their namesake TriCaster live production system. TriCaster 855 CS is a bit wider (than 455 CS) to support the additional channels offered by the larger TriCaster. As well, a few control groups are in slightly different locations on the two control surfaces. Apart from these distinctions, the features of both of the control surfaces considered in this chapter correspond very closely, allowing us to treat them simultaneously in our discussion. We'll begin with a brisk walkthrough to get you up and running, then follow up with the finer detail in ensuing sections.

5.1 WALKTHROUGH

We discussed connecting your control surface to TriCaster™ back in Section 2.3. (Please take time to review this information if your installation requires use of a longer USB cable than the one supplied with your control surface.)

Please open a TriCaster session, and let's proceed to gain some hands-on experience.

5.1.1 SWITCHER ROWS

Figure 49 – TriCaster 450 CS

Let us focus our attention on the main *Switcher* rows first. For both TriCaster 450 CS and 850 CS, you'll notice that these correspond exactly to their user interface representations on the *Live Desktop*.

Hint: Generally we'll use TriCaster 450 CS to illustrate points involving the Switcher rows, for the simple reason that the images can be larger if we do so.

Just like the corresponding *Live Desktop* rows, the *PGM* (Program) and PVW (Preview) rows are longer than the *UTIL* (Utility) row, in order to accommodate the *Virtual Input* buttons – four of the latter for TriCaster 450 CS, and for its larger sibling.

55. Press the control surface button for *Camera 1* on the *PGM* row (if you don't have live sources connected at the moment, it will be fine to substitute a *Media Player* with a suitable video clip cued up for this exercise).

56. Select *Camera 2* (or a different Media Player) on the *PVW* row.

57. In the *Live Desktop*, add a title page to the *Graphics* (TriCaster 455) or *Stills* (TriCaster 855) *Media Player* – choose something like a lower third (anything that does not completely obscure the screen will do for now).

58. Add a similar title page to *DDR 2* (TriCaster 855) or *Title* (TriCaster 455) *Media Player*.

59. Back on the control surface, press *DSK 1* in the *UTIL BUS DELEGATE* control group.

60. Press *Graphics* or *Still* (whichever you used in Step 3) on the *UTIL row*. This assigns the *Stills* module to *DSK 1*.

61. Press the *DSK 2* button in the *UTIL BUS DELEGATE* control group.

62. Press *DDR 2* or *Title* (from Step 4) on the *UTIL row*, assigning it to *DSK 2*.

5.1.2 TRANSITION

Now we're ready now to test the *Transition* controls, to the right of the *Switcher* rows. The *Transition* controls on the *control surface* are slightly simplified as compared to the same controls in the user interface.

Figure 50

Figure 51

5.1.3 LOCAL CONTROLS

Let's begin our exploration of switching with the local *video layer* controls.

Notice first that while TriCaster's *Live Desktop* includes *local* transition controls for the *BKGD* (Background) layer, the *Transition* control group on the control surface does not.

63. Click the local *Auto* button for the *DSK 1* layer. Not surprisingly (since the *Still* or Graphic module is assigned to *DSK 1*) the currently selected item in its playlist transitions in to appear above the *BKGD* layer on *Program Output*.

Another obvious difference is that the *Live Desktop* shows transition bins for the first three primary video layers, but the control surface does not. Even so, you can adjust the local video layer transition settings in various ways as follows.

64. Click the *BKGD delegate* button at 'upper-left' in the control surface *TRANSITION DELEGATE* group*.

65. Twist the *Select* knob (just above the main *Take* button) to cycle through the current entries in the *BKGD Transition Bin*.

66. Click the *DSK 1* button in the *TRANSITION DELEGATE* group*.

67. Again, twist the *Select* knob, and choose a different transition for *DSK 1* – choose one that is in a different numeric place in the bin than the *BKGD* selection below.

68. Now press the *BKGD* and *DSK 1 delegate* buttons together, multi-selecting them.

69. Twist Select again, slowly, click by click – observe that the *Transition Bin* selections for *BKGD* and *DSK 1* first 'sync up', and then advance together.

70. Rotate the nearby *Rate* knob (just above the main Auto button), and keep an eye on the *Transition Duration* time displays in the *Live Desktop*. Observe that the transition duration for both delegates changes as you do so.

71. Now push the *Rate* knob a few times (as though it was a button). As you do so, watch the *Transition speed* of both selected *delegates* in the user interface. The settings will cycle through the presets (in the *Speed* menu) each time you press *Rate*.

72. In the user interface, click the *Transition Options* button (gear) for the *BKGD* layer to open the settings panel for the currently selected transition.

73. Push the *Select* knob (as though it was a button). Doing so toggles the Normal/Reverse state for this transition; you'll be able to see this in the *Transition Options panel* you opened*.*

74. At the top (furthest from you) center of the control surface, you'll see *SHIFT*, *CTRL* and *ALT* buttons, just to the left of the *Record group*.

    Press *ALT* and continue to hold it down, and the watch the *Transition Options* while you push *Select* several times in succession. You should see the *Ping Pong* switch for the current transition toggle on or off each time you push Select.

> *Note: Overlay Transitions, as used to hide or show the two DSK video layers, always Ping Pong. Hence their options panels have no Normal, Reverse or Ping Pong switches.*

MAIN CONTROLS

Having seen how local *Transition* controls work, let's move on to their main counterparts.

75. If necessary, adjust the Live Desktop monitoring view to show the *Preview monitor* (next to *Program*).

76. On the control surface, press the *BKGD* button in the *TRANSITION DELEGATE* group, resulting in it alone being selected in the group.

77. Press the main *Auto* button **(**below *Rate* on the control surface), or operate the T-bar to perform a *BKGD* transition.

78. Earlier, we displayed *DSK 1*, using its local *Auto* button. The *BKGD* transition we just performed did not affect it, so it should still be displayed (if you removed it from view while experimenting, please restore it before continuing).

79. Press the *BKGD***,** *DSK 1* and *DSK 2* delegate buttons all together, multi-selecting them.

Take a look at the progress gauge beneath the *Delegate* button for *DSK 1* in the user interface. It currently indicates that *DSK 1* is fully displayed. In contrast, the gauge beneath *DSK 2* tells us that video layer is hidden.

Figure 53

Now cast your eyes over the *Preview* and *Program monitors* (Figure 53), and consider how these displays relate to your current *Transition Delegate* selections:

- The *Program monitor* shows *DSK 1* (which has *Stills* assigned to it) over the current *BKGD* layer.

- The *Preview monitor* shows *DSK 2* (which has Titles assigned to it) over the current *Preview row* selection.

The *Look Ahead Preview monitor* (or simply, *Preview*) is showing us the composition that will result if we perform a *Take* or *Auto* operation right now.

80. Press the *DSK 1 and DSK 2 buttons* in *TRANSITION DELEGATE* (so that *BKGD* is no longer selected).

Note that, when you do this, the *Preview monitor* no longer shows the Switcher's *Preview row* selection. Why not?

Having de-selected the *BKGD* delegate, only the *DSK 1* and *DSK 2* buttons remain lit. Thus only those two video layers will be affected by a *main Take* or *Auto*. The end result of either of those operations will be as follows:

- *DSK 1*, currently seen on **Program** out, will be removed from view (but will re-appear on *Preview*).

- *DSK 2* will be displayed on *Program Out* instead.

- The *BKGD* layer will not change; that's why the *Preview* correctly predicts no change to that video layer, instead showing the same *BKGD* in both the *Preview* and *Program* monitors.

The *TRANSITION DELEGATE* feature provides flexible and convenient video layer management, providing complete control over your ultimate *Program output* composition.

One more little detail to note, before we leave the *Transition group – FTB*, although not located beside its *TRANSITION DELEGATE* siblings on the control surface, is nevertheless a *delegate* button, just like them.

Figure 54

81. Press *FTB* – note that when you do:

a. The other *Transition delegate* buttons are de-selected.

b. The *Preview monitor* goes completely black.

82. Press the main *Auto* button, or operate the *T-bar*.

Observe that pressing *FTB* did not *perform* a Fade to Black – rather it *delegated* the main *Take*, *Auto* and *T-bar* controls to control the *FTB* video layer.

83. Press the main *Take* button again, clearing the *FTB* video layer from *Program out*.

5.1.4 MEDIA PLAYERS

Let's take a brief look at the *MEDIA PLAYER* control group.

Figure 55

84. By way of preparation:

a. Select *DDR 1* on the *Program row*, and select a video or animation clip.

b. Press *DDR 2* on the *Preview row*, and select another video or animation clip.

c. Press *BKGD* in the *Transition delegate* group (de-selecting everything else).

d. If necessary, clear any *DSK* layer displayed on *Program out*, using its local *Take* button.

e. Click the *DDR 1* and *DDR 2* tabs in the user interface (to let you to see what happens in response to your control surface operations).

85. Press the *DDR 1* button in the *DELEGATE* group under *MEDIA PLAYERS* on the control surface.

86. If *LOOP* for *DDR 1* is not enabled (i.e., its button is not brightly lit on the control surface), press the *LOOP* button once.

87. Press the *DDR 2* button in the *DELEGATE* group.

88. If *LOOP* for *DDR 2* is enabled (its button is brightly lit on the control surface) press the *LOOP* button once to turn it off.

89. Press the *DDR 1* button again – note that the *LOOP* button illuminates, correctly showing the current state for *DDR 1*.

90. Multi-select the *DDR 1* & *DDR 2 delegate* buttons.

91. Press *LOOP*. *LOOP* is turned off for both of the delegated *Media Players*.

92. Press *LOOP* again – The *LOOP* feature is enabled for both delegated *Media Players*.

93. Repeat this exercise using the *AUTOPLAY* or *SINGLE* buttons (or both together).

Until this point, we've not done anything to the Media Players that couldn't have been done without the control surface, so try the following simple but powerful step:

94. Press *Play*. Both <u>*Media Players* begin to run simultaneously</u>. Press *Stop*.

5.1.5 POSITIONER

Let's kick it up a notch now, using the *control surface* to perform multiple simultaneous operations.

95. Enable *AUTOPLAY, SINGLE* and *LOOP* for both DDRs (see Section 5.1.4).

96. Select different video sources on the Switcher's *PGM* and *PVW rows* (see Section 5.1.1).

97. Use the *UTIL row* to assign *DDR 1* to *DSK 1.*

98. Likewise, assign *DDR 2* to *DSK 2*.

99. Select both *DSK 1* and *DSK 2* buttons under *DELEGATE* in the *Positioner* group on the control surface.

100. Press the POS/SCALE button just above the *Positioner DELEGATE* buttons (this button group controls the *Joystick mode*).

101. Twist the *joystick* counter-clockwise (as viewed from above) to *Scale* both DSK overlays down at once. Reduce them to 15-20% of the screen size. (Notice that the *Preview monitor* temporarily shows the results of your operation as you do so).

102. Push the *DSK 1* button in the *Positioner DELEGATE* group, and use the joystick to reposition *DSK 1* to the upper-left quadrant of the screen, again using *Preview* to guide you.

    (Push forward or back to move the delegated source vertically in the frame, and left or right for lateral movement.)

103. Push the *DSK 2* button in the *Positioner DELEGATE* group, and repeat the step above, positioning *DSK 2* in the lower right quadrant of the screen.

104. Select the *BKGD* button in the *TRANSITION DELEGATE* group, and press *Rate* as many times necessary to set the transition speed for the *BKGD* video layer to F (fast).

105. Multi-select *DSK 1*and *DSK 2* in the *TRANSITION DELEGATE* group, press *RATE* until both *DSK* video layer transitions is set to M (Medium).

106. Multi-select *BKGD*, *DSK 1*and *DSK 2* in the *TRANSITION DELEGATE* group.

At this point, the display on the *Preview* monitor should look something like Figure 56.

107. Push the main *Auto* button. The following will occur:

   a. The *BKGD* transition is performed, swapping the Program and Preview row sources.

   b. Both DSKs transition in above the BKGD layer.

   c. And the two DDRs automatically begin to play.

108. Let this all run for a moment or two to take it all in, then press *Auto* again.

All of the above resulted from your pressing a single button. You can see that the *control surface* allows you to quickly configure complex compositions, and display them with flair.

Multi-selecting delegates provides a great deal of convenience, as we've seen. Consider too that it becomes a simple matter to ensure matching positioning (etc.) for a series of sources, such as title overlays, picture-in-picture setups, and so on. Let's look at an example using Virtual Input layers.

5.1.6 VIRTUAL INPUTS

We'll perform a very simple exercise, but it will quickly impart everything you need to know.

- Turn off both *DSK*s, and press the *BKGD* button in the *TRANSITION DELEGATE* group.

  > The *Preview monitor* will now show the Switcher's *Preview row* selection (only); and the *Program monitor* will display the current *Program row* selection – this will let you see how subsequent steps affect delegated Virtual Inputs.

- In the onscreen user interface (*Live Desktop*), click the tab labeled *V1*.

- In the tabbed pane that appears, click the *Configure* (gear) button next to the *LiveSet* name for this *Virtual Input*, and select the "Default> A over B LiveSet".

- Repeat these two steps for the *Virtual Input* labeled *V2*.

(We're going to create two matching *Virtual Input* setups. We could just as easily use different LiveSets, but our current purposes don't require that, so we'll opt for simplicity.)

Figure 57

Figure 58

- Multi-select the *V1* and *V2* buttons in the *VIRTUAL INPUT DELEGATE* button group at right.

- Push the *DDR 1* button on the row labeled "A".

- Push the *DDR 2* button on the row labeled simply "B" in the large *VIRTUAL INPUT* section (above main *UTIL* row).

- Push the *TITLE* button in the *Overlay row* above. Make sure that the *Overlay Take* button to its right is *off* for the moment.

- In the *Positioner DELEGATE* group, press *Virtual A*. This delegates the *Joystick* to control the attributes of the *Input A* layer of currently delegated Virtual Inputs – in this case, *Virtual Input 1*, and *Virtual Input 2* will be affected.

- Press the *POS/SCALE* button in the Positioner mode group. Watch the monitors as you *Scale* and position the source assigned to *Input A* (which happens to be *DDR 1*) to approximate Figure 59.

> *Hint: If Positioner settings have been applied to Inputs A or B previously in either Virtual Input 1 or 2, with V1, V2 and POS/SCALE selected, you need simply press Reset to clear them all to the defaults in one operation.*

- Let's do it again – press the *Overlay Take* button beside the *Overlay row.*

- Press the *Virtual Overlay* button in the *Positioner DELEGATE* group, and adjust the title page assigned to *Overlay* to a suitable size and position (Figure 60).

In like fashion, you can easily manipulate the elements of any composition to match perfectly. (You may find this particularly useful, for example, to make sure that station ID 'bugs' or lower thirds title overlays appear in exactly the same place for multiple *Virtual Inputs*.)

By this point, the fundamental principles of your TriCaster control surface should be clear; with a little bit of practice you'll be able to control your TriCaster with unparalleled ease and confidence. This concludes our walkthrough. If you like, please continue reading for the complete details of every feature.

5.2   FEATURES AND CONTROLS

Your TriCaster *control surface* provides superb tactile control over your NewTek live production system. Careful attention to ergonomics and aesthetics in the design are obvious. These attractive yet rugged control surfaces can be configured for either tabletop or in-table mounting.

The control layout closely follows that of the TriCaster user interface, the principle exceptions being that:

- The *VIRTUAL INPUT* control group on the control surface is located above the main *Switcher* rows (for comfort).

- A single *Position* control group governed by delegate buttons takes the place of multiple controls in the UI.

The controls are comprised of grouped sets including the following hardware types:

- Backlit push buttons
- Twist knobs
- T-bar
- 3-axis joystick
- LED indicators

5.2.1 CONNECTING TO TRICASTER

If your *control surface* is connected to TriCaster using the cable it comes with, no external power is required. If a longer USB cable is required, first connect the control surface to a powered USB hub by a short cable, and then insert the longer USB cable between the hub and TriCaster.

Please be advised that so-called USB extenders are not recommended, having proven less reliable than long USB cables (with powered hub, as above). This is because each added connector introduces 'reflections', degrading the signal. Your TriCaster CS may seem reliable for some time in this configuration, and then unexpectedly fail. (If this should happen, disconnecting and reconnecting the control surface may serve as an temporarily measure to restore functionality).

5.2.2 DELEGATES AND SYNCHRONIZATION

Both TriCaster's *Live Desktop* and the control surface supply *delegate* button groups to govern other controls. This is done both to extend the capability of other controls, and to support multi-selections – resulting in simultaneous operations.

When initially selecting multiple delegates, as often as not the settings and states of the individual members selected will vary. For example, when you delegate several *Virtual Inputs* at once, the *Overlay Transition Rate* of each member of the multi-selection could be different.

Generally, wherever it makes sense to do so, when you make adjustments to settings for multi-delegated groups, the settings will be progressively synchronized. For example:

- The *Zoom Rate* for V1 is set to "S"; V2 is set to "M"; V3's *Zoom Rate* is "F".
- You multi-delegate these three *Virtual Inputs*.
- You push the *Zoom Rate* button once. The rate for V1 increments to "M". (V2 and V3 are not affected.)
- You push the *Zoom Rate* button again. The rate for both V1 and V2 are incremented to "F"; the *Zoom Rate* for all three delegated Virtual Inputs is now synchronized.

You will see this synchronization method applied to the following controls:

- Media Players > Loop, Autoplay and Single
- Transition>Rate
- Transition>Select
- Virtual Input >(Overlay) Trans Rate
- Virtual Input >(Overlay) Trans Select
- Virtual Input >Zoom Rate
- Virtual Input >Overlay display state

5.2.3   SWITCHER CONTROLS

Figure 62

PROGRAM AND PREVIEW

The *Program* and *Preview* rows each hold selection buttons as follows:

4. *1 – (4 or 8);* Camera inputs
5. *NET 1* and *NET 2*
6. *Media Players:*
    a. *DDR 1* and *DDR 2*

b. *STILL* or *Graphics*
c. *TITLE* (TriCaster 850 CS only)
d. *FRAME BUFFER*
e. *BLACK* (TriCaster 850 CS only)
f. *V1 - (V4 or V8);* Virtual Inputs

Switcher row buttons are mutually exclusive, and the active selection button remains lit.

Hint: Hold down CTRL when clicking a button on the Preview row to toggle LiveMatte on/off for that source. Likewise, hold ALT while pushing a Preview row button to toggle its Proc Amp. Note that the source need not be actually selected on the PREVIEW row to do this, and multi-selections are supported.

UTIL (UTILITY) ROW

UTIL row buttons are also mutually exclusive. The subordinate role of the UTIL Row is subtly reinforced by the use of slightly smaller buttons. Source options include:

1. *1 – (4 or 8);* Camera inputs
2. *NET 1* and *NET 2*
3. *Media Players:*
    a. *DDR 1* and *DDR 2*
    b. *STILL* or *Graphics*
    c. *TITLE* (TriCaster 850 CS only)
    d. *FRAME BUFFER*
    e. *BLACK* (TriCaster 850 CS only)

Press *SHIFT + (UTIL row button)* to access extended source options for the *AUX Out* delegate only:

f. [SHIFT + 1] – [SHIFT + (4 or 8] → select *VI BFR 1- (4 or 8)*
g. [SHIFT + NET 1] → select *Preview*
h. [SHIFT + NET 2] → select *Program*
i. [SHIFT + DDR 1] → select *Program (Clean)*
j. [SHIFT + DDR 2] → select *FX*

UTIL BUS DELEGATE

UTIL BUS DELEGATE (Figure 63) button selections govern which *switcher layers* the *UTIL row* is currently controlling; or – from another perspective – which video layers the selected source is assigned to.

Note: When possible, all related button selections (and illumination state) are updated to show their current state when new delegate selections are first made. This is true for all delegate groups.

(An exception is made when newly selecting multiple delegates with control settings that do not initially match. For example, if DSK1 and DSK 2 have different sources assigned and are newly multi-selected in the delegate group, no buttons on the UTIL row will light.)

5.2.4 TRANSITION GROUP

The controls in this group (Figure 64) are analogous to those in the eponymous group in user interface, performing the same functions in much the same manner.

(In one deviation from the corresponding *Transition* group on the *Live Desktop,* switcher layer positioning is provided by a single, shared set of *Positioner* tools, discussed later.)

TRANSITION DELEGATE

As on the *Live Desktop*, active *delegate* buttons remain lit. Multiple selections can be performed by pressing one or more buttons at the same time. *DELEGATE* buttons determine what *video layers* the main *Take*, *Auto*, and *T-Bar* affect, and the scope of the *Select* and *Rate* knobs.

FTB

Note that *FTB* (Fade to Black), although not located beside the other delegates as it is in the user interface, is a delegate button – <u>not</u> an action button – and works exactly the same manner as its *Live Desktop* twin. Note that *FTB* has no dedicated transition controls; its fade in/out duration is derived from the *BKGD* transition setting.

Hint: When FTB is displayed on Program Out, it obscures all other Switcher activity. To alert you to this important fact, the control surface FTB button flashes for several seconds if you should make a new TRANSITION DELEGATE selection that does not include FTB.

TRANSITION BIN CONTROL

The control surface does not have *Transition Bins* for the different video layers as such, but can nevertheless control the transition selection and attributes for delegated video layers.

SELECT

When a single layer, such as *BKGD*, is selected in the *TRANSITION DELEGATE* group on the control surface, rotating the *SELECT* knob cycles the current transitions in the Transition Bin for that layer.

When multiple video layers have been delegated, turning *SELECT* affects the transitions for all layers as follows:

- When all delegated layers are currently on the same transition bin 'slot', the selection in the corresponding transition bins simply cycles left or right synchronously.

- Otherwise (when the *Transition Bin* slots for multi-delegated layers are *not* aligned vertically), rotating the knob moves the selection layer by layer as the knob turns until

the selected slots *are* aligned. From that point, continuing to twist *SELECT* moves the transition selection in lock step.

The *SELECT* knob also acts as a push button:

- Push *SELECT* to toggle the *Reverse* setting for the *BKGD* transition.
- Push *ALT + SELECT* to toggle the *Ping Pong* switch for the *BKGD* transition.

RATE

The *RATE* knob operates in similar fashion to *SELECT*. Rotate the knob to modify the transition Rate for delegated layers. Or press the knob to cycle through the standard Slow, Medium and Fast presets. Multi-delegate selections are handled the same as for Select (for both twist and push operations).

FADE & TRANS

Figure 65

These two buttons provide a quick way to control the *Transition Bin* selection for the delegated switcher layer(s). The FADE and TRANS (Transition) buttons are mutually exclusive; selecting either one cancels the other, and only the currently active button remains lit.

Pushing *FADE* offers a quick and convenient way to select the Crossfade transition. Push the TRANS button to activate the last-used transition icons for a video layer (or layers. For new sessions, TRANS jumps to the first transition in the bin.

PERFORMING TRANSITIONS

Just as in the user interface, the TriCaster control surface provides both local and main transition controls.

MAIN T-BAR, TAKE AND AUTO

These controls correspond exactly to their *Live Desktop* counterparts, and affect all currently delegated video layers (*BKGD*, *DSK 1*, *DSK 2*, or *FTB*) at the same time.

Note that two small LEDS are situated near the left side of the T-*Bar* – one at each extreme of its stroke. When a transition is in progress (or is halted partway), one LED is illuminated. This LED marks which direction to push the T- to complete the current transition.

LOCAL TAKE/AUTO

Local *Take* and *Auto* buttons are provided for *DSK 1* and *DSK 2*, but not *FTB*. These perform a cut or transition respectively, affecting only the corresponding switcher layer.

Hint: When a DSK layer is fully displayed on Program out, its local Take button (on the Live Desktop as well as the control surface) remains lit.

5.2.5   VIRTUAL INPUT GROUP

This section of the control surface corresponds to the *Virtual Input* tabbed panels on the *Live Desktop*. The *VIRTUAL INPUT DELEGATE* button group determines which *Virtual Input* (from the eight available) is being controlled.

Figure 66

In contrast with the *Live Desktop*, your TriCaster CS adjusts position attributes for *Virtual Input* video layers using a single set of *Positioner* tools governed by *Delegate* controls (see Section 5.2.6).

VIRTUAL INPUT DELEGATE
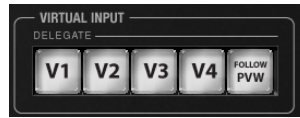
Figure 68

Your TriCaster CS provides a *VIRTUAL INPUT DELEGATE* button group to govern which *Virtual Input(s)* are affect by operations. Selected *DELEGATE* buttons are illuminated and, conveniently, multiple selections are supported.

FOLLOW PVW

Enabling the *FOLLOW PVW* button (*VIRTUAL INPUT DELEGATE* group) forces the *DELEGATE* selection to track the Switcher's *PVW row* selection. This can be very valuable, as it automatically ensures that adjustments you make to settings will affect the *Virtual Input* that you plan to display next.

INPUT ROWS

Just as in the *Live Desktop*, the *Overlay* row selection determines the source for the *Overlay* layer of a *Virtual Input*. However, since the control surface supports selection of multiple *Virtual Inputs* simultaneously, operations can affect more than one *Virtual Input* at a time.

Figure 69

Likewise, the *A* (Input A) and *B* (Input B) row selections determine the sources for those layers for delegated *Virtual Inputs*. All three rows provide buttons for all camera inputs, *Net 1*, *Net 2*, all *Media Players* (excluding *Sound*), *Virtual Buffer*, *Black* (TriCaster 850 CS only) and *FX*.

VIRTUAL INPUT OVERLAY TRANSITIONS

OVERLAY TRANSITION SETTINGS

Rotate the *TRANS SELECT* knob to cycle the transition bin selection through transitions currently available in the (*Overlay*) *Transition Bin* in the user interface.

Rotate the *TRANS RATE* knob to modify the transition duration. Press the knob to cycle through the standard Slow, Medium and Fast presets.

OVERLAY OPERATIONS

OVERLAY TAKE shows or hides the *Overlay* layer(s) for currently delegated *Virtual Input*(s). Similarly, *OVERLAY AUTO* will transition the selected *Overlay(s)* using the individual effects selected for delegated *Virtual Inputs*.

LIVESET ZOOM

Figure 70

The buttons labeled *ZOOM 1-4* selects the active *Zoom Preset* for the currently delegated *Virtual Inputs*. The *ANIM ZOOM* button corresponds to the *Animate Zoom* switch in *Virtual Input* tabs on the *Live Desktop.*

When *ANIM ZOOM* is enabled, pressing an unselected *zoom preset button* initiates a smooth zoom from the current level to the new level. Preset selection applies directly to all delegated *Virtual Inputs*.

If you push a z*oom preset button* a second time at any point, the animated zoom will ease-out and stop. Press it again to re-commence the zoom and complete it.

The duration of animated zooms is determined by the *ZOOM RATE* setting. Rotate the knob to modify the duration of the effect, or push it to jump to a preset duration (Slow, Medium or Fast).

5.2.6 POSITIONER GROUP

POSITIONER DELEGATE

The *Positioner* section allows you to adjust position attributes for different overlays and video layers using the *Joystick*.

The *DELEGATE* group includes seven buttons. In some cases, the scope of application for a *DELEGATE* selection is further modified by button selections in other sections of the control surface.

For example:

- The *VIRTUAL A* and *VIRTUAL B* buttons delegate *Joystick* operations to *Input A* and *Input B* of the *Virtual Input(s)* currently selected in the *VIRTUAL INPUT DELEGATE* group.

- Similarly, the *VIRTUAL OVERLAY* button assigns the *Joystick* to control position attributes for the *Overlay* layer of currently delegated *Virtual Input(s)*.

- Again, selecting *VIRTUAL* ZOOM tells the *Joystick* to control the zoom level of the currently delegated *Virtual Input(s)*. The *joystick mode* buttons (such as *POS/SCALE*, discussed shortly) are not lit when the *POSITIONER DELEGATE* selection is *VIRTUAL* ZOOM.

  Use the *joystick* to control *Virtual Zoom as* follows:

  - To zoom in:
    - Push the joystick forward (as viewed from above), or twist the joystick clockwise.
  - To zoom out:
    - Pull the joystick back (as viewed from above, or twist the joystick counter-clockwise.

- Push *SHUTTLE* to delegate the *joystick* to shuttle the *Media Player(s)* currently selected in the *MEDIA PLAYERS DELEGATE group*. Again, *joystick mode* buttons are not lit when *SHUTTLE* is delegated.

  Use the *joystick* to control *Virtual Zoom as* follows:

  - To *shuttle* delegated *Media Players*, move the *joystick* horizontally (as viewed from above).

The *DSK 1* and *DSK 2* delegate buttons provide direct selection for these video layers, and are *not* modified by selections elsewhere.

Note: Two of the delegates (VIRTUAL ZOOM and SHUTTLE) are set apart from their siblings. This is because neither of these options supports multi-selection (with other Positioner delegates) like the rest. (Nevertheless, you can zoom multiple Virtual Inputs simultaneously when these are selected in the VIRTUAL INPUT DELEGATE group, or shuttle several delegated Media Players.)

JOYSTICK MODES

Generally, changes resulting from joystick operations are governed by the current application mode, or simply *Joystick Mode*. These mode selections are mutually exclusive (only one buttons is illuminated at a time).

Also note that when the active *Positioner DELEGATE* is either *Virtual Zoom* or *Shuttle*, the *Joystick Mode* is irrelevant, and is ignored.

POS/SCALE

- Move the *joystick* horizontally, vertically or diagonally (as viewed from above) to move delegated video source(s) on its X and Y axes.
- Twist the *joystick* clockwise to scale delegated source(s) up, or counter-clockwise to scale down.

Hint: When multi-delegate selections are active for the Positioner, adjustments are generally relative to the current state for individual delegates, as opposed to absolute.

ROT (ROTATE)

*W*hen the *POSITIONER DELEGATE* selection is anything other than *VIRTUAL* ZOOM or *SHUTTLE*:

- Move the joystick horizontally (as viewed from above) to rotate delegated sources on the Y axis.
- Move the joystick vertically to rotate delegated sources on the X axis.
- Twist the joystick clockwise/counter-clockwise to rotate delegated sources on the Z axis.

CROP

Except when the *POSITIONER DELEGATE* selection is *VIRTUAL* ZOOM or *SHUTTLE*:

- Twist the *joystick* clockwise (as viewed from above) to crop delegated sources inward on all 4 edges, maintaining the original aspect ratio.
- Twist the *joystick* counter-clockwise to reduce cropping of delegated sources on all 4 edges.
- Move the *joystick* horizontally to crop only the left edge of delegated sources.
- Move the *joystick* horizontally with the *joystick button* pressed to crop only the right edge of delegated sources.
- Move the *joystick* vertically to crop only the top edge of delegated sources.
- Move the *joystick* vertically with the *joystick button* pressed to crop only the bottom edge of delegated sources.

RESET

Despite its location, *RESET* is really an action button (not a *Joystick mode*). Press it to restore all position settings for currently delegated source(s) to their defaults. (This is also why *RESET* does not stay selected when pressed, nor does it change the current *Joystick mode*.

The two special delegate selections also work differently with *RESET:*

- When *VIRTUAL* ZOOM is delegated, the Zoom preset for delegated *Virtual Inputs*) is reset to the #1 preset.
- When SHUTTLE is delegated, selected *Media Players* are reset to the starting point of the current item (or playlist).

MONITORING

While using the joystick in most *POSITIONER DELEGATE* modes, many adjustments are temporarily shown on the Live Desktop's *Preview monitor*. The *Preview monitor* reverts to its default display a few moments after releasing the joystick to its at-rest position.

5.2.7   MEDIA PLAYER GROUP

Figure 72

MEDIA PLAYER DELEGATE

The *MEDIA PLAYER DELEGATE* group contains buttons for TriCaster's *DDR 1*, *DDR 2*, *Graphics* (450 CS), *STILL and TITLE* (850 CS)*,* and *SOUND* modules. This selection determines which *Media Player* is being controlled at the moment. (Support for multi-selection allows you to do things like start and stop both *DDRs* at the identical moment.)

PREV/NEXT PRESET

These two buttons let you to cycle backwards or forwards respectively through existing presets for the delegated *Media Player*.

TRANSPORT CONTROL

- |◀ (Previous Item) – Press this button to go to the previous playlist entry in delegated *Media Players*. (The selection cycles to the last playlist entry when necessary.)

- ■ (Stop) – Push once to end playback for delegated *Media Players*; push a second time to return to the start position (this operation respects the *Single* setting for individual *Media Players*

- ▶ (Play) – Push to initiate playback for delegated *Media Players*.

- ▶| (Next Item) – Push this button to go to the next playlist entry in delegated *Media Players*. (The selection cycles to the first playlist entry when necessary.)

MEDIA PLAYER OPTIONS

LOOP, *SINGLE*, and *AUTOPLAY* are mode buttons, and toggle the respective settings for all delegated *Media Players* as appropriate (for example, *Sounds* has no *Autoplay* feature, so logically *AUTOPLAY* does not affect it).

5.2.8 RECORD GROUP

Figure 73

Three buttons labeled *REC*, *STRM,* and *GRAB* are located in the *RECORD* group.

- *REC* – Pressing this button enables TriCaster's *Record* feature. As a safety measure, pressing the *REC* button when recording is underway does <u>not</u> stop recording.   Instead, the *CTRL* button flashes to reminds you that you must hold the *CTRL* button down while pushing *REC* to end recording.
- *STREAM* – Push to enable or disable TriCaster's live streaming feature.
- *GRAB* – Push to store a snapshot of Program output using TriCaster's *Grab* feature.

5.2.9   QUALIFIER BUTTONS

Figure 74

The *SHIFT*, *CTRL* and *ALT* buttons provided on the control surface support extended features and future expansion.

6   TRICASTER™ 40 CS

TriCaster 40™ provides a wealth of high definition production power at a very affordable price. Adding a TriCaster™ 40 CS to the system unleashes additional control capabilities, supporting operations not possible otherwise.

This chapter provides a detailed review of your TriCaster™ control surface. Using TriCaster 40 CS™ is easy and confidence inspiring. You will soon wonder how you ever got along without it.

TriCaster 40 CS™, though compact, provides full control over the various video layers and effects provided by its namesake live production system. Controls are logically and ergonomically grouped, and will be familiar in no time.

Figure 75

6.1   FEATURES AND CONTROLS

In large measure, the layout mimics that of the TriCaster user interface, the principle difference from the onscreen controls being that (to avoid redundancy and save space) the individual control groups on the control surface can be repurposed to govern various TriCaster features.

For example, the three source selector rows *LABELED FX/OVERLAY, PROGRAM* and *PREVIEW* serve multiple purposes. Depending on the current selection in the *Switcher Delegate* button group, operations in these rows are directed either to the main *Switcher* rows by the same names or to a designated *Virtual Input*.

The controls are comprised of grouped sets including the following hardware types:

- Backlit push buttons
- Twist knobs
- T-bar
- LED indicators

6.1.1 CONNECTING TO TRICASTER

We discussed connecting your control surface to TriCaster™ back in Section 2.3. (Please take time to review this information if your installation requires use of a longer USB cable than the one supplied with your control surface.)

Please be advised that so-called USB extenders are not recommended, having proven less reliable than long USB cables with a powered hub. Each added connector introduces 'reflections', degrading the signal. Your TriCaster CS may seem reliable for some time in this configuration, and then unexpectedly fail. (If this should happen, disconnecting and reconnecting the control surface may serve as an temporarily measure to restore functionality).

6.1.2 DELEGATES AND SYNCHRONIZATION

As discussed, *delegate* button groups govern other controls on the control surface. Some delegate groups support multi-selection, and allow simultaneous operations to be performed. When initially selecting multiple delegates, as often as not the settings and states of the individual members selected will vary. For example, when you delegate both DSK's at once in the *TRANSITION DELEGATE* group, the *RATE* for current transitions for the two DSKs could well be different.

Generally, wherever it makes sense to do so, when you make adjustments to settings for multi-delegate features, the settings will be progressively synchronized, then advance in lock step.
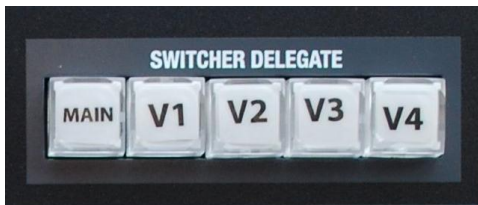
6.1.3 SWITCHER DELEGATES

This delegate group dictates what the *FX/OVERLAY*, *PROGRAM* and *PREVIEW* rows will control. The options are mutually exclusive – that is, multiple selections are not supported. Choose one of:

- *MAIN*
- *VI* – Virtual Input 1
- *V2* – Virtual Input 2
- *V3* – Virtual Input 3
- *V4* – Virtual Input 4

MAIN

FX/OVERLAY ROW

When *MAIN* is selected in the *SWITCHER DELEGATE* group, operations in this row are further modified by the *OVERLAY DELEGATE* selection in the Transition (T-Bar) group.

- When *MAIN* is selected in the *SWITCHER DELEGATE* group, if either *DSK 1, DSK2* or both, are lit, making a selection on the *FX/OVERLAY* row sets the source for the related channel(s).

- If *BKGD* alone is lit (or, for that matter *FTB* only), a button selection in the *FX/OVERLAY* row assigns the FX bus source.

Figure 77

PROGRAM AND PREVIEW

As you would expect, when *MAIN* is selected in the *SWITCHER DELEGATE* group, *PROGRAM* and *PREVIEW* row operations perform just like their onscreen counterparts.

V1-V4

On the other hand, when one of the *Virtual Input* delegates (*V1-V4*) is selected in the *SWITCHER DELEGATE* group, the three rows beneath are repurposed to correspond to the *OVERLAY*, *INPUT A* and *INPUT B* rows of the delegated Virtual Input.

6.1.4   SHIFT & ALT

SHIFT

SHIFT is a 'qualifier button' (like *ALT*), providing access to secondary functions for certain buttons. Supported operations are considered in context.

Figure 78

ALT

Figure 79

Holding *ALT* provides access to secondary functions for certain buttons. You'll note on inspection that the first four buttons in the *FX/OVERLAY* row have icons on their upper half representing transport and navigation features associated with TriCaster's *Media Players*.

Specifically, the supported control operations are:

- |◀ (Previous Item) – Press this button to go to the previous playlist entry in delegated *Media Players*. (The selection cycles to the last playlist entry when necessary.)

- ■ (Stop) – Push once to end playback for delegated *Media Players*; push a second time to return to the start position (this operation respects the *Single* setting for individual *Media Players.*

- ▶ (Play) – Push to initiate playback for delegated *Media Players*.

- ▶| (Next Item) – Push this button to go to the next playlist entry in delegated *Media Players*. (The selection cycles to the first playlist entry when necessary.)

You determine which *Media Player* to control by pressing *ALT*. Doing so lights one of the *Media Player* selection buttons in the *FX/OVERLAY* row – whether the *DDR*, *GFX 1*, or *GFX 2*. To change the active player, make a different *Media Player* selection while ALT is pressed. Without releasing *ALT*, press one of the first four buttons in the row to perform the transport/navigation operation assigned to it as listed above.

ALT AND SHIFT FUNCTIONS

Press *ALT* along with a button on the *PREVIEW* row to toggle the *Proc Amp* for the corresponding video source. Replace the *ALT* button combination with *SHIFT* to toggle the source's *LiveMatte* feature instead. *ALT* also provides access to transition controls for Virtual Input Overlay layers, as discussed in the next section.

6.1.5   TRANSITIONS

The transition area on TriCaster 40 CS offers familiar controls, including a T-Bar, transition selector and timing knobs, along with *AUTO* and *TAKE* buttons. These are all governed by delegates, as discussed earlier.

The *TRANSITION DELEGATE* buttons include *BKGD*, *DSK 1*, *DSK 2,* and *FTB* (Fade to Black) buttons. These can be multi-selected, and govern which video layers are affected by operations performed with the *SELECT* and *RATE* knobs, *AUTO* and *TAKE* buttons, and the *T-Bar*.

TriCaster's *Background layer* effectively comprises the program output before any DSKs or FTB are considered. When the *BKGD* delegate button is selected alone, a *TAKE* swaps the source selected on the *PREVIEW* row for the one shown on the *PROGRAM* row.

If one or more *DSKs* is selected along with the *BKGD* delegate button, the display state for the delegated *DSK(s)* will be affected as well. Depending on their current status, this may bring them into view, or remove them from program output. This allows you to simultaneously hide one *DSK* (such as a title page) while revealing another, even as you bring in a new *BKGD* source. Or you can display and hide both *DSK* channels in tandem.

Figure 80

SHIFT FUNCTIONS

The *SHIFT* key provides access to certain special features in connection with transitions as follows:

- *SHIFT + AUTO*: Reverse direction to fully remove or display delegated video sources left partially displayed by an incomplete prior transition.

- *SHIFT + BKGD* (*TRANSITION DELEGATE* button): Perform an immediate *BKGD TAKE*.

- *SHIFT + DSK 1* (*TRANSITION DELEGATE* button): Perform an immediate *DSK 1 TAKE*.

- *SHIFT + DSK 2* (*TRANSITION DELEGATE* button): Perform an immediate *DSK 2 TAKE*.

- *SHIFT + FTB* (*TRANSITION DELEGATE* button): Perform an immediate *FTB TAKE*.

ALT FUNCTIONS

When pressed with either *TAKE* or *AUTO* buttons, display of the currently delegated Virtual Input's *Overlay* will be transitioned on or off. (If a *Virtual Input* is not selected in the *Switcher Delegate* button group, *ALT* is ignored).

SELECT AND RATE

These two buttons are also governed by the delegate buttons above. Select *BKGD* and twist the appropriate knob to select a different *BKGD* transition from the onscreen bin, or to change its rate.

These knobs also act like pushbuttons. Push down and release *SELECT* to toggle the *Reverse* switch for the current *BKGD* transition. (Note that background transitions are the only type to offer a reverse option; *DSK* transitions automatically toggle their direction.) Or push the *RATE* knob repeatedly to cycle through the default S (Slow), M (Medium) and F(Fast) transition speeds. Recall that multi-selection is supported, as well.

T-BAR INDICATORS

TriCaster's onscreen T-*Bar* always snaps back to the top at the end of a transition. This is not true, of course, for the *T-Bar* on the control surface. To help you know what will result from moving the physical *T-Bar*, observe that there are green LEDs located near either end of its stroke. Normally, one of these is lit to indicate the direction the *T-Bar* should be moved to complete the last operation or perform a new one.

In some cases, transition operations can result in the onscreen *T-Bar* and its control surface counterpart being out of synch with one another. In such cases one of the LEDs begins to flash, and the *T-Bar* is deactivated. It will remain in this state until it is moved fully to one end of its stroke, re-synchronizing it with the user interface. Afterward, the *T-Bar* resumes control over the delegated sources.

This chapter discusses the use of a NewTek TimeWarp™ control surface, explaining how it integrates into your TriCaster live production system.

Full details of all of the controls and functions on the control surface follow the short walkthrough section.

This chapter discusses the use of two NewTek TimeWarp™ control surfaces in two variants. Both models (TriCaster™ 850TW and its predecessor, TW-42) add convenient slow motion instant replay to the already potent capability of your TriCaster system.

TriCaster 850TW has the same sleek profile as TriCaster 450 CS and TriCaster 850 CS, making it the perfect complement to one of these control surfaces. Of course it delivers the same precise control over TriCaster's instant replay recording and live playback when used alone.

The earlier TW-42, though designed for use with SD format TriCasters, continues to provide great functionality when connected to the newer HD TriCasters (including TriCaster 300, 450, 850, 455 and 855).

For the most part, both TimeWarp™ models have similar controls, with similar labels, and perform in much the same manner. For that reason, in the discussion which follows we will focus on the newer TriCaster 850TW, simply giving you a friendly heads-up whenever we discuss an item where TW-42 varies from its newer sibling.

TW-42 NOTES Wherever items of special interest to TW-42 users appear in this chapter, they will be flagged in the same manner as this paragraph.

7.1   WALKTHROUGH

We discussed connecting your NewTek control surface to TriCaster back in back in Section 2.3. (Please take time to review this information if your installation requires use of a longer USB cable than the one supplied with your control surface.)

Please open a TriCaster session, and let's proceed to gain some hands-on experience.

7.1.1   SETTING UP

TRICASTER SETUP

1) Connect a suitable video source to a camera input on your TriCaster live production system.

2) Select that source on the Switcher's *Program* row.

3) Open TriCaster's *Record Configuration* panel and set the source (or the *Primary* Source, for ⊏XⴸR⊏M⊏™ models) to the *Program* option.

4) Select a suitable *Encoding* format and *Destination* for the captured files.

5) Turn on *Add Source to DDR*.

BASIC TRICASTER 850 TW CONTROLS

6) Press the *DDR 1* button in the *DDR Delegate* control group – see Section 7.2.2. (TriCaster300 has just one *DDR*.)

7) Press the *Autoplay* button (*DDR options* group, Section 7.2.8).
TW-42 NOTES TW-42 does not have an Autoplay button, but you can toggle this feature on and off by pressing Alt + Pause.

8) Press the *50%* button in the *Play Speed* group (Section 7.2.4), presetting playback to a suitable slow motion playback rate).

7.1.2 RECORDING AND PLAYING REPLAYS

9) Click the *REC* (Record) button on TriCaster 850 TW to commence live replay recording. TW-42 NOTES There is no *REC* button on TW-42, but the next step will automatically enable *Record* anyway.

10) Watch your live program for a suitable event, and press the *IN* button (*Marking group*, Section 7.2.5).

11) Wait 10-15 seconds, and press *OUT* (*Marking* group, Section 7.2.5)

12) Select *DDR 1* on the Switcher's *Preview* row.

13) Click *Take* (or press the keyboard *Enter* key).

Your instant replay will automatically be displayed on TriCaster's *Program Output*, replacing the live video feed. The replay clip will play through once at half-speed, and then the live source will be restored to output.

Hint: Really, these last few steps are 'The Big Ones' – say them with me: "IN, OUT, DDR and Enter". Repeat this mantra over and over for the next four hours (or less, if you're really confident you have committed them to memory.

7.2 FEATURES AND CONTROLS

TriCaster 850 TW is quite straightforward to use, especially true if you are already familiar with common TriCaster controls and features.

In this section, we'll discuss each part of the control surface, explaining how the various controls operate and what effect they have, revealing a few little tricks that you may find helpful along the way.

7.2.1 OVERVIEW

TriCaster 850 TW provides convenient control over TriCaster's two *DDRs* as well as the recording of the *Primary* source configured for capture (*Secondary* recording on TriCaster 855, 455 and EXTREME™ models is unaffected by clip marking operations).
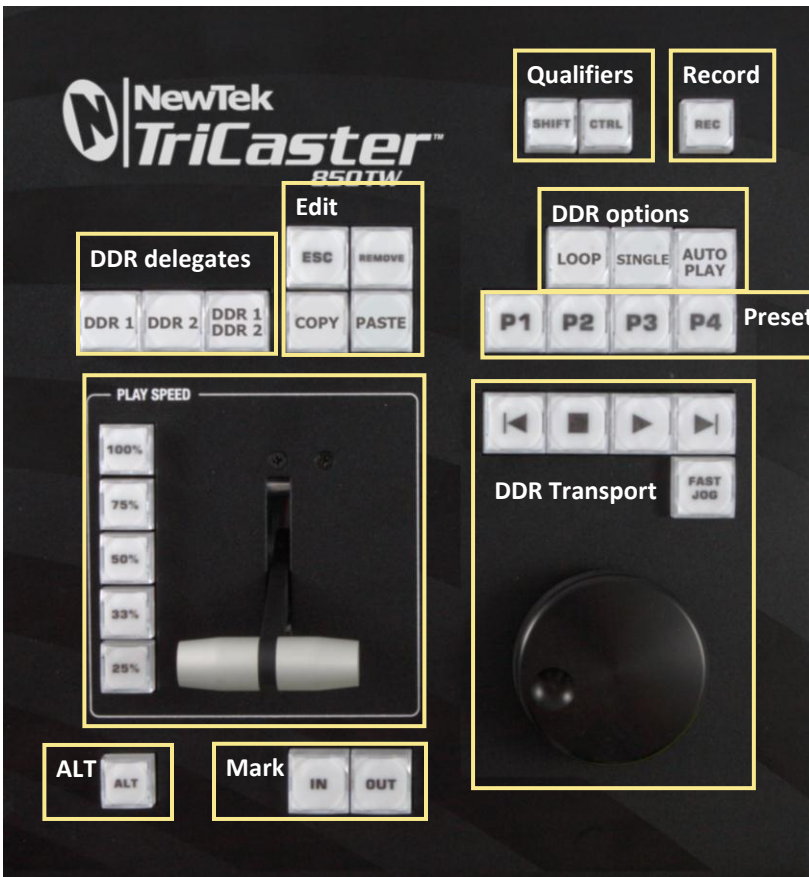
For convenience, related controls and buttons are grouped together on the control surface. We will discuss the features and operations supported by each group in the pages that follow.

The layout includes the control groups listed below (as shown in Figure 81):

- DDR Delegates
- Edit group (modify playlist content)
- Play Speed (T-bar and presets)
- Mark (replay clip creation buttons)
- ALT and Qualifiers (which modify the operation of other controls)
- Record toggle
- DDR options
- Preset (DDR Playlist)
- DDR Transport (clip playback and position controls)

Let's take a closer look at the members of each control group and their purpose.

The DDR 1 and DDR 2 buttons are 'radio button' controls. This means that they operate just like the 'Favorite' buttons provided on a car radio to let you jump to a preset station.

Pressing a button produces an immediate change of state, and your selections are mutually exclusive.

7.2.2   DDR DELEGATE

Figure 82

Much of the functionality of your TriCaster 850 TW relates to clip playback, navigation, and the like. These are essentially *Media Player* functions, controlling one or another of TriCaster's *DDRs*. The first two buttons in this group (*DDR 1* and *DDR 2*) basically delegate the other controls to the service to the named *DDR* (TriCaster 300 is, of course unique in having just one *DDR*).

Note: These buttons only relate to TriCaster 850 TW operations, and do not interact with the Switcher (or TriCaster 850 CS) delegate buttons.

The third button in this group button is *not* a delegate button (nor is it a radio button). The *DDR 1/DDR 2* button is a toggle switch. When enabled, it tells the control surface to apply *DDR Transport* control group operations to both DDRs (see Section 7.2.10).

There is no corresponding *DDR 1/DDR 2* button on TW-42. Multi-delegating DDRs is not supported with this control surface.

7.2.3   EDIT GROUP

In general, these buttons operate on selected playlist content in the currently delegated *DDR* (see Section 7.2.2).

- *Remove* – Push to remove currently selected entries from the delegated *DDR*'s playlist (selected items are not deleted from the hard drive, however).

Figure 83

The *Remove* button is labeled *RMV* on TW-42.

- *Copy* – Push to copy currently selected playlist items into the Paste buffer.
- *Paste* – Push to insert Paste buffer content into the playlist of the delegated DDR
- *Esc* – close any popup dialog or text entry item.

Hint: These four buttons are also 'action buttons' – that is, pushing one of them has an immediate effect (but unlike a radio button, the operation is complete on release, and does not remain in force).

There are no *Copy, Paste or Esc* buttons on TW-42.

7.2.4   PLAY SPEED

As you would expect, the speed preset buttons in this group (marked *25%, 33%, 50%, 75%* and *100%)* govern the playback rate of the active *DDR*.

Speed preset buttons are mutually exclusive, and establish a playback *mode.* They do not initiate playback; rather, the playback speed you choose is applied when subsequently press *Play*.

(If a *DDR* is already playing, pushing a speed preset button alters the current playback speed immediately.)

Figure 84

Hint: If you use an onscreen speed control to change to a new playback speed, the control surface button selection state follows when possible (in cases where no button corresponds exactly to the newly established speed, no preset button will be illuminated).

The speed *T-Bar* works in similar fashion to the preset buttons, but provides a smoothly variable approach to setting playback speed.

TW-42 NOTES There is no *Speed T-bar* on TW-42.

7.2.5 MARKING GROUP

The *IN* and *OUT* buttons in this group allow you to indicate the *In points* and O*ut points* for events you wish to record for later replay.

Figure 85

(MARK) IN

Pressing *IN* actually performs several related functions. First, remember that TriCaster must be in *Record* mode for any instant replay marking purpose.

For this reason, if you should happen to push the *IN* button before enabling recording, it is enabled automatically (illuminating the interface Record button just as if you had pressed it on the screen).

With *Record* active, an *In Point* is set for the current clip that will eventually be stored (when you press *OUT*) in the currently delegated *DDR* (see Section 7.2.2).

Hint: Actually, the IN button can also be thought of as a 'reset In Point' function. Pressing it updates the In Point, discarding any incomplete clip (i.e., one for which an Out Point had not been set. The partially recorded data up to that time is simply dropped (and is not added to the DDR playlist).

ALT + IN

A *different* operation results when you hold down *ALT* (see Section 7.2.6) at the same time as you push *IN*. This operation updates the *In Point* of the active clip in the currently delegated *DDR* to the frame currently displayed.

Figure 86

TW-42 NOTES This feature is supported on TW-42 as well, but only on HD model TriCasters.

Hint: This represents a non-destructive edit of the playlist clip, equivalent to dragging the trim handle at the left-hand end of the DDR scrub bar.

(MARK) OUT

Pushing the *OUT* button likewise performs a short series of several actions:

- The clip currently being recorded (if any) is ended.

- In this case, and if the *Add Source to DDR Playlist* is enabled in the *Record Configuration* panel, the new clip is added to the end of the playlist (of the active *DDR*.
- Recording recommences using the current time as the *In Point*.

Hint: The OUT button might also be thought of as a 'chop' feature. If you wish, you can simply keep pressing it at any time, without ever touching IN. This effectively sub-divides your entire program into consecutive clips (a frame or two may be lost between neighboring clip, however).

ALT + OUT

A *different* operation results when you hold down *ALT* (see Section 7.2.6) at the same time as you push *OUT*. This operation updates the *Out Point* of the active clip in the currently delegated *DDR* to the frame currently displayed.

Figure 87

This feature is supported on TW-42 as well, but only on HD model TriCasters.

Hint: This is a non-destructive edit of the playlist clip, equivalent to dragging the trim handle at right-hand end of the DDR scrub bar.

ONE BUTTON MARKING

Another handy method of creating clips for instant replay is referred to as 'one button marking'. With *Record* enabled, watch for notable events, and simply press *OUT* whenever one occurs (no need to press *IN* beforehand in this case). This creates a new clip with an *Out Point* at the current frame, automatically setting the *In Point* to the first frame of the current clip (i.e., the last time you pressed *OUT*).

7.2.6   ALT AND QUALIFIERS

For ergonomic reasons, *ALT* is in a special location by itself just below the *Play Speed* control group. It, along with *SHIFT* and *CTRL* (Control) are what are termed 'qualifiers buttons', in that (like their keyboard equivalents) they qualify, or modify the outcome of operating some other control.
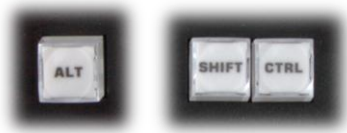
Figure 88

We've discussed one use of *ALT* in Section 7.2.5; see also Section 7.2.7. At the time of writing *SHIFT* and *CTRL* are reserved for as yet unspecified future purposes.

7.2.7 RECORD TOGGLE

It's probably no surprise at all that pressing the *REC* (Record) button enables TriCaster's own *Record* feature. It's worth mentioning though, that *REC* is not a simple toggle button (as it is on the user interface). <u>Simply pressing *REC* again does *not* turn *Record* off.</u>

Figure 89

TW-42 NOTES There is no *REC* button on TW-42. Even so, pushing the *Replay* In button will automatically enable *Record*.

Recording is such an important function, we are sure you agree you don't want anyone to be able to accidentally disable it. (This is especially true for TriCaster EXTREME™ systems, as doing so would also interrupt concurrent recording of any *Secondary* sources you have configured in the *Record Configuration* panel).

For these very important reasons, you must use *ALT + REC* (hold down *ALT* while pushing *REC*) to turn recording <u>off</u>. This makes disabling recording a very deliberate operation, and not one that is at all likely to have been unintentional (as perhaps by some hapless passerby coming in contact with the control surface while looking over your shoulder).

7.2.8   DDR OPTIONS

The *LOOP*, *SINGLE* and *AUTOPLAY* buttons toggle their namesake features for the currently delegated *DDR*.

Figure 90

7.2.9   PRESET (DDR PLAYLIST)

"P" is for "preset" … or "playlist", if you prefer. However you choose to view it, the buttons labeled *P1 – P4* allow you to quickly access any of the first four *playlist presets* for the currently selected *DDR*.

Figure 91

7.2.10 TRANSPORT (CLIP CONTROLS)

This group of controls provides a variety of convenient clip transport and navigation tools. The dominant feature is a large, smoothly operating *Jog Wheel*. This oversize knob permits you to traverse the current clip in the delegated *DDR* in frame-accurate increments.

The *Jog Wheel* can be a real boon when coupled with the *ALT + IN/OUT* method of trimming already captured clips (Section 7.2.5), or can allow you to review an event by scrubbing through it manually even while it is displayed live.

Figure 92

The *Jog Wheel* is supplemented by the nearby *Fast Jog* button. Press this control to toggle a high-speed jog mode, which skims through the clip at eight times the normal rate.

TW-42 NOTES The *Jog* wheel on TW-42 works similarly, but is augmented by an outer *Shuttle* ring that can be used to move quickly through a clip or playlist.

The other buttons in this control group are labeled with familiar VCR-style icons, and work as follows:

- *Previous (Clip)* – Push to highlight the prior clip in the playlist of the delegated DDR.
- *Stop*
    o Push to end playback at the current frame.
    o When already stopped, push again to go to the first frame of the current clip (or playlist, when *Single* mode is off for the *DDR*).
    o Push *Alt + Stop* during playback to jump to the end of the current clip.
- *Play* – Push to play the current clip in delegated DDR, beginning at the current frame.
- *Next (Clip)* – highlights the next clip in the playlist of the delegated DDR.

TW-42 NOTES

- Press *ALT + Next* to jump the play head 1 sec. forward from its current position in the clip.
- Press *Alt + Prev* to jump the play head 1 sec. back from its current position in the clip.

TW-42 has additional buttons it its *Transport* group, namely *Fast Forward* and *Rewind*. Both of these controls have alternate functions, too, as follows:

- Press *ALT + FF* to start playback five seconds into the current clip.
- Press *ALT + RW* to start playback five seconds before the end of the current clip.

7.2.11 TIPS AND TRICKS

- *Primary and Secondary* – TriCaster EXTREME's IsoCorder™ technology supports multi-source capture. TriCaster 850 TW depends on the *Primary* recording function, but you can continue to use the *Secondary* capture features for all manner of other purpose, without interruption by your instant replay operations.

- *Audio Control* – Remember that you can reduce (or *Mute*) the audio for replays individually using the local playlist pane audio controls in a *DDR*, or with the *DDR* level controls provided in TriCaster's *Audio* tab(s).

- *DSKs* and *LiveSet* - TriCaster provides a great deal of creative versatility in connection with instant replays. For example, a *DDR* with replay clips that is assigned to the *Overlay* channel of a *Virtual Input* can be quickly displayed or hidden (with its own transition effect). And, of course, something similar can be achieved with either of the primary *DSK* layers.

- *Zoom, Crop (etc.)* – Use the *Position* tools for *Overlay* and *DSK* layers to zoom in on the action in a replay.

- *Clip Organization* – It can be helpful, at times, to assign a custom *Location* in TriCaster's *Media Browser* for the *Destination* you have assigned your *Primary* recording to (in *Record Configuration*). This makes it easy to locate replay clips later when creating a highlights package for a recap. Alternatively, you can use the *DDR* playlist preset feature to accomplish something similar.

8   TRICASTER™ LC-11

TriCaster™ LC-11 is designed to augment the SD model TriCaster™ lineup, but has been adapted for service with NewTek's TriCaster™ live production systems as well.

In this chapter we will detail how TriCaster™ LC-11™ control surface provides functionality for TriCaster™ Studio, Broadcast, or one of Newtek's family of HD live production systems.

8.1   OVERVIEW

The LC-11™ external control surface hosts a bevy of convenient and important buttons and controls. This chapter explains each button and control in turn. It discloses their functions and their relationship to various components of your NewTek live production suite.

In large measure, LC-11 physically replicates the Switcher and related controls of your NewTek live production system. (This is no great surprise, since the virtual controls in the interface were cleverly designed to mimic the appearance and behavior of familiar live production equipment.)

LC-11's controls primarily fall into three groups, each corresponding to specific software modules. The various buttons, knobs, etc., provide tactile control over their virtual counterparts. (In addition, the upper-right corner boasts two joysticks, discussed separately.)

8.1.1   LC-11 VARIANTS

To support various NewTek live production systems, LC-11 currently ships in more than one configuration.

You may have purchased LC-11 for use with an SD–only model TriCaster (or VT[5]™). On the other hand, perhaps your control surface will be connected to an HD model TriCaster. The button caps installed on your unit may differ accordingly.

TriCaster Studio Configuration
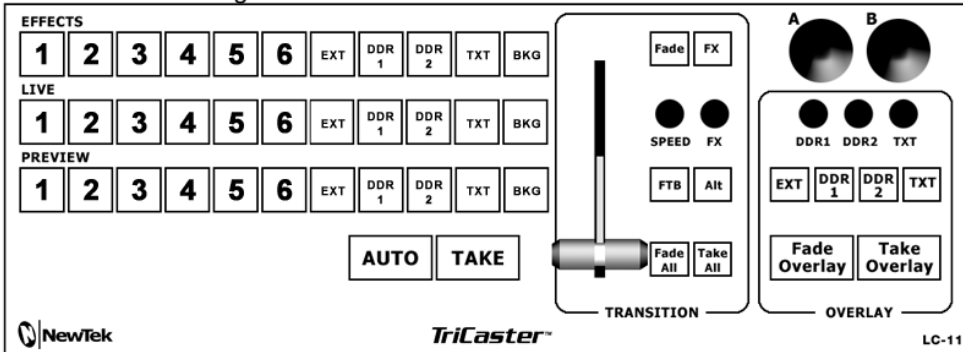
TriCaster 300 Configuration
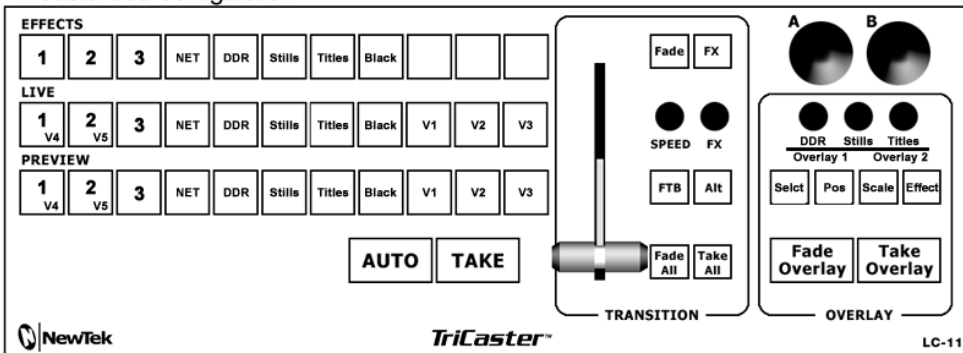
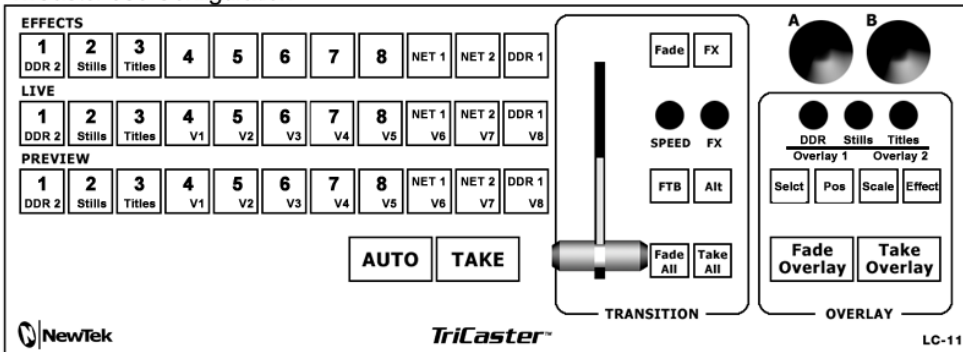## TriCaster 850 Configuration

Figure 93

As you'd expect given the different control labels, in certain cases LC-11's buttons and controls will behave differently depending on which model is connected.

For example – the (SD) TriCaster Broadcast system has just one *Overlay* (DSK) channel, while HD models have two; TriCaster 300 has one *DDR*, while 450 and 850 models have two, and so on. Figure 93 illustrates LC-11 in various configurations.

Note: The labels for some buttons list secondary functions. For example, the Net 1 button in the LIVE and PREVIEW rows in the third drawing in Figure 93 shows V6 (Virtual Input 6) as a secondary option. Holding down ALT along with a button activates its alternate assignment.

Your LC-11 may have arrived with multiple button cap sets. To change button caps to match any of the illustrations above, pry the installed cap off *gently* using a thin, flat bladed screwdriver (or similar implement), then firmly press the new cap into place.
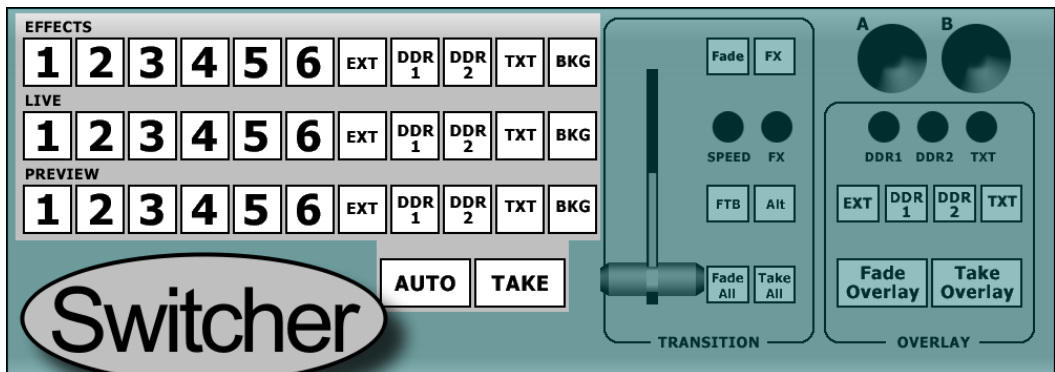
8.2   SWITCHER SECTION

Figure 94

The largest of the three main sections of the LC-11 control surface corresponds to your live production system's Switcher, as you can see in Figure 94.

8.2.1 SELECTING SWITCHER SOURCES

TRICASTER SD MODELS

The *Switcher* panel of TriCaster Studio and Broadcast models corresponds quite closely to the LC-11 layout. Some earlier SD TriCasters lack the upper (Effects) row of selection buttons. The corresponding row of buttons in LC-11's *Switcher* section is thus functional only when connected to suitable TriCaster systems.

TRICASTER™ 300

- *Effects row*: TriCaster™ 300's *Effects* row has eight channels, but LC-11 has eleven buttons in its <u>Effects</u> row. The last three buttons in LC-11's Effects row are unassigned.

- *Program* and *Preview rows*: The eleven buttons in each row on LC-11 operate the first eleven buttons in the corresponding *Switcher* rows. Then, counting begins again at the left-most button in the corresponding rows. Thus the first two buttons have optional functions to accommodate the extra buttons in the onscreen *Switcher* rows. To select *V4* (Virtual Input 4), hold *Alt* 11 while pressing the first button. Press *Alt* + the second button to select *V5*.

TRICASTER™ 455, 450 AND 450 ЄXTREMЄ™

- *Utility Row*: The LC-11 adaptation for TriCaster 450's *Utility* row largely conforms to the TriCaster 850 configuration illustrated in Figure 93 (the fifth through eight buttons, used for cameras 5-8 on TriCaster 850, are unassigned). Buttons 1, 3 and 4 perform dual duties. When *ALT* is pressed at the same time, they select *DDR 2*, *Graphics* and *FRM BFR* respectively. For the *AUX Out* delegate only, additional extended selections are supported. Hold down *ALT* while pressing buttons 5 – 8 to assign *Preview, Program, Program (Clean)* and *FX*, respectively, to *AUX Out*.

- *Program* and *Preview* rows: The eleven buttons in each row on LC-11 operate TriCaster's corresponding *Switcher* row buttons in natural order. Some buttons also have optional functions. Hold *ALT* while pressing the first button to select *V2*, *ALT* plus the second button for *V3*, and so-on.

- *Utility Row*: TriCaster 850's *Utility row* has sixteen buttons. To accommodate this higher number, the first 4 buttons in LC-11's *Effects* row have alternate assignments. Hold down *ALT* while pressing buttons 1-4 to access the following sources respectively: *DDR 2*, *Still*, *Title*, *FRM BFR*, *BLACK*. For the *AUX Out* delegate only, an extended selection of sources is supported. Hold down *ALT* while pressing buttons 5-9 to assign *Preview, Program, Program (Clean)* and *FX*, respectively, to *AUX Out*.

  Program and *Preview* rows: The eleven buttons in each row on LC-11 operate TriCaster's corresponding *Switcher* row buttons in natural order. All eleven buttons also have optional functions to accommodate the additional buttons in TriCaster's *Switcher* (see Figure 93). Hold *ALT* while pressing the first button to select *DDR 2*, *ALT* plus the second button for *Still*, and so-on.

8.2.2   AUTO AND TAKE

TriCaster's primary *Auto* and *Take* buttons are located near the *T-Bar*. The same is true for LC-11, where they are located left of the *T-Bar* just beneath the *Switcher* rows. Functionality remains unchanged, of course. *Auto* swaps between the video source that is selected on the *Program row* (or the *Live row*, for SD model TriCasters) and the one from the *Preview row*, using the current transition. *Take* does the same thing, but performs the swap as a hard cut between sources.

LC-11's *Auto* and *Take* buttons perform brief actions, so don't light up when pressed. Of course the buttons on the *Switcher* rows update to correctly reflect the revised source selections.

TRICASTER™ 300, 450, 850, 455 AND 855

It is good to note that, unlike controls in LC-11's *Transition* group (discussed next), the main *Auto* and *Take* buttons ignore the TriCaster's *Transition Delegate* settings. However the *Take All* and *Fade All* controls (in LC-11's *Transition* group) do respect the *Delegate* settings.

8.3   TRANSITION SECTION

The most obvious component of the *Transition* section is the *T-Bar*, which works just like the one in the software version. LC-11 also provides some other buttons and knobs that do not have exact equivalents in the onscreen display, as discussed next.
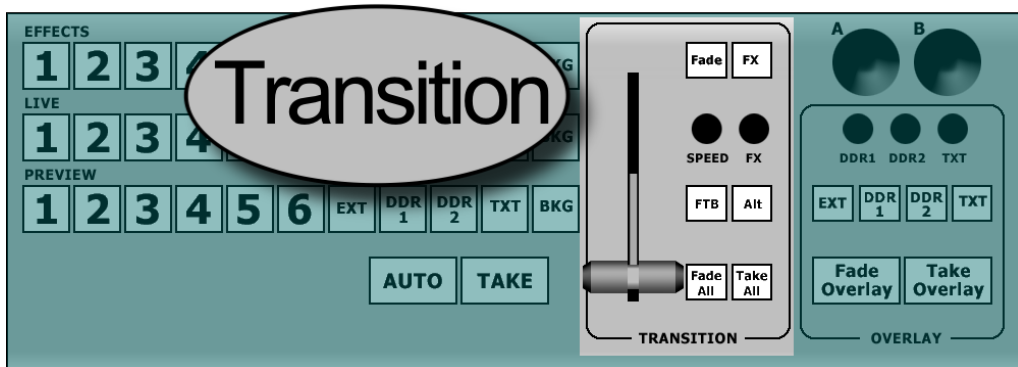

Figure 95 - Transition section

TRICASTER™ 300, 450, 850, 455 AND 855

Note that controls in this group respect the current *Transition Delegate* selection in the user interface of TriCaster TCXD850 v.2.

For example, the *SPEED* and *FX* knobs simultaneously affect the transition settings for *all* delegated video layers. Likewise pushing the *Fade* button activates the *Crossfade* transition for all *delegated* video layers.

8.3.1   FADE AND FX

Pressing the *Fade* button selects the standard *Crossfade* transition (found in the first well of TriCaster's Transition bins. Note that pressing *Fade* only *selects* the transition – it does not *perform* the transition between video sources (you still need press *Auto* to do that).

The *FX* button re-selects the last transition selected other than a *Crossfade*, cueing it up for the next *Auto* operation.

8.3.2   SPEED AND FX

Just beneath the *Fade* and *FX* buttons are two knobs labeled *SPEED* and *FX*. These knobs each have two distinct functions – one associated with rotation and the other accessed by pressing the knob (just like a button). The knobs have rotational detents to provide confidence while making adjustments.

Rotating the *SPEED* button modifies the duration of the *Transition*. Pressing it cycles through the preset speeds (*Slow, Medium* and *Fast*).

Twirling the *FX* knob changes the selected *Transition* effect, cycling back and forth through the representative thumbnail icons loaded in TriCaster's *Transition bin*.

TRICASTER™ 300, 450, 850, 455 AND 855

For these models *only*, press LC-11's *FX* knob (as though it were a button) to toggle the *Reverse* (Transition) switch. Press *ALT + FX* to toggle the *Ping Pong* (Transition) switch.

8.3.3   FTB AND ALT

FTB stand for "Fade to Black". Unlike the two buttons discussed earlier, *FTB* is an action button; pressing it *does* perform a transition, in this case to a computer-generated black background.

There are some exceptions to note, however:

- TriCaster™ Studio and Broadcast – *when operating in 6-camera mode*, these models do not feature a dedicated *Black* generator. Instead, *FTB* uses the background you design in the system's internal *Color Background* tab.

- TriCaster™ 300, 455, 450, 855 and 850 **–** the *Fade to Black* feature on these models does not require TriCaster to perform a switch between the sources assigned on *Program* and *Preview*.

   Instead, the display on *Program* output simply fades to or from black. Note that TriCaster's *FTB* is momentarily delegated during an (LC-11) *FTB* operation, but does not remain active when it ends.

ALT is used with other buttons to provide alternate operations as noted occasionally in this manual.

8.3.4   FADE ALL & TAKE ALL

Fade All and *Take All* perform much like the standard *Auto* and *Take* respectively (see Section 8.2.2), with one additional aspect:

TRICASTER™ STUDIO AND BROADCAST

Fade All and *Take All* simultaneously perform either a *Fade Overlay* or *Take Overlay*, timed to match the established transition speed. The total effect then, is to swap the *Live* (Program) video source with the *Next* (Preview) one, at the same time either removing or displaying the assigned *Overlay*, depending on its display status at the moment. (This is, of course, very useful for introducing a new scene with an identifying lower third graphic, for example.)

TRICASTER™ 300, 450, 850, 455 AND 855

These TriCaster models have *two* downstream *DSK* (Overlay) channels. LC-11 respects the current *Transition Delegate* selection in the user interface when either *Fade All* or *Take All* is pressed.

Also noteworthy, different *Overlay Effects* can be assigned to either of the DSK channels. *Fade All* respects the individual selections for each DSK channel.

8.4   OVERLAY SECTION – TRICASTER SD

LC-11's *Overlay* group operation differ quite a bit depending on whether the panel is connected to an model TriCaster or a TriCaster™ 300, 455, 450. 855 or 850. For that reason, we'll consider these configurations separately.

LC-11's *Overlay* section contains two joysticks, three knobs, and two rows of buttons. We'll consider the standard configuration first.
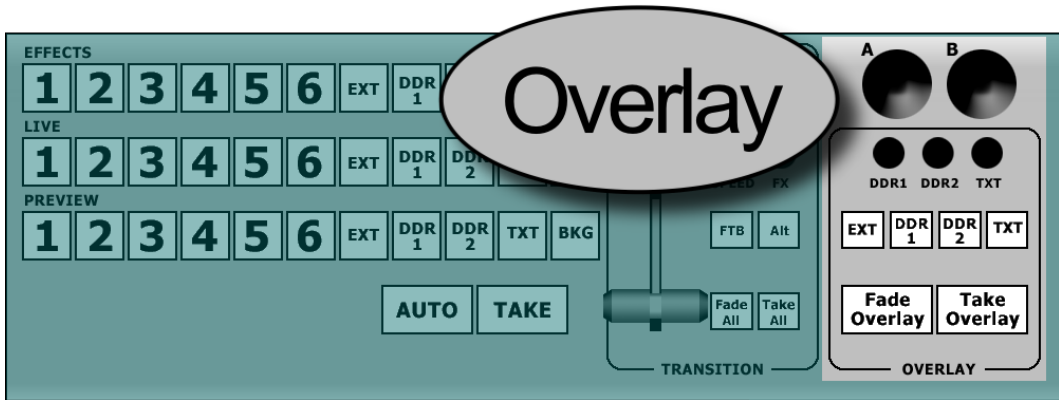
Figure 96 – Overlay Section

8.4.1   THE JOYSTICKS

There are two joysticks, labeled *A* and *B*. *Joystick A* has no assigned function currently. *Joystick B* acts as a *Shuttle* control for any *DDR* module selected on the *Preview* row. Move it left or right to scan backward or forward in the current clip. The scan rate is controlled by the pressure you apply to the joystick.

8.4.2   DDR1, DDR2 & TXT KNOBS

Twirling the *DDR 1* or *DDR 2* knobs scrolls through the clips listed in the corresponding *DDR* module. Rotating the knob labeled *TXT* cycles through the current list of text pages loaded in the *Titles* tab.

Pushing a *DDR* button (once) toggles *Play* and *Pause* for that *DDR*. Pushing twice in quick succession (during playback) performs a 'double-Stop' – *DDR* playback halts and the play position returns to the start of the clip.

8.4.3   EXT, DDR 1, DDR 2 AND TXT BUTTONS

For standard definition TriCaster models these four buttons correspond to the *Overlay* source selection buttons shown in Figure 97 – press one to select the named *Overlay* source.

Figure 97 – TriCaster Overlay source selections

8.4.4 FADE & TAKE (OVERLAY)

These last two buttons in this group correspond exactly to their onscreen counterparts, *Fade* and *Take*. They toggle the current overlay on or off as either a Crossfade or Cut respectively.

8.5 OVERLAY SECTION – TRICASTER™ 300, 450, 850, 455 AND 855

8.5.1 JOYSTICKS

When used alone (unmodified by other buttons, moving either of the two joysticks invokes their primary function – *LiveSet™* zooming. (Secondary functions assigned to joysticks when used in conjunction with other buttons are described in the following sections.)

- *Joystick A* – assign a *Virtual Input* to the *Preview* row, and tilt the joystick towards or away from you to zoom it in or out.

- *Joystick B* – assign a *Virtual Input* to the *Program* row, and tilt the joystick towards or away from you to zoom it in or out.

8.5.2 DDR, STILL AND TITLES KNOBS

These three knobs provide multiple functions. First, they allow you to scan though *Media Player* playlists, as described below. They also serve as *Play/Stop* controls for the *Media Players.*

In addition, the *DDR* and *Titles* knobs have secondary functions as indicated by their subordinate labels – *Overlay 1* and *Overlay 2* (these functions are described in the next section).

- Twirl these knobs to click one by one through the playlist items for the corresponding *Media Player*.

- Press *ALT* while twirling the *DDR* knob to click one by one through the playlist items for *DDR 2* (TriCaster 455, 450, 855 and 850 only).

- Press (click once) a knob to toggle *Play/Stop* for the respective *Media Player* (use *ALT* while clicking the *DDR* knob to control *DDR 2* when provided.

- Double-click a knob to stop play and reset the current play position to the beginning of the current playlist item.

8.5.3 MODE BUTTONS

The *Selct* (Select), *Pos* (Position), *Scale* and *Effect* buttons are modifiers – holding one of these buttons down affects the resulting action when you use one of the joysticks or knobs above.

SELCT (SELECT)

Press and hold the *Selct* button as described next to assign sources for *DSK* channels.

PICK OVERLAY CHANNEL SOURCE

1. Press and hold the button labelled *Selct*.

2. Twirl the *Overlay 1* or *Overlay 2* knob above to click one by one through the list of available overlay sources.

POS

Press and hold this button as described next to adjust the positioning for *DSK* channels.

ADJUST OVERLAY POSITION

1. Press and hold the button labelled *Pos*.

2. Adjust the (X/Y) position of *DSK 1* or *DSK 2* using the respective joystick.

RESET OVERLAY POSITION

1. Press (click once) the *DSK 1* or *DSK 2* knob to reset the *Position* settings for the corresponding channel.

ADJUST SCALE (ASPECT LOCKED)

1. Press and hold the button labelled *Scale*.

2. Twirl the *Overlay 1* or *Overlay 2* knob to adjust the scale of the corresponding *DSK* channel on both axes simultaneously.

FREELY ADJUST SCALE

1. Press and hold the button labelled *Scale*.

2. Use the *Overlay 1* or *Overlay 2* joysticks to independently adjust the scale of the corresponding channel on either axis.

RESET SCALE

1. Press and hold the button labelled *Scale*.

2. Press (click once) the *Overlay 1* or *Overlay 2* knob to reset the scale of the corresponding channel.

EFFECT

Press and hold the *Effect* button while twisting either the *Overlay 1* or *Overlay 2* knob to cycle through the list of *Overlay Effects* currently available in the dropdown menu for the respective channel.

8.5.4 FADE & TAKE (OVERLAY)

These last two buttons correspond to the local *Auto* and *Take* buttons for the two *DSK* channels on the Live Desktop. When the button is pressed while *ALT* is held down, the action is applied to *DSK 2*; otherwise, *DSK 1* is affected).

As you would expect, pressing *Take* toggles the current overlay on or off as using a *Cut*, while the *FADE* button uses the currently assigned *Effect* to display or hide the *DSK* channel source.

CREDITS

Acknowledgments: Tim Jenison, Jim Plant

Engineering: Andrew Cross, Alvaro Suarez, Bennie Pierce, Bob Peene, Brian Brice, Cary Tetrick, Charles Steinkuehler, Dan Fletcher, Greg Heine, James Killian, Jan Uribe, Jarrod Davis, Jeremy Brosius, Jeremy Wiseman, John Perkins, Karen Zipper, Kevin Nations, 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, Thomas Nanninga, Todd Bryant, Troy Stevenson

Design Consultants: Kris Gurrad, Dimitry Czar, John Powell

Additional thanks to:
- NewTek Marketing and Sales
- NewTek Customer Support
- NewTek Business Development

NewTek

TriCaster