

# CERTIFIED TRAINING CURRICULUM

*for the TriCaster 8000*



# Instructor Guide



# Certified Training Curriculum Instructor Guide

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for the TriCaster 8000

This is the Instructor Guide for the Certified Training Curriculum for the TriCaster 8000. It contains the Instructor Notes, the Video Outline, the Activities Summary, and the Answers to the Activities Mastery Questions.

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## Instructor Notes

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### Purpose and Audience

The Training Curriculum for the TriCaster 8000 enables learners to set up and operate a TriCaster during a live production and to pass the TriCaster 8000 Certification Exam.

The course is designed for professionals working in the live event production industry who are already familiar with standard video productions techniques. Students learning video production from the ground up would need other course work to supplement this curriculum, such as camera techniques, lighting, audio, scriptwriting, editing, video graphics, directing, and production.

### How to Use the Curriculum

The materials that make up the curriculum consist of 15 videos, a set of notes for the videos, and 47 learner activities. The curriculum is modular in nature, with each section able to stand on its own and be taught in any order.

The sections are:

- 1: Physical Setup
- 2: Registration
- 3: Understanding Sessions
- 4: Live Desk Top
- 5: Working With Media Players
- 6: LiveText
- 7: Network Inputs
- 8: LiveMatte
- 9: Mix/Effects Bus
- 10: Automation
- 11: Audio Setup
- 12: Streaming
- 13: Sharing
- 14: Live Operation
- 15: Live Show Examples

Instructors should look through the materials and videos for the 15 sections and decide which ones, and in what order, to include in their course. The sections are given in the order an operator might do those activities for an actual live production, starting with setting up the TriCaster and ending with the switching of the show itself.

A typical daily lesson plan using the curriculum is given below. We take as an example setting up a LiveMatte key for use in an M/E.

#### Introduction

The instructor discusses the importance and uses for keying in video production.

#### Watch Videos

The instructor shows the class video *8: LiveMatte*.

#### Review Video Notes

The instructor reviews the notes for that section of the videos and asks for questions.

#### Do Hands-on Activities

The instructor takes the learners through activities *#27: LiveMatte Setup* and *#28: List Factors that Affect Key Quality*.

#### Ask Mastery Questions

The instructor asks members of the class the *Questions to Test Mastery* from those activities.

#### Final Review

The instructor answer answers any questions the class may have and previews the next lesson.

As an alternative, the instructor could do the same material as is in the video him or herself as a demonstration in front of the class.

### About the Videos

The videos consist of 15 modules with a total of 94 subsections. The total running time of all videos is 4:37:00. A list of the videos and subsections is given in the Video Outline section below, as well as at the beginning of the *Video Notes* document. Each video lists its total running time with each subsection listing its start time within that video.

### About the Video Notes

The video notes are intended as a supplement to the training videos, not to stand on their own. They are not a complete set of notes, but rather contain the ideas from the videos that call for special emphasis or which may not have been completely clear. The learner is encouraged to add their own notes based on what they find the most useful content from the videos.

### About the Activities

The activities are written for an operational TriCaster 8000 model. They assume the included stock NewTek content is present. To the greatest extent possible, the activities are designed to be performed without live camera inputs; however, since the most effective training simulates an actual live production environment, instructors are

encouraged to substitute live inputs for the *DDR*s or still graphics whenever appropriate.

A list of the activities with a brief description, the video sections they relate to, and approximate time to complete are given in the Activity Summary below and at the beginning of the *Activities* document. In the Activities Details section of the *Activities* document, each activity is broken down in to seven attributes explained below:

*Description:* A description of what the learners do during an activity.

*Objective:* The learning objective describes what the learners should be able to do when they have completed the activity.

*Initial Conditions:* The initial state the TriCaster and content at the start of the activity. These are sometimes specified so that the TriCaster will behave a certain way while the learner interacts with the machine. For example, activity #21 requires the *Autoplay* button be off at the start of the activity so that the *DDR* will react properly when the learners use it. Other materials necessary to conduct the activity are also listed, such as real-world scenarios or proposed production requirements.

*Steps:* The main steps to take the learner through to complete the activity. These are high-level instructions for conducting the activity. Instructors are expected to give more detailed instructions to learners during the activity, such as the location of specific media files to be loaded in a media player, etc.

*Things to Watch Out for:* Common mistakes learners make when performing the activity. They may be specific misunderstandings about how the TriCaster operates, or they may be general misunderstandings about the live event production process. This list is not exhaustive; instructors are expected to add their own real-world experience and lessons learned to the activities.

*Questions to Test Mastery:* Questions designed to test if learners have understood the activities and/or can relate them to the real-world experience of live production. Some questions test if the learner has taken an interest in live production and learned more about it by their own, independent research—outside the material covered in the videos and activities. These are not designed as “test prep” questions, even though some questions directly relate to questions asked on the Certification Exam. Instructors are expected to add their own real-world experience and lessons learned by asking their own questions.

*Time Required:* An approximate time required for *one* learner to complete the activity under the guidance of the instructor. This time will need to be adjusted if there are more learners, and if they are sharing machines.

### Other Resources for Learners

A number of other resources are available to aid learners. Some are listed here:

Additional training videos are available at:

<http://tc40.newtek.com/index.php/tricaster8000training>

The TriCaster 8000 User Guide can be found at:

<http://www.newtek.com/support/documentation.html>

Other video resources on NewTek TV are at:

<http://tv.newtek.com/library.php>

The TriCaster FAQ is available at:

<http://www.newtek.com/support/overview/54-support/tricaster-support/312-faq-tricaster.html>

Details about the Certification Exam are at:

<http://www.newtek.com/support/certified/exam-details.html>

Learners can talk to experienced TriCaster operators on the NewTek Discussion Forums:

<http://forums.newtek.com/>

## Video Outline

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The videos consist of 15 modules with a total of 94 subsections. The total running time of all videos is about 4:37:00. Each video lists its total running time with each subsection listing its start time within that video.

<b>1</b>	<b><u>Physical Setup</u></b>	<b><u>13:49</u></b>	<b>4</b>	<b><u>Live Desk Top</u></b>	<b><u>45:17</u></b>	
	a)	Drive Installation	1:17	a)	Live Desktop Interface	0:30
	b)	Control surface	2:17	b)	Dashboard	1:10
	c)	Attach Power	2:43	c)	Multiviewer	3:34
	d)	Monitor Setup	3:48	d)	Overlays Menu	6:07
	e)	Keyboard and Mouse	4:42	e)	Gear Icons	9:09
	f)	Ethernet	5:00	f)	Key & Fill Configuring	12:48
	g)	Cable Management	6:15	g)	Proc Amp	13:57
	h)	HD and SD Connections	7:03	h)	Mix/Effects Busses	16:30
	i)	eSATA Connection	7:52	i)	Main User Interface	19:35
	j)	Video Inputs	8:00	j)	Video Output Settings	25:26
	k)	Genlock	9:00	k)	Recording and Grabbing Media	34:54
	l)	Video Out	9:24	l)	Backing Up a Session	43:17
	m)	Audio In	11:58			
	n)	Audio Out	12:33	<b>5</b>	<b><u>Working With Media Players</u></b>	<b><u>12:51</u></b>
	o)	Tally Light	13:27	a)	Types of Media Players	0:53
<b>2</b>	<b><u>Registration</u></b>	<b><u>9:24</u></b>	b)	Digital Disk Recorder	1:10	
	a)	Registering the TriCaster	0:21	c)	Title Graphics	7:00
	b)	Updating the TriCaster	3:34	d)	Media Player Presets	10:53
	c)	Defragmenting Drives	3:51	<b>6</b>	<b><u>LiveText</u></b>	<b><u>16:18</u></b>
	d)	Backup and Restore System	5:09	a)	Types of Graphics	0:20
	e)	Settings	5:48	b)	Creating Graphics	0:43
<b>3</b>	<b><u>Understanding Sessions</u></b>	<b><u>14:21</u></b>	c)	Live Text Interface	2:05	
	a)	Home Page Options	0:53	d)	Text and Drawing Tabs	2:24
	b)	Start a New Session	3:23	e)	Style Tab	5:24
	c)	The Session Page	7:30	f)	Color Tab	5:39
	d)	Managing Media	7:45	g)	Filebin Tab	6:05
	e)	Social Media Sharing	12:34	h)	Layers Tab	6:49
				i)	Alignment Tools	8:11
				j)	Pages Area	8:38
				k)	Adding Text Files	09:16
				l)	Saving Live Text Projects	12:19

<b>7</b>	<b><u>Network Inputs</u></b>	<b><u>11:31</u></b>	<b>11</b>	<b><u>Audio Setup</u></b>	<b><u>10:13</u></b>
	a) Connecting to a Network	1:00		a) Input Types	0:54
	b) Connecting a Laptop	1:20		b) Equalizer and Compressor/Limiter	2:00
	c) iVGA Setup	2:06		c) Grouping	3:55
	d) Apple Airplay	8:42		d) Mono and Other Functions	5:38
				e) Follow	6:55
<b>8</b>	<b><u>LiveMatte</u></b>	<b><u>8:27</u></b>	<b>12</b>	<b><u>Streaming</u></b>	<b><u>13:02</u></b>
	a) Improving Your Key	1:05		a) Setting Up System	0:43
	b) Pulling a Key with Live Matte	4:04		b) Choosing Format and Streaming	2:41
	c) Adjustments to the Key	6:12		c) Record (Archive) Stream	9:36
<b>9</b>	<b><u>Mix/Effects Bus</u></b>	<b><u>45:37</u></b>	<b>13</b>	<b><u>Sharing</u></b>	<b><u>3:44</u></b>
	a) M/E User Interface	0:40		a) Setup Social Media Destinations	0:45
	b) M/E Effects	2:40		b) Upload Content During A Live Production	1:01
	c) M/Es and the Virtual Sets	10:00	<b>14</b>	<b><u>Live Operation</u></b>	<b><u>34:18</u></b>
	d) Live Set Zoom	12:30		a) Basic Switching	2:54
	e) Virtual Camera Presets	13:40		b) Transitions	3:54
	f) Layering M/Es	18:00		c) DSKs and Frame Buffers	8:20
	g) M/E Presets	26:38		d) Media Players	20:37
	h) Import and Export Presets	28:19		e) T-bar Delegation	30:50
	i) M/Es as Sub Mixers	32:20		f) Fade to Black	32:30
	j) The Tracker	38:59		g) Record, Stream, Grab, Share	33:32
<b>10</b>	<b><u>Automation</u></b>	<b><u>25:38</u></b>	<b>15</b>	<b><u>Live Show Examples</u></b>	<b><u>12:23</u></b>
	a) Record A Macro	1:15		a) Hosted Three-camera Show	0:10
	b) Setup Shortcuts	3:05		b) Share	4:12
	c) Create Favorites	13:49		c) Hotspots	8:20
	d) Use of Hotspots	15:11			

## Activities Summary

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### 1: Physical Setup

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#### **#1 Attach Computer Connections**

Learners attach all the various computer-related connections to the TriCaster and ensure the cables hang safely and securely. If the back of the TriCaster is inaccessible, the instructor may prefer to have learners point to the appropriate connections on a photograph of the back, rather than actually attach cabling.

#### **#2 Attach Video Connections**

Learners attach all the various permutations of video input and output connections to the TriCaster and ensure the cables hang safely and securely. The connection types are both input and output for: SDI, YUV component, Y/C, composite, VGA, and HDMI. Also, learners hook up genlock and a fill and matte connection. If the back of the TriCaster is inaccessible, the instructor may prefer to have learners point to the appropriate connections on an image of the back, rather than actually attach cabling.

#### **#3 Attach Audio Connections**

Learners attach the various types of audio input and output connections to the TriCaster and ensure the cables hang safely and securely. The connection types are XLR, AES/EBU, and SDI embedded audio. Also, learners hook up a timecode signal and four line-level inputs to be combined with the *Line Quad* function. If the back of the TriCaster is inaccessible, the instructor may prefer to have learners point to the appropriate connections on an image of the back, rather than actually attach cabling.

### 2: Registration and the Administration Page

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#### **#4 Register a TriCaster**

Learners go through the registration process for a TriCaster. The instructor may prefer to simulate this process, rather than setting up an unregistered TriCaster.

#### **#5 Restore a TriCaster to Factory Defaults**

Learners go through the process of restoring a TriCaster to factory defaults. The instructor may prefer to simulate this process, rather than actually restoring a machine.

#### **#6 Update a TriCaster**

Learners go through the process of updating a TriCaster. The instructor may prefer to simulate this process, rather than actually updating a machine.

## **#7 Back Up the System Drive**

Learners go through the process of backing up the system drive.

## **#8 Restore a Backed Up System Drive**

Learners go through the process of restoring a TriCaster from a previously backed up system drive. The instructor may prefer to simulate this process, rather than actually restoring a machine.

# **3: Understanding Sessions**

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## **#9 Create a New Session**

Learners create a new session according to provided scenarios which simulate the needs of a live production.

## **#10 Session Management**

Learners back up, restore, rename, and delete a session. They start by backing up an existing session, then restore it to a different media drive if available (or the same one, if not). Then they rename the backed up session; then delete it. This process should leave the TriCaster sessions as they were before the exercise.

## **#11 Manually Import Media**

Learners manually place various types of supported media files in the proper location for a session using a Windows™ Explorer window. Media can be taken from USB drives, removable media drives, or other sessions on the same media drive as the current session. (This is not the typical way media are imported; the main purpose of this exercise is to teach the learner how a session's directories are structured.)

## **#12 Import Media Using the Media Browser**

Learners import various types of supported media files into a session using the *Import Media Browser*. Media can be taken from USB drives, removable media drives, or other sessions on the same media drive as the current session. (This is the preferred way media to import media.)

## **#13 Export Media**

Learners populate the *Export Media* window with various media to be exported, set the export parameters, and export to a specified location.

## **#14 Install and Eject Media Drives**

Learners properly install and eject media drives in a TriCaster while its running.

## 4: Live Desktop

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### #15 Configure Session Parameters

Learners configure the inputs, set up genlock, set up timecode, set the production clocks, configure auxiliary output, set SD analog connections, and select record settings according to provided scenarios which simulate the needs of a live production.

Learners configure a session according to those needs, then the instructor evaluates the session using the scenario as a standard. Where a parameter is not specified by the scenario, the learner may choose any setting which does not interfere with the output or operation of the live production.

### #16 Configure Multiviewers

Learners configure input monitors, the main interface multiviewer, and the secondary multiview output.

### #17 Adjust a Color Bar Still Using Proc Amps

Learners adjust a set of color bars using *Brightness*, *Contrast*, *Hue*, and *Saturation*. The color bar frames being adjusted are pre-made such that one of the four controls will correct it. The activity does not cover the *White Balance* controls.

### #18 Live Switching

Learners set and un-set the *Tabs Follow Preview* preference. They start and stop recording the *Program* output. They switch *Program Out* sources by clicking directly on the *Program* bus buttons and by placing sources on the *Preview* bus, then performing a *Take* or transition. They load and adjust transitions.

### #19 Grab Frames While Live

Learners choose a base filename, grab frames, de-interlace them when necessary, add them to a *Graphics (GFX)* playlist, and find the saved frames on the media drive. This activity is most effective when something is playing on *Program Out*.

## 5: Working with Media Players

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### #20 Populate Playlists with Media

Learners populate the *DDRs*, *Graphics (GFX)*, and *Sounds* playlists with appropriate media and put stills in the Frame Buffers. The media files are chosen and arranged according to provided requirements which simulate those of a live production script.

### **#21 Work with a Single Media File**

Learners manipulate the controls that affect individual media files in playlist. These include the duration, transport controls, trimming and scrubbing, volume, and headroom.

### **#22 Work with Media Player Controls**

Learners manipulate the controls that affect all media files in playlist. These include *Single*, *Autoplay*, *Loop*, playback speed, the time display, and warning colors. *Single*, *Autoplay*, and *Loop* are configured to meet provided requirements which simulate live production situations.

### **#23 Edit LiveText Title Page**

Learners change the editable properties of a LiveText Title page, including font, size, bold, italics, underline, the image, and spelling. (To create Title pages, see Activity #25.)

### **#24 Media Player Presets**

Learners create, delete, rename, export, and import media player presets. Learners experience the preset “gotcha” by intentionally interrupting *Program Out* by activating a *DDR* preset when live.

## **6: LiveText**

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### **#25 Create an Editable LiveText Title Page**

Learners create an editable LiveText Title page using a supplied texture (or some other element), create a new LiveText project, edit an already existing Title page, and use some LiveText drawing tools. This activity is only meant to give the basics of LiveText, not all its functionality. It assumes LiveText is run on the TriCaster, not an external, networked computer. (To edit the Title page in a playlist, see Activity #23.)

## **7: Network Inputs**

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### **#26 Use a Windows™ or Macintosh™ as a Networked Input with iVGA**

Learners install and run iVGA on a networked Windows™ or Macintosh™, use that computer as a network input, and set various iVGA functions, such as *Privacy* and *Zoom*. The instructor may also want learners to simulate setting up the network in Windows™.

## 8: LiveMatte

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### #27 LiveMatte Setup

Learners set up the LiveMatte keyer on an input, *DDR*, or other source and turn on/off that key using the control surface.

### #28 List Factors that Affect Key Quality

Learners list the on-set factors that affect key quality and describe how to change them to improve key quality.

## 9: Mix Effect Busses (M/Es)

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### #29 M/E Input Setup

Learners set up an M/E as an effects bus to put a keyed person over a camera input or still image with a picture-in-picture and an overlaid lower 3rd graphic. This does not include a virtual set, just setting up the M/E.

### #30 LiveSet Setup

Learners set up three angles of one virtual set in three M/Es for a front, left, and right three-camera shoot such as you might find on an interview or news show. Learners switch between the M/Es while live, switch the *B* source while live using a second M/E as a sub-mix, and use the camera zoom feature.

### #31 Using the Tracker

Learners apply and set up a track on an object in a camera or *DDR* source. They then apply that track data in the positioner of another camera or graphic source and an M/E keyer. These sources are then re-entered into a virtual set in another M/E.

### #32 M/E Presets

Learners create, delete, rename, export, and import M/E presets. Learners experience the preset “gotcha” by intentionally interrupting *Program Out* by activating presets when live.

## 10: Automation

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### #33 Create a Macro

Learners create and play a very simple macro (execute an *Auto* in an M/E). They vary the speed and set a keyboard shortcut for the macro.

### #34 Organize, Import, and Export Macros

Learners add macros to the favorites list and export, import, and delete a folder of macros.

### #35 Trigger Macros with Hotspots

Learners set up a Hotspot to trigger a macro.

## 11: Audio Setup

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### #36 Basic Audio Setup and Controls

Learners configure the external audio inputs, and use the *Balance*, *Mono*, *Mute*, *Pan*, *Trim*, and *Talk* controls to adjust the audio of various sources.

### #37 Check a Microphone During a Production

Learners check if a microphone is operational during a live production without disturbing *Program Out* by using *Mute*, *Solo*, and the *Headphone* output.

### #38 Use Follow and Grouping

Learners use the *Follow* and *Grouping* controls to set up audio follow video and a mix-minus.

### #39 Audio Mixer Presets

Learners create, delete, rename, export, and import *Audio Mixer* presets. Learners experience the preset “gotcha” by intentionally interrupting *Program Out* by activating an *Audio Mixer* preset when live.

## 12: Streaming

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### #40 Stream to the Internet

Learners set up a content delivery network (CDN) account and the streaming profiles for both a Flash® and Windows Media™ push stream. They then test the stream and start an actual stream. After, they locate the saved stream on the media drive. The instructor may want learners to simulate setting up the CDN account.

## 13: Sharing

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### #41 Set Up Share Destinations

Learners configure accounts for social media sharing in preparation for uploading media to these sites. If desired, they set watermarks and use the *Prepare for Web* options.

### #42 Share Media

Learners set up adding video and stills automatically and manually to the *Share Queue*. They also modify the upload setting in the *Share Queue* and then upload the media to social media sites.

## 14: Live Operation

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### #43 Use the DSKs

Learners bring graphics with alpha channels on and off *Program Out* with the DSKs. They adjust the DSK positioning controls.

### #44 Use the Transition Delegate Function

Learners explore the different transition delegate options and correlate the *Preview* monitor with the different states of the transition delegate.

## 15: Three Live Show Examples

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### #45 Hosted Three-camera Show

This show uses the Center, Left, and Right views of a single virtual set in three M/Es. A fourth M/E is used as a sub-mix to feed the on-set monitors. The show has a host and two guests. The two guests will talk about something with video about that content playing in the on-set monitor behind them.

### #46 Sharing to Social Media During a Production

This activity demonstrates uploading clips and images during the workflow of a live production. It does not specify the particular content of the show.

### #47 On-camera Talent Running the Switch

In this show, the presenter uses Hotspots to run transitions on the on-set monitor in a virtual set as she changes the topic of the show. She also brings up a lower-third with a DSK using Hotspots.

## Answers to Activity Mastery Questions

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### 1: Physical Setup

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#### #1 Attach Computer Connections

*How many USB ports are there on the TriCaster?*

Six.

*What is a disadvantage to using the USB connectors on the front, rather than the back?*

The front cover must be opened and cannot be shut while USB devices are plugged in.

*What is the maximum network connection speed the TriCaster supports?*

Up to Gigabit Ethernet.

*Name at least two reasons why cabling should be hung so people won't get tangled in them.*

- 1 Tripping over cables can un-plug them from the TriCaster during the production causing that source or output to disappear.
- 2 So cables will not become damaged during the live production.
- 3 For safety so that no one gets hurt by tripping over them.

#### #2 Attach Video Connections

*Given various input and output scenarios, describe how the video cabling is attached to the TriCaster.*

SDI signals attach with a single BNC cable for audio and Video. Component signals attach with 3 BNC connectors for video only. Y/C attaches with two BNC connectors for video only. Composite video attaches with one BNC for video only.

*Can the TriCaster output SDI and component video at the same time from the same output row?*

Yes, it always does.

*Can the TriCaster output component and Y/C from the same output row at the same time?*

No as these outputs use some of the same connectors.

*What is the purpose of genlock?*

To lock the latency of all the equipment in the production workflow.

*What things can generate a genlock signal?*

A Black Burst generator.

*What is the advantage of genlocking cameras together?*

Without genlock, using the TriCaster's frame sync only, the latency can drift from one half a frame to 2 frames. When genlocked, latency is locked and there is no drift.

*Name at least two reasons why cabling should be hung so people won't get tangled in them.*

- 1 Tripping over cables can un-plug them from the TriCaster during the production causing that source or output to disappear.
- 2 So cables will not become damaged during the live production.
- 3 For safety so that no one gets hurt by tripping over them.

### **#3 Attach Audio Connections**

*How many channels of audio does the TriCaster take from an embedded SDI signal?*

The first four channels.

*How many channels of analog audio can be input into a TriCaster 8000?*

Sixteen.

*How many channels are supported for Main audio out?*

Four.

*How is the auxiliary audio out different?*

It has its own fader on the mixer allowing for different levels from *Main* out. It can be configured to send out different audio than *Main* out.

*Besides using the analog or AES/EBU jacks on the TriCaster, how can you output an audio signal?*

The SDI video output connections also carry four channels of audio.

*A timecode signal is connected to which connection?*

Audio 7a.

*Name at least two reasons why cabling should be hung so people won't get tangled in them.*

- 1 Tripping over cables can un-plug them from the TriCaster during the production causing that source or output to disappear.
- 2 So cables will not become damaged during the live production.

- 3 For safety so that no one gets hurt by tripping over them.

## 2: Registration and the Administration Page

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### #4 Register a TriCaster

*When does a TriCaster need to be registered?*

Before the first use.

*What happens if the TriCaster is not registered?*

There will be a NewTek watermark on the output.

*Where do you find the TriCaster serial number?*

On the back plate.

*What is the easiest way to register a TriCaster?*

Connect the TriCaster to the Internet. Go to the *Shutdown* icon and choose *Administrator Mode*. Select *Register TriCaster* in the *System Utilities* area and follow the prompts.

*How is a TriCaster registered without an internet connection?*

Call NewTek customer service at 1-800-862-7837.

### #5 Restore a TriCaster to Factory Defaults

*Why do you need to update the TriCaster after doing a restore?*

All updates will be removed on a restore.

*Does any of the media from the removable media drives get erased by doing a restore?*

No.

*Name some files an operator may want to save from the C: drive before doing the restore.*

VSE projects, Custom Virtual Sets, ASC projects, Animation Store transitions, presets for the Media Players.

*What is the file path to the virtual sets and animation store transitions that need to be backed up before doing a restore?*

C:\Tricaster\effects.

*What is the file path to the custom presets that need to be backed up before doing a restore?*

C:\Tricaster\bin64\presets.

*What's the difference between the process of starting the restore for a machine that is booting into Windows™ and one that is already at the Home page?*

On the Windows™ boot screen you have the choice of *Launch TriCaster* or *Restore TriCaster* and, of course, you would choose the latter to start a restore. From the *Home* page of the interface, you can go to *Utilities* on the menu ring and select *Restore TriCaster*. (Note: sometimes on a cold boot the Windows™ boot screen does not appear since the TriCaster is still trying to detect the monitor. The Windows™ boot screen always appears on a restart.)

## **#6 Update a TriCaster**

*Should Windows™ updates be performed on the TriCaster?*

No, never. The TriCaster software is written to take advantage of the precise operating system configuration at the time of shipping. Changing or updating the operating system could adversely affect TriCaster performance.

*Should the TriCaster hardware ever be upgraded or changed?*

No, never. The TriCaster software is written to take advantage of the precise hardware configuration at the time of shipping. Changing the hardware could adversely affect TriCaster performance.

*How much time should you allow before needing to use the TriCaster for a live production when updating?*

Give yourself a couple of hours for install and familiarization.

*Is it possible for features to change or be added by doing an update?*

Yes, the interface can change dramatically as can functionality. It is best to read all documentation of the new update before trying to use it.

*Where can you find the currently installed version of the software and hardware?*

In the about screen on the home screen from the utilities menu item on the menu ring.

## **#7 Back Up the System Drive**

*What is an advantage of restoring from a backed up drive, rather than restoring to factory defaults?*

A backed up drive will have TriCaster updates and any custom content such as Animation Stores, virtual sets, and presets.

*How often should you perform a system backup?*

After any system update, or after creating any custom content such as Animation Stores, virtual sets, and presets.

*Why is this better than backing up the files from the C: drive manually?*

If the files are backed up manually, they will have to be restored manually, and that could be done improperly causing the custom content not to function as it should.

### **#8 Restore a Backed Up System Drive**

*What is a possible problem with restoring a drive which was backed up from a different TriCaster?*

The hardware may be slightly different causing the system to run improperly.

*Besides creating an image that can be restored to the C: drive, what advantage does creating a system backup drive afford?*

This drive can physically replace the C drive if it fails.

## **3: Understanding Sessions**

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### **#9 Create a New Session**

*How does the TriCaster name a session if the operator doesn't specify a name?*

If the session is not given a new name it will use that day's date.

*How might that cause problems?*

If multiple sessions are created this way within the same day, they will be that day's date and sequentially numbered. This can become very confusing so specific names for sessions are recommended.

*Where is NTSC-J television broadcast?*

Japan.

*How can you tell what the resolution of the session is by looking at the live desktop?*

It is shown on the left side of the *Dashboard*.

### **#10 Session Management**

*How can you tell what the resolution of the session is by looking at the Session page?*

It is shown on the upper-left side of the interface.

*What is the difference between media that is internal (or local) to the session and media that is external to the session?*

Internal media was imported into the session before it was started. External content is brought in from another session's content from within the media browser or from the media browser you navigated to another location and used content from there.

*Is media that is external to the session automatically backed up during a session backup?*

No, it is an option you select from the backup requestor.

*Once a session is backed up, is it deleted from the TriCaster?*

No.

*Sessions are restored from which page of the TriCaster interface?*

The *Home* page.

*Sessions are backed up from which page of the TriCaster interface?*

The *Session* page.

## **#11 Manually Import Media**

*Explain how the media directories for a session are structured.*

When a session is created, a session drive is selected. Primary session content is stored here. The session will also be linked to any other drives selected to record video streams. Let's say `D:\` is the session drive. On it will be any CG pages that were created, along with LiveText projects. There is also a `Media` folder. In there are folders for `Clips`, `Stills`, `Titles`, and `Sounds` and `Music`. In `Clips` are folders for all the sessions on that drive. In each session folder there is a `Capture`, an `Import`, and possibly a `SavedStreams` folder, as well as shortcuts to any other drive selected for recording. The `Import` folder contains any content imported for use in the session. The `Capture` folder contains any video recorded by the TriCaster during the session. The shortcuts take you to any clips recorded to other drives during the session.

*What is the difference between media that is external to the session and local (or internal) to the session?*

Internal media was imported into the session before it was started. External content is brought in from another session's content from within the media browser or from the media browser you navigated to another location and used content from there.

*What are the dangers and/or symptoms of media being placed in the wrong directory?*

Not showing up in the session's media browser.

*Which types of video clips, still images, and audio files are supported by the TriCaster?*

Supported file types include:

**Video** — AVI, MPEG-2, MOV, AVCHD, MXF

**Image** — JPEG, PNG, Targa32

**Audio** — WAV, MP3

The *Import Media* module indicates which files need transcoding and which do not.

*Are there any popular video formats not natively supported by the TriCaster?*

Apple® PRO RES clips are not natively support but can be imported using the *Import Media* module and transcoded into a file format the TriCaster can use.

*What is the danger of copying video files directly to the hard drive instead of using the Media Importer?*

The file may need to be transcoded to play properly. In by-passing the *Media Importer* function, you won't know this until you try to play the file. Also, the file may be placed in the wrong location making it difficult to find when trying to load into a media player.

## **#12 Import Media Using the Media Browser**

*What is the preferred method of loading content into a TriCaster?*

Using the *Media Importer* function.

*What is the difference between media that is external to the session and local (or internal) to the session?*

Internal media was imported into the session before it was started. External content is brought in from another session's content from within the media browser or from the media browser you navigated to another location and used content from there.

*What are the dangers and/or symptoms of media being copied directly into a media drive as opposed to being imported using the Media Importer function?*

The file may need to be transcoded to play properly. In by-passing the *Media Importer* function, you won't know this until you try to play the file. Also, the file may be placed in the wrong location making it difficult to find when trying to load into a media player.

*What are the dangers and/or symptoms of media being placed in the wrong directory?*

Not showing up in the session's media browser.

*What determines when the operator should enable transcoding for clips when the option is available?*

If media does not play back properly when tested in the *DDR*.

## **#13 Export Media**

*What is the reason for choosing from among the choices of Target and Preset?*

To quickly and easily find a file format to use in an external application.

*Name some uses for an exported file and what Target and Preset settings are right for that use.*

Final Cut – Quicktime; View on iPad - mobile device – iPad

*Is there a way to get a QuickTime file out of the media exporter with no render time?*

Yes, the renderless conversion selection under the Apple® Final Cut target wraps the file to appear as an MOV with no render time.

*If a web stream was not recorded as a streaming file, is there a way to convert the recorded MPEG file for use on the web?*

Yes, the *Media Exporter* can convert it to Flash® or Flash® 9.

*Can a single MPEG file be converted to multiple formats in one pass?*

Yes, the clip can be cloned in the *Export* panel, and different output parameters can be set for each instance.

#### **#14 Install and Eject Media Drives**

*Can you remove a non-session media drive while the TriCaster is running?*

Yes.

*Can you remove the session media drive while the TriCaster is running?*

No.

*What does it mean when a media file icon is ghosted in a playlist?*

The media player tried to load that file but could not find it, or the media is in the wrong type of player.

*About how many hours of 1080i HD video can be stored on a 2TB drive?*

About 50 hours.

*About how many hours of SD video can be stored on a 2TB drive?*

About 200 hours.

*How does ISO-recording affect the amount of production time that can be stored on a drive?*

You can record two streams to one drive so that cuts the storage time in half since it is twice the video space.

*What needs to be done to the media drives before shipping the TriCaster?*

They need to be removed and shipped in a separate container. In shipping the weight of all the drives is too much and can damage the drive cage and the TriCaster.

## 4: Live Desktop

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### #15 Configure Session Parameters

*What kinds of devices generate fill and matte outputs?*

External character generators and graphics devices such as a Chyron, Decco or VizRT.

*What does genlock do?*

Locks the latency of all devices that are genlocked together.

*When is it important to record time code?*

When you want to be able to log events and get back to them accurately in editing. Also when doing multi-cam editing so you can easily sync clips.

*Which record formats record time code?*

MPEG-2 and MOV.

*How can you tell external timecode is being used?*

The Time Clock readout in the upper right-hand corner of the main interface is blue.

*What will happen to an analog SD output if the analog output is not configured correctly?*

It can be an HD output or it can be set up to output the wrong format such as *Component* versus *Composite & Y/C*.

*What are some reasons to choose one particular record format over another?*

To use the recorded output in another application that accepts specific formats.  
To have time code support.

### #16 Configure Multiviewers

*How is a monitor display configured?*

By right clicking on the monitor and choosing the source from the context menu.

*How many presets are available at one time for the main user interface from the Workspace drop-down menu?*

Four.

*What do you do to allow the mouse to travel to the multiviewer?*

Turn off *Lock Mouse to Primary Monitor* in the options menu.

*What are some reasons to rename an input monitor and/or a bus button?*

To help identify which shot is which or who the camera operator is for an input.  
To name a track being recorded by the IsoCorder.

*How does renaming an input monitor affect the ISO-recorded file of that input?*

The IsoCorded file has the same base name as the input monitor.

*What is a use of M/E Preview as a source for a monitor?*

When an M/E is functioning as a mix bus, this allows you to see what the M/E output will be before transitioning that M/E.

*What is a use for the Flip View Horizontal option?*

It lets a talent see where the Hotspots are on the screen in a way that seems natural to them as they view it. This enables them to more accurately hit the hot spots they intend to during a production.

*What type of connection is the Multiview output (SDI, DVI, HDMI, Component, etc.)?*

DVI

*What is an advantage of setting the Multiviewer Resolution to match the native input resolution when outputting to an IMAG projector?*

This can reduce latency by avoiding the IMAG projector having to scale the video image.

## **#17 Adjust a Color Bar Still Using Proc Amps**

*What tool shows the luminance values of a video signal?*

Waveform monitor.

*What tool shows the color values of a video signal?*

Vector scope.

*What controls are used to adjust luminance or brightness of the signal?*

*Brightness and Contrast.*

*What controls on the proc amp are used to adjust color?*

*Hue and Saturation.*

*What are the NTSC high and low specifications for Brightness values?*

Low value = 7.5 IRE; High Value = 100 IRE.

*How can you tell when the Hue and Saturation values are set correctly?*

When looking at color bars, all the dots line up correctly in the boxes for the different colors on the vector scope.

## #18 Live Switching

*What are some reasons why you would want to rename source monitors or bus buttons?*

To help identify which shot is which or who the camera operator is for an input.  
To name a track being recorded by the IsoCorder.

*How can you re-label the monitors on the Multiviewer?*

Multiviewer monitors are renamed when the monitors on the main switcher bus are renamed.

*When a recording is stopped, what makes it immediately show up in a DDR playlist?*

Selecting *Add to DDR Playlist* and choosing the specific *DDR* in the *Record Configuration* panel.

*How do you change a transition already loaded in the switcher to a different transition in the same position in the transition palette?*

Click the plus sign in the upper-right of the transition icon. Use *Media Browser* to navigate to and choose a new transition.

*How do you change the direction a transition runs?*

Select the transition, then choose *Reverse* or *Ping Pong* on the *Speed* drop-down menu under the transition icon.

*How do you get a transition to run in one direction the first time and the reverse the next time?*

Select the transition, then choose *Ping Pong* on the *Speed* drop-down menu under the transition icon.

*Why is it generally a bad idea to switch Program Out by directly selecting sources on the Program bus?*

Because you may not know what you are switching to because you have not previewed it yet.

*Approximately what percentage of transitions in a typical professionally produced production are Takes and Fades?*

About 95-99%.

*Is it generally better to perform a transition with the Auto button or the T-bar?*

The *Auto* button is better because it gives a uniform speed for the whole transition.

*Give an example of a reason for reversing a transition.*

You might want to fly something in and then back out again like an instant replay for sports.

*Is it possible to use speeds for a transition other than the default slow, medium and fast speeds?*

Yes, click and drag with the mouse on the speed indicator to change the speed.

*How do you change speeds of transitions from the control surface?*

Twist the *Rate* knob.

## **#19 Grab Frames While Live**

*What is video interlacing?*

The splitting of video frames into fields.

*When is de-interlacing typically used when grabbing frames?*

Set the frame grabbing to *De-Interlace* whenever the session is interlaced and there is motion in the frame; do not use it when the session is progressive.

*How can you tell whether the current session is an interlaced one or not?*

It will have an "i" at the end of the resolution, such as 1080i. The resolution of the current session and the current session name are found in the *Dashboard* at the top of the interface.

*How can you tell when a session is being created whether or not it will be interlaced?*

It will have an "i" at the end of the resolution such as 1080i.

*Where are grabbed frames stored?*

On the session drive. If the session drive is D, they are saved to  
D:\Media\Stills\{Session name}\Captured.

*What file format are frames saved in?*

JPEG.

## **5: Working with Media Players**

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### **#20 Populate Playlists with Media**

*Why should video clips not be added to a playlist from an external USB drive?*

External USB drives are not fast enough to play back HD video clips without dropping frames. Files should either be imported through media import or copied to the internal media drives before being loaded into a media player.

*State what types of media files each of the media players can successfully play.*

DDR's can play all media types including video clips, stills, titles and audio clips. The *Graphics* players load stills and titles. The *Sound* player will only load sound files.

*If an inappropriate type of media file is added to a play list, how is that indicated?*

As a ghosted icon.

*State the difference between content that is local (internal) to a session versus external to the session.*

Internal media was imported into the session before it was started. External content is brought in from another session's content from within the media browser or from the media browser you navigated to another location and used content from there.

*Name a potential problem with using external media in a session.*

It may not get backed up with the session unless indicated to do so. It could come in from an external drive that is not fast enough to play the media.

*How does the TriCaster handle mixing 16:9 and 4:3 media?*

It letter boxes, pillar boxes or scales the video to give the best looking output. This is done transparently to the user.

*What is the indication that the TriCaster can't find a media file in a playlist?*

The icon is ghosted.

*Describe the process of updating a Frame Buffer over a network.*

The framebuffer folder is accessible over the network. A person could replace the file in the folder with another file of the same name and update the framebuffer independently from the switcher.

*Does removing a media file from a play list delete it on the hard drive?*

No. Only doing a delete from the media browser and confirming the deletion will remove it from the hard drive.

*Does renaming a media file in a playlist rename it on the hard drive?*

No.

## **#21 Work with a Single Media File**

*Why doesn't the Sound player have the Autoplay button?*

Because the *Autoplay* button works with an input that has been selected on program. It is impossible to switch to the sounds player as it is not an input on the switcher.

*How is setting the duration of a video clip different than setting the duration for a still or title?*

The duration of a video clip is set by adjusting the in and out points. Stills and titles have a context menu for setting the duration of the item.

*Can the duration of multiple stills or titles be set at the same time?*

Yes by multi-selecting the items and setting the duration of one of the selected items.

*What do the three colors of the progress bar mean?*

Green means the file has more than 10 seconds left to play. Yellow means the file has less than 10 but more than 5 seconds left to play. Red means the file has less than 5 seconds left to play.

*Why would you want to mute a video clip or sound, rather than just moving the slider to the bottom in the Audio Mixer for that media player?*

Because you may want to un-mute and use it at some point and already have the level set.

## **#22 Work with Media Player Controls**

*How do Autoplay, Single, and Loop work?*

*Autoplay* automatically plays the selected media when that media player is brought to *Program*. This is true even when that media player is used as a source for a *DSK* or keyer and is activated. When the media player finishes playing the media, it switches back to whatever is on *Preview* using the *Auto* transition.

When *Single* is on, only the selected media file in the media player plays. When *Single* is off, the selected media and anything after it in the list plays.

When *Loop* is on, the media player repeats either the individual media file (*Single* is on) or the entire playlist (*Single* is off).

*How can they be used together?*

With both *Autoplay* and *Single* on, the operator can switch to a media player, have the individual file play, then have the player switch back.

With *Autoplay*, *Single*, and *Loop* on, switching to the media player plays the file continuously until the operator manually switches away.

*What is the fastest and slowest that playback speed can be set to?*

From 400% to 25%.

*How are the warning colors turned on or off?*

By right clicking on the scrub bar in the *DDR* and using the context menu.

*What are situations in which you would want the time display to count up? Down?*

Count up could be used when you know you have a specific amount of time to fill and then you must be done. Count down is to see how much time the playlist has left until you need to start switching again.

*Do the DDRs and Graphics players all have the Autoplay button?*

Yes as they are all inputs on the switcher that can be put on program out. This will play the selected clip, still, or title when selected on program and stop playback and advance to the next item when switched away from.

*How do you get a DDR to play just one clip in a list of clips when using Autoplay?*

Turn on the *Single* button.

*Name the media player attributes that can be controlled from the control surface?*

*Play, Stop, Next clip, Previous clip, Loop, Single, Autoplay, Next preset, and Previous preset.*

### **#23 Edit LiveText Title Page**

*How is a new (not already installed) font used in a LiveText Title page?*

It must be installed in Windows™ and then is accessible to LiveText.

*How is an image acquired outside of the TriCaster used in a LiveText Title page?*

Import the image into the session through the media importer. Then, it is accessible to LiveText.

*What indicates an image or other element on a Title page is editable in the Edit Title window?*

When you roll the mouse over an editable image or other element, a yellow border is displayed around it

*What are the three fitting options for an image and what do they do?*

*Stretch* causes the image to completely fill the frame. *Fill Area* retains the image's original aspect, cropping if necessary to fit inside the frame. *Show All Image* also retains the original image aspect, but fits the entire source image inside the frame (which may result in 'pillar-boxing' or 'letter-boxing').

*Name the three types of CG pages you can create in LiveText.*

Still, Scroll and Crawl.

*Explain the Save and Duplicate feature.*

Many times you want a similar look for several titles with different text on each. You can set up one template, open and edit the text, then choose *Save and Duplicate*. This saves a copy of the template with the current text and leaves the editor open with the template in it so you can change the text and do another *Save and Duplicate*.

*If you edit a Title page which is live on Program Out, when will the changes go live?*

When you press the *Enter* key.

*How is the output of the external version of LiveText brought into a TriCaster production?*

Through the Network Inputs.

## **#24 Media Player Presets**

*Is there any implication for saved presets by doing a system restore?*

Yes, they are lost unless backed up from the C: drive and the replaced in the right folder after restore. That folder is C:\tricaster\bin64.

*Name reasons for storing the presets in either the default location or some other location.*

In the default location they will come right up when you try to load one. But this location can get over crowded so making folder for shows is a way to organize them.

*Why is there sometimes a delay in loading presets? How can that delay be prevented?*

This only happens when using presets for M/Es where virtual sets are being used. This only happens once when first selected and then it is cached. It is recommended to cache all presets before the start of a live production.

*Navigate to and find a saved preset.*

The files are located in C:\tricaster\bin64.

*What media players in the TriCaster have presets?*

All do, including the *Audio Mixer* tab.

*How many presets do each media player have?*

The *DDRs*, *Graphics*, and *Sound* players have 12; the *Audio Mixer* has 12; the *M/Es* have 4.

*How can media player presets be selected from the control surface?*

Using the *Prev Preset* and *Next Preset* buttons.

## 6: LiveText

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### #25 Create an Editable LiveText Title Page

*Can a text file be loaded into a LiveText project?*

Yes.

*Can a Photoshop file be loaded into a LiveText project?*

Not as a .PSD file; it must first be saved in a format LiveText can read, such as .PNG, .BMP, .JPG, etc.

*Can the internal version of LiveText that comes with the TriCaster be run and used during a live production?*

No.

*When Send Current Page to Live is used on a still graphic, where is the page found?*

Once pages are created and sent to live they will be available from the media browser under that session name.

*When Send Current Page to Live is used on a motion graphic, where is the page found?*

D:/Media/Clips/{session name}/Motion.

*How do you select several items on a page and move them all as one item?*

Either multiple-select the items and move them, or use the *Group* feature to create a group and move the group.

*How do you group and un-group items?*

Select multiple items by *Control-clicking* them or drag out a box around them and press *Group*. Now they all move as one. Select the group and press *Un-group* to un-group them.

*What's the difference between Send Current Page to Live and Send All Pages to Live?*

*Send Current Page to Live* sends only the currently selected page to the live environment. *Send All Pages to Live* sends all the pages within that CG project to the live environment.

*What is the difference between sending a page to the Live Desktop as a .cgxml versus a .png file?*

Pages sent as .CGXML become editable Title pages; pages sent as .PNG become static (un-editable) graphic pages.

*Where in the LiveText interface is external content, such as images, loaded into a CG page?*

The *Filebin* tab.

*Where in the LiveText interface are foreground and background elements adjusted?*

The *Layers* tab.

## 7: Network Inputs

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### **#26 Use a Windows™ or Macintosh™ as a Networked Input with iVGA**

*Which types of external computers can be brought into a Network input via iVGA: Mac? PC? Linux? Other?*

Windows™ or Macintosh™ only. Note: iVGA Pro is Windows™ only.

*How can you tell on the networked computer that iVGA is running?*

The icon appears in the icon tray in Windows™ or in the dock as a running app on a Macintosh™.

*How can you tell it is sending the interface to the TriCaster as an input?*

Click on the icon in the tray and see what the output is set to.

*Describe the process of using Apple Airplay® as a Network input.*

Make sure that the AirPlay® device is on the same network as the TriCaster. Play media on the iDevice. Using the menu on the iDevice select the TriCaster network input you want to send the Airplay® output to.

*Describe the process of using LiveText on a networked machine.*

Create the page and then with that page selected press the *Live* button. This is now available as CG output from the Network inputs on a TriCaster that is attached to the same network.

*Describe a reason to use an audio mix-minus when using a networked computer.*

When using a Skype™ call live during a TriCaster production.

*Where on the TriCaster system drive is iVGA stored?*

C:\tricaster\extras.

## 8: LiveMatte

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### **#27 LiveMatte Setup**

*What colors can be removed from an input using a LiveMatte key?*

Any, but green and blue are used primarily because they are the farthest away from skin tones.

*How is the color to be removed selected in the interface?*

Use the eyedropper in the LiveMatte window, left click and hold and drag over the color on the interface monitor you wish to remove.

*What problems come from overdoing the Tolerance, Spill, and Smoothing adjustments?*

Overusing *Tolerance* and *Smoothing* can cause the keyed item to become transparent. Overusing the spill suppression settings can change the color of the talent.

*How does the source monitor indicate a LiveMatte key has been applied?*

A green line appears at the bottom of the source monitor window when a LiveMatte is applied.

*On what inputs is LiveMatte available?*

Any live input, the Network inputs, the *DDRs*, *Graphics* players, and M/Es.

*How can LiveMatte be turned on and off for an input from the control surface?*

Hold down *Control* when clicking a button on the *Preview* row to toggle LiveMatte on/off for that source.

## **#28 List Factors that Affect Key Quality**

*Name at least three factors that affect the quality of a key.*

Video signal quality, lighting, and talent placement.

*How can you control these factors to make a better key?*

Use the best video signal quality you can. Evenly light the green screen. Separate the talent from the background.

*List in order from best to worst the video signal formats to use to pull the best LiveMatte key.*

SDI is best, then component, then Y/C, and then composite. Y/C and composite are only available as standard definition signals.

*What can you do on-set to help make a better key?*

Re-select the key color from within LiveMatte. Use a better camera. Adjust the lighting. Adjust *Tolerance* and *Smoothing* in LiveMatte.

*What are some types of shooting situations where it might be hard to pull a good key?*

Location shooting when less than optimal cameras may be used. Places where you can't control the lighting. Cramped sets which require the talent to be close to the green screen.

## 9: Mix Effect Busses (M/Es)

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### #29 M/E Input Setup

*What is an M/E?*

An M/E is a Mix Effect bus. When used as a Mix bus, it is like a switcher with-in a switcher. It can be used as a switcher, and its output can be sent to *Program* or re-entered back into another M/E. An M/E can also be used as an Effects bus to display virtual sets and multi-layered video effects.

*How do you make an M/E transition ping pong?*

Set *Ping Pong* from the transition speed menu in the M/E setup panel.

*What modifications can be applied to the input rows or keyers in an M/E?*

Position, rotation, scale, cropping, and tracking.

*What are the three default speeds for an M/E transition when set to be an Effects bus?*

Slow (00:00:20:00), Medium (00:00:10:00), Fast (00:00:05:00).

*Is it possible to use a transition speed other than the three preset speeds?*

Yes, click and drag with the mouse on the speed indicator to change the speed.

*Is it possible to use a live keyed input in an M/E keyer?*

Yes.

*When working with an M/E, what is the maximum number of layers possible?*

Four.

*Is it possible to use a non-keyed source as an overlay in a keyer?*

Yes, it can be scaled and positioned like a picture-in-picture effect.

*Are there any types of transitions that work fine with a full-screen graphic but don't look as good on a lower 3rd?*

Yes, but this may be a matter of taste.

*How many keyers does a M/E have?*

Four.

*How do the keyers in an M/E differ from the downstream keyers?*

The keyers in an M/E only place overlays on that M/E's output. The downstream keyers place overlays on the *Program* output.

*Using an M/E and all it's keyers, how many layers of video can you have on one M/E, excluding the DSK's?*

Eight.

### **#30 LiveSet Setup**

*What main switcher channels can be used on Row A of an M/E?*

All of them.

*What bus row(s) on an M/E is/are usually used for the talent(s) in a virtual set?*

Rows A, B, or C.

*What type of external camera control is needed to use the zoom feature in a virtual set?*

None, the feature is built in to the M/Es.

*How many preset camera positions are available in a single M/E?*

Nine in the user interface; eight on the control surface.

*Is it possible to have a source on the on-screen monitor (Input D) in a virtual set, then switch to that source as a full screen view on Program Out?*

Yes, on the main switcher, just switch to whatever source is being used on *Input D* in the M/E.

*What would happen if the camera operator moved or zoomed the camera after the virtual set has been set up?*

The talent would not be positioned or framed correctly in the virtual set.

*Which attributes of an M/E can be changed while that M/E is live without interrupting Program Out?*

The choice of transition and Keyer transitions; the transition speed and the Keyer transition speeds; the source for any Keyer that is not currently live.

*How can you turn on or off the ease-in/out feature of the animated zoom?*

You cannot, it is always on.

### **#31 Using the Tracker**

*How can you see the outline of the tracked area in an input monitor?*

Right click on the source monitor where the track is being applied. Choose *Overlays, Tracking Markers*.

*If the tracked image shakes or wobbles when moving around the screen, what adjustment can minimize that problem?*

The *Tolerance* adjustment.

*In step D above, if you had keyed a lower third graphic in M/E 2, rather than M/E 1, how would that have affected the output?*

The lower third graphic would not have “tracked” with the object properly.

*What happens if you try to LiveMatte key the camera or DDR source in step C, instead of the M/E keyer?*

A black box appears around the talent instead of the alpha channel cutting through the layer.

*How do you get to the LiveMatte controls for an M/E?*

Place that M/E in any multiviewer monitor, then click the gear in the lower-right area of the monitor.

## **#32 M/E Presets**

*What causes the hidden presets to appear?*

Move the mouse to the left side of the interface for the M/Es.

*Is there any implication for saved presets by doing a system restore?*

They are stored on the C drive and will be deleted. They should be backed up before the restore, then replaced after. The presets are found at  
C:\tricastar\bin64.

*Name reasons for storing the presets in either the default location or some other location.*

Saving them in the default location makes them come up instantly when trying to recall them. Saving to an alternate location outside of the C drive will preserve them during a restore.

*Why does there seem to be a delay sometimes when changing presets, and how can that be prevented?*

The first time you click on a preset it must set itself up and this can take a second and cause a delay on that input. Once this is done, it is cached, and then switching between presets is seamless. This caching must be done each time you enter the live production environment.

*What M/E variables cannot be adjusted from the control surface?*

M/E preset selection.

*Navigate to and find a saved preset.*

The presets are found at C:\tricastar\bin64.

*How do you get to the options for renaming and importing/exporting presets?*

Right clicking on the preset.

## 10: Automation

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### #33 Create a Macro

*How many steps can be recorded in one macro?*

There is no practical limit.

*Give examples of when you would want a macro to be set to Snapshot, and when you would want it to play in real time.*

Snapshot macros apply all actions at once, useful for setting up the TriCaster for an upcoming effect. Real time macros are used to create timed sequences of actions for replay, such as creating a section of the show to run by itself.

*Give an example of when you would want a macro to loop.*

If you wanted some series of actions to happen periodically, such as a keyed bug to fly on screen, pause there for a few moments, then fly off screen.

*What does it mean when a keyboard shortcut is shown in red?*

It means that that keyboard shortcut is already in use by another active macro.

*How are keyboard shortcut conflicts resolved?*

Either choose a different shortcut, or find the other macro using that shortcut and disable it.

### #34 Organize, Import, and Export Macros

*Does the Macros menu drop-down list show the keyboard shortcuts assigned to macros?*

Yes.

*What does clicking on the star next to a macro do?*

Places it on the Favorites list.

*Are macros saved with the session?*

No, they must be exported independently.

*Can macros be exported from one TriCaster and imported on another?*

Yes.

### #35 Trigger Macros with Hotspots

*What must be turned on for any input to use Hotspots?*

LiveMatte.

*How many macros can be trigger by one Hotspot?*

Two; one when the hotspot is activated, and one when deactivated.

*How many Hotspots does each input have?*

Eight.

*Do the DDRs have Hotspots?*

Yes.

*Do the Network inputs have Hotspots?*

Yes.

*Do the Frame Buffers have Hotspots?*

No.

*Do the M/Es have Hotspots?*

No.

*Do the Outputs have Hotspots?*

No.

*How does a Hotspot indicator changed when it is being triggered?*

The shape is empty when not triggered, filled in when triggered.

*What is the difference between On Screen and Off Screen macros?*

On screen macros are triggered when the Hotspot is covered; off screen macros are triggered when the Hotspot is uncovered.

*How are Hotspots made visible?*

Right-click on the source monitor where the Hotspots are used and select *Overlays, Hot Spot Markers*.

*How can you tell if a Hotspot is active?*

If the shape is filled in, it's active.

*Can all Hotspots be disabled with one command?*

Yes, using the *Disable All Hotspots* command on the NewTek menu.

*What is the value of the Disable Hotspots for Sources Not on Output option on the NewTek menu?*

When this option is selected, off-camera talent does not inadvertently trigger macros during the production.

*What is one possible use for the Flip View Horizontal option?*

It lets a talent see where the Hotspots are on the screen in a way that seems natural to them as they view it. This enables them to more accurately hit the hot spots they intend to during a production.

## 11: Audio Setup

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### #36 Basic Audio Setup and Controls

*What is the difference between line level and mic level?*

Line level is usually an amplified signal, while mic level is usually not.

*What are some symptoms of mismatching line and mic levels?*

Overdriving or low audio levels.

*What is phantom power and when would you need to use it?*

It is used to power external microphones and some microphones require it.

*What does VU stand for?*

Volume Unit.

*What colors are appropriate to see on VU meters for good audio volume?*

In the yellow, but not touching the red.

*What are some typical uses of the 3rd and 4th channels of audio for those sources that have them?*

Additional languages can be put on channels 3 and 4.

*What is the difference between the Balance and Trim controls?*

The *Balance* control for a stereo source varies the relative level of the left and right channels. The *Trim* control provide an overall preliminary volume adjustment allowing you to fine tune the input level. Use *Trim* to bring the levels for microphone and similar sources into a useful range on the VU meter.

*What are the sources that can be sent to the Auxiliary audio out?*

*DDR*s, *Sound* player, internal sounds players as a group, solo selected sources, and groups.

*What happens to the DDR audio channels when Auxiliary Out audio is set to Internal?*

All of the internal sound generating players are sent as a group. This includes the *DDR*s and the *Sound* player. Note: the audio from *DDR 1* is sent to channels 1 and 2 of the aux out and the *DDR 2* audio is sent out channels 3 and 4.

*When recording, what happens if the Master audio level gets too loud?*

It clips and output is distorted. Also, a message appears at top of the main interface warning this has happened.

*How many channels does the Master audio out have? The Stream audio? The Record? The Headphones?*

*Master: four; Stream: two; Record: four; Headphones: two.*

### **#37 Check a Microphone During a Production**

*Give examples of other uses or equipment you might test during a live production using this process.*

*Tape deck, DVD players, VCR's, BlueRay players.*

*Does it matter what order you do these steps in?*

*Yes, if you don't mute the input first, you might hear the test on main Program Out.*

### **#38 Use Follow and Grouping**

*When do the VU meters show in grayscale?*

*When they are in Follow mode, but not audible on Main audio at that time.*

*What are some situations in which you would want to set up a mix-minus?*

*Skype™ Calls.*

*What are some situations in which you would want to use audio follow video?*

*When you want to make sure that certain audio inputs are omitted from the show while certain inputs are active.*

*What is the effect of enabling Follow for any one member of a group?*

*The whole group will act as if it is in Follow mode.*

### **#39 Audio Mixer Presets**

*Is there any implication for saved presets by doing a system restore?*

*They are removed. They should be backed up before a restore and then replaced after the restore. Presets are found at C:\tricastar\bin64.*

*Name reasons for storing the presets in either the default location or some other location.*

*Saving them in the default location makes them come up instantly when recalling them, and they will be available to multiple sessions. Saving to an alternate location outside of the C drive will preserve them during a restore.*

*Why does there seem to be a delay sometimes when changing presets, and how can that be prevented?*

*The presets are cached. Load each preset once before the production begins to avoid the delay.*

*Navigate to and find a saved preset.*

Presets are found at C:\tricastar\bin64.

## 12: Streaming

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### **#40 Stream to the Internet**

*Where is the saved stream stored by default?*

On the session drive. If the session drive is D, it is store in  
D:\Media\Clips\{session name}\SavedStreams.

*What determines the type stream file saved?*

The encoder used to stream it. If streaming in Flash®, you get a .FLV and if streaming in Windows Media™, you get a .WMV file.

*Name some possible complications that can interfere with establishing a network connection?*

Firewalls, domains within a network, bad cables, too many WiFi networks in one area.

*How can you verify the TriCaster can access the Internet?*

Try to go to one of the default service provider in the list in the streaming panel and see if it comes up.

## 13: Sharing

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### **#41 Set Up Share Destinations**

*Where in the interface are social media sites logged-in to or configured?*

On the *Home* or *Session* page in the upper-right corner.

*How are social media sites logged-in to or configured during live operation?*

Social medial sites cannot be configured during live operation. They must be configured or logged-in to before live operation or they show up as not configured.

*If a company has a corporate Facebook page, how does an individual employee of that company upload media to Facebook?*

When logging in to Facebook, choose to post as any page for which you are an administrator.

*What does the Prepare for Web option do and when would an operator want to use it?*

It converts the large, native files that the TriCaster records into smaller, easier to manage files at lower quality for web playback.

*Where does the watermark come from when used on a media file?*

The image file can come from any available drive on the system.

## **#42 Share Media**

*Can a video file be uploaded to a social media site while it is still being recorded?*

Yes.

*Name two ways to add media to the Share queue?*

Manually add a file by right-clicking and choosing *Add to Share Queue* from the context menu, or open the *Share Media* panel, click *Add*, and navigate to the file to be shared.

*Can content be uploaded to social media sites without opening the Share panel?*

Yes if it is set to *Auto Upload*.

*How is one image configured to upload to multiple social media sites at once from outside of the Share panel?*

Right-click on the image and check as many of the destinations as desired.

*How is one image configured to upload to multiple social media sites at once from inside of the Share panel?*

In the *Share Panel*, select the image, then choose *Duplicate* on the left-hand menu. Set the *Destination* drop-down for the copy to the new destination.

## **14: Live Operation**

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### **#43 Use the DSKs**

*Can a source with no alpha channel be used in a DSK? If yes, then how?*

Yes it can be scaled and positioned as an overlay using the positioning controls.

*How can you tell the positioner is on for a DSK?*

The Positioner button is highlighted blue.

*What inputs on the switcher can be used as a source for the DSKs?*

Any inputs .

*Can all the same transitions used to switch between the Program and Preview busses be used as DSK transitions to bring graphics on and off screen?*

Yes.

*Which is visible "above" the other, DSK 1 or 4?*

*DSK 1* is below or under *DSK 4*. If *DSK 1* and *4* overlap, then *DSK 4* will be on top.

*Why is there no Reverse option for transition direction on the DSKs?*

They automatically ping pong.

*What variables are controllable when using the positioner for the DSK?*

*Position, Scale, Rotation, and Crop.*

#### **#44 Use the Transition Delegate Function**

*What is the stacking order of the six video layers?*

*Background, DSK 1, DSK 2, DSK 3, DSK 4, Fade to Black.*

*Why is it called “Look-ahead” preview?*

Because it shows exactly what you will get when the transition is executed from the *T-bar* or *Auto* button depending on how the delegates are selected.

*Why does the Preview monitor change when the transition delegate buttons are selected/deselected?*

Because it is a true “Look-ahead” preview and shows exactly what you will get when the transition is executed from the *T-bar* or *Auto* button.

*How do you select more than one transition delegate button using the keyboard and mouse?*

Hold down the *Control* key on the keyboard while selecting multiple layers to delegate with the mouse.

*Using the control surface?*

Press and hold multiple delegate buttons at the same time to multi-select.

*Can the DSKs be controlled without using the Transition delegates and the Auto/T-Bar?*

Yes, there are both interface and control surface controls for the *DSKs* independent of the Transition delegates.

*How do you know if Fade to Black (FTB) is currently engaged?*

The output is black or *Preview* is black. The *FTB* delegate button is selected. When attempting to do a switch on *Background* you get black on the output and the *FTB* delegate button flashes.

*What does Fade to Black fade?*

*Background* video, all *DSKs*, and audio.

## 15: Three Live Show Examples

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### #45 Hosted Three-camera Show

*What would happen during the show if Single was not turned on in DDR 2?*

More than just the selected clip would play.

*What would happen if Autoplay was not turned on?*

The media would not play when switched to and only the first frame would be displayed.

### #46 Sharing to Social Media During a Production

*Can media be uploaded to social media sites directly from the media players?*

Yes, right click on media to configure its destination and add to the *Share Queue* or auto upload.

*How can media be uploaded to social media sites automatically?*

Yes, set it to *Auto Upload*, then once in the *Share Queue*, it starts uploading automatically.

*Can the same content be sent to multiple social media sites at once?*

Yes.

*When grabbing images from all inputs, where are the images saved?*

D:\Media\Stills\{session name}\Captured.

*Can media be un-shared or deleted from social media sites from the TriCaster?*

No.

### #47 On-camera Talent Running the Switch

*How many macros can one Hotspot be set to trigger?*

Two.

*Explain the two ways a macro can be triggered by a Hotspot?*

By covering the Hotspot or by un-covering the Hotspot.

*How many Hotspots are available in each input that supports them?*

Eight.

*If a Hotspot is set to trigger a transition, what happens if it is triggered again before the transition is complete?*

It stops the transition from completing.

*What would have happened if the duration of one of the stills in the DDR or GFX player was not long enough for the talent to finish talking about it before the end point was reached?*

Since *Autoplay* is on, the media player would have automatically switched to the *Preview* source before the talent was ready for the transition to happen.