The Switcher: TriCaster 855 Extreme

OVERVIEW

The typical studio production is composed of content from various sources:

- CAMERAS: Moving images from studio cameras – normally three.
- AUDIO from studio mics and other sources
    - The audio engineer mixes the multiple audio streams into a single stereo audio stream
- PRE-RECORDED VIDEO for roll-ins
- TEXT(CG, Graphics, Lower Thirds)
- STILL IMAGES

Somehow, all of these elements are blended into a single coherent audiovisual stream – the program - for all to enjoy (we hope). It's the job of the director to decide how to blend the elements together as the show unfolds, while directing the activities of the crew and sometimes the talent.

THE SWITCHER

The switcher is the NewTek TriCaster 855 Extreme, a digital, Windows-based, high-definition virtual control room. While the control room of yesterday required several different components, TriCaster combined most of the components into one compact system. Most of the production elements can now be managed through the TriCaster including graphics, camera switching, Roll-ins, and recording.

The Following are the different components of the TriCaster:

- The **TriCaster** itself, located in the island in the control room. This is the processor. KMVT staff manages the TriCaster.
- **Control Surface:** the device that the Technical Director uses to mix the production elements. It is a physical control surface that replicates a traditional switcher's manual controls.

- **Monitors**:
    - **Software Interface Monitor**: This is the monitor shows the software version of the control surface mentioned above.
    - **Multi-view monitor**: the largest monitor. This is the primary reference for the Director and TD.   It duplicates the "Monitoring" section of the "Live Desktop".
    - **Program Monitor**, which shows the final visual content that is being output by the TriCaster.
- **Software Interface**: or "Live Desktop", organizes all audio and video elements into a manageable visual interface

- **Keyboard and Mouse**: Used for control of the Software interface by the Technical Operator.

CREW POSITIONS – THE TEAM

Director: This person directs the talent, cameras and the rest of the crew.

Technical Director (TD): This person follows the directions of the Director and switches to and from the different video sources.

Technical Operator (TO): This crew member supports the technical director by setting up roll-ins, titles and other sources that they need.

SETUP

Before the show can begin, the TriCaster MUST BE set up.

TURNING THE TRICASTER ON: **Staff** will do this

ASSIGNING CAMERAS TO THE TRICASTER INPUTS: **Staff** will do this

AUDIO SETTINGS: Shouldn't need to be changed (you're off the hook)

PRE-RECORDED VIDEO: Imported by the TriCaster Operator

STILLS: Imported by the TriCaster Operator

TEXT: Imported by the TriCaster Operator

The TO and the TD WILL work together as a team to set up the TriCaster. They will also TEST all imported media and titles before the show begins.

GENERAL INSTRUCTIONS

As someone once said, "There is only one director." The director has the vision – how the show will look from beginning to end. It is the responsibility of everyone on the crew to bring that director's vision to reality, especially the TD and TO.

Do not try to get ahead of the director. Follow the director's lead. Every director is different. Some like collaborating during a production and some want total control; either way is okay.   Never perform an action unless instructed by the director. Still, if you see an obvious problem, bring it to the director's attention. YOU ARE THE RIGHT HAND OF THE DIRECTOR.

Do not get distracted. It's easy for your attention to be drawn into what's on the screen and to miss the director's cues.

TECHNICAL OPERATOR

You perform a task that is similar to that of the Character Generator Operator, who – in the past - primarily managed text graphics. In addition to text graphics, The Technical Operator manages still images and moving images that are imported into and stored in the Tricaster.

The Technical Operator's responsibilities include:

- Loading a "Session"
- Importing Files
- Creating Graphics
- Managing Bins during production

LOADING A SESSION

STARTUP SCREEN

1. The first screen you see is the "home" screen. You will see an "icon ring". SELECT "OPEN".

2. On the hard drives, find the stored last session of your show, and SELECT.

   OLD MEDIA: Intro, outro, lower third graphics, etc. exist from the last session.

3. New media will be imported at this from flash drive or hard drive

   Inside cubicle in the control room island, find the USB and eSata connections

   Load drive(s) as early in the process as is possible

   Leave installed so as to permit saving a copy of the show to your drive

Place drive(s) here

eSata and USB connections

"SESSION PAGE" appears when session is opened. You will see another icon ring with four selections:

- **EDIT:** Opens Tricaster's proprietary editing program. You will not use the Tricaster for editing.
- **LIVE:** Opens the "live desktop", the main interface used by the TD during a live production.

- **GRAPHICS:** Launches "Live Text", Tricaster's proprietary character generator.
- **MANAGE:** For managing various types of media to be used during the production.

IMPORTING FILES (Stills/Video/Audio Files)

All required media should be imported into the session prior to the start of the show. In the "Session" page:

1. Select "**MANAGE"**

2. Select **"IMPORT MEDIA"**

2. Select **"ADD MEDIA"** in the Import Media panel

4. Navigate to the file containing the media

5. Select desired media

- To remove a selection, highlight and click "remove"

6. Click **"IMPORT"**

- Different types of media will be sorted into the correct folders
- Highly compressed media may require transcoding by enabling the "transcode" switch adjacent to that selection

TO CREATE NEW TEXT GRAPHICS

Normally you will simply modify existing graphics from the prior session. If the show requires freshly created graphics:

1. Select "**GRAPHICS".** This brings up "Live Text", Tricaster's proprietary graphics creation program

2. Select **"EXISTING"** and open the show's existing page

3. "Pages" are shown on the right column. Select an existing (to modify) or click in the empty space to create a new page.

4. Create the new graphic page

5. Select "File", "Send to Live as Title Page" (Graphic can be modified, PNG can not)

6. Return to "Sessions" page

NOTE: This is a very general overview. There will be a complete "Live Text" class in the future.

SELECT "LIVE"   This will bring up the **SOFTWARE INTERFACE,** the Technical Operator's primary reference. The monitor is arranged in three horizontal bands: **Monitoring, Live Control, Bins ("Tabbed Modules" in the diagram)**

1. **Monitoring Section**:

The two larger monitors to the right are the **PREVIEW** and **PROGRAM** monitors.

The nine smaller monitors to the left (as depicted in the diagram) represent all inputs. More monitors are configured for the KMVT Tricaster) In the diagram:

o   The top three are configured to studio cameras 1, 2, 3.

o   The lower six are configured for network connections, DDRs, and graphics.

2. **Live Control**: reflects the selections made on the control surface.

o   As a backup, the Tricaster can be controlled with a mouse, using the Live Control portion of the interface, but the control surface is the superior and the preferred method.

3. **Tabbed Modules - Bins** – the tabs you use to access bins are:

o   Digital Disk Recorders (DDR1 and DDR2) for pre-recorded video clips.

o   Stills
   •   Assigned to DSK1 (Downstream Keyer #1)

o   Text

- Assigned to DSK2

HOW BINS WORK

1. Within the tabbed modules, select the desired bin(s)

   - DDR1 and DDR2 for video or
   - STILLS for still images

2. Load video clips into a DDR bin

   - Click **"ADD"**
   - Select session name in media browser
   - Select desired clips
   - Click **"OKAY"** - the clips are now loaded into that bin

3. Select a clip for playing during show:
   - Simply click on clip's icon in the DDR bin
   - TD will preset the DDR on the "preview" bus
   - When the TD presses "TAKE" or "AUTO" the clip will appear on the program monitor and play automatically.

4. Still images
   - Load in the same manner as you loaded video clips into the DDR
   - May be used as a still player (single, auto, loop)
   - Generally assign to DSK1
     o Select image
     o Image will be displayed when TD presses DSK1 "TAKE" or "AUTO"

<u>TECHNICAL DIRECTOR</u>

So, under direction of the director, all of the show's elements – camera feeds, various graphics, audio) are blended into a single coherent audiovisual stream. Well, who actually does the blending?

You - the Technical Director (TD). Together, you, the TO, and the director are – essentially - performing a live edit. The director makes the editing decisions and gives you instructions. Using the CONTROL SURFACE, you physically edit the separate visual and audio elements into a single audiovisual stream – the program.

THE CONTROL SURFACE

The control surface emulates a standard broadcast switcher. For the purposes of this basic tutorial, you will primarily be concerned with the lower two rows of buttons (marked "preview" and "program") and the controls within the box labeled "transitions". Let's de-complicate things:

The two lower rows of buttons (also known as busses):

        Buttons 1, 2, 3 = Cameras 1, 2, 3

        Buttons 4-8: unassigned by default, ignore for now

        Net1, Net2: Network video inputs, ignore for now

        DDR1, DDR2: These media bins can play or display Audio, Video, Still image or Title graphics.

        STILL, TITLE: These media bins can play or display still images and graphics

        FRM BFR: Frame Buffer, ignore for now

        Black: Black video, sometimes used at beginning and end of shows

        V1-8: Virtual inputs, very advanced, ignore for now

Preview (lower) bus: When you press a button on this row, the corresponding input is displayed in the preview monitor.   Press this button when the director says (for example), "ready one" or "preset one". You press "1" on the lower row and camera 1's image appears in the preview monitor.

Program bus (2nd row from bottom): The active button on this row determines what input is being output. When the director says "take one" or "dissolve to one", you press the button marked "take" or "auto" within the "transition" box.

Dsk1, Dsk2 (within "transition box"): **D**own**S**tream **K**eyers, DSK1: STILL bin, DSK 2: TITLE bin. Downstream key means visual media that's being placed over the video on the

program monitor. "Take" and "auto" controls for the downstream keyers are located to the right of the t-handle.

NOTE: Respond immediately to the director's instructions. Timing is crucial to the quality of the program, and it is your job to deliver the timing that the director envisions.

Assign still and graphics bins to DSKs:
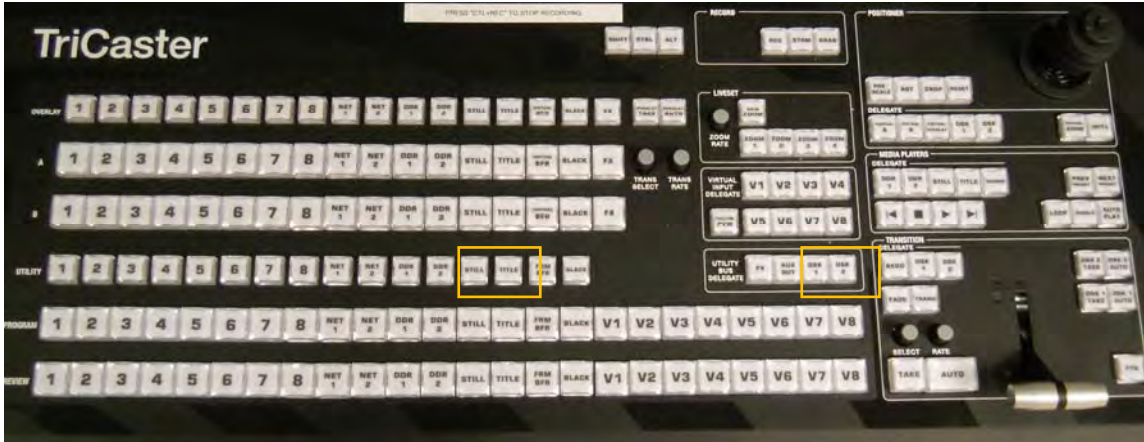
Press "DSK1", press "STILL". The still image bin is now assigned to DSK1.

Press "DSK2", press "TITLE". The title bin is now assigned to DSK2.

GLOSSARY

CUT ("TAKE" on the switcher): Instantaneous transition from one image to another. This is the most common and least distracting transition.

DISSOLVE: ("AUTO") on the switcher. One image blends into another to replace it. Use a dissolve to show a passing of time, to create a mood, or to transition to/from roll-ins

and other graphics. Speed of the dissolve may vary, depending on the intentions of the director. NOTE: Wipes and other transition can be applied to the "Auto" button.

WIPE: Typically a geometric pattern moves across the screen, replacing one image with another.

FADE: A gradual transition to or from a color, normally black. A "dip to black" is a fade to black from one image and a fade back up to another image.

> **NOTE:** The "FTB" button, located at the lower right of the switcher, overlays black on top of everything. The program screen and output will be black until "FTB" button is deactivated.

The above are called transitions. Transitions should not draw attention to themselves. They should be thoughtfully selected to best serve the advancement of the story.

DSK: **D**own**S**tream **K**eyer, used to overlay a graphic, such as text, over an image. Technical Operator will preset on instruction of director. Desired still or text will be displayed on the "Preview" screen. To bring in the TD will use:

> DSK1 or DSK2 "TAKE": Press to cut to still or text

> DSK1 or DSK2 "AUTO": Press to fade in still or text

DDR: **D**igital **D**isk **R**ecorder, used to store video clips for the session. Technical Operator will select on instruction of director. Desired still or text will be displayed on the "Preview" screen when the TD presses DDR2 Or DDR2 on the "Preview" bus. To bring in, the TD wil:

> Press "TAKE" to cut to the video clip

> Press "AUTO" to dissolve to the video clip

Director will instruct the TD to preset whatever will come up after the video clip. When the clip has almost ended, the director will instruct you to take or dissolve to what's next. It is critical that you follow this instruction instantly. Otherwise, the transition from the video clip will look unprofessional and – well – stupid.

BUS: A row of buttons used for a particular purpose, such as "preview" and "program".

Example
Using the example of a talk show

DIRECTOR'S CUE	TD'S ACTION
"Go to black and quiet on the set"	Press the "FTB" button and then hit "TAKE" to activate the Fade To Black Button.
"Roll and record"	Press "REC" button in control section. Button will turn red. To stop recording, press "ALT" and "REC"
"Ready to fade up from black, camera 2"	"FTB" button is active. Press "2" on program bus.
"Up from black on camera 2"	Press "AUTO" button to fade up to camera 2. Press "BKGD" in preparation of next camera switch
"Ready Insert (DSK 1 or 2)"	Prepare to press "DSK (1 or 2) CUT" or "DSK (1 or 2) AUTO" button
	Note: TO will have the correct graphic selected
	Note: It is possible to activate both DSK 1 and 2 at once
"Bring in insert"	Press appropriate DSK button
"Preset camera 3"	Press button 3 on the lower (preview) bus
"Ready to lose insert"	Prepare to press the same DSK button
"Lose insert"	Press the button
"Dissolve to camera 3"	Press "AUTO" button
"Ready 2"	Press button "2" on preview bus

"Take 2"	Press "TAKE" button (or Button "2" on program bus
"Preset roll-in, DDR 1"	Press "DDR1" on preview bus
"Dissolve to DDR1"	Press "Auto" button
"Preset camera 2"	Press "2" on preview bus
"Ready fade to black"	Press the "FTB" button
"Fade to black"	Press the "AUTO" button

TROUBLESHOOTING AND FINAL INSTRUCTIONS

INTERFACE AND MULTI-VIEW MONITORS ARE REVERSED**:** Contact staff

YOU HEAR A REALLY ANNOYING BEEPING SOUND: One of the power blocks within the Tricaster probably failed. Contact staff.

STRICT RULE: If you don't know what it does, **DON'T TOUCH IT!** If you are curious (and you should be), experiment AFTER the show's completion with the aid of a staff member.

END OF SHOW: Select exit (X) at upper right of interface and then the left arrow.   Don't forget to eject your flash drive or hard drive (DO NOT TOUCH DRIVES D, E, F, or G!)