NewTek
3Play® 3P1
User Guide
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PART I (GETTING STARTED)

*Introducing NewTek 3Play® 3P1 – connections and registration, a top-level overview of primary features, and a hands-on tour to get you started.*
1  ABOUT THIS MANUAL

Hate reading manuals? If so, you are part of the majority. Estimates are that between 60 and 97% of the human race concur. Most prefer to jump right in, maybe asking a friend for occasional help – and who can blame them?

This manual attempts to tell you what you need to know in a friendly, concise way, while also providing a deeper reference section you can turn to when you really need specifics.

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

**Part I – Getting Started:** introduction to NewTek 3Play 3P1 – connecting devices (cameras, monitors, etc.) and registration, ending up with the Live Production Walkthrough – a brisk jog through fundamentals, about 16 pages (if you’re a quick study, this may provide all you need).

**Part II – Reference:** chapters in this section cover every arcane detail related to using 3Play (for those who need it, and those who just like to know everything).

**Part III – Appendices:** leads off with a handy section titled “How do I ...?”, a helpful question and answer section with its own brief index. When you have a specific need, you may well find a quick answer here, along with cross references for more detailed information when appropriate. Appendix B lists shortcut keys. Part III is also home to a comprehensive keyword index.
Thank you for purchasing this NewTek 3Play®. This system is a member of the NewTek family of live video production systems and software and enjoys a proud heritage. A bona fide video pioneer, NewTek is justifiably proud of its record of innovation, ongoing commitment to excellence and superb product support.

This chapter provides a quick tour of the major components of your NewTek 3Play system.

2.1 OVERVIEW

NewTek 3Play is a multi-channel high definition video device supporting simultaneous recording, display and smooth slow motion replay of as many as eight audio and video sources.

3Play’s outputs include both traditional HD-SDI and industry leading NDI (Network Device Interface) IP output for two fully independent video channels (designated Channels A and B) to external video systems.

Alternatively, the two primary outputs support a ‘video switcher style’ program-preview workflow, complete with transitions, and even overlays. Too, 3Play supports selectively publishing data to internal and external file storage, ftp, and social media platforms on the fly.

Realtime A/V output at a given moment may consist of any combination of the following:

I. *Live* video – direct pass-through of an input source  
II. *Delayed* video – output running somewhat behind live input  
III. *CLIP LIST* – playback of a timed segments of captured (or imported) media  
IV. *PLAY LIST* – playback of a prepared playlist that may include clips or other imported media and transitions.

**Hint:** Outputting Live, Delayed, CLIP or Play List sources does not interrupt capture of live sources.

*Delayed, CLIP LIST and PLAY LIST* video streams can also be played back at variable speeds. 3PLAY 3P1 provides output in popular up to 1080/p60, along with 720p and SD video formats.
2.2 RECORDING, MARKING AND EVENTS

Recording is intrinsic to NewTek 3Play. Pressing REC on the Control Surface (or clicking the Record button in the titlebar on the Replay Desktop) activates continuous capture of all configured sources.

Typically, each recorded stream comprises output from a different camera angle. (Input sources not configured for recording can be viewed as reference and output live but are not available for replay.)

**Note:** When timecode for a session being recorded reaches 24:00:00.00, a new recording is automatically started. A few frames are lost in this process. Use the ‘Subtract 12 hours; feature in Timecode Configuration to avoid problems when necessary – see Section 8.3.

2.2.1 WHAT IS AN EVENT?

The 3Play operator uses the supplied external Control Surface to mark events. Each event entry appears in the CLIP LIST module on the Replay Desktop as a single row of clips and is identified in the left-most column of the row by an Event ID number.

*Events* can be thought of as timed segments of the recorded video, created by setting *In* and *Out points* as a live production progresses. Newly-marked *events* are successively added to the CLIP LIST for convenient recall. The (In and Out) timecode values for an event are digital pointers identifying the first and last frames of a specific portion of the recorded footage.

Thus, an *event* is not merely a *clip*. Think of it as a synchronized ‘time slice’ across all recorded video streams (or ‘angles’ if you like). You can recall and display any *clip* from an *event* instantly. This involves sending the stream from a specific camera to one of the system outputs.

**Tip:** Two different clips from one or more events can be displayed simultaneously using the two outputs.

3Play normally captures a complete, uninterrupted record of your production. The events listed in the CLIP LIST simply isolate segments in this vast volume of stored information. Add and remove *events* freely with no fear of losing recorded material. You can even add, remove, or reorganize *events* during recording, or long after your session ends.

2.3 NEWTEK 3PLAY CONTROL SURFACE

A dedicated NewTek 3Play external Control Surface (Figure 1) provides primary operational control – see Chapter 9. (Text editing and other supplementary control is supported using the keyboard.)
Note: If the Control Surface is not available for any reason, its core functions can be accessed using keyboard shortcuts.

### 2.4 STARTUP SCREEN

The Startup Screen appears when you power up your NewTek 3Play. This area offers initial configuration options along with system management tools.

The Home page of the Startup Screen (Figure 2) allows you to define and open sessions, essentially custom presets for individual productions or other purposes. If you re-open a session on some later occasion, all of its assets and settings are remembered.

After creating a session (or opening an existing one), you are taken to the Sessions page. Here you can launch the Replay Desktop, or perhaps choose to Import Media for your session.
3Play’s live production features are all available from its unique *Replay Desktop*. The various features, controls and modules on the *Replay Desktop* are essentially laid out in horizontal bands, as seen below.

- The uppermost area is the *Dashboard*, which displays important session information, and provides quick access to key features, including *Record*, *Grab*, and various menus.

- Just below the *titlebar* are desktop monitors showing 3Play’s video input and output streams. This region of the *Replay Desktop* also provides some very special features just below the primary output monitors as follows:

  - A *Channel Info* pane immediately beneath each output monitor lists important data about the video source displayed on that channel (Figure 4).

---
Some very important features occupy prime visual real estate in small panes just beneath the Channel Info displays.

A large, high-visibility field at left in this zone is referred to as the FastClip toolbar (Figure 5).

- Selecting a data field in the CLIP LIST or PLAY LIST snaps its content (whether a Memo entry, Event ID, or time value) into the dataview window in this pane. This value can then be modified by keyboard or Control Surface operations.

- Dataview content can also be used as criteria for the nearby Go To and Search features (and corresponding Control Surface buttons).

- Also, beneath the monitors are and Transport (Play, Stop, etc.) and Transition controls (Figure 6).

- The spreadsheet-like CLIP LIST is centrally located (Figure 3). Its multiple tabs (including the Search results tab) and columns help you identify, locate, manage, and replay the huge amount of audio-visual data 3Play captures.

- Just below is the PLAY LIST (Figure 3). Here you can create and control more complex sequences such as highlight reels. These can include imported graphic, animation, and video elements, as well as music and full color Animation Store transitions.

**Hint:** The optional Single Pane mode combines the CLIP LIST and PLAY LIST tabs in one pane capable of displaying many more events at once (see Section 7.4.1).

- The Tags pane at the very bottom of the Replay Desktop (Figure 3) makes entering values and comments splendidly quick and convenient.

## 2.6 FEATURES

Here’s a brief overview of just some of 3Play’s key features:
2.6.1 PHYSICAL

- Rugged 2RU or 3RU rack-mount case ensures robust and reliable performance in fixed or mobile installations.
- The 3RU model 3Play 3P1 also provides redundant power supplies.
- Massive storage capacity (e.g., a 3TB drive holds approximately 75 hours of 1080i).

2.6.2 MULTI-TIER FAILSAFE

3Play’s ‘Always on Air’ features provide multi-tiered redundant failsafe mechanisms in both hardware and software. To name just a few:

- Multiple software failsafe systems continually monitor and safeguard your live performance. Any recoverable software error conditions are quickly and unobtrusively dealt with.
- When enabled, video pass-through (see Section 8.1.2) ensures that as long there is AC power, audio and video from the highest numbered input is routed to Output 1 in a case of catastrophic software condition.
- Comprehensive integrated system restore feature. Operators can quickly and easily restore factory defaults, or create a custom restore image on another drive and either restore from that drive or use the backup drive to boot from if a complete hard drive failure ever occurs.

2.6.3 INPUT, OUTPUT & CAPTURE

- All audio and video, monitoring and network connectors are easily accessible from the rear for convenient installation in industry standard 19” rack-mount configurations. (Note, some 3Play Mini connections are front mounted).
- Most audio and video connectors are industry standard (XLR or BNC as appropriate), ensuring broad compatibility and secure, locked connections. (Mini connectors vary).
- Supply external audio via analog, SDI Embedded or NDI IP connection.
- Balanced XLR and ¼” (6.35mm) audio connectors where supplied.
- Multiple simultaneous SDI and analog output connections.
- 2RU – record up to four live video sources to internal or external media.
- 3RU
  - Record from four video sources to redundant media
  - Or record up to eight sources (without redundancy)
- Capture and play back 16:9 and 4:3 formats in both HD and SD sessions.
- Output HD sessions as SD (4:3 or 16:9) and HD simultaneously from HD sessions.
- Play list module supports inserting pre-recorded video, sound, and imagery into your live productions.
- Send both primary outputs (A and B) across your network to any NewTek or other production system, software or device supporting NDI, leaving the SDI outputs free for other purposes.
• Use one SDI output for program output, another as preview, and switch sources with colorful Animation Store transitions.
• Display highlight reels with colorful transitions, bumpers and audio bed using either output channel.
• Send supplemental video output to projection systems or secondary monitors at session resolutions up to 1920x1080/p60.

2.6.4 MONITORING

By default, the Replay Desktop includes two large output monitors at right, labeled A and B. The area on the left shows input monitors as appropriate for the number of sources you have configured for recording. For example, four input monitor viewports are displayed when operating in 4 channel mode.

Tip: The display configuration for 3Play’s secondary Multiview output is governed by controls found in the Output Configuration panel.

CHANNEL INFO AND CONTROLS

The region of the Replay Desktop just below the primary output monitors also provides some very special features. First, data pertinent to the current video source for each output is displayed in a Channel Info area immediately below (Figure 8) the corresponding viewport.

Tip: Normally, the selected Channel Delegate button on the Control Surface determines which channel – A or B – CS operations are currently governing. Note that you can also delegate a channel using the mouse, by clicking the Channel Info area beneath either the A or B monitor.

A control group located beneath the output monitors hosts Transition, Transport (Play, Stop, etc.) and DSK (Downstream Key, or ‘overlay’) controls.
FASTCLIP TOOLS

Figure 9

You’ll find additional and very important features occupying prime visual real estate just beneath the monitor area (Figure 5). A large, high-visibility window on the left of this zone is referred to as the FastClip dataview.

Selecting a data field in the CLIP LIST or PLAY LIST snaps its content (whether a Memo entry, Event ID, or time value) into the dataview. This value can then be modified by keyboard or Control Surface operations. Keyboard and Control Surface entries can also be used as criteria for the nearby Go To and Search features (and corresponding Control Surface buttons).

MULTIVIEW

3Play’s Multiview output commonly serves supplemental control room monitoring needs. External Multiview Workspaces offer many alternatives, including numerous multi-bridge layouts, overlays, and Event Clocks. The Multiview layout output is configured using the Workspaces menu in the Dashboard at the top of the Desktop (see Section 7.4.1 for a more thorough discussion).

2.6.5 VIDEO PROCESSING

Input Proc Amps allow you to adjust the video signal to harmonize color balance for all sources.

- Separate controls are provided for Brightness, Contrast, Hue, and Saturation for each video source, along with White Balance and U and V Offset.

2.6.6 RECORDING

Apart from live throughput, virtually all replay output features depends on recorded data.

Figure 10

- The Record button is located in the titlebar above the output monitors.
- Valuable information about the recording and remaining space is displayed nearby.
- Recording can also be enabled from the NewTek 3Play Control Surface.
2.6.7 BOOKMARKS

3Play’s timecode bookmark system is almost too easy to use. There are a maximum of ten bookmarks. Simply press BOOK MARK on the CS to set bookmarks in your footage (REC must be enabled). Press SHIFT + BOOK MARK repeatedly to jump sequentially back through the markers you’ve set (3Play will switch to Delayed playback mode).

2.6.8 THE CLIP LIST

Synchronized segments of the recorded data from all cameras are identified as individual events by setting in and out points. Each marked event occupies one row in the spreadsheet-like CLIP LIST. Events can be rearranged and re-trimmed in the CLIP LIST.

The different sources (or ‘angles’) available for each event (see Section 2.2.1) are presented as labeled columns (Figure 12).

Small clip monitors above each column (Figure 13) make it easy to follow the action and select the angle offering the best view of events.
The ‘angle’ columns beneath are actually *Memo* columns, and allow you to enter comments, tags, and other metadata that, with the *Search* feature, can help you quickly locate specific views for playback, inclusion in playlists, etc.

The *CLIP LIST* offers an unlimited number of tabbed pages to help you manage your recorded content. In addition, the *CLIP LIST* supports the import of media clips as well as still images for various purposes (the *PLAY LIST* also supports imported files).

### 2.6.9 THE PLAY LIST

![Figure 14](image)

Individual *clips* from *events* appearing in the *CLIP LIST* can be added to the *PLAY LIST* pane below (as can other items imported using the *Add Media* button).

The *PLAY LIST* plays all entries in sequence from top to bottom, with optional transitions between clips. Like the *CLIP LIST*, the *PLAY LIST* pane offers multiple tabbed pages, supports clip re-ordering, comments, trimming, and numerous other features.

### 2.6.10 PROGRAM TRANSITIONS

![Figure 15](image)

We mentioned *Transitions* earlier (under Monitoring), but 3Play’s powerful transition system merits a heading of its own.
3Play output can employ spectacular high-end transitions, including *Animation Store* effects that include full color embedded overlays, in several ways.

*PLAY LIST* compositions, such as highlight reels, support transitions between clips, each with adjustable timing and even accompanying transitional audio effects. Unlike many replay systems, 3Play does not tie up two different outputs to do this.

Further, 3Play even supports a ‘program-preview’, or ‘video switcher’ style workflow. The latter approach allows you use 3Play’s powerful effects system to transition between the sources displayed on Outputs A and B (see Chapter 15, Transitions).

In this (program-preview) scenario, *Channel B* stands in for the traditional program output, while *Channel A* serves as preview. This enables some unique production possibilities – such as an *Auto* between two *PLAY LIST* compositions during playback – something often only possible when system architecture includes a downstream switcher.

### 2.6.11 TEXT, TAGS AND MORE

![Figure 16](image1.png)

![Figure 17](image2.png)

A *Tags* bar is situated at the bottom of the *Replay Desktop* (Figure 17). Dragging this divider bar upward reveals tabbed panes containing rows of numbered cells. Text ‘tags’ (e.g., player names, notable play types, adjectives, etc.) entered into these cells can be quickly inserted into *Memo* fields for selected clips and can even be used as *Search* criteria.

![Figure 18](image3.png)

The *Tags* module inserts its output into the easily legible *Text Box*, discussed earlier, just like other textual input. (All text input is displayed in this box, whether it originates from the number pad on the *Control Surface*, or from the keyboard.)

**Tip:** When the *TAG* button on the *Control Surface* is lit, number pad entries are automatically translated to the corresponding tag entries. For example, in Figure 18, the Tags pane lists player names. Typing “01” on the pad sends “Jones” to the Text Box. Pressing Enter then pushes this entry into the Memo field for the selected clip(s).
2.6.12 PUBLISH

Though a relative newcomer, social media has carved an important niche for itself in the realms of video production and broadcasting. 3Play can publish both still images and trimmed, commented clips from CLIP LIST or PLAY LIST pages to popular public sites, along with traditional production storage. Media can even be published while events are still underway, while live capture continues uninterrupted.

2.6.13 MACROS

Record simple or complex combinations of operations as macros, then assign these to internal and external trigger events to be executed at will. 3Play’s Macro Configuration panel provides numerous management features, such as folders, rename, clone, and hotkey and control panel assignment, as well as Import and Export (share macros with other 3Play users). Macros can be flexibly stored as part of a session or as part of the global macro configuration available in all sessions. You can also open macros in the integrated editor and tweak them to perfection.
3 SETTING UP

This chapter explains how to properly connect power, external control devices, monitors, and audio visual sources to your NewTek 3Play® system.

It also reviews registration for warranty purposes and technical support. After completing this short section, you’ll be all set to continue into the Walkthrough chapter that follows it.

To begin, let’s review ‘what came in the box’:

- 3Play 3P1 and Control Surface
- A/C power cable(s) and 6’ USB cable
- NewTek mouse and keyboard
- Registration reminder card
- BNC removal tool

3.1 COMMAND AND CONTROL

1. Connect an external computer monitor to one of the monitor connection ports (HDMI, Display, or DVI) on 3Play’s backplate (use an adapter if necessary).

Note: The user interface requires a minimum screen resolution of 1600 x 1050.

2. Connect the mouse and keyboard to USB ports on 3Play.
3. Connect the power cord(s) from the A/C connection(s) on 3Play’s backplate to an external power receptacle (see Tip below).
4. Turn on the computer monitor.
5. Press the Power switch located behind 3Play’s hinged faceplate.
At this point, the blue ring around the power button illuminates. (If this does not happen, check your connections, and retry).

Though not a requirement, we do strongly recommend that you connect 3Play using an uninterruptable power supply (UPS), as for any ‘mission critical’ system. Likewise, consider A/C “power conditioning”, especially in situations where local power is unreliable or ‘noisy’.

Surge protection is especially important in some locales. Power conditioners can reduce wear on 3Play’s power supplies and other electronics, and provide a further measure of protection from surges, spikes, lightning, and high voltage.

### 3.2 REGISTRATION

On launch, 3Play will display an *End User License Agreement* dialog. If necessary, enter the unique *Serial Number* for your system.

Note that 3Play’s video output will show a watermark until the system is registered and unlocked using the *registration code.*

A word about UPS devices:

‘Modified sine wave’ UPS devices are popular due to low manufacturing costs. However, such units should generally be viewed as being of low quality and possibly inadequate to fully protect the system from abnormal power events.

For a modest added cost, you can obtain a "pure sine wave" UPS. These units can be relied on to supply very clean power, eliminating potential problems, and we highly recommend them for use in environments where reliability is absolutely critical.

Tip: Serial number stickers are affixed inside the system’s hinged front panel. If the serial number doesn’t appear automatically and you can’t find it on your unit, contact NewTek’s Support center – see newtek.com/support/.

You can register and obtain your registration code online (directly from 3Play or from another system connected to the Internet) as described next.

![Register 3Play dialog](Figure 19)
3.2.1 ONLINE REGISTRATION

If you have connected your 3Play to the Internet, simply click the button under Step 3 in the registration dialog. This will take you to NewTek’s website, where you will find further directions.

Tip: More information on connecting to a network can be found in Section 3.10.

Otherwise, you can visit the registration webpage from another system with Internet access. In either case, after registering on the website, transfer the registration code provided into the field at Step 4 of the Registration dialog.

Tip: It’s a very good idea to record the Registration Code. This could come in very handy if you ever need to restore the 3Play software to its as-shipped state when you don’t have convenient access to the Internet.

3.3 INPUT CONNECTIONS

3.3.1 CONNECT A/V SOURCES

External audio and video sources are connected to the appropriate inputs on 3Play’s backplate.

![2RU Model](image)

- Analog audio inputs: 1-4
- Analog audio outputs: A, B, and *Phones jack
- SDI Video Inputs 1-4 and Genlock input.
- SDI Video Outputs 1-4 and Tally connector

Note: The Phones output signal follows Aux, the active control channel delegate – A or B.

As desired, connect any local SDI video sources to one of the BNC connectors in the SDI IN section. We will discuss NDI (Network Device Interface) a/v source connections later.

Note that SDI video sources with embedded audio do not necessarily require separate audio connections.
### 3.3.2 GENLOCK CONNECTION

The *Genlock* input on 3Play's backplate is for connection of a ‘house sync’ or *reference signal* (often a ‘black burst’ signal intended specifically for this purpose). Many studios use this method to synchronize equipment in the video chain. Genlocking is commonplace in higher-end production environments, and genlock connections are usually found on professional gear.

If your equipment allows you to do so, you should genlock 3Play *and* all cameras you configure as sources for it (see your camera manual for details). To do so, supply the reference signal from the ‘house sync generator’ to 3Play’s *Genlock* input connector.

### 3.3.3 TIMECODE CONNECTION

3Play supports external linear timecode (LTC). Connect the cable from your timecode generator to analog *Audio In 3* or one of the motherboard audio input connectors. External timecode is enabled and configured in the *Replay Desktop* (see Chapter 7 The Replay Desktop).

### 3.4 OUTPUT CONNECTIONS

Next, we’ll discuss the audio and video output connectors along with relevant settings. We’ll start with video output, not only so you can view your results, but because some aspects are best considered before even beginning a 3Play session.

#### 3.4.1 A/V OUTPUT

3Play provides multiple video and audio output connection options, and very flexible ways to display your live and recorded video streams. In addition, the A and B channel outputs, ‘clean’ versions of these (i.e., without overlays), and all connected video sources are available on your network as NDI outputs.

Beyond this, the graphics card outputs supports *Multiview* options in addition to the connection displaying the user interface (the number of ports provided for this purpose varies by model).

*Notes: Multiview options and layouts are found in the Workspaces menu (located in the Dashboard). For best results, configure the Multiview Output to the native resolution of the external display (monitor or projector) connected to it.*

#### 3.4.2 CONNECTING DEVICES

As mentioned earlier, the *VIDEO OUT* section on 3Play’s backplate provides four BNC connectors. These represent:
1. *Channel A* (labeled 1 in the *VIDEO OUT* group)

2. *Channel B* (labeled 2 in the *VIDEO OUT* group)

3. *Clean Output A.*

4. *Clean Output B.*

The output connectors provide either SD or HD video output, according to the format specified for the current session.

1. Connect downstream video devices to the SDI output connectors in the *VIDEO OUT* section.

2. Connect 3Play’s audio outputs:
   a. *Analog audio* – Connect external audio devices to the connectors in the *AUDIO OUT* section.
   b. *Digital audio* – A separate digital audio connection is not necessary for SDI output with embedded audio. Digital audio is also carried over the network output along with NDI video outputs.

### 3.5 STARTING A SESSION

If 3Play is not already running, power it up now to reveal the *Startup Screen*. (If 3Play is running and is in the *Replay Desktop* or another area of the interface, you may need to use the File menu Exit item or click the *Back* arrow at upper-left in the *Session Page* to return to the *Home Page*.)

The *Startup Screen* consists of two similar screens – the *Home page* and *Session page*. Among other things, the *Home page* is where you choose basic 3Play session settings (see Section 6.1 for a discussion of sessions).
3.5.1 THE HOME PAGE

![Image of Home page interface]

Figure 21

When no previously created sessions exist, the Home page defaults to New, inviting you to create a new session.

A link labeled Session Name is shown at the top of the right-hand pane when New is selected (Figure 21). Click in this field to modify the default name 3Play supplies using the keyboard. (The default name is the current date.)

RECORD MODE (4RU 3PLAY)

![Image of Record Mode options]

Figure 22

For the 4RU 3Play 3P1 model only, continue with session creation by selecting a Record Mode (see Section 6.2.1 for an explanation of these options). Then assign drives to pairs of cameras you intend to record using options in the Storage Volumes control group below.
STORAGE VOLUMES AND SESSION VOLUME

Qualified 3Play storage volumes or volumes connected to 3Play are listed at right for each input pair. Use the drop-down menus in the Primary column assign to hard drives to different input pairs. For Redundant recording mode, continue to assign drives in the Backup column.

The hard drives assigned here can be thought of as comprising a ‘drive set’ for the session. The Session Volume menu allows you to designate the primary member of the session drive set (see Section 6.2.1 for more detail).

Tip: The Storage Volume configuration tools are designed to encourage you to record no more than two live inputs to any single volume.

VIDEO STANDARD AND RESOLUTION

For multi-standard models only, set the Video Standard as appropriate for your locale. For the moment, let’s choose 1080i for Output Resolution (even if the cameras you plan to connect are SD 4:3), then click the Create Session link below.

Note: 3Play supports a variety of optional session configurations for live production. You can choose between several HD (High Definition) and SD (Standard Definition) formats. SD options include 4:3 and 16:9 (widescreen) image aspect formats. Multi-standard models permit you to select between video standards for your locale – NTSC, or PAL.

Also please note that certain output selections – 1080/25p, 1080/29.97p, and 1080/23.98p – are actually transmitted in PsF (progressive segmented frame) format, for compatibility with a wider number of popular monitors.

3.5.2 THE SESSION PAGE

Clicking Create Session on the Home page will advance you to the Session page. Since our intention at this stage is simply to configure our connections (done in 3Play’s Replay Desktop), go ahead and click Start Session. This launches the Replay Desktop, which is the ‘live production area’ where you will spend most of your time while working with 3Play.
3.5.3 THE REPLAY DESKTOP

Initially, as you have yet to configure input devices or add content, the Replay Desktop will look a bit barren (Figure 24). We had a brief glimpse at the Replay Desktop back in section 2.5 (and we’ll examine it more closely in Chapter 5, Live Production Walkthrough), but after a quick look around let’s continue to configure your input and output connections.

3.6 CONFIGURE VIDEO OUTPUTS

3Play provides complete video input monitoring right on the Replay Desktop. This allows you to operate without even connecting downstream video monitors or devices if you wish.

Often, however, you will likely connect external devices to the VIDEO OUT connectors on 3Play’s backplate (see Section 3.4). Connect to SDI connections as appropriate, or you might connect across your network to downstream NDI-enabled systems or software.

Move your mouse pointer over the Output Configuration button, identified by gear icons located at right below each output monitor (A or B). Click here to open Output Configuration.

Figure 25
The tabs in this panel are labeled *Output A, B,* and *Genlock & Failsafe.* (See Section 8.1 for more detail on the *Output Configuration* panel.)

**3.6.1 AUX**

3Play 3P1 has an additional output, not shown in the *Output configuration panel.* The *Aux output* displays the video source designated by the *Channel Delegate* active on the *Control Surface* at the moment.

**3.6.2 MULTIVIEW**

*Multiview* options and layouts are found in the *Workspaces menu* (located in the *Dashboard*). For best results, configure the *Multiview Output* to the native resolution of the external display(s) connected to it. See Section 7.4.1 for details of the *Workspaces menu.*

**3.7 CONFIGURE NDI GENLOCK & FAILSAFE**

1. Click the *Genlock & Failsafe* tab in the *Output Configuration* panel.

2. Under the *Reference Clock* field, there are several options to Synchronize the Real-Time Clock. If your 3P2 is running hardware, it will default to Internal Video Clock, which means it is clocking to the SDI output.

3. With the aid of downstream *Waveform* and *Vector Scopes,* adjust 3Play’s *Horizontal* and *Vertical Position* and *Phase* settings.

Again, ideally the cameras themselves as well as 3Play should be genlocked. If cameras are not genlocked to the same reference signal as 3Play, a TBC (Time Base Correction) operation is automatically applied. Time base correction may drop or insert frames as necessary to maintain sync, a less desirable approach.
3.8 CONFIGURE VIDEO INPUT

Let’s continue by configuring the video sources you connected earlier (Section 3.3):

1. With the Replay Desktop open, roll your mouse into the footer below any input monitor.
2. Notice that a Configure button (gear icon) appears right below the input monitor as you do so.

![Camera 1 Configuration](image)

Figure 28

3. Click the Configuration button (gear) for Camera 1 to open a settings panel (Figure 28).
4. Click the Input Settings tab.
5. Click the Connection Type menu to reveal a listing of various options.
6. The Format menu will usually auto-detect the correct setting, but you can make a manual selection here for the video source you plan to connect to this input if auto-detect is unsuccessful.

At this point you should be able to view the (configured) sources on their respective monitors. Before closing the Configuration panel, let’s continue to configure the related audio source.

3.9 CONFIGURE AUDIO

The Audio control group in the lower part of the Configuration panel has Input Type and Gain control features for the external audio source in the same input group as the current video input.
The upper menu permits you to choose a different audio input to be captured with the video clip for this camera. You can also disable audio for this input using the switch provided. *Input Type* options are displayed as appropriate for the *Source* selected above.

**Note:** Analog levels conform to SMPTE RP-155. The maximum input/output level is +24 dBu, nominal input level +4 dBu (-20dBFS), and the sample rate is 48 kHz.

The *Gain* slider defaults to 0dB on first launch. After adding audio sources, slowly adjust the slider to achieve an appropriate signal level (use the VU meters in the titlebar above the monitor as an aid.)

**Tip:** Most numeric controls in on the Replay Desktop can be reset to their defaults using **Shift + double-click** on the control knob.

### 3.10 NETWORKING

Here is the basic procedure involved in connecting to a network:

1. Connect a suitable cable from one of the ETHERNET port on 3Play’s backplate to your external network.
2. (If necessary) – close the Replay Desktop; click the Back arrow to return to the Home Page.
3. Click Shutdown, then select Exit to Windows at right to access the operating system’s own desktop.
4. Right-click on the *My Computer* icon and select *Properties*.
5. Scroll down in the right hand pane of the *System* panel that opens to find the *Computer name, domain, and workgroups* settings area.
6. Click the *Change Settings* link at right.
7. Click the *Computer Name* tab of the *System Properties* panel that opens.
8. Click the *Change* button, and enter the name of your local workgroup, as provided by your system administrator.
9. Close the OK button.
10. Close the *System* control panel.
11. At this point, the network connection should be functional. If further help connecting is required, please consult your system administrator.
Having made the essential external connections in the previous section, you’ll want to start your first practical live production session, and skim through some important fundamentals. This would be a good time for us to introduce you to a special feature of your system: 3Play has its very own webpage referred to as LivePanel.

### 4.1 PASSWORD PROTECTION

First though, let’s note that (for security reasons) features that can control your production over the network are under password protection by default. Initially, the username and password are both set to “admin.”

To enable or disable this security feature, or to modify the password, select **Utilities** from the **Home page** menu and select **Set LivePanel Password** under **System Utilities**.
4.2 ACCESS TO WEBPAGE

To access the webpage, click the Notification button at extreme upper-right in the Dashboard at the top of the Live Desktop as shown in Figure 31.

Figure 31

Click on the Web Browser button at left in the footer of the Notification Panel. As mentioned above, you will be asked for a username and password to access the webpage.

4.3 RESOURCES

Figure 32

The basic webpage system provided features a Resources page, discussed shortly in the context of the more sophisticated LivePanel implementation. In addition to the Resources page, you will find pages listing system keystroke shortcuts, keystrokes, as well as a reference to your 3Play system.

The Resources page is always available, and – by virtue of links to online documentation and assets – and thus is also always up to date and relevant. You can, for example, access the Resources page from a tablet or other...
mobile device to follow along with the steps outlined in an online video tutorial, or view details of a feature in the *User Guide* while operating live.

**IMPORTANT NOTE:** This view is provided so you can preview the NewTek LivePanel features. It is not intended that you use the NewTek LivePanel web apps in a browser running on the local system.

To view the *LivePanel* webpages externally, simply connect any suitable device (be it a laptop, tablet, or desktop computer) to the same network, open this external device’s web browser and navigate to the URL shown beside the *Web Browser* button.

Once opened you will see a list of categories to chose from on the *Resources* page.

- **Documentation**
  - User Guide – the document you are reading
  - Macro and keyboard shortcut listings, and more
- **Training** - Online video Tutorials and Operator Certification programs
- **Support** – Customer Service and product protection programs
- **Extras** – Download updates, codecs and utilities
- **Communities** – Forums, blogs, YouTube videos, Facebook and more

**4.4  LIVEPANEL**

LivePanel provides potent tools to extend your production workflow. For full access to all of LivePanel features, visit our LivePanel webpage for separate purchase. For a deeper dive into LivePanel features provided in your 3Play system, see Chapter 19.

Among other features, LivePanel included in your 3Play system lets you create custom control panels for your NewTek system accessible in a web browser of a device on your network. LivePanel also provides production-ready tools such as *Control Surface* functionality that mimics the physical control surface, and categorized lists of *Shortcut Commands* and *Keystrokes* for your system.

**Hint:** Access to LivePanel does not require an external Internet connection, though some of the links provided on the Resources page will fail without one.
4.5 VIDEO TRAINING

NewTek is in the video production business, and it couldn’t be more appropriate for us to provide online classes to help you get the most out of your system. NewTek University provides an opportunity to gain the skills and knowledge you or your team need to succeed. Classes range from 3Play Operation to Live Production with TriCaster to NDI and Performance Media Networking. Also included are a sample of NewTek University online classes with several free courses.

Visit our webpage to find more or see our YouTube channel for a long list of tutorials for NewTek products designed for all users, novice, or adept. From initial product registration to live production, streaming and exporting to social media services, you’ll find it illustrated and explained here. It’s very likely that you will be able to easily learn the basics of live production with NewTek systems by viewing these videos.

4.6 OPERATOR CERTIFICATION

NewTek’s official Operator Certification program might interest you too, both as a way to obtain relevant skills and knowledge as well as to assure potential clients that your attainments have been validated and recognize
This chapter provides a quick hands-on tour of the major components and functions of your NewTek 3Play®. In a very short time, these basics will be second nature to you.

More detailed reference material on all aspects of 3Play follows in Part II (Reference).

Having made the essential external connections in the previous section, let’s start your first 3Play session, and skim through some important fundamentals:

- Session configuration and launch
- Monitoring and related features
- Recording and marking events
- Playing clips
- Working with metadata
- Creating a highlight reel.

5.1 CREATING A SESSION

We ran through the basics of starting new sessions and configuring devices back in sections 3.5 through 3.7. (If you need to review this information, go ahead and do so now. We’ll look at these items individually again later in Part II (Reference), too.)

1. On the Startup > Home page, click the New Session link at left (Figure 33), and configure a new 1080i session. Name it “Practice Session” (without quotation marks).
2. As part of the session setup process, assign different camera pairs to individual drives, under Storage Volumes.
3. The Startup > Session page will appear when you click the Create Session link at right.

(Glance around this screen, which provides some useful session asset management tools, but we’re going to press on to other features right now.)

4. To move on, click Start Session (Figure 35) to launch the Replay Desktop.
5.2 THE REPLAY DESKTOP

5. At this point, you should see the (unpopulated) Replay Desktop – see Figure 36.

6. We discussed configuring input and output connections and devices for new sessions back in sections:

   - 3.3 (Input Connections)
   - 3.6 (Configure Video Outputs)
   - 3.6.2 (Multiview)
   - 3.9 (Configure Audio).

   Review these points if necessary and set up your connections (we’re assuming at least 3 cameras are connected as we continue).
5.3 CHANNEL AND SOURCE DELEGATES

7. Press A on the Control Surface to set the current Channel Delegate.

Note: See Section 9.1 (Dual Channel Replay) for details of 3Play’s A and B channels.

8. Press LIVE to set the Source Delegate – see Section 9.3.

9. Hold down the ANGLE button, push 3 on the number pad, and release the ANGLE button to delegate the live source from 3Play’s input 3 to Channel A.

10. Push B on the Control Surface to change the Channel Delegate to B.

11. Press LIVE again, to set the Source Delegate for Channel B – note that outputs have independent Source Delegates.

12. Hold down ANGLE again and push 1 to delegate input 1 to Channel B.

5.4 RECORD

13. Watching Channel B, push the STOP button on the Control Surface. Hmmm, that didn’t seem to work. Let’s try something else.


This is because we did not first enable recording. Stopping (or jogging) the Speed of a LIVE source would automatically kick playback into Delayed playback - if it could. However, this requires 3Play to be recording.

Let’s try all of those steps again, after enabling recording. Remember that Speed (for Channel B) is still set to around 50% (Channel A is still at the default speed, 100%)

15. Press the red REC (Record) button on the Control Surface, to enable capture.

Notice that the Record button on the Replay Desktop lights up, and a nearby time counter starts keeping track of the total video recorded in the current session.

Also, a new ‘single-frame’ duration event row was added to the CLIP LIST, with memo entries indicating that recording was started (this even is referred to as a “record event”).
Note: Recording is also initiated automatically if you press either IN or OUT. To end recording, hold SHIFT down while pressing REC.

16. Press STOP – note that video playback on Channel B is arrested (Channel A is unaffected and continues playing).

17. Press PLAY. Playback on Channel B resumes in Delayed playback mode, at 1/2 normal speed.

Tip: In this state, the Channel Info pane below the monitor for Channel B a “DELAYED” label. The timecode field will fall progressively further and further behind Live, thanks to the slow motion playback speed. The Channel Info pane also shows the active Speed value as a percentage.

18. Press the T-Bar to the top (100%) setting. Notice that the ‘behind live’ time display locks, since output (though Delayed, not LIVE) is no longer falling further behind.

5.5 MARKING EVENTS

With recording enabled, continuous capture of inputs configured for recording when creating the session (in Startup) is taking place. (Notice that the CLIP LIST shows an event row in its tabular pane that tells you when recording commenced.)

5.5.1 TWO -BUTTON MARKING

19. Push the IN button, which is how you set an In Point for a new event. Note that when you do this, a new event row is added to the CLIP LIST.

This new event can be referred to as an ‘incomplete’ event because it has an In Point but no Out Point.

20. Keep an eye on the In Point column for this incomplete event and push IN again. Notice that the In Point updates when you do this.

21. Complete the current event in the CLIP LIST by pressing the OUT button on the Control Surface.

Note that the event now has both an In Point and an Out Point, and the (calculated) Duration for the event is also now shown.
22. Roll the mouse pointer over the Dashboard and click the Options menu that appears. Select the menu item labeled One Button Marking. This lets you change the default duration value for this handy feature. (The default setting is fine for our current purposes, but we wanted you to note this useful item.)

Tip: Below the One Button Marking menu, notice the Out Point Padding setting. The default setting is ‘Infinite’ … possibly just a bit optimistic (unless you have exceptional longevity and a bottomless hard drive), but handy nonetheless when you want playback to continue past the end point of clips you play, rather than stop when the Out Point is reached.

5.5.2 ONE–BUTTON MARKING

23. Finish marking any incomplete event, if necessary, by pressing OUT.

24. Wait for a few more seconds to elapse, and then press OUT only – without pressing IN first.

25. Repeat this step several times, allowing a few moments to pass between repetitions.

Notice that – even though you haven't pressed IN first – new ‘complete’ events have been added to the CLIP LIST. As expected, the duration for each of these new events is four seconds. The Out Point was set when you pressed OUT, and a suitable In Point is assigned as required.

5.6 LIST NAVIGATION

26. Press the |◄ (Previous) button on the Control Surface.

Nothing happens. This is because you are still in LIVE mode.

27. Press the CLIP LIST Source Delegate button. A bright border is added to the CLIP LIST module, and the background of the Channel Info pane under the (B) monitor changes from green (representing LIVE) to blue (CLIP LIST).

28. Now that the CLIP LIST is delegated to Channel B, press the |◄ (Previous) button again. You’ll see that the view on the current output updates to show the prior event (the row above in the CLIP LIST), and the blue highlight in the CLIP LIST moves to the Memo column of a clip in that event row.
29. Press ▶ | (Next) to return to the original event.

30. Let’s try something slightly different. Find (or create, using IN/OUT) a clip that is at least 15 seconds long. Keep an eye on the output monitor as you perform the next steps.

31. Press ▶ (PLAY) to initiate playback, wait just one second—then press | ◀ (Previous).

Did you notice what happened?

- Playback of the current clips was interrupted
- The playhead jumped back to the same angle of the previous event row
- Playback resumed from the first frame of that prior event

Let’s repeat this now, but with one slight change:

32. Perform steps 31 and 32 again, but this wait five seconds or so before pressing the | ◀ (Previous) button.

This produced a different outcome:

- Playback of the current clip was interrupted
- The playhead jumped back to the first frame of the current clip
- Playback resumed

**Tip:** Simply tapping the | ◀ (Previous) button during play in this manner provides a very useful ‘Let’s see that again’ function.

Keep an eye on the CLIP LIST for this next bit:

33. Press STOP. Try out the left, right and up down arrow keys. The thing to notice here is that the video shown on the corresponding channel’s output monitor updates immediately as you navigate around in the CLIPS LIST (or PLAY LIST, for that matter).

Let’s vary the above in one respect:

34. Navigate to a clip, and press PLAY.

35. Now try using the arrow keys to move around in the list.

**Tip:** If currently delegated source is LIVE, use of the arrow keys normally returns you to either the CLIP LIST or PLAY LIST, whichever you used last. However, if you marked a clip since switching to Live passthrough, control always goes back to the CLIP LIST selection when you use the arrow keys, providing another way to quickly return to the most recent clip.
Notice that the blue selection highlight moves from cell to cell as it did before, but the red ‘play indicator’ remains on the current row in the Event ID column at left. The clip shown on output does not update as a result of selection operations during playback.

This is a deliberate design feature, allowing you to perform commenting and other clip management chores without interrupting playback.

**Note:** You can even use the keyboard or mouse to edit PLAY LIST entries without interrupting a CLIP LIST angle playback, and vice versa. However, changing source delegates using the CLIP LIST or PLAY LIST buttons on the Control Surface updates the source on output immediately – whether playback was underway at the time or not.

### 5.7 MEMOS AND TAGGING

36. Delegate the CLIP LIST, if necessary.

37. Observe that some rows probably contain “record events” (see Section 5.4) from prior experimentation. Navigate to an event with no Memo field entries and select a Memo cell.

38. Use the keyboard to type “touchdown” (without quotes). Observe that your text entries appear immediately in the FastClip dataview (Section 2.6.4) but are not immediately added to the selected Memo cell (Section 2.6.8).

39. Press the ENTER key on the Control Surface (or keyboard). Note that this pushes your input (touchdown) into the currently highlighted Memo field.

Let’s do this again, with a twist:

40. With the same Memo entry selected, type “field goal”. Your new entry will replace the previous content of the dataview, but to this point, the existing Memo (“touchdown”) is not modified.

41. This time, hold down SHIFT before pushing the ENTER button on the Control Surface (or keyboard).

The use of SHIFT with ENTER produced a different result. Rather than merely replacing the current Memo entry with the new value from the dataview into the only, it pushed “field goal” into all Memo cells for the current event row.

The FastClip dataview:

The dataview displays cached textual data. Think of it as a simple ‘box’. You put ‘stuff’ in the box. Afterward, you ‘do things’ with the box contents.

What makes this ‘box’ special is that there are so many ways to quickly and easily put ‘stuff’ into it; and so very many different and useful ‘things’ you can do with its content afterward.

For full details, please see Sections 2.6.4, 9.14, 9.15, 12.3.1, 12.3.2, 12.3.3 and Chapter 14.
The SHIFT plus ENTER combination supports one other very useful outcome, too:

42. Hold down SHIFT and use the Arrow keys to multi-select several Memo cells (whether in the same event rows or not).

43. Type “foul” into the dataview, then hold SHIFT down and punch ENTER. Note that all selected cells are updated.

Let’s try one more trick while we’re at it (you’ll discover many more as you come to fully appreciate the FastClip workflow).

44. Select a single Memo cell that already has content. The value from the Memo is automatically snapped into the dataview.

Figure 39

45. Now, punch ENTER (Control Surface or keyboard), then look at what happened in the dataview.

In this case, rather than merely updating the Memo field with its own existing value, pressing ENTER did something special in this case. The text entry cursor in the dataview automatically jumped exactly one space to the right of the current Memo field value (Figure 39). This is the perfect place for it to go when you want to quickly append something to the existing entry – say, a player name, or other metadata.

46. To finish up, type “smith”, and then punch ENTER to update the selected Memo.

Tip: You can set the dataview to this ‘ready to append’ state by punching either ENTER on the Control surface or mouse, or by pressing F2 on the keyboard.

Of course, thoughtful use of Memo cell entries (along with SEARCH, discussed shortly) make it easy to find specific clips for playback, PLAY LIST preparation, Publishing, or other clip management purposes.

5.7.1 TAGGING CLIPS

Let’s see how 3PLAY’s TAGS module makes Memo cell entries even faster.
“Tags” are predefined text entries, prepared in tabs of the TAGS module, located across the bottom of Replay Desktop.

47. If it’s not already displayed, hold down SHIFT while pushing TAGS on the Control Surface.

Tip: SHIFT + TAGS toggles the minimize/restore control of the TAGS pane. See Chapter 14 for full details on the TAGS pane. Section 14.3 discusses other ways to display or hide it.

CONFIGURING TAGS

By default, the TAGS pane in new sessions has 3 tabs, labeled as shown in Figure 40. Assuming you have not already configured some tags, the tabbed tables in the TAGS pane will be empty.

Let’s add just a few sample tags to work with.

48. Click the Edit Tags button, and click the tab labeled TEAM.

Tip: Navigate TAGS pane tabs using the Control Surface by holding down SHIFT when pressing either of the TAB buttons.

49. Click on the first cell and type “home” (without quotes) on the keyboard.

50. Press ENTER – the cursor will automatically advance to the next cell and await further input.

51. Type “visitors”.

At this point, the entries in your first TAGS tab should resemble Figure 40. Let’s add some entries to the other default tab, and then stop to review what we’ve accomplished.

52. Press SHIFT plus the TAB RIGHT button to show the next TAGS tab (named PLAYER by default).

53. Enter “Baker” into the first empty cell (at row:column coordinates 0:2), and “Smith” into the cell at coordinates 0:3.

54. Continue adding text values to the PLAYER tab cells until first two rows are full.

55. Press SHIFT + TAB RIGHT again, advancing to the third tab. Add “touchdown” to the 0:1 cell, and “foul” to the cell at 0:2.

56. Add more values to this tab if you like, and then turn off the Edit Tags button.

USING TAGS

Having prepared some tags, let’s try this feature out.
57. Use **SHIFT + TAB** as required to select the first TAGS pane tab (TEAM).

58. Make sure the **Auto Advance** button (at right in the TAGS pane titlebar) is turned on.

59. Enable the **TAGS** button on the **Control Surface**, delegating the number pad to tag mode.

60. Activate recording.

61. Push **OUT** on the **Control Surface** to add a new event to the **CLIP LIST**.

**Tip:** In our example, all entries in the first TAGS pane tab are on its top row. Thus, we don’t enter a row number to identify a tag cell. That’s why the bright green background appears behind the column numbers in this case. This green ‘hint’ informs us which digit(s) to enter next to specify a tag – in this case, just the column number.

62. Press the number “1” on the **Control Surface** number pad (don’t press **ENTER** just yet).

Observe, first, that the text value “home” has been added to the **FastClip dataview**. This is the value from the 0:1 cell in the TAGS pane. Also, notice that the TAGS pane’s **Auto Advance** feature automatically presented the next tab (PLAYER), and awaits further input.

Let’s add some more metadata to complete our Memo entry for this clip.

63. Enter “03” using the number pad – again, do not press **ENTER**.

64. Now enter “02”, using the number pad.

The **dataview** should now show the value “home smith foul”. By entering just 5 digits, we have formed a little metadata ‘sentence’. (Of course, your working TAGS entries could be more or less complex, and diverse.)

65. Push **ENTER** to complete the tagging operation. (Remember that **SHIFT + ENTER** would have pushed the value shown in the **dataview** window to all angles for the current event.)

**Tip:** Tagging works whether the TAGS pane is displayed or hidden. Often-used tag numbers quickly become second nature, and of course it can be useful to match tag coordinates with player numbers. You will soon be writing “Memoires of a Replay Artist” using nothing but tags.

### 5.8 SEARCH AND GO TO

Let’s experiment briefly with **SEARCH** and **GO TO**.

66. Tag or otherwise add comments to the Memo cells for a few different clips in different events. Use different entries for some clips, but matching entries for others. In one or two cases, add
67. Navigate to a *Memo* field – its current value is snapped into the *dataview*.

68. Push *SEARCH*.

The current *dataview* value serves as criteria for the search. Immediately, all events which have at least one clip with a matching *Memo* entry are displayed in the *Search Results* tab.

*Tip: Search looks for matches for each element ('word') in the search criteria. If any single element is located in a Memo cell for a clip, the entire event - all angles - is displayed in Search Results. See Chapter 14 for full details.*

A broad search criteria value can be useful at times but may produce more results than you wish. For example:

69. Add *Memo* fields for clips in different events with the following entries:

   a. home smith tackle
   
   b. visitor smith foul
   
   c. smithers

70. Search for “smith” (without quotes). All three events with the entries above in their *Memo* cells will appear in *Search Results*.

71. *TAB* back to the original *CLIPS LIST* tab and use the keyboard to replace the current *dataview* value with “smith foul” – but this time, *do* include quotation marks as shown.

This time you will get a single match in *Search Results*. *SEARCH* treats text enclosed in quotes (single or double) as one search element. Note that the search algorithm is very literal; in the example above, “foul smith” would not have produced a single match.

Let’s try one more thing (again, much more on these topics can be found in Chapter 14).

72. Perform a search (your choice!) that produces a number of matches.

Now, in a real working session, you might have many tabs full of marked and commented clips. A quick, broad search will often produce numerous matches. Your eye quickly picks out that special one you are interested in, but you’d like to find its actual CLIPS LIST location, for other management operations.

73. Navigate to the event row you’re after in *Search Results*, then punch *GO TO*.

That one event is immediately highlighted in its original *CLIP LIST* tab, ready for further manipulation.
Tip: GO TO normally takes CLIP ID numbers as input. Alternatively, with a timecode entry in the dataview, push SHIFT + GO TO. This engages Delayed playback mode and jumps the playhead immediately to the specified timecode.

5.9 TRIMMING EVENTS

74. Use the Arrow keys to navigate the CLIP LIST selection highlight into the In Point for an event.

Normally, jogging through clips with the JOG wheel is bounded by the In Point and of the selected event. What if you want to move outside those limits to re-trim a clip?

75. Hold down SHIFT while jogging. This lets you move into ‘uncharted territory’. Watch the current timecode value in the Channel Info pane as you do so.

76. With SHIFT still depressed, press IN to update the set In Point for the event.

Tip: The same method allows you to edit the Out Point. Alternatively, you can drag left or right with the mouse over a numeric field or use direct text entry to modify the value in the dataview and then press ENTER to complete the update.

5.10 MANAGING EVENTS

77. With the mouse, drag either the Event ID column entry or the Memo field for any clip in an event up or down and release it, to re-order the events in the CLIP LIST.

78. Test the use of COPY, SHIFT + COPY (PASTE) and PUBLISH to remove events or PLAY LIST clips or move them between tabbed panes.

Tip: You can also use standard shortcut keys (Ctrl + x, Ctrl + c, and Ctrl + v) to manage clips, or right-click Event ID or Memo fields to show a menu with Cut, Copy, Paste, Audio Level and Add to Publish Queue options.

5.11 PREPARING A PLAY LIST

5.11.1 ADDING CLIPS

79. Select the Memo field for a clip in the CLIP LIST, and then press ADD TO PLAY LIST on the Control Surface. (A single clip is added to the PLAY LIST.)

80. Select the CLIP ID cell for an event instead of a Memo, and press ADD TO PLAY LIST. (Clips from all camera angles for the event are added to the PLAY LIST.)
81. Hold down SHIFT and use the arrow keys to multi-select several clips by highlighting their Memo fields. Press ADD TO PLAY LIST. (All selected are added to the PLAY LIST.)

82. Using the mouse, drag the Event ID field for an event row onto the PLAY LIST pane. (Clips from all camera angles for the event are added to the PLAY LIST in order.)

5.11.2 EDITING AND PLAYBACK

83. Use the controls in the Audio columns of the PLAY LIST to adjust audio levels for the clips.

84. Click a cell in the Transition column and choose a different transition from the palette that pops up.

Tip: To select a transition that isn't currently shown in the palette, roll over one of the nine icons, and click the + sign button that appears to see the Media Browser, which will let you pick another transition to replace the current palette entry.

85. Roll the Jog Wheel to move through the PLAY LIST sequence and watch the output monitor. As play moves from the Out Point of one clip to the In Point of the next, note that the red ‘currently playing’ highlight in the Clip ID column at left tracks the current playback position.

86. Click the Music Track switch in the PLAY LIST titlebar, and then select Browse from the nearby drop-down menu to select a music file.

87. Click the gear button to the right of the music menu to access the music volume control, press Play, and notice that playback commences from the current position.

5.11.3 SPEED CONTROL

You can set Speed independently for each clip in the PLAY LIST, in similar fashion to setting audio levels. But you can also make interactive speed adjustments even during playback.

88. Press Play, and then adjust the T-Bar while watching the output monitor, and the speed percentage readout in Channel info.

T-Bar and the setting for each PLAY LIST clip in its Speed column combine to produce the actual playback rate. For example, if the clip’s Speed in the PLAY LIST table is 50%, and the T-Bar is also at 50%, the actual playback rate will be 25%. Note that the Channel info display only reflects the current T-Bar position.

Tip: Note that although the maximum Speed you can set using presets or the T-Bar is 200%, but the PLAY LIST control let you set Speed all the way up to 400%.
5.12 RENDERING A PLAY LIST

89. Click the Export to CLIP LIST button in the PLAY LIST titlebar.

Selecting this item ultimately melts the entire PLAY LIST project down to a new clip and adds it to the CLIP LIST.

Note: Rendered PLAY LISTS, like other CLIP LIST entries, can be exported (to various popular file formats or as-is) using the Export feature in the Replay Desktop’s Dashboard – see Chapter 17.

90. As we’ve reached the end of our introductory walkthrough, press SHIFT + REC to stop recording.

91. Then select Exit in the File menu to return to the Session page in Startup.

92. Press the large ‘arrow icon’ at upper left to return to the Home page, then click the Shutdown icon

93. Select Shutdown 3Play to power the unit down.
PART II (REFERENCE)

A thorough examination of the various aspects of your NewTek 3Play 3P1; every button, menu item, feature and control is considered in this section so you can take full advantage of your system.
6 THE STARTUP SCREEN

The Startup Screen is the gateway to your NewTek 3Play® functionality, and also home to session management and system maintenance features.

Icons on the left in the Startup Screen provide access to numerous functions. We’ll discuss each of these in the pages that follow, but first – a review of the concept of sessions.

The Startup Screen appears whenever you launch NewTek 3Play. From here, you create, configure, manage, and launch 3Play sessions by making selections from the icon ring.

![Startup Screen Image](image)

Figure 41

Your intention may be to participate in a live production or perform asset management functions within an existing session. In either case, let’s consider a fundamental concept – the session. What is a session, and why are sessions both important and valuable to you?

6.1 INTRODUCTION TO SESSIONS

Whenever you work with your 3Play system, you provide certain information about the production environment:

- **Session Name**: Enter the name of the session.
- **Session State**: Select the state of the session (Running, Pause, Stop).
- **Storage Volume**: Select the storage volume for the session.
- **Input**: Select the input to be used for the session.
- **Output**: Select the output resolution for the session.
- **Video Standard**: Select the video standard for the session.
- **Audio Standard**: Select the audio standard for the session.

**Session Information**

- **STORAGE VOLUME**: Choose from the available storage volumes.
- **INPUT**: Select from the available inputs.
- **OUTPUT**: Choose the output resolution.
- **VIDEO STANDARD**: Select the video standard.
- **AUDIO STANDARD**: Choose the audio standard.

**Create Session** button to create a new session.
• What broadcast standard is used in your locale? Is it PAL, common in Europe among other places, or perhaps NTSC, standard throughout North American regions?

• Are your cameras or other live sources HD, SD, or a mixture of both?

• How are cameras connected (are you using component or SDI connections, or a combination of several types)?

As you continue, you may make other adjustments relevant to your current production requirements:

• You might calibrate your cameras individually using the Proc Amp settings in the Input Configuration panels.

• Perhaps you will also use Display Proc Amps to adjust output color characteristics.

• What are your output device connection preferences? For example, will you send video from Channel A to a local reference monitor using component cabling, or perhaps another connection type? Will you connect a downstream switcher to Channel B using HD-SDI? What external audio connections and adjustments are required?

• You might create PLAY LIST pages of clips and other content, along with pages full of recorded events in the CLIP LIST.

The list of adjustments, activities and assets involved in a specific production goes on, but the main point to grasp here is that the session entails all of the above, collectively. Assuming you do not deliberately delete the session, all of your media and all of your settings are ready for immediate recall.

When you re-open an existing session, it’s just as if you were continuing an earlier event. Thus, if you return to the same venue another day under basically similar conditions, you can opt to simply re-open your prior session and be virtually ready to go. (Professional wisdom, of course, calls for testing everything before actually beginning the event.) Naturally, you can store multiple sessions and load any session freely. This greatly simplifies business models that involve regular trips to several venues, a number of similar consecutive events, or different users with their own specific needs.
6.2 THE HOME PAGE

Having discussed sessions, let’s go on to consider how you create them, and choose which one to work on when you have several to choose from. This and a few other top level functions are found in the 3Play’s Home page.

This is the first thing you encounter on launching 3Play. Figure 43 shows the Home page menu.

When you click a link in the menu (such as New or Open), the right-hand pane of the Home page updates to provide options related to your selection.

For example, the first thing you will generally do is create a session. (In anticipation of this action, the New link is automatically pre-selected on launch.) This results in the corresponding session options pane being displayed, as shown in Figure 43.
6.2.1 NEW (SESSION)

As just mentioned, clicking New populates the pane at right with related options. Principally, for each session you must designate (by selecting switches) your local video standard – select NTSC, or PAL and session format – e.g., 1080/60p, or perhaps 1080/60i, etc.

SESSION NAME

You will see a name entry field above the session options in the pane at right. Click in this name field to provide a suitable name using your keyboard.

TEMPLATE

The Template drop-down menu lists all existing sessions currently available on the system.

If you select one of the entries, the new session will retain all custom settings of the source session but will not include its CLIP LIST or PLAY LIST media content.

RECORD MODE

Figure 46
For 3RU models, two optional session modes offer either *Redundant (4-channel)* recording or *Standard (8 Channel)* working modes. Generally, hard drives can capture input from two live sources, while keeping up with concurrent playback demands.

**REDUNDANT (4-CHANNEL)**

In this mode, data for each input channel is mirrored to a second drive, providing failsafe storage and convenient sharing options for your critical footage. This limits capture to four sources (one pair of sources on each pair of drives, as it were).

*Tip:* The duplicate copies provide redundant data security, and also permit you to offload a complete record of the production for archival or post-production purposes while still having a working session on 3Play (the Session Volume must be mounted in this case).

**STANDARD (8 CHANNEL)**

Standard mode stores just a single copy of your recorded data, freeing up storage volumes to be assigned to more cameras.

**STORAGE VOLUMES**

![Image of Storage Volumes](image-url)

Beneath this you will notice a control group labeled *Storage Volumes*. In this section, you will assign one or more storage devices to be used for replay clips you will record, and other assets associated with the session.

*Tip:* The titlebar of the Home page has an Eject button to allow you to disconnect and remove storage media.

Suitable hard drives added to a removable drive bay or otherwise connected are listed in the *Drives* column. 3Play attempts to make an appropriate initial guess at how best to distribute the drives it detects, but you can manually select drives as well.

*Note:* In Standard (8 Channel) session mode, the Backup column in this area is not used.
Again, it is recommended that no more than two sources be assigned to a single volume in either the Primary or Backup drive assignment columns. If too few drives are mounted, it will not be possible to assign drives to all camera pairs.

Note: In some cases (i.e., very fast volumes) you can sidestep the restriction above (volume labels are orange if more than one input pair is assigned). However, menu rows for inputs are enabled according to the number of drives detected. Even with the world’s fastest, biggest storage volume connected, another qualified drive must be detected before you can configure the second camera pair (3, 4), and so on – even though you don’t plan to use the extra drive(s).

Use the drop-down menus under Inputs to assign drives for recording camera pairs listed in the same row.

SESSION VOLUME

You could think of the Session Volume as storing all of the ‘non-a/v data’ required by a session, including input settings, metadata, etc. Normally, the actual a/v files will be located on multiple drives, but the Session Volume you choose in this menu can be considered the ‘master’ and must be mounted to open (or re-open) a session.

VIDEO STANDARD AND RESOLUTION

The format of video output by 3Play varies according to the session type. The session settings also affect capture. For example, if your session format is SD 4:3, this is the format normally captured by the Record function, even when the input Connection Type might be HD to accommodate a specific camera; the converse is also true. The frame is scaled and cropped as required to properly match the session setting, regardless of input type.
3Play also provides Video Standard options, allowing you to choose between NTSC or PAL for your session, according to your local regional requirements. The Resolution radio button groups allow you to further configure the recording and output format for the new session.

**Note: See Section 8.1 for more information on Video Output configurations.**

Having made your selections, you would normally click the Create Session button at lower right (then Create Session to launch the Replay Desktop); but first, let’s explore the features of the Home page a bit more.

### 6.2.2 OPEN (SESSION)

If there are existing sessions on any currently mounted drive(s), the Home Page menu will default to the Open link (Figure 50).

![Figure 50](image)

When Open is selected, the Sessions List appears at right. This pane shows all sessions stored on currently mounted drives. The Session Name and video format for each is listed separately under a header named for the storage volume they are located on (Figure 51).

![Figure 51](image)

**Note: Media configured as Read-only is not shown for the New or Open (session) features, since they cannot be used for sessions. However, Read-only media can be used for import purposes.**
CONTEXT MENU

Right-click a session name to open a context menu with two items listed in it: Rename and Delete. The Delete function should be used thoughtfully, as it cannot be undone. All content stored in the named session’s folders on currently mounted drives will be deleted. This will include clips, images and audio files associated with the session.

**Note:** Content that is not local to the session but which was used in it is not deleted. For example, you may have added still images to your PLAY LIST directly from a USB thumb-drive, doing so without actually importing the files into the session. Those external files will not be deleted.

OPENING A SESSION

Simply click the desired session name with the mouse to open it immediately. Selecting a session takes you away from the Home page to the Session page. Let’s look at the other Home page features briefly before we go on to open a session, though.

6.2.3 SHUTDOWN

This menu selection provides Restart 3Play, Shutdown 3Play, and Exit to Windows links in the right-hand pane. Click a selection to perform the named action in the usual manner. (In the case of the Exit to Windows function, return to the 3Play environment later by double-clicking the 3Play desktop icon.)

6.2.4 UTILITIES

Selecting Utilities from the Home Page menu presents a list of functions at right that have to do with the 3Play system.

REGISTER 3PLAY

Registration is required to remove the watermark from output, in part to encourage you to register early.

Doing so will serve to identify the unit to NewTek as yours in case of theft and will also allow you to check for software updates that may have been recently released. (The steps in the Registration process were outlined back in Section 3.2, so we won’t repeat them here.)
UPDATE 3PLAY

Periodically, NewTek may provide software updates for your 3Play. Updates can enhance performance, security or even add useful new features. If the system is connected to the internet, clicking Update 3Play will walk you through the process of checking for new software patches provided by NewTek. This way you can be sure the very latest version of the software for your system is installed.

Tip: If you wish, you can download updates to another computer connected to the Internet, then transfer the downloaded files to 3Play using a network connection or perhaps a USB thumb-drive.

DEFRAGMENT ALL DRIVES

Over the course of time, storage volumes devoted to audio and video storage can become fragmented. Eventually, this can degrade playback performance. Defragmenting corrects this condition.

You could think of your hard drive as being like a shelf in your library. As time goes along, the shelf fills with books (data). Some are large while others are small, just as 3Play session content may be larger or smaller.

To make room for new additions, you decide to remove books you have finished with from the shelf.

You remove a book here, another there, opening up gaps between the remaining books. This makes some shelf space available but does so in the form of gaps separated by the remaining books. Sadly, when you obtain another large book, it may be too big to fit in any one of the gaps.

A foolish librarian might tear the new book into sections just big enough to fit into the open spaces on the shelf. This is would obviously be unwise. When you wish to refer to the book later you will lose a lot of time locating and assembling its sections before you can read it. How much better it would be to slide the remaining books closer together, combining all the free space first. Unfortunately, computers are ‘foolish librarians’. They tend to want to fill in all the gaps in their storage areas, even if it means literally shredding your ‘book’ (in reality large video files from your sessions) into tiny fragments.

Defragmenting the storage volume has the same effect as sliding the books together, resulting in less and larger gaps. The end result is that 3Play doesn’t have to frantically search in many different places to assemble the video data you have recorded. This process (defragmentation) can take considerable time, so it’s not something you want to begin just before an important event.
BACKUP OR RESTORE SYSTEM

A complete system restore function is available in the event of an unforeseen problem. This does not merely restore the operating system, or other data files. Rather, it restores the system to an ‘as-shipped’ software state. Please refer to Section A.5.6 in Appendix A for full details and usage notes.

6.2.5 HELP

- Click the 3Play User Guide link to open the manual.
- Click the License Agreement link to review the 3Play end user license.
- Click About 3Play to list version information, credits, and acknowledgments.

6.2.6 ADD-ONS

The included Animation Store Creator add-on application permits you to create your own custom Animation Store transitions (see Chapter 15).

6.3 THE SESSION PAGE

Opening a session from the Home page (whether using Open or New) takes you to the Session Page (Figure 54, providing a new set of options as links at right. The name of the current session is shown in the top-left corner of the screen (Figure 54). The session is displayed in the form “Home/session name”.

If you wish to leave the current session and return to the Home page, you can click the large Back Arrow displayed beneath the session name, or the word “Home” in the session name label.

6.3.1 FILE MANAGEMENT

![File Management](image)
At times you may find it useful to be able to quickly access the various files associated with the current session. The links at right on the Session page under the heading Browse provide access to default session folders. Clicking one of these links (or selecting it with the up/down arrow keys and pressing Enter) opens a system file explorer.

You can use the familiar features and shortcut keystrokes in these windows (Cut, Copy, Paste, Rename, Delete and so-on) to manage session assets.

Tip: Of course, you can open several of these folders simultaneously, and navigate these file windows to other locations as well. For example, you might copy files from one session into a folder for another.

Several other important features are found here, including Import Media as discussed next.

**IMPORT MEDIA**

Clicking the Import Media link opens a custom import panel offering batch import of files for use in 3Play’s CLIP LIST and PLAY LIST. It even allows you to transcode files to appropriate high quality 3Play-friendly file formats at the same time if you wish.

Import Media’s quick processing makes this the fastest and most convenient way to prepare production assets for a session. Click Add to open a standard system file window and select (or multi-select) items to build a list in the Import Media file pane.

![Import Media Panel](Image)
Some highly compressed video files may not be well suited to live playback. Enable switches in the *Transcode* column for files you wish to convert to a friendlier format on import. Files can be re-ordered by dragging their entries up or down with the mouse or removed from the list by highlighting them and clicking *Remove*.

Once the batch import list is prepared, click *Import* to complete the operation.

Files are processed quickly and are automatically added to Import folders properly located according to type for easy access in different modules as required during live production.

*Note: Sections 12.1.5, A.4.2 and A.4.3 discuss other aspects of importing media files.*
The Replay Desktop serves as your production control center. It provides control over input and output configuration, recording, clip marking, PLAY LIST preparation and playback, and much more.

This chapter provides a top-level view of the Replay Desktop, with more detailed information following in subsequent chapters.

The Replay Desktop is launched by creating (or opening) a session in the Startup Screen, then clicking the large Start Session button.

### 7.1 OVERVIEW

The Replay Desktop requires a minimum screen resolution of 1600 x 1050.

1 – Dashboard

2 – Monitoring

3 – Toolbar

3 – CLIP LIST

4 – PLAY LIST

5 – TAGS

Figure 58

The Replay Desktop provides visual feedback for operations, including monitoring features, clip marking, and so on. By default, it is divided into six horizontal bands (Figure 58).

These are listed in the table presented next, in order from top to bottom.
1 - Dashboard

• Menus (settings and options), quick access to Grab, Record, and timecode are shown when the mouse pointer is moved over this area of the screen.

2 - Monitoring

• Input Monitors - monitor all active inputs for the session
• Output Monitors - large full-time monitors for Output A and B, with Channel Info displays
• (Configurable Multiview display on secondary monitor)

3 - Toolbar

• FastClip toolbar - displays clip/event data and text input, includes Search tools
• Transitions, Overlays and Transport - playback, program-preview transitions and DSKs

4 - CLIP LIST

• Spreadsheet style event management; lists marked events as rows with In Point, Out Point and Duration
• Trim, re-order and organize events in renamable tabs
• Add unique comments for individual clips (angles)
• Select and play clips
• Integral clip monitors show all angles of the current event row simultaneously
• Search results tab

5 - PLAY LIST

• Add clips and other content to create highlights reels, complete with optional transitions and music
• Export play lists, including transitions and sounds, as rendered clips

6 - TAGS

• Powerful tagging system; quickly add pre-defined tags to the FastClip dataview for commenting, Search and more

7.2 A FEW HINTS

You will find various types of user controls in the Replay Desktop. Some examples are shown in the table below. Several convenience features are associated with these controls.

• As you would expect, all slider controls (whether their motion is vertical or horizontal) can be set to a new value by holding down the left mouse button and dragging in the direction of the control orientation.

• Hold down the keyboard Shift key and double-click most controls to reset the associated value to its factory default.
### Control Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Examples</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numeric field</td>
<td>In Point, Out Point, Duration, Crossfade, etc.</td>
<td>Drag in line with the control orientation to raise or lower the current value. Or select and type, and then press Enter. (Esc to cancel changes.)</td>
</tr>
<tr>
<td>Numeric slider</td>
<td>Audio Gain, Proc Amp controls, etc.</td>
<td>Drag in line with the control’s orientation to raise or lower the current value. Or select and type, and then press Enter. (Esc to cancel changes.)</td>
</tr>
<tr>
<td>Text field (dialog)</td>
<td>Input and Output Configuration panels</td>
<td>Click the field to activate it, and then type.</td>
</tr>
<tr>
<td>Text field (list)</td>
<td>CLIP LIST – Memo</td>
<td>Select field and type, and then press Enter. (Esc to cancel changes.)</td>
</tr>
</tbody>
</table>

**Tip:** To make very fine adjustments to slider values, hold down the Ctrl key on your keyboard while dragging with the mouse (this increases accuracy by a factor of 10.)

### 7.3 CUSTOMIZING THE REPLAY DESKTOP

The *Replay Desktop* offers several convenient provisions for tweaking the user interface to suit your particular needs.

#### 7.3.1 RENAME

As charming as descriptive names like *Camera 1, Camera 2* and so on are, we must admit that it’s possible you might wish to change these default labels to something localized.
To do so, click the *Configuration* button (gear icon) at right in the monitor titlebar for a given input. The *Input Configuration* panels have editable *Name* text fields for each source.

### 7.3.2 MULTIPLE DISPLAYS AND MONITORING

The *Replay Desktop* monitor tabs and *Multiview* options can be flexibly combined to show what you want to see, where you want to see it.

Monitor connected to 3Play’s backplane video ports are detected by the operating system and become available for configuration the *Workspaces* menu accessed on the *Dashboard* at the top of the *Desktop*. For example, if you position the mouse pointer over the horizontal CLIP LIST *drag bar*, the mouse pointer becomes a double-headed arrow. Click and hold the mouse button and drag the bar all the way to the top of the screen.

This provides a useful full-screen CLIP LIST and PLAY LIST view, while still being able to monitor input and output on another Multiview display. Likewise, you can drag the horizontal divider between the CLIP LIST and PLAY LIST to re-size them to taste. (Feel free to revert to the standard view if you prefer.)

### 7.4 DASHBOARD TOOLS

The *Replay Desktop DASHBOARD* provides useful data. Info displayed when the mouse pointer is rolled over this area includes:

Initially, to avoid overwhelming us, the left end of the *Dashboard* simply shows the name of the current session. Moving the mouse pointer to the top of the screen reveals the set of menus shown Figure 60.
The right half of the Replay Dashboard (Figure 61) contains additional features and tools that are more frequently accessed, for which reason they are displayed full-time. The various elements comprising the entire Dashboard are listed below (starting from the left):

- *File, Options, Macros, and Workspaces* menus, and ...
- *Export* clips and still images to local or networked storage, and upload directly to popular social media sites
- *Grab* tool and configuration controls
- *Record* (toggle), *time elapsed* since the current recording began, and *Left on Disk* (estimate of room available at current recording rates on the ‘most full’ session volume)
- *Headphones*
- *Time* (from external timecode input or system clock) and *Timecode Configuration*
- *Notification Panel* displays status messages pertaining to operations or system conditions

### 7.4.1 MENUS (FILE, OPTIONS, MACROS, AND WORKSPACES)

*Figure 62*

The Replay Desktop DASHBOARD has important menu options at left, discussed individually next.

**FILE**

- *Share Media Folders and Buffers* – Each session has unique folders for its media assets.
- *Exit* – Leave the Replay Desktop and return to the Session screen.

**OPTIONS**

- *One Button Marking* – Section 9.10.1 discusses methods you will use to mark (define the in and out points for) CLIP LIST events. The “one button marking” method requires only that you press the *OUT* button; an *In point* is set automatically at a pre-defined earlier time. This menu item lets you choose the offset used for the automatic *In point*.
- *Still Image Duration* – Choose the default duration applied to still images added to the CLIP or PLAY LIST.
- *Out Point Padding* – This menu item optionally allows play to continue past the actual *Out point* for CLIP LIST events from a minimum period of five seconds to ‘infinite’ (i.e., until the recorded file ends or you press *STOP*).
• **CLIP LIST Previews** – This option (not available in 3Play Mini) toggles the display of Clip Monitors in the area below the CLIPS LIST tabs. Small previews show all recorded angles for the currently active CLIP LIST event row.

• **Tally from TriCaster** – When a downstream TriCaster is receiving 3Play’s network output via one of its own Network Inputs, enable this option to shown red and green on-air tally borders around 3Play viewports (requires TriCaster Advanced Edition).

• **Single Pane View** – This powerful option can have a dramatic impact on your replay workflow:
  - Enable Single Pane View to collapse the CLIPS LIST and PLAY LIST panes into one ‘super’ module showing CLIPS LIST tabs at left and PLAY LIST tabs at right.
  - Drag items from a PLAY LIST onto PLAY LIST or CLIP LIST tabs to copy them to the target.

---

**MACROS**

Click Macros to show a menu containing a Configure Macros item. This opens a large panel that allows to you create, organize, and even edit macros.

3Play’s extensive Macros system provides a wealth of powerful capabilities. Macros and related tools are discussed in detail in Chapter 18. Several features of LivePanel are included in your 3Play system, including the Builder applet which gives you the flexibility to assign a macro to a button, or perhaps two – one to operate when the button is pressed, and another to be applied when you click it a second time. See Chapter 18 Macros and Automation for more information.

---

**WORKSPACES**

3Play supports multiple multiview monitor displays (the number varies by model). Multiview 1 is the Replay Desktop.

Optional layouts for additional Multiview screens are added to the Workspaces menu as supplemental display devices are detected.

The layouts for all Multiview monitors is governed by Workspace presets. Roll the mouse over the Dashboard to reveal the Workspaces menu and click it. Then select a preset for any Multiview using this menu as shown (Figure 63).

Viewports also have further custom options, such as the display of VU meter overlays. See Section 10.1, Overlay Options for details

---

*Note: Changing Multiview output options can cause frames to be dropped, so modifications during live production are discouraged.*
Another item in the Workspaces menu is Display Color Settings. Select this to open a control panel with multiple tabs, one for each detected display. The Monitor Resolution menu lets you configure the external display device. Select the native resolution of the device for best results.

The tabs provide Proc Amp controls for the connected display devices.

These controls directly control graphics the characteristics of output to each display and provide a great deal of convenience especially for remote displays that would otherwise be difficult or impossible to access.

### 7.5 EXPORT & GRAB

The Export tools in the Replay Desktop make it quick and easy to distribute selected content to multiple sites even while production and recording is still underway.

Click the Configure gear next to the large Export button to open the menu. This opens the panel which allows you to manage media files you intend to export. Further discussion on Export features can be found in Chapter 17.

The Grab feature is a very convenient tool, especially for use in connection with the use of the Export features to upload imagery to popular social media sites, or for immediate display on output. See Section 11.4 for more information on Grab.
7.6 CLOCK

The Replay Dashboard also hosts a clock which, in addition to showing the current time, can display countdowns to event start and end times when enabled.

To access time features, click the small gear icon next to the timecode display at right in Live Desktop’s Dashboard.

*Hint: You can set the system clock, as for any computer; simply exit to the Windows Desktop to do so.*

7.6.1 LTC TIMECODE

Linear timecode has long served as a method of sharing an external timecode reference in video production. Output from an external timecode generator is supplied to devices in the video pipeline using a standard audio connection.

Choose an LTC source in the Timecode Configuration panel, and the feature will decode time stamps from the audible signal, using the values for clock displays as well as embedded timecode when recording video (if the file format supports this). This is a great asset for post-production purposes. For further discussion, see 8.3 Timecode Configuration.
The last item at right on the Dashboard is the Notification icon (Figure 68). A ‘number bubble’ indicates how many un-viewed entries have accumulated. Clicking the icon displays the Notification Pane, which provides both helpful information and some very useful tools.

The Notification icon can be colored white, green, amber or red. The color indicates the type of messages available for review:

- A green icon denotes an informative message.
- An amber icon indicates a warning message has been received.
- Higher priority alert messages are denoted by a red icon.

The highest priority (un-viewed) item in the list at the moment determines the Notification icon color. After you open the panel to review the notifications in the list, the icon turns white.

Individual items can be cleared from the list using the context menu opened with the triangle gadget shown at right when you roll the mouse over an entry, or you can empty the list with one click using the Clear All button in the footer of the panel.

Information appearing in the Notification Pane can include the software build number and status messages pertaining to operations or system conditions; these may be benign notifications or cautionary.
NewTek 3Play® provides extensive control over your video signal at both input and output stages. In addition to basic format connection options for both audio and video inputs, each video source has its own realtime Proc Amp.

Other important options include support for supplemental Multiview monitors, external timecode support, and genlock configuration.

It is very useful to be able to configure each source and also 3Play’s many outputs independently. Source configuration options ensure that you can match camera inputs to each other, that their signals fall within legal ranges, and mix and match different types of camera. And display Proc Amp settings allow you to make adjustments as appropriate to your specific needs.

Let’s begin with a consideration of Output Configuration tools.

8.1 OUTPUT CONFIGURATION

To open the Output Configuration panel, double-click either output monitor. Alternatively, roll the mouse pointer over the Configure button that appears beneath the lower-right corner of either monitor and click it – see Figure 69.

8.1.1 CHANNEL A AND B

The Output Configuration panel has several tabbed panes. The first two are labeled Output A and B, and contain controls discussed momentarily. The Genlock & Failsafe tab is home to important video timing calibration controls. We’ll review it shortly, as well.
The video format sent to 3Play’s video outputs (SDI or NDI) always matches the session format, which you choose in the Startup screen when first creating the session.

<table>
<thead>
<tr>
<th>NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Name field is editable, allowing you to assign a custom name to each output. The name you supply will appear in the Channel Info pane (Section 2.5) in the Desktop monitoring section and Multiview display.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AUDIO VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Audio Volume slider in the Output Configuration panel lets you independently modulate the raw source sound level before passing it to the corresponding audio output.</td>
</tr>
</tbody>
</table>

Note: On 3Play’s rear panel, the VIDEO OUT group connectors labeled 1-4 carry channels A, B, and two instances of Aux respectively.

<table>
<thead>
<tr>
<th>8.1.2 GENLOCK &amp; FAILSAFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDI Genlock synchronization allows video sync to reference a network-supplied external clock signal over NDI. 3P2 is the first product to support this approach, which will be key to future ‘cloud-based’ (and hybrid) production environments</td>
</tr>
</tbody>
</table>

![Output Configuration](image)

Figure 71

The Genlock & Failsafe feature allows 3Play to ‘lock’ its video output or NDI signal, to timing derived from an external reference signal (house sync, such as ‘black burst’) supplied to its genlock input connector.

This allows 3Play output to be synchronized to other external equipment that is locked to the same reference. 3P2 comes with additional options for Synchronization (shown in Figure 72), the pull down menu conveniently centralizes all sync options and allows them to be changed on the fly.
Genlocking is not an absolute requirement in most cases, but is recommended whenever you have the capability.

Tip: "Internal video clock" means clocking to the SDI output (best quality when connecting a projector to an SDI output).

"Internal GPU clock" means following the graphics card output (best quality when connecting a projector to a Multiview output).

The 3Play system accepts input from multiple video sources. Miniscule local timing differences between these may result in tiny delays during downstream switching operations.

Serving the same reference signal to i) the system’s Genlock input and ii) other video devices in the chain is the best approach, and ensures a match between 3Play system output and any downstream video devices required to handle both it and any other (genlocked) sources.

Tip: “Genlock” refers to “generator locking”. Professional video devices often provide a “genlock input”, which allows an external reference signal (often referred to as ‘house sync’) to control its video timing.

The output of video devices connected in this manner is synchronized to the reference signal, and they are referred to as ‘genlocked’.
VERTICAL POSITION, HORIZONTAL POSITION AND PHASE

Locking all devices to house sync is important, but this alone does not actually ensure a perfect downstream match.

Consider an army marching along: each step the soldiers take occurs at precisely the same moment, so we could say their timing is synchronized.

Even so, problems result if one soldier leads with the left foot while others are on the right. Or perhaps everyone is evenly spaced and perfectly aligned but for one misfit who ‘tailgates’ the soldier ahead of him and keeps stepping on his heels.

This is essentially why the Genlock tab provides several settings. The *Horizontal* and *Vertical Position* settings pin the image in the proper space in the frame, and in doing so could be likened to making sure each marching soldier is in position relative to his fellows (as viewed from above).

The *Phase* setting ensures proper color alignment, corresponding to making sure everyone is on the left or right foot at the same time.

Thus, the *Vert Position*, *Horiz Position* and *Phase* settings allow you to tweak synchronization to arrive at an optimum match between devices. (Typically, these settings are fine-tuned with the aid of downstream vectorscope and waveform monitors.) A discussion of these adjustments goes beyond the scope of this manual, but a quick online search for the keywords “genlock” and “adjust” turns up a number of excellent references.

REFERENCE TYPE

The ‘bi-level’ reference signal long used for standard definition television is often used for genlocking both SD and HD installations. However, if you are supplying an HD reference signal to the Genlock input (and your other equipment), select the *HD (Tri-level)* switch in the *Reference Type* area of the Genlock tab.

*Note: Reference Type options do not appear for SD sessions.*

CENTER FREQUENCY

This setting is applied when a Genlock reference signal is *not* in use. To adjust the setting, supply color bars to an input, pass that through to a video output, and then to a downstream vectorscope. The vectorscope display is completely stable when *Center Frequency* is properly adjusted.
3Play’s multi-tiered ‘Always on Air’ hardware and software failsafe systems (see Section 2.6.2) provide confidence that short of a complete power failure the show will go on.

In some settings, however, more elaborate hardware failsafe systems may be in use. Typically, such systems take over broadcast duties whenever the output signal fails. In this case or for other reasons, 3Play’s failsafe video passthrough mechanism (which ensures that video output continues even in catastrophic circumstances) may be redundant, or even prevent the external system from engaging.

For this reason and others, the Failsafe section in Output Configuration has a switch that lets you disable the A/V passthrough when necessary. By default, A/V Passthrough is off.

Tip: Only use fail-safe when a stable video source is connected to the highest number SDI video connector on 3Play’s backplane.

8.1.3 MULTIVIEW

Multiview options, layouts and Display Settings are available from the Workspaces menu (located in the Dashboard). For best results, configure the Multiview output to the native resolution of the external display (monitor or projector) connected to it. See Section 7.4.1 for details of the Workspaces menu.

8.2 INPUT CONFIGURATION

The Configure button (gear) in the label area below each input monitor brightens when you roll the mouse pointer over it. Clicking it opens the Configuration panel for that source.

Alternatively, simply double-click an input monitor to open the corresponding Input Configuration panel. The upper portion of this panel is devoted to video-related settings, while the lower part holds audio controls.


8.2.1 INPUT SETTINGS

The **Input Settings** tab in the **Input Configuration** panel features a **Connection Type** menu at the top. The available sources listing leads off with **Local** options, representing the hardware SDI input connections on 3Play’s backplane. After this you will see any available NDI sources on your network listed.
Format options offered below the Source selector include auto-detection options suitable for most sources, and manual options that vary with the session video standard, PAL, or NTSC.

**Hint:** Changing from one video standard to another requires opening a new session. All connected cameras must conform to the video standard of the current session.

The Format options provided in an NTSC session are as follows:

- 1080/59.94p
- 1080/59.94i
- 1080/29.97p
- 1080/29.97PsF
- 1080/23.98p
- 1080/23.98 Telecine
- 720/59.94p
- 720/29.97p
- 720/24p
- 480i (16:9)
- 480i (4:3)

The Format options provided in a PAL session are as follows:

- 1080/50p
- 1080/50i
- 1080/25p
- 1080/25PsF
- 720/50p
- 720/25p
- 576i (16:9)
- 576i (4:3)

**NAME**

The Name field (next to Connection Type) is editable, allowing you to enter a custom name for each input. The name supplied will appear elsewhere in the user interface, including in the HUD (Heads-Up Display).

![Figure 79](image-url)
Section 3.9 detailed *Input Configuration* panel controls devoted to *Audio* setup. Just to review briefly, the *Format* menu provides options suited to the type of source selected above.

The neighboring *Gain* slider adds a range of adjustment beyond the basic level established by the *Input Type* selection, permitting you to benchmark individual sources. The *Mute* switch, when enabled, prevents this particular audio source from being heard at all in captured files or on output.

**VU METERS**

The audio *VU meters* (VU stands for Volume Unit) beside each video input monitor serve several purposes. At the simplest level, as you record audio with your video (or pass it through to output), the input meters assure you that audio is arriving at the audio inputs.

Likewise, the output *VU meters* provide confidence that you are supplying audio to the outputs. More importantly, you can monitor audio levels to be sure you are not overdriving the system, which would result in clipping of the signal.
8.2.2 COLOR BALANCE

AUTO COLOR

Figure 81

Lighting conditions can change dramatically during many live events, especially those held outdoors. Adding to this problem, production usually involves multiple cameras and, all too often, these may not have uniform color characteristics.

Ensuring consistent color when switching from one angle to another, avoiding unwelcome brightness or color shifts as evening falls or when a cloud obscures the sun briefly can be troublesome, and expensive.

To help you overcome these problems, 3Play’s Input Configuration panel provides Auto Color, a unique feature capable of dynamically adapting the color characteristics of your video sources as lighting conditions vary. For many productions, simply enabling the Auto Color switch is all it takes to produce a show that looks amazingly consistent.

MULTICAM

By default, each camera with Auto Color enabled is processed uniquely – without reference to other sources. Often, though, even greater consistency can be achieved by treating sources in similar illumination environments as a group. Enable Multicam for several cameras causes Auto Color to evaluate and adjust these cameras in unison. You might, for example, enable Multicam for court-side cameras in an interior sports venue, while treating exterior or studio feeds individually.
LISTEN ONLY

The Listen Only switch allows you to include a source in the Multicam group without adding its own feed to the group evaluation. Thus, a camera trained on Fenway Park’s giant ‘Green Monster’ left-field wall can be automatically corrected without disproportionately biasing the group evaluation and consequent Auto Color correction. Alternatively, one might enable Multicam for a number of sources, turning Listen Only on for all but one camera – effectively making that camera the color reference all other cameras in the group will follow.

**Note:** The Proc Amps, discussed next, are downstream of the new Auto Color system. This allows you to can Proc Amps settings to apply further manual color adjustments to your individual sources, whether for fine tuning or to achieve a specific “look”.

PROC AMP

Proc Amp adjustments can be toggled on and off using the Proc Amp switch at upper left or reset by clicking the Restore Defaults button.

![Proc Amp](image)

**Figure 82**

Each Proc Amp has numeric slider controls for:

- **Brightness**: Adjustment range from -50 to +50 IRE (the default being 0). As reference, the full luminance range of a video signal can be thought of as ‘100 IRE units’ (named for the Institute of Radio Engineers) – ignoring minor regional variations.
- **Contrast**: Adjustment range from 25 - 400% (default 100%).
- **Hue**: Adjustment range from -180° to +180°. Adjusts the master color of the video signal from the attached source, swinging the entire image through the color wheel’s spectrum. **Saturation**: Adjustment range from 0-500%. Zero saturation results in a ‘black and white’ picture; increased saturation results in richer colors. High saturation values can exaggerate the color portion of the signal. (You should be aware that over-saturated colors are considered illegal for broadcast transmission and may result in display problems on some devices.)
Note: Proc Amps are very useful. However, keep in mind that, whenever possible, it is best to perform color adjustments at the source or target device.

For example, it is preferable to calibrate a camera’s colors at the camera, before sending the signal to the 3Play system. Doing so will yield higher color precision. Similarly, it’s often better to adjust output color using controls on down-stream monitors. (The Display Proc Amps can never completely compensate for a badly calibrated monitor.)

The Proc Amps are especially useful for occasions when no external options are available. (Some cameras lack built-in color controls. At other times the physical placement of a device can make access inconvenient).

WHITE BALANCE

To automatically white balance a source, click and hold the mouse button over the Color (eyedropper) button, and then slide the pointer on the monitor for the corresponding source. Release the mouse button over a part of the image that should be white.

ADVANCED COLOR GROUP

Expand the Advanced control group to access more elaborate color controls for individual color channels.

8.3 TIMECODE CONFIGURATION

NewTek 3Play can supply timecode from its internal system clock or can refer to an external LTC (Linear Timecode) source supplied to 3Play inputs (see Section 3.3.3). This timecode is embedded in video files captured during the session. A Configuration button (gear) beside the Timecode display in the Replay Desktop Dashboard opens the Timecode Configuration panel (Figure 84).
8.3.1 EVENT TIME

Two switches under the LTC field indicate Event Time allow you to configure Start and End times for your upcoming show. Beside each of these is an editable time field. Enable the Start/End switches, then click inside the field to modify the time value by direct entry or drag left right to raise or lower the current value.

During live production, the Dashboard and as well as monitor panes and default Multiview layouts offer Broadcast Clock displays based on the current timecode. Secondary clock displays show a useful countdown to the (production) Start and End times when the corresponding switches are enabled in the Timecode Configuration panel.

8.3.2 TIME

Another switch in the Time group allows you to optionally Subtract 12 Hours from the actual timecode. This lets you avoid confusion that might arise later when sequencing files based on timecode that ‘wraps around’ past midnight.

(Otherwise, for example, a video frame recorded one minute before midnight would be assigned the timecode 23:59:59.00, while frames recorded one minute or more later would have timecode ≥ 01:00:00.00 – seemingly a lower, i.e., earlier, timecode value.)

*Note: 3Play assumes the external LTC signal matches session frame rate and timecode format. For example, NTSC 29.97 and 59.97 sessions result in drop-frame timecode internally (all others are NDF). Similarly, in a 24fps session LTC is treated as 24fps.*
9  THE CONTROL SURFACE

During operation, your principal contact with the NewTek 3Play® system will normally be through the use of the Control Surface. Using its buttons and other controls, you can perform the great majority of necessary functions.

This chapter describes the features of the Control Surface. Further references to the Control Surface are made in context in subsequent chapters, as well.

The NewTek 3Play Control Surface is purpose-designed to provide responsive and comfortable control over all commonly used production functions of the system, without unnecessary complexity. Its apparent simplicity is no accident, and makes using your NewTek 3Play straight forward, powerful, and trouble free.

In the sections that follow, we’ll review the controls in each group on the Control Surface. First, we should familiarize ourselves with an important concept related to 3Play’s primary output channels, designated A and B.

_Hint: NewTek’s optional LivePanel system includes a virtual Control Surface along with macro-driven UI creation tools, all delivered via your network to a web browser._

9.1 DUAL CHANNEL REPLAY

In many ways, it would not be incorrect to think of your NewTek 3Play system as not just one, but two conjoined ‘playout’ devices. The system features two fully independent audio/video busses and outputs, referred to as Channel A and Channel B.

_Figure 87_
Each output channel can function completely independently of the other; either can be directed at any time to transmit any available audio/video source, whether live or recorded.

Physically, these two channels are individually supplied to connectors on the system’s backplate for output to downstream devices. These comprise Output 1 (3Play’s Channel A output) and 2 (Channel B). During live production, both are represented on the Replay Desktop by individual output monitors (Figure 87).

Tip: A third, special output is called Aux (for “Auxiliary”) and is carried on Output 3 – more about Aux later.

9.1.1 CHANNEL DELEGATES

Transport (PLAY, STOP, etc.) and many other similar operations normally affect just one channel. That selection is determined by the active Channel Delegate button on the Control Surface.

As you would expect, pushing the Control Surface button labeled A directs operations to Channel A; Likewise, pushing B assigns control operations to Channel B.

Tip: You can also choose the currently delegated channel by clicking the mouse in the Channel Info area beneath the output monitor for Channel A or B.

Only one Channel Delegate can be selected at a time, and all operations and input are directed to that channel and its source (certain controls can affect both channels when LINK mode is on – see Section 9.4.1).

The active Channel Delegate determines the following matters:

- What is shown in the CLIP and PLAY LIST panes on the Replay Desktop
- This includes the selections shown in the CLIP and PLAY LIST tabs
- The state of various Control Surface and user interface buttons and settings.

The color in the Channel Info area indicates the source type sent to the channel: blue for the CLIP LIST, gold for PLAY LIST, and green for Live (or Delayed sources.)

It also shows which channel is delegated; normally, only the delegated channel displays a colored background.

A thin white border marks the delegated channel in Link mode (since both panes are colored).
All of these attributes are stored independently for the two Channel Delegates. Switching from one Channel Delegate to the other updates the Replay Desktop display when appropriate.

Note: Conveniently, supplementary a/v outputs referred to as AUX (Auxiliary) outputs automatically update to show the display for your current Channel Delegate – A or B.

9.2 TRANSITIONS (TAKE | AUTO)

3Play’s powerful effects engine provides high end transitions (including powerful Animation Store effects, with embedded overlays and sound) in several ways to suit varied requirements. You can even create your own custom Animation Store transitions using the included Animation Store Creator add-on application.

These capabilities are so extensive that an entire chapter is devoted to them (see Chapter 15). For now, we’ll just mention that the Control Surface’s Take and Auto buttons work just like their familiar namesakes on a typical video switcher, permitting a ‘direct to display’ program/preview workflow in which Channel B supplies program output, with Channel A serving as the preview bus.

Let’s consider 3Play’s Source Delegates next.

9.3 SOURCE DELEGATES

We’ve seen how the active Channel Delegate determines which output channel is controlled, but we’ve yet to choose a specific audio/video source to send to the channel (and control). That’s where the Source Delegate comes into play.

Your NewTek 3Play can deliver audio/video output from one of three possible sources:

- CLIP LIST – the currently selected clip (angle) in the CLIP LIST
- PLAY LIST – output from the PLAY LIST
- Live – the live (or Delayed) signal from one of the system inputs

As mentioned, 3Play’s dual channel design means that, at a given time, a/v data from one of the three sources above is always assigned to Channel A, while Channel B could be carrying something else entirely. Changing the source for the currently delegate channel simply requires pushing one of the Source Delegate buttons.
Naturally only one *Source Delegate* can be active for a given channel at any time. Note that your *Source Delegate* selection determines not only the source on the delegated channel, but also the source other controls affect – whether *LIVE* (video from an input), the *CLIPS LIST* or *PLAY LIST*.

**Tip:** Another way to change the *Source Delegate* is to click the mouse in the *CLIP LIST*, *PLAY LIST*. However, if you do this when video is playing on output, the *Source Delegate* does not update. (This is by design and allows you to enter comments or perform other management tasks without interrupting play if you wish.)

### 9.3.1 CLIP LIST

While the *CLIP LIST* is delegated, *Control Surface* (along with corresponding keyboard and *Desktop* transport control) operations are directed to the *CLIP LIST*.

A gold outline around the *CLIP LIST* confirms selection, and the item currently selected in the *CLIP LIST* is automatically displayed on the delegated output (*A* or *B*).

### 9.3.2 PLAY LIST

While the *PLAY LIST* delegate button is active, *Control Surface* (along with corresponding keyboard and *Desktop* transport control) operations are directed to the *PLAY LIST*. A blue border around the *PLAY LIST* module signifies its delegated status and, again, the current selection is automatically displayed on the delegated channel.

### 9.3.3 LIVE

Finally, while *LIVE* is delegated, as you would expect, you control a live source from the system inputs, and it appears on the delegated channel (*A* or *B*).

In *LIVE* playback mode, transport operations (such as *STOP*, *Jog* or playback speed adjustments) can only be performed when *Record* is enabled. (In such cases, output is actually no longer *live*, but *Delayed*. In this case, no *Source Delegate* button is highlighted.)

**Tip:** When *LIVE* is delegated, select specific inputs by pressing number pad buttons on the *Control Surface* while holding down the *ANGLE* button, or by using *ANGLE* + ◀ and ▶ buttons.
3Play stores the Control and Output Delegate states for Channel A and B independently, along with other important parameters – including the current CLIP LIST or PLAY LIST selection state, playhead position, and so on.

Consider an example:

- Channel A may be delegated to Clips, and playing a certain clip from the CLIP LIST
- Meanwhile, Channel B might display the same clip in slow motion, or something else altogether – really any source, in any state of play.

When you newly select a Channel Delegate (A or B), the Replay Desktop display is refreshed to show the current state for that channel if it is appropriate to do so.

This brings us back to the Link button. You may wonder what effect different controls will have in this special ‘tandem mode’, and what will be displayed on the Replay Desktop when it’s in use.

9.4.1 LINK

Enabling LINK does not alter the current Channel Delegate. Rather, the LINK button toggles a special ‘lock-step’ mode.

In broad terms, Link mode causes transport control operations (Play, Stop, etc.) to occur in tandem. Other operations – such as changing clip selections – are not linked.

For example, when A is lit along with LINK on the Control Surface or Replay Desktop:

- The Replay Desktop displays Channel A’s operational state.
- Pressing Stop or Play affects playback for CLIP LIST or PLAY LIST sources on both channels simultaneously.
- Selecting a different clip (or CLIP LIST /PLAY LIST page) affects the delegated channel only (in this example, A).

*Tip: The LINK button behaves like the Caps Lock key on your keyboard, remaining active until you press it again.*

Just to repeat it in this context, the Channel Info pane under the currently delegated channel output monitor is normally shaded to what source is assigned to it. When LINK is enabled, both panes are shaded, but a white border (Figure 93) is added to denote the delegated channel.
9.5 RECORD

The REC (Record) button activates capture of a/v data to file(s) on assigned storage volumes on or off. (The specific sources that are recorded are configured in Startup when creating the session; see Section 11.1, and also 11.3.1).

Note that simply pushing REC again does not disable recording. To prevent accidental interruptions in capture of important events, you must hold down SHIFT before pressing REC when you wish to stop recording.

Tip: As a helpful reminder, a special ‘record event’ row is added to the CLIP LIST whenever newly you enable 3Play recording.

9.6 TRANSPORT

Let’s circumvent the Play Speed control group momentarily in favor of more fundamental playback controls. The familiar VCR-style controls in the Transport group provide easy to use transport through your media.

9.6.1 PREVIOUS

Whenever the playhead is more than three seconds into a clip, pressing the first button in this row takes you to the In point.

Otherwise, it selects the previous (CLIP LIST or PLAY LIST) clip (if playback is underway, play resumes from this point).

Hint: When play is stopped, press SHIFT with PREVIOUS to jump to the first frame of a clip.

9.6.2 STOP

Press the STOP button to end playback (when it is underway). Press STOP again to jump to the first frame of the current clip (or double-press Stop during play to do this).

Tip: With the PLAY LIST delegated, pressing STOP a third time jumps the ‘playhead’ to the In Point of the first clip in the current playlist.
9.6.3 PLAY

Pushing PLAY initiates playback of the currently selected source – whether a clip in the CLIP LIST or PLAY LIST, or a Delayed video source. Pressing PLAY when a clip has stopped its last frame replays it from the beginning. When a newly delegated source is at 0% speed – whether due to pressing STOP or T-Bar use – the initial T-bar position is ignored when you push PLAY; playback is initiated at 100%.

Tip: For Live video sources, all transport control operations are invalid when REC (Record) is disabled and will have no effect.

LOOP

Note that you can press SHIFT + ► (Play) to toggle the playback Loop setting (the loop control in the playback control group beneath the monitor for output B lights to shows when loop is enabled).

9.6.4 NEXT

The Next button makes its appearance at the opposite end of the same row in the Transport Control group. Pressing Next takes you to the next clip in the CLIP LIST or PLAY LIST. If playback is underway, it will continue from this point.

Hint: When play is stopped, press SHIFT with NEXT to jump to the last frame of a clip.

9.6.5 FAST JOG

The FAST JOG button is a toggle. Press it to turn the feature on and press it again to disable it. When enabled, the transport effect of the Jog Wheel (discussed next) is multiplied eight times so that you can traverse the frames in your media more quickly.

9.6.6 JOG WHEEL

Rotate the Jog Wheel to navigate back and forth through the frames of the current a/v selection.

Tip: Inside Media Browser, you can scroll through the File Pane using the Jog Wheel.

Normally, Jog will stop when you reach the In or Out point for the current clip. To continue to scan outside these boundaries, hold down SHIFT while jogging.
9.7 PLAY SPEED (T-BAR SECTION)

This group contains just two controls, an illuminated T-Bar, and a button labeled +/-. Adjustments to T-Bar position progressively modify playback speed and can also automatically engage playback when not already in progress.

Since, at a given moment, Channel A and B may well be set to different playback speeds, the T-Bar position may not initially reflect the correct speed when you change which channel is delegated.

In this case, the speed applied updates as soon as you move the T-Bar to (or through) the current speed. (When a newly delegated source is at 0% speed – whether due to pressing STOP or T-Bar use – the initial T-bar position is ignored when you push PLAY and playback commences at 100% speed.)

In normal operating mode, the maximum T-Bar position corresponds to 100% playback speed, with 0% at the opposite extreme of the lever’s travel. Pressing +/- engages a special T-Bar mode to extend the T-Bar’s range. In this mode, the top and bottom of the lever stroke represent +200% and -200% respectively, with 0% (playback stopped) in the middle.

9.7.1 ILLUMINATION

The T-Bar lighting serves two purposes. The light color denotes the delegated source it is controlling at any moment – green for LIVE, blue for the CLIP LIST, and gold for the PLAY LIST. Normally, the light is brightest at the top of the T-Bar’s stroke, representing 100% playback speed. At the opposite extreme of T-Bar travel, the light is noticeably dimmed. In +/- operating mode, the light is dimmed at the mid-point, representing 0% speed (playback stopped).

9.8 LIST SELECTION TOOLS

This group contains 6 navigation buttons that variously permit you to change the selection in the CLIPS LIST or PLAY LIST – whichever is delegated at the moment. If LIVE is delegated, the button action is directed to the last list accessed.

Note that changing selection during playback does not update what is shown on output. (This allows you to perform various clip management operations without interrupting your outgoing program streams.)
Tip: The ◀ and ▶ buttons are somewhat similar to the Previous and Next buttons (see Section 9.6), but only affect selection. They never change what is output during playback. Also, they allow navigation into numeric fields (Previous and Next do not).

The two TAB buttons allow you to move forward or back between the different tabbed panes in your CLIP LIST or PLAY List.

Note: See also Section 9.11, ANGLE.

9.9 SHIFT

SHIFT is a ‘qualifier’ button and works much like its keyboard equivalent. When held down while performing another Control Surface operation, it modifies the outcome. Typically, SHIFT is used to support multi-selection, as when used with the ◀ and ▶ buttons. (It also has a special function when used with the ANGLE button – see Section 9.11.)

9.10 SET | IN/OUT

Marking events is, of course, the core business of NewTek 3Play. These two simple buttons will see a lot of use. Their roles are not complicated, but it would be good to review them anyway.

Note: Of course, marking events would be pointless without recording, so pressing either IN or OUT automatically enables Record when necessary.

9.10.1 SET | IN

Pressing the IN button adds a new event (row) to the CLIP LIST. The current timecode supplies the In Point for the event.

SHIFT + IN

Holding down SHIFT while pressing IN performs the ‘shifted’ button operation, which is SET – as the button label suggests. This updates the In Point for the selected event in the CLIP LIST, or, when the PLAY LIST is displayed, the current clip.

Tip: Use SHIFT + Jog to move into areas before or after the current clip boundaries.
9.10.2 SET | OUT

Naturally, if you have pressed the IN button to create a new event, setting an In Point, you realize that you can complete this operation by pressing the OUT button. In this case you set the event’s Out Point to the current timecode value, and as a natural consequence, establish the Duration for the event.

Tip: If for some reason you choose to end recording when an event is incompletely marked – i.e., OUT was not pressed – an Out Point is supplied automatically.

ONE BUTTON MARKING

You can also add new events to the CLIP LIST without ever pressing MARK IN. If no In Point has been set (by pressing IN), pressing the OUT button will:

I. Create a new event.
II. Automatically assign both an In Point and an Out Point to it.

By default, the In Point for this event is set four seconds before the time when you pressed OUT. One button marking thus permits you to easily create a series of events just by pressing the OUT button only when you observe noteworthy occurrences.

Tip: The default duration for these events can be set to a custom value using One Button Marking menu options found in the Options menu (see Section 7.4.1).

SHIFT + OUT

Again, just as for the IN button, press SHIFT in conjunction with OUT to update the Out Point for the current CLIP LIST event or PLAY LIST clip, using the timecode from the currently displayed frame.

9.11 ANGLE

- In the CLIP LIST, you can use the ◀ and ▶ navigation buttons to change cameras.
- In either list, you can hold down the ANGLE button and press the camera number you want to switch to on the Control Surface number pad. (For the PLAY LIST, this actually updates the current item’s source clip.

Tip: Changing angles this way does not normally move the playhead to the clip’s In point. This allows for quick review of different viewpoints at a specific moment in time. If you do wish to jump to the In Point of the clip at the same time - hold down SHIFT along with ANGLE when pushing the number pad digit.
The ANGLE button thus also lets you revise the angle for a clip you have added to the PLAY LIST.

### 9.12 BOOK MARK

Bookmarks are timecode references that are independent of marked In or Out points you may set for events. This is a very useful feature, enabling you to quickly skip through your recorded video to specific points.

A bookmark is set at the current timecode every time you press the BOOK MARK button (as long as recording is underway).

The maximum number of bookmarks never exceeds ten, so once the limit is reached, pressing BOOK MARK again erases the ‘oldest’ bookmark and sets a new one.

**Tip:** Bookmarks reference the current (i.e., ‘live’) timecode when they are set. If recording is not underway, pressing the BOOK MARK button has no effect.

Press $SHIFT + BOOK MARK$ to jump the playhead back to the nearest prior bookmark. Doing so enough times will eventually ‘wrap around’ to the most recently set bookmark, and then work backwards through them again.

### 9.13 UTILITY BUTTONS

A four-button group located at upper right provides a number of important media management functions, as described next.

**Tip:** All of these functions operate on the current selection (clip or event) in the delegated list (i.e., the Clip or PLAY LIST). Generally, they have no effect in Live or Delayed play modes.

These familiar functions can be used to arrange and manage the entries in your CLIP and PLAY LISTs tabs. Use $SHIFT$ with the COPY/CUT button to apply the CUT feature. PASTE insertions generally occur below the current selection, and the insertion will receive a new Clip ID.
Note: The Control Surface CUT/COPY/PASTE features operate on clips and events in the list panes. Similar operations in the dataview depend on standard keyboard shortcuts or context menu functions.

9.13.2 PUBLISH

This button sends selected items to the Publish Queue (discussed in Chapter 16), from whence it can be further distributed to various destinations, including online streaming and social media sites, as well as local or ftp storage targets.

Tip: Media added to the Publish Queue may be processed as a batch at a later convenient time, or immediately, according to the independent Auto Upload settings for clips or still images – located under the Set Publish Destinations label in the Replay Desktop’s File menu.

9.13.3 ADD TO PLAY LIST

Push Add to PLAYLIST to insert the currently selected clips from the CLIP LIST to the current PLAY LIST page. (The operation only proceeds if the Source Delegate is set to Clips when the button is pressed.)

9.14 TAG, GO TO AND SEARCH

Figure 102

The 3Play functions provided by all three buttons in this group are detailed more completely in Chapter 14, TAGS, SEARCH, & More.

Just as a brief introduction, then, when the TAG button is lit, CS number pad input is automatically converted to matching text entries in the cells (and tabs) of the TAGS pane located at the bottom of the Replay Desktop. Otherwise, literal numbers are entered.

The GO TO button has several functions. As follows:

- Entering an appropriate number and pressing GO TO takes you to the event row with the matching ID number in the CLIP LIST.
- Selecting a clip in the Search Results tab of the CLIP LIST and pushing GO TO jumps to the tab where that clip is actually located.
• The first digit for **GO TO** operations is treated as the tab number (superfluous leading zeros are ignored). This means that if you have 10 or less **CLIP LIST** tabs, entering a single digit and pressing **GO TO** jumps to the corresponding **CLIP LIST** tab.

• If **SHIFT** is pressed with **GO TO**, a ‘go to timecode’ operation is performed.

The **SEARCH** button performs a search of all **CLIP LIST** tabs for entries that match the criteria entered, and places the matching events in the **Search Results** tab.

### 9.15 THE NUMBER PAD

Not surprisingly, the number pad allows you to type literal numbers into the **dataview** window, which may be added to clip **Memo** fields, used for searching, etc. Less obvious, perhaps, the number pad is also a dream come true for working with 3Play’s **TAGS** system.

For quickly populating **Memo** fields for your marked events using tags, or locating clips using tags, **ID** or timecode values, the number pad will almost certainly become your preferred input mechanism (detailed discussion of all aspects of this matter can be found in in Chapter 14, **TAGS, SEARCH, & More**).

Also handy to know, in a Program-Preview workflow (Section 15.2), you can select a specific transition (from among the nine currently listed in the **Transition Palette**) by holding down **SHIFT** on the **Control Surface** and pressing a number between 1 and 9 on the number pad.

### 9.15.1 ESC & ENTER

Pressing the **Esc** (Escape) button cancels a popup dialog or exits from text input without applying changes.

As you’d expect, pushing **ENTER** confirms or executes the current operation. When editing **Memo** cells, pushing **ENTER** updates the cell using the current content of the **dataview**.

**Tip:** Hold down **SHIFT** when pressing **ENTER** to cause all Memo cells for the current event row to take on the same value.
The word “monitor” comes from the Latin “monēre”, meaning ‘to warn’. The word has taken on additional meaning since Roman times.

As a verb, “to monitor” entails ‘keeping an eye’ on something, and ‘checking continually’, as when monitoring a process. As a noun, we understand it to mean devices that permit one to do just that. 3Play’s ample monitoring features are described in this chapter.

Fittingly, NewTek 3Play provides monitoring features that are just what you need to prepare and control video replays in your productions.

Note: A number of important controls and features are located in the monitoring section for convenience. Among others, these include the Source Connection Type, Proc Amp, Genlock, and Audio controls. To give these features their due, they were treated individually in Chapter 8, which is entitled I/O Configuration. Likewise, transitions, text, tags, and search tools are dealt with elsewhere in this guide.

10.1 OVERLAY OPTIONS

Not to be confused with DSKs (which allow you to overlay imagery system program output; see Chapter 16) 3Play viewports have various overlay options which are provided for operator reference purposes.

Of these, perhaps only the Checkerboard option requires comment:

Certain source types for DSK overlays support embedded transparency. For example, a team logo file in 32bit PNG format will allow the video it is applied over to appear behind transparent regions of the image.
10.2 INPUT MONITORS

Live input monitors for all sources configured for recording in the session are shown at left near the top of the screen. These previews are often referred to as ISO, or Isolation monitors.

Tip: Depending on your choice when creating the session, you may see either four or eight input monitors.

When a source is selected as the live source for Channel B, it monitor viewport displays a thin green border. If a green border is shown, the source is live on Channel A.

10.2.1 TITLEBAR FEATURES

Several other important features are associated with each Input Monitor.

When you move your mouse pointer over an Input Monitor, the Configure button (gear) appears at right in the label beneath.

Click this icon to open the Input Configuration panel for that source (see Section 8.2). Among other things, you can supply a new name for the input in this panel, and it also holds Proc Amp and Audio settings.

Tip: Drag the horizontal divider between the monitoring pane and CLIP LIST pane beneath to re-size the monitors. You can even completely hide the monitor pane if you wish to use a suitable Multiview layout or external monitoring solution instead. To return the monitor pane to its default location, double click the divider bar. A similar adjustable divider separates the output monitors from the input viewports.
Input monitors also provide handy audio *VU meters* (Figure 107). These are useful when initially adjusting levels, as well as to ensure that excessive audio levels during production don’t cause clipping in captured files. Right-click a monitor to toggle the *VU* overlay on or off, and to see the other overlay options provided.

### 10.3 CHANNEL MONITORS (A, B)

NewTek 3Play supports two fully independent video and audio output sections, referred to as *Channel A* and *Channel B*. The corresponding output monitors could hardly be more important, since they show what you are currently sending to downstream devices and viewers.

When you roll the mouse over a monitor, a *Configure button* (gear) button appears at right in the *Channel Info* area below. Clicking this button opens a tabbed panel titled *Output Configuration*, providing controls and options for *Outputs A* and *B*, *Aux* (Auxiliary output, 3Play 4800 only) and *Genlock &Failsafe* – see Chapter 8 for details on all of these options.

**Tip:** Double-clicking a monitor will also open its configuration panel.

When the *A* or *B* delegate button is lit on the *Control Surface*, your actions determine which source is assigned to the corresponding output. For example, if *A* is delegated and showing a live source, clicking a clip’s *Memo* field send that clip to *Channel A*.

**Tip:** When play is stopped, clicking a clip in the *CLIP LIST* or *PLAY LIST* has two consequences – first, the clip is shown on the current output, and second, the *Source Delegate* is set to *Clips* or *PLAY LIST* respectively.

Similarly, pressing the *LIVE*, *CLIPS*, or *PLAY LIST* button on the CS sends the currently selected item from the corresponding source to the currently delegated channel.
10.3.1 CHANNEL INFO

The Channel Info area below each output monitor provides a wealth of useful information about the video stream currently assigned to the channel. It may include any of the following:

- **Name** – the output channel name, as set in Output Configuration (see Section 8.1.1).
  - **Delegated channel** – Normally, only one channel (the one delegated on the CS) displays a colored background behind its Channel Info area. This identifies the channel being controlled at the moment. A broad progress bar shown in the background marks the playhead position in clips. In LINK mode, both Channel Info backgrounds are colored, so a white border marks the delegated channel.

  **Tip:** The specific background color indicates the source supplying the delegated channel, blue for the CLIP LIST, gold for PLAY LIST, and green for LIVE (or Delayed) sources. See Section 9.3 for more on Source Delegates.

- CLIP LIST or PLAY LIST details: CLIP mode – Clip ID and Memo
- Time display:
  - LIVE or DELAYED play:
    - Timecode at the current frame
    - Behind Live time (Delayed mode only)
  - CLIPS mode (Clips button on Control Surface is pressed):
    - Countdown to (or time past) clip Out Point
    - (Recorded) Timecode at current frame
  - PLAY LIST mode (PLAY LIST button on Control Surface is pressed):
    - Stopped: Countdown to clip Out Point
    - Playing: Countdown to PLAY LIST end.
    - (Recorded) Timecode at current frame

- **Speed:** Shows the T-bar position during play, as a percentage.

  **Tip:** You can also choose the currently delegated channel by clicking the mouse in the Channel Info area.
Recording audio and video from its inputs for review, instant replay or other purposes is the core function of your NewTek 3Play® system. This section provides helpful information about recording and storage volumes, as well as explaining how recording is enabled and disabled.

Live, or previously recorded audio/video data, can be sent to 3Play's outputs when Record is off, but (like Bookmarks) event marking depends on recording being enabled.

### 11.1 RECORD CONFIGURATION

The first step toward recording is deciding which live inputs will be captured, and on which hard drives the data from various inputs will be stored.

![Record Mode](image)

Figure 110 – 4RU options shown

These important decisions are made in the Startup Screen at the time of first creating a new session. We detailed all of the important aspects of session configuration back in Section 6.2.1.

*Note: The Record Configuration options you choose are retained with the session and cannot be altered after launching it. To work with a different Record Configuration, create a new session.*

### 11.2 STORAGE VOLUMES

The Record Configuration options controls (Figure 110) list storage volumes that are currently mounted on the system and available for capture purposes. The list may include suitable external drives along with 3Play's internal drives, and also network-attached storage devices and volumes.

Drives that are clearly too small (or too full to accommodate further capture) are not shown.
Note that drives may be shown that are unsuited for capture purposes because of low transfer or disk speed, or perhaps for other reasons. It is up to you when configuring external drives to ensure that the drive (and the connection method it relies on) is suitable for capture.

**Note:** Simply configuring inputs for capture in the Startup Screen does not engage recording. Recording is active only when the Record button on the Replay Desktop is lit.

### 11.3 RECORDING AND THE DESKTOP

It’s worth noting that you aren’t actually required to record all active video inputs. Sometimes, you may wish to supply an input with video for some reference purpose that does not call for it to be captured.

The *Input Monitors* tabs on the *Replay Desktop* (and *Multiview*) show connected sources, whether they are configured for capture or not.

This may raise a question in your mind, though: If your setup includes some sources that are not recorded, how can you distinguish between these ones and sources that are captured?

One way to tell which inputs are configured for recording is to observe the *CLIP LIST* monitors (enabled in the *Options* menu). Inputs that are simply being passed through without being recorded appear empty.

#### 11.3.1 RECORD ON/OFF

Both the *Replay Desktop* (Figure 112) and *Control Surface* (Figure 113) provide *Record* buttons. As you’d expect, these controls do the same thing – that is, they toggle recording of audio-visual data on and off (hold down **SHIFT** when pushing **RECORD** on the *Control Surface* to end capture).
Note: For any single session, recording stops and restarts automatically after 24 hours, to create a new sequential file. A few frames may be dropped during the interval between ending and resumption of capture. (Timecode dropouts can also result in a break in the recorded files.)

INFORMATION DISPLAYS

The Replay Desktop version of the Record button is accompanied by two useful data displays, Time Recorded and Left On Disk. The former keeps track of the duration of all material recorded for the current session. The latter shows an estimate of remaining storage space on the ‘most full’ volume currently assigned to capture (this display takes a moment or two to initialize when recording is started.)

AUTOMATIC RECORDING

Normally, you would manually enable Record when your production begins. In the event you overlook doing so for any reason, however, certain operations will automatically enable recording – for example, pressing the (mark) IN or OUT buttons enables Record when necessary (see Section 9.10).

Reminder: Previously recorded data can be sent to 3Play outputs even with Record off. For live sources, of course, operations such as STOP, or speed changes can only be applied when recording is active (this permits the system to automatically switch to Delayed playback mode).

‘RECORD EVENTS’

Each time Record is newly enabled, a special event row is automatically added to the CLIP LIST. The ‘record event’ has a single frame Duration and provides a convenient reference point.

Tip: The default “Started Recording” entry in the Memo columns of record events can be edited in the standard ways.

11.4 GRAB

At times, you may find it very useful to grab still images from the sources and outputs (whether for social media sharing purposes or for other uses.

This is the purpose of the Grab button, located in the Dashboard at the top of the Replay Desktop. Grab stores images from every camera, plus those Outputs A and B.

Click the Configure button (gear) next to Grab to open the Grab Still Configuration panel.
A default *Base Name* for the files is supplied, or you can supply a name of your own choosing. The name will be numerically incremented as required. Enable *De-Interlace* if you wish to avoid a ‘comb’ effect caused by inter-frame motion in fielded sessions.

Enable the *Add to Clip List* switch to automatically include newly captured clips at the end of the current *CLIP LIST* tab, ready for immediate playback during the live production.

Close the *Grab Still Configuration* panel by clicking *Close* or clicking anywhere outside the panel. Then click the *Grab* button to capture images to your hard drive. Image files are stored in a folder named for the session inside the main *Still* folder (a sub-folder is created for the supplementary files captured from each input).

*Hint: During a session, the ‘grab counter’ situated beside the button keeps track of the number of images stored for the current base name entry.*
12 THE CLIP LIST

The core functionality of your NewTek 3Play® is to capture multiple views of live events and allow you to quickly recall and display any portion of that recorded footage with ease and accuracy.

The CLIP LIST is repository for newly created events, and also serves as the library where production assets are organized and managed. It provides a wealth of convenient features to help you find and display the perfect clip on a moment’s notice.

The central band of the Replay Desktop – between the upper monitoring section and the PLAY LIST pane below – is home to the CLIP LIST, along with related controls and features (Figure 115).

![Figure 115](image)

The CLIP LIST is the receptacle for timed events that you mark during the course of your production. It presents the different recorded camera angles for each ‘event’, marked by an In Point and an Out Point) on one row of a spreadsheet style table.

12.1 TITLEBAR TOOLS

The CLIP LIST titlebar contains several important tools and features, discussed next (see also Clip Angle Preview monitors under Share Media Folders and Buffers – Each session has unique folders for its media assets.

- **Exit** – Leave the Replay Desktop and return to the Session screen.

Options in Section 7.4.1).

12.1.1 TABS

![Figure 116](image)
The CLIPS LIST normally comprises ten tabbed pages you can use to organize your media (sessions created on an older 3Play model show 16 tabs). To display a specific tab, simply click it. Alternatively, you can navigate tabs using left or right TAB buttons on the Control Surface with the Source Delegate set to CLIP LIST; or, finally, type a number (0-9) and punch GO TO on the control surface to jump to a specific tab.

Tip: On smaller screens, use the < and > buttons at either end of the titlebar tab row to access tabs at that have scrolled out of view.

Newly marked events (and newly added media files) are added below existing rows on the current page.

12.1.2 TAB MENU

Right-clicking a tab displays a context menu holding just one item – Rename lets you give each tab a unique name to suit your needs.

12.1.3 EVENT MENU

A second menu (Figure 117) is shown when you right-click on any event field.

This menu allows you to Cut, Copy, Paste or Delete the entire event. Copy and Paste between CLIP LIST tabs or paste selected events (including multi-selections) into the PLAY LIST. (Pasting into the PLAY LIST adds the entire event row – that is, all angles – into the target PLAY LIST tab.)

In addition, you can Undo and Redo (also available using standard keyboard shortcuts), set the Audio Level for all angles of selected events, or add selected angles to the Publish Queue.

12.1.4 SEARCH RESULTS

This special tab, situated at right in the CLIP LIST, displays all events that match the criteria you have supplied when performing Search operations. The results displayed in the tab are persistent and remain available for other operations to be performed until you perform another Search. Conveniently, the active search criteria are shown inside parentheses to the right of the Search Results label.

Tip: See Section 14.4 for more on using Search.
12.1.5 ADD MEDIA

It is possible to include video clips (and still images) in the CLIP LIST. Such files may have been imported into the session using the Import Media feature in Startup (see Section 6.3.1), or perhaps are located on another currently mounted volume, such as an external drive.

![Add Media Button](Image)

An Add (Media) button sits at left below the first CLIP LIST tab (Figure 119). Click the button to open 3Play’s custom Media Browser, which can be used to add video clips or still images to the current CLIP LIST page.

**Notes:**

1) Startup’s Import Media feature stores files within session folders but does not insert them into the CLIP LIST. Use the Media Browser to add them as described above. Media added in this manner can be played directly from the CLIP LIST or be used in a PLAY LIST.

2) Add Media supports compatible third-party asset management systems. Hold the keyboard Ctrl key down when clicking the + sign to access these tools.

The keyboard shortcut to open the Media Browser is F5.

MEDIA BROWSER

![Media Browser](Image)
The left and right panes of the Media Browser are the Location List and File Pane, respectively.

Tip: Press the keyboard Tab key to cycle through the Location List, Filter, and File Pane folders.

LOCATION LIST

The Location List is a column of favorite “locations”, grouped under the headings Clips, Stills, and My Media Locations. A list of sub-headings corresponding to named sessions or other content locations (discussed momentarily) can appear under these main headings.

Media files that were imported from the Startup Screen will be shown in the File Pane at right when you select a Location sub-heading under Clips or Stills. The third main header in the Location List is somewhat special.

CUSTOM LOCATIONS

Clicking the Add Media Location button (Figure 121) at the bottom of the Location List opens a standard system folder selector.

![Add Media Location]

Figure 121

The name of any folder you select using this button is added to the Media Browser’s Location List under the main-heading My Media Locations. (These custom locations can be accessed in other sessions opened by the same user as well.) File recursion for listings under My Media Locations is limited to one folder level below the folder (sub-heading) selected in the Location List.

Note: Adding a custom Location or adding a clip or image to the CLIP LIST does not import content (copy it into a session folder). Rather, external files are added as linked media. Be aware that large linked files, highly compressed video clips, or media storage devices with slow transfer speed can degrade system performance. It’s always best to import files beforehand when the opportunity exists.

BROWSE

The Browse button (Figure 121) allows you to navigate using a standard system file window to add files, rather than the custom Media Browser.
FILE PANE

Icons appearing in the File Pane represent content located in folders under the sub-heading selected at left in the Locations List.

These are grouped under horizontal dividers named for sub-folders in the File Pane, which allows related content to be organized conveniently. Double click a file (or press OK, to append it at the end of the current CLIP LIST page. Conveniently, the File Pane supports multi-selection as well.

![Figure 122]

Filenames for media added to the CLIP LIST are initially shown in the Memo field columns for all camera angles. (Since the Memo field is editable, you can modify these entries without breaking the link to the file. This allows the Memo entry to serve as an alias if so desired).

The In Point for a video file is initially 00:00:00.00, unless the file has embedded timecode (in which case the clip’s start timecode serves as for the In Point). The Out Point and Duration initially reflect the full duration of the file on disk. Still image duration is initially set to the value selected in the Options menu (default, 5 seconds) – see Section 7.4.1.

FILE FILTERS

![Figure 123]

The File Pane view is filtered to show only relevant content. For example, the Media Browser is also used in the PLAY LIST (discussed later) to let you choose a music file. In this case, only audio files are shown.

An additional user-configured filter appears above the File Pane. This is a ‘smart filter’ which quickly locates files matching criteria you enter, doing so even as you type. If you enter “goal” into the filter field, the File Pane displays all files at the current location with that text string in their filenames, and so on.
CONTEXT MENUS

Right-click a Location listed under My Media Locations to show a context menu with two items in it. Remove de-lists the location (but does not delete the folder and its contents from the hard drive or other volume where it is located). Browse lets you use the system file browser to add files.

Note: This menu is exclusively for use in the “My Media Location” section and is not available for other headings in the Location List.

Right-click on a file icon in the right-hand pane to show a menu providing Rename and Delete options. Be warned – Delete really does remove content from the hard drive (this menu is not shown if the selected item is write-protected).

12.2 MEDIA ASSET MANAGEMENT SYSTEMS

The integrated Media Browser native to NewTek live production systems is a competent asset management system, enabling you to quickly locate and work with files related to your sessions, or external files. Of course, more extensive media asset management systems provided by leading industry providers are also available within the NewTek ecosystem.

To utilize your favorite (supported) third-party asset management systems, you need simply hold down the keyboard Ctrl key when invoking a file browser. For example, clicking ADD MEDIA with Ctrl depressed will show your compatible custom asset management interface, rather than the native Media Browser.

Hint: Alternatively, you can open a standard system file explorer, by holding down the Shift key rather than Ctrl when adding files.

12.3 CLIP LIST TABLE FEATURES

By way of reminder (as discussed in depth back in Section 2.2.1), an event is not merely a ‘clip’. It can be likened to a ‘time window’ on the complete recording – a synchronized segment of all of the captured a/v streams. The CLIP LIST provides information about the events that have been marked, along with numerous event organization and management features.

The CLIP LIST is laid out in tabbed, spreadsheet-style tables. Labels in the header above the table identify the columns below.
The columns, in order from left to right, are as follows:

- **Event ID** – an editable field showing the numeric event row identifier.
- **In Point** – timecode when the marked event begins
- **Out Point** – timecode when the marked event ends
- **Duration** – the total time for the marked event
- **(Camera 1 – Camera x)** – the Memo fields for recorded clips

Tip: Camera columns can display custom labels when one is supplied in the Name field of the Input Configuration panel for the corresponding source.

### 12.3.1 EVENT ID

The Event ID column shows a unique identifier based on the CLIP LIST tab number and event row number, separated by a hyphen. Dragging an event row up or down to re-order it in the list automatically results in a change of the row number for that event and, if necessary, those that follow it in the same tab. EVENT ID numbers can also be directly edited, and this ability actually constitutes a very powerful content management tool.

For example:

- Select an EVENT ID field and change the (event row) number following the hyphen. The event row is moved up or down in the current tab accordingly. This works just as well for multi-selected event rows (the original order of the selection is preserved when moving multi-selected event rows).
- Use renumbering to locate certain types of events at easily remembered list locations (for example, you might assign all of your imported graphics clips to the 900’s).
- Multi-select several EVENT ID fields, and change the leading (tab) number – voila, the selected events appear in the new tab.

(If there are existing event rows in the target tab with the same numbers as the new arrivals, these are ‘pushed down’ and renumbered to make room for the new insertions.)

Note that individual clips (camera angles) each have their own unique numbers, too, though these aren’t directly shown in the CLIP LIST. Clip ID’s are in the format ‘tab # - event # - camera’. For example, the full Clip ID for an angle might be “0-127-3”. (This Clip ID number is displayed in the Clip Info area beneath monitors when playing CLIP LIST entries.)

Tip: The first column of PLAY LIST tabs displays a similar, but non-editable, CLIP ID, which includes the angle number. These numbers are local to the PLAY LIST, and are not updated by changes in CLIP LIST order, etc.
12.3.2 IN/OUT POINTS, DURATION (AND TRIMMING)

The initial values in timecode fields are established by your marking operations (using the IN and OUT buttons on the Control Surface). Afterward, they can be modified (within the bounds of actually recorded footage) in several different ways:

- You can simply drag the mouse pointer left or right above a timecode field.
- Or navigate to the field using arrow keys, etc. (snapping the current timecode value into the FastClip dataview beneath the Output A monitor), then edit the existing value using the keyboard and press ENTER.

Another approach to trimming is to Jog (using the Control Surface) to a different timecode position, and then hold down SHIFT while pressing IN or OUT to update the current In Point or Out Point respectively. (See also Section 12.4, Playing Clip.)

Of course, changing the value of the In Point or Out Point will have an effect on Duration, and vice versa. (Editing Duration normally affects the Out Point, providing the desired length can be achieved by doing that alone; in rare cases when the Out Point reaches the end of the recorded footage, the In Point is adjusted as required.)

Tip: The Jog control is normally restricted to the established length of the clip, as established by its In Point and Out Point. To move into frames beyond this range, hold down SHIFT.

Naturally, all clips for the current event are affected by trimming operation as above. In the case of multi-selected events, only the displayed clip and associated clips for the same event are trimmed.

Tip: Individual clips that have been added to a PLAY LIST can be trimmed independently, without altering the timing of the original event in the CLIP LIST, or other PLAY LIST clips originally added from the same event.

12.3.3 MEMO FIELDS

Memo fields allow you to insert text notes or tags to accompany any clip for an event (for more information about tagging, please see Chapter 14). These can identify a player and team, the type of action marked, or any other sort of information that is useful to you.

To create a new Memo entry (or overwrite an existing entry completely), simply navigate to the desired Memo field, add text to the dataview (by typing or using tags), and finally press ENTER to confirm the entry and update the Memo. (To cancel without accepting changes, press the ESC key.)

There are several ways to add to or modify already existing text in a Memo field. Click the Memo cell with the mouse or navigate to it using the keyboard or Control Surface; the existing text entry is snapped into
the *dataview*. Then press *ENTER* (or F2 on the keyboard). The characters of the current entry are selected in the *dataview*, with the cursor placed to the right of the text, ready for you to make additions or edits.

### 12.3.4 MANAGING EVENTS

Events can be trimmed and named as described in prior sections (see Section 9.10). We have spoken, too, about managing clip order and tab placement by editing the *Event ID* (12.3.1). Events can also be re-ordered by clicking anywhere in their row and dragging up or down.

*Cut, Copy and Paste* functions using the *Control Surface* or keyboard shortcuts (Ctrl + x, Ctrl + c, and Ctrl + v) work just as you would expect, and this offers another way to move events into other tabs. Alternatively, you can access these features from a context menu opened by right-clicking. (This menu also provides *Audio Level* settings for the recorded *events*.) See Section 12.1.3 for more.

The *CLIP LIST* table supports multi-selection as well.

- Press *SHIFT* when clicking an item to select all items between the existing and newly selected item
- Hold down Ctrl on the keyboard while clicking non-adjacent items to select only those individual entries.

Pasted items within the *CLIP LIST* (and *PLAY LIST*) will be inserted below the currently selected event row. When dealing with multi-selected items, insertions are made in their original order.

### 12.4 PLAYING CLIPS

You can, of course, move through the currently displayed clip by pressing *PLAY* and *STOP*, or by using the *T-Bar* or *Jog Wheel* on the *Control Surface* (see Section 9.6 for more detail). As we are discussing *CLIPS LIST* features in this section, though, note that playback can also be initiated by double-clicking the *Memo* field for a clip, or by clicking the onscreen *Play* button in the transport control group beneath the output monitor for *Channel B* hosts.

### 12.5 SELECTION, CHANNELS, & DISPLAY

The highlighted clip in the active event row is shown on the current output (*A* or *B*). In the case of multi-event or multi-clip selections, the last-selected clip is the one displayed on output.

*Tip: If a CLIP LIST asset is unavailable for any reason, it is shown with a red border.*

To view a different clip for the current event without jumping to the first frame of the clip, press 1 - (4 or 8) on the keyboard Numpad.

The current list selection state is separately stored for each *Channel Delegate* (*A* and *B*), so it is as if you had two *CLIP LISTS*. For example, if you select a certain
clip when the Channel Delegate is A, then press B and select a different clip in another tab, when you return to Channel A the original item and tab for that delegate are still highlighted.

12.5.1 PLAY INDICATOR

Clip selection (and consequently, display on output) normally follows Memo field selection, whether by Control Surface, keyboard, or mouse operation – when no clip is playing. Moving into a timecode field using the arrow keys or Previous/Next buttons results in the clip viewed being the one from the first camera in the CLIP LIST table.

It is different when a clip is already playing. In this case, the new selection does not usurp the currently delegated channel’s output display. To make it clear which clip will be affected by transport operations at any time, the Event ID field for a playing clip (or clip that would play if you pressed PLAY) always has a red background.

12.6 ADD TO PLAY LIST

Selected clips can be added to the current PLAY LIST pane in several ways:

- Press the ADD TO PLAYLIST button on the Control Surface.
- Drag a clip selection onto the PLAY LIST pane with the mouse.

Tip: You can also add all clips from one or more events to a PLAY LIST in their natural order in one easy operation. Simply select the Event ID field(s) and proceed as above.

The target insertion point for clips added to the PLAY LIST by dragging is shown by a white line before releasing. The other methods insert the new clips below the currently select PLAY LIST entry.
At times you will likely wish to assemble and play a compilation of clips forming a highlight reel or prepare such a sequence for other purposes. The PLAY LIST module supports these special playback features and more.

Multiple PLAY LIST tabs let you organize and switch from one compilation to another with alacrity. PLAY LIST tabs can include imported media and music; content can be re-ordered, trimmed, have its speed and audio levels adjusted, and be rendered as a clip.

The PLAY LIST is similar to the CLIP LIST but offers a number of specialized features and has a different columnar layout. The PLAY LIST has a gold border when it is the active Source Delegate (see Section 9.3).

**Tip:** Drag the upper border of the PLAY LIST up or down to show more or less rows. Double-click this drag bar to reset it to its default position.

### 13.1 Titlebar Tools

The PLAY LIST titlebar contains several important tools and features, discussed next.

#### 13.1.1 Tabs

By default, the PLAY LIST comprises ten tabbed pages you can use to organize your media. To display a specific tab, simply click it. Alternatively, you can navigate to a tab by pressing the left or right TAB buttons on the Control Surface with the Source Delegate set to PLAY LIST.

#### 13.1.2 Tab Menu

Right-clicking a tab displays a context menu holding two items:

- **Rename** – Give each tab a unique name to suit your needs.
- **Delete** – Tabs in the PLAY LIST can be deleted at any time.
**13.1.3 ADD MEDIA & EXPORT TO CLIP LIST**

The PLAY LIST’s *Add Media* feature works in identical fashion to its sibling in the *CLIP LIST* – see Section 12.1.5.

*Tip: Hold the keyboard Shift key when clicking Add Media to use the system file browser.*

The nearby *Export to Clip List* button allows you to flatten the entire playlist, including audio, down to a single clip. This clip is then appended to the current *CLIP LIST* page.

**13.1.4 MUSIC TOOLS**

At the opposite end of the PLAY LIST titlebar you will see controls that allow the addition of a background music track for highlight reels (Figure 129). The common WAVE and MP3 audio file formats are supported.

Enable the *Music Track* switch and select *Browse* from the nearby drop-down menu to open the custom *Media Browser*. (After use, the menu lists your most recent selections for convenience.) The *Media Browser* was discussed back in Section 12.1.5, so we won’t review it again here.

*Tip: One useful thing to note is that because the Media Browser is context sensitive, when opened from the Music menu it automatically points to Audio locations in its left column (the Locations List).*

The switch at left (of the *Music Track* label) allows you to toggle playback of your selection on or off. The duration of the file selected is shown at right.

*Tip: Playback of files that are longer than the playlist duration will be automatically truncated (and faded out) when PLAY LIST playback ends.*
More elaborate controls are located in the *Music Configuration* dialog (Figure 130).

To open the *Music Configuration* panel, click the configuration button (gear) located to the right of the *Music Track* menu. The panel contains two controls as follows:

- The numeric *Play Start Time* control allows play of the selected music file to be delayed until a set time elapses from when *PLAY LIST* playback is first initiated. This can be useful when, for example, an imported ‘bumper’ clip with its own audio precedes the clips in your highlights reel. Click in the number field to manually edit it using the keyboard, or simply drag the mouse pointer left or right above it.
- The *Volume* control allows you to adjust the output level of the selected music file.

### 13.2 THE PLAY LIST TABLE

Unlike *CLIP LIST* rows, each *PLAY LIST* row contains just one clip (rather than all clips for a given event). As you would expect, playback progresses playlist-style beginning at the currently selected row and proceeding until the end of the playlist (or manual interruption).
The columns, from left to right (Figure 131 and Figure 132), are labeled as follows:

- **Clip ID** – a non-editable display showing the numeric clip identifier. The hyphenated digit identifies the source angle for the clip.

  **Note:** The PLAY LIST Clip ID is based on the ID of the source added to the PLAY LIST. However, PLAY LIST clips are independent entities. Modifying the Event ID, Memo field, In/Out Points, etc., or even deletion of a clip in the CLIP LIST does not affect its PLAY LIST counterpart. And likewise, editing an item in the PLAY LIST has no effect on CLIP LIST content.

- **Memo** – an editable name or comment.
- **Audio** – to control gain across all channel's in the clip (not including the Music bed, which is configured above the Playlist).
- **In Point** – timecode field showing the In Point for the clip.
- **Out Point** – timecode when the clip will end.
- **Speed** – a numeric slider allowing you to preset the speed at which the clip will play back.
- **Transition** – select a transition to introduce the next clip in the playlist.
- **Transition rate** – numeric input field allowing you to specify the time for the transition.
- **Ends At** – the total time for the playlist until the end of play for the clip in the current row.

### 13.3 PLAY LIST PREPARATION

Clips are added to a PLAY LIST tab from the CLIP LIST in any of several methods, as discussed in Section 12.6. In addition, PLAY LIST rows can contain recorded clips or still images imported Add Media button in the PLAY LIST (see Section 13.1.3).

Once added to the list, PLAY LIST rows can be freely re-ordered by dragging them up or down, or using context menu tools (Section 13.4). These tools, along with standard Cut, Copy and Paste shortcut keys (Ctrl + x, Ctrl + c and Ctrl + v, respectively) allow you to move clips from one PLAY LIST tab to another, or within the same page.

### 13.3.1 CLIP SELECTION

A clip can be selected (highlighted) by navigating to it using the Control Surface, keyboard, or direct mouse click. Multi-selection is supported as follows:
• Hold down *SHIFT* while navigating (by any means) to another clip to select both clips and all others between them.

• Select the *Memo* cell for a clip, then press and hold *Ctrl* on the keyboard while clicking another cell to multi-select clips that are not near one another.

**Tip:** When clips are multi-selected, many operations will affect all selected clips at once. For example, you can turn the sound on or off for a number of clips in this manner.

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**PLAY INDICATOR**

Similar to the *CLIP LIST*, the *Clip ID* column in the *PLAY LIST* shows a red background behind one entry during play to denote the current playhead position in the list.

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### 13.3.2 CHANGING A CLIP

Perhaps, after adding a clip to a playlist, you decide you want to show the same event from a different camera angle. You could go back to the *CLIP LIST*, locate the event, and add a different clip to the playlist. There is a better way to revise angles without changing timing though.

To do so, hold down the *ANGLE* button on the *Control Surface* and use the  ◀ and ▶ buttons to change cameras; alternatively, access a specific angle directly by selecting a *number pad* button on the *Control Surface* with *Angle* held down.

**Tip:** Copy and paste a clip, then edit the copy in this fashion to inset a clip from the same time segment into the Play List without removing the original.

---

### 13.3.3 MEMO

Initially, newly added clips show the same *Memo* cell content as the corresponding *CLIP LIST* entry. *PLAY LIST* clips are independent once added, however. Comments can be changed (and the clips can be trimmed) without affecting the original source event.

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### 13.3.4 AUDIO

You’ll recall that we discussed the music features offered by the *PLAY LIST* back in Section 13.1.3.

Those features pertain to a music bed, or ‘backtrack’ for your playlist. In contrast, the *Audio* column control gain across all channel's in the clip (not including the Music bed, which is configured above the Playlist).
13.3.5 IN AND OUT POINTS (TRIMMING CLIPS)

To change the timing of clips in the PLAY LIST, you can use the same methods described earlier for the CLIP LIST – see Section 12.3.1. Naturally, the value in the Ends At field cannot be directly edited. It is a calculated field, showing the cumulative duration for the current clip and all entries in the list above it.

13.3.6 SPEED

Each clip can be played at its own speed – the range for the control is from 10% to 400%.

The numeric slider in the Speed column can be modified in the same ways as the similar audio value control. Even when playback is underway, if you select this cell, you can also use the Control Surface number pad to change the current value, pressing ENTER to complete the operation. (Multiple selections are also supported for direct keyboard adjustments.)

Also, when PLAY LIST playback is underway, you can use the T-bar on the Control Surface to further modify Speed interactively. (This does not overwrite established clip speed settings in the playlist).

*Tip: Adjustments made during playback are applied as multipliers for the playlist clip speed. For example, if the set speed for a PLAY LIST clip is 50%, and you further reduce speed by pressing the 50% Speed Preset on the Control Surface, the actual playback rate is 25%.*

13.3.7 TRANSITION

Like the two Audio columns, the Transition column controls allow you to switch the transition to the next clip on or off and set a value (in the by now familiar ways) – in this case, for the transition duration.

*Tip: Multiple selections are supported for toggling the effect on and off, as well as for direct keyboard effect duration adjustments (remember to press Enter to conclude edits).*
The default transition is CUT. Click the cell to show a transition palette allowing quick selection of a different effect (Figure 133).

The CUT and FADE items in the transition palette are always available. The other thumbnail icons can be replaced with different transitions (including Animation Store effects). To do so, move the mouse over a thumbnail icon and click the + sign button that appears. This will open 3Play's Media Browser.

**Tip:** Hold Shift on the keyboard when clicking + to use the standard system file browser instead.

The Transition rate column holds numeric controls allowing you to specify the time for each transition. Use the drop-down menu to select a preset time or drag the mouse left/right over the current value.

### 13.4 CLIP CONTEXT MENU

The PLAY LIST also features a context menu (Figure 134). Not unlike its CLIP LIST equivalent, the menu provides access to Cut, Copy and Paste, Delete, Undo and Redo features (also available using standard keyboard shortcuts). It also has two important additional items.

![Figure 134](image)

The Export PLAY LIST option flattens the entire playlist, including audio, down to a single clip which is appended to the current CLIP LIST page. (This is the same feature discussed back in Section 13.1.3.)

The Add to Publish Queue item relates to 3Play’s social media and file Publish features, which provide both batch process and automatic immediate upload functions (discussed in depth in Chapter 16).

### 13.5 PLAYBACK

To initiate PLAY LIST playback, select a clip and press PLAY (►) on the Control Surface or Desktop; alternatively, double-click a clip’s Memo.
See Section 13.3.6 regarding the Speed adjustments during playback.

### 13.6 PLAY LIST EDLS

On exiting a session, 3Play creates an EDL (Edit Decision List) file for each existing playlist. These files can be used to reconstitute a playlist in NLE (non-linear editing) applications with EDL file import support.

3Play’s EDL files are created on the master Session Drive for the session, in a folder located at `drivename:\Media\EDL\session name\`. 
“Instant replay” – just two words, but fraught with deep implications. Consider the word “replay”: As a minimum, this requires a powerful audio and video recording and playout system.

But “instant” demands even more – not merely storage and playback technology, but a critical need to identify and recall key clips, and do so very, very quickly indeed. This chapter will acquaint you with 3Play’s innovative data management tools.

### 14.1 OVERVIEW

3Play provides powerful audio and video capabilities – but for its primary role, this is not enough. Marking events and clips are likewise vital; unless you have an eidetic memory and can mentally associate hundreds of events with their timecode, getting that perfect clip on the screen on demand would be very difficult.

Enter “metadata”: in this case, consisting of descriptive comments and identifiers for your clips, added to Memo fields in plain text or using your personal shorthand.

In concert with 3Play’s powerful and easy to use search features, Memo content lets you locate that special clip in moments.

Of course, Memo field content can also be used to help you quickly and easily organize, manage, or publish your data in powerful workflows.

Entering metadata could be very tricky when you are busy marking events. Thankfully, 3Play’s potent TAGS feature and FastClip workflow mitigate this burden, reducing complex Memo entries to a few quick button presses. TAGS are tightly integrated with the search tools, making for a combination of functionality that you’ll find virtually indispensable.

#### 14.1.1 TAGGING WORKFLOW

The TAGS pane lets you pre-configure tabbed lists, each a table whose individual cells contain various text entries. You will likely use tabs for different categories of clip identifiers, such as player names, action types, and so on (the default tab names hint at this approach).
No matter what the content of a given tag cell might be, the cell itself is easily identified by its spreadsheet-style coordinates – that is, its row and column number. For example, in Figure 136, the tag cell at row 0 and column 2 has the text value “Visitors”. The tag number for that cell, “02”, is easily understood – and equally easily entered.

Tip: The “TEAM” tab in the example actually uses just one row of tags. In such cases, you don’t even need to enter the first digit. Simply pushing 2 on the number pad snaps the text value “Visitor” into the FastClip dataview.

Typing a tag number on the Control Surface number pad (with the TAG button lit) snaps the text entry in the corresponding cell into the dataview. You can easily build complete sentences with a few number pad button presses using this method.

Finish the operation by pressing ENTER to add the final text to a clip Memo (or push the SEARCH button to use your entry as criteria to quickly find specific clips you have tagged previously.

14.2 THE TAGS BUTTON

3Play’s TAGS feature relies on the Control Surface number pad as its primary input device. (In contrast, numeric entries made using the keyboard are always treated as literal numeric characters.)

Similarly, if the TAGS button is not lit, Control Surface entries are added to the dataview as simple numbers. (It’s possible to enter tags by directly clicking cells in the TAGS pane with the mouse, but you’ll usually find it faster to work with the Control Surface.)

14.3 THE TAGS PANE

Let’s explore the inner workings of the TAGS pane.
14.3.1 TITLEBAR TOOLS

In a brand-new session, the TAGS pane initially appears in the form of an innocuous bar (imaginatively labeled TAGS) across the bottom of the Replay Desktop. This is a vertical ‘drag’ (re-sizing) bar, and also provides several added convenience features related to viewing or hiding the TAGS pane.

To begin, double-click the bar (left or right of the TAGS label) to expand the pane just high enough to show the Tabs, numbered column header row (0-9), and the first row (i.e., row 0) of tag cells. This is the default ‘open’ TAGS bar position.

When you move the mouse over the drag bar the pointer turns into a double-headed arrow.

Click and drag to move the bar vertically to expose as much of the TAGS pane as you wish to see. Double-click the bar at any time to return it to its default (tabs plus one row) height on the screen. You can also drag the bar to the bottom of the screen to close the pane, but you might prefer another approach, discussed next.

The central label area of the drag bar is bounded by small triangles (Figure 140) that brighten on roll-over. The mouse pointer appears as a pointing hand when it is in this zone. Click once here to minimize the TAGS pane; click it again to restore the TAGS pane to its last expanded state.

Tip: Pushing SHIFT + TAGS on the Control Surface has the same effect as clicking the TAGS bar in the central minimize/restore zone.

By default, the TAGS pane provides ten tabbed pages you can use to organize your entries. You can navigate through the tabs by pressing the left or right TAB buttons on the Control Surface with the SHIFT button held down. (Alternatively, simply clicking a specific tab displays it.)
TAB MENU

Right-click a tab to show a context menu holding two items:

- **Rename** – Give each tab a unique name to suit your needs.
- **Delete** – Tabs can be deleted at any time.

*Note: The number of tabs is not limited to ten. You can add new tabs easily by clicking the + button, right next to the last tab. On smaller screens, use the < and > buttons at either end of the titlebar tab row to access tabs at that have scrolled out of view.*

EDIT TAGS

You will find the *EDIT TAGS* button at the right-hand end of the *TAGS* pane titlebar (Figure 142). Clicking this button allows you to create a list of tags or modify the existing one (tagging functionality is de-activated while editing).

To create or update a tag, simply enable *EDIT TAGS*, click in a cell, and type. Pressing *ENTER* confirms the edit and moves the cursor to the next tag cell, ready to continue. When finished, turn off *EDIT TAGS* to resume normal tagging operation.

*Tip: If any cell is empty, tapping Enter effectively performs a 'skip to the next tab’. This fixed cell serves as a ‘null’ entry that can be especially useful in the Auto-Advance tagging workflow discussed next.*

AUTO ADVANCE

Often, you will want to quickly create a *Memo* comprised of a short series of tags. The *Auto Advance* feature makes this a simple task. When it is active, the *TAGS* pane automatically advances to the next tab after a new tag is added, then awaits further input.

14.3.2 A TAGGING EXAMPLE

Suppose, for example, that you have configured three *TAGS tabs* as follows:
• The TAG button is lit on the Control Surface
• Auto Advance is enabled in the TAGS pane titlebar.

As play proceeds, a player commits a foul, and you press (Mark) OUT to add the event to the CLIP LIST. To build a complete comment for the Memo field for the new event, press the following buttons on the Control Surface:

10203 ENTER

That’s it – you’re done! The current Memo cell now contains the text below:

Home Squires foul

Let’s break this example down, step by step, shall we?

• “TEAM tab entries are both on the first row, so a single digit completes tag selection. Entering 2 added the tag “Home” (followed by a single space) to the dataview.
• Auto Advance immediately presented the PLAYER tab, which awaited another valid entry.
• The next entry (02) identified the second tag in the top row (Squires) and appended it to the dataview.
• Auto Advance kicked in again, moving us to the ACTION tab, where entering 03 added “foul” to the dataview content.
• Finally, pressing ENTER updated the selected Memo.

Tip: If you hold down oo when pressing ENTER, the tag is sent to the Memo fields for all angles of the current event, rather than just the current cell.

Experience has shown that the numbers of frequently entered tags soon become so familiar that it’s often unnecessary to even have the TAGS pane open to add the desired metadata to clips.

14.3.3 INPUT HINTING

Notice that, while tagging, either the first column or first row of the TAGS pane is displayed with a bright green highlight.

As mentioned earlier, it’s not necessary to enter the row number when entries in a TAGS tab only use the first row (row 0).

A single digit suffices to identify the desired tag in this case. Often, though, two digits are required to fully identify a specific tag.

The green highlighting in the TAGS tables provide visual cues to tell you which number you need to enter next. If the row numbers are highlighted, you know that a row number is required. After a row number is entered, column numbers are highlighted. (In Figure 145, a row number – 3 – has been entered; the TAGS pane patiently awaits a column number.)

14.4 SEARCH

Searching for something ... your glasses, car keys, your spouse (!) ... can be oh-so tedious. It’s hard to beat the joy and relief when the search is successful, however – and sooner is always better than later.

In an instant replay setting, too, there is no time to waste (if you can’t find just the right clip faster than your director can blink, you may just find yourself looking for a new job.) In recognition of the vital importance of this matter, fast, innovative search-related functions are intimately integrated throughout 3Play’s workflow, interface, and Control Surface operations.
14.4.1 DATAVIEW ENTRIES

Figure 146

By this point in the manual, 3Play’s *dataview* has been mentioned over and over again, in many different contexts:

- Every character of textual and numeric input to the system, whether punched on the *Control Surface* or typed on the keyboard, flows through the *FastClip dataview*.
- Likewise, almost every snippet of legible information – be it an *Event* or *Clip ID*, timecode value, *Memo* entry, or tag – that appears on the *Replay Desktop* can be easily and quickly directed to the *dataview* by simply navigating to it using the *Control Surface*, keyboard or mouse click.

The benefits of this ‘metadata pipeline’ become abundantly clear in connection with 3Play’s *Search* functions. In a nutshell, searching works as follows:

1. Post suitable search criteria to the *dataview*.
2. Execute an operation using the criteria.

Let’s add some detail about those simple steps. First, let’s consider search criteria – what forms it can take, where it comes from, and how it can be operated on.

ENTERING CRITERIA

Letters, numerals, ‘type-able’ symbols, words or phrases combining the aforementioned, can all serve as search criteria. Timecode, *Clip* and *Event IDs* work, too, for certain operations.

Of course, you can go ‘old school’ and just type your criteria into the *dataview* using the keyboard, but – since simply selecting a cell on the *Replay Desktop* snaps its value into the *dataview* (Figure 146), often one need only navigate to (or click) a cell to supply search criteria without any typing at all. Similarly, the *TAGS* feature lets you quickly populate the *dataview* with multiple terms perfectly suited to many searches.

TAGS AS CRITERIA

Earlier in the chapter (Section 14.2), we detailed various aspects of the *TAGS* feature, showing how it can quickly be used to build (simple or more) complex *Memo* entries.
The TAGS feature can also be used to quickly add simple or more elaborate search criteria to the dataview. The workflow for adding tags is identical, the only change being that instead of pressing ENTER (which would post a Memo entry) one presses the SEARCH or GO TO button instead as desired.

Of course, with the TAGS button on the Control Surface off, the Control Surface supports direct numeric entry.

14.4.2 FINDING MATCHES

It’s helpful to know that 3Play’s search engine performs a logical OR operation using the criteria you supply. Thus, an exact match of every element of the search criteria is not required. Your search criteria can include, for example, multiple words, or consecutive character strings, including numbers or common symbols.

When a SEARCH operation is executed, event rows are listed in the Search Result pane (CLIP LIST) whenever of their cells contains elements matching any search criteria item tab.

Let’s consider some simple examples. Suppose you have made the following into Memo entries (Figure 148):
The table below illustrates which events will be added to the Search Results tab for a SEARCH operation based on the criteria shown at left:

<table>
<thead>
<tr>
<th>Search Criteria</th>
<th>Search Result(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. home</td>
<td>0-2</td>
</tr>
<tr>
<td>b. hom</td>
<td>0-2</td>
</tr>
<tr>
<td>c. 22</td>
<td>0-2 0-4</td>
</tr>
<tr>
<td>d. &quot;visitors 22&quot;</td>
<td>0-2 0-4 0-5</td>
</tr>
<tr>
<td>e. &quot;visitors 22&quot;</td>
<td>0-4</td>
</tr>
</tbody>
</table>

First, we can see that a ‘perfect match’ is not necessary. The first two SEARCH operations produce identical results regardless of whether the criteria entered is “Home” or “Hom”.

Next, take a look at the example in row d. Notice that including “visitors” in the criteria did not suffice to exclude Event # 0-2 from the result. Let’s consider how SEARCH processing produced this result to see why not:

- First, the SEARCH process checked to see whether the leading element in the criteria (i.e., “visitors”, without quotes) was found in any Memo field. This cause the inclusion of Events # 0-2 and 0-5 in the Search Result.
- Next, the second element of the criteria (22) was evaluated. This resulted in Event # 0-4 being included along with prior matches in the result.

We can see that 3Play’s OR type search processing included matches for any element included in the criteria. It’s useful to observe, too, that quotation marks can be used to force the search to treat multiple elements in the criteria as an inseparable unit.

For example, in the last two rows of the table above the criteria are identical, save for one thing: in the second instance, quotation marks surround the two elements (i.e., “visitors 22”). The search treats the enclosed items as a single object and produces a corresponding result.

Numbers are treated like any other character when included in the criteria for a SEARCH, but play different roles when used with GO TO, discussed next.
14.4.3 GO TO

As discussed in Chapter 9 (The Control Surface) the GO TO button has several functions. Pressed alone, GO TO takes an Event ID number as input, and takes you to the matching event row in the CLIP LIST when successful.

It’s not necessary to enter hyphens for many GO TO operations to work correctly. Thus GO TO operations with “0-4” and “04” as input criteria produce identical outcomes. Partial entries can be useful too; recall that entering a single digit and pressing GO TO jumps to the corresponding CLIP LIST tab. Use hyphenated digits with an added number to specify the clip angle (for example, press 2-034-4 followed by the GO TO button jumps to the fourth angle for clip 034 in Clip tab 2).

Pushing SHIFT with GO TO performs a ‘go to timecode’ operation (which, you’ll recall, put 3Play into Delayed playback mode). Timecode entries are properly formatted as hh.mm.ss.ff (hour, minute, seconds, frames), but – just as hyphens can be omitted for GO TO (Event ID #) operations, so punctuation is optional for timecode entries.

Omit digits thoughtfully for timecode operations, however. GO TO timecode operations parse the search value right to left. The entry 1130 (or 11.30) will be assumed to represent the timecode value 00.00:11:20 (11 seconds, 20 frames), rather than 11.20.00.00 (11 hours, 20 minutes).

Tip: Remember that precise numeric entries can be ‘snapped’ into the dataview (and used for GO TO operations) by simply selecting In/Out Point cells in the CLIP or PLAY LIST.

14.4.4 SEARCH RESULTS TAB

The Search Results tab appears at right in the header of the CLIP LIST. Matches from SEARCH operations are listed in this pane.

Items shown in the Results tab can be added to other tabs using copy and paste techniques, as well as (PLAY LIST only) using the ADD TO PLAY LIST button on the Control Surface, or simply by dragging them.
Tip: A red border is drawn around the dataview window when an entry is deemed to be inappropriate for the SEARCH or GO TO operation you choose.

Naturally, you can also select cells in the Search Results tab to snap their values into the dataview, and then use the value for other purposes.

For example: Search Results does not support CUT operations. This would seem to prevent actually moving an item into a new tab (as compared to a copy/paste that results in a duplicate of the event). However, you can successfully move items as follows:

- Select an Event ID in Search Results to snap it into the dataview.
- Punch GO TO, which locates the original clip in its own tab.
- Press CUT and PASTE the item into another location.

14.5 IMPORT TAGS

Imagine using everyday tools like Microsoft Excel® to enter and manage your tags. Simply save the correctly formatted spreadsheet in .CSV format and import it into 3Play’s Tags pane.
You can import just one new tab to your current Tags list (say, to import the players list for a visiting team), or you might import an entire multi-tabbed list from in your favorite spreadsheet, managing its content externally (Figure 151).

### 14.5.1 CSV EXAMPLE

Prepare the CSV file on a single sheet in your spreadsheet software of choice. Identify each tabbed TAGS page by an entry in the first column. The example below illustrates the correct format for a table with two tabs named “Home” and “Guests”:

<table>
<thead>
<tr>
<th>Home</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>20 Ginobili</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>11 Ayres</td>
<td>21 Duncan</td>
<td>31 Battier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>02 Leonard</td>
<td></td>
<td>22 Splitter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>03 Belinelli</td>
<td></td>
<td>23 Daye</td>
<td>33 Diaw</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>04 Green</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>05 Joseph</td>
<td>15 Bonner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>16 Baynes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>07 Hamilton</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>08 Mills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>09 Parker</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guests</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>20 Oden</td>
<td>30 Cole</td>
<td>40 Haslem</td>
<td>06 James</td>
<td>9 Lewis</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>01 Bosh</td>
<td>11 Andersen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>22 Jones</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>03 Wade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>15 Chalmers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>08 Beasley</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0 Douglas</td>
</tr>
</tbody>
</table>

Notes:

- Row and column numbers for each tabbed list must be entered as shown.
- The name of the tab will come from the name of the spreadsheet page.
- Tags are always in pages of 10 rows with 10 columns. (If the spreadsheet contains additional entries, the excess will be ignored)
- Import of Excel files always replaces all tabs of tags.

Figure 152

To the right of the Import Tags button, is a new Export Tag button:

- Export supports both xlsx and csv formats
- When exporting Tags using Excel, each tab will be an Excel sheet
- Duplicates will have a number appended in the spreadsheet name
15 TRANSITIONS

3Play’s powerful transitions deliver sophisticated style and state of the art capabilities to your replay output. They can even include custom graphics and audio, adding powerful emotional impact.

This section explains the selection and use of appropriate transition effect, various transition workflows that 3Play offers, and the included graphics tools enabling you to author custom transitions.

Figure 153

Dynamic transition effects can be used to introduce replay clips with added drama and excitement. 3Play supports different types of effects (including custom transitions) as well as more than one workflow capable of effects.

15.1 PLAY LIST TRANSITIONS

Many replay systems provide the ability to play a prepared sequence of clips with transitions between them for use as highlight reels. As a rule, using transitions in this manner requires you to dedicate not just one, but two outputs toward achieving transition effects between clips.

3Play’s PLAY LIST module, however, directly supports integrated transition effects, eliminating the need to dedicate an extra output for this purpose. We’ve covered these tools in depth already (see Section 13.3.7), so we will not belabor the advantages of this workflow here.

15.2 PROGRAM-PREVIEW TRANSITIONS

Of course, you might, instead, want to use 3Play’s colorful transitions apart from more elaborate PLAY LIST preparation. For example, you might want to quickly run replays with dramatic effect specifically tailored to the sport, team, or play that it will show.
To distinguish this workflow from PLAY LIST usage, we borrow ‘program-preview’ terminology from the traditional video switcher realm, which employs a very similar approach.

15.2.1 ‘PROGRAM OUT’

In this workflow, one output is assigned ‘program out’ duties. The ‘program output’ comprises the signal path for principal replay output (i.e., the a/v stream selected on the ‘program bus’) to downstream devices, whether for direct display or further processes such as switching, recording, etc. In this alternative workflow, Channel B serves as 3Play’s ‘program bus’.

15.2.2 ‘PREVIEW OUT’

A second channel (often referred to as the ‘preview bus’) serves a special preparatory role, allowing you to queue up the source you intend to send to ‘program out’ next. Channel A thus becomes 3Play’s surrogate ‘preview bus’.

15.2.3 AUTO WORKFLOW

Using 3Play in a program-preview workflow could scarcely be simpler – or more powerful. Let’s consider an example:

- Channel B (‘program’) is sending a live camera feed to a downstream stadium display
- With control delegated to Channel A, you select a replay clip
- Press the Auto button on the Control Surface

Instantly, the currently selected transition introduces the replay clip from Channel A (‘preview’). Replay playback commences automatically from the clip’s In Point.

- If LOOP is enabled in the Transport controls, the replay source will continue playing over and over until you interrupt it, perhaps by a TAKE, or another AUTO operation.
- Otherwise, it might play right past the marked Out Point to the limit established by the Out Point Padding setting (Options menu – see Section 7.4.1), giving you a little leeway to safely transition back to the original source (now on ‘preview’).

15.3 TRANSITION EFFECTS

3Play supports two distinct types of transitional effect. Standard effects could be loosely lumped under the description of wipes. In general, this type of effect involves the pixels of the current scene being progressively replaced by those of the incoming image.
In many cases, these transitions involve a blending of colors that follows some sort of pattern (Figure 154) – whether a simple ‘full-screen’ fade, an animated ‘radar’ or ‘blinds’ pattern, or something more elaborate. This said, some wipes in this class also perform translation (i.e., shifting of the imagery on x and y axes during the effect) and even stretching, compression, and rotation effects.

3Play also offers a second type of transitional effect called (for reasons that will be obvious) Animation Store effects. Even compared to the effects provided by typical broadcast video switchers, 3Play’s Animation Store transitions (Figure 155) constitute a powerful effect solution, eliminating the need to combine separate animations, transition effects, and sounds on the fly.

Animation Store effects can do everything that standard wipes can do, but usually also include embedded full-color animated overlays (hence the moniker) and can even include audio effects.

A useful set of sample Animation Store effects are included with your 3Play, but the real power of the Animation Store system is that you can quite easily create custom effects using the supplied Animation
Store Creator add-on application. You can employ your own custom graphics, such as team logos, and more elaborate overlay animations along and embedded audio.

**Note:** Audio embedded in Animation Store effects is not currently supported for the program-preview transitions but can be heard in PLAY LIST effects.

### ANIMATION STORE CREATOR

The Animation Store Creator application is launched from 3Play’s Startup>Home page. Complete documentation for the application can be found using the Help icon (also on the Home page).

Briefly, to create an Animation Store effect, a black and white animated image sequence defines the transparency. When warping is desired, you prepare this Wipe Sequence animation using a supplied gradient image to stand in for video imagery.

This Wipe Sequence animation is then combined with a full-color Overlay Animation (Figure 155) to produce the final effect, which you can then apply on demand simply by pressing the AUTO button.

#### 15.3.1 EFFECT SETTINGS

The settings for transition effects are very simple. Of course, the most basic of these is the selection of a specific effect.

**Figure 156**

Click the small thumbnail effect beside the AUTO button in the onscreen Transition control area to reveal a palette showing nine effect icons for quick access. The features and options provided in this palette are identical to those discussed previously (Section 13.3.7) in connection the very similar PLAY LIST transition effects.

**Figure 157**
Transition timing for the current effect is set using the menu located just to the right of the effect icon. You can choose S(slow), M(medium) or F(fast) effect speed presets using the menu. Note that the default preset times is automatically adjusted for certain effects and will also update depending on which effect type you choose. You can also click the value shown to edit it directly with the keyboard or drag the mouse right or left over it to raise or lower the current value.
3Play offers two fully independent DSK (Downstream Keyer) overlay channels – one for each primary output. Both provide integral alpha channel support and independent Positioner controls (including edge cropping). Video and graphics overlays can be scaled and cropped and placed anywhere within the video frame.

Overlay channels can be used creatively to layer video sources for compelling highlights and much, much more. The combined power of overlay layers and replay open up endless new opportunities.

16.1 OVERVIEW

Conventional replay systems are unable to show two synchronized angles of an event on a single output.

Not only does 3Play let you overlay an alternate, fully synchronized angle of instant slow motion replay on another and send it to output, you can also overlay live video onto another source (live or recorded) or vice versa.

DSK allow you, for example, to continue to display live action while playing highlights, show replays or ads in an insert, or display two live video angles at once. The combinations are almost limitless, providing incredible flexibility to design workflow solutions tailored to very specific requirements previously requiring multiple systems.

Enabling the DSK display is as simple as clicking the DSK A or DSK B button.

16.1.1 OVERLAY OUTPUT A OR B

In addition to being able to overlay one angle onto another, you can also overlay the entire alternate output on top of your display. For example:

- Show the video from Output A – even including DSK A above it – on top Output B to produce a ‘picture-in-picture-in-picture’ composition - then transition between them.
• Use DSK position tools to create a ‘squeeze-back’ of the assigned source. You can cover two independent events simultaneously in this manner; show live gameplay while playing a highlight reel, or a commentator during an instant replay, and much more.

**Note:** When working with a Program-Preview transition workflow (See Chapter 15), the DSK channels swap each time a Take or Auto is performed.

### 16.1.2 OVERLAY GRAPHICS AND TELESTRATION

Not only can you overlay highlights, clips, and live cameras, but you can also use overlays to display graphics, with full key and fill support. For many creative and potentially rewarding applications, a single operator can run the replay system and also display timely graphics and overlays. When combined with single click stinger capabilities, the ability to perform colorful custom transitions to and from live video and to flexibly overlay other graphic and video inserts at the same time, your 3Play can serve as a complete house production system.

You can even mark up your replays with output from a telestrator overlaid on your video output. Or, with Enable Insert Mode enabled, show markup behind the action over the (keyed) playing field or court (see the heading NDI Telestrator in Section 16.2.4).

### 16.1.3 OFFICIATING AND OVERLAYS

Replays are also obviously important for referee and coaching use. Instant replay for officiating purposes is increasingly a mandatory requirement of numerous leagues.

A dedicated camera capturing the clock in sync with other camera angles can easily be overlaid over outputs for absolutely guaranteed synchronization with the actual game time. Too, the ability for coaches or referees to view two angles of a play at the same time is truly invaluable.

If that is not enough, since 3Play’s dual outputs can be operated in “gang” mode, officials can easily review separate angles, whether on a single screen or side by side on two simultaneously (each with their own synchronized clock overlays). And because the clock cams are overlaid, rather than embedded in the angle shots, they can be freely cropped, scaled, and even re-positioned at any time if they should happen to the action.

### 16.2 SOURCE OPTIONS

A huge and diverse list of potential sources is available for each of 3Play’s two DSKs (DSK A and B).
The various alternatives are accessed via drop-down menus supplied for each DSK, and include the following:

- **Cameras** – any connected live video source
- **Clip List Preview** – a selected angle from the current CLIPS LIST selection (not available in 3Play Mini)
- **Buffer** – Buffers can be either still or specially prepared animated graphics overlay sources – see Section 16.2.3
- **NDI** – An array of optional video sources served across a network can be configured as DSK sources – see Section 16.2.4.
- **Output A/B** – The video program stream from the ‘other’ 3Play output – A or B, as appropriate
- **Black** – Not to be overlooked, the Black overlay option can serve as a handy source for ‘fade to black’ operations.

### 16.2.1 CAMERAS

Select any connected live video source as a Buffer source, and you can (for example) employ it in a picture-in-picture composition. You might use this, for example, to show a shot of a commentator overlaid on a clip he is discussing – or vice versa.

### 16.2.2 CLIP LIST PREVIEW

*Clip List Preview* selections correspond to the different angles available for the currently selected event row in your CLIP LIST. This permits you, for example, to show different angles of an event as a picture-in-picture composition scaled down in similar fashion.

Note that this selection actually displays the same (reduced resolution) clips shown in the small clip preview monitors at the top of the CLIP LIST panel. Generally, they will be quite adequate for use in many compositions but may look ‘soft’ if used at larger sizes.

### 16.2.3 BUFFERS

3Play’s powerful Buffer system provides especially convenient graphics and animation sources for its two DSK channels. Buffer content is retained in memory for immediate recall and display. Thus, Buffers can often be even more useful than similar imagery stored in CLIPS LISTS, since they free the CLIPS LIST up to display other content.

*Hint: Up to 8 different graphics or animated buffers can be loaded into the DSK source menu for quick access later.*
Using a buffer as a DSK source also eliminates the risk of accidentally displaying the wrong graphic (as might otherwise happen if the current CLIPS LIST selection was not the one intended).

SELECTING AND MANAGING BUFFERS

When you move the mouse over a Buffer entry in the source menu (e.g., Buffer 1) a gear gadget appears next to its label. Click the gear to display 3Play’s Media Browser (see Section 12.1.5), and then pick a suitable file to populate that buffer preset.

Note: Buffers are linked to the original source file on disk. Not surprisingly, the link will fail if the original file is moved or deleted from the hard drive.

The Browser allows selection of files in most still image formats (including those with embedded transparency), along with special animation effects. Examples of the latter type are supplied, but you can convert custom animation sequences created in your favorite application to this format using the supplied Animation Store Creator add-on application (see the sub-heading Animation Store Creator in Section 15.3). Animation effects can be of either looping or auto-run type. The type is determined in the supplied Animation Store Creator utility when the effect is generated. Next to the gear you will observe a Remove (X) gadget. Click this to clear the current entry, freeing up system graphics memory resources at the same time. Still image Buffers have another very valuable ability, discussed next.

WATCH FOLDERS

The Frame Buffer folder is actually a “watch folder”, and you can optionally share it across a network. Share Media Folders and Buffers is easily enabled or disabled even during a live production using the File menu at the left-hand end of the Dashboard.

For still image buffers, when you save an image into the correct location the corresponding buffer immediately updates, even if it is currently displayed. This lets you refresh overlays virtually instantly from any computer on the same network, using suitable graphics applications such as Photoshop®.

The files which serve individual buffers are located in clearly named sub-folders of the Frame Buffer folder for each session. These folders are arranged as follows:

Sessiondrive:\3Play\Sessions\sessionname\Frame Buffer\Buffer (#)

e.g., D:\3Play\Sessions\MySession\Frame Buffer\Buffer 3

The Frame Buffer folder for the current session is accessible on the network when sharing is enabled.
Note: The special “Frame Buffer” share name assignment is dynamic. Network sharing is activated and the current Buffer path is automatically updated whenever you enter a session with the option enabled. This ensures that applications on networked systems can remotely access and update buffer graphics for the current TriCaster session.

- Still image Buffers are normally stored using the popular 32 bit PNG (Portable Network Graphics) format, but other formats are also supported.
- Specific filenames are not important in the buffer workflow. (Actually, multiple media files with different names can reside in buffer folders. The system always shows the ‘newest’ file – that is, the one with the most recent modification date.

16.2.4 NDI SOURCES

The ability to bring NDI signals into 3Play as DSK sources is the gateway to a truly staggering range of potential opportunities. Consider just a few of these:

- Use NewTek’s LiveText titling application to supply graphics and titles to 3Play.
- Many third party products, too, can send and update scoring, timing, statistics, and similar displays to 3Play’s NDI sources.
- Insert sponsor messages to add dynamic visuals and generate revenue.
- Overlay displays from (Windows® or OS X® based) computer systems (via iVGA™).
- Use a network-connected telestration system to provide real-time markup over (or under) video.

Click the gear next to the NDI entry in the DSK source menu to access NDI Sources dialog. The Connection drop-down menu lists all qualified network sources that have been detected.

Note: Gigabit networking should be considered mandatory for most purposes.

Let’s consider some of the available network source types in a little more detail.
**NDI SCREEN CAPTURE**

NDI Tools pack is supplied without cost and includes a Screen Capture utility supplied to let you use data directly from the screens of networked computers. NDI Screen Capture has a tiny footprint and is supplied for both Microsoft Windows® and Apple OS X®.

**LIVETEXT**

As we noted earlier, a companion workstation on your 3Play network with LiveText standalone installed can serve as a dedicated CG and title solution for your live presentations. When connected, LiveText is listed in the Connection menu. For more information on installing and using LiveText, please refer to its manual.

**3PLAY & TRICASTER**

3Play’s own network *Output A* and *Output B* are available as sources to other NewTek live production systems, appearing in the source selector menus for *NDI Sources* as “3Play(A)” and “3Play(B),” where “3Play” is the network name for the system. 3Play 3P1 also supplies ‘clean’ versions of the A and B outputs over NDI – free of overlays.

This means that a video feed from another 3Play (or TriCaster) on the network can be utilized in a DSK channel without tying up one of the main video inputs.

**NDI TELESTRATOR**

NewTek’s powerful Windows® application NDI Telestrator is included with 3Play 3P1.

Running on an external system (perhaps a unit with a touch screen), NDI Telestrator can supply dynamic markup to enliven and explain your replays.

The application provides two-channel NDI output, with full support for transparency, and thus can serve your artwork to both DSKs on your 3Play system.
You will find the Telestrator application installer on your 3P1 in the folder at C:\3Play\Etras. Having installed NDI Telestrator on a suitable external host, expand the video source control at upper-right and choose one of the two ‘clean’ NDI output from a 3Play 3P1 system.

The application will automatically connect to the 3P1 system and assign the “Clean Out” 1 and 2 outputs as background sources to Telestrator’s A and B drawing canvasses.

**Hint:** The A and B buttons in this Telestrator control group allow you to switch from one drawing canvas to the other. Click the (i) button in the Tools panel at the bottom of the Telestrator screen to show Help.

The next step is to assign Telestrator’s output channel(s) – which consist of your drawing only, without the background - as source for one or both of 3P1’s DSKs (assign the “Telestrator 1” channel as the source for DSK A, and “Telestrator 2” to DSK B).

Note that, having connected the Telestrator and 3P1 in this fashion, using the controls at lower right you can control *Play, Stop, and playhead position for a clip shown on the 3P1 channel (A or B) associated with the current canvas.*
The drawing tools palette and color wells at left in the Telestrator provide many different brush types, including support for animated gifs (Figure 168). The most recent brush choices are represented by preset icons in the upper row of the toolset.

Click the stamp button (Figure 169) at lower-left to work with bitmap images, or the drawing tool button above to reveal freehand and shape drawing tools (Figure 170).

Note that you can click the Library button (9-small squares) to open the Brush Library (Figure 171).

Click an icon in the Library to update the currently active drawing tool preset. To add an item to a slot in the Library, click the + sign in its upper-right corner. Supported bitmap file formats for stamps are JPEG, PNG, and GIF.

Finally, let’s consider how the Telestrator takes advantage of 3P1’s unique Enable Insert Mode feature.
3P1’s Enable Insert Mode feature is found in the Output A and Output B tabs. Let’s talk about the underlying technology of this feature, which is generically called “chromakeying”, or simply “keying”.

Keying has become an essential tool in video and film production. Typically, foreground footage is shot in front of a blue or green screen, and then that background color – the key color – is treated as transparent, allowing another image to be inserted. For example, when you see a television meteorologist in front of a weather map, that person is usually posed in front of a green screen. The green background is ‘keyed out’ and replaced by computer generated imagery.

3P1 uses a more advanced version of this technology, referred to as ‘Enable Insert Mode’. Using a designated background color as the key color, 3P1’s Enable Insert Mode allows a DSK source (such as a Telestrator output or graphic) to be ‘sandwiched’ behind foreground-colored pixels, but (unlike the weatherman application) in front of the original background – rather than replacing it completely.

**Hint:** If the associated DSK is displayed (‘on’), Telestrator output will appear behind the foreground on 3P1’s output (A or B) when Enable Insert Mode is enabled. When Enable Insert Mode is off, Telestrator output appears in front of the source assigned to the output when the DSK is displayed.

The controls in the Enable Insert Mode group allow you to toggle the feature on/off and define and adjust the key color values applied to the video output. These settings are discussed next.
COLOR
The key (background) color is chosen using the Color button. Click the Color sample box and keep the mouse button depressed. Drag the eyedropper tool over one of the video monitors to choose the color you wish to remove and then release it. The neighboring ‘color well’ is updated to show the color selected.

Hint: Enable the Lumakey switch to disregard hue and base the effect solely on luminance.

TOLERANCE
No video background is ever comprised of just one color. Shadows, uneven lighting, and other factors result in color differences. For this reason, 3P1 supplies a numeric slider labeled Tolerance just beneath the Color picker.

The Tolerance setting allows you to broaden the range considered as the key color, including ‘near-neighbor’ colors to be included. A low tolerance removes only color values close to the primary or key color. As you raise the tolerance, you extend the range of values on either side of the primary color that will be treated as transparent. You don’t want to use too high a Tolerance value, however, lest foreground hues become partially transparent in the result.

SMOOTHNESS
Smoothness defines a further tolerance factor, and a very useful one. We want our key to blend smoothly into the un-keyed area rather than to stand out in hard relief.

SPILL SUPPRESSION
The term ‘Spill’ refers to key color unintentionally reflected or ‘spilled’ onto the foreground subject. For example, a little green spill often appears on the shoulders of someone in a greenscreen shot.

The Spill Suppression controls let you remove key color spill in your scene by reducing the amount of that color in the foreground, where it doesn’t belong. The net result is that the impression of spill color is eliminated, or at least reduced to the point where it is not objectionable.

Use the Tolerance and Smoothness controls under Spill Suppression in similar fashion to the controls by the same name discussed earlier. Endeavor to subdue spill without overdoing it, which could result in an unsightly gray fringe around offending edges of your foreground.

FINE TUNING
You’ll find the Enable Insert Mode easy to configure with a little experimentation – but a few handy workflow tips follow below.

You may find it useful initially to turn Smoothness off or nearly so. Likewise begin with a low value for Tolerance – perhaps just 5-10, or so. Put the video source on Preview or Program Output before you do so, to provide a larger view to help you assess your settings.
Pick your primary Color, but – before releasing the mouse button – slide the eyedropper around to different parts the background. Watch the monitor as you do so to see how the area of transparency is affected by different Color choices. Release the mouse when you find the color that produces maximum results. It’s often preferable to pick an ‘average’ color from a location fairly close to the boundary between the background and foreground regions.

Now you can start to ramp up Tolerance. Bring it up slowly until most of the background color has been eliminated, cutting away most of the background to within a few pixels of the foreground/background boundary. Now raise Smoothness to fine tune that edge region, and you’re nearly done.

Before considering your settings final, make sure to test the result using a moving source. This will sometimes reveal that overly aggressive settings cause small ‘blocks’ of pixels in the edge region to appear to snap on and off during motion - as they either qualify or disqualify for inclusion in the resulting matte. (A little reduction in Tolerance and increase in Smoothness will usually resolve this problem.)

**Hint:** It can be useful to zoom in using Position controls when fine tuning LiveMatte.

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## THIRD-PARTY APPLICATIONS

### DEVELOPER NETWORK

The NewTek Developer Network comprises a large and ever-growing ecosystem of companies and products. Many world-class organizations have developed applications and systems with support for NewTek’s live production systems.

In particular, there is a great variety of solutions for specific needs that take advantage of 3Play’s NDI support (as well as the Macro and automation features). Refer to the webpage at www.newtek.com/solutions/newtek-developer-network.html for the latest details of solutions that can facilitate and expand your own particular workflow.

### 16.3 CONFIGURATION

Each DSK layer has its own settings, accessed in the DSK Configuration panel. Click the gear gadget at right beside the Source menu for either DSK channel to open this panel.

DSK settings are organized into several groups from top to bottom as follows:

1. Fade
2. Position
3. Edges
4. Enable Insert Mode
The *Fade* control group allows you to enable or disable a crossfade transition effect that is optionally used to show or hide the *DSK* display. The nearby menu allows you to set the duration of the crossfade. Naturally, when the fade is disabled, the operation of displaying or hiding the DSK occurs as a cut.

**Reminder:** Display or hide DSK channels by clicking the buttons labeled *DSK A* and *DSK B.*

### 16.3.1 POSITION

Click and drag on the *Position* button to relocate the associated *DSK* layer vertically or horizontally within the frame.

Dragging left or right directly on either of the two nearby numeric controls adjusts the position on a single axis only.

**Hint:** You can also constrain mouse actions to one axis by holding down the Ctrl key before dragging. Dragging a numeric control with the Ctrl key pressed increases accuracy by 5 times.

Dragging the cursor on the *Scale* button (magnifying glass) affects the size of the overlay. Again, if you drag just one of the nearby numeric sliders you can adjust just one dimension of the corresponding *DSK* layer – width or height.

**Hint:** If you click a numeric field (or right-click it), you can type a value into the gadget using the keyboard – press Enter to complete the editing action, or Esc to cancel it.)
16.3.2 EDGES

*Edge* controls for *DSK* layers allow you to independently crop the sides of the DSK channels. Restore default settings to all parameters of the *Position* or *Edge* control groups by clicking *Reset*.

16.3.3 ENABLE INSERT MODE

![Enable Insert Mode](image)

Insert a *DSK* source (e.g. Telestrator output) between the playing field or court and foreground. Enable the DSK, then select a background color to overlay the DSK on, and adjust the key settings below to obtain the best effect. (See 16.2.4 NDI Sources)
17 EXPORT MEDIA

The Export feature provided in 3Play’s Replay Desktop allows the operator to selectively publish clips and still images to local or networked storage, and upload directly to popular social media sites, on the fly.

Networks, corporate users and others with sophisticated website and distribution needs can deliver all the action moments after it occurs, with valuable benefits.

17.1 OVERVIEW

Quick and convenient distribution of media for post-production and archival purposes is a common need. Too, in today’s multi-screen world, a single program feed is often supplemented in many and important ways. Consumers ingest media from multiple sources simultaneously.

A live online presence may even be the primary broadcast medium for some productions. For others, distribution of supplemental content on popular Internet channels including Facebook®, YouTube®, and Twitter®, provides opportunity for brand extension and additional monetization.

The Export feature provided in the live Replay Desktop brings all of the above into easy reach.

17.2 THE EXPORT MEDIA PANEL

- Roll your mouse pointer over the Export button in the Dashboard at the top of the Replay Desktop and click the gear gadget on the right to show the Export menu.

- Select Export Media to open the corresponding panel (Figure 177), which is where you will create a list of files to be processed.

The Export Media panel layout is easy to comprehend. It shows a queue (batch processing list) consisting of clips and still images you add – whether by using the clip context menu (CLIPS LIST and PLAY LIST), automatically when grabbing stills, as by clicking the Add button in the panel’s footer.
Tip: Remember that you can Add and even upload files while recording is underway.

All of the entries you add appear in the export queue at right. Information about the clips and stills is displayed in columns, including Duration, a Title, Comment, and export Preset.

The values in these columns can be edited; click in the column to enable keyboard entry or navigate to it and simply start typing. Title and Comment column entries are relevant for social media uploads.

The Preset column is home to a menu that lets you selectively checkmark upload targets for the files in the queue. To add a new item to the Presets menu, use the New Preset item at the bottom of the same menu you used to open the Export Media panel (Figure 178).

Click the Upload button at the bottom of the panel to initiate processing. A progress bar column tracks upload progress.

Note: The Export button in the Dashboard can be thought of as an ‘auto-process’ button. When it is lit, processing of the export queue begins as soon as files are added to it (by any means) – without needing to open the panel.
17.2.1 SOCIAL MEDIA SITES

The Export feature can upload media to numerous social media sites, including Facebook®, Twitter®, Vimeo®, YouTube® and more. Other connections may be supported as it becomes possible to do so.

Selecting a social media service from the options shown when you choose New Preset will open a dialog that allows you to configure the settings and credentials required by that service. In some cases, you can also choose whether the preset should be applied to both clips and still images (such as grabs), or just one or the other of these.

17.2.2 TRANSCODE

Transcode presets provide very useful output alternatives, effectively providing a live distribution method and conversion options that does not force you to wait until production ends to use them. These features can be invaluable for collaboration, whether local or remote. Numerous Encoding options ensure you can find a file format suited to your needs. The options are similar to those discussed in Section 6.3.1.

17.2.3 WATERMARKING

To avoid misuse of private or copyrighted media, you may want to add a watermark before publishing it to public sites. The Watermark feature, provided as an option for most export presets, allows you to select a suitable custom image to overlay on your output.

The image you select will be overlaid on shared video or still image files. It should be a 32 bit still image file (supported formats include PNG and Targa) that positions the watermark correctly in the frame taking into account the resolution and image aspect of exported files.

PUBLISHING CLIPS

![Figure 179](image)

The last menu item in the clip context menu (opened by right-clicking in either the CLIP LIST or PLAY LIST) is Add to Export Media. This provides a convenient way to add entries to the Export Media queue.
PUBLISHING A GRAB

The Grab feature makes it even child’s play to publish still images. You can grab every active live source and both outputs with just one click. When Add to Export Media is enabled in the Grab Still Configuration panel (see Section Grab), the grab from the currently delegated channel (A or B) is added to the export queue each time you grab a still.

Tip: If the Dashboard Export button is lit, the transfer to selected presets is initiated immediately.
Macro capabilities smooth out your workflow, reducing complex operations to a single button press, and make it easy to produce sophisticated programs.

Macros provide many opportunities for both workflow streamlining and creative applications. (As well, macros can reduce or eliminate embarrassing operator errors.)

Keeping up with the action, having just the right angles on tap with little or no notice, preparing media for highlight reels and postproduction all calls for near superhuman performance from instant replay operators.

Macros can provide a great deal of help in this context. Record any sequence of events as a macro and play it back with one click. Alternatively, trigger it with a single keystroke or hardware control surface operation.

Macros can do almost anything; preload frequently used media, play clips, modify playback speed, automate complex operations, or perform all of this synchronously. The compelling usefulness of macros justifies the prominent Macros menu placement in 3Play’s Dashboard.

Click the Macros button to show a menu (Figure 181) containing a list of ‘Favorite’ macros, along with a Configure Macros item.

Select the latter item to open the Macro Configuration Editor, which is where you can create and manage macros.

18.1 SYSTEM MACROS

The largest part of the (resizable) Macro Configuration Editor consists of the Macro List, which displays the content of the folder selected in the left-hand column.

The folder list includes an entry labeled System Commands, and another just beneath it named Session Macros. You can manually create new folders for you macros using a button below the folder list.
The System Commands folder includes commands identical to those actually called by the user interface and Control Surface to operate your 3Play – specifically those commands which have default shortcut keystrokes assigned to them. Expand this entry by clicking the triangle at left to see these items.

Hint: Notice that keystroke shortcuts for macro entries are shown at right. The small stars also appearing at right in Figure 182 identify items selected as ‘favorites’. Starred items are listed in the main Macros menu (Figure 181) for quick access. Clicking a star toggles the status of the macro entry in a given row.

It’s worth noting a few unique aspects of System Commands. First, System Macros are specially safeguarded within the system. Rename, Delete, Clone and Paste features are disabled, nor can you alter the order of entries in the list. Also, be aware that un-checking the enable switch at left for the entire System Macros folder (or individual entries within it) will naturally result in the failure of all related keystroke shortcuts. This does not affect Control Surface operations, however.

18.2 SESSION MACROS

The second folder is initially empty. Any macro you place in this folder (by creating it there, cut and paste, or drag and drop operation), will be available in your current session only. Among other things, this provides a useful way to provide variants of your macros that are tailored to unique event types or have different shortcuts for individual users.

18.3 RECORDING MACROS

Creating a new macro is simple. Click the New Macro button to add a new macro entry.
Continue to define the macro by clicking the nearby Record button. Then just go ahead and perform the sequence of operations you wish to include in the macro. You can use mouse, keyboard, and Control Surface operations when doing so.

When finished, click the Stop button to complete recording. Test the new macro by clicking the Play button.

### 18.3.1 MACRO PLAYBACK SPEED

You’ll notice that an animated bar in the background of the macro’s entry in the list tracks playback progress. You can modify the playback rate for your macro using the menu in the footer of the Macro Configuration panel. You can even set macros to loop using the button at right.

### SNAPSHOT MODE

One option in the speed menu – Snapshot – bears further explanation. When you choose Snapshot as the macro’s ‘speed’, you essentially force it jump to its end result. Operations that are ultimately irrelevant in achieving that end may be simply omitted. You will often Snapshot mode very useful for designing macros that configure 3Play to a particular state.

*Hint:* You can record a macro that includes other macros. Depending on your order of operations, you may need to re-highlight the newly recorded macro in the list to show its Stop control (to end macro recording).

### 18.3.2 MANAGING MACROS

The Macro Configuration panel has management features such as folders, rename, clone, and hotkey assignment, as well as Import and Export (share macros with other 3Play users).

### THE CONTEXT MENU

Entries in the lister have a context menu, shown when you right-click an item. Macros can be recorded, as we’ve seen, of played, renamed, deleted, copied, cloned, or exported.

The folder context menu supports, in addition, Play All, Stop All, Paste, and Import operations. Import and Export are noteworthy features. These can be used to share macros with multiple users and systems but provide another important opportunity.

A good deal of time can be spent preparing complex macros. It would be a shame for these to be lost through some mishap.
For this reason, we encourage you to use the Export feature to prepare a backup archive of your painstakingly designed macros. (This is quite easy to do, since Export of entire folders is supported, as is multi-selection.)

18.4 SHORTCUTS AND TRIGGERS

Macros may be executed by menu, keystroke shortcuts, MIDI controller or GPI trigger.

Figure 184

You can readily see the first shortcut assigned to a macro at right in its entry in the lister. (As mentioned earlier, you'll also see a ‘star’ gadget on the right. Click this to add the macro to the Favorites menu, shown when you click directly on the Macro control in the Dashboard.)

Figure 185

To set a new shortcut or modify an existing one, click one of the Shortcut fields in the footer of the Macro Configuration Editor panel; it will display a “Listening …” tag. Then press the desired keystroke (or control surface Macro button combination).

*Hint:* For clarity, lower-case characters are shown as capitals. True upper-case letters are displayed in the form [Shift + (character)].

Shortcuts are ‘per user’, allowing you to employ your personal favorites without conflicting with the shortcut preferences of other users. Speaking of conflicts, note that assigning a single shortcut combination to multiple macros is supported.
18.4.1 CONFLICTED SHORTCUTS

By the way, assigning identical shortcut combinations to multiple macros *is* supported, and deliberately so. Still, as you may wish to avoid conflicts, a yellow triangular gadget referred to as a ‘bang’ (or, if you are in a certain mood, a ‘conflict nacho’) is shown in this case.

Bangs appear at right for all macro entries in the *Macro Configuration* panel lister with shortcut conflicts.

Of course, when multiple shortcuts are assigned, the first shortcut for a macro – i.e., the one displayed at right in the *Macro Configuration* panel lister – may not actually be the one that is conflicted; too, there might be several conflicts for a single macro.

In such a case, select the macro in the list to show the corresponding Shortcuts group entries at the bottom of the panel (Figure 187). Conflicted ‘Listen’ controls will *all* show bangs. Clicking a bang automatically jumps to the next conflicted entry, so you can advance quickly through them, resolving conflicts as you go.

(Obviously, you can resolve a conflict by assigning a different keystroke to conflicted macros. Or you can disable macros if you like, using the checkmark switch.)

*Hint: Folder level checkmark switches offer a method for managing ‘deliberate’ shortcut conflicts. For example, the shortcuts assigned to entire folders of macros designed for various sessions or purposes can conflict with shortcuts in another folder, but keystrokes for any inactive folders are ignored.*

**DELIBERATE ‘CONFLICTS’**

Otherwise, pressing the conflicted shortcut key will perform *all* macros sharing that keystroke assignment. On the other hand, your ‘conflicts’ may be deliberate; running multiple macros with just one button press or gesture may be just what you had in mind.
A useful (and often very affordable) macro trigger option is MIDI (Musical Instrument Digital Interface).

MIDI devices are often used in the audio and events industries but can be found in other realms as well. Literally thousands of devices and systems of this sort are available.

The Macro Configuration panel system can ‘listen’ for button presses from most MIDI controllers, just as it recognizes input from the keyboard or native control surface (see Section 18.3.2). Too, a wide variety of MIDI software and extensions are available for other devices, including mobile devices such as tablets and smart phones. These can be used to create unique custom control alternatives.

Note: Many MIDI devices provide ‘plug-and-play’ convenience. Some, though, require non-standard device drivers. Generally, adding device drivers to NewTek products is discouraged, since these may not have been prepared with the rigorous demands of live production in mind.

If you install a driver and encounter unintended consequences, you can resolve the problem by restoring it to factory defaults and, if necessary, updating to the current software version appropriate for your system.

Not surprisingly, NewTek products typically have extensive NDI (Network Device Interface) implementations. Various systems and software (both native and third-party) also take advantage of NDI connections to support transfer of things like metadata, control instructions and tally (on air) notification.
For example, connecting one of 3P1’s NDI outputs to a TriCaster® input provides the necessary link to send shortcut commands to the 3Play, or trigger 3Play macros from the TriCaster.

### 18.6.1 EXAMPLE – CONTROLLING 3PLAY

Let’s consider a simple example taking advantage of the potential this ability offers.

Using TriCaster’s *Macro* system, it is easy to send instructions from TriCaster to 3Play systems whose NDI outputs are connected to the *Switcher*.

Such a macro could actually perform sequential operations on both systems and be assigned to a TriCaster shortcut keystroke or other macro trigger for convenient execution with a single user interaction.

There is no need for complicated configuration. TriCaster ‘knows’ which NDI sources are connected and can initiate the necessary communications.

For example, 3Play network outputs typically appear in TriCaster’s NDI source selectors as something like “3Play(A)” and “3Play(B)”. If you select “3Play(A)” as the active source for TriCaster’s *Switcher* input 1, communication between TriCaster and 3Play can be established.

Unique “Net#” entries in the macro identify the target system the instructions specified are directed to. When examined in TriCaster’s *Macro Editor*, a typical macro entry of this type might look as follows:

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>net1</td>
<td>clip_play</td>
<td>Speed</td>
<td>.5</td>
</tr>
</tbody>
</table>

The shortcut “net1” targets the macro to address the NDI source connected to TriCaster’s *Input 1*. Additional entries on the same line supply the instruction to be performed when the macro is executed.

- The *Value* “clip_play” commands the target source to play the currently selected clip (in our example, the current clip selected on 3Play’s channel A)

- The *Key 1* entry “speed” sets the playback speed to the value which follows next on the line, “.5” in our example. This will cause playback to occur at 50% speed.

It is entirely possible to create more complex macros that combine commands in this manner.

### 18.6.2 REMOTE COMMANDS

As mentioned earlier, the macro shortcut entry “net1” addresses a controllable network source connected to the first NDI source on a NewTek live production system. A second NDI connected to input 7 would be addressed using the shortcut entry “net7”.

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At present, 3Play 3P1 supports the commands discussed next, included in the NewTek product macro system.

### CLIP_STORE

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(time)</td>
<td>net#</td>
<td>clip_store</td>
<td>index</td>
<td>ID</td>
</tr>
</tbody>
</table>

This command stores a custom local reference ID for the current clip (the one currently visible at on the NDI sources). The value ID can be a string. ID is global and shared across your system (it is not stored per system output, if you have multiple).

For example:

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(time)</td>
<td>net#</td>
<td>clip_store</td>
<td>index</td>
<td>AAA1</td>
</tr>
</tbody>
</table>

The entry above will ‘remember’ the current clip with the name “AAA1”. (The default for ID is an empty string, which is a valid storage target.)

### CLIP_RESTORE

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(time)</td>
<td>net#</td>
<td>clip_restore</td>
<td>index</td>
<td>ID</td>
</tr>
</tbody>
</table>

This command cues up content previously stored with a specified ID value on the upstream source channel assigned to the NDI sources designated.

For example:

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(time)</td>
<td>net#</td>
<td>clip_restore</td>
<td>index</td>
<td>AAA1</td>
</tr>
</tbody>
</table>

The clip previously indexed as “AAA1” (using clip_store) is restored on the source system output channel connected to NDI sources designated. The playhead is set to the beginning of the clip. (If the indexed clip is not located, nothing occurs.)
Select a page (or clip) defined by the value assigned to index. This may be a number specifying a particular page or at times, another property.

For example, sending a “clip_select” command to 3Play with a suitable numeric value assigned as the “index” key selects a specific Play List tab by index (assuming Play List mode is active. On the other hand, in Clip List mode, if the value for “index” was “0-023” the clip referred to would be selected.

For example:

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>net#</td>
<td>clip_select</td>
<td>index</td>
<td>4</td>
</tr>
</tbody>
</table>

This would select the *fourth Play List* tab on the 3Play output (A or B) connected to the *Switcher* input.

**CLIP_MOVE**

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>net#</td>
<td>clip_move</td>
<td>distance</td>
<td>#</td>
</tr>
</tbody>
</table>

Move the specified number of pages forwards or backwards from the current page.

For example:

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
<th>Key 2</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>net#</td>
<td>clip_play</td>
<td>speed</td>
<td>#</td>
<td>position</td>
<td>#</td>
</tr>
</tbody>
</table>

You can specify “speed”, “position” or both keys (the order of keys is not important).
When “position” is not specified, play begins at the current frame. The value for position is specified in seconds, while speed is expressed as a playback rate value (1.0 = 100%).

For example:

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
<th>Key 2</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(time)</td>
<td>net#</td>
<td>clip_play</td>
<td>speed</td>
<td>-.5</td>
<td>position</td>
<td>10</td>
</tr>
</tbody>
</table>

This entry would play a clip backwards at 50% speed from a position 10 seconds into the clip.

CLIP_SCRUB

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(time)</td>
<td>net#</td>
<td>clip_scrub</td>
<td>distance</td>
<td>#</td>
</tr>
</tbody>
</table>

This command will move the playhead backward or forward by a distance of # seconds. For example:

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(time)</td>
<td>net#</td>
<td>clip_scrub</td>
<td>distance</td>
<td>5</td>
</tr>
</tbody>
</table>

The entry above would advance the playhead five seconds further into a clip displayed on the source connected to the NDI sources designated.

NOTES: The software associates values with their key name, thus key can be entered in any order. The following are valid formats for numeric entries: “+0.1”, “0.1”, “.1”, “-0.1”.

18.7 AMP CONTROL

AMP stands for Advanced Media Protocol. The original implementation by Odetics Broadcast Corporation® provides a variety of commands, which over time have been applied and extended by other developers according to their requirements.

3Play responds to a number of AMP of commands received across a network connection from external devices.

18.7.1 CONFIGURING AMP

3Play’s AMP support is not unlike the macro implementation just described, but AMP does not enjoy the same ‘auto-magic’ communication configuration advantages. Thus, you will generally need to configure the external controller to communicate with 3Play by providing its IP address (which you can locate, for
example, by exiting to Windows and using the system *Network and Sharing Center*). You will also need to configure the external control system to address one or both of 3Play’s A and B output channels.

In all likelihood, the developer of your external system will have documented AMP configuration and usage, but the next section provides details of the 3Play implementation for your interest.

### 18.7.2 AMP SHORTCUTS

AMP commands sent to trigger native 3Play shortcut commands of the same sort used by the user interface and *Macro* system. These shortcuts consist of two parts: a *prefix* that identifies the target 3Play output channel (A or B); and a *suffix* constituting the command to be executed. The AMP instruction may also include values, such as unique clip identifiers, similar to 3Play’s Clip IDs.

The supported *prefixes* are amp_vtr1 and amp_vtr2. These address 3Play’s *Output A* or *B* respectively. Supported suffixes are listed in the following table:

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>_loop</td>
<td>bool</td>
<td>Changes looping playback status for the playout channel. If no value is specified then looping is toggled.</td>
</tr>
<tr>
<td>_play</td>
<td>void</td>
<td>Play at 1X speed</td>
</tr>
<tr>
<td>_stop</td>
<td>void</td>
<td>Stops playback</td>
</tr>
<tr>
<td>_query</td>
<td>void</td>
<td>Query returns a result (string) identifying the content currently on output and stores it for a subsequent _cue</td>
</tr>
<tr>
<td>_cue</td>
<td>String</td>
<td>Populates a special playlist tab named EXT VTR with a clip or playlist previously identified by a query. (If the value is void, performs a ReCue operation.)</td>
</tr>
<tr>
<td>_eject</td>
<td>void</td>
<td>Clears the current EXT VTR content</td>
</tr>
</tbody>
</table>

### 18.8 GPI CONTROLLERS

GPI, or General Purpose Interface, is long serving analog control signal system based on simple contact closure. GPI inputs and outputs are very common on professional production equipment.

The macro system in NewTek live production devices can take advantage of intermediary devices, such as the eBOX™ network/GPI hardware interface from JLCooper Electronics, to support both GPI signal input and output.
18.8.1 CONFIGURATION

For an external GPI device to communicate with a NewTek live production system, it must be manually defined by text entries in the file named gpi_setup.xml. This file can be located in the directory at C:\3Play\Configuration\. The entry for a given GPI control device must contain an IP address and port, password, and custom name, entered as follows:

```xml
<device name="name" ip="###.###.###.###" port="##" password=""/>
```

At the time of writing, the xml ‘element name’ signified above by the placeholder device should be “jlcooper”, without the quotation marks. The value for the “name” attribute that follows is a custom name of your choosing.

*Hint: Normally, connected GPI devices are identified by unique names in this file; otherwise (if GPI devices share a single name) GPI commands are issued to them simultaneously.*

The remaining configuration attributes (“ip”, “port” and “password”) are set at the external hardware device (refer to the vendor’s documentation for details); the corresponding values need only be transferred into the XML configuration file.

A typical entry might look like this:

```xml
<jlcooper name="JLCooper1" ip="192.168.128.102" port="23" password=""/>
```

18.8.2 LISTENING FOR GPI TRIGGERS

Configured and connected GPI interface devices can trigger macros just like a keyboard shortcut, control surface, or MIDI button operation can. To assign a GPI trigger to a macro, simply click a ‘gesture field’ in the Shortcuts group at the bottom of the Macro Configuration panel; then send the desired external GPI trigger to the system. The ‘listening’ control will record the GPI signal, and a suitable shortcut entry will be displayed (see Section 18.3.2).

18.8.3 SENDING GPI COMMANDS

A special macro command allows you to send GPI signals to external devices and systems via network-connected GPI interface devices (such as the eBOX from JLCooper Electronics). GPI macro entries are formatted as shown below:

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 1</th>
<th>Value 1</th>
<th>etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>####</td>
<td>gpi</td>
<td>name</td>
<td>GPI_pin#</td>
<td>boolean</td>
<td>etc.</td>
</tr>
</tbody>
</table>
- **Delay** – the interval, in milliseconds, between the time when the command on the prior line (if any) was issued to the system, and execution of this line.
- **Shortcut** – Use the entry “gpi” in this field to send a GPI signal.
- **Value** – The shortcut value is the name of the GPI device (defined earlier in gpi_setup.xml) that you want the signal defined on this line to address.
- **Key # (0 – n)** – The value you enter in this field identifies a target pin on the external DVI device to receive a signal defined in the following field. The entry should be formatted as “pin#” (e.g., “pin1”, without quotation marks).
- **Value # (0 – n)** – This value controls the contact closure state (on or off) for the GPI device pin identified by the preceding key. The value can be entered variously as “1” or “0”, “on” or “off”, “true” or “false” (without quotations).

A typical entry might look like the following:

<table>
<thead>
<tr>
<th>Delay (ms)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key</th>
<th>Value 1</th>
<th>etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>gpi</td>
<td>jlcooper</td>
<td>pin12</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Hint:** Multiple GPI pins can be targeted simultaneously by key/value pairs entered on a single line.

Alternatively, some GPI devices require a GPI ‘pulse’ of a specified duration. In such cases, you might send an “on” command on one line, followed after a suitable delay by an “off” command sent to the same pin.

### 18.9 EDITING MACROS

Often you will wish to modify values assigned to the various steps in an existing macro, rather than re-recording it; or perhaps you want to experiment with other possibilities. Click the *Edit* button to open the *Macro Editor* for the currently selected macro.
This deceptively simple editor presents the shortcut sequence your macro contains, along with all of its values in a simple to comprehend ‘spreadsheet-style’ interface. Right-clicking opens the editor’s context menu (the keyboard shortcut Ctrl + i also inserts a row). Standard copy and paste keyboard shortcuts are supported as well. When done editing a macro, click Apply (or Cancel, to close the editor without saving your changes).

Hint: Use the Record button in the footer of the Editor to insert newly recorded entries into the current at the selected line.

<table>
<thead>
<tr>
<th>Delay (Frames)</th>
<th>Shortcut</th>
<th>Value</th>
<th>Key 0</th>
<th>Value 0</th>
<th>Key 1</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>2331.82</td>
<td>dsk1</td>
<td>property_name</td>
<td>bFadeOn</td>
<td>property_value</td>
<td>True</td>
<td></td>
</tr>
<tr>
<td>6185.97</td>
<td>dsk1</td>
<td>property_name</td>
<td>LengthMultiplier</td>
<td>property_value</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1744.13</td>
<td>dsk1_auto</td>
<td>property_name</td>
<td>Source</td>
<td>property_value</td>
<td>LowResPlayback3</td>
<td></td>
</tr>
</tbody>
</table>
Your 3Play 3P1 has several LivePanel features included in your system, providing potent tools to extend your production workflow. A full version of LivePanel is available for separate purchase, available at newtek.com.

![Image of LivePanel](image)

**Figure 191**

Among other features, LivePanel included in your 3Play system lets you create custom control panels for your NewTek system accessible in a web browser of a device on your network. LivePanel also provides production-ready tools such as *Control Surface* functionality that mimics the physical control surface, and categorized lists of *Shortcut Commands* and *Keystrokes* for your system.
19.1 NETWORK ACCESS TO LIVEPANEL

To access LivePanel, click the Notification icon at upper-right on your 3Play system’s Live Desktop, to open the Notification Panel.

Note the URL shown beside the Web Browser button at left in the footer of the Notification Panel. Enter this into the address bar of a web browser on another device on the same network.

Note: You may be asked for a username and password to access LivePanel – see 4.1

19.2 HOME PAGE

After entering security credentials (if necessary), Live Panel’s Home page is displayed in your web browser.

Note: We recommend using a modern web browser (such as Chrome or Firefox) available for your platform for best results when using LivePanel.

All the LivePanel tools provided in your 3Play system can be accessed from the Home page, either by using the ‘hamburger’ menu at left in the titlebar, or by clicking the large icons on the page.
The LivePanel Control Surface functionality mimics the physical control surface. The following items are unique to the virtual Control Surface.

- Enabling the Jog-wheel padlock icon limits the jog range to the current IN/OUT points of a clip.
- Use the A and B buttons to choose which 3Play channel to control. To enable LINK mode, drag from A to B (or vice versa). Press the desired channel and swipe in away from the other channel to break the link.
- T-Bar – the arc above the jog-wheel (marked -200% to 200%) serves as the T-Bar, allowing you to press and drag to desired play speed.
Unquestionably the icing on the LivePanel cake, the Builder Applet allows you to easily create custom control panels to meet a virtually limitless number of needs.

Flexibly assign a macro to a button, or perhaps two – one to operate when the button is pressed, and another to be applied when you click it a second time. Give the button a color or fill it with a still image of your choice.

*Hint: Each individual live production system hosts its own LivePanel instance, so Builder pages can be exported for use on additional systems.*

To customize buttons, tap the *Gear* button icon (Figure 196) located at the top right of the webpage to enter edit mode, then tap on a button to open its properties. You can edit the button name, color, background image or video, size and the *Macro* the button will execute.
Buttons can also have both Down and Up states and different Macros can be assigned to each state. Button Macros can be chosen from the list, or you can tap the record icon and perform actions on your 3Play or Control Surface that will then be sorted in a LivePanel macro. The Macro can then be further edited and renamed in the 3Play Macros panel.

When making buttons larger, they will take up space of other buttons, but they won’t destroy their properties. Reducing the size will reveal any hidden buttons.

Tapping the Reset icon (circled in Figure 198) will clear all button macros on the current tab. To the left of the Reset icon are two up/down arrows. Tap arrow down to save the current tab configuration, and tap the arrow up to load a previously saved tab configuration.
19.5 KEYSTROKES & SHORTCUT COMMANDS

Also provided within LivePanel is categorized lists of Keystrokes and Shortcut Commands for use in macros or custom network control systems. Each category has a pulldown menu to display the commands. Click on the ‘hamburger’ above the list of Keystrokes to see the menu of all existing Live Panel tools.
PART III (APPENDICES)

A time-saving question and answer section, followed by an extensive listing of Shortcut Keys and keyword index ...
In this section, we’ll consider the most common questions NewTek 3Play® operators may have (and of course we’ll provide the answer, too).

The answers are intentionally brief – perhaps just a reminder of one or two steps required to perform some operation. For this reason, we’ll also point you to explanatory information elsewhere in this manual whenever that would be useful.

If you’ve largely mastered your NewTek 3Play system, but have a specific question, this may be the best place to look first. The headings that follow list related questions and answers together, along with cross-references and other helpful remarks.

Tip: The NewTek website includes a comprehensive FAQ database containing a wealth of useful information on all of its products – please see http://www.newtek.com/faq/

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A.1 CONNECTIONS

A.1.1 CONNECT CAMERAS?

1. Connect traditional SDI video sources to the appropriately labeled BNC input connectors on the NewTek 3Play backplate – see Section 3.3. Or simply connect NDI video sources to the network your 3Play is connected to.

2. Open a 3Play session (or create a new one) from the 3Play Startup Screen and launch the Replay Desktop.
3. Double-click the preview monitor on the Replay Desktop for the source you want to set up or click the Configure (gear) button that appears below in its monitor label.

4. Choose an appropriate Source for your camera in the Input Settings tab (see Sections 3.3 and 8.2.1).

A.1.2 COLOR CORRECT MISMATCHED CAMERAS?

Your 3Play system permits the use of sources that do not match the current session format. You might connect an SD camera during an HD session, for example. The official broadcast standard for SD video is Rec. 601, but HD video conforms to Rec. 709 – and NewTek 3Play output color space is governed by the session format.

When the natural color space for a connected source does not match the current output specification (in this example, Rec. 709), 3Play automatically attempts to compensate – but it’s always best to refer to downstream scopes for critical accuracy.

1. As required, connect external Waveform and Vectorscope monitors to 3Play outputs
2. Your downstream scopes should be configured to conform to the broadcast color specification for your current session.
3. Calibrate your sources one by one using the Proc Amp tools for individual inputs (see Section 8.2.2.)

A.1.3 CONNECT MONITORS?

REPLAY DESKTOP MONITOR

With the power off, connect an external computer monitor to the port labeled Interface on 3Play’s backplate. Use a suitable adapter if necessary for your monitor.

MULTIVIEW (SUPPLEMENTAL) MONITORS

Supplemental monitors connect to video ports on 3Play’s backplate.

4. Connect the external device to an output on the backplate using an appropriate cable (and/or adapter, if required).

5. Launch a 3Play session (or create a new one) from the Startup Screen.

6. Double-click one of the output monitors to open the Output Configuration panel.

7. Select your preferred display for the target device.
8. Select *Display Color Settings*, and – in the appropriate tab – set *Resolution* to match the native resolution of the external display.

**NOTE:** Changing resolution can cause frames to be dropped briefly. *We do not recommend changing this setting during live production.*

### A.1.4 IMPROVE THE QUALITY OF MULTIVIEW OUTPUT?

It is possible to choose settings that will have a negative effect on *Multiview* video output image. For best quality, be sure that the *Resolution* you choose corresponds to that of the monitor connected.

**NOTE:** Changing Resolution can cause frames to be dropped briefly. *Thus, we do not recommend changing this setting during live production.*

### A.1.5 CONNECT THE GENLOCK REFERENCE SIGNAL?

1. Connect the reference signal to the *Genlock* input (BNC connector) on the backplate.
2. See Section 3.7 for details on configuring *Genlock* settings.

### A.1.6 CONNECT THE 3PLAY CONTROL SURFACE?

Connect the USB cable from the Control Surface to one of your NewTek 3Play’s USB ports. Do not extend the supplied cable if possible.

**SUPPLEMENTARY QUESTION:**

Q: My system has suddenly stopped responding to the *Control Surface*. What can I do?

A: The foremost reason this might happen is if the cable (or extender cable) you are using between the *Control Surface* and 3Play failed to deliver sufficient current consistently. In the short term (if you are in the middle of a show), you can generally resolve this issue by simply unplugging and re-plugging the Control Surface.

However, please note that the use of so-called “USB extenders” is not recommended. Whenever possible, use a single USB cable of the correct length. Each added connector on the signal path is a potential connection problem, and also causes signal ‘reflections’. Such an arrangement may seem to work for a while, then fail unpredictably.

If you are using a very long USB cable (or a poor quality cable), you should supply a powered hub at the end of the cable nearest the Control Surface, then complete the connection with a short USB cable from the hub to the *Control Surface* (an unpowered hub will be of no help).
A.1.7 CONNECT AN EXTERNAL HARD DRIVE?

Connect a suitable cable from the external hard drive to a (blue) USB 3 port on the system’s backplate. Note that in general, for use with large video files the hard drive should be formatted using the NTSF file system (the FAT file system chokes on exported files exceeding 4 Gigabytes, as will often be the case).

USB 3 ports support transfer speeds fast enough for live recording to suitable external media. USB 2 ports should not be used for recording but may be useful for transferring files to and from the system (it is always best to import media for use in live sessions).

A.1.8 CONNECT TO A NETWORK?

Please refer to Section 3.10.

A.1.9 ENABLE TERMINATION FOR VIDEO INPUTS?

NewTek 3Play provides full-time video termination. If you need to loop through (or t-off from) upstream video devices (such as an external monitor) in your video pipeline, you should ensure termination is turned OFF for earlier devices.

A.2 SESSIONS

SUPPLEMENTARY QUESTION:

A.2.1 What is a session?

A: Sessions can be thought of as ‘top-level presets’. They store all of the settings, playlists, device configurations, and so on for a given live production. See Section 6.1.

A.2.2 DELETE A SESSION (AND ITS CONTENT)?

1. Right-click the name of the session in the Home page of the Startup screen.

2. Select Delete from the menu.

This will delete the session, and any content that is local to the session (external data that has not been imported and data on drives that are not mounted at the time will not be deleted). See Section 6.2.2 for more information.

A.2.3 RENAME A SESSION

1. If necessary, close the Replay Desktop by choosing Exit in the File menu.
2. Return to the *Home page*.

3. Right-click the name of the session you want to rename in the list shown at right to open the context menu.

4. Choose *Rename* from the menu that appears.

### A.2.4 MANAGE SELECTED CONTENT INSIDE A SESSION?

1. Click the name of the session containing the content you wish to manage in the *Home page* of the *Startup Screen*.

2. Under *Browse* at (right on the *Session* page), click the link for the type of content you wish to manage (see Section 6.3.1).

### A.3 EVENTS AND RECORDING

#### A.3.1 START RECORDING?

1. Press the *REC* button on the *Control Surface*.

   or ...

2. Press IN or OUT on the Control Surface.

   or ...

3. Press the *Record* button in the *Dashboard* at the top of the *Replay Desktop*.

#### A.3.2 END RECORDING?

1. Press *SHIFT* + *REC* on the *Control Surface*.

   or ...

2. Press the *Record* button in the *Dashboard* at the top of the *Replay Desktop* a second time.

#### A.3.3 MARK AN EVENT?

There are two principle methods for marking events:

**ONE-BUTTON METHOD**

1. Watch the input monitors and press the *OUT* button on the *Control Surface* whenever a notable event occurs (see Section 9.10).
2. This creates a new event in the CLIP LIST, setting an *Out Point* at the current timecode, and an *In Point* as required to fulfill the default duration set in the *Options* menu (see Section 7.4.1). Of course, you can trim the event afterward any time you wish.

### TWO-BUTTON METHOD

1. Press the *IN* button on the Control Surface at any convenient time. This creates a new ‘incomplete’ event in the CLIP LIST.

2. (Optional) If nothing noteworthy occurs in the next while, feel free to press *IN* again from time to time, updating the In Point of the event.

3. Press *OUT* to complete the event when something interesting occurs (see Section 9.10).

### A.3.4 PLAY A CLIP?

1. In the CLIP LIST, double-click the *Memo* field for the input (clip) you want to play

   or ...

2. Navigate to a clip using the *Control Surface* or keyboard and press *PLAY*.

3. Or simply move the *T-Bar* forward (from 0%).

### RELATED QUESTIONS:

**Q:** I pressed PLAY, so why is my output frozen?

**A:** Check to see if the *Control Surface T-Bar* is at the 0% position (stopped).

### A.3.5 PREPARE A HIGHLIGHT REEL?

1. Select clips for events you want to include in the CLIP LIST and press *ADD TO PLAY LIST* to add them to a page in the PLAY LIST module.

2. Drag clip entries up or down in the PLAY LIST table as necessary to place them in the order you want them to play.

3. Optionally, re-trim the clips, to taste.

4. Adjust level controls for embedded audio in the *Audio* columns (see Section 13.3.4), *Transition Rate* (Section 13.3.7) and *Speed* (13.3.6) for individual or multi-selected clips.
5. (Optional) Enable the Music Track switch in the PLAY LIST titlebar and load a music file using the nearby menu (see Section 13.1.4). Adjust its level by clicking the Music Configuration button (gear) on the right.

A.3.6 SELECT A DIFFERENT PLAY LIST CLIP FOR THE SAME TIME PERIOD?

1. Hold down the ANGLE button on the Control Surface.

2. Press a number on the Control Surface number pad or use the left/right TAB buttons to access the available clips for the current time segment.

A.4 FILES

A.4.1 MANAGE FILES?

Please refer to the item (How do I) Manage Selected Content inside a Session? (Section A.2.4).

A.4.2 IMPORT MEDIA FILES?

Importing files implies copying them into the session folders, making them local (rather than external) to the system and session. To import media files:

1. Open (or create) a 3Play session.

2. Click the Import Media button (below the Browse > Sound and Music link at right).

3. Click Add and use the system file explorer that opens to select the file(s) you wish to import into the current session; then click the Open button.

Selected files are automatically copied to the appropriate folder (Clips, Stills, etc.) according to their file type (see Section 6.2.6, Import Media).

**Tip:** External files can be used in a session without being imported, by adding them to CLIP LIST using the Add Media button and Media Browser – see Section 12.1.5. However, it should be noted that the transfer speed of most external devices is too slow for reliable playback of media content, making it wise to use the Import feature instead whenever possible.

A.4.3 PREPARE CLIPS FOR THE PLAY LIST USING APPLE® FINAL CUT PRO?

We are often asked what format to use for export from Final Cut for best compatibility in 3Play, especially for HD clips. Really, in most cases you can simply take advantage of 3Play’s Import module – see Section 6.3.1.
Alternatively, you might install NewTek’s free Quicktime™ codecs (available on the ‘Product Updates and Downloads’ page on the NewTek website), with a view to rendering to one of these directly on your FCP system.

Actually, FCP does not natively provide broad Quicktime export options, but Compressor does; and FCP can use the latter as its encoder. After creating a Compressor preset that uses one of the NewTek SpeedHQ codecs, you can click on Final Cut’s File menu, choose Send To > Compressor (Compressor will open automatically), and proceed as usual. See the documentation for Apple® products for more detail.

**A.4.4 EXPORT FILES TO AN EXTERNAL DRIVE?**

There are several approaches to exporting media files from within 3Play sessions. By far the simplest is to use the Export feature – see Chapter 17.

**A.4.5 IMPORT/EXPORT FILES LARGER THAN 4 GIGABYTES?**

This question may arise if you are using external media, perhaps portable hard drives, or USB ‘thumb’ drives. These are commonly prepared using the FAT32 file system, which does not support files larger than 4GB. As video files will often exceed this size, FAT32 is not very suitable for use in that context.

You should reformat these drives using the NTFS system to eliminate this limitation (or you might consider transferring larger files over a network connection).

**A.4.6 AVOID THE ERROR “… COPY THIS FILE WITHOUT ITS PROPERTIES?”**

Windows shows this error message when you export a media file to an external volume that does not use the NTFS file system. The warning is not really a concern (although we highly recommend using NTFS formatted storage, as noted in Section A.4.5). The files will copy just fine regardless.

NewTek 3Play generates metadata attributes for media files for internal use. This metadata is only retained when you export to storage formatted as NTFS. That being said, the metadata is automatically regenerated if you use the files with NewTek 3Play again later, so its loss poses no issue.

**A.5 SOFTWARE, MAINTENANCE AND UPDATES**

**A.5.1 IMPROVE PERFORMANCE?**

1. Click the Utilities icon on the Home page in Startup.

2. Click the Defragment Hard Drive link at right (see Section 6.2.4), and follow further directions provided. This process can take considerable time, so it’s best not to commence unless time (before a production) permits.
A.5.2 RESOLVE SERIOUS INSTABILITY OR DROPPED FRAMES?

If the system should ever become seriously unstable or drop frames (after the warm-up period), consider a full 3Play Restore operation – see item A.5.6.

A.5.3 UPDATE NEWTEK 3PLAY SOFTWARE?

1. Connect 3Play to a valid Internet connection.

2. Click the Utilities icon on the Home page in Startup.

3. Click Update 3Play, and follow directions provided (see Section 6.2.4).

A.5.4 INSTALL VIRUS PROTECTION?

Virus and malware protection applications can dramatically impact system performance (this is true even for Windows® Defender, which is deliberately disabled for this reason). In general, once additional software or services are enabled on the system, real-time performance cannot be guaranteed. In a perfect world, we’d love to recommend that you do not install virus and/or malware protection software on NewTek 3Play.

Certainly, you should always take sensible precautions to avoid introducing infected files by rigorously virus-checking media you plan to connect or import before ever connecting it to 3Play. Realistically though, in some settings you may feel the need for protection outweighs the risk.

If you really feel you must install virus protection, switch all of its ‘active scanning’ operations off so that nothing can occur in the background during live production. Anything that provides full-time protection will dramatically reduce memory and disk speed on your system, so you should disable those features. Then, only when you need to do so (perhaps on a daily or weekly schedule), perform a manual scan.

Never let scanning continue into a live switching event, and do not assume that you can now omit pre-checking files and external media for nasty surprises.

Tip: In the unfortunate event that malware ever does evade defensive measures you employ, you can always use the Restore function to completely rehabilitate your system.

A.5.5 INSTALL MY FAVORITE SOFTWARE (OR CODEC)?

NewTek 3Play is not a ‘general purpose’ computer. The installed software suite is finely tuned to provide reliable performance and amazing features. Anything you install apart from official updates places these important goals at risk. Doing so is strongly discouraged.
Regarding codecs, NewTek 3Play supports many popular image, audio, and video formats for playback. That said, hardly a day passes without another new one appearing on the scene. If a file you would like to use does not play back well (or at all), consider converting it to a friendlier format. The Import Media module makes this very easy to do.

If you feel the format is so popular that it should be supported, please submit the details as a feature request.

A.5.6 RESTORE THE SYSTEM TO ORIGINAL ‘AS-SHIPPED’ CONDITION?

We firmly expect you will never need it, but isn’t it good to know that comprehensive software Restore features are available in the event of an unforeseen problem? You can use one of two methods to access Restore, depending on your situation.

To restore your system software after the system launches normally:

1. Click the Utilities icon on the Home Page of the Startup Screen.
2. Select the link labeled Backup or Restore System.
3. The system will restart. When it does, select the Restore Factory Defaults bootup option.

If 3Play should ever fail to boot up properly, you may need to try a different approach to restore your system software, as follows:

1. Select the menu item labeled Restore Factory Defaults from the black boot screen that appears shortly after powering up. (If this screen does not automatically appear, reboot and press F8 a few times in quick succession, say once per second, immediately after powering up.)

Either method described above will ultimately present you with powerful system backup and restore tools. The management screen initially presents you with 3 options as follows:

- **Restore System Partition to Factory Defaults**: overwrites the C partition (only) on the existing system drive from the disk image in its local Restore partition.

  *Note: Following a Reset to Factory Defaults operation, the Windows® system software must be re-activated. To do this, you will need the operating system serial number, which you will find on a sticker affixed to the exterior of your system.*

  This procedure restores your system drive (“C:”) to its ‘as-shipped’ state. However, any software updates you performed earlier will be overwritten. When you do restore, remember to update the 3Play software afterward.

- **Create User Backup Drive**: create a bootable clone of the entire system drive (as it exists at the time) on either an external HDD or a drive mounted in a removable hard drive bay.
The clone operation includes:

- The existing (factory-prepared) Restore partition
- The complete C partition

In cases of catastrophic drive failure requiring drive replacement, a service technician can connect the User Backup ‘clone’ drive in place of the original internal system drive and you’ll be back in production (prudence would call for creating a new User Backup drive as the first order of business.

- **Restore System Partition from User Backup Drive**: overwrites the C partition (only) on the existing system drive with the C partition on the external user backup drive. This allows you to insert a User Backup drive into a removable drive bay (or otherwise connect it) and regain a functional system partition as stored on the clone drive.

---

**Note:** This feature is intended to allow a restore operation of the system drive that the clone was prepared on. It is not intended to allow restoration from a ‘foreign’ unit. Using the ‘Restore System Partition from User Backup Drive’ in the latter manner will almost certainly cause multiple problems.

In a dire emergency, however (such as if a system drive fails when no User Backup from the same unit has been prepared) a User Backup created on a similar model 3Play can be helpful, as follows:

- Install the ‘foreign’ User Backup drive to replace the defunct system drive.
- Power up, and – at the boot selection screen – select ‘Backup and Restore’.
- Choose ‘Restore System Partition to Factory Defaults’ and follow prompts.

It may be necessary to re-activate Windows, then re-enter the registration unlock code, and possibly update the 3Play software after the restoration process in this case. Be aware that the approach above is not encouraged since minor hardware differences between the two units involved may well result in issues in the resulting Windows installation. Also, the new system drive will no longer have a factory restore partition. Still, it might be better than nothing in a crisis.

---

### A.6 Registration And Technical Support

#### A.6.1 Register the NewTek 3Play System?

Please refer to Section 3.2, Registration.

#### A.6.2 Contact Technical Support?

Visit the NewTek Website, at www.newtek.com and select **Support** from the main menu at the top of the page. This page always contains the latest support information for your NewTek products, including FAQs and documentation. It also lists the Customer Support Department’s hours of operation and contact details.
A.6.3 FIND HARDWARE/FIRMWARE REVISION NUMBERS?

Click the Help icon and select About 3Play in Startup. Doing this opens an information panel that lists significant version numbers (at the bottom).

A.7 MISCELLANEOUS

A.7.1 SET UP REMOTE DESKTOP CONTROL OF 3PLAY?

Attempts to run screen sharing or remote desktop software on 3PLAY are strongly discouraged (this includes NewTek’s own iVGA client). Applications of this type require significant system resources. At the same time, 3PLAY’s primary functions require unhindered CPU and GPU access. Adding the resource demands of additional software of this type would almost certainly cause 3PLAY to drop frames on output and should simply never be done.

A.7.2 DEAL WITH CLIPS OR IMAGES THAT SEEM BLURRY?

When paused or stopped, the system performs motion removal (to avoid unwanted flicker). This can make the image seem slightly blurred when paused, but it should look perfect during playback.

A.7.3 ACCESS WINDOWS?

1. If necessary, close the Replay Desktop by clicking Exit under the Files tab on your replay desktop.
2. Click the back arrow on the left of your screen.
3. Click the Shutdown button
4. Click the Exit to Windows link at right (and confirm the warning dialog).

A.7.4 RETURN TO THE STARTUP SCREEN FROM THE WINDOWS DESKTOP

Double-click the 3Play icon on the Windows desktop to return to 3Play’s Startup screen.

A.8 MORE QUESTIONS AND ANSWERS

A.8.1 WHY ARE MY CLIP DURATION AND COUNTDOWN TIMES DIFFERENT?

At times, the duration shown for a clip in the CLIP LIST may not perfectly match the HUDs countdown timecode. This Duration value is based on the original clip framerate. However, the HUD countdown timecode is based on the project framerate.
### APPENDIX B  KEYSFOR SHORTCUTS

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<table>
<thead>
<tr>
<th>Action</th>
<th>Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toggle CLIP LIST Angle Previews (Redundant sessions only)</td>
<td>Ctrl + m</td>
</tr>
<tr>
<td>Previous row</td>
<td>Up arrow</td>
</tr>
<tr>
<td>Next row</td>
<td>Down arrow</td>
</tr>
<tr>
<td>Previous cell</td>
<td>Left arrow</td>
</tr>
<tr>
<td>Next cell</td>
<td>Right arrow</td>
</tr>
<tr>
<td>One page up</td>
<td>Page Up</td>
</tr>
<tr>
<td>One page down</td>
<td>Page Down</td>
</tr>
<tr>
<td>First cell in row</td>
<td>Home</td>
</tr>
<tr>
<td>Last cell in row</td>
<td>End</td>
</tr>
<tr>
<td>First cell in table</td>
<td>Ctrl + Home</td>
</tr>
<tr>
<td>Last cell in table</td>
<td>Ctrl + End</td>
</tr>
</tbody>
</table>

#### B.2 EDIT LISTS/TEXT

<table>
<thead>
<tr>
<th>Action</th>
<th>Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut</td>
<td>Ctrl + x</td>
</tr>
<tr>
<td>Copy</td>
<td>Ctrl + c</td>
</tr>
<tr>
<td>Paste</td>
<td>Ctrl + v</td>
</tr>
<tr>
<td>Remove event/item</td>
<td>Del</td>
</tr>
<tr>
<td>Append to current Memo value</td>
<td>Enter</td>
</tr>
<tr>
<td>Confirm edit</td>
<td>Enter</td>
</tr>
<tr>
<td>Copy Memo text to all angles of an event</td>
<td>Shift + Enter</td>
</tr>
<tr>
<td>Exit text edit without saving changes</td>
<td>Esc</td>
</tr>
<tr>
<td>Add Media (to CLIP LIST)</td>
<td>F5</td>
</tr>
</tbody>
</table>
### B.3 Marking

<table>
<thead>
<tr>
<th>Action</th>
<th>Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark In</td>
<td>Alt + i</td>
</tr>
<tr>
<td>Mark Out</td>
<td>Alt + o</td>
</tr>
<tr>
<td>Reset In Point</td>
<td>Alt + Shift + i</td>
</tr>
<tr>
<td>Reset Out Point</td>
<td>Alt + Shift + o</td>
</tr>
<tr>
<td>Bookmark (set)</td>
<td>Ctrl + b</td>
</tr>
<tr>
<td>Bookmark (jump to previous)</td>
<td>Ctrl + Shift + b</td>
</tr>
</tbody>
</table>

### B.4 Searching

<table>
<thead>
<tr>
<th>Action</th>
<th>Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Execute Search</td>
<td>F3 (or Ctrl + f)</td>
</tr>
<tr>
<td>Go To (Clip #)</td>
<td>Ctrl + g</td>
</tr>
<tr>
<td>Go To (timecode)</td>
<td>Ctrl + Shift + g</td>
</tr>
</tbody>
</table>

### B.5 Control

<table>
<thead>
<tr>
<th>Action</th>
<th>Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delegate Channel A (Control)</td>
<td>Ctrl + [</td>
</tr>
<tr>
<td>Delegate Channel B (Control)</td>
<td>Ctrl + ]</td>
</tr>
<tr>
<td>Link Channels (toggle)</td>
<td>Ctrl + =</td>
</tr>
<tr>
<td>Source Delegate – LIVE</td>
<td>Ctrl + l (lower case L)</td>
</tr>
<tr>
<td>Select input or angle</td>
<td>Alt + Numpad (1-8)</td>
</tr>
<tr>
<td>Previous input or angle</td>
<td>Alt + (left arrow)</td>
</tr>
<tr>
<td>Next input or angle</td>
<td>Alt + (right arrow)</td>
</tr>
<tr>
<td>Go to first frame of clip</td>
<td>Alt + Home</td>
</tr>
<tr>
<td>Go to last frame of clip</td>
<td>Alt + End</td>
</tr>
</tbody>
</table>
APPENDIX C  RELIABILITY TESTING

We know our products play vital roles in the productions of our customers. Durability and consistent, robust performance are much more than just adjectives for your business and ours.

For this reason, all NewTek products undergo rigorous reliability testing to ensure they meet our exact test standards. For NewTek 3Play, the following standards are applicable:

<table>
<thead>
<tr>
<th>Test Parameter</th>
<th>Evaluation Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>Mil-Std-810F Part 2, Sections 501 &amp; 502</td>
</tr>
<tr>
<td>Ambient Operating</td>
<td>0°C and +40°C</td>
</tr>
<tr>
<td>Ambient Non-Operating</td>
<td>-10°C and +55°C</td>
</tr>
<tr>
<td>Humidity</td>
<td>Mil-STD 810, IEC 60068-2-38</td>
</tr>
<tr>
<td>Ambient Operating</td>
<td>20% to 90%</td>
</tr>
<tr>
<td>Ambient Non-Operating</td>
<td>20% to 95%</td>
</tr>
<tr>
<td>Vibration</td>
<td>ASTM D3580-95; Mil-STD 810</td>
</tr>
<tr>
<td>Sinusoidal</td>
<td>Exceeds ASTM D3580-95 Paragraph 10.4: 3 Hz to 500 Hz</td>
</tr>
<tr>
<td>Random</td>
<td>Mil-Std 810F Part 2.2.2, 60 minutes each axis, Section 514.5 C-VII</td>
</tr>
<tr>
<td>Electrostatic Discharge</td>
<td>IEC 61000-4-2</td>
</tr>
<tr>
<td>Air Discharge</td>
<td>8K Volts</td>
</tr>
<tr>
<td>Contact</td>
<td>4K Volts</td>
</tr>
</tbody>
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CREDITS


Special thanks to: Andrew Cross, Tim Jenison

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

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