



# TalkShow™

VS-100

Skype TX™ Broadcast Connectivity



USER GUIDE

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# PART I (GETTING STARTED)

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*Introducing TalkShow™ – connections and registration, a top-level overview of primary features, and a quick hands-on tour to get you started.*





## Chapter 1 ABOUT THIS MANUAL

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This manual tells you everything you need to know to use your TalkShow™ system. It attempts to convey essential information in a friendly, concise way, while also deeper reference information you can turn to when you really need all of the relevant details.

*Even if you are the hands-on, never-ask-directions type, please peruse this page. If any questions about your TalkShow system arise later, you may find the information here allows you to jump directly to the details you need with a minimum of reading.*

- **PART I – GETTING STARTED**

Introduction to TalkShow and Skype TX™, network and device connections, registration details, including basic operation.

- **PART II – REFERENCE**

This section covers every arcane detail related to using TalkShow (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 to more detailed information when appropriate.



## Chapter 2 INTRODUCTION

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NewTek™ is extremely proud of its record of innovation and commitment to excellence in design, manufacture, and product support. This chapter provides a quick tour of the major components of your new TalkShow™ live production system, and explains how to perform initial connection and configuration.

Thank you for purchasing this NewTek system. TalkShow is a proud member of our talented family of video production and broadcast systems. Its sleek profile conceals a robust system that has been lovingly crafted to fill an important role in your studio.

If your production pipeline includes other NewTek products, you may enjoy added benefits; but rest assured, TalkShow's professional design and high-end feature set allow it to be easily integrated into *any* broadcast workflow.

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### SECTION 2.1 SKYPE TX™ AND TALKSHOW™

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The Skype TX platform is at the core of your TalkShow system's capabilities.

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#### 2.1.1 SKYPE TX™ CLIENT AND CONTROL – OVERVIEW

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Skype TX is a unique Skype™ based system developed by Microsoft® to present the video and audio of any Skype call seamlessly to the television broadcast chain. The Skype TX platform includes several primary applications, described next.



Most familiar, of course, is the ubiquitous Skype client enjoyed by hundreds of millions of users around the world on various platforms, including mobile devices. The Skype TX Client software leverages that global communication network, bringing its astonishing two way video communication capabilities into the video broadcast environment in more traditional forms, and with visual quality and features suited to studio workflows and requirements. (Of course, these same abilities can be very useful for many other applications as well).

A single Skype TX Client supports both ends of one Skype call, referred to in the Skype TX workflow as a “channel”. You may wonder, though, how multiple channels can be managed. A second application called Skype TX controller provides tools to manage multiple Skype TX channels.

Skype TX controller manages multiple Skype TX Clients (channels), and lets you initiate calls to any contact in the central *Contacts* database. Physical access to the Skype TX unit or the Skype TX software is not required in this case.

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### 2.1.2 TALKSHOW™

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TalkShow is the brand name of NewTek™ live production systems purpose-designed to support the Skype TX™ platform, as well as the identity of the software suite running on the system.



The Skype TX Client software, described previously, is hosted within the TalkShow application. This integrated approach presents the user with a seamless experience combining the awesome power of the Skype TX platform with high-end professional audio and video features provided by TalkShow. The end result is an unparalleled Skype TX experience that eliminates any need for a number of expensive external audio and video devices that might otherwise be considered mandatory.

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## SECTION 2.2 FEATURES

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Let’s take time for a brief review of the key features of your new TalkShow™ unit.

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### 2.2.1 PHYSICAL

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- Rugged yet very compact (1RU) rack-mount case.
- Audio and video, monitoring and network connectors are easily accessible from the rear for convenient installation in standard 19” rack-mount configurations.
- Industry standard connectors (XLR, ¼” audio jack, and BNC) ensure broad compatibility and secure connections.

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## 2.2.2 MULTI-TIER FAILSAFE

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NewTek's 'Always on Air' failsafe system provides multi-tier redundancy. Software processes continually monitor and safeguard the live performance. Recoverable error conditions are quickly and unobtrusively dealt with. The system can automatically display a still image of the remote caller while maintaining audio transmission, should unforeseen bandwidth constraints occur below specified values.

TalkShow also has a comprehensive integrated system restore feature. Operators can quickly and easily restore to factory defaults, or create a restore image on an external drive, then restore from it should a complete hard drive failure ever occur.

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## 2.2.3 A/V FEATURES

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- A studio-grade production source, TalkShow™ delivers HD-SDI video to the switcher, with automatic aspect ratio handling.
- Full 4:4:4:4 32-bit floating point internal processing of all video sources.
- *Proc Amp*, *White Balance*, and *Auto Color* features ensure responsive, professional quality live color correction. Adjust video output to compensate for environmental variations automatically, manually, or both.
- SDI-embedded or (balanced) analog audio input and output, with quality enhancement features including integrated graphic equalizer and compressor/limiter to enhance quality, maintain consistent levels, and prevent clipping or overdriving.
- Record incoming call audio and video (and optional return audio on isolated channels for post-production) to local or networked storage.
- Supports NewTek's unique AirSend™ technology that can transmit *all* required a/v signals between TalkShow and a TriCaster™ live production system across a network, without any other cabling or using up precious switcher input and output connections.

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## 2.2.4 CALL MANAGEMENT

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- Call management is handled separately from a/v output, resulting in a feed that is free of pop-ups, advertisements and notifications.
- Tally notification tells operator and caller when they are 'live to air'.
- Included Skype TX™ Control application permits multiple TalkShow™ systems and Skype™ calls to be managed from a single interface.
- The unique *Talk Back* button on the TalkShow *Dashboard* makes it easy for the TalkShow operator or 'call screener' to communicate directly with the remote Skype™ caller using an inexpensive headset, without potentially complicated and expensive external audio routing systems.
- The included Skype TX controller application, installed on an external computer system, provides the possibility of managing multiple TalkShow units (and Skype™ channels) centrally. Documentation for the Skype TX controller application can be found on your TalkShow in the folder at C:\Talkshow\Documentation\, or on the system you install the controller software on.

## Chapter 3 SETTING UP

TS

This chapter explains how to connect and configure your NewTek TalkShow™ system. It also reviews the registration process, and explains how to connect to external video production devices.

After completing this short section, you'll be all set to continue into the Live Production Walkthrough chapter that follows it.

To begin, let's review the contents of the box:

- NewTek TalkShow
- A/C power cord
- NewTek™ mouse and keyboard
- Quick Start Guide
- NewTek TalkShow registration reminder card
- New product letter

### SECTION 3.1 COMMAND AND CONTROL



FIGURE 1

1. Connect an external computer monitor to a port labeled *either DVI or HDMI*, as appropriate for your device.

*Hint: TalkShow's interface requires a resolution of at least 1600x1050.*

2. Connect the *mouse* and *keyboard* to USB ports on TalkShow™.
3. Connect the power cord *between TalkShow* and an external power receptacle.

4. Connect a suitable cable to the one of the RJ-45 ports marked *ETHERNET*, and connect that to a network with Internet access.

*NOTE: It is recommended that your Internet service should support at least 2.5 megabit speeds in both directions for a single, reliable, high definition Skype™ call.*



FIGURE 2

5. Turn on the computer monitor.
6. Press the large round *On/Off* switch at left on TalkShow's faceplate.

At this point, the blue ring surrounding the *On/Off* will illuminate, as will the NewTek™ logo at right, and the unit will boot up. (If this does not happen, check your connections and retry).

Though not a requirement, we do strongly recommend that you connect TalkShow 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

#### 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, consider a "pure sine wave" UPS. These units can be relied on to supply very clean power, eliminating potential problems, and are recommended for applications demanding high reliability.



TalkShow's power supply and other electronics, and provide a further measure of protection from surges, spikes, lightning and high voltage.

*Hint: Power saving settings such as 'sleep', etc., that could negatively impact TalkShow functionality are off by default.*

## SECTION 3.2 CONFIGURING WINDOWS®

You will want to take time to ensure that your system is configured correctly for your own locale.

1. Exit the *TalkShow™* application, if necessary, and press the Windows key on your keyboard (usually between CTRL and ALT) to reveal the Windows *Start* screen.



FIGURE 3

2. Near the bottom left corner of the Start screen, click the arrow icon (Figure 3) to display the *Apps* screen, showing all installed applications.

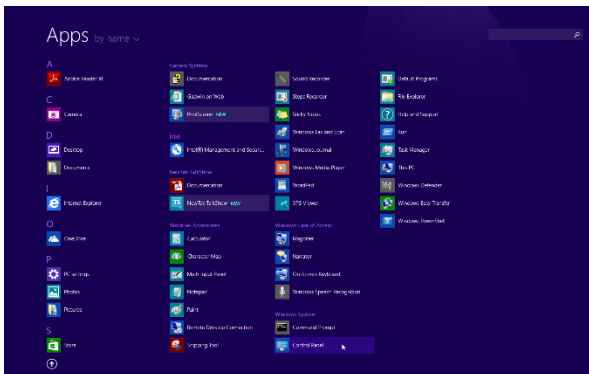


FIGURE 4

3. Click the *Control Panel* icon under the *Windows System* heading.

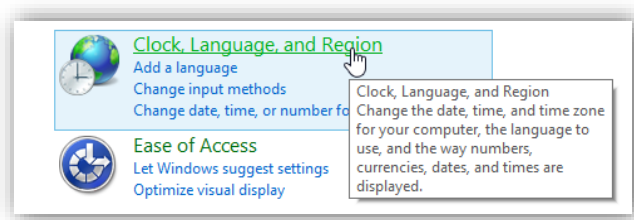


FIGURE 5

4. In the Windows *Control Panel*, click *Clock, Language, and Region* (Figure 5), and make appropriate selections as required.

## SECTION 3.3 TALKSHOW™ LICENSE AND REGISTRATION

On first launch, TalkShow presents an *End User License Agreement* dialog. After you accept this, the *Registration* dialog shown in Figure 6 is presented. If necessary, enter the unique *Serial Number* and *Product ID* for your system.

*Important note: The TalkShow software will not launch until the system is registered and unlocked.*

You can register and obtain your registration code online (directly from TalkShow, or from another system connected to the Internet) or by telephone.

*Hint: If the Serial number doesn't appear automatically, and you can't find it on your unit, you can obtain it from the registration webpage mentioned in the next section, or by calling Customer Support Desk (open seven days a week).*

*For later convenience, you may wish to record the registration code for your TalkShow on the sticker affixed on the chassis of the unit expressly for this purpose.*

FIGURE 6

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### 3.3.1 ONLINE REGISTRATION

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If you have connected your TalkShow™ to the Internet, simply click the button under *Step 2* in the registration dialog. This will take you to the *Registration* page (<http://register.newtek.com>) on NewTek's website, where you will find further directions.

*Hint: Information on connecting TalkShow to a network can be found in 3.6.1 .*

Otherwise, you can visit the registration webpage from another system with Internet access. In either case, after registering on the website, enter the resulting *registration code* into the field provided in the *Registration dialog*.

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### 3.3.2 REGISTERING BY TELEPHONE

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NewTek's Customer Support center can also handle registration requests by telephone, if that is more convenient (when opportunity permits, you should still visit the website as discussed above to gain access to software updates).

Please have your *Product ID* (from the *Registration dialog* mentioned earlier) handy when you call. The phone numbers for Customer Support follow:

*Telephone:*

- (US) 1-800-862-7837
- (Outside US) +1-210-370-8452
- (Europe) +33 (0) 557-262-262

*Hint: It's a good idea to record the login name and password you choose when creating your website profile, and keep them in a safe place. Jot down the registration code too; it could come in very handy if you ever need to restore the TalkShow™ software to its as-shipped state when you don't have access to the Internet.*

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### UPDATES

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It's a great idea to check for recent free software updates for your system at this time, too – see Section A.3.2 for more on this.

NewTek's optional ProTek<sup>SM</sup> service programs offer renewable (and transferable) coverage and enhanced support service features extending well beyond the standard warranty period. Please see <http://www.newtek.com/support/protek.html> or your local authorized NewTek<sup>TM</sup> reseller for more details regarding ProTek plan options.

## SECTION 3.4 RACK MOUNTING TALKSHOW<sup>TM</sup>

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TalkShow is designed for convenient mounting in standard 19" racks (side rails are available from NewTek, if desired). Please keep in mind that adequate cooling is a very important requirement for virtually all electronic and digital equipment, and this is true of TalkShow as well.

When designing enclosures or mounting the unit, supplying good free air movement around the chassis should be viewed as an important design consideration. This is especially true in fixed installations where TalkShow might be installed inside furniture-style enclosures.

In particular, you must provide adequate space above the unit (1RU is recommended as a minimum). We also suggest leaving 1.5 to 2 inches of space on all sides to allow cool (i.e., comfortable 'room temperature') air to circulate around the chassis.

*Hint: If you operate TalkShow in a 'road case' for mobile production, it's best to do so with both the front and back covers (of the road case) removed.*

## SECTION 3.5 INPUT CONNECTIONS

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### 3.5.1 INTERNET CONNECTIVITY

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Please refer to the notes under in Section 3.1, Command and Control. TalkShow's dual network ports provide a great deal of flexibility to ensure that you can integrate the system into your own network environment without compromising the bandwidth required for all-important audio and video transmission.

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### 3.5.2 RETURN TO CALLER

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During Skype™ calls, TalkShow™ requires an audio and video *Return* source to send to the remote caller:

- The audio return lets the caller hear the opposite end of the dialog (it's customary to return a 'mix-minus' feed, to avoid a nasty echo effect; more on that topic later).
- Although the video return really could be almost anything, it typically consists of a program feed from the video switcher.

The audio and video *Return* feeds can be supplied in several ways:



FIGURE 7

#### SDI

---

The *Return* video signal can be connected to the BNC connector marked *SDI IN* on TalkShow's rear panel (shown at left in Figure 7). If this SDI signal contains embedded audio, you will not need a separate analog audio connection for the Skype *Return*.

#### TriCaster™ NETWORK OUTPUT

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NewTek's TriCaster™ live production system has both an integrated audio mixer and the ability to transmit a user-selected a/v program across a standard \*network by means of NewTek's AirSend™ technology. TalkShow provides native support for this very convenient alternative. \* See note below.

*Note: TriCaster 40 models do not support network output.*



FIGURE 8

In this instance, no incoming (or outgoing) SDI or XLR connection is even required. All you need to do is connect both TalkShow to the same network that hosts the TriCaster.

Ideally, this will be a local network that is not in heavy use for purposes unrelated to your production, as opposed to a busy corporate network. Since TalkShow has two network connectors, you have a great deal of flexibility in routing network traffic to best advantage.

*Note: The TalkShow and TriCaster systems must be on the same subnet.*

## ANALOG AUDIO

Often, though, you may wish to supply the audio for the Skype *Return* from an external audio mixer using traditional analog cabling. In this case, you should connect your *Return* audio source to one or both of the XLR connectors on TalkShow's rear panel marked *AUDIO IN* (shown at right in Figure 7).

*Note: Regardless of the means you use to supply audio to be returned to the remote caller, you will want to take steps to ensure you use an audio feed that does not include the caller's own contribution to the audio mix, in order to avoid a confusing echo problem at the remote location. This special type of mix is commonly referred to as a 'mix-minus', since it consists of 'program audio' minus 'caller audio'.*

## TALK BACK CONNECTIONS

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FIGURE 9

The *Talk Back* feature, discussed in Section 4.1.3, provides a convenient means for the TalkShow operator to communicate directly with a remote caller, without a complicated or expensive external audio solution. Simply connect the mic and headphone connectors of a headset to the pink and green audio jacks on TalkShow’s rear panel.

### 3.5.3 REFERENCE SIGNAL (GENLOCK)

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The *Genlock* input on TalkShows’s backplate is for connection of a ‘house sync’ or *reference signal*.

Many studios use this method to synchronize equipment in the video chain. Genlocking is commonplace in higher-end production environments, and genlock connections are typically provided on professional gear.



FIGURE 10

To connect a genlock source, supply the signal from the ‘house sync generator’ to the *Genlock* connector (Figure 10). See Section 3.9 for genlock configuration information.

## SECTION 3.6 SKYPE™ CALL OUTPUT

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Next we’ll discuss audio and video output to downstream production devices. As was the case for the Return signals, TalkShow’s ‘Skype call’ output for in-studio use can also take several forms.

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### 3.6.1 NETWORK CONNECTION

---

As discussed under “TriCaster™ Network Output” back in Section 3.5.1, in a studio pipeline including a NewTek TriCaster™, TalkShow™ can both send and receive all necessary audio and video across a local network via AirSend™. \* See note below.

1. This includes:
  - The Skype™ video call traffic to and from the remote caller
  - The Return a/v stream to be sent to the remote caller, as discussed earlier, and ...
  - The audio and video from the remote caller to be transmitted to the video switcher for inclusion in the program and, ultimately, for broadcast.

So - if you have connected your TalkShow and TriCaster to a network for the *Return* a/v transmission, the same connection can carry audio and video from the remote Skype caller back to TriCaster.

The source menus for TriCaster’s ‘Net’ inputs will list the output channel from TalkShow, just as it does any other valid network video source. (See your TriCaster documentation for more details on working with network sources.)

*Note: TriCaster 40 models do not support network output.*

---

### 3.6.2 SDI OUTPUT

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FIGURE 11

The BNC connector labeled *SDI OUT* supplies the audio and video from the remote Skype™ caller as either an SD or HD-SDI a/v stream (configured in software) to downstream devices.

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### 3.6.3 ANALOG AUDIO

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Many will find it more useful to supply audio from the remote call to the program mix using conventional analog audio connections send from TalkShow™ to a downstream mixer. Simply connect audio devices to the XLR connectors in the *AUDIO OUT* section.



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## SECTION 3.7 TALLY (ON AIR)

---

Tally (On Air) notification can be enabled for TalkShow's front panel LCD screen, as well as being displayed on the *Return* video stream sent back to the remote Skype™ caller.

Tally notification can be sent from a NewTek TriCaster™ live production system\* across a network connection, as described in Section 3.6.1. Otherwise, it can be triggered by a GPI signal presented to the *Tally* connector on TalkShow's rear panel.

\* Requires TriCaster Advanced Edition.

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### 3.7.1 TALLY PORT DETAILS

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Here is a 'pin-out' for TalkShow's HD15 Tally connector:

- Pin7 – GPI 3 Input
- Pin8 – GPI 4 Input
- Pin9 – GND
- Pin10 – GND
- **Pin11 – GPI 1/Tally Input**
- **Pin12 – Talk Back (GPI 2) Input**
- Pin14 – 3.3V (with 20 Ohms current limit)

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#### ENGINEERING NOTES

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- GPI stands for General Purpose Interface, a long-serving control protocol.
- To prevent damage to TriCaster's components when making external connections to the tally light jacks, care should be taken that connection to Pins designated GND (Ground) are always at ground potential.

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## SECTION 3.8 FIRST LAUNCH AND CONFIGURATION

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If TalkShow™ is not already running, power it up now. After logging in if necessary, the TalkShow *Desktop* is displayed (Figure 12). We'll limit ourselves here to configuring input and output, and move on to discuss connecting to Skype™ and handling calls in Chapter 4, Live Production Walkthrough.

*Note: On first launching TalkShow, you will also be asked to accept the Skype TX™ End User License Agreement.*

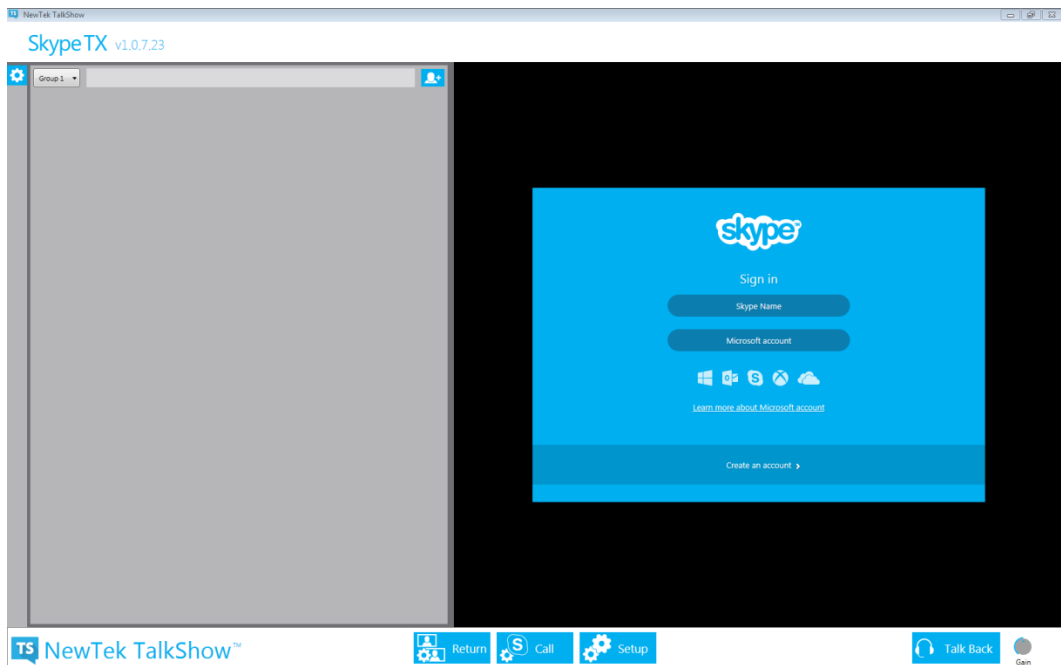


FIGURE 12

TalkShow's *Desktop* (Figure 12) consists of two primary sections contained in a unified application window, with each section identified by a wide white header at its top.

The upper portion of the TalkShow *Desktop* always contains the Skype TX™ Client controls. This area hosts the primary call management features and settings, along with various preview monitors. Across the bottom you will see the NewTek TalkShow *Dashboard*, which provides quick access to advanced settings and features.

*Hint: Clicking the Return, Call, or Setup buttons expands the TalkShow Dashboard to display the corresponding control pane. Alternatively, click anywhere in the wide white Dashboard area to toggle the TalkShow control panel open or closed.*

---

### 3.8.1 SIGNING IN

---

Although you can configure some settings of your TalkShow™ system before signing in, you will need to do so before long anyway, so let's review this part of the process now.

1. When you first launch, your screen will look much like Figure 12. The familiar Skype™ login screen is displayed at upper right.

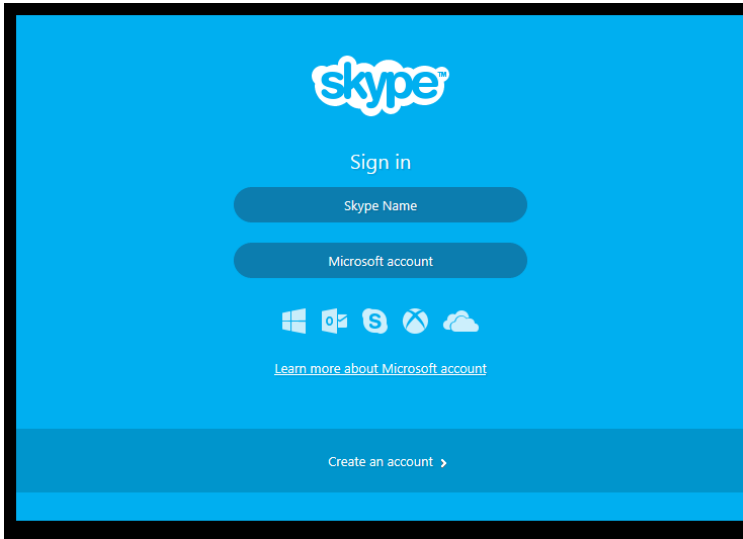


FIGURE 13

2. This dialog allows you to use an existing Skype ID or Microsoft® account to sign in, or create a new account for this purpose.
3. After you make a selection, the Sign In dialog refreshes to show expanded login options, including a check box a lower right allowing you to opt to sign in automatically on launch.
4. Enter sign-in credentials for the desired account.
5. Skype TX™ will connect you to the desired account, and the screen will update to show the full interface. Notice that the account you used to sign in is identified at upper right, in the white TalkShow header (Figure 14).

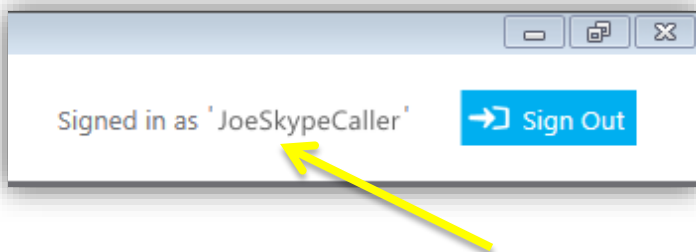


FIGURE 14

Having connected, let's continue to configure audio and video settings.

*Hint: Once signed in to a Skype account, a Sign Out button is available at upper right (Figure 14).*

### 3.8.2 CHOOSING PAL OR NTSC VIDEO STANDARDS

At this point, let's configure TalkShow™ for either PAL or NTSC video standard, according to your locale.

6. Click the large gear at upper (Figure 15) left to expand the Skype TX™ settings panel to occupy the left side of the TalkShow *Desktop*.

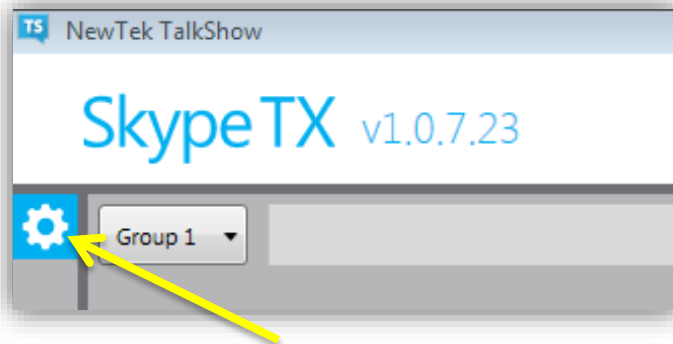


FIGURE 15

7. Locate and click the *Video* (camera) icon at the top of the Skype TX settings pane (Figure 16) to populate the settings panel with video options.

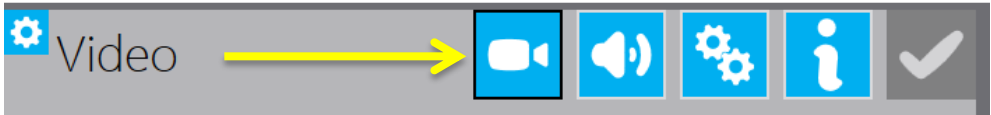


FIGURE 16

Notice that there is an *SDI frame rate* menu in the settings group labeled *Output*. This important setting determines whether TalkShow's video hardware runs in PAL or NTSC mode, and other options will update as required based on your selection here.

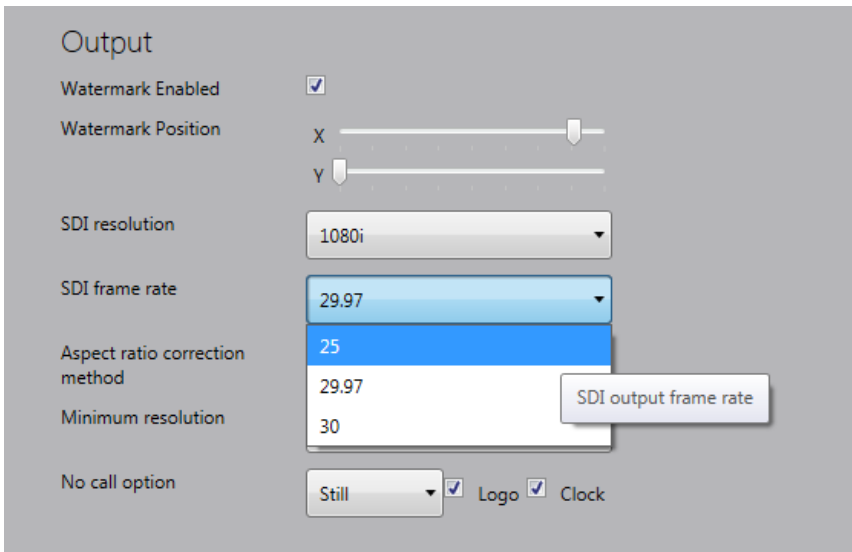


FIGURE 17

8. Select either 29.97, 59.94 or 30 fps for NTSC, or alternatively, 25 or 50 for PAL.

*Note: If SDI video input or output does not seem to be working, check this setting. If incorrect, all you will see is black.*

We'll discuss other settings in this pane later, but for now let's continue by setting up the video signal we will return to the remote Skype™ caller.

---

### 3.8.3 CONFIGURE RETURN TO CALLER

---

FIGURE 18

9. Click the large blue *Return* button centrally located in the TalkShow *DASHBOARD* AT THE BOTTOM OF THE TALKSHOW™ *DESKTOP* (

10. Figure 18).

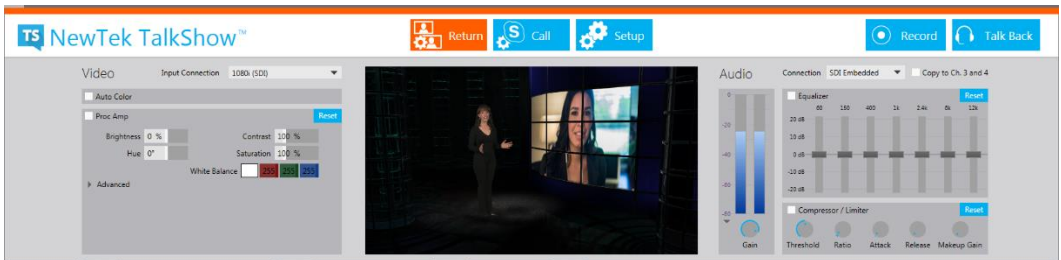


FIGURE 19

This maximizes the TalkShow *Dashboard* and displays the *Return Settings* pane (Figure 19). Controls and settings related to the signals you wish to send back to the remote Skype™ caller are all configured here.

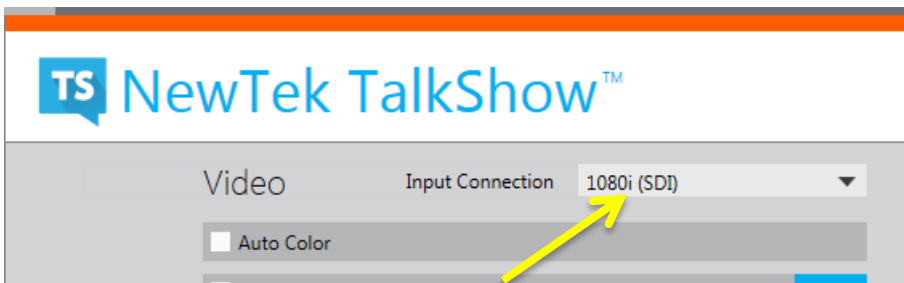


FIGURE 20

11. In the *Video* group at left (Figure 20), choose the appropriate option in the *Input Connection* drop-down menu.

(You'll see a number of popular video formats listed there; as well, if your

workflow includes a TriCaster™ live production system (other than TriCaster 40) connected to the same network as TalkShow, you'll be able to choose the TriCaster's network output listed – see the sub-heading TriCaster™ Network Output in Section 3.5.2 for more detail.)

At this point, if your designated return ('input') connection is supplying video, you should be able to see the video on the monitor in the TalkShow *Return* settings pane (as well as the smaller *Return Video* monitor above in the Skype TX™ monitor group above).

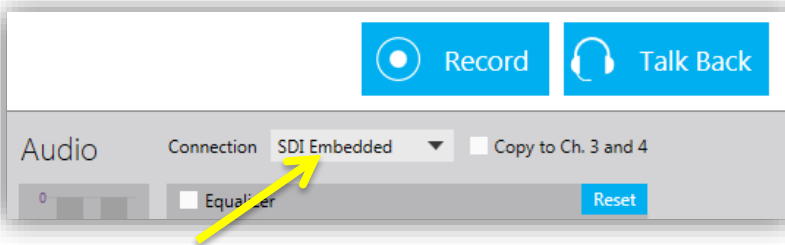


FIGURE 21

12. Repeat this process to choose the correct audio source using the *Connection* menu in the *Audio* settings group at right (Figure 21).

Again, if the audio source is supplying sound, you should see activity on the VU meters in the *Audio* group. Feel free to adjust the *Gain* knob below at this time, as well.

*Hint: By default, TalkShow's VU meter scale is calibrated in XXX. Click the gray triangle below the scale to select between dBFS, dBVU or dBu options.*

We'll discuss the other features hosted in TalkShow's *Return* panel later but let's move on to complete our basic setup by configuring the Genlock (or 'reference signal') input.

## SECTION 3.9 CONFIGURE GENLOCK

(Optional) As mentioned earlier, the Genlock input on TalkShow's backplate is for connection of a 'house sync' or reference signal.

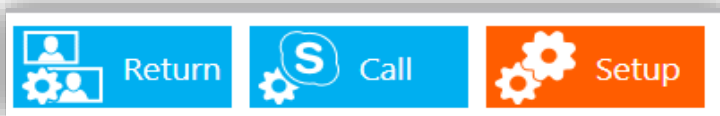


FIGURE 22

While not an absolute requirement for TalkShow™, genlocking is standard procedure in high-end production environments, and genlock connections are typically provided on professional gear. To configure TalkShow's genlock settings, proceed as follows:

13. Access the *Setup* panel by clicking the blue button by that name in the TalkShow™ *Dashboard* (Figure 22).

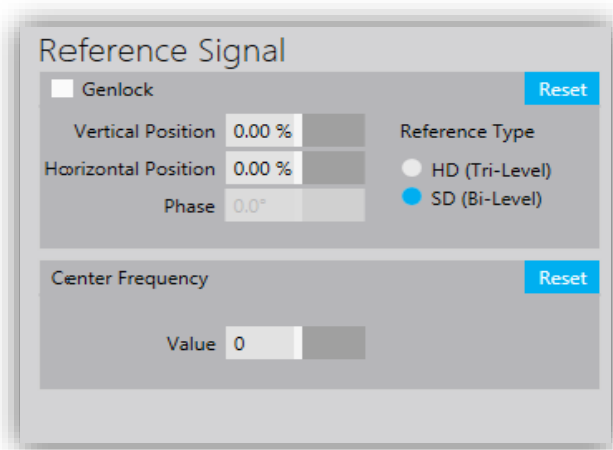


FIGURE 23

14. The default *Reference Type* in the *Genlock* settings group is *SD (Bi-level)*, as is currently this remains the most reference signal type in use. However, if you supply an HD reference signal to the Genlock input, you may want to change the setting to *HD (Tri-level)*.



15. With the aid of downstream Waveform and Vector Scopes, adjust TriCaster's *Horizontal Position*, *Vertical Position*, and *Phase* settings. For a deeper discussion of *Genlock* settings, see Section Section 6.3 in Chapter 5).



## Chapter 4 LIVE PRODUCTION WALKTHROUGH

---



This chapter provides a quick hands-on tour of the major components and functions of your NewTek TalkShow™. In a very short time, these basics will be second nature to you. (More detailed reference material on all aspects of TalkShow follows in Part II.)

In the previous section, you made the necessary device connections to TalkShow™, and configured basic settings. We'll get to the details of more advanced options in Part 2 (Reference), but at this point let's jump right into using the system.

### SECTION 4.1 MAKING A CALL

---

Skype TX™ occupies the upper section of TalkShow's unified interface. Among other things, this area provides all of the tools you need to make and manage Skype calls for use in your broadcast.

Depending on how you configure it, Skype TX can both make and receive Skype™ calls. By default, incoming calls are ignored unless they already exist in the local *Contact* list.

Likewise, before calling someone, you must add them to the *Contact* list. So our first step in this section is going to be adding a contact.

---

#### 4.1.1 THE CONTACTS LIST

---

Skype TX™ makes it easy to add and manage your contacts, even organizing them into groups for convenience.

Since you signed in to Skype™ when you launched TalkShow™, you might expect the *Contacts* list to be automatically populated. After all, this is the way the standard Skype client would work on your phone, tablet, or desktop computer. Note, then, that Skype TX did *not* do this. Rather, contacts are added individually by the operator.

It's useful to know that TalkShow's *Contact List* is local to the unit, not the Skype account you use to sign in. This is very convenient, since the contacts you add persist, regardless of which Skype account you log in with.

Thus, no matter which account you use to sign in on your TalkShow system, you will have access to this contact list (even when the same Skype client account, which has its own contact list associated with it, is used for other purposes or modified).

*Caution: Contact List details are visible from the application window even when you are not signed in. This being so, we recommend securing the system with a password to ensure privacy.*

## ADDING CONTACTS

The *Contacts List* is located in the Skype TX pane, above the TalkShow™ *Dashboard* (you may want to minimize the *Dashboard* before beginning this section).

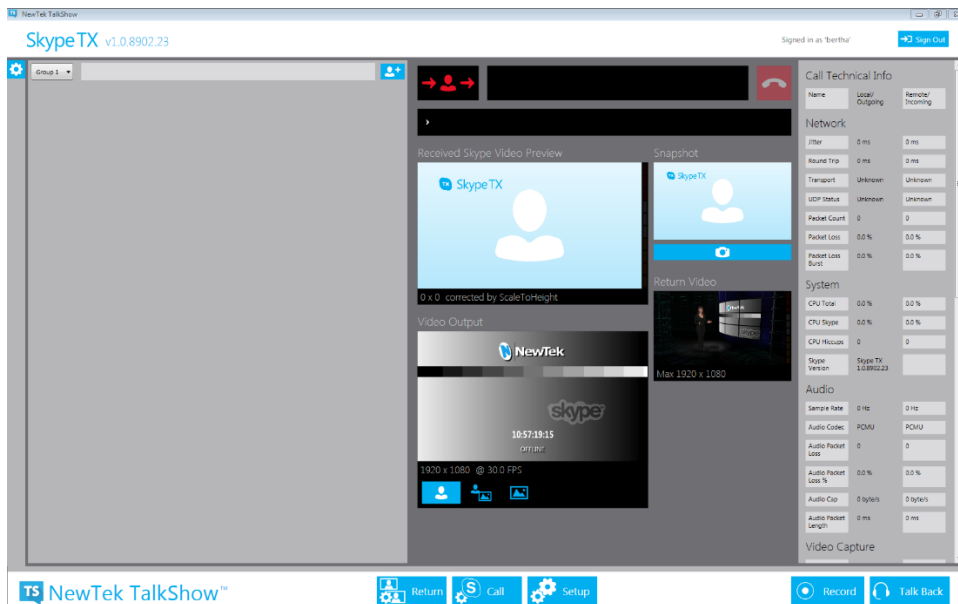


FIGURE 24

Figure 24 shows how the *TalkShow™ Desktop* looks with the *Return* video source already connected and configured – before initiating a Skype call.

The left side of the screen is a large, mostly-empty gray pane. This is where your Skype TX contacts will appear once added.

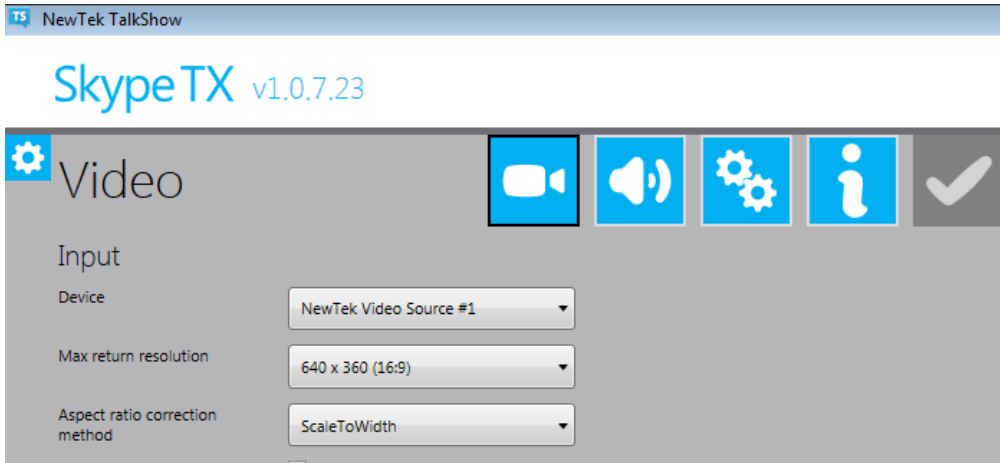


FIGURE 25

(If you see a pane showing other options and settings instead of the blank gray Contacts List, as in Figure 25, simply click the blue 'gear' button at upper-left to minimize it.)

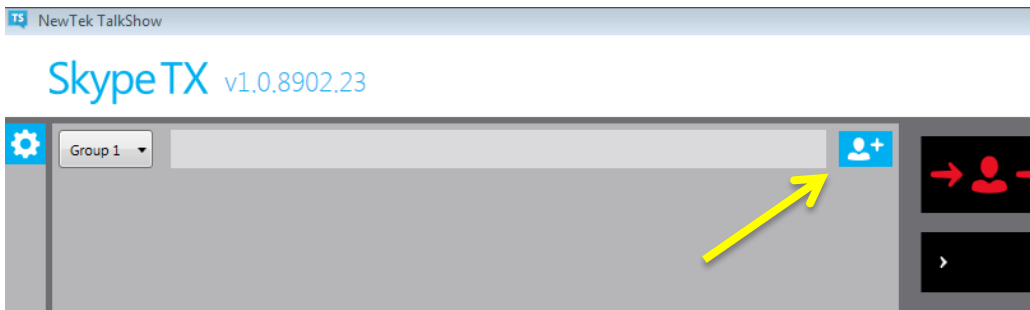


FIGURE 26

1. Click the + button (*Add Contact*) at upper-right in the *Contacts* area (Figure 26) to display the new contact dialogue in the middle of the contacts area.

Display Name

Bartholemew Brown

Location

Reykjavik

User name

blackbart23

Group 1

Group 2

Group 3

Group 4

X

✓

FIGURE 27

2. Fill in the various fields (Figure 27) with the details of the new contact you wish to create as follows.
  - *Display Name* – The name of the remote caller. (This name is for Contact use reference only, and is not displayed on the video output.
  - *Location* – The remote caller's location. Again, this information is for reference in the Contact list only.
  - *User Name* – The user name that identifies the contact. This can be either a Skype™ user name, or a "Microsoft® account" name (formerly referred to as a "Windows Live ID."

Microsoft accounts should be entered in the format live: *(username)*, where *(username)* is replaced by the correct account name.

3. Select a group for the new contact. Four different groups are available, allowing you to organize your contacts conveniently for many different purposes.
4. Click the checkmark (*Apply*) button to complete the process of adding the contact.

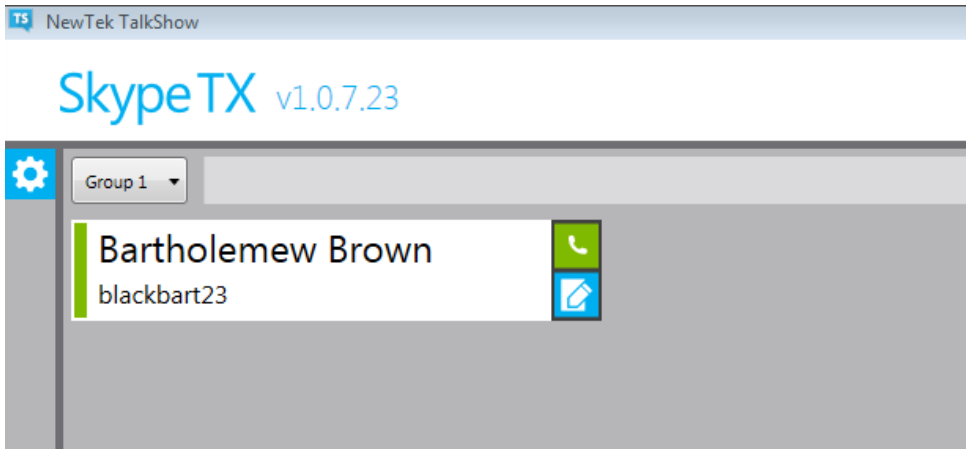


FIGURE 28

Your newly created 'contact card' now appears in the *Contacts List* (Figure 28), ready to be called. (If the contact is actually online and accepting calls, the vertical bar running up the left border of the contact card is green.)

*Hint: To modify an existing entry in the Contacts panel, click the pencil (Edit) button shown at right beside the contact details. This will re-open the contact dialog (Figure 27). To delete the contact, click the trashcan (Delete) button in this dialogue – or click the X to cancel changes.*

#### 4.1.2 SKYPE™ CALLING

1. Click the green 'phone' button at right in the *Contact card* to make a call. Skype TX™ will then attempt to initialize the call.

*Hint: You can monitor the progress of the connection request by watching the Call Status text box and Connection Status indicators. These occupy the top central area of the screen, just beneath the wide white Skype TX header (Figure 29).*

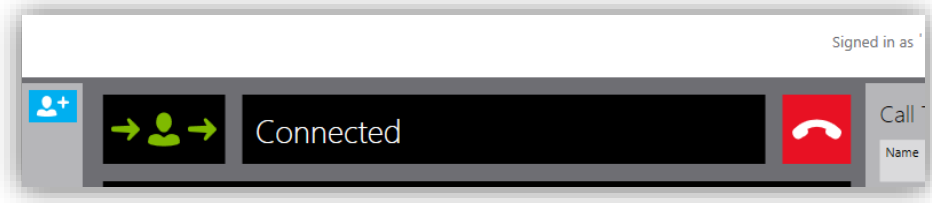


FIGURE 29

A successful Skype call relies, of course, on the remote caller being both signed in and available for calls. Additionally, the contact must either a) list the account you sign into TalkShow™ with as a contact, or b) configure their local Skype client settings to allow calls from users that are not included among their personal *Contacts*.

Your Skype call is now active. TalkShow automatically presents audio and video from the remote caller to its outputs for use in your production, including:

- Video
  - The *SDI OUT* port (Section 3.6.2)
  - AirSend™ network output (Section 3.6.1)
  - The *Incoming* and *SDI Out* preview monitors in the upper part of the interface.
  - The large preview monitor in the *Call* pane opened from the TalkShow™ *Dashboard*.
- Audio
  - The XLR connectors in the *AUDIO OUT* group (Section 3.6.3)
  - The ¼" (6.35 mm) phone jack labeled Monitor (located beside the *Genlock* input). (This output also carries the return audio, allowing you to monitor the entire conversation.) Note that level control for this output is provided in the Setup tab.

---

### 4.1.3 TALK BACK

---

Previously (in Sections 3.5.2 and 3.8.3), you connected and configured audio and video return feeds to TalkShow™. During the course of a call, these are normally returned to the remote caller. Of course, before taking a Skype™ call ‘live to air’ in a production



setting, you will often want to communicate directly with the remote caller apart from the program.

In most call-in production pipelines, a secondary audio return path is provided to allow in-studio personnel (such as a ‘call-screener’) to converse with the remote caller. This secondary audio return is typically configured so that it can interrupt the program audio feed normally returned to the caller.

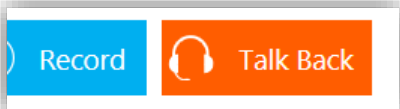


FIGURE 30

TalkShow’s unique *Talk Back* feature provides similar functionality, but does so without requiring you to provide a switchable external audio solution. Having connected a headset as directed in Section 3.5.2, you need simply press the *Talk Back* button at right in the TalkShow™ *Dashboard*.

The *Talk Back* button lights when you press and hold it, interrupting the normal return audio feed, and replacing it with sound from your headset microphone – just as if you were using a local Skype client to communicate.

Releasing the *Talk Back* button restores normal audio flow. (With *Talk Back* disabled, your headset will let you monitor both call and return audio.) While *Talk Back* is active, the remote caller continues to see the *Return* video feed you connected and configured.

*Hint: Talk Back volume is control in TalkShow’s Setup tab.*

#### 4.1.4 DISCONNECTING

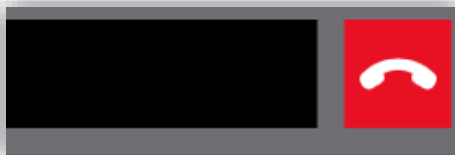


FIGURE 31

To disconnect an active call, simply click the red phone icon in the *Call Status* area above the Skype TX™ preview monitors.

## SECTION 4.2 RECORDING CALLS

TalkShow™ makes recording incoming Skype™ calls very easy. Once configured and enabled, capture starts and stops automatically at the beginning and end of each call.

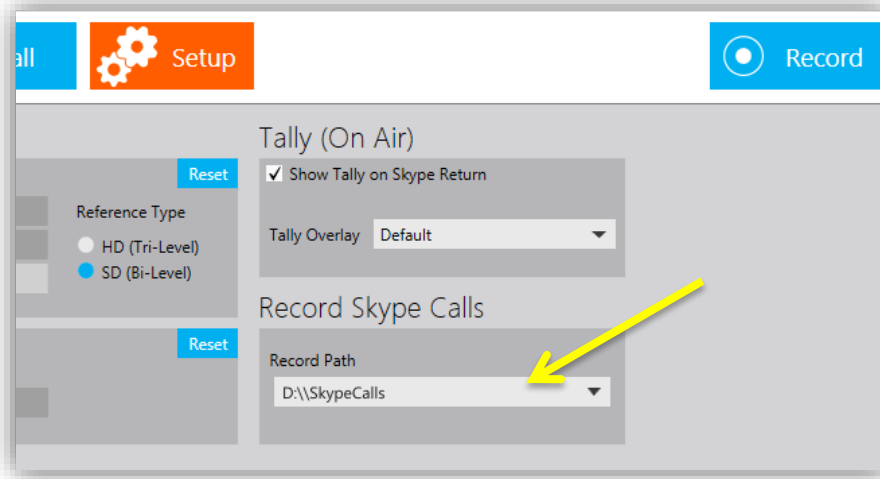


FIGURE 32

Begin by selecting a destination for the captured files using the *Record Path* menu under the *Record Skype Calls* label in the TalkShow *Setup* pane (Figure 32). You can choose an external drive you have connected to one of TalkShow's USB3 ports, or a suitably fast network volume.

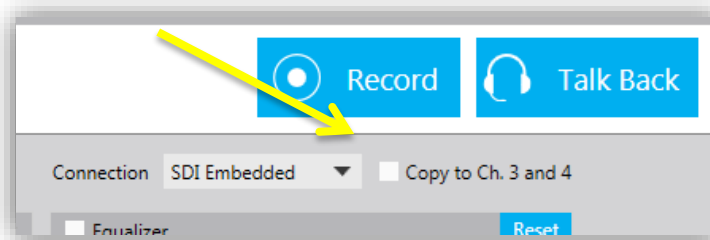


FIGURE 33

You may also want to go into the *Return* pane and enable the switch labeled *Copy to Ch. 3 and 4* in the *Audio* settings group (Figure 33). When this feature is enabled, the return audio feed from the studio is also stored in the file.

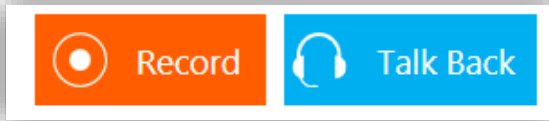


FIGURE 34

Finally, click the *Record* button in TalkShow's *Dashboard* (Figure 34). If a call is active, TalkShow will begin recording. When the call ends, the current file is closed; beginning a new call will automatically generate a new file.

## SECTION 4.3 CALLER SNAPSHOT

You can take a snapshot of the remote caller at any point during an active Skype™ video call. To do so, click the camera icon beneath the upper-right preview monitor, which will subsequently display the still image you grab.

This image can serve as a fallback video display should the incoming Skype video signal either be lost completely, or fall below a specified minimum video resolution due to poor network conditions or other factors

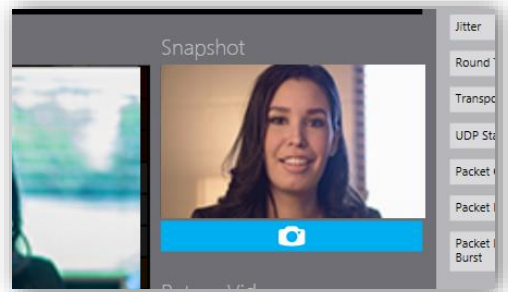


FIGURE 35

You can update the grabbed still image at any time by clicking the 'camera' again.

*Note: The snapshot image persists only for the duration of the current call. If you call the same contact again, you will need to take a new snapshot.*



## PART 2 (REFERENCE)

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*A thorough examination of the various aspects of TalkShow™: every button, menu item, feature and control is considered in this section, so you can take full advantage of your system.*



## Chapter 5 THE TALKSHOW™ DESKTOP



The TalkShow Desktop is the control center for your Skype TX™ live production work. Naturally it provides call management features such as a Contact List, preview monitors, and more.

As well, you will find configuration controls and settings for audio and video here, both for output to studio systems (such as video and audio mixers) along with signals you wish to return to the remote caller. Other system features such as Genlock, Tally, and Record are all hosted in the TalkShow Desktop. This chapter will provide an overview of the Desktop layout.

The TalkShow *Desktop* is launched automatically on starting the system. In Figure 36, we see the Desktop as it might appear during a typical Skype™ call when the *TalkShow Dashboard* is maximized.

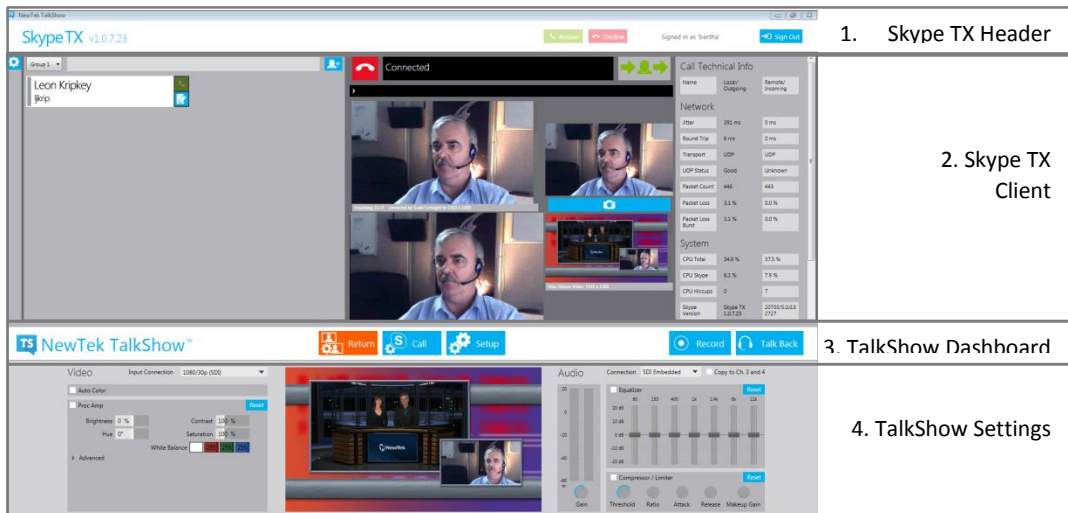


FIGURE 36

The Desktop can be initially divided into four zones.

1. The two upper zones contain the controls and settings of TalkShow's embedded Skype TX™ Client application. The white header is home to a few key Skype controls.
2. Just beneath the Skype TX header, a larger gray area hosts the Skype TX Client features, and is subdivided into three segments from left to right (we'll discuss each in much more detail soon).
3. A second broad white horizontal band (initially appearing across the bottom of the screen) comprises the *TalkShow Dashboard*. Here, TalkShow™ provides easy and prominent access to key TalkShow features.

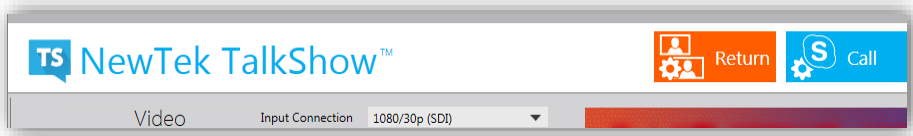


FIGURE 37

4. Clicking one of the large central buttons in the *Dashboard* causes the *TalkShow Settings* pane below to expand, revealing the corresponding settings and controls.

Every feature in each of these four main zones is discussed in detail in the next few chapters.

*Hint: Generally, we will explain related features (wherever they may appear in the TalkShow Desktop) in the context of TalkShow operations, rather than following a strict a 'panel by panel' approach.*



---

## Chapter 6 I/O CONFIGURATION

---



TalkShow™ provides extensive control over video sources for both the Skype™ *Call* and *Return* audio and video signals. Both the *Call* channel output and Skype™ *Return* source have their own settings, including *Proc Amp*, as well as resolution, aspect control, and other options.

TalkShow’s extensive audio control and monitoring features are also explained in this section, along with a detailed look at TalkShow’s *Setup* tab, which hosts *Tally* and *Genlock* options and settings, as well as *Audio Monitor* output control.

Naturally, TalkShow supports two-way communication between your local TalkShow unit and the remote Skype caller. The audio and video traffic can be categorized as either associated with “Return” (the signals you send to the remote caller) or the Skype™ “Call” ((incoming sound and video from the remote caller).

An alternate way to think of these a/v signals is to view them “Input” (local feeds you wish to return to the remote Skype caller) and “Output” (Skype call audio and video for distribution to the studio for production purposes).

The configuration of these signal pairs is largely similar, but does vary in certain respects as discussed in the following sections.

---

### SECTION 6.1 A/V RETURN TO CALLER (INPUT)

---

Configuring the A/V *Return* you intend to send the remote caller involves setting up the system to receive the corresponding audio and video input sources, making any desired adjustments, and also – for *Return* video in particular – giving thought to the bandwidth consideration affecting output over the Internet to the remote Skype™ client.

---

## 6.1.1 VIDEO

---

### BASIC

---

To view the basic configuration options affecting *Return* video, click the Skype TX™ *Settings button* (gear) at upper-left, just below the Skype TX header label (Figure 38), and then click the *Video Settings button* (which looks like a camera) at right.

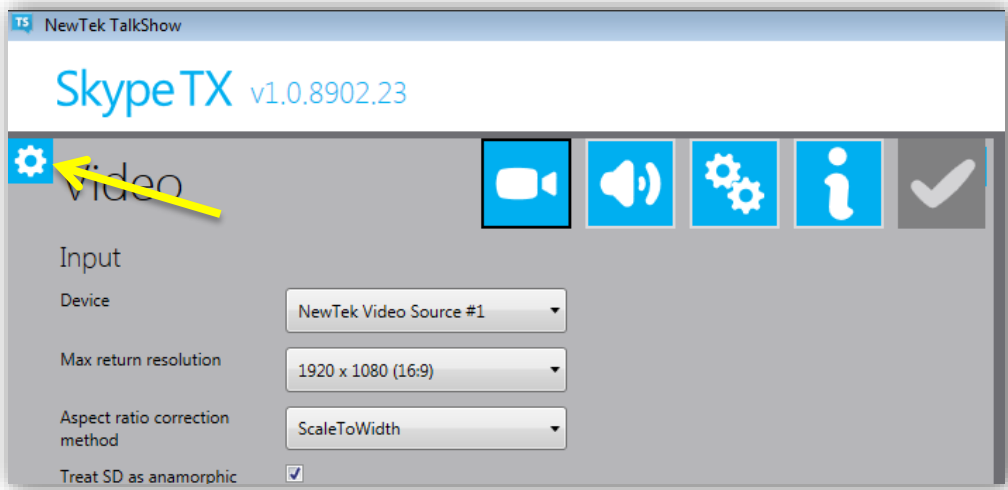


FIGURE 38

Notice the *Input* control group just beneath the *Video* pane label. This refers to the video signal you are supplying to TalkShow for return to the remote Skype™ caller.

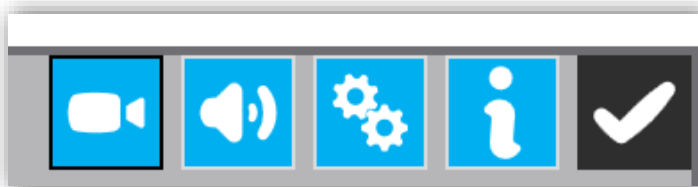


FIGURE 39

*Note: After making changes to settings, click the Apply button (the large check-mark at upper right in the settings pane – see Figure 39) to ‘lock them in’. Some settings can be changed dynamically, while certain others will notify you that a software restart is required before they will take effect.*

## DEVICE

This video feed may come from any of a variety of sources. Examples include: an output of the studio’s mixer (or video router); an ISO (isolated) camera used exclusively for this purpose; or, in a studio featuring a NewTek™ live production system, a video feed delivered from a TriCaster™ (or 3Play™) across the local network.

We’ll discuss these alternatives momentarily. For now, simply note that the *Device* menu selection is already set to “NewTek Video Source”, and we’ll move on to discuss the next item.

## MAX RETURN RESOLUTION

This setting governs the maximum video resolution that is exposed to Skype, and is independent of the *Return* source resolution.

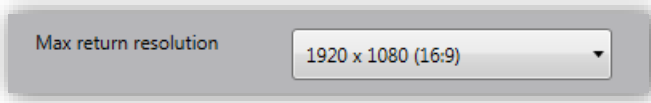


FIGURE 40

You can use this option to limit the amount of bandwidth required to send video to the remote Skype caller. This lets you ensure you the caller’s network connection isn’t overloaded, as well as allowing you to take best advantage of local network resources so as to give priority to video coming *from* the caller.

*Hint: It’s best to choose a resolution that matches the image aspect ratio of your Return source.*

Changes to the max return resolution require a software restart.

## ASPECT RATIO CORRECTION METHOD



FIGURE 41

This setting affects how the *Return* image is scaled to fit the resolution selected above. The picture can either be scaled to fit the width or the height of the requested resolution.

## TREAT SD AS ANAMORPHIC

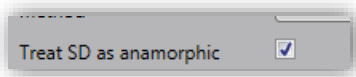


FIGURE 42

When checked, this features causes all *Return* video supplied in standard definition as 16:9. This is the only way Skype TX knows whether your SD source is 4:3 or 16:9.

*Note: Return video supplied in high definition (16:9) is never treated as anamorphic.*

## ADVANCED OPTIONS

Further *Return* video controls are provided in the *TalkShow Settings* pane.

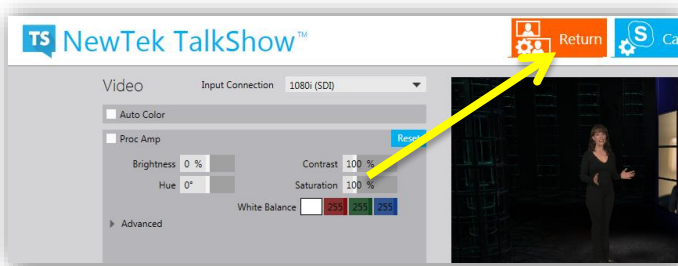


FIGURE 43

Click the *Return* button in the TalkShow Dashboard (Figure 43) to reveal the Return Settings pane.

#### INPUT CONNECTION

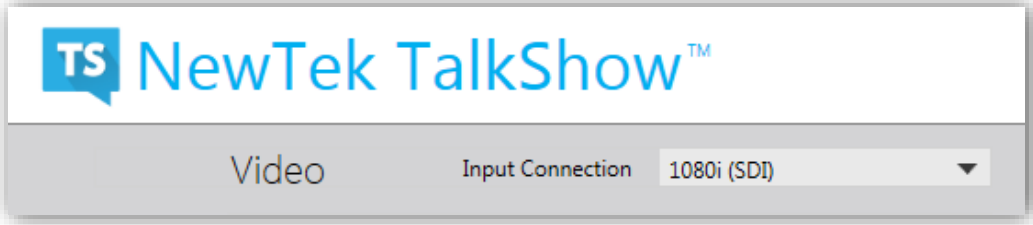


FIGURE 44

The key setting in the *Video* control group is *Input Connection*. This selection determines which input connection will supply the *Return* video feed, and for SDI connections, what the format is for that signal.

*Note: It's important to remember that the options listed in the Input Connection menu are limited to PAL or NTSC format depending on the Output SDI Frame Rate setting discussed back in Section 3.8.2, Choosing PAL or NTSC Video Standards.*

*Also, be aware that while Skype TX does permit you to configure a true 60hZ output, doing so also affects input clocking. AS NTSC video sources that run at 60hZ (as opposed to 59.94 hZ) are exceedingly rare, this framerate option is not recommended. If you use it, most common broadcast sources will not be recognized at TalkShow's video Return input.*

An interesting and valuable alternative source is available in studios that include NewTek live production systems that can supply one (or more) a/v stream across a network. NewTek systems, including \*TriCaster and 3Play™ systems, that are properly connected (to the network) and configured to supply network output, will appear as options in the *Input Connection* menu. \*See note below.

Note that such network connections, being bi-directional, can supply both *Call* and *Return* video (and audio) if desired, along with *Tally (On Air)* notification. Otherwise, if you prefer, you can mix network

*Note: TriCaster 40 models do not support network output. Tally support requires TriCaster Advanced Edition*

## AUTO COLOR

Lighting conditions can vary dramatically, affecting the color of video imagery quite dramatically. Especially in some settings, color balance can even change over time during a call.

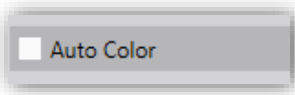


FIGURE 45

TalkShow's unique *Auto Color* feature can remove all of the worry and any need to manually monitor color balance using potentially expensive equipment and manpower to account for the associated problems. Unless the video signal is wildly off balance, all you need to do is check-mark the *Auto Color* switch and take all the credit.

## PROC AMP

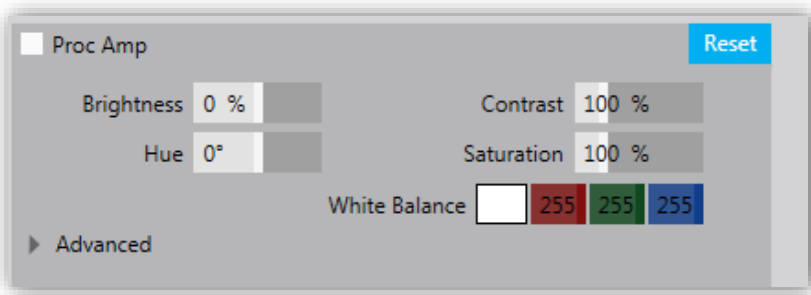


FIGURE 46

The *Video* group in the Return panel also contains *Proc Amp* (processing amplifier) controls. *Proc Amp* adjustments are applied *after* *Auto Color* is processed, which can help when you wish to establish a custom color balance that is stable even under changing conditions.

A switch at the top of the *Proc Amp* control group toggles the feature on/off. Other controls operate as follows:

- *Brightness*: Adjustment range from -50 to +50 IRE (the default being 0). As reference, the full luminance range of the visible portion 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 between -180° and +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.

(Note that over-saturated colors are considered illegal for broadcast transmission, and may result in display problems on some devices.)

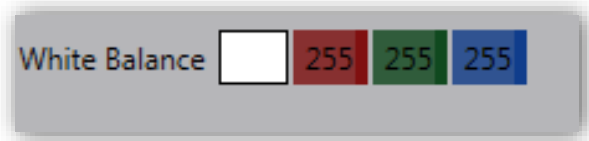


FIGURE 47

- *White Balance* – This secondary control group adds *U Offset* and *V Offset* controls to the Proc Amp.
  - The *U* portion of the video signal carries blue and yellow color information. Rotating the *U Offset knob* clockwise shifts the signal toward blue, while a counter-clockwise twist shifts the signal toward yellow.

- The V portion of the video signal carries red and green color information. Rotate *V Offset* clockwise to shift the signal toward red and counter-clockwise to shift the signal toward green.

To *automatically* white balance – click and hold the mouse button over the *Color* (eyedropper) button, and then slide the pointer onto the monitor for the corresponding source. Release the mouse button over a part of the image that should appear as white after processing.

- *Advanced group* – Click the expand gadget (triangle) beside the *Advanced* label to expose even deeper color control options (Figure 48), allowing you to tweak individual color channels independently.

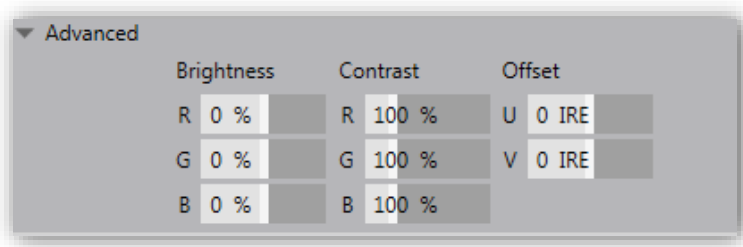


FIGURE 48

## 6.1.2 AUDIO

### BASIC

To view the basic configuration options affecting *Return* audio, click the *Skype TX™ Settings button* (gear) at upper-left (if necessary), and then click the *Audio Settings* button (which looks like a speaker – Figure 49) at right.



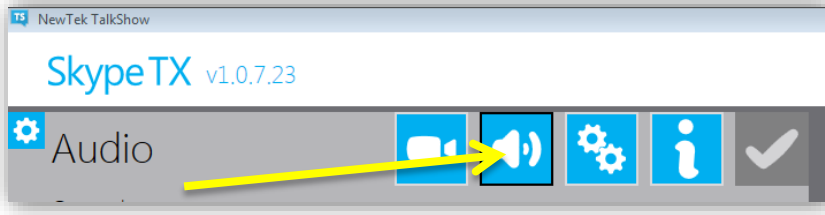


FIGURE 49

## INPUT

The *Input* control group (Figure 50) has several optional features intended to provide some basic automated signal quality benefits, as follows.

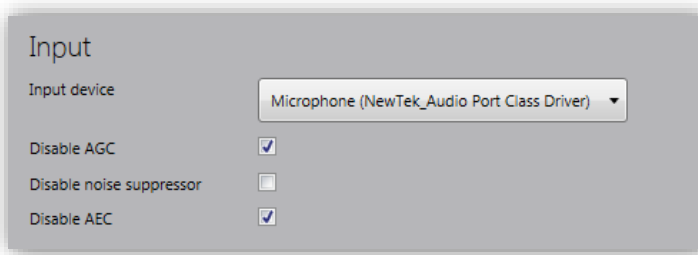


FIGURE 50

## INPUT DEVICE

The *Input Device* can always be left set to the NewTek™ audio driver option, as shown in Figure 50.

*Note: Further configuration and more advanced control over of Return audio sources connected to TalkShow™ is provided in the Return Settings pane below the TalkShow Dashboard.*

## DISABLE AGC

AGC stands for Automatic Gain Control, a system that automatically adjusts audio gain to keep the level consistent. AGC is normally on, somewhat relieving you of the need to carefully monitor audio levels during Skype™ calls. In studio settings where more precise control is desired, you can enable this switch (to *disable* AGC.).

## DISABLE NOISE SUPPRESSOR

The noise suppressor provides a means to reduce or eliminate unwanted audio artifacts such as computer fan noise, hiss and hum.

## DISABLE AEC

Similarly, AEC (Automatic Echo Cancellation) helps prevent audio from the remote caller's microphone being sent back to his or her own headphones or speakers as part of the *Return* audio feed, which can be very disconcerting.

*Hint: A much better way to avoid this problem is to supply a mix-minus Return audio feed.*

## ADVANCED OPTIONS

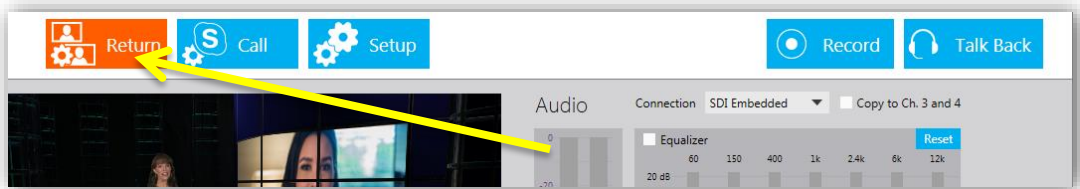


FIGURE 51

Click the *Return* button in the *TalkShow Dashboard* (Figure 51) to open the *Return Settings* pane, which offers additional Audio settings and features.



FIGURE 52

## CONNECTION

Use the *Connection* menu to select the source you want to supply the *Return* audio feed you will send to the remote Skype caller.

Many different source types are supported. The options you see can here depend on the *Input Connection* selected at left in the *Video* group.

For example, when the *Video* source is an SDI feed, the *Connection* menu in the *Audio* group allows you to choose between *SDI Embedded* (channels 1 and 2), or *SDI Embedded 3, 4*.

In effect, this flexibility lets two TalkShow units share a common *Return* a/v feed over SDI from upstream studio equipment, while permitting each to return a unique audio mix to its respective remote caller (see the box, “What’s a Mix-Minus”).

The same option (to choose *Return* sound from channels 1 and 2, or 3 and 4) is provided when you employ *Net Input* audio from a NewTek live production system featuring network a/v output.

### *What’s a Mix-Minus?*

Specialized audio sub-mixes in which one or more sources are deliberately subtracted from the main program are often referred to as a ‘mix-minus’.

Mix-minus capabilities can be invaluable for productions like ‘call-in’ shows. The remote caller needs to be able to hear the interviewer; but if he is forced to endure a late-arriving echo of his own voice this would be confusing and undesirable.

A mix minus setup can supply a clean output consisting of just the interviewer’s voice (or the interviewer plus other program participants), without sound from the individual remote caller.

*Hint: A single network connecting TalkShow to both a NewTek system and the Internet can actually handle all Return and Call audio and video data transfer, without any need for additional a/v cabling.*

TalkShow’s fully integrated support for Dante™, the popular networking protocol from Audinate®, provides a particularly powerful network audio solution for TalkShow’s *Return* audio. Many different unique mix-minuses or other sources can be set up using the Dante control software to target individual TalkShow devices on the network. Afterward, all you need to do is select *Dante DVS Receive* in the *Connection* menu on TalkShow and you’re ready to go.

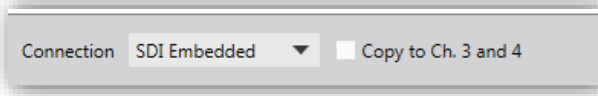


FIGURE 53

Enable this switch to copy the selected sound from the Return channel onto Channel's 3 and 4 of the Call audio output.

This allows you to pass the 'studio' portion of the Skype call to be included on discrete channels (separate from the incoming Skype call audio) with system output to studio equipment, and also captured by TalkShow's *Record* feature for post-production use.

#### GAIN AND VU METERS

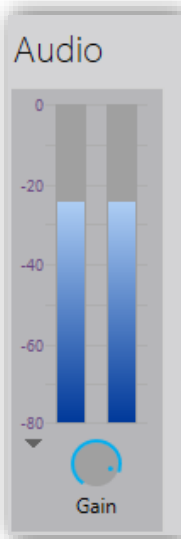


FIGURE 54

Use the *Gain* knob to adjust the level of sound returned to your remote caller.

VU (Volume Unit) meters, located right above the *Gain* control knob, will guide you as you make adjustments.

Note that TalkShow allows you to easily jump to default values for most numeric controls:

Simply hold down the keyboard Shift key while double-clicking a knob or slider in TalkShow to return it to its default setting (in this case, unity, or 0dB Gain.)

#### *TalkShow Audio Specifications*

*TalkShow's analog audio conforms to SMPTE RP-155. The maximum input/output level is +24 dBu. Nominal input level is +4 dBu (-20dBFS), and the sample rate is 96 kHz.*

*Levels above 0dBVU are shown in colored orange, to caution you that overly high levels can result in clipping in your recordings or output.*

The calibration of the units shown for *VU Meter* can be changed to suit your preference. Click the small triangle gadget at left, below the scale, to open a menu offering three options as follows:

- dBFS (a.k.a., dB 'Full Scale') – The modern digital standard.
- dBVU – Familiar to users of typical analog audio mixers.
- dBu – based on a voltage of 0.775 VRMS (a shy scale rarely seen in public, supplied for completeness, comparison, and the amusement of audiophiles).

## EQUALIZER

TalkShow also provides a full-blown seven-band equalizer in the *Return* Settings pane, allowing you to 'shape' sound to taste, accommodate sources with different acoustic characteristics, minimize feedback, or 'roll off' unwanted parts of the audio spectrum.

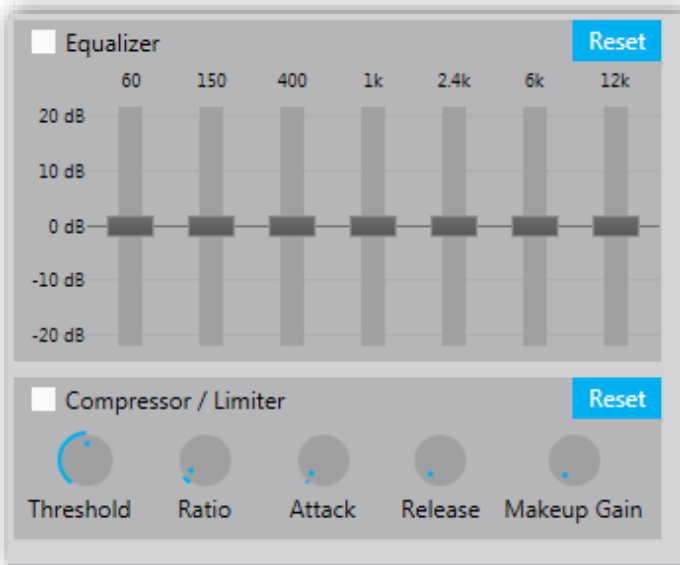


FIGURE 55

Enable or disable the *Equalizer* using the switch beside its label. The vertical sliders attenuate or boost the tonal range centered on the frequency shown at the top. The effect applied falls off gradually as sound draws closer to neighboring frequencies on either side. Click *Reset* to return all sliders to 0dB.

*Hint: Naturally, reducing or increasing the level of one or more tonal bands affects the overall output level as well. This may call for you to trim the main Gain setting for the affected input or output.*

#### COMPRESSOR LIMITER

The *Compressor/Limiter* (Figure 55) is able to preventing clipping caused by unexpected peaks or transients, and of making talent sound better than they do in real life. It does this by bringing the levels of audio sources into an optimal dynamic range.

#### THRESHOLD

Sound above the set *Threshold* level will be compressed; the amount of compression and the manner in which it is applied are both dictated by the other settings.

#### RATIO

A *Ratio* of 4:1 means that if input level is 4 dB over the threshold, the output signal level after compression will be just 1 dB over the threshold. The gain (level) is reduced by 3dB.

Very high ratio settings are the reason for the word “limiter” is part of the title for this feature.

#### *Compressor, Limiter – what’s the difference, anyway?*

Compression and limiting are not really different processes, but more a matter of ‘degree’. Compression, ideally, takes the form of a subtle, almost imperceptible modulation of the sound level to achieve a more pleasing and convenient range. A limiter is applied more for the purpose of ‘crushing’ unwanted spikes and transients.

That distinction aside, a limiter is essentially just a compressor set to a high ratio and, generally, a fast attack time. Audio engineers typically consider ‘compression’ with a ratio of 10:1 or more as ‘limiting’.

The highest ratio setting will effectively reduce any signal that would rise above the threshold all the way down to the threshold level (with the exception of a brief period during a sudden increase in source loudness, as dictated by the *Attack* setting).

#### ATTACK

*Attack* (like *Release*) is labeled in milliseconds. The setting represents the amount of time it takes for the gain to change by a specified amount.

It would not be grossly incorrect to think of this setting as changing the slope of a graph depicting how aggressively the compressor pursues the target value (defined by applying the *Ratio* setting to the amount the signal surpasses the *Threshold*). Shorter values are more aggressive, while longer values are more subtle (and tend to be less noticeable to the audience).

#### RELEASE

*Release* is similar to *Attack* in many ways, but refers instead to the speed with which the compression effect is removed as a source signal falls back on its own so that it no longer exceeds the *Threshold*.

#### GAIN

Naturally, compression impacts the overall output level of the source or output. The *Gain* control allows you to compensate, bringing the post-compressor/limiter signal back to a comfortable nominal range.

---

## SECTION 6.2 CALL A/V (OUTPUT)

---

Let's now consider the configuration and control options TalkShow™ provides to govern audio and video from your remote Skype™ caller.

You may think of these signals as either associated with the *Call* or, with its ultimate utilization in your studio in mind, as TalkShow's *Output* – i.e., incoming call audio and video that will be distributed to outboard studio production equipment.

In many cases, the controls and settings we are going to consider are similar to those just discussed in connection with Return audio and video, but there are some unique items to review together.

---

## 6.2.1 VIDEO

---

### BASIC

---

As before, basic settings native to the embedded Skype TX™ client are found by clicking the Skype TX *Settings* button (gear) at upper left, just below the broad white Skype TX header. For *Video* settings, click the ‘camera’ icon.

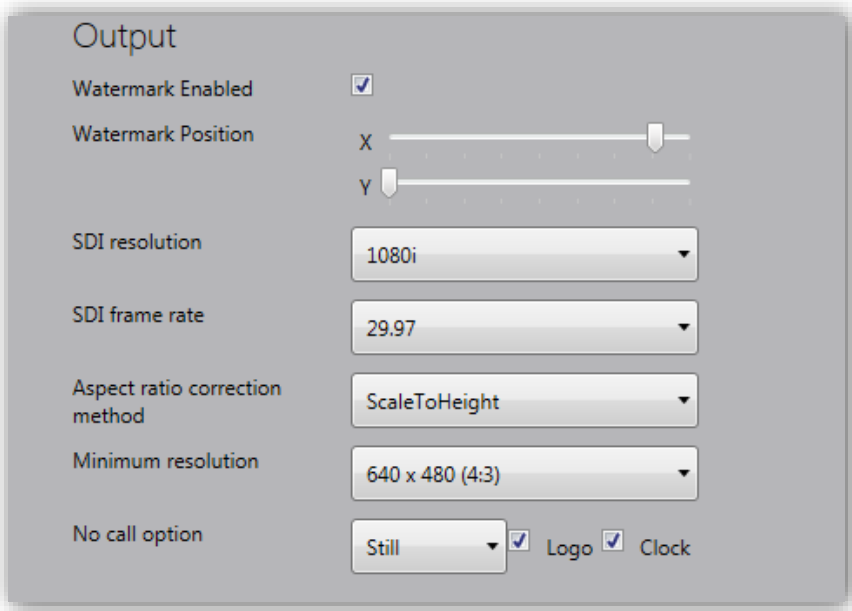


FIGURE 56

The *Output* control group on this panel (Figure 56) is where you will configure the video signal containing the Skype™ video that you want to send to your studio.

*Note: TalkShow™ always delivers Call video output to both the SDI Out connector on the system's rear panel, as well as Network output for use by NewTek™ live production systems that are part of the studio pipeline.*



## WATERMARK POSITION

When the Watermark Enabled switch is checked, two numeric sliders are shown beneath. These settings govern the location where the Skype watermark appears on the screen.

## SDI RESOLUTION

This menu controls the resolution and format of the outgoing video stream. Changes to the *SDI resolution* setting require a software restart.

Supported HD resolutions follow:

- 1080i
- 1080i (4:3 anamorphic) – transmits a 4:3 image aspect picture as 1080i, without having to resort to lower resolutions or cropping again downstream. This may be useful when assembling a ‘picture in picture’ layout (two 4:3 images are easier to arrange in a 16:9 frame than two 16:9 images are).
- 1080p
- 720p – Recommended for Skype TX to Skype TX calls. 720p provides a better vertical resolution than a de-interlaced 1080i picture, since Skype does not inherently support interlacing).
- 720p (4:3 anamorphic) – See above.

Standard definition SDI Out alternatives are listed below:

- PAL 16:9
- PAL 4:3
- NTSC 16:9
- NTSC 4:3

## SDI FRAME RATE

In similar fashion, this setting governs the framerate for the Skype *Call* video stream sent to TalkShow’s outputs. The options shown vary to match the *SDI resolution* selection. As discussed earlier (Section 3.8.2), this key setting also affects whether or not the Input Connection menu in TalkShow’s Return Settings pane lists PAL or NTSC formats.

*Note: Output when either 1080p24 or 1080p23.97 is chosen is actually in PsF (Progressive segmented Frame) format.*

#### ASPECT RATIO CORRECTION METHOD

The selection in this menu determines how the incoming Skype *Call* video is scaled to fit the SDI output resolution (when necessary).

Supported scaling includes:

- Center Cut
- Scale To Width
- Scale To Height

#### MINIMUM RESOLUTION

The standard Skype client, as used by remote callers, automatically modulates video resolution as required by network bandwidth limitations. The *Minimum resolution* setting establishes a minimum video quality considered acceptable for TalkShow output.

This limit is determines when an automatic 'no video' fall back option (discussed in Chapter 7) if it is enabled. Should the incoming Skype *Call* video fall below this resolution, and automatic fallback is selected, *Call* output reverts to the 'no video' option you choose just below.

The following is a list of all supported resolutions with their aspect ratio:

- 1920 × 1080 (16:9)
- 1280 × 720 (16:9)
- 960 × 540 (16:9)
- 848 × 480 (16:9)
- 640 × 480 (4:3)
- 640 × 360 (16:9)
- 424 × 240 (16:9)

- 320 × 240 (4:3)
- 320 × 180 (16:9)
- 160 × 120 (4:3)
- 160 × 90 (16:9)

#### NO CALL OPTION



FIGURE 57

This menu setting controls what is seen on TalkShow’s *Call* output when no call is active. The default option is *Testcard*, with the nearby *Logo* and *Clock* switched both checked (Figure 57).

The complete options list includes the following:

- *Testcard* – Shows broadcast color bars with the channel identification and, if enabled, the current time of day.

*Hint: the clock shows the time of the local computer. This is not a synchronized external time code.*

- *Still* – Any image can be used to act as a channel identifier or holding page for the user’s channel. The system uses the PNG image named ‘NoCall’ located at

the path shown below (you can replace this file with a custom one with the same resolution):

'%USERPROFILE%\Pictures\ Skype TX\Client\

- *Black*

## ADVANCED OPTIONS

The features in TalkShow's *Call Settings* pane (opened by clicking the *Call* button in the white horizontal *TalkShow Dashboard* - Figure 36) are virtually identical to those previously considered when discussing *Return Settings* – see Sections 6.1.1 and 6.1.2.

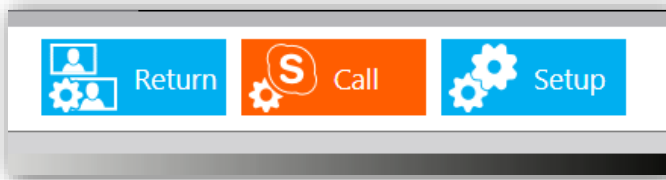


FIGURE 58

Here you'll find *Auto Color* and *Proc Amp* control groups, along with *Audio Gain*, *EQ* and *Compressor/Limiter* controls and a large full motion preview monitor displaying the Skype *Call* output video stream - Figure 59.

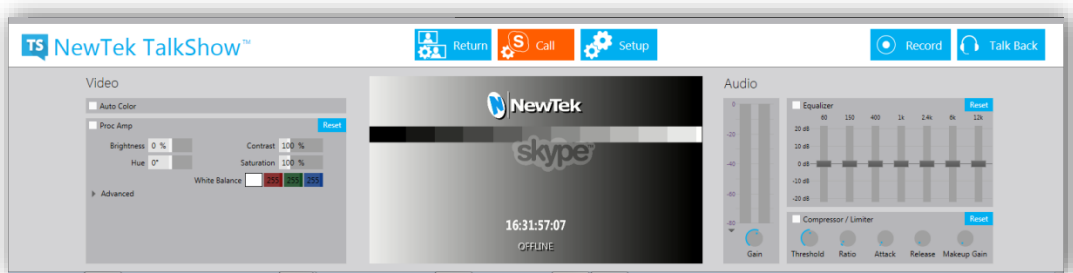


FIGURE 59

It doesn't seem necessary to slay another virtual tree and waste pixels to reiterate the foregoing, so let's do the 'green' thing and move on, shall we? ☺

---

## 6.2.2 AUDIO

---

Just as incoming Skype™ *Call* video is simultaneously supplied to TalkShow's *SDI Out* and *Network* outputs, likewise audio output goes to all outputs at the same time. This includes, then, the following:

- SDI embedded audio
- TalkShow™ *Network* output
- XLR audio outputs

---

### AUDIO BASIC

---

To view the basic configuration options affecting *Call* audio, click the Skype TX™ *Settings* button (gear) at upper-left (if necessary), and then click the *Audio Settings* button (which looks like a speaker – Figure 60) at right.

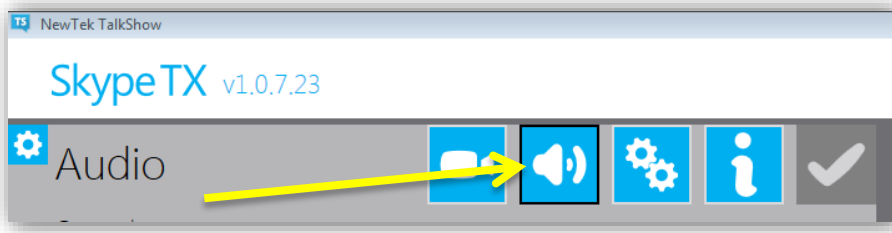


FIGURE 60

For most purposes, the *Preview device* and *Delayed Device* settings should be configured as shown in Figure 61. (The alternative audio devices are intended for other Skype TX use, and not appropriate for TalkShow applications.)

*Disable AGC* works as explained previously, in Section 6.1.2.

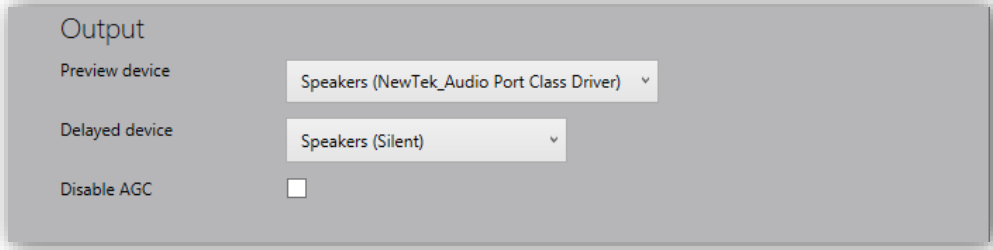


FIGURE 61

## ADVANCED OPTIONS

As for video, advanced Return (output) channel audio options are found in the *Call Settings* pane, opened by clicking the *Call* button in the center of the *TalkShow Dashboard*.

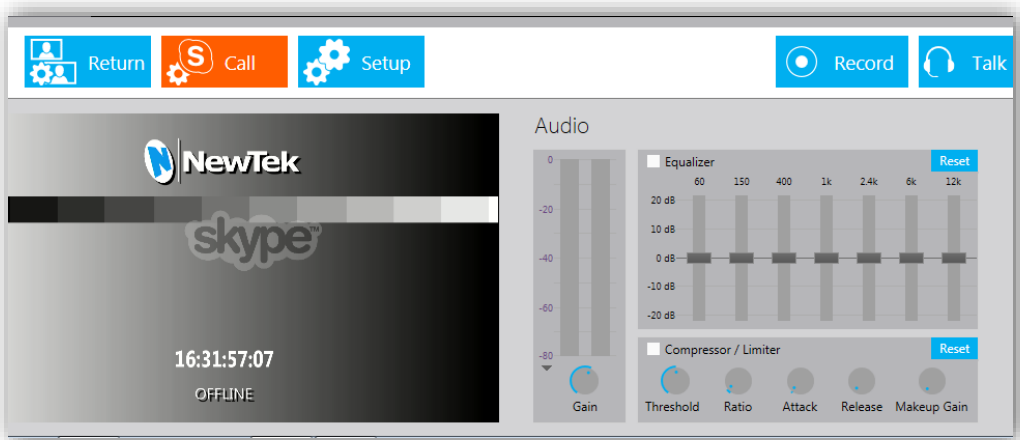


FIGURE 62

Here you will find *Gain*, *VU*, *EQ* and *Compressor/Limiter* features you can use to control and enhance the quality of the *Call* audio received from a remote Skype™ caller before it is sent to outboard studio equipment.

The workings of these features are identical to those described in Section 6.1.2, so again, we will not bore you by repeating them here.

---

### 6.2.3 NO CALL OPTIONS

---

We'll skip ahead at this point to discuss one configuration control that uniquely located in the central Skype TX™ *Preview pane* (Figure 63).

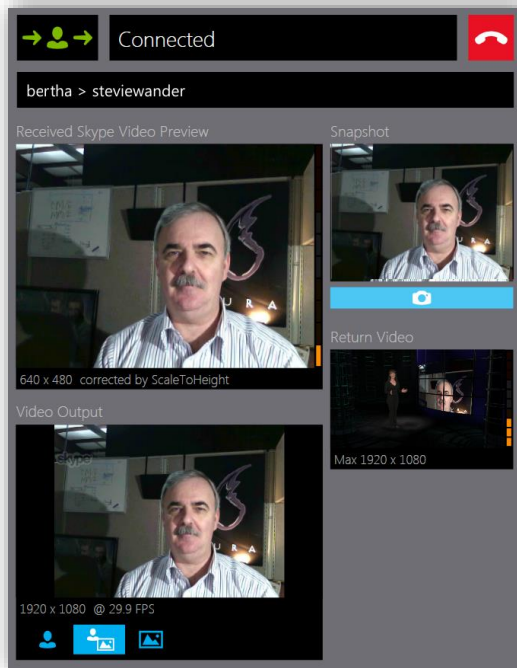


FIGURE 63

As discussed back in Section 6.2.1, TalkShow can automatically handle matters should the incoming *Call* video fall below a preset resolution (or drop out completely). Whether it does so or not depends on a button selection in the *Preview pane*.



FIGURE 64

Notice that there are three buttons nested just below the *Video Output* monitor in this pane. At any time, these buttons control what is sent to the video output.

*Hint: The first and third buttons are actually action buttons, and clicking them immediately sends the corresponding selection to output. The center button is a mode button, enabling automatic control over video output.*

The buttons, in order, select the following Call video output source (or mode):

- Caller Video – always sends *Call* video, if available; otherwise, it sends the grabbed still image, or the 'NoCall' image (see Section 6.2.1).
- Automatic – display Call video unless resolution falls below the minimum (see Section 6.2.1), in which case the source selected in the *No call option* menu is displayed.
- Snapshot – immediately displays the snapshot, regardless of the status of incoming *Call* video.

## SECTION 6.3 REFERENCE (GENLOCK)

TalkShow's *Genlock* feature allows it to 'lock' its video output to a reference video signal supplied to its *Genlock* input connector.



This synchronizes TalkShow’s output to other external equipment locked to the same reference.

Miniscule local timing differences between video sources in a studio environment can delay switching operations very slightly, or even cause glitches in downstream video. Genlocking is not a *requirement*, but it is very beneficial, and you should definitely use it if you have the capability.

Thus, serving i) TalkShow’s Genlock input and ii) other video devices in the chain with a single reference is the best approach.

You could think of it this way:

- Genlocking your *cameras* has the effect of locking their output together, ensuring optimal synchronization for live switching. This may result in throughput latency benefits.
- Supplying the same sync source to TalkShow’s Genlock input ensures a match between its output and any downstream video devices required to handle both it *and* other (genlocked) sources.

#### What’s “Genlocking” All About?

The term “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’.

---

### 6.3.1 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 everyone else is 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.

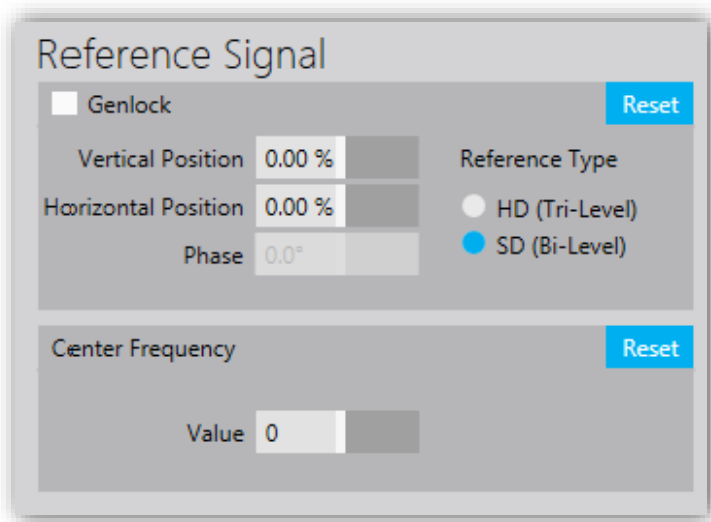


FIGURE 65

This is essentially why TalkShow™ provides several *Genlock* settings in its *Setup* pane (Figure 65).

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, altogether, 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 a downstream ‘vectorscope’ and ‘waveform monitor’. (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).

---

### 6.3.2 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 TalkShow’s *Genlock* input (and your other equipment), select the *HD (Tri-level)* switch in the *Reference Type* area of the *Genlock* settings group.

---

### 6.3.3 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 and pass TalkShow’s video output to a downstream vectorscope. The vectorscope display is completely stable when *Center Frequency* is properly adjusted.

---

### 6.3.4 TALLY (ON AIR)

---

TalkShow™ can optionally show *Tally* (On Air) indication to the remote Skype™ caller. This feature is also enabled in the *Setup* pane.

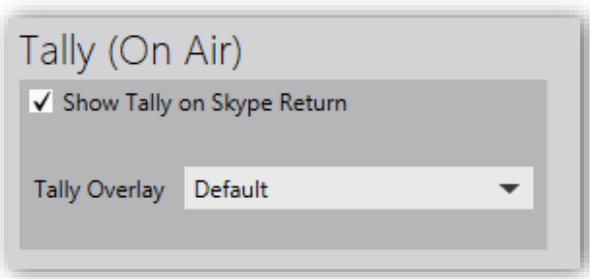


FIGURE 66

*Hint: The “Tally Overlay” menu in this control group allows you to use a custom On Air image if you wish.*



## Chapter 7 MONITORING AND CALL STATUS



Naturally, TalkShow™ provides easy to use Skype TX™ call management features. It also provides a great deal of valuable feedback regarding the status of your Skype™ call and video signals. This chapter delves into these matters.

### SECTION 7.1 THE CONTACT LIST

We introduced the Skype TX™ *Contact List* back in Section 4.1.1. There, we discussed how to add (and group) contacts, and how to initiate and terminate a call.

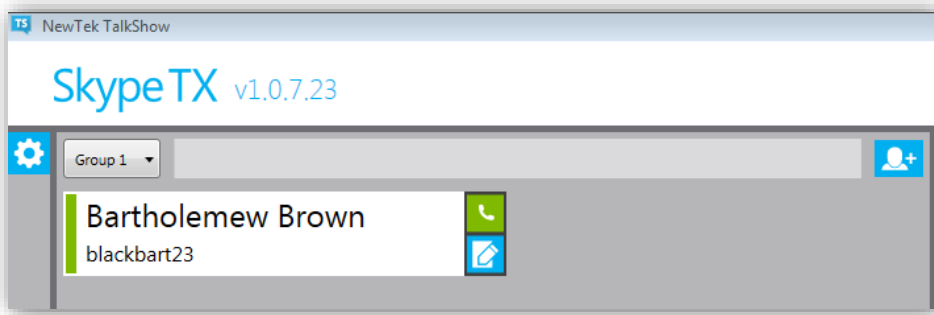


FIGURE 67

Without being tedious by repeating that information, we do want to remind you that TalkShow's *Contact List* is local to the unit, not the Skype™ account you use to sign in. Thus the contacts you add persist on the system, regardless of which Skype account you log in with.

*Reminder: Contact List details are visible from the application window even when you are not signed in. This being so, we recommend securing the system with a password to ensure privacy.*

We might also mention that you can edit existing contacts if you like, by clicking the little blue pencil icon at right in the *contact card*, beneath the green *Call* button (phone).

---

### 7.1.1 STATUS STRIPE

---

Another feature worth mentioning is that the vertical stripe at left on the *contact card*, which can provide useful feedback about each contact.

If the contact is also a validated contact for the user account used to sign into Skype TX™, the color of the stripe indicates whether the contact is ‘Online’, ‘Away’, etc. (a white stripe is shown when the contact is offline or invisible).

Otherwise, a grey stripe means the contact is “unknown”. This happens when the contact you created isn’t listed as a Skype contact for the current Skype TX user account (or if a contact request was rejected).

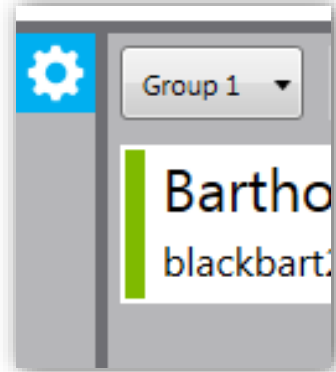


FIGURE 68

---

## SECTION 7.2 CALL MONITORING

---

It would be hard to overlook the fact a large, central part of TalkShow’s upper *Desktop* is devoted to video preview monitors, along with a plethora of call and video status indicators (Figure 69).

Enumerated from top-left in a clockwise direction, the video preview monitors include the following:

- *Received Skype™ Video* – displays the incoming Skype *Call* video.
- *Snapshot* – displays the currently stored snapshot; note the blue *Grab* button immediately below.

- *Return Video* – displays the video stream that will be sent back to the remote Skype™ caller (after TalkShow™ processing).
- *Video Output* – displays the Skype *Call* video after processing by the embedded Skype TX™ client (but before processing by the features housed in the TalkShow Call Settings features, such as *Auto Color* and the *Proc Amp*).

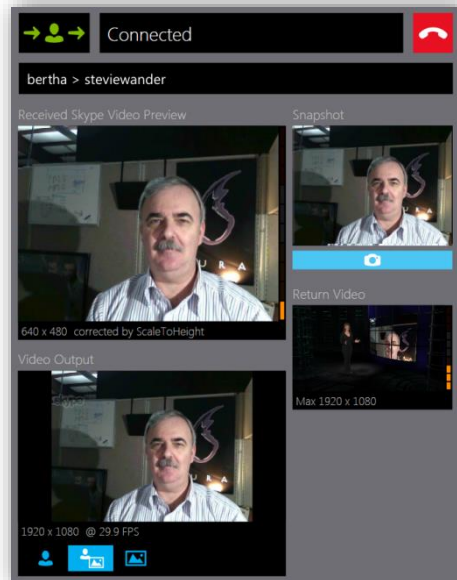


FIGURE 69

*Hint: Snapshots are not stored once the call is terminated.*

## SECTION 7.3 CALL STATUS

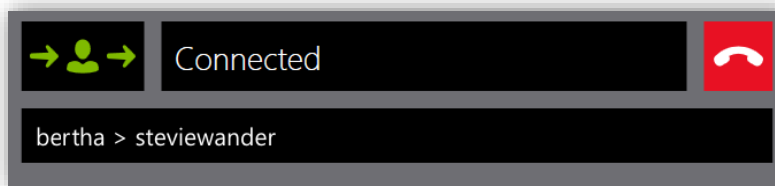


FIGURE 70

As seen in Figure 70, information about the active call is provided at the top of the *Video Preview* pane. The *Connection Status Box*, centered at the top, provides a useful feedback about the progress of a call and its status (Figure 71).

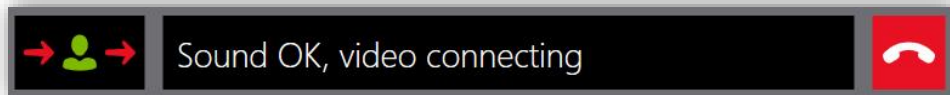


FIGURE 71

Similarly, the icons (Figure 72 in the *Call Status Box*, just left of the *Connection Status Box*, are drawn in either green or red colors to signify the status of the connection.



FIGURE 72

- A green silhouette indicates a connection has been established.
- A green arrow leading to the silhouette indicates video successfully being returned to the remote Skype™ (tm0 caller.
- Likewise, a green arrow at right indicates video is being received from the caller.

*Hint: The TalkShow Dashboard also features 'Call in Progress' notification. When a caller is connected, an orange stripe is shown across the top of the Dashboard.*

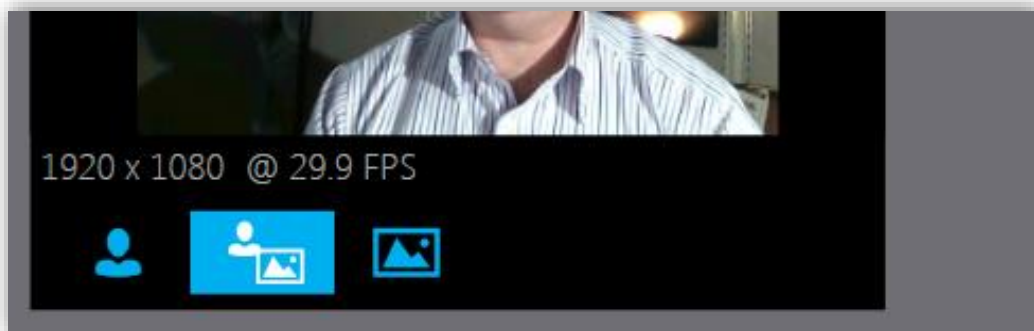


FIGURE 73

In addition, you'll notice video signal details posted in the labels just below each preview monitor (Figure 73), and VU meters as appropriate at right.



## SECTION 7.4 CALL TECHNICAL INFO

When you really want to burrow down into connection detail at a ‘molecular’ level, you can refer to the Call Technical Info pane, at upper-right (Figure 74).

It would be hard to overstate the level of arcane detail provided, including excruciating data on the *Network* connection, *System* resource usage (for both TalkShow™ and the remote caller), as well as both audio and video streams.

Below you will find a breakdown of the various individual datum provided.

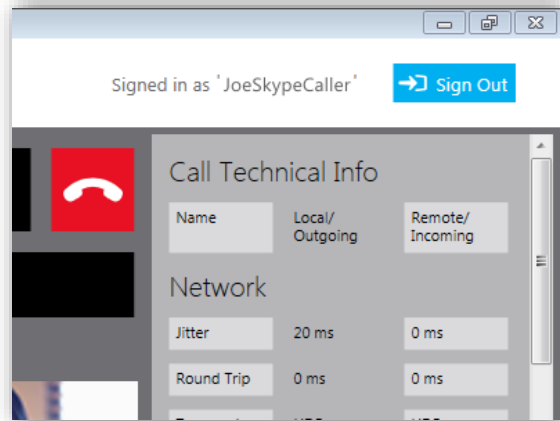


FIGURE 74

- *Network* – Describes the network connection to Skype TX™.
  - *Jitter* – The difference between the minimum and maximum ping times, expressed in milliseconds (lower is better).
  - *Round Trip* – The time it takes, in milliseconds, for a signal to be sent from Skype TX to the remote caller and back (lower is better).
  - *Transport* – Possible values are (from best to worst): UDP, UDP with Relay, TCP, TCP with Relay. UDP and TCP are IP protocols, with UDP providing the best performance. Relaying is required where a direct connection cannot be made, but this limits performance. In this case, lower performance might mean a lower resolution and a less reliable connection.
  - *UDP Status* – A value of ‘good’ indicates the UDP connectivity is possible in the relevant direction. A value of ‘bad’ indicates that there is a problem, such as a router configuration issue. Good is best.
  - *Packet Count* – The number of media packets which have been transported.

- *Packet Loss* – The percentage of pure packet loss (lower is better).
- *Packet Loss Burst* – The percentage of the consecutive squared packet loss of sent packets.
- *System* – Technical information related to the local and remote caller's computer.
  - CPU Total – The total CPU load being used across all cores of the CPU. Lower is better.
  - CPU Skype – The percentage of current CPU load being consumed by Skype™. Lower is better.
  - CPU Hiccups – The number of instances where Skype takes more time than expected to perform an operation. For example, updating the Skype database on a hard drive. Lower is better.
  - Skype™ Version – Shows the Skype client version, if available.
- *Audio* – Shows the technical information of the audio to and from the remote caller.
  - *Sample Rate* – The sampling rates for the audio streams. Higher is better.
  - Audio Codec – Shows what audio codec is being used. The host negotiates codec selection with the other participants as part of setting up the call.
  - Audio Packet Loss – The number of voice data packets lost. Lower is better.
  - Audio Packet Loss % – The percentage of voice data packets being lost. Lower is better.
  - Audio Cap – The maximum audio bandwidth achievable, according to the network bandwidth monitor. Higher is better.
  - Audio Packet Length – Indicates the length of each audio data packet sent.

- *Video Capture* - Shows the technical information about the video being supplied to Skype™ from Skype TX after its initial resizing and cropping of the SDI input.
  - *Width* – The width of the video being supplied to Skype. Higher is better.
  - *Height* – The height of the video being supplied to Skype. Higher is better.
  - *Rotation* – Indicates the rotation angel of the captured video which must be corrected by the receiver.
  - *Colorspace* – A string representing the colorspace of the received video.
  - *Camera Frame Rate* – The actual frame rate of the camera being used as the capture device. Higher is better.
  - *Requested Frame Rate* – The user-defined frame rate of the camera being used as the capture device. Higher is better.
- *Video Stream* – The technical information about the video being streamed to the remote caller, after resizing and cropping by Skype TX and Skype. Data about the received video is listed in the separate ‘Video Receive’ section.
  - *Width* – The width of the video being streamed. Higher is better.
  - *Height* – The height of the video being streamed. Higher is better.
  - *Upswitch Allowed* – Does the receiver give the sender permission to upswitch or would it be overloaded?
  - *Codec* – Indicates which video codec is being used to stream the video.
  - *Profile* – Indicates which H264 profile is in use.
  - *Encoder Type* – Indicates which H264 encoder type is in use.
  - *Target Frame Rate* – User-defined frame rate being negotiated by the client and the remote caller. Higher is better.

- *Bitrate* – A measure of the bandwidth being used by the video stream. Higher is better.
- *Bitrate Cap* – The maximum bitrate achievable, according to the network bandwidth monitor. Higher is better.
- *Video Cap* – The maximum bandwidth achievable, according to the network bandwidth monitor. Higher is better.
- *MTU* – Maximum Transmission Unit. The largest size video frame that can be sent. Higher is better.
- *Complexity* – The measure, in levels, of the processing power needed to reconstruct the compressed data from the video stream.
- *Low Light Enabled* – SLIQ encoder only: Indicates whether Low Light Enhancement feature is enabled.
- *Face Detection* – SLIQ encoder only: Indicates whether face detection feature is enabled.
- *Face Count* – SLIQ encoder only: Indicates how many faces are detected in current stream.
- *Thread Count* – SLIQ encoder: Indicates how many threads are doing the encoding work.
- *Max Threads* – SLIQ encoder only: Indicates the maximum number of threads

Skype TX can also save technical information about the call to a file, so you can analyze the technical details of the call. At any point during a call, you can simply Scroll to the bottom of the *Call Technical Info* pane until you see the *Export technical diagnostics file* button. Click this button when you want to save the information.

The exported file can be viewed by pressing the *Show diagnostics files* button, or by navigating to: %APPDATA%/Skype TX/Client/TechInfo.

*Hint: The file is saved with the date and time of capture in its name.*

## A HOW DO I ... (?)



In this section, we'll consider the most common questions TalkShow™ operators may have (and of course we'll provide the answer, too). 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 TalkShow 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.

*Hint: 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

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### A.1.1 CONNECT THE VIDEO RETURN SOURCE?

---

Connect the video source you wish send to the remote caller to the BNC input connector labeled *SDI IN* on TalkShow's backplate.

Alternatively, if you have a NewTek TriCaster™ live production system on the same network, you can dispense with this connection, and supply both audio and video return using the network connection - see Section 3.5.2.

### A.1.2 CONNECT TALLY LIGHTS?

---

External tally light devices and their connections vary widely. Please refer to Section 3.7 for details on TalkShow's tally input.

### A.1.3 CONNECT TO A NETWORK?

---

Please refer to Section 3.5.1.

### A.1.4 RESOLVE A NETWORK SOURCE ISSUE?

---

The technology used to connect a TriCaster™ to your TalkShow™ over the local network is called AirSend™. TriCaster identifies itself as a potential source device to TalkShow by this means (and vice versa). TalkShow should list it as a potential source in the Video source menu provided in the Return Settings panel.

**Q:** Why doesn't my TalkShow menu list my TriCaster as a possible source?

**A1:** The first time you connect to a network with the TriCaster, a network 'location' is selected. This is a standard Windows® process that automatically configures appropriate firewall and security settings for the type of network that you connect to.

There are three location options: Home, Work, and Public. If TriCaster's active network has inadvertently been set to 'Public', the AirSend connection may not be visible on the network. Be sure this is set to either *Home* or *Work*.

A2: By default, the Windows® Firewall is disabled on TalkShow. If your TalkShow unit does not recognize TriCaster, it may be that someone has enabled the firewall, and it is preventing a connection. You can either disable the firewall, or (if you really must have it) adjust its settings as follows:

1. Open the Firewall interface.
2. In the left pane, click *Advanced Settings*. (If prompted for an administrator password or confirmation, type the password or provide confirmation).
3. In the *Windows Firewall with Advanced Security* dialog box, click *Inbound Rules* in the left pane, and then click *New Rule* in the right pane.
4. Follow the instructions in the *New Inbound Rule* wizard.
5. Ensure that the following ports are open:

Port	Protocol	Name
80	TCP	HTTP
443	TCP	HTTPS
554	TCP/UDP	RTSP
3689	TCP	DAAP
5353	UDP	mDNS (Bonjour)

A3: Make sure your TalkShow unit is connected to the correct network, especially for Wi-Fi connections. If multiple Wi-Fi connections are available, the system may connect automatically to another known network, rather than the one TriCaster is on.

A4: Regarding Wi-Fi connection, obviously, where possible, a hard-wired connection is preferred. Wi-Fi uses radio technology to connect hardware and software applications

so that they can communicate. However, RF interference can be a major problem, especially in an environment such as a trade-show or conference that might entail numerous competing signals.

Other devices contributing to RF clutter include microwave ovens, cordless phones, Bluetooth devices, wireless video cameras, outdoor microwave links, wireless game controllers, fluorescent lights, and so on. These sources can cause significant interference and signal degradation. Where possible, try to eliminate or minimize the potential interference in your installation design.

A5: Consider the following suggestions when many conflicting wireless sources are in the immediate area:

- Set the wireless network SSID to any unique name. Choose a name that is unique to your network and is not shared by other nearby networks or other networks you are likely to encounter to avoid connection failures, or unintentionally connecting to other networks sharing the same SSID.
- Make sure that the network is not set to 'hidden.'
- If using security, make sure that it is set to WPA2 Personal (AES). WEP is not recommended for compatibility, reliability, performance, and security reasons.
- If possible, configure 2.4 GHz Radio mode to 802.11b/g/n.
- If the router supports 5 GHz Radio mode, set it to 802.11a/n.
- Channel Settings should be set to 1, 6 or 11 (11 is the most common choice, since it is the starting channel, making 1 or 6 a good choice).
- Channel width should be set to 20 MHz or "Narrow Band" in 2.4 GHz mode.
- Channel width should be set to both 20 MHz and 40 MHz in 5 GHz mode.
- Ensure that only one DHCP server is active on the network.

---

### A.1.5 ENABLE TERMINATION FOR VIDEO INPUTS?

---

TalkShow™ has full-time video termination. If you need to loop through (or t-off from) other video devices (such as an external monitor) prior to TalkShow in your video pipeline, you should ensure termination is OFF for earlier devices.



---

## A.2 LIVE PRODUCTION

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### A.2.1 RECORD MY PROGRAM?

---

See Section 4.2.

---

## A.3 SOFTWARE, MAINTENANCE AND UPDATES

---

---

### A.3.1 RESOLVE SERIOUS INSTABILITY OR DROPPED FRAMES?

---

If the system should ever become seriously unstable, consider a full *TalkShow™ System Restore* operation (see item A.3.6 in this section).

---

### A.3.2 UPDATE TALKSHOW SOFTWARE?

---

Click the *Check for Updates* button in TalkShow's *Setup* tab, or visit the Support page on the NewTek™ website ([www.newtek.com](http://www.newtek.com)), and locate the TalkShow™ listing on the Updates and Downloads page from the Support menu.

---

### A.3.3 INSTALL VIRUS PROTECTION?

---

Virus and malware protection applications can dramatically impact system performance. In general, once additional software or services are enabled on TalkShow™, 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. Certainly you should *always* take sensible precautions to avoid infected files by rigorously virus-checking any removable storage media might use.

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 interferes with the TalkShow software when it is running.

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.

*Hint: In the unfortunate event that malware ever does evade your defensive measures, you can always use TalkShow's Restore function to completely rehabilitate your system.)*

---

### A.3.4 INSTALL MY FAVORITE SOFTWARE (OR CODEC)?

---

TalkShow™ is not a 'general purpose' computer. The installed software suite is finely tuned to provide reliable performance. Anything you install apart from official TalkShow updates places this important goal at risk. Doing so is strongly discouraged.

---

### A.3.5 CREATE A 'USER BACKUP' DRIVE

---

The *Backup and Restore* system permits you to create a bootable clone of TalkShow's system drive on another (same size) hard drive inserted into one of the removable drive bays or connected externally for this purpose.

The clone operation includes:

- The hidden, factory-prepared *Restore partition*
- The complete C partition (uncompressed)

Afterward, the backup drive can be removed and stored, to be used later if necessary to i) restore the internal drive should, or ii) in the case of a catastrophic drive failure, to be connected internally to completely replace the original drive.

*Note: Since opening TalkShow's case is a breach of warranty, please call Customer Service to obtain direction before proceeding with an internal drive replacement.*

The actual creation process for the backup is discussed in the next section.

---

### A.3.6 RESTORE TALKSHOW™ SOFTWARE

---

We firmly expect you will never need it, but isn't it good to know that comprehensive *TalkShow™ Restore* features are available in the event of an unforeseen problem? You can use one of two methods to access TalkShow's *Restore* features, depending on your situation.

To restore your system software *after the system launches normally*:

1. Exit the TalkShow software, if necessary.
2. Press the *Windows* key on your keyboard to display the *Start* screen.
3. Press the *Arrow* at bottom left to show all Applications.
4. In the NewTek TalkShow™ group, click the icon labeled *Restore TalkShow*
5. Select the *Restore Factory Defaults* bootup option.

If TalkShow 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.

This procedure restores your system drive ("C:") to its 'as-shipped' state. The "D:" drive, which holds content and sessions won't be modified. However any software updates will be overwritten – so use this function only when necessary. When you do perform a restore operation, you will want to check for updates to the TalkShow 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 simply 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 connect an external *User Backup* drive, and regain a functional system partition as stored on the clone drive.

---

## A.4 REGISTRATION AND TECH SUPPORT

---

### A.4.1 REGISTER TALKSHOW™?

---

1. Read and accept the *License Agreement* shown when TalkShow launches.
2. Select and copy (Ctrl + c) the characters in the *Product ID* field in *Step 1* of the registration dialog that appears next.
3. If you have connected TalkShow to the Internet, click the button in *Step 2* of the registration dialog.
4. Follow the directions provided on the Registration *webpage* to obtain your *registration code*
5. If TalkShow does not have Internet access, call (or email) Customer Support with the *Product ID*:

(US) 1-800-862-7837

(Outside US) +1-210-370-8452

6. Enter the *Registration Code* provided into the Registration dialog at Step 3 (Please see Section 3.3 for more detail. Also, note that it’s always good to check for updates after registration.)

## A.4.3 FIND TALKSHOW'S HARDWARE/FIRMWARE REVISION NUMBERS?

---

### A.4.2 CONTACT CUSTOMER SUPPORT?

---

Visit the NewTek™ Website to find the latest support information for your NewTek products, including *FAQs* and documentation, along with the Customer Support Department's hours of operation and contact details.

### A.4.3 FIND TALKSHOW'S HARDWARE/FIRMWARE REVISION NUMBERS?

---

Launch TalkShow™, and click the *About TalkShow button* in the *Setup* tab. This opens an information panel listing version numbers.

## A.4.3 FIND TALKSHOW'S HARDWARE/FIRMWARE REVISION NUMBERS?

---



## B DIMENSIONS AND MOUNTING

TS

It's important when planning your installation to provide adequate support for the unit's weight, and pay particular attention to providing room for both cable access and adequate ventilation. This section provides physical dimensions and recommendations intended to inform and guide you when mounting TalkShow™ systems and related control surfaces.

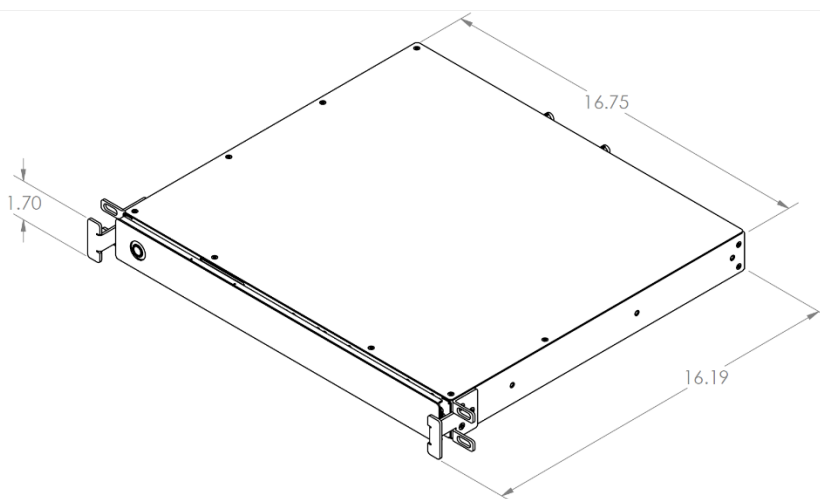


FIGURE 75

Physically, TalkShow comprises a 1RU (1 Rack Unit) enclosure designed for mounting in standard 19" rack architecture. The units weigh roughly 14 pounds (6.35 KG). A shelf or rear support can help distribute the weight evenly on front and rear vertical members when rack-mounting the unit (NewTek™ can also supply optional side-rails).

Good rear access is important for convenience in cabling. In view of the positioning of air vents at the rear of the chassis' upper panel, allow sufficient space above each unit systems to ensure adequate cooling (ideally, one RU or more).

## C RELIABILITY TESTING

---

We know our products play vital roles in your productions. 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 exacting test standards. In addition to our own exhaustive NewTek Hardware Reliability Specifications, the following are applicable for TalkShow™:

Test Parameter	Evaluation Standard
Temperature	Mil-Std-810F Part 2, Sections 501 & 502
Ambient Operating	0°C and +40°C
Ambient Non-Operating	-10°C and +55°C
Humidity	Mil-STD 810, IEC 60068-2-38
Ambient Operating	20% to 90%
Ambient Non-Operating	20% to 95%
Vibration	ASTM D3580-95; Mil-STD 810
Sinusoidal	Exceeds ASTM D3580-95 Paragraph 10.4: <i>3 Hz to 500 Hz</i>
Random	Mil-Std 810F Part 2.2.2, 60 minutes each axis, Section 514.5 C-VII
Electrostatic Discharge	IEC 61000-4-2
Air Discharge	12K Volts
Contact	4K Volts



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# CREDITS

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

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

For a copy of the LGPL license, please look in the folder C:\TalkShow\LGPL\.

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