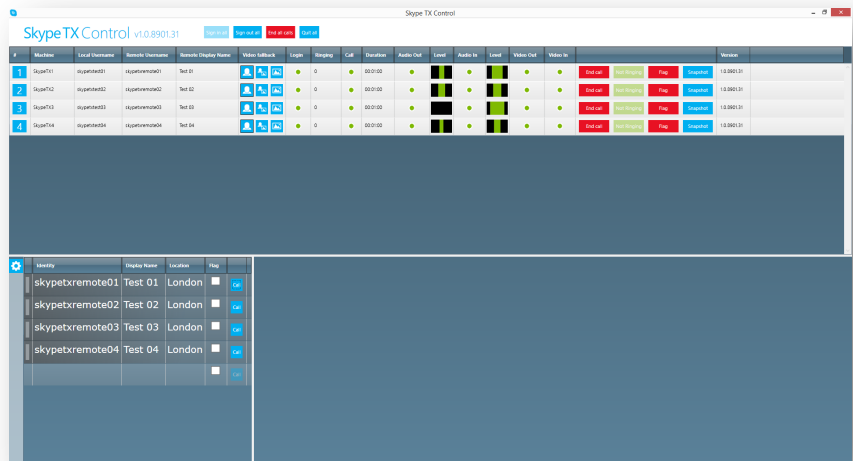


Skype TX Control

User Manual



General

Thank you for choosing a Riedel product. Riedel's STX-200 which runs the software Skype TX™ is a unique Skype® based system that presents the video and audio of any Skype call seamlessly through the television broadcast chain to on air.

This guide is intended for Skype TX users and provides step-by-step instructions for setting up and using Skype TX Control with Skype TX for broadcast calls.

Experienced Skype TX users can also use this guide to expand their knowledge of the product and learn about advanced features such as moving onto multi-channel systems.

Please read the Skype broadcast terms of service carefully.

Then continue with the guide on page 12.

Support & more information

Please register on our website for getting access to download the software Skype TX Control and any other product related downloads and information:

<http://www.riedel.net/de-de/myriedel/myriedel/login.aspx>

If you have any further questions, we offer comprehensive customer service options for this product via our Riedel Headquarter in Wuppertal, Germany:

via telephone:	+49 202 292 9400 (Monday - Friday, 8:00am – 5:00pm, CET)
via Skype:	riedel.communications.service
via internet:	www.riedel.net
via email:	customerservice@riedel.net
for US customers:	customerservice-us@riedel.net.
address:	Riedel Communications GmbH & Co KG Uellendahler Str. 353 D-42109 Wuppertal Germany

Skype TX Information

For more information on Skype TX and Skype in Media, please visit the following website:

www.skypeinmedia.com

Skype Manager

With Skype Manager you can create accounts, allocate credit, subscriptions, manage features and make sure that you get the most out of Skype. Using Skype Manager is a great way of organizing Skype accounts for your production. For more information, visit:

go.skype.com/business

Skype Broadcast Terms of Service

1. Broadcast TOS Applicability

Unless agreed otherwise in writing by Skype, any use of the Skype Software in a Program (as defined below) for Broadcast (as defined below) shall be subject to these Broadcast TOS.

If You want to use the Skype Software in a Program for Broadcast, You must agree to these Broadcast TOS.

Unless agreed otherwise in writing by Skype, if You do not agree to these Broadcast TOS You may not use the Skype Software in a Program for Broadcast.

2. Skype Identification in Programs for Broadcast

When using the Skype Software in any Program for Broadcast You agree to comply with any applicable terms of the [Skype Broadcast Guidelines](#) (as may be updated from time to time) and the following additional requirements, except where prohibited by law:

2.1 Audio Programs. With respect to any Program where there is no visual image being Broadcast, the following requirements apply:

(a) For any Program where use of the Skype Software will be fifteen (15) minutes or less in duration, You shall transmit an identification announcement at the beginning and end of such use, as described in the [Skype Broadcast Guidelines](#);

(b) For any Program where the use of the Skype Software will be for more than fifteen (15) minutes in duration, You shall transmit an identification announcement at the beginning and end of such use and over the course of the Program in no less than fifteen (15) minute intervals, as described in the [Skype Broadcast Guidelines](#); and

(c) If You wish to include in any Program a sound to represent a particular Skype-calling feature or action (for example, but without limitation, a “call answer” sound for when a call is accepted or a “hang-up” sound for when a call is terminated) You shall use only the Skype specific sounds provided by Skype and You shall further comply with the requirements relating to the use of Skype sounds set out in the [Skype Broadcast Guidelines](#). To request a Skype sound, contact: media@skype.net

2.2 Audiovisual Programs. With respect to any audiovisual Program (i.e. where a visual image is Broadcast with an accompanying audio signal) in which You use the Skype Software or include a video depiction of the Skype Software, the following requirements apply:

(a) You shall retrieve the Skype logo in scalable vector file format from [here](#);

(b) In any Program that uses or includes a visual depiction of the Skype Software, You shall place the Skype logo so that during such use it shall appear, scaled proportionately and to a reasonable size so that it is clearly legible and Your use of the Skype logo must comply with all requirements set out in the [Skype Broadcast Guidelines](#);

(c) If You want to mimic a specific device in your Program, You shall only use the Skype User Interface appropriate to the device as shown in the [Skype Broadcast Guidelines](#). If you require Skype User Interface templates and assets please request them from: media@skype.net and

(d) If You wish to include in any Program a sound to represent a particular Skype-calling feature or action (for example, but without limitation, a “call answer” sound for when a call is accepted or a “call hang-up” sound for when a call is terminated) You shall use only the Skype specific sounds provided to You by Skype and You shall further comply with the requirements relating to the use of Skype sounds set it in the [Skype Broadcast Guidelines](#). To request a Skype sound, contact: media@skype.net

3. General Provisions

3.1 Definitions

3.1.1 “**Broadcast**” means to transmit simultaneously to the general public through any now known and unknown media and formats, including, without limitation, a data communications network, the Internet, electronic mail system, television, radio or satellite system, point to multipoint transmission over a wired, wireless or fiber network; and for purposes of these Broadcast TOS shall also include narrowcasting and multicasting.

3.1.2 “**Program**” means a live or pre-recorded audio or visual performance.

3.2 You represent and warrant that You are authorized to agree to and comply with the terms and conditions of these Broadcast TOS. You are responsible for clearing all rights and paying all licensing fees and other costs and expenses arising from the Program and the Broadcast. In no event shall Skype be responsible for any costs or expenses incurred in connection with the Program or the Broadcast.

3.3 You shall be responsible, at Your expense, for compliance with all applicable laws pertaining to the Program and the Broadcast. You agree to indemnify, defend and hold Skype, its Affiliates and the Skype staff harmless from and against any and all losses, costs, liabilities, damages, and expenses (including reasonable legal fees and other expenses incidental thereto) of every kind, nature and description, arising from: (i) the Broadcasts and the Programs; (ii) any misrepresentation or breach of any warranty of Yours contained in these Broadcast TOS; or (iii) any breach of any covenant, agreement, or obligation of Yours contained in these Broadcast TOS.

3.4 You will take care to observe and exercise reasonable diligence to ensure that the Programs, Broadcast and/or the Skype Software will not: (i) be used as a medium for attack on any individual, organization, faith, denomination or sect; (ii) contain any announcements or promotions prohibited by law; (iii) be used to make false or unwarranted claims for any product or service; (iv) contain any content or announcements that are slanderous, obscene, profane, indecent, vulgar, repulsive or offensive, either in theme or in treatment; (v) contain any testimonials which cannot be authenticated; (vi) contain any descriptions or references to matters which are not considered acceptable topics of discussion in social groups (e.g., profanity, obscenity); or (vii) be used in connection with any advertising matter or announcement which may, in the opinion of Skype, be injurious or prejudicial to the interests of the public, Skype, or honest advertising and reputable business in general.

3.5 The rights granted to You hereunder are non-exclusive and revocable. You shall not acquire any right, title or interest in or to any Skype logos, trademarks or other indicia of origin (collectively, the “Skype Brand”) and You hereby acknowledge that as between You and Skype, that Skype is the exclusive owner of all right, title and interest in and to the Skype Brand. Your use of the Skype Brand hereunder shall inure to the benefit of Skype. Skype reserves the right to instruct You on the use of the Skype Brand and how the Skype Brand is presented during the course of the Programs. Skype may also instruct You to cease use of the Skype Brand in the event such usage is, in Skype’s sole and absolute discretion, unacceptable to Skype. In the event You are so instructed to cease use of the Skype Brand, You shall immediately do so (and if such instruction relates to a particular Program, You shall no longer be permitted to Broadcast or license the Broadcast of such Program).

3.6 Skype reserves the right to modify these Broadcast TOS at any time. Your continued usage of the Skype Software as authorised herein shall constitute Your acceptance to be bound by the terms and conditions of the revised Broadcast TOS. Skype will not be liable in relation to any damage caused by the modification of these Broadcast TOS and/or the termination thereof.

3.7 YOU EXPRESSLY ACKNOWLEDGE THAT YOU HAVE READ THESE BROADCAST TOS AND UNDERSTAND THE RIGHTS, OBLIGATIONS, TERMS AND CONDITIONS SET FORTH HEREIN. BY USING THE SKYPE SOFTWARE IN THE MANNER AUTHORISED HEREIN, YOU EXPRESSLY CONSENT TO BE BOUND BY THESE TERMS AND CONDITIONS AND GRANT TO SKYPE THE RIGHTS SET FORTH HEREIN.

© Skype – Last revised: 13 August 2014

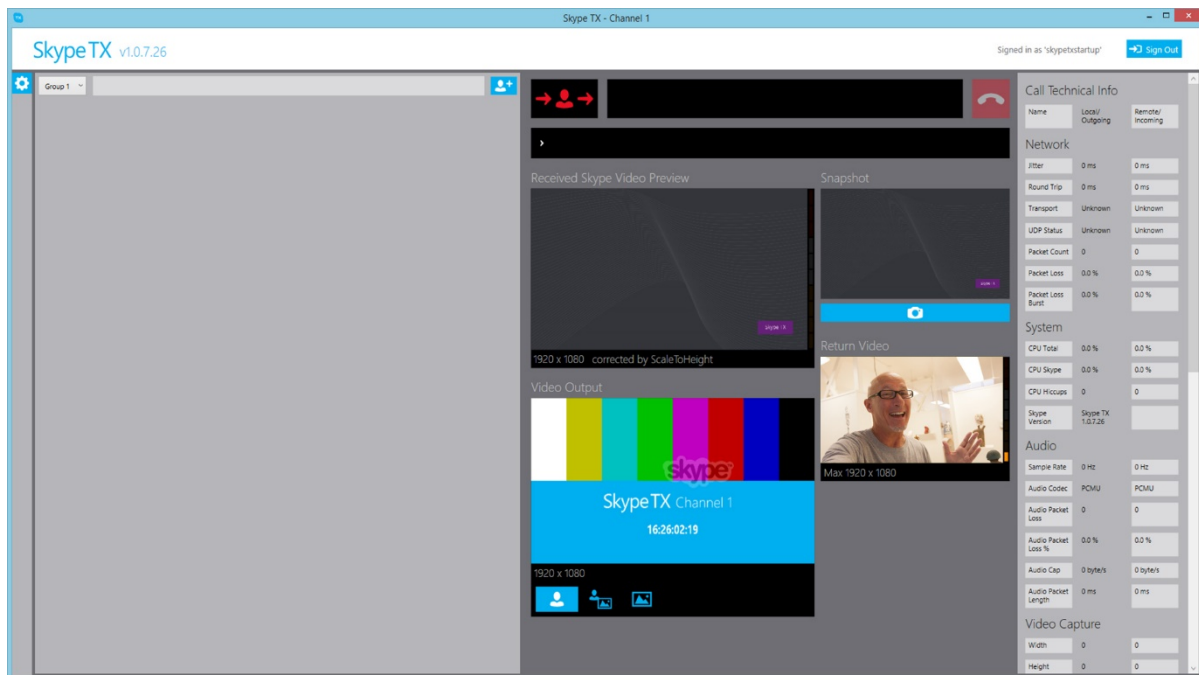
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1.0 What is Skype TX?

Skype TX enables you to send Skype calls as SD/HD-SDI video with embedded or balanced analogue audio, providing the best call quality available in an HD video format.



Skype TX optimizes the call quality and resizes and adjusts the video content to conform to standard television video resolutions. It even monitors the call and automatically drops the video feed of the call (but not the audio) and switches to a still image of the video feed if the call drops below a quality level that you define.

You can use Skype TX to prevent the video from reframing when Skype changes the aspect ratio. You can also embed the Skype watermark in the video output without using a separate graphics system.

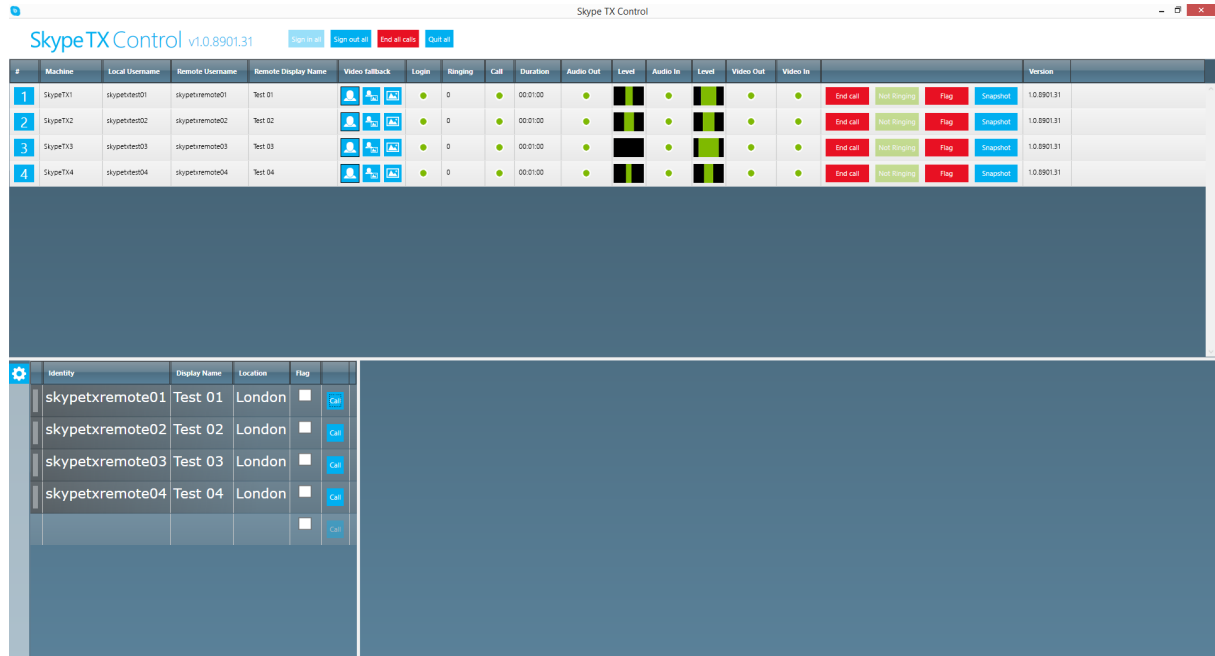
Skype TX features include:

- **Make outgoing calls**
Make HD-quality, broadcast-ready calls.
- **Receive incoming calls**
Receive calls using the 'Receive Incoming Calls' feature.
- **Monitor call quality**
See technical information about the call to help troubleshoot local or remote network issues.
- **Manage calls**
Switch between a live video feed and a still image.

Note that Skype TX is limited by the available connection speed and infrastructure, which can affect the quality of your calls.

2.0 What is Skype TX Control?

Skype TX Control is a management solution for Skype TX. Using this software, it is possible to manage multiple Skype TX Channels. Calls can be initiated to any contact in the central contacts database using any Skype TX Channel. Physical access to the Skype TX unit or the Skype TX software is not required.



Skype TX Control facilitates the use of a multi-channel system, making it easy for you to manage multiple Skype calls. These calls can be monitored by using the 'Call Technical Info' and 'Multi-Channel Status and Preview' space.

Skype TX Control uses the features and settings of each Skype TX Client.

Skype TX Control features include:

- **Manage multiple Skype calls**
Skype TX Control can, within reason, manage any number of HD quality, broadcast ready calls.
- **Receive incoming calls**
Receive calls by taking advantage of the 'Allow Incoming Calls' feature of Skype TX Client. See the Skype TX User Guide for more information.
- **Monitor call quality**
See technical information about the call which can help troubleshoot local or remote network issues.
- **Manage calls**
Take a snapshot from the incoming video and manually switch to the snapshot as required.

3.0 Setting up Skype TX Control

A typical multi-channel system would have Skype TX units running the latest version of Skype TX Client and a computer running Skype TX Control. The minimum requirement for Skype TX Control to work with a Skype TX Channel is that it must be able to connect to TCP port 8000. This makes it possible to have Skype TX machines on a different subnet and/or behind a firewall. This allows you, for example, to apply less-restrictive internet access policies to Skype TX machines (potentially improving call quality) whilst keeping Skype TX Control within a more strictly-controlled network. This will enable Skype TX Control to manage the Skype TX units on the network. Consult your network administrator, IT manager, or Internet provider for questions about your network.

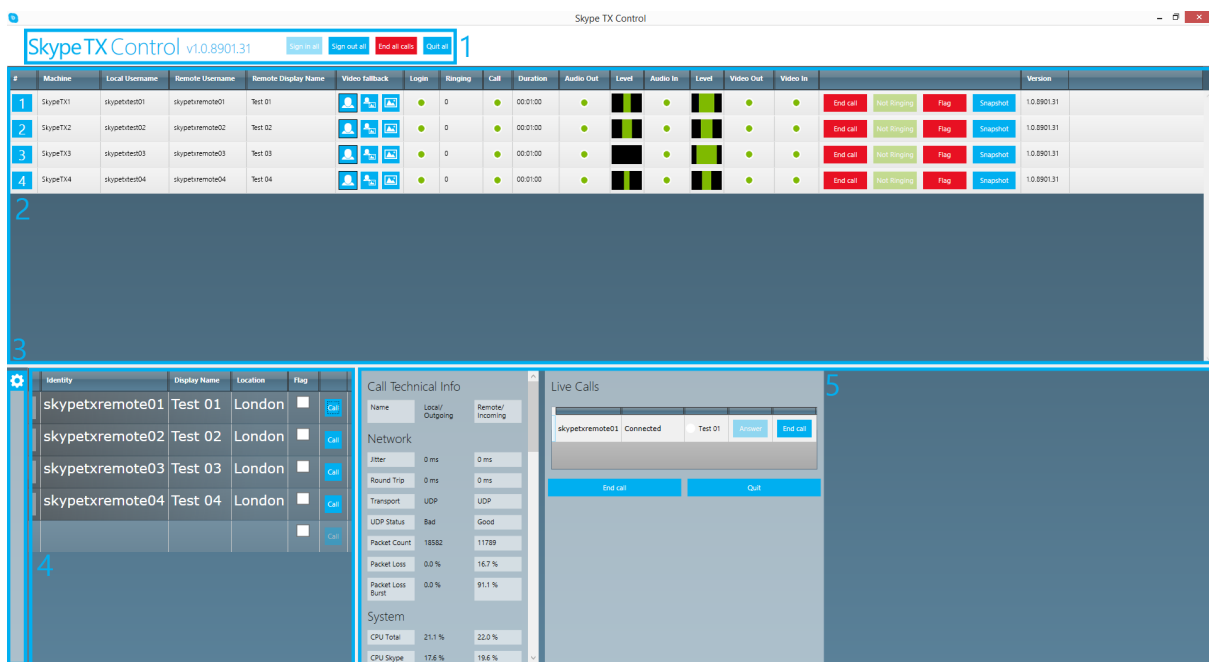
In the examples in this guide, there are four Skype TX units under the control of Skype TX Control.

“Skype TX Client” refers to the software on the Skype TX unit. This is what is used to generate the Skype video as an SD/HD-SDI video signal for on air.

“Skype TX Control” refers to the control software used in conjunction with Skype TX to manage the channels.

3.1 User interface

The user interface of Skype TX Control is divided into sections for ease of use.



- 1- **Master Controls and version information** – Buttons that control the behavior of all channels. Includes, **Sign in All**, **Sign out All**, **End all calls** and **Quit all**. Also includes the software version number.



- **Sign in all** – Signs into every Skype TX Channel.
- **Sign out all** – Logs out of every Skype TX Channel.

- **End all calls** – Hangs up every active call on every Skype TX Channel. **Note**, use this with care. No confirmation will be requested.
- **Quit all** – Closes Skype TX Client on each unit. **Note**, you can't reopen Skype TX Client from Skype TX Control.

2- Multi-Channel status and preview – Each row represents a Skype TX Channel. The current details of each channel is arranged into columns. The background color of each row indicates the channels current state as shown below.

Channel not found state



Channel found state



Channel on a call state









As shown in the following screen shot, the multi-channel status and preview screen enables you to see if a channel is signed in, how long a call has been active, monitor the audio levels going in and coming out of each Skype TX unit, and check to see that video is being sent and received.










#	Machine	Local Username	Remote Username	Remote Display Name	Force Suspend	Login	Ringng	Call	Duration	Audio Out	Level	Audio In	Level	Video Out	Video In	Controls	Version
1	SkypeTX1	skypetx001	skypetxremote01	Text 01	<input type="checkbox"/>	●	0	●	0000:00	●		●		●	●	End call, Not Ringng, Flag, Suspend	1.0.8901.11
2	SkypeTX2	skypetx002	skypetxremote02	Text 02	<input type="checkbox"/>	●	0	●	0000:00	●		●		●	●	End call, Not Ringng, Flag, Suspend	1.0.8901.11
3	SkypeTX3	skypetx003	skypetxremote03	Text 03	<input type="checkbox"/>	●	0	●	0000:00	●		●		●	●	End call, Not Ringng, Flag, Suspend	1.0.8901.11
4	SkypeTX4	skypetx004	skypetxremote04	Text 04	<input type="checkbox"/>	●	0	●	0000:00	●		●		●	●	End call, Not Ringng, Flag, Suspend	1.0.8901.11

Here is a breakdown of each item:

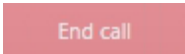
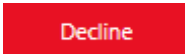

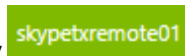
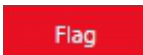

- **1** – Channel Number. Used to access technical information for that channel.
- **User Name** – The account username of the remote caller. This information is from the contacts space under **Identity**.
- **Machine** – The name of the machine running Skype TX Client.
- **Local Username** – The username of the account used to sign into Skype TX Client on the machine.
- **Remote Display Name** – The name of the remote caller. This information is from the contacts space, under **Display Name**.
- **Video fallback** – A way of managing what is broadcast on each channel. For more information, see [4.4 Managing a call](#).
- **Login** – Shows the sign in status of the channel.
 - ● Red light means the channel is not signed in.
 - ● Yellow light means the channel is in the process of signing in.
 - ● Green light mean the channel is signed in.
- **Ringng** – Indicates whether a channel is being called by way of the 'Allow Incoming Calls' setting. Shows the number of remote callers trying to call the channel.
- **Call** – Shows the status of the Skype call.

-  Red light means a call is not connected.
 -  Yellow light means a call is in the process of being connected.
 -  Green light mean the call is connected.
- **Duration** – Shows the amount of time the call has been active.
 - **Audio Out** – Shows the status of audio being sent to the remote participant.
 -  Red light means audio is not connected.
 -  Yellow light means audio is in the process of being connected.
 -  Green light mean audio output is connected.
 - **Level** – Shows the level of the audio being set to the remote caller.








- **Audio In** – Shows the status of the audio being received from the remote participant.
 -  Red light means audio is not connected.
 -  Yellow light means audio is in the process of being connected.
 -  Green light mean audio is connected.
- **Video out** – Shows the status of the video being sent to the remote participant.
 -  Red light means video is not connected.
 -  Yellow light means video is in the process of being connected.
 -  Green light mean video is connected.
- **Video In** – Shows the status of the video being received from the remote participant.
 -  Red light means video is not connected.
 -  Yellow light means video is in the process of being connected.
 -  Green light means video is connected.
- **Version** – Shows the version number of the Skype TX Client.

Each channel also contains the following control buttons. They only apply to the channel they were accessed on.


-  /  – When a call is active, this button shows **End call**. This ends the current Skype Call. When receiving a call, this button shows **Decline**. This declines the incoming call. Inactive when no active call.
-  /  – When a call is active or inactive, this button shows 'Not Ringing'. When receiving a call, this button shows the username of the remote caller. Clicking this button accepts the incoming call on this channel and becomes the active call.
-  – Clicking this button Flags the current active caller. A check mark is placed against their contact details in the contacts space and the call is ended.
-  – Clicking this button takes a snapshot of the remote caller in their current state on this channel. **Note** that this snapshot is only available to this channel for the duration of the call. Once complete,

the snapshot clears and a new snapshot must be taken.






- 3- **Settings** – Accessed by choosing the  settings symbol on the left side of the software. This opens four categories:

-  **Incoming**
-  **Channels**
-  **API**
-  **Info**

Settings changes are confirmed


by clicking the  **Apply** button at the end of the settings categories. This enables you to apply several changes at once. *For more information on changing settings, see section 3.3 and onwards.*

- 4- **Central Contacts Space** – This is a list of contacts to which calls can be made from any Skype TX Channel. Contains **Identity** (account username), **Display Name** and **Location**. Next to each contact is a check box that states whether the contact has been **flagged**.

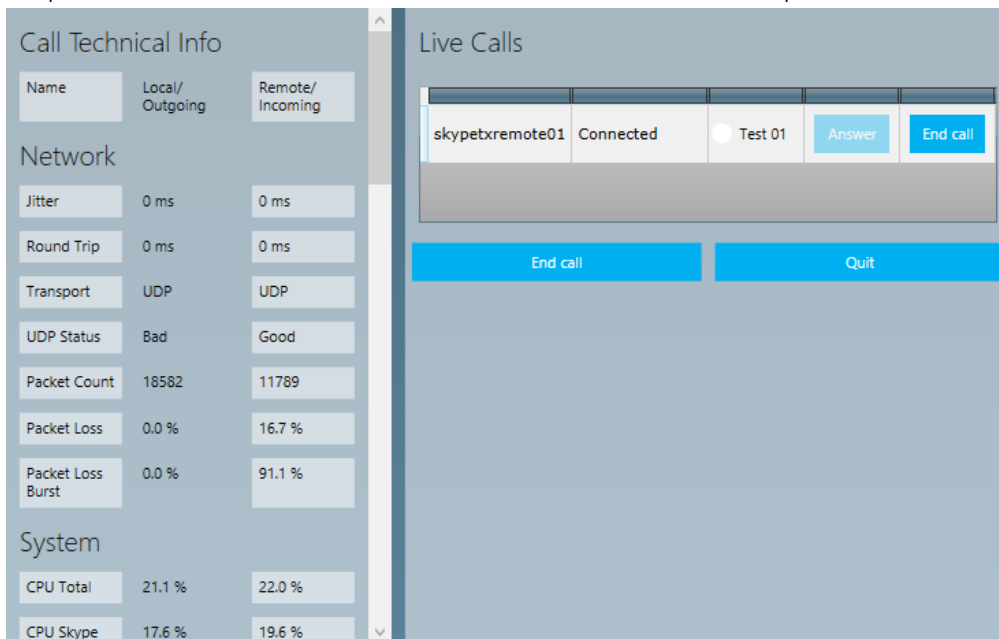
Identity	Display Name	Location	Flag	
skypetxremote01	Test 01	London	<input type="checkbox"/>	
skypetxremote02	Test 02	London	<input type="checkbox"/>	
skypetxremote03	Test 03	London	<input type="checkbox"/>	
skypetxremote04	Test 04	London	<input type="checkbox"/>	
			<input type="checkbox"/>	

- **Identity** – This is the user account of the remote caller. Please specify the Skype Name of the contact you are calling to. If your contact uses a Microsoft account to sign into Skype, a user name must be entered with 'live:' prefix, such as: 'live:skypename'.
- **Display Name** – This is used to name the contact. This is only for reference; the information used here won't appear anywhere on the Skype call. This information can be accessed via the Skype TX API. For more information, see [Fehler! Verweisquelle konnte nicht gefunden werden. Fehler! Verweisquelle](#)

konnte nicht gefunden werden..

- **Location** – This is the location of the remote caller. This is only for reference; the information won't appear anywhere on the Skype call. This information can be accessed via the Skype TX API. For more information, see [Fehler! Verweisquelle konnte nicht gefunden werden. Fehler! Verweisquelle konnte nicht gefunden werden..](#)
- **Flag** – Shows if the contact has been flagged by way of a check box. Flagged callers may be prevented from making calls to Skype TX, depending on other settings in Skype TX Control.
-  – Begins a call to the desired contact on the chosen channel.

5- Channel detail panel– Information regarding the video, audio and network of the selected channel is found in this panel. This area includes the technical information of the call and the call queue and status information.



The screenshot displays two main sections: 'Call Technical Info' and 'Live Calls'.

Call Technical Info is divided into three categories:

- Name:** A table with columns 'Local/Outgoing' and 'Remote/Incoming'.
- Network:**

Jitter	0 ms	0 ms
Round Trip	0 ms	0 ms
Transport	UDP	UDP
UDP Status	Bad	Good
Packet Count	18582	11789
Packet Loss	0.0 %	16.7 %
Packet Loss Burst	0.0 %	91.1 %
- System:**

CPU Total	21.1 %	22.0 %
CPU Skype	17.6 %	19.6 %

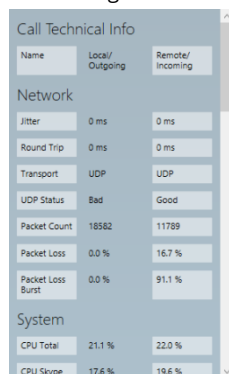
Live Calls section shows a table with one entry:

skypetxremote01	Connected	Test 01	Answer	End call
-----------------	-----------	---------	--------	----------

Below the table are two large buttons: 'End call' and 'Quit'.

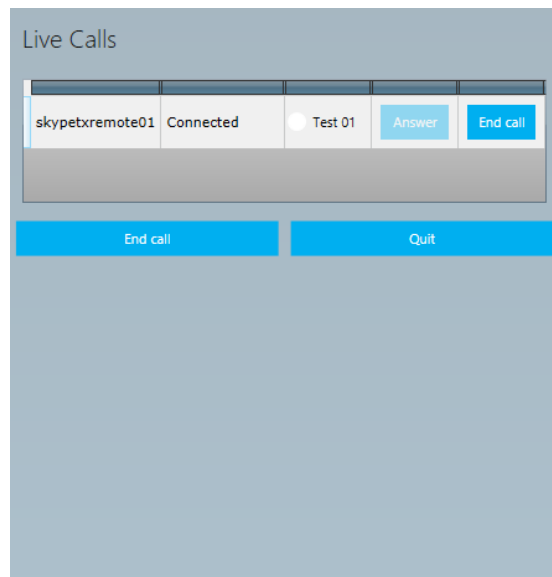
Here is a breakdown of what each item is and its function:

- **Call Technical Info** – Shows the technical information of the current call on the selected channel. A description of what each item means can be found in [4.5 Monitoring a call](#) or by hovering over an item and waiting for a tooltip.



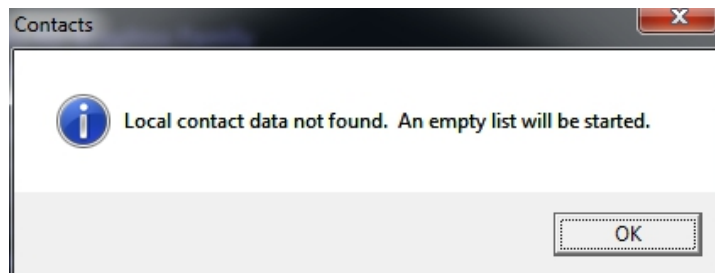
This is a zoomed-in view of the 'Call Technical Info' panel, showing the same data as the screenshot above.

- **Live calls** – A list of all current calls on the selected channel including ongoing calls, incoming calls which have not yet been accepted and outgoing calls which have not yet connected. Incoming calls may be accepted or declined with the **Join** and **Leave** buttons. Connected calls may be ended.

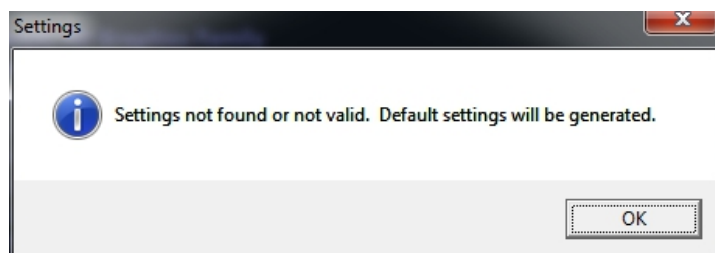


3.2 Initial Start up

When you first try to run Skype TX Control you get this message:

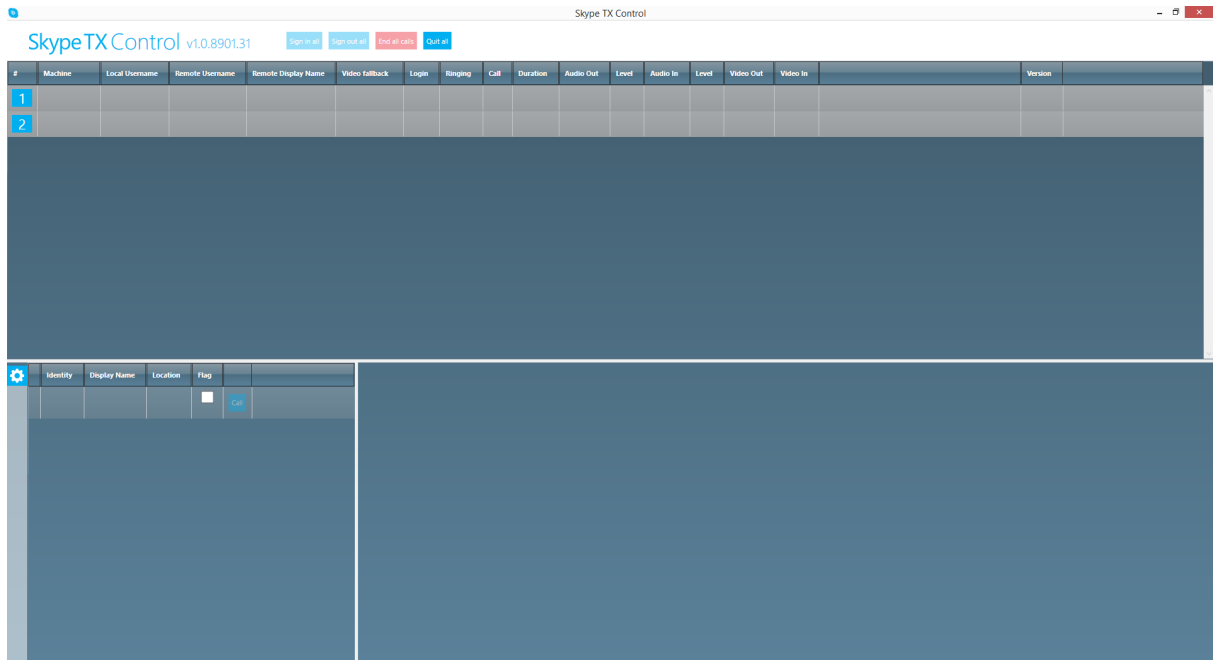


This message is saying no contacts have been found so an initial empty list will appear. This message may also appear if the contacts list is deleted or becomes unreadable. You can add contacts later. For more information, go to [4.1 Adding a contact](#).



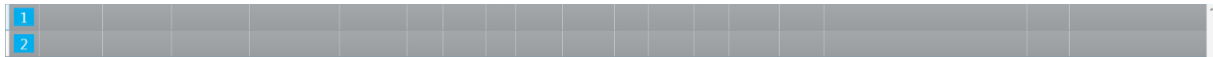
This message is saying no settings have been found so the default settings will initially be applied. You can change the settings later. For more information please go to [3.3 Settings](#).

These messages only appear on the first attempt to run the software. Once these messages have been cleared, Skype TX Control will appear.




This is the default state of Skype TX Control. It won't have any contacts, it will have just two un-configured channels.

Note that the default state shows two channels that are dark grey.



This means that Skype TX Control cannot find the Skype TX Channels.

3.3 Settings

Most settings in Skype TX Control can be configured by accessing the **Settings** tab . Skype TX Control provides the most useful settings through the **Settings** tab, whilst leaving more advanced settings in the 'settings.xml' file.

For more information on Skype TX Control advanced settings, see [6.0 Advanced use of Skype TX](#).


3.3.1 Incoming settings

Skype TX Control can be set up to behave a certain way should any Skype TX Clients receive an incoming call. This behavior must first be set up in Skype TX Client and for more information on how to do this, see the Skype TX User Guide on Microsoft Download Center.

The following settings effect the incoming call behavior.

Auto Answer All	<input type="checkbox"/>
Auto-answer NonFlagged	<input type="checkbox"/>
Prioritize non-flagged	<input type="checkbox"/>
Auto-decline non-flagged	<input type="checkbox"/>

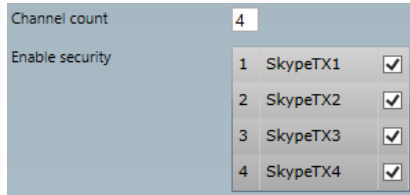
- **Auto Answer All** – Whenever an incoming call is received by a Skype TX Client, if checked, it will automatically be answered.
- **Auto-answer NonFlagged** – If an incoming call is being received and the incoming caller has not been flagged, they will be automatically answered. If checked, this setting will only automatically answer incoming callers that have not been flagged.
- **Prioritize non-flagged** – If checked, calls from non-flagged incoming callers will be prioritized. This means that they will be answered before a flagged incoming caller if there is more than one incoming call.
- **Auto-decline non-flagged** – If checked, calls from non-flagged incoming callers will be declined. This means that only flagged incoming callers will be able to call into the Skype TX Client.

Settings changes are confirmed by clicking the  **Apply** button at the end of the settings categories. Take caution when using these settings as they effect the overall behavior of all incoming calls.

3.3.2 Channel settings

Skype TX Control has to cater for a large number of Skype TX units. You can use the **Channel settings** in Skype TX Control to define how many units you want to control and to disable transport security. *You must have as many Skype TX units for each channel you define.*

In this example, the channel count is four because there are four Skype TX units.



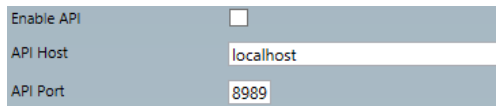
Channel count	4												
Enable security	<table border="1"> <tr> <td>1</td> <td>SkypeTX1</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>2</td> <td>SkypeTX2</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>3</td> <td>SkypeTX3</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>4</td> <td>SkypeTX4</td> <td><input checked="" type="checkbox"/></td> </tr> </table>	1	SkypeTX1	<input checked="" type="checkbox"/>	2	SkypeTX2	<input checked="" type="checkbox"/>	3	SkypeTX3	<input checked="" type="checkbox"/>	4	SkypeTX4	<input checked="" type="checkbox"/>
1	SkypeTX1	<input checked="" type="checkbox"/>											
2	SkypeTX2	<input checked="" type="checkbox"/>											
3	SkypeTX3	<input checked="" type="checkbox"/>											
4	SkypeTX4	<input checked="" type="checkbox"/>											

- **Channel count** – This is a number input box that determines how many channels should be listed in the **Multi-Channel status and preview** panel. Once set, you will need to restart Skype TX Control for the new channel lines to appear.
- **Enable security** – This will show a list of the Skype TX units that you have added and if transport security is enabled. The transport security setting works in conjunction with the **Enable transport security** setting on Skype TX Client. For more information on adding a Skype TX unit, see [3.4 Adding machines](#). For more information on transport security, see [7.1 Transport Security](#).

3.3.3 API settings

Skype TX Control has a public API so that certain features can be externally controlled.

These are the settings that can be configured in the API settings section:





Enable API	<input type="checkbox"/>
API Host	localhost
API Port	8989

- **Enable API** – This check box with enable the Skype TX API to allow outside applications to control this application. You should not enable this unless you intend to allow access to Skype TX functionality from third party applications. When enabled, Skype TX Control will begin listening for connections at startup on the given host and port. **Note that you are likely to see a warning message when you enable this setting until you have set Windows security settings appropriately. For more details, see the API documentation.**
- **API Host** – This is the host name on which Skype TX Control should listen for incoming connections to the API. This could be an IP address, machine name or host name which is present on the local machine.
- **API Port** – This is the port number on which Skype TX control should listen for incoming connections to the API. Default is '8989'.

3.3.4 Info

The **Information** settings tab contains the software version number, contact details, links to the privacy policy and broadcast terms of service and legalities concerning Skype TX and Skype. To access the info settings:

1. Click the  **Settings** button, on the left hand side of Skype TX.
2. Click the  **Info Settings** button.

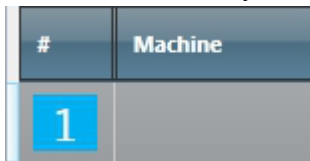
3.4 Adding machines

To use Skype TX Control, you're going to need computers running Skype TX Client. On initial startup, there are no machines listed under **Machine**. This is the name or IP address of the machine running Skype TX Client. In the example, machines **SkypeTX1**, **SkypeTX2**, **SkypeTX3** and **SkypeTX4** have been adding into Skype TX Control. These machines are all running Skype TX Client, running on the same network with the same Windows credentials. This means that they can communicate and Skype TX Control can use the Skype TX Clients to make calls.

Before adding machines, it is best practice to make sure the target machines are running Skype TX Client, this means that the machines will appear in Skype TX Control when added, providing a clear indication as to whether Skype TX Control has been able to establish a connection with the target Skype TX Client.

To add a machine:

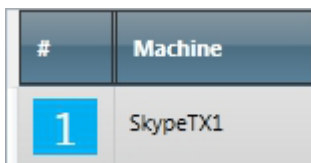
1. First navigate to the **Multi-Channel status and preview** area and find the header **Machines**.
2. Double-click on the entry box under the header.



#	Machine
1	

3. Type in the name of the machine running Skype TX Client.
4. Press enter to confirm the entry.

The channel will change color to indicate that Skype TX Control has found the machine.



#	Machine
1	SkypeTX1

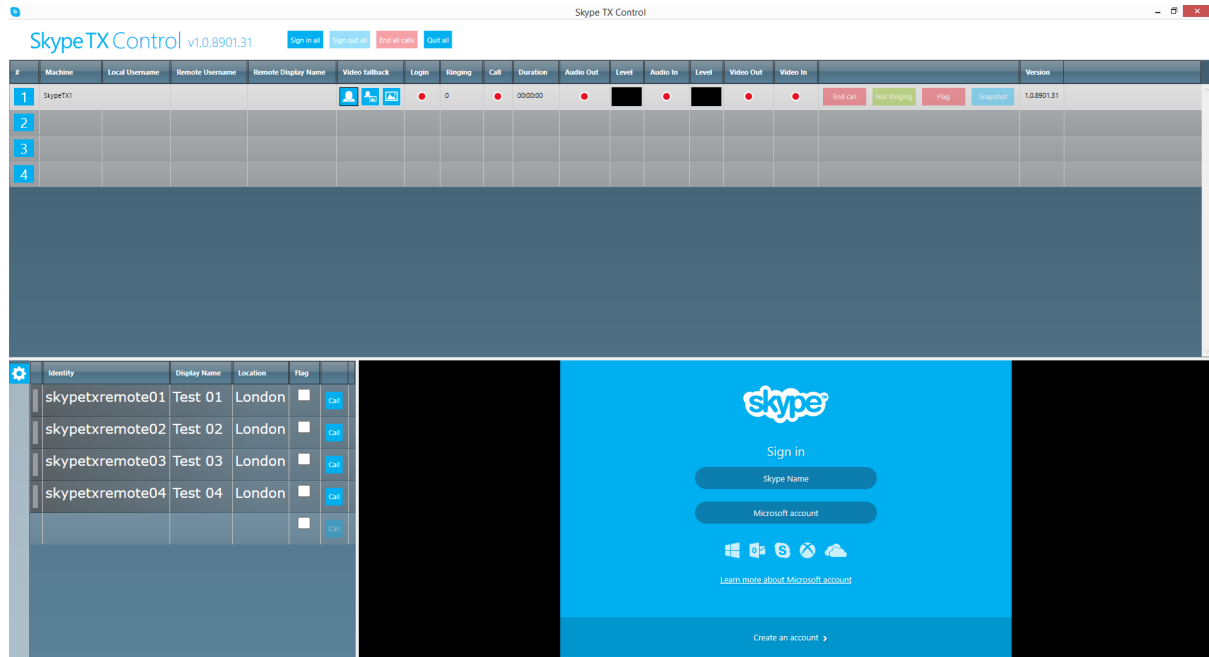
Repeat this process for all other units. If you experience any problems, first see [7.1 Transport Security](#). If you are still experiencing issues after reading this section, contact us at www.skypeinmedia.com.

4.0 Making a call

It is important to understand that Skype TX Control doesn't make the Skype calls. Skype TX Control sends commands to Skype TX units and reports back status updates. By using a centralized contacts database with multi-channel status and preview, it makes it easy to control and manage each Skype TX Channel. Each Skype TX Channel can be set up differently but controlled globally by Skype TX Control.

To start with, make sure you have defined the **ClientCount** in the 'settings.xml' file to the desired number of clients, and that you have signed in to each channel using an active Microsoft or Skype account.

You can sign into a Skype TX unit from control by clicking on the channel number of the machine you wish to sign into.



Doing so will open up the Skype sign in window for you to sign into the desired Skype or Microsoft account. **Note that you can check a box to have Skype TX sign into this account automatically the next time it starts.**

4.1 Adding a contact

Skype TX Control features an easy-to-use interface for you to add and manage multiple contacts over multiple channels. Skype TX Control supports an almost unlimited number of contacts as part of a centralized contacts database.

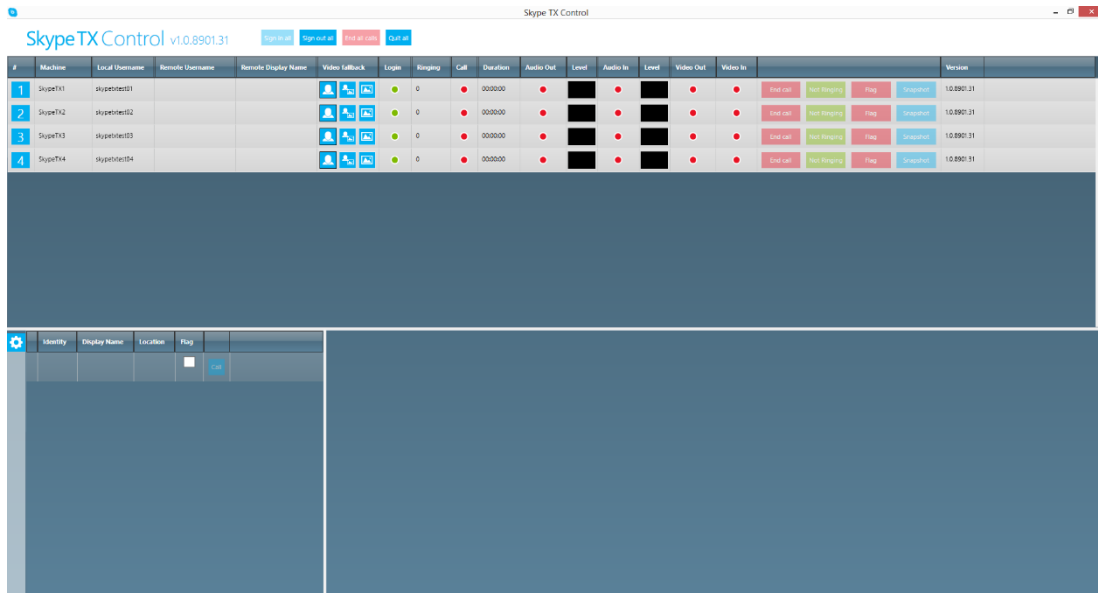
Contacts entered into the Control software are stored locally and independent of the client instances and their associated Skype accounts. This means that you can sign in with any combination of Skype accounts without losing your central contacts. It also means that all contact data can be concentrated on a single machine for easier management of sensitive data.

Identity	Display Name	Location	Flag	
skypetxremote01	Test 01	London	<input type="checkbox"/>	Call
skypetxremote02	Test 02	London	<input type="checkbox"/>	Call
skypetxremote03	Test 03	London	<input type="checkbox"/>	Call
skypetxremote04	Test 04	London	<input type="checkbox"/>	Call
			<input type="checkbox"/>	Call

The centralized contacts database looks like the previous screen shot. It shows the user name, display name and location of the contact, and whether the contact is flagged.

To add a new contact:

1. Navigate to the contacts space in the bottom left of the software.



The screenshot shows the Skype TX Control v1.0.8901.31 interface. At the top, there are buttons for 'Sign in', 'Sign-out as', 'Start call', and 'Call as'. Below this is a table with columns: #, Machine, Local Username, Remote Username, Remote Display Name, Video feedback, Logos, Ringing, Call, Duration, Audio Out, Level, Audio In, Level, Video Out, Video In, and Version. The table contains four rows of contact data. Below the table, there is a detailed view of a contact with columns: Identity, Display Name, Location, and Flag. The 'Flag' column has a checkbox and a 'Call' button.

2. Double-click the box directly under **Identity**. This opens the box where you enter the ID of the contact.

Identity	Display Name	Location	Flag	
<input type="text"/>			<input type="checkbox"/>	Call

3. Enter the account username of the contact. Press **Enter** to confirm the entry.

4. Double-click the box in the **Display Name** column. This opens the box where you enter the name of the contact.

Identity	Display Name	Location	Flag	
skypetxremote01	<input type="text"/>		<input type="checkbox"/>	Call

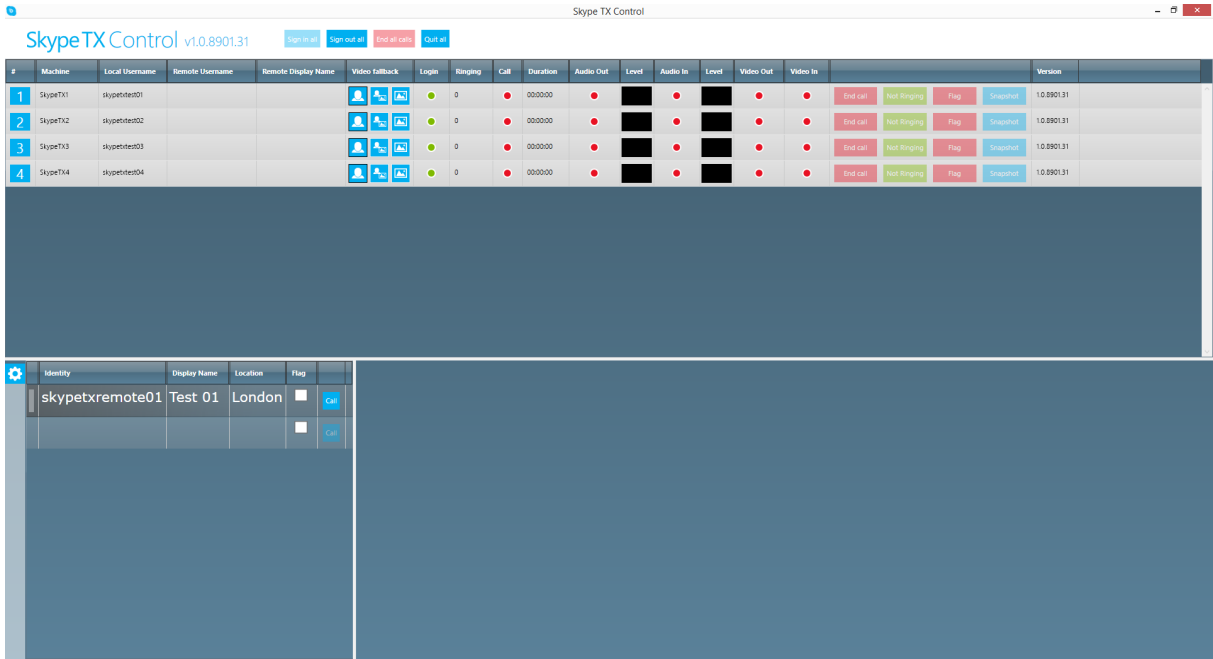
5. Enter the name of the contact. Press **Enter** to confirm the entry. **Note that this is optional. A contact can still be called without a **Display Name**.**

6. Double-click the box directly under **Location**. This opens the box where you enter the location of the contact.

Identity	Display Name	Location	Flag	
skypetxremote01	Test 01	<input type="text"/>	<input type="checkbox"/>	Call

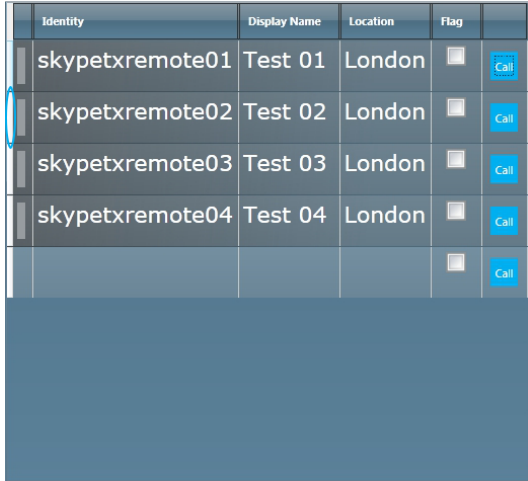
7. Enter the location of the contact. Press **Enter** to confirm the entry. **Note that this is optional. A contact can still be called without a **Location**.**

8. The contact has now been created.








To add another contact, double-click the empty field under the last contact. This starts the process to add another contact.






To delete a contact, click on the row and press the **Delete** button.








Skype TX Control will also show the status of the contact, if they have been added as a local contact on a Skype TX unit and have been added as a contact in the Skype contact list for the account used to sign in to Skype TX Client on the Skype TX unit. This status will show on the left of the client. The contact will be white if not signed in and green if signed in and set as available on the Skype client.

Identity	Display Name	Location	Flag	
skypetxremote01	Test 01	London	<input type="checkbox"/>	
skypetxremote02	Test 02	London	<input type="checkbox"/>	
skypetxremote03	Test 03	London	<input type="checkbox"/>	
skypetxremote04	Test 04	London	<input type="checkbox"/>	
			<input type="checkbox"/>	

If set to away, the contact status will change to yellow.

Identity	Display Name	Location	Flag	
skypetxremote01	Test 01	London	<input type="checkbox"/>	
skypetxremote02	Test 02	London	<input type="checkbox"/>	
skypetxremote03	Test 03	London	<input type="checkbox"/>	
skypetxremote04	Test 04	London	<input type="checkbox"/>	
			<input type="checkbox"/>	

If set to **Do Not Disturb**, the contact status will change to red.

Identity	Display Name	Location	Flag	
skypetxremote01	Test 01	London	<input type="checkbox"/>	
skypetxremote02	Test 02	London	<input type="checkbox"/>	
skypetxremote03	Test 03	London	<input type="checkbox"/>	
skypetxremote04	Test 04	London	<input type="checkbox"/>	
			<input type="checkbox"/>	

4.2 Establishing a call

Skype TX Control connects directly to Skype TX Client. It tells the client on each unit to make a call. It is important to remember that Skype TX Control isn't making the call, it is instructing Skype TX Client to make the call.

To make a call, Skype TX must go through several stages to establish a stable connection. Making a call relies on the remote caller being signed in and having Skype settings configured to allow calls from users who are not on their contacts list. To do this in Microsoft Windows:

1. Open Skype on the remote caller's computer.
2. Sign in to Skype.
3. Go to the **Tools** tab and left-click **Options**.
4. Go to the **Privacy** section and set **Allow calls from...** to **Anyone**.
5. Left-click **Save** and return to Skype. The remote caller is now set up to be called from Skype TX.

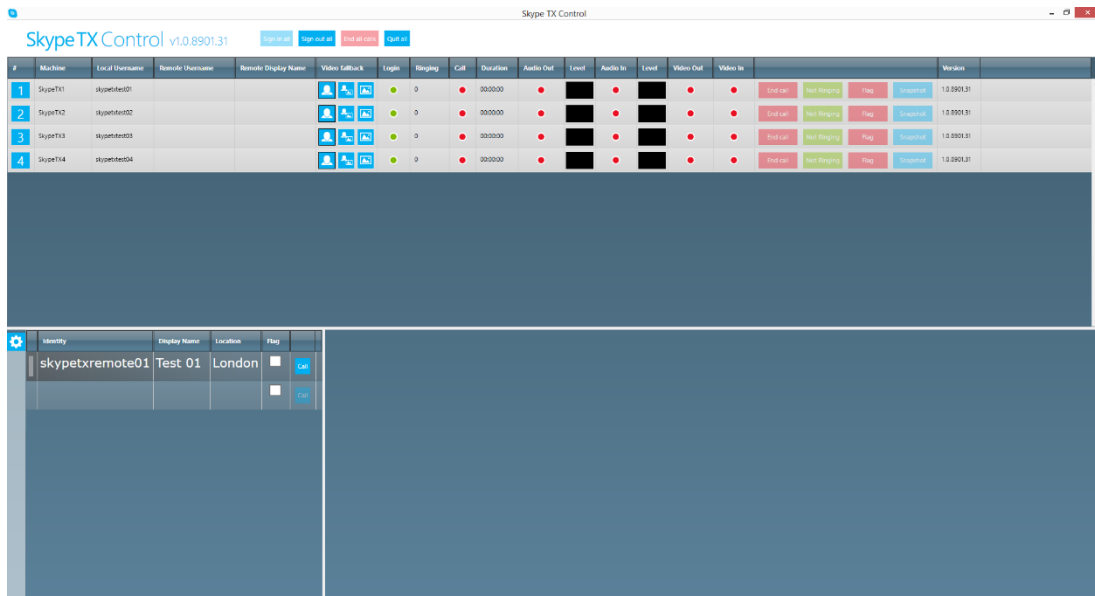
To do this in Apple OS X:

1. Open Skype on the remote caller's computer.
2. Sign in to Skype.
3. From the menu bar, left click **Skype** then navigate to **Preferences**.
4. Now go to **Privacy** and select *Anyone* from the **Allow calls from:** drop-down box.
5. Close the **Privacy** window.

In the event the remote caller doesn't want to set their privacy settings to allow calls from anyone, you can add them as a contact in Skype by using the Skype Desktop Client and signing in with the username used in Skype TX Client.


Once the remote caller has accepted the contact request, they will be able to accept calls from Skype TX:

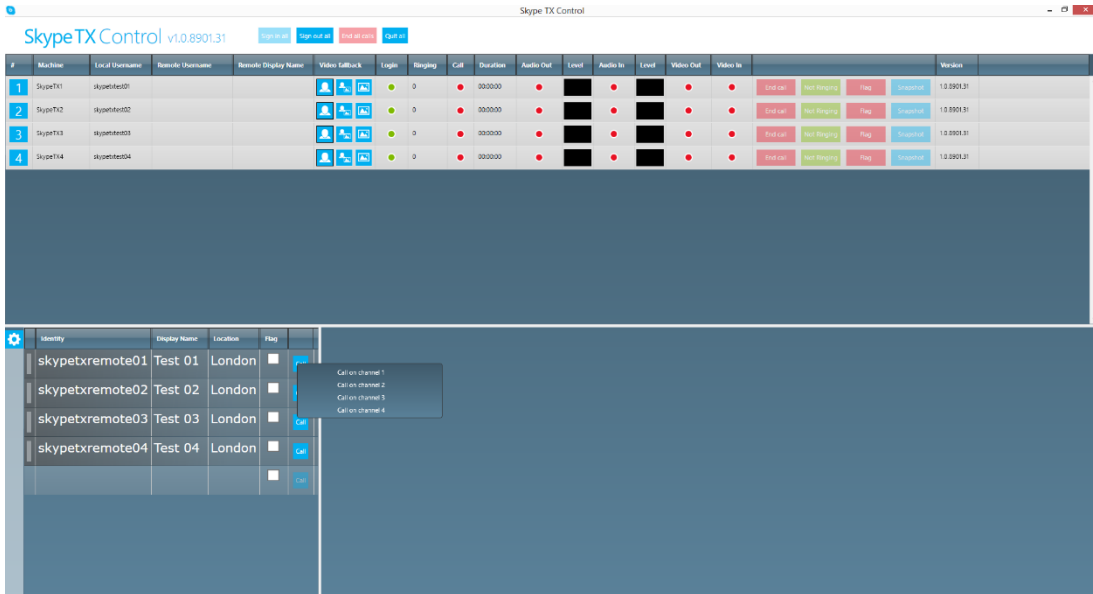
1. To start, navigate to the **Contacts Space**.



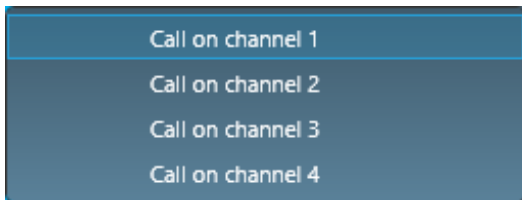
It is best practice to make sure all channels are signed in and the desired channel to call the contact on shows as red under **Call**, **Audio Out**, **Audio In**, **Video Out** and **Video In**.



- Next, click the  button to the far right of the contact.
- A pop-up window will appear, letting you decide which channel to call the contact on.



- Hover over the desired channel with the mouse. The channel darkens to indicate this channel is the desired channel.



Left-click to confirm the desired channel. This starts the call.

- The channel then changes to show that the connection is in progress.



The Skype Name, or **Identity**, of the contact shows, as well as the display name, if applicable.

- Skype TX Control then runs through a similar call initialization procedure to Skype TX Client. It first displays yellow lights under **Call**, **Audio Out** and **Audio In**. This means the call is initiating.
- Once the contact accepts the call, Skype TX Client connects the audio. This changes the yellow lights under **Call**, **Audio Out** and **Audio In** on Skype TX Control to green.



Skype TX connects the audio before the video, so the call status in Skype TX Client changes to *Sound OK, video connecting*. This means you are able to hear the remote caller before seeing them.

- If the remote caller clicked *Answer* when the Skype call was made, they have to manually turn their video on by clicking the **Turn Video On** button in Skype, which is represented by a camera symbol. If the remote caller clicks *Answer with video* then video is automatically sent. Once either has been done, Skype TX Client is able to accept the incoming video feed. This is represented by the **Video In** light turning green.



If a video output feed is present, the final light (**Video Out**) turns green once it is being sent out to the remote caller by Skype TX Client and has been accepted. Depending on the remote caller's privacy settings, a second dialogue box pops-up, asking the user to accept the incoming video signal that is being sent by Skype TX. Clicking **Accept** allows the video being sent from Skype TX to be seen by the remote caller.

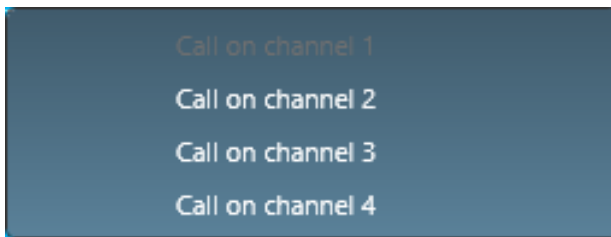


The call is now connected.

4.2.1 Making multiple Calls

Skype TX Control's main function is to provide easy management of multiple Skype calls. It communicates to each Skype TX Channel, instructing them to make calls, utilizing a centralized contacts database.

To place a single call, see [4.2 Establishing a call](#). To make multiple calls, first make sure you have the details of all contacts you wish to call. See [4.1 Adding a contact](#) for more information. You then need to repeat the process in section [4.2 Establishing a call](#), changing the selected channel used to call the contact. A channel which is not available for new calls will be disabled in the pop-up box. They will be faded out – you won't be able to select this channel to call a contact. **Note that an unavailable channel could be because they have a call in progress or there is a problem connecting to the channel.**



Repeat this process until there are no channels left to call on. You can only make as many calls as there are channels.

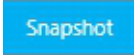
4.3 Taking a snapshot

Just like in Skype TX Client, Skype TX Control can be used to take a snapshot of the remote caller. You can use this snapshot as a backup image if the call quality drops below the video resolution you have defined. You can also use the snapshot if the video feed from the remote caller drops entirely, leaving a snapshot and the remote caller's audio feed.

#	Machine	Local Username	Remote Username	Remote Display Name	Video fallback	Logins	ringing	Call	Duration	Audio Out	Level	Audio In	Level	Video Out	Video In	Version
1	SkypeTX1	skypetest01	skypetestremote01	Test 01			0		00:02:10							1.0.8901.31
2	SkypeTX2	skypetest02	skypetestremote02	Test 02			0		00:01:00							1.0.8901.31
3	SkypeTX3	skypetest03	skypetestremote03	Test 03			0		00:01:00							1.0.8901.31
4	SkypeTX4	skypetest04	skypetestremote04	Test 04			0		00:01:00							1.0.8901.31

Taking a snapshot takes a still of the remote caller in whatever state they are currently in. **Note** there is no preview of the snapshot in Skype TX Control. For a preview, go into Skype TX Client to view.

To take a snapshot of a remote caller:

1. Navigate to the multi-channel status and preview space.
2. Make sure the call is live and connected.
3. Left click the  button on the channel you want to take the snapshot on. This takes a snapshot of the remote caller in their current state.

Now that you have taken a snapshot, you can change from the live video feed to the snapshot by managing the call as described in the next section – [4.4 Managing a call](#).

Note that setting the snapshot overrides the default 'VideoLost.png' image. The snapshot is only saved for the duration of the call. If the same caller is called again you must take a new snapshot of that caller. See the Skype TX User Guide for more information on setting image defaults.

4.4 Managing a call

Skype TX Client has the ability to revert to a previously configured state if video is lost or has unacceptable video resolution. It can switch between live video from the remote caller, a pre-grabbed still image, or a pre-defined image. See the Skype TX User Guide for more information on how Skype TX Client can be set up to manage a call.

Skype TX Control can manage a call in the same way Skype TX Client can. It can be configured under the **Video fallback** column to the following:



Always send caller video to air

When selected, the caller's video will be broadcast, regardless of the video resolution.



Send caller video to air, automatically switching back to snapshot or VideoLost.png when its quality falls below quality threshold

When selected, if the caller's video falls below the minimum video resolution that you defined, the video will switch to a snapshot or the VideoLost.png.




Send snapshot to air

When selected, the snapshot that you have taken appears, replacing the caller's video.



When selected, if the caller's video falls below the minimum video resolution that you defined, the icon turns partially red.

To send snapshot to air:

1. Choose the  snapshot button on the desired channel during the live call. Make sure that the remote caller is in the preferred position before taking the snapshot.
2. Select the **Send snapshot to air** button in the **Video fallback** column, to send the snapshot to air.

This sends the pre-grabbed snapshot of the remote caller to the video output.

Note that the snapshot is only available on the channel the snapshot was taken. It isn't available on all other channels and must be retaken if the call ends.

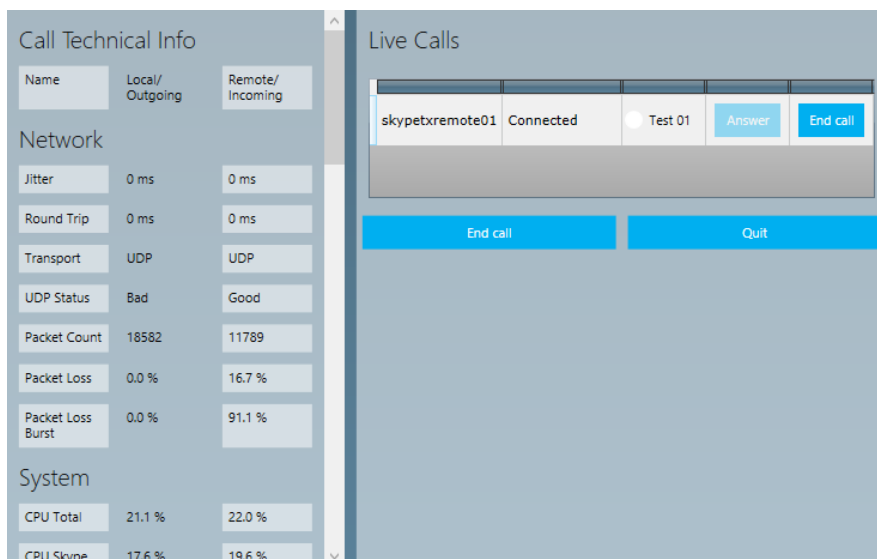
4.5 Monitoring a call

Skype TX Control is able to monitor multiple calls as they are on air. You can use the quick previews built into the **Multi-Channel Status and Preview** space to check that audio and video are being sent to the remote caller, and that audio and video are being received by the Skype TX unit.

The status lights give a quick indication of the call status. A breakdown of what each light means for each section can be found in [3.1 User interface](#).

To find out more information on the call:

Left-click the number of the channel you want information on. Doing so opens the **Channel detail panel**. This shows real time technical information on the call.



The screenshot shows a software interface with two main panels. The left panel, titled 'Call Technical Info', is divided into three sections: 'Name', 'Network', and 'System'. The 'Name' section has three columns: 'Name', 'Local/Outgoing', and 'Remote/Incoming'. The 'Network' section has six rows of data. The 'System' section has two rows of data. The right panel, titled 'Live Calls', shows a table with one row of call data and two buttons below it.

Name	Local/Outgoing	Remote/Incoming

Jitter	Local/Outgoing	Remote/Incoming
Jitter	0 ms	0 ms
Round Trip	0 ms	0 ms
Transport	UDP	UDP
UDP Status	Bad	Good
Packet Count	18582	11789
Packet Loss	0.0 %	16.7 %
Packet Loss Burst	0.0 %	91.1 %

CPU Total	Local/Outgoing	Remote/Incoming
CPU Total	21.1 %	22.0 %
CPU Skype	17.6 %	19.6 %

skypetxremote01	Connected	Test 01	Answer	End call
skypetxremote01	Connected	Test 01	Answer	End call

Below the table are two buttons: 'End call' and 'Quit'.

You can also use the **Tech Info** panel for more in-depth information on the call. Descriptions of each item can be found in the tooltips by hovering over each one.

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. The lower the round trip time, the 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 angle of the captured video which must be corrected by the receiver.

Colourspace – A string representing the colourspace 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 allowed to do the encoding work.

At any point during a call, you can save the technical information to a file by following these steps:

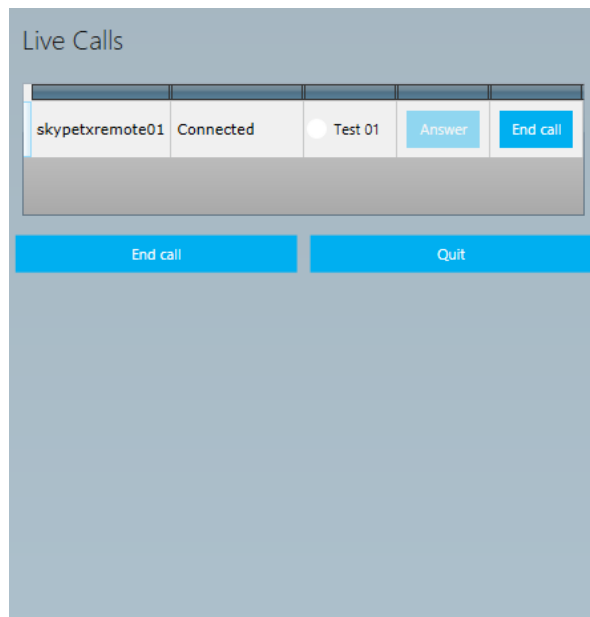
1. Scroll to the bottom of the 'tech info' until you see the **Export technical diagnostics file** button.
2. Click this button at the point where you want to save the information.
3. Access the file by navigating to: '%APPDATA%/Skype TX/Client/TechInfo' or by pressing the **Show diagnostics file** button.

Export technical diagnostics file

Show diagnostic files

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

The live calls window shows who is being called, their call status and control buttons.

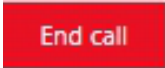


If there are multiple calls incoming to the channel, multiple rows will appear in the live calls window with a separate row for each unique caller. This is where you can use the **Answer** and **End call** buttons. Pressing **Answer** connects the call; pressing **End call** rejects or leaves the call.

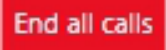
4.6 Ending a call

When you are ready to end the call, both you and the remote caller can hang up to end the Skype call.

To end a call in Skype TX Control, either:

1. Navigate to the **Multi-Channel Status and Preview** space and press the  button on the desired channel. This ends the call

Or

2. Navigate to the **Master Controls** bar at the top of the UI. Press the  button to end all live calls.

5.0 Shutting down Skype TX Control

Skype TX Control and Skype TX Client are able to make and manage calls spanning over several days if required. You can safely shut down a call by following this procedure:

1. Start by making sure Skype TX Control is no longer connected to the remote caller and use of Skype TX is no longer required.
2. Close Skype TX Control by clicking the red cross in the top right corner.

6.0 Advanced use of Skype TX

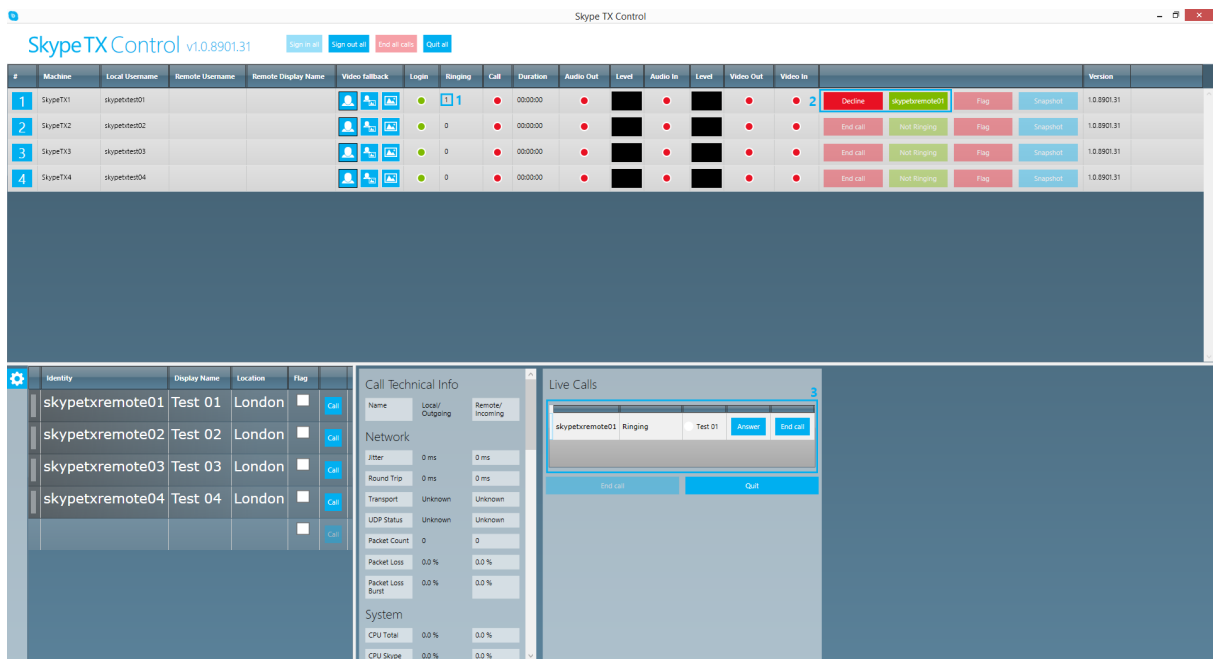
Skype TX is a tool that can unlock Skype in a broadcast context. Use it to broadcast a single HD quality call or in conjunction with control software for a multi-channel system. There are many ways you can use Skype TX in a more advanced setup, giving you more options and more content to broadcast. This section provides an overview of some of Skype TX's more advanced features.

6.1 Incoming calls in Control

Skype TX Control works in conjunction with Skype TX Client to allow calls to be accepted by each Skype TX Client. Skype TX Control makes it easy to manage multiple incoming calls, even to the same channel, by using the channel status bar, which lists all incoming callers.

See the Skype TX User Guide to learn how Skype TX Client can be set up to accept incoming calls:

It is up to the user whether every Skype TX Channel is set up to allow incoming calls. When the desired channels have been set up, Skype TX Control is able to show that a channel is receiving an incoming call.



The screenshot shows the Skype TX Control interface. At the top, there's a title bar for 'Skype TX Control' with version 'v1.0.8901.31' and buttons for 'Sign in as', 'Sign out as', 'Find all calls', and 'Quit as'. Below this is a multi-channel status bar with columns for #, Machine, Local Username, Remote Username, Remote Display Name, Video fallback, Login, Ringing, Call, Duration, Audio Out, Level, Audio In, Level, Video Out, Video In, and Version. Channel 1 (skypetx01) shows 'Ringing' with a count of 1. Channel 2 (skypetx02) shows 'End call' with a count of 0. Channels 3 and 4 also show 'End call' with counts of 0. Below the status bar, there's a 'Live Calls' window showing a call from 'skypetxremote01' with 'Ringing' status and 'Test 01' as the display name. The 'Live Calls' window has 'Answer' and 'End call' buttons. To the left of the 'Live Calls' window is a 'Call Technical Info' panel showing network and system statistics. Below the 'Live Calls' window is a 'Multi-Channel status and preview' bar showing a list of remote callers with columns for Identity, Display Name, Location, and Flag.

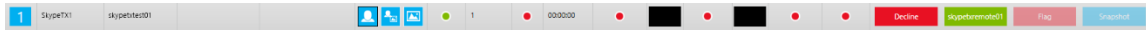
In this example only channel 1 has been set up to allow incoming calls.

Skype TX Control shows a call is being received in three ways:

1. The number of calls being made to that channel is shown under **Ringing** in the **Multi-Channel status and preview** space. If no calls are incoming, this number is zero.
2. The username of the remote caller calling in will appear in the **Multi-Channel status and preview** bar.
3. The **Live Calls** bar shows all contacts that are calling in or being called. In the above example, channel 1 is being called from 'skypetxremote01'. This list grows depending on the amount of calls being made to the channel.

Skype TX Control cannot set the channels to allow incoming calls, this must be done in each channel.

When a call is being received, the username of the remote caller appears in the **Multi-Channel status and preview** space.



In this example, channel 1 is receiving a call from 'skypetxremote01'. The call can be declined by pressing the **Decline** button or by pressing the **End call** button in the **Live calls** list. The call can be accepted by pressing the green button next to the decline button, which shows the username of the incoming remote caller, for example **skypetxremote01**. It can also be accepted by pressing the **Answer** button in the **Live calls** list.

6.2 Flagging

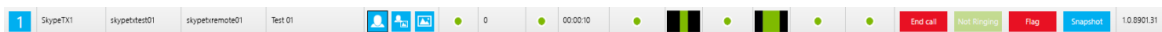
Skype TX Control has the ability to flag contacts. This can be either contacts that have called into Skype TX, or contacts that have been saved to the centralized contacts database. Flagging can be used in two ways; either as an indicator next to any caller name that's flagged when they call in, or to block the contact from being able to be called or to call into Skype TX. It's up to the user to define how they want to use flagging.

By default, flagging is set to be used as an indicator. Flagging behavior is defined in **Incoming Settings**. For more information, see [3.3.1 Incoming settings](#).

To flag a saved contact, simply check the box next to the contact. To undo this, uncheck the tick box.

Identity	Display Name	Location	Flag	
skypetxremote01	Test 01	London	<input checked="" type="checkbox"/>	Call
skypetxremote02	Test 02	London	<input type="checkbox"/>	Call
skypetxremote03	Test 03	London	<input type="checkbox"/>	Call
skypetxremote04	Test 04	London	<input type="checkbox"/>	Call
			<input type="checkbox"/>	Call

An alternative way to flag a caller is to press the **Flag** button on the desired channel while the call is live.



This will end the call and add a check mark in the **Flag** box next to the contact. If the caller was flagged and was not a contact as they were an incoming call, then a local contact will be created in the centralized contacts database with a check mark in the **Flag** box next to the newly created contact.

6.3 Enabling 'Auto-Answer'

Skype TX Control can be setup to answer incoming calls automatically.

To do this:

1. Access the 'settings.xml' file by going to '%LOCALAPPDATA%/Skype TX/control' on the control computer. Before you change any settings, close down Skype TX Control. Any changes made to 'settings.xml' won't take effect if the software is running.
2. Once opened, you see lines of code in an XML format. Find **AutoAnswerAll**.
3. Change this from 0 to 1. This enables 'auto-answer' in Skype TX Control.

This setting should be used with caution in live environments.

7.0 Security

Security is important to us all. Because Skype TX sits on the internet, it is important to be aware of the security features Skype TX offers. Due to it dealing with a high volume of user accounts, it is important to use these features to ensure the security of each unit. It is the responsibility of the unit owner to ensure security. This may include any anti-virus software or firewalls that may be put in place. Below are security checks to be aware of:



- Beware of incoming calls. By the nature of Skype TX, you will share the account information of each unit by making a call. This information is saved in the Skype call history on the desktop client of the remote caller. This information could be shared which could result in incoming calls. It is important to make sure the Skype TX unit is set appropriately and to be cautious when using the **Allow Incoming Calls** setting. If unchecked, calls from people who are not on your Skype contact list will not be allowed. Note that the Skype contact list belongs to the account used to log in to Skype TX. It is not visible from Skype TX and must be edited using another Skype client if required. This setting is not affected by the contact list shown in Skype TX.
- It is not recommended to use the **Auto Answer** setting with the **Allow Calls From Anyone** setting if broadcasting live. This could result in incoming calls from anyone going on the air. Skype TX is not designed to accept high volumes or incoming calls.
- Ensure the sign in username and password are secure. Using a complex username and password will help to stop it from being guessed and the account from being accessed.
- Using a Microsoft Account with 2-step authentication will add an extra layer of security.
- By default, the Control API is disabled in the **settings.xml** file. The user takes full responsibility for any security issues arising from manually enabling this feature.
- Be aware when signing in to a different account. The contacts are local to the unit, they do not switch when changing sign in information.




7.1 Transport Security

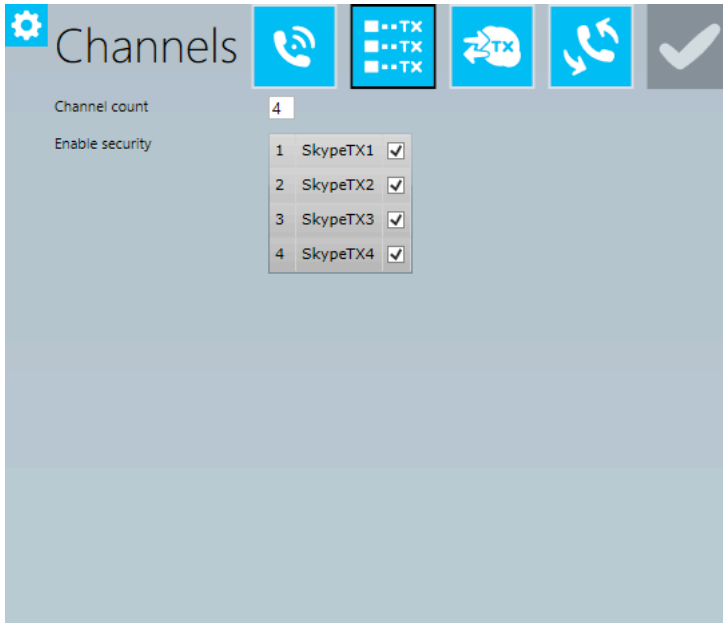
Skype TX uses transport security as a default. It is recommend to use transport security. This will prevent any software from being able to access Skype TX Client without matching Windows credentials. If it's not possible to have matching Windows credentials, disabling transport security will allow communication regardless of Windows credentials.

It's important that the settings on the client and control match. Mismatched settings will result in connection failure.

To change the transport security:

1. First disable transport security in Skype TX Client, by choosing  settings, then  account settings.
2. Uncheck **Require control security**.

3. Choose the  tick to confirm the setting change.
4. Now disable transport security in Skype TX Control, by choosing  settings, then  channels.
5. Uncheck each channel under **Enable security**



This will disable transport security between the Skype TX Clients and Skype TX Control.

In the event Skype TX Control and Skype TX Client can't communicate because there is a firewall between them, a port 8000 on the network can be opened to allow communication.

8.0 FAQ

If you experience any problems with Skype TX, check this list of Frequently Asked Questions first. For further support, see www.skypeinmedia.com.

Q Why can't I sign in to Skype TX?

A First, check that you are connected to the Internet by navigating to Internet Explorer and attempt to connect to www.bing.com. If an Internet connection is present, next check the username and password you used to sign in to Skype TX to see if they are correct. If they are, try a different username and password. If you are still unable to sign in to Skype TX, contact us for further assistance at www.skypeinmedia.com.

Q Why isn't the camera showing on the remote caller's MacBook?

A When using a computer running the Mac OS, the camera is often used by another application such as FaceTime or Photo Booth in the background. Only one application can use the camera at a time. Get the remote caller to close all applications, including Skype. Then get them to reopen Skype and try the call again.

Q Why does the Call Status Box say "Blocked by privacy settings" when I try to make a call?

A This is most likely due to the privacy settings not being set on the remote caller's computer. See the Skype TX User Guide for more information on changing the privacy settings.

Q Why is it that when I try to call a contact, Skype TX immediately hangs up?

A This is most likely due to entering an incorrect Skype Name for the contact. Check the Skype Name of the remote caller and try to make the call again.

Q Why am I not seeing the video in-feed in Skype TX?

A The local video input feed won't show until Skype TX has been signed in. If you are seeing black, then the video feed could be in the wrong format or has not been turned on. Make sure the video input format used is on the list of accepted inputs in the [Fehler! Verweisquelle konnte nicht gefunden werden..](#)

Q I can see a video output feed in Skype TX, but why can't the broadcast facility see it?

A This could be because the **Video Out** settings haven't been set correctly for the broadcast. Check what video format is required and set it as such in Skype TX under **Video Out** in **Video Settings**. If the broadcast facility still can't see the video out feed, then check that all cables are connected. If the problem persists, contact Skype TX.

Q Remote caller can't hear studio.

A First ask the remote caller if they have their speakers turned on. If they do, check that you can see outgoing audio levels bouncing next to the local video preview. If audio levels are bouncing, then the remote caller needs to check their Skype settings by going to: *Tools, Options, Audio Settings, Speakers*, and checking that audio output is being shown.

Q Remote caller can't see studio

A Once the call has been accepted, a second dialogue box pops up, asking the user to accept the incoming video signal that is being sent by Skype TX. Clicking *Accept* allows the video being sent from Skype TX to be seen by the remote caller.

Q Studio can't see remote caller

A Ask the remote caller to check whether they answered the call by clicking *Answer* rather than *Answer with Video*. Clicking on the camera icon in the centre at the bottom of the screen will show the camera. If the video continues to not show, check the remote caller's Skype video settings by going to *Tools, Options, Video Settings* and make sure the desired video input device is selected.

Q Studio can't hear remote caller

A First check that you can see outgoing audio levels bouncing next to the local video preview. If you can't, open up the audio card control panel by opening the hidden icons and finding the icon to access the control panel. When a signal is being sent, the audio meters show green, bouncing levels. If you don't see this, then check that the audio settings in Skype TX are set appropriately for your needs. If the problem persists, contact Skype TX.

- Q **The call keeps coming in as 'Relay_UDP', what can I do to stop that?**
- A This means Skype cannot establish a direct connection from end to end due to routing or security settings on the network. On a corporate network, the IT department might be able to configure their routers to improve the situation.
See the [Skype IT Administrator's Guide](http://download.skype.com/share/business/guides/skype-it-administrators-guide.pdf) for more information:
<http://download.skype.com/share/business/guides/skype-it-administrators-guide.pdf>.
- Q **The remote caller received the call on their phone and not their computer. What should I do to get the call to be received on their computer?**
- A Log out of all devices and log back in on just the computer.
- Q **Skype TX Client is still answering calls from accounts which I flagged in Skype TX Control**
- A If you are using auto-answering functions in **Skype TX Control**, turn off auto-answer in **Skype TX Client**. These function independently, so enabling both will result in Client and Control getting into a race for how to handle each incoming call.

9.0 Glossary

16:9

Standard widescreen aspect ratio where the ratio of the sides is 16 wide to 9 high. An example of 16:9 video resolution would be 1280 × 720.

25 D-Pin connector

Legacy soundcard connector used for breakout cables in old Skype TX systems. D-Pin, or D-sub (D-sub miniature).

4:3

Standard aspect ratio where the ratio of the sides is 4 wide to 3 high. An example of 4:3 video resolution would be 1024 × 768.

AEC

Automatic Echo Cancellation. Helps prevent audio from the remote caller being sent back via the local microphone.

AGC

Automatic Gain Control. This is a system which automatically adjusts audio gain to keep the level consistent.

Anamorphic

The process of an image being 'squashed' from one aspect ratio to another. An example of this is footage that has been filmed in a 16:9 aspect ratio which is then squashed into 4:3 aspect ratio, which makes the image look distorted.

Aspect ratio

This refers to the ratio of the width and height of the video. Two most commonly used aspects are 4:3 and 16:9. For example, a 4:3 resolution would be 1024 × 768 and a 16:9 resolution would be 1280 × 720. 16:9 is also commonly referred to as a 'Widescreen' resolution.

ARC

Aspect Ratio Conversion. The process of converting an image from one aspect ratio to another using different techniques. For example, converting 16:9 to 4:3 using scale to height.

Audio codec

The process that performs coding or decoding of a digital data stream of audio. In the case of Skype TX, the host negotiates codec selection with the other participants as part of setting up the call.

Audio router

Sends audio signals from any one of a number of inputs to any one of a number of outputs.

Balanced audio

A signal carried in opposite phases on two wires reducing the amount of interference from external noise. It typically uses XLR connectors or TRS jacks.

Bandwidth

The number of bits per second that can be transmitted along a digital network giving a measure of its performance.

Bitrate

The amount of data that can be carried from one point to another, giving a measure of the quality of audio or video.

BNC Connector

Bayonet Neill-Concelman. Quick connect and disconnect connector used to terminate a coaxial cable.

Breakout cable

Commonly used when there is not enough space available on a piece of hardware. In the case of Skype TX, a large D-Pin connector (see 25 D-Pin Connector) is used to split out into different cables enabling more inputs/outputs.

Coaxial cable

The type of cable used to carry SDI video.

Color Bars

Also known as 'broadcast bars,' or 'testcard.' Color bars are an artificial electronic signal generated to test and match outputs, such as cameras and monitors. Skype TX's color bars are at 75%.

CPU

Central Processing Unit. Computer hardware chip that carries out the instructions of a computer program.

DVI

Digital Video Interface. Standard digital video signal transferring uncompressed video from computers to computer monitors, typically used to display a 1920 × 1080 signal.

Embedded audio

This refers to the audio being carried as part of an SD-SDI or HD-SDI video signal (see SDI). This means that video and audio can be transported via the same coaxial cable.

Female end

A connector with one or more sockets into which pins will be engaged.

FPS

Frames per Second. The frequency at which an imaging device produces unique consecutive images, known as 'frames.'

Genlock

Refers to the process of synchronizing broadcast studio devices from a single source to ensure that each video frame is generated at the same moment in time. In the case of Skype TX, to become 'genlocked' (generator locked), the unit should be fed with either a 'Black and Burst' signal (used primarily with SD devices but also with HD devices to lock the frame rate) or a 'Tri-Level Syncs' signal (uses a three-level signal shape that allows for the higher precision needs to lock HD devices). This signal is sent via a coaxial cable with a BNC connector.

HDMI

High Definition Multimedia Interface. Standard digital video signal transferring uncompressed video and audio data, capable of transporting 720p and 1080i video resolution.

HD-SDI

High Definition-Serial Digital Interface. A higher bandwidth version of the SDI standard (see SDI). Capable of transporting video at 720p and 1080i.

IEC cable

International Electrotechnical Commission. Standard power cable with a 10A female connector on one end, complying to C13. The common name for a cable terminated with a connector specified by IEC 60320 as C13. This is sometimes known as a 'kettle lead'.

Intel Display Audio

On-board audio driver, enabling audio to be transmitted via a HDMI cable attached to a local Monitor.

Line 1 / 2

Refers to the first stereo pair of outputs of the installed professional audio card.

Male end

A connector with one or more pins which will be engaged into sockets.

M-Audio Delta AP 192

Legacy soundcard inside old Skype TX units.

Maximum Transmission Unit

The size of the largest packet that the network can currently transmit.

Network Cable

Also known as an 'Ethernet cable,' is a cable commonly used to connect to other network devices, such as printers or other computers, and can send and receive data packets used for connecting to the Internet.

NIC

Network Interface Card. A piece of computer hardware that connects a computer to a network, usually via an Ethernet Cable.

Noise suppressor

Removes parts of the audio signal which are not intentional, such as fan noise, hiss and hum.

NTSC

National Television System Committee. Generally used to refer to the color encoding system primarily used in North America. In the context of Skype TX, this is used to refer to a resolution of 720 x 480 at 29.97 FPS. This is the resolution used for standard definition broadcasts in North America in Japan.

On Air

This refers to the act of being broadcast on television.

Overlay

The process of superimposing one image over another.

Packets

Formatted unit of data carried by a network.

PAL

Phase Alternating Line. Analog television color encoding standard. In the context of Skype TX, this is used to refer to a resolution of 720 x 576 at 25 FPS. This is the resolution used for standard definition broadcasts in most of the world.

Ping

Time it takes, in milliseconds, for a request to be sent to a remote host and then a response to be received by the sender.

Raw video

In the case of Skype TX, raw video refers to the video being received from the remote caller (see remote caller) before being processed by Skype TX.

Reference

An incoming video signal that locks the outgoing video of the unit to all other studio equipment via the same source. See Genlock.

Remote caller

In this context, refers to the person or place being called on location.

RU

"U" is a measurement of vertical usable space when building rack mounted units. 1u is 1.75 inches (approximately 44.4mm).

S/PDIF

Sony/Phillips Digital Interface Format. Digital audio interconnect cable.

Sample rate

The number of samples per unit of time taken from a continuous signal to convert it into digital form.

SDI

Serial Digital Interface. Broadcast standard digital video signal for transporting uncompressed video along with up to 16 channels (or 8 stereo pairs) of embedded digital audio via a single coaxial cable with a BNC connector.

SD-SDI

Standard Definition-Serial Digital Interface. SDI video (see SDI) transported at 480i and 576i resolutions.

Snapshot

An image from a video stream grabbed at a particular point in time.

Switcher

See Video Mixer.

TCP

Transmission Control Protocol. Set of rules to send data in the form of message units between computers via the Internet.

Thumbscrew

Common computer screw with a knurled head for turning with the thumb.

TRS

Tip, Ring, Sleeve. Type of jack connector for interconnecting unbalanced stereo or balanced mono analog audio. For balanced audio, the jack is normally of the quarter inch variety.

UDP

User Datagram Protocol. Send data messages to other networks without prior communications to set up special transmission channels or data paths.

UI

User Interface. The means by which a user and a computer interact.

USB

Universal Serial Bus. Standard data transfer interface.

VGA

Video Graphics Array. The terms "VGA Cable" and "VGA Connector" (15 pin D-Sub) cover almost all analog video PC connections at a range of resolutions.

VIA High Definition Audio

The audio chip on the computer motherboard. Also referred to as 'On-board Audio'.

Video codec

The process that performs compression or decompression of digital video.

Video mixer

Also known as a vision mixer, production switcher and switcher. A Device that allows for the switching and combining of two or more video signals in a broadcast context using a mix or wipe effect to produce the final 'program mix' (or 'studio out').

Video resolution

The dimensions of a video picture measured in pixels.

Video router

Also known as a video matrix. Sends video signals from any one of a number of inputs to any one of a number of outputs.

Watermark

Semi-transparent graphic that is overlaid on a video signal.

XLR cable

The common name for a cable capable of carrying balanced audio, generally a twisted pair with a screen. The name actually refers to a connector that is often used to terminate this type of cable.