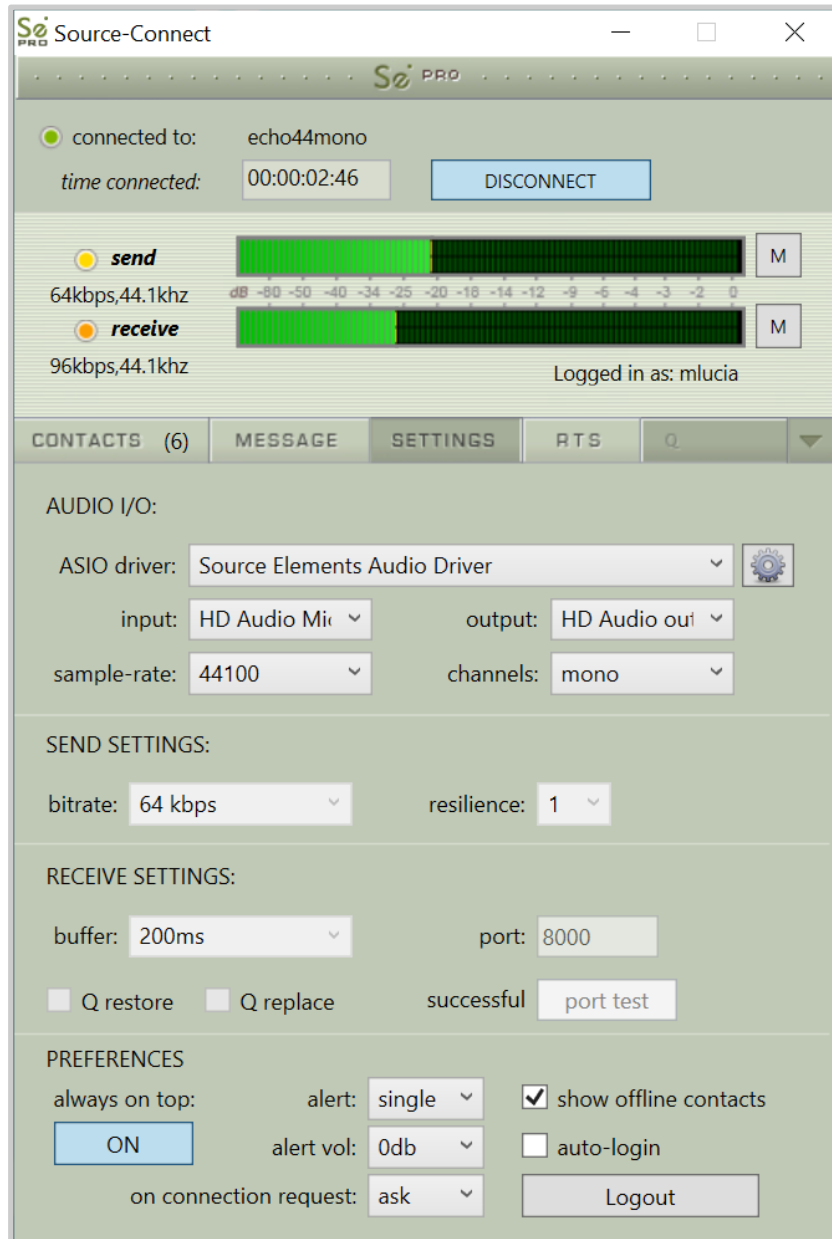


Source-Connect® Pro 3.8

Windows User Guide



Source-Connect® Pro 3.8 for Windows

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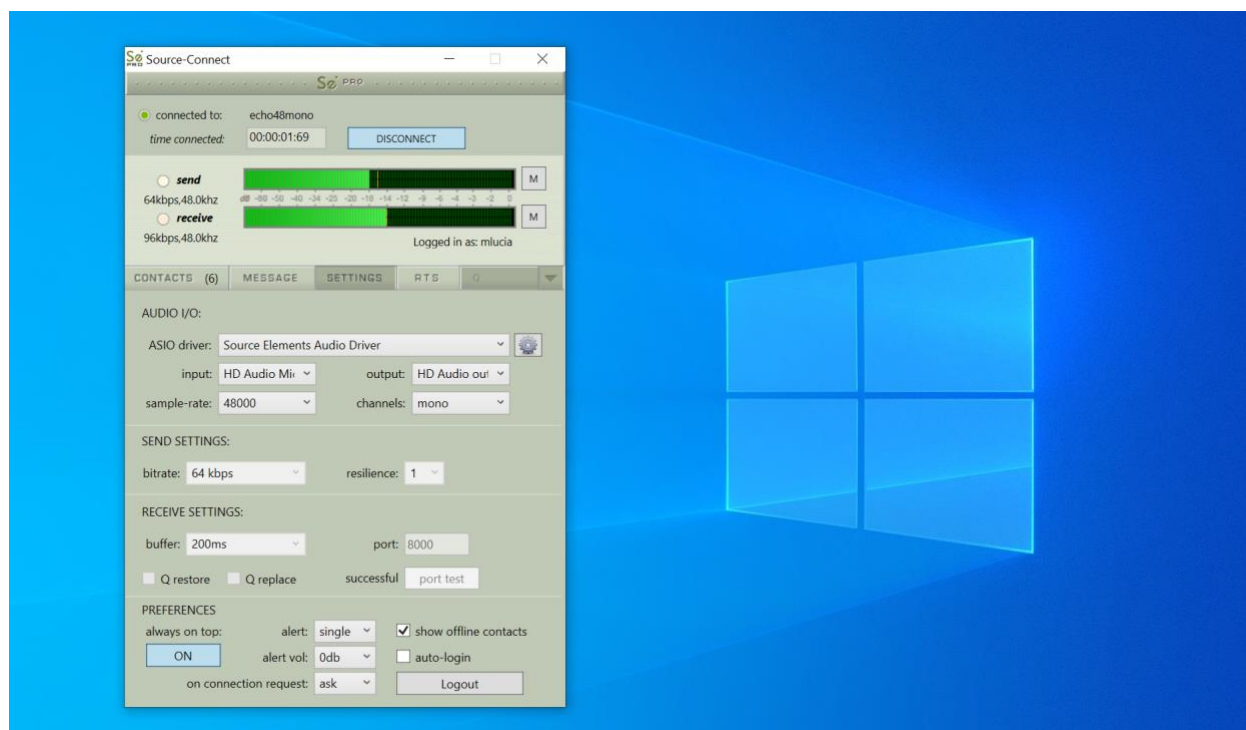
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1. Introducing Source-Connect®

Source-Connect Pro 3.8 is a standalone application for Windows 32 and 64-bit that supports high-quality recording and monitoring of audio signals over the internet and allows for input and output directly into the DAW of your choice.



It is also supported for Mac OSX 10.7 - 10.10, but we recommend using the latest Mac version, [Source-Connect 3.9](http://source-elements.com).

1.1 About Source-Connect

Source-Connect provides professional studio access to the encoding and decoding of high quality, realtime audio streaming from within your editing environment, along with Remote Transport Sync (RTS), for remote synchronization of recording sessions.

To reduce the channel bandwidth requirements while maintaining low delay and high quality communications, Source-Connect uses a state-of-the-art AAC codec developed by Fraunhofer IIS. Source-Connect Pro 3.8 no longer includes the Apt-X Extended algorithm from APT.



In addition to streaming and RTS capabilities, Source-Connect also provides Contacts management and Instant Messaging features. You can add or remove contacts and edit your personal settings and profile by logging in to your account on the [Source Elements dashboard](#).

1.2 What's new in Source-Connect Standard 3.8?

Source-Connect Pro 3.8 is a fully standalone application and features Source-Connect Link, a set of AAX, RTAS, Audio Units and VST plugins that directly send audio to many supported hosts.

Since version 3.7.0, Source-Connect Link supports 32-bit AAX sessions and 64-bit Audio Units.

Source-Connect Pro now also allows you to connect using your audio settings at the higher sample rates of 88.2khz and 96khz. This functionality works with both Source-Link and built-in audio.



For documentation specific to using Source-Connect Link see Section 7.

For a general overview of the Source-Connect versions and features see <https://source-elements.com/products/source-connect/>

2. Installation

2.1. System Requirements

Currently, there is support for Windows 7 32 and 64-bit onwards.

Source-Connect Standard supports most core-audio drivers as of the writing of this manual except for those noted here: <https://support.source-elements.com/show/compatible-interfaces-that-provide-audio-drivers-that-share-between-programs-in-windows>

2.2 Minimum recommended configurations

Minimum support is available for: 1ghz G4, 2GB RAM.

We recommend a G5 or higher and 2GB ram or more for best performance.

Source-Connect supported sample-rates: Source-Connect currently only supports 44.1khz and 48khz.

Source-Connect supported bit-rates: Source-Connect supports 16bit and 24bit sessions.

2.3. Compatibility

Source-Connect Standard 3.8 is compatible to connect with all available versions of Source-Connect, including Pro.

See [Appendix I](#) for connection limitations when working with Source-Connect Pro. For known hardware issues see: <https://support.source-elements.com/show/known-hardware-issues>.

2.4. Network Configuration

To establish an audio session between two studios, direct peer-to-peer communication is required between two hosts each running Source-Connect. Internet communication occurs over the UDP protocol, which is a low level and very fast Internet Protocol. It is therefore required that your firewall and/or router is configured properly to enable such communication.

For most operations you will open UDP 6000-6001 in your firewall and/or port forward these ports to your computer's IP address.

Please review the online Network Guide for specific details on getting your Network configured for Source-Connect: <https://support.source-elements.com/show/network-guide>.

If you want to acquire basic networking concepts to work better with Source-Connect, check out the [Source-Connect 3.9 Certification](#). Some of the concepts are also applicable for Source-

Connect 3.8 on Windows; there is a detailed PDF with step-by-step instructions on how to configure port forwarding.

2.4.1. Network Configuration

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Please review the online Network Guide for specific details on getting your Network configured for Source-Connect: <https://support.source-elements.com/show/network-guide>

2.4.2. Bandwidth

Source-Connect requires an Internet connection with bandwidth of **at least** 300 kbps in both directions. You may need to configure your firewall and/or router if you are inside a network or have an active firewall. Corporate firewalls and routers may be able to provide QoS services to increase your application bandwidth. Please refer to our detailed network-specific information if you have difficulty connecting successfully.

You can get an idea of your bandwidth via Internet Speed test sites, such as <http://www.speakeasy.net/speedtest>. However, please note that a report from a site in California does not mean that you will be getting the same bandwidth when connecting to a peer in, say, Australia.

2.4.3. Additional Firewall Information

Source-Connect will make outgoing requests from any available TCP port to ports 80 and 5222 on our server (www.source-elements.com). All TCP ports should be allowed to make outgoing connections to and from the firewall. Most networks allow these connections by default.

For additional information on configuring your network, please refer to: <https://support.source-elements.com/show/network-guide>.

There, you will find an illustrated, step-by-step, guide on configuring your network, along with Advanced documentation for IT administrators.

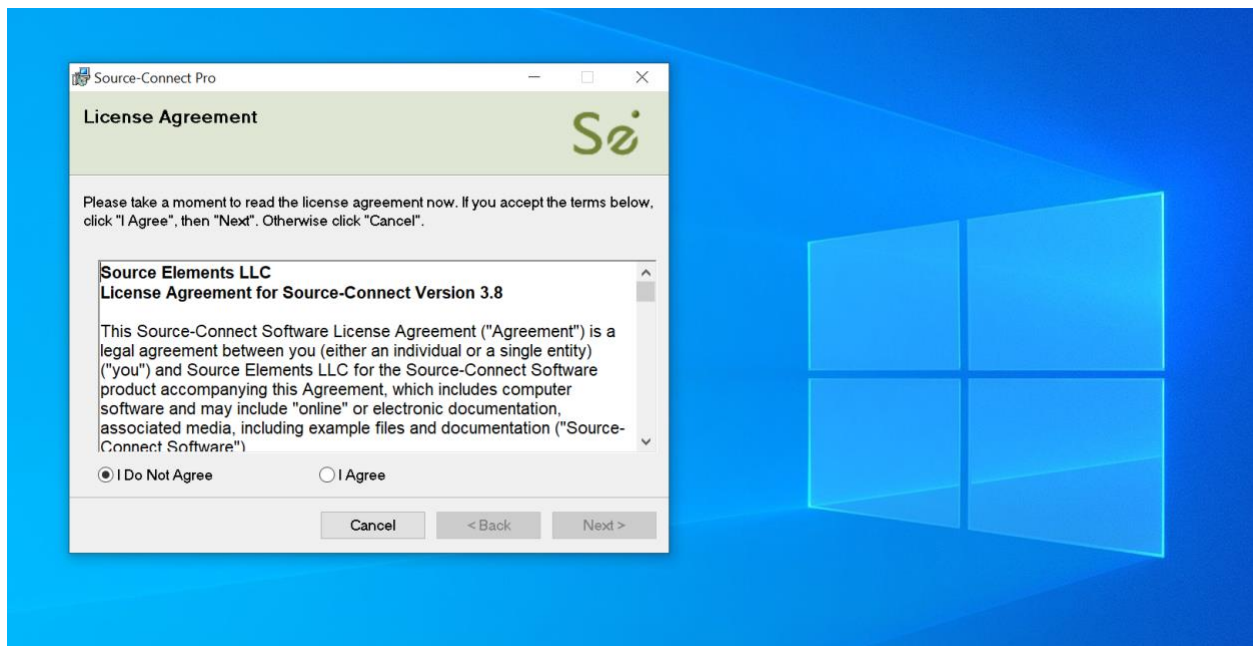
2.5. Downloading and Installing Source-Connect

All Source Elements software is obtained by download directly from your account on the website. To get access to the Downloads page you will need a valid evaluation or purchased license for Source-Connect

If you requested an evaluation license, or purchased a license you should have also created a new Source Elements account at the same time. Use this account to login to your account and download the software. If you did not receive an account visit: <http://source-elements.com/login/create>

2.5.1. Installing Source-Connect

You should now have downloaded the correct software for your iLok license. Launch the installer and follow the instructions.



Newer versions of Source-Connect will install over existing installations.

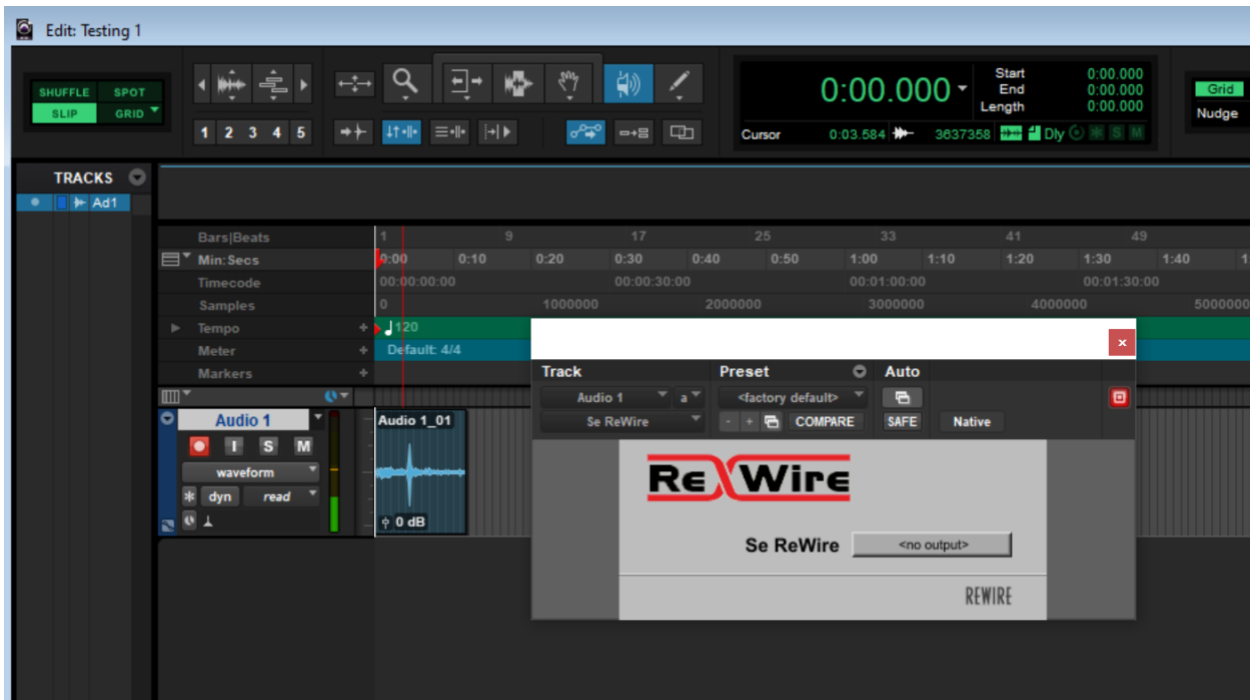
2.5.2. Installing InterLok Extensions

You must have the InterLok Extensions installed to allow Source-Connect to recognise your iLok. InterLok extensions are installed with the Installer Application. The installer will not overwrite extensions which are more recent, and will only upgrade older versions. You may need to restart the computer if this is the first time you have installed the InterLok Extensions.

2.5.3. Installing ReWire

The ReWire 64-32 Bridge enables the use of Source-Connect's RTS feature in 64bit DAWs (such as newer versions of Pro Tools) running on Windows.

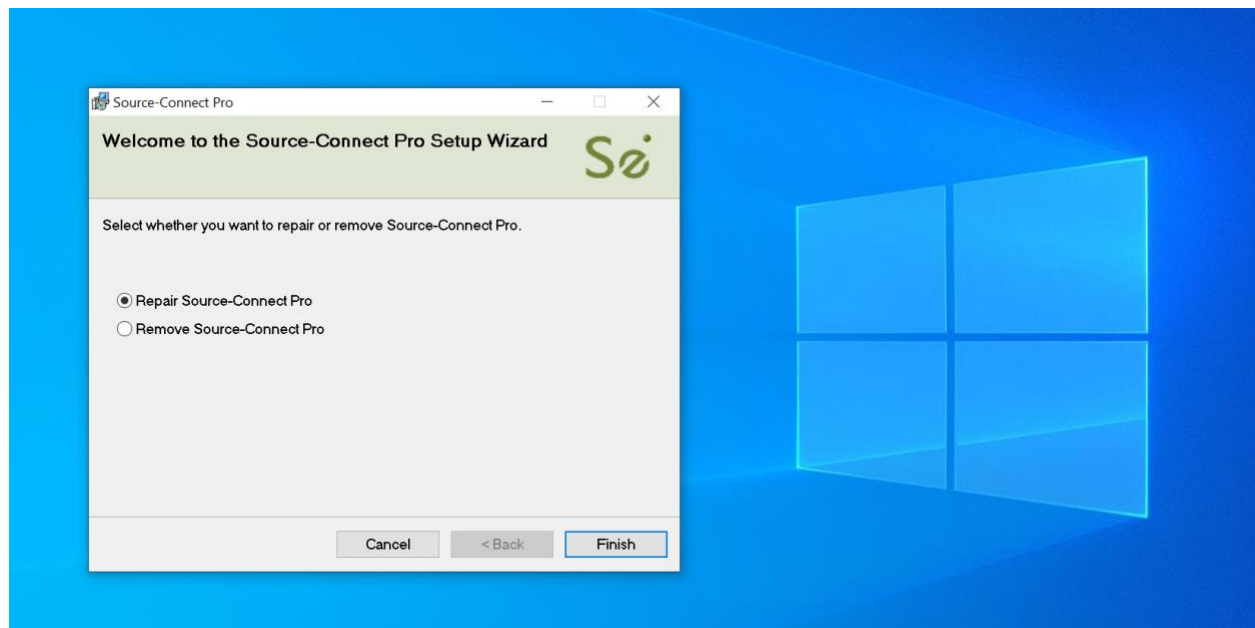
1. [Download the ReWire 64-32 Bridge](#) (by ALIPAPA).
2. Extract the files from the archive and run Setup.exe, install.
3. A window will open showing available 32bit ReWire devices and Se ReWire will be visible. You can close this window.
4. Open your 64bit DAW and insert the Se ReWire plugin on an audio track.



If you had your DAW open before installing the ReWire, make sure to re-scan for plugins for the DAW to detect it.

2.5.4. Uninstalling on Windows

To uninstall Source-Connect, open the Installer image and select the “Remove Source-Connect Standard” option.



3. Setup and Settings

The following is a quick guide, which does not include working Remote Transport Sync. See [section 6.8](#) for more information on working with these technologies.

3.1. Basic steps in using Source-Connect are as follows:

1. Launch the Source-Connect application.
2. Log in with your username and password.
3. Select your send quality and sample-rate.
4. Set up your audio I/O in your System Preferences. Source-Connect Standard 3.8 uses your System Preferences audio to determine which audio device to use.
5. Select an online contact in your Contacts list and press 'Connect' in the Status (top) panel. This will connect both studios with a real-time streaming-audio session. Instant Messaging will be activated between the connected partners, and if the sample rate and channels are the same (e.g. 48khz mono), RTS (Remote Transport Sync) will also be enabled. During the session, you send compressed audio data to each other over the Internet. Be advised that if either user does not have sufficient bandwidth or has excess packet loss there is a possibility of an audible dropout. To minimize dropouts, see the support documentation online.
6. Disconnect. This will end your audio session with the remote studio.
7. Log out.

3.2 Audio Input and Output

To record in a host such as Pro Tools or Logic, you will need to route the signal to and from Source-Connect to your DAW. See section 7 for how to use Source-Connect Link, or try using [Source-Nexus for Windows](#).

For some hosts such as Nuendo, you should be able to work with sending and receiving an audio signal via an internal Core Audio routing mechanism, such as Odeus or Jack.

If you need assistance, contact our support team.

3.3. Getting Around

Source-Connect consists of multiple sections:

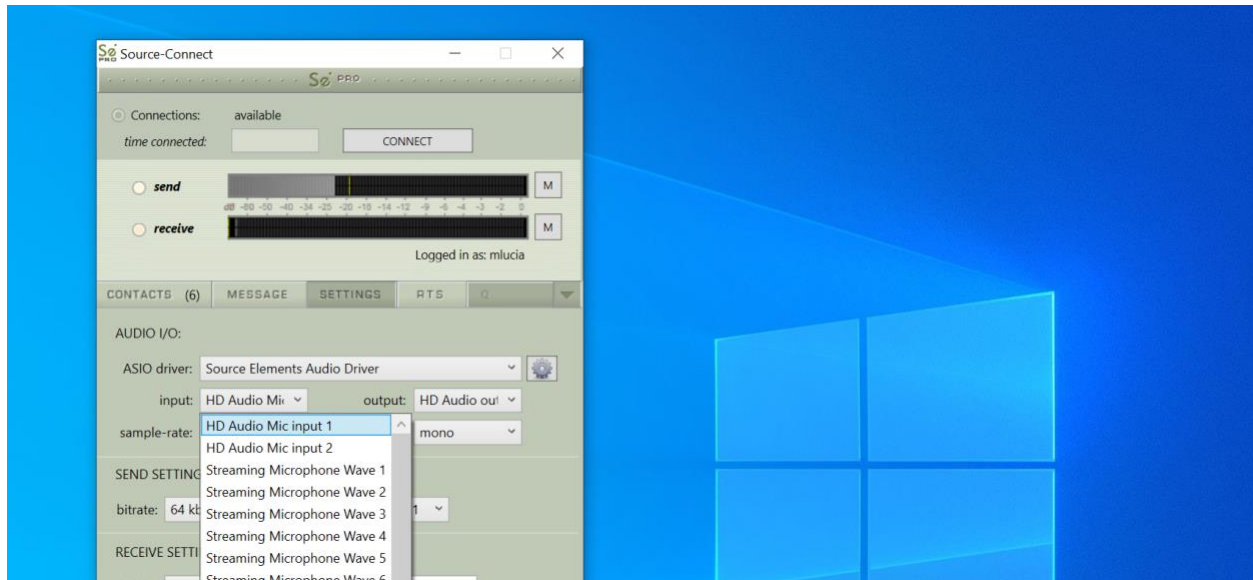
- The **Contacts** section.
- The **Message** section.
- The **Settings** section.
- The **Remote Transport Sync (RTS)** section.

3.4. Setting Session Parameters - Overview

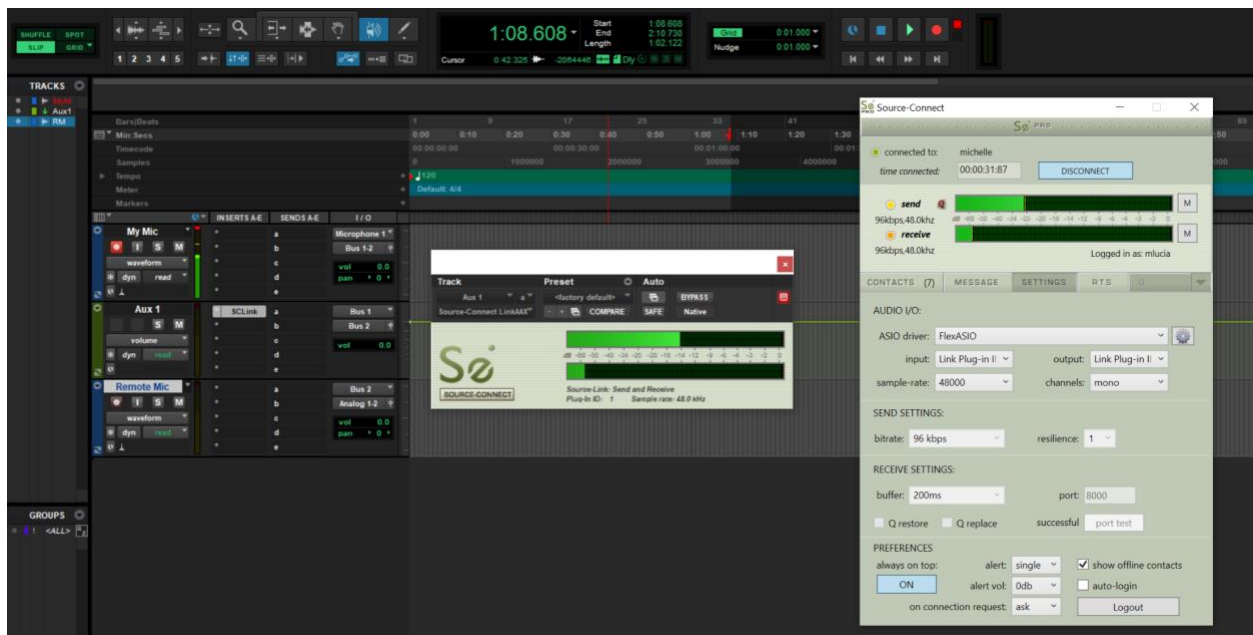
To modify your settings, select the Settings tab.

Audio I/O

You will set your Audio I/O settings here, including whether to send and receive in Mono or Stereo, and the sample rate of 44.1khz, 48khz, 88.2khz or 96khz. See [Section 7](#) on using Source-Link.



You can also choose to send audio directly to supported AAX, RTAS and VST hosts with Source-Connect Link.

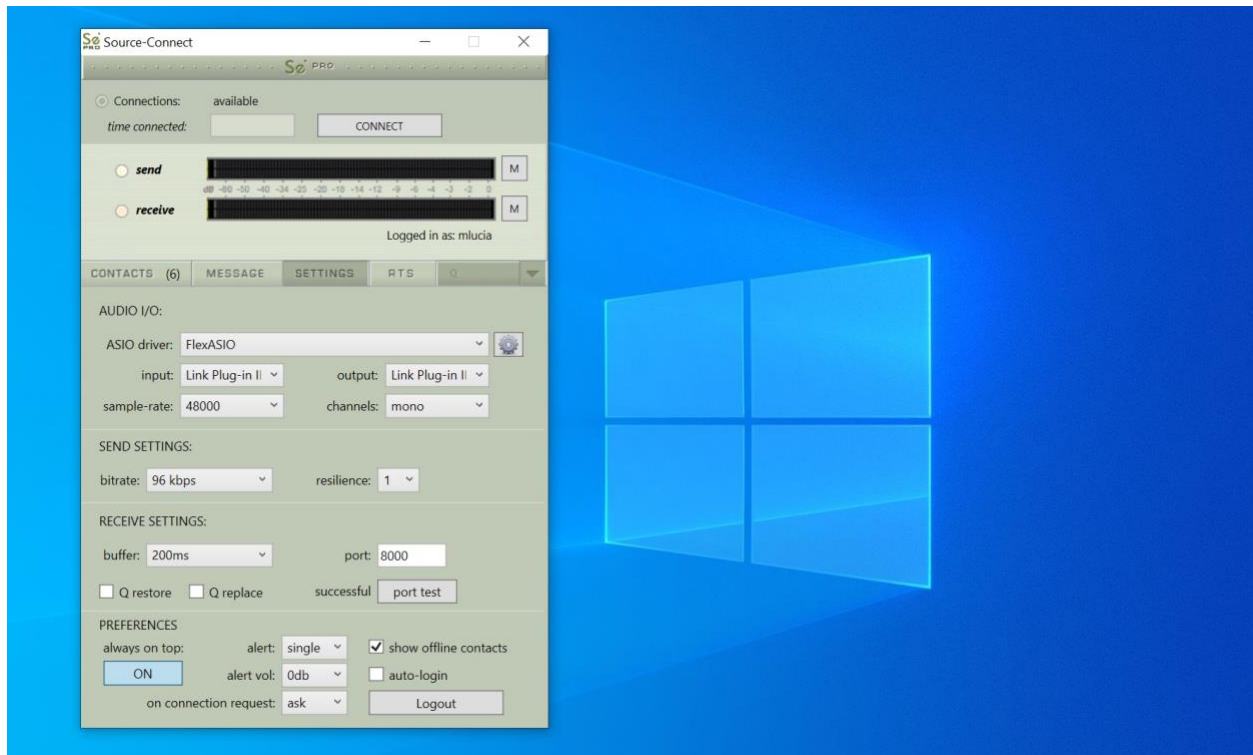


Contact our support team for assistance if required.

<https://support.source-elements.com/show/compatible-interfaces-that-provide-audio-drivers-that-share-between-programs-in-windows>

Network Settings

Ultimately the actual capability of your network connection will determine the consistency of your sending and receiving reception. However you can optimize the quality of reception with the bitrate, buffer and resilience settings you choose to use.



The following network parameters can be specified:

- **Send Settings** (Bitrate and Resilience).
- **Receive Settings** (Port and Buffer). Q Manager is not supported on Windows.

See the following section for more information on these settings. You can also test and view the status of the specific UDP ports via the Port Test button.

General Preferences

You can choose to have Source-Connect as a floating window with the Always on Top option. This is useful when you are working in Pro Tools for example, and want to monitor the connection. This option helps to make Source-Connect 'feel' like a plug-in.

You also have several alert options:

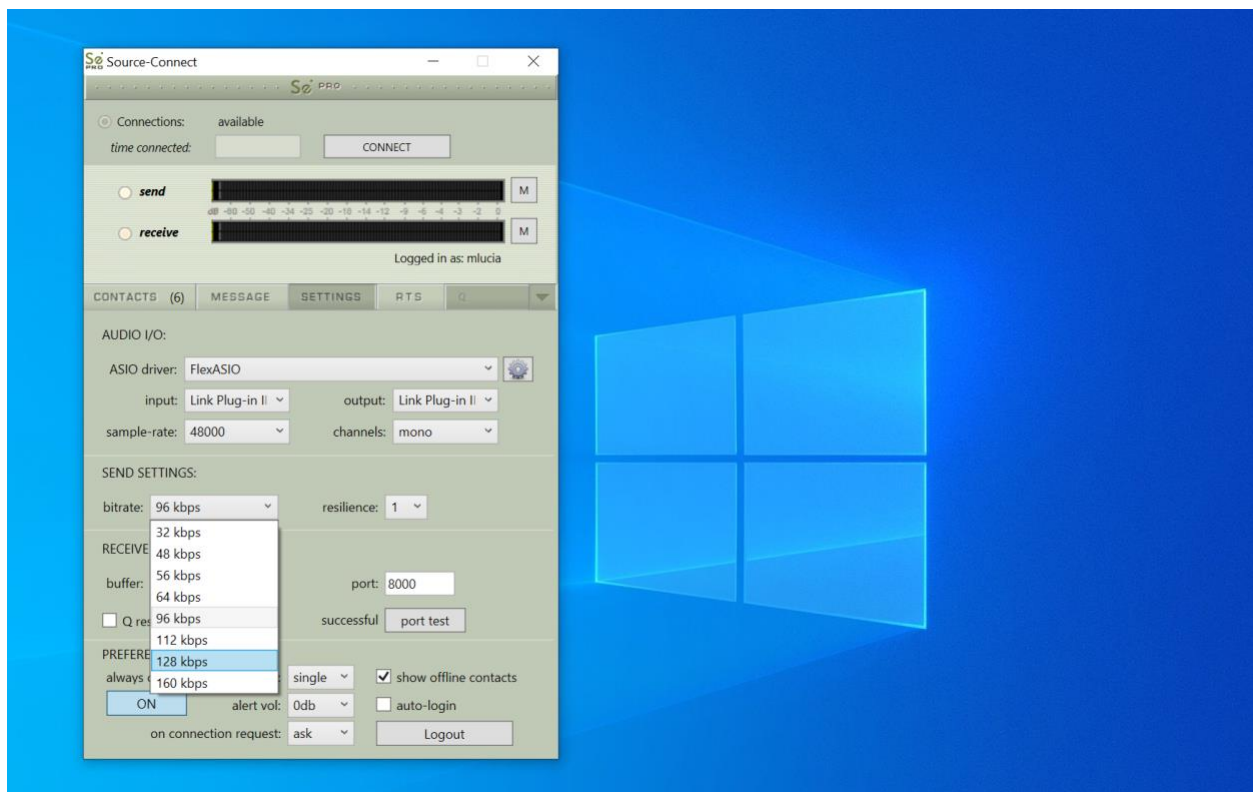
- **Alert repeat:** single, repeat (until connection time-out), or none.
- **Alert vol:** 0db to -25db.
- **On request:** ask, accept last or accept all.

The 'on request->accept last' will automatically allow the last connection partner to reconnect. This can be helpful during debugging or sessions that may be having network difficulties. 'Accept all' is useful if you are not going to be in front of the computer to accept the connection request.

3.5. Setting Session Parameters - Bitrate

These settings affect the audio stream that you will be sending. Note that you cannot change these settings while you are connected to a remote user. To change your settings you must first disconnect, make your changes, and then reconnect.

IMPORTANT: With sessions at 48khz, sending bitrates below 64kbps mono and 128kbps stereo will require sample-rate conversion as we cannot transfer the lower bitrates at the native sample-rate. If you are working with RTS or Restore or Replace and your session is at 48khz sample-rate you must work with at least 64kbps mono or 128kbps stereo minimum.



The following bitrates are supported in Source-Connect Pro:

- **Mono:** AAC 32, 48, 56, 64, 56, 96, 112, 128, 160 kbps.
- **Stereo:** AAC 64, 56, 112, 128, 192, 224, 256, 320 kbps

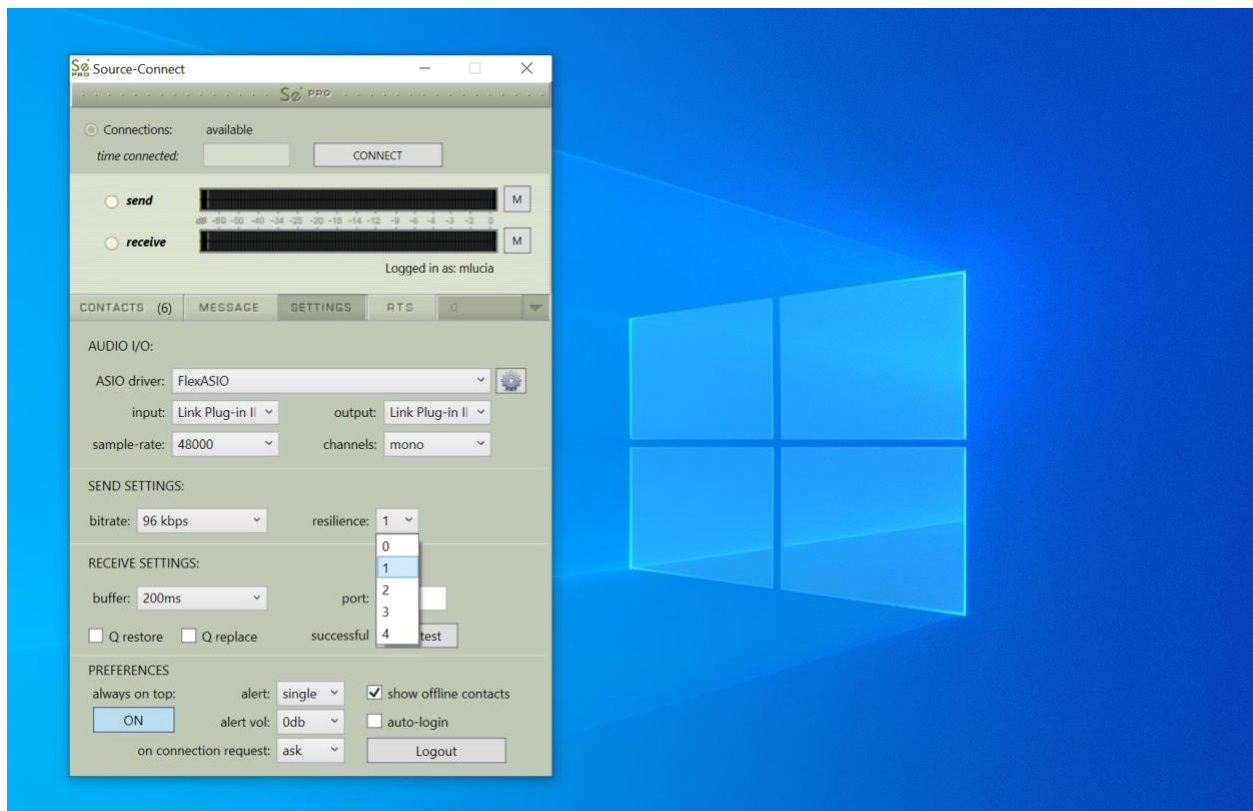
The higher the bitrate, the higher the quality of the stream at the sending side. However, higher bit rates require more resources as they increase the network load. For example, using a bitrate of 64 kbps (kilobits) will require approximately 20 KB (KiloBytes) of data per second on your actual network, which corresponds to about 200k in required network speed.

In an ideal world, you should be able to achieve a rate equal to your purchased speed (divided by 8 (to get bytes), less 10% (TCP/IP and general Internet overhead)). It is unlikely you will ever see that speed however, due to issues including network congestion or overloading on your local network, ISP level, or backbone, and extended hop counts. Generally, therefore, we recommend a minimum of 300 kbps up and down to achieve a reasonable stream at 64 kbps.

For higher bitrate transfers you will need more resources - with business cable (1.5mb up/down) or a T1 you may find you are able to transfer multiple streams of 320kbps stereo!

3.6. Setting Session Parameters - Resilience

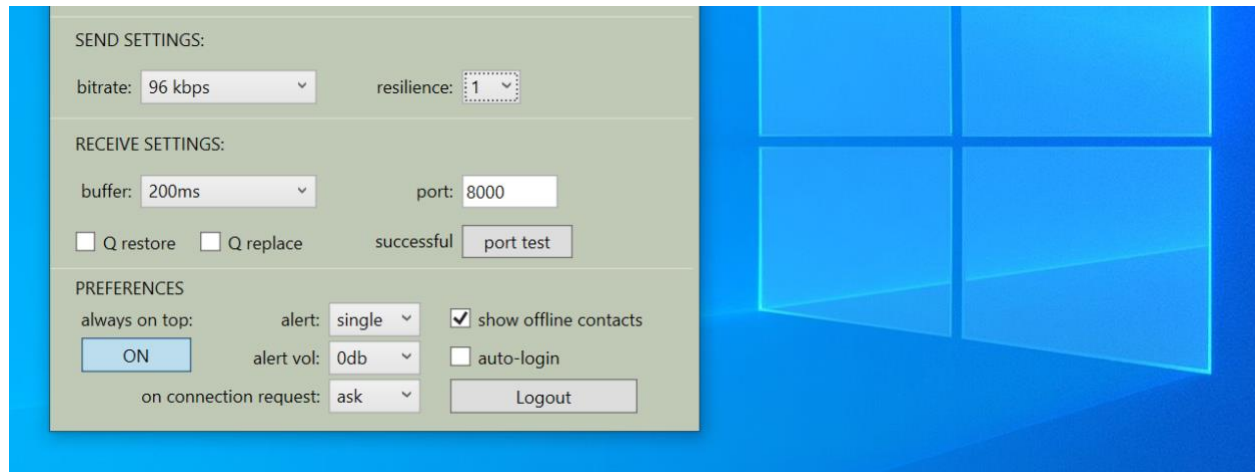
In general a resilience setting of '1' should be used.



Higher resilience settings than '1' are generally more effective over very high speed connections. A resilience setting of '0' is not recommended unless you are on the same LAN or you have a dedicated network with no other traffic interference.

3.7. Setting Session Parameters - Resilience

Source-Connect requires a set of UDP ports to be available to establish a connection.

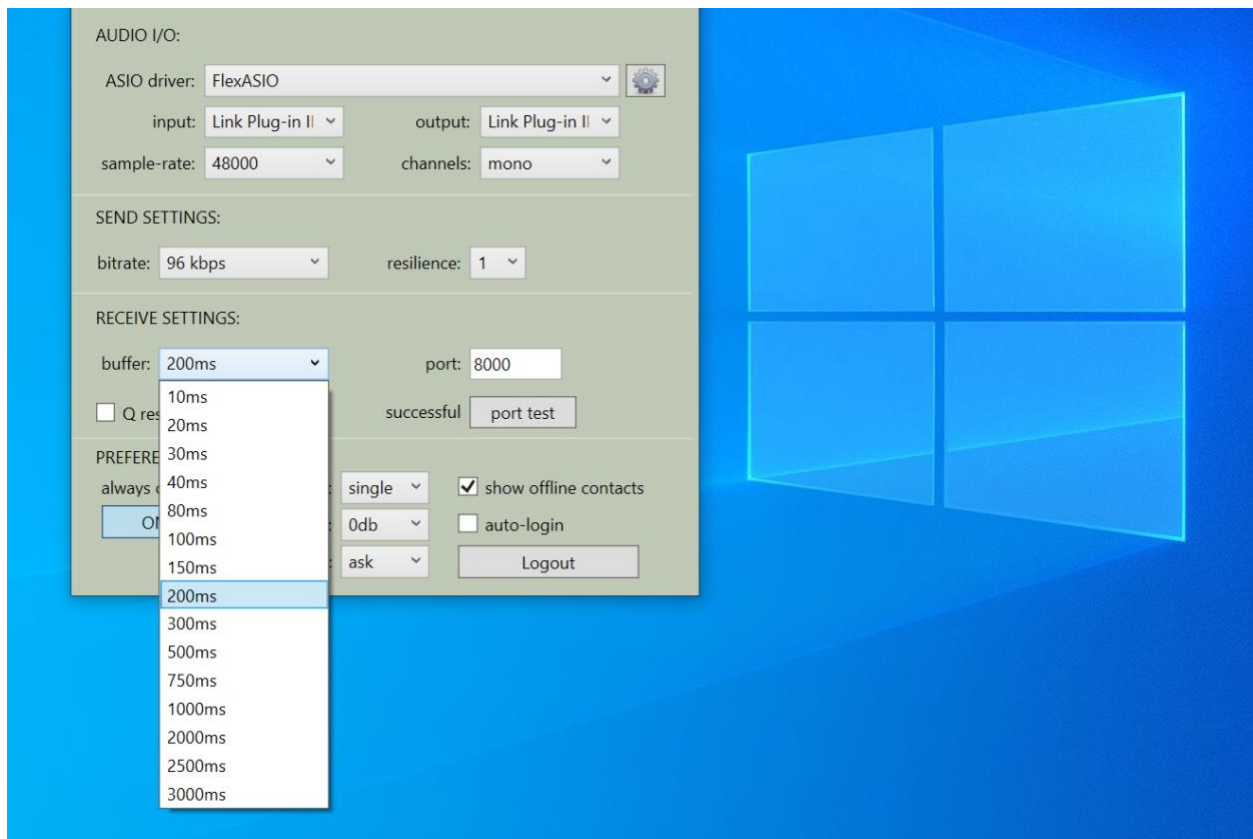


This should be a number between 1024 - 65534. For proper operation, 2 successive UDP ports should be opened in your firewall and/or mapped in your router (where the first port is the number you specify in the Port field in the Settings panel). For example, if you wish to use port 6000, ports 6000 and 6001 should be opened and mapped to your computer's internal IP address.

Verify the port status with the Port Test button. It should return 'successful'. Please see the online Network Guide for more information on the Port Test: <https://support.source-elements.com/show/network-guide>

3.8. Setting Session Parameters - Buffer

The higher the buffer value, the higher the possibility of avoiding audible packet loss. On the other hand, a higher buffer value means a longer communication delay. If you are on a T1 or higher connection (both remote plug-ins) you may find that reducing the buffer size offers lower delay with the same quality experience. If you or your remote connection are on cable or DSL, a higher buffer is recommended.



A value of at least 200ms is recommended, as values lower than this disable additional recovery algorithms designed to avoid packet loss.

Additionally, the ideal setting for our recovery algorithms to work is to set the buffer to at least double the ping time between you and your connected user. If your latency increases too much you can set a higher buffer on the side of the connection that needs to receive the highest quality stream.

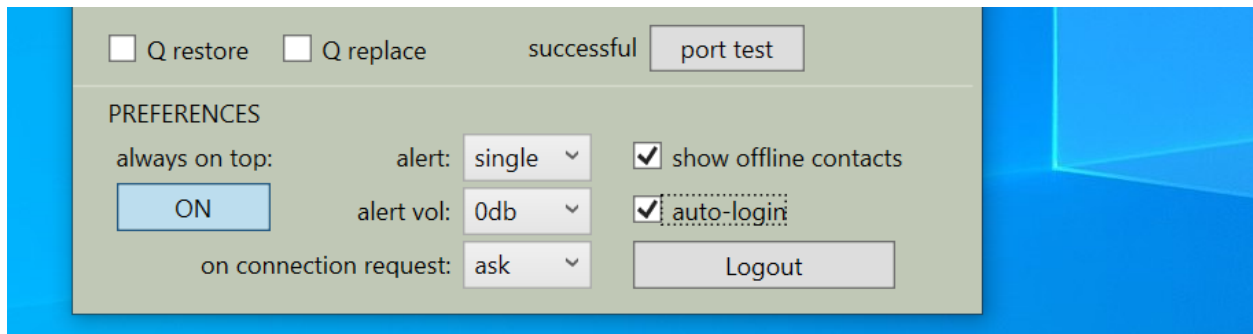
3.9. Setting Session Parameters - Recommended Defaults

Setting the bitrate at 96kbps, resilience of 1 and a receiver buffer of 200ms is the ideal setting for most voice situations as it requires the least resources, consumes less bandwidth and provides excellent audio quality. Lower bitrates provide easier transmission in less-than-ideal network situations.

We recommend understanding your network resources as much as possible, as this allows you to achieve optimal results.

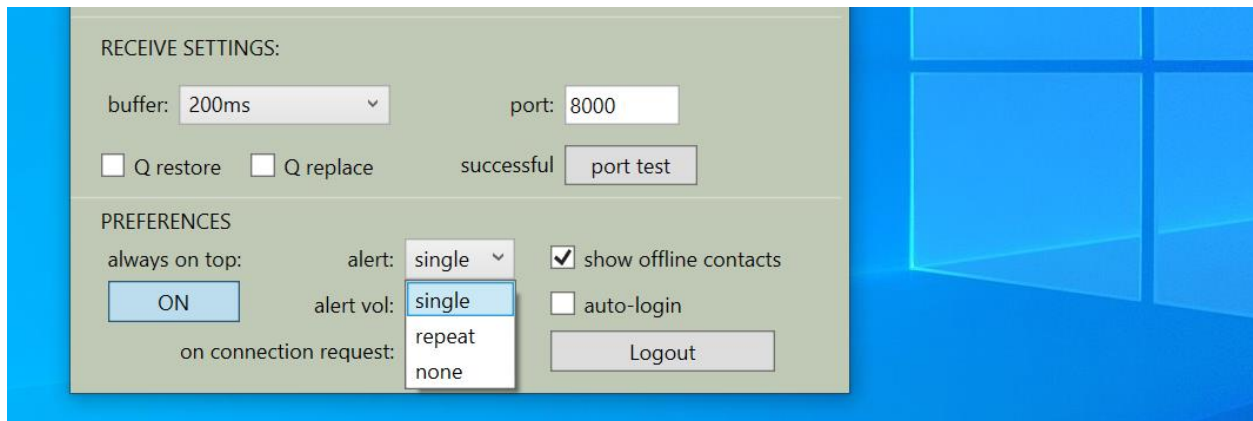
3.10. Auto Login

When Autologin is checked, you are automatically logged in with your existing settings intact upon initializing Source-Connect. Each time you open a session with Source-Connect enabled, and Autologin checked, you will be automatically logged in and be ready to connect.



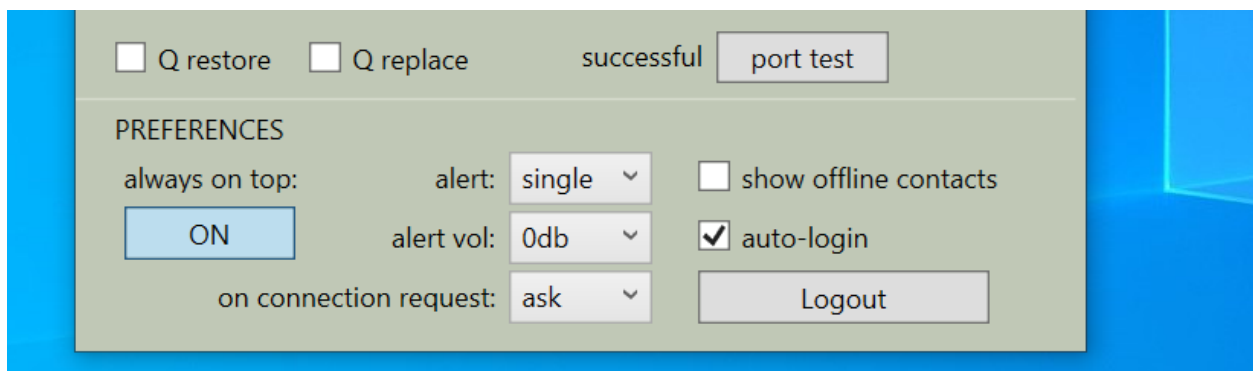
3.11. Alert

Not staring at your monitor? Source-Connect will let you know with a brief aural alert when someone is requesting a connection. To have the alert repeat for 30 seconds, select 'Repeat'. It will stop once any connection request made to you times out. If you prefer to switch this off, simply select the option 'None' in your Settings panel.



3.11. Show Offline Contacts

If you find your Contacts list has become rather long, you can make it more manageable by unselecting the 'Show offline contacts' checkbox. This will now only show any of your Contacts who are logged in and can make it much easier to find the Contact you are looking for when starting a session. See the next section for more about managing Contacts.



4. Your Profile and Contacts

Your Contacts list and profile is managed on the Source-Connect website under your Account, which you can access by pressing the 'Go to online account' in the Login panel, or logging in to your account directly online. You can choose what information to display (or not to display). Your basic profile information is available to your Contacts via the Source-Connect software and, depending on the level of privacy you choose, may be viewable to all other users of Source-Connect.

See the Account and Profile pages for available options:

- <https://source-elements.com/account>
- <https://phoenix.source-elements.com/dashboard/profile/?profile>

4.1. Managing your Contacts list online

To add a new Contact, click on the 'Manage contacts' button or go to the Source Elements website and browse to My Contacts. You must be logged in to manage contacts.

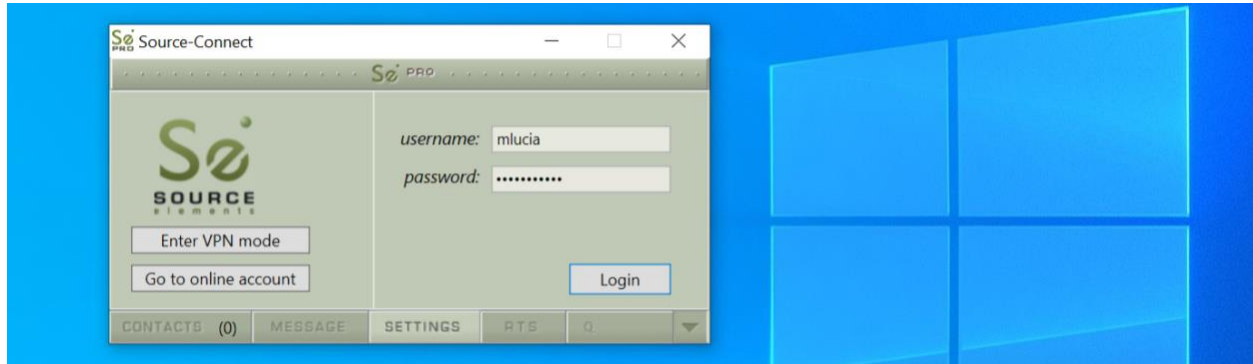
Simply search or browse for the contact you wish to add and click on the 'Add contact' button:
<http://source-elements.com/contacts>

IMPORTANT: Newly added Contacts may not be immediately visible in your list while you are logged in to the Source-Connect plug-in. If you have added a new Contact, or know that a Contact has added you, please log out, and log back in to refresh the list. The website will let you know if you need to do this once you add a new Contact.

5. Using Source-Connect

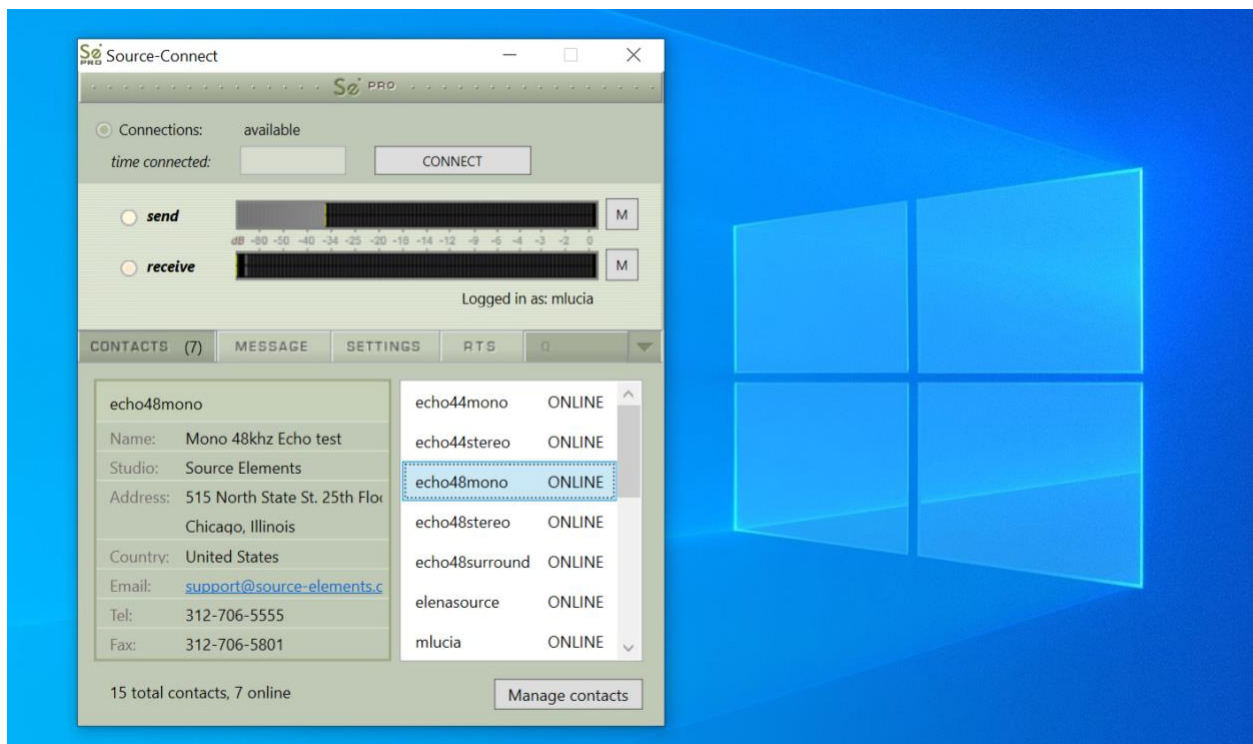
5.1. Logging in

To login, enter your username and password and press the “Login” button. If your login is successful, the Status panel will change its view: it will now show that you are able to establish an audio session.



5.2. Establishing a Session

Upon logging in, the Contacts panel will list the users you have chosen to display in your Contacts list. Detailed user information is shown in the section at the left of the panel, and can be viewed by selecting a user from the list. You will see that their name, email address and any personal details they may have provided appear in the left part of the Contacts panel. This can help you to confirm that you are actually connecting to the user you want.

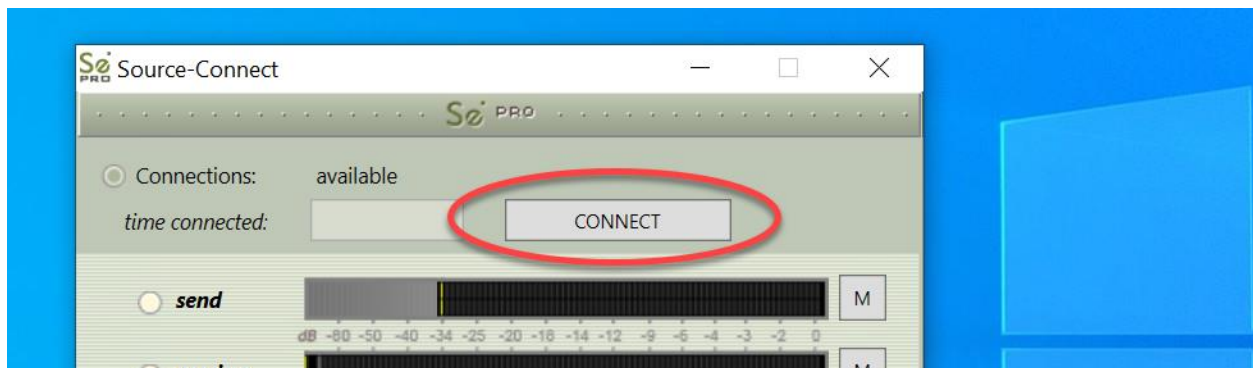


Before connecting to a user and establishing an audio session, it is always recommended that you check your settings.

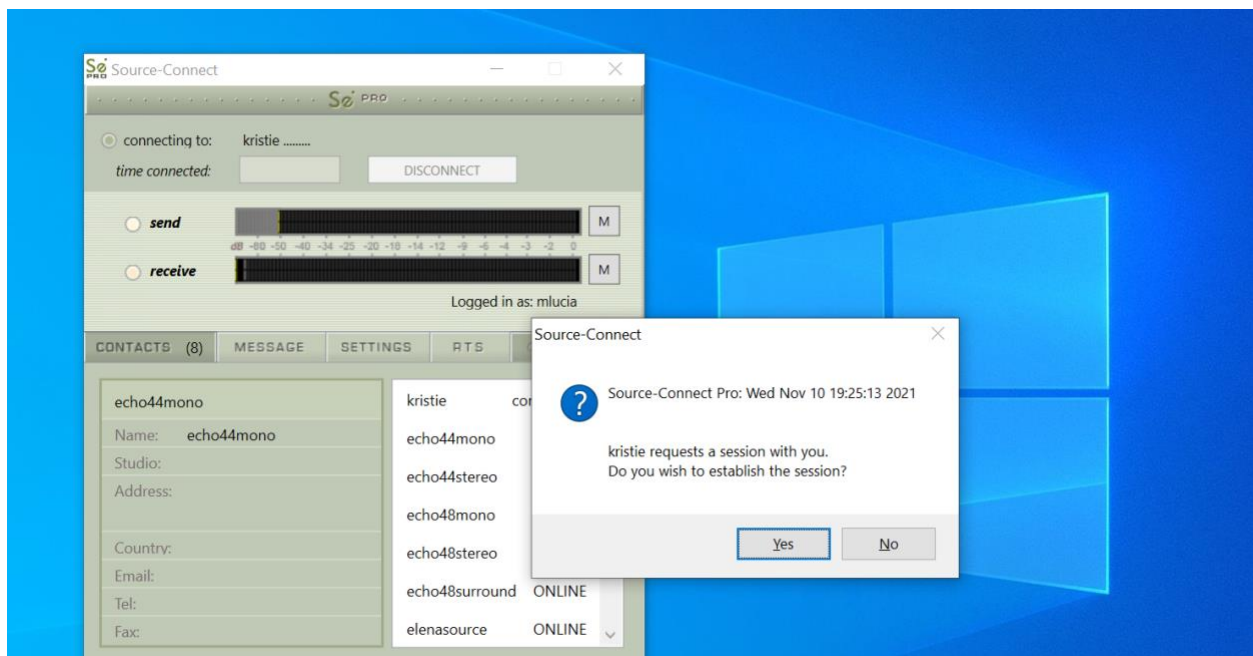
To initiate an audio session, select the user in the Contacts panel with whom the session is to be established. It is only possible to connect to users who have Online status: that is, the users who are online and not already engaged in a session.

To Connect:

Select the user you wish to connect with in the Contacts list and press the 'Connect' button in the Status panel to request a connection.



If the remote user agrees to the dialog that appears immediately on their screen, the session is established. If both users' port settings are correctly set and the audio settings are appropriate for your respective bandwidths, sending and receiving will begin.



Audio activity is displayed in the signal meter. Otherwise (if the remote user disagrees or the request times out), the session is not established and a corresponding alert message is displayed.

Failed Connection

If you do not see a blinking 'sending' or 'receiving' light at the top of the plug-in it means that there is a problem with the network. Please review the Network Guide for information on how to resolve this: <https://support.source-elements.com/show/network-guide>

5.3. Network Timeouts

Request timeout: 30 seconds

This is the time required to reply to the confirmation dialog when establishing an audio session. If you make a request, and see that your user stays listed as 'busy', you know that they are online, but are away from their computer. You can cancel your request at any time by pressing disconnect.

Streaming timeout

If the audio session is established but no audio data is received your 'receiving' blinker light will stop blinking to let you know that the network is not sending you any audio. If this happens during your session, try disconnecting and reconnecting with a lower bitrate and resilience setting.

Source-Connect session timeout

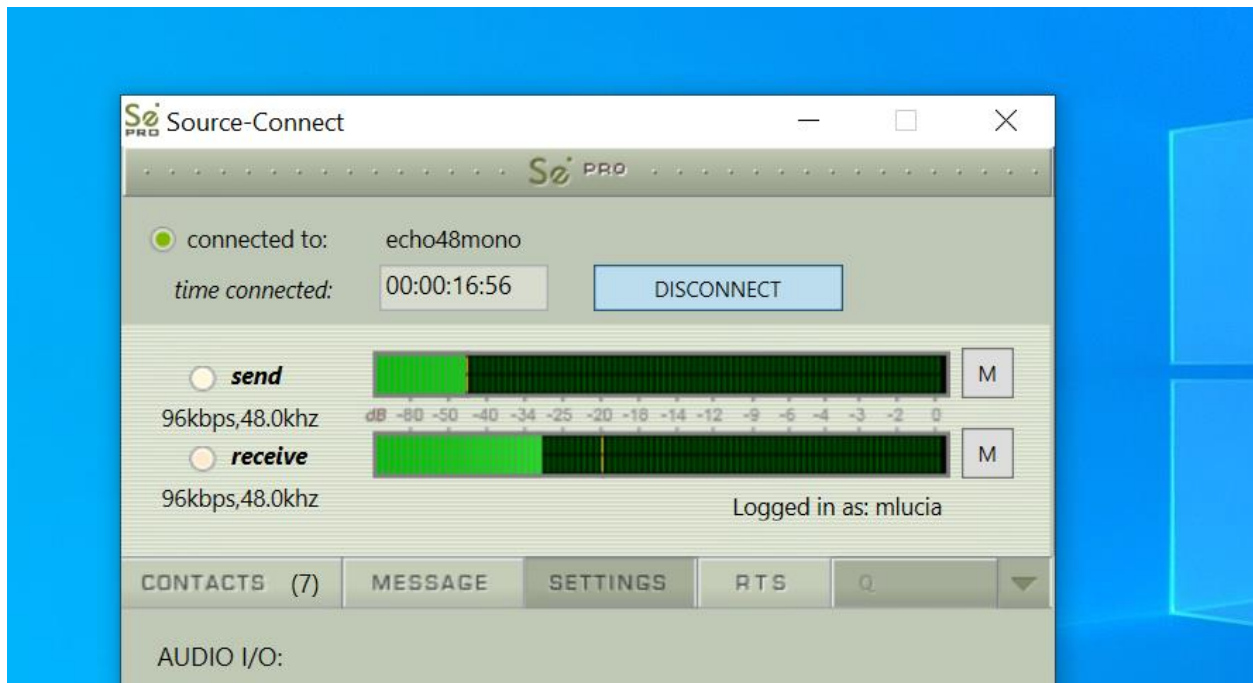
Source-Connect keeps your connection alive indefinitely, until you either log out, close your Pro Tools session or disconnect your network. In some cases you may receive a dialogue 'Connection reset by peer': this means you were unexpectedly disconnected – usually because your network was no longer responding. Go ahead and reconnect. If the problem persists it is due to insufficient bandwidth resources.

Automatic reconnection in case of Network failure

Source-Connect will also recognize if the connection has been lost with the Source-Connect servers. If this is the case, it will not disconnect your session automatically, but continue to assume that your Contact partner is still available. Once the server connection is restored you will see an Instant Message stating this. This is a new feature designed to help in cases where network anomalies stop you from making a server connection, but you may still have peer-to-peer network service and you can continue with your audio session.

5.4. Session Status

When the session is successfully established, the current session properties are shown in the Status panel. You are informed of the bitrate quality and sample rate that is being sent and received, and whether you are sample-rate converting.



Session Properties

Sending light: If the connection is successful your sending light will blink. If you do not have a sending light blinking but you do have a receive light, it is likely to be an audio application/hardware problem. Try restarting and verify your host settings.

Receive light: If the connection is successful your receiving light will blink. If you do not have a receiving light blinking it is likely to be a firewall or other network problem. You should verify that the port test is successful on both sides. See the online Network Guide for more information.

Sample-rate: The sample-rate that Source-Connect is receiving

The sample-rate listed below the sending and receiving status indicate the sample-rate that the codec within Source-Connect is working at and not necessarily the same sample-rate that the host application is set at. If they are different Source-Connect will indicate that it is sample-rate converting.

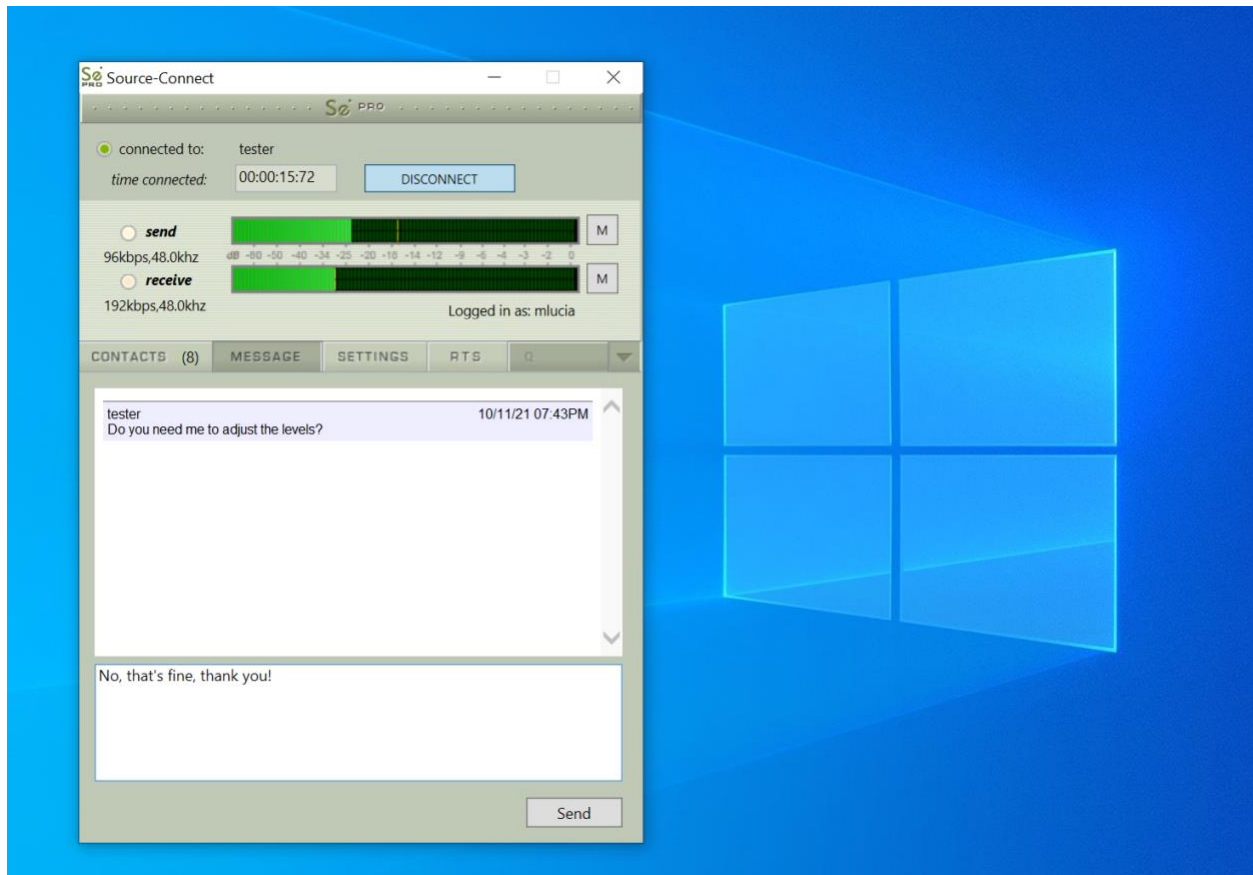
'Q' icon on sending meter: The other side has 'Restore' or 'Replace' checked in their Settings panel and is capable of requesting Restore and Replace processes. When you are sending Q processes, Source-Connect will cache the entire session to your hard-drive. You can delete this cache via the Q Manager.

IMPORTANT: while the indicators will be displayed, Q Manager functionality is not supported on Windows (Standard or Pro). To use Q Manager, please switch to Source-Connect Standard or Pro 3.8 on Mac or higher.

5.5. Instant Messaging

During an audio session it is often useful to exchange instant messages with a remote user, for example if you are not able to send or receive a signal for any reason, or you do not wish to interrupt the audio signal with a message to the other side.

To send a message, type in the lower textbox at the bottom of the Instant Messaging panel and enter your message. Press either enter or return key or click the Send button. Sent and received messages appear in the text display panel above.



5.6. Remote Transport Sync (RTS)

RTS is an integrated method of synchronizing remotely connected Pro Tools transports. Purpose-built for ADR, over-dubbing and remote monitoring RTS makes distance collaboration easier and more efficient than it's ever been. Source-Connect 3.5.1 onwards implements several new features and now includes support for Tempo maps.

The following is a very brief overview. For specific instructions and screenshots, please see the comprehensive Remote Transport Sync FAQ: <https://support.source-elements.com/show/remote-transport-sync-rtts-and-pro-tools>

How to enable RTS:

1. Create a new mono Audio track.
2. From the Inserts->RTAS-> Instruments menu, instantiate 'Se ReWire'.
(Note: you do not have to select an output in this plugin).
3. When you establish a session over Source-Connect the SEND and RECEIVE buttons will now be enabled in the RTS panel.

Using RTS

To use RTS, one user must be in SEND mode and the other in RECEIVE. The RECEIVE user has no transport controls - effectively they are now slaved to the SEND user who has 2 possible types of operation: ADR mode or Mix/review mode.

Source-Connect Pro has both ADR or Mix / review modes. Source-Connect Standard can receive Mix/review mode but only send and receive ADR mode.

Please review the Remote Transport Sync FAQ for details on ADR or Mix/review modes and running an RTS session: <https://support.source-elements.com/show/remote-transport-sync-rt-and-pro-tools>

5.7. Closing a Source-Connect Session

A Source-Connect session can be disconnected by pressing the Disconnect button in the Status panel, by logging out, or quitting Source-Connect.

5.8. Logging out of Source-Connect

Logging out can be performed manually by pressing the Log out button in the Settings panel. Once you are logged out, you can log in again at any time and with any valid Source-Connect account.

5.9. Privacy

Once you have established a connection and you are sending and receiving audio, you are sending data directly to and only from your remote user. Instant Messages are not captured or stored on our servers. For a comprehensive outline of our Privacy policy, please read:

<https://source-elements.com/privacy>

6. Source-Connect Link

6.1 What's Source-Connect Link?

Source-Connect Link provides a direct, internal connection via AAX, RTAS, Audio Units and VST plugins to and from the Source-Connect application directly to your supported DAW of choice, such as Pro Tools, Logic or Nuendo. It is an easy way to use Source-Connect, Remote Transport Sync with your DAW when you don't have the external equipment and/or an appropriate audio interface to use Source-Connect with its own audio device.

This affords you to use the full features and stability of the Standalone application while taking advantage of the flexibility and recording/mixing features of your DAW without needing additional cables or audio interfaces. Source-Connect Link with Pro supports the following sample rates:

- 44.1khz
- 48khz
- 88.2khz
- 96khz

Using higher sample rates

While the higher sample rates of 88.2 and 96khz are supported, Source-Connect will downsample these to 44.1 and 48khz respectively for transmission. For this reason, you cannot use RTS with these sample rates.

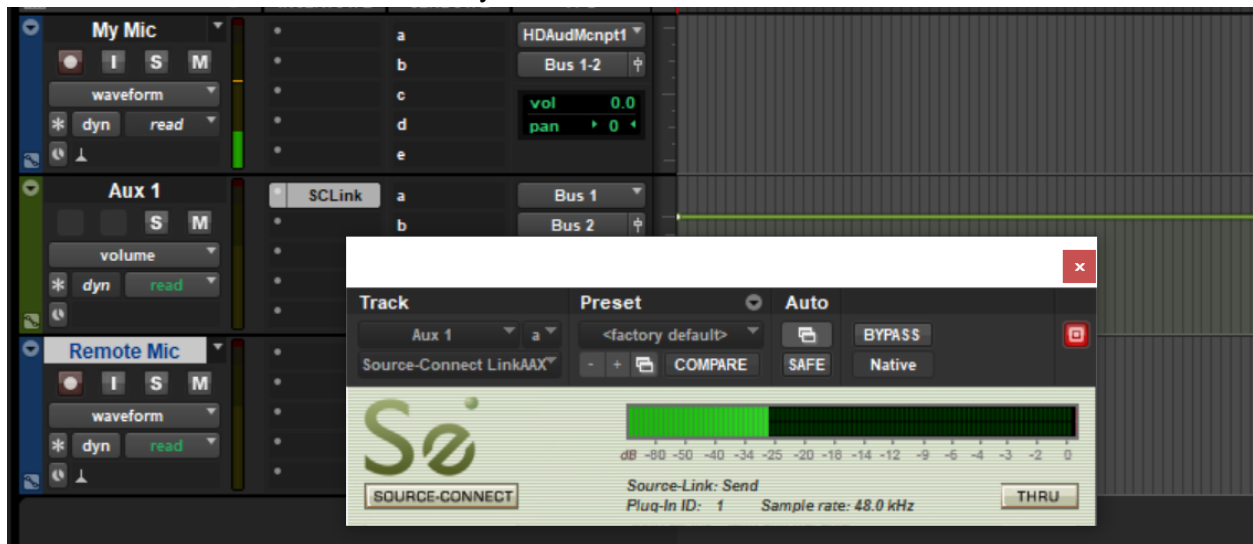
6.2 Quick Start: Using Link

A video introduction is available here on our YouTube playlist:

<https://www.youtube.com/watch?v=1K34YwARw20>

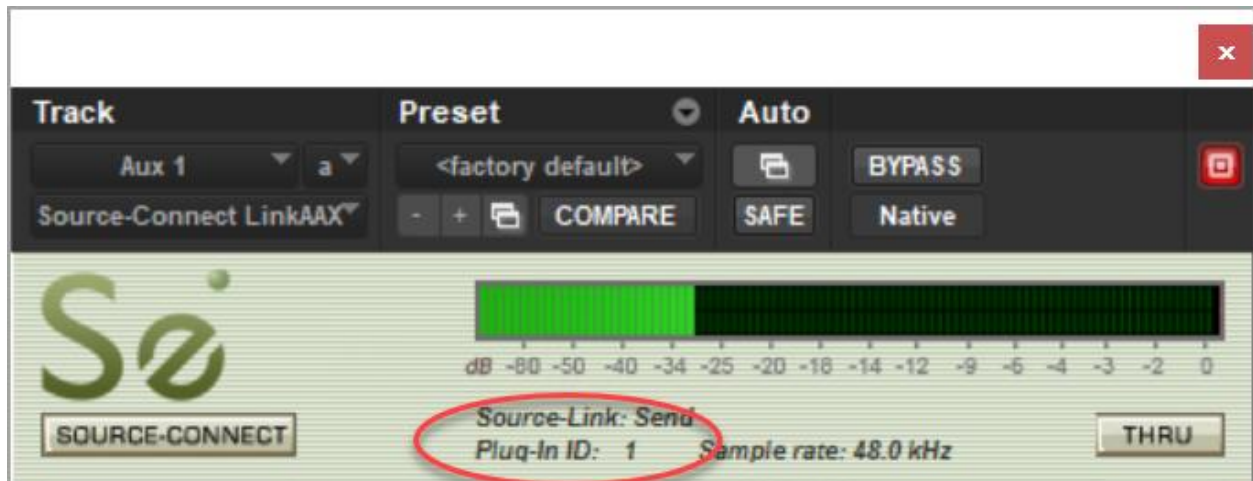
A quick-start guide follows:

1. Insert "Source-Connect Link" into your DAW on an Aux track.



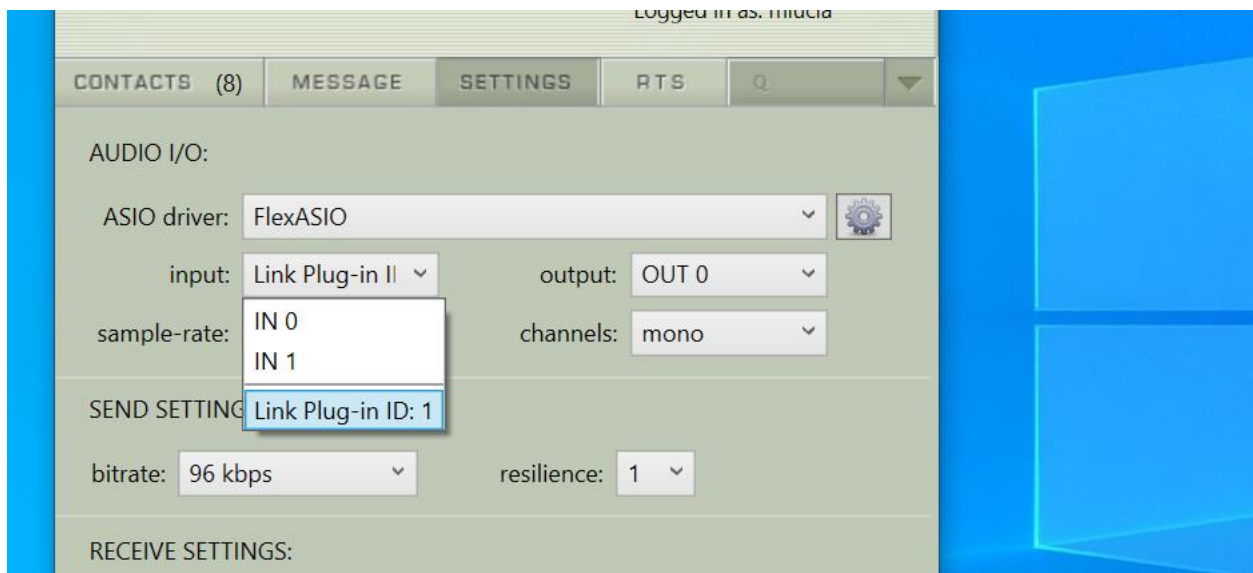
In Pro Tools, for example, this plugin is under the 'Other' menu, or listed under 'Source Elements'. Follow the user guide of your DAW to learn how to insert plug-ins, or see our available guides here: <https://source-elements.com/support/link>

2. Note the plugin ID that shows up in the plugin window.



3. Select this ID in the Source-Connect Settings->Audio I/O menu.

To determine where in your Audio I/O you choose to use the Link plug-in see the next section below (6.3).



6.3 Example Uses

There are four common use cases for using the Link plugin:

1. Record

You want to record your connection partner from Source-Connect into your DAW.

Place the link plug-in in your DAW so it is the last item in the path prior to your record track. Then select Link as your output in the Audio I/O Settings in Source-Connect. For talk back use any direct audio input of your choice for the into Source-Connect

2. Send a Mix

You want to send a live audio mix from your DAW to your Source-Connect partner.

In your DAW create a duplicate channel that has your main mix for as its input, Route your talk back through your DAW and into this channel. Then place the link plug-in on this channel. Select Link as your input in the Audio I/O Settings in Source-Connect. Select a direct audio output of your choice so you can hear your connection partner.

3. Send a Processed Microphone Signal

You want to use plugins or processing built-in to your DAW before sending your microphone signal to Source-Connect.

Place the link plug-in in your DAW so it is the last item in the path, after any plugins or processing you need to do. Then select Link as your input in the Audio I/O Settings in Source-Connect. To hear your connection partner, in Source-Connect use any direct audio output of your choice in Source-Connect.

4. Send and Receive through your DAW

In certain cases you may wish to use Link for both sending and receiving to your DAW. This may be the case where record and monitoring is being switched several times during the session, or in a large session where the engineer may want all their I/O integrated in one mixer.

To set up Source-Connect Link in this way, there are two basic options:

- a. One link plugin for Input and Output. In this mode Select the same link ID in Source-Connect for input and output. In your DAW place Source-Connect in the same routing configuration as you would have with Source-Connect 3.0 RTAS/VST/AU.
- b. One link plugin for Input and one link for Output. Some DAWS do not allow the routing flexibility for the convenience of an integrated send/receive plug-in. In the case where separate link plug-ins are required the user should combine the routing for methods 1 and 2.

Please note: the downside to using the Link plugin for both send and receive is that its additional latency can cause an excessive delay of up to 150ms depending on your DAW settings.

6.4 Pro Tools HD and RTAS

Pro Tools HD does not support the use of the Source-Connect Link plug-in for reliable performance with RTAS plug-ins. Pro Tools HD users must use the proper external digital I/O setup with Source-Connect. While the Source-Connect Link RTAS plug-in will work in Pro Tools HD, because of various issues with the RTAS engine in Pro Tools HD, certain intermittent performance situations can arise.

Read more about this issue here: <https://support.source-elements.com/show/known-pro-tools-hdtm-issues>

6.5 Remote Transport

Sync Sync to Picture , ADR and for overdubbing

You can use Link in any of the three scenarios above. Then initiate the SeRewire device in your DAW's rewire feature set. Please refer to your DAWs Rewire instructions as well as the specific RTS section of this manual for further information.

6.6. Supported DAWs/Audio Hosts

This is not a comprehensive list, please contact us if you are not sure if your DAW is supported.

- Pro Tools
- Nuendo
- Cubase
- Reaper
- Digital Performer
- Ableton Live
- Adobe Audition (except recording)
- Many other VST hosts on Windows

Unsupported hosts

These hosts have been found to not work with Source-Connect due to the way that they are configured to use plugins or due to incompatibilities.

- Twisted Wave
- Sound Forge
- Tracktion
- Audacity - can be used to record input on Windows IF a true multi-client ASIO driver is provided by the audio interface manufacturer. It will not work with Source-Connect when using most plug and play drivers provided by Windows.

6.7 Troubleshooting Link

The main issue with Source-Connect Link may be additional latency. To mitigate latency between Source-Connect and your DAW try setting your plugin buffers and DAW host processing buffers to the lowest possible setting.

For example in Pro Tools open your Playback Engine settings and lower the Host Processing buffer to 256 or lower. Source-Connect Link is a slim-line plugin and should not incur much CPU usage.

Another issue may be that you are not receiving audio from Source-Connect to Link on your Windows. To resolve, make sure all of your devices are using the same sample rate, and that the audio driver is not in exclusive mode.

If Pro Tools is crashing with the Source Elements Audio Driver, check out the following article:
<https://support.source-elements.com/pro-tools-crashes-when-using-source-connect-audio-driver>

7. VPN Mode

7.1 About Source-Connect Pro and VPN mode

Source-Connect operates as a peer-to-peer type application over the UDP protocol, and this can cause connectivity problems when attempting to establish a two-way data connection in an unconfigured network. Factors such as firewalls and multi-layer subnets will generally make it difficult to walk into a venue and be confident of establishing a two-way Source-Connect session. Additionally, certain environments have strict security policies, so allowing firewall and network configurations are not possible.

As a solution, Source-Connect Pro can operate in VPN mode. This solves 2 problems: connectivity confidence, and security and privacy.

VPN mode and connectivity confidence

VPN connections operate over the TCP protocol and can function even within strict networks and proxy servers because it is possible to tunnel over HTTP. If a suitable VPN solution is implemented, all the end user requires is a software client that they need to run when they wish to connect. Access can be strictly managed with unique, time-critical passwords. Cisco, for example, has such a VPN solution available where the client software is freely distributable and operates transparently. Or, solutions utilising IPSEC may be suitable.

VPN Security / Privacy

Where security and privacy are concerns, the best solution is one where you have complete control over the security methods. When Source-Connect Pro is in VPN mode it is configured to disallow connections to external IP addresses, so you can be confident that your network is secure.

7.2 Activating VPN mode

When launching Source-Connect, instead of logging in with your username and password, press the 'VPN mode' button on the left of the login panel. Source-Connect will now open in VPN mode.

When VPN mode is activated, your own private IP address is available under the 'this address' menu. To connect to a user on your private network, simply enter their IP address and port in the 'connect to' section. Once you know a user's address and port, you can save and name this as a setting with the standard Pro Tools plug-in settings. When your settings are correctly entered, simply connect as you would in Source-Connect. The remote user will be asked if they wish to connect. Upon accepting the request your session now begins.

7.3 Using VPN mode

1. First, ensure that your VPN network is running then login into 'VPN Mode' instead of logging in with your username. You should see that your VPN IP address is available via the drop down menu in the Contacts panel. Generally, you can check that your VPN is active and your connection partner is available by entering the IP address of who you are connecting to and running the 'ping' test. If you can't ping that computer, you may not be able to connect via Source-Connect VPN. Some networks may not support the 'Ping' test so check with your IT administration where possible.
2. If you are on an active VPN you should be ready to make and accept a connection. If VPN mode cannot find a valid private IP address you will receive a dialog informing you of this. Please quit Source-Connect and check your Internet Connection if this occurs.
3. Once you are ready to connect, you will see your IP address listed in the 'My IP address and port' menu. If you have more than one IP listed, select the IP address that corresponds to the network interface you intend to use. At least one side of the connection needs to communicate their IP address to the other connecting computer. You should also let them know what port you are using (if it is not the default 6000).
4. To connect to another user, simply type in their IP address in the 'connect to' section. Note that this can only be a private IP address. This is to ensure complete security on your part, so you are confident knowing VPN mode will never send traffic to an unauthorized network.
5. If you are on a complex network, for example you are on different subnets, you may need to administer your common router so it knows to connect you. For information on managing your network, contact your IT personnel or get in touch with us at support. 6. When you are ready to connect press the 'CONNECT' button in the Status panel. If the network is properly configured, you will be immediately connected and your session will run like a normal Source-Connect session.

For technical support, you are welcome to contact us. Please note, however, that when working with private networks we are unable to offer assistance directly on Source-Connect without being given access credentials to your VPN.

7.4 VPN mode and Zero Tier One

Source-Connect Pro supports the free Zero Tier One® VPN application. This allows you to make a secure connection over most firewalled networks without requiring any previous setup. A full guide on using Zero Tier One is available [here](http://source-elements.com).

8. Troubleshooting and Known Issues

The Support section of the website provides much more detail on troubleshooting. Most issues are network related, you should follow the Network Guide: <https://support.source-elements.com/show/network-guide>

8.1. Quick overview of Common Issues

Low audio quality, many artifacts

Try to reduce your bitrate and increase the buffer size. You may also be experiencing hardware issues: for example, check that your hardware matches your session sample-rate and try increasing your hardware playback buffer size.

Audio is clicking on a regular basis

Because Source-Connect 3.8 is outside of Pro Tools and has a low processor footprint, you should not see any CPU-related recording issues. Most Pro Tools HD issues are related to clock source inconsistencies. Verify that your clock is set correctly, and that the Window's I/O is set up to sync with the correct clock source. The clock source settings can be found under the Audio Midi Setup application in Applications->Utilities.

Automatically disconnected, 'Connection reset by peer' dialogue

There may be severe network congestion occurring. This can happen if you are inside a LAN where many other users are downloading and uploading large files. Reduce your bitrate, increase the buffer size and reconnect.

User has suddenly gone offline

In the event of an unexpected disconnect, due to hardware, software or network failure, your remote user may not re-appear until the server has recognised that they have timed-out. This can take up to 60 seconds. To expedite the process of the server recognising that a user has inadvertently logged out, users can log out and log back in.

See the following section on **Known Issues** for additional information.

8.2 Known Issues

CPU speed / RAM Configurations

Source-Connect performs best on a minimum of a 1ghz G4 with at least 1GB RAM. If your computer is configured lower than this, you may experience difficulty while reading and writing to disk, and your Pro Tools or VST host may tell you that you have insufficient resources. Because USB devices (for example, if you are using an Mbox for your audio I/O) also require additional resources we recommend running Source-Connect on newer machines.

It is not recommended that you connect your audio devices via a USB hub unless the hub is self powered.

Network Bandwidth

The most common cause of difficulty is insufficient network resources. Assuming your network has sufficient bandwidth the issue may be due to internal congestion, for example an FTP server is running or other people are heavily using the network. A common fix for this is to install a dedicated DSL line, or apply QoS ('Quality of Service') settings on the router.

For further details and tools, see the [Support section online](#) or contact Support.

Source-Connect 3.8.1 and lower require simple passwords:

All Source-Connect versions lower than 3.8.2 require lowercase and alphanumeric passwords; the restriction has been lifted on newer software. If you continue to get error #123 when logging into Source-Connect, download the most recent version, set a simple password, or contact the support team.

8.3. Reporting Issues

To report an issue, please provide the following information:

1. Source-Connect build number.
2. System configuration (Operating system, computer hardware).
3. DAW version and hardware e.g. Pro Tools HD 8.0.1, Digi192.
4. Network configuration i.e. LAN, DSL, wireless etc.
5. Source-Connect settings: username, bitrate, buffer and port.
6. Bandwidth report, for example from <http://speakeasy.net/speedtest>
7. Description of what action(s) you were taking when the issue occurred, for example who you were connected to and what the settings were.

Technical Support is available via email and telephone.