Source-Live 2.0 User Guide
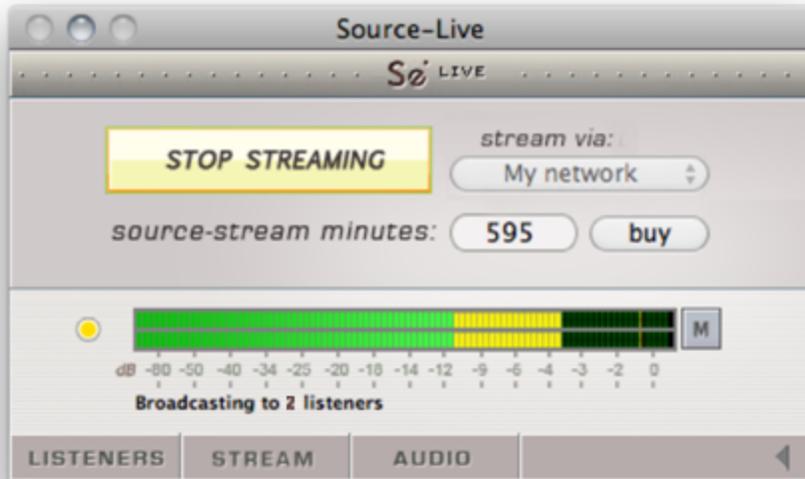
Contents

1. Introducing Source-Live

Source-Live 2.0 is a software application that allows you to stream your audio or DAW mix to multiple listeners simultaneously. Source-Live 2.0 integrates directly into DAWs such as Pro Tools, Nuendo, Logic and many more applications that support AAX, RTAS, Audio Units and VST plug-ins. You simply e-mail your listeners a Live-link and your listeners can immediately connect to your live, HD-quality audio stream from anywhere in the world.

Source-Live supports common media player software such as QuickTime, or our free iPhone app Source-Live Gateway. Utilizing the most current AAC/MP4 encoding, Source-Live provides listeners with true, latest technology high-quality audio.

Real-time 'listener management' and password protection within the plug-in allows you to control who is listening in on your session and the Record feature makes generating mp4 files and podcasting a snap. In addition to session monitoring, Source-Live can also be used to stream live events for true internet radio capabilities.

Our new Source-Link technology gives you total freedom over how you use your DAW. Supporting AAX, RTAS, Audio Units and VST formats, you can use Source-Live 2.0 directly with many DAWs or as a self-contained application.

2. Installation and network requirements

2.1 System requirements

Source-Live is a standalone application currently for Mac OSX only. Direct integration to your DAW mix is possible by using the *Source-Live Link* plug-ins, while as a standalone application give you direct access to any direct audio signal that is available to your computer.

Source-Live 2.0 supports Mac OSX Tiger, Leopard, Snow Leopard and Lion.

Minimum recommended configurations:
G5, 2GB RAM, OSX 10.4 - 10.7

Requires an iLok USB key and valid iLok.com account for authorization.

What's an iLok and why do I need one?
See: http://source-elements.com/iLok

2.2 Supported hosts and DAWs

You can use any OSX DAW with Source-Live 2.0 via the external audio I/O setting. To use Source-Live Link the following hosts are supported;

Pro Tools
Source-Live 2.0 supports Pro Tools version 7 or higher via the *Source-Live Link* RTAS and AAX plug-in , running on the software and hardware configurations required to run Pro Tools.

There are known issues running RTAS plug-ins on Pro Tools HD. Please refer to this document for more information:
http://source-elements.com/support/hd_issues

VST and Audio Units hosts
Hosts such as Logic, Nuendo, Digital Performer, Ableton Live and more are supported. See the Source Elements website for up-to-date information on our DAW support:

- ○ VST host support: http://source-elements.com/resources/vst
- ○ Audio Units support: http://source-elements.com/resources/au

2.3 Network configuration and requirements

To establish an outside internet link from your Pro Tools machine to the world, Source-Live uses the TCP protocol. When you cannot configure your network you have the option to use the **Source-Stream** mode. We recommend using **My network** mode where possible to take advantage of the lower latency. See the *Section 4.1.2* below for more info.

To configure your Local Network, detailed configuration guides are here:
http://source-elements.com/networkguide

Bandwidth:
Source-Live requires an Internet connection with bandwidth of at least 300 kbps upload. Your download speed does not really affect the capabilities of Source-Live. You can get an idea of your bandwidth via Internet Speed test sites such as http://speedtest.net. However, please note that a report from a site in California does not mean that you will be experiencing the same upload bandwidth when a client in, say, Australia, is listening to you. If you are having bandwidth issues see the Troubleshooting sections below.

Firewalls and routers:
You may need to configure your firewall and/or router if you are behind a router 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.

Source-Live will make outgoing requests from any available TCP port to ports 80 and 5222 on our servers. All outbound TCP ports should be allowed to make outgoing connections to and from the firewall. Most networks allow these connections by default.

Most people are behind a router and will need to open at least TCP ports 6000-6001.

For detailed information on configuring your network, please refer to:
http://www.source-elements.com/networkguide

2.4 Installing Source-Live

Run the installer and follow the instructions. You will be asked to enter your computer's Administrator password.

Newer versions of Source-Live will install over older installations. If any issues are encountered we recommend running the Uninstaller first.

If you have 1.3 or earlier installed you may need to manually remove the plug-in file from your DAW plug-in folder.

2.5 InterLok Extensions

You must have the InterLok Extensions installed. InterLok extensions are installed with the Installer Application. The installer will not overwrite extensions which are more recent, and will only upgrade older versions.

If you have problems launching Source-Live you may need to manually install the InterLok Extensions directly from http://ilok.com. Go to 'Downloads' and choose the *Driver* installer for your system. Follow the instructions on iLok.com to install this and any necessary licenses provided.

2.6 Uninstalling:

To uninstall Source-Live, run the Uninstaller package found in the Installer disk image. You will be asked to enter your computer's Administrator password to complete this.

3. Quick start

Basic steps in using Source-Live are as follows:

1. Launch Source-Live 2.0 from your Applications folder and log in with your username and password.

2. Optional: place *Source-Live Link* on what ever channel in your DAW session is passing the audio you need to stream. We recommend using your final master fader channel, or creating an aux and feeding the audio to this channel. You can choose to enable 'thru' if Link is on your master fader so you can hear your own mix while streaming. See the section on using Link for more details.

3. In the Source-Live Audio panel->input menu choose *Link,* or your audio hardware inputs if you wish to use these directly.

4. Setup your audio session parameters. The Parameters that can be set are: *bitrate*, *title*, optional *password protection*, *server* and *stream buffer*, and *maximum listeners*. You may also need to specify a port. If in doubt, use the default settings.

5. Choose your Streaming mode: **My Network** where your Port test is successful, or **Source-Stream** if you are unable to configure your network. For more about Source-Stream and Zero-Config: http://source-elements.com/source-stream

6. Press *'Start Live Stream'*. Source-Live will initialize and go into broadcast-ready mode. Now your listeners can go to source-live.com and connect to you. All they need is your Source Elements Account username, and if you have selected to password-protect your stream you will also need to provide them with the password entered in the password field. (*Note*: password protection is currently not supported for the iPhone app).

7. Once your listeners have connected, you can Stop Broadcasting at anytime and they will simply be disconnected. Or, to disconnect individual listeners, you can do this by selecting the number listed in the Listener's panel and pressing Disconnect.

8. You can recognise listeners by their IP address and the order in which they log in.

9. Press *Stop Streaming*. This will end your audio stream with your listeners.

10. Log out and quit the application.
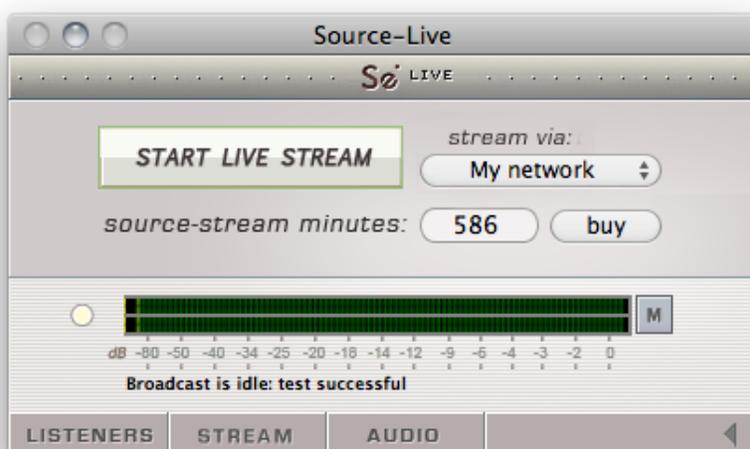
4. Source-Live features and options

4.1 Login and stream

4.1.1 Login

Launch Source-Live from your Applications folder and login to your account.
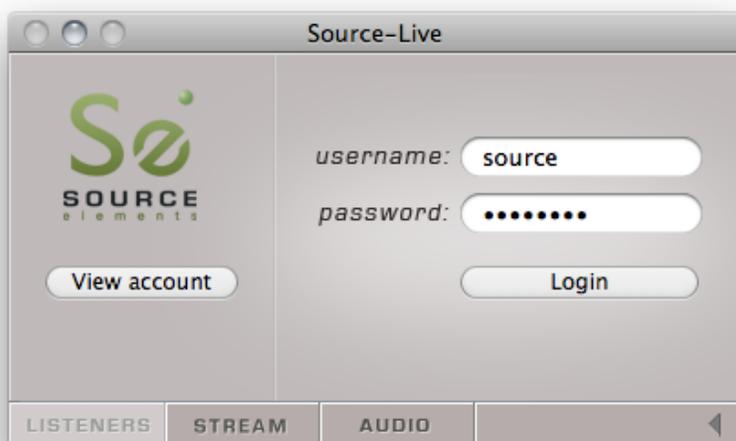
Now you are logged in, you can choose your Stream mode and start streaming.

4.1.2 Status panel - Start and stop streaming

Source-Live provides two methods of streaming: using your local network **My network** or **Source-Stream**. If your port test returns 'successful' you can use **My network** mode. Otherwise we recommend using Source-Stream.

If your port test is not successful and you have **My network** mode selected your Listeners will probably not be able to connect to your stream.

See *Section 4.3.3* on how to configure your network, and learn more about Source-Stream here: http://source-elements.com/source-stream
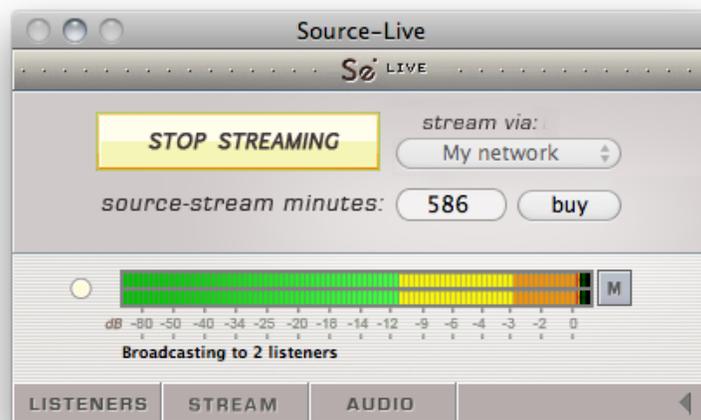
Once you have chosen your stream mode, press 'Start Live Stream' and Source-Live will start the live stream. You will see that your audio meters will reflect your sound levels. If you need to mute the audio, you can use the *M button* or mute via your DAW if relevant.

Understanding the Status panel

When you are successfully streaming, your current session properties are shown in the Status and Listeners. The Status panel is an important source of stream status information:

- ○ **Red light:** Your network test is not successful, and you will only be able to broadcast to listeners on your local subnet or using **Source-Stream** mode.

- ○ **Yellow light:** You are ready to invite Listeners

- ○ **Green light:** You have Listeners

Possible status messages and corresponding status light:

- ○ **Default:** Not streaming, network test successful

- ○ **Red:** Not streaming: network failed

- ○ **Red:** Streaming service is busy

- ○ **Yellow:** Streaming service is starting up

- ○ **Yellow:** Streaming to 0 listeners

- ○ **Green:** Streaming to *x* listeners

- ○ **Yellow:** Stream is shutting down

4.1.3 When you stop streaming

Your Listeners can be individually disconnected by pressing the *X button* in the Listeners panel. However, any Listeners can choose to reconnect. To ensure your next session is private, change your password and restart streaming.

A stream is closed automatically if you either quit Source-Live or log out. In the event of a hardware, software or network failure, you are disconnected by the service after 60 seconds. During this time your web interface may not register that you are no longer broadcasting. To expedite this process, logging back in and logging out will reset the service and web interface.

4.2 Listeners

The Listeners panel is your overview of who is listening to your stream. You can disconnect any individual listener, or just monitor how long they have been connected.
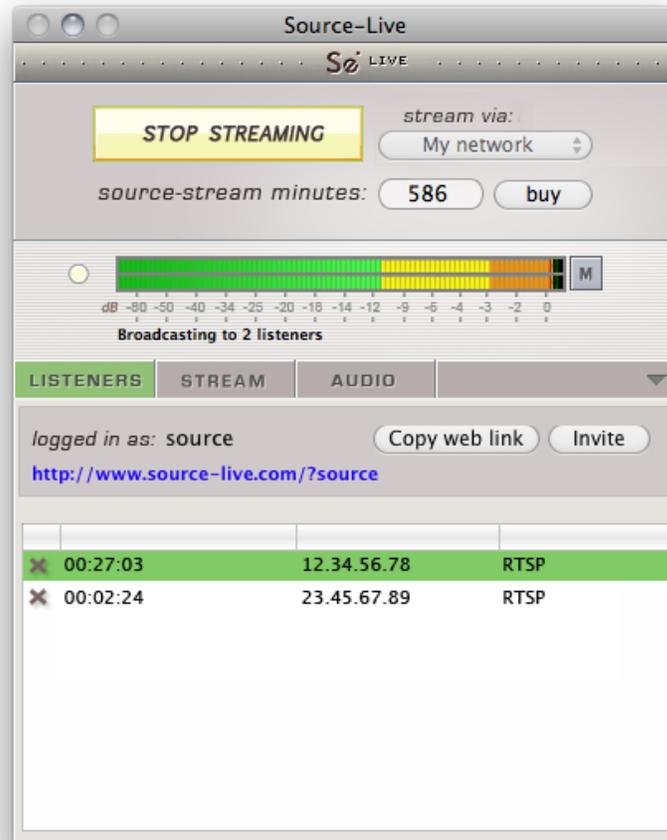
In this panel you see your personal link to the Source-Live Gateway. You can click on this to copy the link, or press the *Copy Link* button. To send this link via email, press the *Invite* button. This will launch your email application and insert your Gateway link.

To disconnect any listener, click on the *X* next to their IP address.

4.3 Stream

Ultimately the actual capability of your network connection will determine the consistency of your broadcast and receive reception. However you can optimize the quality of reception with the bitrate and buffer settings you choose to use.
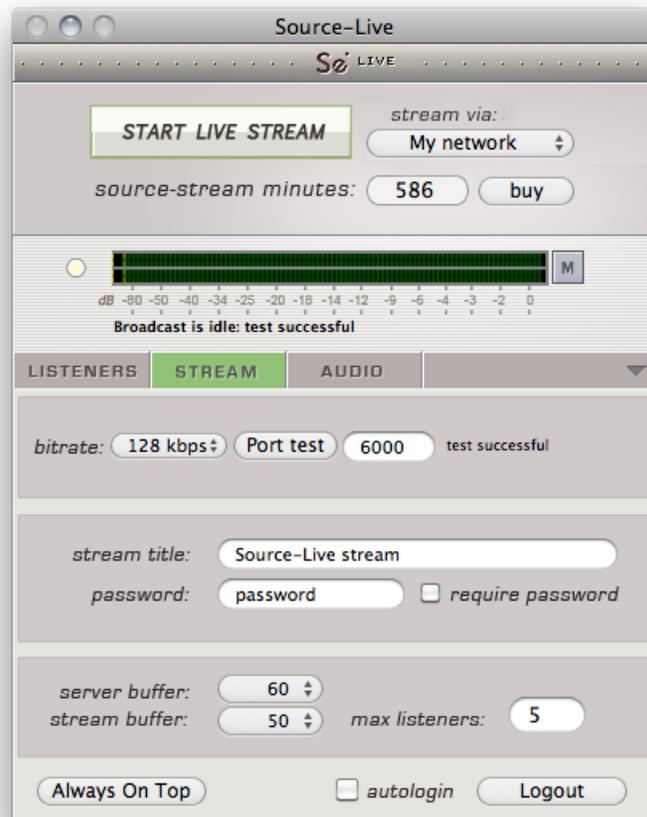
In the Stream panel, the following parameters can be specified: bitrate, port number, stream title and optional password, server and stream buffers and max listeners. You can also set the state of the Window to 'float', and your auto-login setting.

These settings are explained in detail on the following pages.

IMPORTANT NOTE: *You cannot change your settings while broadcasting.*

4.3.1 Stream parameters - Bitrate

This setting affects the quality of the audio stream that you will be sending: we recommend understanding your network resources as much as possible, as this allows you to achieve optimal results.

Note that you cannot change these settings while you are broadcasting. To change your settings you must first stop broadcasting, make your changes, and then start broadcasting again.

Choosing a bitrate:

The higher the bitrate, the higher the quality of the stream at sending side. However, higher bitrates require more bandwidth resources as they increase the network load. For example, using a bitrate of 64kbps (64 kilobits per second) will require approximately 20KB (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 upload speed (divided by 8 to get bytes), less 13% (TCP/IP and general Internet overhead). For example, if you have an upload speed of 1MB you have 1024 kilobits per second. This is 128 kiloBytes per second. Less overhead of 13% this gives you about 112kbps for broadcasting, so you could theoretically stream to 5 listeners at 64kbps bitrate.

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 300kbps (about 36kBps) upload for each listener to achieve a reasonable stream at 64kbps. For higher bitrate transfers you will need more resources - with business cable (1.5mb up/down) or a T1 you will find you are able to transfer multiple streams of 256kbps stereo.

To check your upload speed see: http://speedtest.net

4.3.2 Stream parameters - Title and Password

The Title is viewed by your listeners in both your web portal on source-live.com, and by media players if launched in a separate window. There is a maximum of 255 characters for the title, and some characters cannot be used such as '#' or '*'. Source- Live supports international characters.

The optional Password allows you to be sure that you don't have anyone listen in without your consent. Without a password, anyone who knows your username can connect if you are online and broadcasting. While you can monitor your Listener panel, it is often easier to simply require a password. If you do use the password,make sure you change this regularly or else it will become known. For example, if you have a number of different clients, you can use a different password for each of them to ensure you don't have crossover of listeners over various sessions.

There are some known issues with some browsers when using the Password. If your Listeners experience any issues, the best option is the click on the Help button in the Source-Live Gateway and choose to download the QuickTime stream to play on the computer directly.

4.3.3 Stream parameters - TCP Ports

In most cases we recommend you try to use the *My network* mode over *Source-Stream* mode. The most obvious case is where you would like to have the lowest latency possible. Source-Stream mode has inherent latency which cannot be decreased, so we recommend configuring your network to use *My Network* mode. This requires that you configure your router to allow Source-Live to stream out of your network and for Listeners to connect.

Network Summary:
Forward 2 sequential TCP ports to your computer, e.g. 6000-6001 or 9080-9081.
If you cannot, use the Source-Stream broadcast option.

When connecting to the internet through a firewall or router, at least one TCP port needs to be enabled for TCP port forwarding (on your router) or for approved access (on your firewall). This should be a number within 1024 - 65534.

To allow full connectivity for all media players, TCP ports port_number and port_number+1 should be opened in your firewall and/or mapped in your router (where base_port_number 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 computers internal IP address.

If you wish to use multiple instances of Source-Live you will need to specify a second port range e.g. 6002-6003 or you will experience network conflicts.

For tools and additional resources see:

Configuring your Network:
http://source-elements.com/networkguide

Router-specific information:
This website offers very comprehensive and detailed information on configuring your router and firewall. Use the 'default guide' for your router and choose TCP ports 6000 and 6001.

http://www.portforward.com/routers.htm

4.3.4 Stream parameters – Buffers

These options are provided for when you have insufficient network resources to use the default values, or your Listener is at a very long distance from you (e.g. Los Angeles to Australia). The longer the buffer, the higher the possibility of avoiding audible packet loss. On the other hand, a higher buffer value means a lower communication delay.

If you are on a fast connection you may be able to try reducing the buffer sizes to lower the delay with the same quality of Listener experience. If you or your Listener is on cable or DSL, a higher buffer is recommended.

A Server Buffer value of 200ms and Stream Buffer value of 100ms can immediately provide a better connection if you are experiencing packet loss or the stream is being disconnected.

4.3.5 Stream parameters – Maximum listeners

Because you have a finite amount of network bandwidth, we recommend limiting the number of concurrent listeners allowed to provide the optimal experience to your existing listeners. The default setting of 5 is suitable for business cable or T1 connections.

The best way to test this setting is through experience. If you need more listeners, try reducing your bitrate and increasing the server/stream buffer values, or contact our support team for other suggestions. Using the *Source-Stream* mode also allows you to have more listeners while not increasing your bandwidth requirements as this only uses a single stream from your network and is distributed on the 'cloud'.

4.4 Always on top

This is a really useful Window option when you want to keep Source-Live visible on top of your DAW window. This means that Source-Live can feel more like a plug-in and you can monitor your connection while streaming and mixing.

4.5 Autologin

When Autologin checked, Source-Live will to log you in automatically upon launching and be ready to broadcast. Your stream and audio settings will be the same as your last login except if you are using Source-Link, which currently requires you to connect this manually.

4.6 About Box

The About Box provides information on which version of Source-Live you have installed. To view the About box, choose the 'About Source-Live' option from the Source-Live menu bar.

4.7 Privacy

Once you have established a connection and are broadcasting audio, you are sending data directly to your listeners. Network information specific to establishing a connection, ie. port and IP data, are not captured or stored on our servers except when required on a per-user basis for technical support. For a comprehensive outline of our Privacy policy, please read: http://www.source-elements.com/privacy.
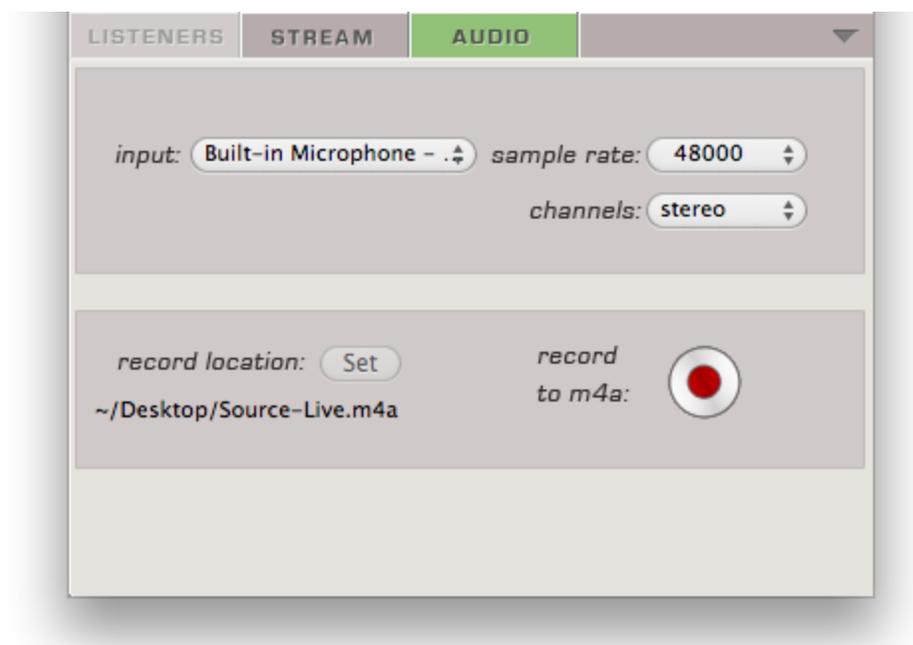
5. Audio

Click on the Audio panel of Source-Live and select your audio hardware input from the input menu. You have the choice between using *Source-Live Link* or your existing audio hardware. Generally you will use the Link plug-in except if you are running large sessions and need access to functionality that isn't supported with the Link plug-in.

5.1 Audio settings

On this panel you choose your audio input, sample-rate and channel number: mono or stereo. You can also configure the record location for recording your stream directly to disk.

5.1.1 Audio input

Select your audio input from the drop-down menu. Source-Live supports any hardware that is visible in your System Audio preferences. If you do not see your audio hardware check that it is compatible with your system, or contact our support team for assistance. You may need to adjust the default sample-rate in your hardware driver setup if it is set to use a sample-rate that is not supported by Source-Live.

If you are using a DAW such as Pro Tools or Logic and wish to send audio directly to Source-Live, see section 5.2 on using *Source-Live Link*.

5.1.2 Sample-rates

Source-Live supports the following sample-rates:

- ○ **44100 (44.1khz)**
- ○ **48000 (44.8khz)**
- ○ **88200 (88.2hz)**
- ○ **96000 (96khz)**

Because Source-Live will configure itself automatically to use the sample-rate that your hardware is set to, you may find that Source-Live restarts itself when you change your audio input. If you cannot get Source-Live to stay on the sample-rate you wish to use, check your hardware drivers for your audio setup. A common and effective way to manage your sample-rates of your audio interfaces is to use the Audio-Midi Setup utility located under Applications/Utilites.

5.1.3 Channels

You can currently broadcast in mono or stereo mode. Your listeners will automatically receive your audio stream in the mode you have selected.

5.2 Source-Link

Source-Live Link is a plug-in that sends audio from your DAW to the Source-Live application. This means that you can send someone your live mix directly, change parameters, stop and playback audio etc.

*Source-Live Link in Pro Tools with **thru** enabled:*
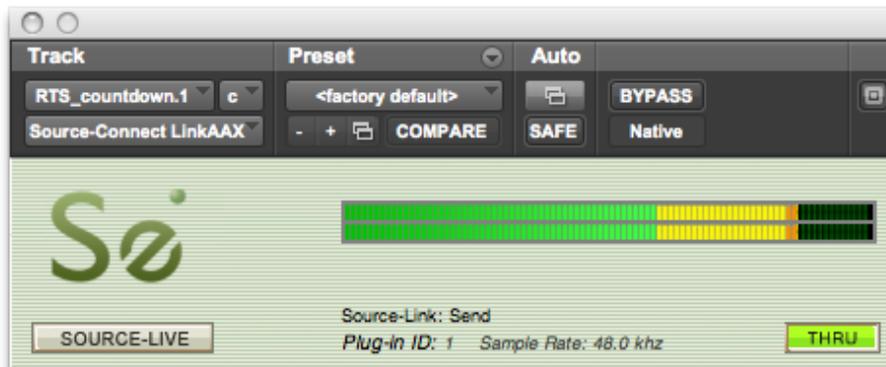
Source-Live Link in Logic:
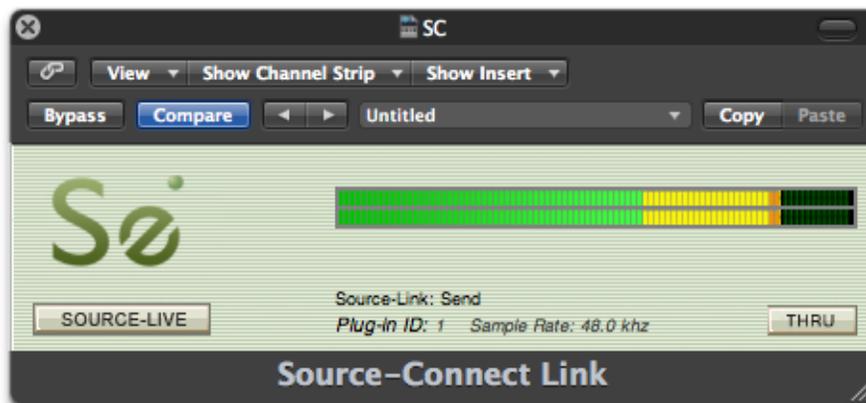
How you use the Link plug-ins depends on the DAW you are using, and how you wish to send audio to Source-Live. The following page discusses various methods.

5.2.1 Initialize Link

To initialize (insert) Source-Live Link follow these instructions:

Pro Tools:
Open the Inserts menu, then choose Other -> Source-Live Link.

VST and Audio Units hosts:
See your DAW's manual for assistance, or contact our support team if you are not clear on how to use these plug-ins.

5.2.2 Sending audio to Link

Generally we recommend placing Link on your Master Fader. This way, all of your audio tracks will be sent to Source-Live to be streamed.

When you place Link on your track or fader, you will now see that the Source-Live input menu has Link->1 as an option. The number will change depending on how many Link plug-ins you have active, and how many you have instantiated while your DAW is open. The Link number will reset to 1 when you restart your DAW.

5.3 Recording your stream to disk

Source-Live can record your streaming audio directly to an m4a file: this is the MP4 format ready for iTunes or any media player with mp4 support. This is useful when you want to save your stream session for offline listening. Files are recorded at the bitrate specified in the Settings panel, and at the sample-rate and sample bitrate that your audio settings are configured for.

To record to file, you need to be in Streaming mode. However, because you may not need to accept listeners it doesn't matter if your network test fails are you are simply streaming to disk and not over the network.

You can start and stop record at any time during streaming, and your files will be recorded to wherever you have set the file destination.

If you wish to ensure your record your entire broadcast session, you can enable record prior to broadcast. Recording will begin as soon as you press *Start Live Stream*, regardless of whether you are sending audio to Source-Live.

Setting the record location

When using the Record feature, it is useful to make sure you know where the files are being recorded to. By default, the file is named '*Source-Live.m4a*', and will be recorded to your *Desktop*.

To change the name of the file recorded to, for example if you wish to record multiple files and don't want to forget which recording was which, click on 'Set' in the Settings panel, and choose where your file is recorded to. Make sure you have enough disk space (though mp4 files are very small and you can record several hours per gigabyte).

When recording multiple files, if you do not change the filename the files will automatically be appended with a number, e.g. *Source-Live.m4a*, *Source-Live1.m4a*, *Source-Live2.m4a*.

6. Source-Live Gateway and iPhone support

Your Listeners have several options to hear your audio:

- Source-Live Gateway via a modern web browser
- Source-Live Gateway for iPhone
- Directly in QuickTime or other supported media players

If your listener is on Windows, they may need to install QuickTime to listen in. Any Windows computer that has iTunes installed automatically comes with QuickTime. To install QuickTime on Windows see: http://apple.com/quicktime

Once you know that your Listener is able to listen in, you can invite them in several ways:

6.1 'Invite Listeners' email button

Clicking on the the 'Invite Listeners' button in the Status panel opens your default email program and inserts your direct, unique link in the body of a new message. If you are broadcasting, your listener simply needs to follow this link, and enter your gateway. If you have enabled the password option, you will need to provide your listener with this manually.
(*Reminder*: the password option is not compatible with the iPhone Gateway)

6.2 Weblink to your Gateway

Click on *Copy web link* to have your Gateway link copied to your clipboard. You can now paste this into any text message area. To open your Gateway directly, click on the blue weblink and it will open your default browser. This is useful for testing.

6.3 Direct LAN connection

If your listener is inside your local network, they can open QuickTime and enter your direct URL. You will need to know your internal IP address, which can be found in your Network Settings. The URL is formatted as follows: RTSP://[ip address]:[port]/[username].sdp
For example, on a computer with IP address 192.168.1.23, and default port, the URL will be: rtsp://192.168.1.2:6000/username.sdp.

6.4 Source-Live Gateway for iPhone

6.4.1 Important things to know

The iPhone app does not support broadcasting via **Source-Stream** mode or password-protected streams at this time. You must be broadcasting in **My network** mode, and without a password or the iPhone gateway will not connect.

6.4.2 Listen with iPhone Gateway app

Download the free iPhone app from iTunes:
http://itunes.apple.com/us/app/source-live-gateway/id419225375

To use the Source-Live iPhone Gateway, simply enter the username you are broadcasting with, and you'll hear the audio.

Your listener can adjust their buffer settings if they are having network issues. Increasing the buffer to their highest values will help stabilise the audio stream.

This app is compatible with any iOS 4.0 device and higher.

7. Technical

7.1 Troubleshooting

Interrupted audio on Listener end, stream is disconnected
Try to reduce your bitrate and increase the buffer sizes in the Advanced Settings panel. You may also be experiencing hardware issues: for example, if you are clocking your system with an external clock, check that your hardware clock matches your session sample-rate.

CPU or H/W buffer errors
If you are using Source-Live Link, it is important to increase your DAW's hardware buffer size to a value as high as possible (for example 512 or higher), your CPU Usage Limit to at least 85% and as little load on your computer as possible. For example in Pro Tools, setting your DAE Playback Buffer to level 8 and your DSP voices as low as you can can also assist. On less powerful computers it is important to note that Source-Live requires a large portion of processing power, so you should not run any unnecessary applications or services. You should also limit the instances of any other plug-ins not required for your Source-Live session.

For best practice, use external audio hardware where possible.

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.

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

7.2 Known Issues

Pro Tools versions:
Source-Live does not officially support Pro Tools versions below 7.0.

CPU speed / RAM configurations:
Source-Live performs best on a minumum: TDM-equipped G5 with at least 2GB RAM. If your computer is configured lower than this, you may experience difficulty while reading and writing to disk, and your DAW may tell you that you have insufficient resources. Because USB devices (for example, if you are using an Mbox) also require additional resources we recommend running Source-Live on newer machines. It is not recommended that you connect your Mbox via a USB hub unless it is self-powered.

Network bandwidth:
The most common cause of difficulty is insufficient network resources. If you are on a DSL or Cable line, you may not have sufficient bandwidth to ensure the best experience using Source-Live, notably when connecting long distance and inter-continent.

For further details and tools for testing your bandwidth following the Network Guide:

http://source-elements.com/networkguide

7.3 Reporting Issues

To report an issue, please provide the following information:

1. Source-Live build number (available from the About box)
2. System configuration (Operating system, computer hardware)
3. DAW version and hardware
4. Network configuration ie. LAN, DSL, wireless etc
5. Source-Live settings: username, bitrate, buffer and port.
6. Bandwidth report, for example from http://speedtest.net
7. Description of what action(s) you were taking when the issue occurred, for example who you were connected to, and what their system and settings are.

Technical Support is available via email, telephone and Source-Connect.

8. Contact us

Contact Source Elements for technical and general support:

The main source of support and technical information is the online forum. Please visit the forum before contacting us to see if your question has been answered:

http://www.source-elements.com/forum

Email:

Technical support:
support@source-elements.com

Sales:
sales@source-elements.com

General inquiries:
 info@source-elements.com

Telephone:

US: +1 312 706 5555

See our international numbers here:
http://source-elements.com/contact

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United States