Source-Live 1.3 User Guide

1. Introducing Source-Live

Source-Live is an RTAS and VST plug-in for Avid Pro Tools and supported VST hosts. Source-Live enables users to stream the mono or stereo output of their DAW mix to multiple listeners simultaneously. You simply e-mail your listeners a Live-link and the listeners, utilizing common media player software such as Quicktime, or our free iPhone app Source-Live Gateway, immediately connect to the stream in real time from anywhere in the world. Utilizing the most current AAC/MP4 encoding, Source-Live provides listeners with true 24-bit audio quality.

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

2. Installation

2.1: System requirements

Supported Pro Tools versions and Hardware

Source-Live supports Pro Tools LE or HD version 7 or higher, running on the software and hardware configurations required to run Pro Tools. There are known issues running RTAS plugins on Pro Tools HD. Please refer to this document for more information:

http://source-elements.com/support/hd_issues

Support VST hosts

See the Source Elements website for up-to-date information on VST support:

http://source-elements.com/resources/vst/

Minimum recommended configurations:

1ghz G4, 768mb RAM, OSX 10.4

2ghz P4 PC (or equivalent), 1GB RAM, Windows XP

Please note that we cannot provide support for hardware configurations which are not officially supported by your DAW such as Pro Tools, Nuendo and Fairlight.

2.2: Network configuration

To establish an outside internet link from your Pro Tools machine to the world, you will need to ensure that your firewall and/or router is configured properly to enable connectivity. Internet communication with Source-Live occurs over the TCP protocol.

Source-Live works in perfect conjuction with Source-Live, so you will not need to adjust your existing network settings if you are currently running Source-Live.

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.

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-Connect will make outgoing requests from any available TCP port to ports 80 and 5222 on our server (source-elements.com). 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 port 6000.

For detailed information on configuring your network, please refer to:

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

If you are unable to get an open port you can use the Source-Stream service, which allows your stream to be accessible behind firewalls. **See the section on Source-Stream for more info.**

2.3: Installing Source-Live

Launch the installer and follow the instructions. Newer versions of Source-Live will generally install over older installations. If any issues are encountered we recommend running the uninstaller first.

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.

Uninstalling:

To uninstall Source-Live, run the Uninstall.command found in the Installer disk image. You will be asked to enter your computer's adminstrator password.

3. Setup and Settings

3.1: Basics

Basic steps in using Source-Live are as follows.

1. Instantiate Source-Live 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.

2. Log in with your username and password.

3. Setup your audio session parameters. The Parameters that can be set are: bitrate, title, password and 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.

4. If you cannot configure your network, select Broadcast via->Source-Stream. You can take advantage of your 300 free Source-Stream minutes included with your download, and purchase additional minutes later as needed at any time, even while broadcasting.

   If your Network Test is successful select Broadcast via->Local ISP. If it is not, you may wish to configure your firewall and/or router to allow incoming TCP connections.

   See http://source-elements.com/networkguide for instructions.

   NOTE: you can always connect via local machine even if your network test is not successful, using Local ISP mode.

5. Press 'Start Broadcast'. 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. (Password protection is currently not supported for the iPhone app).

6. 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.

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

8. Press 'Stop Broadcasting'. This will end your audio stream with your listeners.

9. Log out.

3.2: Initializing Source-Live

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

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

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

VST:
See your DAW's manual for assistance if you are not clear on how to use VST plugins.

3.3 Audio Input and Output

The input to Source-Live is determined by the input to the track that Source-Live is on. So, to simply send out a mixed stereo file, put Source-Live on a stereo audio track and play the file. Or, to send out a multi-track mix, put Source-Live on a Master Fader. You can send out any audio configuration you wish, depending on how you wish to use Source-Live.

Note: It is possible to get a feedback loop due to situations when removing Source- Live from an aux track. It is therefore recommended that you mute the aux track before removing Source-Live.

3.4: Getting Around

Source-Live consists of multiple panels, each of which is individually expandable. To expand or collapse a panel, click on the dark green title bar. The Status panel is always visible.

To collapse or expand all panels at once:

- Option-click or Right-Click on any panel heading

About Box

The About Box provides information on which version of Source-Live you have installed. To view the About box, click on the Source Elements logo at the top of Source-Live window. You can close the About box by clicking anywhere in that box.

3.5: Setting session parameters — Overview

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, buffer and resilience settings you choose to use.

In the Settings panel, the following parameters can be specified. To modify your settings, open the Settings panel (Click on the Settings panel bar).

You can configure the following settings, explained in more detail on the following pages.

- Bitrate settings

- Stream title and optional password

- Record–to–File

- TCP network ports

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

You can also manage Advanced Settings. Generally, you will not need to modify these unless you wish to allow more users, stream to an external Darwin server, or are experiencing network problems.

Advanced settings:

- Stream and Server buffer

- Maximum listeners

- Darwin Streaming Server

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

3.5.1: Setting session parameters – Bitrate

These settings affect the audio stream that you will be sending:

NOTE: 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 bit rate, the higher the quality of the stream at sending side. However, higher bit rates require more resources as they increase the network load. For example, using a bitrate of 64kbps (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). 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 up and down 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

3.5.2: Setting session 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 '#','*'. Source- Live supports international characters.

The optional Password allows you to be sure that you don't have any 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.

3.5.3: Setting session parameters - Record-to-File settings

When using the Record-to-File feature, it is useful to make sure you know where the files are being recorded to. By default, the mp4 file is named 'record.mp4', 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. record.mp4, record1.mp4, record2. mp4.

3.5.4: Setting session parameters -TCP Ports

In many cases you may prefer to use Local ISP 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 Local ISP mode.

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 usually within 1024 - 65534. For allow full connectivity for all media players, TCP ports base_port_number and base_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.

NOTE: It is possible to run Source-Connect and Source-Live on port 6000, because Source-Connect is UDP and the Source-Live is TCP. Like Source-Connect, if you wish to use multiple instances of Source-Live you will need to specify a second port range e.g. 6002 or you will experience network conflicts.

Network Summary:

Forward 2 TCP ports, for example 6000 and 6001, or 10000 and 10002, to your computer. If you cannot, use the Source-Stream broadcast option.

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.

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

3.5.5: Advanced session parameters — Buffers

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 T1 or higher connection (both remote plug-ins) you may find that reducing the buffer sizes 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 Server Buffer value of 200ms and Stream Buffer value of 100ms can immediately provide a better connection if you are experiencing packet loss.

3.5.6: Advanced session 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 you can send a single stream to a Darwin Streaming Server with a dedicated line for true Internet Radio capibilities. Using the Source-Stream option also allows you to have more listeners while not increasing your bandwidth requirements.

3.5.7: Advanced session parameters –Darwin Streaming Server

If you have access to a Darwin or QTSS server, you can send your Source-Live stream directly to your server. Simply enter the IP address of your server, and select the option to stream to DSS. See your Darwin Streaming Server manual for information on operation specifics.

NOTE: You can also directly access Source-Live from DSS by copying the QuickTime movie from your source-live.com portal to your Darwin movie directory. Again, see your DSS manual for more information on this method. Source Elements cannot provide DSS-specific support.

3.6: Autologin

When Autologin checked, this allows the user to log in automatically upon initializing Source-Live. Each time you open a session with Source-Live instantiated, and Autologin is checked, you will be automatically logged in and be ready to broadcast. Alternatively, you may wish to use the built-in Pro Tools Settings to save different configurations.

3.7: Saving your Settings in Pro Tools

It is possible to save various Source-Live configurations, so you don't have to manually change your settings for differing connection requirements. To do this, select the settings menu in the Pro Tools specific section of the plug-in (the grey panel at the very top), and choose 'Save Settings'. You will be prompted to name your saved setting.

To have Source-Live remember to use this setting next time you instantiate the plug-in, go to 'Settings Preferences', 'Set Plug-in Default To' and select 'User Setting'. To make sure you can use these settings in other sessions, set 'Save Plug-in Settings To' -> 'Root Settings Folder'.

See your Pro Tools manual for further details on saving your settings.

4. Using Source-Live

4.1: Logging in

To login, enter your username and password and press the "Log On" button. If you login is successful, the Status panel will change its view.

It will now show that the broadcaster is idle and that you are able to start a streaming session by pressing the "Start Broadcasting" button.

Upon logging in, you need to make sure your Network Test is successful if you wish to allow listeners to connect from external networks. If it is not successful it will be noted with a blinking red light in the status panel.

4.2 Starting a broadcast session

To start broadcasting, select the Broadcast method you wish to use and press the 'Start Broadcasting' button. Source-Live will initialize and the status will change to 'Broadcasting to 0 listeners'. You can now invite listeners and/or record directly to mp4.

NOTE: Before starting to broadcast and inviting users, it is always recommended that you check your settings. You can test Source-Live via the Source-Live Gateway website or iPhone app.

4.3 Inviting Listeners

Once you are broadcasting and ready to accept listeners, you will see a yellow light in the Status panel. Source-Live offers a unique, easy way to invite listeners via a customizable web interface, the Source-Live Gateway. See Section 5 on inviting Listeners.

4.4 Record-to-File: Recording directly to mp4

Source-Live supports recording continous mp4 files ready for iTunes or any media player with mp4 support. Files are recorded at the bitrate specified in the Settings panel, and at the samplerate and sample bitrate that your Pro Tools session is set up as.

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

You can start and stop record at any time during broadcasting, and your files will be recorded to wherever you have set the file destination (See Record-to-File settings).

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 Broadcasting, regardless of whether you are sending audio to Source-Live.

4.5 Session status

When the session is successfully established, the current session properties (sample rate and bitrate, session duration, audio volume levels etc.) are shown in the Status and Listeners. The Status panel is also an important source of broadcast status information:

Red light: Your network test is not successful, and you will only be able to broadcast to listeners or Darwin Streaming Servers on your internal network.

Yellow light: You are ready to invite listeners

Green light: You have active listeners

Possible status messages and corresponding status light:

Default: Server is idle: network successful

Red: Server is idle: network failed

Red: Server is busy

Yellow: Server is starting up Yellow: Broadcasting to 0 listeners Green: Broadcasting to [x] listeners Yellow: Server is shutting down

4.6 Ending a broadcast session.

A Listener can be individually disconnected by pressing the Disconnect button in Listeners panel. However, any listerner can choose to reconnect. To ensure your next session is private, change your password and restart broadcasting.

A session is closed automatically if you either quit Pro Tools or log out. In the event of a hardware, software or network failure, you are disconnected by the server 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 server and web interface.

4.7 Logging out

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-Live account.

4.8 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. Source-Live Gateway

Your listeners have several options to hear your audio:

– Source-Live Gateway via a web browser

– Source-Live Gateway for iPhone

– Directly in QuickTime

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:

http://apple.com/quicktime

Once you know your Listener's are able to listen in, you can invite them in several ways:

5.1 '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.

5.2 'WEBLINK'

Copy source-live.com gateway link to clipboard. If you have web-based email, or another method of sending text messages, click on the WEBLINK and your gateway link will be copied to your clipboard.

5.3 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

5.4 Source-Live Gateway for iPhone

Download the free iPhone app from iTunes:

http://itunes.apple.com/us/app/source-live-gateway/id419225375?mt=8&ls=1

Simply enter the username you are broadcasting with, and you'll hear the audio.

IMPORTANT: The iPhone app does not support broadcasting via Source-Stream or password-protected streams at this time.

5.5 Darwin Streaming Server

For advanced streaming capabilities, for example to stream to hundreds of users simultaneously, you can use a Darwin Streaming Server or QTSS. See your streaming server manual for setup and operation information.

6. Technical

6.1 Troubleshooting

Interrupted audio on Listener end, many artifacts.
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 samplerate.

Pro Tools CPU or H/W buffer errors
If you are on a LE system, it is important to increase your hardware buffer size to as high as possible (usually 1024ms), your CPU Usage Limit to at least 85% (% if you are able). Setting your DAE Playback Buffer to level 8 can also assist. These settings can be found in the Setups menu in Pro Tools, under 'Playback Engine'. 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.

Automatically disconnected, 'Connection reset by peer' dialogue
There may be severe network congestion occuring. 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.

6.2 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 TDM-equipped 1ghz G4 with at least 68mb RAM, or 2ghz P4 with 500mb RAM. If your computer is configured lower than this, you may experience difficulty while reading and writing to disk, and Pro Tools 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 with Pro Tools LE 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

6.3 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)
. Pro Tools 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
. Description of what action(s) you were taking when the issue occured, for example who you were connected to and what their settings were.

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

7. 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-mail.com

Sales:
sales@source-mail.com

General:
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