

Source-LTC 1.0

User Guide

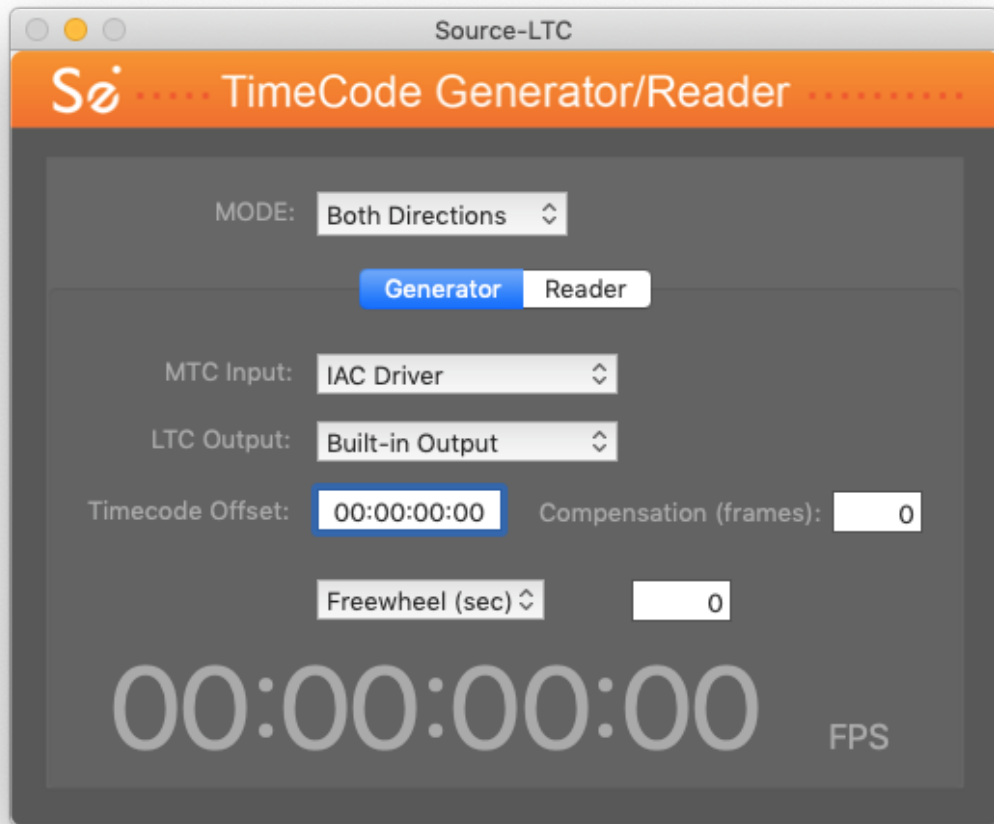


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1. Introducing Source-LTC

Source-LTC 1.0 is a standalone MIDI timecode to SMPTE LTC converter application for Mac OSX versions 10.10 and up.

It works in both directions converting MTC to LTC and LTC to MTC and does not require additional hardware.

Who is this for?

Source-LTC is intended for Mac users who need to either chase LTC or generate LTC but lack the hardware to do so.

For example, a user may need to send LTC down the right leg of a stereo connection:

- Send MTC from the DAW to Source-LTC.
- Source-LTC outputs the generated LTC audio to an audio driver.
- With Source-Nexus or hardware routing, the generated LTC can be sent down one of the legs of a stereo connection (left or right) to Source-Connect or other stereo connection methods.

Alternatively, a user may receive LTC from a stereo connection in Source-Connect:

- Feed the LTC to an audio driver that feeds into Source-LTC.
- Source-LTC generates MTC that can be directed to an IAC Midi input of the DAW for the DAW to chase.

2. Installation

2.1. System Requirements

Supported Host Versions and Hardware

Currently, support for Mac OSX 10.10 (Yosemite) and up is available.

Minimum Recommended Configurations

Minimum support is available for Macs with at least:

- 2GB of RAM
- Core2 Duo (T7xxx)

The following Mac models are supported based on their compatibility with Mac OS 10.11 (El Capitan):

- iMac (Mid 2007 or newer)
- MacBook (Late 2008 Aluminum, or Early 2009 or newer)
- MacBook Pro (Mid/Late 2007 or newer)
- MacBook Air (Late 2008 or newer)
- Mac mini (Early 2009 or newer)
- Mac Pro (Early 2008 or newer)
- Xserve (Early 2009)

Compatibility

Source-LTC is compatible with any program/application/DAW capable of generating and/or receiving MTC/LTC and that can be configured to send.

Because the generated timecode is sent through an audio driver, virtual or hardware, it requires no further integration with third-party software and, therefore, doesn't suffer from incompatibility issues.

2.2. Downloading and Installing Source-LTC

All Source Elements software is obtained by download directly from our website. Simply log in with your account and proceed to the Downloads section (<https://phoenix.source-elements.com/dashboard/downloads/>).

To get access to the Downloads page you will need:

- A free iLok account
- A valid evaluation or purchased license for Source-LTC

For more information on iLok: <https://source-elements.com/support/ilok>

If you requested an evaluation license, or purchased a license, you should have also created a new Source Elements account at the same time. You can of course use an existing Source Elements account. Use your account to login to your dashboard and download the software.

If you did not receive an account invite visit:

<https://phoenix.source-elements.com/phx/account>

Installing Source-LTC

You should now have downloaded the correct software for your iLok license (i.e. a license for v1.0 won't work for v2.0).

- The download link will save a .dmg file in your Mac.
- Open the .dmg to see a Finder window with the installer, the uninstaller and the user guide.
- Open the installer and follow its prompts.
- Once the installation is completed you may keep or discard the installer software.

Installing iLok Extensions

You must have the iLok Extensions installed to allow Source-Connect to recognise your iLok. iLok 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 iLok Extensions.

Activating Your License

All Source Elements applications rely on iLok's licensing technology. To activate your Source-LTC license (whether it is a trial or a purchased license), you will need to install the iLok License Manager (<http://installers.ilok.com/iloklicensemanager/LicenseSupportInstallerMac.zip>).

- Download the .zip archive containing the iLok License Manager installer from the link above.
- Extract the .zip to see the .dmg file that contains the installer application.
- Open the License Support.pkg file and follow the prompts.
- Once the installation is completed you may keep or discard the installer software.

To activate your license, open the iLok License Manager app you just installed in your Mac (this will be in your Applications folder). When asked to give the app permissions to manage your Mac, click the Open System Preferences button; in the System Preferences window, click the lock to make changes and provide your Mac password; then mark the check box for iLok License Manager; then:

- Sign in to the iLok License Manager app.
- A list of available licenses will be displayed on the right.
- Click the Source-LTC license to highlight it.
- Drag and drop the license to the available locations, listed to the left in the iLok License Manager window.
- Confirm the activation.
- You may close the iLok Licence Manager app now.

Uninstalling on Mac OSX

To uninstall Source-LTC application, simply remove it from your applications folder (right-click/two-finger tap > Move to Trash, or command+delete).

3. Setup and Settings

Source-LTC is easy to configure and use, based on the following parameters and settings:

Mode

This setting has 3 possible values:

- Both Directions (default)
- Generator
- Reader

Both Directions will let Source-LTC work both as a timecode generator and reader, while **Generator** will only generate timecode and **Reader** will only read it.

MTC Input

When Generator mode is selected, this drop-down menu will display the available MIDI devices to select from as the input of Source-LTC. This is the MIDI timecode (MTC) that will be used by Source-LTC to create the LTC timecode.

LTC Output

This is the output audio device that Source-LTC will create the LTC output in. It corresponds with the audio driver you have selected in your application/DAW that will be chasing the converted MIDI to LTC timecode.

LTC Input

When Reader mode is selected, this drop-down menu will include all your system input audio devices (e.g. built-in microphone, USB interface, Source-Nexus, etc.)

The device, and channel, selected here will be used by Source-LTC as the input to read the timecode from. This will be converted to MTC and sent through the MTC Output.

There is an indicator on the right side of the audio device selection that shows if there is an audio signal present in the selected device.

MTC Output

This drop-down menu presents all the available MIDI devices that Source-LTC can output MIDI timecode to. This corresponds to the device you have selected as an input in the application that will be chasing the MIDI timecode coming from Source-LTC.

Timecode Offset

This text field is set by the user, if necessary, and contains the offset value between the incoming and outgoing timecode in Source-LTC's conversion process. It is useful, for example, when there are different session start/offset times in the master and slave applications/DAWs, a well known example being the session start time in Pro Tools.

Compensation (frames)

This text field is set by the user and serves as a possible delay offset between the input and output timecode in order to compensate for audio or network (or other) latency. It can be used to fine-tune the syncing between two applications/DAWs.

Freewheel (Sec) / Jam Sync

This is the parameter that defines the behavior of Source-LTC in the case of gaps or stops in the input timecode stream. It has two modes:

- Freewheel: this defines the seconds that the conversion will continue if the input timecode stops, 0 means immediately following the input and stop/start simultaneously with it.
- Jam Sync: With this option Source-LTC will continue to produce timecode indefinitely when the source timecode stops. Timecode generation stops if the user selects Freewheel.

Timecode indicator

At the lowest part of the interface there is the timecode indicator, a counter of the timecode being converted, accompanied by the Frames Per Second indication.

4. Using Source-LTC

There are many ways to use Source-LTC. Below are some examples.

Example 1: Chasing SMPTE time code

In the case of ADR sessions, some theatrical work, and post production mix stages, you will need to **chase** SMPTE sent to you from a remote connection or some local system however you lack the hardware to read and chase the SMPTE timecode. Source-LTC can be used as a SMPTE Reader to convert **SMPTE to MIDI TimeCode (MTC)** which can be read by most any DAW.

Example 2: Generating SMPTE timecode

In the case of ADR sessions, some theatrical work, and post production mix stages where you need to **send** SMPTE to a remote connection or some local system but you lack the hardware to generate SMPTE timecode. Source-LTC can be used as a SMPTE generator to convert **MIDI TimeCode (MTC) to SMPTE** timecode as required.

Advanced Example 3A: Converting RTS to SMPTE/MIDI via Source-LTC

You need to run your Source-Connect system on a separate computer that is perhaps outside of your local network for security reasons. Doing so would usually mean you cannot use the Remote Transport Sync (RTS) feature in Source-Connect; however using Source-LTC the RTS workflow can be preserved and the other side of the Source-Connect connection doesn't need to change their workflow or lose a channel on the audio stream for timecode: RTS doesn't use up an audio channel for Sync as SMPTE does. Here, the mix stage inside the LAN can send SMPTE to the computer running Source-Connect and Source-LTC. When Source-LTC locks to SMPTE it will in turn send MTC to a DAW installed on the same Source-Connect computer. The DAW will then chase the SMPTE and, in turn, if Connected on Source-Connect and if RTS is engaged as Send, the remote connection on Source-Connect will effectively chase the SMPTE timecode from the stage using RTS.

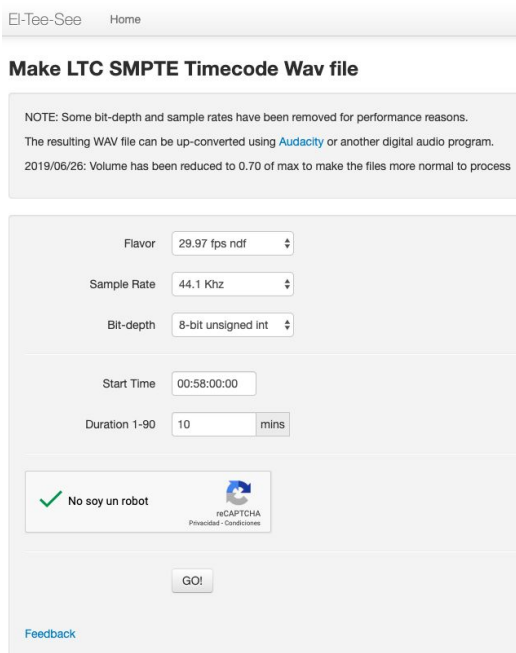
Advanced Example 3B:

The reverse of this is also possible so that if the mix stage needs to chase SMPTE from the remote connection but the remote location lacks a SMPTE generator and they don't want to lose a connection channel to SMPTE then the Source-Connect computer can have its RTS set to Receive so the DAW running on the Source-Connect computer will chase the remote side. When the DAW on the Source-Connect computer goes in to play it can be set to generate MTC that is delivered to Source-LTC which in turn generates SMPTE timecode for the stage to chase.

4.1 TIP: Sending LTC without a SMTPE Generator

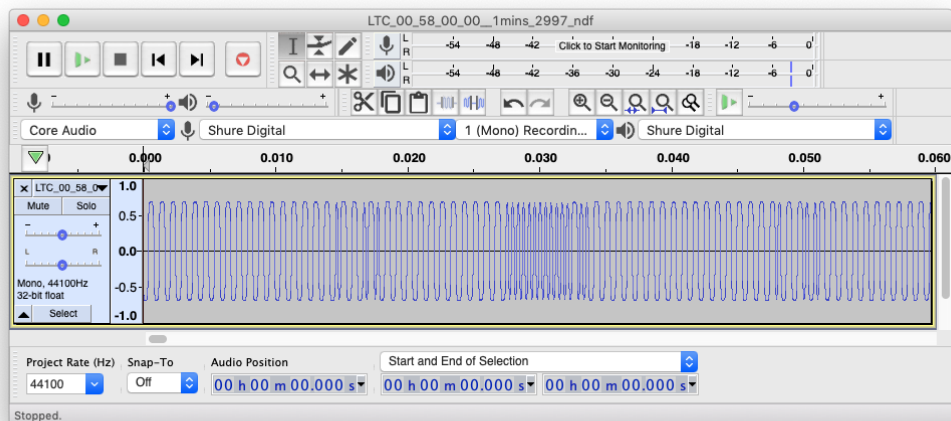
If you don't have an LTC generator you can use a pre-generated file and send it to Source-LTC using, for example, Source-Nexus as an internal router. We describe below how to do this very easily using the free Audacity player, or you can use VLC or any other application that lets you select the playback output. For internal routing you can get the free Source-Nexus driver here: <https://source-elements.com/products/source-nexus/free>

1. Go to El-Tee-See (<http://elteesee.pehrhovey.net/>).
2. Generate and download an LTC SMPTE timecode Wav file to the specifications of your session:

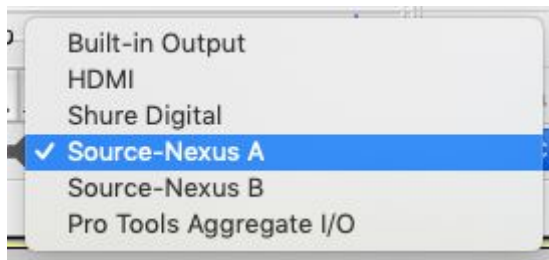


The screenshot shows a web form titled "Make LTC SMPTE Timecode Wav file" on the El-Tee-See website. The form includes a note about bit-depth and sample rates, a CAPTCHA, and several input fields for configuration. The fields are: Flavor (29.97 fps ndf), Sample Rate (44.1 KHz), Bit-depth (8-bit unsigned int), Start Time (00:58:00:00), and Duration 1-90 (10 mins). A "GO!" button is at the bottom, and a "Feedback" link is in the footer.

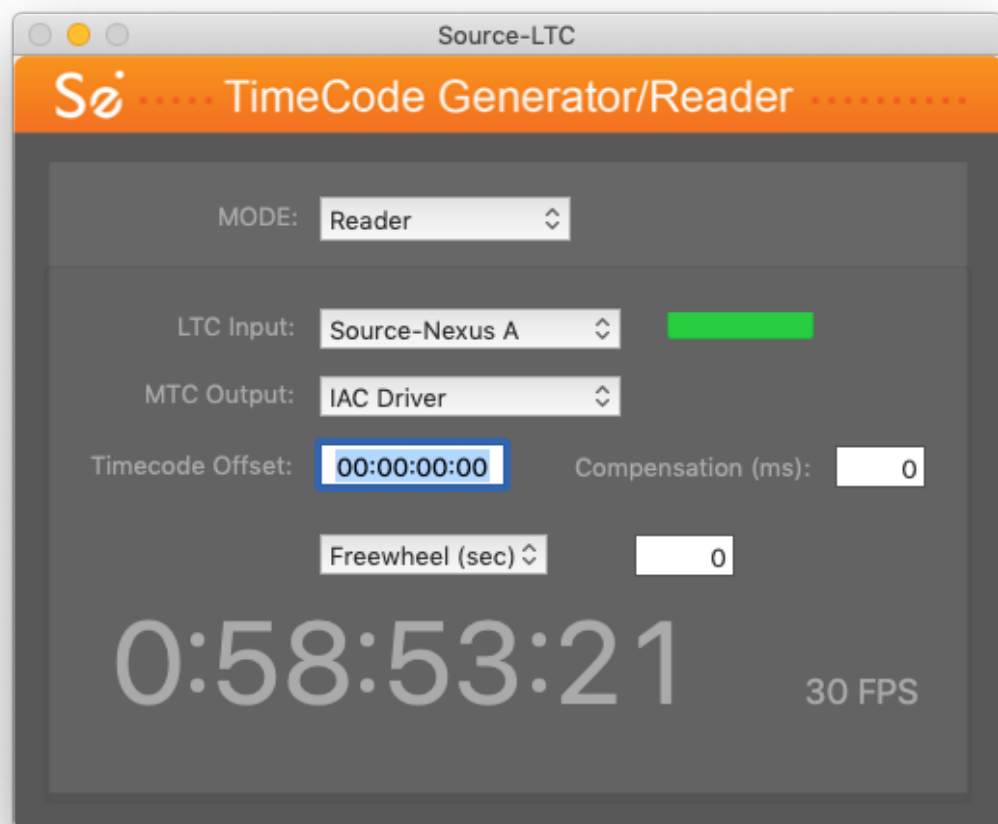
3. Open the Wav file with Audacity.



4. Select Source-Nexus as the Output in Audacity.



5. Open Source-LTC.
6. Set the Mode to Reader and select Source-Nexus A as the LTC Input. Hit Play in Audacity.



The green signal indicator shows that the audio input is being received. The MTC will be sent over the selected MTC Output driver.

5. Troubleshooting and Known Issues

There's a distorted 'beep' every now and then

This is a known issue and happens when Source-LTC is set to be on Both Directions mode. To avoid this beep, select either Generator or Reader from the Mode drop-down menu. The beep should only occur sporadically if a device with a continuous audio signal that is not valid timecode is selected as input.

There's no 29.97 non-drop option for the frame rate.

29.97 non-drop is supported and displayed as 30 FPS. This is due to the MIDI specification not having built-in support for drop-frames.

There's no 23.976 option for the frame rate.

23.976 is supported however it is displayed as 24 FPS. This is due to the MIDI specification not having built-in support for drop-frames.

6. Contact Support

Contact Source Elements for Technical and General Support

Comprehensive documentation is available on our website. If your question is not answered please contact us via telephone, email or we can arrange communication over other methods such as Skype on request.

Online support: <http://www.source-elements.com/support>

Online forum: <http://source-elements.com/community>

Email:

| | |
|---------|------------------------------------------------------------------------------|
| Support | support@source-elements.com |
| Sales | sales@source-elements.com |

Email is the best way to get in touch with us as we are on alert for urgent messages. When emailing Support, please provide us with the information required to resolve the issue: for example, your Source-LTC login, computer type, host version, and as much detail about the problem you are having as possible. This will assist us in responding to you with relevant assistance more rapidly.

Telephone: <http://www.source-elements.com/contact>

Telephone hours: Early - 6pm Central Time US (Chicago time).

Telephone after hours: When telephoning, please leave a message with your name and phone number and we will return your call as soon as possible. If we can't take your call immediately we call back at least the same day, if not earlier. We can also schedule an appointment for a convenient time for you.