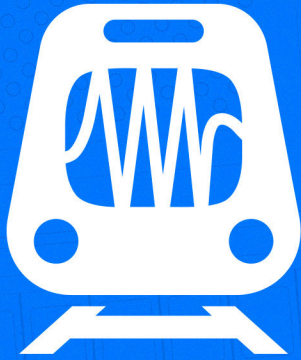


PreSonus®



Metro

For StudioLive Series III Mixers



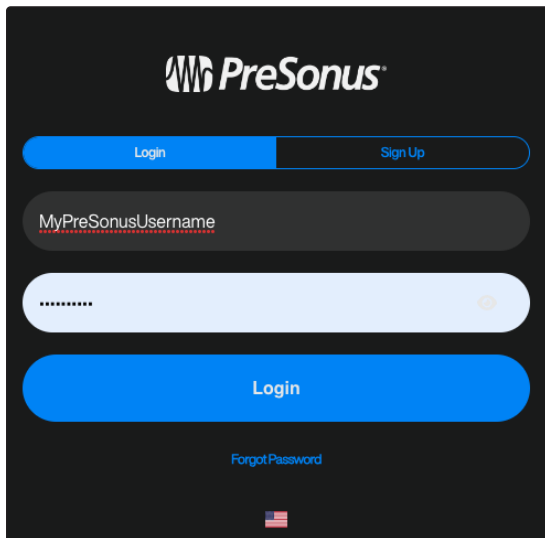
White Paper



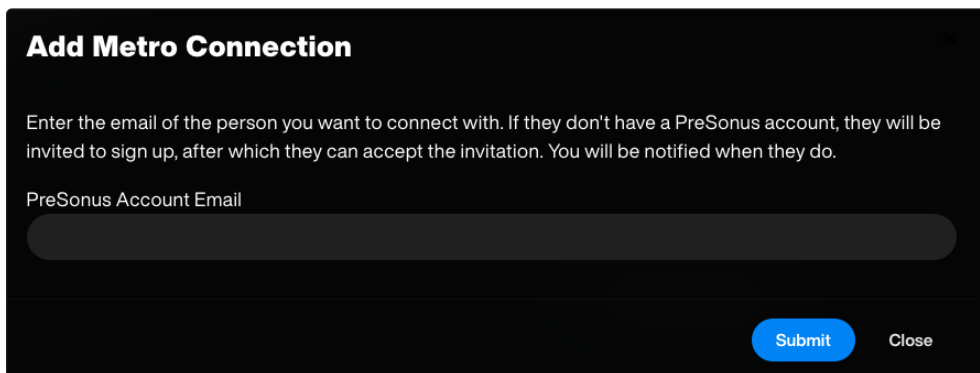
Metro: A New Level Of Mixer Control

PreSonus®Universal Control Metro is the latest innovation for StudioLive® Series III mixers, delivering a first-to-market solution for live remote mixing over the Internet with high-quality, low-latency audio streaming. So whether you're troubleshooting a mixer located several hours away or mixing a live broadcast remotely, PreSonus Metro will revolutionize the way you work. With Metro, anyone, anywhere in the world, can connect to a StudioLive Series III mixer over the Internet and begin remotely controlling the mixer using UC Surface while listening in real-time with their local audio device.

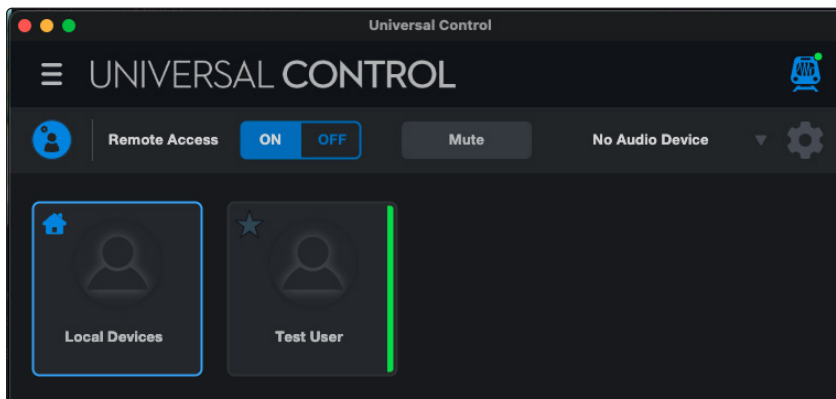
Remote-controlling a StudioLive Series III mixer using PreSonus Metro begins with creating a free MyPreSonus account and launching the Metro Workspace.

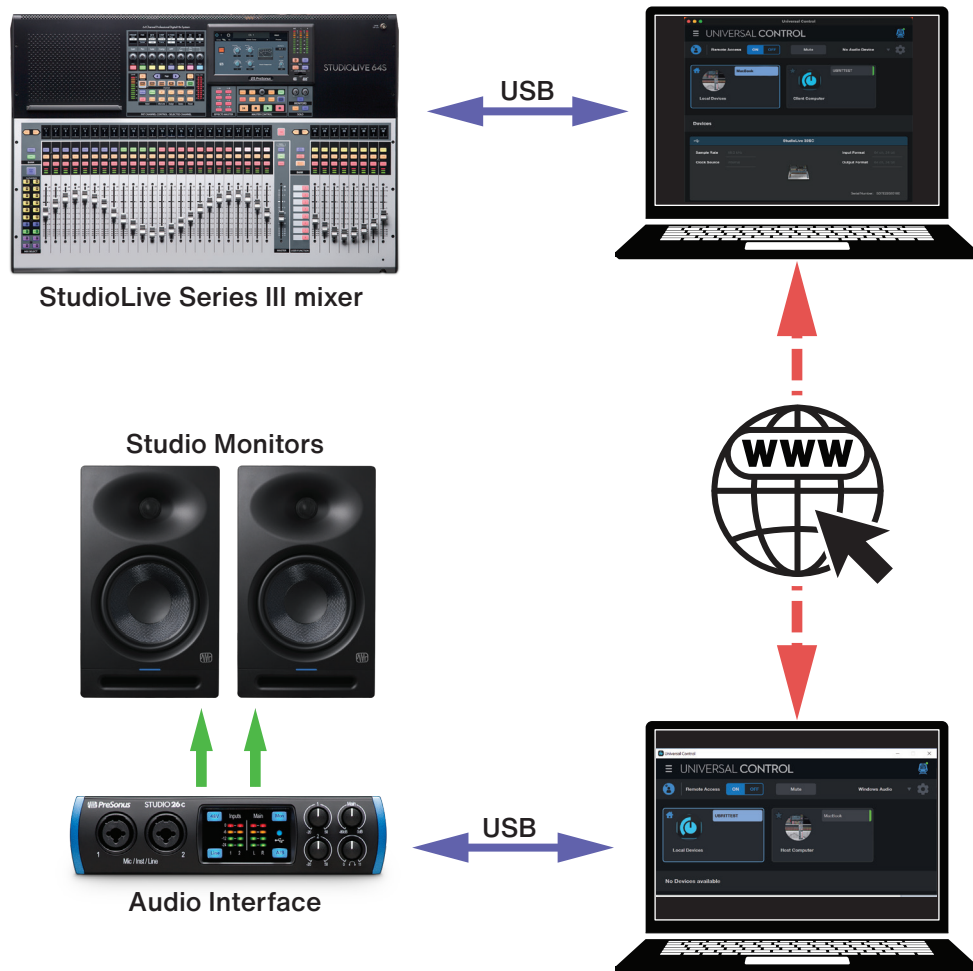
The image shows the PreSonus login interface. At the top is the PreSonus logo. Below it are two buttons: 'Login' (highlighted in blue) and 'Sign Up'. There is a text input field labeled 'MyPreSonusUsername' with a red error message below it. Below that is a password input field with a blue eye icon to toggle visibility. A large blue 'Login' button is centered below the fields. At the bottom, there is a 'Forgot Password' link and a small American flag icon.

From the Metro Workspace inside your MyPreSonus account, you can invite anyone to connect by entering their email. The new user must accept the invitation for their connection to show up inside Universal Control or the Metro workspace.

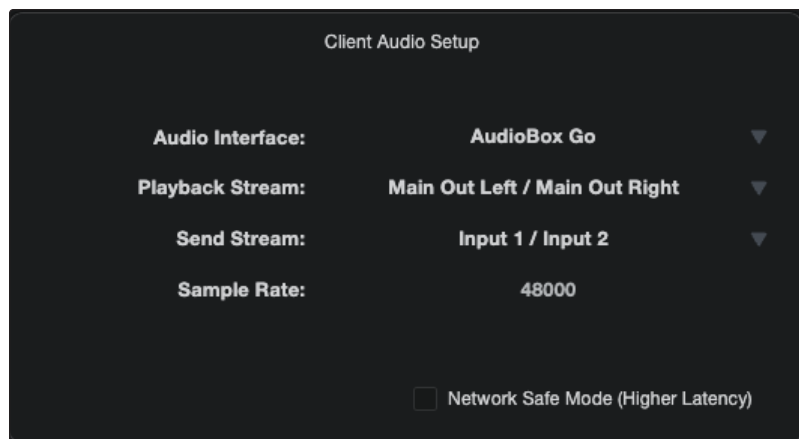
The image shows a dialog box titled 'Add Metro Connection'. It contains a paragraph of text: 'Enter the email of the person you want to connect with. If they don't have a PreSonus account, they will be invited to sign up, after which they can accept the invitation. You will be notified when they do.' Below this is a text input field labeled 'PreSonus Account Email'. At the bottom right are two buttons: 'Submit' (blue) and 'Close' (white).

Once any connection has been established, you'll find it displayed in the list of available users from the Metro section of Universal Control.





The user on the Client side can configure their audio device to remotely monitor the audio from the Main Mix and Solo bus while utilizing a local input as the talkback source. This also means that a StudioLive mixer is only required on the Host side of a Metro connection. Client users can monitor audio and send a talkback signal from any audio interface, including a built-in device. So whether the Client is using a PreSonus audio interface or a third-party device, they'll be able to hear exactly what the mix sounds like on the StudioLive mixer at the other end of the connection.



Important: Using a StudioLive Series III console on the Client side of the Metro connection to control a StudioLive Series III mixer on the Host side is not supported. The Client computer has full control using the local instance of UC Surface. Correspondingly, tablet control on the Client side is also not supported.

Once the connection has been established and remote access has been enabled, the user on the Client side can access all StudioLive mixing parameters and configuration tools inside UC Surface on their computer while the user on the Host side retains full control over their mixer and local instance of UC Surface. Because of this, the Host user can continue to mix a live show while the Client user mixes for a broadcast from the comfort of their home, anywhere in the world.

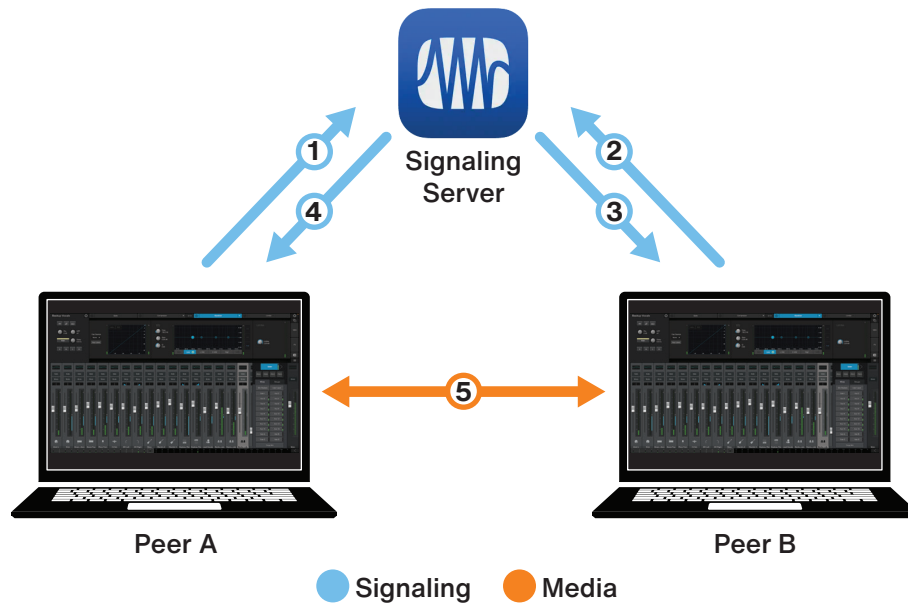
How does it work?

Metro takes full advantage of several key proprietary PreSonus frameworks and combines them with WebRTC technology to send and receive the control data and high-fidelity audio between the remote connections.

Leveraging third-party audio interface capabilities from Studio One allows the use of any interface or computer audio to be used as the listening device on the Client computer, right from Universal Control. MyPreSonus account integration is used to establish secure connection permissions between users, and the result is a secure, low-latency peer-to-peer connection that facilitates remote broadcast mixing, trouble-shooting, podcast-production, and more.

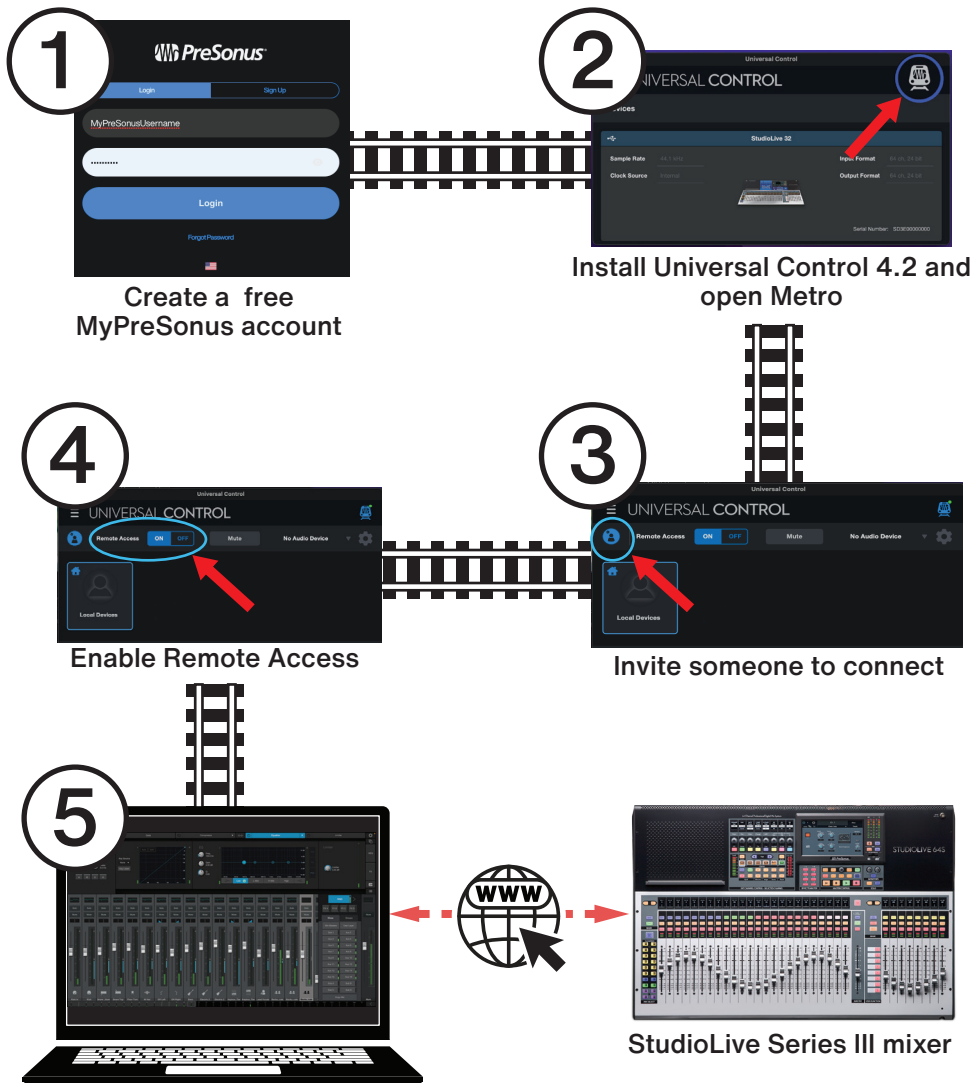
In addition to multiple PreSonus proprietary technologies that are embedded into the PreSonus software framework, Metro utilizes WebRTC. WebRTC (short for Web Real-time Communication) is an open-source specification that provides real-time media communication between Internet browsers and devices. Standardized in 2021, WebRTC is broadly used for live streaming, video conferencing, and data transfer. And when run directly between two instances of Universal Control, WebRTC also ensures privacy and a secure connection.

Using MyPreSonus as a secure signal server, WebRTC establishes connections by first allowing Peer A to create an “offer” that is sent to Peer B. This is known as “signaling”. Once Peer B “accepts” the offer, it creates an “answer” that is sent back to Peer A.



The Offer contains information about the proposed session. This includes all of the information about the mixer that will be controlled. Likewise, the Answer includes critical SDP or Session Description Protocol information.

Once the connection is established, the Remote client can control the StudioLive mixer on the Host side using UC Surface, just like they would if they were on the same LAN network as the Host computer. The real-time media communication at the heart of WebRTC allows the Remote client to listen to the audio coming through the Host StudioLive with such low latency that they are able to mix remotely in real time. And all data is encrypted during transmission to the server, so your information is secure and protected from unauthorized access.



Hardware Requirements

To begin using Metro, all you need is two computers (one Host, one Client), each running Universal Control 4.2 or later and logged into an established MyPreSonus account. Both computers must be connected to a stable broadband network with Internet access.

The StudioLive Series III mixer can be connected to the Host computer one of two ways: Network only or USB. If the mixer is only connected to the Host computer via Ethernet or WiFi, the Client computer will not be able to monitor audio – rather it will be able to remote control the mixer only. This is useful for troubleshooting and remote set-up applications.

Once the mixer is connected to the Host computer with USB, the Client side will also be able to monitor audio in real-time through their computer's sound card or any ASIO or Core Audio audio interface – even those made by 3rd party manufacturers.



Host computer



Client computer



StudioLive Series III mixer



Audio Interface

Applications

Metro is ideal for troubleshooting systems, as well as situations where creating a mix from a more controlled environment is preferred. While Metro technology fully supports mixing both front-of-house and monitors remotely, PreSonus does not recommend this use case. While you'll have complete mixing control from your remote set-up, you won't be able to hear the mix in the room or quell feedback before it builds. Because of this, PreSonus recommends having an engineer on-site during the performance to ensure the best possible listening experience for the audience and performers.

Recommend use cases are as follows:

- **Broadcast.** Remotely create a broadcast mix from your home without stepping foot into the venue.
- **Live Stream and Podcast Production.** Produce a livestream or podcast from anywhere in the world.
- **Troubleshooting.** Troubleshoot StudioLive Series III mixers quickly and conveniently from your home or office.
- **Remote Recording.** Ensure that a remote recording session is properly gain staged.
- **Corporate conferences.** Remotely mix an all-day conference panel from the comfort of your couch.
- **Professional assistance.** Dial in a scratch mix remotely for a less experienced onsite FOH or monitor engineer to use as a starting point.

Metro is available as a free update in Universal Control 4.2 or later and supports the following mixers:

- StudioLive 64S
- StudioLive 32S
- StudioLive 32SX
- StudioLive 32SC
- StudioLive 32R
- StudioLive 24R
- StudioLive 16R
- StudioLive 32
- StudioLive 24
- StudioLive 16

