

ClearOne®

CONVERGE® USB

USB Audio Interface for CONVERGE PRO & SR Products

Quick-Start Guide



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THE CONVERGE USB

The CONVERGE USB device provides plug-and-play USB audio In/Out (transmit/receive) connectivity between popular desktop and laptop UC applications or COLLABORATE Room and CONVERGE Pro for full, rich, professional sound.

The CONVERGE USB also can serve as a E-bus (sometimes called G-Link expansion bus) extender. The CONVERGE USB can, for example, be up to 200 feet from the stack, then re-send the signal for up to another 200 feet to the next E-bus component.

IMPORTANT: The CONVERGE USB only can be used with CONVERGE Pro/SR systems operating at version 4.X or higher software and firmware.

The latest version of the CONVERGE Pro firmware can be found on the ClearOne website at:

http://www.clearone.com/resources#professional_audio

Parts Included

The CONVERGE USB interface kit (910-151-806) includes:

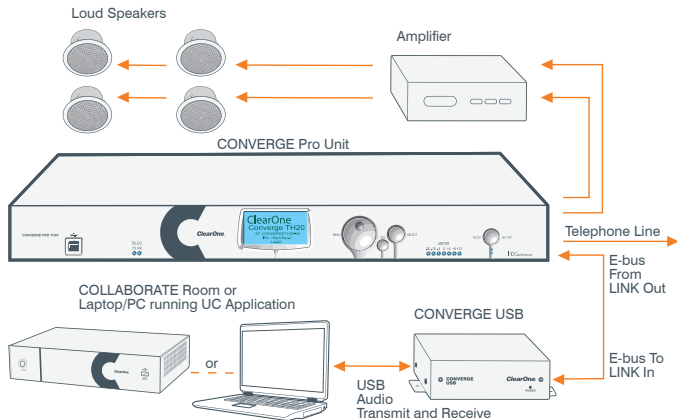
- CONVERGE USB Interface unit (mounting screws NOT included)
- Terminal Block (6 position 3.81 mm block, Phoenix-type, for channel selection)
- 6-foot USB A-B cable
- 25-foot CAT5E plenum cable for E-bus connection
- 12V DC @ 500 MA, 6W Power supply (wall adapter and cable)

CONVERGE USB INTERFACE

USB Interface Application

The CONVERGE USB allows audio sources/destinations to connect via USB to CONVERGE Pro/SR mixers. The following diagram shows how a CONVERGE Pro can be connected to a PC/laptop or COLLABORATE Room via USB.

CONVERGE USB Used as USB Interface for CONVERGE Pro



QUICK-START GUIDE

- Up to four CONVERGE USB units with unique channel pairs can be attached to a single CONVERGE Pro/SR site. Refer to “Link Channel Selection” later in this document for instructions on how to select the Tx/Rx channels.
- There is no limit to the number of units if they all share the same bus.
- Audio control is performed in the UC Application or COLLABORATE Room application. See “Configure and Set Audio Controls” for more detail.

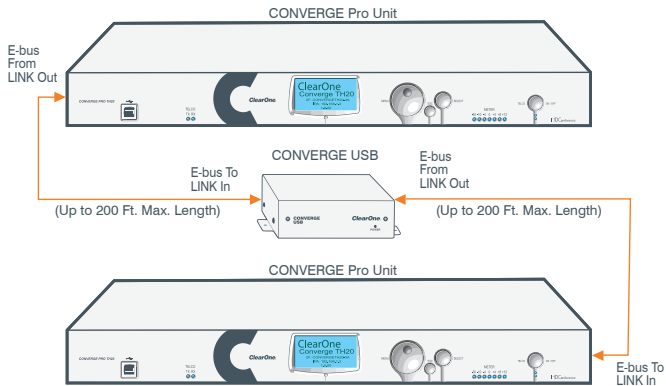
E-bus Extender Application

The CONVERGE USB application as an E-bus extender can, for example, be up to 200 feet from the stack, then re-send the E-bus signals for up to another 200 feet to the next E-bus component.

The following diagram illustrates the use of the CONVERGE USB as an E-bus extender.

CONVERGE USB INTERFACE

CONVERGE USB Used as E-bus Extender for CONVERGE Pro



Note: Link Channel Selection is NOT required when the CONVERGE USB is used only as an E-bus extender with no USB Tx/Rx channels used.

Procedure Summary

These steps, detailed in the subsequent sections, must be done in the following order to use the CONVERGE USB in your CONVERGE Pro Site:

1. Verify the CONVERGE Pro firmware is at version 4.X or higher. Update if needed using CONVERGE Console.
2. Select the Expansion bus (E-bus) Link Channels by connecting a terminal block to the CONVERGE USB Control/Status connector at the back of the device.

Note: Not required if the CONVERGE USB is to be used only as a E-bus extender with no USB In/Out channels. Steps for "Link Channel Selection" are described later in this document.

3. Connect the CONVERGE USB to the updated CONVERGE Pro/SR via the E-bus.
4. Route the CONVERGE USB Transmit and Receive audio channels with CONVERGE Console.

Note: Not required if the CONVERGE USB is to be used only as a E-bus extender with no USB Tx/Rx channels.

5. Configure and set audio controls on the PC/Laptop or COLLABORATE Room codec.

CONVERGE USB INTERFACE

VERIFY THE CONVERGE PRO FIRMWARE

Verify your CONVERGE Console is operating at version 4.X or higher. The CONVERGE USB audio interfaces are not recognized by systems running older versions and the 4.X versions offer significant upgrades from previous versions. ClearOne strongly encourages users to upgrade all firmware to the latest release version.

Instructions for updating from version 1.X, 2.X and 3X are detailed later in this document.

LINK CHANNEL SELECTION

Set each CONVERGE USB unit for both Transmit and Receive channels using jumpers across a terminal block that is inserted into the 6-pin Control/Status connector at the back of the CONVERGE USB unit.



QUICK-START GUIDE

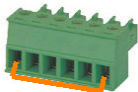
The terminal block pins are numbered from left to right 1, 2, 3, 4, 5 and 6. The pins 1 and 3 are the inputs used to select different pairs of channels. Channel selections are made by connecting combinations of pins 1 and 3 to pin 6. Pins 2, 4 and 5 must not be used to avoid equipment damage.

All E-bus signals will pass through the CONVERGE USB, but only the selected Tx/Rx channels will be used by the CONVERGE USB.

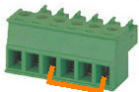
The following illustration show the possible pin/channel selections using jumper wires on the terminal block:

No
Connector

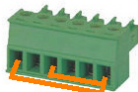
Tx channel - K
Rx channel - L



Tx channel - M
Rx channel - N



Tx channel - O
Rx channel - P

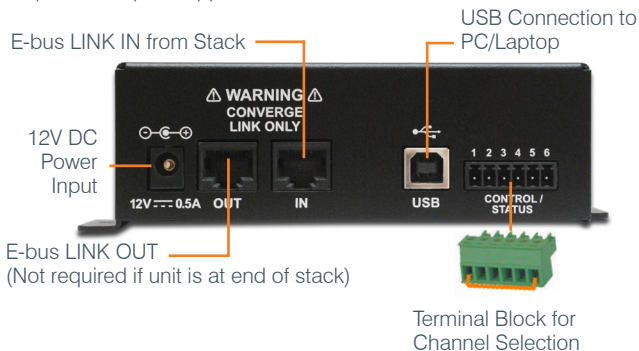


Tx channel - Q
Rx channel - R

CONVERGE USB INTERFACE

CONNECTING THE CONVERGE USB UNIT

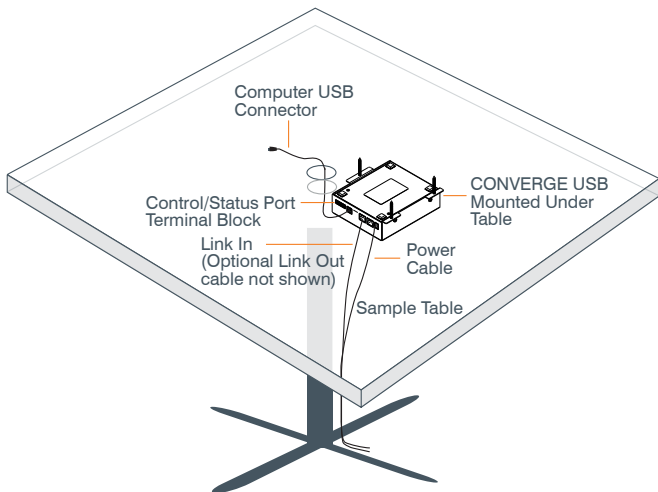
Connect the CONVERGE USB units to the CONVERGE Pro/SR stack via the E-bus connections using CAT5/CAT6-24AWG solid conductor RJ45 cables. Power to the CONVERGE USB is supplied by the standard 12V DC power adapter supplied with the unit.



Mounting

The CONVERGE USB Interface can be conveniently mounted under the table of a conference room. Place screws through the tabs on the sides of the unit into the underside of the table. (Screws not provided.) Pass the USB cable through to the top for use with customer computer equipment, and route the Link In, Link Out (if needed) and power cables to their connections.

QUICK-START GUIDE



The CONVERGE USB Interface can also be placed near the CONVERGE Pro units or at any other location if care is taken to remain within the operational limits of the USB, power and E-bus cabling.

CONVERGE USB INTERFACE

ROUTING THE CONVERGE USB CHANNELS

Complete the audio channel routing in the Matrix in CONVERGE Console. In CONVERGE Console, select any device in the site, then click on the Matrix tab.

The screenshot shows the CONVERGE Console interface. On the left, the 'Site Selection' dropdown is set to 'CONNECT Site'. Below it, the 'Current Unit' is '(D0) CONVERGE880T-0'. There are 'Site View' and 'Tree View' buttons. A terminal block diagram shows pins M, L, O, P, F, T, R. The main Matrix area has tabs for 'Site', 'Unit', 'Channel', and 'Matrix'. A legend indicates: Yellow for Gated, Cyan for Non Gated, Brown for Pre AEC, and Green for Crosspoint. A 'Clear Matrix' button is present. The Matrix table shows routing for Input 1 and Input 2 to Output 1 through Output 5.

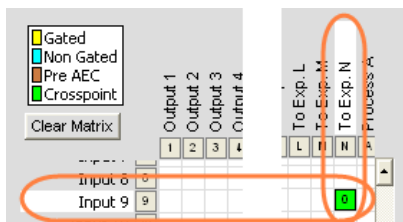
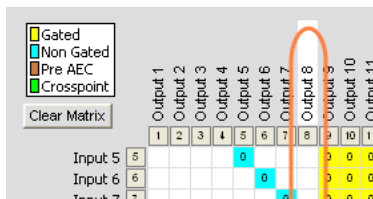
	Output 1	Output 2	Output 3	Output 4	Output 5
Input 1	1	0			
Input 2	2	0			

As selected by the terminal block, route the signals that will be in Inputs and Outputs for the USB device connected through the CONVERGE USB.

For example: if a terminal block jumper is between pins 1 and 6, then the CONVERGE Pro channels are M for transmit and N for receive. These can then be routed to the desired inputs and outputs.

The following two screen captures show audio from the CONVERGE USB on Channel M going to Output 8, and Channel N receiving audio from Input 9 then sending it to the CONVERGE USB.

QUICK-START GUIDE



CONVERGE USB INTERFACE


CONFIGURE AND SET AUDIO CONTROLS


Audio control for the audio interfaced to the CONVERGE Pro system is applied in the laptop or PC running the UC application or by COLLABORATE Room.

Microphone, Speakers and Volume in the UC Application



In the UC client, set the CONVERGE USB as the microphone and speaker audio devices. Different client applications vary in the way they present these controls. Two examples shown below are for Skype™ and Lync®.


Skype Example

 **Microphone** Microphone (3- Converge USB) ▼

Volume 

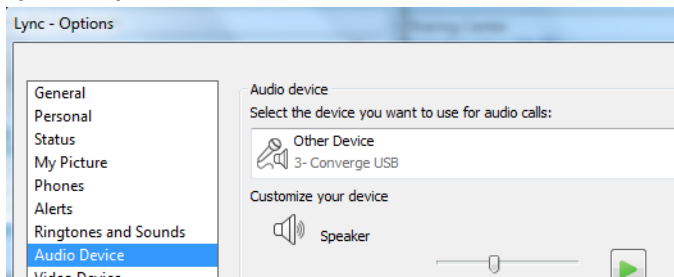
Automatically adjust microphone settings

 **Speakers** Speakers (3- Converge USB) ▼ 

Volume 

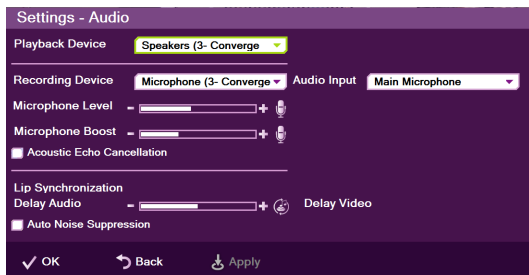
Automatically adjust speaker settings

Lync Example



Microphone, Speakers and Volume in COLLABORATE Room

In the COLLABORATE Room settings, assign the CONVERGE USB as the recording and playback audio devices.



CONVERGE USB INTERFACE

UPGRADING FROM OLDER VERSIONS OF CONVERGE FIRMWARE

Please follow the steps listed below to upgrade your firmware:

NOTE: Save the CONVERGE Console site file before performing any firmware upgrade.

Upgrading from CONVERGE Pro 3.X firmware

1. Remove any 1.X, 2.X and 4.X units from the stack by disconnecting the expansion bus link cable from the 3.X units.
2. Re-connect to the 3.X stack with CONVERGE Console.
3. Download the 4.X firmware file to the stack of units.
4. The units will default and reboot after the download of 4.X firmware.
5. Units are fully upgraded.
6. Verify units have been upgraded by checking the firmware version on the front panel.

Reconnect all E-bus cables, if needed, to complete the stack of units.

Upgrading from CONVERGE Pro 2.X firmware

1. Remove any 1.X, 3.X and 4.X units from the stack by disconnecting the expansion bus link cable from the 2.X units.
2. Re-connect to the 2.X stack with CONVERGE Console.
3. Download the 4.X firmware file to the stack of units.
4. The units will default and reboot after the download of 4.X firmware. The 2.X to 4.X upgrade requires the firmware to be loaded twice to complete the version upgrade.

5. Units are fully upgraded.
6. Verify units have been upgraded by checking the firmware version on the front panel.

Reconnect all E-bus cables, if needed, to complete the stack of units.

Upgrading from CONVERGE Pro 1.X firmware

1. Remove any 2.X, 3.X and 4.X units from the stack by disconnecting the expansion bus link cable from the 1.X units.
2. Re-connect to the 1.X stack with CONVERGE Console.
3. Download the 4.X firmware file to the stack of units.
4. The units will default and reboot after the download of 4.X firmware. The 1.X to 4.X upgrade requires the firmware to be loaded twice to complete the version upgrade.
5. Reconnect to the stack with CONVERGE Console. Download 4.X a second time to the units. The units will reboot.
6. Units are fully upgraded.
7. Verify units have been upgraded by checking the firmware version on the front panel.

Reconnect all E-bus cables, if needed, to complete the stack of units.

CONVERGE USB INTERFACE

PART NUMBERS

910-151-806

CONVERGE USB

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