



White Paper

Simple VoiceBox to VoiceBox CobraNet System

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1 Objective

The majority of CobraNet systems involve more than two endpoints. But what if you only needed two endpoints and no complicated connections? The objective of this white paper is to explain how this can be achieved with two VoiceBoxes.

The VoiceBox 4 I/O CobraNet Audio Interface is a cost effective 4 in/4 out mic/line preamp. We can use two VoiceBoxes and pass audio in both directions between them using CobraNet. The simplest way to achieve this is to use them connected directly together with a special CAT-5 cable called a crossover cable.

Unlike standard CAT-5 cables, a crossover cable, as the name suggests, “crosses over” receive and transmit connections within the cable so they are swapped over. This allows you to connect two PCs directly together, for example, without the need for any network infrastructure such as a switch. In our case, we will use this cable with two VoiceBoxes instead to allow them to communicate with each other. Like all CAT-5 connections the maximum length of this cable is 100 meters.

Since we do not have a hub, we have to set up each VoiceBox individually. Once configured, we can then connect them together and the audio should work.

For our example, we will set up each VoiceBox to transmit stereo audio in a single bundle to the other VoiceBox.

1.1 Setting up the System

To begin with, attach the PC to the first VoiceBox either directly using a crossover cable or indirectly via a switch and standard cables and run the Attero Tech Control Center Software. Select the VoiceBox when it appears and check to see if persistence is set in the lower half of the main screen. If it is not, click the box so a check mark appears. By doing so, we ensure the settings will not be lost when we remove the power.

Next, click the Bundle Setup button to open the Bundle Setup form. In the transmit section, set up bundle transmitter TX1 with the bundle number 300. In addition, set the Submap to 1, 2, 0, 0, 0, 0, 0, 0, Subcount to 2, and set Unicast Mode to ‘U’ for unicast only mode.

On the receiver side, set up bundle receiver RX1 with the bundle number 301 and the Submap to 33, 34, 0, 0, 0, 0, 0, 0.

Click the Apply button to apply all these settings and close the Bundle Setup form. You can now disconnect the first VoiceBox and connect the second one.

When the second VoiceBox appears, repeat the configuration steps done for the first VoiceBox except swap the bundle numbers so on the second unit, the transmit bundle number will be 301 and the receive bundle number is 300.

Once the setup is complete, apply the changes and exit the application.

Finally, connect the crossover cable between the two VoiceBoxes themselves. The Ethernet LEDs on the VoiceBoxes CobraNet connections should start to blink at around 3Hz after a few seconds to show the devices are communicating correctly. Audio should now be passing from input 1 & 2 on one VoiceBox to output 1 & 2 on the other VoiceBox. At the same time, you should also be able to pass audio in the opposite direction from inputs 1 & 2 on second VoiceBox to outputs 1 & 2 on the first.

While this is a simple system, the simplicity comes at a price. There is no way to monitor the connection as you cannot connect a PC to one VoiceBox without disconnecting the other. You also cannot change the configuration on the fly either for the same reason. We can overcome both of these issues by replacing the crossover cable with a small switch and some standard CAT-5 cables. By attaching each VoiceBox to the hub as well as the PC, you can configure on the fly and also monitor the connection status.