

Attero Tech CobraNet™ CO² Quick Start Guide

A Note to the User

The Attero Tech CobraNet CO² demo platform is designed to allow evaluation of basic CobraNet and DSP Conductor functionality at a very low cost. A 2-layer PCB implementation is used to minimize the demo board cost. While the CO² works well with short (less than 5 meter) CAT-5 connections, **it is not a reference design or a production implementation**. Attero Tech will be pleased to offer a proposal to meet your specific product requirements with a fully CobraNet certified production implementation.

Stand-Alone Operation

The CO² demonstration units are preconfigured for simple setup and operation. Connecting two CO²s in a stand-alone setup is the simplest way to demonstrate how audio is transferred over a CobraNet network. Audio can be input to either CO² and output from the other. In order to accomplish this please follow these setup procedures:

Equipment List:

- 2 each - CobraNet CO² Demonstration boards
- 2 each - 9V power supplies
- 1 each - CAT-5 crossover cable
- 1 each - Line-level audio source (with either RCA outputs or 1/8" stereo mini outputs)
- 1 each - Audio playback system (i.e. receiver, soundcard line-in)
- 2 each - Sets of stereo RCA (or stereo 1/8") audio cables (depending on the audio source and playback connectors)

Procedure:

1 – Connect one 9V power supply to the power input jack on each CO².

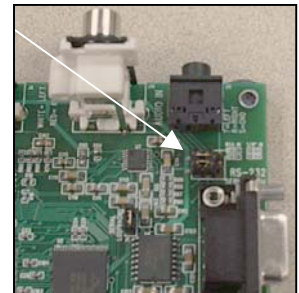
2 – Connect the CAT-5 crossover cable between the two CO²s by plugging one end of the cable into the RJ-45 connector on one CO² and the other end to the RJ-45 on the other CO².

3 – Now connect the audio input to either J10 or J11 on either CO². J10 is the AUDIO IN RCA connector and J11 is a 1/8" stereo input. The CO² is factory configured, by the jumper settings on J5 and J4 (Input Jumpers, shown at right), to accept RCA input. If you need to use the 1/8" stereo input, change the jumper settings to match the silkscreen diagram located to the right of these jumpers on the CO² board. Disconnect the power when changing these jumper settings.

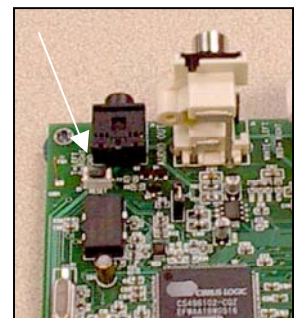
4 – Connect the audio output of the other CO² to the audio playback device. Audio is output simultaneously on both jacks, J8 and J9.

5 – Make sure your audio source and playback system is properly setup. If you have not already heard audio, reset each board by pressing the reset switch S1 located just beneath the 1/8" output jack J9.

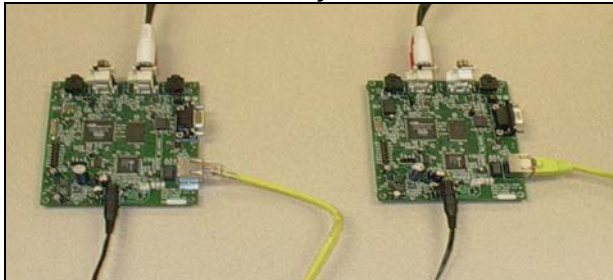
Input Jumpers



Reset Switch



Picture of Stand-Alone System Connections with RCA Sources



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Advanced Setup – Software Control

Users wanting to demonstrate more advanced features of the CobraNet technology should use the advanced setup for the CO² demonstration kit. The advanced setup gives users the ability to control basic audio routing, monitoring of device status, and shows serial packet bridge functionality by means of the accompanying CobraNet CO² Demonstration Utility software. Audio signal processing may also be demonstrated and controlled by using the DSP Conductor™ software from Cirrus Logic.

Equipment List:

- 2 each - CobraNet CO₂ Demonstration devices
- 2 each - 9V power supplies
- 3 each - CAT-5 straight thru cables (not included)
- 1 each - 10/100 Fast Ethernet Switch (not included)
- 1 each – PC Computer (Windows 2000 and higher)
- 1 each - DB9 serial RS-232 cable (for serial packet bridge demonstration)
- 1 each - Line-level audio source
- 1 each - Audio playback system
- 2 each - Sets of stereo RCA (or stereo 1/8") audio cables (depending on the audio source and playback connectors)

Procedure:

- 1 – Connect one 9V power supply to the power input jack on each CO².
- 2 – Connect the RJ-45 jack on each CO² devices and the computer's Ethernet card to the Ethernet switch using the straight-thru CAT-5 cables.
- 3 – Now connect the audio input to either J10 or J11 on either CO². J10 is the AUDIO IN RCA connector and J11 is a 1/8" stereo input. The CO² is initially configured, by the jumper settings on J5 and J4, to accept RCA input. If you need to use the 1/8" stereo input, change the jumper settings to match the silkscreen diagram located next to these jumpers on the CO² board. Disconnect the power when changing these jumper settings.
- 4 – Connect the audio output of the other CO² to the audio playback device. Audio is output simultaneously on both jacks, J8 and J9.
- 5 – Make sure your audio source and playback system is properly setup. If you have not already heard audio, reset each board by pressing the reset switch S1 located just beneath the 1/8" output jack J9.
- 6 – Connect the include DB9 serial cable between the computer's serial port and one of the CO² DB9 connectors. This is only necessary for performing serial packet bridge demonstrations.
- 7 – Run the application CobraNet C02 Demonstration Utility located under Start Menu->Programs->CobraNet C02 after installation, the setup files are included on the CD-ROM. Using this application, you can manipulate many of the software controllable features of the CobraNet technology. For further reference please consult the Operating Instructions for the software also found on the CD-ROM.

Notes:

Each CO² device operates in one of two modes, either conductor or performer. The device that is in the conductor mode is the master clock for the system while the performer acts as a slave device to the conductor. The mode is indicated by the LEDs on the RJ-45 connector of the CO². Both LEDs flashing indicates conductor mode. One flashing and one steady indicates performer mode. If other combinations are seen on these LEDs, especially during power up, there is likely a critical error and the error is reported by the pattern shown on the LEDs.

DSP Conductor is a trademark of Cirrus Logic, Inc.

Status LEDs

