

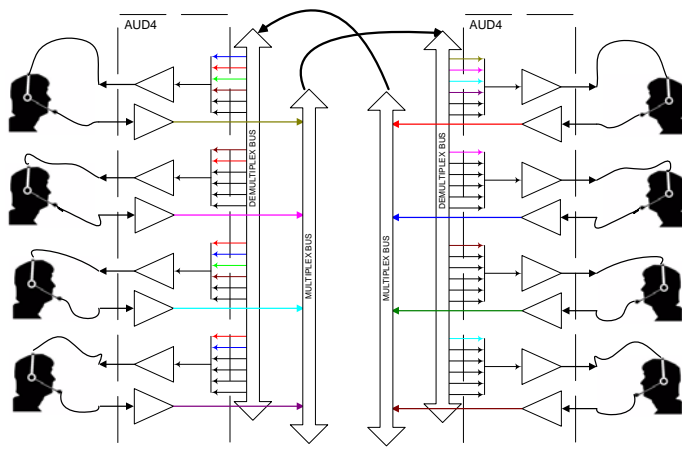
Audio Conferencing

One of the functions of the Apogee Labs multiplexing products is to transmit data from one location to another. Often this process is supported in real time by a person at each end of the communication path. Communication between these individuals can be accomplished using a single channel audio encoder / decoder at each end of the path. However, since the interface is one-to-one, other personnel involved with the same project are unable to participate in this communication. Ideally, a single individual should be able to conference with everyone involved in the project.



Apogee Labs has the solution. The model 2053 AUD4 Four Channel Duplex 4-Wire Audio Module provides the capability to support audio conferencing. The AUD4 is uniquely suitable for conferencing applications because each audio output is programmable to capture and reproduce up to six remote audio sources. Each channel of the AUD4 accepts an audio input and output device. The full toll-quality audio spectrum (flat from 300 Hz to 3000 Hz) is supported. [See the specification sheet for the AUD4 for more detail—also available on the web site.]

As with all Apogee Labs multiplexing modules, each input channel is user programmed with an identifier. At the far end of the system, an AUD4 module demultiplexes and captures transmitted audio by being programmed to look for the identifier of the desired channel.



Using one AUD4 module at each end of the system, up to four individuals are able to communicate with each other. By using the appropriate settings, everyone in the link is able to hear and speak to everyone else. Of course, settings may be established to channel only selected paths to each other.

Efficiency of the communication path is achieved by limiting the data rate required to 32 kbps per channel. This is accomplished by using a compression engine incorporating A-Law in combination with ADPCM.

Fidelity of reconstructed audio is maintained even when multiple channels are combined to a single output. Signal combination with fast attack automatic gain control is implemented using digital techniques. With multiple channels being combined into a single output, the combined signal is monitored and digitally adjusted to restrict overdrive and maximize gain for clear audio readability.