Using the BLU-101 & BLU-102

Soundweb™ London

This design file for the Soundweb™ London BLU-101 & BLU-102 provides the functionality required for a typical conferencing system. This design utilizes Acoustic Echo Cancellation for Audio and Video Teleconferencing applications.

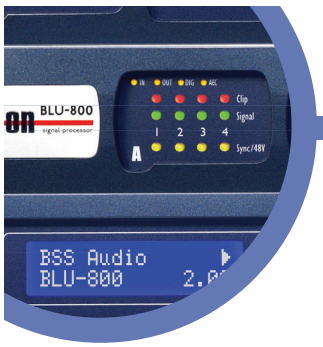
This system has the following features:

- ~ 18 Microphone inputs with Acoustic Echo Cancellation [AEC]
- ~ Stereo Line level input for multi-media
- ~ Stereo Line level input and output for external Video Conferencing [VTC]
- ~ Telephone Hybrid for analog phone interface [ATC]
- ~ Separate outputs for: Speakers, Record and the Assisted Listening System [ALS]
- ~ Separate signal paths for Dry and AEC microphones for voice lift applications

The BLU-102 is a very cost affective Digital Signal Processor for conferencing applications. The BLU-101 adds up to twelve more AEC inputs to our system. This file illustrates the correct method for processing the AEC and DRY microphone signals and how to correctly route their AEC reference. Each mixer [AEC & DRY] has 4 group outputs allowing greater flexibility for routing and grouping the these microphones.

The BSS Audio method of AEC is a frequency based algorithm not a time based algorithm. Because of this, it is important to process both the referenced and un-referenced signal paths with the same settings. To accomplish this we utilize N-Input processors at the outputs to maintain continuity between the two signal paths. When configuring AEC in the BLU-102 or BLU-101, it is important to place the AEC processing at the input, before any additional processing. The Crossover processing objects used on both the inputs and outputs provide High Pass filter, Low Pass filter, Gain, Polarity, Limiter and Delay if needed. A Fire Alarm interface is provided for by linking all the output card channel mutes and attaching one of them to Control Input number 1. If this feature is not needed, simply place a jumper between Control Input 1 and Common.

The outputs from the Matrix Router have been named to help identify which signals need to be routed to which outputs. For the speaker outputs, the Matrix Router is labeled as 'Non Mics to Speakers' and 'Mics to Speakers'. The 'Non Mics to Speakers' output is for the Media, the VTC and the ATC signals. This is the signal path that will be routed to the AEC reference just before the output. This effectively removes these signals from the microphone inputs at the AEC processing block, preventing any echo at the far side. The 'Mics to Speakers' output from the router should only be used if local voice lift is required. If this feature is not needed, simply turn off this cross point in the router. The router is already correctly configured to allow the AEC processed signals to feed the VTC, ATC, ALS and record outputs. The VTC and ATC signals are routed to each other allowing the system to bridge the two connections providing the capability for a three way conference.



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