HiQnet audioarchitect™

BLU LINK DIGITAL SNAKE APPLICATION GUIDE

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A digital audio snake has a number of unique benefits including:

• Immunity to inductive noise
• The capability to distribute audio from the stage to multiple locations over inexpensive CAT5e cable
• Long cable runs without signal degradation
• The capability for a lossless split of the audio signals
• Control and monitoring from any number of PCs

Every device in this digital audio snake design is a Soundweb London BLU-120. Each BLU-120 utilizes BLU link to transmit and receive up to 256 channels of 24-bit digital audio at 48kHz or 128 channels of 24-bit digital audio at 96kHz. No audio processing is required for this application since the sole function of an audio snake is simply to route audio signals from device to device. While BLU-160 devices could be used for this application, the extensive range of processing offered by these devices would not be employed and thus the extra cost is unnecessary.
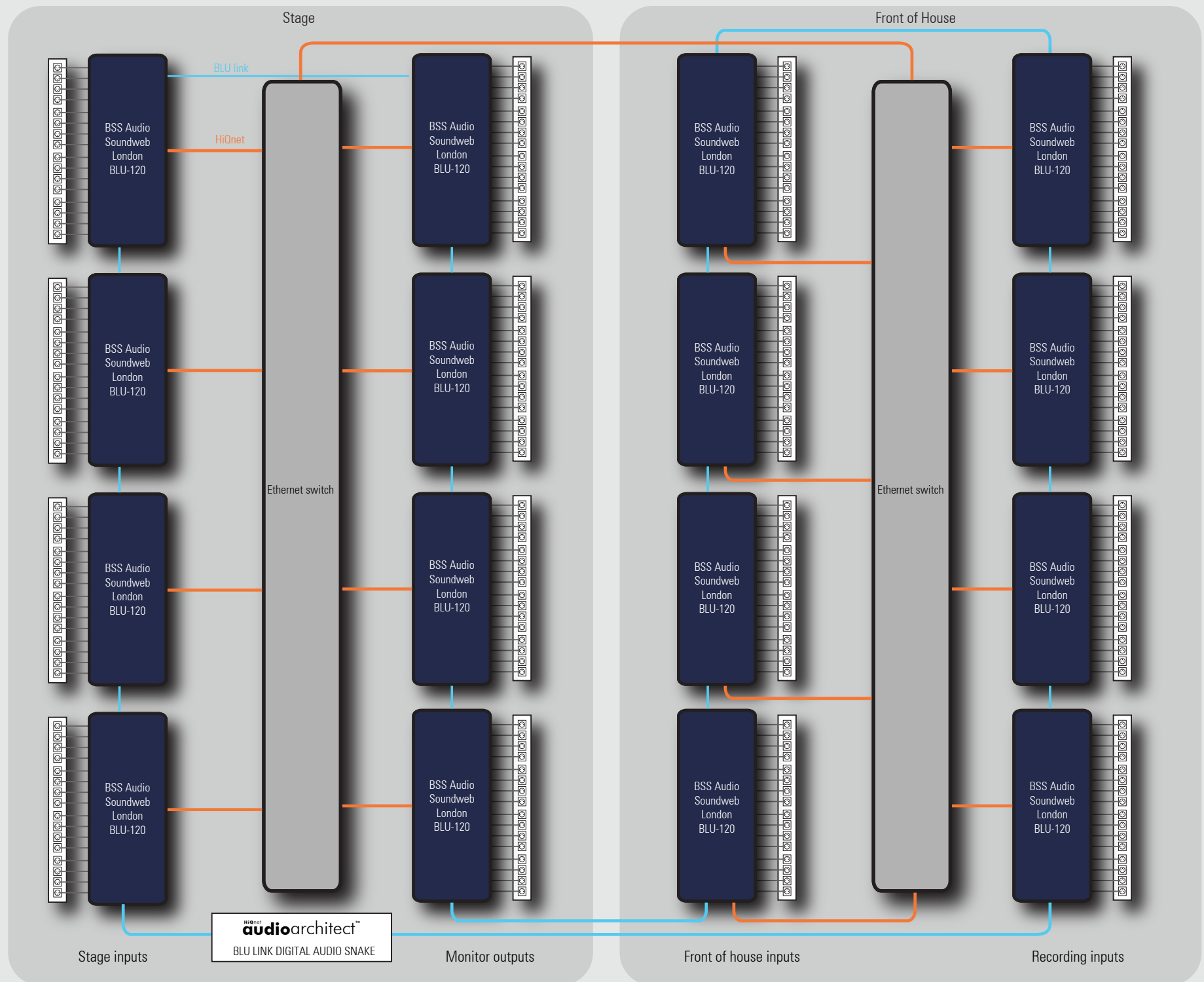
HARMAN's BLU link audio transport is found on the vast majority of the Soundweb London processors, the Crown DCi Series amplifiers, the dbx PMC Personal Monitor Controller system and optionally in the Soundcraft Si Series mixing consoles. When connected in a loop, it has redundancy, allowing any one BLU link cable to break while still maintaining the audio path. The digital audio can travel up to 100 meters on a standard CAT5e network. If greater distances are needed, standard 'off-the- shelf' Ethernet fiber optic devices can be employed. The BLU link devices are connected 'point to point' eliminating the need for expensive switches and reducing the bandwidth requirements of a coexisting Ethernet-based transport.

Moving the snake from an analog domain into the digital domain means that audio signals can be 'copied' and routed to a virtually unlimited number of locations without impedance concerns. Inexpensive CAT5e cable replaces costly and bulky analog snakes and the digital network, providing complete signal integrity, ensuring a premium listening experience throughout the facility.

In the case of this design, four BLU-120 devices, configured with 16 analog outputs, are used at each of the three output positions — front of-house, monitors and record. The audio is routed from four BLU-120 devices, configured with 16 analog inputs, located at the stage to all of the output devices via BLU link.
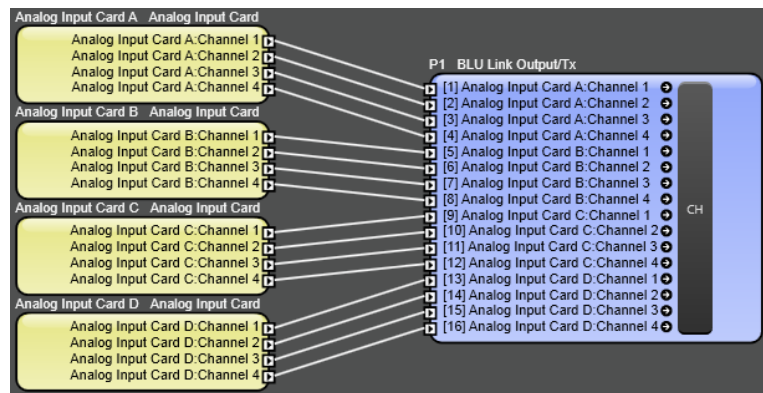
Note here that Crown DCi Amplifiers and dbx PMC devices may be also employed via BLU link to route audio for front of house and monitoring applications.

BLU link Complementary to Ethernet-based audio transports, the BLU link digital audio bus provides an unprecedented level of routing flexibility. BLU link is capable of routing 256 channels of audio directly from device to device within a local rack, or an entire rack room. BLU link is fault-tolerant and is compatible with the majority of Soundweb London devices and DriveCore Install Series Network amplifiers.

Stage

Front of House

BLU link

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BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

Ethernet switch

BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

Ethernet switch

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BSS Audio Soundweb London BLU-120

BSS Audio Soundweb London BLU-120

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BLU LINK DIGITAL AUDIO SNAKE

Stage inputs

Monitor outputs

Front of house inputs

Recording inputs

DSP CONFIGURATION

Having a computer connected to the digital audio snake has major advantages. For the design shown, a Custom Panel could be created to enable the system operator to select any of the inputs, adjust input sensitivity and enable or disable phantom power. Full metering gives the audio engineer accurate signal level at every point in the signal chain.

Ease of signal routing, flexibility, and signal integrity are all good reasons why designers of today's performance venues are choosing Architectural Media Systems to provide an inexpensive, yet more flexible, routing alternative to traditional analog solutions.

Shown above is the signal routing from one BLU-120 configured as one of the four input modules to a BLU link processing object. The processing object has been configured to accept the 16 channels of audio and put them onto the BLU link network.
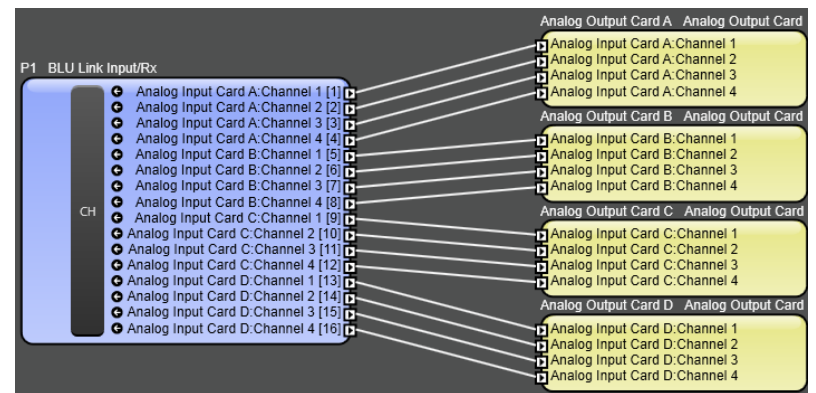
Shown above is one of the BLU-120 devices configured as one of the twelve output modules. The BLU link processing object is configured as an input from the BLU link network and then distributes the 16 signals to the analog outputs.

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