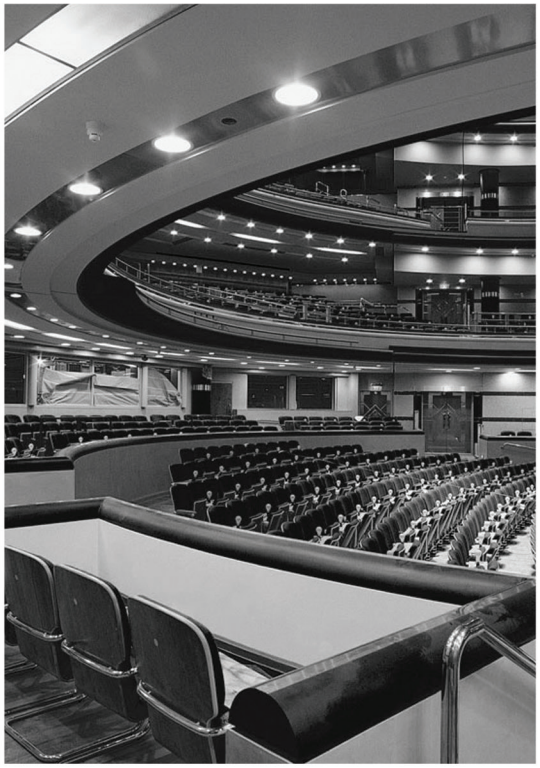

BSS crown HiQnet

ARCHITECTURAL MEDIA SYSTEMS

2014

HARMAN

From the biggest entertainment technology provider in the world, HARMAN's premier installed sound solution – Architectural Media Systems – has been created with not only the contractor, but also the end user and the audience in mind.

HARMAN PROFESSIONAL

HARMAN is the worldwide leader in premium audio and infotainment products for automotive, consumer and professional use. For over 60 years, our legendary brands have taken a leading role in the creation of advanced entertainment technologies, from the world's first stereo receiver in the 1950's to today's most revolutionary audio, navigation and infotainment systems. Our commitment to quality and innovation touches lives around the clock, from world-class performance venues and stadiums to home theater and premium automobiles. Our renowned brands support leading tour artists from every music genre and routinely contribute to recording and broadcast excellence. But the legendary brands of HARMAN don't just develop new technologies; they also have the expertise to integrate these technologies into rich lifestyle experiences that blend the best of acoustics, amplification, signal processing and more – whether around the home or on the go.

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With core components from AKG, BSS Audio and Crown, the heritage of Architectural Media Systems lies in the greatest combination of processor and amplifier in the world. With the strength of these brands as the system backbone, it is arguably the highest performing and most flexible system available today.

IT'S ALL ABOUT THE EXPERIENCE...

As with hundreds of high-profile systems across the world, the HARMAN system has provided the best sound reinforcement for the biggest sporting events. With the announcement of the team winning over the high-energy music, it's a sound system that creates the atmosphere to drive the fans and the team on. A sound system that drives them back time and time again.

The Architectural Media Systems solution provides incredible flexibility with the same components scaling from an 80,000 seat stadium down to a small performing arts center. Here it seamlessly continues to act as the vehicle for the artist's expression by delivering the highest quality sound reproduction and enabling the artists to convey a dazzling performance. Whether a theater of 200 or 2,000, the HARMAN solution makes an impact.

Above all, transparency is key. The best sound system is the one which sets the right ambience for the right audience. Whether the HARMAN system is providing music to a hotel lobby, a bar, restaurant or retail store – it can be front and center if it needs to be, and subtly in the background when it doesn't. Architectural Media Systems provides the right experience whatever the environment.

HARDWARE

BSS Audio is world renowned for outstanding sound quality and reliable equipment that satisfies the real demands of professional musicians and high-profile installations. Products from BSS Audio are used on major tours, in recording and broadcast studios, churches, casinos, arenas, and nightclubs on every continent.

Why do so many sound industry veterans swear by BSS Audio? Because with every performance, installation, broadcast, and recording, these professionals put their reputations on the line. The pros demand superior sound quality and a proven track record. They can count on it with BSS Audio.

With a choice of several different open-architecture processors within the Soundweb London family and input / output card flexibility within several of these devices, Soundweb London represents a truly flexible and scalable system.

Flexible not only in hardware but also in software configuration. You enjoy total flexibility of signal path flow and connectivity, a massive range of processing objects modeled on classic BSS Audio processors, and the freedom to design the system exactly how you want it.

With its range of audio networking solutions, DSP capability, input / output expansion or a specific mix of functionality, Soundweb London offers the building blocks of a tailor-made system.

SOUNDWEB™ LONDON

OUTSTANDING SOUND QUALITY, UNDAUNTED BY SCALE.

THE POWER, FLEXIBILITY AND RELIABILITY FOR ANY SCALE OF INSTALLED SOUND SYSTEM.

Long before networked digital audio, BSS Audio gained its reputation for elegant-sounding signal processing and crossovers. Innovative technologies like Progressive Knee Subtractive Compression, mid-filter crossover limiting, dynamic equalization and ADE™ restoration of leading-edge information in noise gates have elevated BSS Audio to almost cult status among live sound and recording engineers.

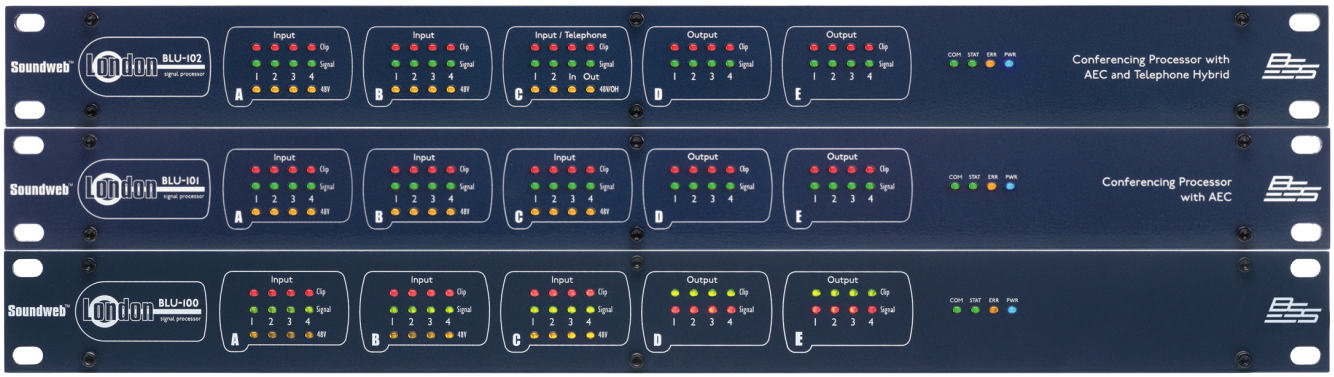
The analog audio expertise has been leveraged into what many believe are the best-sounding digital signal processing algorithms available.

Beginning with Soundweb Original…and now with the Soundweb London family of networked digital signal processing systems, the same warmth and clarity has been brought into a vast palette of DSP modules.

The result is digital signal processing based on the acclaimed sound of our DPR-402. From automixers to graphic and parametric EQs, from duckers to delays, the BSS Audio difference is apparent. The bottom line is this: BSS Audio is a highly-regarded crossover and analog signal processing company who started making digital signal processing devices, not a DSP company who ventured into the complex world of high-end professional audio.

SOUNDWEB™ LONDON - 100 SERIES

NETWORKED PROGRAMMABLE DSP SYSTEMS



The Soundweb London 100 Series devices offer a fixed configuration of inputs and outputs (see comparison table for further information). The analog inputs of the devices provide software configurable gain in 6dB steps up to +48dB per channel and software selectable Phantom Power per channel. Phantom Power, Signal Present and Clip information per channel is easily accessible, without the requirement for a PC, from clear front panel LED indication.

The Soundweb London 100 Series devices feature configurable signal processing and logic processing. The signal path between the inputs and outputs can be completely tailored to an application, and all of the processing objects and logic objects used in larger Soundweb London systems are made available to designers within the 100 Series. The configurable signal processing offered by the 100 Series devices is roughly twice that of the Soundweb London BLU-80 and BLU-16 devices.

The BLU-101 and BLU-102 devices feature the same Acoustic Echo Cancellation algorithm used on the Soundweb London Acoustic Echo Cancellation Input Cards. The BLU-101 offers 12 AEC algorithms while the BLU-102 offers eight AEC algorithms and a telephone hybrid. The AEC algorithms run on dedicated processors but are represented within software as a Processing Objects. This means that all of the configurable DSP is available for other processing but AEC inputs can be sourced locally, from networked audio or even post-mix for budget-constrained applications.

The 100 Series devices feature a low latency, fault tolerant digital audio bus of 48 channels which uses standard Category 5e cabling.

The Soundweb London 100 Series is an example of where user feedback, combined with the leveraging of Soundweb London's technology, functionality and flexibility has resulted in the development of a truly game-changing product. The 100 Series broadens the reach of Soundweb London and makes a solution strongly associated with high-profile projects available to many more applications.

The 100 Series devices and the other members of the Soundweb London family provide the building blocks of the perfectly tailored system solution.

SOUNDWEB™ LONDON BLU-BOB1 & 2 & BLU-BIB

OUTPUT/INPUT EXPANDERS (BREAK-OUT/IN BOXES)

The Soundweb London BLU-BOB or "break-out box" offers 8 channels of analog audio output expansion via the Soundweb London high bandwidth, fault tolerant digital audio bus.

The BLU-BOB output channels are easily configured by six DIP switches located on the rear of the device, which select consecutive channels in groups of eight. This simple configuration allows selection of any 8-channel range from the 256 channels available on the digital audio bus. Output channel assignments are configured by DIP switch selection only.

The Soundweb London BLU-BIB or "break-in box" offers 8 channels of analog audio input expansion via the Soundweb London high bandwidth, fault tolerant digital audio bus.

The BLU-BIB input channels are easily configured by six DIP switches located on the rear of the device, which select consecutive channels in groups of eight. This simple configuration allows assignment to any 8-channel range within the 256 channels available on the digital audio bus. Input channel assignments are configured by DIP switch selection only.

BSS AUDIO ACCESSORIES

BLU-10

The original Soundweb 9010 Programmable Controller set new standards in control interfacing to DSP systems, and has yet to be bettered as a simple yet powerful interface. The Soundweb London equivalent, the BLU-10, builds on that power and reputation by adding touch-screen control to make a more attractive and potentially cost-saving control solution.

BLU-3 AND BLU-6

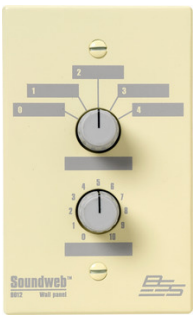
The BLU-3 and BLU-6 wall panels are simple controllers which allow the designer to provide level control and source selection or preset recall in a simple wall-mounted panel.

BLU-8v2

The BLU-8v2 is a HiQnet compatible programmable zone controller capable of controlling a single zone, four zones or eight zones in different modes of operation.

9012

The 9012 provides an instant solution for volume and source select functions.
The 9012 is equipped with a rotary fader and a five-position switch, connecting to the control port inputs on the rear of a Soundweb device.



9015

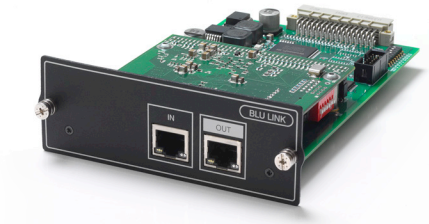
The Soundweb 9015 Wall Panel is a simple hardware interface to the Soundweb programmable DSP system. It provides a quick and easy way for designers to provide a pair of spin or 'up-down' buttons control and source or preset select.

BLU-MC1

The MC-1 is a Gigabit Media Converter which provides transport up to 10 km (6.2 miles) using 1310nm single mode fiber cable. In use, an MC-1 will be utilized on each end of a two conductor single mode fiber optic cable deployed between two equipment rack locations.

BLU-SI

The BSS Audio BLU-SI card is a 32 x 32 interface between Soundcraft Si Series consoles and the BLU link digital audio bus. The card allows connection to a wide variety of Harman products equipped with a BLU link interface such as BSS Audio Soundweb London devices, dbx PMC-16 or Crown PIP-BLU interfaces.



INPUT / OUTPUT CARDS

- Analog Input Card
- Analog Output Card
- Digital Input Card
- Digital Output Card
- AEC Card
- Telephone Hybrid Card

BLU-HIF

The BSS Audio BLU-HIF Telephone Headset Interface facilitates connection of the headset jack of a VoIP/digital phone to an AEC input and analog output of a Soundweb London device. The BLU-HIF therefore allows the VoIP/digital phone to be used as the dialing interface and hybrid for a conference system. This simple interface eliminates the programming requirements associated with third-party control systems, while providing a familiar and low-cost dialing interface to the end user.

Multiple patents. Historical audio achievements. Innovative technical advances. Crown's reputation for excellence – built over 65 years of uninterrupted success in sound – continues with the introduction of the next generation of installed sound amplifiers featuring DriveCore™ technology.

The culmination of nearly two decades of research and development in PWM and switch-mode amplification, DriveCore seamlessly integrates the amplifier drive stage into the power output stage and fuses everything into one very tiny, but extremely powerful chip.

This single, revolutionary chip replaces 500 parts, greatly reducing the design complexity compared to that of traditional amplifiers, while creating more efficiencies, long-term reliability and unsurpassed performance. Designed and engineered to the industry's highest quality standards for installed sound applications, the DriveCore Install (DCi) Series is the ideal choice for everything from meeting rooms to massive stadiums.

Simple to configure with its true rack density design, DCi Series provides multiple innovations at every point, and unmatched performance time after time.

There is simply no better choice. The DriveCore Install Series represents Crown's new flagship installed sound amplifier – a key component of the flexibility of Architectural Media Systems.

DRIVECORE™ INSTALL

INSTALLS EVERYWHERE. OUTPERFORMS EVERYTHING.

As the undisputed leader in sound amplification, Crown builds on its legacy of innovation and insight with the industry's first 100V direct drive amplifiers at 300W: the DriveCore Install Amplifier Series. The ideal choice for everything from meeting rooms to massive stadiums, the highly efficient DCi Series saves you time because it configures quickly and is simple to use. Plus, its lighter, space-saving design makes it easy to install wherever you want. Designed, engineered and manufactured to the industry's highest quality standards for analog or network installations, the DCi Series provides system integrators with effortless, unmatched performance time after time.

Designed for minimum size and maximum power, DriveCore offers greater accuracy, reduced weight, and best-in-class signal-to-noise performance. The front-end drive circuits leverage the inherent efficiency of Class D output stages while also maintaining superb sonic characteristics.

DriveCore means the patented feedback and PWM circuits provide fast recovery on peak transients, accurate reproduction of low-level detail and precise tracking of low frequencies at all power levels. Plus, fewer parts results in increased reliability – and the legendary performance you expect from Crown.

With extremely wide tolerance for AC line conditions, whether you're on a normal power grid or fluctuating back-up generator power for life safety systems, DriveCore amps deliver sound that's never compromised.

A proprietary hybrid analog-digital integrated circuit that's bolstered by multiple patents, DriveCore leads a new era of sustainable excellence. It also represents another historic milestone in our ongoing commitment to delivering audio products demanded by professionals – and that please audiences worldwide.

AUDIO INNOVATION BEYOND COMPARE

A SOUND DIFFERENCE YOU CAN SEE

ANALOG DCi SERIES AMPLIFIER

TRUE RACK DENSITY

Power points of 300 watt or 600 watt in 2-, 4- or 8-channel configurations, and 1250 watt in 2- or 4-channel configurations, – all in a 2U rack unit form factor. More channels in one box allow smaller infrastructure rooms that can reduce operational costs while giving you the utmost in installation flexibility.

DIRECT DRIVE CONSTANT VOLTAGE

Save money by using smaller gauge wiring to drive the speakers using either 70Vrms or 100Vrms. With no need for a step-up transformer at the output, the DCi produces higher audio quality much more efficiently.

CHANNEL INDEPENDENT HI-Z / LOW-Z SELECTION

Drive either one or two speakers in low-Z mode, or literally hundreds of speakers in high-Z mode (70Vrms or 100Vrms). This means better design flexibility since DCi powers all loads on a channel-by-channel basis.

BRIDGEABLE CHANNEL PAIRS

Unlike amps from other manufacturers, the DCi Series channels are bridgeable – even in 100Vrms mode – which means even more adaptability for higher power applications such as subwoofers.

REMOTE ON / OFF INTERFACE

Save power by integrating the amplifier into a control system so you can easily turn it on and off.

ADVANCED POWER FACTOR CORRECTION (PFC) UNIVERSAL POWER SUPPLY

The most advanced power supply in an installation amplifier delivers power more efficiently in almost any condition than anyone else, resulting in less power dissipated and less heat in your racks.

NETWORK DCi SERIES AMPLIFIER

ANALOG & DIGITAL INPUTS

With digital audio transport via HARMAN's proprietary BLU link, plus balanced analog inputs, DCi gives you a tremendous audio advantage – at a much lower cost. The priority input router allows you to specify a primary input, and if audio is lost the amp automatically switches to the other input.

NETWORK MONITORING & CONTROL

Better monitoring, control and audio manipulation with the HiQnet protocol over standard TCP/IP. Remotely see how all networked DCi amplifiers are performing and control them as needed. In addition, this allows HiQnet Audio Architect and the Powered by Crown app to work with DCi amplifiers.

PROGRAMMABLE GENERAL PURPOSE INPUT / OUTPUT PORTS

GPIO ports can be configured in many different ways, such as volume controls, recall presets, or to report errors to a master computer.

DIGITAL SIGNAL PROCESSING

DSP capabilities include the following:

- LevelMAX™
- Input / output EQ
- Delay
- Matrix mixer
- Speaker line monitoring

GENERAL SPECIFICATIONS

Sixteen models in the DCi Series are available ranging from 300 watts to 1250 watts of minimum guaranteed power into 4 and 8 ohms and 70Vrms and 100Vrms. The first number in the model is the amount of channels and the second number indicates the watts-per-channel power rating. All amplifiers are just 2U rack spaces high, to conserve valuable installation space.

MODEL	CHANNELS	2 Ohms	4 Ohms	8 Ohms	70 Vrms	100 Vrms
DCi 2|300 or DCi 2|300N	2	150W	300W	300W	300W	300W
DCi 4|300 or DCi 4|300N	4	150W	300W	300W	300W	300W
DCi 8|300 or DCi 8|300N	8	150W	300W	300W	300W	300W
DCi 2|600 or DCi 2|600N	2	300W	600W	600W	600W	600W
DCi 4|600 or DCi 4|600N	4	300W	600W	600W	600W	600W
DCi 8|600 or DCi 8|600N	8	300W	600W	600W	600W	600W
DCi 2|1250 or DCi 2|1250N	2	1250W	1250W	1250W	1250W	1250W
DCi 4|1250 or DCi 4|1250N	4	1250W	1250W	1250W	1250W	1250W

SOFTWARE

The original HiQnet vision of 2005 was to create a common control platform for all devices from microphone to speaker. Nine years later, the tally of devices in the HiQnet family exceeds 150 – from wireless microphone hubs, mixing consoles and signal processors, to amplifiers and powered loudspeakers. Several HiQnet software applications exist to provide true system configuration and control, each with feature sets tailored for the specific system application or scenario.

The new HiQnet Audio Architect™ system design and configuration software application retains the revolutionary system design philosophy centered on operational workflow first introduced in HiQnet System Architect™.

In creating Audio Architect, Harman has also incorporated the BSS Audio Soundweb London DSP system backbone within the core functionality of System Architect – combining the power of our proven open-architecture platform with AKG wireless microphones, dbx and Lexicon fixed-architecture processors, Crown amplifiers and JBL powered loudspeakers.

HiQnet AUDIO ARCHITECT

The HiQnet Audio Architect workflow employs the use of a diagrammatic representation of the physical venue. Devices understand both their physical and logical placement - in racks and rooms - and the software therefore becomes 'educated' about how they are to be used in the real-world.

Audio Architect then automates many of the laborious system design tasks for free. Control interfaces for control and monitoring of all manner of groups of devices are generated automatically. The simplest drag-and-drop networking interface available today provides the optimal user experience while provided system-wide networked audio routing and advanced tools for custom panel creation, creating logic rules, configuring access control and many more.

HiQnet Audio Architect replaces HiQnet System Architect as Harman's primary installed sound system configuration and control software application. Although modeled on System Architect operation, it is so much more that it demanded a new identity all to itself. HiQnet Audio Architect thereby marks a major milestone in the lifecycle of our ongoing HiQnet software initiative.

It features the widest range of audio devices and audio network transports at your disposal in any single audio system design software interface available today. By bringing together the two worlds of HiQnet System Architect and Soundweb London to create HiQnet Audio Architect, HARMAN has created the next stage in the evolution of audio system design software.

HiQnet AUDIO ARCHITECT FEATURES

- Comprehensive workflow - optimal user experience and automation of time consuming tasks
- Unique Venue Designer - the software understands the behavior of devices
- Open architecture audio and logic configuration
- Support for over 100 HiQnet devices
- AVB routing
- Harman BLU link routing
- Cirrus Logic CobraNet® routing
- Audinate® Dante routing
- Support for HiQnet Motion Control™ iOS custom control interface app
- Advanced tools for custom panel creation, scheduler, event log, logic rules, access control and network monitoring
- Familiar workspace environments for both System Architect and London Architect users

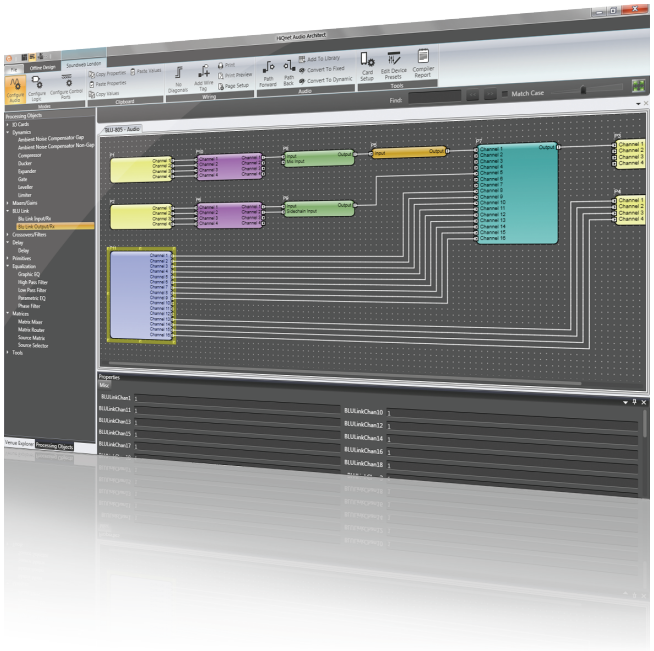
CONNECT. CONFIGURE. CONTROL.

ADDING OPEN-ARCHITECTURE DSP

One of the fundamental building blocks of the Audio Architect system is the power and flexibility of the distributed DSP network backbone of BSS Audio's Soundweb London family. Launching a Soundweb London device from the main workspace transforms the entire interface into an open-architecture design world. The familiar processing objects can be added to individual devices, and the signal path created with virtual wires.

Considerable care has been taken in implementing Soundweb London configuration and control. The transition from HiQnet London Architect software has been made as simple as possible, while incorporating the new open-architecture paradigm into the Audio Architect workflow and system design.

Previous users of London Architect will see straight away that when a Soundweb London device is launched from the main Audio Architect workspace, the open-architecture design environment is almost identical. Dedicated workspace modes for configuration of audio processing, logic processing and control port configuration are all directly accessible from the pop-up Soundweb London Ribbon tab.



NETWORK SIMPLICITY

Audio Architect includes the capability to route a wide variety of digital audio network protocols from and to compatible devices system-wide over an Ethernet network with AVB, CobraNet and Dante. Creating added audio routing flexibility within a HiQnet system design, Audio Architect can also be used to route audio amongst devices on a BLU link ring – Harman's proprietary low-latency, high-channel capacity digital audio bus. This versatility makes audio routing within a HiQnet system as easy as A, B, C, D. It is now possible to move from one networked audio transport to another and stay on the same control platform without needing to learn multiple software applications.

FLEXIBLE CONTROL

FULL SCREEN MODE

Full Screen Mode makes HiQnet Audio Architect truly unique and especially valuable for efficient operation by automatically utilizing the exact same design environment, optimized for touch screen control and system monitoring operations. Full Screen Mode is configured within the standard Audio Architect application and can be run from the startup directory to turn Audio Architect into a dedicated control application. Access Control setup is honored so multiple user logins are possible. Full Screen Mode simplifies operation and reduces repetitive tasks by reusing the very same venue workspace that was used for system configuration, saving design time and reducing design complexity. Full Screen Mode can also incorporate customized interfaces created with Audio Architect's built-in Custom Panel designer.

CUSTOM PANELS

Although much of the system control interface creation is automated by Audio Architect, the application still includes a comprehensive Custom Panel design environment for the creation of application-specific control panels. The dedicated mode lays out just the tools you need for the purpose, optimizing the design process and automatically filttering out unnecessary information.

Controls include faders, rotaries, buttons, LEDs, meters, EQ and dynamics graphs, text input and display, images, customizable regions and simple drawing tools - each of which can be fully graphically and operationally customized.

HiQnet MOTION CONTROL

HiQnet Motion Control™ – an Apple iOS app enables customized control interfaces designed in Audio Architect to be exported to iPad, iPhone and iPod Touch devices for mobile system control. Dedicated design templates are available within Audio Architect for the configuration of customized interfaces, which can be used to control BSS Audio Soundweb London and DriveCore Install Series. Motion Control is the perfect tool for system-specific, day-to-day control, as well as a tool for commissioning engineers to walk the venue with control literally at their fingertips.

Any number of control panels designed within the Audio Architect custom panel designer can be loaded onto an iOS device directly from the Audio Architect interface, without the need to connect to Apple iTunes. Navigation between the panels couldn't be easier - either by the use of swiping gestures or from an automatically-generated bar at the bottom of the iOS display.

Motion Control is the perfect tool for system-specific, day-to-day control, as well as a tool for commissioning engineers to walk the venue with control literally at their fingertips.

HiQnet Motion Control is available from the Apple App Store.

POWERED BY CROWN

HiQnet Audio Architect custom control panels may be directly imported into the Powered by Crown app. This adds a significant measure of flexibility and functionality.

- Instantly connect to your Crown networked amps; just plug your amps into any wireless router, watch the amps auto-populate, and you have full control of everything
- Watch over your entire rig using your iPhone or iPad, anywhere in the venue – intuitive panels allow you to monitor input levels, output levels, thermal conditions – anything you need
- Need to limit control or see something special? Choose any controls you want using System Architect custom panels; then easily import them using ITunes
- Compatible with DCi Series, I-Tech HD Series, and Macro Tech I Series
- Compatible with CTs Series with network PIP module fitted

NOTE

Since a WiFi network must be used with this app, it is highly recommended that a secure network is set up to reduce the risk of unwanted control and monitoring of the system.

NETWORKING

AUDIO NETWORKING AS EASY AS **A,B,C,D**.

Whatever scale and flavor of audio networking the system demands, Soundweb London, DriveCore Install Series and HiQnet together provide the solution. Whether it's simple point-to-point localized high-channel count within a rack to venue-wide Ethernet-based audio networking, Architectural Media Systems provides it all.

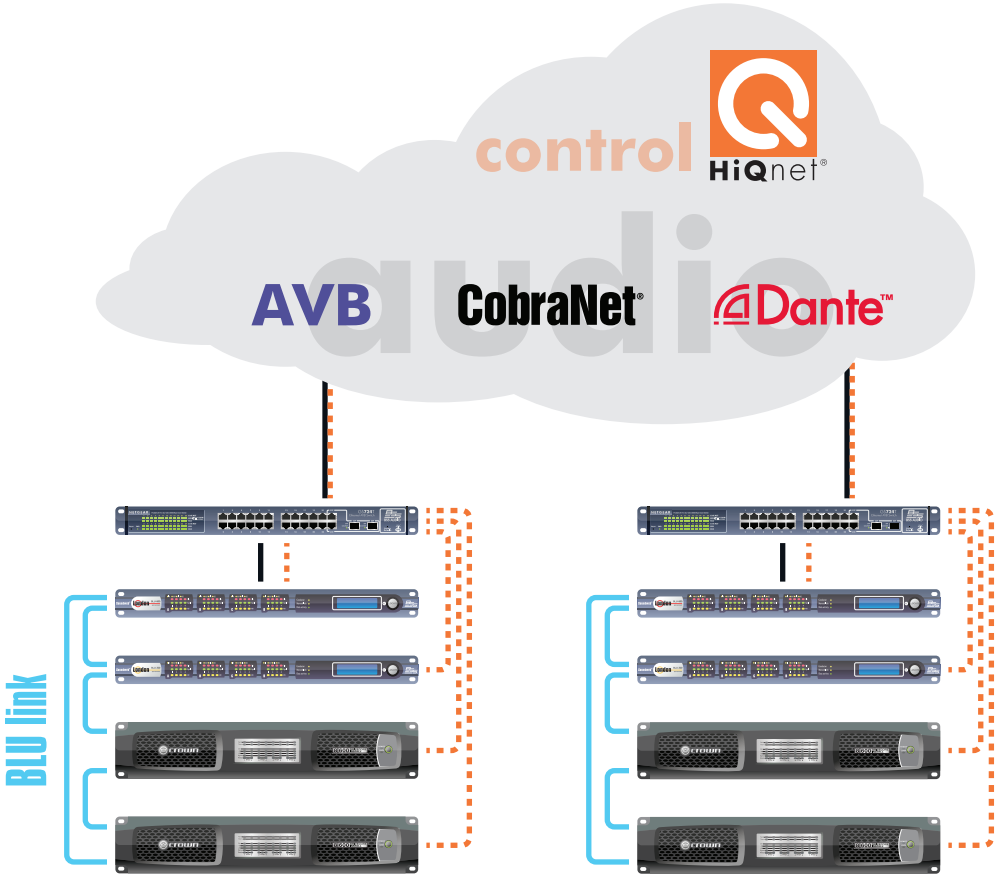
HiQnet Audio Architect includes the capability to route a wide variety of digital audio network protocols from and to compatible devices system-wide over an Ethernet network with AVB, Cirrus Logic CobraNet® and Audinate Dante.™ Creating added audio routing flexibility within a HiQnet system design, Audio Architect can also be used to route audio amongst devices on a BLU link ring – Harman's proprietary low-latency, high-channel capacity digital audio bus. This versatility makes audio routing within Architectural Media Systems as easy as A, B, C, D. It is now possible to move from one networked audio transport to another and stay on the same control platform without needing to learn multiple software applications.

AVB AVB ensures high quality audio and video streaming over Ethernet. What sets AVB apart from other Ethernet audio transports is that the network switches themselves ensure that media data is given complete priority over any other data on the network. Audio is guaranteed to arrive at the destination device with no interruption even possible. AVB claims a very low latency and a high audio channel count. Architectural Media Systems devices which support AVB include the Soundweb London BLU-805 and BLU-325 processors.

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. Almost all the Soundweb London procesors support BLU link, as does the DriveCore Install Series Network amplifiers.

AVnu the unified AV network

Harman is a founder member of the AVnu Alliance - an organization dedicated to ensuring AVB compatibilty across the audio and video industries in the professional, consumer and automotive markets. The increasing number of its member manufacturers are working together to make AVB fulfill its promise of becoming a unifying audio and video transport.



CobraNet®

CobraNet technology, from Cirrus Logic, has long been the pro audio industry's adopted audio networking solution. Many HiQnet devices are CobraNet compatible and Audio Architect is capable of routing audio between them. CobraNet is based on 100Mb Ethernet, so channel counts are limited in comparison with AVB and Dante. Larger systems will often require managed switch configuration. Architectural Media Systems devices which support CobraNet include the Soundweb London BLU-800 and BLU-320 processors.

Dante™

Dante is a proprietary audio networking technology from Audinate and employs standard Internet Protocols over 100Mb and / or Gigabit Ethernet. Channel counts can be high over Gigabit Ethernet, although switch management is required for most Dante systems. Architectural Media Systems devices which support Dante include the Soundweb London BLU-806 and BLU-326 processors.

PERIPHERALS

PERIPHERAL SYSTEM COMPONENTS

AKG

MICROPHONE SYSTEMS
IN-EAR MONITORING
www.akg.com

HUB4000 Q

The HUB4000 Q HiQnet Ethernet interface enables the connection of up to eight AKG wireless devices to a HiQnet network.

For large wireless systems, several HUB4000 Q devices may be cascaded using commercial Ethernet switches allowing configuration and monitoring of complex systems from a single software application. The HUB4000 Q connects an AKG wireless system to HiQnet Audio Architect, AKG Wireless app and Soundcraft console VM² microphone monitoring.

- Connects up to 8 wireless devices to HiQnet network.
- Enables remote control via HiQnet Audio Architect, AKG Wireless app and Soundcraft VM² microphone monitoring
- Cascadable via standard ethernet switches for easy setup of large system configurations
- Central 10 LED operating display for full control on data transfer status
- Covered DIP switches on front panel for quick and safe setup of the IP address
- Rugged half-rack metal housing for flexible, space efficient system configurations

Supported devices include:

- DMS700 digital wireless microphone system
- WMS4500 wireless microphone system
- IVM4500 in-ear monitoring system

Si SERIES

Drawing on more than a decade of experience in the field of digital audio mixing, the Soundcraft Si Expression exploits some of the newest DSP, component technology and manufacturing techniques to deliver Soundcraft's most powerful cost effective digital console ever. In addition, the Si Performer takes mixing out of the dark with powerful digital audio mixing facilities married to a DMX 512 controller allowing for the first time the mixing console to also run the lighting rig.

Si Series consoles include:

- Si Expression Series
- Si Performer

The Si Expression and Si Performer can also be fitted with a 32x32 BSS Audio BLU link card for connecting directly to the dbx Personal Monitor Control system for example, and a 32x32 Audinate Dante card for connecting into a BSS Audio Soundweb London BLU-806 / BLU-326 system.

Vi SERIES

Now firmly established on riders and in performance venues around the world, the Soundcraft Vi6™ has been acclaimed as one of the most ergonomic, user-friendly and best-sounding large format digital console around. Audio quality is assured thanks to the integration of a proven DSP engine and algorithms from sister company Studer, who's digital broadcast consoles like Vista™ and On-Air 3000™ are highly respected in national, state and independent broadcast studios and outside broadcast trucks throughout the world.

Vi Series consoles include:

- Vi1
- Vi2
- Vi4
- Vi6

PERSONAL MONITOR CONTROL

Musicians know they perform better when the monitor mix is dialed in perfectly. The dbx BLU link-capable Personal Monitor Control system avoids cryptic hand signals between performers and engineers by letting each musician control their own mix.

Personal Monitor Control system components include:

- PMC16 personal monitor controller
- TR1616 16x16 BLU link to analog converter

IDX INFORMATION DELIVERY SYSTEMS

PAGING AND COMMUNICATIONS

idx.harman.com | www.ComNetSoftware.com | www.sita.aero

PAGING AND COMMUNICATIONS

Harman's IDX system is a seamless audio and visual information delivery solution that provides a highly flexible and scalable way to communicate important information to those trying to navigate complex spaces such as today's airports, transit stations and other public spaces. Harman's experience and expertise in audio, matched with partner company Com-Net Software's depth of experience and knowledge, bring to you a new and comprehensive approach to information delivery that has not been seen before.

COM-NET SOFTWARE

Com-Net Software has a heritage of providing passenger communication systems to the air and ground transportation industries that dates back more than 28 years. Com-Net Software is a wholly owned company of SITA, the world's leading air transport IT and communications specialists.

HIGH PERFORMANCE AMPLIFIERS

Inside and out, the new I-Tech HD is one of the most technologically advanced professional touring amplifiers on the market today. Building on the decades of innovation, invention, and insight Crown is known for, the I-Tech HD features five new patents – three on the power supply alone – giving you an amplifier that goes well beyond the expected. At the heart of the new I-Tech HD is the BSS Audio OMNIDRIVE HD processing engine. Four times faster than its predecessor and featuring linear phase FIR filters and LevelMAX™ limiters, OMNIDRIVE HD provides unmatched clarity and sonically pure signal processing.

I-Tech HD Series amplifiers include:

- I-Tech HD 2-channel Series
- I-Tech HD 4x3500

INSTALLED SOUND AMPLIFIERS

ComTech DriveCore is ideal for installations that require premium sound quality, multi-channel configurations, compact dimensions, and quite often zero ambient fan noise. Typical applications include boardrooms, video and teleconferencing, VIP suites in stadiums and arenas, and upscale restaurants and retail outlets to name just a few. Representing next generation technology available today, the ComTech DriveCore proves without a doubt that big things really do come in small packages.

ComTech DriveCore Series amplifiers include:

- CT475
- CT875
- CT4150
- CT8150

JBL LOUDSPEAKERS

No matter where you go in this world, you'll find JBL Installed Sound Speaker Systems at many of the most notable venues. With that kind of global perspective, JBL has come to respect the one indisputable truth of business: every customer is unique. A speaker system that is perfectly right for one job might be perfectly wrong for another. That's why JBL Installed Sound products offer a range of options without equal. From the extraordinary value of the Control Contractor Series to the ultimate precision of the JBL Precision Directivity Series, there's a JBL Installed Sound product with a solid business solution based on equally solid business savvy. For more than 60 years, JBL has been the professional speaker of choice wherever sound matters. We'd like to believe it should be your choice, too.

Applicable JBL loudspeakers for Architectural Media Systems are wide and varied but of note are the following:

8100 Series in-ceiling loudspeakers

High-fidelity performance at a cost-effective price point, the 8100 Series is an easy to install loudspeaker solution for a wide variety of commercial sound applications. With two models in the line, the 8124, a 4-inch (100 mm) full-range loudspeaker and the 8128, an 8-inch (200 mm) full-range loudspeaker, the 8100 Series feature high sensitivity drivers that deliver maximum sound levels using minimal amplifier power. With its contemporary grill design, 70V/100V taps and open-back design, the 8100 series brings elegance and performance to basic commercial sound systems, or any application not requiring a backcan for installation.

Control Contractor Series surface-mount in-ceiling and in-wall loudspeakers

Spanning a complete range of surface-mount (on-wall), in-ceiling and in-wall models, the variety of solutions offered by the Control Contractor Series give you complete mastery of any architectural, aesthetic or system performance requirement. JBL engineers have made the art of science of loudspeaker specification and installation easy to manage. Simply select the JBL Control Contractor loudspeaker appropriate for the architectural, form factor and sonic requirements. The resulting sound system will always deliver on its promise of Performance, Reliability and Value.

AE Series permanent installation loudspeakers

Imagine if your every need was not only met, but anticipated. The Application Engineered Series does exactly that. The AE Series is a complete line of permanent installation loudspeakers, containing the performance and features that meet the needs of contractors and consultants alike. Incorporating the latest loudspeaker technology, a wide selection of models, high performance features, reliability, and a systems approach. AE Series has a loudspeaker for just about any challenge you might encounter.

AE Compact Series permanent installation loudspeakers

JBL continues to support artists worldwide with the introduction of eight new AE Series Compact Loudspeakers. An extension of the industry leading AE Series, the AE Compact family consists of high output, 2-way loudspeaker systems combining flexibility withhigh fidelity. Ranging from a single 5.25" point-and-shoot box to dual 8" loudspeaker systems designed specifically to better serve the needs of designers and artists alike.

CBT Series passive column loudspeakers

Ushering in a new era for passive column speaker technology, based on years of extensive research conducted by Harman engineers, the JBL CBT Series line array columns with Constant Beamwidth Technology breaks new ground in performance, versatility, and affordability. Designed for venues that would typically use larger point-and-shoot speakers, the CBT models incorporate technical advancements that allow them to vastly outperform competitive systems, with a level of user-friendliness that virtually eliminates the challenges of delivering great sound.

Control Contractor 50 Series surface-mount, subwoofer-satellite loudspeakers

The Control 50 Series is a surface-mount, subwoofer-satellite loudspeaker system for applications where wide-bandwidth, high-fidelity foreground/background music is required. The Control Contractor 50's stylish appearance, easy mounting, and compatibility with JBL's Control 40 Series in-ceiling models, allows matching to the mounting, aesthetic, and performance requirements of any application.

Control Contractor 60 Series pendant loudspeakers

JBL Control Contractor 60 Series Pendant loudspeakers bring renowned JBL sound and outstanding coverage to rooms and venues with open architecture or high-ceilings, while providing superior voice and musical clarity for rooms with difficult acoustics. The diverse line-up, coupled with stylish design, is suitable for a wide variety of applications and decors, from convention and exhibit spaces to atriums, restaurants and retail stores.

VTX Series line array loudspeakers

The next generation in line arrays, VTX heralds a new era in performance, system integration and user friendliness. Supported by multiple patents in driver, waveguide and suspension technology, VTX is also supported by technologies from Harman Professional sister companies for amplification, DSP, control and system management. In addition to high performance components, VTX is backed by JBL's high performance engineering support - the human factor and technical tools that are key to the proper specification and configuration of the VTX system in any venue, anywhere.

VRX Series line array loudspeakers

JBL's VERTEC® Series Line Arrays lead the industry in large venue sound reinforcement. While intended for smaller venues than VERTEC, the VRX900 Series Constant Curvature Line Arrays are designed and built to the same high standards and uses the same advanced, concert-proven drivers.
JBL's VRX900 Series speakers deliver extraordinary power handling, clarity, flexibility and, of course, stunning JBL sound in an attractive, easy to handle and affordable package.

APPLICATIONS

The applications for Architectural Media Systems are wide and varied. Its scalability enables it to provide the same premier quality audio experience from a restaurant or bar, all the way up to a large sports venue. Working with the same core components in this way, in the same software environment, makes Architectural Media Systems the ideal solution - ready and prepared for whatever job might come along.

ARCHITECTURAL MEDIA SYSTEM APPLICATIONS

SPORTS SYSTEMS

Sports And Stadium / Arena Systems

HOUSES OF WORSHIP

Small

PERFORMANCE VENUES

Multi-Use Theater / Performing Arts Centers

HOSPITALITY

Restaurants / Bars

SPORTS SYSTEMS

Sports And Stadium / Arena Systems

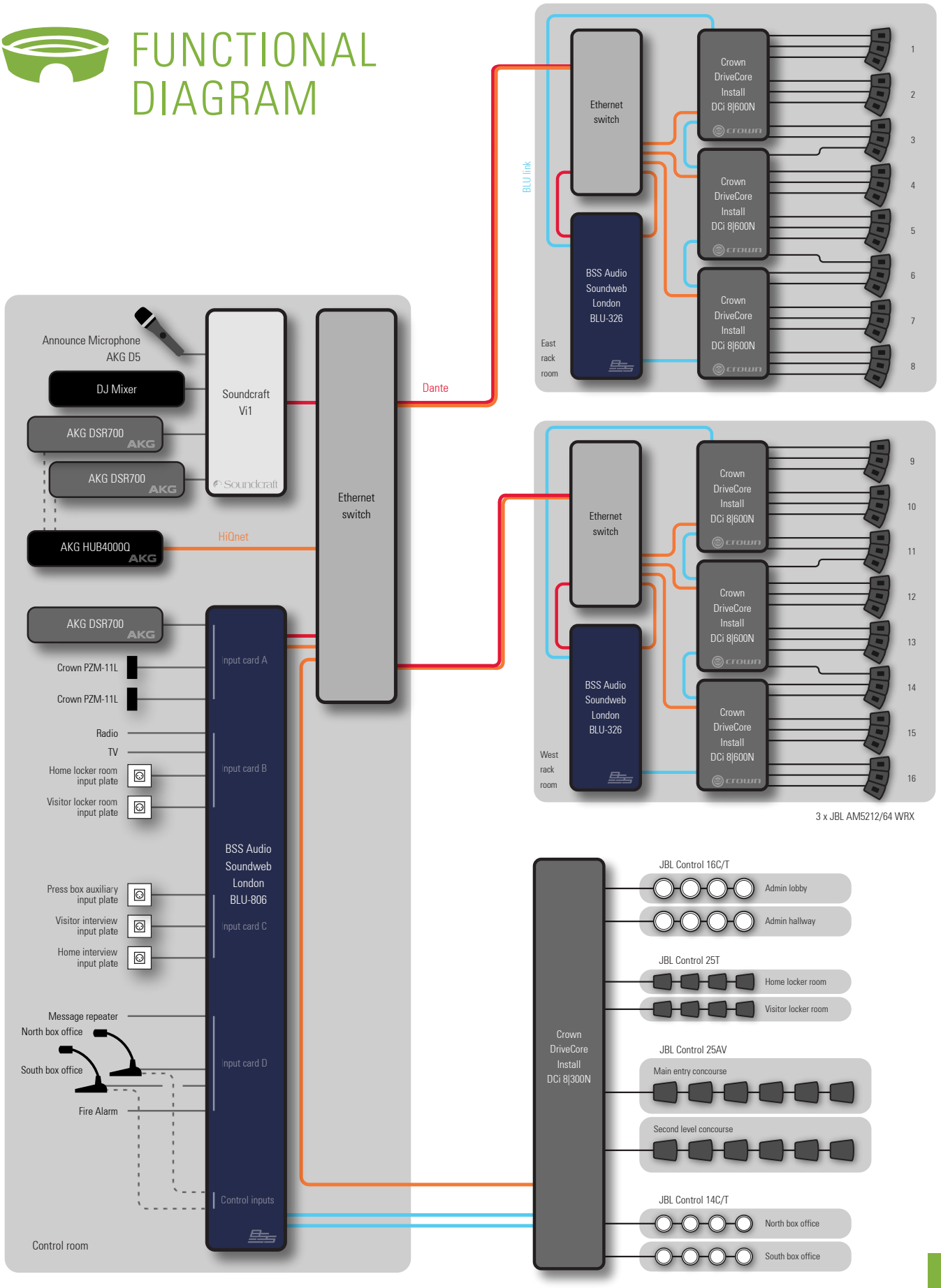
Sporting venues have traditionally been simple systems using only a few inputs and multiple distributed outputs. Many new sporting venues are demanding more sophisticated audio routing and processing capabilities. In this example we use Dante networking enabled BSS Audio Soundweb London devices to route the outputs of a Dante-enabled Soundcraft Vi1 console to multiple rack locations. With 4 times the DSP processing and the 256-channel BLU link digital audio bus for routing local rack audio to the new Crown DriveCore Install Series multichannel amplifiers, the Soundweb London BLU-806 and BLU-326 are the perfect choice for this application. These remotely-located devices are connected to both an Ethernet network for audio routing and control as well as the point-to-point connections of BLU link for digital audio.

The main system covering the seating area is divided into 16 zones. The HiQnet Audio Architect Venue View interface is able to display a graphic layout of the seating areas. This allows the operator to access the controls for any zone by clicking the remote panel icon on the plan which opens a control panel for that zone. This is very useful for venues that may have different speaker usage based on the type of event they are running. Custom Control panels can also be divided into 'layers' using tabbed pages, allowing access to as little or as much information as the application requires.

In addition to the main system, there are a number of utility spaces that require audio. Each of these spaces, rest rooms, concourses and administration rooms have separate processing. This allows for independent source select, EQ, gain & delay controls for each zone.

Two AKG DMS700 V2 encrypted digital wireless microphones networked via the AKG HUB4000 Q are connected to the Soundcraft Vi1 console digitally via AES/EBU connections. Using these microphones with this console allows not only for a pure digital signal path from microphone to loudspeaker, but also for HiQnet monitoring of the wireless microphone status from the console's Vistonics display using VM^2 microphone monitoring. A third DMS700 is connected directly to the BSS Audio Soundweb London BLU-806 providing a direct feed for the referee microphone so it can automatically duck (lower the level of) the program signal when an announcement is made. All three microphones can be monitored via Audio Architect GUI and the AKG Wireless iPhone App as well.

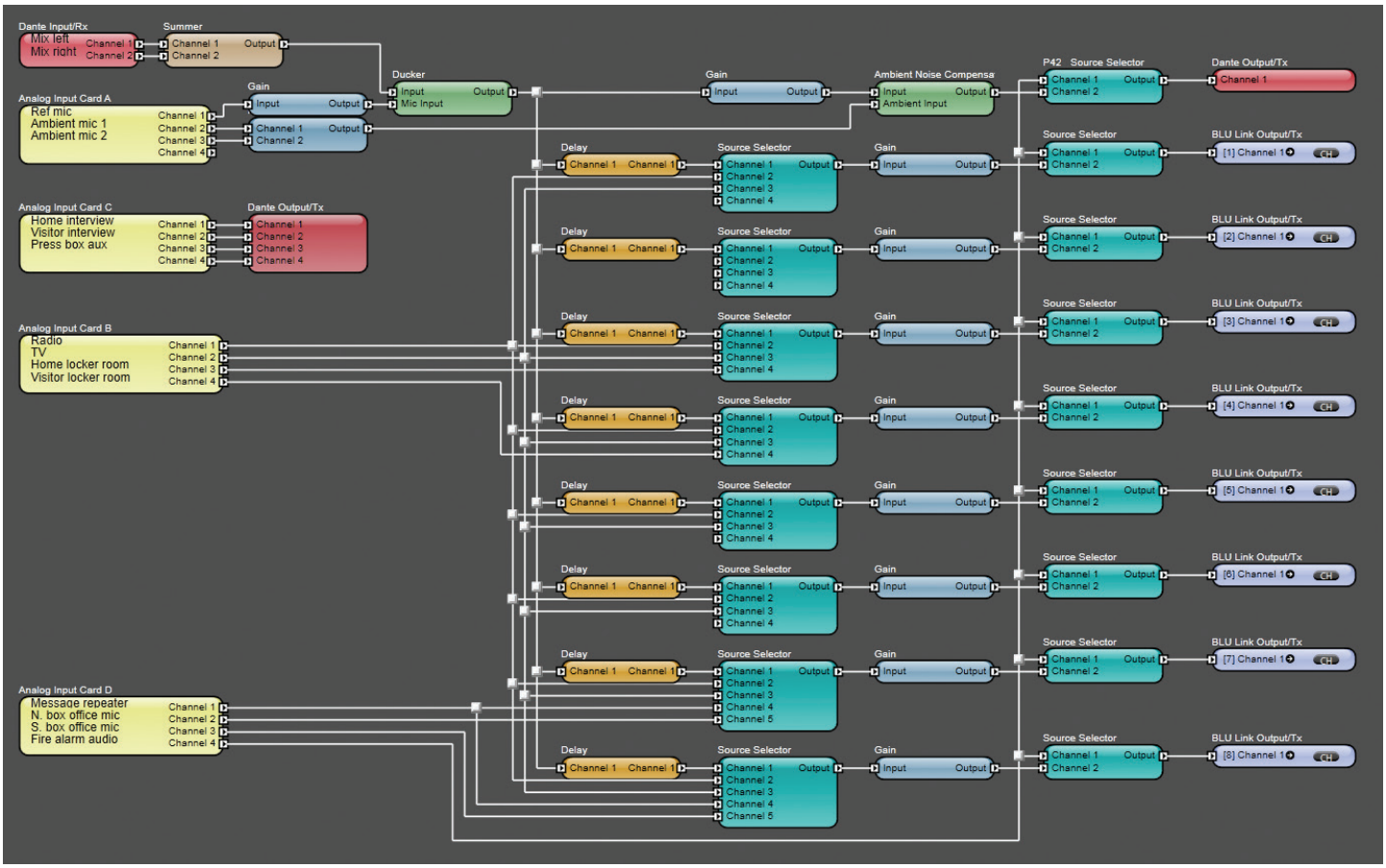
FUNCTIONAL DIAGRAM



DSP CONFIGURATION

This DSP design is based on the principle that zone processing is handled within the BSS Audio Soundweb London BLU-806 processor located in the control room while all speaker drive processing is held within the networked Crown DCi Series amplifiers located in two distributed rack rooms on the East and West side of the bowl. The BLU-806 processor provides special capability to perform ambient level sensing for the bowl loudspeaker adjusting the output of the system as needed based on the level of the crowd noise. A wireless referee microphone is routed through the Soundweb London BLU-806 in order to take advantage of a ducking circuit that will duck any content coming from the console when the ref makes a call. This processor also accommodates a switch-over circuit for emergency fire alarm paging into both the bowl and back-of-house systems.

Paging is made available from the Box Offices into their respective back-of-house areas. Auxiliary feed from locker rooms, interview rooms and Radio and TV are also routed to all back-of-house areas through source selectors to allow the end user to choose the appropriate content for the area.



HOUSES OF WORSHIP

This small House of Worship uses the BSS Audio Soundweb London BLU-160 and BLU-120 in the system design which provides flexibility at a cost effective price point. This design utilizes BLU link as the primary digital audio transport and HiQnet over an Ethernet network for control.

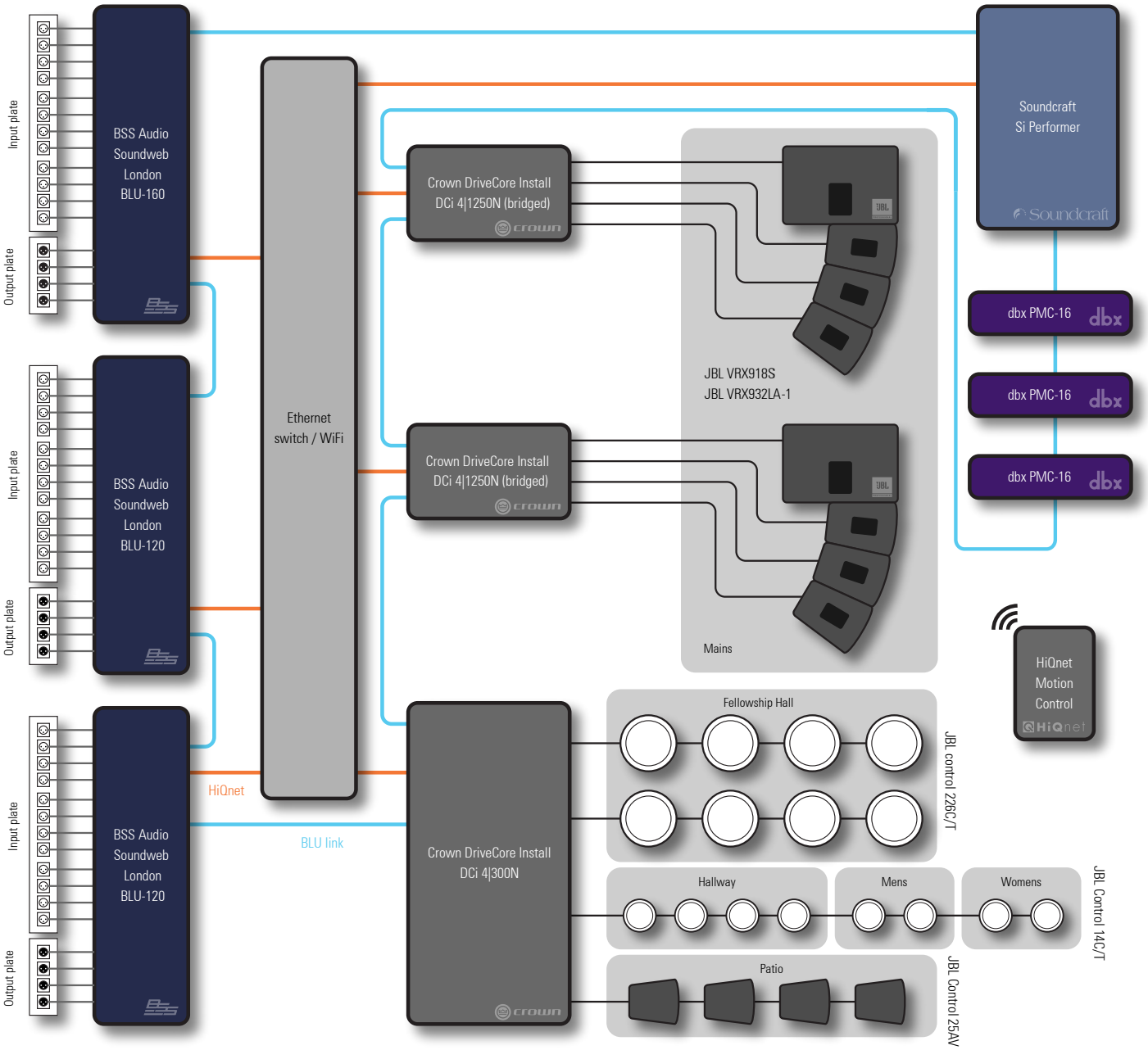
Some of the features of this system are:

- A 32 x 12 digital snake from the stage to the Soundcraft BLU link-enabled Si Performer console in the Sanctuary
- dbx PMC-16 personal monitor controllers for musicians to mix their own monitors (AKG headphones or amplified loudspeakers)
- Two operation modes for the Sanctuary - automatic and manual
- A simple Apple iOS remote control running the HiQnet Motion Control app in the Sanctuary for controlling stage microphones in automatic mode
- A feed from the Sanctuary to the Fellowship Hall for overflow situations as well as audio for several additional back-of-house spaces including bathrooms and patio

Using BLU link as a digital snake has the benefits of low latency and very small infrastructure requirements. In a retrofit scenario there may not be conduit in place to use traditional multi-pair copper audio snakes. BLU link utilizes standard CAT5e cable or fiber optic pairs to interconnect devices, requiring much smaller conduit or cable chase. This allows for the use of surface mount cable chase in retrofit situations where conduit is just not an option, such as an old stone church for example.

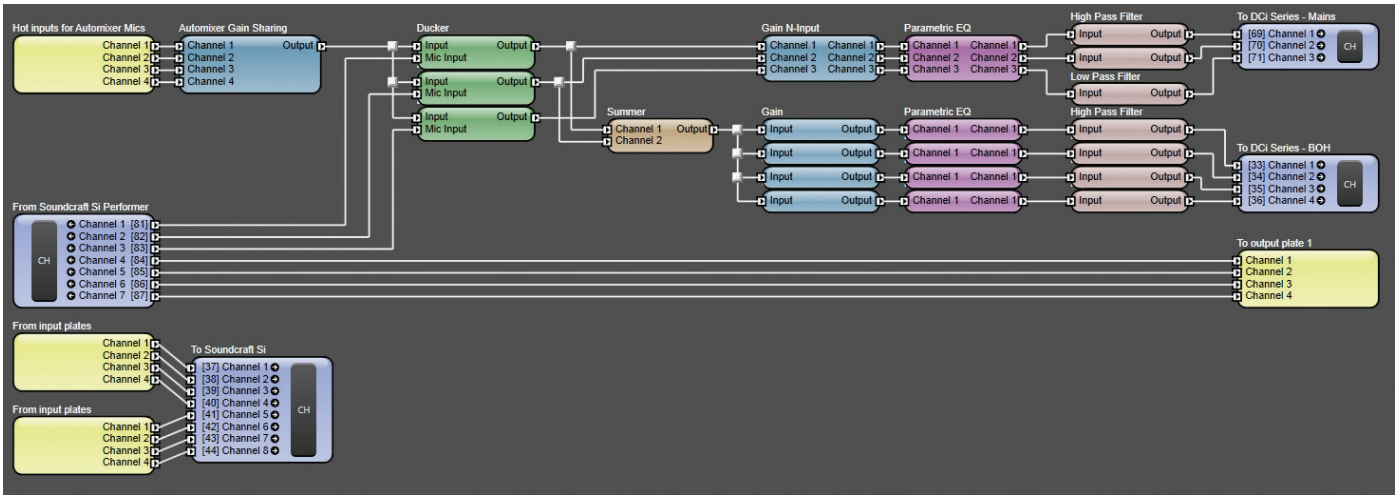
At the stage location we will use one BLU-160 and two BLU-120 devices, each loaded with three input cards and one output card, providing 36 input channels routable as needed to the 32 Si Performer console inputs. dbx PMC-16 BLU link personal monitor mixers provide outputs for the stage monitors in addition to the 12 output jacks on the wall plates. At the mix position there are also local inputs on the mixer for audio sources such as CD players or Apple iPods. With a WiFi enabled iOS device, we also have the ability to control the stage microphones with the HiQnet Motion Control app when the system is in automatic mode. In manual mode, the mixer at the front-of-house location provides the control for the stage microphones.

FUNCTIONAL DIAGRAM



DSP CONFIGURATION

In this House of Worship the system can be used in one of two ways. The first four inputs are routed to the BSS Audio Soundweb London BLU-160 devices Automixer Gain Sharing processing object to allow a simple service - with four microphones or less - to take place without a sound operator. For more complicated services, the other 32 inputs on the wall plates are routed to the console's inputs. A ducker is provided to automate the switching between the two systems, giving the automixed signal a priority over the console's feed. Shown on this diagram are the first 8 wall plate inputs routed to the console. The remaining 24 wall plate inputs are routed similarly from the two BLU-120 devices via BLU link to the Si Performer console. Stereo outputs are routed to the main speaker system while a mono sum is routed to back-of-house amplifiers. Each speaker or zone has a Gain, a Parametric EQ and a High or Low Pass Filter, with delay and limiting built in. There are also four outputs on each plate routed through each processor via BLU link from the console for use as monitors or for recording.



PERFORMANCE VENUES

Multi-Use Theater / Performing Arts Centers

Multi-use theater systems have a number of unique requirements including:

- Audio from mixing console and multimedia sources
- Bi-amplified Left, Center and Right speaker arrays
- Multiple outputs for surround speakers (side and rear)
- Independent gain, EQ, delay and limiting for each output
- Master gain control for each multimedia source

Many of today's theaters are designed to support live presentations in addition to multimedia playback. Soundweb London can easily handle complex routing of a variety of signal formats.

In this application the Soundcraft Si Expression 16 digital console with a BLU link output card provides multiple channels of audio via BLU link to a BLU-160. Additionally there are two multi-output DVD players connected to the BLU-160 via analog inputs. These signals feed a matrix mixer were they can be easily routed by means of parameter presets.

JBL PD5322/95 function as the main screen speakers. These are three-way speakers being used in their passive bi-amplified mode. Several of the outputs on the multi-channel Crown Drive Core Install DCi amplifiers are bridged, as needed, to supply appropriate power to the dual 12" low frequency drivers in the JBL PD5322/95 speakers. The Soundweb London Crossover can be scaled to provide up to six bands of output providing enough flexibility for any multi-component speaker cluster. The Crossover provides control over limiting, delay, gain and frequency for each of the outputs allowing the installer to tune the speaker clusters for their best performance within the space.

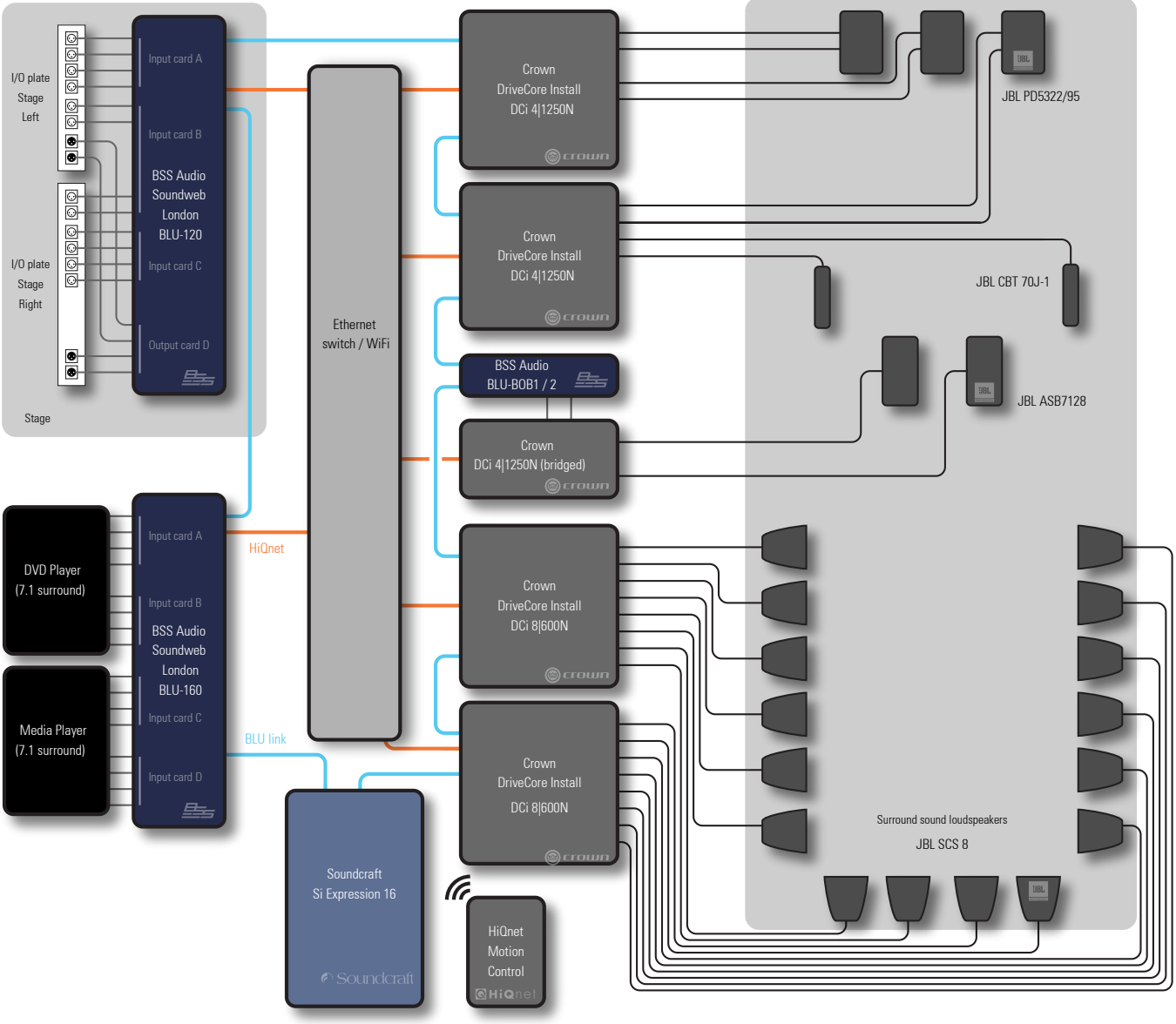
In this design, ten bands of parametric EQ are provided for each of the 18 system outputs. These filters can be reallocated within the design simply by changing the properties of the processing object to increase or decrease the number of filters needed for any given path of processing.

Although the surround outputs are full range JBL SCS8 speakers, by using a single band Crossover set to "full-range", delay, gain and limiting are available from one processing object for each of the surround outputs.

By providing discreet outputs for each of the surround speakers and sub woofers, the installer can fine tune the delay, gain, and filters per speaker to create the optimum acoustical environment and the end user can be prepared for future surround sound formats.

Utilizing the scalable Gain N-Input object to create a six channel gain block allows the user to adjust the multi-channel signals of the multimedia sources from a single master gain fader. These gain controls, as well as the matrix routing parameter preset recalls, can all be easily accessed by the operator from an Apple iOS device via the HiQnet Motion Control app, integrated into a presentation lectern, projection booth or mix location equipment rack.

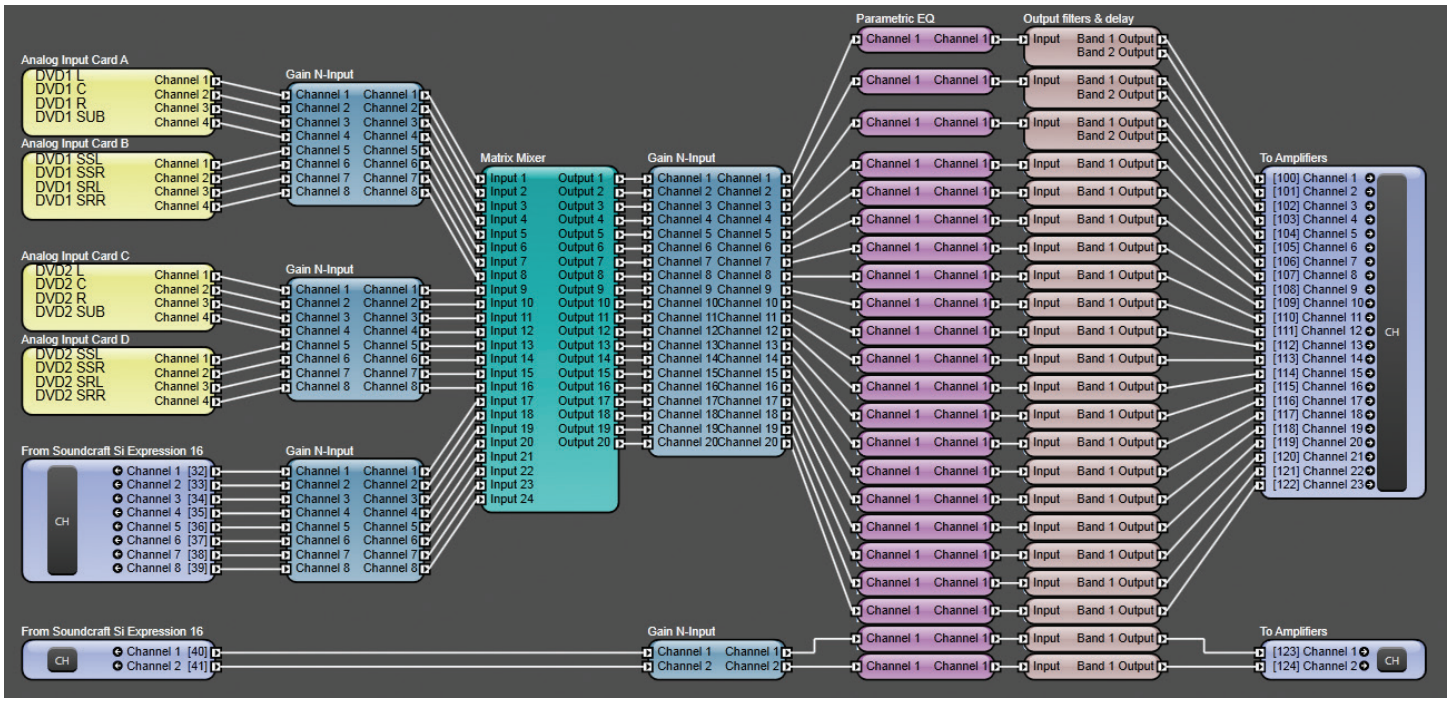
FUNCTIONAL DIAGRAM



DSP CONFIGURATION

The Multi-Use Theater system DSP diagram is very straightforward. Generally DVD player and console outputs are routed to the cinema playback speakers utilizing a 7.1 standard routing - Left, Center, Right, Low Frequency Effects, Surround Side Left, Surround Side Right, Surround Rear Left and Surround Rear Right. All of this routing can be set and modified through the use of the central Matrix Mixer. If needed, discrete sends from the console to the JBL SCS8 surround speakers could be used for special effects, for example.

In addition, two console output channels are hard-routed (Matrix bypassed) to the two JBL CBT 70J speakers at the front of the auditorium primarily dedicated for speech reinforcement or small music ensembles. Gain N-Input processing objects are provided for each input to adjust for level gain on the input of the Matrix Mixer. As noted above, output processing is provided by 10-filter Parametric EQ and Delay, Gain and Limiter processing objects are all contained within the output filter processors.



HOSPITALITY

Restaurants / Bars / Hotels

The audio system for a restaurant or bar has a number of unique requirements, including:

- The ability to select multiple audio sources and distribute them to several zones as either mono or stereo signals
- The need to control the audio from a number of locations in the restaurant / bar
- The necessity for host / hostess paging announcements to override the background music in selected zones
- A two-way PA in the bar for live performances

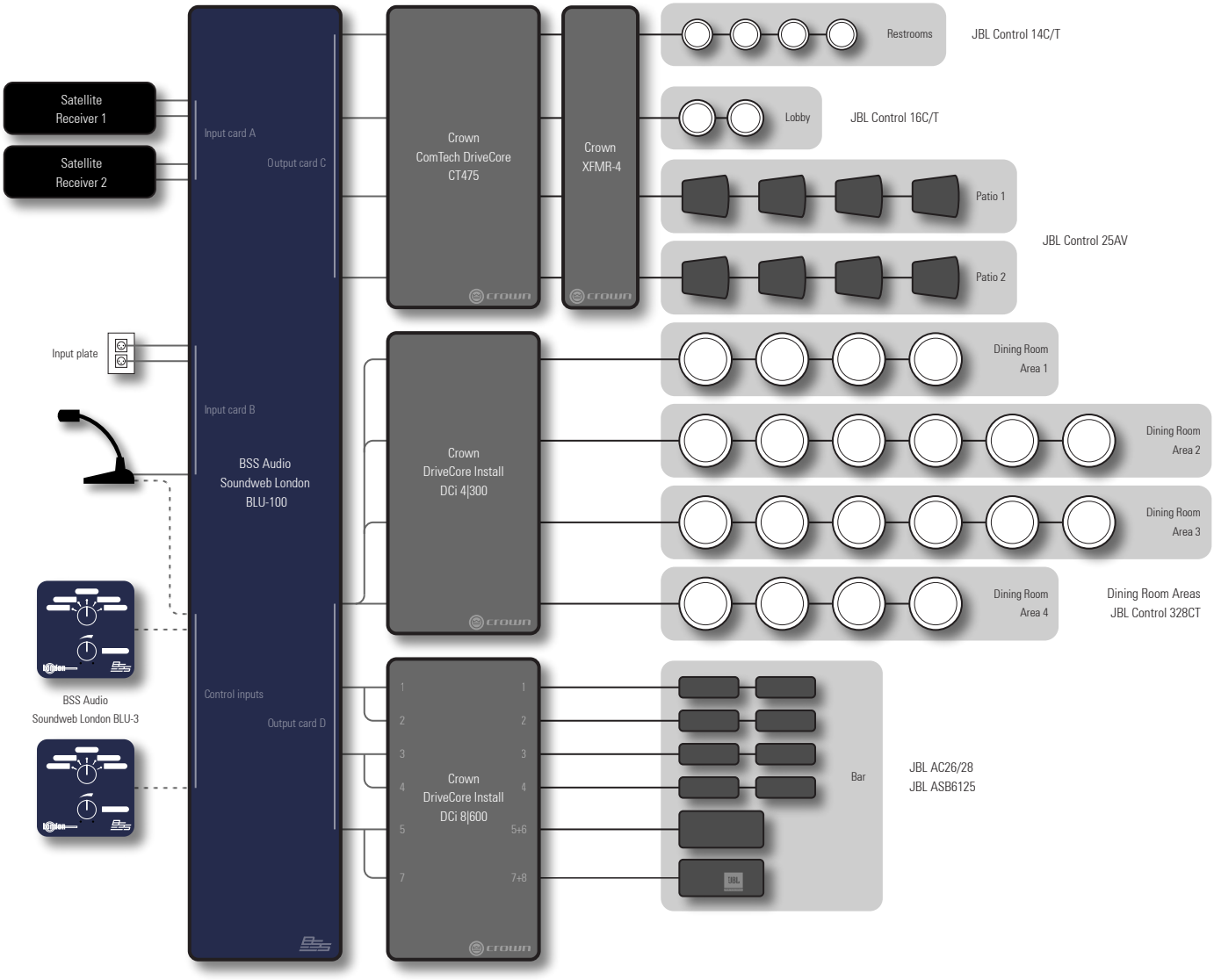
Multiple audio sources (in this case, multiple satellite receivers), often have a significant variation in their audio output levels. This variation needs to be controlled so that the sound levels are relatively consistent no matter where you are in the restaurant. By using the Leveller inside the Soundweb London BLU-100 automatic adjustments are made to compensate for discrepancies between the levels of different audio sources. This results in an even volume level when switching between sources. After passing through the Leveller, the signals are then equalized using a parametric equalizer (EQ). This processing object can be used to adjust for the acoustics of the room and help make the listing experience more consistent as a customer moves from space to space. Proper EQ also assures the highest intelligibility of voice announcements throughout the system.

Depending on the restaurant / bar and the wishes of the designer, music can be sent to the Crown ComTech and DriveCore Install DCi amplifiers (and then to the loudspeakers) as either stereo or mono signals. In the case of this design, it was desired to have the higher impact bar system in stereo utilizing distributed JBL AC26/28 speakers combined with mono JBL ASB6125 subwoofers, while the Dining Room, Patio and other spaces employ mono audio playback only. To accomplish this, the audio source was split. Part of the signal was sent to a Summer processing object to create a mono source for the lobby, courtyard and restroom areas. At the same time, part of the signal was kept as a stereo feed and sent to the bar and restaurant zones for playback in stereo.

A BLU-3 analog remote wall controller mounted behind the bar and reception area allows staff to select from available audio sources as well as adjust the volume levels in the restaurant and the bar. A stereo input plate in the bar will allow a small DJ mixer to be routed to the high impact JBL / Crown audio system on the weekends. This configuration requires a Stereo Crossover, a Stereo Parametric EQ and input and output Limiters (to protect the system from high levels coming from the DJ's mixer). This provides the installer with the tools necessary to create the best sound for any space.

By using the Ducker processing object, a true override paging system has been designed that will automatically "duck" the background music, so that announcements can be clearly heard above the level of the music. Upon completion of the announcement, the background music is automatically restored to its previous level. With this configuration, announcements would only be heard in necessary zones (lobby, bar and rest rooms), leaving diners undisturbed.

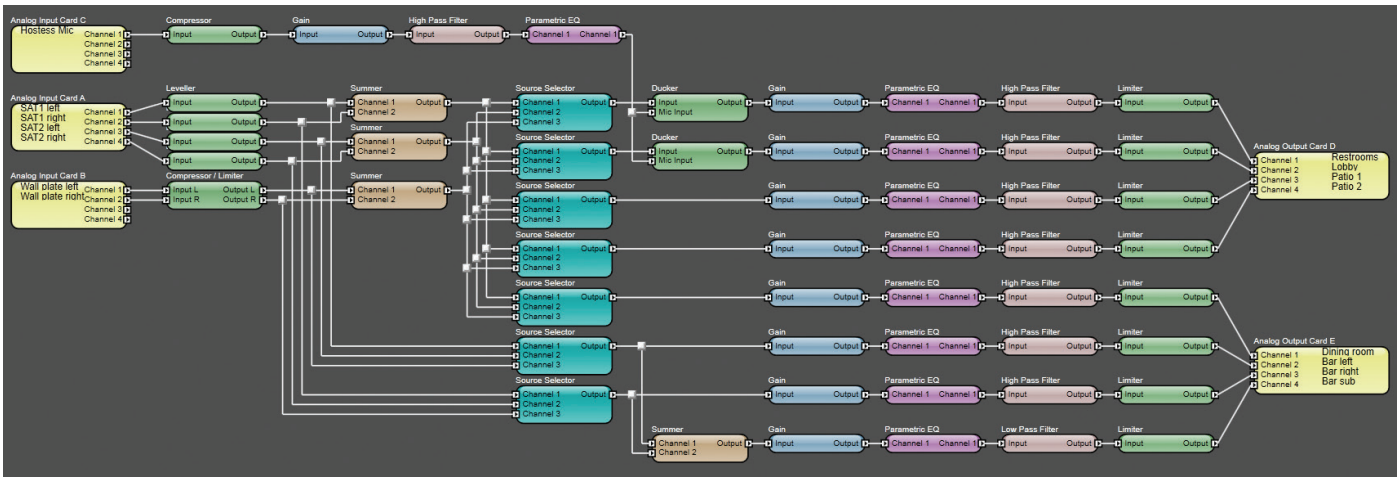
FUNCTIONAL DIAGRAM



DSP CONFIGURATION

In order to route a mono signal to the restaurant and a stereo signal to the bar, the stereo sources are split as they enter the processor. One stereo path is connected to a mono summer to provide a mono signal to most of the restaurant, while the other is routed to the amplifiers in the bar for a full stereo playback experience. All output signal paths follow a similar routine: Gain stage, Parametric EQ, Filter, and Limiter.

Special input processing is provided for each source. The paging microphone passes through Compressor, Gain, High Pass Filter and Parametric EQ processing objects, very similar to the input strip of a console. The Satellite receivers have Levelers to adjust for the varying levels of the content, and the wall plate input has a hard Limiter processing object on its input to protect the system from an enthusiastic DJ mixer. Finally a Ducker is used on the outputs that feed the lobby and rest rooms allowing the music to be reduced in level when the host pages a guest for seating.



TRAINING

ARCHITECTURAL MEDIA SYSTEMS TRAINING

Understanding how to configure Architectural Media Systems naturally centers on how to use its core system design software application - HiQnet Audio Architect. It's for that reason that so much time has been spent by the HiQnet team to make Audio Architect do as much of the hard work as possible, striving to make what can be complex design simple.

Becoming a master with this powerful software application will make you invaluable in designing the best sound system possible for your venue. The best way to achieve this is with one of our training courses. Best of all, with four networking protocols all under one roof, once it's been mastered, you'll be conversant in configuring AVB, BLU link, CobraNet and Dante systems.

There are three ways to receive HiQnet Audio Architect training:

1. Self-paced Audio Architect Training

Architectural Media Systems offers online, self-paced training available on our website at www.archimedia.harman.com/videos.

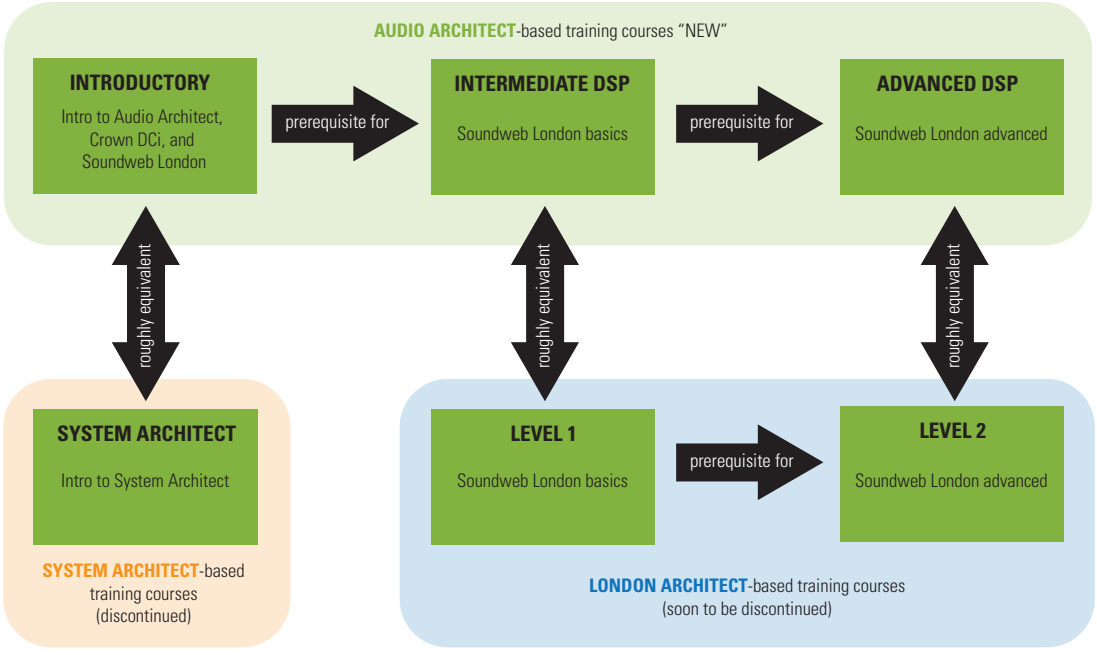
2. Online Audio Architect Webinar Training

These training sessions are accessed via the internet and typically require calling into HARMAN using your phone.
See www.archimedia.harman.com/training, and click on the webinar training link.

3. In-Person Training

The HARMAN Architectural Media Systems team offers in-person courses at our global HARMAN facilities, and in other regional locations across the world. The courses are divided into three parts – Introductory, Intermediate DSP and Advanced DSP.

AUDIO ARCHITECT IN-PERSON TRAINING



IN-PERSON TRAINING

NEW ARCHITECTURAL MEDIA SYSTEMS TRAINING PROGRAMS

Introductory training

Introductory is a new training course centered on how Audio Architect is used to configure an overall Architectural Media Systems audio system. It introduces the Crown DCi Series amplifiers and Soundweb London. This course has no prerequisites. The course is itself a prerequisite for ALL other Architectural Media Systems courses, however. Any student who has attended the Introductory course is eligible to attempt the Introductory Exam.

A student who passes the Introductory Exam will be Introductory certified. Students who are Introductory certified will be given an official certificate. The curriculum of Introductory is basically equivalent to the curriculum of the now-discontinued System Architect training course. As such, certain individuals will qualify to essentially 'skip' Introductory by instead taking a quick System Architect Conversion Course. Any student who qualifies for and completes the System Architect Conversion Course is eligible to attempt the Introductory exam.

Intermediate DSP training

Intermediate DSP is a new training course centered on the basics of Soundweb London devices, and how they are configured, controlled and monitored within Audio Architect. The Introductory course is a prerequisite for this course. This course is itself a prerequisite for the Advanced DSP course. Any student who has attended the Intermediate DSP course is eligible to attempt the Intermediate DSP Exam.

A student who passes the Intermediate DSP Exam will be Intermediate DSP certified. Students who are Intermediate DSP certified will be given an official certificate. The curriculum of Intermediate DSP is basically equivalent to the curriculum of the soon-to-be discontinued BSS Audio level 1 course. As such, certain individuals will qualify to essentially 'skip' Intermediate DSP by instead taking a quick BSS Audio level 1 Conversion Course. Any student who qualifies for and completes the Level 1 Conversion Course is eligible to attempt the Intermediate DSP exam.

Advanced DSP training

Advanced DSP is a new training course centered on advanced aspects of Soundweb London devices within Audio Architect. The Introductory course and the Intermediate DSP course are prerequisites for this course. Any student who has attended the Advanced DSP course is eligible to attempt the Advanced DSP Exam.

A student who passes the Advanced DSP Exam will be Advanced DSP certified. Students who are Advanced DSP certified will be given an official certificate. The curriculum of Advanced DSP is basically equivalent to the curriculum of the soon-to-be-discontinued BSS Audio level 2 course. As such, certain individuals will qualify to essentially 'skip' Advanced DSP by instead taking a quick BSS Audio level 2 Conversion Course. Any student who qualifies for and completes the Level 2 Conversion Course is eligible to attempt the Advanced DSP exam.

ARCHITECTURAL MEDIA SYSTEMS
WORLDWIDE SUPPORT

Comprehensive and direct support for Architectural Media Systems is provided through the HARMAN regional sales offices, distributors and dealers located across the world, covering all time zones and multiple languages. It's how we ensure the greatest experience is maintained all the way through the lifecycle of the world's greatest sound system.

Visit archimedia.harman.com for up-to-date contact details of your local HARMAN country distributor or US representative.

archimedia.harman.com