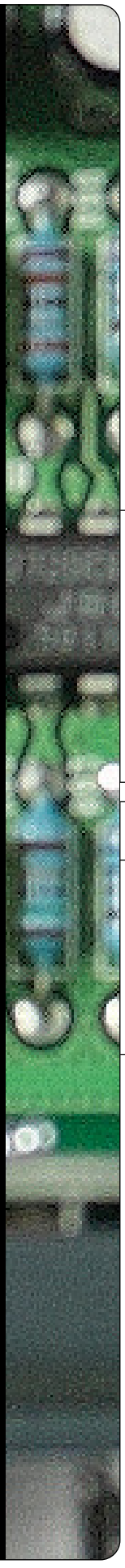
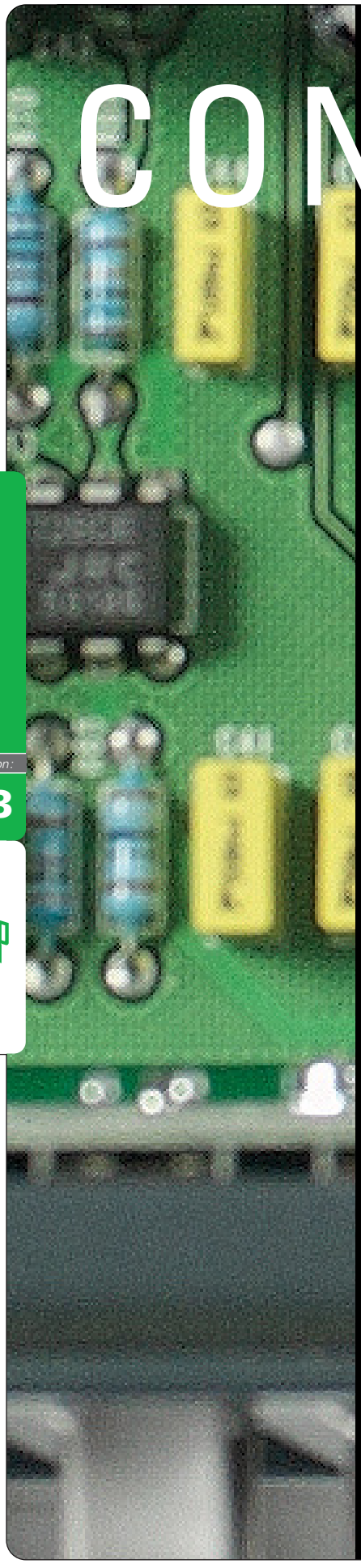


BSS® by HARMAN

2013

Professional Audio Signal Processing

And Distribution Equipment



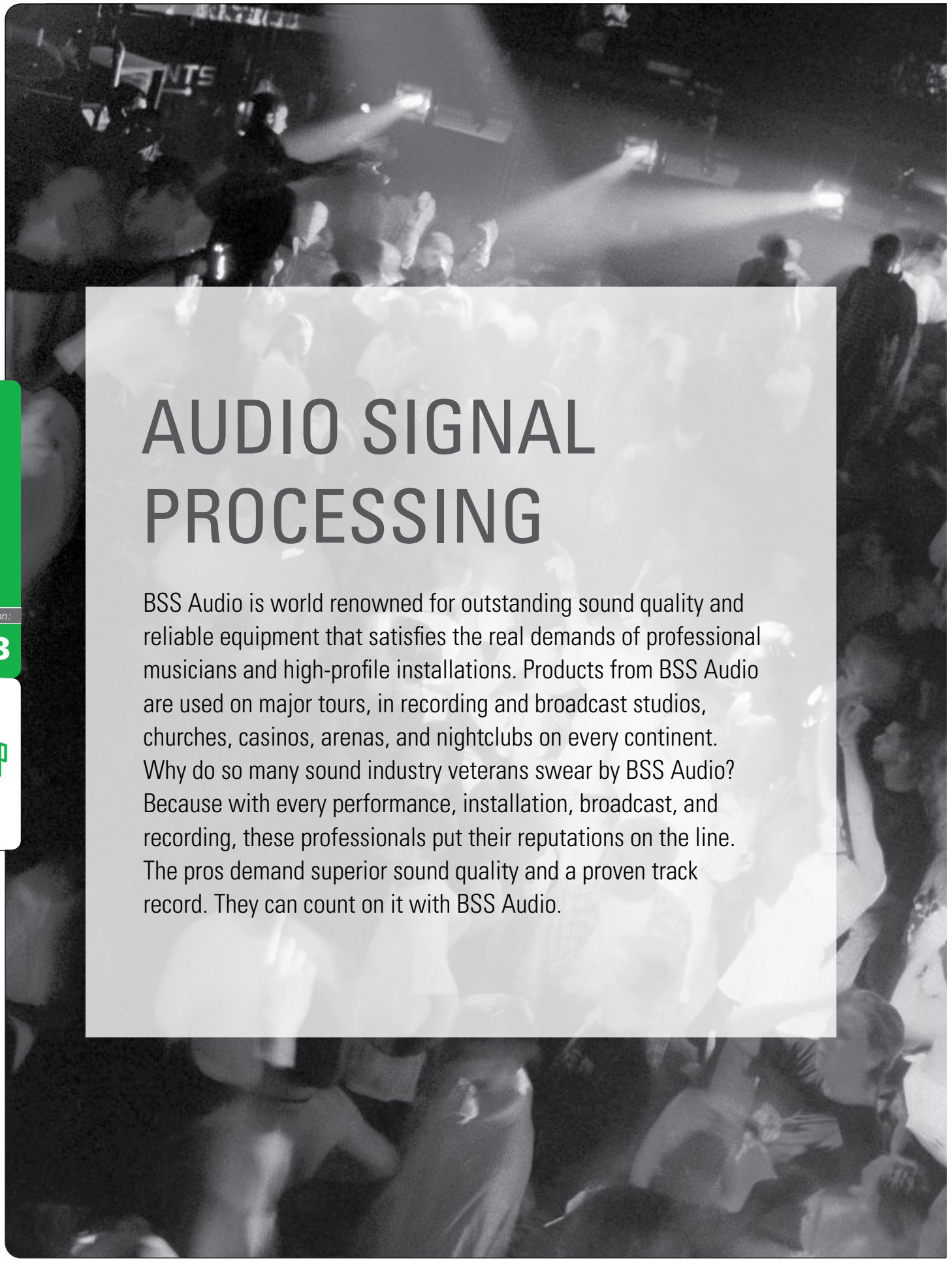
CONTENTS:

FCS-966:
constant Q graphic
equalizer

AR-133:
active DI box/line
balancer

WHISEWORKS™
Neville Thiele Method™ Filters

Product Specifications



AUDIO SIGNAL PROCESSING

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.

RELIABILITY

The uncompromising reliability achieved through superb design and meticulous quality assurance is why more artists regularly choose BSS Audio systems. From the rock-solid AR-133 Direct Injection Box, to the state of the art Soundweb London networked signal processors, BSS Audio offers the very best in signal processing.

LIVE SOUND

For over 25 years, BSS Audio equipment has been manhandled on and off of trucks and planes, city after city, tour after tour. And every time the show started, the performers and the techs knew their BSS Audio gear would work. No wonder top performing artists like Metallica, Diana Krall, David Bowie, and Oasis regularly choose BSS Audio systems.

SOUNDWEB™ LONDON

Networked Signal Processors

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.

We've leveraged this analog audio expertise 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, we've brought the same warmth and clarity to a vast palette of DSP modules. All are deployed within an intuitive, easy-to-use design and maintenance interface called HiQnet™ London Architect™.

So you're not just getting, for example a generic compressor module; you're getting digital processing closely based on the acclaimed sound of our DPR-402. From automixers to graphic and parametric EQs, from duckers to delays, you can hear the BSS Audio difference. Bottom line: we're 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.

Built on the foundations of an industry standard

Our Soundweb™ Original series sent ripples through the sound contracting world. The first large-scale system to offer a distributed, programmable DSP system with robust capabilities and simple controls on a single Cat 5 cable, it has inspired a host of imitators. Yet there are key areas where the original Soundweb philosophy still stands above the rest:

- Easy creation of virtually any audio system design with a free-design programmable DSP system that places no restrictions on signal path, sub-mixing or object location
- The ability to change how your audio system behaves according to the type of event you are holding, just with the recall of a preset
- Easy and quick addition of more signal processing within the system without increasing your hardware budget
- Fast implementation of specification changes during or post-design
- The appropriate level of end-user control without providing overly-complex interfaces

The same philosophy is at the heart of Soundweb™ London. Moreover, the experience with, and suggestions from thousands of clients have enabled BSS Audio to enhance Soundweb London's power and flexibility to unprecedented levels including:

- Pristine audio quality, with advanced A/D and D/A conversion, together with 96kHz-capable audio processing and networking
- Simple, easy-to-learn drag-and-drop system design, now even more powerful with named CobraNet™ bundle assignment, signal path navigation and scalable DSP objects
- Ethernet based control over Cat 5 cable, with network audio via CobraNet™ with redundant capability
- An extensive range of control options to offer clients simple or sophisticated control interfaces
- Easy expansion or reconfiguration of system hardware in the field

With years of experience to count on, Soundweb London represents your wisest choice when investing in programmable DSP technology.

The system approach fully realized

No one else can offer our level of integration. Because only Soundweb London is the backbone of a completely unified system solution with microphones, consoles, amplifiers and loudspeakers from sister Harman Pro companies AKG Acoustics® , Soundcraft®, Crown Audio® and JBL Professional® , as well as dbx Professional Products® and BSS Audio™ signal processing devices.

Harman Pro is in the unique position to be able to provide components for the entire signal path and through the use of HiQnet™, the Harman Pro Communications Protocol, integration of these components has never been easier. System integrators will be familiar with having to waste expensive engineering time translating different protocols, so that products using disparate languages will communicate.

Imagine how much easier it is when all of your system elements "speak" the same language. Via HiQnet™ London Architect™ software, you can also add integrated monitoring of Crown Audio PIP-LITE, USP3 and USP3/CN Programmable Input Processor ('PIP') modules, as used in the CTs series of amplifiers. You can also configure BSS Audio FDS-334T and FDS-336T Minidrive processors and the industry standard FDS-366T OMNIDRIVE COMPACT plus system. One control application can monitor amplifier performance, speaker conditions, log events and report errors back to the operator.

Easy to design

System design should be drag-and-drop easy. Our Soundweb™ Original software application, Soundweb™ Designer took system design and control to an unprecedented level. Now HiQnet™ London Architect™ brings even more power to your design creativity. 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. HiQnet™ London Architect™ uses the familiar drag-and-drop design interface that Soundweb users will know well, but has been dramatically enhanced to provide a more powerful, flexible and user-oriented interface:

- dockable tool menus
- creation of zones
- layout scrolling, zooming and mini-map windows
- new innovative processing objects such as scalable mixers that make design and object selection easier than ever
- new control panels with vast galleries of controls
- highly informative docking windows
- the ability to copy control values across objects

— these are just a few of the ways in which we've made HiQnet London Architect the most powerful design software in its class.

Create custom control panels

One of the advantages inherited from Soundweb™ Designer has been made even easier. Simple mouse clicks create control panels and pages and add "unbound" elements such as meters and faders that can then be tied to distinct processing objects. Not forgotten is the "traditional" method of creating panels by dragging controls directly onto these custom panels. Pages can also be nested within panels, increasing their versatility, offering neater layout of controls and taking the concept to an unprecedented level.

Proven DSP processing objects

All the familiar Soundweb™ Original processing objects are included; many modeled on the classic and respected BSS Audio analog processors.
The platform has also been designed to enable future software releases to include new leading edge DSP functions.

Easy to install

Each Soundweb London processor is totally self-contained, so devices can be installed locally to their amplifier racks rather than in one centralized location. Category 5 cable is used to interconnect system devices and Ethernet hardware, with network hops of 300 feet (100 meters) possible.

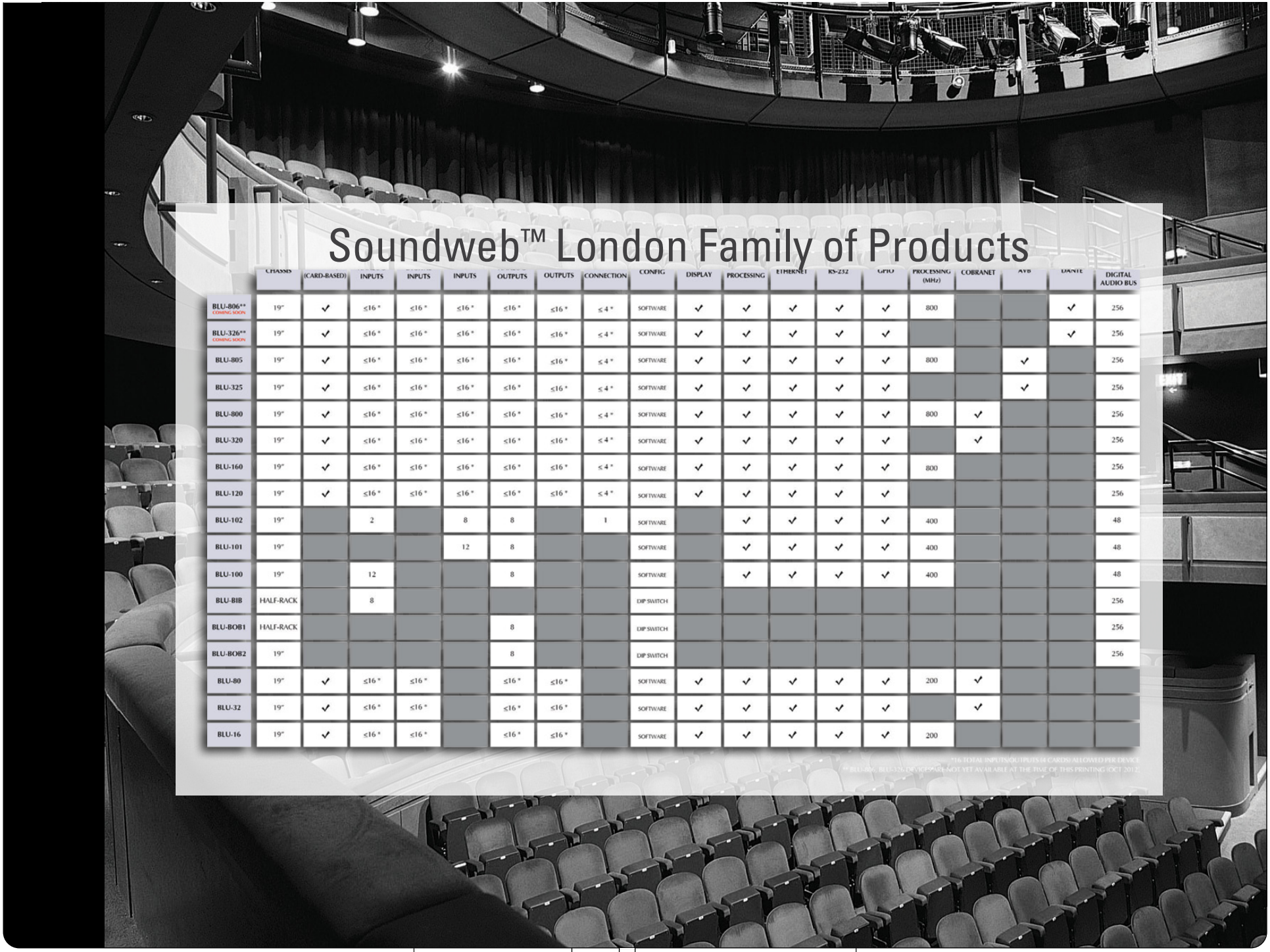
Digital audio bus

The digital audio bus featured on the BLU-800, BLU-320, BLU-160 and BLU-120, is a fault-tolerant bus of 256 channels. In addition to providing a backbone for the transportation of multiple channels, the bus also facilitates the creation of large, fault-tolerant, centralized matrices containing multiple bus-capable devices.

Soundweb™ London Family of Products

With a choice of seven different processors within the Soundweb London family and input / output card flexibility within each device, Soundweb London represents a truly flexible and scalable system. Whether you require the high bandwidth audio networking of a digital audio bus, CobraNet compatibility, DSP capability, input / output expansion or a specific mix of functionality, Soundweb London offers the building blocks of a tailor made system.

Including BSS Audio components as an integral part of any sound installation will ensure years of dependable performance and reliability.



Soundweb™ London Family of Products

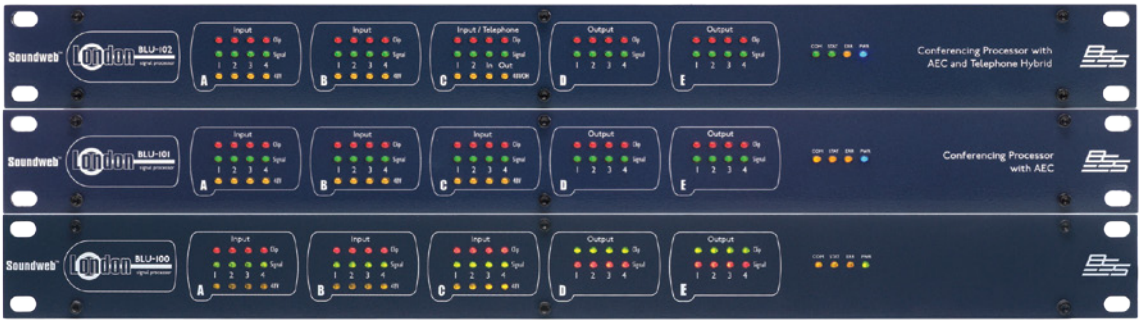
	CHASSIS	(CARD-BASED)	INPUTS	INPUTS	INPUTS	OUTPUTS	OUTPUTS	CONNECTION	CONFIG	DISPLAY	PROCESSING	ETHERNET	RS-232	GPIO	PROCESSING (MHz)	COBRANET	AVB	DANTE	DIGITAL AUDIO BUS
BLU-806** COMING SOON	19"	✓	≤16 *	≤16 *	≤16 *	≤16 *	≤16 *	≤ 4 *	SOFTWARE	✓	✓	✓	✓	✓	800			✓	256
BLU-326** COMING SOON	19"	✓	≤16 *	≤16 *	≤16 *	≤16 *	≤16 *	≤ 4 *	SOFTWARE	✓	✓	✓	✓	✓				✓	256
BLU-805	19"	✓	≤16 *	≤16 *	≤16 *	≤16 *	≤16 *	≤ 4 *	SOFTWARE	✓	✓	✓	✓	✓	800		✓		256
BLU-325	19"	✓	≤16 *	≤16 *	≤16 *	≤16 *	≤16 *	≤ 4 *	SOFTWARE	✓	✓	✓	✓	✓			✓		256
BLU-800	19"	✓	≤16 *	≤16 *	≤16 *	≤16 *	≤16 *	≤ 4 *	SOFTWARE	✓	✓	✓	✓	✓	800	✓			256
BLU-320	19"	✓	≤16 *	≤16 *	≤16 *	≤16 *	≤16 *	≤ 4 *	SOFTWARE	✓	✓	✓	✓	✓		✓			256
BLU-160	19"	✓	≤16 *	≤16 *	≤16 *	≤16 *	≤16 *	≤ 4 *	SOFTWARE	✓	✓	✓	✓	✓	800				256
BLU-120	19"	✓	≤16 *	≤16 *	≤16 *	≤16 *	≤16 *	≤ 4 *	SOFTWARE	✓	✓	✓	✓	✓					256
BLU-102	19"		2		8	8		1	SOFTWARE		✓	✓	✓	✓	400				48
BLU-101	19"				12	8			SOFTWARE		✓	✓	✓	✓	400				48
BLU-100	19"		12			8			SOFTWARE		✓	✓	✓	✓	400				48
BLU-BIB	HALF-RACK		8						DIP SWITCH										256
BLU-BOB1	HALF-RACK					8			DIP SWITCH										256
BLU-BOB2	19"					8			DIP SWITCH										256
BLU-80	19"	✓	≤16 *	≤16 *		≤16 *	≤16 *		SOFTWARE	✓	✓	✓	✓	✓	200	✓			
BLU-32	19"	✓	≤16 *	≤16 *		≤16 *	≤16 *		SOFTWARE	✓	✓	✓	✓	✓		✓			
BLU-16	19"	✓	≤16 *	≤16 *		≤16 *	≤16 *		SOFTWARE	✓	✓	✓	✓	✓	200				

*16 TOTAL INPUTS/OUTPUTS (4 CARDS) ALLOWED PER DEVICE

** BLU-806, BLU-326 DEVICES ARE NOT YET AVAILABLE AT THE TIME OF THIS PRINTING (OCT 2012)

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.

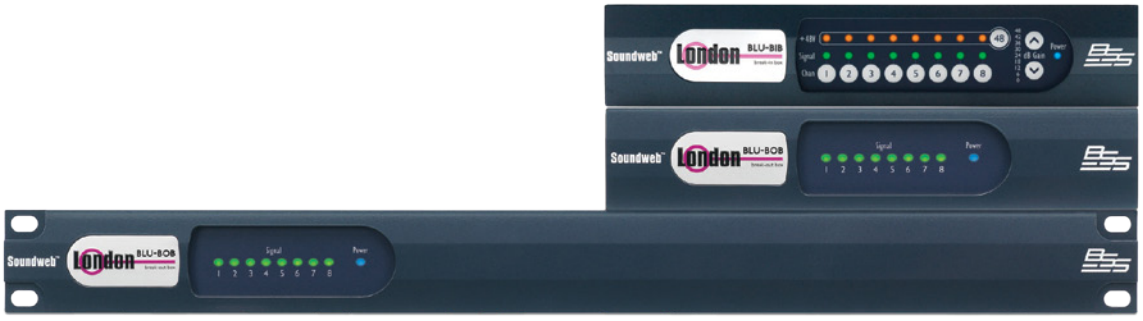
The Soundweb London 100 Series is an example of where user feedback, combined with the leveraging of Soundweb London's technology, functionality and flexibility has resulted in the development of a truly game-changing product. The 100 Series broadens the reach of Soundweb London and makes a solution 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.

Wall Controllers and Accessories

BLU-10
(available in white, black and blue)

BLU-6

BLU-HIF
Telephone Headset Interface

BLU-MC1
Fiber Optic Media Converter

BLU-8v2
(available in white and black)

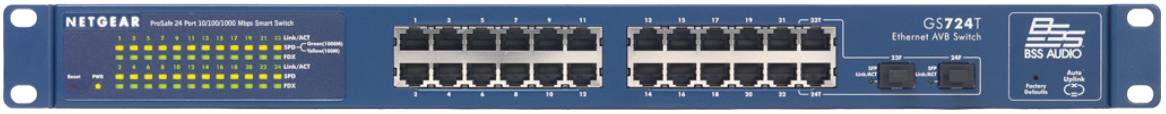
BLU-3

sw9015US

sw9012US

GS724T

24 Port Ethernet AVB Switch



The BSS Audio / NETGEAR GS724T Ethernet Switch is a 24-port, Ethernet AVB enabled, fully-managed Gigabit switch.

With full support of Ethernet AVB technology, the GS724T allows audio, video, and data to be shared amongst Ethernet AVB compatible devices such as dbx products fitted with the SC Ethernet AVB High Speed Option Card.

The 24 ports are each capable of accommodating 2000 Mbps of data throughput in full-duplex mode, yielding a total bandwidth of 48000 Mbps (48 Gbps). The GS724T delivers 10/100/1000 automatic speed sensing, full/half-duplex sensing, and Auto Uplink™ (MDI/MDI-X) to every port. This simplifies the combination of 10, 100, and 1000 Mbps devices.

Two hot-swappable Small Form-factor Pluggable (SFP) Gigabit Interface Converter (GBIC) slots provide optional fiber connectivity for the greater distances often encountered in large systems.

An intuitive web-browser interface offers straight forward administrative management for performance monitoring, port configuration, VLAN for traffic control, Class of Service (CoS) for traffic prioritization, port trunking for increased bandwidth, traffic filtering, and other advanced features.

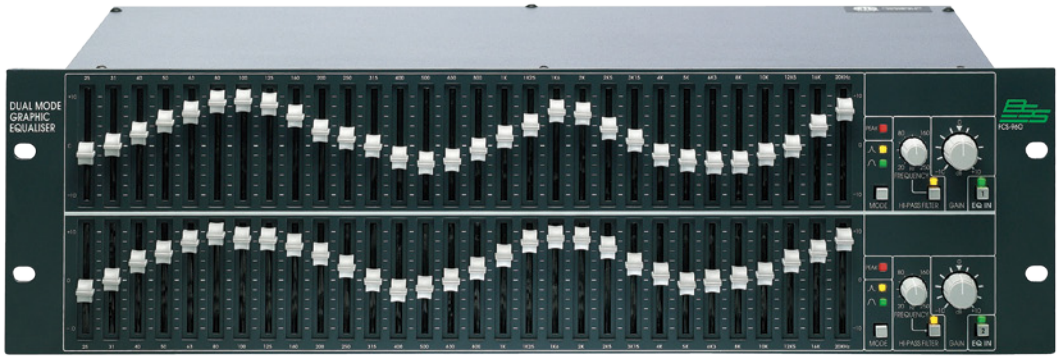
Smart Control Center—a standalone utility program included on the accompanying software CD—allows automatic discovery of GS724T devices (even across subnets) and provides basic device configuration tools.

KEY FEATURES

- 24 Port Gigabit Network Switch
- Ethernet AVB support
- 802.1ak - Multiple Registration Protocol (MRP/MMRP)
- 802.1AS - Timing and Synchronization for Time-Sensitive Applications in Bridged Local Area Networks (PTP)
- 802.1Qat - Stream Reservation Protocol (SRP)
- 802.1Qav - Forwarding and Queuing Enhancements for Time-Sensitive Streams
- 802.1AB-REV - Station and Media Access Control Connectivity Discovery (LLDP)
- 2 Gigabit Interface Converter (GBIC) slots for optional fiber connectivity
- Smart Control Center utility program automatically discovers devices
- Administrative management via web-browser interface
- Port configuration
- Port monitoring
- Port trunking
- VLAN support
- Class of Service (CoS)
- Layer 2 management
- MAC address Filter
- Ethertype Filtering
- MAC address Filter
- Universal 100-240V AC/50-60 Hz power supply
- Rack-Mount Ears (included)

FCS-960

Graphic Equalizers



FCS Series

Of all the features that distinguish the FCS series among professional-grade equalizers, Constant Q filters are probably the most prominent. Compared to the earlier "gyrator" style of filters, Constant Q filters provide a smoother and more predictable interaction between adjacent faders, and the resulting EQ curve more closely resembles the actual fader positions. And each fader on the FCS equalizers has +/– 15dB of adjustable gain, more than many competitive graphic equalizers. When you consider the FCS series' proven history of quality and reliability as well as their impressive feature set, you understand why so many industry veterans include these equalizers in their racks.

FCS-960
Dual Mode Graphic Equalizer

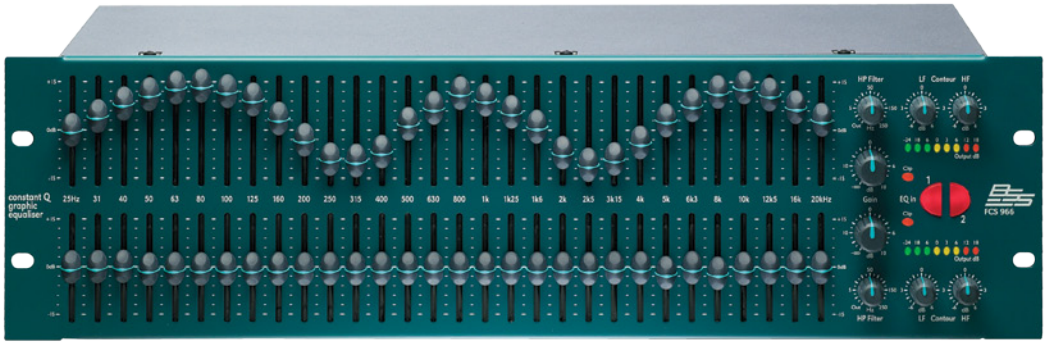
The FCS-960 is the graphic EQ of choice among some of the biggest names in the touring business. Dual mode operation accommodates both Wide Q for Room Contouring (to find the smoothest response) and Narrow Q for monitoring (to "notch out" particular frequencies) on each channel.

The FCS-960 provides two channels in 3U of rack space. Constant Q-filters with filter-bypass center taps are controlled by high grade, 45mm faders with molded polymer fader knobs. These prominent knobs eradicate visual parallax error even under low light conditions.

Also included are sweepable/switchable Hi-pass filter, Gain control and electronically balanced inputs and outputs.

FCS-966

Constant Q Graphic



FCS-966

The FCS-966 is commonly used for stage monitors and is engineered using knowledge and experience gained from the FCS-960. Modern components and manufacturing techniques allow premium quality and reliability to be retained at a lower price point.

Traditionally, much general equalization takes place on the faders alone, but this restricts the use of the faders at each end of the scale for further precision EQ work. So BSS Audio provides the FCS-966 with separate LF and HF contour filters, which can change an overall sound balance without disturbing a detailed room or loudspeaker response.

These filters are very musical gentle boost and cut shelving type, which can be used to add (or remove) room effects that change with temperature, audience numbers or humidity.

Twenty years of live sound experience let you focus on the job at hand.

ACTIVE DI, LINE BALANCING & SIGNAL DISTRIBUTION

AR-133
Active DI Box/Line Balancer

The AR-133 is a single channel DI box with high input impedance, 1/4" jack input and parallel link ouputs to feed backline amps. Though it's a favorite among high-profile touring professionals, the AR-133 is priced to be affordable for all musicians, studios and PA companies.

The rugged aluminum extrusion case's unique arch design lets you run cables back underneath the unit for neat cable management.

The AR-133 uses an enhanced version of the same audio path as the AR-116, regarded by many as an industry standard. The sound quality is legendary, particularly on acoustic and bass guitars.

The AR-133 includes phantom power and battery supplies. Should the phantom power from the console fail or accidentally switch off, the AR-133 automatically switches over to the internal 9V battery, providing uninterrupted use. Numerous applications can be satisfied by the AR-133. For example, as well as the traditional guitar use, the AR-133 can be used with keyboards, DJ mixers, link outputs, and other electronic sources. The AR-133 can also be used as an active balancing device.

WHISEWORKS –
NEVILLE THIELE METHOD FILTERS

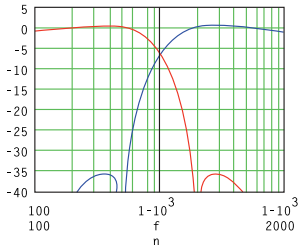
Included with Soundweb™ London, Soundweb™ Original, OMNIDRIVE COMPACT plus and Minidrive

What are NTM™ Filters all about?

A NTM™ Crossover Filter is a new type of electrical/acoustical filter offering significant performance advantages over all previous crossover filter types in audio applications. The filter was developed by Neville Thiele (pronounced "Teel").

How do they work?

The NTM crossover uses a unique notched response to achieve a very steep roll-off rate outside the pass-band. The 4th order NTM crossover amplitude response looks like this:



NTM Roll-off

Notches in the responses speed-up the rate of roll-off. Beyond the notch, the response rises again, but remains respectably attenuated.

Advantages

Like the Linkwitz-Riley crossover shape, NTM crossovers maintain a flat amplitude response against frequency, and hold the drivers in-phase throughout the crossover region, preventing beam tilting. Additionally however, the 8th order NTM filter gives the fastest roll-off rate of any of the common crossover shapes. The 4th order NTM filter also offers the best group delay flatness of any crossover shape with a roll-off of at least 24dB/Octave, whilst offering a higher cut-off rate than any other 4th order crossover.

For many years, Linkwitz-Riley crossovers have been the 'industry standard' as they offered the best compromise for most of the important parameters. The new NTM crossover shapes now represent the optimal combination of characteristics for most applications, assuring it at least a place alongside Linkwitz Riley, if not becoming the new industry standard.

"The cleanest and clearest filters I've heard to date."
Andy Dockerty,
Adlib Audio, UK

"The biggest step forward in digital crossover technology since Linkwitz-Riley."
Jerry Wing, Britannia Row Productions, UK

WHISEWORKS - NTM™ and WHISE-WORKS - Neville Thiele Method™ are trademarks of Precision Audio Pty. Ltd.

"The new filters allow me to put more power to the devices without fear of overload or over-excursion. Once adjusted, sounds better than standard filters. The system seemed louder and clearer. We were setting off alarms in the car park!"
Ferrit, Promix/Electrotec,
Las Vegas, Nevada, USA

PRODUCT SPECIFICATIONS:

The BSS Audio website, located at bssaudio.com is updated regularly and provides a great source for all the latest news and product specifications. You will find useful information in the form of brochures, user manuals, technical data sheets, applications guides and software updates. The website also contains contact information for all sales, technical support and service enquiries.

Soundweb London

Networked Signal Processors

BLU-16, BLU-32, BLU-80,BLU-120,
BLU-160, BLU-320, BLU-325, BLU-800, and BLU-805

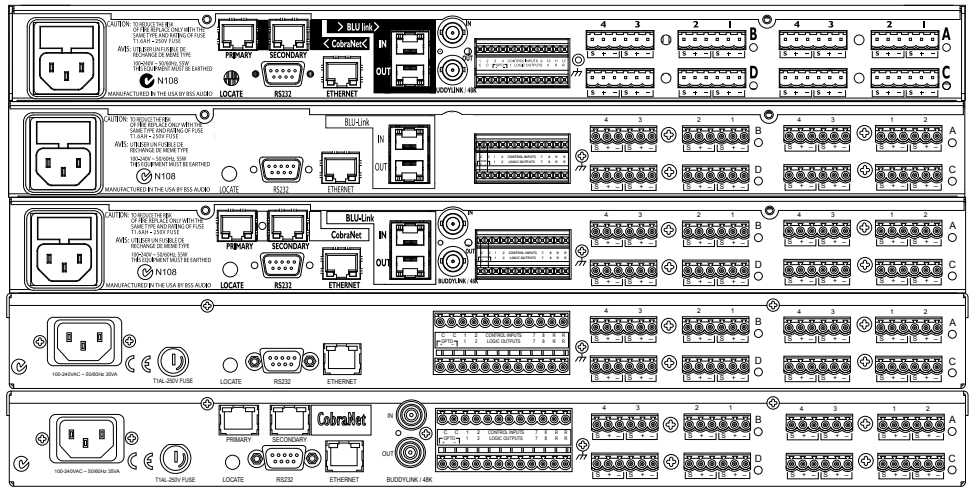
BLU-805, BLU-325
(rear diagram)

BLU-160/BLU-120
(rear diagram)

BLU-800, BLU-320
(rear diagram)

BLU-16
(rear diagram)

BLU-32/BLU-80
(rear diagrams)

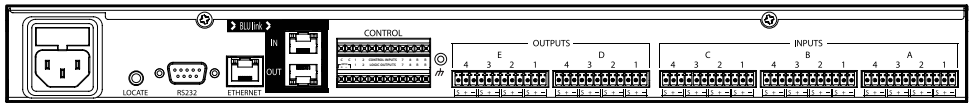


Front Panel Led Indicators:	
Per Input:	Signal Present, CLIP, SYNC/48V, I/O card type (IN, OUT, DIG)
Other:	LCD Display, Conductor active, Net Link active, Data Activity.
Analogue Inputs:	Up to 16 electronically balanced on Phoenix Combicon removable screw connectors
Mic/Line Inputs	Nominal gain 0dB, electronically switchable up to +48dB,in +6dB steps
Input Impedance	3.5kΩ
Maximum input level	+20dBu with 0dB input gain,+8dBu with 12dB gain
CMRR	>75dB at 1KHz
Input Noise (E.I.N.)	<-128dBu typical with 150Ω source
Phantom power	48V nominal, selectable per input
A/D Latency:	38.7/Fs
Digital Inputs:	Up to 16 AES/EBU or S/PDIF on Phoenix/Combicon removable screw connectors
Input impedance:	110 ohm (AES/EBU), 75 ohm (S/PDIF)
Sample Rate:	48kHz or 96kHz
Sample Rate conversion:	8kHz-96kHz
THD+N:	-140dB
Latency:	3/Fso + (56.581/Fsi) + (55.658/Fso).
Analogue Outputs:	Up to 16 electronically balanced on Phoenix/Combicon removable screw connectors
Maximum Output Level	+19dBu
Frequency Response	15Hz-20KHz (+0.5dB/-1dB)
THD	<0.01% 20Hz to 20KHz, +10dBu output
Dynamic Range	108dB typical, 22Hz-22KHz unweighted
Crosstalk	<-75dB
D/A Latency	28/Fs
Digital Outputs:	Up to 16 AES/EBU or S/PDIF on Phoenix/Combicon removable screw connectors.
Input impedance:	110 ohm (AES/EBU), 75 ohm (S/PDIF)
Sample Rate:	48kHz or 96kHz
Sample Rate conversion:	8kHz-96kHz
THD+N:	-140dB
Latency:	3/Fso + (56.581/Fsi) + (55.658/Fso).
Control Ports:	
12 inputs and 6 outputs	
Control Input Voltage	0 to 4.5v
Control Input Impedance	4.7kΩ to +5V (2-wire mode), >1MΩ (3-wire mode)
Logic Output Voltage	0 or +5V unloaded
Logic Output Impedance	440Ωs
Logic Output Current	10mA source, 60mA sink
Watchdog Output:	Phoenix/Combicon connector for failsafe control
Opto Output current	14mA maximum
Withstanding voltage	80V maximum (Off)
Series Impedance	220Ω (isolated)
Control Network (All Models):	
Connectors	RJ45 Ethernet connector
Maximum cable length	100m/300ft on Category 5 cable between device and Ethernet switch
CobraNet™ Audio Network:	(BLU-80, BLU-32 only)
Connectors:	2 x RJ45 connectors
Maximum cable length	100m/300ft on Category 5 cable between device and Ethernet switch
Power and Dimensions:	
Mains Voltage	85-270V AC, 50/60Hz
Power Consumption	<35VA
BTU Rating	<120 BTU/hr
Operating Temperature Range:	5(41) to 35(95) degrees C(degrees F)
Dimensions	(h (U) x w x d): 1.75" (1U) x 19" x 11.3" (45mm x 483mm x 287mm)
Weight	18.6 lbs / 8.4kgs (estimated)

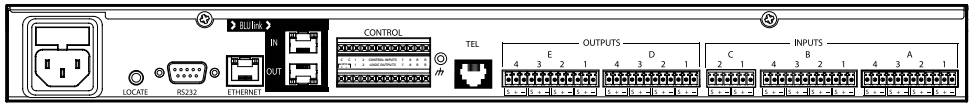
Soundweb London 100 Series

Networked Signal Processor

BLU-100, BLU-101
(rear diagram)



BLU-102
(rear diagram)



Front Panel Led Indicators:	
Per Input:	Signal Present, CLIP, 48V (Input only)
Other:	COM, STAT, ERR, PWR
Analog Inputs:	12 electronically balanced on Phoenix Combicon removable screw connectors
Mic/Line Inputs:	Nominal gain 0dB, electronically switchable up to +48dB,in +6dB steps
Input Impedance:	3.5kΩ
Maximum Input Level:	+20dBu with 0dB input gain,+8dBu with 12dB gain
CMRR:	>75dB at 1KHz
Input Noise (E.I.N.):	<-128dBu typical with 150Ω source
Phantom Power:	48V nominal, selectable per input
A/D Latency:	37/Fs [0.77ms@48k]
Analog Outputs:	8 electronically balanced on Phoenix/Combicon removable screw connectors
Maximum Output Level:	+19dBu
Frequency Response:	20Hz-20KHz (+0.5dB/-1dB)
THD:	<0.01% 20Hz to 20KHz, +10dBu output
Dynamic Range:	108dB typical, 22Hz-22KHz unweighted
Crosstalk:	<-75dB
Output Impedance:	40Ω balanced and 20Ω unbalanced
D/A Latency:	29/Fs [0.60ms@48k]
Control Ports:	12 inputs and 6 outputs
Control Input Voltage:	0 to 4.5v
Control Input Impedance:	4.7kΩ to +5V (2-wire mode), >1MΩ (3-wire mode)

	DSP	BLU LINK	AEC	HYBRID
BLU-100	✓	✓ 48 Ch.	X	X
BLU-101	✓	✓ 48 Ch.	✓ 12 Ch.	X
BLU-102	✓	✓ 48 Ch.	✓ 8 Ch.	✓

Logic Output Voltage:	0 or +5V unloaded
Logic Output Impedance:	440Ωs
Logic Output Current:	10mA source, 60mA sink
Watchdog Output:	Phoenix/Combicon connector for failsafe control
Opto Output Current:	14mA maximum
Withstanding Voltage:	80V maximum (Off)
Series Impedance:	220Ω (isolated)
Control Network:	
Connectors:	RJ45 Ethernet connector
Maximum Cable Length:	100m/300ft on Category 5 cable between device and Ethernet switch
BLU link:	
Connectors:	2 x RJ45 Ethernet connectors
Maximum Cable Length:	100m/300ft on Category 5e cable between devices Max. Number of Nodes: 60
Latency:	11/Fs [0.23ms@48k]
Pass Through Latency:	4/Fs [0.08ms@48k]
Power and Dimensions:	
Mains Voltage:	100-240V AC, 50/60Hz
Power Consumption:	<55VA
BTU Rating:	<188 BTU/hr
Operating Temp. Range:	5 (41) to 35 (95) degrees C (degrees F)
Dims: (H(U) x W x D):	1.75" (1U) x 19" x 9.0" (45mm x 483mm x 229mm)
Weight:	7.5 lbs / 3.4 kgs (estimated)

AR-133

Active DI Box/Line Balancer

Section:	
Input	1MΩ (pad at 0dB), 47kΩ (pad at -20dB), 47kΩ (pad at -40dB)
Max Input Level	+9dBu (pad at 0dB), +29dBu (pad at -20dB), +49dBu (pad at -40dB)
Connectors	Two Parallel ¼" jacks, parallel XLR connector (unbalanced)
Output Section:	
Output Transformer	Max Output Level +8dBu into 600Ω or greater
Connector	XLR3-32

General Performance:	
Distortion (THD)	< 0.005% at 1kHz, 0dBu output
Noise	<-105dB unweighted, 22Hz-22kHz*
Frequency	30Hz to 20kHz, +0dB/-1dB
Power and Dimensions	
Main/Standby Power	9 volt PP3 type, battery preferably alkaline
Current drain phantom:	<7.5mA; battery: <2mA
Phantom Power	+20 volts DC to +48 volts DC
Dimensions	2.3" x 4.9" x 5.6" / 59 mm x 124 mm x 143 mm
Weight	1.4 lbs / 650 gms, excluding batteries
* Noise measured relative to maximum output.	

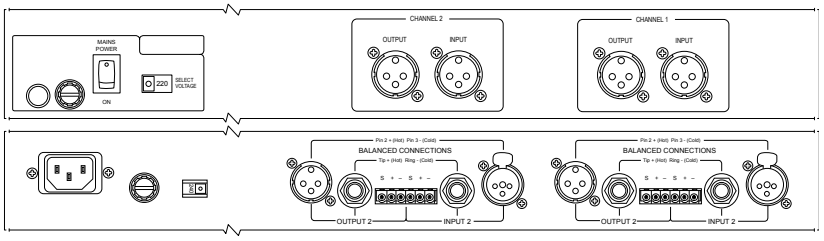
FCS Series

Graphic Equalizers

FCS-960, FCS-966

FCS-960
(rear diagram)

FCS-966
(rear diagram)



FCS-960

Inputs:	
Impedance	10kΩ, electronically balanced
Max Input Level	+20dBu
Connector	XLR3-31
Output Section:	
Output	Electronically balanced and floating
Max Output Level	+20dBu into 600Ω
Connector	XLR3-32
System Performance:	
Frequency Response	±0.25dB 20Hz-20kHz
Distortion (THD)	<0.005% 20Hz-20kHz @ +4dBu
Output Noise (Flat)	<-93dBu 22Hz-22kHz unweighted

Channel Separation (FCS-960)	>80dB from 20Hz-20kHz
Gain Control Range	±10dB
Peak Indicator	+18dBu
Bypass	Passive fail-safe bypass relay
Filter	MFB Constant Q type
Power and Dimensions:	
Power Requirements	50/60Hz, 90V-264V
Power Consumption	< 00VA
Dimensions (HxWxD):	00" x 19" x 00" 000mm x 483mm x 000mm
Weight	6.6 lbs / 3 kg (estimated)

FCS-966

Input Section:	
Input Impedance	10kΩ, electronically balanced
Maximum Input Level	>+20dBu
CMRR	>-40dB @1kHz
Output section:	
Output Impedance	<50Ω, electronically balanced
Maximum Output Level	>+20dBu into 600Ω
Filters:	
HP filter	OUT to 250Hz @ 12dB/octave
LF contour	±6dB shelving @ 50Hz 6dB/octave
HF contour	±6dB shelving @ 14kHz 6db/octave

Frequency bands	±15dB on ISO centers with a Q of 4
General Performance	
Frequency Response	5Hz to 45kHz ±1dB
Noise	<-94dBu 22Hz to 22kHz
Dynamic Range	> 115dB
Cross Talk	>-80dB @1kHz
Distortion	<0.005%THD (80kHz measurement BW) 20Hz-20kHz
Gain control	+10dB to ∞
Power and Dimensions:	
AC Power	115/230V AC, 50/60Hz, 30VA
Dimensions	19" x 5.25" x 7.1" / 483mm x 134mm x 180mm
Weight	6.6lbs / 3kgs

BSS Audio incorporates high quality mechanical fans in some products. All mechanical fans have a limited life expectancy. We recommend annual inspection of fans for dust occlusion and excessive noise. Fan assemblies should be replaced after six to ten years of use. Environmental factors such as elevated temperature, dust, and smoke can adversely affect fan life. Systems exposed to these conditions should be inspected more frequently. Fan replacement can be performed either at the factory or by an experienced technician in the field. Please contact BSS Technical Support for more information on purchasing replacement parts or product service. BSS Audio has a policy of continued product improvement and accordingly reserves the right to change features and specifications without prior notice.

Professional Audio Signal Processing and Distribution Equipment

8760 S. Sandy Parkway, Sandy, Utah 84070, USA
tel: +1 (801) 566-8800, Fax: +1 (801) 568-7662
www.bssaudio.com

PN-18-0701
10/12