BB-48S

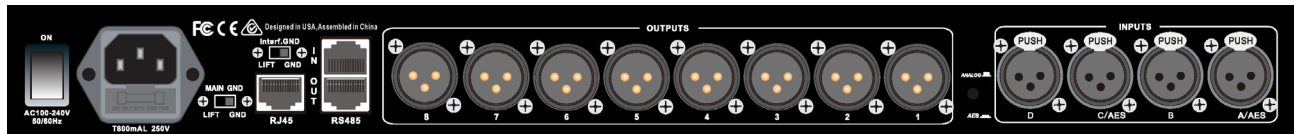## 4x8 Speaker Management System

Features

- 13 band parametric equalization per input channel
- 7 band parametric equalization per output channel
- Each band can be switched to Bell, Shelving, HP/LP, Band Pass, Notch Filter, All Pass
- IIR Crossover filters with slopes from 6 up to 48dB / Octave including Butterworth, Bessel, Linkwitz-Riley
- FIR X-over Filters with number of Taps from 256 up to 512, Attenuation and Window Type
- Asymmetrical 1024 Taps FIR for Phase Correction on each of the 4 Input paths (FIR coefficients generated internally by the machine or loadable from external third parties applications)
- RMS compressors working on Look Up tables for the Compression coefficient are available on Input and Outputs paths
- On Outputs a further Peak Limiter is available at the end of the paths.
- Adjustable Delay time up to 480ms for every input channel and 340ms for each output channel
- Front panel USB connector for direct PC communications
- RS485/TCP-IP connection for system setup, monitoring and control via fully manageable remote PC software
- Simultaneous control up to 32 units via PC softwarel

Applications

- Auditoriums
- Houses of Worship
- Theaters
- Performing Art Centers
- Convention Centers
- Stadiums and Arenas
- Touring Musicians
- Stage Monitoring System Digital

General Description

BB-48S is a High End 4-IN/8-OUT digital speaker management system adding an astonishing FIR filtering tool set. Designed for maximum versatility, it provides all the processing and control necessary for both live and fixed installation use. 4 analog inputs, 8 analog outputs and 2 AES/EBU inputs are managed by 2 powerful DSP Engines, for a full 96kHz processing, in addition to 24 Bit AD/DA Converters. Each input channel provides 13 PEQ, Gain control, Noise Gate, RMS Compressor, Internal White/Pink Noise Generator and configurable Delay. Each output offers up to 7 PEQ, in addition to the IIR crossover filters whose slopes from 6 up to 48dB/Octave. Each output path also features PEAK Limiter, RMS Compressor and configurable Delay. Particularly, the Output X-Over Filtering can be selected to be IIR HP/LP filters (Butterworth, Linkwitz-Railey, Bessel) or a 512 taps FIR filter which can be set as Hp/Lp/Bp. On each one of the 4 Input paths, one more 1024 taps Asymmetrical FIR is available for Phase Correction purposes. Being the phase correction FIR Asymmetrical, a powerful tool for adjusting/reducing the FIR latency is available, allowing therefore the BB-48S to be used without any problem also for Live performances still having the Phase correction FIR running together with the eventual FIR for the X-Over implementation in cascade. The BB-48S supports a full set of matrix mixing modes where Input sources can be routed/mixed to the Input paths, inputs paths may be routed/mixed in any ratio to any output and couple of outputs (1/2, 3/4, 5/6, 7/8) can be swapped at pleasure. For remote configuration and control the BB-48S can be connected via USB/RS485/TCP-IP connections. The control remote PC software allows simultaneous control up to 32 units, setting all parameters and showing real time levels.

AtlasIED

1601 JACK MCKAY BLVD.
ENNIS, TEXAS 75119 U.S.A.

TELEPHONE: (800) 876-3333
SUPPORT@ATLASIED.COM

AtlasIED.com

Audio	
Analog Input	4 x XLR electronically balanced
Analog Output	8 x XLR electronically balanced
Digital Input	2 x AES/EBU; Gain 0dBu
Minimum Load	150 ohm
THD+N	0.001% at 1kHz 0dBu
S/N	>110dBA
Ground Noise	-90 dBu
Frequency Response	20Hz - 20kHz; -0.5dBu at 20Hz and 20kHz
AD & DA Converters	24bit - 96kHz

DSP & Processing	
DSP Engine	2 x DSP
DSP Resolution	24bit (data) x 24 bit (coeff.), 54 bit accumulation registers, 96 bit precision on intermediate processing data
FIR for Phase Correction	Asymmetrical 1024 Taps, with coefficients generated by Pc Sw embedded Wizard tool, allowing also FIR latency Adjustment/reduction. Coefficients can also be imported by external third party applications, so as can be exported to third parties applications, so as can be exported to third parties applications
Parametric Equalization	13 PEQ filters per input; 7 filters per output
Filter Type	Bell, Shelving, HP/LP, Band Pass, Notch Filter, All Pass
Filter Gain	From -15dBu up to +15dBu by 0.5dBu resolution steps
Center Frequency	From 20Hz up to 20kHz with 1Hz resolution steps
Filter Q/BW	Bell Type: Q from 0.4 up to 128 in 100 steps Shelving/Hp/LP Type: Q from 0.1 up to 5.1 in 100 steps Band Pass/Notch Type/All Pass: Q from 4 up to 104 in 100 steps
Input & Output Gain	From -18dB to +12dB by 0.1dBu resolution steps
IIR Crossover Section Hp/Lp	Butterworth: 6/12/18/24/36/48dB per octave Bessel: 12/24dB per octave Linkwitz-Riley: 12/24/36/48dB per octave
FIR X-Over Section Hp/Lp/Bp	Hp/Lp/Bp filters; Taps from 256 up to 512, Attenuation up to -120Db; Window type as Rect / Sinc / Keiser / Hanning / Hamming / Blackman / Nuttal / Sine
Internal Noise Generator	White/Pink Noise; Level from -40dBu to 0dBu
Input/Output RMS Compressor	Threshold from 20dBu up to -10dBu; Makeup from -12dBu to +12dBu Ratio: 2:1~32:1; Knee: 0~100%; Attack time from 0.1ms up to 5000ms; Release time from 0.001sec up to 10sec
Output Peak Limiter	Threshold from 20dBu up to -10dBu; Attack time from 0.1ms up to 900ms; Release time from 0.04sec up to 56sec
Delay	480ms 10.4us increment/decrement steps for each input, 340ms 20.8us increment/decrement steps for each output
Routing	Inputs/ Outputs Full matrix mixing mode