BRITISH ACOUSTICS

Alpha Control

100 | 80 | 4 0

4 Channel Digital Signal Processing Amplifier.

FIR Filtering

4 Aux DSP Outputs

Made in the United Kingdom

Features

Cutting-edge XTA DSP technology integrates FIR filtering and dynamic EQ for precise audio control.

4 local and 4 aux DSP channels seamlessly extend to the network, optimizing audio configuration.

Optional Dante Networking enhances versatility, enabling advanced and seamless audio integration.

Swift calibration of audio parameters optimizes performance, utilizing FIR filtering and dynamic EQ using AudioCore.

Configurable GPIO options further enhance the amplifier's remote control flexibility and customization.

The Alpha Control 100 stands as an exemplary manifestation of advanced engineering prowess within the realm of digital signal processing amplification. Meticulously crafted for British Acoustics, this amplifier represents a paradigm shift in audio precision, amalgamating cutting-edge power amplification technology with the acme of XTA DSP sophistication.

Positioned as the flagship embodiment within British Acoustics electronic range, the Alpha Control amplifiers cater to the discerning audiophile and engineering connoisseur alike. Its foundation rests upon an array of robust processing features, including FIR filtering, dynamic EQ, and the optional integration of Dante Networking. These elements synergize to establish an echelon of audio fidelity where every transient nuance is rendered with surgical precision.

The amplifier's architectural acuity is underscored by the provision of 4 local and 4 aux DSP channels, locally and seamlessly extended to the network. This unique configuration obviates the need for extraneous processing apparatus, affording a singular amplifier unparalleled mastery over a stereo 4-way system.This unique configuration obviates the need for extraneous processing apparatus, affording a singular amplifier unparalleled mastery over a stereo 4-way system.

Configuration and calibration are executed with unswerving efficiency through the AudioCore control software platform. forms an indomitable alliance, presenting users with a sophisticated interface for comprehensive control and monitoring of an expansive network of amplifiers. In the realm of control interfaces, the new AudioCore, distinguished by its advanced grouping architecture, proffers an interface of formidable intuition.

The Alpha Control 100, therefore, stands not merely as an amplifier but as a testament to engineering ingenuity, setting an elevated standard within the audio amplification domain.

*The Alpha Control 100, 80 & 40 are manufactured in the United Kingdom by XTA Electronics Ltd at The Design House, Vale Business Park, Worcester Road, Stourport on Severn,Worcestershire DY13 9BZ

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Technical Specifcations

	Alpha Control 100	Alpha Control 80	Alpha Control 40
(All Channels Driven)	Output power per channel [Crest Factor = 4.8]		
8Ω Power per Channel*	1400W	1000W	500W
4Ω Power per Channel*	2700W	2000W	1000W
2.7Ω Power per Channel*	3700W	2200W	1400W
2Ω Power per Channel*	3500W	2000W	1200W
Bridge Mode 8Ω*	5400W	4000W	2000W
Bridge Mode 4Ω*	7000W	4000W	2400W
THD+N at 1 kHz, below max output power - 4Ω	0.08	0.18	0.08
THD+N at 20Hz - 20 kHz, below max output power - 4Ω	0.1	0.2	0.1
Gain Options (dB)	32	32	26/32
Sensitivity Options for max power (dBu)	10.7	8.3	6.23
Sensitivity Options for max power (Volts)	2.66	12:00 AM	1.59
Frequency Response, +0/0.5dB (Hz)	20Hz - 20kHz	20Hz - 20kHz	20Hz - 20kHz
Power Consumption, Nominal @ 240V, 4 Ohms (A)	7.5	5	2.9
Power Consumption, Nominal @ 120V, 4 Ohms (A)	15.5	10.4	6
Input Impedance — Active Balanced (Ohms)	20k	20k	20k
Input CMRR (dB)	> 60	> 60	> 60
Damping Factor, 1kHz, 8 ohms	> 400	> 400	> 400
Signal Limiters Present	Yes	Yes	Yes
Protection Present — Short Circuit / DC Output / Temperature	Yes	Yes	Yes
Mains In-rush Control Present	Yes	Yes	Yes
Dimensions	Alpha Control 100	Alpha Control 80	Alpha Control 40
Rackspaces	2U		
Amplifier	88 x 482 x 458		
Boxed Shipping — all except UK	250 x 610 x 600		
Net Weight	12.5 Kgs	11 Kgs	10 Kgs
Shipping weight	14.5 Kgs	13 Kgs	12 Kgs

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DSP & Auxiliary Processing Specifications

	Alpha Control 100	Alpha Control 80	Alpha Control 40
Source Impedance — Active Balanced (Ohms)		< 60	
Minimum Load (Ohms)		600	
Maximum Output Level (dBu)		18	
ADC, DAC and DSP sample rate (kHz)		96	
AES accepted sample rates (kHz)		32-192	
Dynamic Range (20Hz-20kHz Unwtd, dB)		>114	
Distortion (@1kHz, +10dBm, %)		<0.001	
Signal Processing			
Delay up to 650mS (inputs), 650ms(outputs) - independant			
Filters Parametrics — 8 Per input / 9 per output Each parametric can be switched to Bandpass, Allpass, Notch, VariQ, Shelf and Elliptical response Phase filtering — 2 degree steps on each input and output			
FIR Filtering — available on all outputs — total maximum taps available: 4000*			
Crossover Filters (per output) Bessel / Butterworth 6/12/18/24/48dB per octave and Linkwitz-Riley 12/24/48dB per octave			
Dynamic EQ** 3 bands (per input) Parametric behaviour — 19.7Hz — 32kHz 'Q' 0.4 — 128, Max gain automatic gain adjustment 18dB Max ratio (cut above mode) 4:1 Max ratio (all other modes) 2:1 Attack 70uS — 2.0 Seconds Release 11mS — 3.4 Seconds			
Mix matrix mode (auxes and amplifier outputs) Input sends to each output continuously variable from -40.0dB to _15.0dB in 0.1dB steps plus mute			
Limiter Threshold +18dBu to -12dBu (auxiliary outputs); +42dBu to +20dBu (amplifier outputs) Attack time 0.1 to 91 milliseconds Release time 2, 4, 8, 16 or 32 times the attack time			
Clip/D-max Limiter Look-ahead attack time,Fast, Medium or Slow release times			
*FIR Filtering enabled in later firmware release — 4000 taps with DEQ globally disabled			
** DEQ enabled in later firmware release			

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Power Consumption & Thermal Specifications

Power Consumption and Thermal Emissions - Alpha Control 40									
Mains [V]	Load [R]	Current Draw [A]				Thermal Emissions [W]			
		No Signal	Light	Avg	Heavy	No Signal	Light	Avg	Heavy
240V	8Ω	1.0	1.4	2.1	3.7	240	251	269	312
240V	4Ω	1.0	1.7	2.9	5.8	240	258	290	366
240V	2.7Ω	1.0	1.9	3.4	7.1	240	264	304	402
120V	8Ω	2.2	3.0	4.4	7.7	267	277	295	338
120V	4Ω	2.2	3.6	6.0	11.7	267	285	317	392
120V	2.7Ω	2.2	4.0	7.1	14.5	267	290	331	428

Power Consumption and Thermal Emissions - Alpha Control 80									
Mains [V]	Load [R]	Current Draw [A]				Thermal Emissions [W]			
		No Signal	Light	Avg	Heavy	No Signal	Light	Avg	Heavy
240V	8Ω	1.5	2.2	3.4	6.3	360	378	410	486
240V	4Ω	1.5	2.8	5.0	10.3	360	394	453	593
240V	2Ω	1.5	3.1	5.8	12.4	360	402	474	647
120V	8Ω	3.3	4.7	7.1	12.9	400	418	450	526
120V	4Ω	3.3	5.9	10.4	21.0	400	434	493	633
120V	2Ω	3.3	6.5	12.0	25.1	400	442	514	687

Power Consumption and Thermal Emissions - Alpha Control 100									
Mains [V]	Load [R]	Current Draw [A]				Thermal Emissions [W]			
		No Signal	Light	Avg	Heavy	No Signal	Light	Avg	Heavy
240V	8Ω	2.1	3.2	5.1	9.6	504	533	582	701
240V	4Ω	2.1	4.1	7.5	15.7	504	557	647	863
240V	2Ω	2.1	4.6	8.9	19.1	504	570	682	953
120V	8Ω	4.7	6.9	10.6	19.6	560	589	638	757
120V	4Ω	4.7	8.7	15.5	31.9	560	613	703	919
120V	2Ω	4.7	9.7	18.2	38.7	560	626	738	1009

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